Schattenwurfprognose

für sechs neue Windenergieanlagen,

WP Volkmarsdorf

Landkreis Helmstedt, Niedersachsen

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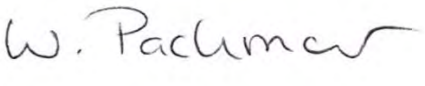

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1 Grundlagen zur Schattenwurfberechnung

1.1 Einleitung

Windenergieanlagen stellen in der heutigen Zeit eine umweltfreundliche Art der Stromerzeugung dar und haben weniger negative Auswirkungen auf den Menschen und seine Umwelt als konventionelle Stromerzeugungsanlagen. Zu den Auswirkungen durch Windenergieanlagen (WEA) gehört der periodische Schattenwurf an Wohn- und Arbeitsstätten. Die Ermittlung dieser Auswirkung erfolgt in einer Prognose.

Der periodische Schattenwurf ist definiert als die wiederkehrende Verschattung des direkten Sonnenlichts durch die Rotorblätter einer Windenergieanlage. Je nach Drehzahl des Rotors verursacht der periodische Schattenwurf hinter der Windenergieanlage starke Lichtwechsel mit einer Frequenz zwischen 0,4 und 3 Hz, was auf den Menschen störend wirkt und auf längere Dauer nicht zumutbar ist. Aus diesem Grund sollte bei jeder WEA-Planung eine Untersuchung des periodischen Schattenwurfs durchgeführt werden.

Durch eine Schattenwurfprognose ist es möglich, die Dauer des periodischen Schattenwurfs durch Windenergieanlagen auf benachbarte Wohngebäude und Arbeitsstätten zu ermitteln. Ist eine Beeinträchtigung durch den periodischen Schattenwurf zu erwarten, wird in der Prognose der Schattenwurf zeitlich vorhergesagt.

In einer Prognose wird zunächst die **a*stronomisch maximal mögliche Beschattungsdauer (worst case)*** ermittelt, d. h. die Beschattung für den Fall, dass die Sonne immer scheint, der Rotor sich kontinuierlich dreht und senkrecht zu den Sonnenstrahlen steht. Dieses Ergebnis ermöglicht eindeutige und vergleichbare Aussagen über das maximale Ausmaß des periodischen Schattenwurfs an einzelnen Tagen sowie die Summe über das Jahr.

Anschließend kann für kritische Bereiche anhand der statistischen Daten über die Sonnenscheindauer und die Windverhältnisse die ***meteorologisch wahrscheinliche Beschattungsdauer*** über ein Jahr für jeden Immissionspunkt ermittelt werden. Anhand dieser Aussagen können ggf. notwendige Maßnahmen zur Beschränkung des Schattenwurfs abgeleitet werden.

Die vorliegende Prognose macht über die technische Umsetzung einer möglichen Abschaltautomatik keine Aussagen, die Programmierung obliegt dem Hersteller oder Betreiber der Windenergieanlage bzw. dem Hersteller des Schattenwurfabschaltmoduls.

1.2 Sonnenstand

Der Sonnenstand bildet die Grundlage für die Berechnung des Schattenwurfs. Der Stand der Sonne ist im Wesentlichen von der Erdrotation, der Neigung der Erdachse und der elliptischen Laufbahn der Erde um die Sonne abhängig. Weiterhin müssen für jeden beliebigen Standort die geographischen, jahreszeitlichen und tageszeitlichen Daten berücksichtigt werden.

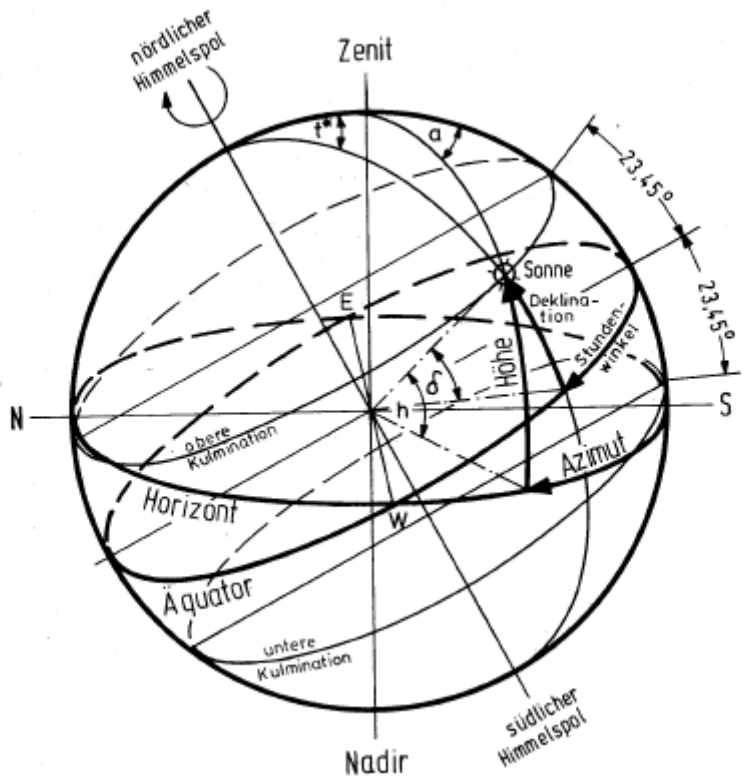


Abbildung 1: Winkelzusammenhänge des Sonnenstands an einem Betrachtungspunkt

Mit diesen Daten werden die Deklination δ, der Stundenwinkel ω, die Sonnenhöhe h, der Azimut γ sowie der Sonnenauf- und Sonnenuntergang ta und tu berechnet. Die Begriffe haben folgende Bedeutungen (siehe Abbildung 1):

- **Deklination δ:** Jahresgang der Sonne. Winkel, in welchem sich die Sonne im Verlauf der Jahreszeiten über den Zenit am Äquator in südlicher und nördlicher Richtung hinausbewegt (Winteranfang (21.12.) -23,45°, Sommeranfang (21.6.) 23,45° und Herbst- (23.9.) sowie Frühlingsanfang (21.3.) 0°);
- **Sonnenhöhe h:** Einfallswinkel der Sonne gegenüber einer horizontalen Fläche;
- **Stundenwinkel ω**: Winkel zwischen dem Sonnenhöchststand und der aktuellen Sonneneinstrahlung.
- **Azimut γ**: Winkel zwischen der Südrichtung und dem auf die horizontale Ebene projizierten Sonnenstand.
- **Sonnenaufgang ta, Sonnenuntergang tu:** Aufgang/Untergang in dem Moment, wenn der Sonnenmittelpunkt über der horizontalen Fläche morgens/abends am Horizont sichtbar/verdeckt wird.

Die Berechnungen berücksichtigen die sich verändernde Tageslänge von einem zum nächsten Sonnenhöchststand, die aufgrund der elliptischen Umlaufbahn der Erde um die Sonne um bis zu 16 Minuten variiert. In Abbildung 2 sind die Abweichungen der Tagesdauer von den 24 Stunden (Zeitkorrektur) und die Deklination in Abhängigkeit vom Tag des Jahres dargestellt.

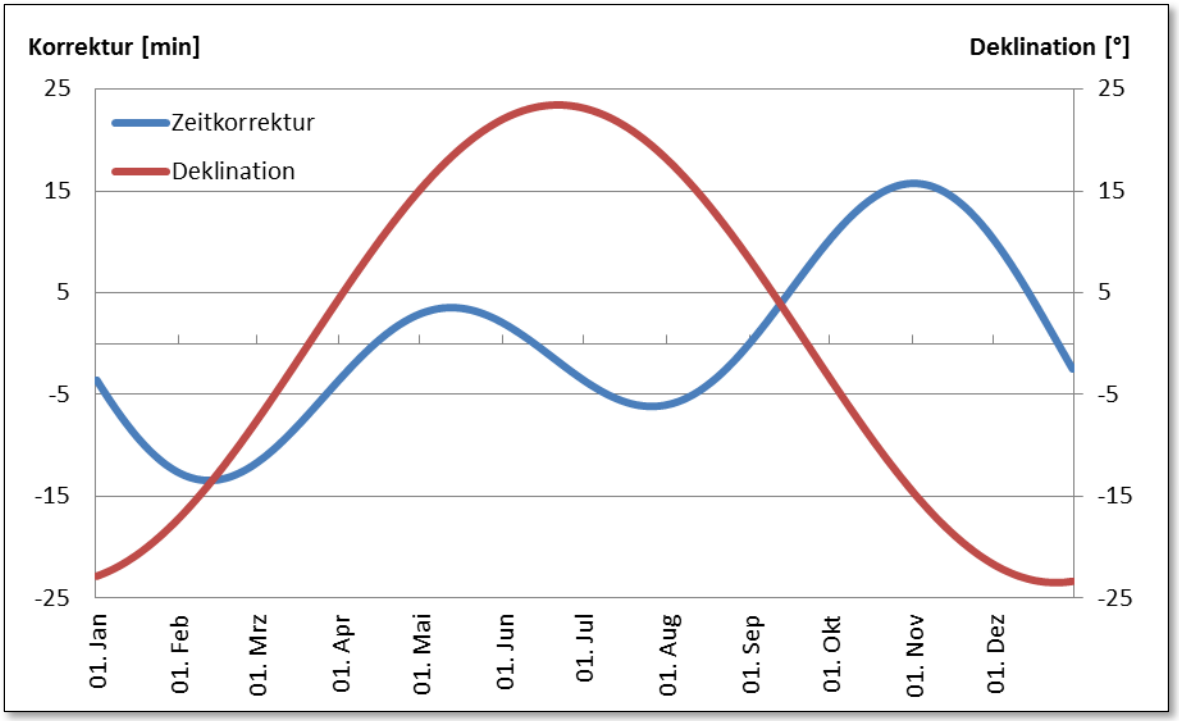


Abbildung 2: Zeitkorrektur und Deklination der Tagesdauer über ein Jahr

Da die Ergebnisse nicht nur für ein Jahr gültig sein sollen, wird in den Berechnungen die Zahl der Tage pro Jahr auf 365,25 Tage gemittelt. Dadurch verschieben sich die Ergebnisse aufgrund des Schaltjahres alle vier Jahre um bis zu einen Tag.

1.3 Schattenwurf

1.3.1 Beschattungsbereich einer Windenergieanlage

Periodischer Schattenwurf wird durch die sich bewegenden Rotorblätter einer WEA erzeugt. Der Bereich, in dem der periodische Schattenwurf einer WEA untersucht werden muss (*Beschattungsbereich*), ist definiert als der Bereich, in dem die Sonnenscheibe zu mehr als 20 % durch sich bewegende Rotorblätter verdeckt wird. Wird durch ein Rotorblatt weniger als 20 % der Sonnenscheibe verdeckt, so ist der dadurch entstehende Helligkeitswechsel nicht mehr relevant. Da die Breite des Rotorblatts nicht über die ganze Länge konstant ist, wird für die Berechnung des Beschattungsbereichs ersatzweise ein rechteckiges Rotorblatt mit einer mittleren Blatttiefe ermittelt und zugrunde gelegt.

1.3.2 Schattenverlauf und Berechnung

Der Verlauf des periodischen Schattenwurfs wird über den Sonnenstand, den Standort bzw. die Standorte der WEA und die Lage der maßgeblichen Immissionsorte ermittelt. Dazu sind die folgenden Daten notwendig:

- Position/Koordinaten der WEA und der Immissionsorte (Rechts- und Hochwerte, Höhe über N.N., Genauigkeit +/- 10 m),
- Ausmaße der WEA (Nabenhöhe und Rotordurchmesser).

Zur Ermittlung des Schattenwurfs an einem Immissionsort wird dort ein virtueller Schattenrezeptor mit den Ausmaßen der zu untersuchenden Fläche platziert. Bei der Simulation des

Sonnenstands über ein Jahr registriert der virtuelle Rezeptor den Schattenwurf in diesem Zeitraum. Die Simulation des Verlaufs der Sonne wird mit der Software WindPRO (Modul SHADOW) mit einer zeitlichen Auflösung von einer Minute von Sonnenaufgang bis Sonnenuntergang über das ganze Jahr durchgeführt. Unter Berücksichtigung einer minimalen Sonnenhöhe, der Koordinaten, der Lage und der Größe des Rezeptors sowie der WEA-Daten wird so über die Simulation ermittelt, ob am Rezeptor ein Schattenwurf durch eine oder mehrere Windenergieanlagen auftritt. Tritt ein Schlagschatten auf, werden für diesen das Datum, der Beginn, das Ende und die Dauer sowie die verursachende WEA des Schattens angegeben (siehe die Kalender zu jedem Schattenrezeptor). Daraus werden wiederum über ein ganzes Jahr die Anzahl der Schattentage und die gesamte Schattenwurfdauer berechnet.

Der Schattenwurf für Sonnenstände unter 3° Erhöhung über Horizont kann wegen Bewuchs, Bebauung und der zu durchdringenden Atmosphärenschichten in ebenem Gelände vernachlässigt werden. Ob hier auch ein höherer Wert angesetzt werden kann, hängt von der Orographie, der Bebauung und dem Bewuchs um den WEA-Standort ab und muss im Einzelnen evtl. dann genauer untersucht werden, wenn davon auszugehen ist, dass durch die Gegebenheiten vor Ort eine wesentliche Reduktion der Beeinträchtigung zu erwarten ist.

1.3.3 Richtlinien

Abgeleitet aus Richtlinien und Hinweisen zu immissionsschutzrechtlichen Belangen, wie z. B. den WEA-Schattenwurf-Hinweisen[1] des Länderausschusses für Immissionsschutz vom 23.01.2020, wurden bei der Berechnung der Schattenwurfzeiten an einem Immissionspunkt folgende Annahmen zugrunde gelegt:

- Ein Schattenwurf bei einem Sonnenstand unter 3° ist nicht zu berücksichtigen.
- Der Beschattungsbereich ist der Bereich, in dem die Sonnenscheibe zu mehr als 20 % durch das Rotorblatt verdeckt ist.
- Die astronomisch maximal mögliche Beschattungsdauer (worst case) an einem Immissionsort darf maximal 30 Stunden im Jahr und maximal 30 Minuten am Tag betragen.
- Um die Vergleichbarkeit der Ergebnisse zu ermöglichen, wird die Berechnung des Schattenwurfs für einen punktförmigen Rezeptor in 2 m Höhe ü.G. am Immissionsort empfohlen.

1.4 Wahrscheinlichkeitsbetrachtung

Um aus der *astronomisch maximal möglichen Beschattungsdauer* die *meteorologisch wahrscheinliche Beschattungsdauer* zu ermitteln, müssen statistische Daten zur Sonnenscheinwahrscheinlichkeit, zu den Betriebsstunden der WEA und zur Windrichtung in die Berechnung einfließen.

1.4.1 Sonnenscheinwahrscheinlichkeit

Den Berechnungen der *astronomisch maximal möglichen Beschattungsdauer* wurde die Annahme kontinuierlichen Sonnenscheins zugrunde gelegt. Um dagegen die *meteorologisch wahrscheinliche Beschattungsdauer* zu bestimmen, muss die Sonnenscheinwahrscheinlichkeit mit berücksichtigt werden, die in der Praxis gleichzusetzen

[1] Länderausschuss für Immissionsschutz (23.01.2020): Hinweise zur Ermittlung und Beurteilung der optischen Immissionen von Windenergieanlagen

ist mit der Wahrscheinlichkeit der Existenz eines Schattenwurfs. Die Sonnenscheinwahrscheinlichkeit ist von Region zu Region unterschiedlich und wird an Wetterstationen gemessen. Die dazu notwendigen Daten müssen auf mehrjährigen Messungen basieren. Angegeben wird üblicherweise die mittlere tägliche Sonnenscheindauer in Stunden jeweils bezogen auf die einzelnen Monate. Teilt man diese Sonnenscheindauer durch die mittlere Zeitdauer von Sonnenaufgang bis -untergang im gleichen Monat, erhält man die Sonnenscheinwahrscheinlichkeit im jeweiligen Monat.

Die regionsbezogene Sonnenscheinwahrscheinlichkeit wurde in der vorliegenden Prognose nicht berücksichtigt, da nur eine Berechnung der astronomisch maximal möglichen Beschattungsdauer vorgenommen wurde.

1.4.2 Reduktion der Schattenwurfdauer durch den Azimutwinkel

Bei der Berechnung der *astronomisch maximal möglichen Beschattungsdauer* wird vom ungünstigsten Fall ausgegangen, dass die Windrichtung mit der Richtung der Sonnenstrahlen identisch ist und die Ausrichtung des Rotors damit den größtmöglichen Schatten zur Folge hat. Die dadurch ermittelten Werte reduzieren sich bei Berücksichtigung der Windrichtungsverteilung/Windstatistiken. Wird die statistische Windrichtungsverteilung berücksichtigt, so verkürzt sich die Dauer des Schattenwurfs pro Tag, da ein Winkel zwischen der Windrichtung und den Sonnenstrahlen einen schmaleren, ellipsenförmigen Schattenwurf verursacht.

Die statistische Windrichtungsverteilung wurde in der vorliegenden Prognose nicht berücksichtigt, da nur eine Berechnung der astronomisch maximal möglichen Beschattungsdauer vorgenommen wurde.

1.4.3 Schattenwurf nur bei Betrieb der Anlage

Weiterhin ist die WEA nicht ständig in Betrieb, wodurch sich die Wahrscheinlichkeit eines Schattenwurfs durch den sich drehenden Rotor zusätzlich reduziert. Erst wenn die Windgeschwindigkeit einen Wert über der Anlaufwindgeschwindigkeit erreicht, beginnt sich die WEA zu drehen.

In der vorliegenden Prognose wird davon ausgegangen, dass die Anlage immer in Betrieb ist, d. h. keine Stillstandszeiten vorhanden sind.

2 Schattenwurfprognose

2.1 Aufgabenstellung

Die Swisspower Renewables Volkmarsdorf GmbH plant im Rahmen eines Repowerings die Errichtung und den Betrieb sechs neuer Windenergieanlagen am Standort Volkmarsdorf. Dabei handelt es sich um WEA des Typs GE 5.5-158 der Firma General Electric mit einer Nabenhöhe von 161 m, einem Rotordurchmesser von 158 m und einer Leistung von 5.500 kW, nördlich von Almke und westlich von Volkmarsdorf, Landkreis Helmstedt, Niedersachsen. Die bestehenden 15 Windenergieanlagen werden im Zuge des Repowerings abgebaut.

Vorbelastungen durch bestehende WEA sind in dem Bereich der neu geplanten Anlagen nach dem Repowering nicht mehr vorhanden.

Für die geplante Errichtung der Anlagen ist in der vorliegenden Prognose der Schattenwurf durch die Windenergieanlagen auf die umliegende Bebauung ermittelt worden. Die Standorte der Windenergieanlagen und die ermittelten Immissionsorte sind in den Abbildungen 3 und 4 dargestellt.

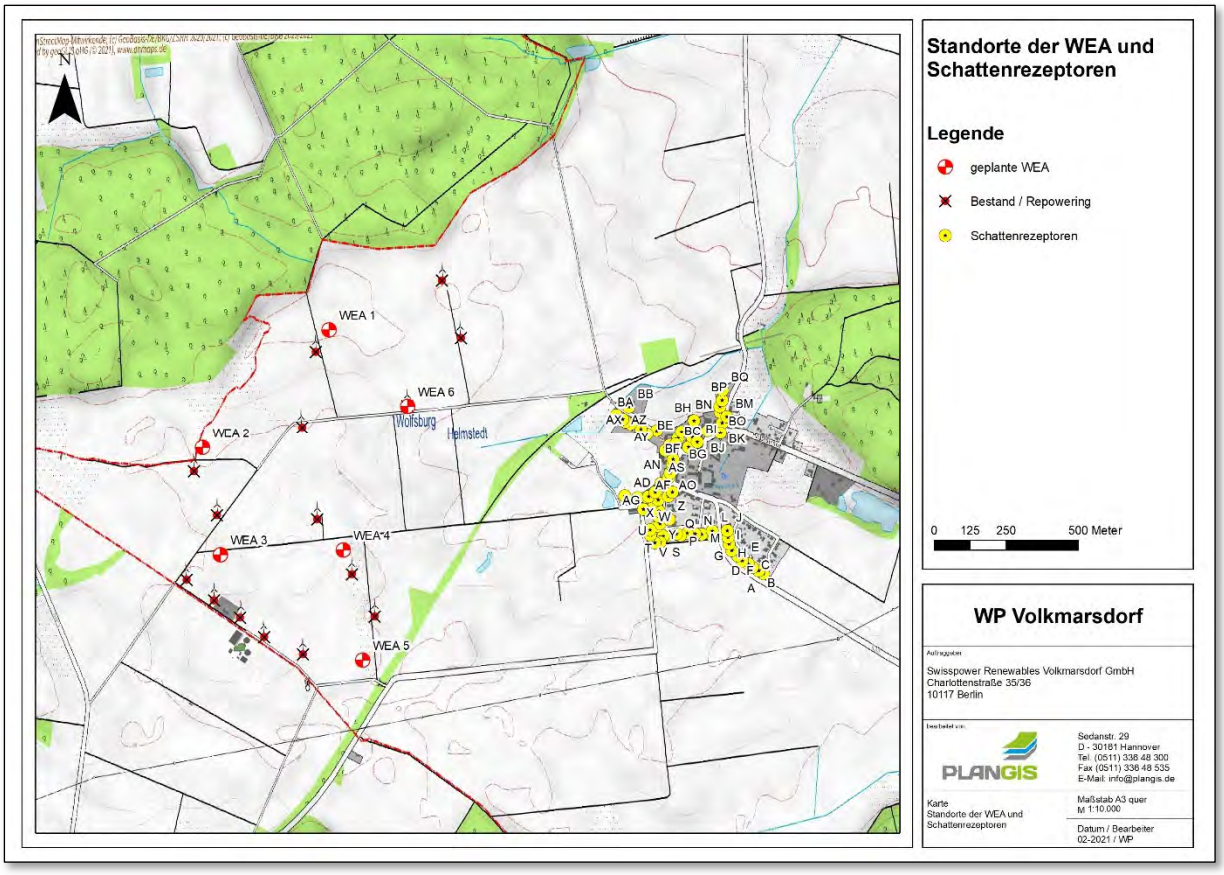


Abbildung 3: Standorte der Windenergieanlagen und Lage der Schattenrezeptoren

2.2 Immissionsorte und Windenergieanlagen

Die **Berechnung** der Schattenwurfimmissionen erfolgte mit dem Schattenberechnungsmodul SHADOW des Programms WindPRO 3.4.

Das Modul berechnet und dokumentiert den Schattenwurf in der Umgebung einer WEA, der durch sich drehende Rotoren verursacht wird. Das Berechnungsmodell simuliert den Sonnenverlauf über ein Jahr in 1-Minuten-Schritten und für jeden Schritt den Schattenwurf auf eine beliebig ausgerichtete Rezeptor-Fläche (z. B. Fenster, Terrasse). Durch Eingabe der statistischen Faktoren, die einen Einfluss auf den Schattenwurf haben (siehe Kapitel 1), können realitätsnahe Werte berechnet werden. In der hier erstellten Prognose wird sowohl der „*worst case*“-Fall (astronomisch maximal mögliche Beschattung, ohne Berücksichtigung der in Kapitel 1 erwähnten statistischen Werte) als auch der reale (meteorologisch wahrscheinliche) Schattenwurf betrachtet. Die für die Berechnung der meteorologisch wahrscheinlichen Beschattung notwendige Windrichtungsverteilung wurde von der mit einem Windertragsgutachten beauftragten Firma GEO-NET übernommen. Darüber hinaus muss neben der Windrichtungsverteilung für die Berechnung die monatliche Sonnenscheinwahrscheinlichkeit berücksichtigt werden. Diese Daten wurden von der ca. 29 km entfernt gelegenen Wetterstation Braunschweig aus der Datenbank der Berechnungssoftware WindPRO entnommen. Die Wetterstation Braunschweig repräsentiert auf Grund der räumlichen Nähe zu den geplanten Anlagen die vorherrschende Sonnenscheinwahrscheinlichkeit am ehesten. Unbedingt notwendige Eingabedaten sind für beide Varianten die Bauart (Nabenhöhe, Rotordurchmesser und mittlere Rotorblatttiefe) der geplanten WEA sowie die Lage der Schattenwurfrezeptoren. Im Gegensatz zu der gängigen Darstellungsweise in Form der „*worst case*“-Betrachtung, reduziert sich bei der meteorologisch wahrscheinlichen Berechnung die prognostizierte Jahresgesamtstundenzahl des Schattenwurf auf Grund der berücksichtigten Statistiken an den zu betrachtenden Immissionsorten. Die Berechnung der Tagesminutenzahl in Form einer meteorologisch wahrscheinlichen Betrachtung ist auch mit den berücksichtigten Statistikdaten nicht möglich, so dass zur Ermittlung möglicher Grenzwertüberschreitungen auf die astronomisch maximal mögliche Beschattung zurückgegriffen werden muss.

Es wurde ein hoch aufgelöstes digitales Geländemodell (DGM 10) mit einer Rasterweite von 10 m und einer Oberflächengenauigkeit von wenigstens +/- 0,2 m zur Berechnung eingesetzt.

Die **Immissionsorte** in der vorliegenden Prognose wurden anhand von online verfügbaren ALKIS-Daten, durch die Auswertung der aktuellen Flächennutzungspläne der Gemeinden Groß Twülpstedt und der Stadt Wolfsburg, unter Beachtung gültiger Bebauungspläne der Ortschaften, sowie anhand von Luftbildern in Abstimmung mit dem Auftraggeber ausgewählt. Darüber hinaus sind alle Immissionsorte bei einem Ortstermin am 05.02.2021 persönlich vor Ort überprüft worden. Es handelt sich bei den Immissionsorten um die umliegende Wohnbebauung in Volkmarsdorf. Insgesamt wurden 69 Schattenwurfimmissionsorte festgelegt (siehe Abbildungen 3 bis 6 sowie Tabelle 2).

Die Rezeptoren wurden obligatorisch in einer Höhe von zwei Metern mit einer Ausdehnung von 1 x 1 Meter festgesetzt. Die Berechnung erfolgt mit dem sogenannten Gewächshausmodus, Schattenwurf kann bei dieser Betrachtung von allen Seiten auf den Immissionspunkt fallen. Waldaufwuchs wird nicht berücksichtigt, sodass real erheblich weniger Schattenwurf auf einige der Immissionsorte erfolgen kann.

Grundlegend wurden die Immissionsorte nach Empfehlung der LAI mit einem Abstand von 0,5 m vor den jeweiligen Fassaden bzw. Fenstern der Wohngebäude festgelegt. In Einzelfällen muss von dieser Praxis jedoch abgewichen werden, da Balkone, Wintergärten oder direkt am Wohnhaus anschließende Terrassenflächen als schützenswerte und zu berücksichtigende Objekte vorhanden sind. Bei landwirtschaftlichen Gehöften sind ferner Stallungen und Nebengebäude mit dem Wohnhaus oftmals direkt verbunden und bilden eine Grundfläche. Dennoch sind hierbei nur dauerhaft der Wohnnutzung gewidmete Gebäudeteile zu berücksichtigen, sodass die Rezeptoren teilweise an den Giebelseiten der Hauptdächer gesetzt worden sind. Dort wo eine Identifizierung nicht zweifelsfrei möglich ist, wird mit einem sehr konservativen Ansatz gearbeitet, indem der Rezeptor vor der nächsten in Richtung WEA ausgerichteten Fassade gesetzt wird, bzw. weiter als die vorgegeben 0,5 m von dieser entfernt liegt und damit näher zur Schattenwurfquelle als erforderlich.

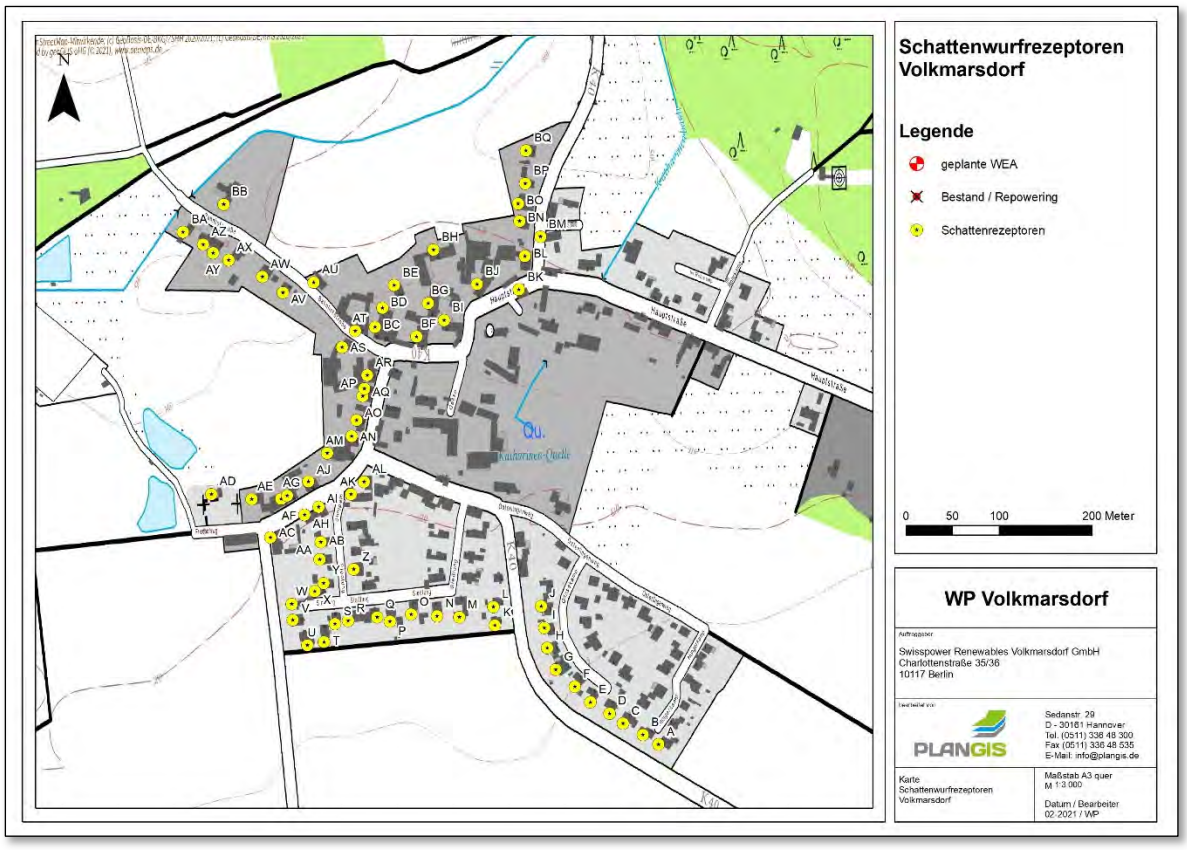


Abbildung 4: Lage der Schattenrezeptoren in der Ortschaft Volkmarsdorf

Vorbelastungen der Immissionsorte durch Schattenwurf von existierenden WEA bestehen im Untersuchungsgebiet, nach dem Rückbau der heute bestehenden WEA, nicht.

Tabelle 1: Daten der Windenergieanlagen

WEA-Bezeich-nung	Status	UTM ETRS 89 Zone 32		WEA Typ	Leistung in kW	Rotor-durch-messer	Naben-höhe ü. Grund
		Ost	Nord				
Zusatzbelastung							
WEA 1	geplant	627.204	5.803.592	GE 5.5-158	5.500	158 m	161 m
WEA 2	geplant	626.765	5.803.182	GE 5.5-158	5.500	158 m	161 m
WEA 3	geplant	626.827	5.802.810	GE 5.5-158	5.500	158 m	161 m
WEA 4	geplant	627.254	5.802.827	GE 5.5-158	5.500	158 m	161 m
WEA 5	geplant	627.321	5.802.445	GE 5.5-158	5.500	158 m	161 m
WEA 6	geplant	627.477	5.803.327	GE 5.5-158	5.500	158 m	161 m

2.3 Ergebnisse der Schattenwurfberechnungen

Die Berechnungen der **astronomisch maximal möglichen Beschattungsdauer** ergeben die in Tabelle 2 in den ersten beiden Spalten aufgeführten Werte. Zudem zeigt die dritte Spalte die ermittelten Werte für die **meteorologisch wahrscheinliche Beschattung** (Jahresgesamtstundenzahl). Es wurden für die ausgewählten Immissionsorte Zusatzbelastung ermittelt, welche gleichzeitig die Gesamtbelastung darstellt. Die detaillierten Ergebnisse sind in den im Anhang befindlichen Berechnungsausdrucken nachzulesen (siehe Anhang SHADOW-Berechnungen „astron. max. mögl. Beschattungsdauer“).

Tabelle 2: Berechnungsergebnisse Schattenwurf

Immissionsort		Max. Stunden / Jahr Max.	Max. Stunden / Tag	Max. Stunden / Jahr Meteorol.
		Zusatzbelas-tung	Zusatzbelas-tung	Zusatzbelastung
A	Hungerkamp 11	**70:35**	**00:44**	**18:34**
B	Hungerkamp 14	**72:12**	**00:44**	**19:00**
C	Hungerkamp 12	**73:48**	**00:45**	**19:24**
D	Gänsekamp 18	**75:22**	**00:46**	**19:48**
E	Gänsekamp 16	**78:48**	**00:47**	**20:40**
F	Gänsekamp 14	**81:03**	**00:48**	**21:16**
G	Gänsekamp 12	**83:51**	**00:49**	**22:00**
H	Gänsekamp 10	**87:01**	**00:50**	**22:53**
I	Gänsekamp 8	**88:52**	**00:51**	**23:27**
J	Gänsekamp 6	**88:26**	**00:52**	**23:27**
K	Klein Sisbecker Str. 14	**100:12**	**00:53**	**26:25**
L	Klein Sisbecker Str. 12	**103:05**	**00:53**	**27:15**
M	Siedlung 7	**102:29**	**00:54**	**26:55**

Immissionsort		Max. Stunden / Jahr Max.	Max. Stunden / Tag	Max. Stunden / Jahr Meteorol.
		Zusatzbelas-tung	Zusatzbelas-tung	Zusatzbelastung
N	Siedlung 9	**102:48**	**00:55**	**26:55**
O	Siedlung 11	**102:58**	**00:56**	**26:52**
P	Siedlung 13	**100:36**	**00:56**	**26:09**
Q	Siedlung 15	**101:15**	**00:57**	**26:17**
R	Siedlung 17	**98:03**	**00:57**	**25:20**
S	Siedlung 19	**95:31**	**00:56**	**24:38**
T	Siedlung 19A	**87:39**	**00:53**	**22:36**
U	Siedlung 21	**84:05**	**00:51**	**21:40**
V	Siedlung 23	**91:35**	**00:55**	**23:31**
W	Siedlung 23	**97:20**	**00:58**	**24:59**
X	Siedlung 25A	**104:45**	**01:00**	**27:01**
Y	Siedlung 25	**108:32**	**01:01**	**28:04**
Z	Siedlung 10	**114:20**	**01:01**	**29:47**
AA	Siedlung 27	**116:32**	**01:03**	**30:15**
AB	Siedlung 29	**122:13**	**01:04**	**31:51**
AC	Hauptstraße 41	**121:04**	**01:07**	**31:17**
AD	Friedhofsweg Kapelle	**136:14**	**01:13**	**35:06**
AE	Friedhofsweg 2	**135:56**	**01:11**	**35:18**
AF	Hauptstraße 48	**136:37**	**01:09**	**35:41**
AG	Hauptstraße 46	**137:24**	**01:09**	**35:58**
AH	Hauptstraße 39A	**131:13**	**01:07**	**34:18**
AI	Hauptstraße 39	**133:04**	**01:06**	**34:56**
AJ	Hauptstraße 44	**141:07**	**01:08**	**37:12**
AK	Hauptstraße 35	**133:28**	**01:05**	**35:20**
AL	Hauptstraße 37	**131:02**	**01:05**	**34:51**
AM	Hauptstraße 42	**140:56**	**01:09**	**37:30**
AN	Hauptstraße 40	**125:08**	**01:07**	**33:28**
AO	Hauptstraße 38	**119:44**	**01:06**	**32:05**
AP	Hauptstraße 36	**110:23**	**01:05**	**29:39**
AQ	Hauptstraße 36A	**107:54**	**01:04**	**28:58**
AR	Hauptstraße 34	**104:59**	**01:04**	**28:10**
AS	Bahnhofstraße 1	**108:34**	**01:05**	**29:01**
AT	Bahnhofstraße 2	**103:04**	**01:03**	**27:26**
AU	Bahnhofstraße 6	**109:25**	**01:04**	**28:44**
AV	Bahnhofstraße 9	**119:27**	**01:07**	**31:34**

Immissionsort		Max. Stunden / Jahr Max.	Max. Stunden / Tag	Max. Stunden / Jahr Meteorol.
		Zusatzbelas-tung	Zusatzbelas-tung	Zusatzbelastung
AW	Bahnhofstraße 11	**123:45**	**01:08**	**32:31**
AX	Bahnhofstraße 13	**133:15**	**01:11**	**34:47**
AY	Bahnhofstraße 15A	**137:57**	**01:12**	**35:54**
AZ	Bahnhofstraße 15	**140:07**	**01:13**	**36:21**
BA	Bahnhofstraße 17	**146:22**	**01:14**	**37:45**
BB	Bahnhofstraße 20	**126:34**	**01:07**	**32:02**
BC	Hauptstraße 30B	**97:49**	**01:01**	**26:00**
BD	Hauptstraße 30C	**94:48**	**00:59**	**25:01**
BE	Hauptstraße 30D	**91:04**	**00:58**	**23:48**
BF	Hauptstraße 30	**89:39**	**00:58**	**23:50**
BG	Hauptstraße 26	**85:51**	**00:56**	**22:32**
BH	Hauptstraße 24	**82:28**	**00:52**	**21:09**
BI	Hauptstraße 28	**83:59**	**00:56**	**22:11**
BJ	Hauptstraße 22	**77:15**	**00:51**	**20:04**
BK	Hauptstraße 21	**71:43**	**00:49**	**18:39**
BL	Hauptstraße 20	**69:56**	**00:46**	**17:59**
BM	Rümmersche Str. 2	**55:44**	**00:44**	**14:23**
BN	Rümmersche Str. 1A	**69:31**	**00:45**	**17:38**
BO	Rümmersche Str. 1	**69:03**	**00:44**	**17:23**
BP	Rümmersche Str. 3	**61:31**	**00:43**	**15:27**
BQ	Rümmersche Str. 5	**55:05**	**00:41**	**13:39**

	Anzahl > 30 Std /Jahr	Anzahl > 30 min /Tag	Anzahl > 8 Std /Jahr
	69	**69**	**69**
	Max. Wert	**Max. Wert**	**Max. Wert**
	146:22	**1:14**	**37:45**

Durch die **Zusatzbelastung** welche gleichzeitig die Gesamtbelastung darstellt, wird bei der **astronomisch maximal möglichen Beschattungsdauer** der jährliche Grenzwert von 30 Stunden pro Jahr an 69 Immissionsorten überschritten. Ferner wird der tägliche Grenzwert von 30 Minuten am Tag an 69 Immissionsorten überschritten. Mit maximalen Beschattungszeiten von 146:22 Stunden im Jahr und 74 Minuten pro Tag am Immissionsort BA sind die Belastungen durch Schattenwurf insgesamt als hoch zu bezeichnen.

Bei der **meteorologisch wahrscheinlichen Beschattung** kommt es an allen Immissionsorten zu Überschreitungen der Beschattungsdauer von 8 Stunden pro Jahr. Mit maximalen Beschattungszeiten von 37:45 Stunden im Jahr am Immissionsort BA sind die Belastungen durch

Schattenwurf auch unter meteorologisch wahrscheinlichen Bedingungen insgesamt als hoch zu bezeichnen.

Da die Berechnung der täglichen Beschattungszeiten in Form einer meteorologisch wahrscheinlichen Betrachtung auch mit den berücksichtigten Statistikdaten programmtechnisch nicht möglich ist, muss zur Ermittlung möglicher Grenzwertüberschreitungen auf die astronomisch maximal mögliche Beschattung zurückgegriffen werden.

Die Beschattungszeiten werden in dem gesamten Bereich des Ortes Volkmarsdorf überschritten.

Durch den Einsatz einer Abschaltautomatik können die Überschreitungen entsprechend reduziert werden.

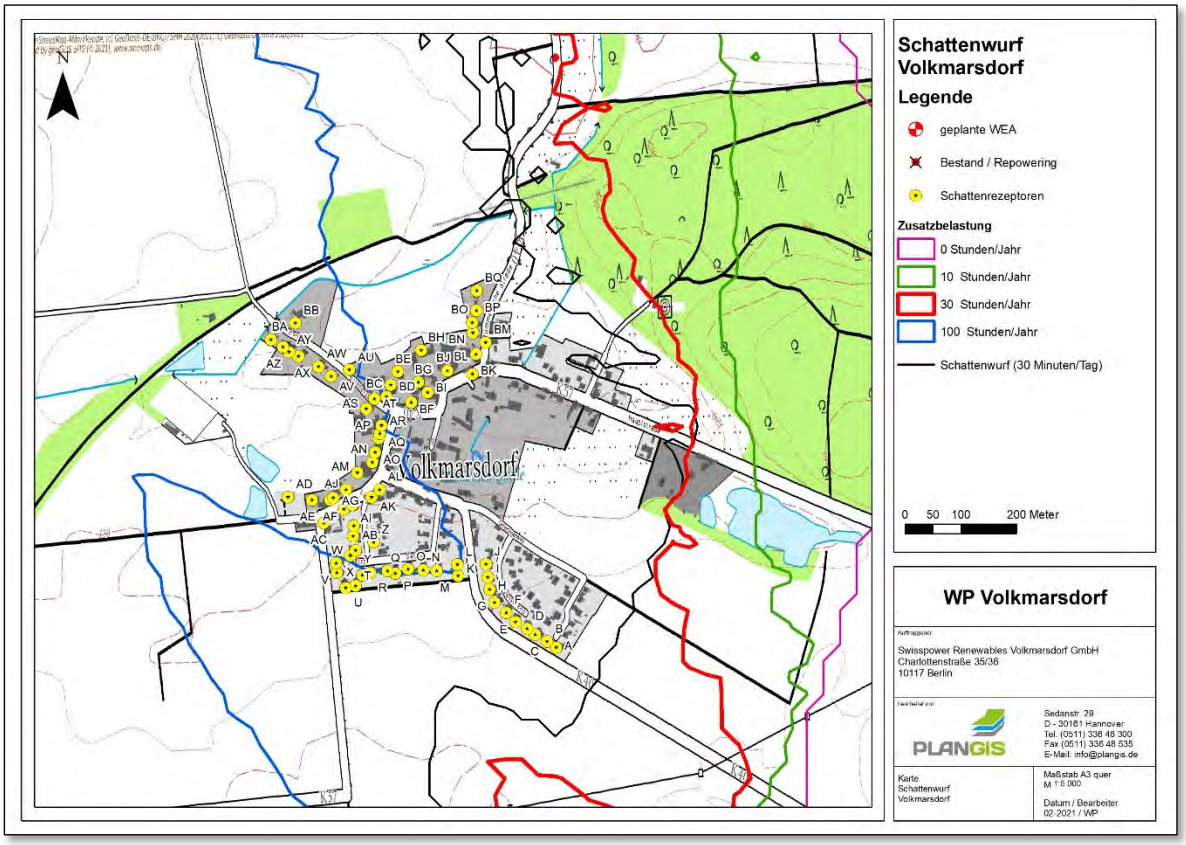


Abbildung 5: Schattenwurf in Volkmarsdorf

Durch die neu geplanten WEA kommt es in dem gesamten Bereich der Ortschaft Volkmarsdorf zu Überschreitungen der Richtwerte. Die Schattenwurfabschaltung für die Immissionsorte in der ersten Baureihe von Volkmarsdorf führt auch zu einer automatischen Schattenwurfverhinderung für alle im gleichen Strahlengang befindlichen Immissionsorte, welche weiter von der WEA entfernt liegen. Es wird eine Abschaltung für die gesamte Ortschaft Volkmarsdorf empfohlen. Bei der Programmierung des Schattenabschaltmoduls muss auf diesen Umstand entsprechend reagiert werden.

Durch den Einsatz einer Schattenwurfabschaltautomatik an den neu geplanten **WEA 1** und **WEA 4 – 6** können die Grenzwertüberschreitungen an den jeweiligen Immissionsorten sicher verhindert werden.

Eine Schattenwurfabschaltung für einen näher an der WEA gelegenen Immissionsort bedeutet auch eine automatische Schattenwurfverhinderung für alle im gleichen Strahlengang befindlichen Immissionsorte, welche weiter von der WEA entfernt liegen. Bei der Programmierung des Schattenabschaltmoduls muss auf diesen Umstand entsprechend reagiert werden.

3 Zusammenfassung und Empfehlungen

Die Swisspower Renewables Volkmarsdorf GmbH plant im Rahmen eines Repowerings die Errichtung und den Betrieb sechs neuer Windenergieanlagen am Standort Volkmarsdorf. Dabei handelt es sich um WEA des Typs GE 5.5-158 der Firma General Electric mit einer Nabenhöhe von 161 m, einem Rotordurchmesser von 158 m und einer Leistung von 5.500 kW, nördlich von Almke und westlich von Volkmarsdorf, Landkreis Helmstedt, Niedersachsen. Die bestehenden 15 Windenergieanlagen werden im Zuge des Repowerings abgebaut.

Vorbelastungen durch bestehende WEA sind in dem Bereich der neu geplanten Anlagen dann nicht vorhanden.

Für die **Berechnung** der Beschattungsdauer mit dem Berechnungsmodul SHADOW des Programms WindPRO 3.4 wurden 69 relevante Immissionsorte in der Umgebung der geplanten Anlagen bestimmt.

Durch die **Zusatzbelastung** welche gleichzeitig die Gesamtbelastung darstellt, wird bei der **astronomisch maximal möglichen Beschattungsdauer** der jährliche Grenzwert von 30 Stunden pro Jahr an 69 Immissionsorten überschritten. Ferner wird der tägliche Grenzwert von 30 Minuten am Tag an 69 Immissionsorten überschritten. Mit maximalen Beschattungszeiten von 146:22 Stunden im Jahr und 74 Minuten pro Tag am Immissionsort BA sind die Belastungen durch Schattenwurf insgesamt als hoch zu bezeichnen.

Bei der **meteorologisch wahrscheinlichen Beschattung** kommt es an allen Immissionsorten zu Überschreitungen der Beschattungsdauer von 8 Stunden pro Jahr. Mit maximalen Beschattungszeiten von 37:45 Stunden im Jahr am Immissionsort BA sind die Belastungen durch Schattenwurf auch unter meteorologisch wahrscheinlichen Bedingungen insgesamt als hoch zu bezeichnen.

Da die Berechnung der täglichen Beschattungszeiten in Form einer meteorologisch wahrscheinlichen Betrachtung auch mit den berücksichtigten Statistikdaten programmtechnisch nicht möglich ist, muss zur Ermittlung möglicher Grenzwertüberschreitungen auf die astronomisch maximal mögliche Beschattung zurückgegriffen werden.

Durch die neu geplanten WEA kommt es in dem gesamten Bereich der Ortschaft Volkmarsdorf zu Überschreitungen der Richtwerte. Die Schattenwurfabschaltung für die Immissionsorte in der ersten Baureihe von Volkmarsdorf führt auch zu einer automatischen Schattenwurfverhinderung für alle im gleichen Strahlengang befindlichen Immissionsorte, welche weiter von der WEA entfernt liegen. Es wird eine Abschaltung für die gesamte Ortschaft Volkmarsdorf empfohlen. Bei der Programmierung des Schattenabschaltmoduls muss auf diesen Umstand entsprechend reagiert werden.

Durch den Einsatz einer Schattenwurfabschaltautomatik an den neu geplanten **WEA 1** und **WEA 4 – 6** können die Grenzwertüberschreitungen an den jeweiligen Immissionsorten sicher verhindert werden.

Für die Einhaltung der Grenzwerte der maximalen Beschattungsdauer ist demnach beim vorliegenden Windpark-Projekt auf eine Abschaltautomatik zurückzugreifen. Dabei ist zu entscheiden, ob eine Abschaltautomatik gewählt wird, die auf die meteorologischen Parameter zurückgreift (z. B. die Intensität des Sonnenlichtes) und dann dementsprechend die tatsächliche Beschattungsdauer von max. 8 Stunden pro Kalenderjahr berücksichtigt wird (mittlerweile technischer Standard). Ist dies nicht der Fall, ist die astronomisch maximal mögliche Beschattungsdauer von 30 Stunden pro Kalenderjahr anzusetzen. Dabei werden die Anlagen mit festen Abschaltzeiten versehen und somit ggf. auch bei bedecktem Himmel abgeschaltet.

Für die Einrichtung einer Abschaltautomatik sind im Schattenwurfgutachten die maßgeblichen Immissionsorte sowie die Schattenwurf verursachenden WEA zu benennen. Für die Immissionsorte und WEA sind im Anhang grafische und tabellarische Schattenwurfkalender wiedergegeben, die einen Überblick geben, wann im Jahres- und Tagesverlauf mit Beschattung zu rechnen ist. Anhand der ermittelten Ergebnisse wird infolgedessen ein Abschaltmechanismus für die neuen WEA 1 und WEA 4 - 6 vorgeschlagen. Dadurch können die Grenzwerte an den betroffenen Immissionsorten sicher eingehalten werden.

Abschaltautomatiken sind so zu programmieren, dass alle betroffenen Bereiche (Fenster, Balkone usw.) an den Immissionspunkten berücksichtigt werden. Aus den für punktförmige Rezeptoren angegebenen Zeiten kann nicht direkt abgeleitet werden, wie viele Minuten die betreffenden WEA tatsächlich abgeschaltet werden müssten. Die vorliegende Prognose macht über die technische Umsetzung der Abschaltautomatik keine Aussagen, die Programmierung obliegt dem Hersteller oder Betreiber der Windenergieanlage bzw. dem Hersteller des Schattenwurfabschaltmoduls. Betroffene Gebäudebereiche mit nur seltener oder kurzzeitiger räumlicher Nutzung (z. B. Abstellräume o.ä.) sind in der Regel nicht zu berücksichtigen. Darüber hinaus können sichtverschattende Objekte wie bspw. dauerhafter Bewuchs oder Nebengebäude einen Schattenwurf verhindern, wodurch im Einzelnen auf eine Abschaltung für das jeweilige Gebäude verzichtet werden könnte. Dies kann am einfachsten nach Errichtung der Anlagen dokumentiert und berücksichtigt werden.

Anhang

Schattenwurfkarten in A3

Detaillierte Berechnungsergebnisse aus WindPRO 3.4 Modul SHADOW

SHADOW - Hauptergebnis

Berechnung: Schattenwurf WP Volkmarsdorf

Voraussetzungen für Berechnung des Schattenwurfs

Beschattungsbereich der WEA
Schatten nur relevant, wo Rotorblatt mind. 20% der Sonne verdeckt
Siehe WEA-Tabelle

Minimale relevante Sonnenhöhe über Horizont	3 °
Tage zwischen Berechnungen	1 Tag(e)
Berechnungszeitsprung	1 Minuten

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

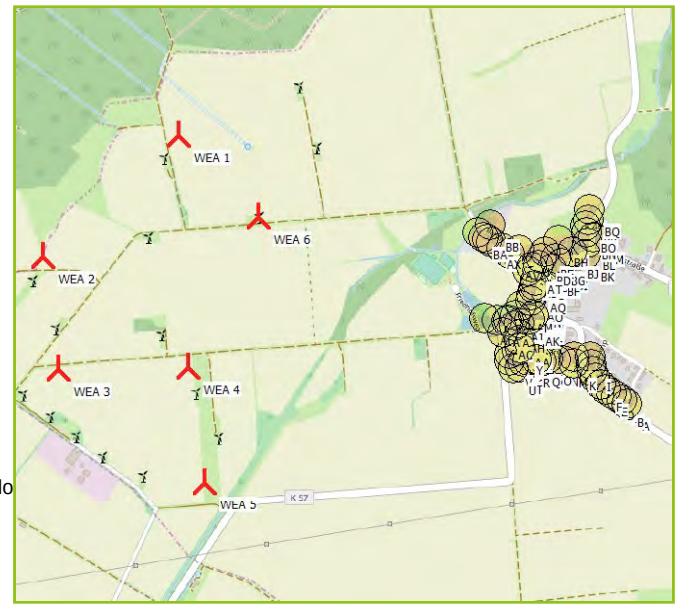
Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

Eine WEA wird nicht berücksichtigt, wenn sie von keinem Teil der Rezeptorfläche aus sichtbar ist. Die Sichtbarkeitsberechnung basiert auf den folgenden Annahmen:
Verwendete Höhenlinien: Höhenraster-Objekt: Schattenwurf_WP_Volkmarsdo
Hindernisse in Berechnung verwendet
Berechnungshöhe ü.Gr. für Karte: 2,0 m
Rasterauflösung: 1,0 m

Alle Koordinatenangaben in:
UTM (north)-ETRS89 Zone: 32



Maßstab 1:25.000
Neue WEA
Schattenrezeptor

WEA

	Ost	Nord	Z	Beschreibung	WEA-Typ Aktuell	Hersteller	Typ	Nenn-leistung	Rotor-durch-messer	Nabenhöhe	Schattendaten Beschatt.-Bereich	U/min
			[m]					[kW]	[m]	[m]	[m]	[U/min]
1	627.204	5.803.592	117,7	GE 5.5-158	Ja	GE WIND ENERGY	GE 5.5-158-5.500	5.500	158,0	161,0	1.816	9,7
2	626.765	5.803.182	129,0	GE 5.5-158	Ja	GE WIND ENERGY	GE 5.5-158-5.500	5.500	158,0	161,0	1.816	9,7
3	626.827	5.802.810	132,1	GE 5.5-158	Ja	GE WIND ENERGY	GE 5.5-158-5.500	5.500	158,0	161,0	1.816	9,7
4	627.254	5.802.827	134,1	GE 5.5-158	Ja	GE WIND ENERGY	GE 5.5-158-5.500	5.500	158,0	161,0	1.816	9,7
5	627.321	5.802.445	132,6	GE 5.5-158	Ja	GE WIND ENERGY	GE 5.5-158-5.500	5.500	158,0	161,0	1.816	9,7
6	627.477	5.803.327	122,9	GE 5.5-158	Ja	GE WIND ENERGY	GE 5.5-158-5.500	5.500	158,0	161,0	1.816	9,7

Schattenrezeptor-Eingabe

Nr.	Name	Ost	Nord	Z	Breite	Höhe	Höhe ü.Gr.	Neigung des Fensters	Ausrichtungsmodus	Augenhöhe (ZVI) ü.Gr.
				[m]	[m]	[m]	[m]	[°]		[m]
A	Hungerkamp 11	628.712	5.802.745	127,0	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
B	Hungerkamp 14	628.696	5.802.755	127,1	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
C	Hungerkamp 12	628.674	5.802.767	126,2	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
D	Gänsekamp 18	628.660	5.802.778	126,0	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
E	Gänsekamp 16	628.639	5.802.790	126,0	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
F	Gänsekamp 14	628.623	5.802.807	125,4	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
G	Gänsekamp 12	628.602	5.802.825	123,8	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
H	Gänsekamp 10	628.593	5.802.848	123,3	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
I	Gänsekamp 8	628.590	5.802.870	123,2	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
J	Gänsekamp 6	628.586	5.802.894	122,7	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
K	Klein Sisbecker Str. 14	628.536	5.802.873	121,8	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
L	Klein Sisbecker Str. 12	628.535	5.802.893	121,4	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
M	Siedlung 7	628.498	5.802.881	121,2	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
N	Siedlung 9	628.474	5.802.883	121,7	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
O	Siedlung 11	628.446	5.802.885	122,4	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
P	Siedlung 13	628.424	5.802.877	123,0	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
Q	Siedlung 15	628.410	5.802.882	122,9	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
R	Siedlung 17	628.379	5.802.878	122,6	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
S	Siedlung 19	628.365	5.802.874	122,2	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
T	Siedlung 19A	628.353	5.802.855	122,1	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
U	Siedlung 21	628.335	5.802.851	122,4	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
V	Siedlung 23	628.319	5.802.878	121,9	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
W	Siedlung 23	628.318	5.802.896	121,3	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0

(Fortsetzung nächste Seite)...

SHADOW - Hauptergebnis

Berechnung: Schattenwurf WP Volkmarsdorf

...(Fortsetzung von vorheriger Seite)

Nr.	Name	Ost	Nord	Z	Breite	Höhe	Höhe ü.Gr.	Neigung des Fensters	Ausrichtungsmodus	Augenhöhe (ZVI) ü.Gr.
				[m]	[m]	[m]	[m]	[°]		[m]
X	Siedlung 25A	628.343	5.802.909	121,7	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
Y	Siedlung 25	628.353	5.802.918	121,9	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
Z	Siedlung 10	628.385	5.802.933	122,1	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AA	Siedlung 27	628.348	5.802.944	121,6	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AB	Siedlung 29	628.349	5.802.962	121,1	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AC	Hauptstraße 41	628.295	5.802.967	119,4	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AD	Friedhofsweg Kapelle	628.232	5.803.014	118,6	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AE	Friedhofsweg 2	628.275	5.803.009	118,0	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AF	Hauptstraße 48	628.307	5.803.009	118,8	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AG	Hauptstraße 46	628.313	5.803.012	119,0	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AH	Hauptstraße 39A	628.332	5.802.992	119,6	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AI	Hauptstraße 39	628.347	5.803.000	119,8	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AJ	Hauptstraße 44	628.336	5.803.027	119,0	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AK	Hauptstraße 35	628.382	5.803.014	119,5	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AL	Hauptstraße 37	628.396	5.803.027	119,1	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AM	Hauptstraße 42	628.356	5.803.058	118,1	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AN	Hauptstraße 40	628.382	5.803.076	117,9	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AO	Hauptstraße 38	628.388	5.803.093	118,0	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AP	Hauptstraße 36	628.394	5.803.119	117,3	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AQ	Hauptstraße 36A	628.396	5.803.127	117,1	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AR	Hauptstraße 34	628.399	5.803.142	116,7	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AS	Bahnhofstraße 1	628.372	5.803.172	116,0	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AT	Bahnhofstraße 2	628.386	5.803.189	115,9	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AU	Bahnhofstraße 6	628.342	5.803.241	113,1	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AV	Bahnhofstraße 9	628.309	5.803.230	113,5	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AW	Bahnhofstraße 11	628.286	5.803.247	113,4	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AX	Bahnhofstraße 13	628.250	5.803.265	113,5	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AY	Bahnhofstraße 15A	628.234	5.803.273	113,9	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
AZ	Bahnhofstraße 15	628.223	5.803.282	114,0	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
BA	Bahnhofstraße 17	628.201	5.803.296	114,1	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
BB	Bahnhofstraße 20	628.245	5.803.325	111,8	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
BC	Hauptstraße 30B	628.408	5.803.193	115,9	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
BD	Hauptstraße 30C	628.416	5.803.214	115,8	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
BE	Hauptstraße 30D	628.428	5.803.238	114,7	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
BF	Hauptstraße 30	628.452	5.803.183	116,7	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
BG	Hauptstraße 26	628.465	5.803.219	115,8	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
BH	Hauptstraße 24	628.471	5.803.277	113,8	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
BI	Hauptstraße 28	628.482	5.803.201	115,4	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
BJ	Hauptstraße 22	628.517	5.803.240	113,8	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
BK	Hauptstraße 21	628.562	5.803.234	112,2	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
BL	Hauptstraße 20	628.569	5.803.270	110,5	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
BM	Rümmersche Str. 2	628.586	5.803.291	108,9	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
BN	Rümmersche Str. 1A	628.563	5.803.307	108,4	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
BO	Rümmersche Str. 1	628.562	5.803.326	107,5	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
BP	Rümmersche Str. 3	628.569	5.803.348	106,6	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0
BQ	Rümmersche Str. 5	628.570	5.803.383	103,5	1,0	1,0	2,0	90,0	"Gewächshaus-Modus"	3,0

Berechnungsergebnisse

Schattenrezeptor

		astron. max. mögl. Beschattungsdauer			met. wahrsch. Beschattungsdauer
Nr.	Name	Stunden/Jahr	Schattentage/Jahr	Max.Schattendauer/Tag	Stunden/Jahr
		[h/a]	[d/a]	[h/d]	[h/a]
A	Hungerkamp 11	70:35	149	0:44	18:34
B	Hungerkamp 14	72:12	150	0:44	19:00
C	Hungerkamp 12	73:48	151	0:45	19:24
D	Gänsekamp 18	75:22	151	0:46	19:48
E	Gänsekamp 16	78:48	159	0:47	20:40
F	Gänsekamp 14	81:03	160	0:48	21:16
G	Gänsekamp 12	83:51	160	0:49	22:00
H	Gänsekamp 10	87:01	163	0:50	22:53
I	Gänsekamp 8	88:52	166	0:51	23:27
J	Gänsekamp 6	88:26	168	0:52	23:27
K	Klein Sisbecker Str. 14	100:12	190	0:53	26:25

(Fortsetzung nächste Seite)...

SHADOW - Hauptergebnis

Berechnung: Schattenwurf WP Volkmarsdorf

...(Fortsetzung von vorheriger Seite)

		astron. max. mögl. Beschattungsdauer			met. wahrsch. Beschattungsdauer
Nr.	Name	Stunden/Jahr	Schattentage/Jahr	Max.Schattendauer/Tag	Stunden/Jahr
		[h/a]	[d/a]	[h/d]	[h/a]
L	Klein Sisbecker Str. 12	103:05	194	0:53	27:15
M	Siedlung 7	102:29	191	0:54	26:55
N	Siedlung 9	102:48	190	0:55	26:55
O	Siedlung 11	102:58	189	0:56	26:52
P	Siedlung 13	100:36	187	0:56	26:09
Q	Siedlung 15	101:15	187	0:57	26:17
R	Siedlung 17	98:03	185	0:57	25:20
S	Siedlung 19	95:31	183	0:56	24:38
T	Siedlung 19A	87:39	176	0:53	22:36
U	Siedlung 21	84:05	172	0:51	21:40
V	Siedlung 23	91:35	179	0:55	23:31
W	Siedlung 23	97:20	184	0:58	24:59
X	Siedlung 25A	104:45	190	1:00	27:01
Y	Siedlung 25	108:32	191	1:01	28:04
Z	Siedlung 10	114:20	197	1:01	29:47
AA	Siedlung 27	116:32	197	1:03	30:15
AB	Siedlung 29	122:13	202	1:04	31:51
AC	Hauptstraße 41	121:04	199	1:07	31:17
AD	Friedhofsweg Kapelle	136:14	208	1:13	35:06
AE	Friedhofsweg 2	135:56	209	1:11	35:18
AF	Hauptstraße 48	136:37	211	1:09	35:41
AG	Hauptstraße 46	137:24	211	1:09	35:58
AH	Hauptstraße 39A	131:13	208	1:07	34:18
AI	Hauptstraße 39	133:04	209	1:06	34:56
AJ	Hauptstraße 44	141:07	215	1:08	37:12
AK	Hauptstraße 35	133:28	212	1:05	35:20
AL	Hauptstraße 37	131:02	215	1:05	34:51
AM	Hauptstraße 42	140:56	223	1:09	37:30
AN	Hauptstraße 40	125:08	223	1:07	33:28
AO	Hauptstraße 38	119:44	228	1:06	32:05
AP	Hauptstraße 36	110:23	214	1:05	29:39
AQ	Hauptstraße 36A	107:54	210	1:04	28:58
AR	Hauptstraße 34	104:59	204	1:04	28:10
AS	Bahnhofstraße 1	108:34	207	1:05	29:01
AT	Bahnhofstraße 2	103:04	204	1:03	27:26
AU	Bahnhofstraße 6	109:25	209	1:04	28:44
AV	Bahnhofstraße 9	119:27	219	1:07	31:34
AW	Bahnhofstraße 11	123:45	223	1:08	32:31
AX	Bahnhofstraße 13	133:15	233	1:11	34:47
AY	Bahnhofstraße 15A	137:57	240	1:12	35:54
AZ	Bahnhofstraße 15	140:07	241	1:13	36:21
BA	Bahnhofstraße 17	146:22	248	1:14	37:45
BB	Bahnhofstraße 20	126:34	229	1:07	32:02
BC	Hauptstraße 30B	97:49	195	1:01	26:00
BD	Hauptstraße 30C	94:48	194	0:59	25:01
BE	Hauptstraße 30D	91:04	188	0:58	23:48
BF	Hauptstraße 30	89:39	188	0:58	23:50
BG	Hauptstraße 26	85:51	183	0:56	22:32
BH	Hauptstraße 24	82:28	180	0:52	21:09
BI	Hauptstraße 28	83:59	182	0:56	22:11
BJ	Hauptstraße 22	77:15	174	0:51	20:04
BK	Hauptstraße 21	71:43	168	0:49	18:39
BL	Hauptstraße 20	69:56	164	0:46	17:59
BM	Rümmersche Str. 2	55:44	138	0:44	14:23
BN	Rümmersche Str. 1A	69:31	165	0:45	17:38
BO	Rümmersche Str. 1	69:03	164	0:44	17:23
BP	Rümmersche Str. 3	61:31	159	0:43	15:27
BQ	Rümmersche Str. 5	55:05	142	0:41	13:39

Gesamtdauer Beschattung an Rezeptoren pro WEA

Nr.	Name	Maximal [h/a]	Erwartet [h/a]
1	GE 5.5-158	126:29	34:02
2	GE 5.5-158	49:19	13:17

(Fortsetzung nächste Seite)...

SHADOW - Hauptergebnis

Berechnung: Schattenwurf WP Volkmarsdorf

...(Fortsetzung von vorheriger Seite)

Nr.	Name	Maximal [h/a]	Erwartet [h/a]
3	GE 5.5-158	51:51	12:39
4	GE 5.5-158	105:02	26:04
5	GE 5.5-158	111:32	22:36
6	GE 5.5-158	207:22	57:20

Summen in Rezeptortabelle und WEA-Tabelle können sich unterscheiden, da eine WEA gleichzeitig an zwei oder mehr Rezeptoren Beschattung verursachen kann und/oder ein Rezeptor gleichzeitig von zwei oder mehr WEA beschattet werden kann.

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: A - Hungerkamp 11

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar	März		April		Mai		Juni		
1	08:27	08:00	07:05		06:54		05:48		05:02		20:11 (6)
	16:14	17:02	17:55		19:50		20:42		21:28	43	20:54 (1)
2	08:27	07:58	07:03		06:51		05:46		05:01		20:11 (6)
	16:15	17:04	17:56		19:51	3	19:20 (4)	20:43	21:29	43	20:54 (1)
3	08:27	07:56	07:01		06:49		19:13 (4)	05:44	05:00		20:11 (6)
	16:16	17:06	17:58		19:53	12	19:25 (4)	20:45	21:30	43	20:54 (1)
4	08:27	07:55	06:59		06:47		19:11 (4)	05:42	04:59		20:12 (6)
	16:17	17:08	18:00		19:55	16	19:27 (4)	20:47	21:32	43	20:55 (1)
5	08:26	07:53	06:56		06:44		19:08 (4)	05:40	04:59		20:12 (6)
	16:18	17:10	18:02		19:57	20	19:28 (4)	20:48	21:33	43	20:55 (1)
6	08:26	07:51	06:54		06:42		19:07 (4)	05:38	04:58		20:13 (6)
	16:19	17:11	18:04		19:58	22	19:29 (4)	20:50	21:34	42	20:55 (1)
7	08:26	07:50	06:52		06:40		19:06 (4)	05:37	04:57		20:13 (6)
	16:21	17:13	18:06		20:00	23	19:29 (4)	20:52	21:34	42	20:55 (1)
8	08:25	07:48	06:50		06:38		19:05 (4)	05:35	04:57		20:14 (6)
	16:22	17:15	18:07		20:02	24	19:29 (4)	20:53	21:35	41	20:55 (1)
9	08:25	07:46	06:47		06:35		19:04 (4)	05:33	04:56		20:14 (6)
	16:23	17:17	18:09		20:04	25	19:29 (4)	20:55	21:36	41	20:55 (1)
10	08:24	07:44	06:45		17:31 (5)	06:33	19:04 (4)	05:31	04:56		20:14 (6)
	16:25	17:19	18:11	11	17:42 (5)	20:05	25	19:29 (4)	20:57	21:37	41	20:55 (1)
11	08:24	07:42	06:43		17:29 (5)	06:31	19:04 (4)	05:30	04:55		20:15 (6)
	16:26	17:21	18:13	16	17:45 (5)	20:07	25	19:29 (4)	20:58	21:38	41	20:56 (1)
12	08:23	07:40	06:40		17:27 (5)	06:28	19:04 (4)	05:28	20:18 (6)	04:55		20:15 (6)
	16:28	17:23	18:15	20	17:47 (5)	20:09	25	19:29 (4)	21:00	11	20:29 (6)	21:38	40	20:55 (1)
13	08:22	07:39	06:38		17:25 (5)	06:26	19:04 (4)	05:26	20:16 (6)	04:55		20:15 (6)
	16:29	17:25	18:16	22	17:47 (5)	20:10	23	19:27 (4)	21:01	14	20:30 (6)	21:39	40	20:55 (1)
14	08:21	07:37	06:36		17:25 (5)	06:24	19:04 (4)	05:25	20:15 (6)	04:55		20:16 (6)
	16:31	17:27	18:18	23	17:48 (5)	20:12	23	19:27 (4)	21:03	17	20:32 (6)	21:40	40	20:56 (1)
15	08:21	07:35	06:34		17:23 (5)	06:22	19:05 (4)	05:23	20:13 (6)	04:54		20:16 (6)
	16:32	17:29	18:20	24	17:47 (5)	20:14	21	19:26 (4)	21:05	20	20:33 (6)	21:40	40	20:56 (1)
16	08:20	07:33	06:31		17:23 (5)	06:19	19:06 (4)	05:21	20:12 (6)	04:54		20:17 (6)
	16:34	17:30	18:22	25	17:48 (5)	20:16	18	19:24 (4)	21:06	22	20:34 (6)	21:41	39	20:56 (1)
17	08:19	07:31	06:29		17:23 (5)	06:17	19:08 (4)	05:20	20:12 (6)	04:54		20:17 (6)
	16:35	17:32	18:23	25	17:48 (5)	20:17	15	19:23 (4)	21:08	23	20:35 (6)	21:41	39	20:56 (1)
18	08:18	07:29	06:27		17:22 (5)	06:15	19:09 (4)	05:18	20:11 (6)	04:54		20:17 (6)
	16:37	17:34	18:25	25	17:47 (5)	20:19	10	19:19 (4)	21:09	24	20:35 (6)	21:42	39	20:56 (1)
19	08:17	07:27	06:24		17:22 (5)	06:13			05:17		20:11 (6)	04:54		20:18 (6)
	16:39	17:36	18:27	25	17:47 (5)	20:21			21:11	26	20:40 (1)	21:42	38	20:56 (1)
20	08:16	07:25	06:22		17:23 (5)	06:11			05:16		20:10 (6)	04:54		20:18 (6)
	16:40	17:38	18:29	24	17:47 (5)	20:23			21:12	31	20:41 (1)	21:42	38	20:56 (1)
21	08:15	07:23	06:19		17:22 (5)	06:09			05:14		20:10 (6)	04:54		20:18 (6)
	16:42	17:40	18:30	23	17:45 (5)	20:24			21:14	33	20:43 (1)	21:43	39	20:57 (1)
22	08:13	07:20	06:17		17:24 (5)	06:06			05:13		20:09 (6)	04:55		20:19 (6)
	16:44	17:42	18:32	20	17:44 (5)	20:26			21:15	34	20:43 (1)	21:43	38	20:57 (1)
23	08:12	07:18	06:15		17:25 (5)	06:04			05:12		20:09 (6)	04:55		20:19 (6)
	16:46	17:44	18:34	18	17:43 (5)	20:28			21:17	36	20:45 (1)	21:43	38	20:57 (1)
24	08:11	07:16	06:12		17:26 (5)	06:02			05:10		20:09 (6)	04:55		20:18 (6)
	16:47	17:45	18:36	14	17:40 (5)	20:29			21:18	37	20:46 (1)	21:43	39	20:57 (1)
25	08:10	07:14	06:10		17:30 (5)	06:00			05:09		20:10 (6)	04:55		20:19 (6)
	16:49	17:47	18:37	6	17:36 (5)	20:31			21:19	37	20:47 (1)	21:43	39	20:58 (1)
26	08:08	07:12	06:08			05:58			05:08		20:10 (6)	04:56		20:19 (6)
	16:51	17:49	18:39			20:33			21:21	39	20:49 (1)	21:43	39	20:58 (1)
27	08:07	07:10	06:05			05:56			05:07		20:10 (6)	04:56		20:18 (6)
	16:53	17:51	18:41			20:35			21:22	40	20:50 (1)	21:43	40	20:58 (1)
28	08:06	07:08	06:03			05:54			05:06		20:10 (6)	04:57		20:19 (6)
	16:55	17:53	18:43			20:36			21:23	41	20:51 (1)	21:43	40	20:59 (1)
29	08:04		07:01			05:52			05:05		20:10 (6)	04:57		20:20 (6)
	16:57		19:44			20:38			21:25	42	20:52 (1)	21:43	39	20:59 (1)
30	08:03		06:58			05:50			05:04		20:10 (6)	04:58		20:19 (6)
	16:58		19:46			20:40			21:26	43	20:53 (1)	21:43	40	20:59 (1)
31	08:01		06:56						05:03		20:11 (6)			
	17:00		19:48						21:27	43	20:54 (1)			
Sonnenscheinstunden	257	277	367		417		487		501		
astr.max.mögl.Beschattung				321		330		613		1207	
Red.Sonnenscheinwahrsch.				0,29		0,37		0,45		0,40	
Reduktion Betriebsdauer				1,00		1,00		1,00		1,00	
Reduktion Windrichtung				0,75		0,72		0,63		0,63	
Gesamte Reduktion				0,22		0,27		0,28		0,25	
Met.wahrsch.Beschattung				70		89		174		304	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

Lizenzierter Anwender:
plan-GIS GmbH Niederlassung Hannover
Sedanstr. 29
DE-30161 Hannover
+49 (0)511 33648-300

Berechnet:
15.03.2021 14:15/3.4.415

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: A - Hungerkamp 11

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		20:19 (6)	05:36		20:30 (6)	06:26		19:03 (4)	07:16		18:06 (5)	07:11	08:03
	21:42	41	21:00 (1)	21:10	8	20:38 (6)	20:07	25	19:28 (4)	18:56	20	18:26 (5)	16:49	16:08
2	04:59		20:19 (6)	05:37			06:28		19:02 (4)	07:18		18:07 (5)	07:13	08:04
	21:42	40	20:59 (1)	21:08			20:05	25	19:27 (4)	18:54	18	18:25 (5)	16:47	16:07
3	05:00		20:19 (6)	05:39			06:30		19:02 (4)	07:20		18:08 (5)	07:15	08:06
	21:42	41	21:00 (1)	21:06			20:02	25	19:27 (4)	18:52	13	18:21 (5)	16:46	16:07
4	05:01		20:19 (6)	05:40			06:31		19:03 (4)	07:22		18:12 (5)	07:17	08:07
	21:41	42	21:01 (1)	21:05			20:00	24	19:27 (4)	18:49	6	18:18 (5)	16:44	16:06
5	05:02		20:19 (6)	05:42			06:33		19:02 (4)	07:23			07:18	08:09
	21:41	42	21:01 (1)	21:03			19:58	23	19:25 (4)	18:47			16:42	16:06
6	05:02		20:19 (6)	05:44			06:35		19:03 (4)	07:25			07:20	08:10
	21:40	42	21:01 (1)	21:01			19:55	22	19:25 (4)	18:45			16:40	16:05
7	05:03		20:18 (6)	05:45			06:36		19:03 (4)	07:27			07:22	08:11
	21:40	43	21:01 (1)	20:59			19:53	20	19:23 (4)	18:42			16:38	16:05
8	05:04		20:19 (6)	05:47			06:38		19:05 (4)	07:28			07:24	08:12
	21:39	42	21:01 (1)	20:57			19:51	16	19:21 (4)	18:40			16:37	16:04
9	05:05		20:19 (6)	05:48			06:40		19:07 (4)	07:30			07:26	08:14
	21:38	42	21:01 (1)	20:56			19:48	12	19:19 (4)	18:38			16:35	16:04
10	05:06		20:19 (6)	05:50			06:41		19:10 (4)	07:32			07:28	08:15
	21:38	43	21:02 (1)	20:54			19:46	5	19:15 (4)	18:36			16:33	16:04
11	05:07		20:19 (6)	05:52			06:43			07:34			07:29	08:16
	21:37	43	21:02 (1)	20:52			19:44			18:33			16:32	16:04
12	05:08		20:19 (6)	05:53			06:45			07:35			07:31	08:17
	21:36	43	21:02 (1)	20:50			19:41			18:31			16:30	16:04
13	05:10		20:18 (6)	05:55			06:46			07:37			07:33	08:18
	21:35	44	21:02 (1)	20:48			19:39			18:29			16:29	16:03
14	05:11		20:18 (6)	05:57			06:48			07:39			07:35	08:19
	21:34	43	21:01 (1)	20:46			19:37			18:27			16:27	16:03
15	05:12		20:18 (6)	05:58			06:50			07:41			07:37	08:20
	21:33	42	21:00 (1)	20:44			19:34			18:24			16:26	16:04
16	05:13		20:19 (6)	06:00			06:51			07:42			07:38	08:21
	21:32	41	21:00 (1)	20:42			19:32			18:22			16:24	16:04
17	05:14		20:19 (6)	06:02			06:53			07:44			07:40	08:22
	21:31	40	20:59 (1)	20:40			19:29			18:20			16:23	16:04
18	05:16		20:19 (6)	06:03			06:55		18:19 (5)	07:46			07:42	08:22
	21:30	39	20:58 (1)	20:38			19:27	3	18:22 (5)	18:18			16:22	16:04
19	05:17		20:19 (6)	06:05			06:56		18:14 (5)	07:48			07:44	08:23
	21:29	37	20:56 (1)	20:35			19:25	13	18:27 (5)	18:16			16:20	16:04
20	05:18		20:19 (6)	06:07			06:58		18:11 (5)	07:49			07:45	08:24
	21:27	36	20:55 (1)	20:33			19:22	17	18:28 (5)	18:14			16:19	16:05
21	05:20		20:20 (6)	06:08			07:00		18:09 (5)	07:51			07:47	08:24
	21:26	35	20:55 (1)	20:31			19:20	20	18:29 (5)	18:11			16:18	16:05
22	05:21		20:20 (6)	06:10			07:01		18:08 (5)	07:53			07:49	08:25
	21:25	33	20:53 (1)	20:29			19:18	22	18:30 (5)	18:09			16:17	16:06
23	05:22		20:20 (6)	06:12			07:03		18:07 (5)	07:55			07:50	08:25
	21:24	32	20:52 (1)	20:27			19:15	23	18:30 (5)	18:07			16:15	16:06
24	05:24		20:21 (6)	06:13			07:05		18:06 (5)	07:57			07:52	08:26
	21:22	29	20:51 (1)	20:25			19:13	25	18:31 (5)	18:05			16:14	16:07
25	05:25		20:21 (6)	06:15		19:13 (4)	07:06		18:06 (5)	06:58			07:54	08:26
	21:21	25	20:46 (6)	20:23	10	19:23 (4)	19:11	25	18:31 (5)	17:03			16:13	16:07
26	05:27		20:21 (6)	06:17		19:09 (4)	07:08		18:04 (5)	07:00			07:55	08:26
	21:19	24	20:45 (6)	20:20	16	19:25 (4)	19:08	26	18:30 (5)	17:01			16:12	16:08
27	05:28		20:23 (6)	06:18		19:08 (4)	07:10		18:04 (5)	07:02			07:57	08:27
	21:18	22	20:45 (6)	20:18	18	19:26 (4)	19:06	26	18:30 (5)	16:59			16:11	16:09
28	05:30		20:23 (6)	06:20		19:07 (4)	07:11		18:05 (5)	07:04			07:58	08:27
	21:16	21	20:44 (6)	20:16	21	19:28 (4)	19:03	24	18:29 (5)	16:57			16:10	16:10
29	05:31		20:25 (6)	06:21		19:05 (4)	07:13		18:04 (5)	07:06			08:00	08:27
	21:15	19	20:44 (6)	20:14	23	19:28 (4)	19:01	24	18:28 (5)	16:55			16:10	16:10
30	05:33		20:25 (6)	06:23		19:05 (4)	07:15		18:05 (5)	07:08			08:02	08:27
	21:13	17	20:42 (6)	20:11	23	19:28 (4)	18:59	22	18:27 (5)	16:53			16:09	16:11
31	05:34		20:27 (6)	06:25		19:03 (4)				07:09				08:27
	21:12	13	20:40 (6)	20:09	25	19:28 (4)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		1096			144			467			57			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,63			0,72			0,74			0,75			
Gesamte Reduktion		0,26			0,32			0,27			0,23			
Met.wahrsch.Beschattung		290			46			128			13			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: B - Hungerkamp 14

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar	März			April			Mai			Juni		
1	08:27	08:00	07:05			06:54			05:48			05:02		20:10 (6)
	16:14	17:02	17:55			19:50			20:42			21:28	44	20:54 (1)
2	08:27	07:58	07:03			06:51		19:13 (4)	05:46			05:01		20:10 (6)
	16:15	17:04	17:56			19:51	9	19:22 (4)	20:43			21:29	44	20:54 (1)
3	08:27	07:56	07:01			06:49		19:10 (4)	05:44			05:00		20:10 (6)
	16:16	17:06	17:58			19:53	15	19:25 (4)	20:45			21:30	44	20:54 (1)
4	08:27	07:55	06:59			06:47		19:08 (4)	05:42			04:59		20:11 (6)
	16:17	17:08	18:00			19:55	19	19:27 (4)	20:47			21:32	44	20:55 (1)
5	08:26	07:53	06:56			06:44		19:06 (4)	05:40			04:59		20:11 (6)
	16:18	17:10	18:02			19:57	21	19:27 (4)	20:48			21:33	43	20:54 (1)
6	08:26	07:51	06:54			06:42		19:05 (4)	05:38			04:58		20:12 (6)
	16:19	17:11	18:04			19:58	23	19:28 (4)	20:50			21:34	43	20:55 (1)
7	08:26	07:50	06:52			06:40		19:04 (4)	05:37			04:57		20:12 (6)
	16:21	17:13	18:06			20:00	24	19:28 (4)	20:52			21:34	43	20:55 (1)
8	08:25	07:48	06:50			06:38		19:03 (4)	05:35			04:57		20:13 (6)
	16:22	17:15	18:07			20:02	25	19:28 (4)	20:53			21:35	42	20:55 (1)
9	08:25	07:46	06:47		17:31 (5)	06:35		19:03 (4)	05:33			04:56		20:13 (6)
	16:23	17:17	18:09	10	17:41 (5)	20:04	25	19:28 (4)	20:55			21:36	42	20:55 (1)
10	08:24	07:44	06:45		17:27 (5)	06:33		19:03 (4)	05:31			04:56		20:13 (6)
	16:25	17:19	18:11	16	17:43 (5)	20:05	25	19:28 (4)	20:57			21:37	42	20:55 (1)
11	08:24	07:42	06:43		17:26 (5)	06:31		19:03 (4)	05:30		20:21 (6)	04:55		20:14 (6)
	16:26	17:21	18:13	18	17:44 (5)	20:07	25	19:28 (4)	20:58	2	20:23 (6)	21:38	42	20:56 (1)
12	08:23	07:40	06:40		17:25 (5)	06:28		19:03 (4)	05:28		20:17 (6)	04:55		20:14 (6)
	16:28	17:23	18:15	21	17:46 (5)	20:09	24	19:27 (4)	21:00	11	20:28 (6)	21:38	41	20:55 (1)
13	08:22	07:39	06:38		17:23 (5)	06:26		19:03 (4)	05:26		20:15 (6)	04:55		20:14 (6)
	16:29	17:25	18:16	23	17:46 (5)	20:10	23	19:26 (4)	21:01	15	20:30 (6)	21:39	41	20:55 (1)
14	08:21	07:37	06:36		17:22 (5)	06:24		19:03 (4)	05:25		20:14 (6)	04:55		20:15 (6)
	16:31	17:27	18:18	25	17:47 (5)	20:12	22	19:25 (4)	21:03	18	20:32 (6)	21:40	41	20:56 (1)
15	08:21	07:35	06:34		17:21 (5)	06:22		19:04 (4)	05:23		20:12 (6)	04:54		20:15 (6)
	16:32	17:29	18:20	25	17:46 (5)	20:14	20	19:24 (4)	21:05	20	20:32 (6)	21:40	41	20:56 (1)
16	08:20	07:33	06:31		17:21 (5)	06:19		19:05 (4)	05:21		20:12 (6)	04:54		20:16 (6)
	16:34	17:30	18:22	25	17:46 (5)	20:16	18	19:23 (4)	21:06	22	20:34 (6)	21:41	40	20:56 (1)
17	08:19	07:31	06:29		17:21 (5)	06:17		19:07 (4)	05:20		20:11 (6)	04:54		20:16 (6)
	16:35	17:32	18:23	25	17:46 (5)	20:17	14	19:21 (4)	21:08	24	20:35 (6)	21:41	40	20:56 (1)
18	08:18	07:29	06:27		17:20 (5)	06:15		19:09 (4)	05:18		20:10 (6)	04:54		20:16 (6)
	16:37	17:34	18:25	25	17:45 (5)	20:19	7	19:16 (4)	21:09	25	20:35 (6)	21:42	40	20:56 (1)
19	08:17	07:27	06:24		17:20 (5)	06:13			05:17		20:10 (6)	04:54		20:17 (6)
	16:39	17:36	18:27	25	17:45 (5)	20:21			21:11	28	20:40 (1)	21:42	39	20:56 (1)
20	08:16	07:25	06:22		17:21 (5)	06:11			05:16		20:10 (6)	04:54		20:17 (6)
	16:40	17:38	18:29	23	17:44 (5)	20:23			21:12	31	20:41 (1)	21:42	39	20:56 (1)
21	08:15	07:23	06:19		17:21 (5)	06:09			05:14		20:10 (6)	04:54		20:17 (6)
	16:42	17:40	18:30	22	17:43 (5)	20:24			21:14	33	20:43 (1)	21:43	39	20:56 (1)
22	08:13	07:20	06:17		17:22 (5)	06:06			05:13		20:09 (6)	04:55		20:18 (6)
	16:44	17:42	18:32	19	17:41 (5)	20:26			21:15	34	20:43 (1)	21:43	39	20:57 (1)
23	08:12	07:18	06:15		17:24 (5)	06:04			05:12		20:09 (6)	04:55		20:18 (6)
	16:46	17:44	18:34	16	17:40 (5)	20:28			21:17	36	20:45 (1)	21:43	39	20:57 (1)
24	08:11	07:16	06:12		17:26 (5)	06:02			05:10		20:09 (6)	04:55		20:18 (6)
	16:47	17:45	18:36	10	17:36 (5)	20:29			21:18	37	20:46 (1)	21:43	39	20:57 (1)
25	08:10	07:14	06:10			06:00			05:09		20:09 (6)	04:55		20:18 (6)
	16:49	17:47	18:37			20:31			21:19	38	20:47 (1)	21:43	40	20:58 (1)
26	08:08	07:12	06:08			05:58			05:08		20:09 (6)	04:56		20:18 (6)
	16:51	17:49	18:39			20:33			21:21	40	20:49 (1)	21:43	40	20:58 (1)
27	08:07	07:10	06:05			05:56			05:07		20:09 (6)	04:56		20:18 (6)
	16:53	17:51	18:41			20:35			21:22	41	20:50 (1)	21:43	40	20:58 (1)
28	08:06	07:08	06:03			05:54			05:06		20:09 (6)	04:57		20:18 (6)
	16:55	17:53	18:43			20:36			21:23	42	20:51 (1)	21:43	41	20:59 (1)
29	08:04		07:01			05:52			05:05		20:09 (6)	04:57		20:19 (6)
	16:57		19:44			20:38			21:25	43	20:52 (1)	21:43	40	20:59 (1)
30	08:03		06:58			05:50			05:04		20:09 (6)	04:58		20:18 (6)
	16:58		19:46			20:40			21:26	44	20:53 (1)	21:43	41	20:59 (1)
31	08:01		06:56						05:03		20:10 (6)			
	17:00		19:48						21:27	44	20:54 (1)			
Sonnenscheinstunden	257	277	367			417			487			501		
astr.max.mögl.Beschattung				328			339			628			1233	
Red.Sonnenscheinwahrsch.				0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer				1,00			1,00			1,00			1,00	
Reduktion Windrichtung				0,75			0,72			0,64			0,63	
Gesamte Reduktion				0,22			0,27			0,28			0,25	
Met.wahrsch.Beschattung				71			92			179			311	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

Lizenzierter Anwender:
plan-GIS GmbH Niederlassung Hannover
Sedanstr. 29
DE-30161 Hannover
+49 (0)511 33648-300

Berechnet:
15.03.2021 14:15/3.4.415

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: B - Hungerkamp 14

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August			September		Oktober		November	Dezember
1	04:59		20:18 (6)	05:36	20:29 (6)	06:26		19:02 (4)	07:16	18:03 (5)	07:11	08:03
	21:42	42	21:00 (1)	21:10	9 20:38 (6)	20:07	25	19:27 (4)	18:56	22 18:25 (5)	16:49	16:08
2	04:59		20:18 (6)	05:37		06:28		19:01 (4)	07:18	18:04 (5)	07:13	08:04
	21:42	41	20:59 (1)	21:08		20:05	25	19:26 (4)	18:54	20 18:24 (5)	16:47	16:07
3	05:00		20:18 (6)	05:39		06:30		19:01 (4)	07:20	18:05 (5)	07:15	08:06
	21:42	42	21:00 (1)	21:06		20:02	25	19:26 (4)	18:52	16 18:21 (5)	16:46	16:07
4	05:01		20:18 (6)	05:40		06:31		19:01 (4)	07:22	18:07 (5)	07:17	08:07
	21:41	42	21:00 (1)	21:05		20:00	25	19:26 (4)	18:49	12 18:19 (5)	16:44	16:06
5	05:02		20:18 (6)	05:42		06:33		19:01 (4)	07:23	18:12 (5)	07:18	08:09
	21:41	43	21:01 (1)	21:03		19:58	24	19:25 (4)	18:47	2 18:14 (5)	16:42	16:06
6	05:02		20:19 (6)	05:44		06:35		19:01 (4)	07:25		07:20	08:10
	21:40	42	21:01 (1)	21:01		19:55	23	19:24 (4)	18:45		16:40	16:05
7	05:03		20:18 (6)	05:45		06:36		19:01 (4)	07:27		07:22	08:11
	21:40	43	21:01 (1)	20:59		19:53	21	19:22 (4)	18:42		16:38	16:05
8	05:04		20:18 (6)	05:47		06:38		19:02 (4)	07:28		07:24	08:12
	21:39	43	21:01 (1)	20:57		19:51	19	19:21 (4)	18:40		16:37	16:04
9	05:05		20:18 (6)	05:48		06:40		19:04 (4)	07:30		07:26	08:14
	21:38	43	21:01 (1)	20:56		19:48	15	19:19 (4)	18:38		16:35	16:04
10	05:06		20:18 (6)	05:50		06:41		19:06 (4)	07:32		07:28	08:15
	21:38	43	21:01 (1)	20:54		19:46	10	19:16 (4)	18:36		16:33	16:04
11	05:07		20:18 (6)	05:52		06:43			07:34		07:29	08:16
	21:37	44	21:02 (1)	20:52		19:44			18:33		16:32	16:04
12	05:08		20:18 (6)	05:53		06:45			07:35		07:31	08:17
	21:36	44	21:02 (1)	20:50		19:41			18:31		16:30	16:04
13	05:10		20:18 (6)	05:55		06:46			07:37		07:33	08:18
	21:35	44	21:02 (1)	20:48		19:39			18:29		16:29	16:03
14	05:11		20:18 (6)	05:57		06:48			07:39		07:35	08:19
	21:34	43	21:01 (1)	20:46		19:37			18:27		16:27	16:03
15	05:12		20:18 (6)	05:58		06:50			07:41		07:37	08:20
	21:33	42	21:00 (1)	20:44		19:34			18:24		16:26	16:04
16	05:13		20:18 (6)	06:00		06:51			07:42		07:38	08:21
	21:32	42	21:00 (1)	20:42		19:32			18:22		16:24	16:04
17	05:14		20:18 (6)	06:02		06:53			07:44		07:40	08:22
	21:31	41	20:59 (1)	20:40		19:29			18:20		16:23	16:04
18	05:16		20:18 (6)	06:03		06:55			07:46		07:42	08:22
	21:30	40	20:58 (1)	20:38		19:27			18:18		16:22	16:04
19	05:17		20:18 (6)	06:05		06:56		18:14 (5)	07:48		07:44	08:23
	21:29	38	20:56 (1)	20:35		19:25	9	18:23 (5)	18:16		16:20	16:04
20	05:18		20:18 (6)	06:07		06:58		18:10 (5)	07:49		07:45	08:24
	21:27	37	20:55 (1)	20:33		19:22	15	18:25 (5)	18:14		16:19	16:05
21	05:20		20:19 (6)	06:08		07:00		18:08 (5)	07:51		07:47	08:24
	21:26	36	20:55 (1)	20:31		19:20	19	18:27 (5)	18:11		16:18	16:05
22	05:21		20:19 (6)	06:10		07:01		18:07 (5)	07:53		07:49	08:25
	21:25	34	20:53 (1)	20:29		19:18	21	18:28 (5)	18:09		16:17	16:06
23	05:22		20:19 (6)	06:12		07:03		18:05 (5)	07:55		07:50	08:25
	21:24	33	20:52 (1)	20:27		19:15	23	18:28 (5)	18:07		16:15	16:06
24	05:24		20:20 (6)	06:13		07:05		18:04 (5)	07:57		07:52	08:26
	21:22	30	20:51 (1)	20:25		19:13	24	18:28 (5)	18:05		16:14	16:07
25	05:25		20:20 (6)	06:15	19:12 (4)	07:06		18:04 (5)	06:58		07:54	08:26
	21:21	26	20:46 (6)	20:23	9 19:21 (4)	19:11	25	18:29 (5)	17:03		16:13	16:07
26	05:27		20:21 (6)	06:17	19:09 (4)	07:08		18:02 (5)	07:00		07:55	08:26
	21:19	24	20:45 (6)	20:20	14 19:23 (4)	19:08	26	18:28 (5)	17:01		16:12	16:08
27	05:28		20:22 (6)	06:18	19:07 (4)	07:10		18:02 (5)	07:02		07:57	08:27
	21:18	23	20:45 (6)	20:18	18 19:25 (4)	19:06	26	18:28 (5)	16:59		16:11	16:09
28	05:30		20:22 (6)	06:20	19:06 (4)	07:11		18:02 (5)	07:04		07:58	08:27
	21:16	22	20:44 (6)	20:16	20 19:26 (4)	19:03	26	18:28 (5)	16:57		16:10	16:10
29	05:31		20:24 (6)	06:21	19:04 (4)	07:13		18:02 (5)	07:06		08:00	08:27
	21:15	19	20:43 (6)	20:14	22 19:26 (4)	19:01	25	18:27 (5)	16:55		16:10	16:10
30	05:33		20:25 (6)	06:23	19:03 (4)	07:15		18:02 (5)	07:08		08:02	08:27
	21:13	17	20:42 (6)	20:11	24 19:27 (4)	18:59	24	18:26 (5)	16:53		16:09	16:11
31	05:34		20:26 (6)	06:25	19:02 (4)				07:09			08:27
	21:12	14	20:40 (6)	20:09	24 19:26 (4)				16:51			16:12
Sonnenscheinstunden	504			455		381			331		265	241
astr.max.mögl.Beschattung		1117			140		475			72		
Red.Sonnenscheinwahrsch.		0,42			0,44		0,37			0,31		
Reduktion Betriebsdauer		1,00			1,00		1,00			1,00		
Reduktion Windrichtung		0,63			0,72		0,74			0,75		
Gesamte Reduktion		0,26			0,32		0,27			0,23		
Met.wahrsch.Beschattung		296			45		130			17		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

Lizenzierter Anwender:
plan-GIS GmbH Niederlassung Hannover
Sedanstr. 29
DE-30161 Hannover
+49 (0)511 33648-300

Berechnet:
15.03.2021 14:15/3.4.415

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: C - Hungerkamp 12

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März		April		Mai		Juni	
1	08:27		08:00		07:05		06:54		19:15 (4)		05:48	
	16:14		17:02		17:55		19:50	4	19:19 (4)		20:42	
2	08:27		07:58		07:03		06:51		19:09 (4)		05:46	
	16:15		17:04		17:56		19:51	13	19:22 (4)		20:43	
3	08:27		07:56		07:01		06:49		19:07 (4)		05:44	
	16:16		17:06		17:58		19:53	17	19:24 (4)		20:45	
4	08:27		07:55		06:59		06:47		19:06 (4)		05:42	
	16:17		17:08		18:00		19:55	20	19:26 (4)		20:47	
5	08:26		07:53		06:56		06:44		19:04 (4)		05:40	
	16:18		17:10		18:02		19:57	22	19:26 (4)		20:48	
6	08:26		07:51		06:54		06:42		19:03 (4)		05:38	
	16:19		17:11		18:04		19:58	24	19:27 (4)		20:50	
7	08:26		07:50		06:52		06:40		19:02 (4)		05:37	
	16:21		17:13		18:06		20:00	25	19:27 (4)		20:52	
8	08:25		07:48		06:50	17:29 (5)	06:38		19:01 (4)		05:35	
	16:22		17:15		18:07	9 17:38 (5)	20:02	25	19:26 (4)		20:53	
9	08:25		07:46		06:47	17:26 (5)	06:35		19:01 (4)		05:33	
	16:23		17:17		18:09	15 17:41 (5)	20:04	26	19:27 (4)		20:55	
10	08:24		07:44		06:45	17:23 (5)	06:33		19:01 (4)		05:31	
	16:25		17:19		18:11	19 17:42 (5)	20:05	25	19:26 (4)		20:57	
11	08:24		07:42		06:43	17:22 (5)	06:31		19:01 (4)		05:30	
	16:26		17:21		18:13	21 17:43 (5)	20:07	25	19:26 (4)		20:58	
12	08:23		07:40		06:40	17:21 (5)	06:28		19:01 (4)		05:28	20:17 (6)
	16:28		17:23		18:15	23 17:44 (5)	20:09	25	19:26 (4)		21:00	10 20:27 (6)
13	08:22		07:39		06:38	17:20 (5)	06:26		19:01 (4)		05:26	20:14 (6)
	16:29		17:25		18:16	24 17:44 (5)	20:10	23	19:24 (4)		21:01	15 20:29 (6)
14	08:21		07:37		06:36	17:19 (5)	06:24		19:02 (4)		05:25	20:13 (6)
	16:31		17:27		18:18	26 17:45 (5)	20:12	21	19:23 (4)		21:03	18 20:31 (6)
15	08:21		07:35		06:34	17:18 (5)	06:22		19:03 (4)		05:23	20:11 (6)
	16:32		17:29		18:20	26 17:44 (5)	20:14	19	19:22 (4)		21:05	21 20:32 (6)
16	08:20		07:33		06:31	17:18 (5)	06:19		19:04 (4)		05:21	20:11 (6)
	16:34		17:30		18:22	26 17:44 (5)	20:16	16	19:20 (4)		21:06	22 20:33 (6)
17	08:19		07:31		06:29	17:18 (5)	06:17		19:06 (4)		05:20	20:11 (6)
	16:35		17:32		18:23	26 17:44 (5)	20:17	12	19:18 (4)		21:08	23 20:34 (6)
18	08:18		07:29		06:27	17:18 (5)	06:15		19:11 (4)		05:18	20:09 (6)
	16:37		17:34		18:25	25 17:43 (5)	20:19	3	19:14 (4)		21:09	25 20:34 (6)
19	08:17		07:27		06:24	17:18 (5)	06:13				05:17	20:09 (6)
	16:39		17:36		18:27	24 17:42 (5)	20:21				21:11	27 20:40 (1)
20	08:16		07:25		06:22	17:19 (5)	06:11				05:16	20:09 (6)
	16:40		17:38		18:29	23 17:42 (5)	20:23				21:12	31 20:41 (1)
21	08:15		07:23		06:19	17:19 (5)	06:09				05:14	20:09 (6)
	16:42		17:40		18:30	20 17:39 (5)	20:24				21:14	34 20:43 (1)
22	08:13		07:20		06:17	17:21 (5)	06:06				05:13	20:08 (6)
	16:44		17:42		18:32	17 17:38 (5)	20:26				21:15	35 20:43 (1)
23	08:12		07:18		06:15	17:23 (5)	06:04				05:12	20:08 (6)
	16:46		17:44		18:34	13 17:36 (5)	20:28				21:17	37 20:45 (1)
24	08:11		07:16		06:12	17:28 (5)	06:02				05:10	20:08 (6)
	16:47		17:45		18:36	2 17:30 (5)	20:29				21:18	38 20:46 (1)
25	08:10		07:14		06:10		06:00				05:09	20:08 (6)
	16:49		17:47		18:37		20:31				21:19	39 20:47 (1)
26	08:08		07:12		06:08		05:58				05:08	20:08 (6)
	16:51		17:49		18:39		20:33				21:21	41 20:49 (1)
27	08:07		07:10		06:05		05:56				05:07	20:08 (6)
	16:53		17:51		18:41		20:35				21:22	42 20:50 (1)
28	08:06		07:08		06:03		05:54				05:06	20:08 (6)
	16:55		17:53		18:43		20:36				21:23	43 20:51 (1)
29	08:04				07:01		05:52				05:05	20:08 (6)
	16:57				19:44		20:38				21:25	44 20:52 (1)
30	08:03				06:58		05:50				05:04	20:08 (6)
	16:58				19:46		20:40				21:26	45 20:53 (1)
31	08:01				06:56						05:03	20:09 (6)
	17:00				19:48						21:27	45 20:54 (1)
Sonnenscheinstunden	257		277		367		417		487		501	
astr.max.mögl.Beschattung						339		345		635		1275
Red.Sonnenscheinwahrsch.						0,29		0,37		0,45		0,40
Reduktion Betriebsdauer						1,00		1,00		1,00		1,00
Reduktion Windrichtung						0,75		0,73		0,64		0,63
Gesamte Reduktion						0,22		0,27		0,28		0,25
Met.wahrsch.Beschattung						74		94		181		321

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: C - Hungerkamp 12

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		20:17 (6)	05:36		20:29 (6)	06:26		19:00 (4)	07:16		18:00 (5)	07:11	08:03
	21:42	43	21:00 (1)	21:10	8	20:37 (6)	20:07	25	19:25 (4)	18:56	23	18:23 (5)	16:49	16:08
2	04:59		20:17 (6)	05:37			06:28		18:59 (4)	07:18		18:00 (5)	07:13	08:04
	21:42	42	20:59 (1)	21:08			20:05	25	19:24 (4)	18:54	23	18:23 (5)	16:47	16:07
3	05:00		20:17 (6)	05:39			06:30		18:59 (4)	07:20		18:01 (5)	07:15	08:06
	21:42	43	21:00 (1)	21:06			20:02	26	19:25 (4)	18:52	19	18:20 (5)	16:46	16:07
4	05:01		20:17 (6)	05:40			06:31		18:59 (4)	07:22		18:02 (5)	07:17	08:07
	21:41	44	21:01 (1)	21:05			20:00	25	19:24 (4)	18:49	17	18:19 (5)	16:44	16:06
5	05:02		20:17 (6)	05:42			06:33		18:58 (4)	07:23		18:04 (5)	07:18	08:09
	21:41	44	21:01 (1)	21:03			19:58	25	19:23 (4)	18:47	12	18:16 (5)	16:42	16:06
6	05:02		20:18 (6)	05:44			06:35		18:59 (4)	07:25			07:20	08:10
	21:40	43	21:01 (1)	21:01			19:55	24	19:23 (4)	18:45			16:40	16:05
7	05:03		20:17 (6)	05:45			06:36		18:59 (4)	07:27			07:22	08:11
	21:40	44	21:01 (1)	20:59			19:53	22	19:21 (4)	18:42			16:38	16:05
8	05:04		20:17 (6)	05:47			06:38		19:00 (4)	07:28			07:24	08:12
	21:39	44	21:01 (1)	20:57			19:51	20	19:20 (4)	18:40			16:37	16:04
9	05:05		20:17 (6)	05:48			06:40		19:01 (4)	07:30			07:26	08:14
	21:38	44	21:01 (1)	20:56			19:48	18	19:19 (4)	18:38			16:35	16:04
10	05:06		20:17 (6)	05:50			06:41		19:02 (4)	07:32			07:28	08:15
	21:38	44	21:01 (1)	20:54			19:46	14	19:16 (4)	18:36			16:33	16:04
11	05:07		20:17 (6)	05:52			06:43		19:06 (4)	07:34			07:29	08:16
	21:37	44	21:01 (1)	20:52			19:44	6	19:12 (4)	18:33			16:32	16:04
12	05:08		20:17 (6)	05:53			06:45			07:35			07:31	08:17
	21:36	44	21:01 (1)	20:50			19:41			18:31			16:30	16:04
13	05:10		20:17 (6)	05:55			06:46			07:37			07:33	08:18
	21:35	44	21:01 (1)	20:48			19:39			18:29			16:29	16:03
14	05:11		20:17 (6)	05:57			06:48			07:39			07:35	08:19
	21:34	44	21:01 (1)	20:46			19:37			18:27			16:27	16:03
15	05:12		20:17 (6)	05:58			06:50			07:41			07:37	08:20
	21:33	43	21:00 (1)	20:44			19:34			18:24			16:26	16:04
16	05:13		20:18 (6)	06:00			06:51			07:42			07:38	08:21
	21:32	42	21:00 (1)	20:42			19:32			18:22			16:24	16:04
17	05:14		20:18 (6)	06:02			06:53			07:44			07:40	08:22
	21:31	41	20:59 (1)	20:40			19:29			18:20			16:23	16:04
18	05:16		20:17 (6)	06:03			06:55			07:46			07:42	08:22
	21:30	41	20:58 (1)	20:38			19:27			18:18			16:22	16:04
19	05:17		20:17 (6)	06:05			06:56			07:48			07:44	08:23
	21:29	39	20:56 (1)	20:35			19:25			18:16			16:20	16:04
20	05:18		20:17 (6)	06:07			06:58		18:10 (5)	07:49			07:45	08:24
	21:27	38	20:55 (1)	20:33			19:22	11	18:21 (5)	18:14			16:19	16:05
21	05:20		20:18 (6)	06:08			07:00		18:07 (5)	07:51			07:47	08:24
	21:26	37	20:55 (1)	20:31			19:20	16	18:23 (5)	18:11			16:18	16:05
22	05:21		20:18 (6)	06:10			07:01		18:05 (5)	07:53			07:49	08:25
	21:25	35	20:53 (1)	20:29			19:18	20	18:25 (5)	18:09			16:17	16:06
23	05:22		20:18 (6)	06:12			07:03		18:03 (5)	07:55			07:50	08:25
	21:24	34	20:52 (1)	20:27			19:15	22	18:25 (5)	18:07			16:15	16:06
24	05:24		20:20 (6)	06:13			07:05		18:02 (5)	07:57			07:52	08:26
	21:22	29	20:51 (1)	20:25			19:13	24	18:26 (5)	18:05			16:14	16:07
25	05:25		20:20 (6)	06:15		19:12 (4)	07:06		18:02 (5)	06:58			07:54	08:26
	21:21	25	20:45 (6)	20:23	5	19:17 (4)	19:11	24	18:26 (5)	17:03			16:13	16:07
26	05:27		20:20 (6)	06:17		19:08 (4)	07:08		18:00 (5)	07:00			07:55	08:26
	21:19	24	20:44 (6)	20:20	12	19:20 (4)	19:08	26	18:26 (5)	17:01			16:12	16:08
27	05:28		20:21 (6)	06:18		19:06 (4)	07:10		18:00 (5)	07:02			07:57	08:27
	21:18	23	20:44 (6)	20:18	16	19:22 (4)	19:06	26	18:26 (5)	16:59			16:11	16:09
28	05:30		20:22 (6)	06:20		19:04 (4)	07:11		18:00 (5)	07:04			07:58	08:27
	21:16	21	20:43 (6)	20:16	20	19:24 (4)	19:03	26	18:26 (5)	16:57			16:10	16:10
29	05:31		20:23 (6)	06:21		19:03 (4)	07:13		17:59 (5)	07:06			08:00	08:27
	21:15	20	20:43 (6)	20:14	21	19:24 (4)	19:01	26	18:25 (5)	16:55			16:10	16:10
30	05:33		20:24 (6)	06:23		19:02 (4)	07:15		17:59 (5)	07:08			08:02	08:27
	21:13	17	20:41 (6)	20:11	23	19:25 (4)	18:59	25	18:24 (5)	16:53			16:09	16:11
31	05:34		20:25 (6)	06:25		19:00 (4)				07:09				08:27
	21:12	14	20:39 (6)	20:09	25	19:25 (4)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		1134			130			476			94			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,63			0,72			0,74			0,75			
Gesamte Reduktion		0,26			0,32			0,27			0,23			
Met.wahrsch.Beschattung		300			42			131			22			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: D - Gänsekamp 18

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar	März		April		Mai		Juni	
1	08:27	08:00	07:05		06:54		19:10 (4)		05:48	20:08 (6)
	16:14	17:02	17:55		19:50	11	19:21 (4)		20:42	21:28 46 20:54 (1)
2	08:27	07:58	07:03		06:51		19:06 (4)		05:46	20:08 (6)
	16:15	17:04	17:56		19:51	16	19:22 (4)		20:43	21:29 46 20:54 (1)
3	08:27	07:56	07:01		06:49		19:05 (4)		05:44	20:08 (6)
	16:16	17:06	17:58		19:53	19	19:24 (4)		20:45	21:30 45 20:53 (1)
4	08:27	07:55	06:59		06:47		19:04 (4)		05:42	04:59 20:09 (6)
	16:17	17:08	18:00		19:55	21	19:25 (4)		20:47	21:32 45 20:54 (1)
5	08:26	07:53	06:56		06:44		19:02 (4)		05:40	04:59 20:09 (6)
	16:18	17:10	18:02		19:57	23	19:25 (4)		20:48	21:33 45 20:54 (1)
6	08:26	07:51	06:54		06:42		19:01 (4)		05:38	04:58 20:10 (6)
	16:19	17:11	18:04		19:58	25	19:26 (4)		20:50	21:34 45 20:55 (1)
7	08:26	07:50	06:52	17:28 (5)	06:40		19:01 (4)		05:37	04:57 20:10 (6)
	16:21	17:13	18:06	7 17:35 (5)	20:00	25	19:26 (4)		20:52	21:34 44 20:54 (1)
8	08:25	07:48	06:50	17:24 (5)	06:38		18:59 (4)		05:35	04:57 20:11 (6)
	16:22	17:15	18:07	14 17:38 (5)	20:02	26	19:25 (4)		20:53	21:35 44 20:55 (1)
9	08:25	07:46	06:47	17:22 (5)	06:35		18:59 (4)		05:33	04:56 20:11 (6)
	16:23	17:17	18:09	18 17:40 (5)	20:04	26	19:25 (4)		20:55	21:36 43 20:54 (1)
10	08:24	07:44	06:45	17:20 (5)	06:33		18:59 (4)		05:31	04:56 20:11 (6)
	16:25	17:19	18:11	21 17:41 (5)	20:05	26	19:25 (4)		20:57	21:37 44 20:55 (1)
11	08:24	07:42	06:43	17:19 (5)	06:31		19:00 (4)		05:30	20:18 (6) 04:55 20:12 (6)
	16:26	17:21	18:13	23 17:42 (5)	20:07	25	19:25 (4)		20:58	5 20:23 (6) 21:38 43 20:55 (1)
12	08:23	07:40	06:40	17:19 (5)	06:28		19:00 (4)		05:28	20:15 (6) 04:55 20:12 (6)
	16:28	17:23	18:15	24 17:43 (5)	20:09	24	19:24 (4)		21:00	12 20:27 (6) 21:39 43 20:55 (1)
13	08:22	07:39	06:38	17:17 (5)	06:26		19:00 (4)		05:26	20:13 (6) 04:55 20:12 (6)
	16:29	17:25	18:16	26 17:43 (5)	20:10	22	19:22 (4)		21:01	16 20:29 (6) 21:39 43 20:55 (1)
14	08:21	07:37	06:36	17:17 (5)	06:24		19:01 (4)		05:25	20:12 (6) 04:55 20:13 (6)
	16:31	17:27	18:18	26 17:43 (5)	20:12	20	19:21 (4)		21:03	19 20:31 (6) 21:40 42 20:55 (1)
15	08:21	07:35	06:34	17:16 (5)	06:22		19:02 (4)		05:23	20:10 (6) 04:54 20:13 (6)
	16:32	17:29	18:20	26 17:42 (5)	20:14	18	19:20 (4)		21:05	21 20:31 (6) 21:40 43 20:56 (1)
16	08:20	07:33	06:31	17:16 (5)	06:19		19:04 (4)		05:21	20:10 (6) 04:54 20:14 (6)
	16:34	17:30	18:22	26 17:42 (5)	20:16	14	19:18 (4)		21:06	23 20:33 (6) 21:41 42 20:56 (1)
17	08:19	07:31	06:29	17:16 (5)	06:17		19:06 (4)		05:20	20:09 (6) 04:54 20:14 (6)
	16:35	17:32	18:23	26 17:42 (5)	20:17	9	19:15 (4)		21:08	25 20:34 (6) 21:41 42 20:56 (1)
18	08:18	07:29	06:27	17:16 (5)	06:15				05:18	20:08 (6) 04:54 20:14 (6)
	16:37	17:34	18:25	24 17:40 (5)	20:19				21:09	26 20:34 (6) 21:42 42 20:56 (1)
19	08:17	07:27	06:24	17:17 (5)	06:13				05:17	20:08 (6) 04:54 20:14 (6)
	16:39	17:36	18:27	23 17:40 (5)	20:21				21:11	29 20:40 (1) 21:42 42 20:56 (1)
20	08:16	07:25	06:22	17:18 (5)	06:11				05:16	20:08 (6) 04:54 20:14 (6)
	16:40	17:38	18:29	21 17:39 (5)	20:23				21:12	32 20:41 (1) 21:42 42 20:56 (1)
21	08:15	07:23	06:19	17:18 (5)	06:09				05:14	20:08 (6) 04:54 20:15 (6)
	16:42	17:40	18:30	19 17:37 (5)	20:24				21:14	35 20:43 (1) 21:43 41 20:56 (1)
22	08:13	07:20	06:17	17:20 (5)	06:06				05:13	20:07 (6) 04:55 20:15 (6)
	16:44	17:42	18:32	15 17:35 (5)	20:26				21:15	36 20:43 (1) 21:43 42 20:57 (1)
23	08:12	07:18	06:15	17:24 (5)	06:04				05:12	20:07 (6) 04:55 20:15 (6)
	16:46	17:44	18:34	7 17:31 (5)	20:28				21:17	38 20:45 (1) 21:43 42 20:57 (1)
24	08:11	07:16	06:12		06:02				05:10	20:07 (6) 04:55 20:15 (6)
	16:47	17:45	18:36		20:29				21:18	39 20:46 (1) 21:43 42 20:57 (1)
25	08:10	07:14	06:10		06:00				05:09	20:07 (6) 04:55 20:16 (6)
	16:49	17:47	18:37		20:31				21:19	40 20:47 (1) 21:43 42 20:58 (1)
26	08:08	07:12	06:08		05:58				05:08	20:07 (6) 04:56 20:16 (6)
	16:51	17:49	18:39		20:33				21:21	42 20:49 (1) 21:43 42 20:58 (1)
27	08:07	07:10	06:05		05:56				05:07	20:07 (6) 04:56 20:15 (6)
	16:53	17:51	18:41		20:35				21:22	43 20:50 (1) 21:43 43 20:58 (1)
28	08:06	07:08	06:03		05:54				05:06	20:07 (6) 04:57 20:16 (6)
	16:55	17:53	18:43		20:36				21:23	44 20:51 (1) 21:43 42 20:58 (1)
29	08:04		07:01		05:52				05:05	20:07 (6) 04:57 20:16 (6)
	16:57		19:44		20:38				21:25	45 20:52 (1) 21:43 43 20:59 (1)
30	08:03		06:58		05:50				05:04	20:07 (6) 04:58 20:16 (6)
	16:58		19:46		20:40				21:26	46 20:53 (1) 21:43 43 20:59 (1)
31	08:01		06:56						05:03	20:08 (6)
	17:00		19:48						21:27	46 20:54 (1)
Sonnenscheinstunden	257	277	367		417				487	501
astr.max.mögl.Beschattung				346		350		662		1293
Red.Sonnenscheinwahrsch.				0,29		0,37		0,45		0,40
Reduktion Betriebsdauer				1,00		1,00		1,00		1,00
Reduktion Windrichtung				0,75		0,73		0,64		0,63
Gesamte Reduktion				0,22		0,27		0,28		0,25
Met.wahrsch.Beschattung				75		95		189		326

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

Lizenzierter Anwender:
plan-GIS GmbH Niederlassung Hannover
Sedanstr. 29
DE-30161 Hannover
+49 (0)511 33648-300

Berechnet:
15.03.2021 14:15/3.4.415

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: D - Gänsekamp 18

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August			September		Oktober			November	Dezember
1	04:59		20:16 (6)	05:36		20:27 (6)	06:26		18:59 (4)	07:16		17:57 (5)	07:11	08:03
	21:42	43	20:59 (1)	21:10	10	20:37 (6)	20:07	25	19:24 (4)	18:56	25	18:22 (5)	16:49	16:08
2	04:59		20:16 (6)	05:37			06:28		18:57 (4)	07:18		17:58 (5)	07:13	08:04
	21:42	43	20:59 (1)	21:08			20:05	26	19:23 (4)	18:54	23	18:21 (5)	16:47	16:07
3	05:00		20:16 (6)	05:39			06:30		18:57 (4)	07:20		17:58 (5)	07:15	08:06
	21:42	44	21:00 (1)	21:06			20:02	26	19:23 (4)	18:52	21	18:19 (5)	16:46	16:07
4	05:01		20:16 (6)	05:40			06:31		18:57 (4)	07:22		17:59 (5)	07:17	08:07
	21:41	44	21:00 (1)	21:05			20:00	26	19:23 (4)	18:49	19	18:18 (5)	16:44	16:06
5	05:02		20:16 (6)	05:42			06:33		18:57 (4)	07:23		18:00 (5)	07:18	08:09
	21:41	45	21:01 (1)	21:03			19:58	25	19:22 (4)	18:47	16	18:16 (5)	16:42	16:06
6	05:02		20:16 (6)	05:44			06:35		18:57 (4)	07:25		18:03 (5)	07:20	08:10
	21:40	45	21:01 (1)	21:01			19:55	25	19:22 (4)	18:45	11	18:14 (5)	16:40	16:05
7	05:03		20:16 (6)	05:45			06:36		18:57 (4)	07:27			07:22	08:11
	21:40	44	21:00 (1)	20:59			19:53	23	19:20 (4)	18:42			16:38	16:05
8	05:04		20:16 (6)	05:47			06:38		18:58 (4)	07:28			07:24	08:12
	21:39	45	21:01 (1)	20:57			19:51	21	19:19 (4)	18:40			16:37	16:04
9	05:05		20:16 (6)	05:48			06:40		18:59 (4)	07:30			07:26	08:14
	21:38	45	21:01 (1)	20:56			19:48	19	19:18 (4)	18:38			16:35	16:04
10	05:06		20:16 (6)	05:50			06:41		18:59 (4)	07:32			07:28	08:15
	21:38	45	21:01 (1)	20:54			19:46	17	19:16 (4)	18:36			16:33	16:04
11	05:07		20:16 (6)	05:52			06:43		19:02 (4)	07:34			07:29	08:16
	21:37	45	21:01 (1)	20:52			19:44	11	19:13 (4)	18:33			16:32	16:04
12	05:08		20:16 (6)	05:53			06:45			07:35			07:31	08:17
	21:36	45	21:01 (1)	20:50			19:41			18:31			16:30	16:04
13	05:10		20:16 (6)	05:55			06:46			07:37			07:33	08:18
	21:35	45	21:01 (1)	20:48			19:39			18:29			16:29	16:03
14	05:11		20:16 (6)	05:57			06:48			07:39			07:35	08:19
	21:34	45	21:01 (1)	20:46			19:37			18:27			16:27	16:03
15	05:12		20:17 (6)	05:58			06:50			07:41			07:37	08:20
	21:33	44	21:01 (1)	20:44			19:34			18:24			16:26	16:04
16	05:13		20:17 (6)	06:00			06:51			07:42			07:38	08:21
	21:32	43	21:00 (1)	20:42			19:32			18:22			16:24	16:04
17	05:14		20:16 (6)	06:02			06:53			07:44			07:40	08:22
	21:31	43	20:59 (1)	20:40			19:29			18:20			16:23	16:04
18	05:16		20:16 (6)	06:03			06:55			07:46			07:42	08:22
	21:30	42	20:58 (1)	20:38			19:27			18:18			16:22	16:04
19	05:17		20:16 (6)	06:05			06:56			07:48			07:44	08:23
	21:29	40	20:56 (1)	20:35			19:25			18:16			16:20	16:04
20	05:18		20:16 (6)	06:07			06:58		18:11 (5)	07:49			07:45	08:24
	21:27	39	20:55 (1)	20:33			19:22	4	18:15 (5)	18:14			16:19	16:05
21	05:20		20:17 (6)	06:08			07:00		18:07 (5)	07:51			07:47	08:24
	21:26	38	20:55 (1)	20:31			19:20	13	18:20 (5)	18:11			16:18	16:05
22	05:21		20:17 (6)	06:10			07:01		18:04 (5)	07:53			07:49	08:25
	21:25	36	20:53 (1)	20:29			19:18	18	18:22 (5)	18:09			16:17	16:06
23	05:22		20:17 (6)	06:12			07:03		18:02 (5)	07:55			07:50	08:25
	21:24	35	20:52 (1)	20:27			19:15	20	18:22 (5)	18:07			16:15	16:06
24	05:24		20:18 (6)	06:13			07:05		18:01 (5)	07:57			07:52	08:26
	21:22	32	20:51 (1)	20:25			19:13	22	18:23 (5)	18:05			16:14	16:07
25	05:25		20:19 (6)	06:15			07:06		18:00 (5)	06:58			07:54	08:26
	21:21	26	20:45 (6)	20:23			19:11	24	18:24 (5)	17:03			16:13	16:07
26	05:27		20:19 (6)	06:17		19:08 (4)	07:08		17:58 (5)	07:00			07:55	08:26
	21:19	25	20:44 (6)	20:20	9	19:17 (4)	19:08	25	18:23 (5)	17:01			16:12	16:08
27	05:28		20:20 (6)	06:18		19:05 (4)	07:10		17:58 (5)	07:02			07:57	08:27
	21:18	24	20:44 (6)	20:18	15	19:20 (4)	19:06	26	18:24 (5)	16:59			16:11	16:09
28	05:30		20:21 (6)	06:20		19:04 (4)	07:11		17:58 (5)	07:04			07:58	08:27
	21:16	22	20:43 (6)	20:16	18	19:22 (4)	19:03	26	18:24 (5)	16:57			16:10	16:10
29	05:31		20:22 (6)	06:21		19:01 (4)	07:13		17:57 (5)	07:06			08:00	08:27
	21:15	20	20:42 (6)	20:14	21	19:22 (4)	19:01	26	18:23 (5)	16:55			16:10	16:10
30	05:33		20:23 (6)	06:23		19:01 (4)	07:15		17:57 (5)	07:08			08:02	08:27
	21:13	18	20:41 (6)	20:11	22	19:23 (4)	18:59	25	18:22 (5)	16:53			16:09	16:11
31	05:34		20:24 (6)	06:25		18:59 (4)				07:09				08:27
	21:12	14	20:38 (6)	20:09	24	19:23 (4)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		1164			119			473			115			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,63			0,72			0,74			0,75			
Gesamte Reduktion		0,27			0,32			0,27			0,23			
Met.wahrsch.Beschattung		309			38			130			27			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: E - Gänsekamp 16

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März			April			Mai			Juni		
1	08:27		08:00		07:05			06:54		19:05 (3)	05:48			05:02		20:07 (6)
	16:14		17:02		17:55			19:50	19	19:24 (3)	20:42			21:28	47	20:54 (1)
2	08:27		07:58		07:03			06:51		19:03 (4)	05:46			05:01		20:07 (6)
	16:15		17:04		17:56			19:51	21	19:24 (3)	20:43			21:29	47	20:54 (1)
3	08:27		07:56		07:01			06:49		19:02 (4)	05:44			05:00		20:07 (6)
	16:16		17:06		17:58			19:53	22	19:24 (3)	20:45			21:30	46	20:53 (1)
4	08:27		07:55		06:59			06:47		19:01 (4)	05:42			04:59		20:08 (6)
	16:17		17:08		18:00			19:55	23	19:24 (3)	20:47			21:32	46	20:54 (1)
5	08:26		07:53		06:56			06:44		18:59 (4)	05:40			04:59		20:08 (6)
	16:18		17:10		18:02			19:57	25	19:24 (4)	20:48			21:33	46	20:54 (1)
6	08:26		07:51		06:54		17:26 (5)	06:42		18:59 (4)	05:38			04:58		20:09 (6)
	16:19		17:11		18:04	7	17:33 (5)	19:58	25	19:24 (4)	20:50			21:34	46	20:55 (1)
7	08:26		07:50		06:52		17:22 (5)	06:40		18:58 (4)	05:37			04:57		20:09 (6)
	16:21		17:13		18:06	14	17:36 (5)	20:00	27	19:25 (4)	20:52			21:34	45	20:54 (1)
8	08:25		07:48		06:50		17:20 (5)	06:38		18:57 (4)	05:35			04:57		20:10 (6)
	16:22		17:15		18:07	18	17:38 (5)	20:02	27	19:24 (4)	20:53			21:35	45	20:55 (1)
9	08:25		07:46		06:47		17:19 (5)	06:35		18:57 (4)	05:33			04:56		20:10 (6)
	16:23		17:17		18:09	20	17:39 (5)	20:04	27	19:24 (4)	20:55			21:36	44	20:54 (1)
10	08:24		07:44		06:45		17:17 (5)	06:33		18:58 (4)	05:31			04:56		20:10 (6)
	16:25		17:19		18:11	23	17:40 (5)	20:05	25	19:23 (4)	20:57			21:37	45	20:55 (1)
11	08:24		07:42		06:43		17:16 (5)	06:31		18:58 (4)	05:30		20:17 (6)	04:55		20:11 (6)
	16:26		17:21		18:13	24	17:40 (5)	20:07	25	19:23 (4)	20:58	6	20:23 (6)	21:38	44	20:55 (1)
12	08:23		07:40		06:40		17:15 (5)	06:28		18:58 (4)	05:28		20:14 (6)	04:55		20:11 (6)
	16:28		17:23		18:15	26	17:41 (5)	20:09	24	19:22 (4)	21:00	13	20:27 (6)	21:39	44	20:55 (1)
13	08:22		07:39		06:38		17:14 (5)	06:26		18:58 (4)	05:26		20:12 (6)	04:55		20:11 (6)
	16:29		17:25		18:16	27	17:41 (5)	20:10	22	19:20 (4)	21:01	16	20:28 (6)	21:39	44	20:55 (1)
14	08:21		07:37		06:36		17:14 (5)	06:24		18:59 (4)	05:25		20:11 (6)	04:55		20:12 (6)
	16:31		17:27		18:18	27	17:41 (5)	20:12	20	19:19 (4)	21:03	19	20:30 (6)	21:40	43	20:55 (1)
15	08:21		07:35		06:34		17:13 (5)	06:22		19:01 (4)	05:23		20:09 (6)	04:54		20:12 (6)
	16:32		17:29		18:20	27	17:40 (5)	20:14	17	19:18 (4)	21:05	22	20:31 (6)	21:40	44	20:56 (1)
16	08:20		07:33		06:31		17:14 (5)	06:19		19:03 (4)	05:21		20:09 (6)	04:54		20:12 (6)
	16:34		17:30		18:22	26	17:40 (5)	20:16	12	19:15 (4)	21:06	23	20:32 (6)	21:41	44	20:56 (1)
17	08:19		07:31		06:29		17:14 (5)	06:17		19:07 (4)	05:20		20:09 (6)	04:54		20:13 (6)
	16:35		17:32		18:23	25	17:39 (5)	20:17	4	19:11 (4)	21:08	24	20:33 (6)	21:41	43	20:56 (1)
18	08:18		07:29		06:27		17:14 (5)	06:15			05:18		20:07 (6)	04:54		20:13 (6)
	16:37		17:34		18:25	24	17:38 (5)	20:19			21:09	26	20:33 (6)	21:42	43	20:56 (1)
19	08:17		07:27		06:24		17:15 (5)	06:13			05:17		20:07 (6)	04:54		20:13 (6)
	16:39		17:36		18:27	22	17:37 (5)	20:21			21:11	29	20:40 (1)	21:42	43	20:56 (1)
20	08:16		07:25		06:22		17:16 (5)	06:11			05:16		20:07 (6)	04:54		20:13 (6)
	16:40		17:38		18:29	19	17:35 (5)	20:23			21:12	33	20:41 (1)	21:42	43	20:56 (1)
21	08:15		07:23		06:19		17:17 (5)	06:09			05:14		20:07 (6)	04:54		20:13 (6)
	16:42		17:40		18:30	16	17:33 (5)	20:24			21:14	36	20:43 (1)	21:43	43	20:56 (1)
22	08:13		07:20		06:17		17:20 (5)	06:06			05:13		20:06 (6)	04:55		20:14 (6)
	16:44		17:42		18:32	10	17:30 (5)	20:26			21:15	37	20:43 (1)	21:43	43	20:57 (1)
23	08:12		07:18		06:15			06:04			05:12		20:06 (6)	04:55		20:14 (6)
	16:46		17:44		18:34			20:28			21:17	39	20:45 (1)	21:43	43	20:57 (1)
24	08:11		07:16		06:12			06:02			05:10		20:06 (6)	04:55		20:14 (6)
	16:47		17:45		18:36			20:29			21:18	40	20:46 (1)	21:43	43	20:57 (1)
25	08:10		07:14		06:10			06:00			05:09		20:06 (6)	04:55		20:15 (6)
	16:49		17:47		18:37			20:31			21:19	41	20:47 (1)	21:43	43	20:58 (1)
26	08:08		07:12		06:08			05:58			05:08		20:06 (6)	04:56		20:15 (6)
	16:51		17:49		18:39			20:33			21:21	43	20:49 (1)	21:43	43	20:58 (1)
27	08:07		07:10		06:05			05:56			05:07		20:06 (6)	04:56		20:14 (6)
	16:53		17:51		18:41			20:35			21:22	44	20:50 (1)	21:43	44	20:58 (1)
28	08:06		07:08		06:03		18:13 (3)	05:54			05:06		20:06 (6)	04:57		20:15 (6)
	16:55		17:53		18:43	4	18:17 (3)	20:36			21:23	45	20:51 (1)	21:43	43	20:58 (1)
29	08:04				07:01		19:10 (3)	05:52			05:05		20:06 (6)	04:57		20:15 (6)
	16:57				19:44	9	19:19 (3)	20:38			21:25	46	20:52 (1)	21:43	44	20:59 (1)
30	08:03				06:58		19:07 (3)	05:50			05:04		20:06 (6)	04:58		20:15 (6)
	16:58				19:46	13	19:20 (3)	20:40			21:26	46	20:52 (1)	21:43	44	20:59 (1)
31	08:01				06:56		19:06 (3)				05:03		20:07 (6)			
	17:00				19:48	16	19:22 (3)				21:27	47	20:54 (1)			
Sonnenscheinstunden	257		277		367			417			487			501		
astr.max.mögl.Beschattung						397			365			675			1325	
Red.Sonnenscheinwahrsch.						0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer						1,00			1,00			1,00			1,00	
Reduktion Windrichtung						0,75			0,73			0,64			0,63	
Gesamte Reduktion						0,22			0,27			0,29			0,25	
Met.wahrsch.Beschattung						86			100			192			335	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

Lizenzierter Anwender:
plan-GIS GmbH Niederlassung Hannover
Sedanstr. 29
DE-30161 Hannover
+49 (0)511 33648-300

Berechnet:
15.03.2021 14:15/3.4.415

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: E - Gänsekamp 16

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August			September		Oktober			November	Dezember
1	04:59		20:15 (6)	05:36	20:26 (6)	06:26		18:57 (4)	07:16	17:54 (5)	07:11	08:03
	21:42	45	21:00 (1)	21:10	10 20:36 (6)	20:07	25	19:22 (4)	18:56	26 18:20 (5)	16:49	16:08
2	04:59		20:15 (6)	05:37		06:28		18:56 (4)	07:18	17:55 (5)	07:13	08:04
	21:42	44	20:59 (1)	21:08		20:05	25	19:21 (4)	18:54	25 18:20 (5)	16:47	16:07
3	05:00		20:15 (6)	05:39		06:30		18:55 (4)	07:20	17:54 (5)	07:15	08:06
	21:42	45	21:00 (1)	21:06		20:02	27	19:22 (4)	18:52	24 18:18 (5)	16:46	16:07
4	05:01		20:15 (6)	05:40		06:31		18:55 (4)	07:22	17:55 (5)	07:17	08:07
	21:41	45	21:00 (1)	21:05		20:00	27	19:22 (4)	18:49	22 18:17 (5)	16:44	16:06
5	05:02		20:15 (6)	05:42		06:33		18:55 (4)	07:23	17:56 (5)	07:18	08:09
	21:41	46	21:01 (1)	21:03		19:58	26	19:21 (4)	18:47	20 18:16 (5)	16:42	16:06
6	05:02		20:15 (6)	05:44		06:35		18:55 (4)	07:25	17:58 (5)	07:20	08:10
	21:40	46	21:01 (1)	21:01		19:55	25	19:20 (4)	18:45	16 18:14 (5)	16:40	16:05
7	05:03		20:15 (6)	05:45		06:36		18:54 (4)	07:27	17:59 (5)	07:22	08:11
	21:40	45	21:00 (1)	20:59		19:53	25	19:19 (4)	18:42	11 18:10 (5)	16:38	16:05
8	05:04		20:15 (6)	05:47		06:38		18:55 (4)	07:28		07:24	08:12
	21:39	46	21:01 (1)	20:57		19:51	23	19:18 (3)	18:40		16:37	16:04
9	05:05		20:15 (6)	05:48		06:40		18:56 (4)	07:30		07:26	08:14
	21:38	46	21:01 (1)	20:56		19:48	22	19:18 (3)	18:38		16:35	16:04
10	05:06		20:15 (6)	05:50		06:41		18:56 (4)	07:32		07:28	08:15
	21:38	46	21:01 (1)	20:54		19:46	21	19:17 (3)	18:36		16:33	16:04
11	05:07		20:15 (6)	05:52		06:43		18:58 (3)	07:34		07:29	08:16
	21:37	46	21:01 (1)	20:52		19:44	19	19:17 (3)	18:33		16:32	16:04
12	05:08		20:15 (6)	05:53		06:45		18:57 (3)	07:35		07:31	08:17
	21:36	46	21:01 (1)	20:50		19:41	17	19:14 (3)	18:31		16:30	16:04
13	05:10		20:15 (6)	05:55		06:46		18:58 (3)	07:37		07:33	08:18
	21:35	46	21:01 (1)	20:48		19:39	14	19:12 (3)	18:29		16:29	16:03
14	05:11		20:15 (6)	05:57		06:48		19:00 (3)	07:39		07:35	08:19
	21:34	46	21:01 (1)	20:46		19:37	10	19:10 (3)	18:27		16:27	16:03
15	05:12		20:16 (6)	05:58		06:50		19:02 (3)	07:41		07:37	08:20
	21:33	45	21:01 (1)	20:44		19:34	5	19:07 (3)	18:24		16:26	16:04
16	05:13		20:16 (6)	06:00		06:51			07:42		07:38	08:21
	21:32	44	21:00 (1)	20:42		19:32			18:22		16:24	16:04
17	05:14		20:16 (6)	06:02		06:53			07:44		07:40	08:22
	21:31	43	20:59 (1)	20:40		19:29			18:20		16:23	16:04
18	05:16		20:16 (6)	06:03		06:55			07:46		07:42	08:22
	21:30	42	20:58 (1)	20:38		19:27			18:18		16:22	16:04
19	05:17		20:15 (6)	06:05		06:56			07:48		07:44	08:23
	21:29	41	20:56 (1)	20:35		19:25			18:16		16:20	16:04
20	05:18		20:15 (6)	06:07		06:58			07:49		07:45	08:24
	21:27	40	20:55 (1)	20:33		19:22			18:14		16:19	16:05
21	05:20		20:16 (6)	06:08		07:00		18:07 (5)	07:51		07:47	08:24
	21:26	39	20:55 (1)	20:31		19:20	7	18:14 (5)	18:11		16:18	16:05
22	05:21		20:16 (6)	06:10		07:01		18:04 (5)	07:53		07:49	08:25
	21:25	37	20:53 (1)	20:29		19:18	14	18:18 (5)	18:09		16:17	16:06
23	05:22		20:17 (6)	06:12		07:03		18:01 (5)	07:55		07:50	08:25
	21:24	35	20:52 (1)	20:27		19:15	18	18:19 (5)	18:07		16:15	16:06
24	05:24		20:18 (6)	06:13		07:05		17:59 (5)	07:57		07:52	08:26
	21:22	31	20:51 (1)	20:25		19:13	21	18:20 (5)	18:05		16:14	16:07
25	05:25		20:18 (6)	06:15		07:06		17:58 (5)	06:58		07:54	08:26
	21:21	26	20:44 (6)	20:23		19:11	23	18:21 (5)	17:03		16:13	16:07
26	05:27		20:18 (6)	06:17	19:08 (4)	07:08		17:56 (5)	07:00		07:55	08:26
	21:19	25	20:43 (6)	20:20	6 19:14 (4)	19:08	25	18:21 (5)	17:01		16:12	16:08
27	05:28		20:19 (6)	06:18	19:04 (4)	07:10		17:56 (5)	07:02		07:57	08:27
	21:18	24	20:43 (6)	20:18	13 19:17 (4)	19:06	25	18:21 (5)	16:59		16:11	16:09
28	05:30		20:20 (6)	06:20	19:02 (4)	07:11		17:55 (5)	07:04		07:58	08:27
	21:16	22	20:42 (6)	20:16	18 19:20 (4)	19:03	26	18:21 (5)	16:57		16:10	16:10
29	05:31		20:21 (6)	06:21	19:00 (4)	07:13		17:54 (5)	07:06		08:00	08:27
	21:15	21	20:42 (6)	20:14	20 19:20 (4)	19:01	27	18:21 (5)	16:55		16:10	16:10
30	05:33		20:22 (6)	06:23	18:59 (4)	07:15		17:54 (5)	07:08		08:02	08:27
	21:13	18	20:40 (6)	20:11	22 19:21 (4)	18:59	26	18:20 (5)	16:53		16:09	16:11
31	05:34		20:23 (6)	06:25	18:57 (4)				07:09			08:27
	21:12	15	20:38 (6)	20:09	24 19:21 (4)				16:51			16:12
Sonnenscheinstunden	504			455		381			331		265	241
astr.max.mögl.Beschattung		1186			113		523			144		
Red.Sonnenscheinwahrsch.		0,42			0,44		0,37			0,31		
Reduktion Betriebsdauer		1,00			1,00		1,00			1,00		
Reduktion Windrichtung		0,63			0,72		0,74			0,75		
Gesamte Reduktion		0,27			0,32		0,27			0,23		
Met.wahrsch.Beschattung		315			36		144			34		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

Lizenzierter Anwender:
plan-GIS GmbH Niederlassung Hannover
Sedanstr. 29
DE-30161 Hannover
+49 (0)511 33648-300

Berechnet:
15.03.2021 14:15/3.4.415

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: F - Gänsekamp 14

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März			April			Mai			Juni		
1	08:27		08:00		07:05			06:54		19:02 (4)	05:48			05:02		20:05 (6)
	16:14		17:02		17:55			19:50	21	19:23 (3)	20:42			21:28	48	20:53 (1)
2	08:27		07:58		07:03			06:51		19:00 (4)	05:46			05:01		20:05 (6)
	16:15		17:04		17:56			19:51	22	19:22 (3)	20:43			21:29	48	20:53 (1)
3	08:27		07:56		07:01			06:49		18:59 (4)	05:44			05:00		20:05 (6)
	16:16		17:06		17:58			19:53	23	19:22 (3)	20:45			21:30	47	20:52 (1)
4	08:27		07:55		06:59			06:47		18:58 (4)	05:42			04:59		20:06 (6)
	16:17		17:08		18:00			19:55	24	19:22 (3)	20:47			21:32	47	20:53 (1)
5	08:26		07:53		06:56		17:22 (5)	06:44		18:56 (4)	05:40			04:59		20:06 (6)
	16:18		17:10		18:02	9	17:31 (5)	19:57	26	19:22 (4)	20:48			21:33	47	20:53 (1)
6	08:26		07:51		06:54		17:19 (5)	06:42		18:56 (4)	05:38			04:58		20:07 (6)
	16:19		17:11		18:04	15	17:34 (5)	19:58	26	19:22 (4)	20:50			21:34	47	20:54 (1)
7	08:26		07:50		06:52		17:16 (5)	06:40		18:56 (4)	05:37			04:57		20:07 (6)
	16:21		17:13		18:06	19	17:35 (5)	20:00	26	19:22 (4)	20:52			21:34	46	20:53 (1)
8	08:25		07:48		06:50		17:15 (5)	06:38		18:55 (4)	05:35			04:57		20:08 (6)
	16:22		17:15		18:07	22	17:37 (5)	20:02	26	19:21 (4)	20:53			21:35	46	20:54 (1)
9	08:25		07:46		06:47		17:14 (5)	06:35		18:55 (4)	05:33			04:56		20:08 (6)
	16:23		17:17		18:09	24	17:38 (5)	20:04	26	19:21 (4)	20:55			21:36	45	20:53 (1)
10	08:24		07:44		06:45		17:13 (5)	06:33		18:55 (4)	05:31			04:56		20:09 (6)
	16:25		17:19		18:11	25	17:38 (5)	20:05	26	19:21 (4)	20:57			21:37	45	20:54 (1)
11	08:24		07:42		06:43		17:12 (5)	06:31		18:56 (4)	05:30		20:13 (6)	04:55		20:09 (6)
	16:26		17:21		18:13	26	17:38 (5)	20:07	24	19:20 (4)	20:58	11	20:24 (6)	21:38	45	20:54 (1)
12	08:23		07:40		06:40		17:12 (5)	06:28		18:57 (4)	05:28		20:11 (6)	04:55		20:09 (6)
	16:28		17:23		18:15	27	17:39 (5)	20:09	22	19:19 (4)	21:00	16	20:27 (6)	21:39	45	20:54 (1)
13	08:22		07:39		06:38		17:11 (5)	06:26		18:57 (4)	05:26		20:09 (6)	04:55		20:09 (6)
	16:29		17:25		18:16	27	17:38 (5)	20:10	20	19:17 (4)	21:01	19	20:28 (6)	21:39	45	20:54 (1)
14	08:21		07:37		06:36		17:11 (5)	06:24		18:58 (4)	05:25		20:08 (6)	04:55		20:10 (6)
	16:31		17:27		18:18	27	17:38 (5)	20:12	18	19:16 (4)	21:03	21	20:29 (6)	21:40	44	20:54 (1)
15	08:21		07:35		06:34		17:11 (5)	06:22		19:00 (4)	05:23		20:07 (6)	04:54		20:10 (6)
	16:32		17:29		18:20	26	17:37 (5)	20:14	13	19:13 (4)	21:05	23	20:30 (6)	21:40	45	20:55 (1)
16	08:20		07:33		06:31		17:11 (5)	06:19		19:03 (4)	05:21		20:06 (6)	04:54		20:11 (6)
	16:34		17:30		18:22	25	17:36 (5)	20:16	7	19:10 (4)	21:06	25	20:31 (6)	21:41	44	20:55 (1)
17	08:19		07:31		06:29		17:12 (5)	06:17			05:20		20:06 (6)	04:54		20:11 (6)
	16:35		17:32		18:23	24	17:36 (5)	20:17			21:08	26	20:32 (6)	21:41	44	20:55 (1)
18	08:18		07:29		06:27		17:12 (5)	06:15			05:18		20:05 (6)	04:54		20:11 (6)
	16:37		17:34		18:25	22	17:34 (5)	20:19			21:09	27	20:32 (6)	21:42	44	20:55 (1)
19	08:17		07:27		06:24		17:14 (5)	06:13			05:17		20:05 (6)	04:54		20:12 (6)
	16:39		17:36		18:27	18	17:32 (5)	20:21			21:11	33	20:40 (1)	21:42	43	20:55 (1)
20	08:16		07:25		06:22		17:16 (5)	06:11			05:16		20:05 (6)	04:54		20:12 (6)
	16:40		17:38		18:29	15	17:31 (5)	20:23			21:12	36	20:41 (1)	21:42	43	20:55 (1)
21	08:15		07:23		06:19		17:18 (5)	06:09			05:14		20:05 (6)	04:54		20:12 (6)
	16:42		17:40		18:30	9	17:27 (5)	20:24			21:14	38	20:43 (1)	21:43	43	20:55 (1)
22	08:13		07:20		06:17			06:06			05:13		20:04 (6)	04:55		20:13 (6)
	16:44		17:42		18:32			20:26			21:15	39	20:43 (1)	21:43	43	20:56 (1)
23	08:12		07:18		06:15			06:04			05:12		20:04 (6)	04:55		20:13 (6)
	16:46		17:44		18:34			20:28			21:17	41	20:45 (1)	21:43	43	20:56 (1)
24	08:11		07:16		06:12			06:02			05:10		20:04 (6)	04:55		20:12 (6)
	16:47		17:45		18:36			20:29			21:18	42	20:46 (1)	21:43	44	20:56 (1)
25	08:10		07:14		06:10			06:00			05:09		20:04 (6)	04:55		20:13 (6)
	16:49		17:47		18:37			20:31			21:19	43	20:47 (1)	21:43	44	20:57 (1)
26	08:08		07:12		06:08			05:58			05:08		20:04 (6)	04:56		20:13 (6)
	16:51		17:49		18:39			20:33			21:21	45	20:49 (1)	21:43	44	20:57 (1)
27	08:07		07:10		06:05			05:56			05:07		20:04 (6)	04:56		20:13 (6)
	16:53		17:51		18:41			20:35			21:22	46	20:50 (1)	21:43	44	20:57 (1)
28	08:06		07:08		06:03		18:09 (3)	05:54			05:06		20:04 (6)	04:57		20:13 (6)
	16:55		17:53		18:43	8	18:17 (3)	20:36			21:23	47	20:51 (1)	21:43	44	20:57 (1)
29	08:04				07:01		19:07 (3)	05:52			05:05		20:04 (6)	04:57		20:14 (6)
	16:57				19:44	12	19:19 (3)	20:38			21:25	47	20:51 (1)	21:43	44	20:58 (1)
30	08:03				06:58		19:04 (3)	05:50			05:04		20:04 (6)	04:58		20:13 (6)
	16:58				19:46	16	19:20 (3)	20:40			21:26	48	20:52 (1)	21:43	45	20:58 (1)
31	08:01				06:56		19:04 (3)				05:03		20:05 (6)			
	17:00				19:48	18	19:22 (3)				21:27	48	20:53 (1)			
Sonnenscheinstunden	257		277		367			417			487			501		
astr.max.mögl.Beschattung						414			350			721			1346	
Red.Sonnenscheinwahrsch.						0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer						1,00			1,00			1,00			1,00	
Reduktion Windrichtung						0,75			0,73			0,64			0,63	
Gesamte Reduktion						0,22			0,27			0,29			0,25	
Met.wahrsch.Beschattung						90			96			206			341	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: F - Gänsekamp 14

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August			September		Oktober			November	Dezember
1	04:59		20:13 (6)	05:36		20:22 (6)	06:26		18:55 (4)	07:16		17:51 (5)	07:11	08:03
	21:42	46	20:59 (1)	21:10	14	20:36 (6)	20:07	24	19:19 (4)	18:56	27	18:18 (5)	16:49	16:08
2	04:59		20:13 (6)	05:37		20:25 (6)	06:28		18:53 (4)	07:18		17:51 (5)	07:13	08:04
	21:42	45	20:58 (1)	21:08	8	20:33 (6)	20:05	26	19:19 (4)	18:54	26	18:17 (5)	16:47	16:07
3	05:00		20:13 (6)	05:39			06:30		18:53 (4)	07:20		17:50 (5)	07:15	08:06
	21:42	46	20:59 (1)	21:06			20:02	26	19:19 (4)	18:52	26	18:16 (5)	16:46	16:07
4	05:01		20:13 (6)	05:40			06:31		18:53 (4)	07:22		17:51 (5)	07:17	08:07
	21:41	46	20:59 (1)	21:05			20:00	26	19:19 (4)	18:49	24	18:15 (5)	16:44	16:06
5	05:02		20:14 (6)	05:42			06:33		18:52 (4)	07:23		17:52 (5)	07:18	08:09
	21:41	46	21:00 (1)	21:03			19:58	26	19:18 (4)	18:47	22	18:14 (5)	16:42	16:06
6	05:02		20:14 (6)	05:44			06:35		18:52 (4)	07:25		17:53 (5)	07:20	08:10
	21:40	46	21:00 (1)	21:01			19:55	26	19:18 (4)	18:45	20	18:13 (5)	16:40	16:05
7	05:03		20:13 (6)	05:45			06:36		18:51 (4)	07:27		17:53 (5)	07:22	08:11
	21:40	46	20:59 (1)	20:59			19:53	26	19:17 (4)	18:42	17	18:10 (5)	16:38	16:05
8	05:04		20:13 (6)	05:47			06:38		18:52 (4)	07:28		17:55 (5)	07:24	08:12
	21:39	47	21:00 (1)	20:57			19:51	25	19:17 (4)	18:40	13	18:08 (5)	16:37	16:04
9	05:05		20:13 (6)	05:48			06:40		18:53 (4)	07:30		18:01 (5)	07:26	08:14
	21:38	47	21:00 (1)	20:56			19:48	23	19:16 (3)	18:38	2	18:03 (5)	16:35	16:04
10	05:06		20:13 (6)	05:50			06:41		18:53 (4)	07:32			07:28	08:15
	21:38	47	21:00 (1)	20:54			19:46	22	19:15 (3)	18:36			16:33	16:04
11	05:07		20:13 (6)	05:52			06:43		18:54 (4)	07:34			07:29	08:16
	21:37	47	21:00 (1)	20:52			19:44	21	19:15 (3)	18:33			16:32	16:04
12	05:08		20:13 (6)	05:53			06:45		18:55 (3)	07:35			07:31	08:17
	21:36	47	21:00 (1)	20:50			19:41	19	19:14 (3)	18:31			16:30	16:04
13	05:10		20:13 (6)	05:55			06:46		18:56 (3)	07:37			07:33	08:18
	21:35	47	21:00 (1)	20:48			19:39	16	19:12 (3)	18:29			16:29	16:03
14	05:11		20:13 (6)	05:57			06:48		18:57 (3)	07:39			07:35	08:19
	21:34	47	21:00 (1)	20:46			19:37	13	19:10 (3)	18:27			16:27	16:03
15	05:12		20:14 (6)	05:58			06:50		18:58 (3)	07:41			07:37	08:20
	21:33	47	21:01 (1)	20:44			19:34	9	19:07 (3)	18:24			16:26	16:04
16	05:13		20:14 (6)	06:00			06:51		19:01 (3)	07:42			07:38	08:21
	21:32	46	21:00 (1)	20:42			19:32	4	19:05 (3)	18:22			16:24	16:04
17	05:14		20:14 (6)	06:02			06:53			07:44			07:40	08:22
	21:31	45	20:59 (1)	20:40			19:29			18:20			16:23	16:04
18	05:16		20:14 (6)	06:03			06:55			07:46			07:42	08:22
	21:30	44	20:58 (1)	20:38			19:27			18:18			16:22	16:04
19	05:17		20:13 (6)	06:05			06:56			07:48			07:44	08:23
	21:29	43	20:56 (1)	20:35			19:25			18:16			16:20	16:04
20	05:18		20:13 (6)	06:07			06:58			07:49			07:45	08:24
	21:27	42	20:55 (1)	20:33			19:22			18:14			16:19	16:05
21	05:20		20:14 (6)	06:08			07:00			07:51			07:47	08:24
	21:26	41	20:55 (1)	20:31			19:20			18:11			16:18	16:05
22	05:21		20:14 (6)	06:10			07:01		18:05 (5)	07:53			07:49	08:25
	21:25	39	20:53 (1)	20:29			19:18	6	18:11 (5)	18:09			16:17	16:06
23	05:22		20:14 (6)	06:12			07:03		18:00 (5)	07:55			07:50	08:25
	21:24	38	20:52 (1)	20:27			19:15	13	18:13 (5)	18:07			16:15	16:06
24	05:24		20:15 (6)	06:13			07:05		17:58 (5)	07:57			07:52	08:26
	21:22	35	20:51 (1)	20:25			19:13	18	18:16 (5)	18:05			16:14	16:07
25	05:25		20:15 (6)	06:15			07:06		17:56 (5)	06:58			07:54	08:26
	21:21	30	20:49 (1)	20:23			19:11	21	18:17 (5)	17:03			16:13	16:07
26	05:27		20:16 (6)	06:17			07:08		17:54 (5)	07:00			07:55	08:26
	21:19	26	20:42 (6)	20:20			19:08	23	18:17 (5)	17:01			16:12	16:08
27	05:28		20:17 (6)	06:18		19:05 (4)	07:10		17:53 (5)	07:02			07:57	08:27
	21:18	25	20:42 (6)	20:18	7	19:12 (4)	19:06	25	18:18 (5)	16:59			16:11	16:09
28	05:30		20:17 (6)	06:20		19:02 (4)	07:11		17:52 (5)	07:04			07:58	08:27
	21:16	24	20:41 (6)	20:16	13	19:15 (4)	19:03	26	18:18 (5)	16:57			16:10	16:10
29	05:31		20:19 (6)	06:21		18:59 (4)	07:13		17:51 (5)	07:06			08:00	08:27
	21:15	22	20:41 (6)	20:14	18	19:17 (4)	19:01	27	18:18 (5)	16:55			16:10	16:10
30	05:33		20:19 (6)	06:23		18:58 (4)	07:15		17:51 (5)	07:08			08:02	08:27
	21:13	20	20:39 (6)	20:11	20	19:18 (4)	18:59	27	18:18 (5)	16:53			16:09	16:11
31	05:34		20:20 (6)	06:25		18:56 (4)				07:09				08:27
	21:12	18	20:38 (6)	20:09	22	19:18 (4)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		1235			102			518			177			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,64			0,71			0,74			0,75			
Gesamte Reduktion		0,27			0,32			0,27			0,23			
Met.wahrsch.Beschattung		328			32			142			41			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

Lizenzierter Anwender:
plan-GIS GmbH Niederlassung Hannover
Sedanstr. 29
DE-30161 Hannover
+49 (0)511 33648-300

Berechnet:
15.03.2021 14:15/3.4.415

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: G - Gänsekamp 12

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März		April		Mai		Juni	
1	08:27		08:00		07:05		06:54		18:58 (4)		05:48	
	16:14		17:02		17:55		19:50	23	19:21 (3)		20:42	
2	08:27		07:58		07:03		06:51		18:56 (4)		05:46	
	16:15		17:04		17:56		19:51	24	19:20 (3)		20:43	
3	08:27		07:56		07:01		06:49		18:55 (4)		05:44	
	16:16		17:06		17:58		19:53	25	19:20 (3)		20:45	
4	08:27		07:55		06:59		17:17 (5)		06:47		18:54 (4)	
	16:17		17:08		18:00	12	17:29 (5)		19:55	26	19:20 (3)	
5	08:26		07:53		06:56		17:15 (5)		06:44		18:53 (4)	
	16:18		17:10		18:02	16	17:31 (5)		19:57	27	19:20 (4)	
6	08:26		07:51		06:54		17:13 (5)		06:42		18:53 (4)	
	16:19		17:12		18:04	20	17:33 (5)		19:58	27	19:20 (4)	
7	08:26		07:50		06:52		17:11 (5)		06:40		18:53 (4)	
	16:21		17:13		18:06	23	17:34 (5)		20:00	27	19:20 (4)	
8	08:25		07:48		06:50		17:10 (5)		06:38		18:52 (4)	
	16:22		17:15		18:07	25	17:35 (5)		20:02	27	19:19 (4)	
9	08:25		07:46		06:47		17:10 (5)		06:35		18:52 (4)	
	16:23		17:17		18:09	25	17:35 (5)		20:04	26	19:18 (4)	
10	08:24		07:44		06:45		17:08 (5)		06:33		18:53 (4)	
	16:25		17:19		18:11	27	17:35 (5)		20:05	25	19:18 (4)	
11	08:24		07:42		06:43		17:08 (5)		06:31		18:54 (4)	
	16:26		17:21		18:13	27	17:35 (5)		20:07	23	19:17 (4)	
12	08:23		07:40		06:40		17:08 (5)		06:28		18:55 (4)	
	16:28		17:23		18:15	27	17:35 (5)		20:09	21	19:16 (4)	
13	08:22		07:39		06:38		17:07 (5)		06:26		18:55 (4)	
	16:29		17:25		18:16	27	17:34 (5)		20:10	18	19:13 (4)	
14	08:21		07:37		06:36		17:08 (5)		06:24		18:57 (4)	
	16:31		17:27		18:18	26	17:34 (5)		20:12	14	19:11 (4)	
15	08:21		07:35		06:34		17:08 (5)		06:22		19:00 (4)	
	16:32		17:29		18:20	25	17:33 (5)		20:14	8	19:08 (4)	
16	08:20		07:33		06:31		17:08 (5)		06:19			
	16:34		17:30		18:22	24	17:32 (5)		20:16			
17	08:19		07:31		06:29		17:10 (5)		06:17			
	16:35		17:32		18:23	21	17:31 (5)		20:17			
18	08:18		07:29		06:27		17:10 (5)		06:15			
	16:37		17:34		18:25	19	17:29 (5)		20:19			
19	08:17		07:27		06:24		17:12 (5)		06:13			
	16:39		17:36		18:27	15	17:27 (5)		20:21			
20	08:16		07:25		06:22		17:15 (5)		06:11			
	16:40		17:38		18:29	9	17:24 (5)		20:23			
21	08:15		07:23		06:20				06:09			
	16:42		17:40		18:30				20:24			
22	08:13		07:20		06:17				06:06			
	16:44		17:42		18:32				20:26			
23	08:12		07:18		06:15				06:04			
	16:46		17:44		18:34				20:28			
24	08:11		07:16		06:12				06:02			
	16:47		17:45		18:36				20:29			
25	08:10		07:14		06:10				06:00			
	16:49		17:47		18:37				20:31			
26	08:08		07:12		06:08				05:58			
	16:51		17:49		18:39				20:33			
27	08:07		07:10		06:05		18:07 (3)		05:56			
	16:53		17:51		18:41	8	18:15 (3)		20:35			
28	08:06		07:08		06:03		18:05 (3)		05:54			
	16:55		17:53		18:43	12	18:17 (3)		20:36			
29	08:04				07:01		19:04 (3)		05:52			
	16:57				19:44	15	19:19 (3)		20:38			
30	08:03				06:58		19:01 (4)		05:50			
	16:58				19:46	19	19:20 (3)		20:40			
31	08:01				06:56		18:59 (4)					
	17:00				19:48	22	19:21 (3)					
Sonnenscheinstunden	257		277		367		417		487		501	
astr.max.mögl.Beschattung						444		341		759		1382
Red.Sonnenscheinwahrsch.						0,29		0,37		0,45		0,40
Reduktion Betriebsdauer						1,00		1,00		1,00		1,00
Reduktion Windrichtung						0,75		0,73		0,64		0,63
Gesamte Reduktion						0,22		0,27		0,29		0,25
Met.wahrsch.Beschattung						97		94		217		350

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

Lizenzierter Anwender:
plan-GIS GmbH Niederlassung Hannover
Sedanstr. 29
DE-30161 Hannover
+49 (0)511 33648-300

Berechnet:
15.03.2021 14:15/3.4.415

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: G - Gänsekamp 12

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August			September		Oktober			November	Dezember
1	04:59		20:11 (6)	05:36		20:20 (6)	06:26		18:53 (4)	07:16		17:47 (5)	07:11	08:03
	21:42	47	20:58 (1)	21:10	15	20:35 (6)	20:07	23	19:16 (4)	18:56	27	18:14 (5)	16:49	16:08
2	04:59		20:11 (6)	05:37		20:21 (6)	06:28		18:51 (4)	07:18		17:47 (5)	07:13	08:04
	21:42	46	20:57 (1)	21:08	12	20:33 (6)	20:05	25	19:16 (4)	18:54	27	18:14 (5)	16:47	16:07
3	05:00		20:11 (6)	05:39			06:30		18:50 (4)	07:20		17:46 (5)	07:15	08:06
	21:42	47	20:58 (1)	21:06			20:02	26	19:16 (4)	18:52	27	18:13 (5)	16:46	16:07
4	05:01		20:11 (6)	05:40			06:31		18:50 (4)	07:22		17:46 (5)	07:17	08:07
	21:41	47	20:58 (1)	21:05			20:00	27	19:17 (4)	18:49	27	18:13 (5)	16:44	16:06
5	05:02		20:11 (6)	05:42			06:33		18:49 (4)	07:23		17:47 (5)	07:18	08:09
	21:41	48	20:59 (1)	21:03			19:58	27	19:16 (4)	18:47	25	18:12 (5)	16:42	16:06
6	05:02		20:12 (6)	05:44			06:35		18:49 (4)	07:25		17:48 (5)	07:20	08:10
	21:40	47	20:59 (1)	21:01			19:55	27	19:16 (4)	18:45	23	18:11 (5)	16:40	16:05
7	05:03		20:11 (6)	05:45			06:36		18:48 (4)	07:27		17:48 (5)	07:22	08:11
	21:40	47	20:58 (1)	20:59			19:53	27	19:15 (4)	18:43	21	18:09 (5)	16:38	16:05
8	05:04		20:11 (6)	05:47			06:38		18:48 (4)	07:28		17:49 (5)	07:24	08:12
	21:39	48	20:59 (1)	20:57			19:51	26	19:14 (3)	18:40	18	18:07 (5)	16:37	16:04
9	05:05		20:11 (6)	05:48			06:40		18:49 (4)	07:30		17:51 (5)	07:26	08:14
	21:38	48	20:59 (1)	20:56			19:48	25	19:14 (3)	18:38	14	18:05 (5)	16:35	16:04
10	05:06		20:11 (6)	05:50			06:41		18:49 (4)	07:32		17:54 (5)	07:28	08:15
	21:38	48	20:59 (1)	20:54			19:46	24	19:13 (3)	18:36	8	18:02 (5)	16:33	16:04
11	05:07		20:11 (6)	05:52			06:43		18:50 (4)	07:34			07:29	08:16
	21:37	48	20:59 (1)	20:52			19:44	23	19:13 (3)	18:33			16:32	16:04
12	05:08		20:11 (6)	05:53			06:45		18:50 (4)	07:35			07:31	08:17
	21:36	48	20:59 (1)	20:50			19:41	22	19:12 (3)	18:31			16:30	16:04
13	05:10		20:11 (6)	05:55			06:46		18:52 (4)	07:37			07:33	08:18
	21:35	48	20:59 (1)	20:48			19:39	20	19:12 (3)	18:29			16:29	16:03
14	05:11		20:11 (6)	05:57			06:48		18:54 (3)	07:39			07:35	08:19
	21:34	48	20:59 (1)	20:46			19:37	16	19:10 (3)	18:27			16:27	16:03
15	05:12		20:12 (6)	05:58			06:50		18:54 (3)	07:41			07:37	08:20
	21:33	48	21:00 (1)	20:44			19:34	13	19:07 (3)	18:24			16:26	16:04
16	05:13		20:12 (6)	06:00			06:51		18:56 (3)	07:42			07:38	08:21
	21:32	48	21:00 (1)	20:42			19:32	9	19:05 (3)	18:22			16:24	16:04
17	05:14		20:11 (6)	06:02			06:53			07:44			07:40	08:22
	21:31	48	20:59 (1)	20:40			19:29			18:20			16:23	16:04
18	05:16		20:11 (6)	06:03			06:55			07:46			07:42	08:22
	21:30	47	20:58 (1)	20:38			19:27			18:18			16:22	16:04
19	05:17		20:11 (6)	06:05			06:56			07:48			07:44	08:23
	21:29	45	20:56 (1)	20:35			19:25			18:16			16:20	16:04
20	05:18		20:11 (6)	06:07			06:58			07:49			07:45	08:24
	21:27	44	20:55 (1)	20:33			19:22			18:14			16:19	16:05
21	05:20		20:12 (6)	06:08			07:00			07:51			07:47	08:24
	21:26	43	20:55 (1)	20:31			19:20			18:11			16:18	16:05
22	05:21		20:12 (6)	06:10			07:01			07:53			07:49	08:25
	21:25	41	20:53 (1)	20:29			19:18			18:09			16:17	16:06
23	05:22		20:12 (6)	06:12			07:03		18:01 (5)	07:55			07:50	08:25
	21:24	40	20:52 (1)	20:27			19:15	4	18:05 (5)	18:07			16:15	16:06
24	05:24		20:13 (6)	06:13			07:05		17:57 (5)	07:57			07:52	08:26
	21:22	37	20:51 (1)	20:25			19:13	13	18:10 (5)	18:05			16:14	16:07
25	05:25		20:13 (6)	06:15			07:06		17:54 (5)	06:58			07:54	08:26
	21:21	33	20:49 (1)	20:23			19:11	18	18:12 (5)	17:03			16:13	16:07
26	05:27		20:13 (6)	06:17			07:08		17:52 (5)	07:00			07:55	08:26
	21:19	28	20:41 (6)	20:20			19:08	20	18:12 (5)	17:01			16:12	16:08
27	05:28		20:15 (6)	06:18			07:10		17:50 (5)	07:02			07:57	08:27
	21:18	26	20:41 (6)	20:18			19:06	23	18:13 (5)	16:59			16:11	16:09
28	05:30		20:15 (6)	06:20		19:01 (4)	07:11		17:50 (5)	07:04			07:58	08:27
	21:16	25	20:40 (6)	20:16	10	19:11 (4)	19:03	24	18:14 (5)	16:57			16:10	16:10
29	05:31		20:16 (6)	06:21		18:57 (4)	07:13		17:48 (5)	07:06			08:00	08:27
	21:15	24	20:40 (6)	20:14	15	19:12 (4)	19:01	26	18:14 (5)	16:55			16:10	16:10
30	05:33		20:17 (6)	06:23		18:56 (4)	07:15		17:47 (5)	07:08			08:02	08:27
	21:13	21	20:38 (6)	20:11	18	19:14 (4)	18:59	27	18:14 (5)	16:53			16:09	16:11
31	05:34		20:18 (6)	06:25		18:53 (4)				07:09				08:27
	21:12	18	20:36 (6)	20:09	22	19:15 (4)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		1281			92			515			217			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,64			0,71			0,74			0,75			
Gesamte Reduktion		0,27			0,32			0,28			0,23			
Met.wahrsch.Beschattung		341			29			142			51			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: H - Gänsekamp 10

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März			April			Mai			Juni		
1	08:27		08:00		07:05			06:54			18:53 (4)		05:48			05:02		20:01 (6)
	16:14		17:02		17:55			19:50	26		19:19 (3)		20:42			21:28	49	20:50 (1)
2	08:27		07:58		07:03		17:17 (5)	06:51			18:51 (4)		05:46			05:01		20:01 (6)
	16:15		17:04		17:56	7	17:24 (5)	19:51	27		19:18 (3)		20:43			21:29	49	20:50 (1)
3	08:27		07:56		07:01		17:12 (5)	06:49			18:51 (4)		05:44			05:00		20:01 (6)
	16:16		17:06		17:58	15	17:27 (5)	19:53	26		19:17 (3)		20:45			21:30	49	20:50 (1)
4	08:27		07:55		06:59		17:10 (5)	06:47			18:51 (4)		05:42			04:59		20:02 (6)
	16:17		17:08		18:00	19	17:29 (5)	19:55	27		19:18 (4)		20:47			21:32	48	20:50 (1)
5	08:26		07:53		06:56		17:09 (5)	06:44			18:49 (4)		05:40			04:59		20:02 (6)
	16:18		17:10		18:02	21	17:30 (5)	19:57	28		19:17 (4)		20:48			21:33	48	20:50 (1)
6	08:26		07:51		06:54		17:08 (5)	06:42			18:50 (4)		05:38			04:58		20:03 (6)
	16:19		17:12		18:04	24	17:32 (5)	19:58	27		19:17 (4)		20:50			21:34	48	20:51 (1)
7	08:26		07:50		06:52		17:06 (5)	06:40			18:50 (4)		05:37			04:57		20:03 (6)
	16:21		17:13		18:06	25	17:31 (5)	20:00	26		19:16 (4)		20:52			21:34	47	20:50 (1)
8	08:25		07:48		06:50		17:06 (5)	06:38			18:49 (4)		05:35			04:57		20:04 (6)
	16:22		17:15		18:07	26	17:32 (5)	20:02	26		19:15 (4)		20:53			21:35	47	20:51 (1)
9	08:25		07:46		06:47		17:06 (5)	06:35			18:50 (4)		05:33		20:09 (6)	04:56		20:03 (6)
	16:23		17:17		18:09	26	17:32 (5)	20:04	24		19:14 (4)		20:55	11	20:20 (6)	21:36	47	20:50 (1)
10	08:24		07:44		06:45		17:05 (5)	06:33			18:51 (4)		05:31		20:06 (6)	04:56		20:04 (6)
	16:25		17:19		18:11	27	17:32 (5)	20:05	22		19:13 (4)		20:57	16	20:22 (6)	21:37	47	20:51 (1)
11	08:24		07:42		06:43		17:05 (5)	06:31			18:52 (4)		05:30		20:04 (6)	04:55		20:05 (6)
	16:26		17:21		18:13	27	17:32 (5)	20:07	20		19:12 (4)		20:58	19	20:23 (6)	21:38	46	20:51 (1)
12	08:23		07:40		06:40		17:05 (5)	06:28			18:53 (4)		05:28		20:03 (6)	04:55		20:05 (6)
	16:28		17:23		18:15	27	17:32 (5)	20:09	17		19:10 (4)		21:00	22	20:25 (6)	21:39	45	20:50 (1)
13	08:22		07:39		06:38		17:05 (5)	06:26			18:55 (4)		05:26		20:02 (6)	04:55		20:05 (6)
	16:29		17:25		18:16	25	17:30 (5)	20:10	12		19:07 (4)		21:01	23	20:25 (6)	21:39	46	20:51 (1)
14	08:21		07:37		06:36		17:05 (5)	06:24			18:59 (4)		05:25		20:01 (6)	04:55		20:06 (6)
	16:31		17:27		18:18	25	17:30 (5)	20:12	3		19:02 (4)		21:03	26	20:27 (6)	21:40	45	20:51 (1)
15	08:21		07:35		06:34		17:05 (5)	06:22					05:23		20:00 (6)	04:54		20:06 (6)
	16:32		17:29		18:20	23	17:28 (5)	20:14					21:05	27	20:27 (6)	21:40	45	20:51 (1)
16	08:20		07:33		06:31		17:07 (5)	06:19					05:21		20:00 (6)	04:54		20:07 (6)
	16:34		17:30		18:22	20	17:27 (5)	20:16					21:06	28	20:28 (6)	21:41	44	20:51 (1)
17	08:19		07:31		06:29		17:08 (5)	06:17					05:20		20:00 (6)	04:54		20:07 (6)
	16:35		17:32		18:23	17	17:25 (5)	20:17					21:08	32	20:37 (1)	21:41	45	20:52 (1)
18	08:18		07:29		06:27		17:10 (5)	06:15					05:18		19:59 (6)	04:54		20:07 (6)
	16:37		17:34		18:25	12	17:22 (5)	20:19					21:09	38	20:38 (1)	21:42	45	20:52 (1)
19	08:17		07:27		06:24			06:13					05:17		19:59 (6)	04:54		20:08 (6)
	16:39		17:36		18:27			20:21					21:11	41	20:40 (1)	21:42	44	20:52 (1)
20	08:16		07:25		06:22			06:11					05:16		19:59 (6)	04:54		20:08 (6)
	16:40		17:38		18:29			20:23					21:12	42	20:41 (1)	21:42	44	20:52 (1)
21	08:15		07:23		06:20			06:09					05:14		19:59 (6)	04:54		20:08 (6)
	16:42		17:40		18:30			20:24					21:14	44	20:43 (1)	21:43	44	20:52 (1)
22	08:13		07:20		06:17			06:06					05:13		19:58 (6)	04:55		20:09 (6)
	16:44		17:42		18:32			20:26					21:15	45	20:43 (1)	21:43	44	20:53 (1)
23	08:12		07:18		06:15			06:04					05:12		19:58 (6)	04:55		20:09 (6)
	16:46		17:44		18:34			20:28					21:17	47	20:45 (1)	21:43	44	20:53 (1)
24	08:11		07:16		06:12			06:02					05:10		19:58 (6)	04:55		20:08 (6)
	16:47		17:45		18:36			20:29					21:18	48	20:46 (1)	21:43	45	20:53 (1)
25	08:10		07:14		06:10			06:00					05:09		19:59 (6)	04:55		20:09 (6)
	16:49		17:47		18:37			20:31					21:19	48	20:47 (1)	21:43	45	20:54 (1)
26	08:08		07:12		06:08		18:05 (3)	05:58					05:08		19:59 (6)	04:56		20:09 (6)
	16:51		17:49		18:39	9	18:14 (3)	20:33					21:21	49	20:48 (1)	21:43	44	20:53 (1)
27	08:07		07:10		06:05		18:02 (3)	05:56					05:07		19:59 (6)	04:56		20:08 (6)
	16:53		17:51		18:41	13	18:15 (3)	20:35					21:22	49	20:48 (1)	21:43	45	20:53 (1)
28	08:06		07:08		06:03		18:00 (4)	05:54					05:06		19:59 (6)	04:57		20:09 (6)
	16:55		17:53		18:43	17	18:17 (3)	20:36					21:23	50	20:49 (1)	21:43	45	20:54 (1)
29	08:04				07:01		18:58 (4)	05:52					05:05		19:59 (6)	04:57		20:09 (6)
	16:57				19:44	21	19:19 (3)	20:38					21:25	50	20:49 (1)	21:43	46	20:55 (1)
30	08:03				06:58		18:55 (4)	05:50					05:04		19:59 (6)	04:58		20:09 (6)
	16:58				19:46	23	19:18 (3)	20:40					21:26	50	20:49 (1)	21:43	46	20:55 (1)
31	08:01				06:56		18:54 (4)						05:03		20:00 (6)			
	17:00				19:48	25	19:19 (3)						21:27	50	20:50 (1)			
Sonnenscheinstunden	257		277		367			417					487			501		
astr.max.mögl.Beschattung						474			311					855			1376	
Red.Sonnenscheinwahrsch.						0,29			0,37					0,45			0,40	
Reduktion Betriebsdauer						1,00			1,00					1,00			1,00	
Reduktion Windrichtung						0,75			0,73					0,64			0,64	
Gesamte Reduktion						0,22			0,28					0,29			0,25	
Met.wahrsch.Beschattung						103			86					246			350	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: H - Gänsekamp 10

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		20:09 (6)	05:36		20:14 (6)	06:26		18:51 (4)	07:16		17:44 (5)	07:11	08:03
	21:42	46	20:55 (1)	21:10	21	20:35 (6)	20:07	20	19:11 (4)	18:56	26	18:10 (5)	16:49	16:08
2	04:59		20:08 (6)	05:37		20:15 (6)	06:28		18:49 (4)	07:18		17:44 (5)	07:13	08:04
	21:42	47	20:55 (1)	21:08	18	20:33 (6)	20:05	22	19:11 (4)	18:54	27	18:11 (5)	16:47	16:07
3	05:00		20:09 (6)	05:39		20:17 (6)	06:30		18:48 (4)	07:20		17:43 (5)	07:15	08:06
	21:42	46	20:55 (1)	21:06	15	20:32 (6)	20:02	24	19:12 (4)	18:52	27	18:10 (5)	16:46	16:07
4	05:01		20:09 (6)	05:40		20:19 (6)	06:31		18:47 (4)	07:22		17:43 (5)	07:17	08:07
	21:41	47	20:56 (1)	21:05	9	20:28 (6)	20:00	26	19:13 (4)	18:49	27	18:10 (5)	16:44	16:06
5	05:02		20:09 (6)	05:42			06:33		18:46 (4)	07:23		17:43 (5)	07:18	08:09
	21:41	47	20:56 (1)	21:03			19:58	26	19:12 (4)	18:47	26	18:09 (5)	16:42	16:06
6	05:02		20:09 (6)	05:44			06:35		18:46 (4)	07:25		17:43 (5)	07:20	08:10
	21:40	48	20:57 (1)	21:01			19:55	27	19:13 (4)	18:45	26	18:09 (5)	16:40	16:05
7	05:03		20:08 (6)	05:45			06:36		18:45 (4)	07:27		17:43 (5)	07:22	08:11
	21:40	48	20:56 (1)	20:59			19:53	27	19:12 (4)	18:43	24	18:07 (5)	16:38	16:05
8	05:04		20:08 (6)	05:47			06:38		18:45 (4)	07:28		17:44 (5)	07:24	08:12
	21:39	49	20:57 (1)	20:57			19:51	27	19:12 (4)	18:40	22	18:06 (5)	16:37	16:04
9	05:05		20:08 (6)	05:48			06:40		18:45 (4)	07:30		17:45 (5)	07:26	08:14
	21:38	49	20:57 (1)	20:56			19:48	26	19:11 (3)	18:38	20	18:05 (5)	16:35	16:04
10	05:06		20:08 (6)	05:50			06:41		18:44 (4)	07:32		17:46 (5)	07:28	08:15
	21:38	49	20:57 (1)	20:54			19:46	27	19:11 (3)	18:36	17	18:03 (5)	16:33	16:04
11	05:07		20:08 (6)	05:52			06:43		18:45 (4)	07:34		17:48 (5)	07:29	08:16
	21:37	49	20:57 (1)	20:52			19:44	26	19:11 (3)	18:33	12	18:00 (5)	16:32	16:04
12	05:08		20:08 (6)	05:53			06:45		18:45 (4)	07:35			07:31	08:17
	21:36	49	20:57 (1)	20:50			19:41	25	19:10 (3)	18:31			16:30	16:04
13	05:10		20:08 (6)	05:55			06:46		18:46 (4)	07:37			07:33	08:18
	21:35	49	20:57 (1)	20:48			19:39	24	19:10 (3)	18:29			16:29	16:03
14	05:11		20:08 (6)	05:57			06:48		18:48 (4)	07:39			07:35	08:19
	21:34	49	20:57 (1)	20:46			19:37	21	19:09 (3)	18:27			16:27	16:03
15	05:12		20:09 (6)	05:58			06:50		18:49 (4)	07:41			07:37	08:20
	21:33	49	20:58 (1)	20:44			19:34	18	19:07 (3)	18:24			16:26	16:04
16	05:13		20:08 (6)	06:00			06:51		18:51 (3)	07:42			07:38	08:21
	21:32	50	20:58 (1)	20:42			19:32	14	19:05 (3)	18:22			16:24	16:04
17	05:14		20:08 (6)	06:02			06:53		18:52 (3)	07:44			07:40	08:22
	21:31	50	20:58 (1)	20:40			19:29	10	19:02 (3)	18:20			16:23	16:04
18	05:16		20:08 (6)	06:03			06:55		18:57 (3)	07:46			07:42	08:22
	21:30	49	20:57 (1)	20:38			19:27	2	18:59 (3)	18:18			16:22	16:04
19	05:17		20:08 (6)	06:05			06:56			07:48			07:44	08:23
	21:29	48	20:56 (1)	20:35			19:25			18:16			16:20	16:04
20	05:18		20:08 (6)	06:07			06:58			07:49			07:45	08:24
	21:27	47	20:55 (1)	20:33			19:22			18:14			16:19	16:05
21	05:20		20:09 (6)	06:08			07:00			07:51			07:47	08:24
	21:26	46	20:55 (1)	20:31			19:20			18:11			16:18	16:05
22	05:21		20:09 (6)	06:10			07:01			07:53			07:49	08:25
	21:25	44	20:53 (1)	20:29			19:18			18:09			16:17	16:06
23	05:22		20:08 (6)	06:12			07:03			07:55			07:50	08:25
	21:24	44	20:52 (1)	20:27			19:15			18:07			16:15	16:06
24	05:24		20:09 (6)	06:13			07:05			07:57			07:52	08:26
	21:22	42	20:51 (1)	20:25			19:13			18:05			16:14	16:07
25	05:25		20:09 (6)	06:15			07:06		17:55 (5)	06:58			07:54	08:26
	21:21	39	20:49 (1)	20:23			19:11	10	18:05 (5)	17:03			16:13	16:07
26	05:27		20:09 (6)	06:17			07:08		17:51 (5)	07:00			07:55	08:26
	21:19	36	20:48 (1)	20:20			19:08	15	18:06 (5)	17:01			16:12	16:08
27	05:28		20:10 (6)	06:18			07:10		17:49 (5)	07:02			07:57	08:27
	21:18	29	20:39 (6)	20:18			19:06	19	18:08 (5)	16:59			16:11	16:09
28	05:30		20:10 (6)	06:20			07:11		17:47 (5)	07:04			07:58	08:27
	21:16	28	20:38 (6)	20:16			19:03	22	18:09 (5)	16:57			16:10	16:10
29	05:31		20:12 (6)	06:21		19:00 (4)	07:13		17:45 (5)	07:06			08:00	08:27
	21:15	26	20:38 (6)	20:14	4	19:04 (4)	19:01	24	18:09 (5)	16:55			16:10	16:10
30	05:33		20:12 (6)	06:23		18:55 (4)	07:15		17:45 (5)	07:08			08:02	08:27
	21:13	25	20:37 (6)	20:11	13	19:08 (4)	18:59	25	18:10 (5)	16:53			16:09	16:11
31	05:34		20:12 (6)	06:25		18:52 (4)				07:09				08:27
	21:12	23	20:35 (6)	20:09	17	19:09 (4)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		1347			97			507			254			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,64			0,68			0,74			0,75			
Gesamte Reduktion		0,27			0,30			0,28			0,23			
Met.wahrsch.Beschattung		360			29			140			60			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: I - Gänsekamp 8

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März			April			Mai			Juni		
1	08:27		08:00		07:05		17:12 (5)	06:54		18:49 (4)	05:48			05:02		19:58 (6)
	16:14		17:02		17:55	11	17:23 (5)	19:50	27	19:16 (3)	20:42			21:28	49	20:47 (1)
2	08:27		07:58		07:03		17:09 (5)	06:51		18:48 (4)	05:46			05:01		19:58 (6)
	16:15		17:04		17:56	17	17:26 (5)	19:51	27	19:15 (3)	20:43			21:29	49	20:47 (1)
3	08:27		07:56		07:01		17:07 (5)	06:49		18:47 (4)	05:44			05:00		19:58 (6)
	16:16		17:06		17:58	19	17:26 (5)	19:53	28	19:15 (4)	20:45			21:30	49	20:47 (1)
4	08:27		07:55		06:59		17:05 (5)	06:47		18:47 (4)	05:42			04:59		20:00 (6)
	16:17		17:08		18:00	23	17:28 (5)	19:55	28	19:15 (4)	20:47			21:32	48	20:48 (1)
5	08:26		07:53		06:56		17:05 (5)	06:44		18:47 (4)	05:40			04:59		20:00 (6)
	16:18		17:10		18:02	24	17:29 (5)	19:57	26	19:13 (4)	20:48			21:33	47	20:47 (1)
6	08:26		07:51		06:54		17:04 (5)	06:42		18:47 (4)	05:38			04:58		20:01 (6)
	16:19		17:11		18:04	26	17:30 (5)	19:58	26	19:13 (4)	20:50			21:34	47	20:48 (1)
7	08:26		07:50		06:52		17:03 (5)	06:40		18:48 (4)	05:37		20:06 (6)	04:57		20:01 (6)
	16:21		17:13		18:06	26	17:29 (5)	20:00	24	19:12 (4)	20:52	10	20:16 (6)	21:34	46	20:47 (1)
8	08:25		07:48		06:50		17:03 (5)	06:38		18:47 (4)	05:35		20:03 (6)	04:57		20:02 (6)
	16:22		17:15		18:07	26	17:29 (5)	20:02	24	19:11 (4)	20:53	15	20:18 (6)	21:35	46	20:48 (1)
9	08:25		07:46		06:47		17:03 (5)	06:35		18:48 (4)	05:33		20:02 (6)	04:56		20:02 (6)
	16:23		17:17		18:09	27	17:30 (5)	20:04	22	19:10 (4)	20:55	19	20:21 (6)	21:36	45	20:47 (1)
10	08:24		07:44		06:45		17:02 (5)	06:33		18:50 (4)	05:31		20:00 (6)	04:56		20:03 (6)
	16:25		17:19		18:11	27	17:29 (5)	20:05	18	19:08 (4)	20:57	22	20:22 (6)	21:37	45	20:48 (1)
11	08:24		07:42		06:43		17:02 (5)	06:31		18:52 (4)	05:30		19:58 (6)	04:55		20:03 (6)
	16:26		17:21		18:13	26	17:28 (5)	20:07	14	19:06 (4)	20:58	24	20:22 (6)	21:38	44	20:48 (1)
12	08:23		07:40		06:40		17:03 (5)	06:28		18:54 (4)	05:28		19:58 (6)	04:55		20:03 (6)
	16:28		17:23		18:15	25	17:28 (5)	20:09	9	19:03 (4)	21:00	26	20:24 (6)	21:39	43	20:47 (1)
13	08:22		07:39		06:38		17:03 (5)	06:26			05:26		19:57 (6)	04:55		20:04 (6)
	16:29		17:25		18:16	23	17:26 (5)	20:10			21:01	27	20:24 (6)	21:39	42	20:48 (1)
14	08:21		07:37		06:36		17:04 (5)	06:24			05:25		19:57 (6)	04:55		20:05 (6)
	16:31		17:27		18:18	21	17:25 (5)	20:12			21:03	28	20:25 (6)	21:40	42	20:48 (1)
15	08:21		07:35		06:34		17:04 (5)	06:22			05:23		19:56 (6)	04:54		20:05 (6)
	16:32		17:29		18:20	19	17:23 (5)	20:14			21:05	29	20:25 (6)	21:40	41	20:48 (1)
16	08:20		07:33		06:31		17:06 (5)	06:19			05:21		19:56 (6)	04:54		20:06 (6)
	16:34		17:30		18:22	15	17:21 (5)	20:16			21:06	36	20:35 (1)	21:41	40	20:48 (1)
17	08:19		07:31		06:29		17:09 (5)	06:17			05:20		19:56 (6)	04:54		20:06 (6)
	16:35		17:32		18:23	9	17:18 (5)	20:17			21:08	40	20:37 (1)	21:41	40	20:48 (1)
18	08:18		07:29		06:27			06:15			05:18		19:55 (6)	04:54		20:06 (6)
	16:37		17:34		18:25			20:19			21:09	43	20:38 (1)	21:42	41	20:49 (1)
19	08:17		07:27		06:24			06:13			05:17		19:55 (6)	04:54		20:07 (6)
	16:39		17:36		18:27			20:21			21:11	45	20:40 (1)	21:42	39	20:49 (1)
20	08:16		07:25		06:22			06:11			05:16		19:55 (6)	04:54		20:07 (6)
	16:40		17:38		18:29			20:23			21:12	46	20:41 (1)	21:42	39	20:49 (1)
21	08:15		07:23		06:20			06:09			05:14		19:55 (6)	04:54		20:07 (6)
	16:42		17:40		18:30			20:24			21:14	48	20:43 (1)	21:43	39	20:49 (1)
22	08:13		07:20		06:17			06:06			05:13		19:55 (6)	04:55		20:08 (6)
	16:44		17:42		18:32			20:26			21:15	48	20:43 (1)	21:43	39	20:50 (1)
23	08:12		07:18		06:15			06:04			05:12		19:55 (6)	04:55		20:08 (6)
	16:46		17:44		18:34			20:28			21:17	50	20:45 (1)	21:43	39	20:50 (1)
24	08:11		07:16		06:12			06:02			05:10		19:55 (6)	04:55		20:07 (6)
	16:47		17:45		18:36			20:29			21:18	50	20:45 (1)	21:43	40	20:50 (1)
25	08:10		07:14		06:10		18:03 (3)	06:00			05:09		19:55 (6)	04:55		20:08 (6)
	16:49		17:47		18:37	9	18:12 (3)	20:31			21:19	51	20:46 (1)	21:43	40	20:50 (1)
26	08:08		07:12		06:08		18:01 (3)	05:58			05:08		19:56 (6)	04:56		20:08 (6)
	16:51		17:49		18:39	13	18:14 (3)	20:33			21:21	50	20:46 (1)	21:43	40	20:50 (1)
27	08:07		07:10		06:05		17:56 (4)	05:56			05:07		19:56 (6)	04:56		20:07 (6)
	16:53		17:51		18:41	19	18:15 (3)	20:35			21:22	50	20:46 (1)	21:43	41	20:50 (1)
28	08:06		07:08		06:03		17:54 (4)	05:54			05:06		19:56 (6)	04:57		20:08 (6)
	16:55		17:53		18:43	23	18:17 (3)	20:36			21:23	50	20:46 (1)	21:43	42	20:51 (1)
29	08:04				07:01		18:52 (4)	05:52			05:05		19:56 (6)	04:57		20:08 (6)
	16:57				19:44	25	19:17 (3)	20:38			21:25	51	20:47 (1)	21:43	42	20:52 (1)
30	08:03				06:58		18:50 (4)	05:50			05:04		19:57 (6)	04:58		20:08 (6)
	16:58				19:46	26	19:16 (3)	20:40			21:26	50	20:47 (1)	21:43	43	20:52 (1)
31	08:01				06:56		18:50 (4)				05:03		19:58 (6)			
	17:00				19:48	26	19:16 (3)				21:27	50	20:48 (1)			
Sonnenscheinstunden	257		277		367			417			487			501		
astr.max.mögl.Beschattung						505			273			958			1287	
Red.Sonnenscheinwahrsch.						0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer						1,00			1,00			1,00			1,00	
Reduktion Windrichtung						0,75			0,74			0,64			0,64	
Gesamte Reduktion						0,22			0,28			0,29			0,26	
Met.wahrsch.Beschattung						110			75			277			329	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: I - Gänsekamp 8

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		20:08 (6)	05:36		20:09 (6)	06:26	18:50 (4)	07:16	17:42 (5)	07:11	08:03
	21:42	43	20:52 (1)	21:10	25	20:34 (6)	20:07	15	19:05 (4)	18:56	25	18:07 (5)	16:49	16:08
2	04:59		20:07 (6)	05:37		20:09 (6)	06:28	18:48 (4)	07:18	17:41 (5)	07:13	08:04
	21:42	45	20:52 (1)	21:08	23	20:32 (6)	20:05	18	19:06 (4)	18:54	26	18:07 (5)	16:47	16:07
3	05:00		20:07 (6)	05:39		20:11 (6)	06:30	18:46 (4)	07:20	17:40 (5)	07:15	08:06
	21:42	46	20:53 (1)	21:06	21	20:32 (6)	20:02	22	19:08 (4)	18:52	26	18:06 (5)	16:46	16:07
4	05:01		20:07 (6)	05:40		20:12 (6)	06:31	18:45 (4)	07:22	17:40 (5)	07:17	08:07
	21:41	46	20:53 (1)	21:05	18	20:30 (6)	20:00	24	19:09 (4)	18:49	27	18:07 (5)	16:44	16:06
5	05:02		20:07 (6)	05:42		20:14 (6)	06:33	18:44 (4)	07:23	17:39 (5)	07:18	08:09
	21:41	47	20:54 (1)	21:03	14	20:28 (6)	19:58	25	19:09 (4)	18:47	28	18:07 (5)	16:42	16:06
6	05:02		20:07 (6)	05:44		20:16 (6)	06:35	18:43 (4)	07:25	17:40 (5)	07:20	08:10
	21:40	47	20:54 (1)	21:01	8	20:24 (6)	19:55	26	19:09 (4)	18:45	26	18:06 (5)	16:40	16:05
7	05:03		20:06 (6)	05:45			06:36	18:42 (4)	07:27	17:39 (5)	07:22	08:11
	21:40	48	20:54 (1)	20:59			19:53	27	19:09 (4)	18:43	26	18:05 (5)	16:38	16:05
8	05:04		20:06 (6)	05:47			06:38	18:42 (4)	07:28	17:39 (5)	07:24	08:12
	21:39	48	20:54 (1)	20:57			19:51	27	19:09 (4)	18:40	25	18:04 (5)	16:37	16:04
9	05:05		20:06 (6)	05:48			06:40	18:42 (4)	07:30	17:40 (5)	07:26	08:14
	21:38	48	20:54 (1)	20:56			19:48	27	19:09 (4)	18:38	23	18:03 (5)	16:35	16:04
10	05:06		20:06 (6)	05:50			06:41	18:41 (4)	07:32	17:41 (5)	07:28	08:15
	21:38	49	20:55 (1)	20:54			19:46	27	19:08 (3)	18:36	21	18:02 (5)	16:33	16:04
11	05:07		20:06 (6)	05:52			06:43	18:41 (4)	07:34	17:41 (5)	07:29	08:16
	21:37	49	20:55 (1)	20:52			19:44	27	19:08 (3)	18:33	19	18:00 (5)	16:32	16:04
12	05:08		20:05 (6)	05:53			06:45	18:41 (4)	07:35	17:43 (5)	07:31	08:17
	21:36	50	20:55 (1)	20:50			19:41	27	19:08 (3)	18:31	15	17:58 (5)	16:30	16:04
13	05:10		20:05 (6)	05:55			06:46	18:42 (4)	07:37	17:46 (5)	07:33	08:18
	21:35	50	20:55 (1)	20:48			19:39	26	19:08 (3)	18:29	8	17:54 (5)	16:29	16:03
14	05:11		20:05 (6)	05:57			06:48	18:43 (4)	07:39			07:35	08:19
	21:34	50	20:55 (1)	20:46			19:37	24	19:07 (3)	18:27			16:27	16:03
15	05:12		20:06 (6)	05:58			06:50	18:43 (4)	07:41			07:37	08:20
	21:33	50	20:56 (1)	20:44			19:34	23	19:06 (3)	18:24			16:26	16:04
16	05:13		20:06 (6)	06:00			06:51	18:45 (4)	07:42			07:38	08:21
	21:32	50	20:56 (1)	20:42			19:32	20	19:05 (3)	18:22			16:24	16:04
17	05:14		20:05 (6)	06:02			06:53	18:47 (4)	07:44			07:40	08:22
	21:31	51	20:56 (1)	20:40			19:29	15	19:02 (3)	18:20			16:23	16:04
18	05:16		20:05 (6)	06:03			06:55	18:50 (3)	07:46			07:42	08:22
	21:30	50	20:55 (1)	20:38			19:27	10	19:00 (3)	18:18			16:22	16:04
19	05:17		20:05 (6)	06:05			06:56	18:53 (3)	07:48			07:44	08:23
	21:29	50	20:55 (1)	20:35			19:25	5	18:58 (3)	18:16			16:20	16:04
20	05:18		20:04 (6)	06:07			06:58			07:49			07:45	08:24
	21:27	51	20:55 (1)	20:33			19:22			18:14			16:19	16:05
21	05:20		20:05 (6)	06:08			07:00			07:51			07:47	08:24
	21:26	50	20:55 (1)	20:31			19:20			18:11			16:18	16:05
22	05:21		20:05 (6)	06:10			07:01			07:53			07:49	08:25
	21:25	48	20:53 (1)	20:29			19:18			18:09			16:17	16:06
23	05:22		20:05 (6)	06:12			07:03			07:55			07:50	08:25
	21:24	47	20:52 (1)	20:27			19:15			18:07			16:15	16:06
24	05:24		20:06 (6)	06:13			07:05			07:57			07:52	08:26
	21:22	45	20:51 (1)	20:25			19:13			18:05			16:14	16:07
25	05:25		20:05 (6)	06:15			07:06			06:58			07:54	08:26
	21:21	44	20:49 (1)	20:23			19:11			17:03			16:13	16:07
26	05:27		20:05 (6)	06:17			07:08		17:53 (5)	07:00			07:55	08:26
	21:19	43	20:48 (1)	20:20			19:08	5	17:58 (5)	17:01			16:12	16:08
27	05:28		20:06 (6)	06:18			07:10		17:49 (5)	07:02			07:57	08:27
	21:18	39	20:47 (1)	20:18			19:06	13	18:02 (5)	16:59			16:11	16:09
28	05:30		20:06 (6)	06:20			07:11		17:47 (5)	07:04			07:58	08:27
	21:16	34	20:45 (1)	20:16			19:03	17	18:04 (5)	16:57			16:10	16:10
29	05:31		20:07 (6)	06:21			07:13		17:44 (5)	07:06			08:00	08:27
	21:15	29	20:36 (6)	20:14			19:01	21	18:05 (5)	16:55			16:10	16:10
30	05:33		20:07 (6)	06:23			07:15		17:43 (5)	07:08			08:02	08:27
	21:13	28	20:35 (6)	20:11			18:59	23	18:06 (5)	16:53			16:09	16:11
31	05:34		20:07 (6)	06:25		18:53 (4)				07:09				08:27
	21:12	27	20:34 (6)	20:09	9	19:02 (4)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		1402			118			494			295			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,64			0,66			0,74			0,75			
Gesamte Reduktion		0,27			0,29			0,28			0,24			
Met.wahrsch.Beschattung		377			35			136			69			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: J - Gänsekamp 6

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		17:05 (5)	06:54		18:45 (4)	05:48			05:02		19:56 (6)
	16:14	17:02			17:55	18	17:23 (5)	19:50	28	19:13 (3)	20:42			21:28	49	20:45 (1)
2	08:27	07:58			07:03		17:04 (5)	06:51		18:44 (4)	05:46			05:01		19:56 (6)
	16:15	17:04			17:56	21	17:25 (5)	19:51	27	19:11 (3)	20:43			21:29	48	20:44 (1)
3	08:27	07:56			07:01		17:02 (5)	06:49		18:44 (4)	05:44			05:00		19:56 (6)
	16:16	17:06			17:58	23	17:25 (5)	19:53	27	19:11 (4)	20:45			21:30	48	20:44 (1)
4	08:27	07:55			06:59		17:01 (5)	06:47		18:44 (4)	05:42			04:59		19:58 (6)
	16:17	17:08			18:00	25	17:26 (5)	19:55	27	19:11 (4)	20:47			21:32	47	20:45 (1)
5	08:26	07:53			06:56		17:00 (5)	06:44		18:44 (4)	05:40		20:02 (6)	04:59		19:58 (6)
	16:18	17:10			18:02	26	17:26 (5)	19:57	25	19:09 (4)	20:48	10	20:12 (6)	21:33	45	20:44 (1)
6	08:26	07:51			06:54		17:00 (5)	06:42		18:45 (4)	05:38		20:00 (6)	04:58		19:59 (6)
	16:19	17:11			18:04	27	17:27 (5)	19:58	24	19:09 (4)	20:50	15	20:15 (6)	21:34	45	20:45 (1)
7	08:26	07:50			06:52		16:59 (5)	06:40		18:46 (4)	05:37		19:58 (6)	04:57		19:59 (6)
	16:21	17:13			18:06	27	17:26 (5)	20:00	22	19:08 (4)	20:52	19	20:17 (6)	21:34	43	20:44 (1)
8	08:25	07:48			06:50		16:59 (5)	06:38		18:46 (4)	05:35		19:56 (6)	04:57		20:00 (6)
	16:22	17:15			18:07	27	17:26 (5)	20:02	20	19:06 (4)	20:53	22	20:18 (6)	21:35	43	20:45 (1)
9	08:25	07:46			06:47		17:00 (5)	06:35		18:47 (4)	05:33		19:55 (6)	04:56		20:00 (6)
	16:23	17:17			18:09	26	17:26 (5)	20:04	17	19:04 (4)	20:55	25	20:20 (6)	21:36	41	20:44 (1)
10	08:24	07:44			06:45		16:59 (5)	06:33		18:50 (4)	05:31		19:54 (6)	04:56		20:02 (6)
	16:25	17:19			18:11	26	17:25 (5)	20:05	12	19:02 (4)	20:57	26	20:20 (6)	21:37	38	20:44 (1)
11	08:24	07:42			06:43		17:00 (5)	06:31			05:30		19:53 (6)	04:55		20:03 (6)
	16:26	17:21			18:13	24	17:24 (5)	20:07			20:58	27	20:20 (6)	21:38	37	20:45 (1)
12	08:23	07:40			06:40		17:01 (5)	06:28			05:28		19:53 (6)	04:55		20:03 (6)
	16:28	17:23			18:15	22	17:23 (5)	20:09			21:00	28	20:21 (6)	21:39	36	20:44 (1)
13	08:22	07:39			06:38		17:01 (5)	06:26			05:26		19:52 (6)	04:55		20:03 (6)
	16:29	17:25			18:16	20	17:21 (5)	20:10			21:01	29	20:21 (6)	21:39	35	20:44 (1)
14	08:21	07:37			06:36		17:03 (5)	06:24			05:25		19:52 (6)	04:55		20:04 (6)
	16:31	17:27			18:18	17	17:20 (5)	20:12			21:03	35	20:33 (1)	21:40	34	20:44 (1)
15	08:21	07:35			06:34		17:04 (5)	06:22			05:23		19:51 (6)	04:54		20:05 (6)
	16:32	17:29			18:20	13	17:17 (5)	20:14			21:05	40	20:34 (1)	21:40	33	20:45 (1)
16	08:20	07:33			06:31			06:19			05:21		19:51 (6)	04:54		20:06 (6)
	16:34	17:30			18:22			20:16			21:06	44	20:35 (1)	21:41	31	20:45 (1)
17	08:19	07:31			06:29			06:17			05:20		19:51 (6)	04:54		20:06 (6)
	16:35	17:32			18:23			20:17			21:08	46	20:37 (1)	21:41	30	20:45 (1)
18	08:18	07:29			06:27			06:15			05:18		19:51 (6)	04:54		20:07 (6)
	16:37	17:34			18:25			20:19			21:09	47	20:38 (1)	21:42	29	20:45 (1)
19	08:17	07:27			06:24			06:13			05:17		19:51 (6)	04:54		20:07 (6)
	16:39	17:36			18:27			20:21			21:11	49	20:40 (1)	21:42	29	20:45 (1)
20	08:16	07:25			06:22			06:11			05:16		19:51 (6)	04:54		20:07 (6)
	16:40	17:38			18:29			20:23			21:12	50	20:41 (1)	21:42	29	20:45 (1)
21	08:15	07:23			06:20			06:09			05:14		19:52 (6)	04:54		20:07 (6)
	16:42	17:40			18:30			20:24			21:14	51	20:43 (1)	21:43	29	20:45 (1)
22	08:13	07:20			06:17			06:06			05:13		19:51 (6)	04:55		20:08 (6)
	16:44	17:42			18:32			20:26			21:15	51	20:42 (1)	21:43	29	20:46 (1)
23	08:12	07:18			06:15		18:05 (3)	06:04			05:12		19:51 (6)	04:55		20:08 (6)
	16:46	17:44			18:34	3	18:08 (3)	20:28			21:17	52	20:43 (1)	21:43	29	20:46 (1)
24	08:11	07:16			06:12		18:00 (3)	06:02			05:10		19:52 (6)	04:55		20:08 (6)
	16:47	17:45			18:36	10	18:10 (3)	20:29			21:18	51	20:43 (1)	21:43	29	20:46 (1)
25	08:10	07:14			06:10		17:55 (4)	06:00			05:09		19:52 (6)	04:55		20:08 (6)
	16:49	17:47			18:37	17	18:12 (3)	20:31			21:19	51	20:43 (1)	21:43	30	20:47 (1)
26	08:08	07:12			06:08		17:52 (4)	05:58			05:08		19:53 (6)	04:56		20:08 (6)
	16:51	17:49			18:39	22	18:14 (3)	20:33			21:21	51	20:44 (1)	21:43	31	20:47 (1)
27	08:07	07:10		17:11 (5)	06:05		17:50 (4)	05:56			05:07		19:53 (6)	04:56		20:07 (6)
	16:53	17:51	8	17:19 (5)	18:41	24	18:14 (3)	20:35			21:22	51	20:44 (1)	21:43	33	20:47 (1)
28	08:06	07:08		17:07 (5)	06:03		17:48 (4)	05:54			05:06		19:53 (6)	04:57		20:08 (6)
	16:55	17:53	14	17:21 (5)	18:43	27	18:15 (3)	20:36			21:23	51	20:44 (1)	21:43	32	20:47 (1)
29	08:04				07:01		18:47 (4)	05:52			05:05		19:54 (6)	04:57		20:08 (6)
	16:57				19:44	28	19:15 (3)	20:38			21:25	50	20:44 (1)	21:43	34	20:48 (1)
30	08:03				06:58		18:46 (4)	05:50			05:04		19:54 (6)	04:58		20:07 (6)
	16:58				19:46	28	19:14 (3)	20:40			21:26	50	20:44 (1)	21:43	35	20:48 (1)
31	08:01				06:56		18:45 (4)				05:03		19:55 (6)			
	17:00				19:48	29	19:14 (3)				21:27	50	20:45 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			22			530			229			1071			1081	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,75			0,75			0,74			0,65			0,64	
Gesamte Reduktion			0,19			0,22			0,28			0,29			0,26	
Met.wahrsch.Beschattung			4			116			63			311			277	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: J - Gänsekamp 6

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		20:07 (6)	05:36		20:03 (6)	06:26		07:16	17:40 (5)	07:11	08:03
	21:42	37	20:49 (1)	21:10	29	20:32 (6)	20:07		18:56	22	18:02 (5)	16:49	16:08
2	04:59		20:06 (6)	05:37		20:04 (6)	06:28		18:48 (4)	07:18		17:39 (5)	07:13	08:04
	21:42	39	20:49 (1)	21:08	27	20:31 (6)	20:05	12	19:00 (4)	18:54	24	18:03 (5)	16:47	16:07
3	05:00		20:06 (6)	05:39		20:05 (6)	06:30		18:45 (4)	07:20		17:37 (5)	07:15	08:06
	21:42	40	20:49 (1)	21:06	25	20:30 (6)	20:02	17	19:02 (4)	18:52	25	18:02 (5)	16:46	16:07
4	05:01		20:06 (6)	05:40		20:05 (6)	06:31		18:44 (4)	07:22		17:37 (5)	07:17	08:07
	21:41	41	20:50 (1)	21:05	24	20:29 (6)	20:00	20	19:04 (4)	18:49	26	18:03 (5)	16:44	16:06
5	05:02		20:06 (6)	05:42		20:07 (6)	06:33		18:42 (4)	07:23		17:36 (5)	07:18	08:09
	21:41	42	20:50 (1)	21:03	21	20:28 (6)	19:58	22	19:04 (4)	18:47	27	18:03 (5)	16:42	16:06
6	05:02		20:06 (6)	05:44		20:08 (6)	06:35		18:41 (4)	07:25		17:36 (5)	07:20	08:10
	21:40	44	20:51 (1)	21:01	18	20:26 (6)	19:55	24	19:05 (4)	18:45	27	18:03 (5)	16:40	16:05
7	05:03		20:04 (6)	05:45		20:10 (6)	06:36		18:39 (4)	07:27		17:35 (5)	07:22	08:11
	21:40	46	20:51 (1)	20:59	14	20:24 (6)	19:53	26	19:05 (4)	18:43	27	18:02 (5)	16:38	16:05
8	05:04		20:04 (6)	05:47		20:13 (6)	06:38		18:39 (4)	07:28		17:35 (5)	07:24	08:12
	21:39	47	20:51 (1)	20:57	7	20:20 (6)	19:51	26	19:05 (4)	18:40	27	18:02 (5)	16:37	16:04
9	05:05		20:04 (6)	05:48			06:40		18:38 (4)	07:30		17:36 (5)	07:26	08:14
	21:38	47	20:51 (1)	20:56			19:48	27	19:05 (4)	18:38	25	18:01 (5)	16:35	16:04
10	05:06		20:04 (6)	05:50			06:41		18:37 (4)	07:32		17:36 (5)	07:28	08:15
	21:38	48	20:52 (1)	20:54			19:46	28	19:05 (4)	18:36	24	18:00 (5)	16:33	16:04
11	05:07		20:03 (6)	05:52			06:43		18:37 (4)	07:34		17:36 (5)	07:29	08:16
	21:37	49	20:52 (1)	20:52			19:44	28	19:05 (3)	18:33	22	17:58 (5)	16:32	16:04
12	05:08		20:03 (6)	05:53			06:45		18:37 (4)	07:35		17:37 (5)	07:31	08:17
	21:36	49	20:52 (1)	20:50			19:41	28	19:05 (3)	18:31	20	17:57 (5)	16:30	16:04
13	05:10		20:03 (6)	05:55			06:46		18:37 (4)	07:37		17:39 (5)	07:33	08:18
	21:35	49	20:52 (1)	20:48			19:39	28	19:05 (3)	18:29	17	17:56 (5)	16:29	16:03
14	05:11		20:02 (6)	05:57			06:48		18:38 (4)	07:39		17:41 (5)	07:35	08:19
	21:34	50	20:52 (1)	20:46			19:37	27	19:05 (3)	18:27	12	17:53 (5)	16:27	16:03
15	05:12		20:03 (6)	05:58			06:50		18:38 (4)	07:41			07:37	08:20
	21:33	50	20:53 (1)	20:44			19:34	26	19:04 (3)	18:24			16:26	16:04
16	05:13		20:03 (6)	06:00			06:51		18:39 (4)	07:42			07:38	08:21
	21:32	50	20:53 (1)	20:42			19:32	25	19:04 (3)	18:22			16:24	16:04
17	05:14		20:02 (6)	06:02			06:53		18:39 (4)	07:44			07:40	08:22
	21:31	51	20:53 (1)	20:40			19:29	23	19:02 (3)	18:20			16:23	16:04
18	05:16		20:02 (6)	06:03			06:55		18:42 (4)	07:46			07:42	08:22
	21:30	51	20:53 (1)	20:38			19:27	18	19:00 (3)	18:18			16:22	16:04
19	05:17		20:01 (6)	06:05			06:56		18:47 (3)	07:48			07:44	08:23
	21:29	52	20:53 (1)	20:35			19:25	11	18:58 (3)	18:16			16:20	16:04
20	05:18		20:01 (6)	06:07			06:58		18:49 (3)	07:49			07:45	08:24
	21:27	51	20:52 (1)	20:33			19:22	6	18:55 (3)	18:14			16:19	16:05
21	05:20		20:02 (6)	06:08			07:00			07:51			07:47	08:24
	21:26	51	20:53 (1)	20:31			19:20			18:11			16:18	16:05
22	05:21		20:01 (6)	06:10			07:01			07:53			07:49	08:25
	21:25	51	20:52 (1)	20:29			19:18			18:09			16:17	16:06
23	05:22		20:01 (6)	06:12			07:03			07:55			07:50	08:25
	21:24	51	20:52 (1)	20:27			19:15			18:07			16:15	16:06
24	05:24		20:02 (6)	06:13			07:05			07:57			07:52	08:26
	21:22	49	20:51 (1)	20:25			19:13			18:05			16:14	16:07
25	05:25		20:01 (6)	06:15			07:06			06:58			07:54	08:26
	21:21	48	20:49 (1)	20:23			19:11			17:03			16:13	16:07
26	05:27		20:01 (6)	06:17			07:08			07:00			07:55	08:26
	21:19	47	20:48 (1)	20:20			19:08			17:01			16:12	16:08
27	05:28		20:02 (6)	06:18			07:10			07:02			07:57	08:27
	21:18	45	20:47 (1)	20:18			19:06			16:59			16:11	16:09
28	05:30		20:02 (6)	06:20			07:11		17:47 (5)	07:04			07:58	08:27
	21:16	42	20:45 (1)	20:16			19:03	10	17:57 (5)	16:57			16:10	16:10
29	05:31		20:03 (6)	06:21			07:13		17:43 (5)	07:06			08:00	08:27
	21:15	37	20:44 (1)	20:14			19:01	16	17:59 (5)	16:55			16:10	16:10
30	05:33		20:02 (6)	06:23			07:15		17:41 (5)	07:08			08:02	08:27
	21:13	31	20:33 (6)	20:11			18:59	20	18:01 (5)	16:53			16:09	16:11
31	05:34		20:02 (6)	06:25						07:09				08:27
	21:12	30	20:32 (6)	20:09						16:51				16:12
Sonnenscheinstunden		504			455			381			331		265	241
astr.max.mögl.Beschattung			1415			165			468			325		
Red.Sonnenscheinwahrsch.			0,42			0,44			0,37			0,31		
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00		
Reduktion Windrichtung			0,64			0,65			0,74			0,75		
Gesamte Reduktion			0,27			0,29			0,28			0,24		
Met.wahrsch.Beschattung			382			48			129			77		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: K - Klein Sisbecker Str. 14

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		17:05 (5)	06:54		18:47 (4)	05:48			05:02		19:58 (6)
	16:14	17:02			17:55	17	17:22 (5)	19:50	29	19:16 (3)	20:42			21:28	52	20:50 (1)
2	08:27	07:58			07:03		17:04 (5)	06:51		18:46 (4)	05:46			05:01		19:58 (6)
	16:15	17:04			17:56	20	17:24 (5)	19:51	28	19:14 (3)	20:43			21:29	52	20:50 (1)
3	08:27	07:56			07:01		17:01 (5)	06:49		18:45 (4)	05:44			05:00		19:58 (6)
	16:16	17:06			17:58	23	17:24 (5)	19:53	29	19:14 (3)	20:45			21:30	52	20:50 (1)
4	08:27	07:55			06:59		17:01 (5)	06:47		18:45 (4)	05:42			04:59		19:59 (6)
	16:17	17:08			18:00	24	17:25 (5)	19:55	29	19:14 (4)	20:47			21:32	52	20:51 (1)
5	08:26	07:53			06:56		17:00 (5)	06:44		18:44 (4)	05:40			04:59		19:59 (6)
	16:18	17:10			18:02	26	17:26 (5)	19:57	29	19:13 (4)	20:48			21:33	52	20:51 (1)
6	08:26	07:51			06:54		17:00 (5)	06:42		18:45 (4)	05:38			04:58		20:00 (6)
	16:19	17:12			18:04	27	17:27 (5)	19:58	27	19:12 (4)	20:50			21:34	51	20:51 (1)
7	08:26	07:50			06:52		16:58 (5)	06:40		18:45 (4)	05:37			04:57		20:00 (6)
	16:21	17:13			18:06	28	17:26 (5)	20:00	27	19:12 (4)	20:52			21:34	51	20:51 (1)
8	08:25	07:48			06:50		16:58 (5)	06:38		18:45 (4)	05:35			04:57		20:00 (6)
	16:22	17:15			18:07	28	17:26 (5)	20:02	25	19:10 (4)	20:53			21:35	51	20:51 (1)
9	08:25	07:46			06:47		16:58 (5)	06:35		18:46 (4)	05:33		20:10 (6)	04:56		20:00 (6)
	16:23	17:17			18:09	28	17:26 (5)	20:04	23	19:09 (4)	20:55	6	20:16 (6)	21:36	51	20:51 (1)
10	08:24	07:44			06:45		16:58 (5)	06:33		18:47 (4)	05:31		20:06 (6)	04:56		20:01 (6)
	16:25	17:19			18:11	27	17:25 (5)	20:05	21	19:08 (4)	20:57	13	20:19 (6)	21:37	50	20:51 (1)
11	08:24	07:42			06:43		16:58 (5)	06:31		18:48 (4)	05:30		20:03 (6)	04:55		20:02 (6)
	16:26	17:21			18:13	27	17:25 (5)	20:07	19	19:07 (4)	20:58	18	20:21 (6)	21:38	50	20:52 (1)
12	08:23	07:40			06:40		16:59 (5)	06:28		18:50 (4)	05:28		20:02 (6)	04:55		20:01 (6)
	16:28	17:23			18:15	26	17:25 (5)	20:09	19	19:43 (2)	21:00	21	20:23 (6)	21:39	50	20:51 (1)
13	08:22	07:39			06:38		16:59 (5)	06:26		18:53 (4)	05:26		20:01 (6)	04:55		20:02 (6)
	16:29	17:25			18:16	24	17:23 (5)	20:10	16	19:43 (2)	21:01	23	20:24 (6)	21:39	50	20:52 (1)
14	08:21	07:37			06:36		17:00 (5)	06:24		19:32 (2)	05:25		20:00 (6)	04:55		20:02 (6)
	16:31	17:27			18:18	22	17:22 (5)	20:12	13	19:45 (2)	21:03	25	20:25 (6)	21:40	50	20:52 (1)
15	08:21	07:35			06:34		17:02 (5)	06:22		19:31 (2)	05:23		19:59 (6)	04:54		20:03 (6)
	16:32	17:29			18:20	18	17:20 (5)	20:14	16	19:47 (2)	21:05	27	20:26 (6)	21:40	49	20:52 (1)
16	08:20	07:33			06:31		17:03 (5)	06:19		19:30 (2)	05:21		19:58 (6)	04:54		20:03 (6)
	16:34	17:30			18:22	14	17:17 (5)	20:16	19	19:49 (2)	21:06	29	20:27 (6)	21:41	49	20:52 (1)
17	08:19	07:31			06:29		17:07 (5)	06:17		19:29 (2)	05:20		19:58 (6)	04:54		20:03 (6)
	16:35	17:32			18:23	6	17:13 (5)	20:17	20	19:49 (2)	21:08	30	20:28 (6)	21:41	50	20:53 (1)
18	08:18	07:29			06:27			06:15		19:29 (2)	05:18		19:57 (6)	04:54		20:04 (6)
	16:37	17:34			18:25			20:19	20	19:49 (2)	21:09	35	20:37 (1)	21:42	49	20:53 (1)
19	08:17	07:27			06:24			06:13		19:28 (2)	05:17		19:57 (6)	04:54		20:04 (6)
	16:39	17:36			18:27			20:21	20	19:48 (2)	21:11	40	20:40 (1)	21:42	49	20:53 (1)
20	08:16	07:25			06:22			06:11		19:28 (2)	05:16		19:57 (6)	04:54		20:04 (6)
	16:40	17:38			18:29			20:23	20	19:48 (2)	21:12	44	20:41 (1)	21:42	49	20:53 (1)
21	08:15	07:23			06:20			06:09		19:28 (2)	05:14		19:57 (6)	04:54		20:04 (6)
	16:42	17:40			18:30			20:24	20	19:48 (2)	21:14	46	20:43 (1)	21:43	49	20:53 (1)
22	08:13	07:20			06:17			06:06		19:28 (2)	05:13		19:56 (6)	04:55		20:05 (6)
	16:44	17:42			18:32			20:26	19	19:47 (2)	21:15	47	20:43 (1)	21:43	49	20:54 (1)
23	08:12	07:18			06:15			06:04		19:29 (2)	05:12		19:56 (6)	04:55		20:05 (6)
	16:46	17:44			18:34			20:28	17	19:46 (2)	21:17	49	20:45 (1)	21:43	49	20:54 (1)
24	08:11	07:16			06:12			06:02		19:30 (2)	05:10		19:56 (6)	04:55		20:05 (6)
	16:47	17:45			18:36			20:29	15	19:45 (2)	21:18	50	20:46 (1)	21:43	49	20:54 (1)
25	08:10	07:14			06:10		18:02 (3)	06:00		19:31 (2)	05:09		19:56 (6)	04:55		20:05 (6)
	16:49	17:47			18:37	10	18:12 (3)	20:31	12	19:43 (2)	21:19	51	20:47 (1)	21:43	50	20:55 (1)
26	08:08	07:12			06:08		18:00 (3)	05:58		19:34 (2)	05:08		19:56 (6)	04:56		20:05 (6)
	16:51	17:49			18:39	14	18:14 (3)	20:33	6	19:40 (2)	21:21	52	20:48 (1)	21:43	50	20:55 (1)
27	08:07	07:10			06:05		17:54 (4)	05:56			05:07		19:57 (6)	04:56		20:05 (6)
	16:53	17:51			18:41	21	18:15 (3)	20:35			21:22	51	20:48 (1)	21:43	49	20:54 (1)
28	08:06	07:08		17:08 (5)	06:03		17:52 (4)	05:54			05:06		19:57 (6)	04:57		20:05 (6)
	16:55	17:53	11	17:19 (5)	18:43	24	18:16 (3)	20:36			21:23	52	20:49 (1)	21:43	50	20:55 (1)
29	08:04				07:01		18:51 (4)	05:52			05:05		19:57 (6)	04:57		20:06 (6)
	16:57				19:44	25	19:16 (3)	20:38			21:25	52	20:49 (1)	21:43	50	20:56 (1)
30	08:03				06:58		18:49 (4)	05:50			05:04		19:57 (6)	04:58		20:05 (6)
	16:58				19:46	27	19:16 (3)	20:40			21:26	52	20:49 (1)	21:43	50	20:55 (1)
31	08:01				06:56		18:48 (4)				05:03		19:58 (6)			
	17:00				19:48	28	19:16 (3)				21:27	52	20:50 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			11			534			538			865			1504	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,75			0,75			0,72			0,64			0,64	
Gesamte Reduktion			0,19			0,22			0,27			0,29			0,25	
Met.wahrsch.Beschattung			2			117			145			249			383	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: K - Klein Sisbecker Str. 14

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		20:06 (6)	05:36	20:13 (6)	06:26	18:47 (4)	07:16	17:38 (5)	07:11	08:03
	21:42	50	20:56 (1)	21:10 20	20:33 (6)	20:07 19	19:06 (4)	18:56 25	18:03 (5)	16:49	16:08
2	04:59		20:05 (6)	05:37	20:14 (6)	06:28	18:45 (4)	07:18	17:37 (5)	07:13	08:04
	21:42	51	20:56 (1)	21:08 17	20:31 (6)	20:05 21	19:06 (4)	18:54 27	18:04 (5)	16:47	16:07
3	05:00		20:05 (6)	05:39	20:17 (6)	06:30	18:44 (4)	07:20	17:36 (5)	07:15	08:06
	21:42	51	20:56 (1)	21:06 12	20:29 (6)	20:02 23	19:07 (4)	18:52 27	18:03 (5)	16:46	16:07
4	05:01		20:06 (6)	05:40		06:31	18:43 (4)	07:22	17:35 (5)	07:17	08:07
	21:41	51	20:57 (1)	21:05		20:00 25	19:08 (4)	18:49 28	18:03 (5)	16:44	16:06
5	05:02		20:06 (6)	05:42		06:33	18:41 (4)	07:23	17:35 (5)	07:18	08:09
	21:41	51	20:57 (1)	21:03		19:58 27	19:08 (4)	18:47 28	18:03 (5)	16:42	16:06
6	05:02		20:06 (6)	05:44		06:35	18:41 (4)	07:25	17:35 (5)	07:20	08:10
	21:40	52	20:58 (1)	21:01		19:55 27	19:08 (4)	18:45 28	18:03 (5)	16:40	16:05
7	05:03		20:05 (6)	05:45		06:36	18:40 (4)	07:27	17:34 (5)	07:22	08:11
	21:40	52	20:57 (1)	20:59		19:53 28	19:08 (4)	18:43 28	18:02 (5)	16:38	16:05
8	05:04		20:05 (6)	05:47		06:38	18:39 (4)	07:28	17:35 (5)	07:24	08:12
	21:39	52	20:57 (1)	20:57		19:51 29	19:08 (4)	18:40 27	18:02 (5)	16:37	16:04
9	05:05		20:05 (6)	05:48		06:40	18:40 (4)	07:30	17:35 (5)	07:26	08:14
	21:38	52	20:57 (1)	20:56		19:48 28	19:08 (3)	18:38 26	18:01 (5)	16:35	16:04
10	05:06		20:05 (6)	05:50		06:41	18:39 (4)	07:32	17:36 (5)	07:28	08:15
	21:38	52	20:57 (1)	20:54		19:46 28	19:07 (3)	18:36 24	18:00 (5)	16:33	16:04
11	05:07		20:05 (6)	05:52		06:43	18:39 (4)	07:34	17:36 (5)	07:29	08:16
	21:37	53	20:58 (1)	20:52		19:44 29	19:08 (3)	18:33 22	17:58 (5)	16:32	16:04
12	05:08		20:05 (6)	05:53		06:45	18:39 (4)	07:35	17:37 (5)	07:31	08:17
	21:36	53	20:58 (1)	20:50		19:41 28	19:07 (3)	18:31 19	17:56 (5)	16:30	16:04
13	05:10		20:05 (6)	05:55		06:46	18:40 (4)	07:37	17:39 (5)	07:33	08:18
	21:35	53	20:58 (1)	20:48		19:39 27	19:07 (3)	18:29 15	17:54 (5)	16:29	16:03
14	05:11		20:05 (6)	05:57		06:48	18:41 (4)	07:39	17:43 (5)	07:35	08:19
	21:34	52	20:57 (1)	20:46		19:37 26	19:07 (3)	18:27 8	17:51 (5)	16:27	16:03
15	05:12		20:06 (6)	05:58		06:50	18:41 (4)	07:41		07:37	08:20
	21:33	52	20:58 (1)	20:44		19:34 24	19:05 (3)	18:24		16:26	16:04
16	05:13		20:06 (6)	06:00		06:51	18:43 (4)	07:42		07:38	08:21
	21:32	52	20:58 (1)	20:42		19:32 21	19:04 (3)	18:22		16:24	16:04
17	05:14		20:06 (6)	06:02	19:40 (2)	06:53	18:46 (4)	07:44		07:40	08:22
	21:31	52	20:58 (1)	20:40 8	19:48 (2)	19:29 16	19:02 (3)	18:20		16:23	16:04
18	05:16		20:06 (6)	06:03	19:38 (2)	06:55	18:48 (3)	07:46		07:42	08:22
	21:30	51	20:57 (1)	20:38 12	19:50 (2)	19:27 12	19:00 (3)	18:18		16:22	16:04
19	05:17		20:06 (6)	06:05	19:35 (2)	06:56	18:52 (3)	07:48		07:44	08:23
	21:29	50	20:56 (1)	20:35 16	19:51 (2)	19:25 5	18:57 (3)	18:16		16:20	16:04
20	05:18		20:06 (6)	06:07	19:35 (2)	06:58		07:49		07:45	08:24
	21:27	49	20:55 (1)	20:33 17	19:52 (2)	19:22		18:14		16:19	16:05
21	05:20		20:07 (6)	06:08	19:34 (2)	07:00		07:51		07:47	08:24
	21:26	48	20:55 (1)	20:31 19	19:53 (2)	19:20		18:11		16:18	16:05
22	05:21		20:07 (6)	06:10	19:33 (2)	07:01		07:53		07:49	08:25
	21:25	46	20:53 (1)	20:29 19	19:52 (2)	19:18		18:09		16:17	16:06
23	05:22		20:07 (6)	06:12	19:33 (2)	07:03		07:55		07:50	08:25
	21:24	45	20:52 (1)	20:27 20	19:53 (2)	19:15		18:07		16:15	16:06
24	05:24		20:08 (6)	06:13	19:32 (2)	07:05		07:57		07:52	08:26
	21:22	42	20:51 (1)	20:25 20	19:52 (2)	19:13		18:05		16:14	16:07
25	05:25		20:08 (6)	06:15	19:32 (2)	07:06		06:58		07:54	08:26
	21:21	38	20:49 (1)	20:23 20	19:52 (2)	19:11		17:03		16:13	16:07
26	05:27		20:08 (6)	06:17	19:31 (2)	07:08		07:00		07:55	08:26
	21:19	30	20:38 (6)	20:20 20	19:51 (2)	19:08		17:01		16:12	16:08
27	05:28		20:09 (6)	06:18	19:32 (2)	07:10	17:46 (5)	07:02		07:57	08:27
	21:18	29	20:38 (6)	20:18 18	19:50 (2)	19:06 12	17:58 (5)	16:59		16:11	16:09
28	05:30		20:09 (6)	06:20	19:33 (2)	07:11	17:43 (5)	07:04		07:59	08:27
	21:16	28	20:37 (6)	20:16 16	19:49 (2)	19:03 17	18:00 (5)	16:57		16:10	16:10
29	05:31		20:10 (6)	06:21	19:33 (2)	07:13	17:41 (5)	07:06		08:00	08:27
	21:15	27	20:37 (6)	20:14 13	19:46 (2)	19:01 20	18:01 (5)	16:55		16:10	16:10
30	05:33		20:11 (6)	06:23	18:53 (4)	07:15	17:39 (5)	07:08		08:02	08:27
	21:13	24	20:35 (6)	20:11 17	19:44 (2)	18:59 23	18:02 (5)	16:53		16:09	16:11
31	05:34		20:12 (6)	06:25	18:49 (4)			07:09			08:27
	21:12	22	20:34 (6)	20:09 19	19:41 (2)			16:51			16:12
Sonnenscheinstunden	504			455		381		331		265	241
astr.max.mögl.Beschattung		1410		303		515		332			
Red.Sonnenscheinwahrsch.		0,42		0,44		0,37		0,31			
Reduktion Betriebsdauer		1,00		1,00		1,00		1,00			
Reduktion Windrichtung		0,64		0,69		0,74		0,75			
Gesamte Reduktion		0,27		0,31		0,28		0,24			
Met.wahrsch.Beschattung		377		93		142		78			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: L - Klein Sisbecker Str. 12

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		17:00 (5)	06:54		18:44 (4)	05:48			05:02		19:55 (6)
	16:14	17:02			17:55	21	17:21 (5)	19:50	29	19:13 (3)	20:42			21:28	53	20:48 (1)
2	08:27	07:58			07:03		16:59 (5)	06:51		18:43 (4)	05:46			05:01		19:55 (6)
	16:15	17:04			17:56	24	17:23 (5)	19:51	28	19:11 (3)	20:43			21:29	53	20:48 (1)
3	08:27	07:56			07:01		16:58 (5)	06:49		18:43 (4)	05:44			05:00		19:55 (6)
	16:16	17:06			17:58	25	17:23 (5)	19:53	28	19:11 (4)	20:45			21:30	53	20:48 (1)
4	08:27	07:55			06:59		16:57 (5)	06:47		18:43 (4)	05:42			04:59		19:56 (6)
	16:17	17:08			18:00	26	17:23 (5)	19:55	28	19:11 (4)	20:47			21:32	52	20:48 (1)
5	08:26	07:53			06:56		16:57 (5)	06:44		18:42 (4)	05:40			04:59		19:56 (6)
	16:18	17:10			18:02	27	17:24 (5)	19:57	27	19:09 (4)	20:48			21:33	52	20:48 (1)
6	08:26	07:51			06:54		16:57 (5)	06:42		18:43 (4)	05:38			04:58		19:57 (6)
	16:19	17:12			18:04	27	17:24 (5)	19:58	26	19:09 (4)	20:50			21:34	52	20:49 (1)
7	08:26	07:50			06:52		16:56 (5)	06:40		18:43 (4)	05:37		20:07 (6)	04:57		19:57 (6)
	16:21	17:13			18:06	28	17:24 (5)	20:00	25	19:08 (4)	20:52	5	20:12 (6)	21:34	51	20:48 (1)
8	08:25	07:48			06:50		16:56 (5)	06:38		18:43 (4)	05:35		20:03 (6)	04:57		19:58 (6)
	16:22	17:15			18:07	28	17:24 (5)	20:02	23	19:06 (4)	20:53	13	20:16 (6)	21:35	51	20:49 (1)
9	08:25	07:46			06:47		16:56 (5)	06:35		18:45 (4)	05:33		20:01 (6)	04:56		19:58 (6)
	16:23	17:17			18:09	27	17:23 (5)	20:04	20	19:05 (4)	20:55	18	20:19 (6)	21:36	50	20:48 (1)
10	08:24	07:44			06:45		16:56 (5)	06:33		18:46 (4)	05:31		19:59 (6)	04:56		19:59 (6)
	16:25	17:19			18:11	26	17:22 (5)	20:05	17	19:03 (4)	20:57	21	20:20 (6)	21:37	50	20:49 (1)
11	08:24	07:42			06:43		16:56 (5)	06:31		18:49 (4)	05:30		19:57 (6)	04:55		20:00 (6)
	16:26	17:21			18:13	25	17:21 (5)	20:07	16	19:41 (2)	20:58	24	20:21 (6)	21:38	49	20:49 (1)
12	08:23	07:40			06:40		16:58 (5)	06:28		19:33 (2)	05:28		19:57 (6)	04:55		19:59 (6)
	16:28	17:23			18:15	23	17:21 (5)	20:09	10	19:43 (2)	21:00	25	20:22 (6)	21:39	50	20:49 (1)
13	08:22	07:39			06:38		16:58 (5)	06:26		19:30 (2)	05:26		19:56 (6)	04:55		20:00 (6)
	16:29	17:25			18:16	20	17:18 (5)	20:10	13	19:43 (2)	21:01	26	20:22 (6)	21:39	49	20:49 (1)
14	08:21	07:37			06:36		17:00 (5)	06:24		19:29 (2)	05:25		19:55 (6)	04:55		20:00 (6)
	16:31	17:27			18:18	17	17:17 (5)	20:12	16	19:45 (2)	21:03	29	20:24 (6)	21:40	49	20:49 (1)
15	08:21	07:35			06:34		17:02 (5)	06:22		19:28 (2)	05:23		19:54 (6)	04:54		20:01 (6)
	16:32	17:29			18:20	12	17:14 (5)	20:14	19	19:47 (2)	21:05	30	20:24 (6)	21:40	48	20:49 (1)
16	08:20	07:33			06:31			06:19		19:27 (2)	05:21		19:54 (6)	04:54		20:01 (6)
	16:34	17:30			18:22			20:16	20	19:47 (2)	21:06	31	20:25 (6)	21:41	49	20:50 (1)
17	08:19	07:31			06:29			06:17		19:27 (2)	05:20		19:54 (6)	04:54		20:02 (6)
	16:35	17:32			18:23			20:17	21	19:48 (2)	21:08	39	20:37 (1)	21:41	48	20:50 (1)
18	08:18	07:29			06:27			06:15		19:27 (2)	05:18		19:53 (6)	04:54		20:02 (6)
	16:37	17:34			18:25			20:19	21	19:48 (2)	21:09	43	20:38 (1)	21:42	48	20:50 (1)
19	08:17	07:27			06:24			06:13		19:26 (2)	05:17		19:53 (6)	04:54		20:02 (6)
	16:39	17:36			18:27			20:21	20	19:46 (2)	21:11	47	20:40 (1)	21:42	48	20:50 (1)
20	08:16	07:25			06:22			06:11		19:26 (2)	05:16		19:53 (6)	04:54		20:02 (6)
	16:40	17:38			18:29			20:23	20	19:46 (2)	21:12	48	20:41 (1)	21:42	48	20:50 (1)
21	08:15	07:23			06:20			06:09		19:27 (2)	05:14		19:53 (6)	04:54		20:02 (6)
	16:42	17:40			18:30			20:24	18	19:45 (2)	21:14	50	20:43 (1)	21:43	48	20:50 (1)
22	08:13	07:20			06:17			06:06		19:27 (2)	05:13		19:53 (6)	04:55		20:03 (6)
	16:44	17:42			18:32			20:26	17	19:44 (2)	21:15	50	20:43 (1)	21:43	48	20:51 (1)
23	08:12	07:18			06:15			06:04		19:28 (2)	05:12		19:53 (6)	04:55		20:03 (6)
	16:46	17:44			18:34			20:28	15	19:43 (2)	21:17	51	20:44 (1)	21:43	48	20:51 (1)
24	08:11	07:16			06:12		17:59 (3)	06:02		19:30 (2)	05:10		19:53 (6)	04:55		20:03 (6)
	16:47	17:45			18:36	11	18:10 (3)	20:29	11	19:41 (2)	21:18	52	20:45 (1)	21:43	48	20:51 (1)
25	08:10	07:14			06:10		17:55 (4)	06:00		19:32 (2)	05:09		19:53 (6)	04:55		20:04 (6)
	16:49	17:47			18:37	17	18:12 (3)	20:31	6	19:38 (2)	21:19	53	20:46 (1)	21:43	48	20:52 (1)
26	08:08	07:12		17:10 (5)	06:08		17:52 (4)	05:58			05:08		19:53 (6)	04:56		20:03 (6)
	16:51	17:49	4	17:14 (5)	18:39	22	18:14 (3)	20:33			21:21	53	20:46 (1)	21:43	49	20:52 (1)
27	08:07	07:10		17:05 (5)	06:05		17:49 (4)	05:56			05:07		19:53 (6)	04:56		20:03 (6)
	16:53	17:51	13	17:18 (5)	18:41	25	18:14 (3)	20:35			21:22	53	20:46 (1)	21:43	48	20:51 (1)
28	08:06	07:08		17:02 (5)	06:03		17:47 (4)	05:54			05:06		19:54 (6)	04:57		20:04 (6)
	16:55	17:53	18	17:20 (5)	18:43	27	18:14 (3)	20:36			21:23	53	20:47 (1)	21:43	48	20:52 (1)
29	08:04				07:01		18:46 (4)	05:52			05:05		19:54 (6)	04:57		20:04 (6)
	16:57				19:44	28	19:14 (3)	20:38			21:25	53	20:47 (1)	21:43	49	20:53 (1)
30	08:03				06:58		18:45 (4)	05:50			05:04		19:54 (6)	04:58		20:04 (6)
	16:58				19:46	29	19:14 (3)	20:40			21:26	53	20:47 (1)	21:43	49	20:53 (1)
31	08:01				06:56		18:44 (4)				05:03		19:55 (6)			
	17:00				19:48	29	19:13 (3)				21:27	53	20:48 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			35			544			494			973			1486	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,75			0,75			0,72			0,64			0,64	
Gesamte Reduktion			0,19			0,22			0,27			0,29			0,26	
Met.wahrsch.Beschattung			7			119			133			281			380	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: L - Klein Sisbecker Str. 12

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		20:04 (6)	05:36	20:08 (6)	06:26	18:48 (4)	07:16	17:37 (5)	07:11	08:03
	21:42	49	20:53 (1)	21:10 24	20:32 (6)	20:07 16	19:40 (2)	18:56 22	17:59 (5)	16:49	16:08
2	04:59		20:03 (6)	05:37	20:08 (6)	06:28	18:44 (4)	07:18	17:36 (5)	07:13	08:04
	21:42	50	20:53 (1)	21:08 23	20:31 (6)	20:05 17	19:01 (4)	18:54 24	18:00 (5)	16:47	16:07
3	05:00		20:03 (6)	05:39	20:10 (6)	06:30	18:43 (4)	07:20	17:34 (5)	07:15	08:06
	21:42	51	20:54 (1)	21:06 20	20:30 (6)	20:02 20	19:03 (4)	18:52 26	18:00 (5)	16:46	16:07
4	05:01		20:04 (6)	05:40	20:11 (6)	06:31	18:41 (4)	07:22	17:33 (5)	07:17	08:07
	21:41	50	20:54 (1)	21:05 16	20:27 (6)	20:00 23	19:04 (4)	18:49 27	18:00 (5)	16:44	16:06
5	05:02		20:04 (6)	05:42	20:14 (6)	06:33	18:39 (4)	07:23	17:33 (5)	07:18	08:09
	21:41	51	20:55 (1)	21:03 11	20:25 (6)	19:58 25	19:04 (4)	18:47 27	18:00 (5)	16:42	16:06
6	05:02		20:04 (6)	05:44		06:35	18:39 (4)	07:25	17:33 (5)	07:20	08:10
	21:40	51	20:55 (1)	21:01		19:55 26	19:05 (4)	18:45 28	18:01 (5)	16:40	16:05
7	05:03		20:03 (6)	05:45		06:36	18:37 (4)	07:27	17:31 (5)	07:22	08:11
	21:40	51	20:54 (1)	20:59		19:53 27	19:04 (4)	18:43 28	17:59 (5)	16:38	16:05
8	05:04		20:03 (6)	05:47		06:38	18:37 (4)	07:28	17:32 (5)	07:24	08:12
	21:39	52	20:55 (1)	20:57		19:51 28	19:05 (4)	18:40 27	17:59 (5)	16:37	16:04
9	05:05		20:03 (6)	05:48		06:40	18:37 (4)	07:30	17:32 (5)	07:26	08:14
	21:38	52	20:55 (1)	20:56		19:48 28	19:05 (4)	18:38 27	17:59 (5)	16:35	16:04
10	05:06		20:03 (6)	05:50		06:41	18:36 (4)	07:32	17:32 (5)	07:28	08:15
	21:38	52	20:55 (1)	20:54		19:46 28	19:04 (3)	18:36 26	17:58 (5)	16:33	16:04
11	05:07		20:03 (6)	05:52		06:43	18:36 (4)	07:34	17:32 (5)	07:29	08:16
	21:37	52	20:55 (1)	20:52		19:44 29	19:05 (3)	18:33 24	17:56 (5)	16:32	16:04
12	05:08		20:03 (6)	05:53		06:45	18:35 (4)	07:35	17:33 (5)	07:31	08:17
	21:36	52	20:55 (1)	20:50		19:41 30	19:05 (3)	18:31 22	17:55 (5)	16:30	16:04
13	05:10		20:02 (6)	05:55		06:46	18:36 (4)	07:37	17:34 (5)	07:33	08:18
	21:35	53	20:55 (1)	20:48		19:39 29	19:05 (3)	18:29 20	17:54 (5)	16:29	16:03
14	05:11		20:02 (6)	05:57		06:48	18:37 (4)	07:39	17:36 (5)	07:35	08:19
	21:34	53	20:55 (1)	20:46		19:37 28	19:05 (3)	18:27 16	17:52 (5)	16:27	16:03
15	05:12		20:03 (6)	05:58		06:50	18:37 (4)	07:41	17:39 (5)	07:37	08:20
	21:33	53	20:56 (1)	20:44		19:34 27	19:04 (3)	18:24 10	17:49 (5)	16:26	16:04
16	05:13		20:03 (6)	06:00		06:51	18:38 (4)	07:42		07:38	08:21
	21:32	53	20:56 (1)	20:42		19:32 25	19:03 (3)	18:22		16:24	16:04
17	05:14		20:03 (6)	06:02		06:53	18:39 (4)	07:44		07:40	08:22
	21:31	53	20:56 (1)	20:40		19:29 22	19:01 (3)	18:20		16:23	16:04
18	05:16		20:03 (6)	06:03	19:38 (2)	06:55	18:41 (4)	07:46		07:42	08:22
	21:30	52	20:55 (1)	20:38 7	19:45 (2)	19:27 19	19:00 (3)	18:18		16:22	16:04
19	05:17		20:02 (6)	06:05	19:35 (2)	06:56	18:46 (3)	07:48		07:44	08:23
	21:29	53	20:55 (1)	20:35 12	19:47 (2)	19:25 12	18:58 (3)	18:16		16:20	16:04
20	05:18		20:02 (6)	06:07	19:34 (2)	06:58	18:49 (3)	07:49		07:45	08:24
	21:27	52	20:54 (1)	20:33 15	19:49 (2)	19:22 5	18:54 (3)	18:14		16:19	16:05
21	05:20		20:03 (6)	06:08	19:33 (2)	07:00		07:51		07:47	08:24
	21:26	52	20:55 (1)	20:31 17	19:50 (2)	19:20		18:11		16:18	16:05
22	05:21		20:03 (6)	06:10	19:31 (2)	07:01		07:53		07:49	08:25
	21:25	50	20:53 (1)	20:29 19	19:50 (2)	19:18		18:09		16:17	16:06
23	05:22		20:03 (6)	06:12	19:31 (2)	07:03		07:55		07:50	08:25
	21:24	49	20:52 (1)	20:27 20	19:51 (2)	19:15		18:07		16:15	16:06
24	05:24		20:04 (6)	06:13	19:30 (2)	07:05		07:57		07:52	08:26
	21:22	47	20:51 (1)	20:25 20	19:50 (2)	19:13		18:05		16:14	16:07
25	05:25		20:04 (6)	06:15	19:30 (2)	07:06		06:58		07:54	08:26
	21:21	44	20:49 (1)	20:23 20	19:50 (2)	19:11		17:03		16:13	16:07
26	05:27		20:04 (6)	06:17	19:29 (2)	07:08		07:00		07:55	08:26
	21:19	41	20:48 (1)	20:20 20	19:49 (2)	19:08		17:01		16:12	16:08
27	05:28		20:05 (6)	06:18	19:29 (2)	07:10		07:02		07:57	08:27
	21:18	37	20:47 (1)	20:18 20	19:49 (2)	19:06		16:59		16:11	16:09
28	05:30		20:05 (6)	06:20	19:30 (2)	07:11	17:45 (5)	07:04		07:59	08:27
	21:16	30	20:35 (6)	20:16 19	19:49 (2)	19:03 9	17:54 (5)	16:57		16:10	16:10
29	05:31		20:06 (6)	06:21	19:30 (2)	07:13	17:40 (5)	07:06		08:00	08:27
	21:15	29	20:35 (6)	20:14 16	19:46 (2)	19:01 16	17:56 (5)	16:55		16:10	16:10
30	05:33		20:06 (6)	06:23	19:31 (2)	07:15	17:38 (5)	07:08		08:02	08:27
	21:13	28	20:34 (6)	20:11 13	19:44 (2)	18:59 20	17:58 (5)	16:53		16:09	16:11
31	05:34		20:06 (6)	06:25	19:32 (2)			07:09			08:27
	21:12	27	20:33 (6)	20:09 9	19:41 (2)			16:51			16:12
Sonnenscheinstunden	504			455		381		331		265	241
astr.max.mögl.Beschattung		1469		321		509		354			
Red.Sonnenscheinwahrsch.		0,42		0,44		0,37		0,31			
Reduktion Betriebsdauer		1,00		1,00		1,00		1,00			
Reduktion Windrichtung		0,64		0,68		0,74		0,75			
Gesamte Reduktion		0,27		0,31		0,28		0,24			
Met.wahrsch.Beschattung		394		98		141		83			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: M - Siedlung 7

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		17:00 (5)	06:54		18:45 (4)	05:48			05:02		19:58 (6)
	16:14	17:02			17:55	21	17:21 (5)	19:50	29	19:14 (3)	20:42			21:28	53	20:51 (1)
2	08:27	07:58			07:03		16:59 (5)	06:51		18:43 (4)	05:46			05:01		19:57 (6)
	16:15	17:04			17:56	23	17:22 (5)	19:51	30	19:13 (3)	20:43			21:29	54	20:51 (1)
3	08:27	07:56			07:01		16:57 (5)	06:49		18:43 (4)	05:44			05:00		19:57 (6)
	16:16	17:06			17:58	25	17:22 (5)	19:53	29	19:12 (3)	20:45			21:30	54	20:51 (1)
4	08:27	07:55			06:59		16:56 (5)	06:47		18:43 (4)	05:42			04:59		19:58 (6)
	16:17	17:08			18:00	27	17:23 (5)	19:55	29	19:12 (4)	20:47			21:32	54	20:52 (1)
5	08:26	07:53			06:56		16:56 (5)	06:44		18:42 (4)	05:40			04:59		19:58 (6)
	16:18	17:10			18:02	28	17:24 (5)	19:57	29	19:11 (4)	20:48			21:33	54	20:52 (1)
6	08:26	07:51			06:54		16:55 (5)	06:42		18:42 (4)	05:38			04:58		19:59 (6)
	16:19	17:12			18:04	29	17:24 (5)	19:58	29	19:11 (4)	20:50			21:34	54	20:53 (1)
7	08:26	07:50			06:52		16:54 (5)	06:40		18:43 (4)	05:37			04:57		19:59 (6)
	16:21	17:13			18:06	29	17:23 (5)	20:00	27	19:10 (4)	20:52			21:34	53	20:52 (1)
8	08:25	07:48			06:50		16:54 (5)	06:38		18:42 (4)	05:35			04:57		20:00 (6)
	16:22	17:15			18:07	29	17:23 (5)	20:02	26	19:08 (4)	20:53			21:35	53	20:53 (1)
9	08:25	07:46			06:47		16:55 (5)	06:35		18:43 (4)	05:33			04:56		19:59 (6)
	16:23	17:17			18:09	28	17:23 (5)	20:04	25	19:08 (4)	20:55			21:36	54	20:53 (1)
10	08:24	07:44			06:45		16:54 (5)	06:33		18:44 (4)	05:31		20:12 (6)	04:56		20:00 (6)
	16:25	17:19			18:11	28	17:22 (5)	20:05	22	19:06 (4)	20:57	2	20:14 (6)	21:37	53	20:53 (1)
11	08:24	07:42			06:43		16:55 (5)	06:31		18:46 (4)	05:30		20:07 (6)	04:55		20:01 (6)
	16:26	17:21			18:13	26	17:21 (5)	20:07	19	19:05 (4)	20:58	12	20:19 (6)	21:38	53	20:54 (1)
12	08:23	07:40			06:40		16:56 (5)	06:28		18:48 (4)	05:28		20:05 (6)	04:55		20:00 (6)
	16:28	17:23			18:15	25	17:21 (5)	20:09	20	19:43 (2)	21:00	17	20:22 (6)	21:39	53	20:53 (1)
13	08:22	07:39			06:38		16:56 (5)	06:26		18:50 (4)	05:26		20:03 (6)	04:55		20:01 (6)
	16:29	17:25			18:16	23	17:19 (5)	20:10	18	19:43 (2)	21:01	20	20:23 (6)	21:39	52	20:53 (1)
14	08:21	07:37			06:36		16:58 (5)	06:24		19:32 (2)	05:25		20:02 (6)	04:55		20:01 (6)
	16:31	17:27			18:18	19	17:17 (5)	20:12	13	19:45 (2)	21:03	23	20:25 (6)	21:40	53	20:54 (1)
15	08:21	07:35			06:34		17:00 (5)	06:22		19:30 (2)	05:23		20:00 (6)	04:54		20:01 (6)
	16:32	17:29			18:20	16	17:16 (5)	20:14	17	19:47 (2)	21:05	25	20:25 (6)	21:40	53	20:54 (1)
16	08:20	07:33			06:31		17:02 (5)	06:19		19:29 (2)	05:21		20:00 (6)	04:54		20:02 (6)
	16:34	17:30			18:22	10	17:12 (5)	20:16	20	19:49 (2)	21:06	27	20:27 (6)	21:41	52	20:54 (1)
17	08:19	07:31			06:29			06:17		19:29 (2)	05:20		19:59 (6)	04:54		20:02 (6)
	16:35	17:32			18:23			20:17	20	19:49 (2)	21:08	29	20:28 (6)	21:41	52	20:54 (1)
18	08:18	07:29			06:27			06:15		19:28 (2)	05:18		19:58 (6)	04:54		20:02 (6)
	16:37	17:34			18:25			20:19	21	19:49 (2)	21:09	30	20:28 (6)	21:42	53	20:55 (1)
19	08:17	07:27			06:24			06:13		19:27 (2)	05:17		19:58 (6)	04:54		20:02 (6)
	16:39	17:36			18:27			20:21	21	19:48 (2)	21:11	31	20:29 (6)	21:42	53	20:55 (1)
20	08:16	07:25			06:22			06:11		19:27 (2)	05:16		19:58 (6)	04:54		20:03 (6)
	16:41	17:38			18:29			20:23	21	19:48 (2)	21:12	39	20:41 (1)	21:42	52	20:55 (1)
21	08:15	07:23			06:20			06:09		19:27 (2)	05:14		19:58 (6)	04:54		20:03 (6)
	16:42	17:40			18:30			20:24	21	19:48 (2)	21:14	44	20:43 (1)	21:43	52	20:55 (1)
22	08:13	07:20			06:17			06:06		19:28 (2)	05:13		19:57 (6)	04:55		20:04 (6)
	16:44	17:42			18:32			20:26	19	19:47 (2)	21:15	46	20:43 (1)	21:43	52	20:56 (1)
23	08:12	07:18			06:15			06:04		19:28 (2)	05:12		19:57 (6)	04:55		20:04 (6)
	16:46	17:44			18:34			20:28	18	19:46 (2)	21:17	48	20:45 (1)	21:43	52	20:56 (1)
24	08:11	07:16			06:12		18:02 (3)	06:02		19:29 (2)	05:10		19:57 (6)	04:55		20:03 (6)
	16:47	17:45			18:36	7	18:09 (3)	20:29	16	19:45 (2)	21:18	49	20:46 (1)	21:43	53	20:56 (1)
25	08:10	07:14			06:10		17:59 (3)	06:00		19:30 (2)	05:09		19:57 (6)	04:55		20:04 (6)
	16:49	17:47			18:37	13	18:12 (3)	20:31	13	19:43 (2)	21:19	50	20:47 (1)	21:43	53	20:57 (1)
26	08:08	07:12			06:08		17:55 (4)	05:58		19:32 (2)	05:08		19:57 (6)	04:56		20:04 (6)
	16:51	17:49			18:39	19	18:14 (3)	20:33	9	19:41 (2)	21:21	51	20:48 (1)	21:43	52	20:56 (1)
27	08:07	07:10		17:05 (5)	06:05		17:51 (4)	05:56			05:07		19:57 (6)	04:56		20:05 (6)
	16:53	17:51	12	17:17 (5)	18:41	23	18:14 (3)	20:35			21:22	52	20:49 (1)	21:43	52	20:57 (1)
28	08:06	07:08		17:01 (5)	06:03		17:49 (4)	05:54			05:06		19:57 (6)	04:57		20:04 (6)
	16:55	17:53	18	17:19 (5)	18:43	26	18:15 (3)	20:36			21:23	52	20:49 (1)	21:43	53	20:57 (1)
29	08:04				07:01		18:48 (4)	05:52			05:05		19:57 (6)	04:57		20:05 (6)
	16:57				19:44	27	19:15 (3)	20:38			21:25	53	20:50 (1)	21:43	53	20:58 (1)
30	08:03				06:58		18:46 (4)	05:50			05:04		19:57 (6)	04:58		20:04 (6)
	16:58				19:46	29	19:15 (3)	20:40			21:26	53	20:50 (1)	21:43	53	20:57 (1)
31	08:01				06:56		18:45 (4)				05:03		19:58 (6)			
	17:00				19:48	30	19:15 (3)				21:27	53	20:51 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			30			560			561			806			1587	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,75			0,75			0,72			0,64			0,64	
Gesamte Reduktion			0,19			0,22			0,27			0,29			0,25	
Met.wahrsch.Beschattung			6			122			151			231			403	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: M - Siedlung 7

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		20:05 (6)	05:36	20:16 (6)	06:26	18:45 (4)	07:16	17:35 (5)	07:11	08:03
	21:42	53	20:58 (1)	21:10 15	20:31 (6)	20:07 19	19:04 (4)	18:56 24	17:59 (5)	16:49	16:08
2	04:59		20:04 (6)	05:37	20:18 (6)	06:28	18:42 (4)	07:18	17:34 (5)	07:13	08:04
	21:42	53	20:57 (1)	21:08 10	20:28 (6)	20:05 22	19:04 (4)	18:54 26	18:00 (5)	16:47	16:07
3	05:00		20:05 (6)	05:39		06:30	18:41 (4)	07:20	17:32 (5)	07:15	08:06
	21:42	53	20:58 (1)	21:06		20:02 25	19:06 (4)	18:52 28	18:00 (5)	16:46	16:07
4	05:01		20:05 (6)	05:40		06:31	18:41 (4)	07:22	17:32 (5)	07:17	08:07
	21:41	53	20:58 (1)	21:05		20:00 26	19:07 (4)	18:49 28	18:00 (5)	16:44	16:06
5	05:02		20:05 (6)	05:42		06:33	18:39 (4)	07:23	17:32 (5)	07:18	08:09
	21:41	54	20:59 (1)	21:03		19:58 27	19:06 (4)	18:47 28	18:00 (5)	16:42	16:06
6	05:02		20:05 (6)	05:44		06:35	18:38 (4)	07:25	17:31 (5)	07:20	08:10
	21:40	54	20:59 (1)	21:01		19:55 29	19:07 (4)	18:45 29	18:00 (5)	16:40	16:05
7	05:03		20:05 (6)	05:45		06:36	18:37 (4)	07:27	17:30 (5)	07:22	08:11
	21:40	53	20:58 (1)	20:59		19:53 29	19:06 (4)	18:43 29	17:59 (5)	16:38	16:05
8	05:04		20:05 (6)	05:47		06:38	18:37 (4)	07:28	17:30 (5)	07:24	08:12
	21:39	53	20:58 (1)	20:57		19:51 29	19:06 (4)	18:40 29	17:59 (5)	16:37	16:04
9	05:05		20:05 (6)	05:48		06:40	18:37 (4)	07:30	17:31 (5)	07:26	08:14
	21:38	54	20:59 (1)	20:56		19:48 29	19:06 (3)	18:38 27	17:58 (5)	16:35	16:04
10	05:06		20:05 (6)	05:50		06:41	18:36 (4)	07:32	17:31 (5)	07:28	08:15
	21:38	54	20:59 (1)	20:54		19:46 30	19:06 (3)	18:36 27	17:58 (5)	16:33	16:04
11	05:07		20:05 (6)	05:52		06:43	18:37 (4)	07:34	17:31 (5)	07:29	08:16
	21:37	54	20:59 (1)	20:52		19:44 30	19:07 (3)	18:33 25	17:56 (5)	16:32	16:04
12	05:08		20:05 (6)	05:53		06:45	18:36 (4)	07:35	17:32 (5)	07:31	08:17
	21:36	54	20:59 (1)	20:50		19:41 30	19:06 (3)	18:31 23	17:55 (5)	16:30	16:04
13	05:10		20:05 (6)	05:55		06:46	18:37 (4)	07:37	17:33 (5)	07:33	08:18
	21:35	54	20:59 (1)	20:48		19:39 29	19:06 (3)	18:29 20	17:53 (5)	16:29	16:03
14	05:11		20:05 (6)	05:57		06:48	18:38 (4)	07:39	17:35 (5)	07:35	08:19
	21:34	53	20:58 (1)	20:46		19:37 28	19:06 (3)	18:27 16	17:51 (5)	16:27	16:03
15	05:12		20:06 (6)	05:58		06:50	18:38 (4)	07:41	17:38 (5)	07:37	08:20
	21:33	53	20:59 (1)	20:44		19:34 26	19:04 (3)	18:24 10	17:48 (5)	16:26	16:04
16	05:13		20:06 (6)	06:00	19:43 (2)	06:51	18:40 (4)	07:42		07:38	08:21
	21:32	53	20:59 (1)	20:42 2	19:45 (2)	19:32 23	19:03 (3)	18:22		16:24	16:04
17	05:14		20:06 (6)	06:02	19:38 (2)	06:53	18:42 (4)	07:44		07:40	08:22
	21:31	52	20:58 (1)	20:40 10	19:48 (2)	19:29 19	19:01 (3)	18:20		16:23	16:04
18	05:16		20:06 (6)	06:03	19:36 (2)	06:55	18:46 (3)	07:46		07:42	08:22
	21:30	51	20:57 (1)	20:38 14	19:50 (2)	19:27 14	19:00 (3)	18:18		16:22	16:04
19	05:17		20:06 (6)	06:05	19:34 (2)	06:56	18:49 (3)	07:48		07:44	08:23
	21:29	50	20:56 (1)	20:35 17	19:51 (2)	19:25 8	18:57 (3)	18:16		16:20	16:04
20	05:18		20:06 (6)	06:07	19:34 (2)	06:58		07:49		07:45	08:24
	21:27	49	20:55 (1)	20:33 18	19:52 (2)	19:22		18:14		16:19	16:05
21	05:20		20:07 (6)	06:08	19:33 (2)	07:00		07:51		07:47	08:24
	21:26	48	20:55 (1)	20:31 20	19:53 (2)	19:20		18:11		16:18	16:05
22	05:21		20:07 (6)	06:10	19:32 (2)	07:01		07:53		07:49	08:25
	21:25	46	20:53 (1)	20:29 20	19:52 (2)	19:18		18:09		16:17	16:06
23	05:22		20:07 (6)	06:12	19:32 (2)	07:03		07:55		07:50	08:25
	21:24	43	20:52 (1)	20:27 21	19:53 (2)	19:15		18:07		16:15	16:06
24	05:24		20:08 (6)	06:13	19:31 (2)	07:05		07:57		07:52	08:26
	21:22	37	20:50 (1)	20:25 21	19:52 (2)	19:13		18:05		16:14	16:07
25	05:25		20:09 (6)	06:15	19:31 (2)	07:06		06:58		07:54	08:26
	21:21	30	20:39 (6)	20:23 21	19:52 (2)	19:11		17:03		16:13	16:07
26	05:27		20:09 (6)	06:17	19:31 (2)	07:08		07:00		07:55	08:26
	21:19	29	20:38 (6)	20:20 20	19:51 (2)	19:08		17:01		16:12	16:08
27	05:28		20:10 (6)	06:18	19:31 (2)	07:10	17:46 (5)	07:02		07:57	08:27
	21:18	28	20:38 (6)	20:18 19	19:50 (2)	19:06 5	17:51 (5)	16:59		16:11	16:09
28	05:30		20:11 (6)	06:20	19:32 (2)	07:11	17:41 (5)	07:04		07:59	08:27
	21:16	26	20:37 (6)	20:16 17	19:49 (2)	19:03 14	17:55 (5)	16:57		16:10	16:10
29	05:31		20:12 (6)	06:21	19:33 (2)	07:13	17:38 (5)	07:06		08:00	08:27
	21:15	24	20:36 (6)	20:14 13	19:46 (2)	19:01 19	17:57 (5)	16:55		16:10	16:10
30	05:33		20:13 (6)	06:23	18:51 (4)	07:15	17:36 (5)	07:08		08:02	08:27
	21:13	22	20:35 (6)	20:11 18	19:44 (2)	18:59 22	17:58 (5)	16:53		16:09	16:11
31	05:34		20:14 (6)	06:25	18:47 (4)			07:09			08:27
	21:12	19	20:33 (6)	20:09 19	19:41 (2)			16:51			16:12
Sonnenscheinstunden	504			455		381		331		265	241
astr.max.mögl.Beschattung		1409		295		532		369			
Red.Sonnenscheinwahrsch.		0,42		0,44		0,37		0,31			
Reduktion Betriebsdauer		1,00		1,00		1,00		1,00			
Reduktion Windrichtung		0,64		0,69		0,74		0,75			
Gesamte Reduktion		0,27		0,31		0,28		0,24			
Met.wahrsch.Beschattung		376		91		147		87			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: N - Siedlung 9

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		16:57 (5)	06:54		18:44 (4)	05:48			05:02		19:58 (6)
	16:14	17:02			17:55	23	17:20 (5)	19:50	30	19:14 (3)	20:42			21:28	54	20:52 (1)
2	08:27	07:58			07:03		16:56 (5)	06:51		18:42 (4)	05:46			05:01		19:58 (6)
	16:15	17:04			17:56	25	17:21 (5)	19:51	31	19:13 (3)	20:43			21:29	54	20:52 (1)
3	08:27	07:56			07:01		16:54 (5)	06:49		18:42 (4)	05:44			05:00		19:58 (6)
	16:16	17:06			17:58	27	17:21 (5)	19:53	30	19:12 (3)	20:45			21:30	54	20:52 (1)
4	08:27	07:55			06:59		16:54 (5)	06:47		18:42 (4)	05:42			04:59		19:59 (6)
	16:17	17:08			18:00	28	17:22 (5)	19:55	30	19:12 (4)	20:47			21:32	54	20:53 (1)
5	08:26	07:53			06:56		16:53 (5)	06:44		18:41 (4)	05:40			04:59		19:58 (6)
	16:18	17:10			18:02	29	17:22 (5)	19:57	29	19:10 (4)	20:48			21:33	55	20:53 (1)
6	08:26	07:51			06:54		16:53 (5)	06:42		18:41 (4)	05:38			04:58		19:59 (6)
	16:19	17:12			18:04	29	17:22 (5)	19:58	29	19:10 (4)	20:50			21:34	55	20:54 (1)
7	08:26	07:50			06:52		16:52 (5)	06:40		18:42 (4)	05:37			04:57		19:59 (6)
	16:21	17:13			18:06	30	17:22 (5)	20:00	28	19:10 (4)	20:52			21:34	55	20:54 (1)
8	08:25	07:48			06:50		16:52 (5)	06:38		18:41 (4)	05:35			04:57		20:00 (6)
	16:22	17:15			18:07	30	17:22 (5)	20:02	27	19:08 (4)	20:53			21:35	54	20:54 (1)
9	08:25	07:46			06:47		16:53 (5)	06:35		18:42 (4)	05:33			04:56		19:59 (6)
	16:23	17:17			18:09	28	17:21 (5)	20:04	25	19:07 (4)	20:55			21:36	55	20:54 (1)
10	08:24	07:44			06:45		16:52 (5)	06:33		18:43 (4)	05:31			04:56		20:00 (6)
	16:25	17:19			18:11	28	17:20 (5)	20:05	23	19:06 (4)	20:57			21:37	55	20:55 (1)
11	08:24	07:42			06:43		16:53 (5)	06:31		18:45 (4)	05:30			04:55		20:01 (6)
	16:26	17:21			18:13	27	17:20 (5)	20:07	20	19:05 (4)	20:58			21:38	54	20:55 (1)
12	08:23	07:40			06:40		16:54 (5)	06:28		18:47 (4)	05:28		20:08 (6)	04:55		20:00 (6)
	16:28	17:23			18:15	25	17:19 (5)	20:09	17	19:41 (2)	21:00	12	20:20 (6)	21:39	54	20:54 (1)
13	08:22	07:39			06:38		16:55 (5)	06:26		18:48 (4)	05:26		20:05 (6)	04:55		20:01 (6)
	16:29	17:25			18:16	22	17:17 (5)	20:10	20	19:43 (2)	21:01	17	20:22 (6)	21:39	54	20:55 (1)
14	08:21	07:37			06:36		16:56 (5)	06:24		19:32 (2)	05:25		20:04 (6)	04:55		20:01 (6)
	16:31	17:27			18:18	19	17:15 (5)	20:12	13	19:45 (2)	21:03	20	20:24 (6)	21:40	54	20:55 (1)
15	08:21	07:35			06:34		16:59 (5)	06:22		19:31 (2)	05:23		20:02 (6)	04:54		20:01 (6)
	16:32	17:29			18:20	14	17:13 (5)	20:14	16	19:47 (2)	21:05	23	20:25 (6)	21:40	55	20:56 (1)
16	08:20	07:33			06:31		17:02 (5)	06:19		19:30 (2)	05:21		20:02 (6)	04:54		20:02 (6)
	16:34	17:30			18:22	6	17:08 (5)	20:16	19	19:49 (2)	21:06	25	20:27 (6)	21:41	54	20:56 (1)
17	08:19	07:31			06:29			06:17		19:29 (2)	05:20		20:01 (6)	04:54		20:02 (6)
	16:35	17:32			18:23			20:17	20	19:49 (2)	21:08	27	20:28 (6)	21:41	54	20:56 (1)
18	08:18	07:29			06:27			06:15		19:28 (2)	05:18		20:00 (6)	04:54		20:02 (6)
	16:37	17:34			18:25			20:19	21	19:49 (2)	21:09	28	20:28 (6)	21:42	54	20:56 (1)
19	08:17	07:27			06:24			06:13		19:27 (2)	05:17		19:59 (6)	04:54		20:02 (6)
	16:39	17:36			18:27			20:21	21	19:48 (2)	21:11	30	20:29 (6)	21:42	54	20:56 (1)
20	08:16	07:25			06:22			06:11		19:27 (2)	05:16		19:59 (6)	04:54		20:03 (6)
	16:41	17:38			18:29			20:23	21	19:48 (2)	21:12	31	20:30 (6)	21:42	53	20:56 (1)
21	08:15	07:23			06:20			06:09		19:27 (2)	05:14		19:59 (6)	04:54		20:03 (6)
	16:42	17:40			18:30			20:24	21	19:48 (2)	21:14	40	20:43 (1)	21:43	53	20:56 (1)
22	08:13	07:20			06:17			06:06		19:27 (2)	05:13		19:58 (6)	04:55		20:04 (6)
	16:44	17:42			18:32			20:26	20	19:47 (2)	21:15	43	20:43 (1)	21:43	53	20:57 (1)
23	08:12	07:18			06:15			06:04		19:28 (2)	05:12		19:58 (6)	04:55		20:03 (6)
	16:46	17:44			18:34			20:28	19	19:47 (2)	21:17	47	20:45 (1)	21:43	54	20:57 (1)
24	08:11	07:16			06:12		18:01 (3)	06:02		19:28 (2)	05:10		19:58 (6)	04:55		20:03 (6)
	16:47	17:45			18:36	8	18:09 (3)	20:30	17	19:45 (2)	21:18	48	20:46 (1)	21:43	54	20:57 (1)
25	08:10	07:14			06:10		17:58 (3)	06:00		19:30 (2)	05:09		19:58 (6)	04:55		20:04 (6)
	16:49	17:47			18:37	14	18:12 (3)	20:31	14	19:44 (2)	21:19	49	20:47 (1)	21:43	54	20:58 (1)
26	08:08	07:12		17:04 (5)	06:08		17:54 (4)	05:58		19:31 (2)	05:08		19:57 (6)	04:56		20:04 (6)
	16:51	17:49	10	17:14 (5)	18:39	19	18:13 (3)	20:33	11	19:42 (2)	21:21	52	20:49 (1)	21:43	54	20:58 (1)
27	08:07	07:10		17:01 (5)	06:05		17:50 (4)	05:56		19:34 (2)	05:07		19:57 (6)	04:56		20:05 (6)
	16:53	17:51	16	17:17 (5)	18:41	24	18:14 (3)	20:35	5	19:39 (2)	21:22	52	20:49 (1)	21:43	54	20:59 (1)
28	08:06	07:08		16:58 (5)	06:03		17:48 (4)	05:54			05:06		19:57 (6)	04:57		20:04 (6)
	16:55	17:53	20	17:18 (5)	18:43	26	18:14 (3)	20:36			21:23	53	20:50 (1)	21:43	54	20:58 (1)
29	08:04				07:01		18:47 (4)	05:52			05:05		19:57 (6)	04:57		20:05 (6)
	16:57				19:44	28	19:15 (3)	20:38			21:25	53	20:50 (1)	21:43	54	20:59 (1)
30	08:03				06:58		18:45 (4)	05:50			05:04		19:57 (6)	04:58		20:04 (6)
	16:58				19:46	29	19:14 (3)	20:40			21:26	54	20:51 (1)	21:43	55	20:59 (1)
31	08:01				06:56		18:44 (4)				05:03		19:58 (6)			
	17:00				19:48	30	19:14 (3)				21:27	54	20:52 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			46			568			577			758			1624	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,75			0,75			0,72			0,64			0,63	
Gesamte Reduktion			0,19			0,22			0,27			0,29			0,25	
Met.wahrsch.Beschattung			9			124			156			217			412	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: N - Siedlung 9

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		20:05 (6)	05:36	20:20 (6)	06:26	18:44 (4)	07:16	17:34 (5)	07:11	08:03
	21:42	54	20:59 (1)	21:10	10	20:30 (6)	20:07	20	19:04 (4)	18:56	23	17:57 (5)	16:49	16:08
2	04:59		20:04 (6)	05:37			06:28		18:41 (4)	07:18		17:32 (5)	07:13	08:04
	21:42	55	20:59 (1)	21:08			20:05	23	19:04 (4)	18:54	26	17:58 (5)	16:47	16:07
3	05:00		20:05 (6)	05:39			06:30		18:40 (4)	07:20		17:31 (5)	07:15	08:06
	21:42	54	20:59 (1)	21:06			20:02	25	19:05 (4)	18:52	27	17:58 (5)	16:46	16:07
4	05:01		20:05 (6)	05:40			06:31		18:39 (4)	07:22		17:30 (5)	07:17	08:07
	21:41	55	21:00 (1)	21:05			20:00	27	19:06 (4)	18:49	28	17:58 (5)	16:44	16:06
5	05:02		20:05 (6)	05:42			06:33		18:38 (4)	07:23		17:30 (5)	07:18	08:09
	21:41	55	21:00 (1)	21:03			19:58	28	19:06 (4)	18:47	29	17:59 (5)	16:42	16:06
6	05:02		20:06 (6)	05:44			06:35		18:37 (4)	07:25		17:29 (5)	07:20	08:10
	21:40	54	21:00 (1)	21:01			19:55	29	19:06 (4)	18:45	30	17:59 (5)	16:40	16:05
7	05:03		20:05 (6)	05:45			06:36		18:36 (4)	07:27		17:28 (5)	07:22	08:11
	21:40	54	20:59 (1)	20:59			19:53	30	19:06 (4)	18:43	30	17:58 (5)	16:38	16:05
8	05:04		20:05 (6)	05:47			06:38		18:36 (4)	07:28		17:28 (5)	07:24	08:12
	21:39	55	21:00 (1)	20:57			19:51	30	19:06 (4)	18:40	29	17:57 (5)	16:37	16:04
9	05:05		20:05 (6)	05:48			06:40		18:36 (4)	07:30		17:29 (5)	07:26	08:14
	21:38	55	21:00 (1)	20:56			19:48	30	19:06 (3)	18:38	28	17:57 (5)	16:35	16:04
10	05:06		20:05 (6)	05:50			06:41		18:35 (4)	07:32		17:29 (5)	07:28	08:15
	21:38	55	21:00 (1)	20:54			19:46	31	19:06 (3)	18:36	27	17:56 (5)	16:33	16:04
11	05:07		20:06 (6)	05:52			06:43		18:36 (4)	07:34		17:29 (5)	07:29	08:16
	21:37	54	21:00 (1)	20:52			19:44	30	19:06 (3)	18:33	26	17:55 (5)	16:32	16:04
12	05:08		20:06 (6)	05:53			06:45		18:35 (4)	07:35		17:29 (5)	07:31	08:17
	21:36	54	21:00 (1)	20:50			19:41	30	19:05 (3)	18:31	25	17:54 (5)	16:30	16:04
13	05:10		20:06 (6)	05:55			06:46		18:36 (4)	07:37		17:31 (5)	07:33	08:18
	21:35	53	20:59 (1)	20:48			19:39	30	19:06 (3)	18:29	21	17:52 (5)	16:29	16:03
14	05:11		20:06 (6)	05:57			06:48		18:37 (4)	07:39		17:32 (5)	07:35	08:19
	21:34	53	20:59 (1)	20:46			19:37	28	19:05 (3)	18:27	19	17:51 (5)	16:27	16:03
15	05:12		20:07 (6)	05:58			06:50		18:37 (4)	07:41		17:34 (5)	07:37	08:20
	21:33	53	21:00 (1)	20:44			19:34	27	19:04 (3)	18:24	14	17:48 (5)	16:26	16:04
16	05:13		20:07 (6)	06:00	19:41 (2)		06:51		18:39 (4)	07:42		17:38 (5)	07:38	08:21
	21:32	52	20:59 (1)	20:42	6	19:47 (2)	19:32	24	19:03 (3)	18:22	7	17:45 (5)	16:24	16:04
17	05:14		20:07 (6)	06:02	19:37 (2)		06:53		18:41 (4)	07:44			07:40	08:22
	21:31	52	20:59 (1)	20:40	12	19:49 (2)	19:29	20	19:01 (3)	18:20			16:23	16:04
18	05:16		20:07 (6)	06:03	19:36 (2)		06:55		18:45 (3)	07:46			07:42	08:22
	21:30	51	20:58 (1)	20:38	15	19:51 (2)	19:27	15	19:00 (3)	18:18			16:22	16:04
19	05:17		20:07 (6)	06:05	19:34 (2)		06:56		18:48 (3)	07:48			07:44	08:23
	21:29	49	20:56 (1)	20:35	17	19:51 (2)	19:25	9	18:57 (3)	18:16			16:20	16:04
20	05:18		20:08 (6)	06:07	19:33 (2)		06:58			07:49			07:45	08:24
	21:27	48	20:56 (1)	20:33	19	19:52 (2)	19:22			18:14			16:19	16:05
21	05:20		20:08 (6)	06:08	19:33 (2)		07:00			07:51			07:47	08:24
	21:26	46	20:55 (1)	20:31	20	19:53 (2)	19:20			18:11			16:18	16:05
22	05:21		20:08 (6)	06:10	19:32 (2)		07:01			07:53			07:49	08:25
	21:25	43	20:53 (1)	20:29	21	19:53 (2)	19:18			18:09			16:17	16:06
23	05:22		20:09 (6)	06:12	19:32 (2)		07:03			07:55			07:50	08:25
	21:24	35	20:50 (1)	20:27	21	19:53 (2)	19:15			18:07			16:15	16:06
24	05:24		20:10 (6)	06:13	19:31 (2)		07:05			07:57			07:52	08:26
	21:22	30	20:40 (6)	20:25	21	19:52 (2)	19:13			18:05			16:14	16:07
25	05:25		20:10 (6)	06:15	19:31 (2)		07:06			06:58			07:54	08:26
	21:21	29	20:39 (6)	20:23	21	19:52 (2)	19:11			17:03			16:13	16:07
26	05:27		20:11 (6)	06:17	19:31 (2)		07:08			07:00			07:55	08:26
	21:19	27	20:38 (6)	20:20	20	19:51 (2)	19:08			17:01			16:12	16:08
27	05:28		20:12 (6)	06:18	19:31 (2)		07:10			07:02			07:57	08:27
	21:18	26	20:38 (6)	20:18	19	19:50 (2)	19:06			16:59			16:11	16:09
28	05:30		20:13 (6)	06:20	19:32 (2)		07:11		17:41 (5)	07:04			07:59	08:27
	21:16	24	20:37 (6)	20:16	17	19:49 (2)	19:03	12	17:53 (5)	16:57			16:10	16:10
29	05:31		20:14 (6)	06:21	19:33 (2)		07:13		17:37 (5)	07:06			08:00	08:27
	21:15	22	20:36 (6)	20:14	13	19:46 (2)	19:01	17	17:54 (5)	16:55			16:10	16:10
30	05:33		20:15 (6)	06:23	18:49 (4)		07:15		17:35 (5)	07:08			08:02	08:27
	21:13	19	20:34 (6)	20:11	20	19:44 (2)	18:59	21	17:56 (5)	16:53			16:09	16:11
31	05:34		20:17 (6)	06:25	18:45 (4)					07:09				08:27
	21:12	15	20:32 (6)	20:09	17	19:02 (4)				16:51				16:12
Sonnenscheinstunden	504			455		381		331		265	241
astr.max.mögl.Beschattung		1381		289			536		389			
Red.Sonnenscheinwahrsch.		0,42		0,44			0,37		0,31			
Reduktion Betriebsdauer		1,00		1,00			1,00		1,00			
Reduktion Windrichtung		0,64		0,70			0,74		0,75			
Gesamte Reduktion		0,27		0,31			0,28		0,24			
Met.wahrsch.Beschattung		368		90			148		92			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: O - Siedlung 11

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar			Februar			März			April			Mai			Juni		
1	08:27			08:00			07:05		16:54 (5)	06:54		18:42 (4)	05:48			05:02		19:59 (6)
	16:14			17:02			17:55	25	17:19 (5)	19:50	32	19:14 (3)	20:42			21:28	54	20:53 (1)
2	08:27			07:58			07:03		16:53 (5)	06:51		18:41 (4)	05:46			05:01		19:59 (6)
	16:15			17:04			17:56	27	17:20 (5)	19:51	31	19:12 (3)	20:43			21:29	55	20:54 (1)
3	08:27			07:56			07:01		16:51 (5)	06:49		18:41 (4)	05:44			05:00		19:59 (6)
	16:16			17:06			17:58	29	17:20 (5)	19:53	31	19:12 (3)	20:45			21:30	55	20:54 (1)
4	08:27			07:55			06:59		16:51 (5)	06:47		18:41 (4)	05:42			04:59		19:59 (6)
	16:17			17:08			18:00	29	17:20 (5)	19:55	30	19:11 (3)	20:47			21:32	56	20:55 (1)
5	08:26			07:53			06:56		16:51 (5)	06:44		18:40 (4)	05:40			04:59		19:59 (6)
	16:18			17:10			18:02	29	17:20 (5)	19:57	30	19:10 (4)	20:48			21:33	55	20:54 (1)
6	08:26			07:51			06:54		16:51 (5)	06:42		18:40 (4)	05:38			04:58		20:00 (6)
	16:19			17:12			18:04	30	17:21 (5)	19:58	30	19:10 (4)	20:50			21:34	55	20:55 (1)
7	08:26			07:50			06:52		16:50 (5)	06:40		18:40 (4)	05:37			04:57		20:00 (6)
	16:21			17:13			18:06	30	17:20 (5)	20:00	29	19:09 (4)	20:52			21:34	55	20:55 (1)
8	08:25			07:48			06:50		16:50 (5)	06:38		18:40 (4)	05:35			04:57		20:00 (6)
	16:22			17:15			18:07	30	17:20 (5)	20:02	28	19:08 (4)	20:53			21:35	56	20:56 (1)
9	08:25			07:46			06:47		16:51 (5)	06:35		18:41 (4)	05:33			04:56		20:00 (6)
	16:23			17:17			18:09	28	17:19 (5)	20:04	26	19:07 (4)	20:55			21:36	56	20:56 (1)
10	08:24			07:44			06:45		16:50 (5)	06:33		18:42 (4)	05:31			04:56		20:00 (6)
	16:25			17:19			18:11	28	17:18 (5)	20:05	24	19:06 (4)	20:57			21:37	56	20:56 (1)
11	08:24			07:42			06:43		16:51 (5)	06:31		18:43 (4)	05:30			04:55		20:01 (6)
	16:26			17:21			18:13	26	17:17 (5)	20:07	21	19:04 (4)	20:58			21:38	56	20:57 (1)
12	08:23			07:40			06:40		16:52 (5)	06:28		18:45 (4)	05:28			04:55		20:01 (6)
	16:28			17:23			18:15	24	17:16 (5)	20:09	18	19:03 (4)	21:00			21:39	55	20:56 (1)
13	08:22			07:39			06:38		16:53 (5)	06:26		18:46 (4)	05:26		20:10 (6)	04:55		20:01 (6)
	16:29			17:25			18:16	21	17:14 (5)	20:10	22	19:43 (2)	21:01	10	20:20 (6)	21:39	56	20:57 (1)
14	08:21			07:37			06:36		16:55 (5)	06:24		19:32 (2)	05:25		20:08 (6)	04:55		20:01 (6)
	16:31			17:27			18:18	18	17:13 (5)	20:12	13	19:45 (2)	21:03	15	20:23 (6)	21:40	56	20:57 (1)
15	08:21			07:35			06:34		16:58 (5)	06:22		19:31 (2)	05:23		20:05 (6)	04:54		20:02 (6)
	16:32			17:29			18:20	12	17:10 (5)	20:14	16	19:47 (2)	21:05	20	20:25 (6)	21:40	55	20:57 (1)
16	08:20			07:33			06:31			06:19		19:30 (2)	05:21		20:04 (6)	04:54		20:02 (6)
	16:34			17:30			18:22			20:16	19	19:49 (2)	21:06	23	20:27 (6)	21:41	56	20:58 (1)
17	08:19			07:31			06:29			06:17		19:29 (2)	05:20		20:04 (6)	04:54		20:02 (6)
	16:35			17:32			18:23			20:17	20	19:49 (2)	21:08	24	20:28 (6)	21:41	56	20:58 (1)
18	08:18			07:29			06:27			06:15		19:28 (2)	05:18		20:02 (6)	04:54		20:02 (6)
	16:37			17:34			18:25			20:19	22	19:50 (2)	21:09	26	20:28 (6)	21:42	56	20:58 (1)
19	08:17			07:27			06:24			06:13		19:27 (2)	05:17		20:02 (6)	04:54		20:03 (6)
	16:39			17:36			18:27			20:21	22	19:49 (2)	21:11	28	20:30 (6)	21:42	55	20:58 (1)
20	08:16			07:25			06:22			06:11		19:27 (2)	05:16		20:01 (6)	04:54		20:03 (6)
	16:41			17:38			18:29			20:23	22	19:49 (2)	21:12	30	20:31 (6)	21:42	55	20:58 (1)
21	08:15			07:23			06:20			06:09		19:27 (2)	05:14		20:01 (6)	04:54		20:03 (6)
	16:42			17:40			18:30			20:24	21	19:48 (2)	21:14	31	20:32 (6)	21:43	55	20:58 (1)
22	08:13			07:20			06:17			06:06		19:27 (2)	05:13		20:00 (6)	04:55		20:04 (6)
	16:44			17:42			18:32			20:26	21	19:48 (2)	21:15	36	20:42 (1)	21:43	55	20:59 (1)
23	08:12			07:18			06:15			06:04		19:27 (2)	05:12		19:59 (6)	04:55		20:04 (6)
	16:46			17:44			18:34			20:28	20	19:47 (2)	21:17	44	20:45 (1)	21:43	55	20:59 (1)
24	08:11			07:16			06:12		18:00 (3)	06:02		19:28 (2)	05:10		19:59 (6)	04:55		20:04 (6)
	16:47			17:45			18:36	9	18:09 (3)	20:30	18	19:46 (2)	21:18	47	20:46 (1)	21:43	55	20:59 (1)
25	08:10			07:14		17:03 (5)	06:10		17:57 (3)	06:00		19:29 (2)	05:09		19:59 (6)	04:55		20:04 (6)
	16:49			17:47	8	17:11 (5)	18:37	14	18:11 (3)	20:31	16	19:45 (2)	21:19	48	20:47 (1)	21:43	56	21:00 (1)
26	08:08			07:12		16:59 (5)	06:08		17:52 (4)	05:58		19:30 (2)	05:08		19:59 (6)	04:56		20:04 (6)
	16:51			17:49	16	17:15 (5)	18:39	21	18:13 (3)	20:33	13	19:43 (2)	21:21	50	20:49 (1)	21:43	56	21:00 (1)
27	08:07			07:10		16:57 (5)	06:05		17:49 (4)	05:56		19:32 (2)	05:07		19:59 (6)	04:56		20:05 (6)
	16:53			17:51	20	17:17 (5)	18:41	24	18:13 (3)	20:35	9	19:41 (2)	21:22	51	20:50 (1)	21:43	55	21:00 (1)
28	08:06			07:08		16:55 (5)	06:03		17:47 (4)	05:54			05:06		19:59 (6)	04:57		20:05 (6)
	16:55			17:53	22	17:17 (5)	18:43	27	18:14 (3)	20:36			21:23	52	20:51 (1)	21:43	55	21:00 (1)
29	08:04						07:01		18:46 (4)	05:52			05:05		19:58 (6)	04:57		20:05 (6)
	16:57						19:44	29	19:15 (3)	20:38			21:25	53	20:51 (1)	21:43	56	21:01 (1)
30	08:03						06:58		18:44 (4)	05:50			05:04		19:58 (6)	04:58		20:05 (6)
	16:58						19:46	30	19:14 (3)	20:40			21:26	54	20:52 (1)	21:43	55	21:00 (1)
31	08:01						06:56		18:43 (4)				05:03		19:59 (6)			
	17:00						19:48	31	19:14 (3)				21:27	54	20:53 (1)			
Sonnenscheinstunden	257			277			367			417			487			501		
astr.max.mögl.Beschattung			66					571			604			696			1662	
Red.Sonnenscheinwahrsch.			0,25					0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00					1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,76					0,75			0,72			0,64			0,63	
Gesamte Reduktion			0,19					0,22			0,27			0,29			0,25	
Met.wahrsch.Beschattung			13					125			163			199			420	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: O - Siedlung 11

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August			September		Oktober		November	Dezember
1	04:59		20:05 (6)	05:36		06:26		18:42 (4)	07:16	17:32 (5)	07:11	08:03
	21:42	56	21:01 (1)	21:10		20:07	21	19:03 (4)	18:56	23 17:55 (5)	16:49	16:08
2	04:59		20:05 (6)	05:37		06:28		18:40 (4)	07:18	17:31 (5)	07:13	08:04
	21:42	55	21:00 (1)	21:08		20:05	24	19:04 (4)	18:54	25 17:56 (5)	16:47	16:07
3	05:00		20:05 (6)	05:39		06:30		18:39 (4)	07:20	17:29 (5)	07:15	08:06
	21:42	56	21:01 (1)	21:06		20:02	26	19:05 (4)	18:52	27 17:56 (5)	16:46	16:07
4	05:01		20:06 (6)	05:40		06:31		18:38 (4)	07:22	17:28 (5)	07:17	08:07
	21:41	55	21:01 (1)	21:05		20:00	28	19:06 (4)	18:49	28 17:56 (5)	16:44	16:06
5	05:02		20:06 (6)	05:42		06:33		18:37 (4)	07:23	17:27 (5)	07:19	08:09
	21:41	55	21:01 (1)	21:03		19:58	28	19:05 (4)	18:47	30 17:57 (5)	16:42	16:06
6	05:02		20:06 (6)	05:44		06:35		18:36 (4)	07:25	17:27 (5)	07:20	08:10
	21:40	56	21:02 (1)	21:01		19:55	30	19:06 (4)	18:45	30 17:57 (5)	16:40	16:05
7	05:03		20:06 (6)	05:45		06:36		18:35 (4)	07:27	17:26 (5)	07:22	08:11
	21:40	55	21:01 (1)	20:59		19:53	30	19:05 (4)	18:43	30 17:56 (5)	16:38	16:05
8	05:04		20:06 (6)	05:47		06:38		18:35 (4)	07:28	17:26 (5)	07:24	08:12
	21:39	55	21:01 (1)	20:57		19:51	30	19:05 (3)	18:40	30 17:56 (5)	16:37	16:04
9	05:05		20:06 (6)	05:48		06:40		18:35 (4)	07:30	17:26 (5)	07:26	08:14
	21:38	55	21:01 (1)	20:56		19:48	31	19:06 (3)	18:38	29 17:55 (5)	16:35	16:04
10	05:06		20:06 (6)	05:50		06:41		18:34 (4)	07:32	17:26 (5)	07:28	08:15
	21:38	55	21:01 (1)	20:54		19:46	31	19:05 (3)	18:36	29 17:55 (5)	16:33	16:04
11	05:07		20:06 (6)	05:52		06:43		18:35 (4)	07:34	17:26 (5)	07:29	08:16
	21:37	55	21:01 (1)	20:52		19:44	31	19:06 (3)	18:33	27 17:53 (5)	16:32	16:04
12	05:08		20:07 (6)	05:53		06:45		18:34 (4)	07:35	17:26 (5)	07:31	08:17
	21:36	54	21:01 (1)	20:50		19:41	31	19:05 (3)	18:31	26 17:52 (5)	16:30	16:04
13	05:10		20:07 (6)	05:55		06:46		18:35 (4)	07:37	17:27 (5)	07:33	08:18
	21:35	53	21:00 (1)	20:48		19:39	30	19:05 (3)	18:29	24 17:51 (5)	16:29	16:03
14	05:11		20:07 (6)	05:57		06:48		18:36 (4)	07:39	17:29 (5)	07:35	08:19
	21:34	53	21:00 (1)	20:46		19:37	29	19:05 (3)	18:27	21 17:50 (5)	16:27	16:03
15	05:12		20:08 (6)	05:58		06:50		18:36 (4)	07:41	17:30 (5)	07:37	08:20
	21:33	53	21:01 (1)	20:44		19:34	28	19:04 (3)	18:24	18 17:48 (5)	16:26	16:04
16	05:13		20:08 (6)	06:00	19:39 (2)	06:51		18:38 (4)	07:42	17:33 (5)	07:38	08:21
	21:32	52	21:00 (1)	20:42	10 19:49 (2)	19:32	25	19:03 (3)	18:22	13 17:46 (5)	16:24	16:04
17	05:14		20:08 (6)	06:02	19:36 (2)	06:53		18:39 (4)	07:44	17:37 (5)	07:40	08:22
	21:31	51	20:59 (1)	20:40	14 19:50 (2)	19:29	22	19:01 (3)	18:20	2 17:39 (5)	16:23	16:04
18	05:16		20:08 (6)	06:03	19:35 (2)	06:55		18:44 (4)	07:46		07:42	08:22
	21:30	50	20:58 (1)	20:38	17 19:52 (2)	19:27	15	18:59 (3)	18:18		16:22	16:04
19	05:17		20:09 (6)	06:05	19:34 (2)	06:56		18:47 (3)	07:48		07:44	08:23
	21:29	47	20:56 (1)	20:35	18 19:52 (2)	19:25	10	18:57 (3)	18:16		16:20	16:04
20	05:18		20:10 (6)	06:07	19:33 (2)	06:58			07:49		07:45	08:24
	21:27	45	20:56 (1)	20:33	20 19:53 (2)	19:22			18:14		16:19	16:05
21	05:20		20:10 (6)	06:08	19:33 (2)	07:00			07:51		07:47	08:24
	21:26	40	20:54 (1)	20:31	21 19:54 (2)	19:20			18:11		16:18	16:05
22	05:21		20:10 (6)	06:10	19:32 (2)	07:01			07:53		07:49	08:25
	21:25	32	20:42 (6)	20:29	21 19:53 (2)	19:18			18:09		16:17	16:06
23	05:22		20:11 (6)	06:12	19:32 (2)	07:03			07:55		07:50	08:25
	21:24	30	20:41 (6)	20:27	21 19:53 (2)	19:15			18:07		16:15	16:06
24	05:24		20:12 (6)	06:13	19:31 (2)	07:05			07:57		07:52	08:26
	21:22	29	20:41 (6)	20:25	21 19:52 (2)	19:13			18:05		16:14	16:07
25	05:25		20:12 (6)	06:15	19:31 (2)	07:06			06:58		07:54	08:26
	21:21	28	20:40 (6)	20:23	21 19:52 (2)	19:11			17:03		16:13	16:07
26	05:27		20:13 (6)	06:17	19:31 (2)	07:08			07:00		07:55	08:26
	21:19	25	20:38 (6)	20:20	20 19:51 (2)	19:08			17:01		16:12	16:08
27	05:28		20:15 (6)	06:18	19:32 (2)	07:10			07:02		07:57	08:27
	21:18	23	20:38 (6)	20:18	18 19:50 (2)	19:06			16:59		16:11	16:09
28	05:30		20:15 (6)	06:20	19:33 (2)	07:11		17:40 (5)	07:04		07:59	08:27
	21:16	21	20:36 (6)	20:16	16 19:49 (2)	19:03	9	17:49 (5)	16:57		16:10	16:10
29	05:31		20:18 (6)	06:21	18:53 (4)	07:13		17:36 (5)	07:06		08:00	08:27
	21:15	17	20:35 (6)	20:14	14 19:46 (2)	19:01	15	17:51 (5)	16:55		16:10	16:10
30	05:33		20:19 (6)	06:23	18:47 (4)	07:15		17:33 (5)	07:08		08:02	08:27
	21:13	14	20:33 (6)	20:11	21 19:44 (2)	18:59	20	17:53 (5)	16:53		16:09	16:11
31	05:34		20:22 (6)	06:25	18:44 (4)				07:09			08:27
	21:12	7	20:29 (6)	20:09	18 19:02 (4)				16:51			16:12
Sonnenscheinstunden	504			455		381			331		265	241
astr.max.mögl.Beschattung		1332			291		544			412		
Red.Sonnenscheinwahrsch.		0,42			0,44		0,37			0,31		
Reduktion Betriebsdauer		1,00			1,00		1,00			1,00		
Reduktion Windrichtung		0,64			0,70		0,74			0,76		
Gesamte Reduktion		0,27			0,31		0,28			0,24		
Met.wahrsch.Beschattung		354			91		150			97		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: P - Siedlung 13

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März		April		Mai		Juni	
1	08:27		08:00		07:05		06:54		05:48		05:02	
	16:14		17:02		17:55	25	19:50	32	20:42		21:28	53
2	08:27		07:58		07:03		06:51		05:46		05:01	
	16:15		17:04		17:56	27	19:51	31	20:43		21:29	53
3	08:27		07:56		07:01		06:49		05:44		05:00	
	16:16		17:06		17:58	28	19:53	32	20:45		21:30	54
4	08:27		07:55		06:59		06:47		05:42		04:59	
	16:17		17:08		18:00	30	19:55	31	20:47		21:32	54
5	08:26		07:53		06:56		06:44		05:40		04:59	
	16:18		17:10		18:02	30	19:57	31	20:48		21:33	54
6	08:26		07:51		06:54		06:42		05:38		04:58	
	16:19		17:12		18:04	31	19:58	31	20:50		21:34	55
7	08:26		07:50		06:52		06:40		05:37		04:57	
	16:21		17:13		18:06	31	20:00	30	20:52		21:34	55
8	08:25		07:48		06:50		06:38		05:35		04:57	
	16:22		17:15		18:07	31	20:02	29	20:53		21:35	55
9	08:25		07:46		06:47		06:35		05:33		04:56	
	16:23		17:17		18:09	29	20:04	28	20:55		21:36	56
10	08:24		07:44		06:45		06:33		05:31		04:56	
	16:25		17:19		18:11	28	20:05	27	20:57		21:37	55
11	08:24		07:42		06:43		06:31		05:30		04:55	
	16:26		17:21		18:13	27	20:07	25	20:58		21:38	56
12	08:23		07:40		06:40		06:28		05:28		04:55	
	16:28		17:23		18:15	26	20:09	21	21:00		21:39	55
13	08:22		07:39		06:38		06:26		05:26		04:55	
	16:29		17:25		18:16	23	20:10	22	21:01		21:39	56
14	08:21		07:37		06:36		06:24		05:25		04:55	
	16:31		17:27		18:18	19	20:12	23	21:03		21:40	56
15	08:21		07:35		06:34		06:22		05:23		04:54	
	16:32		17:29		18:20	15	20:14	14	21:05	8	21:40	56
16	08:20		07:33		06:31		06:19		05:21		04:54	
	16:34		17:30		18:22	7	20:16	18	21:06	15	21:41	56
17	08:19		07:31		06:29		06:17		05:20		04:54	
	16:35		17:32		18:23		20:17	20	21:08	18	21:41	56
18	08:18		07:29		06:27		06:15		05:18		04:54	
	16:37		17:34		18:25		20:19	21	21:09	22	21:42	55
19	08:17		07:27		06:24		06:13		05:17		04:54	
	16:39		17:36		18:27		20:21	22	21:11	23	21:42	56
20	08:16		07:25		06:22		06:11		05:16		04:54	
	16:41		17:38		18:29		20:23	22	21:12	26	21:42	56
21	08:15		07:23		06:20		06:09		05:14		04:54	
	16:42		17:40		18:30		20:24	22	21:14	28	21:43	56
22	08:13		07:20		06:17		06:06		05:13		04:55	
	16:44		17:42		18:32		20:26	21	21:15	29	21:43	56
23	08:12		07:18		06:15		06:04		05:12		04:55	
	16:46		17:44		18:34		20:28	21	21:17	31	21:43	56
24	08:11		07:16		06:12		06:02		05:10		04:55	
	16:47		17:45		18:36	4	20:30	20	21:18	35	21:43	55
25	08:10		07:14		06:10		06:00		05:09		04:55	
	16:49		17:47	8	18:37	12	20:31	18	21:19	41	21:43	56
26	08:08		07:12		06:08		05:58		05:08		04:56	
	16:51		17:49	15	18:39	17	20:33	16	21:21	47	21:43	56
27	08:07		07:10		06:05		05:56		05:07		04:56	
	16:53		17:51	19	18:41	23	20:35	13	21:22	48	21:43	56
28	08:06		07:08		06:03		05:54		05:06		04:57	
	16:55		17:53	23	18:43	26	20:36	9	21:23	49	21:43	55
29	08:04				07:01		05:52		05:05		04:57	
	16:57				19:44	28	20:38		21:25	50	21:43	56
30	08:03				06:58		05:50		05:04		04:58	
	16:58				19:46	30	20:40		21:26	52	21:43	56
31	08:01				06:56				05:03			
	17:00				19:48	31			21:27	52		
Sonnenscheinstunden	257		277		367		417		487		501	
astr.max.mögl.Beschattung				65		578		650		574		1660
Red.Sonnenscheinwahrsch.				0,25		0,29		0,37		0,45		0,40
Reduktion Betriebsdauer				1,00		1,00		1,00		1,00		1,00
Reduktion Windrichtung				0,76		0,75		0,72		0,63		0,63
Gesamte Reduktion				0,19		0,22		0,27		0,28		0,25
Met.wahrsch.Beschattung				12		127		175		163		418

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: P - Siedlung 13

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August			September		Oktober		November	Dezember
1	04:59		20:07 (6)	05:36		06:26		18:41 (4)	07:16	17:31 (5)	07:11	08:03
	21:42	56	21:03 (1)	21:10		20:07	25	19:06 (4)	18:56	24 17:55 (5)	16:49	16:08
2	04:59		20:07 (6)	05:37		06:28		18:39 (4)	07:18	17:30 (5)	07:13	08:04
	21:42	56	21:03 (1)	21:08		20:05	27	19:06 (4)	18:54	26 17:56 (5)	16:47	16:07
3	05:00		20:07 (6)	05:39		06:30		18:39 (4)	07:20	17:28 (5)	07:15	08:06
	21:42	56	21:03 (1)	21:06		20:02	28	19:07 (4)	18:52	28 17:56 (5)	16:46	16:07
4	05:01		20:08 (6)	05:40		06:31		18:38 (4)	07:22	17:27 (5)	07:17	08:07
	21:41	55	21:03 (1)	21:05		20:00	29	19:07 (4)	18:49	29 17:56 (5)	16:44	16:06
5	05:02		20:08 (6)	05:42		06:33		18:37 (4)	07:23	17:27 (5)	07:19	08:09
	21:41	56	21:04 (1)	21:03		19:58	30	19:07 (4)	18:47	30 17:57 (5)	16:42	16:06
6	05:02		20:09 (6)	05:44		06:35		18:36 (4)	07:25	17:26 (5)	07:20	08:10
	21:40	55	21:04 (1)	21:01		19:55	31	19:07 (4)	18:45	31 17:57 (5)	16:40	16:05
7	05:03		20:08 (6)	05:45		06:36		18:35 (4)	07:27	17:25 (5)	07:22	08:11
	21:40	55	21:03 (1)	20:59		19:53	31	19:06 (4)	18:43	31 17:56 (5)	16:38	16:05
8	05:04		20:08 (6)	05:47		06:38		18:35 (4)	07:28	17:25 (5)	07:24	08:12
	21:39	55	21:03 (1)	20:57		19:51	31	19:06 (3)	18:40	31 17:56 (5)	16:37	16:04
9	05:05		20:09 (6)	05:48		06:40		18:36 (4)	07:30	17:25 (5)	07:26	08:14
	21:38	54	21:03 (1)	20:56		19:48	31	19:07 (3)	18:38	30 17:55 (5)	16:35	16:04
10	05:06		20:09 (6)	05:50		06:41		18:35 (4)	07:32	17:26 (5)	07:28	08:15
	21:38	54	21:03 (1)	20:54		19:46	31	19:06 (3)	18:36	29 17:55 (5)	16:33	16:04
11	05:07		20:09 (6)	05:52		06:43		18:35 (4)	07:34	17:25 (5)	07:29	08:16
	21:37	53	21:02 (1)	20:52		19:44	32	19:07 (3)	18:33	28 17:53 (5)	16:32	16:04
12	05:08		20:10 (6)	05:53		06:45		18:35 (4)	07:35	17:26 (5)	07:31	08:17
	21:36	52	21:02 (1)	20:50		19:41	31	19:06 (3)	18:31	26 17:52 (5)	16:30	16:04
13	05:10		20:10 (6)	05:55		06:46		18:36 (4)	07:37	17:27 (5)	07:33	08:18
	21:35	52	21:02 (1)	20:48		19:39	30	19:06 (3)	18:29	24 17:51 (5)	16:29	16:03
14	05:11		20:10 (6)	05:57		06:48		18:37 (4)	07:39	17:28 (5)	07:35	08:19
	21:34	51	21:01 (1)	20:46		19:37	29	19:06 (3)	18:27	22 17:50 (5)	16:27	16:03
15	05:12		20:11 (6)	05:58		19:40 (2)	06:50		18:38 (4)	07:41	17:30 (5)	07:37	08:20
	21:33	50	21:01 (1)	20:44	10	19:50 (2)	19:34	26	19:04 (3)	18:24	18 17:48 (5)	16:26	16:04
16	05:13		20:12 (6)	06:00		19:38 (2)	06:51		18:40 (4)	07:42	17:32 (5)	07:38	08:21
	21:32	48	21:00 (1)	20:42	14	19:52 (2)	19:32	23	19:03 (3)	18:22	13 17:45 (5)	16:24	16:04
17	05:14		20:12 (6)	06:02		19:36 (2)	06:53		18:42 (4)	07:44		07:40	08:22
	21:31	47	20:59 (1)	20:40	17	19:53 (2)	19:29	19	19:01 (3)	18:20		16:23	16:04
18	05:16		20:12 (6)	06:03		19:35 (2)	06:55		18:46 (3)	07:46		07:42	08:22
	21:30	45	20:58 (1)	20:38	19	19:54 (2)	19:27	13	18:59 (3)	18:18		16:22	16:04
19	05:17		20:12 (6)	06:05		19:34 (2)	06:56		18:49 (3)	07:48		07:44	08:23
	21:29	40	20:56 (1)	20:35	20	19:54 (2)	19:25	7	18:56 (3)	18:16		16:20	16:04
20	05:18		20:14 (6)	06:07		19:34 (2)	06:58			07:49		07:45	08:24
	21:27	31	20:45 (6)	20:33	21	19:55 (2)	19:22			18:14		16:19	16:05
21	05:20		20:14 (6)	06:08		19:33 (2)	07:00			07:51		07:47	08:24
	21:26	30	20:44 (6)	20:31	22	19:55 (2)	19:20			18:11		16:18	16:05
22	05:21		20:15 (6)	06:10		19:33 (2)	07:01			07:53		07:49	08:25
	21:25	28	20:43 (6)	20:29	21	19:54 (2)	19:18			18:09		16:17	16:06
23	05:22		20:15 (6)	06:12		19:33 (2)	07:03			07:55		07:50	08:25
	21:24	27	20:42 (6)	20:27	22	19:55 (2)	19:15			18:07		16:15	16:06
24	05:24		20:17 (6)	06:13		19:32 (2)	07:05			07:57		07:52	08:26
	21:22	25	20:42 (6)	20:25	22	19:54 (2)	19:13			18:05		16:14	16:07
25	05:25		20:18 (6)	06:15		19:33 (2)	07:06			06:58		07:54	08:26
	21:21	22	20:40 (6)	20:23	20	19:53 (2)	19:11			17:03		16:13	16:07
26	05:27		20:18 (6)	06:17		19:32 (2)	07:08			07:00		07:55	08:26
	21:19	21	20:39 (6)	20:20	20	19:52 (2)	19:08			17:01		16:12	16:08
27	05:28		20:21 (6)	06:18		19:33 (2)	07:10			07:02		07:57	08:27
	21:18	17	20:38 (6)	20:18	17	19:50 (2)	19:06			16:59		16:11	16:09
28	05:30		20:23 (6)	06:20		18:54 (4)	07:11		17:38 (5)	07:04		07:59	08:27
	21:16	12	20:35 (6)	20:16	17	19:49 (2)	19:03	13	17:51 (5)	16:57		16:10	16:10
29	05:31		20:28 (6)	06:22		18:48 (4)	07:13		17:34 (5)	07:06		08:00	08:27
	21:15	2	20:30 (6)	20:14	23	19:46 (2)	19:01	18	17:52 (5)	16:55		16:10	16:10
30	05:33			06:23		18:45 (4)	07:15		17:32 (5)	07:08		08:02	08:27
	21:13			20:11	21	19:43 (2)	18:59	22	17:54 (5)	16:53		16:09	16:11
31	05:34			06:25		18:43 (4)				07:09			08:27
	21:12			20:09	21	19:04 (4)				16:51			16:12
Sonnenscheinstunden	504			455			381			331		265	241
astr.max.mögl.Beschattung		1205			327			557		420			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37		0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00		1,00			
Reduktion Windrichtung		0,63			0,70			0,74		0,76			
Gesamte Reduktion		0,26			0,31			0,28		0,24			
Met.wahrsch.Beschattung		319			102			154		99			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: Q - Siedlung 15

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar			März			April			Mai			Juni		
1	08:27		08:00			07:05		16:51 (5)	06:54		18:42 (4)	05:48			05:02		20:02 (6)
	16:14		17:02			17:55	26	17:17 (5)	19:50	32	19:14 (3)	20:42			21:28	53	20:55 (1)
2	08:27		07:58			07:03		16:50 (5)	06:51		18:40 (4)	05:46			05:01		20:01 (6)
	16:15		17:04			17:56	28	17:18 (5)	19:51	33	19:13 (3)	20:43			21:29	54	20:55 (1)
3	08:27		07:56			07:01		16:49 (5)	06:49		18:40 (4)	05:44			05:00		20:01 (6)
	16:16		17:06			17:58	29	17:18 (5)	19:53	32	19:12 (3)	20:45			21:30	54	20:55 (1)
4	08:27		07:55			06:59		16:48 (5)	06:47		18:40 (4)	05:42			04:59		20:02 (6)
	16:17		17:08			18:00	31	17:19 (5)	19:55	31	19:11 (3)	20:47			21:32	54	20:56 (1)
5	08:26		07:53			06:56		16:48 (5)	06:44		18:39 (4)	05:40			04:59		20:02 (6)
	16:18		17:10			18:02	31	17:19 (5)	19:57	31	19:10 (4)	20:48			21:33	55	20:57 (1)
6	08:26		07:51			06:54		16:48 (5)	06:42		18:39 (4)	05:38			04:58		20:02 (6)
	16:19		17:12			18:04	31	17:19 (5)	19:58	31	19:10 (4)	20:50			21:34	55	20:57 (1)
7	08:26		07:50			06:52		16:47 (5)	06:40		18:39 (4)	05:37			04:57		20:02 (6)
	16:21		17:13			18:06	31	17:18 (5)	20:00	31	19:10 (4)	20:52			21:34	55	20:57 (1)
8	08:25		07:48			06:50		16:48 (5)	06:38		18:39 (4)	05:35			04:57		20:02 (6)
	16:22		17:15			18:07	30	17:18 (5)	20:02	29	19:08 (4)	20:53			21:35	56	20:58 (1)
9	08:25		07:46			06:47		16:48 (5)	06:35		18:40 (4)	05:33			04:56		20:02 (6)
	16:23		17:17			18:09	30	17:18 (5)	20:04	27	19:07 (4)	20:55			21:36	56	20:58 (1)
10	08:24		07:44			06:45		16:48 (5)	06:33		18:40 (4)	05:31			04:56		20:02 (6)
	16:25		17:19			18:11	28	17:16 (5)	20:05	27	19:07 (4)	20:57			21:37	57	20:59 (1)
11	08:24		07:42			06:43		16:49 (5)	06:31		18:41 (4)	05:30			04:55		20:03 (6)
	16:26		17:21			18:13	26	17:15 (5)	20:07	24	19:05 (4)	20:58			21:38	56	20:59 (1)
12	08:23		07:40			06:40		16:50 (5)	06:28		18:43 (4)	05:28			04:55		20:02 (6)
	16:28		17:23			18:15	25	17:15 (5)	20:09	21	19:04 (4)	21:00			21:39	57	20:59 (1)
13	08:22		07:39			06:38		16:51 (5)	06:26		18:44 (4)	05:26			04:55		20:03 (6)
	16:29		17:25			18:16	21	17:12 (5)	20:10	23	19:43 (2)	21:01			21:39	56	20:59 (1)
14	08:21		07:37			06:36		16:53 (5)	06:24		18:46 (4)	05:25			04:55		20:03 (6)
	16:31		17:27			18:18	18	17:11 (5)	20:12	23	19:45 (2)	21:03			21:40	57	21:00 (1)
15	08:21		07:35			06:34		16:56 (5)	06:22		19:32 (2)	05:23		20:16 (6)	04:54		20:03 (6)
	16:32		17:29			18:20	12	17:08 (5)	20:14	15	19:47 (2)	21:05	4	20:20 (6)	21:40	57	21:00 (1)
16	08:20		07:33			06:31			06:19		19:31 (2)	05:21		20:12 (6)	04:54		20:04 (6)
	16:34		17:30			18:22			20:16	18	19:49 (2)	21:06	13	20:25 (6)	21:41	56	21:00 (1)
17	08:19		07:31			06:29			06:17		19:30 (2)	05:20		20:10 (6)	04:54		20:04 (6)
	16:35		17:32			18:23			20:17	20	19:50 (2)	21:08	17	20:27 (6)	21:41	57	21:01 (1)
18	08:18		07:29			06:27			06:15		19:29 (2)	05:18		20:08 (6)	04:54		20:04 (6)
	16:37		17:34			18:25			20:19	21	19:50 (2)	21:09	20	20:28 (6)	21:42	57	21:01 (1)
19	08:17		07:27			06:24			06:13		19:28 (2)	05:17		20:07 (6)	04:54		20:04 (6)
	16:39		17:36			18:27			20:21	22	19:50 (2)	21:11	23	20:30 (6)	21:42	57	21:01 (1)
20	08:16		07:25			06:22			06:11		19:27 (2)	05:16		20:06 (6)	04:54		20:04 (6)
	16:41		17:38			18:29			20:23	23	19:50 (2)	21:12	25	20:31 (6)	21:42	57	21:01 (1)
21	08:15		07:23			06:20			06:09		19:27 (2)	05:14		20:06 (6)	04:54		20:04 (6)
	16:42		17:40			18:30			20:24	22	19:49 (2)	21:14	27	20:33 (6)	21:43	57	21:01 (1)
22	08:13		07:20			06:17			06:06		19:27 (2)	05:13		20:04 (6)	04:55		20:05 (6)
	16:44		17:42			18:32			20:26	22	19:49 (2)	21:15	29	20:33 (6)	21:43	57	21:02 (1)
23	08:12		07:18			06:15			06:04		19:28 (2)	05:12		20:04 (6)	04:55		20:05 (6)
	16:46		17:44			18:34			20:28	21	19:49 (2)	21:17	29	20:33 (6)	21:43	57	21:02 (1)
24	08:11		07:16		17:04 (5)	06:12		18:00 (3)	06:02		19:28 (2)	05:10		20:03 (6)	04:55		20:05 (6)
	16:47		17:45	1	17:05 (5)	18:36	8	18:08 (3)	20:30	20	19:48 (2)	21:18	31	20:34 (6)	21:43	57	21:02 (1)
25	08:10		07:14		16:58 (5)	06:10		17:58 (3)	06:00		19:29 (2)	05:09		20:03 (6)	04:55		20:06 (6)
	16:49		17:47	13	17:11 (5)	18:37	13	18:11 (3)	20:31	18	19:47 (2)	21:19	40	20:47 (1)	21:43	57	21:03 (1)
26	08:08		07:12		16:56 (5)	06:08		17:53 (4)	05:58		19:29 (2)	05:08		20:02 (6)	04:56		20:06 (6)
	16:51		17:49	18	17:14 (5)	18:39	20	18:13 (3)	20:33	17	19:46 (2)	21:21	46	20:49 (1)	21:43	56	21:02 (1)
27	08:07		07:10		16:54 (5)	06:05		17:49 (4)	05:56		19:31 (2)	05:07		20:02 (6)	04:56		20:07 (6)
	16:53		17:51	22	17:16 (5)	18:41	24	18:13 (3)	20:35	13	19:44 (2)	21:22	48	20:50 (1)	21:43	56	21:03 (1)
28	08:06		07:08		16:52 (5)	06:03		17:47 (4)	05:54		19:33 (2)	05:06		20:02 (6)	04:57		20:06 (6)
	16:55		17:53	24	17:16 (5)	18:43	27	18:14 (3)	20:36	8	19:41 (2)	21:23	49	20:51 (1)	21:43	57	21:03 (1)
29	08:04					07:01		18:45 (4)	05:52			05:05		20:02 (6)	04:57		20:07 (6)
	16:57					19:44	30	19:15 (3)	20:38			21:25	50	20:52 (1)	21:43	56	21:03 (1)
30	08:03					06:58		18:43 (4)	05:50			05:04		20:01 (6)	04:58		20:07 (6)
	16:58					19:46	31	19:14 (3)	20:40			21:26	52	20:53 (1)	21:43	56	21:03 (1)
31	08:01					06:56		18:42 (4)				05:03		20:02 (6)			
	17:00					19:48	32	19:14 (3)				21:27	52	20:54 (1)			
Sonnenscheinstunden	257		277			367			417			487			501		
astr.max.mögl.Beschattung				78			582			655			555			1682	
Red.Sonnenscheinwahrsch.				0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer				1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung				0,76			0,75			0,72			0,63			0,63	
Gesamte Reduktion				0,19			0,22			0,27			0,28			0,25	
Met.wahrsch.Beschattung				15			127			177			158			423	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: Q - Siedlung 15

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August			September		Oktober		November	Dezember
1	04:59		20:07 (6)	05:36		06:26		18:40 (4)	07:16	17:30 (5)	07:11	08:03
	21:42	56	21:03 (1)	21:10		20:07	24	19:04 (4)	18:56	23	17:53 (5)	16:49	16:08
2	04:59		20:07 (6)	05:37		06:28		18:38 (4)	07:18		17:28 (5)	07:13	08:04
	21:42	56	21:03 (1)	21:08		20:05	27	19:05 (4)	18:54	26	17:54 (5)	16:47	16:07
3	05:00		20:07 (6)	05:39		06:30		18:38 (4)	07:20		17:26 (5)	07:15	08:06
	21:42	56	21:03 (1)	21:06		20:02	27	19:05 (4)	18:52	28	17:54 (5)	16:46	16:07
4	05:01		20:08 (6)	05:40		06:31		18:37 (4)	07:22		17:25 (5)	07:17	08:07
	21:41	55	21:03 (1)	21:05		20:00	29	19:06 (4)	18:49	29	17:54 (5)	16:44	16:06
5	05:02		20:08 (6)	05:42		06:33		18:35 (4)	07:23		17:25 (5)	07:19	08:09
	21:41	56	21:04 (1)	21:03		19:58	31	19:06 (4)	18:47	30	17:55 (5)	16:42	16:06
6	05:02		20:08 (6)	05:44		06:35		18:35 (4)	07:25		17:24 (5)	07:20	08:10
	21:40	56	21:04 (1)	21:01		19:55	31	19:06 (4)	18:45	31	17:55 (5)	16:40	16:05
7	05:03		20:08 (6)	05:45		06:36		18:34 (4)	07:27		17:23 (5)	07:22	08:11
	21:40	55	21:03 (1)	20:59		19:53	31	19:05 (4)	18:43	31	17:54 (5)	16:38	16:05
8	05:04		20:08 (6)	05:47		06:38		18:34 (4)	07:28		17:23 (5)	07:24	08:12
	21:39	55	21:03 (1)	20:57		19:51	31	19:05 (3)	18:40	31	17:54 (5)	16:37	16:04
9	05:05		20:09 (6)	05:48		06:40		18:34 (4)	07:30		17:23 (5)	07:26	08:14
	21:38	54	21:03 (1)	20:56		19:48	32	19:06 (3)	18:38	31	17:54 (5)	16:35	16:04
10	05:06		20:09 (6)	05:50		06:41		18:33 (4)	07:32		17:24 (5)	07:28	08:15
	21:38	54	21:03 (1)	20:54		19:46	33	19:06 (3)	18:36	29	17:53 (5)	16:33	16:04
11	05:07		20:09 (6)	05:52		06:43		18:34 (4)	07:34		17:23 (5)	07:29	08:16
	21:37	53	21:02 (1)	20:52		19:44	32	19:06 (3)	18:33	29	17:52 (5)	16:32	16:04
12	05:08		20:09 (6)	05:53		06:45		18:34 (4)	07:35		17:24 (5)	07:31	08:17
	21:36	53	21:02 (1)	20:50		19:41	31	19:05 (3)	18:31	27	17:51 (5)	16:30	16:04
13	05:10		20:10 (6)	05:55		06:46		18:34 (4)	07:37		17:24 (5)	07:33	08:18
	21:35	52	21:02 (1)	20:48		19:39	31	19:05 (3)	18:29	26	17:50 (5)	16:29	16:03
14	05:11		20:10 (6)	05:57		06:48		18:36 (4)	07:39		17:25 (5)	07:35	08:19
	21:34	51	21:01 (1)	20:46		19:37	29	19:05 (3)	18:27	24	17:49 (5)	16:27	16:03
15	05:12		20:11 (6)	05:58	19:40 (2)	06:50		18:36 (4)	07:41		17:27 (5)	07:37	08:20
	21:33	50	21:01 (1)	20:44	10 19:50 (2)	19:34	27	19:03 (3)	18:24	20	17:47 (5)	16:26	16:04
16	05:13		20:11 (6)	06:00	19:38 (2)	06:51		18:38 (4)	07:42		17:29 (5)	07:38	08:21
	21:32	49	21:00 (1)	20:42	14 19:52 (2)	19:32	25	19:03 (3)	18:22	16	17:45 (5)	16:24	16:04
17	05:14		20:12 (6)	06:02	19:36 (2)	06:53		18:40 (4)	07:44		17:31 (5)	07:40	08:22
	21:31	46	20:59 (1)	20:40	16 19:52 (2)	19:29	21	19:01 (3)	18:20	10	17:41 (5)	16:23	16:04
18	05:16		20:12 (6)	06:03	19:35 (2)	06:55		18:45 (3)	07:46			07:42	08:22
	21:30	43	20:57 (1)	20:38	19 19:54 (2)	19:27	14	18:59 (3)	18:18			16:22	16:04
19	05:17		20:12 (6)	06:05	19:33 (2)	06:56		18:47 (3)	07:48			07:44	08:23
	21:29	36	20:54 (1)	20:35	21 19:54 (2)	19:25	10	18:57 (3)	18:16			16:20	16:04
20	05:18		20:14 (6)	06:07	19:33 (2)	06:58			07:49			07:45	08:24
	21:27	30	20:44 (6)	20:33	21 19:54 (2)	19:22			18:14			16:19	16:05
21	05:20		20:14 (6)	06:08	19:33 (2)	07:00			07:51			07:47	08:24
	21:26	30	20:44 (6)	20:31	22 19:55 (2)	19:20			18:11			16:18	16:05
22	05:21		20:15 (6)	06:10	19:32 (2)	07:01			07:53			07:49	08:25
	21:25	28	20:43 (6)	20:29	22 19:54 (2)	19:18			18:09			16:17	16:06
23	05:22		20:15 (6)	06:12	19:32 (2)	07:03			07:55			07:50	08:25
	21:24	27	20:42 (6)	20:27	22 19:54 (2)	19:15			18:07			16:15	16:06
24	05:24		20:17 (6)	06:13	19:32 (2)	07:05			07:57			07:52	08:26
	21:22	24	20:41 (6)	20:25	21 19:53 (2)	19:13			18:05			16:14	16:07
25	05:25		20:18 (6)	06:15	19:32 (2)	07:06			06:58			07:54	08:26
	21:21	22	20:40 (6)	20:23	21 19:53 (2)	19:11			17:03			16:13	16:07
26	05:27		20:19 (6)	06:17	19:32 (2)	07:08			07:00			07:55	08:26
	21:19	19	20:38 (6)	20:20	20 19:52 (2)	19:08			17:01			16:12	16:08
27	05:28		20:21 (6)	06:18	19:33 (2)	07:10			07:02			07:57	08:27
	21:18	16	20:37 (6)	20:18	17 19:50 (2)	19:06			16:59			16:11	16:09
28	05:30		20:24 (6)	06:20	19:34 (2)	07:11		17:38 (5)	07:04			07:59	08:27
	21:16	10	20:34 (6)	20:16	15 19:49 (2)	19:03	9	17:47 (5)	16:57			16:10	16:10
29	05:31			06:22	18:47 (4)	07:13		17:33 (5)	07:06			08:00	08:27
	21:15			20:14	24 19:46 (2)	19:01	16	17:49 (5)	16:55			16:10	16:10
30	05:33			06:23	18:44 (4)	07:15		17:31 (5)	07:08			08:02	08:27
	21:13			20:11	23 19:44 (2)	18:59	20	17:51 (5)	16:53			16:09	16:11
31	05:34			06:25	18:42 (4)				07:09				08:27
	21:12			20:09	21 19:03 (4)				16:51				16:12
Sonnenscheinstunden	504			455		381			331			265	241
astr.max.mögl.Beschattung		1192			329		561			441			
Red.Sonnenscheinwahrsch.		0,42			0,44		0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00		1,00			1,00			
Reduktion Windrichtung		0,63			0,70		0,74			0,76			
Gesamte Reduktion		0,26			0,31		0,28			0,24			
Met.wahrsch.Beschattung		315			103		155			104			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: R - Siedlung 17

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		16:48 (5)	06:54		18:42 (4)	05:48			05:02		20:05 (6)
	16:14	17:02			17:55	28	17:16 (5)	19:50	32	19:14 (3)	20:42			21:28	50	20:55 (1)
2	08:27	07:58			07:03		16:48 (5)	06:51		18:40 (4)	05:46			05:01		20:05 (6)
	16:15	17:04			17:56	29	17:17 (5)	19:51	33	19:13 (3)	20:43			21:29	51	20:56 (1)
3	08:27	07:56			07:01		16:46 (5)	06:49		18:40 (4)	05:44			05:00		20:04 (6)
	16:16	17:06			17:58	31	17:17 (5)	19:53	32	19:12 (3)	20:45			21:30	52	20:56 (1)
4	08:27	07:55			06:59		16:46 (5)	06:47		18:39 (4)	05:42			04:59		20:05 (6)
	16:17	17:08			18:00	31	17:17 (5)	19:55	33	19:12 (3)	20:47			21:32	53	20:58 (1)
5	08:26	07:53			06:56		16:46 (5)	06:44		18:38 (4)	05:40			04:59		20:04 (6)
	16:18	17:10			18:02	32	17:18 (5)	19:57	32	19:10 (3)	20:48			21:33	54	20:58 (1)
6	08:26	07:51			06:54		16:46 (5)	06:42		18:38 (4)	05:38			04:58		20:05 (6)
	16:19	17:12			18:04	32	17:18 (5)	19:58	32	19:10 (4)	20:50			21:34	54	20:59 (1)
7	08:26	07:50			06:52		16:45 (5)	06:40		18:38 (4)	05:37			04:57		20:05 (6)
	16:21	17:13			18:06	32	17:17 (5)	20:00	32	19:10 (4)	20:52			21:34	54	20:59 (1)
8	08:25	07:48			06:50		16:46 (5)	06:38		18:38 (4)	05:35			04:57		20:05 (6)
	16:22	17:15			18:07	31	17:17 (5)	20:02	31	19:09 (4)	20:53			21:35	55	21:00 (1)
9	08:25	07:46			06:47		16:46 (5)	06:35		18:38 (4)	05:33			04:56		20:05 (6)
	16:23	17:17			18:09	30	17:16 (5)	20:04	30	19:08 (4)	20:55			21:36	55	21:00 (1)
10	08:24	07:44			06:45		16:46 (5)	06:33		18:39 (4)	05:31			04:56		20:05 (6)
	16:25	17:19			18:11	29	17:15 (5)	20:05	28	19:07 (4)	20:57			21:37	55	21:00 (1)
11	08:24	07:42			06:43		16:47 (5)	06:31		18:40 (4)	05:30			04:55		20:05 (6)
	16:26	17:21			18:13	27	17:14 (5)	20:07	27	19:07 (4)	20:58			21:38	56	21:01 (1)
12	08:23	07:40			06:40		16:48 (5)	06:28		18:41 (4)	05:28			04:55		20:05 (6)
	16:28	17:23			18:15	25	17:13 (5)	20:09	24	19:05 (4)	21:00			21:39	56	21:01 (1)
13	08:22	07:39			06:38		16:48 (5)	06:26		18:41 (4)	05:26			04:55		20:05 (6)
	16:29	17:25			18:16	23	17:11 (5)	20:10	22	19:03 (4)	21:01			21:39	56	21:01 (1)
14	08:21	07:37			06:36		16:50 (5)	06:24		18:43 (4)	05:25			04:55		20:06 (6)
	16:31	17:27			18:18	19	17:09 (5)	20:12	26	19:45 (2)	21:03			21:40	56	21:02 (1)
15	08:21	07:35			06:34		16:53 (5)	06:22		18:46 (4)	05:23			04:54		20:06 (6)
	16:32	17:29			18:20	14	17:07 (5)	20:14	25	19:47 (2)	21:05			21:40	56	21:02 (1)
16	08:20	07:33			06:31			06:19		19:32 (2)	05:21			04:54		20:06 (6)
	16:34	17:30			18:22			20:16	17	19:49 (2)	21:06			21:41	56	21:02 (1)
17	08:19	07:31			06:29			06:17		19:31 (2)	05:20			04:54		20:06 (6)
	16:35	17:32			18:23			20:17	19	19:50 (2)	21:08			21:41	57	21:03 (1)
18	08:18	07:29			06:27			06:15		19:30 (2)	05:18		20:18 (6)	04:54		20:06 (6)
	16:37	17:34			18:25			20:19	21	19:51 (2)	21:09	6	20:24 (6)	21:42	57	21:03 (1)
19	08:17	07:27			06:24			06:13		19:29 (2)	05:17		20:15 (6)	04:54		20:07 (6)
	16:39	17:36			18:27			20:21	21	19:50 (2)	21:11	13	20:28 (6)	21:42	56	21:03 (1)
20	08:16	07:25			06:22			06:11		19:28 (2)	05:16		20:13 (6)	04:54		20:07 (6)
	16:41	17:38			18:29			20:23	22	19:50 (2)	21:12	17	20:30 (6)	21:42	56	21:03 (1)
21	08:15	07:23			06:20			06:09		19:28 (2)	05:14		20:11 (6)	04:54		20:07 (6)
	16:42	17:40			18:30			20:24	22	19:50 (2)	21:14	21	20:32 (6)	21:43	56	21:03 (1)
22	08:13	07:20			06:17			06:06		19:28 (2)	05:13		20:09 (6)	04:55		20:08 (6)
	16:44	17:42			18:32			20:26	22	19:50 (2)	21:15	24	20:33 (6)	21:43	56	21:04 (1)
23	08:12	07:18			06:15			06:04		19:28 (2)	05:12		20:09 (6)	04:55		20:08 (6)
	16:46	17:44			18:34			20:28	22	19:50 (2)	21:17	25	20:34 (6)	21:43	56	21:04 (1)
24	08:11	07:16		16:59 (5)	06:12		18:02 (3)	06:02		19:28 (2)	05:10		20:08 (6)	04:55		20:07 (6)
	16:47	17:45	8	17:07 (5)	18:36	5	18:07 (3)	20:30	21	19:49 (2)	21:18	27	20:35 (6)	21:43	57	21:04 (1)
25	08:10	07:14		16:55 (5)	06:10		17:58 (3)	06:00		19:28 (2)	05:09		20:07 (6)	04:55		20:08 (6)
	16:49	17:47	16	17:11 (5)	18:37	13	18:11 (3)	20:31	21	19:49 (2)	21:19	29	20:36 (6)	21:43	57	21:05 (1)
26	08:08	07:12		16:53 (5)	06:08		17:55 (4)	05:58		19:29 (2)	05:08		20:07 (6)	04:56		20:08 (6)
	16:51	17:49	20	17:13 (5)	18:39	18	18:13 (3)	20:33	19	19:48 (2)	21:21	30	20:37 (6)	21:43	56	21:04 (1)
27	08:07	07:10		16:51 (5)	06:05		17:50 (4)	05:56		19:30 (2)	05:07		20:06 (6)	04:56		20:09 (6)
	16:53	17:51	24	17:15 (5)	18:41	23	18:13 (3)	20:35	16	19:46 (2)	21:22	31	20:37 (6)	21:43	56	21:05 (1)
28	08:06	07:08		16:49 (5)	06:03		17:47 (4)	05:54		19:31 (2)	05:06		20:06 (6)	04:57		20:09 (6)
	16:55	17:53	26	17:15 (5)	18:43	27	18:14 (3)	20:36	14	19:45 (2)	21:23	41	20:50 (1)	21:43	56	21:05 (1)
29	08:04				07:01		18:46 (4)	05:52		19:33 (2)	05:05		20:05 (6)	04:57		20:09 (6)
	16:57				19:44	29	19:15 (3)	20:38	9	19:42 (2)	21:25	44	20:51 (1)	21:43	56	21:05 (1)
30	08:03				06:58		18:43 (4)	05:50			05:04		20:05 (6)	04:58		20:09 (6)
	16:58				19:46	31	19:14 (3)	20:40			21:26	48	20:53 (1)	21:43	56	21:05 (1)
31	08:01				06:56		18:42 (4)				05:03		20:06 (6)			
	17:00				19:48	32	19:14 (3)				21:27	49	20:55 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			94			591			705			405			1657	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,76			0,75			0,72			0,63			0,63	
Gesamte Reduktion			0,19			0,22			0,27			0,28			0,25	
Met.wahrsch.Beschattung			18			129			190			115			415	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: R - Siedlung 17

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August			September		Oktober		November	Dezember
1	04:59		20:10 (6)	05:36		06:26		18:39 (4)	07:16	17:27 (5)	07:11	08:03
	21:42	55	21:05 (1)	21:10		20:07	27	19:06 (4)	18:56	24	17:51 (5)	16:49	16:08
2	04:59		20:09 (6)	05:37		06:28		18:37 (4)	07:18		17:26 (5)	07:13	08:04
	21:42	56	21:05 (1)	21:08		20:05	28	19:05 (4)	18:54	27	17:53 (5)	16:47	16:07
3	05:00		20:10 (6)	05:39		06:30		18:36 (4)	07:20		17:24 (5)	07:15	08:06
	21:42	55	21:05 (1)	21:06		20:02	30	19:06 (4)	18:52	28	17:52 (5)	16:46	16:07
4	05:01		20:10 (6)	05:40		06:31		18:36 (4)	07:22		17:23 (5)	07:17	08:07
	21:41	55	21:05 (1)	21:05		20:00	31	19:07 (4)	18:49	30	17:53 (5)	16:44	16:06
5	05:02		20:11 (6)	05:42		06:33		18:35 (4)	07:23		17:23 (5)	07:19	08:09
	21:41	54	21:05 (1)	21:03		19:58	31	19:06 (4)	18:47	30	17:53 (5)	16:42	16:06
6	05:02		20:11 (6)	05:44		06:35		18:34 (4)	07:25		17:22 (5)	07:20	08:10
	21:40	54	21:05 (1)	21:01		19:55	32	19:06 (4)	18:45	32	17:54 (5)	16:40	16:05
7	05:03		20:11 (6)	05:45		06:36		18:33 (4)	07:27		17:21 (5)	07:22	08:11
	21:40	53	21:04 (1)	20:59		19:53	32	19:05 (3)	18:43	32	17:53 (5)	16:38	16:05
8	05:04		20:11 (6)	05:47		06:38		18:33 (4)	07:28		17:21 (5)	07:24	08:12
	21:39	53	21:04 (1)	20:57		19:51	33	19:06 (3)	18:40	32	17:53 (5)	16:37	16:04
9	05:05		20:12 (6)	05:48		06:40		18:34 (4)	07:30		17:21 (5)	07:26	08:14
	21:38	52	21:04 (1)	20:56		19:48	33	19:07 (3)	18:38	31	17:52 (5)	16:35	16:04
10	05:06		20:12 (6)	05:50		06:41		18:33 (4)	07:32		17:21 (5)	07:28	08:15
	21:38	52	21:04 (1)	20:54		19:46	33	19:06 (3)	18:36	31	17:52 (5)	16:33	16:04
11	05:07		20:12 (6)	05:52		06:43		18:34 (4)	07:34		17:21 (5)	07:29	08:16
	21:37	51	21:03 (1)	20:52		19:44	32	19:06 (3)	18:33	30	17:51 (5)	16:32	16:04
12	05:08		20:13 (6)	05:53		06:45		18:33 (4)	07:35		17:21 (5)	07:31	08:17
	21:36	49	21:02 (1)	20:50		19:41	32	19:05 (3)	18:31	29	17:50 (5)	16:30	16:04
13	05:10		20:13 (6)	05:55	19:45 (2)	06:46		18:34 (4)	07:37		17:22 (5)	07:33	08:18
	21:35	49	21:02 (1)	20:48	2 19:47 (2)	19:39	31	19:05 (3)	18:29	27	17:49 (5)	16:29	16:03
14	05:11		20:14 (6)	05:57	19:41 (2)	06:48		18:36 (4)	07:39		17:23 (5)	07:35	08:19
	21:34	47	21:01 (1)	20:46	11 19:52 (2)	19:37	29	19:05 (3)	18:27	25	17:48 (5)	16:27	16:03
15	05:12		20:15 (6)	05:58	19:38 (2)	06:50		18:36 (4)	07:41		17:24 (5)	07:37	08:20
	21:33	43	21:00 (1)	20:44	15 19:53 (2)	19:34	27	19:03 (3)	18:24	22	17:46 (5)	16:26	16:04
16	05:13		20:16 (6)	06:00	19:37 (2)	06:51		18:38 (4)	07:42		17:26 (5)	07:38	08:21
	21:32	37	20:58 (1)	20:42	17 19:54 (2)	19:32	25	19:03 (3)	18:22	18	17:44 (5)	16:24	16:04
17	05:14		20:16 (6)	06:02	19:35 (2)	06:53		18:41 (4)	07:44		17:27 (5)	07:40	08:22
	21:31	30	20:46 (6)	20:40	19 19:54 (2)	19:29	19	19:00 (3)	18:20	14	17:41 (5)	16:23	16:04
18	05:16		20:17 (6)	06:03	19:35 (2)	06:55		18:45 (3)	07:46		17:33 (5)	07:42	08:22
	21:30	29	20:46 (6)	20:38	20 19:55 (2)	19:27	14	18:59 (3)	18:18	2	17:35 (5)	16:22	16:04
19	05:17		20:17 (6)	06:05	19:34 (2)	06:56		18:48 (3)	07:48			07:44	08:23
	21:29	28	20:45 (6)	20:35	21 19:55 (2)	19:25	8	18:56 (3)	18:16			16:20	16:04
20	05:18		20:19 (6)	06:07	19:33 (2)	06:58			07:49			07:45	08:24
	21:27	26	20:45 (6)	20:33	23 19:56 (2)	19:22			18:14			16:19	16:05
21	05:20		20:20 (6)	06:08	19:33 (2)	07:00			07:51			07:47	08:24
	21:26	24	20:44 (6)	20:31	23 19:56 (2)	19:20			18:11			16:18	16:05
22	05:21		20:20 (6)	06:10	19:33 (2)	07:01			07:53			07:49	08:25
	21:25	22	20:42 (6)	20:29	22 19:55 (2)	19:18			18:09			16:17	16:06
23	05:22		20:22 (6)	06:12	19:33 (2)	07:03			07:55			07:50	08:25
	21:24	19	20:41 (6)	20:27	22 19:55 (2)	19:15			18:07			16:15	16:06
24	05:24		20:24 (6)	06:13	19:32 (2)	07:05			07:57			07:52	08:26
	21:22	16	20:40 (6)	20:25	22 19:54 (2)	19:13			18:05			16:14	16:07
25	05:25		20:26 (6)	06:15	19:33 (2)	07:06			06:58			07:54	08:26
	21:21	11	20:37 (6)	20:23	21 19:54 (2)	19:11			17:03			16:13	16:07
26	05:27			06:17	19:33 (2)	07:08			07:00			07:55	08:26
	21:19			20:20	19 19:52 (2)	19:08			17:01			16:12	16:08
27	05:28			06:18	19:34 (2)	07:10			07:02			07:57	08:27
	21:18			20:18	16 19:50 (2)	19:06			16:59			16:11	16:09
28	05:30			06:20	18:47 (4)	07:11		17:35 (5)	07:04			07:59	08:27
	21:16			20:16	26 19:49 (2)	19:03	11	17:46 (5)	16:57			16:10	16:10
29	05:31			06:22	18:44 (4)	07:13		17:31 (5)	07:06			08:00	08:27
	21:15			20:14	26 19:46 (2)	19:01	17	17:48 (5)	16:55			16:10	16:10
30	05:33			06:23	18:42 (4)	07:15		17:29 (5)	07:08			08:02	08:27
	21:13			20:11	22 19:04 (4)	18:59	21	17:50 (5)	16:53			16:09	16:11
31	05:34			06:25	18:40 (4)				07:09				08:27
	21:12			20:09	24 19:04 (4)				16:51				16:12
Sonnenscheinstunden	504			455		381			331			265	241
astr.max.mögl.Beschattung		1020			371		576			464			
Red.Sonnenscheinwahrsch.		0,42			0,44		0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00		1,00			1,00			
Reduktion Windrichtung		0,63			0,70		0,74			0,76			
Gesamte Reduktion		0,26			0,31		0,28			0,24			
Met.wahrsch.Beschattung		269			116		159			110			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: S - Siedlung 19

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		16:48 (5)	06:54		18:42 (4)	05:48			05:02		20:08 (6)
	16:14	17:02			17:55	28	17:16 (5)	19:50	33	19:15 (3)	20:42			21:28	47	20:55 (1)
2	08:27	07:58			07:03		16:47 (5)	06:51		18:40 (4)	05:46			05:01		20:07 (6)
	16:15	17:04			17:56	30	17:17 (5)	19:51	33	19:13 (3)	20:43			21:29	49	20:56 (1)
3	08:27	07:56			07:01		16:46 (5)	06:49		18:40 (4)	05:44			05:00		20:07 (6)
	16:16	17:06			17:58	30	17:16 (5)	19:53	33	19:13 (3)	20:45			21:30	50	20:57 (1)
4	08:27	07:55			06:59		16:45 (5)	06:47		18:39 (4)	05:42			04:59		20:07 (6)
	16:17	17:08			18:00	32	17:17 (5)	19:55	33	19:12 (3)	20:47			21:32	51	20:58 (1)
5	08:26	07:53			06:56		16:45 (5)	06:44		18:38 (4)	05:40			04:59		20:07 (6)
	16:18	17:10			18:02	32	17:17 (5)	19:57	33	19:11 (4)	20:48			21:33	51	20:58 (1)
6	08:26	07:51			06:54		16:45 (5)	06:42		18:38 (4)	05:38			04:58		20:07 (6)
	16:19	17:12			18:04	32	17:17 (5)	19:58	33	19:11 (4)	20:50			21:34	52	20:59 (1)
7	08:26	07:50			06:52		16:44 (5)	06:40		18:38 (4)	05:37			04:57		20:07 (6)
	16:21	17:13			18:06	32	17:16 (5)	20:00	33	19:11 (4)	20:52			21:34	52	20:59 (1)
8	08:25	07:48			06:50		16:45 (5)	06:38		18:38 (4)	05:35			04:57		20:07 (6)
	16:22	17:15			18:07	31	17:16 (5)	20:02	31	19:09 (4)	20:53			21:35	53	21:00 (1)
9	08:25	07:46			06:47		16:45 (5)	06:35		18:38 (4)	05:33			04:56		20:07 (6)
	16:23	17:17			18:09	31	17:16 (5)	20:04	31	19:09 (4)	20:55			21:36	53	21:00 (1)
10	08:24	07:44			06:45		16:45 (5)	06:33		18:39 (4)	05:31			04:56		20:07 (6)
	16:25	17:19			18:11	30	17:15 (5)	20:05	29	19:08 (4)	20:57			21:37	54	21:01 (1)
11	08:24	07:42			06:43		16:46 (5)	06:31		18:39 (4)	05:30			04:55		20:07 (6)
	16:26	17:21			18:13	28	17:14 (5)	20:07	29	19:08 (4)	20:58			21:38	55	21:02 (1)
12	08:23	07:40			06:40		16:47 (5)	06:28		18:40 (4)	05:28			04:55		20:07 (6)
	16:28	17:23			18:15	26	17:13 (5)	20:09	27	19:07 (4)	21:00			21:39	54	21:01 (1)
13	08:22	07:39			06:38		16:47 (5)	06:26		18:40 (4)	05:26			04:55		20:07 (6)
	16:29	17:25			18:16	24	17:11 (5)	20:10	24	19:04 (4)	21:01			21:39	55	21:02 (1)
14	08:21	07:37			06:36		16:49 (5)	06:24		18:42 (4)	05:25			04:55		20:07 (6)
	16:31	17:27			18:18	20	17:09 (5)	20:12	26	19:44 (2)	21:03			21:40	56	21:03 (1)
15	08:21	07:35			06:34		16:52 (5)	06:22		18:44 (4)	05:23			04:54		20:08 (6)
	16:32	17:29			18:20	15	17:07 (5)	20:14	28	19:47 (2)	21:05			21:40	55	21:03 (1)
16	08:20	07:33			06:31		16:55 (5)	06:19		18:47 (4)	05:21			04:54		20:08 (6)
	16:34	17:30			18:22	7	17:02 (5)	20:16	26	19:49 (2)	21:06			21:41	55	21:03 (1)
17	08:19	07:31			06:29			06:17		19:32 (2)	05:20			04:54		20:08 (6)
	16:35	17:32			18:23			20:17	18	19:50 (2)	21:08			21:41	56	21:04 (1)
18	08:18	07:29			06:27			06:15		19:31 (2)	05:18			04:54		20:08 (6)
	16:37	17:34			18:25			20:19	20	19:51 (2)	21:09			21:42	56	21:04 (1)
19	08:17	07:27			06:24			06:13		19:29 (2)	05:17			04:54		20:08 (6)
	16:39	17:36			18:27			20:21	22	19:51 (2)	21:11			21:42	56	21:04 (1)
20	08:16	07:25			06:22			06:11		19:29 (2)	05:16		20:19 (6)	04:54		20:08 (6)
	16:41	17:38			18:29			20:23	22	19:51 (2)	21:12	8	20:27 (6)	21:42	56	21:04 (1)
21	08:15	07:23			06:20			06:09		19:28 (2)	05:14		20:16 (6)	04:54		20:08 (6)
	16:42	17:40			18:30			20:24	23	19:51 (2)	21:14	15	20:31 (6)	21:43	56	21:04 (1)
22	08:13	07:20			06:17			06:06		19:28 (2)	05:13		20:14 (6)	04:55		20:09 (6)
	16:44	17:42			18:32			20:26	23	19:51 (2)	21:15	18	20:32 (6)	21:43	56	21:05 (1)
23	08:12	07:18			06:15			06:04		19:28 (2)	05:12		20:12 (6)	04:55		20:09 (6)
	16:46	17:44			18:34			20:28	23	19:51 (2)	21:17	21	20:33 (6)	21:43	56	21:05 (1)
24	08:11	07:16		16:58 (5)	06:12			06:02		19:28 (2)	05:10		20:11 (6)	04:55		20:09 (6)
	16:47	17:45	8	17:06 (5)	18:36			20:30	22	19:50 (2)	21:18	24	20:35 (6)	21:43	56	21:05 (1)
25	08:10	07:14		16:55 (5)	06:10		17:59 (3)	06:00		19:29 (2)	05:09		20:11 (6)	04:55		20:10 (6)
	16:49	17:47	15	17:10 (5)	18:37	11	18:10 (3)	20:31	21	19:50 (2)	21:19	25	20:36 (6)	21:43	56	21:06 (1)
26	08:08	07:12		16:52 (5)	06:08		17:57 (3)	05:58		19:29 (2)	05:08		20:10 (6)	04:56		20:10 (6)
	16:51	17:49	21	17:13 (5)	18:39	15	18:12 (3)	20:33	20	19:49 (2)	21:21	27	20:37 (6)	21:43	55	21:05 (1)
27	08:07	07:10		16:51 (5)	06:05		17:51 (4)	05:56		19:30 (2)	05:07		20:09 (6)	04:56		20:11 (6)
	16:53	17:51	23	17:14 (5)	18:41	22	18:13 (3)	20:35	18	19:48 (2)	21:22	29	20:38 (6)	21:43	55	21:06 (1)
28	08:06	07:08		16:49 (5)	06:03		17:48 (4)	05:54		19:31 (2)	05:06		20:09 (6)	04:57		20:10 (6)
	16:55	17:53	26	17:15 (5)	18:43	26	18:14 (3)	20:36	15	19:46 (2)	21:23	29	20:38 (6)	21:43	56	21:06 (1)
29	08:04				07:01		18:46 (4)	05:52		19:32 (2)	05:05		20:08 (6)	04:57		20:11 (6)
	16:57				19:44	29	19:15 (3)	20:38	12	19:44 (2)	21:25	35	20:49 (1)	21:43	55	21:06 (1)
30	08:03				06:58		18:44 (4)	05:50		19:34 (2)	05:04		20:08 (6)	04:58		20:11 (6)
	16:58				19:46	30	19:14 (3)	20:40	8	19:42 (2)	21:26	42	20:52 (1)	21:43	55	21:06 (1)
31	08:01				06:56		18:43 (4)				05:03		20:08 (6)			
	17:00				19:48	31	19:14 (3)				21:27	45	20:54 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			93			592			749			318			1622	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,76			0,75			0,72			0,63			0,62	
Gesamte Reduktion			0,19			0,22			0,27			0,28			0,25	
Met.wahrsch.Beschattung			18			130			202			90			405	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: S - Siedlung 19

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November	Dezember
1	04:59		20:11 (6)	05:36			06:26		18:38 (4)	07:16		17:26 (5)	07:11	08:03
	21:42	55	21:06 (1)	21:10			20:07	28	19:06 (4)	18:56	25	17:51 (5)	16:49	16:08
2	04:59		20:11 (6)	05:37			06:28		18:37 (4)	07:18		17:25 (5)	07:13	08:04
	21:42	54	21:05 (1)	21:08			20:05	29	19:06 (4)	18:54	27	17:52 (5)	16:47	16:07
3	05:00		20:12 (6)	05:39			06:30		18:36 (4)	07:20		17:23 (5)	07:15	08:06
	21:42	54	21:06 (1)	21:06			20:02	31	19:07 (4)	18:52	29	17:52 (5)	16:46	16:07
4	05:01		20:12 (6)	05:40			06:31		18:36 (4)	07:22		17:22 (5)	07:17	08:07
	21:41	54	21:06 (1)	21:05			20:00	31	19:07 (4)	18:49	31	17:53 (5)	16:44	16:06
5	05:02		20:13 (6)	05:42			06:33		18:34 (4)	07:23		17:22 (5)	07:19	08:09
	21:41	53	21:06 (1)	21:03			19:58	33	19:07 (4)	18:47	31	17:53 (5)	16:42	16:06
6	05:02		20:13 (6)	05:44			06:35		18:34 (4)	07:25		17:22 (5)	07:20	08:10
	21:40	53	21:06 (1)	21:01			19:55	33	19:07 (4)	18:45	31	17:53 (5)	16:40	16:05
7	05:03		20:13 (6)	05:45			06:36		18:33 (4)	07:27		17:20 (5)	07:22	08:11
	21:40	52	21:05 (1)	20:59			19:53	33	19:06 (3)	18:43	32	17:52 (5)	16:38	16:05
8	05:04		20:13 (6)	05:47			06:38		18:34 (4)	07:28		17:20 (5)	07:24	08:12
	21:39	52	21:05 (1)	20:57			19:51	32	19:06 (3)	18:40	32	17:52 (5)	16:37	16:04
9	05:05		20:14 (6)	05:48			06:40		18:34 (4)	07:30		17:20 (5)	07:26	08:14
	21:38	50	21:04 (1)	20:56			19:48	33	19:07 (3)	18:38	32	17:52 (5)	16:35	16:04
10	05:06		20:14 (6)	05:50			06:41		18:33 (4)	07:32		17:21 (5)	07:28	08:15
	21:38	50	21:04 (1)	20:54			19:46	34	19:07 (3)	18:36	31	17:52 (5)	16:33	16:04
11	05:07		20:15 (6)	05:52			06:43		18:34 (4)	07:34		17:20 (5)	07:29	08:16
	21:37	48	21:03 (1)	20:52			19:44	33	19:07 (3)	18:33	30	17:50 (5)	16:32	16:04
12	05:08		20:15 (6)	05:53			06:45		18:34 (4)	07:35		17:21 (5)	07:31	08:17
	21:36	47	21:02 (1)	20:50			19:41	32	19:06 (3)	18:31	28	17:49 (5)	16:30	16:04
13	05:10		20:16 (6)	05:55		19:42 (2)	06:46		18:35 (4)	07:37		17:21 (5)	07:33	08:18
	21:35	43	21:01 (1)	20:48	9	19:51 (2)	19:39	31	19:06 (3)	18:29	27	17:48 (5)	16:29	16:03
14	05:11		20:16 (6)	05:57		19:40 (2)	06:48		18:36 (4)	07:39		17:22 (5)	07:35	08:19
	21:34	39	20:59 (1)	20:46	13	19:53 (2)	19:37	29	19:05 (3)	18:27	25	17:47 (5)	16:27	16:03
15	05:12		20:18 (6)	05:58		19:38 (2)	06:50		18:37 (4)	07:41		17:24 (5)	07:37	08:20
	21:33	30	20:48 (6)	20:44	16	19:54 (2)	19:34	27	19:04 (3)	18:24	22	17:46 (5)	16:26	16:04
16	05:13		20:18 (6)	06:00		19:37 (2)	06:51		18:40 (4)	07:42		17:25 (5)	07:38	08:21
	21:32	30	20:48 (6)	20:42	18	19:55 (2)	19:32	23	19:03 (3)	18:22	19	17:44 (5)	16:24	16:04
17	05:14		20:19 (6)	06:02		19:35 (2)	06:53		18:44 (3)	07:44		17:27 (5)	07:40	08:22
	21:31	28	20:47 (6)	20:40	21	19:56 (2)	19:29	16	19:00 (3)	18:20	13	17:40 (5)	16:23	16:04
18	05:16		20:20 (6)	06:03		19:35 (2)	06:55		18:46 (3)	07:46		17:33 (5)	07:42	08:22
	21:30	26	20:46 (6)	20:38	21	19:56 (2)	19:27	12	18:58 (3)	18:18	1	17:34 (5)	16:22	16:04
19	05:17		20:20 (6)	06:05		19:34 (2)	06:56		18:50 (3)	07:48			07:44	08:23
	21:29	25	20:45 (6)	20:35	22	19:56 (2)	19:25	4	18:54 (3)	18:16			16:20	16:04
20	05:18		20:22 (6)	06:07		19:34 (2)	06:58			07:49			07:45	08:24
	21:27	23	20:45 (6)	20:33	22	19:56 (2)	19:22			18:14			16:19	16:05
21	05:20		20:23 (6)	06:08		19:34 (2)	07:00			07:51			07:47	08:24
	21:26	20	20:43 (6)	20:31	23	19:57 (2)	19:20			18:11			16:18	16:05
22	05:21		20:25 (6)	06:10		19:33 (2)	07:01			07:53			07:49	08:25
	21:25	16	20:41 (6)	20:29	23	19:56 (2)	19:18			18:09			16:17	16:06
23	05:22		20:27 (6)	06:12		19:34 (2)	07:03			07:55			07:50	08:25
	21:24	12	20:39 (6)	20:27	22	19:56 (2)	19:15			18:07			16:15	16:06
24	05:24		20:32 (6)	06:13		19:33 (2)	07:05			07:57			07:52	08:26
	21:22	3	20:35 (6)	20:25	21	19:54 (2)	19:13			18:05			16:14	16:07
25	05:25			06:15		19:34 (2)	07:06			06:58			07:54	08:26
	21:21			20:23	20	19:54 (2)	19:11			17:03			16:13	16:07
26	05:27			06:17		19:34 (2)	07:08			07:00			07:55	08:26
	21:19			20:20	18	19:52 (2)	19:08			17:01			16:12	16:08
27	05:28			06:18		18:48 (4)	07:10			07:02			07:57	08:27
	21:18			20:18	26	19:50 (2)	19:06			16:59			16:11	16:09
28	05:30			06:20		18:46 (4)	07:11		17:34 (5)	07:04			07:59	08:27
	21:16			20:16	28	19:49 (2)	19:03	13	17:47 (5)	16:57			16:10	16:10
29	05:31			06:22		18:43 (4)	07:13		17:30 (5)	07:06			08:00	08:27
	21:15			20:14	24	19:44 (2)	19:01	18	17:48 (5)	16:55			16:10	16:10
30	05:33			06:23		18:41 (4)	07:15		17:28 (5)	07:08			08:02	08:27
	21:13			20:11	24	19:05 (4)	18:59	22	17:50 (5)	16:53			16:09	16:11
31	05:34			06:25		18:39 (4)				07:09				08:27
	21:12			20:09	26	19:05 (4)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		917			397			577			466			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,63			0,70			0,74			0,76			
Gesamte Reduktion		0,26			0,31			0,28			0,24			
Met.wahrsch.Beschattung		241			125			159			110			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: T - Siedlung 19A

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar			März			April			Mai			Juni		
1	08:27		08:00			07:05		16:51 (5)	06:54		18:46 (4)	05:48		19:36 (2)	05:02		20:14 (6)
	16:14		17:02			17:55	26	17:17 (5)	19:50	31	19:17 (3)	20:42	10	19:46 (2)	21:28	29	20:43 (6)
2	08:27		07:58			07:03		16:50 (5)	06:51		18:44 (4)	05:46		19:39 (2)	05:01		20:14 (6)
	16:15		17:04			17:56	28	17:18 (5)	19:51	32	19:16 (3)	20:43	3	19:42 (2)	21:29	36	20:54 (1)
3	08:27		07:56			07:01		16:48 (5)	06:49		18:43 (4)	05:44			05:00		20:13 (6)
	16:16		17:06			17:58	30	17:18 (5)	19:53	33	19:16 (3)	20:45			21:30	41	20:56 (1)
4	08:27		07:55			06:59		16:47 (5)	06:47		18:43 (4)	05:42			04:59		20:14 (6)
	16:17		17:08			18:00	31	17:18 (5)	19:55	32	19:15 (3)	20:47			21:32	43	20:58 (1)
5	08:26		07:53			06:56		16:47 (5)	06:44		18:41 (4)	05:40			04:59		20:13 (6)
	16:18		17:10			18:02	32	17:19 (5)	19:57	33	19:14 (3)	20:48			21:33	46	20:59 (1)
6	08:26		07:51			06:54		16:47 (5)	06:42		18:41 (4)	05:38			04:58		20:13 (6)
	16:19		17:12			18:04	32	17:19 (5)	19:58	33	19:14 (4)	20:50			21:34	47	21:00 (1)
7	08:26		07:50			06:52		16:46 (5)	06:40		18:41 (4)	05:37			04:57		20:13 (6)
	16:21		17:13			18:06	32	17:18 (5)	20:00	33	19:14 (4)	20:52			21:34	47	21:00 (1)
8	08:25		07:48			06:50		16:46 (5)	06:38		18:40 (4)	05:35			04:57		20:13 (6)
	16:22		17:15			18:07	33	17:19 (5)	20:02	33	19:13 (4)	20:53			21:35	49	21:02 (1)
9	08:25		07:46			06:47		16:46 (5)	06:35		18:40 (4)	05:33			04:56		20:12 (6)
	16:23		17:17			18:09	32	17:18 (5)	20:04	32	19:12 (4)	20:55			21:36	50	21:02 (1)
10	08:24		07:44			06:45		16:46 (5)	06:33		18:40 (4)	05:31			04:56		20:13 (6)
	16:25		17:19			18:11	31	17:17 (5)	20:05	32	19:12 (4)	20:57			21:37	49	21:02 (1)
11	08:24		07:42			06:43		16:46 (5)	06:31		18:41 (4)	05:30			04:55		20:13 (6)
	16:26		17:21			18:13	31	17:17 (5)	20:07	31	19:12 (4)	20:58			21:38	50	21:03 (1)
12	08:23		07:40			06:40		16:47 (5)	06:28		18:41 (4)	05:28			04:55		20:12 (6)
	16:28		17:23			18:15	29	17:16 (5)	20:09	30	19:11 (4)	21:00			21:39	51	21:03 (1)
13	08:22		07:39			06:38		16:47 (5)	06:26		18:41 (4)	05:26			04:55		20:13 (6)
	16:29		17:25			18:16	27	17:14 (5)	20:10	28	19:09 (4)	21:01			21:39	51	21:04 (1)
14	08:21		07:37			06:36		16:49 (5)	06:24		18:42 (4)	05:25			04:55		20:13 (6)
	16:31		17:27			18:18	24	17:13 (5)	20:12	26	19:08 (4)	21:03			21:40	51	21:04 (1)
15	08:21		07:35			06:34		16:50 (5)	06:22		18:43 (4)	05:23			04:54		20:13 (6)
	16:32		17:29			18:20	22	17:12 (5)	20:14	24	19:07 (4)	21:05			21:40	52	21:05 (1)
16	08:20		07:33			06:31		16:52 (5)	06:19		18:45 (4)	05:21			04:54		20:13 (6)
	16:34		17:30			18:22	17	17:09 (5)	20:16	30	19:49 (2)	21:06			21:41	52	21:05 (1)
17	08:19		07:31			06:29		16:55 (5)	06:17		18:46 (4)	05:20			04:54		20:13 (6)
	16:36		17:32			18:23	11	17:06 (5)	20:17	32	19:51 (2)	21:08			21:41	53	21:06 (1)
18	08:18		07:29			06:27			06:15		18:49 (4)	05:18			04:54		20:14 (6)
	16:37		17:34			18:25			20:19	28	19:52 (2)	21:09			21:42	52	21:06 (1)
19	08:17		07:27			06:24			06:13		19:33 (2)	05:17			04:54		20:14 (6)
	16:39		17:36			18:27			20:21	19	19:52 (2)	21:11			21:42	52	21:06 (1)
20	08:16		07:25			06:22			06:11		19:32 (2)	05:16			04:54		20:14 (6)
	16:41		17:38			18:29			20:23	21	19:53 (2)	21:12			21:42	52	21:06 (1)
21	08:15		07:23			06:20			06:09		19:31 (2)	05:14			04:54		20:14 (6)
	16:42		17:40			18:30			20:24	22	19:53 (2)	21:14			21:43	52	21:06 (1)
22	08:13		07:20			06:17			06:06		19:31 (2)	05:13			04:55		20:15 (6)
	16:44		17:42			18:32			20:26	22	19:53 (2)	21:15			21:43	52	21:07 (1)
23	08:12		07:18			06:15			06:04		19:30 (2)	05:12			04:55		20:15 (6)
	16:46		17:44			18:34			20:28	23	19:53 (2)	21:17			21:43	52	21:07 (1)
24	08:11		07:16			06:12			06:02		19:30 (2)	05:10		20:23 (6)	04:55		20:15 (6)
	16:47		17:45			18:36			20:30	23	19:53 (2)	21:18	9	20:32 (6)	21:43	52	21:07 (1)
25	08:10		07:14		17:01 (5)	06:10			06:00		19:30 (2)	05:09		20:20 (6)	04:55		20:15 (6)
	16:49		17:47	6	17:07 (5)	18:37			20:31	23	19:53 (2)	21:19	15	20:35 (6)	21:43	53	21:08 (1)
26	08:08		07:12		16:57 (5)	06:08		18:01 (3)	05:58		19:30 (2)	05:08		20:19 (6)	04:56		20:15 (6)
	16:51		17:49	15	17:12 (5)	18:39	11	18:12 (3)	20:33	22	19:52 (2)	21:21	18	20:37 (6)	21:43	52	21:07 (1)
27	08:07		07:10		16:55 (5)	06:05		17:58 (3)	05:56		19:31 (2)	05:07		20:18 (6)	04:56		20:16 (6)
	16:53		17:51	19	17:14 (5)	18:41	15	18:13 (3)	20:35	20	19:51 (2)	21:22	20	20:38 (6)	21:43	52	21:08 (1)
28	08:06		07:08		16:52 (5)	06:03		17:57 (3)	05:54		19:31 (2)	05:06		20:17 (6)	04:57		20:16 (6)
	16:55		17:53	23	17:15 (5)	18:43	18	18:15 (3)	20:36	19	19:50 (2)	21:23	22	20:39 (6)	21:43	52	21:08 (1)
29	08:04					07:01		18:53 (4)	05:52		19:32 (2)	05:05		20:16 (6)	04:57		20:17 (6)
	16:57					19:44	23	19:16 (3)	20:38	17	19:49 (2)	21:25	24	20:40 (6)	21:43	51	21:08 (1)
30	08:03					06:58		18:49 (4)	05:50		19:33 (2)	05:04		20:15 (6)	04:58		20:16 (6)
	16:58					19:46	27	19:16 (3)	20:40	15	19:48 (2)	21:26	26	20:41 (6)	21:43	51	21:07 (1)
31	08:01					06:56		18:47 (4)				05:03		20:15 (6)			
	17:00					19:48	29	19:16 (3)				21:27	28	20:43 (6)			
Sonnenscheinstunden	257		277			367			417			487			501		
astr.max.mögl.Beschattung				63			591			799			175			1472	
Red.Sonnenscheinwahrsch.				0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer				1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung				0,76			0,75			0,72			0,63			0,62	
Gesamte Reduktion				0,19			0,22			0,27			0,28			0,25	
Met.wahrsch.Beschattung				12			130			215			50			364	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: T - Siedlung 19A

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November	Dezember
1	04:59		20:17 (6)	05:36			06:26		18:40 (4)	07:16		17:26 (5)	07:11	08:03
	21:42	51	21:08 (1)	21:10			20:07	31	19:11 (4)	18:56	29	17:55 (5)	16:49	16:08
2	04:59		20:17 (6)	05:37			06:28		18:38 (4)	07:18		17:26 (5)	07:13	08:04
	21:42	50	21:07 (1)	21:08			20:05	32	19:10 (4)	18:54	29	17:55 (5)	16:47	16:07
3	05:00		20:18 (6)	05:39			06:30		18:38 (4)	07:20		17:24 (5)	07:15	08:06
	21:42	49	21:07 (1)	21:06			20:02	33	19:11 (4)	18:52	31	17:55 (5)	16:46	16:07
4	05:01		20:18 (6)	05:40			06:31		18:38 (4)	07:22		17:23 (5)	07:17	08:07
	21:41	49	21:07 (1)	21:05			20:00	33	19:11 (4)	18:49	32	17:55 (5)	16:44	16:06
5	05:02		20:19 (6)	05:42			06:33		18:37 (4)	07:23		17:23 (5)	07:19	08:09
	21:41	48	21:07 (1)	21:03			19:58	33	19:10 (4)	18:47	32	17:55 (5)	16:42	16:06
6	05:02		20:19 (6)	05:44			06:35		18:37 (4)	07:25		17:23 (5)	07:20	08:10
	21:40	48	21:07 (1)	21:01			19:55	33	19:10 (4)	18:45	33	17:56 (5)	16:40	16:05
7	05:03		20:19 (6)	05:45			06:36		18:36 (4)	07:27		17:22 (5)	07:22	08:11
	21:40	46	21:05 (1)	20:59			19:53	33	19:09 (3)	18:43	32	17:54 (5)	16:38	16:05
8	05:04		20:20 (6)	05:47			06:38		18:37 (4)	07:28		17:22 (5)	07:24	08:12
	21:39	45	21:05 (1)	20:57			19:51	32	19:09 (3)	18:40	32	17:54 (5)	16:37	16:04
9	05:05		20:20 (6)	05:49			06:40		18:37 (4)	07:30		17:22 (5)	07:26	08:14
	21:38	42	21:04 (1)	20:56			19:48	33	19:10 (3)	18:38	32	17:54 (5)	16:35	16:04
10	05:06		20:21 (6)	05:50			06:41		18:37 (4)	07:32		17:23 (5)	07:28	08:15
	21:38	37	21:02 (1)	20:54			19:46	32	19:09 (3)	18:36	30	17:53 (5)	16:33	16:04
11	05:07		20:22 (6)	05:52		19:46 (2)	06:43		18:38 (4)	07:34		17:22 (5)	07:29	08:16
	21:37	29	20:51 (6)	20:52	6	19:52 (2)	19:44	31	19:09 (3)	18:33	29	17:51 (5)	16:32	16:04
12	05:08		20:22 (6)	05:53		19:44 (2)	06:45		18:38 (4)	07:35		17:23 (5)	07:31	08:17
	21:36	28	20:50 (6)	20:50	12	19:56 (2)	19:41	30	19:08 (3)	18:31	27	17:50 (5)	16:30	16:04
13	05:10		20:23 (6)	05:55		19:41 (2)	06:46		18:40 (4)	07:37		17:24 (5)	07:33	08:18
	21:35	27	20:50 (6)	20:48	15	19:56 (2)	19:39	27	19:07 (3)	18:29	25	17:49 (5)	16:29	16:03
14	05:11		20:24 (6)	05:57		19:40 (2)	06:48		18:42 (4)	07:39		17:26 (5)	07:35	08:19
	21:34	25	20:49 (6)	20:46	18	19:58 (2)	19:37	24	19:06 (3)	18:27	22	17:48 (5)	16:27	16:03
15	05:12		20:26 (6)	05:58		19:39 (2)	06:50		18:45 (4)	07:41		17:28 (5)	07:37	08:20
	21:33	23	20:49 (6)	20:44	19	19:58 (2)	19:34	19	19:04 (3)	18:24	18	17:46 (5)	16:26	16:04
16	05:13		20:27 (6)	06:00		19:38 (2)	06:51		18:47 (3)	07:42		17:30 (5)	07:38	08:21
	21:32	21	20:48 (6)	20:42	21	19:59 (2)	19:32	16	19:03 (3)	18:22	13	17:43 (5)	16:24	16:04
17	05:14		20:28 (6)	06:02		19:37 (2)	06:53		18:48 (3)	07:44			07:40	08:22
	21:31	19	20:47 (6)	20:40	22	19:59 (2)	19:29	12	19:00 (3)	18:20			16:23	16:04
18	05:16		20:29 (6)	06:03		19:37 (2)	06:55			07:46			07:42	08:22
	21:30	16	20:45 (6)	20:38	22	19:59 (2)	19:27			18:18			16:22	16:04
19	05:17		20:31 (6)	06:05		19:36 (2)	06:56			07:48			07:44	08:23
	21:29	12	20:43 (6)	20:35	23	19:59 (2)	19:25			18:16			16:20	16:04
20	05:18		20:35 (6)	06:07		19:36 (2)	06:58			07:49			07:45	08:24
	21:27	6	20:41 (6)	20:33	23	19:59 (2)	19:22			18:14			16:19	16:05
21	05:20			06:08		19:36 (2)	07:00			07:51			07:47	08:24
	21:26			20:31	23	19:59 (2)	19:20			18:11			16:18	16:05
22	05:21			06:10		19:36 (2)	07:01			07:53			07:49	08:25
	21:25			20:29	22	19:58 (2)	19:18			18:09			16:17	16:06
23	05:22			06:12		19:36 (2)	07:03			07:55			07:50	08:25
	21:24			20:27	21	19:57 (2)	19:15			18:07			16:15	16:06
24	05:24			06:13		19:36 (2)	07:05			07:57			07:52	08:26
	21:22			20:25	20	19:56 (2)	19:13			18:05			16:14	16:07
25	05:25			06:15		18:52 (4)	07:06			06:58			07:54	08:26
	21:21			20:23	28	19:55 (2)	19:11			17:03			16:13	16:07
26	05:27			06:17		18:48 (4)	07:08		17:38 (5)	07:00			07:55	08:26
	21:19			20:20	31	19:52 (2)	19:08	8	17:46 (5)	17:01			16:12	16:08
27	05:28			06:18		18:46 (4)	07:10		17:34 (5)	07:02			07:57	08:27
	21:18			20:18	30	19:50 (2)	19:06	16	17:50 (5)	16:59			16:11	16:09
28	05:30			06:20		18:45 (4)	07:11		17:32 (5)	07:04			07:59	08:27
	21:16			20:16	24	19:09 (4)	19:03	20	17:52 (5)	16:57			16:10	16:10
29	05:31			06:22		18:43 (4)	07:13		17:29 (5)	07:06			08:00	08:27
	21:15			20:14	26	19:09 (4)	19:01	24	17:53 (5)	16:55			16:10	16:10
30	05:33			06:23		18:42 (4)	07:15		17:28 (5)	07:08			08:02	08:27
	21:13			20:11	28	19:10 (4)	18:59	26	17:54 (5)	16:53			16:09	16:11
31	05:34			06:25		18:40 (4)				07:09				08:27
	21:12			20:09	30	19:10 (4)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		671			464			578			446			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,62			0,70			0,74			0,76			
Gesamte Reduktion		0,26			0,31			0,28			0,24			
Met.wahrsch.Beschattung		175			146			160			105			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: U - Siedlung 21

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		16:50 (5)	06:54		18:47 (4)	05:48		19:35 (2)	05:02		20:19 (6)
	16:14	17:02			17:55	26	17:16 (5)	19:50	30	19:17 (3)	20:42	14	19:49 (2)	21:28	24	20:43 (6)
2	08:27	07:58			07:03		16:49 (5)	06:51		18:45 (4)	05:46		19:37 (2)	05:01		20:18 (6)
	16:15	17:04			17:56	28	17:17 (5)	19:51	31	19:16 (3)	20:43	9	19:46 (2)	21:29	26	20:44 (6)
3	08:27	07:56			07:01		16:47 (5)	06:49		18:44 (4)	05:44			05:00		20:17 (6)
	16:16	17:06			17:58	30	17:17 (5)	19:53	32	19:16 (3)	20:45			21:30	28	20:45 (6)
4	08:27	07:55			06:59		16:46 (5)	06:47		18:43 (4)	05:42			04:59		20:17 (6)
	16:17	17:08			18:00	32	17:18 (5)	19:55	33	19:16 (3)	20:47			21:32	29	20:46 (6)
5	08:26	07:53			06:56		16:46 (5)	06:44		18:41 (4)	05:40			04:59		20:16 (6)
	16:18	17:10			18:02	32	17:18 (5)	19:57	33	19:14 (3)	20:48			21:33	37	20:57 (1)
6	08:26	07:51			06:54		16:46 (5)	06:42		18:41 (4)	05:38			04:58		20:17 (6)
	16:19	17:12			18:04	33	17:19 (5)	19:58	33	19:14 (3)	20:50			21:34	40	20:59 (1)
7	08:26	07:50			06:52		16:45 (5)	06:40		18:41 (4)	05:37			04:57		20:16 (6)
	16:21	17:13			18:06	33	17:18 (5)	20:00	33	19:14 (4)	20:52			21:34	43	21:00 (1)
8	08:25	07:48			06:50		16:45 (5)	06:38		18:40 (4)	05:35			04:57		20:16 (6)
	16:22	17:15			18:07	33	17:18 (5)	20:02	33	19:13 (4)	20:53			21:35	45	21:01 (1)
9	08:25	07:46			06:47		16:45 (5)	06:35		18:40 (4)	05:33			04:56		20:16 (6)
	16:23	17:17			18:09	33	17:18 (5)	20:04	33	19:13 (4)	20:55			21:36	46	21:02 (1)
10	08:24	07:44			06:45		16:45 (5)	06:33		18:40 (4)	05:31			04:56		20:16 (6)
	16:25	17:19			18:11	32	17:17 (5)	20:05	33	19:13 (4)	20:57			21:37	47	21:03 (1)
11	08:24	07:42			06:43		16:45 (5)	06:31		18:40 (4)	05:30			04:55		20:16 (6)
	16:26	17:21			18:13	31	17:16 (5)	20:07	33	19:13 (4)	20:58			21:38	48	21:04 (1)
12	08:23	07:40			06:40		16:46 (5)	06:28		18:41 (4)	05:28			04:55		20:15 (6)
	16:28	17:23			18:15	30	17:16 (5)	20:09	31	19:12 (4)	21:00			21:39	49	21:04 (1)
13	08:22	07:39			06:38		16:46 (5)	06:26		18:40 (4)	05:26			04:55		20:16 (6)
	16:29	17:25			18:16	28	17:14 (5)	20:10	30	19:10 (4)	21:01			21:39	48	21:04 (1)
14	08:21	07:37			06:36		16:47 (5)	06:24		18:41 (4)	05:25			04:55		20:16 (6)
	16:31	17:27			18:18	26	17:13 (5)	20:12	28	19:09 (4)	21:03			21:40	49	21:05 (1)
15	08:21	07:35			06:34		16:49 (5)	06:22		18:42 (4)	05:23			04:54		20:16 (6)
	16:32	17:29			18:20	23	17:12 (5)	20:14	26	19:08 (4)	21:05			21:40	49	21:05 (1)
16	08:20	07:33			06:31		16:50 (5)	06:20		18:43 (4)	05:21			04:54		20:16 (6)
	16:34	17:30			18:22	19	17:09 (5)	20:16	31	19:48 (2)	21:06			21:41	50	21:06 (1)
17	08:19	07:31			06:29		16:53 (5)	06:17		18:45 (4)	05:20			04:54		20:16 (6)
	16:36	17:32			18:23	13	17:06 (5)	20:17	33	19:51 (2)	21:08			21:41	50	21:06 (1)
18	08:18	07:29			06:27			06:15		18:47 (4)	05:18			04:54		20:16 (6)
	16:37	17:34			18:25			20:19	32	19:52 (2)	21:09			21:42	51	21:07 (1)
19	08:17	07:27			06:24			06:13		18:49 (4)	05:17			04:54		20:17 (6)
	16:39	17:36			18:27			20:21	28	19:52 (2)	21:11			21:42	50	21:07 (1)
20	08:16	07:25			06:22			06:11		19:33 (2)	05:16			04:54		20:17 (6)
	16:41	17:38			18:29			20:23	20	19:53 (2)	21:12			21:42	50	21:07 (1)
21	08:15	07:23			06:20			06:09		19:32 (2)	05:14			04:54		20:17 (6)
	16:42	17:40			18:30			20:24	22	19:54 (2)	21:14			21:43	50	21:07 (1)
22	08:13	07:20			06:17			06:06		19:31 (2)	05:13			04:55		20:18 (6)
	16:44	17:42			18:32			20:26	23	19:54 (2)	21:15			21:43	50	21:08 (1)
23	08:12	07:18			06:15			06:04		19:31 (2)	05:12			04:55		20:18 (6)
	16:46	17:44			18:34			20:28	23	19:54 (2)	21:17			21:43	50	21:08 (1)
24	08:11	07:16			06:12			06:02		19:31 (2)	05:10			04:55		20:18 (6)
	16:47	17:45			18:36			20:30	23	19:54 (2)	21:18			21:43	50	21:08 (1)
25	08:10	07:14		16:59 (5)	06:10			06:00		19:31 (2)	05:09			04:55		20:18 (6)
	16:49	17:47	8	17:07 (5)	18:37			20:31	23	19:54 (2)	21:19			21:43	50	21:08 (1)
26	08:08	07:12		16:56 (5)	06:08		18:03 (3)	05:58		19:31 (2)	05:08		20:27 (6)	04:56		20:18 (6)
	16:51	17:49	15	17:11 (5)	18:39	8	18:11 (3)	20:33	22	19:53 (2)	21:21	6	20:33 (6)	21:43	50	21:08 (1)
27	08:07	07:10		16:53 (5)	06:05		17:59 (3)	05:56		19:31 (2)	05:07		20:24 (6)	04:56		20:19 (6)
	16:53	17:51	21	17:14 (5)	18:41	14	18:13 (3)	20:35	22	19:53 (2)	21:22	12	20:36 (6)	21:43	50	21:09 (1)
28	08:06	07:08		16:51 (5)	06:03		17:57 (3)	05:54		19:31 (2)	05:06		20:22 (6)	04:57		20:19 (6)
	16:55	17:53	24	17:15 (5)	18:43	18	18:15 (3)	20:36	21	19:52 (2)	21:23	16	20:38 (6)	21:43	49	21:08 (1)
29	08:04				07:01		18:54 (4)	05:52		19:32 (2)	05:05		20:21 (6)	04:57		20:20 (6)
	16:57				19:44	22	19:16 (3)	20:38	19	19:51 (2)	21:25	19	20:40 (6)	21:43	49	21:09 (1)
30	08:03				06:58		18:50 (4)	05:50		19:33 (2)	05:04		20:19 (6)	04:58		20:20 (6)
	16:58				19:46	26	19:16 (3)	20:40	16	19:49 (2)	21:26	22	20:41 (6)	21:43	48	21:08 (1)
31	08:01				06:56		18:48 (4)				05:03		20:19 (6)			
	17:00				19:48	29	19:17 (3)				21:27	24	20:43 (6)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			68			599			830			122			1355	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,76			0,75			0,72			0,64			0,62	
Gesamte Reduktion			0,19			0,22			0,27			0,29			0,25	
Met.wahrsch.Beschattung			13			131			223			35			334	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: U - Siedlung 21

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November	Dezember
1	04:59		20:20 (6)	05:36			06:26		18:39 (4)	07:16		17:25 (5)	07:11	08:03
	21:42	48	21:08 (1)	21:10			20:07	32	19:11 (4)	18:56	29	17:54 (5)	16:49	16:08
2	04:59		20:20 (6)	05:37			06:28		18:38 (4)	07:18		17:25 (5)	07:13	08:04
	21:42	47	21:07 (1)	21:08			20:05	33	19:11 (4)	18:54	30	17:55 (5)	16:47	16:07
3	05:00		20:21 (6)	05:39			06:30		18:38 (4)	07:20		17:23 (5)	07:15	08:06
	21:42	46	21:07 (1)	21:06			20:02	33	19:11 (4)	18:52	31	17:54 (5)	16:46	16:07
4	05:01		20:21 (6)	05:40			06:31		18:38 (4)	07:22		17:22 (5)	07:17	08:07
	21:41	46	21:07 (1)	21:05			20:00	33	19:11 (4)	18:49	33	17:55 (5)	16:44	16:06
5	05:02		20:22 (6)	05:42			06:33		18:37 (4)	07:23		17:22 (5)	07:19	08:09
	21:41	45	21:07 (1)	21:03			19:58	33	19:10 (4)	18:47	33	17:55 (5)	16:42	16:06
6	05:02		20:23 (6)	05:44			06:35		18:37 (4)	07:25		17:22 (5)	07:20	08:10
	21:40	42	21:06 (1)	21:01			19:55	33	19:10 (3)	18:45	33	17:55 (5)	16:40	16:05
7	05:03		20:23 (6)	05:45			06:36		18:37 (4)	07:27		17:21 (5)	07:22	08:11
	21:40	39	21:04 (1)	20:59			19:53	32	19:09 (3)	18:43	33	17:54 (5)	16:38	16:05
8	05:04		20:23 (6)	05:47			06:38		18:37 (4)	07:28		17:21 (5)	07:24	08:12
	21:39	33	21:02 (1)	20:57			19:51	33	19:10 (3)	18:40	33	17:54 (5)	16:37	16:04
9	05:05		20:24 (6)	05:49			06:40		18:38 (4)	07:30		17:21 (5)	07:26	08:14
	21:38	28	20:52 (6)	20:56			19:48	32	19:10 (3)	18:38	32	17:53 (5)	16:35	16:04
10	05:06		20:25 (6)	05:50		19:48 (2)	06:41		18:38 (4)	07:32		17:22 (5)	07:28	08:15
	21:38	27	20:52 (6)	20:54	4	19:52 (2)	19:46	31	19:09 (3)	18:36	31	17:53 (5)	16:33	16:04
11	05:07		20:26 (6)	05:52		19:44 (2)	06:43		18:39 (4)	07:34		17:21 (5)	07:29	08:16
	21:37	25	20:51 (6)	20:52	12	19:56 (2)	19:44	30	19:09 (3)	18:33	30	17:51 (5)	16:32	16:04
12	05:08		20:27 (6)	05:53		19:43 (2)	06:45		18:39 (4)	07:35		17:22 (5)	07:31	08:17
	21:36	24	20:51 (6)	20:50	15	19:58 (2)	19:41	29	19:08 (3)	18:31	28	17:50 (5)	16:30	16:04
13	05:10		20:27 (6)	05:55		19:41 (2)	06:46		18:41 (4)	07:37		17:23 (5)	07:33	08:18
	21:35	23	20:50 (6)	20:48	17	19:58 (2)	19:39	26	19:07 (3)	18:29	26	17:49 (5)	16:29	16:03
14	05:11		20:29 (6)	05:57		19:40 (2)	06:48		18:44 (4)	07:39		17:25 (5)	07:35	08:19
	21:34	20	20:49 (6)	20:46	19	19:59 (2)	19:37	23	19:07 (3)	18:27	22	17:47 (5)	16:27	16:03
15	05:12		20:31 (6)	05:58		19:39 (2)	06:50		18:46 (3)	07:41		17:26 (5)	07:37	08:20
	21:33	18	20:49 (6)	20:44	20	19:59 (2)	19:34	18	19:04 (3)	18:24	19	17:45 (5)	16:26	16:04
16	05:13		20:32 (6)	06:00		19:38 (2)	06:51		18:48 (3)	07:42		17:29 (5)	07:38	08:21
	21:32	15	20:47 (6)	20:42	22	20:00 (2)	19:32	15	19:03 (3)	18:22	13	17:42 (5)	16:24	16:04
17	05:14		20:34 (6)	06:02		19:37 (2)	06:53		18:49 (3)	07:44			07:40	08:22
	21:31	11	20:45 (6)	20:40	23	20:00 (2)	19:29	10	18:59 (3)	18:20			16:23	16:04
18	05:16			06:03		19:37 (2)	06:55			07:46			07:42	08:22
	21:30			20:38	23	20:00 (2)	19:27			18:18			16:22	16:04
19	05:17			06:05		19:36 (2)	06:56			07:48			07:44	08:23
	21:29			20:35	24	20:00 (2)	19:25			18:16			16:20	16:04
20	05:18			06:07		19:37 (2)	06:58			07:49			07:45	08:24
	21:27			20:33	23	20:00 (2)	19:22			18:14			16:19	16:05
21	05:20			06:08		19:37 (2)	07:00			07:51			07:47	08:24
	21:26			20:31	23	20:00 (2)	19:20			18:11			16:18	16:05
22	05:21			06:10		19:37 (2)	07:01			07:53			07:49	08:25
	21:25			20:29	21	19:58 (2)	19:18			18:09			16:17	16:06
23	05:22			06:12		19:38 (2)	07:03			07:55			07:50	08:25
	21:24			20:27	20	19:58 (2)	19:15			18:07			16:15	16:06
24	05:24			06:13		18:53 (4)	07:05			07:57			07:52	08:26
	21:22			20:25	28	19:56 (2)	19:13			18:05			16:14	16:07
25	05:25			06:15		18:50 (4)	07:06			06:58			07:54	08:26
	21:21			20:23	32	19:55 (2)	19:11			17:03			16:13	16:07
26	05:27			06:17		18:47 (4)	07:08		17:36 (5)	07:00			07:55	08:26
	21:19			20:20	32	19:52 (2)	19:08	10	17:46 (5)	17:01			16:12	16:08
27	05:28			06:18		18:45 (4)	07:10		17:33 (5)	07:02			07:57	08:27
	21:18			20:18	30	19:49 (2)	19:06	17	17:50 (5)	16:59			16:11	16:09
28	05:30			06:20		18:44 (4)	07:11		17:31 (5)	07:04			07:59	08:27
	21:16			20:16	26	19:10 (4)	19:03	21	17:52 (5)	16:57			16:10	16:10
29	05:31			06:22		18:42 (4)	07:13		17:28 (5)	07:06			08:00	08:27
	21:15			20:14	28	19:10 (4)	19:01	24	17:52 (5)	16:55			16:10	16:10
30	05:33			06:23		18:41 (4)	07:15		17:26 (5)	07:08			08:02	08:27
	21:13			20:11	30	19:11 (4)	18:59	27	17:53 (5)	16:53			16:09	16:11
31	05:34			06:25		18:40 (4)				07:09				08:27
	21:12			20:09	31	19:11 (4)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		537			503			575			456			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,62			0,70			0,74			0,76			
Gesamte Reduktion		0,26			0,31			0,28			0,24			
Met.wahrsch.Beschattung		139			158			159			108			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: V - Siedlung 23

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		16:42 (5)	06:54		18:39 (4)	05:48		19:35 (2)	05:02		20:12 (6)
	16:14	17:02			17:55	31	17:13 (5)	19:50	35	19:14 (3)	20:42	8	19:43 (2)	21:28	30	20:42 (6)
2	08:27	07:58			07:03		16:42 (5)	06:51		18:38 (4)	05:46			05:01		20:11 (6)
	16:15	17:04			17:56	31	17:13 (5)	19:51	35	19:13 (3)	20:43			21:29	34	20:52 (1)
3	08:27	07:56			07:01		16:40 (5)	06:49		18:37 (4)	05:44			05:00		20:11 (6)
	16:16	17:06			17:58	33	17:13 (5)	19:53	35	19:12 (3)	20:45			21:30	39	20:54 (1)
4	08:27	07:55			06:59		16:40 (5)	06:47		18:37 (4)	05:42			04:59		20:11 (6)
	16:17	17:08			18:00	33	17:13 (5)	19:55	35	19:12 (3)	20:47			21:32	45	20:57 (1)
5	08:26	07:53			06:56		16:40 (5)	06:44		18:36 (4)	05:40			04:59		20:11 (6)
	16:18	17:10			18:02	33	17:13 (5)	19:57	34	19:10 (3)	20:48			21:33	47	20:58 (1)
6	08:26	07:51			06:54		16:40 (5)	06:42		18:36 (4)	05:38			04:58		20:11 (6)
	16:19	17:12			18:04	33	17:13 (5)	19:58	34	19:10 (4)	20:50			21:34	48	20:59 (1)
7	08:26	07:50			06:52		16:40 (5)	06:40		18:36 (4)	05:37			04:57		20:10 (6)
	16:21	17:13			18:06	32	17:12 (5)	20:00	33	19:09 (4)	20:52			21:34	50	21:00 (1)
8	08:25	07:48			06:50		16:40 (5)	06:38		18:35 (4)	05:35			04:57		20:11 (6)
	16:22	17:15			18:07	32	17:12 (5)	20:02	33	19:08 (4)	20:53			21:35	50	21:01 (1)
9	08:25	07:46			06:47		16:41 (5)	06:35		18:35 (4)	05:33			04:56		20:10 (6)
	16:23	17:17			18:09	31	17:12 (5)	20:04	33	19:08 (4)	20:55			21:36	51	21:01 (1)
10	08:24	07:44			06:45		16:41 (5)	06:33		18:36 (4)	05:31			04:56		20:10 (6)
	16:25	17:19			18:11	29	17:10 (5)	20:05	31	19:07 (4)	20:57			21:37	52	21:02 (1)
11	08:24	07:42			06:43		16:42 (5)	06:31		18:36 (4)	05:30			04:55		20:11 (6)
	16:26	17:21			18:13	27	17:09 (5)	20:07	31	19:07 (4)	20:58			21:38	52	21:03 (1)
12	08:23	07:40			06:40		16:43 (5)	06:28		18:37 (4)	05:28			04:55		20:10 (6)
	16:28	17:23			18:15	25	17:08 (5)	20:09	29	19:06 (4)	21:00			21:39	52	21:02 (1)
13	08:22	07:39			06:38		16:44 (5)	06:26		18:37 (4)	05:26			04:55		20:10 (6)
	16:29	17:25			18:16	22	17:06 (5)	20:10	27	19:04 (4)	21:01			21:39	53	21:03 (1)
14	08:21	07:37			06:36		16:46 (5)	06:24		18:39 (4)	05:25			04:55		20:10 (6)
	16:31	17:27			18:18	18	17:04 (5)	20:12	23	19:02 (4)	21:03			21:40	54	21:04 (1)
15	08:21	07:35			06:34		16:49 (5)	06:22		18:40 (4)	05:23			04:54		20:11 (6)
	16:32	17:29			18:20	12	17:01 (5)	20:14	30	19:46 (2)	21:05			21:40	53	21:04 (1)
16	08:20	07:33			06:31			06:20		18:42 (4)	05:21			04:54		20:11 (6)
	16:34	17:30			18:22			20:16	31	19:49 (2)	21:06			21:41	54	21:05 (1)
17	08:19	07:31			06:29			06:17		18:46 (4)	05:20			04:54		20:11 (6)
	16:36	17:32			18:23			20:17	26	19:50 (2)	21:08			21:41	54	21:05 (1)
18	08:18	07:29			06:27			06:15		19:31 (2)	05:18			04:54		20:11 (6)
	16:37	17:34			18:25			20:19	20	19:51 (2)	21:09			21:42	54	21:05 (1)
19	08:17	07:27			06:24			06:13		19:30 (2)	05:17			04:54		20:11 (6)
	16:39	17:36			18:27			20:21	21	19:51 (2)	21:11			21:42	54	21:05 (1)
20	08:16	07:25			06:22			06:11		19:29 (2)	05:16			04:54		20:11 (6)
	16:41	17:38			18:29			20:23	22	19:51 (2)	21:12			21:42	54	21:05 (1)
21	08:15	07:23			06:20			06:09		19:28 (2)	05:14			04:54		20:11 (6)
	16:42	17:40			18:30			20:24	23	19:51 (2)	21:14			21:43	55	21:06 (1)
22	08:13	07:20			06:17			06:06		19:28 (2)	05:13			04:55		20:12 (6)
	16:44	17:42			18:32			20:26	23	19:51 (2)	21:15			21:43	55	21:07 (1)
23	08:12	07:18		16:52 (5)	06:15			06:04		19:28 (2)	05:12			04:55		20:12 (6)
	16:46	17:44	12	17:04 (5)	18:34			20:28	23	19:51 (2)	21:17			21:43	54	21:06 (1)
24	08:11	07:16		16:49 (5)	06:12		18:02 (3)	06:02		19:28 (2)	05:10		20:21 (6)	04:55		20:12 (6)
	16:47	17:45	18	17:07 (5)	18:36	3	18:05 (3)	20:30	23	19:51 (2)	21:18	10	20:31 (6)	21:43	54	21:06 (1)
25	08:10	07:14		16:47 (5)	06:10		17:57 (3)	06:00		19:28 (2)	05:09		20:18 (6)	04:55		20:13 (6)
	16:49	17:47	22	17:09 (5)	18:37	12	18:09 (3)	20:31	22	19:50 (2)	21:19	15	20:33 (6)	21:43	54	21:07 (1)
26	08:08	07:12		16:46 (5)	06:08		17:55 (3)	05:58		19:28 (2)	05:08		20:17 (6)	04:56		20:13 (6)
	16:51	17:49	25	17:11 (5)	18:39	17	18:12 (3)	20:33	22	19:50 (2)	21:21	18	20:35 (6)	21:43	54	21:07 (1)
27	08:07	07:10		16:45 (5)	06:05		17:48 (4)	05:56		19:29 (2)	05:07		20:15 (6)	04:56		20:14 (6)
	16:53	17:51	27	17:12 (5)	18:41	24	18:12 (3)	20:35	20	19:49 (2)	21:22	22	20:37 (6)	21:43	53	21:07 (1)
28	08:06	07:08		16:43 (5)	06:03		17:46 (4)	05:54		19:29 (2)	05:06		20:14 (6)	04:57		20:13 (6)
	16:55	17:53	29	17:12 (5)	18:43	27	18:13 (3)	20:36	19	19:48 (2)	21:23	24	20:38 (6)	21:43	54	21:07 (1)
29	08:04				07:01		18:44 (4)	05:52		19:30 (2)	05:05		20:13 (6)	04:57		20:14 (6)
	16:57				19:44	30	19:14 (3)	20:38	16	19:46 (2)	21:25	26	20:39 (6)	21:43	53	21:07 (1)
30	08:03				06:58		18:41 (4)	05:50		19:32 (2)	05:04		20:13 (6)	04:58		20:14 (6)
	16:58				19:46	32	19:13 (3)	20:40	13	19:45 (2)	21:26	27	20:40 (6)	21:43	53	21:07 (1)
31	08:01				06:56		18:40 (4)				05:03		20:13 (6)			
	17:00				19:48	34	19:14 (3)				21:27	28	20:41 (6)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			133			601			802			178			1519	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,76			0,75			0,72			0,63			0,62	
Gesamte Reduktion			0,19			0,22			0,27			0,28			0,25	
Met.wahrsch.Beschattung			25			132			216			50			377	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

Lizenzierter Anwender:
plan-GIS GmbH Niederlassung Hannover
Sedanstr. 29
DE-30161 Hannover
+49 (0)511 33648-300

Berechnet:
15.03.2021 14:15/3.4.415

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: V - Siedlung 23

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November	Dezember
1	04:59		20:15 (6)	05:36			06:26		18:35 (4)	07:16		17:23 (5)	07:11	08:03
	21:42	52	21:07 (1)	21:10			20:07	31	19:06 (4)	18:56	23	17:46 (5)	16:49	16:08
2	04:59		20:14 (6)	05:37			06:28		18:34 (4)	07:18		17:21 (5)	07:13	08:05
	21:42	52	21:06 (1)	21:08			20:05	31	19:05 (4)	18:54	27	17:48 (5)	16:47	16:07
3	05:00		20:15 (6)	05:39			06:30		18:33 (4)	07:20		17:19 (5)	07:15	08:06
	21:42	51	21:06 (1)	21:06			20:02	33	19:06 (4)	18:52	29	17:48 (5)	16:46	16:07
4	05:01		20:16 (6)	05:40			06:31		18:33 (4)	07:22		17:18 (5)	07:17	08:07
	21:41	50	21:06 (1)	21:05			20:00	33	19:06 (4)	18:49	30	17:48 (5)	16:44	16:06
5	05:02		20:16 (6)	05:42			06:33		18:32 (4)	07:23		17:17 (5)	07:19	08:09
	21:41	50	21:06 (1)	21:03			19:58	33	19:05 (4)	18:47	32	17:49 (5)	16:42	16:06
6	05:02		20:17 (6)	05:44			06:35		18:32 (4)	07:25		17:17 (5)	07:20	08:10
	21:40	49	21:06 (1)	21:01			19:55	34	19:06 (4)	18:45	32	17:49 (5)	16:40	16:05
7	05:03		20:17 (6)	05:45			06:36		18:31 (4)	07:27		17:15 (5)	07:22	08:11
	21:40	47	21:04 (1)	20:59			19:53	34	19:05 (3)	18:43	33	17:48 (5)	16:38	16:05
8	05:04		20:17 (6)	05:47			06:38		18:31 (4)	07:28		17:15 (5)	07:24	08:12
	21:39	46	21:04 (1)	20:57			19:51	35	19:06 (3)	18:40	33	17:48 (5)	16:37	16:04
9	05:05		20:18 (6)	05:49			06:40		18:31 (4)	07:30		17:15 (5)	07:26	08:14
	21:38	42	21:03 (1)	20:56			19:48	35	19:06 (3)	18:38	33	17:48 (5)	16:35	16:04
10	05:06		20:19 (6)	05:50			06:41		18:31 (4)	07:32		17:15 (5)	07:28	08:15
	21:38	37	21:01 (1)	20:54			19:46	35	19:06 (3)	18:36	33	17:48 (5)	16:33	16:04
11	05:07		20:19 (6)	05:52			06:43		18:32 (4)	07:34		17:14 (5)	07:29	08:16
	21:37	30	20:49 (6)	20:52			19:44	34	19:06 (3)	18:33	33	17:47 (5)	16:32	16:04
12	05:08		20:20 (6)	05:53		19:43 (2)	06:45		18:31 (4)	07:35		17:15 (5)	07:31	08:17
	21:36	29	20:49 (6)	20:50	9	19:52 (2)	19:41	34	19:05 (3)	18:31	31	17:46 (5)	16:30	16:04
13	05:10		20:21 (6)	05:55		19:40 (2)	06:46		18:33 (4)	07:37		17:15 (5)	07:33	08:18
	21:35	27	20:48 (6)	20:48	14	19:54 (2)	19:39	32	19:05 (3)	18:29	31	17:46 (5)	16:29	16:03
14	05:11		20:22 (6)	05:57		19:39 (2)	06:48		18:34 (4)	07:39		17:16 (5)	07:35	08:19
	21:34	26	20:48 (6)	20:46	16	19:55 (2)	19:37	30	19:04 (3)	18:27	29	17:45 (5)	16:27	16:03
15	05:12		20:23 (6)	05:58		19:37 (2)	06:50		18:35 (4)	07:41		17:17 (5)	07:37	08:20
	21:33	25	20:48 (6)	20:44	19	19:56 (2)	19:34	28	19:03 (3)	18:24	27	17:44 (5)	16:26	16:04
16	05:13		20:24 (6)	06:00		19:36 (2)	06:51		18:37 (4)	07:42		17:18 (5)	07:38	08:21
	21:32	23	20:47 (6)	20:42	21	19:57 (2)	19:32	25	19:02 (3)	18:22	24	17:42 (5)	16:24	16:04
17	05:14		20:26 (6)	06:02		19:35 (2)	06:53		18:41 (4)	07:44		17:19 (5)	07:40	08:22
	21:31	19	20:45 (6)	20:40	21	19:56 (2)	19:29	18	18:59 (3)	18:20	20	17:39 (5)	16:23	16:04
18	05:16		20:27 (6)	06:03		19:34 (2)	06:55		18:44 (3)	07:46		17:21 (5)	07:42	08:22
	21:30	17	20:44 (6)	20:38	23	19:57 (2)	19:27	13	18:57 (3)	18:18	16	17:37 (5)	16:22	16:04
19	05:17		20:29 (6)	06:05		19:33 (2)	06:56		18:47 (3)	07:48		17:25 (5)	07:44	08:23
	21:29	13	20:42 (6)	20:35	24	19:57 (2)	19:25	7	18:54 (3)	18:16	8	17:33 (5)	16:20	16:04
20	05:18		20:33 (6)	06:07		19:33 (2)	06:58			07:49			07:45	08:24
	21:27	6	20:39 (6)	20:33	24	19:57 (2)	19:22			18:14			16:19	16:05
21	05:20			06:08		19:34 (2)	07:00			07:51			07:47	08:24
	21:26			20:31	23	19:57 (2)	19:20			18:11			16:18	16:05
22	05:21			06:10		19:33 (2)	07:01			07:53			07:49	08:25
	21:25			20:29	23	19:56 (2)	19:18			18:09			16:17	16:06
23	05:22			06:12		19:34 (2)	07:03			07:55			07:50	08:25
	21:24			20:27	22	19:56 (2)	19:15			18:07			16:15	16:06
24	05:24			06:13		19:33 (2)	07:05			07:57			07:52	08:26
	21:22			20:25	21	19:54 (2)	19:13			18:05			16:14	16:07
25	05:25			06:15		19:34 (2)	07:06			06:58			07:54	08:26
	21:21			20:23	20	19:54 (2)	19:11			17:03			16:13	16:07
26	05:27			06:17		18:47 (4)	07:08			07:00			07:55	08:26
	21:19			20:20	27	19:52 (2)	19:08			17:01			16:12	16:08
27	05:28			06:18		18:44 (4)	07:10			07:02			07:57	08:27
	21:18			20:18	30	19:50 (2)	19:06			16:59			16:11	16:09
28	05:30			06:20		18:42 (4)	07:11		17:32 (5)	07:04			07:59	08:27
	21:16			20:16	30	19:48 (2)	19:03	8	17:40 (5)	16:57			16:10	16:10
29	05:31			06:22		18:39 (4)	07:13		17:27 (5)	07:06			08:00	08:27
	21:15			20:14	24	19:03 (4)	19:01	16	17:43 (5)	16:55			16:10	16:10
30	05:33			06:23		18:38 (4)	07:15		17:24 (5)	07:08			08:02	08:27
	21:13			20:11	27	19:05 (4)	18:59	21	17:45 (5)	16:53			16:09	16:11
31	05:34			06:25		18:36 (4)				07:09				08:27
	21:12			20:09	29	19:05 (4)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		691			447			600			524			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,62			0,70			0,74			0,76			
Gesamte Reduktion		0,26			0,31			0,28			0,24			
Met.wahrsch.Beschattung		180			141			166			124			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: W - Siedlung 23

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar			März			April			Mai			Juni		
1	08:27		08:00			07:05		16:39 (5)	06:54		18:35 (4)	05:48			05:02		20:07 (6)
	16:14		17:02			17:55	31	17:10 (5)	19:50	36	19:11 (3)	20:42			21:28	43	20:53 (1)
2	08:27		07:58			07:03		16:38 (5)	06:51		18:34 (4)	05:46			05:01		20:06 (6)
	16:15		17:04			17:56	33	17:11 (5)	19:51	36	19:10 (3)	20:43			21:29	47	20:54 (1)
3	08:27		07:56			07:01		16:37 (5)	06:49		18:34 (4)	05:44			05:00		20:06 (6)
	16:16		17:06			17:58	33	17:10 (5)	19:53	35	19:09 (3)	20:45			21:30	49	20:55 (1)
4	08:27		07:55			06:59		16:37 (5)	06:47		18:34 (4)	05:42			04:59		20:06 (6)
	16:17		17:08			18:00	33	17:10 (5)	19:55	34	19:08 (3)	20:47			21:32	51	20:57 (1)
5	08:26		07:53			06:56		16:38 (5)	06:44		18:33 (4)	05:40			04:59		20:05 (6)
	16:18		17:10			18:02	32	17:10 (5)	19:57	33	19:06 (3)	20:48			21:33	52	20:57 (1)
6	08:26		07:51			06:54		16:38 (5)	06:42		18:33 (4)	05:38			04:58		20:06 (6)
	16:19		17:12			18:04	32	17:10 (5)	19:58	33	19:06 (4)	20:50			21:34	53	20:59 (1)
7	08:26		07:50			06:52		16:37 (5)	06:40		18:33 (4)	05:37			04:57		20:05 (6)
	16:21		17:13			18:06	32	17:09 (5)	20:00	33	19:06 (4)	20:52			21:34	54	20:59 (1)
8	08:25		07:48			06:50		16:38 (5)	06:38		18:32 (4)	05:35			04:57		20:06 (6)
	16:22		17:15			18:07	30	17:08 (5)	20:02	32	19:04 (4)	20:53			21:35	54	21:00 (1)
9	08:25		07:46			06:47		16:39 (5)	06:35		18:33 (4)	05:33			04:56		20:05 (6)
	16:23		17:17			18:09	29	17:08 (5)	20:04	31	19:04 (4)	20:55			21:36	55	21:00 (1)
10	08:24		07:44			06:45		16:39 (5)	06:33		18:34 (4)	05:31			04:56		20:06 (6)
	16:25		17:19			18:11	27	17:06 (5)	20:05	29	19:03 (4)	20:57			21:37	55	21:01 (1)
11	08:24		07:42			06:43		16:41 (5)	06:31		18:35 (4)	05:30			04:55		20:06 (6)
	16:26		17:21			18:13	24	17:05 (5)	20:07	27	19:02 (4)	20:58			21:38	55	21:01 (1)
12	08:23		07:40			06:40		16:43 (5)	06:28		18:36 (4)	05:28			04:55		20:05 (6)
	16:28		17:23			18:15	20	17:03 (5)	20:09	25	19:01 (4)	21:00			21:39	56	21:01 (1)
13	08:22		07:39			06:38		16:44 (5)	06:26		18:36 (4)	05:26			04:55		20:06 (6)
	16:29		17:25			18:16	16	17:00 (5)	20:10	22	18:58 (4)	21:01			21:39	56	21:02 (1)
14	08:21		07:37			06:36		16:48 (5)	06:24		18:38 (4)	05:25			04:55		20:06 (6)
	16:31		17:27			18:18	8	16:56 (5)	20:12	27	19:44 (2)	21:03			21:40	56	21:02 (1)
15	08:21		07:35			06:34			06:22		18:41 (4)	05:23			04:54		20:06 (6)
	16:32		17:29			18:20			20:14	27	19:47 (2)	21:05			21:40	57	21:03 (1)
16	08:20		07:33			06:31			06:20		19:31 (2)	05:21			04:54		20:06 (6)
	16:34		17:30			18:22			20:16	17	19:48 (2)	21:06			21:41	57	21:03 (1)
17	08:19		07:31			06:29			06:17		19:29 (2)	05:20			04:54		20:06 (6)
	16:36		17:32			18:23			20:17	20	19:49 (2)	21:08			21:41	58	21:04 (1)
18	08:18		07:29			06:27			06:15		19:28 (2)	05:18			04:54		20:07 (6)
	16:37		17:34			18:25			20:19	22	19:50 (2)	21:09			21:42	57	21:04 (1)
19	08:17		07:27			06:24			06:13		19:27 (2)	05:17			04:54		20:07 (6)
	16:39		17:36			18:27			20:21	22	19:49 (2)	21:11			21:42	57	21:04 (1)
20	08:16		07:25			06:22			06:11		19:26 (2)	05:16			04:54		20:07 (6)
	16:41		17:38			18:29			20:23	23	19:49 (2)	21:12			21:42	57	21:04 (1)
21	08:15		07:23		16:54 (5)	06:20			06:09		19:26 (2)	05:14		20:19 (6)	04:54		20:07 (6)
	16:42		17:40	4	16:58 (5)	18:30			20:24	23	19:49 (2)	21:14	6	20:25 (6)	21:43	57	21:04 (1)
22	08:13		07:20		16:49 (5)	06:17			06:06		19:26 (2)	05:13		20:15 (6)	04:55		20:08 (6)
	16:44		17:42	14	17:03 (5)	18:32			20:26	23	19:49 (2)	21:15	13	20:28 (6)	21:43	57	21:05 (1)
23	08:12		07:18		16:45 (5)	06:15		18:00 (3)	06:04		19:26 (2)	05:12		20:13 (6)	04:55		20:08 (6)
	16:46		17:44	20	17:05 (5)	18:34	4	18:04 (3)	20:28	23	19:49 (2)	21:17	18	20:31 (6)	21:43	57	21:05 (1)
24	08:11		07:16		16:44 (5)	06:12		17:55 (3)	06:02		19:26 (2)	05:10		20:12 (6)	04:55		20:08 (6)
	16:47		17:45	22	17:06 (5)	18:36	12	18:07 (3)	20:30	22	19:48 (2)	21:18	20	20:32 (6)	21:43	57	21:05 (1)
25	08:10		07:14		16:42 (5)	06:10		17:49 (4)	06:00		19:26 (2)	05:09		20:11 (6)	04:55		20:08 (6)
	16:49		17:47	26	17:08 (5)	18:37	20	18:09 (3)	20:31	22	19:48 (2)	21:19	23	20:34 (6)	21:43	58	21:06 (1)
26	08:08		07:12		16:41 (5)	06:08		17:45 (4)	05:58		19:27 (2)	05:08		20:10 (6)	04:56		20:08 (6)
	16:51		17:49	28	17:09 (5)	18:39	26	18:11 (3)	20:33	20	19:47 (2)	21:21	25	20:35 (6)	21:43	57	21:05 (1)
27	08:07		07:10		16:41 (5)	06:05		17:42 (4)	05:56		19:28 (2)	05:07		20:09 (6)	04:56		20:09 (6)
	16:53		17:51	29	17:10 (5)	18:41	29	18:11 (3)	20:35	18	19:46 (2)	21:22	27	20:36 (6)	21:43	57	21:06 (1)
28	08:06		07:08		16:39 (5)	06:03		17:40 (4)	05:54		19:29 (2)	05:06		20:08 (6)	04:57		20:09 (6)
	16:55		17:53	31	17:10 (5)	18:43	32	18:12 (3)	20:36	15	19:44 (2)	21:23	29	20:37 (6)	21:43	57	21:06 (1)
29	08:04					07:01		18:39 (4)	05:52		19:30 (2)	05:05		20:07 (6)	04:57		20:10 (6)
	16:57					19:44	33	19:12 (3)	20:38	12	19:42 (2)	21:25	31	20:38 (6)	21:43	56	21:06 (1)
30	08:03					06:58		18:37 (4)	05:50		19:33 (2)	05:04		20:07 (6)	04:58		20:09 (6)
	16:58					19:46	34	19:11 (3)	20:40	6	19:39 (2)	21:26	31	20:38 (6)	21:43	56	21:05 (1)
31	08:01					06:56		18:36 (4)				05:03		20:07 (6)			
	17:00					19:48	35	19:11 (3)				21:27	39	20:51 (1)			
Sonnenscheinstunden	257		277			367			417			487			501		
astr.max.mögl.Beschattung				174			605			748			262			1648	
Red.Sonnenscheinwahrsch.				0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer				1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung				0,76			0,75			0,72			0,63			0,62	
Gesamte Reduktion				0,19			0,22			0,27			0,28			0,25	
Met.wahrsch.Beschattung				33			133			202			74			411	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

Lizenzierter Anwender:
plan-GIS GmbH Niederlassung Hannover
Sedanstr. 29
DE-30161 Hannover
+49 (0)511 33648-300

Berechnet:
15.03.2021 14:15/3.4.415

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: W - Siedlung 23

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November	Dezember
1	04:59		20:10 (6)	05:36			06:26		18:34 (4)	07:16		17:22 (5)	07:11	08:03
	21:42	56	21:06 (1)	21:10			20:07	27	19:01 (4)	18:56	19	17:41 (5)	16:49	16:08
2	04:59		20:10 (6)	05:37			06:28		18:32 (4)	07:18		17:20 (5)	07:13	08:05
	21:42	55	21:05 (1)	21:08			20:05	29	19:01 (4)	18:54	23	17:43 (5)	16:47	16:07
3	05:00		20:10 (6)	05:39			06:30		18:31 (4)	07:20		17:18 (5)	07:15	08:06
	21:42	55	21:05 (1)	21:06			20:02	31	19:02 (4)	18:52	25	17:43 (5)	16:46	16:07
4	05:01		20:11 (6)	05:40			06:31		18:31 (4)	07:22		17:16 (5)	07:17	08:07
	21:41	54	21:05 (1)	21:05			20:00	32	19:03 (4)	18:49	28	17:44 (5)	16:44	16:06
5	05:02		20:12 (6)	05:42			06:33		18:29 (4)	07:23		17:15 (5)	07:19	08:09
	21:41	53	21:05 (1)	21:03			19:58	33	19:02 (4)	18:47	30	17:45 (5)	16:42	16:06
6	05:02		20:12 (6)	05:44			06:35		18:29 (4)	07:25		17:15 (5)	07:20	08:10
	21:40	53	21:05 (1)	21:01			19:55	33	19:02 (4)	18:45	31	17:46 (5)	16:40	16:05
7	05:03		20:12 (6)	05:45			06:36		18:28 (4)	07:27		17:13 (5)	07:22	08:11
	21:40	52	21:04 (1)	20:59			19:53	34	19:02 (4)	18:43	32	17:45 (5)	16:38	16:05
8	05:04		20:12 (6)	05:47			06:38		18:28 (4)	07:28		17:13 (5)	07:24	08:12
	21:39	52	21:04 (1)	20:57			19:51	35	19:03 (3)	18:40	32	17:45 (5)	16:37	16:04
9	05:05		20:13 (6)	05:49			06:40		18:28 (4)	07:30		17:12 (5)	07:26	08:14
	21:38	50	21:03 (1)	20:56			19:48	35	19:03 (3)	18:38	33	17:45 (5)	16:35	16:04
10	05:06		20:13 (6)	05:50			06:41		18:27 (4)	07:32		17:12 (5)	07:28	08:15
	21:38	49	21:02 (1)	20:54			19:46	36	19:03 (3)	18:36	33	17:45 (5)	16:33	16:04
11	05:07		20:14 (6)	05:52			06:43		18:28 (4)	07:34		17:11 (5)	07:29	08:16
	21:37	45	21:01 (1)	20:52			19:44	35	19:03 (3)	18:33	33	17:44 (5)	16:32	16:04
12	05:08		20:14 (6)	05:53			06:45		18:27 (4)	07:35		17:12 (5)	07:31	08:17
	21:36	41	21:00 (1)	20:50			19:41	36	19:03 (3)	18:31	32	17:44 (5)	16:30	16:04
13	05:10		20:15 (6)	05:55		19:40 (2)	06:46		18:28 (4)	07:37		17:12 (5)	07:33	08:18
	21:35	32	20:47 (6)	20:48	9	19:49 (2)	19:39	35	19:03 (3)	18:29	31	17:43 (5)	16:29	16:03
14	05:11		20:16 (6)	05:57		19:38 (2)	06:48		18:29 (4)	07:39		17:12 (5)	07:35	08:19
	21:34	30	20:46 (6)	20:46	13	19:51 (2)	19:37	34	19:03 (3)	18:27	31	17:43 (5)	16:27	16:03
15	05:12		20:17 (6)	05:58		19:36 (2)	06:50		18:29 (4)	07:41		17:13 (5)	07:37	08:20
	21:33	30	20:47 (6)	20:44	16	19:52 (2)	19:34	32	19:01 (3)	18:24	29	17:42 (5)	16:26	16:04
16	05:13		20:18 (6)	06:00		19:35 (2)	06:51		18:31 (4)	07:42		17:14 (5)	07:38	08:21
	21:32	28	20:46 (6)	20:42	19	19:54 (2)	19:32	29	19:00 (3)	18:22	27	17:41 (5)	16:24	16:04
17	05:14		20:19 (6)	06:02		19:33 (2)	06:53		18:32 (4)	07:44		17:14 (5)	07:40	08:22
	21:31	26	20:45 (6)	20:40	21	19:54 (2)	19:29	27	18:59 (3)	18:20	25	17:39 (5)	16:23	16:04
18	05:16		20:20 (6)	06:03		19:33 (2)	06:55		18:35 (4)	07:46		17:15 (5)	07:42	08:22
	21:30	24	20:44 (6)	20:38	22	19:55 (2)	19:27	22	18:57 (3)	18:18	22	17:37 (5)	16:22	16:04
19	05:17		20:21 (6)	06:05		19:32 (2)	06:56		18:42 (3)	07:48		17:17 (5)	07:44	08:23
	21:29	22	20:43 (6)	20:35	22	19:54 (2)	19:25	13	18:55 (3)	18:16	18	17:35 (5)	16:20	16:04
20	05:18		20:23 (6)	06:07		19:31 (2)	06:58		18:44 (3)	07:49		17:20 (5)	07:45	08:24
	21:27	19	20:42 (6)	20:33	24	19:55 (2)	19:22	7	18:51 (3)	18:14	12	17:32 (5)	16:19	16:05
21	05:20		20:24 (6)	06:08		19:32 (2)	07:00			07:51			07:47	08:24
	21:26	16	20:40 (6)	20:31	23	19:55 (2)	19:20			18:11			16:18	16:05
22	05:21		20:27 (6)	06:10		19:31 (2)	07:01			07:53			07:49	08:25
	21:25	10	20:37 (6)	20:29	23	19:54 (2)	19:18			18:09			16:17	16:06
23	05:22			06:12		19:31 (2)	07:03			07:55			07:50	08:25
	21:24			20:27	23	19:54 (2)	19:15			18:07			16:15	16:06
24	05:24			06:13		19:31 (2)	07:05			07:57			07:52	08:26
	21:22			20:25	22	19:53 (2)	19:13			18:05			16:14	16:07
25	05:25			06:15		19:31 (2)	07:06			06:58			07:54	08:26
	21:21			20:23	21	19:52 (2)	19:11			17:03			16:13	16:07
26	05:27			06:17		19:31 (2)	07:08			07:00			07:55	08:26
	21:19			20:20	20	19:51 (2)	19:08			17:01			16:12	16:08
27	05:28			06:18		19:33 (2)	07:10			07:02			07:57	08:27
	21:18			20:18	17	19:50 (2)	19:06			16:59			16:11	16:09
28	05:30			06:20		18:43 (4)	07:11			07:04			07:59	08:27
	21:16			20:16	27	19:48 (2)	19:03			16:57			16:10	16:10
29	05:31			06:22		18:39 (4)	07:13			07:06			08:00	08:27
	21:15			20:14	27	19:45 (2)	19:01			16:55			16:10	16:10
30	05:33			06:23		18:37 (4)	07:15		17:25 (5)	07:08			08:02	08:27
	21:13			20:11	22	18:59 (4)	18:59	14	17:39 (5)	16:53			16:09	16:11
31	05:34			06:25		18:35 (4)				07:09				08:27
	21:12			20:09	25	19:00 (4)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		852			396			609			546			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,63			0,70			0,74			0,76			
Gesamte Reduktion		0,26			0,31			0,28			0,24			
Met.wahrsch.Beschattung		224			124			169			129			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: X - Siedlung 25A

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		16:39 (5)	06:54		18:34 (4)	05:48			05:02		20:00 (6)
	16:14	17:02			17:55	32	17:11 (5)	19:50	36	19:10 (3)	20:42			21:28	54	20:54 (1)
2	08:27	07:58			07:03		16:39 (5)	06:51		18:33 (4)	05:46			05:01		20:00 (6)
	16:15	17:04			17:56	32	17:11 (5)	19:51	35	19:08 (3)	20:43			21:29	55	20:55 (1)
3	08:27	07:56			07:01		16:38 (5)	06:49		18:33 (4)	05:44			05:00		20:00 (6)
	16:16	17:06			17:58	32	17:10 (5)	19:53	34	19:07 (3)	20:45			21:30	55	20:55 (1)
4	08:27	07:55			06:59		16:38 (5)	06:47		18:33 (4)	05:42			04:59		20:00 (6)
	16:17	17:08			18:00	32	17:10 (5)	19:55	33	19:06 (3)	20:47			21:32	56	20:56 (1)
5	08:26	07:53			06:56		16:38 (5)	06:44		18:32 (4)	05:40			04:59		20:00 (6)
	16:18	17:10			18:02	32	17:10 (5)	19:57	32	19:04 (4)	20:48			21:33	56	20:56 (1)
6	08:26	07:51			06:54		16:39 (5)	06:42		18:32 (4)	05:38			04:58		20:00 (6)
	16:19	17:12			18:04	31	17:10 (5)	19:58	32	19:04 (4)	20:50			21:34	58	20:58 (1)
7	08:26	07:50			06:52		16:38 (5)	06:40		18:33 (4)	05:37			04:57		20:00 (6)
	16:21	17:13			18:06	30	17:08 (5)	20:00	31	19:04 (4)	20:52			21:34	58	20:58 (1)
8	08:25	07:48			06:50		16:39 (5)	06:38		18:33 (4)	05:35			04:57		20:00 (6)
	16:22	17:15			18:07	29	17:08 (5)	20:02	29	19:02 (4)	20:53			21:35	58	20:58 (1)
9	08:25	07:46			06:47		16:40 (5)	06:35		18:33 (4)	05:33			04:56		20:00 (6)
	16:23	17:17			18:09	27	17:07 (5)	20:04	28	19:01 (4)	20:55			21:36	58	20:58 (1)
10	08:24	07:44			06:45		16:41 (5)	06:33		18:35 (4)	05:31			04:56		20:00 (6)
	16:25	17:19			18:11	24	17:05 (5)	20:05	25	19:00 (4)	20:57			21:37	59	20:59 (1)
11	08:24	07:42			06:43		16:43 (5)	06:31		18:36 (4)	05:30			04:55		20:01 (6)
	16:26	17:21			18:13	20	17:03 (5)	20:07	22	18:58 (4)	20:58			21:38	59	21:00 (1)
12	08:23	07:40			06:40		16:45 (5)	06:28		18:38 (4)	05:28			04:55		20:00 (6)
	16:28	17:23			18:15	16	17:01 (5)	20:09	19	18:57 (4)	21:00			21:39	59	20:59 (1)
13	08:22	07:39			06:38		16:48 (5)	06:26		18:39 (4)	05:26			04:55		20:01 (6)
	16:29	17:25			18:16	9	16:57 (5)	20:10	24	19:43 (2)	21:01			21:39	59	21:00 (1)
14	08:21	07:37			06:36			06:24		18:45 (4)	05:25			04:55		20:01 (6)
	16:31	17:27			18:18			20:12	17	19:45 (2)	21:03			21:40	59	21:00 (1)
15	08:21	07:35			06:34			06:22		19:29 (2)	05:23			04:54		20:01 (6)
	16:32	17:29			18:20			20:14	18	19:47 (2)	21:05			21:40	60	21:01 (1)
16	08:20	07:33			06:31			06:19		19:28 (2)	05:21			04:54		20:01 (6)
	16:34	17:30			18:22			20:16	19	19:47 (2)	21:06			21:41	60	21:01 (1)
17	08:19	07:31			06:29			06:17		19:27 (2)	05:20		20:14 (6)	04:54		20:02 (6)
	16:35	17:32			18:23			20:17	21	19:48 (2)	21:08	7	20:21 (6)	21:41	59	21:01 (1)
18	08:18	07:29			06:27			06:15		19:26 (2)	05:18		20:10 (6)	04:54		20:02 (6)
	16:37	17:34			18:25			20:19	23	19:49 (2)	21:09	14	20:24 (6)	21:42	59	21:01 (1)
19	08:17	07:27			06:24			06:13		19:25 (2)	05:17		20:08 (6)	04:54		20:02 (6)
	16:39	17:36			18:27			20:21	23	19:48 (2)	21:11	19	20:27 (6)	21:42	60	21:02 (1)
20	08:16	07:25			06:22			06:11		19:25 (2)	05:16		20:07 (6)	04:54		20:02 (6)
	16:41	17:38			18:29			20:23	23	19:48 (2)	21:12	21	20:28 (6)	21:42	60	21:02 (1)
21	08:15	07:23		16:51 (5)	06:20			06:09		19:24 (2)	05:14		20:06 (6)	04:54		20:02 (6)
	16:42	17:40	10	17:01 (5)	18:30			20:24	23	19:47 (2)	21:14	24	20:30 (6)	21:43	60	21:02 (1)
22	08:13	07:20		16:48 (5)	06:17			06:06		19:25 (2)	05:13		20:04 (6)	04:55		20:03 (6)
	16:44	17:42	16	17:04 (5)	18:32			20:26	22	19:47 (2)	21:15	26	20:30 (6)	21:43	60	21:03 (1)
23	08:12	07:18		16:45 (5)	06:15		17:55 (3)	06:04		19:25 (2)	05:12		20:04 (6)	04:55		20:03 (6)
	16:46	17:44	20	17:05 (5)	18:34	11	18:06 (3)	20:28	22	19:47 (2)	21:17	28	20:32 (6)	21:43	60	21:03 (1)
24	08:11	07:16		16:43 (5)	06:12		17:47 (4)	06:02		19:25 (2)	05:10		20:03 (6)	04:55		20:03 (6)
	16:47	17:45	24	17:07 (5)	18:36	21	18:08 (3)	20:30	21	19:46 (2)	21:18	30	20:33 (6)	21:43	60	21:03 (1)
25	08:10	07:14		16:42 (5)	06:10		17:43 (4)	06:00		19:26 (2)	05:09		20:02 (6)	04:55		20:04 (6)
	16:49	17:47	26	17:08 (5)	18:37	26	18:09 (3)	20:31	19	19:45 (2)	21:19	31	20:33 (6)	21:43	59	21:03 (1)
26	08:08	07:12		16:41 (5)	06:08		17:41 (4)	05:58		19:27 (2)	05:08		20:02 (6)	04:56		20:04 (6)
	16:51	17:49	29	17:10 (5)	18:39	30	18:11 (3)	20:33	17	19:44 (2)	21:21	32	20:34 (6)	21:43	59	21:03 (1)
27	08:07	07:10		16:41 (5)	06:05		17:39 (4)	05:56		19:28 (2)	05:07		20:01 (6)	04:56		20:04 (6)
	16:53	17:51	29	17:10 (5)	18:41	31	18:10 (3)	20:35	14	19:42 (2)	21:22	39	20:46 (1)	21:43	60	21:04 (1)
28	08:06	07:08		16:39 (5)	06:03		17:37 (4)	05:54		19:30 (2)	05:06		20:01 (6)	04:57		20:04 (6)
	16:55	17:53	31	17:10 (5)	18:43	34	18:11 (3)	20:36	9	19:39 (2)	21:23	45	20:49 (1)	21:43	59	21:03 (1)
29	08:04				07:01		18:37 (4)	05:52			05:05		20:01 (6)	04:57		20:05 (6)
	16:57				19:44	34	19:11 (3)	20:38			21:25	48	20:50 (1)	21:43	59	21:04 (1)
30	08:03				06:58		18:35 (4)	05:50			05:04		20:00 (6)	04:58		20:04 (6)
	16:58				19:46	35	19:10 (3)	20:40			21:26	52	20:52 (1)	21:43	59	21:03 (1)
31	08:01				06:56		18:34 (4)				05:03		20:01 (6)			
	17:00				19:48	36	19:10 (3)				21:27	52	20:53 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			185			604			671			468			1756	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,76			0,75			0,72			0,63			0,63	
Gesamte Reduktion			0,19			0,22			0,27			0,28			0,25	
Met.wahrsch.Beschattung			35			132			181			133			442	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: X - Siedlung 25A

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August			September		Oktober		November	Dezember
1	04:59		20:05 (6)	05:36		06:26		18:35 (4)	07:16	17:25 (5)	07:11	08:03
	21:42	59	21:04 (1)	21:10		20:07	22	18:57 (4)	18:56	14	17:39 (5)	16:49	16:08
2	04:59		20:05 (6)	05:37		06:28		18:33 (4)	07:18		17:22 (5)	07:13	08:05
	21:42	58	21:03 (1)	21:08		20:05	25	18:58 (4)	18:54	20	17:42 (5)	16:47	16:07
3	05:00		20:05 (6)	05:39		06:30		18:31 (4)	07:20		17:19 (5)	07:15	08:06
	21:42	59	21:04 (1)	21:06		20:02	28	18:59 (4)	18:52	23	17:42 (5)	16:46	16:07
4	05:01		20:06 (6)	05:40		06:31		18:31 (4)	07:22		17:18 (5)	07:17	08:07
	21:41	58	21:04 (1)	21:05		20:00	29	19:00 (4)	18:49	25	17:43 (5)	16:44	16:06
5	05:02		20:06 (6)	05:42		06:33		18:29 (4)	07:23		17:17 (5)	07:19	08:09
	21:41	58	21:04 (1)	21:03		19:58	31	19:00 (4)	18:47	27	17:44 (5)	16:42	16:06
6	05:02		20:07 (6)	05:44		06:35		18:28 (4)	07:25		17:16 (5)	07:20	08:10
	21:40	57	21:04 (1)	21:01		19:55	32	19:00 (4)	18:45	29	17:45 (5)	16:40	16:05
7	05:03		20:06 (6)	05:45		06:36		18:27 (4)	07:27		17:14 (5)	07:22	08:11
	21:40	57	21:03 (1)	20:59		19:53	33	19:00 (4)	18:43	31	17:45 (5)	16:38	16:05
8	05:04		20:07 (6)	05:47		06:38		18:27 (4)	07:28		17:14 (5)	07:24	08:12
	21:39	56	21:03 (1)	20:57		19:51	33	19:00 (3)	18:40	31	17:45 (5)	16:37	16:04
9	05:05		20:07 (6)	05:48		06:40		18:27 (4)	07:30		17:13 (5)	07:26	08:14
	21:38	56	21:03 (1)	20:56		19:48	34	19:01 (3)	18:38	32	17:45 (5)	16:35	16:04
10	05:06		20:07 (6)	05:50		06:41		18:26 (4)	07:32		17:13 (5)	07:28	08:15
	21:38	55	21:02 (1)	20:54		19:46	35	19:01 (3)	18:36	32	17:45 (5)	16:33	16:04
11	05:07		20:08 (6)	05:52		06:43		18:26 (4)	07:34		17:12 (5)	07:29	08:16
	21:37	54	21:02 (1)	20:52		19:44	36	19:02 (3)	18:33	32	17:44 (5)	16:32	16:04
12	05:08		20:08 (6)	05:53		06:45		18:26 (4)	07:35		17:12 (5)	07:31	08:17
	21:36	53	21:01 (1)	20:50		19:41	35	19:01 (3)	18:31	32	17:44 (5)	16:30	16:04
13	05:10		20:08 (6)	05:55		06:46		18:26 (4)	07:37		17:12 (5)	07:33	08:18
	21:35	53	21:01 (1)	20:48		19:39	35	19:01 (3)	18:29	32	17:44 (5)	16:29	16:03
14	05:11		20:09 (6)	05:57	19:42 (2)	06:48		18:27 (4)	07:39		17:13 (5)	07:35	08:19
	21:34	50	21:00 (1)	20:46	2 19:44 (2)	19:37	34	19:01 (3)	18:27	30	17:43 (5)	16:27	16:03
15	05:12		20:10 (6)	05:58	19:37 (2)	06:50		18:27 (4)	07:41		17:13 (5)	07:37	08:20
	21:33	47	20:59 (1)	20:44	11 19:48 (2)	19:34	33	19:00 (3)	18:24	29	17:42 (5)	16:26	16:04
16	05:13		20:11 (6)	06:00	19:35 (2)	06:51		18:28 (4)	07:42		17:14 (5)	07:38	08:21
	21:32	42	20:57 (1)	20:42	15 19:50 (2)	19:32	32	19:00 (3)	18:22	27	17:41 (5)	16:24	16:04
17	05:14		20:11 (6)	06:02	19:33 (2)	06:53		18:28 (4)	07:44		17:14 (5)	07:40	08:22
	21:31	33	20:44 (6)	20:40	17 19:50 (2)	19:29	30	18:58 (3)	18:20	25	17:39 (5)	16:23	16:04
18	05:16		20:12 (6)	06:03	19:32 (2)	06:55		18:30 (4)	07:46		17:15 (5)	07:42	08:22
	21:30	31	20:43 (6)	20:38	20 19:52 (2)	19:27	27	18:57 (3)	18:18	23	17:38 (5)	16:22	16:04
19	05:17		20:12 (6)	06:05	19:31 (2)	06:56		18:33 (4)	07:48		17:17 (5)	07:44	08:23
	21:29	31	20:43 (6)	20:35	21 19:52 (2)	19:25	23	18:56 (3)	18:16	19	17:36 (5)	16:20	16:04
20	05:18		20:14 (6)	06:07	19:30 (2)	06:58		18:40 (3)	07:49		17:19 (5)	07:45	08:24
	21:27	29	20:43 (6)	20:33	22 19:52 (2)	19:22	13	18:53 (3)	18:14	15	17:34 (5)	16:19	16:05
21	05:20		20:14 (6)	06:08	19:30 (2)	07:00		18:44 (3)	07:51		17:24 (5)	07:47	08:24
	21:26	28	20:42 (6)	20:31	23 19:53 (2)	19:20	5	18:49 (3)	18:11	5	17:29 (5)	16:18	16:05
22	05:21		20:15 (6)	06:10	19:29 (2)	07:01			07:53			07:49	08:25
	21:25	25	20:40 (6)	20:29	23 19:52 (2)	19:18			18:09			16:17	16:06
23	05:22		20:16 (6)	06:12	19:29 (2)	07:03			07:55			07:50	08:25
	21:24	23	20:39 (6)	20:27	23 19:52 (2)	19:15			18:07			16:15	16:06
24	05:24		20:18 (6)	06:13	19:29 (2)	07:05			07:57			07:52	08:26
	21:22	20	20:38 (6)	20:25	22 19:51 (2)	19:13			18:05			16:14	16:07
25	05:25		20:20 (6)	06:15	19:29 (2)	07:06			06:58			07:54	08:26
	21:21	16	20:36 (6)	20:23	22 19:51 (2)	19:11			17:03			16:13	16:07
26	05:27		20:22 (6)	06:17	19:29 (2)	07:08			07:00			07:55	08:26
	21:19	11	20:33 (6)	20:20	21 19:50 (2)	19:08			17:01			16:12	16:08
27	05:28			06:18	19:30 (2)	07:10			07:02			07:57	08:27
	21:18			20:18	19 19:49 (2)	19:06			16:59			16:11	16:09
28	05:30			06:20	19:31 (2)	07:11			07:04			07:59	08:27
	21:16			20:16	17 19:48 (2)	19:03			16:57			16:10	16:10
29	05:31			06:22	18:45 (4)	07:13			07:06			08:00	08:27
	21:15			20:14	19 19:46 (2)	19:01			16:55			16:10	16:10
30	05:33			06:23	18:40 (4)	07:15		17:30 (5)	07:08			08:02	08:27
	21:13			20:11	24 19:44 (2)	18:59	4	17:34 (5)	16:53			16:09	16:11
31	05:34			06:25	18:37 (4)				07:09				08:27
	21:12			20:09	19 18:56 (4)				16:51				16:12
Sonnenscheinstunden	504			455		381			331			265	241
astr.max.mögl.Beschattung		1119			340		609			533			
Red.Sonnenscheinwahrsch.		0,42			0,44		0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00		1,00			1,00			
Reduktion Windrichtung		0,63			0,70		0,74			0,76			
Gesamte Reduktion		0,26			0,31		0,28			0,24			
Met.wahrsch.Beschattung		296			107		169			126			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: Y - Siedlung 25

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		16:39 (5)	06:54		18:33 (4)	05:48			05:02		19:57 (6)
	16:14	17:02			17:55	31	17:10 (5)	19:50	35	19:08 (3)	20:42			21:28	57	20:54 (1)
2	08:27	07:58			07:03		16:39 (5)	06:51		18:32 (4)	05:46			05:01		19:57 (6)
	16:15	17:04			17:56	31	17:10 (5)	19:51	35	19:07 (3)	20:43			21:29	57	20:54 (1)
3	08:27	07:56			07:01		16:38 (5)	06:49		18:32 (4)	05:44			05:00		19:57 (6)
	16:16	17:06			17:58	32	17:10 (5)	19:53	34	19:06 (3)	20:45			21:30	57	20:54 (1)
4	08:27	07:55			06:59		16:38 (5)	06:47		18:32 (4)	05:42			04:59		19:57 (6)
	16:17	17:08			18:00	32	17:10 (5)	19:55	32	19:04 (3)	20:47			21:32	58	20:55 (1)
5	08:26	07:53			06:56		16:38 (5)	06:44		18:31 (4)	05:40			04:59		19:57 (6)
	16:18	17:10			18:02	31	17:09 (5)	19:57	32	19:03 (4)	20:48			21:33	59	20:56 (1)
6	08:26	07:51			06:54		16:39 (5)	06:42		18:32 (4)	05:38			04:58		19:58 (6)
	16:19	17:12			18:04	30	17:09 (5)	19:58	30	19:02 (4)	20:50			21:34	59	20:57 (1)
7	08:26	07:50			06:52		16:39 (5)	06:40		18:33 (4)	05:37			04:57		19:57 (6)
	16:21	17:13			18:06	29	17:08 (5)	20:00	29	19:02 (4)	20:52			21:34	59	20:56 (1)
8	08:25	07:48			06:50		16:40 (5)	06:38		18:33 (4)	05:35			04:57		19:58 (6)
	16:22	17:15			18:07	27	17:07 (5)	20:02	27	19:00 (4)	20:53			21:35	59	20:57 (1)
9	08:25	07:46			06:47		16:41 (5)	06:35		18:34 (4)	05:33			04:56		19:57 (6)
	16:23	17:17			18:09	25	17:06 (5)	20:04	25	18:59 (4)	20:55			21:36	60	20:57 (1)
10	08:24	07:44			06:45		16:41 (5)	06:33		18:35 (4)	05:31			04:56		19:58 (6)
	16:25	17:19			18:11	23	17:04 (5)	20:05	22	18:57 (4)	20:57			21:37	60	20:58 (1)
11	08:24	07:42			06:43		16:44 (5)	06:31		18:37 (4)	05:30			04:55		19:58 (6)
	16:26	17:21			18:13	18	17:02 (5)	20:07	18	18:55 (4)	20:58			21:38	60	20:58 (1)
12	08:23	07:40			06:40		16:46 (5)	06:28		18:39 (4)	05:28			04:55		19:58 (6)
	16:28	17:23			18:15	13	16:59 (5)	20:09	22	19:42 (2)	21:00			21:39	60	20:58 (1)
13	08:22	07:39			06:38			06:26		19:30 (2)	05:26			04:55		19:58 (6)
	16:29	17:25			18:16			20:10	13	19:43 (2)	21:01			21:39	60	20:58 (1)
14	08:21	07:37			06:36			06:24		19:28 (2)	05:25			04:55		19:59 (6)
	16:31	17:27			18:18			20:12	17	19:45 (2)	21:03			21:40	60	20:59 (1)
15	08:21	07:35			06:34			06:22		19:27 (2)	05:23		20:11 (6)	04:54		19:59 (6)
	16:32	17:29			18:20			20:14	19	19:46 (2)	21:05	7	20:18 (6)	21:40	60	20:59 (1)
16	08:20	07:33			06:31			06:19		19:26 (2)	05:21		20:08 (6)	04:54		19:59 (6)
	16:34	17:30			18:22			20:16	21	19:47 (2)	21:06	14	20:22 (6)	21:41	61	21:00 (1)
17	08:19	07:31			06:29			06:17		19:25 (2)	05:20		20:06 (6)	04:54		19:59 (6)
	16:35	17:32			18:23			20:17	22	19:47 (2)	21:08	19	20:25 (6)	21:41	61	21:00 (1)
18	08:18	07:29			06:27			06:15		19:25 (2)	05:18		20:04 (6)	04:54		20:00 (6)
	16:37	17:34			18:25			20:19	23	19:48 (2)	21:09	22	20:26 (6)	21:42	60	21:00 (1)
19	08:17	07:27			06:24			06:13		19:24 (2)	05:17		20:03 (6)	04:54		20:00 (6)
	16:39	17:36			18:27			20:21	23	19:47 (2)	21:11	24	20:27 (6)	21:42	60	21:00 (1)
20	08:16	07:25			06:22			06:11		19:24 (2)	05:16		20:02 (6)	04:54		20:00 (6)
	16:41	17:38			18:29			20:23	22	19:46 (2)	21:12	27	20:29 (6)	21:42	60	21:00 (1)
21	08:15	07:23		16:49 (5)	06:20			06:09		19:24 (2)	05:14		20:01 (6)	04:54		20:00 (6)
	16:42	17:40	13	17:02 (5)	18:30			20:24	22	19:46 (2)	21:14	29	20:30 (6)	21:43	60	21:00 (1)
22	08:13	07:20		16:47 (5)	06:17		17:56 (3)	06:06		19:24 (2)	05:13		20:00 (6)	04:55		20:01 (6)
	16:44	17:42	18	17:05 (5)	18:32	8	18:04 (3)	20:26	22	19:46 (2)	21:15	30	20:30 (6)	21:43	60	21:01 (1)
23	08:12	07:18		16:44 (5)	06:15		17:48 (4)	06:04		19:24 (2)	05:12		19:59 (6)	04:55		20:01 (6)
	16:46	17:44	22	17:06 (5)	18:34	19	18:07 (3)	20:28	21	19:45 (2)	21:17	32	20:31 (6)	21:43	60	21:01 (1)
24	08:11	07:16		16:43 (5)	06:12		17:43 (4)	06:02		19:25 (2)	05:10		19:59 (6)	04:55		20:01 (6)
	16:47	17:45	24	17:07 (5)	18:36	25	18:08 (3)	20:30	19	19:44 (2)	21:18	33	20:32 (6)	21:43	60	21:01 (1)
25	08:10	07:14		16:42 (5)	06:10		17:41 (4)	06:00		19:26 (2)	05:09		19:59 (6)	04:55		20:01 (6)
	16:49	17:47	26	17:08 (5)	18:37	28	18:09 (3)	20:31	17	19:43 (2)	21:19	38	20:44 (1)	21:43	61	21:02 (1)
26	08:08	07:12		16:41 (5)	06:08		17:39 (4)	05:58		19:27 (2)	05:08		19:58 (6)	04:56		20:01 (6)
	16:51	17:49	28	17:09 (5)	18:39	31	18:10 (3)	20:33	14	19:41 (2)	21:21	46	20:47 (1)	21:43	61	21:02 (1)
27	08:07	07:10		16:40 (5)	06:05		17:37 (4)	05:56		19:29 (2)	05:07		19:58 (6)	04:56		20:02 (6)
	16:53	17:51	30	17:10 (5)	18:41	33	18:10 (3)	20:35	10	19:39 (2)	21:22	50	20:49 (1)	21:43	60	21:02 (1)
28	08:06	07:08		16:39 (5)	06:03		17:36 (4)	05:54			05:06		19:58 (6)	04:57		20:02 (6)
	16:55	17:53	31	17:10 (5)	18:43	34	18:10 (3)	20:36			21:23	52	20:50 (1)	21:43	60	21:02 (1)
29	08:04				07:01		18:35 (4)	05:52			05:05		19:57 (6)	04:57		20:02 (6)
	16:57				19:44	35	19:10 (3)	20:38			21:25	54	20:51 (1)	21:43	61	21:03 (1)
30	08:03				06:58		18:33 (4)	05:50			05:04		19:57 (6)	04:58		20:02 (6)
	16:58				19:46	36	19:09 (3)	20:40			21:26	55	20:52 (1)	21:43	60	21:02 (1)
31	08:01				06:56		18:33 (4)				05:03		19:58 (6)			
	17:00				19:48	36	19:09 (3)				21:27	55	20:53 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			192			607			626			587			1790	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,76			0,75			0,72			0,64			0,63	
Gesamte Reduktion			0,19			0,22			0,27			0,29			0,25	
Met.wahrsch.Beschattung			37			133			169			168			452	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: Y - Siedlung 25

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August			September		Oktober		November	Dezember
1	04:59		20:03 (6)	05:36		06:26		18:36 (4)	07:16	17:27 (5)	07:11	08:03
	21:42	60	21:03 (1)	21:10		20:07	18	18:54 (4)	18:56	9	17:36 (5)	16:49	16:08
2	04:59		20:02 (6)	05:37		06:28		18:33 (4)	07:18	17:23 (5)	07:13	08:05
	21:42	60	21:02 (1)	21:08		20:05	22	18:55 (4)	18:54	17	17:40 (5)	16:47	16:07
3	05:00		20:03 (6)	05:39		06:30		18:32 (4)	07:20	17:20 (5)	07:15	08:06
	21:42	59	21:02 (1)	21:06		20:02	25	18:57 (4)	18:52	21	17:41 (5)	16:46	16:07
4	05:01		20:03 (6)	05:40		06:31		18:31 (4)	07:22	17:18 (5)	07:17	08:07
	21:41	60	21:03 (1)	21:05		20:00	27	18:58 (4)	18:49	24	17:42 (5)	16:44	16:06
5	05:02		20:04 (6)	05:42		06:33		18:29 (4)	07:23	17:17 (5)	07:19	08:09
	21:41	59	21:03 (1)	21:03		19:58	29	18:58 (4)	18:47	26	17:43 (5)	16:42	16:06
6	05:02		20:04 (6)	05:44		06:35		18:28 (4)	07:25	17:16 (5)	07:20	08:10
	21:40	59	21:03 (1)	21:01		19:55	30	18:58 (4)	18:45	28	17:44 (5)	16:40	16:05
7	05:03		20:03 (6)	05:45		06:36		18:27 (4)	07:27	17:14 (5)	07:22	08:11
	21:40	59	21:02 (1)	20:59		19:53	31	18:58 (4)	18:43	30	17:44 (5)	16:38	16:05
8	05:04		20:04 (6)	05:47		06:38		18:26 (4)	07:28	17:14 (5)	07:24	08:12
	21:39	58	21:02 (1)	20:57		19:51	32	18:58 (3)	18:40	30	17:44 (5)	16:37	16:04
9	05:05		20:04 (6)	05:48		06:40		18:26 (4)	07:30	17:13 (5)	07:26	08:14
	21:38	58	21:02 (1)	20:56		19:48	34	19:00 (3)	18:38	32	17:45 (5)	16:35	16:04
10	05:06		20:04 (6)	05:50		06:41		18:25 (4)	07:32	17:13 (5)	07:28	08:15
	21:38	58	21:02 (1)	20:54		19:46	35	19:00 (3)	18:36	32	17:45 (5)	16:33	16:04
11	05:07		20:05 (6)	05:52		06:43		18:25 (4)	07:34	17:12 (5)	07:29	08:16
	21:37	56	21:01 (1)	20:52		19:44	36	19:01 (3)	18:33	32	17:44 (5)	16:32	16:04
12	05:08		20:05 (6)	05:53		06:45		18:24 (4)	07:35	17:12 (5)	07:31	08:17
	21:36	56	21:01 (1)	20:50		19:41	36	19:00 (3)	18:31	31	17:43 (5)	16:30	16:04
13	05:10		20:05 (6)	05:55		06:46		18:25 (4)	07:37	17:12 (5)	07:33	08:18
	21:35	55	21:00 (1)	20:48		19:39	35	19:00 (3)	18:29	31	17:43 (5)	16:29	16:03
14	05:11		20:06 (6)	05:57		06:48		18:25 (4)	07:39	17:12 (5)	07:35	08:19
	21:34	54	21:00 (1)	20:46		19:37	36	19:01 (3)	18:27	31	17:43 (5)	16:27	16:03
15	05:12		20:07 (6)	05:58		19:39 (2)	06:50	18:25 (4)	07:41	17:13 (5)	07:37	08:20
	21:33	53	21:00 (1)	20:44	4	19:43 (2)	19:34	34	18:59 (3)	18:24	29	17:42 (5)	16:26	16:04
16	05:13		20:07 (6)	06:00		19:36 (2)	06:51	18:26 (4)	07:42	17:13 (5)	07:38	08:21
	21:32	51	20:59 (1)	20:42	11	19:47 (2)	19:32	33	18:59 (3)	18:22	28	17:41 (5)	16:24	16:04
17	05:14		20:08 (6)	06:02		19:33 (2)	06:53	18:26 (4)	07:44	17:13 (5)	07:40	08:22
	21:31	47	20:57 (1)	20:40	15	19:48 (2)	19:29	32	18:58 (3)	18:20	26	17:39 (5)	16:23	16:04
18	05:16		20:08 (6)	06:03		19:32 (2)	06:55	18:28 (4)	07:46	17:14 (5)	07:42	08:22
	21:30	42	20:55 (1)	20:38	18	19:50 (2)	19:27	29	18:57 (3)	18:18	24	17:38 (5)	16:22	16:04
19	05:17		20:08 (6)	06:05		19:30 (2)	06:56	18:30 (4)	07:48	17:16 (5)	07:44	08:23
	21:29	34	20:42 (6)	20:35	20	19:50 (2)	19:25	26	18:56 (3)	18:16	20	17:36 (5)	16:20	16:04
20	05:18		20:10 (6)	06:07		19:30 (2)	06:58	18:32 (4)	07:49	17:18 (5)	07:45	08:24
	21:27	32	20:42 (6)	20:33	21	19:51 (2)	19:22	21	18:53 (3)	18:14	16	17:34 (5)	16:19	16:05
21	05:20		20:10 (6)	06:08		19:29 (2)	07:00	18:41 (3)	07:51	17:21 (5)	07:47	08:24
	21:26	31	20:41 (6)	20:31	22	19:51 (2)	19:20	9	18:50 (3)	18:11	10	17:31 (5)	16:18	16:05
22	05:21		20:11 (6)	06:10		19:28 (2)	07:01			07:53			07:49	08:25
	21:25	29	20:40 (6)	20:29	23	19:51 (2)	19:18			18:09			16:17	16:06
23	05:22		20:11 (6)	06:12		19:28 (2)	07:03			07:55			07:50	08:25
	21:24	28	20:39 (6)	20:27	23	19:51 (2)	19:15			18:07			16:15	16:06
24	05:24		20:13 (6)	06:13		19:27 (2)	07:05			07:57			07:52	08:26
	21:22	26	20:39 (6)	20:25	23	19:50 (2)	19:13			18:05			16:14	16:07
25	05:25		20:14 (6)	06:15		19:28 (2)	07:06			06:58			07:54	08:26
	21:21	23	20:37 (6)	20:23	22	19:50 (2)	19:11			17:03			16:13	16:07
26	05:27		20:15 (6)	06:17		19:27 (2)	07:08			07:00			07:55	08:26
	21:19	20	20:35 (6)	20:20	22	19:49 (2)	19:08			17:01			16:12	16:08
27	05:28		20:17 (6)	06:18		19:28 (2)	07:10			07:02			07:57	08:27
	21:18	17	20:34 (6)	20:18	21	19:49 (2)	19:06			16:59			16:11	16:09
28	05:30		20:20 (6)	06:20		19:29 (2)	07:11			07:04			07:59	08:27
	21:16	11	20:31 (6)	20:16	19	19:48 (2)	19:03			16:57			16:10	16:10
29	05:31			06:22		19:29 (2)	07:13			07:06			08:00	08:27
	21:15			20:14	17	19:46 (2)	19:01			16:55			16:10	16:10
30	05:33			06:23		18:45 (4)	07:15			07:08			08:02	08:27
	21:13			20:11	15	19:44 (2)	18:59			16:53			16:09	16:11
31	05:34			06:25		18:38 (4)				07:09				08:27
	21:12			20:09	22	19:41 (2)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		1255			318			610			527			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,63			0,70			0,74			0,76			
Gesamte Reduktion		0,27			0,31			0,28			0,24			
Met.wahrsch.Beschattung		333			99			169			125			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: Z - Siedlung 10

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		16:40 (5)	06:54		18:32 (4)	05:48			05:02		19:52 (6)
	16:14	17:02			17:55	30	17:10 (5)	19:50	34	19:06 (3)	20:42			21:28	60	20:52 (1)
2	08:27	07:58			07:03		16:40 (5)	06:51		18:31 (4)	05:46			05:01		19:52 (6)
	16:15	17:04			17:56	31	17:11 (5)	19:51	33	19:04 (3)	20:43			21:29	60	20:52 (1)
3	08:27	07:56			07:01		16:39 (5)	06:49		18:31 (4)	05:44			05:00		19:52 (6)
	16:16	17:06			17:58	31	17:10 (5)	19:53	31	19:02 (3)	20:45			21:30	60	20:52 (1)
4	08:27	07:55			06:59		16:39 (5)	06:47		18:32 (4)	05:42			04:59		19:53 (6)
	16:17	17:08			18:00	30	17:09 (5)	19:55	30	19:02 (4)	20:47			21:32	60	20:53 (1)
5	08:26	07:53			06:56		16:40 (5)	06:44		18:32 (4)	05:40			04:59		19:53 (6)
	16:18	17:10			18:02	29	17:09 (5)	19:57	28	19:00 (4)	20:48			21:33	60	20:53 (1)
6	08:26	07:51			06:54		16:40 (5)	06:42		18:32 (4)	05:38			04:58		19:53 (6)
	16:19	17:12			18:04	29	17:09 (5)	19:58	27	18:59 (4)	20:50			21:34	61	20:54 (1)
7	08:26	07:50			06:52		16:40 (5)	06:40		18:33 (4)	05:37			04:57		19:53 (6)
	16:21	17:13			18:06	27	17:07 (5)	20:00	25	18:58 (4)	20:52			21:34	60	20:53 (1)
8	08:25	07:48			06:50		16:41 (5)	06:38		18:34 (4)	05:35			04:57		19:54 (6)
	16:22	17:15			18:07	25	17:06 (5)	20:02	22	18:56 (4)	20:53			21:35	60	20:54 (1)
9	08:25	07:46			06:47		16:43 (5)	06:35		18:36 (4)	05:33			04:56		19:53 (6)
	16:23	17:17			18:09	22	17:05 (5)	20:04	18	18:54 (4)	20:55			21:36	61	20:54 (1)
10	08:24	07:44			06:45		16:44 (5)	06:33		18:38 (4)	05:31			04:56		19:54 (6)
	16:25	17:19			18:11	18	17:02 (5)	20:05	14	18:52 (4)	20:57			21:37	60	20:54 (1)
11	08:24	07:42			06:43		16:46 (5)	06:31		18:43 (4)	05:30		20:06 (6)	04:55		19:54 (6)
	16:26	17:21			18:13	14	17:00 (5)	20:07	14	19:41 (2)	20:58	7	20:13 (6)	21:38	61	20:55 (1)
12	08:23	07:40			06:40			06:28		19:29 (2)	05:28		20:03 (6)	04:55		19:54 (6)
	16:28	17:23			18:15			20:09	14	19:43 (2)	21:00	15	20:18 (6)	21:39	60	20:54 (1)
13	08:22	07:39			06:38			06:26		19:26 (2)	05:26		20:00 (6)	04:55		19:54 (6)
	16:29	17:25			18:16			20:10	17	19:43 (2)	21:01	19	20:19 (6)	21:39	61	20:55 (1)
14	08:21	07:37			06:36			06:24		19:25 (2)	05:25		19:59 (6)	04:55		19:55 (6)
	16:31	17:27			18:18			20:12	19	19:44 (2)	21:03	22	20:21 (6)	21:40	60	20:55 (1)
15	08:21	07:35			06:34			06:22		19:24 (2)	05:23		19:57 (6)	04:54		19:55 (6)
	16:32	17:29			18:20			20:14	21	19:45 (2)	21:05	25	20:22 (6)	21:40	60	20:55 (1)
16	08:20	07:33			06:31			06:19		19:24 (2)	05:21		19:57 (6)	04:54		19:55 (6)
	16:34	17:30			18:22			20:16	21	19:45 (2)	21:06	27	20:24 (6)	21:41	61	20:56 (1)
17	08:19	07:31			06:29			06:17		19:23 (2)	05:20		19:56 (6)	04:54		19:56 (6)
	16:35	17:32			18:23			20:17	23	19:46 (2)	21:08	29	20:25 (6)	21:41	60	20:56 (1)
18	08:18	07:29			06:27			06:15		19:23 (2)	05:18		19:55 (6)	04:54		19:56 (6)
	16:37	17:34			18:25			20:19	23	19:46 (2)	21:09	30	20:25 (6)	21:42	60	20:56 (1)
19	08:17	07:27			06:24			06:13		19:22 (2)	05:17		19:54 (6)	04:54		19:56 (6)
	16:39	17:36			18:27			20:21	22	19:44 (2)	21:11	32	20:26 (6)	21:42	60	20:56 (1)
20	08:16	07:25		16:53 (5)	06:22			06:11		19:22 (2)	05:16		19:54 (6)	04:54		19:56 (6)
	16:41	17:38	6	16:59 (5)	18:29			20:23	22	19:44 (2)	21:12	33	20:27 (6)	21:42	60	20:56 (1)
21	08:15	07:23		16:49 (5)	06:20		17:56 (3)	06:09		19:22 (2)	05:14		19:54 (6)	04:54		19:56 (6)
	16:42	17:40	14	17:03 (5)	18:30	6	18:02 (3)	20:24	21	19:43 (2)	21:14	37	20:39 (1)	21:43	60	20:56 (1)
22	08:13	07:20		16:47 (5)	06:17		17:46 (4)	06:06		19:23 (2)	05:13		19:53 (6)	04:55		19:57 (6)
	16:44	17:42	19	17:06 (5)	18:32	19	18:05 (3)	20:26	19	19:42 (2)	21:15	45	20:42 (1)	21:43	60	20:57 (1)
23	08:12	07:18		16:44 (5)	06:15		17:42 (4)	06:04		19:24 (2)	05:12		19:52 (6)	04:55		19:57 (6)
	16:46	17:44	23	17:07 (5)	18:34	25	18:07 (3)	20:28	17	19:41 (2)	21:17	50	20:44 (1)	21:43	60	20:57 (1)
24	08:11	07:16		16:43 (5)	06:12		17:39 (4)	06:02		19:25 (2)	05:10		19:52 (6)	04:55		19:57 (6)
	16:47	17:45	25	17:08 (5)	18:36	29	18:08 (3)	20:30	15	19:40 (2)	21:18	53	20:45 (1)	21:43	60	20:57 (1)
25	08:10	07:14		16:42 (5)	06:10		17:38 (4)	06:00		19:27 (2)	05:09		19:52 (6)	04:55		19:58 (6)
	16:49	17:47	27	17:09 (5)	18:37	31	18:09 (3)	20:31	11	19:38 (2)	21:19	55	20:47 (1)	21:43	60	20:58 (1)
26	08:08	07:12		16:41 (5)	06:08		17:36 (4)	05:58		19:30 (2)	05:08		19:52 (6)	04:56		19:58 (6)
	16:51	17:49	29	17:10 (5)	18:39	33	18:09 (3)	20:33	4	19:34 (2)	21:21	56	20:48 (1)	21:43	60	20:58 (1)
27	08:07	07:10		16:41 (5)	06:05		17:35 (4)	05:56			05:07		19:52 (6)	04:56		19:58 (6)
	16:53	17:51	30	17:11 (5)	18:41	34	18:09 (3)	20:35			21:22	56	20:48 (1)	21:43	61	20:59 (1)
28	08:06	07:08		16:40 (5)	06:03		17:34 (4)	05:54			05:06		19:52 (6)	04:57		19:58 (6)
	16:55	17:53	30	17:10 (5)	18:43	35	18:09 (3)	20:36			21:23	57	20:49 (1)	21:43	60	20:58 (1)
29	08:04				07:01		18:33 (4)	05:52			05:05		19:52 (6)	04:57		19:59 (6)
	16:57				19:44	36	19:09 (3)	20:38			21:25	58	20:50 (1)	21:43	60	20:59 (1)
30	08:03				06:58		18:32 (4)	05:50			05:04		19:52 (6)	04:58		19:58 (6)
	16:58				19:46	35	19:07 (3)	20:40			21:26	58	20:50 (1)	21:43	60	20:58 (1)
31	08:01				06:56		18:32 (4)				05:03		19:52 (6)			
	17:00				19:48	35	19:07 (3)				21:27	59	20:51 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			203			604			545			823			1806	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,76			0,75			0,72			0,64			0,64	
Gesamte Reduktion			0,19			0,22			0,27			0,29			0,25	
Met.wahrsch.Beschattung			39			132			147			237			459	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)	
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)	

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: Z - Siedlung 10

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August			September		Oktober			November	Dezember
1	04:59		19:59 (6)	05:36		20:15 (6)	06:26		18:42 (4)	07:16		07:11	08:03
	21:42	60	20:59 (1)	21:10	12	20:27 (6)	20:07	14	19:40 (2)	18:56		16:49	16:08
2	04:59		19:58 (6)	05:37			06:28		18:36 (4)	07:18		07:13	08:05
	21:42	60	20:58 (1)	21:08			20:05	14	18:50 (4)	18:54	10	17:37 (5)	16:47	16:07
3	05:00		19:59 (6)	05:39			06:30		18:34 (4)	07:20		17:23 (5)	07:15	08:06
	21:42	60	20:59 (1)	21:06			20:02	18	18:52 (4)	18:52	16	17:39 (5)	16:46	16:07
4	05:01		19:59 (6)	05:40			06:31		18:32 (4)	07:22		17:21 (5)	07:17	08:07
	21:41	60	20:59 (1)	21:05			20:00	22	18:54 (4)	18:49	20	17:41 (5)	16:44	16:06
5	05:02		19:59 (6)	05:42			06:33		18:30 (4)	07:23		17:19 (5)	07:19	08:09
	21:41	61	21:00 (1)	21:03			19:58	24	18:54 (4)	18:47	24	17:43 (5)	16:42	16:06
6	05:02		20:00 (6)	05:44			06:35		18:28 (4)	07:25		17:18 (5)	07:20	08:10
	21:40	60	21:00 (1)	21:01			19:55	27	18:55 (4)	18:45	26	17:44 (5)	16:40	16:05
7	05:03		19:59 (6)	05:45			06:36		18:27 (4)	07:27		17:16 (5)	07:22	08:11
	21:40	60	20:59 (1)	20:59			19:53	28	18:55 (4)	18:43	27	17:43 (5)	16:38	16:05
8	05:04		19:59 (6)	05:47			06:38		18:26 (4)	07:28		17:15 (5)	07:24	08:12
	21:39	60	20:59 (1)	20:57			19:51	30	18:56 (4)	18:40	29	17:44 (5)	16:37	16:04
9	05:05		19:59 (6)	05:48			06:40		18:26 (4)	07:30		17:14 (5)	07:26	08:14
	21:38	60	20:59 (1)	20:56			19:48	30	18:56 (3)	18:38	30	17:44 (5)	16:35	16:04
10	05:06		20:00 (6)	05:50			06:41		18:24 (4)	07:32		17:14 (5)	07:28	08:15
	21:38	59	20:59 (1)	20:54			19:46	33	18:57 (3)	18:36	31	17:45 (5)	16:33	16:04
11	05:07		20:00 (6)	05:52			06:43		18:24 (4)	07:34		17:13 (5)	07:29	08:16
	21:37	59	20:59 (1)	20:52			19:44	34	18:58 (3)	18:33	31	17:44 (5)	16:32	16:04
12	05:08		20:00 (6)	05:53			06:45		18:23 (4)	07:35		17:13 (5)	07:31	08:17
	21:36	59	20:59 (1)	20:50			19:41	35	18:58 (3)	18:31	31	17:44 (5)	16:30	16:04
13	05:10		20:00 (6)	05:55			06:46		18:23 (4)	07:37		17:13 (5)	07:33	08:18
	21:35	59	20:59 (1)	20:48			19:39	36	18:59 (3)	18:29	30	17:43 (5)	16:29	16:03
14	05:11		20:00 (6)	05:57			06:48		18:24 (4)	07:39		17:13 (5)	07:35	08:19
	21:34	58	20:58 (1)	20:46			19:37	35	18:59 (3)	18:27	30	17:43 (5)	16:27	16:03
15	05:12		20:01 (6)	05:58			06:50		18:23 (4)	07:41		17:13 (5)	07:37	08:20
	21:33	58	20:59 (1)	20:44			19:34	35	18:58 (3)	18:24	29	17:42 (5)	16:26	16:04
16	05:13		20:01 (6)	06:00			06:51		18:24 (4)	07:42		17:14 (5)	07:38	08:21
	21:32	57	20:58 (1)	20:42			19:32	34	18:58 (3)	18:22	28	17:42 (5)	16:24	16:04
17	05:14		20:01 (6)	06:02		19:35 (2)	06:53		18:24 (4)	07:44		17:14 (5)	07:40	08:22
	21:31	57	20:58 (1)	20:40	7	19:42 (2)	19:29	33	18:57 (3)	18:20	26	17:40 (5)	16:23	16:04
18	05:16		20:02 (6)	06:03		19:33 (2)	06:55		18:25 (4)	07:46		17:15 (5)	07:42	08:22
	21:30	55	20:57 (1)	20:38	12	19:45 (2)	19:27	31	18:56 (3)	18:18	24	17:39 (5)	16:22	16:04
19	05:17		20:02 (6)	06:05		19:30 (2)	06:56		18:26 (4)	07:48		17:16 (5)	07:44	08:23
	21:29	54	20:56 (1)	20:35	16	19:46 (2)	19:25	29	18:55 (3)	18:16	21	17:37 (5)	16:20	16:04
20	05:18		20:03 (6)	06:07		19:29 (2)	06:58		18:27 (4)	07:49		17:18 (5)	07:45	08:24
	21:27	51	20:55 (1)	20:33	18	19:47 (2)	19:22	26	18:53 (3)	18:14	17	17:35 (5)	16:19	16:05
21	05:20		20:03 (6)	06:08		19:29 (2)	07:00		18:30 (4)	07:51		17:20 (5)	07:47	08:24
	21:26	49	20:54 (1)	20:31	19	19:48 (2)	19:20	21	18:51 (3)	18:11	13	17:33 (5)	16:18	16:05
22	05:21		20:03 (6)	06:10		19:27 (2)	07:01		18:40 (3)	07:53			07:49	08:25
	21:25	43	20:51 (1)	20:29	21	19:48 (2)	19:18	9	18:49 (3)	18:09			16:17	16:06
23	05:22		20:03 (6)	06:12		19:27 (2)	07:03			07:55			07:50	08:25
	21:24	34	20:37 (6)	20:27	22	19:49 (2)	19:15			18:07			16:15	16:06
24	05:24		20:05 (6)	06:13		19:26 (2)	07:05			07:57			07:52	08:26
	21:22	32	20:37 (6)	20:25	22	19:48 (2)	19:13			18:05			16:14	16:07
25	05:25		20:05 (6)	06:15		19:26 (2)	07:06			06:58			07:54	08:26
	21:21	31	20:36 (6)	20:23	22	19:48 (2)	19:11			17:03			16:13	16:07
26	05:27		20:05 (6)	06:17		19:25 (2)	07:08			07:00			07:55	08:26
	21:19	30	20:35 (6)	20:20	22	19:47 (2)	19:08			17:01			16:12	16:08
27	05:28		20:07 (6)	06:18		19:25 (2)	07:10			07:02			07:57	08:27
	21:18	28	20:35 (6)	20:18	22	19:47 (2)	19:06			16:59			16:11	16:09
28	05:30		20:07 (6)	06:20		19:26 (2)	07:11			07:04			07:59	08:27
	21:16	27	20:34 (6)	20:16	21	19:47 (2)	19:03			16:57			16:10	16:10
29	05:31		20:09 (6)	06:22		19:26 (2)	07:13			07:06			08:00	08:27
	21:15	24	20:33 (6)	20:14	19	19:45 (2)	19:01			16:55			16:10	16:10
30	05:33		20:10 (6)	06:23		19:27 (2)	07:15			07:08			08:02	08:27
	21:13	21	20:31 (6)	20:11	17	19:44 (2)	18:59			16:53			16:09	16:11
31	05:34		20:12 (6)	06:25		19:28 (2)				07:09				08:27
	21:12	17	20:29 (6)	20:09	13	19:41 (2)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		1503			285			598			493			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,64			0,70			0,74			0,76			
Gesamte Reduktion		0,27			0,31			0,28			0,24			
Met.wahrsch.Beschattung		402			89			166			117			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AA - Siedlung 27

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		16:34 (5)	06:54		18:28 (4)	05:48			05:02		19:52 (6)
	16:14	17:02			17:55	32	17:06 (5)	19:50	36	19:04 (3)	20:42			21:28	60	20:52 (1)
2	08:27	07:58			07:03		16:35 (5)	06:51		18:28 (4)	05:46			05:01		19:51 (6)
	16:15	17:04			17:56	31	17:06 (5)	19:51	34	19:02 (3)	20:43			21:29	61	20:52 (1)
3	08:27	07:56			07:01		16:34 (5)	06:49		18:28 (4)	05:44			05:00		19:51 (6)
	16:16	17:06			17:58	31	17:05 (5)	19:53	32	19:00 (3)	20:45			21:30	61	20:52 (1)
4	08:27	07:55			06:59		16:35 (5)	06:47		18:29 (4)	05:42			04:59		19:52 (6)
	16:17	17:08			18:00	30	17:05 (5)	19:55	30	18:59 (4)	20:47			21:32	61	20:53 (1)
5	08:26	07:53			06:56		16:35 (5)	06:44		18:28 (4)	05:40			04:59		19:52 (6)
	16:18	17:10			18:02	29	17:04 (5)	19:57	29	18:57 (4)	20:48			21:33	61	20:53 (1)
6	08:26	07:51			06:54		16:36 (5)	06:42		18:29 (4)	05:38			04:58		19:52 (6)
	16:19	17:12			18:04	27	17:03 (5)	19:58	27	18:56 (4)	20:50			21:34	62	20:54 (1)
7	08:26	07:50			06:52		16:36 (5)	06:40		18:30 (4)	05:37			04:57		19:52 (6)
	16:21	17:13			18:06	25	17:01 (5)	20:00	25	18:55 (4)	20:52			21:34	62	20:54 (1)
8	08:25	07:48			06:50		16:38 (5)	06:38		18:31 (4)	05:35			04:57		19:53 (6)
	16:22	17:15			18:07	22	17:00 (5)	20:02	22	18:53 (4)	20:53			21:35	62	20:55 (1)
9	08:25	07:46			06:47		16:40 (5)	06:35		18:33 (4)	05:33			04:56		19:52 (6)
	16:23	17:17			18:09	18	16:58 (5)	20:04	18	18:51 (4)	20:55			21:36	63	20:55 (1)
10	08:24	07:44			06:45		16:42 (5)	06:33		18:36 (4)	05:31			04:56		19:53 (6)
	16:25	17:19			18:11	13	16:55 (5)	20:05	12	18:48 (4)	20:57			21:37	62	20:55 (1)
11	08:24	07:42			06:43			06:31		19:30 (2)	05:30			04:55		19:53 (6)
	16:26	17:21			18:13			20:07	10	19:40 (2)	20:58			21:38	63	20:56 (1)
12	08:23	07:40			06:40			06:28		19:27 (2)	05:28		20:08 (6)	04:55		19:53 (6)
	16:28	17:23			18:15			20:09	15	19:42 (2)	21:00	5	20:13 (6)	21:39	62	20:55 (1)
13	08:22	07:39			06:38			06:26		19:25 (2)	05:26		20:03 (6)	04:55		19:53 (6)
	16:29	17:25			18:16			20:10	18	19:43 (2)	21:01	14	20:17 (6)	21:39	63	20:56 (1)
14	08:21	07:37			06:36			06:24		19:24 (2)	05:25		20:01 (6)	04:55		19:54 (6)
	16:31	17:27			18:18			20:12	20	19:44 (2)	21:03	18	20:19 (6)	21:40	62	20:56 (1)
15	08:21	07:35			06:34			06:22		19:23 (2)	05:23		19:59 (6)	04:54		19:54 (6)
	16:32	17:29			18:20			20:14	21	19:44 (2)	21:05	22	20:21 (6)	21:40	62	20:56 (1)
16	08:20	07:33			06:31			06:19		19:22 (2)	05:21		19:58 (6)	04:54		19:54 (6)
	16:34	17:30			18:22			20:16	23	19:45 (2)	21:06	25	20:23 (6)	21:41	63	20:57 (1)
17	08:19	07:31			06:29			06:17		19:22 (2)	05:20		19:57 (6)	04:54		19:54 (6)
	16:35	17:32			18:23			20:17	23	19:45 (2)	21:08	27	20:24 (6)	21:41	63	20:57 (1)
18	08:18	07:29			06:27			06:15		19:22 (2)	05:18		19:55 (6)	04:54		19:55 (6)
	16:37	17:34			18:25			20:19	23	19:45 (2)	21:09	29	20:24 (6)	21:42	62	20:57 (1)
19	08:17	07:27		16:45 (5)	06:24			06:13		19:21 (2)	05:17		19:55 (6)	04:54		19:55 (6)
	16:39	17:36	13	16:58 (5)	18:27			20:21	23	19:44 (2)	21:11	31	20:26 (6)	21:42	62	20:57 (1)
20	08:16	07:25		16:42 (5)	06:22			06:11		19:21 (2)	05:16		19:54 (6)	04:54		19:55 (6)
	16:41	17:38	18	17:00 (5)	18:29			20:23	22	19:43 (2)	21:12	33	20:27 (6)	21:42	62	20:57 (1)
21	08:15	07:23		16:41 (5)	06:20		17:43 (4)	06:09		19:21 (2)	05:14		19:54 (6)	04:54		19:55 (6)
	16:42	17:40	21	17:02 (5)	18:30	19	18:02 (3)	20:24	22	19:43 (2)	21:14	34	20:28 (6)	21:43	62	20:57 (1)
22	08:13	07:20		16:39 (5)	06:17		17:39 (4)	06:06		19:22 (2)	05:13		19:53 (6)	04:55		19:56 (6)
	16:44	17:42	25	17:04 (5)	18:32	26	18:05 (3)	20:26	20	19:42 (2)	21:15	34	20:27 (6)	21:43	62	20:58 (1)
23	08:12	07:18		16:37 (5)	06:15		17:37 (4)	06:04		19:22 (2)	05:12		19:52 (6)	04:55		19:56 (6)
	16:46	17:44	27	17:04 (5)	18:34	29	18:06 (3)	20:28	19	19:41 (2)	21:17	44	20:42 (1)	21:43	62	20:58 (1)
24	08:11	07:16		16:37 (5)	06:12		17:34 (4)	06:02		19:24 (2)	05:10		19:52 (6)	04:55		19:56 (6)
	16:47	17:45	28	17:05 (5)	18:36	32	18:06 (3)	20:30	15	19:39 (2)	21:18	49	20:44 (1)	21:43	62	20:58 (1)
25	08:10	07:14		16:36 (5)	06:10		17:33 (4)	06:00		19:25 (2)	05:09		19:52 (6)	04:55		19:57 (6)
	16:49	17:47	30	17:06 (5)	18:37	34	18:07 (3)	20:31	13	19:38 (2)	21:19	53	20:46 (1)	21:43	62	20:59 (1)
26	08:08	07:12		16:36 (5)	06:08		17:32 (4)	05:58		19:28 (2)	05:08		19:52 (6)	04:56		19:56 (6)
	16:51	17:49	30	17:06 (5)	18:39	36	18:08 (3)	20:33	7	19:35 (2)	21:21	55	20:47 (1)	21:43	63	20:59 (1)
27	08:07	07:10		16:35 (5)	06:05		17:30 (4)	05:56			05:07		19:52 (6)	04:56		19:57 (6)
	16:53	17:51	32	17:07 (5)	18:41	37	18:07 (3)	20:35			21:22	56	20:48 (1)	21:43	63	21:00 (1)
28	08:06	07:08		16:34 (5)	06:03		17:30 (4)	05:54			05:06		19:51 (6)	04:57		19:57 (6)
	16:55	17:53	32	17:06 (5)	18:43	37	18:07 (3)	20:36			21:23	58	20:49 (1)	21:43	62	20:59 (1)
29	08:04				07:01		18:30 (4)	05:52			05:05		19:51 (6)	04:57		19:57 (6)
	16:57				19:44	37	19:07 (3)	20:38			21:25	59	20:50 (1)	21:43	63	21:00 (1)
30	08:03				06:58		18:28 (4)	05:50			05:04		19:51 (6)	04:58		19:57 (6)
	16:58				19:46	37	19:05 (3)	20:40			21:26	59	20:50 (1)	21:43	62	20:59 (1)
31	08:01				06:56		18:28 (4)				05:03		19:52 (6)			
	17:00				19:48	37	19:05 (3)				21:27	60	20:52 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			256			619			559			765			1862	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,76			0,75			0,72			0,64			0,64	
Gesamte Reduktion			0,19			0,22			0,27			0,29			0,25	
Met.wahrsch.Beschattung			49			135			151			220			473	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AA - Siedlung 27

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August			September		Oktober			November	Dezember
1	04:59		19:58 (6)	05:36		06:26		19:29 (2)	07:16		07:11	08:03
	21:42	62	21:00 (1)	21:10		20:07	10	19:39 (2)	18:56		16:49	16:08
2	04:59		19:57 (6)	05:37		06:28		18:34 (4)	07:18		07:13	08:05
	21:42	62	20:59 (1)	21:08		20:05	12	18:46 (4)	18:54		16:47	16:07
3	05:00		19:57 (6)	05:39		06:30		18:31 (4)	07:20	17:22 (5)	07:15	08:06
	21:42	63	21:00 (1)	21:06		20:02	18	18:49 (4)	18:52	9 17:31 (5)	16:46	16:07
4	05:01		19:58 (6)	05:40		06:31		18:29 (4)	07:22	17:18 (5)	07:17	08:07
	21:41	62	21:00 (1)	21:05		20:00	22	18:51 (4)	18:49	16 17:34 (5)	16:44	16:06
5	05:02		19:58 (6)	05:42		06:33		18:27 (4)	07:23	17:16 (5)	07:19	08:09
	21:41	62	21:00 (1)	21:03		19:58	24	18:51 (4)	18:47	20 17:36 (5)	16:42	16:06
6	05:02		19:59 (6)	05:44		06:35		18:25 (4)	07:25	17:14 (5)	07:20	08:10
	21:40	62	21:01 (1)	21:01		19:55	27	18:52 (4)	18:45	24 17:38 (5)	16:40	16:05
7	05:03		19:58 (6)	05:45		06:36		18:24 (4)	07:27	17:12 (5)	07:22	08:11
	21:40	62	21:00 (1)	20:59		19:53	28	18:52 (4)	18:43	26 17:38 (5)	16:38	16:05
8	05:04		19:58 (6)	05:47		06:38		18:23 (4)	07:28	17:11 (5)	07:24	08:12
	21:39	62	21:00 (1)	20:57		19:51	30	18:53 (4)	18:40	28 17:39 (5)	16:37	16:04
9	05:05		19:59 (6)	05:48		06:40		18:22 (4)	07:30	17:10 (5)	07:26	08:14
	21:38	61	21:00 (1)	20:56		19:48	32	18:54 (3)	18:38	29 17:39 (5)	16:35	16:04
10	05:06		19:59 (6)	05:50		06:41		18:21 (4)	07:32	17:09 (5)	07:28	08:15
	21:38	61	21:00 (1)	20:54		19:46	34	18:55 (3)	18:36	31 17:40 (5)	16:33	16:04
11	05:07		19:59 (6)	05:52		06:43		18:21 (4)	07:34	17:08 (5)	07:29	08:16
	21:37	60	20:59 (1)	20:52		19:44	35	18:56 (3)	18:33	31 17:39 (5)	16:32	16:04
12	05:08		19:59 (6)	05:53		06:45		18:20 (4)	07:35	17:08 (5)	07:31	08:17
	21:36	60	20:59 (1)	20:50		19:41	36	18:56 (3)	18:31	31 17:39 (5)	16:30	16:04
13	05:10		19:59 (6)	05:55		06:46		18:20 (4)	07:37	17:07 (5)	07:33	08:18
	21:35	60	20:59 (1)	20:48		19:39	37	18:57 (3)	18:29	32 17:39 (5)	16:29	16:03
14	05:11		20:00 (6)	05:57		06:48		18:20 (4)	07:39	17:07 (5)	07:35	08:19
	21:34	58	20:58 (1)	20:46		19:37	37	18:57 (3)	18:27	32 17:39 (5)	16:27	16:03
15	05:12		20:01 (6)	05:58		06:50		18:19 (4)	07:41	17:08 (5)	07:37	08:20
	21:33	58	20:59 (1)	20:44		19:34	37	18:56 (3)	18:24	31 17:39 (5)	16:26	16:04
16	05:13		20:01 (6)	06:00		06:51		18:20 (4)	07:42	17:08 (5)	07:38	08:21
	21:32	57	20:58 (1)	20:42		19:32	36	18:56 (3)	18:22	30 17:38 (5)	16:24	16:04
17	05:14		20:01 (6)	06:02	19:34 (2)	06:53		18:19 (4)	07:44	17:07 (5)	07:40	08:22
	21:31	56	20:57 (1)	20:40	8 19:42 (2)	19:29	36	18:55 (3)	18:20	30 17:37 (5)	16:23	16:04
18	05:16		20:01 (6)	06:03	19:31 (2)	06:55		18:20 (4)	07:46	17:08 (5)	07:42	08:22
	21:30	55	20:56 (1)	20:38	14 19:45 (2)	19:27	35	18:55 (3)	18:18	28 17:36 (5)	16:22	16:04
19	05:17		20:02 (6)	06:05	19:29 (2)	06:56		18:22 (4)	07:48	17:09 (5)	07:44	08:23
	21:29	51	20:55 (1)	20:35	16 19:45 (2)	19:25	32	18:54 (3)	18:16	26 17:35 (5)	16:20	16:04
20	05:18		20:03 (6)	06:07	19:28 (2)	06:58		18:22 (4)	07:49	17:10 (5)	07:45	08:24
	21:27	47	20:54 (1)	20:33	19 19:47 (2)	19:22	30	18:52 (3)	18:14	24 17:34 (5)	16:19	16:05
21	05:20		20:03 (6)	06:08	19:27 (2)	07:00		18:24 (4)	07:51	17:11 (5)	07:47	08:24
	21:26	39	20:50 (1)	20:31	21 19:48 (2)	19:20	27	18:51 (3)	18:11	21 17:32 (5)	16:18	16:05
22	05:21		20:03 (6)	06:10	19:26 (2)	07:01		18:27 (4)	07:53	17:13 (5)	07:49	08:25
	21:25	35	20:38 (6)	20:29	21 19:47 (2)	19:18	22	18:49 (3)	18:09	17 17:30 (5)	16:17	16:06
23	05:22		20:04 (6)	06:12	19:26 (2)	07:03		18:39 (3)	07:55	17:16 (5)	07:50	08:25
	21:24	33	20:37 (6)	20:27	22 19:48 (2)	19:15	5	18:44 (3)	18:07	11 17:27 (5)	16:15	16:06
24	05:24		20:05 (6)	06:13	19:24 (2)	07:05			07:57		07:52	08:26
	21:22	32	20:37 (6)	20:25	23 19:47 (2)	19:13			18:05		16:14	16:07
25	05:25		20:06 (6)	06:15	19:25 (2)	07:06			06:58		07:54	08:26
	21:21	30	20:36 (6)	20:23	23 19:48 (2)	19:11			17:03		16:13	16:07
26	05:27		20:06 (6)	06:17	19:24 (2)	07:08			07:00		07:55	08:26
	21:19	28	20:34 (6)	20:20	23 19:47 (2)	19:08			17:01		16:12	16:08
27	05:28		20:08 (6)	06:18	19:24 (2)	07:10			07:02		07:57	08:27
	21:18	26	20:34 (6)	20:18	23 19:47 (2)	19:06			16:59		16:11	16:09
28	05:30		20:09 (6)	06:20	19:25 (2)	07:11			07:04		07:59	08:27
	21:16	23	20:32 (6)	20:16	21 19:46 (2)	19:03			16:57		16:10	16:10
29	05:31		20:11 (6)	06:22	19:25 (2)	07:13			07:06		08:00	08:27
	21:15	20	20:31 (6)	20:14	20 19:45 (2)	19:01			16:55		16:10	16:10
30	05:33		20:12 (6)	06:23	19:26 (2)	07:15			07:08		08:02	08:27
	21:13	17	20:29 (6)	20:11	18 19:44 (2)	18:59			16:53		16:09	16:11
31	05:34		20:15 (6)	06:25	19:26 (2)				07:09			08:27
	21:12	11	20:26 (6)	20:09	15 19:41 (2)				16:51			16:12
Sonnenscheinstunden	504			455		381			331		265	241
astr.max.mögl.Beschattung		1475			287		642			527		
Red.Sonnenscheinwahrsch.		0,42			0,44		0,37			0,31		
Reduktion Betriebsdauer		1,00			1,00		1,00			1,00		
Reduktion Windrichtung		0,64			0,70		0,74			0,76		
Gesamte Reduktion		0,27			0,31		0,28			0,24		
Met.wahrsch.Beschattung		394			90		178			125		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AB - Siedlung 29

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		16:32 (5)	06:54		18:26 (4)	05:48			05:02		19:48 (6)
	16:14	17:02			17:55	31	17:03 (5)	19:50	34	19:00 (3)	20:42			21:28	62	20:50 (1)
2	08:27	07:58			07:03		16:33 (5)	06:51		18:25 (4)	05:46			05:01		19:48 (6)
	16:15	17:04			17:56	30	17:03 (5)	19:51	33	18:58 (3)	20:43			21:29	62	20:50 (1)
3	08:27	07:56			07:01		16:32 (5)	06:49		18:26 (4)	05:44			05:00		19:47 (6)
	16:16	17:06			17:58	30	17:02 (5)	19:53	30	18:56 (4)	20:45			21:30	63	20:50 (1)
4	08:27	07:55			06:59		16:33 (5)	06:47		18:27 (4)	05:42			04:59		19:48 (6)
	16:17	17:08			18:00	28	17:01 (5)	19:55	28	18:55 (4)	20:47			21:32	63	20:51 (1)
5	08:26	07:53			06:56		16:34 (5)	06:44		18:27 (4)	05:40			04:59		19:48 (6)
	16:18	17:10			18:02	26	17:00 (5)	19:57	26	18:53 (4)	20:48			21:33	63	20:51 (1)
6	08:26	07:51			06:54		16:35 (5)	06:42		18:28 (4)	05:38			04:58		19:49 (6)
	16:19	17:12			18:04	24	16:59 (5)	19:58	24	18:52 (4)	20:50			21:34	63	20:52 (1)
7	08:26	07:50			06:52		16:36 (5)	06:40		18:30 (4)	05:37			04:57		19:48 (6)
	16:21	17:13			18:06	21	16:57 (5)	20:00	20	18:50 (4)	20:52			21:34	64	20:52 (1)
8	08:25	07:48			06:50		16:38 (5)	06:38		18:31 (4)	05:35			04:57		19:49 (6)
	16:22	17:15			18:07	17	16:55 (5)	20:02	16	18:47 (4)	20:53			21:35	64	20:53 (1)
9	08:25	07:46			06:47		16:41 (5)	06:35		18:35 (4)	05:33			04:56		19:49 (6)
	16:23	17:17			18:09	11	16:52 (5)	20:04	8	18:43 (4)	20:55			21:36	63	20:52 (1)
10	08:24	07:44			06:45			06:33		19:27 (2)	05:31		20:03 (6)	04:56		19:49 (6)
	16:25	17:19			18:11			20:05	11	19:38 (2)	20:57	7	20:10 (6)	21:37	64	20:53 (1)
11	08:24	07:42			06:43			06:31		19:25 (2)	05:30		19:59 (6)	04:55		19:50 (6)
	16:26	17:21			18:13			20:07	15	19:40 (2)	20:58	14	20:13 (6)	21:38	63	20:53 (1)
12	08:23	07:40			06:40			06:28		19:24 (2)	05:28		19:57 (6)	04:55		19:49 (6)
	16:28	17:23			18:15			20:09	18	19:42 (2)	21:00	19	20:16 (6)	21:39	64	20:53 (1)
13	08:22	07:39			06:38			06:26		19:22 (2)	05:26		19:55 (6)	04:55		19:50 (6)
	16:29	17:25			18:16			20:10	20	19:42 (2)	21:01	23	20:18 (6)	21:39	63	20:53 (1)
14	08:21	07:37			06:36			06:24		19:21 (2)	05:25		19:54 (6)	04:55		19:50 (6)
	16:31	17:27			18:18			20:12	21	19:42 (2)	21:03	25	20:19 (6)	21:40	64	20:54 (1)
15	08:21	07:35			06:34			06:22		19:20 (2)	05:23		19:52 (6)	04:54		19:51 (6)
	16:32	17:29			18:20			20:14	23	19:43 (2)	21:05	28	20:20 (6)	21:40	63	20:54 (1)
16	08:20	07:33			06:31			06:19		19:20 (2)	05:21		19:51 (6)	04:54		19:51 (6)
	16:34	17:30			18:22			20:16	23	19:43 (2)	21:06	30	20:21 (6)	21:41	63	20:54 (1)
17	08:19	07:31		16:46 (5)	06:29			06:17		19:20 (2)	05:20		19:51 (6)	04:54		19:51 (6)
	16:35	17:32	5	16:51 (5)	18:23			20:17	23	19:43 (2)	21:08	32	20:23 (6)	21:41	64	20:55 (1)
18	08:18	07:29		16:42 (5)	06:27			06:15		19:20 (2)	05:18		19:50 (6)	04:54		19:51 (6)
	16:37	17:34	14	16:56 (5)	18:25			20:19	23	19:43 (2)	21:09	33	20:23 (6)	21:42	64	20:55 (1)
19	08:17	07:27		16:39 (5)	06:24			06:13		19:19 (2)	05:17		19:49 (6)	04:54		19:51 (6)
	16:39	17:36	19	16:58 (5)	18:27			20:21	22	19:41 (2)	21:11	35	20:24 (6)	21:42	64	20:55 (1)
20	08:16	07:25		16:38 (5)	06:22		17:39 (4)	06:11		19:19 (2)	05:16		19:49 (6)	04:54		19:52 (6)
	16:41	17:38	22	17:00 (5)	18:29	22	18:01 (3)	20:23	22	19:41 (2)	21:12	36	20:25 (6)	21:42	63	20:55 (1)
21	08:15	07:23		16:36 (5)	06:20		17:35 (4)	06:09		19:20 (2)	05:14		19:49 (6)	04:54		19:52 (6)
	16:42	17:40	25	17:01 (5)	18:30	28	18:03 (3)	20:24	20	19:40 (2)	21:14	43	20:39 (1)	21:43	63	20:55 (1)
22	08:13	07:20		16:36 (5)	06:17		17:33 (4)	06:06		19:21 (2)	05:13		19:48 (6)	04:55		19:53 (6)
	16:44	17:42	27	17:03 (5)	18:32	31	18:04 (3)	20:26	18	19:39 (2)	21:15	49	20:41 (1)	21:43	63	20:56 (1)
23	08:12	07:18		16:34 (5)	06:15		17:32 (4)	06:04		19:22 (2)	05:12		19:48 (6)	04:55		19:53 (6)
	16:46	17:44	28	17:02 (5)	18:34	33	18:05 (3)	20:28	15	19:37 (2)	21:17	54	20:43 (1)	21:43	63	20:56 (1)
24	08:11	07:16		16:33 (5)	06:12		17:30 (4)	06:02		19:23 (2)	05:10		19:47 (6)	04:55		19:52 (6)
	16:47	17:45	30	17:03 (5)	18:36	35	18:05 (3)	20:30	12	19:35 (2)	21:18	57	20:44 (1)	21:43	64	20:56 (1)
25	08:10	07:14		16:33 (5)	06:10		17:29 (4)	06:00		19:26 (2)	05:09		19:47 (6)	04:55		19:53 (6)
	16:49	17:47	31	17:04 (5)	18:37	36	18:05 (3)	20:31	6	19:32 (2)	21:19	58	20:45 (1)	21:43	64	20:57 (1)
26	08:08	07:12		16:33 (5)	06:08		17:28 (4)	05:58			05:08		19:47 (6)	04:56		19:53 (6)
	16:51	17:49	31	17:04 (5)	18:39	38	18:06 (3)	20:33			21:21	59	20:46 (1)	21:43	63	20:56 (1)
27	08:07	07:10		16:33 (5)	06:05		17:27 (4)	05:56			05:07		19:47 (6)	04:56		19:54 (6)
	16:53	17:51	31	17:04 (5)	18:41	38	18:05 (3)	20:35			21:22	60	20:47 (1)	21:43	63	20:57 (1)
28	08:06	07:08		16:32 (5)	06:03		17:27 (4)	05:54			05:06		19:47 (6)	04:57		19:53 (6)
	16:55	17:53	31	17:03 (5)	18:43	38	18:05 (3)	20:36			21:23	61	20:48 (1)	21:43	64	20:57 (1)
29	08:04				07:01		18:26 (4)	05:52			05:05		19:47 (6)	04:57		19:54 (6)
	16:57				19:44	38	19:04 (3)	20:38			21:25	61	20:48 (1)	21:43	63	20:57 (1)
30	08:03				06:58		18:25 (4)	05:50			05:04		19:47 (6)	04:58		19:54 (6)
	16:58				19:46	38	19:03 (3)	20:40			21:26	62	20:49 (1)	21:43	63	20:57 (1)
31	08:01				06:56		18:26 (4)				05:03		19:48 (6)			
	17:00				19:48	36	19:02 (3)				21:27	62	20:50 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			294			629			511			908			1899	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,76			0,75			0,72			0,64			0,64	
Gesamte Reduktion			0,19			0,22			0,27			0,29			0,26	
Met.wahrsch.Beschattung			56			137			138			262			485	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AB - Siedlung 29

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		19:54 (6)	05:36		20:08 (6)	06:26		19:24 (2)	07:16			07:11	08:03
	21:42	64	20:58 (1)	21:10	18	20:26 (6)	20:07	15	19:39 (2)	18:56			16:49	16:08
2	04:59		19:54 (6)	05:37		20:10 (6)	06:28		19:25 (2)	07:18			07:13	08:05
	21:42	63	20:57 (1)	21:08	13	20:23 (6)	20:05	11	19:36 (2)	18:54			16:47	16:07
3	05:00		19:54 (6)	05:39			06:30		18:33 (4)	07:20			07:15	08:06
	21:42	64	20:58 (1)	21:06			20:02	8	18:41 (4)	18:52			16:46	16:07
4	05:01		19:54 (6)	05:40			06:31		18:29 (4)	07:22		17:21 (5)	07:17	08:07
	21:41	64	20:58 (1)	21:05			20:00	16	18:45 (4)	18:49	6	17:27 (5)	16:44	16:06
5	05:02		19:55 (6)	05:42			06:33		18:26 (4)	07:23		17:16 (5)	07:19	08:09
	21:41	63	20:58 (1)	21:03			19:58	20	18:46 (4)	18:47	15	17:31 (5)	16:42	16:06
6	05:02		19:55 (6)	05:44			06:35		18:24 (4)	07:25		17:14 (5)	07:20	08:10
	21:40	63	20:58 (1)	21:01			19:55	24	18:48 (4)	18:45	19	17:33 (5)	16:40	16:05
7	05:03		19:54 (6)	05:45			06:36		18:22 (4)	07:27		17:11 (5)	07:22	08:11
	21:40	64	20:58 (1)	20:59			19:53	26	18:48 (4)	18:43	23	17:34 (5)	16:38	16:05
8	05:04		19:54 (6)	05:47			06:38		18:21 (4)	07:28		17:10 (5)	07:24	08:12
	21:39	64	20:58 (1)	20:57			19:51	28	18:49 (4)	18:40	25	17:35 (5)	16:37	16:04
9	05:05		19:55 (6)	05:48			06:40		18:20 (4)	07:30		17:08 (5)	07:26	08:14
	21:38	63	20:58 (1)	20:56			19:48	30	18:50 (4)	18:38	28	17:36 (5)	16:35	16:04
10	05:06		19:55 (6)	05:50			06:41		18:19 (4)	07:32		17:08 (5)	07:28	08:15
	21:38	63	20:58 (1)	20:54			19:46	32	18:51 (3)	18:36	29	17:37 (5)	16:33	16:04
11	05:07		19:55 (6)	05:52			06:43		18:18 (4)	07:34		17:06 (5)	07:29	08:16
	21:37	63	20:58 (1)	20:52			19:44	35	18:53 (3)	18:33	30	17:36 (5)	16:32	16:04
12	05:08		19:55 (6)	05:53			06:45		18:17 (4)	07:35		17:05 (5)	07:31	08:17
	21:36	63	20:58 (1)	20:50			19:41	36	18:53 (3)	18:31	31	17:36 (5)	16:30	16:04
13	05:10		19:55 (6)	05:55			06:46		18:17 (4)	07:37		17:05 (5)	07:33	08:18
	21:35	62	20:57 (1)	20:48			19:39	37	18:54 (3)	18:29	32	17:37 (5)	16:29	16:03
14	05:11		19:55 (6)	05:57			06:48		18:17 (4)	07:39		17:05 (5)	07:35	08:19
	21:34	62	20:57 (1)	20:46			19:37	38	18:55 (3)	18:27	32	17:37 (5)	16:27	16:03
15	05:12		19:57 (6)	05:58			06:50		18:16 (4)	07:41		17:05 (5)	07:37	08:20
	21:33	60	20:57 (1)	20:44			19:34	38	18:54 (3)	18:24	31	17:36 (5)	16:26	16:04
16	05:13		19:57 (6)	06:00			06:51		18:16 (4)	07:42		17:05 (5)	07:38	08:21
	21:32	60	20:57 (1)	20:42			19:32	38	18:54 (3)	18:22	31	17:36 (5)	16:24	16:04
17	05:14		19:57 (6)	06:02			06:53		18:16 (4)	07:44		17:04 (5)	07:40	08:22
	21:31	59	20:56 (1)	20:40			19:29	37	18:53 (3)	18:20	31	17:35 (5)	16:23	16:04
18	05:16		19:57 (6)	06:03		19:32 (2)	06:55		18:16 (4)	07:46		17:05 (5)	07:42	08:22
	21:30	58	20:55 (1)	20:38	7	19:39 (2)	19:27	37	18:53 (3)	18:18	29	17:34 (5)	16:22	16:04
19	05:17		19:57 (6)	06:05		19:29 (2)	06:56		18:17 (4)	07:48		17:05 (5)	07:44	08:23
	21:29	57	20:54 (1)	20:35	12	19:41 (2)	19:25	36	18:53 (3)	18:16	28	17:33 (5)	16:20	16:04
20	05:18		19:58 (6)	06:07		19:27 (2)	06:58		18:17 (4)	07:49		17:06 (5)	07:45	08:24
	21:27	55	20:54 (1)	20:33	16	19:43 (2)	19:22	34	18:51 (3)	18:14	27	17:33 (5)	16:19	16:05
21	05:20		19:58 (6)	06:08		19:26 (2)	07:00		18:19 (4)	07:51		17:07 (5)	07:47	08:24
	21:26	52	20:53 (1)	20:31	19	19:45 (2)	19:20	31	18:50 (3)	18:11	24	17:31 (5)	16:18	16:05
22	05:21		19:58 (6)	06:10		19:24 (2)	07:01		18:20 (4)	07:53		17:09 (5)	07:49	08:25
	21:25	47	20:50 (1)	20:29	21	19:45 (2)	19:18	29	18:49 (3)	18:09	21	17:30 (5)	16:17	16:06
23	05:22		19:58 (6)	06:12		19:24 (2)	07:03		18:22 (4)	07:55		17:10 (5)	07:50	08:25
	21:24	39	20:46 (1)	20:27	21	19:45 (2)	19:15	24	18:46 (3)	18:07	18	17:28 (5)	16:15	16:06
24	05:24		20:00 (6)	06:13		19:23 (2)	07:05		18:37 (3)	07:57		17:13 (5)	07:52	08:26
	21:22	35	20:35 (6)	20:25	22	19:45 (2)	19:13	5	18:42 (3)	18:05	12	17:25 (5)	16:14	16:07
25	05:25		20:00 (6)	06:15		19:23 (2)	07:06			06:58			07:54	08:26
	21:21	34	20:34 (6)	20:23	22	19:45 (2)	19:11			17:03			16:13	16:07
26	05:27		20:00 (6)	06:17		19:22 (2)	07:08			07:00			07:55	08:26
	21:19	33	20:33 (6)	20:20	23	19:45 (2)	19:08			17:01			16:12	16:08
27	05:28		20:02 (6)	06:18		19:22 (2)	07:10			07:02			07:57	08:27
	21:18	31	20:33 (6)	20:18	23	19:45 (2)	19:06			16:59			16:11	16:09
28	05:30		20:02 (6)	06:20		19:22 (2)	07:11			07:04			07:59	08:27
	21:16	29	20:31 (6)	20:16	23	19:45 (2)	19:03			16:57			16:10	16:10
29	05:31		20:04 (6)	06:22		19:22 (2)	07:13			07:06			08:00	08:27
	21:15	27	20:31 (6)	20:14	21	19:43 (2)	19:01			16:55			16:10	16:10
30	05:33		20:05 (6)	06:23		19:23 (2)	07:15			07:08			08:02	08:27
	21:13	24	20:29 (6)	20:11	20	19:43 (2)	18:59			16:53			16:09	16:11
31	05:34		20:06 (6)	06:25		19:23 (2)				07:09				08:27
	21:12	21	20:27 (6)	20:09	18	19:41 (2)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		1606			299			665			522			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,64			0,70			0,74			0,76			
Gesamte Reduktion		0,27			0,31			0,28			0,24			
Met.wahrsch.Beschattung		431			93			185			123			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AC - Hauptstraße 41

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		16:26 (5)	06:54		18:22 (4)	05:48			05:02		19:49 (6)
	16:14	17:02			17:55	32	16:58 (5)	19:50	37	18:59 (3)	20:42			21:28	62	20:51 (1)
2	08:27	07:58			07:03		16:27 (5)	06:51		18:21 (4)	05:46			05:01		19:49 (6)
	16:15	17:04			17:56	30	16:57 (5)	19:51	35	18:56 (3)	20:43			21:29	63	20:52 (1)
3	08:27	07:56			07:01		16:26 (5)	06:49		18:22 (4)	05:44			05:00		19:48 (6)
	16:16	17:06			17:58	30	16:56 (5)	19:53	31	18:53 (3)	20:45			21:30	64	20:52 (1)
4	08:27	07:55			06:59		16:27 (5)	06:47		18:23 (4)	05:42			04:59		19:49 (6)
	16:17	17:08			18:00	28	16:55 (5)	19:55	30	18:53 (4)	20:47			21:32	64	20:53 (1)
5	08:26	07:53			06:56		16:29 (5)	06:44		18:23 (4)	05:40			04:59		19:49 (6)
	16:18	17:10			18:02	25	16:54 (5)	19:57	28	18:51 (4)	20:48			21:33	64	20:53 (1)
6	08:26	07:51			06:54		16:30 (5)	06:42		18:24 (4)	05:38			04:58		19:49 (6)
	16:19	17:12			18:04	23	16:53 (5)	19:58	26	18:50 (4)	20:50			21:34	65	20:54 (1)
7	08:26	07:50			06:52		16:31 (5)	06:40		18:25 (4)	05:37			04:57		19:49 (6)
	16:21	17:13			18:06	19	16:50 (5)	20:00	23	18:48 (4)	20:52			21:34	65	20:54 (1)
8	08:25	07:48			06:50		16:35 (5)	06:38		18:26 (4)	05:35			04:57		19:50 (6)
	16:22	17:15			18:07	12	16:47 (5)	20:02	19	18:45 (4)	20:53			21:35	65	20:55 (1)
9	08:25	07:46			06:47			06:35		18:29 (4)	05:33			04:56		19:49 (6)
	16:23	17:17			18:09			20:04	13	18:42 (4)	20:55			21:36	65	20:54 (1)
10	08:24	07:44			06:45			06:33		19:29 (2)	05:31			04:56		19:50 (6)
	16:25	17:19			18:11			20:05	7	19:36 (2)	20:57			21:37	65	20:55 (1)
11	08:24	07:42			06:43			06:31		19:26 (2)	05:30			04:55		19:50 (6)
	16:26	17:21			18:13			20:07	13	19:39 (2)	20:58			21:38	66	20:56 (1)
12	08:23	07:40			06:40			06:28		19:24 (2)	05:28			04:55		19:50 (6)
	16:28	17:23			18:15			20:09	17	19:41 (2)	21:00			21:39	65	20:55 (1)
13	08:22	07:39			06:38			06:26		19:22 (2)	05:26			04:55		19:50 (6)
	16:29	17:25			18:16			20:10	19	19:41 (2)	21:01			21:39	66	20:56 (1)
14	08:21	07:37			06:36			06:24		19:21 (2)	05:25		20:02 (6)	04:55		19:50 (6)
	16:31	17:27			18:18			20:12	21	19:42 (2)	21:03	13	20:15 (6)	21:40	66	20:56 (1)
15	08:21	07:35			06:34			06:22		19:20 (2)	05:23		19:59 (6)	04:54		19:51 (6)
	16:32	17:29			18:20			20:14	22	19:42 (2)	21:05	18	20:17 (6)	21:40	66	20:57 (1)
16	08:20	07:33		16:36 (5)	06:31			06:20		19:19 (2)	05:21		19:57 (6)	04:54		19:51 (6)
	16:34	17:30	13	16:49 (5)	18:22			20:16	24	19:43 (2)	21:06	22	20:19 (6)	21:41	66	20:57 (1)
17	08:19	07:31		16:34 (5)	06:29			06:17		19:19 (2)	05:20		19:56 (6)	04:54		19:51 (6)
	16:35	17:32	18	16:52 (5)	18:23			20:17	24	19:43 (2)	21:08	25	20:21 (6)	21:41	66	20:57 (1)
18	08:18	07:29		16:32 (5)	06:27			06:15		19:19 (2)	05:18		19:54 (6)	04:54		19:51 (6)
	16:37	17:34	22	16:54 (5)	18:25			20:19	24	19:43 (2)	21:09	28	20:22 (6)	21:42	66	20:57 (1)
19	08:17	07:27		16:30 (5)	06:24		17:40 (4)	06:13		19:18 (2)	05:17		19:54 (6)	04:54		19:51 (6)
	16:39	17:36	25	16:55 (5)	18:27	9	17:56 (3)	20:21	23	19:41 (2)	21:11	29	20:23 (6)	21:42	67	20:58 (1)
20	08:16	07:25		16:29 (5)	06:22		17:35 (4)	06:11		19:18 (2)	05:16		19:53 (6)	04:54		19:51 (6)
	16:41	17:38	28	16:57 (5)	18:29	25	18:00 (3)	20:23	23	19:41 (2)	21:12	31	20:24 (6)	21:42	67	20:58 (1)
21	08:15	07:23		16:29 (5)	06:20		17:31 (4)	06:09		19:18 (2)	05:14		19:52 (6)	04:54		19:51 (6)
	16:42	17:40	29	16:58 (5)	18:30	30	18:01 (3)	20:24	22	19:40 (2)	21:14	33	20:25 (6)	21:43	67	20:58 (1)
22	08:13	07:20		16:28 (5)	06:17		17:29 (4)	06:06		19:19 (2)	05:13		19:51 (6)	04:55		19:52 (6)
	16:44	17:42	30	16:58 (5)	18:32	34	18:03 (3)	20:26	21	19:40 (2)	21:15	34	20:25 (6)	21:43	67	20:59 (1)
23	08:12	07:18		16:26 (5)	06:15		17:28 (4)	06:04		19:20 (2)	05:12		19:51 (6)	04:55		19:52 (6)
	16:46	17:44	32	16:58 (5)	18:34	36	18:04 (3)	20:28	18	19:38 (2)	21:17	35	20:26 (6)	21:43	67	20:59 (1)
24	08:11	07:16		16:26 (5)	06:12		17:26 (4)	06:02		19:21 (2)	05:10		19:50 (6)	04:55		19:52 (6)
	16:47	17:45	32	16:58 (5)	18:36	37	18:03 (3)	20:30	16	19:37 (2)	21:18	37	20:27 (6)	21:43	67	20:59 (1)
25	08:10	07:14		16:26 (5)	06:10		17:25 (4)	06:00		19:23 (2)	05:09		19:50 (6)	04:55		19:53 (6)
	16:49	17:47	33	16:59 (5)	18:37	39	18:04 (3)	20:31	12	19:35 (2)	21:19	48	20:43 (1)	21:43	66	20:59 (1)
26	08:08	07:12		16:26 (5)	06:08		17:24 (4)	05:58		19:25 (2)	05:08		19:50 (6)	04:56		19:53 (6)
	16:51	17:49	33	16:59 (5)	18:39	40	18:04 (3)	20:33	7	19:32 (2)	21:21	51	20:45 (1)	21:43	66	20:59 (1)
27	08:07	07:10		16:26 (5)	06:05		17:23 (4)	05:56			05:07		19:49 (6)	04:56		19:54 (6)
	16:53	17:51	33	16:59 (5)	18:41	40	18:03 (3)	20:35			21:22	56	20:46 (1)	21:43	66	21:00 (1)
28	08:06	07:08		16:26 (5)	06:03		17:23 (4)	05:54			05:06		19:49 (6)	04:57		19:53 (6)
	16:55	17:53	32	16:58 (5)	18:43	40	18:03 (3)	20:36			21:23	58	20:47 (1)	21:43	66	20:59 (1)
29	08:04				07:01		18:22 (4)	05:52			05:05		19:49 (6)	04:57		19:54 (6)
	16:57				19:44	41	19:03 (3)	20:38			21:25	59	20:48 (1)	21:43	66	21:00 (1)
30	08:03				06:58		18:21 (4)	05:50			05:04		19:49 (6)	04:58		19:54 (6)
	16:58				19:46	40	19:01 (3)	20:40			21:26	60	20:49 (1)	21:43	66	21:00 (1)
31	08:01				06:56		18:22 (4)				05:03		19:49 (6)			
	17:00				19:48	38	19:00 (3)				21:27	62	20:51 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			360			648			555			699			1967	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,75			0,75			0,72			0,64			0,63	
Gesamte Reduktion			0,19			0,22			0,27			0,29			0,25	
Met.wahrsch.Beschattung			68			142			150			201			500	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM)	Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM)	Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AC - Hauptstraße 41

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August			September		Oktober			November	Dezember
1	04:59		19:54 (6)	05:36		06:26		19:25 (2)	07:16		07:11	08:03
	21:42	66	21:00 (1)	21:10		20:07	13	19:38 (2)	18:56		16:49	16:08
2	04:59		19:54 (6)	05:37		06:28		19:27 (2)	07:18		07:13	08:05
	21:42	65	20:59 (1)	21:08		20:05	7	19:34 (2)	18:54		16:47	16:07
3	05:00		19:54 (6)	05:39		06:30		18:27 (4)	07:20		07:15	08:06
	21:42	66	21:00 (1)	21:06		20:02	13	18:40 (4)	18:52		16:46	16:07
4	05:01		19:55 (6)	05:40		06:31		18:24 (4)	07:22		07:17	08:07
	21:41	65	21:00 (1)	21:05		20:00	19	18:43 (4)	18:49		16:44	16:06
5	05:02		19:55 (6)	05:42		06:33		18:22 (4)	07:23	17:14 (5)	07:19	08:09
	21:41	65	21:00 (1)	21:03		19:58	22	18:44 (4)	18:47	8 17:22 (5)	16:42	16:06
6	05:02		19:56 (6)	05:44		06:35		18:20 (4)	07:25	17:10 (5)	07:20	08:10
	21:40	64	21:00 (1)	21:01		19:55	26	18:46 (4)	18:45	16 17:26 (5)	16:40	16:05
7	05:03		19:55 (6)	05:45		06:36		18:18 (4)	07:27	17:06 (5)	07:22	08:11
	21:40	64	20:59 (1)	20:59		19:53	28	18:46 (4)	18:43	21 17:27 (5)	16:38	16:05
8	05:04		19:55 (6)	05:47		06:38		18:17 (4)	07:28	17:05 (5)	07:24	08:12
	21:39	64	20:59 (1)	20:57		19:51	30	18:47 (4)	18:40	23 17:28 (5)	16:37	16:04
9	05:05		19:56 (6)	05:49		06:40		18:16 (4)	07:30	17:03 (5)	07:26	08:14
	21:38	63	20:59 (1)	20:56		19:48	32	18:48 (4)	18:38	27 17:30 (5)	16:35	16:04
10	05:06		19:56 (6)	05:50		06:41		18:15 (4)	07:32	17:02 (5)	07:28	08:15
	21:38	63	20:59 (1)	20:54		19:46	34	18:49 (3)	18:36	28 17:30 (5)	16:33	16:04
11	05:07		19:56 (6)	05:52		06:43		18:14 (4)	07:34	17:00 (5)	07:29	08:16
	21:37	63	20:59 (1)	20:52		19:44	37	18:51 (3)	18:33	30 17:30 (5)	16:32	16:04
12	05:08		19:57 (6)	05:53		06:45		18:13 (4)	07:35	16:59 (5)	07:31	08:17
	21:36	61	20:58 (1)	20:50		19:41	38	18:51 (3)	18:31	32 17:31 (5)	16:30	16:04
13	05:10		19:57 (6)	05:55		06:46		18:13 (4)	07:37	16:59 (5)	07:33	08:18
	21:35	61	20:58 (1)	20:48		19:39	39	18:52 (3)	18:29	32 17:31 (5)	16:29	16:03
14	05:11		19:57 (6)	05:57		06:48		18:13 (4)	07:39	16:59 (5)	07:35	08:19
	21:34	60	20:57 (1)	20:46		19:37	40	18:53 (3)	18:27	32 17:31 (5)	16:27	16:03
15	05:12		19:58 (6)	05:58		06:50		18:12 (4)	07:41	16:58 (5)	07:37	08:20
	21:33	59	20:57 (1)	20:44		19:34	40	18:52 (3)	18:24	33 17:31 (5)	16:26	16:04
16	05:13		19:59 (6)	06:00		06:51		18:12 (4)	07:42	16:58 (5)	07:38	08:21
	21:32	56	20:56 (1)	20:42		19:32	41	18:53 (3)	18:22	33 17:31 (5)	16:24	16:04
17	05:14		19:59 (6)	06:02	19:31 (2)	06:53		18:12 (4)	07:44	16:57 (5)	07:40	08:22
	21:31	54	20:55 (1)	20:40	8 19:39 (2)	19:29	40	18:52 (3)	18:20	33 17:30 (5)	16:23	16:04
18	05:16		19:59 (6)	06:03	19:29 (2)	06:55		18:12 (4)	07:46	16:58 (5)	07:42	08:22
	21:30	49	20:53 (1)	20:38	13 19:42 (2)	19:27	39	18:51 (3)	18:18	32 17:30 (5)	16:22	16:04
19	05:17		20:00 (6)	06:05	19:26 (2)	06:56		18:13 (4)	07:48	16:58 (5)	07:44	08:23
	21:29	44	20:51 (1)	20:35	17 19:43 (2)	19:25	38	18:51 (3)	18:16	31 17:29 (5)	16:20	16:04
20	05:18		20:01 (6)	06:07	19:25 (2)	06:58		18:13 (4)	07:49	16:58 (5)	07:45	08:24
	21:27	36	20:37 (6)	20:33	19 19:44 (2)	19:22	36	18:49 (3)	18:14	30 17:28 (5)	16:19	16:05
21	05:20		20:01 (6)	06:08	19:25 (2)	07:00		18:14 (4)	07:51	16:59 (5)	07:47	08:24
	21:26	35	20:36 (6)	20:31	20 19:45 (2)	19:20	35	18:49 (3)	18:11	29 17:28 (5)	16:18	16:05
22	05:21		20:02 (6)	06:10	19:23 (2)	07:01		18:16 (4)	07:53	17:00 (5)	07:49	08:25
	21:25	33	20:35 (6)	20:29	22 19:45 (2)	19:18	31	18:47 (3)	18:09	27 17:27 (5)	16:17	16:06
23	05:22		20:02 (6)	06:12	19:23 (2)	07:03		18:17 (4)	07:55	17:01 (5)	07:50	08:25
	21:24	32	20:34 (6)	20:27	23 19:46 (2)	19:15	27	18:44 (3)	18:07	24 17:25 (5)	16:15	16:06
24	05:24		20:04 (6)	06:13	19:22 (2)	07:05		18:21 (4)	07:57	17:03 (5)	07:52	08:26
	21:22	30	20:34 (6)	20:25	23 19:45 (2)	19:13	18	18:42 (3)	18:05	21 17:24 (5)	16:14	16:07
25	05:25		20:04 (6)	06:15	19:22 (2)	07:06			06:58	16:05 (5)	07:54	08:26
	21:21	29	20:33 (6)	20:23	24 19:46 (2)	19:11			17:03	17 16:22 (5)	16:13	16:07
26	05:27		20:05 (6)	06:17	19:21 (2)	07:08			07:00	16:07 (5)	07:55	08:26
	21:19	27	20:32 (6)	20:20	24 19:45 (2)	19:08			17:01	12 16:19 (5)	16:12	16:08
27	05:28		20:07 (6)	06:18	19:21 (2)	07:10			07:02		07:57	08:27
	21:18	24	20:31 (6)	20:18	24 19:45 (2)	19:06			16:59		16:11	16:09
28	05:30		20:09 (6)	06:20	19:22 (2)	07:11			07:04		07:59	08:27
	21:16	20	20:29 (6)	20:16	22 19:44 (2)	19:03			16:57		16:10	16:10
29	05:31		20:11 (6)	06:22	19:21 (2)	07:13			07:06		08:00	08:27
	21:15	16	20:27 (6)	20:14	22 19:43 (2)	19:01			16:55		16:10	16:10
30	05:33		20:14 (6)	06:23	19:22 (2)	07:15			07:08		08:02	08:27
	21:13	9	20:23 (6)	20:11	20 19:42 (2)	18:59			16:53		16:09	16:11
31	05:34			06:25	19:23 (2)				07:09			08:27
	21:12			20:09	17 19:40 (2)				16:51			16:12
Sonnenscheinstunden	504			455		381			331		265	241
astr.max.mögl.Beschattung		1443			298		723			571		
Red.Sonnenscheinwahrsch.		0,42			0,44		0,37			0,31		
Reduktion Betriebsdauer		1,00			1,00		1,00			1,00		
Reduktion Windrichtung		0,64			0,70		0,74			0,75		
Gesamte Reduktion		0,27			0,31		0,28			0,24		
Met.wahrsch.Beschattung		386			94		201			135		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AD - Friedhofsweg Kapelle

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar		März			April			Mai			Juni		
1	08:27	08:00		07:05		16:16 (5)	06:54		18:12 (4)	05:48			05:02		19:40 (6)
	16:14	17:02		17:55	25	16:41 (5)	19:50	31	18:43 (4)	20:42			21:28	69	20:49 (1)
2	08:27	07:58		07:03		16:18 (5)	06:51		18:12 (4)	05:46			05:01		19:40 (6)
	16:15	17:04		17:56	22	16:40 (5)	19:51	29	18:41 (4)	20:43			21:29	69	20:49 (1)
3	08:27	07:56		07:01		16:19 (5)	06:49		18:14 (4)	05:44			05:00		19:40 (6)
	16:16	17:06		17:58	17	16:36 (5)	19:53	25	18:39 (4)	20:45			21:30	70	20:50 (1)
4	08:27	07:55		06:59		16:23 (5)	06:47		18:15 (4)	05:42			04:59		19:40 (6)
	16:17	17:08		18:00	10	16:33 (5)	19:55	23	18:38 (4)	20:47			21:32	71	20:51 (1)
5	08:26	07:53		06:56			06:44		18:17 (4)	05:40			04:59		19:40 (6)
	16:18	17:10		18:02			19:57	18	18:35 (4)	20:48			21:33	71	20:51 (1)
6	08:26	07:51		06:54			06:42		18:20 (4)	05:38			04:58		19:41 (6)
	16:19	17:12		18:04			19:58	11	18:31 (4)	20:50			21:34	71	20:52 (1)
7	08:26	07:50		06:52			06:40			05:37			04:57		19:40 (6)
	16:21	17:13		18:06			20:00			20:52			21:35	72	20:52 (1)
8	08:25	07:48		06:50			06:38		19:23 (2)	05:35			04:57		19:41 (6)
	16:22	17:15		18:07			20:02	9	19:32 (2)	20:53			21:35	72	20:53 (1)
9	08:25	07:46		06:47			06:35		19:20 (2)	05:33			04:56		19:40 (6)
	16:23	17:17		18:09			20:04	14	19:34 (2)	20:55			21:36	72	20:52 (1)
10	08:24	07:44		16:24 (5)			06:33		19:18 (2)	05:31			04:56		19:41 (6)
	16:25	17:19	12	16:36 (5)			20:05	18	19:36 (2)	20:57			21:37	72	20:53 (1)
11	08:24	07:42		16:22 (5)			06:31		19:17 (2)	05:30			04:55		19:41 (6)
	16:26	17:21	16	16:38 (5)			20:07	20	19:37 (2)	20:58			21:38	73	20:54 (1)
12	08:23	07:40		16:20 (5)			06:28		19:16 (2)	05:28		19:57 (6)	04:55		19:41 (6)
	16:28	17:23	21	16:41 (5)			20:09	22	19:38 (2)	21:00	9	20:06 (6)	21:39	72	20:53 (1)
13	08:22	07:39		16:18 (5)			06:26		19:14 (2)	05:26		19:53 (6)	04:55		19:41 (6)
	16:29	17:25	24	16:42 (5)			20:10	24	19:38 (2)	21:01	16	20:09 (6)	21:39	73	20:54 (1)
14	08:21	07:37		16:17 (5)			06:24		19:14 (2)	05:25		19:51 (6)	04:55		19:42 (6)
	16:31	17:27	26	16:43 (5)			20:12	24	19:38 (2)	21:03	21	20:12 (6)	21:40	72	20:54 (1)
15	08:21	07:35		16:15 (5)		17:28 (4)	06:22		19:13 (2)	05:23		19:48 (6)	04:54		19:42 (6)
	16:32	17:29	29	16:44 (5)	9	17:37 (4)	20:14	25	19:38 (2)	21:05	25	20:13 (6)	21:40	73	20:55 (1)
16	08:20	07:33		16:14 (5)		17:23 (4)	06:20		19:13 (2)	05:21		19:47 (6)	04:54		19:42 (6)
	16:34	17:30	30	16:44 (5)	23	17:50 (3)	20:16	25	19:38 (2)	21:06	28	20:15 (6)	21:41	73	20:55 (1)
17	08:19	07:31		16:14 (5)		17:21 (4)	06:17		19:13 (2)	05:20		19:47 (6)	04:54		19:42 (6)
	16:36	17:32	31	16:45 (5)	33	17:54 (3)	20:17	25	19:38 (2)	21:08	30	20:17 (6)	21:41	73	20:55 (1)
18	08:18	07:29		16:13 (5)		17:18 (4)	06:15		19:13 (2)	05:18		19:45 (6)	04:54		19:42 (6)
	16:37	17:34	33	16:46 (5)	37	17:55 (3)	20:19	24	19:37 (2)	21:09	32	20:17 (6)	21:42	73	20:55 (1)
19	08:17	07:27		16:13 (5)		17:17 (4)	06:13		19:13 (2)	05:17		19:44 (6)	04:54		19:43 (6)
	16:39	17:36	33	16:46 (5)	39	17:56 (3)	20:21	23	19:36 (2)	21:11	35	20:19 (6)	21:42	73	20:56 (1)
20	08:16	07:25		16:13 (5)		17:16 (4)	06:11		19:13 (2)	05:16		19:44 (6)	04:54		19:43 (6)
	16:41	17:38	33	16:46 (5)	41	17:57 (3)	20:23	22	19:35 (2)	21:12	36	20:20 (6)	21:42	73	20:56 (1)
21	08:15	07:23		16:13 (5)		17:14 (4)	06:09		19:14 (2)	05:14		19:43 (6)	04:54		19:43 (6)
	16:42	17:40	34	16:47 (5)	43	17:57 (3)	20:24	20	19:34 (2)	21:14	38	20:21 (6)	21:43	73	20:56 (1)
22	08:13	07:20		16:13 (5)		17:13 (4)	06:06		19:15 (2)	05:13		19:42 (6)	04:55		19:44 (6)
	16:44	17:42	34	16:47 (5)	45	17:58 (3)	20:26	18	19:33 (2)	21:15	39	20:21 (6)	21:43	73	20:57 (1)
23	08:12	07:18		16:12 (5)		17:13 (4)	06:04		19:16 (2)	05:12		19:42 (6)	04:55		19:44 (6)
	16:46	17:44	34	16:46 (5)	45	17:58 (3)	20:28	15	19:31 (2)	21:17	40	20:22 (6)	21:43	73	20:57 (1)
24	08:11	07:16		16:12 (5)		17:11 (4)	06:02		19:19 (2)	05:10		19:41 (6)	04:55		19:44 (6)
	16:47	17:45	33	16:45 (5)	46	17:57 (3)	20:30	10	19:29 (2)	21:18	47	20:38 (1)	21:43	72	20:56 (1)
25	08:10	07:14		16:13 (5)		17:11 (4)	06:00			05:09		19:41 (6)	04:55		19:44 (6)
	16:49	17:47	32	16:45 (5)	46	17:57 (3)	20:31			21:19	54	20:41 (1)	21:43	73	20:57 (1)
26	08:08	07:12		16:14 (5)		17:11 (4)	05:58			05:08		19:41 (6)	04:56		19:44 (6)
	16:51	17:49	31	16:45 (5)	46	17:57 (3)	20:33			21:21	57	20:43 (1)	21:43	73	20:57 (1)
27	08:07	07:10		16:15 (5)		17:10 (4)	05:56			05:07		19:40 (6)	04:56		19:45 (6)
	16:53	17:51	29	16:44 (5)	45	17:55 (3)	20:35			21:22	62	20:44 (1)	21:43	73	20:58 (1)
28	08:06	07:08		16:15 (5)		17:11 (4)	05:54			05:06		19:40 (6)	04:57		19:45 (6)
	16:55	17:53	27	16:42 (5)	44	17:55 (3)	20:36			21:23	63	20:45 (1)	21:43	72	20:57 (1)
29	08:04			07:01		18:11 (4)	05:52			05:05		19:40 (6)	04:57		19:45 (6)
	16:57			19:44	42	18:53 (3)	20:38			21:25	65	20:46 (1)	21:43	73	20:58 (1)
30	08:03			06:58		18:11 (4)	05:50			05:04		19:40 (6)	04:58		19:45 (6)
	16:58			19:46	40	18:51 (3)	20:40			21:26	67	20:47 (1)	21:43	72	20:57 (1)
31	08:01			06:56		18:11 (4)				05:03		19:40 (6)			
	17:00			19:48	38	18:49 (3)				21:27	69	20:49 (1)			
Sonnenscheinstunden	257	277		367			417			487			501		
astr.max.mögl.Beschattung			542		736			475			833			2164	
Red.Sonnenscheinwahrsch.			0,25		0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00		1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,75		0,75			0,72			0,64			0,64	
Gesamte Reduktion			0,19		0,22			0,27			0,29			0,26	
Met.wahrsch.Beschattung			102		161			129			241			553	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AD - Friedhofsweg Kapelle

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November		Dezember
1	04:59		19:46 (6)	05:36	20:10 (6)	06:26	19:16 (2)	07:16		07:11	15:54 (5)	08:03
	21:42	72	20:58 (1)	21:10 4	20:14 (6)	20:07 20	19:36 (2)	18:56		16:49 9	16:03 (5)	16:08
2	04:59		19:45 (6)	05:37		06:28	19:16 (2)	07:18		07:13		08:05
	21:42	72	20:57 (1)	21:08		20:05 18	19:34 (2)	18:54		16:47		16:07
3	05:00		19:46 (6)	05:39		06:30	19:18 (2)	07:20		07:15		08:06
	21:42	72	20:58 (1)	21:06		20:02 14	19:32 (2)	18:52		16:46		16:07
4	05:01		19:46 (6)	05:40		06:31	19:21 (2)	07:22		07:17		08:07
	21:41	72	20:58 (1)	21:05		20:00 9	19:30 (2)	18:49		16:44		16:06
5	05:02		19:46 (6)	05:42		06:33		07:23		07:19		08:09
	21:41	72	20:58 (1)	21:03		19:58		18:47		16:42		16:06
6	05:02		19:47 (6)	05:44		06:35	18:16 (4)	07:25		07:20		08:10
	21:40	71	20:58 (1)	21:01		19:55 11	18:27 (4)	18:45		16:40		16:05
7	05:03		19:46 (6)	05:45		06:36	18:12 (4)	07:27		07:22		08:11
	21:40	71	20:57 (1)	20:59		19:53 18	18:30 (4)	18:43		16:38		16:05
8	05:04		19:47 (6)	05:47		06:38	18:10 (4)	07:28		07:24		08:12
	21:39	70	20:57 (1)	20:57		19:51 22	18:32 (4)	18:40		16:37		16:04
9	05:05		19:47 (6)	05:49		06:40	18:08 (4)	07:30		07:26		08:14
	21:38	70	20:57 (1)	20:56		19:48 25	18:33 (4)	18:38		16:35		16:04
10	05:06		19:47 (6)	05:50		06:41	18:06 (4)	07:32	16:56 (5)	07:28		08:15
	21:38	70	20:57 (1)	20:54		19:46 28	18:34 (4)	18:36 14	17:10 (5)	16:33		16:04
11	05:07		19:48 (6)	05:52		06:43	18:05 (4)	07:34	16:52 (5)	07:29		08:16
	21:37	69	20:57 (1)	20:52		19:44 30	18:35 (4)	18:33 20	17:12 (5)	16:32		16:04
12	05:08		19:48 (6)	05:53		06:45	18:03 (4)	07:35	16:50 (5)	07:31		08:17
	21:36	68	20:56 (1)	20:50		19:41 37	18:40 (3)	18:31 23	17:13 (5)	16:30		16:04
13	05:10		19:48 (6)	05:55		06:46	18:02 (4)	07:37	16:49 (5)	07:33		08:18
	21:35	68	20:56 (1)	20:48		19:39 40	18:42 (3)	18:29 26	17:15 (5)	16:29		16:03
14	05:11		19:48 (6)	05:57		06:48	18:01 (4)	07:39	16:48 (5)	07:35		08:19
	21:34	67	20:55 (1)	20:46		19:37 43	18:44 (3)	18:27 28	17:16 (5)	16:27		16:03
15	05:12		19:50 (6)	05:58		06:50	18:00 (4)	07:41	16:46 (5)	07:37		08:20
	21:33	64	20:55 (1)	20:44		19:34 44	18:44 (3)	18:24 31	17:17 (5)	16:26		16:04
16	05:13		19:50 (6)	06:00		06:51	18:00 (4)	07:42	16:46 (5)	07:38		08:21
	21:32	63	20:54 (1)	20:42		19:32 45	18:45 (3)	18:22 31	17:17 (5)	16:24		16:04
17	05:14		19:50 (6)	06:02		06:53	17:59 (4)	07:44	16:44 (5)	07:40		08:22
	21:31	59	20:53 (1)	20:40		19:29 45	18:44 (3)	18:20 33	17:17 (5)	16:23		16:04
18	05:16		19:50 (6)	06:03		06:55	17:59 (4)	07:46	16:44 (5)	07:42		08:22
	21:30	57	20:52 (1)	20:38		19:27 45	18:44 (3)	18:18 33	17:17 (5)	16:22		16:04
19	05:17		19:51 (6)	06:05	19:24 (2)	06:56	17:59 (4)	07:48	16:43 (5)	07:44		08:23
	21:29	50	20:49 (1)	20:35 11	19:35 (2)	19:25 46	18:45 (3)	18:16 34	17:17 (5)	16:20		16:04
20	05:18		19:52 (6)	06:07	19:22 (2)	06:58	17:58 (4)	07:49	16:43 (5)	07:45		08:24
	21:27	40	20:32 (6)	20:33 15	19:37 (2)	19:22 46	18:44 (3)	18:14 34	17:17 (5)	16:19		16:05
21	05:20		19:52 (6)	06:08	19:20 (2)	07:00	17:58 (4)	07:51	16:43 (5)	07:47		08:24
	21:26	40	20:32 (6)	20:31 19	19:39 (2)	19:20 45	18:43 (3)	18:11 34	17:17 (5)	16:18		16:05
22	05:21		19:53 (6)	06:10	19:19 (2)	07:01	17:59 (4)	07:53	16:43 (5)	07:49		08:25
	21:25	38	20:31 (6)	20:29 20	19:39 (2)	19:18 44	18:43 (3)	18:09 34	17:17 (5)	16:17		16:06
23	05:22		19:53 (6)	06:12	19:18 (2)	07:03	17:59 (4)	07:55	16:43 (5)	07:50		08:25
	21:24	37	20:30 (6)	20:27 22	19:40 (2)	19:15 42	18:41 (3)	18:07 33	17:16 (5)	16:15		16:06
24	05:24		19:55 (6)	06:13	19:16 (2)	07:05	18:00 (4)	07:57	16:44 (5)	07:52		08:26
	21:22	35	20:30 (6)	20:25 24	19:40 (2)	19:13 40	18:40 (3)	18:05 32	17:16 (5)	16:14		16:07
25	05:25		19:55 (6)	06:15	19:16 (2)	07:06	18:01 (4)	06:58	15:44 (5)	07:54		08:26
	21:21	34	20:29 (6)	20:23 24	19:40 (2)	19:11 38	18:39 (3)	17:03 31	16:15 (5)	16:13		16:07
26	05:27		19:56 (6)	06:17	19:15 (2)	07:08	18:02 (4)	07:00	15:45 (5)	07:55		08:26
	21:19	31	20:27 (6)	20:20 25	19:40 (2)	19:08 34	18:36 (3)	17:01 30	16:15 (5)	16:12		16:08
27	05:28		19:57 (6)	06:18	19:15 (2)	07:10	18:04 (4)	07:02	15:46 (5)	07:57		08:27
	21:18	30	20:27 (6)	20:18 25	19:40 (2)	19:06 28	18:33 (3)	16:59 28	16:14 (5)	16:11		16:09
28	05:30		19:58 (6)	06:20	19:15 (2)	07:11	18:07 (4)	07:04	15:47 (5)	07:59		08:27
	21:16	27	20:25 (6)	20:16 25	19:40 (2)	19:03 12	18:19 (4)	16:57 26	16:13 (5)	16:10		16:10
29	05:31		20:01 (6)	06:22	19:14 (2)	07:13		07:06	15:47 (5)	08:00		08:27
	21:15	23	20:24 (6)	20:14 25	19:39 (2)	19:01		16:55 23	16:10 (5)	16:10		16:10
30	05:33		20:02 (6)	06:23	19:15 (2)	07:15		07:08	15:48 (5)	08:02		08:27
	21:13	20	20:22 (6)	20:11 23	19:38 (2)	18:59		16:53 21	16:09 (5)	16:09		16:11
31	05:34		20:04 (6)	06:25	19:15 (2)			07:09	15:51 (5)			08:27
	21:12	15	20:19 (6)	20:09 22	19:37 (2)			16:51 16	16:07 (5)			16:12
Sonnenscheinstunden	504		455		381		331		265			241
astr.max.mögl.Beschattung		1647		284		869		615		9		
Red.Sonnenscheinwahrsch.		0,42		0,44		0,37		0,31		0,21		
Reduktion Betriebsdauer		1,00		1,00		1,00		1,00		1,00		
Reduktion Windrichtung		0,64		0,71		0,74		0,75		0,75		
Gesamte Reduktion		0,27		0,32		0,28		0,23		0,16		
Met.wahrsch.Beschattung		443		90		242		144		1		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AE - Friedhofsweg 2

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		16:20 (5)	06:54		18:16 (4)	05:48			05:02		19:39 (6)
	16:14	17:02			17:55	27	16:47 (5)	19:50	30	18:46 (3)	20:42			21:28	69	20:48 (1)
2	08:27	07:58			07:03		16:22 (5)	06:51		18:16 (4)	05:46			05:01		19:39 (6)
	16:15	17:04			17:56	24	16:46 (5)	19:51	27	18:43 (4)	20:43			21:29	69	20:48 (1)
3	08:27	07:56			07:01		16:22 (5)	06:49		18:17 (4)	05:44			05:00		19:39 (6)
	16:16	17:06			17:58	22	16:44 (5)	19:53	25	18:42 (4)	20:45			21:30	69	20:48 (1)
4	08:27	07:55			06:59		16:25 (5)	06:47		18:19 (4)	05:42			04:59		19:40 (6)
	16:17	17:08			18:00	17	16:42 (5)	19:55	22	18:41 (4)	20:47			21:32	69	20:49 (1)
5	08:26	07:53			06:56		16:28 (5)	06:44		18:20 (4)	05:40			04:59		19:40 (6)
	16:18	17:10			18:02	11	16:39 (5)	19:57	17	18:37 (4)	20:48			21:33	69	20:49 (1)
6	08:26	07:51			06:54			06:42		18:24 (4)	05:38			04:58		19:40 (6)
	16:19	17:12			18:04			19:58	10	18:34 (4)	20:50			21:34	70	20:50 (1)
7	08:26	07:50			06:52			06:40			05:37			04:57		19:40 (6)
	16:21	17:13			18:06			20:00			20:52			21:34	70	20:50 (1)
8	08:25	07:48			06:50			06:38		19:23 (2)	05:35			04:57		19:41 (6)
	16:22	17:15			18:07			20:02	9	19:32 (2)	20:53			21:35	70	20:51 (1)
9	08:25	07:46			06:47			06:35		19:20 (2)	05:33			04:56		19:40 (6)
	16:23	17:17			18:09			20:04	15	19:35 (2)	20:55			21:36	71	20:51 (1)
10	08:24	07:44			06:45			06:33		19:18 (2)	05:31		19:54 (6)	04:56		19:41 (6)
	16:25	17:19			18:11			20:05	18	19:36 (2)	20:57	12	20:06 (6)	21:37	70	20:51 (1)
11	08:24	07:42			06:43			06:31		19:17 (2)	05:30		19:50 (6)	04:55		19:41 (6)
	16:26	17:21			18:13			20:07	21	19:38 (2)	20:58	19	20:09 (6)	21:38	71	20:52 (1)
12	08:23	07:40		16:30 (5)	06:40			06:28		19:16 (2)	05:28		19:49 (6)	04:55		19:41 (6)
	16:28	17:23	11	16:41 (5)	18:15			20:09	22	19:38 (2)	21:00	22	20:11 (6)	21:39	70	20:51 (1)
13	08:22	07:39		16:27 (5)	06:38			06:26		19:15 (2)	05:26		19:47 (6)	04:55		19:41 (6)
	16:29	17:25	17	16:44 (5)	18:16			20:10	23	19:38 (2)	21:01	26	20:13 (6)	21:39	71	20:52 (1)
14	08:21	07:37		16:25 (5)	06:36			06:24		19:14 (2)	05:25		19:46 (6)	04:55		19:42 (6)
	16:31	17:27	21	16:46 (5)	18:18			20:12	24	19:38 (2)	21:03	28	20:14 (6)	21:40	70	20:52 (1)
15	08:21	07:35		16:23 (5)	06:34			06:22		19:14 (2)	05:23		19:44 (6)	04:54		19:42 (6)
	16:32	17:29	23	16:46 (5)	18:20			20:14	24	19:38 (2)	21:05	31	20:15 (6)	21:40	70	20:52 (1)
16	08:20	07:33		16:21 (5)	06:31		17:29 (4)	06:20		19:14 (2)	05:21		19:44 (6)	04:54		19:42 (6)
	16:34	17:30	27	16:48 (5)	18:22	11	17:40 (4)	20:16	24	19:38 (2)	21:06	32	20:16 (6)	21:41	71	20:53 (1)
17	08:19	07:31		16:21 (5)	06:29		17:26 (4)	06:17		19:14 (2)	05:20		19:43 (6)	04:54		19:42 (6)
	16:35	17:32	28	16:49 (5)	18:23	28	17:54 (3)	20:17	24	19:38 (2)	21:08	35	20:18 (6)	21:41	71	20:53 (1)
18	08:18	07:29		16:20 (5)	06:27		17:23 (4)	06:15		19:14 (2)	05:18		19:42 (6)	04:54		19:43 (6)
	16:37	17:34	30	16:50 (5)	18:25	32	17:55 (3)	20:19	23	19:37 (2)	21:09	36	20:18 (6)	21:42	70	20:53 (1)
19	08:17	07:27		16:19 (5)	06:24		17:21 (4)	06:13		19:14 (2)	05:17		19:41 (6)	04:54		19:43 (6)
	16:39	17:36	31	16:50 (5)	18:27	36	17:57 (3)	20:21	22	19:36 (2)	21:11	38	20:19 (6)	21:42	70	20:53 (1)
20	08:16	07:25		16:19 (5)	06:22		17:20 (4)	06:11		19:14 (2)	05:16		19:41 (6)	04:54		19:43 (6)
	16:41	17:38	32	16:51 (5)	18:29	38	17:58 (3)	20:23	21	19:35 (2)	21:12	39	20:20 (6)	21:42	70	20:53 (1)
21	08:15	07:23		16:19 (5)	06:20		17:18 (4)	06:09		19:15 (2)	05:14		19:41 (6)	04:54		19:43 (6)
	16:42	17:40	32	16:51 (5)	18:30	40	17:58 (3)	20:24	19	19:34 (2)	21:14	40	20:21 (6)	21:43	70	20:53 (1)
22	08:13	07:20		16:19 (5)	06:17		17:17 (4)	06:06		19:16 (2)	05:13		19:40 (6)	04:55		19:44 (6)
	16:44	17:42	32	16:51 (5)	18:32	42	17:59 (3)	20:26	16	19:32 (2)	21:15	50	20:37 (1)	21:43	70	20:54 (1)
23	08:12	07:18		16:18 (5)	06:15		17:17 (4)	06:04		19:18 (2)	05:12		19:40 (6)	04:55		19:44 (6)
	16:46	17:44	33	16:51 (5)	18:34	42	17:59 (3)	20:28	12	19:30 (2)	21:17	55	20:40 (1)	21:43	70	20:54 (1)
24	08:11	07:16		16:18 (5)	06:12		17:15 (4)	06:02		19:22 (2)	05:10		19:39 (6)	04:55		19:44 (6)
	16:47	17:45	33	16:51 (5)	18:36	44	17:59 (3)	20:30	4	19:26 (2)	21:18	59	20:41 (1)	21:43	70	20:54 (1)
25	08:10	07:14		16:18 (5)	06:10		17:15 (4)	06:00			05:09		19:39 (6)	04:55		19:45 (6)
	16:49	17:47	32	16:50 (5)	18:37	44	17:59 (3)	20:31			21:19	63	20:43 (1)	21:43	70	20:55 (1)
26	08:08	07:12		16:19 (5)	06:08		17:15 (4)	05:58			05:08		19:39 (6)	04:56		19:44 (6)
	16:51	17:49	31	16:50 (5)	18:39	43	17:58 (3)	20:33			21:21	65	20:44 (1)	21:43	71	20:55 (1)
27	08:07	07:10		16:19 (5)	06:05		17:14 (4)	05:56			05:07		19:39 (6)	04:56		19:45 (6)
	16:53	17:51	31	16:50 (5)	18:41	43	17:57 (3)	20:35			21:22	66	20:45 (1)	21:43	71	20:56 (1)
28	08:06	07:08		16:19 (5)	06:03		17:14 (4)	05:54			05:06		19:39 (6)	04:57		19:45 (6)
	16:55	17:53	29	16:48 (5)	18:43	42	17:56 (3)	20:36			21:23	66	20:45 (1)	21:43	70	20:55 (1)
29	08:04				07:01		18:15 (4)	05:52			05:05		19:39 (6)	04:57		19:45 (6)
	16:57				19:44	40	18:55 (3)	20:38			21:25	67	20:46 (1)	21:43	71	20:56 (1)
30	08:03				06:58		18:14 (4)	05:50			05:04		19:39 (6)	04:58		19:45 (6)
	16:58				19:46	39	18:53 (3)	20:40			21:26	67	20:46 (1)	21:43	70	20:55 (1)
31	08:01				06:56		18:15 (4)				05:03		19:40 (6)			
	17:00				19:48	36	18:51 (3)				21:27	68	20:48 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			473			701			452			984			2103	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,75			0,75			0,72			0,65			0,64	
Gesamte Reduktion			0,19			0,22			0,27			0,29			0,26	
Met.wahrsch.Beschattung			90			153			122			286			539	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AE - Friedhofsweg 2

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		19:46 (6)	05:36		20:00 (6)	06:26		19:16 (2)	07:16	07:11	08:03
	21:42	70	20:56 (1)	21:10	21	20:21 (6)	20:07	20	19:36 (2)	18:56	16:49	16:08
2	04:59		19:45 (6)	05:37		20:02 (6)	06:28		19:16 (2)	07:18	07:13	08:05
	21:42	70	20:55 (1)	21:08	16	20:18 (6)	20:05	18	19:34 (2)	18:54	16:47	16:07
3	05:00		19:45 (6)	05:39		20:06 (6)	06:30		19:18 (2)	07:20	07:15	08:06
	21:42	71	20:56 (1)	21:06	9	20:15 (6)	20:02	15	19:33 (2)	18:52	16:46	16:07
4	05:01		19:46 (6)	05:40			06:31		19:21 (2)	07:22	07:17	08:07
	21:41	70	20:56 (1)	21:05			20:00	9	19:30 (2)	18:49	16:44	16:06
5	05:02		19:46 (6)	05:42			06:33			07:23	07:19	08:09
	21:41	70	20:56 (1)	21:03			19:58			18:47	16:42	16:06
6	05:02		19:47 (6)	05:44			06:35		18:20 (4)	07:25	07:20	08:10
	21:40	70	20:57 (1)	21:01			19:55	10	18:30 (4)	18:45	16:40	16:05
7	05:03		19:46 (6)	05:45			06:36		18:15 (4)	07:27	07:22	08:11
	21:40	70	20:56 (1)	20:59			19:53	17	18:32 (4)	18:43	16:38	16:05
8	05:04		19:46 (6)	05:47			06:38		18:13 (4)	07:28	17:07 (5)	07:24	08:12
	21:39	70	20:56 (1)	20:57			19:51	22	18:35 (4)	18:40	3	17:10 (5)	16:37	16:04
9	05:05		19:46 (6)	05:49			06:40		18:12 (4)	07:30	17:01 (5)	07:26	08:14
	21:38	70	20:56 (1)	20:56			19:48	24	18:36 (4)	18:38	14	17:15 (5)	16:35	16:04
10	05:06		19:47 (6)	05:50			06:41		18:09 (4)	07:32	16:59 (5)	07:28	08:15
	21:38	69	20:56 (1)	20:54			19:46	27	18:36 (4)	18:36	19	17:18 (5)	16:33	16:04
11	05:07		19:47 (6)	05:52			06:43		18:08 (4)	07:34	16:56 (5)	07:29	08:16
	21:37	69	20:56 (1)	20:52			19:44	30	18:38 (4)	18:33	23	17:19 (5)	16:32	16:04
12	05:08		19:47 (6)	05:53			06:45		18:06 (4)	07:35	16:54 (5)	07:31	08:17
	21:36	68	20:55 (1)	20:50			19:41	36	18:42 (3)	18:31	26	17:20 (5)	16:30	16:04
13	05:10		19:47 (6)	05:55			06:46		18:06 (4)	07:37	16:53 (5)	07:33	08:18
	21:35	68	20:55 (1)	20:48			19:39	38	18:44 (3)	18:29	28	17:21 (5)	16:29	16:03
14	05:11		19:47 (6)	05:57			06:48		18:05 (4)	07:39	16:52 (5)	07:35	08:19
	21:34	68	20:55 (1)	20:46			19:37	40	18:45 (3)	18:27	30	17:22 (5)	16:27	16:03
15	05:12		19:48 (6)	05:58			06:50		18:04 (4)	07:41	16:51 (5)	07:37	08:20
	21:33	67	20:55 (1)	20:44			19:34	41	18:45 (3)	18:24	31	17:22 (5)	16:26	16:04
16	05:13		19:49 (6)	06:00			06:51		18:03 (4)	07:42	16:51 (5)	07:38	08:21
	21:32	65	20:54 (1)	20:42			19:32	43	18:46 (3)	18:22	32	17:23 (5)	16:24	16:04
17	05:14		19:49 (6)	06:02			06:53		18:02 (4)	07:44	16:49 (5)	07:40	08:22
	21:31	65	20:54 (1)	20:40			19:29	44	18:46 (3)	18:20	33	17:22 (5)	16:23	16:04
18	05:16		19:49 (6)	06:03			06:55		18:02 (4)	07:46	16:49 (5)	07:42	08:22
	21:30	64	20:53 (1)	20:38			19:27	44	18:46 (3)	18:18	33	17:22 (5)	16:22	16:04
19	05:17		19:49 (6)	06:05		19:26 (2)	06:56		18:03 (4)	07:48	16:49 (5)	07:44	08:23
	21:29	61	20:52 (1)	20:35	7	19:33 (2)	19:25	43	18:46 (3)	18:16	33	17:22 (5)	16:20	16:04
20	05:18		19:50 (6)	06:07		19:24 (2)	06:58		18:02 (4)	07:49	16:49 (5)	07:45	08:24
	21:27	58	20:51 (1)	20:33	12	19:36 (2)	19:22	43	18:45 (3)	18:14	33	17:22 (5)	16:19	16:05
21	05:20		19:50 (6)	06:08		19:22 (2)	07:00		18:03 (4)	07:51	16:49 (5)	07:47	08:24
	21:26	53	20:49 (1)	20:31	16	19:38 (2)	19:20	42	18:45 (3)	18:11	32	17:21 (5)	16:18	16:05
22	05:21		19:50 (6)	06:10		19:20 (2)	07:01		18:03 (4)	07:53	16:49 (5)	07:49	08:25
	21:25	47	20:46 (1)	20:29	19	19:39 (2)	19:18	41	18:44 (3)	18:09	32	17:21 (5)	16:17	16:06
23	05:22		19:51 (6)	06:12		19:19 (2)	07:03		18:03 (4)	07:55	16:50 (5)	07:50	08:25
	21:24	39	20:30 (6)	20:27	21	19:40 (2)	19:15	39	18:42 (3)	18:07	30	17:20 (5)	16:15	16:06
24	05:24		19:52 (6)	06:13		19:17 (2)	07:05		18:04 (4)	07:57	16:50 (5)	07:52	08:26
	21:22	38	20:30 (6)	20:25	23	19:40 (2)	19:13	37	18:41 (3)	18:05	30	17:20 (5)	16:14	16:07
25	05:25		19:52 (6)	06:15		19:17 (2)	07:06		18:06 (4)	06:58	15:51 (5)	07:54	08:26
	21:21	37	20:29 (6)	20:23	23	19:40 (2)	19:11	34	18:40 (3)	17:03	28	16:19 (5)	16:13	16:07
26	05:27		19:52 (6)	06:17		19:16 (2)	07:08		18:07 (4)	07:00	15:52 (5)	07:55	08:26
	21:19	36	20:28 (6)	20:20	24	19:40 (2)	19:08	29	18:36 (3)	17:01	26	16:18 (5)	16:12	16:08
27	05:28		19:54 (6)	06:18		19:16 (2)	07:10		18:09 (4)	07:02	15:53 (5)	07:57	08:27
	21:18	34	20:28 (6)	20:18	24	19:40 (2)	19:06	14	18:23 (4)	16:59	24	16:17 (5)	16:11	16:09
28	05:30		19:54 (6)	06:20		19:16 (2)	07:11			07:04	15:55 (5)	07:59	08:27
	21:16	32	20:26 (6)	20:16	24	19:40 (2)	19:03			16:57	20	16:15 (5)	16:10	16:10
29	05:31		19:56 (6)	06:22		19:15 (2)	07:13			07:06	15:56 (5)	08:00	08:27
	21:15	30	20:26 (6)	20:14	24	19:39 (2)	19:01			16:55	16	16:12 (5)	16:10	16:10
30	05:33		19:57 (6)	06:23		19:16 (2)	07:15			07:08	15:59 (5)	08:02	08:27
	21:13	27	20:24 (6)	20:11	23	19:39 (2)	18:59			16:53	9	16:08 (5)	16:09	16:11
31	05:34		19:58 (6)	06:25		19:15 (2)				07:09				08:27
	21:12	24	20:22 (6)	20:09	22	19:37 (2)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		1750			308			800			585			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,64			0,70			0,74			0,75			
Gesamte Reduktion		0,27			0,31			0,28			0,24			
Met.wahrsch.Beschattung		472			97			223			137			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AF - Hauptstraße 48

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar		März			April			Mai			Juni		
1	08:27	08:00		07:05		16:23 (5)	06:54		18:18 (4)	05:48			05:02		19:39 (6)
	16:14	17:02		17:55	28	16:51 (5)	19:50	28	18:46 (4)	20:42			21:28	68	20:47 (1)
2	08:27	07:58		07:03		16:25 (5)	06:51		18:18 (4)	05:46			05:01		19:39 (6)
	16:15	17:04		17:56	25	16:50 (5)	19:51	26	18:44 (4)	20:43			21:29	68	20:47 (1)
3	08:27	07:56		07:01		16:25 (5)	06:49		18:20 (4)	05:44			05:00		19:38 (6)
	16:16	17:06		17:58	23	16:48 (5)	19:53	23	18:43 (4)	20:45			21:30	69	20:47 (1)
4	08:27	07:55		06:59		16:27 (5)	06:47		18:22 (4)	05:42			04:59		19:39 (6)
	16:17	17:08		18:00	19	16:46 (5)	19:55	19	18:41 (4)	20:47			21:32	69	20:48 (1)
5	08:26	07:53		06:56		16:30 (5)	06:44		18:23 (4)	05:40			04:59		19:39 (6)
	16:18	17:10		18:02	13	16:43 (5)	19:57	14	18:37 (4)	20:48			21:33	69	20:48 (1)
6	08:26	07:51		06:54			06:42		18:29 (4)	05:38			04:58		19:40 (6)
	16:19	17:12		18:04			19:58	3	18:32 (4)	20:50			21:34	69	20:49 (1)
7	08:26	07:50		06:52			06:40		19:27 (2)	05:37		19:58 (6)	04:57		19:40 (6)
	16:21	17:13		18:06			20:00	3	19:30 (2)	20:52	2	20:00 (6)	21:34	68	20:48 (1)
8	08:25	07:48		06:50			06:38		19:22 (2)	05:35		19:51 (6)	04:57		19:40 (6)
	16:22	17:15		18:07			20:02	11	19:33 (2)	20:53	15	20:06 (6)	21:35	69	20:49 (1)
9	08:25	07:46		06:47			06:35		19:20 (2)	05:33		19:49 (6)	04:56		19:40 (6)
	16:23	17:17		18:09			20:04	15	19:35 (2)	20:55	20	20:09 (6)	21:36	69	20:49 (1)
10	08:24	07:44		06:45			06:33		19:18 (2)	05:31		19:47 (6)	04:56		19:41 (6)
	16:25	17:19		18:11			20:05	19	19:37 (2)	20:57	23	20:10 (6)	21:37	68	20:49 (1)
11	08:24	07:42		06:43			06:31		19:17 (2)	05:30		19:45 (6)	04:55		19:41 (6)
	16:26	17:21		18:13			20:07	21	19:38 (2)	20:58	26	20:11 (6)	21:38	69	20:50 (1)
12	08:23	07:40		06:40			06:28		19:16 (2)	05:28		19:44 (6)	04:55		19:41 (6)
	16:28	17:23		18:15			20:09	22	19:38 (2)	21:00	29	20:13 (6)	21:39	68	20:49 (1)
13	08:22	07:39		06:38			06:26		19:15 (2)	05:26		19:43 (6)	04:55		19:41 (6)
	16:29	17:25	11	16:44 (5)	18:16		20:10	23	19:38 (2)	21:01	31	20:14 (6)	21:39	69	20:50 (1)
14	08:21	07:37		16:30 (5)	06:36		06:24		19:14 (2)	05:25		19:42 (6)	04:55		19:42 (6)
	16:31	17:27	17	16:47 (5)	18:18		20:12	24	19:38 (2)	21:03	33	20:15 (6)	21:40	68	20:50 (1)
15	08:21	07:35		16:27 (5)	06:34		06:22		19:14 (2)	05:23		19:41 (6)	04:54		19:42 (6)
	16:32	17:29	21	16:48 (5)	18:20		20:14	24	19:38 (2)	21:05	34	20:15 (6)	21:40	68	20:50 (1)
16	08:20	07:33		16:26 (5)	06:31		06:19		19:14 (2)	05:21		19:40 (6)	04:54		19:42 (6)
	16:34	17:30	24	16:50 (5)	18:22	9	17:41 (4)	20:16	24	19:38 (2)	21:06	37	20:17 (6)	21:41	69	20:51 (1)
17	08:19	07:31		16:25 (5)	06:29		17:28 (4)	06:17		19:14 (2)	05:20		19:40 (6)	04:54		19:43 (6)
	16:35	17:32	26	16:51 (5)	18:23	26	17:54 (3)	20:17	23	19:37 (2)	21:08	38	20:18 (6)	21:41	68	20:51 (1)
18	08:18	07:29		16:24 (5)	06:27		17:25 (4)	06:15		19:15 (2)	05:18		19:39 (6)	04:54		19:43 (6)
	16:37	17:34	28	16:52 (5)	18:25	31	17:56 (3)	20:19	22	19:37 (2)	21:09	39	20:18 (6)	21:42	68	20:51 (1)
19	08:17	07:27		16:23 (5)	06:24		17:23 (4)	06:13		19:14 (2)	05:17		19:39 (6)	04:54		19:43 (6)
	16:39	17:36	30	16:53 (5)	18:27	35	17:58 (3)	20:21	21	19:35 (2)	21:11	44	20:33 (1)	21:42	68	20:51 (1)
20	08:16	07:25		16:23 (5)	06:22		17:22 (4)	06:11		19:15 (2)	05:16		19:39 (6)	04:54		19:43 (6)
	16:41	17:38	30	16:53 (5)	18:29	37	17:59 (3)	20:23	19	19:34 (2)	21:12	52	20:37 (1)	21:42	68	20:51 (1)
21	08:15	07:23		16:23 (5)	06:20		17:20 (4)	06:09		19:16 (2)	05:14		19:39 (6)	04:54		19:43 (6)
	16:42	17:40	31	16:54 (5)	18:30	39	17:59 (3)	20:24	16	19:32 (2)	21:14	57	20:39 (1)	21:43	68	20:51 (1)
22	08:13	07:20		16:22 (5)	06:17		17:19 (4)	06:06		19:18 (2)	05:13		19:38 (6)	04:55		19:44 (6)
	16:44	17:42	32	16:54 (5)	18:32	41	18:00 (3)	20:26	13	19:31 (2)	21:15	59	20:39 (1)	21:43	68	20:52 (1)
23	08:12	07:18		16:21 (5)	06:15		17:19 (4)	06:04		19:21 (2)	05:12		19:38 (6)	04:55		19:44 (6)
	16:46	17:44	32	16:53 (5)	18:34	41	18:00 (3)	20:28	6	19:27 (2)	21:17	62	20:41 (1)	21:43	68	20:52 (1)
24	08:11	07:16		16:21 (5)	06:12		17:17 (4)	06:02			05:10		19:38 (6)	04:55		19:44 (6)
	16:47	17:45	33	16:54 (5)	18:36	42	17:59 (3)	20:30			21:18	64	20:42 (1)	21:43	68	20:52 (1)
25	08:10	07:14		16:22 (5)	06:10		17:17 (4)	06:00			05:09		19:38 (6)	04:55		19:45 (6)
	16:49	17:47	32	16:54 (5)	18:37	42	17:59 (3)	20:31			21:19	65	20:43 (1)	21:43	68	20:53 (1)
26	08:08	07:12		16:22 (5)	06:08		17:17 (4)	05:58			05:08		19:38 (6)	04:56		19:45 (6)
	16:51	17:49	31	16:53 (5)	18:39	42	17:59 (3)	20:33			21:21	66	20:44 (1)	21:43	68	20:53 (1)
27	08:07	07:10		16:23 (5)	06:05		17:16 (4)	05:56			05:07		19:38 (6)	04:56		19:45 (6)
	16:53	17:51	30	16:53 (5)	18:41	41	17:57 (3)	20:35			21:22	66	20:44 (1)	21:43	68	20:53 (1)
28	08:06	07:08		16:22 (5)	06:03		17:17 (4)	05:54			05:06		19:38 (6)	04:57		19:45 (6)
	16:55	17:53	29	16:51 (5)	18:43	40	17:57 (3)	20:36			21:23	67	20:45 (1)	21:43	68	20:53 (1)
29	08:04				07:01		18:17 (4)	05:52			05:05		19:38 (6)	04:57		19:45 (6)
	16:57				19:44	39	18:56 (3)	20:38			21:25	67	20:45 (1)	21:43	69	20:54 (1)
30	08:03				06:58		18:16 (4)	05:50			05:04		19:38 (6)	04:58		19:45 (6)
	16:58				19:46	37	18:53 (3)	20:40			21:26	67	20:45 (1)	21:43	68	20:53 (1)
31	08:01				06:56		18:17 (4)				05:03		19:39 (6)			
	17:00				19:48	34	18:51 (3)				21:27	68	20:47 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			437			684			419			1131			2050	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,75			0,75			0,72			0,65			0,64	
Gesamte Reduktion			0,19			0,22			0,27			0,29			0,26	
Met.wahrsch.Beschattung			83			149			113			329			527	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AF - Hauptstraße 48

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		19:46 (6)	05:36		19:55 (6)	06:26	19:16 (2)	07:16	07:11	08:03
	21:42	68	20:54 (1)	21:10	28	20:23 (6)	20:07	21 19:37 (2)	18:56	16:49	16:08
2	04:59		19:45 (6)	05:37		19:56 (6)	06:28	19:16 (2)	07:18	07:13	08:05
	21:42	68	20:53 (1)	21:08	25	20:21 (6)	20:05	19 19:35 (2)	18:54	16:47	16:07
3	05:00		19:45 (6)	05:39		19:58 (6)	06:30	19:18 (2)	07:20	07:15	08:06
	21:42	69	20:54 (1)	21:06	22	20:20 (6)	20:02	15 19:33 (2)	18:52	16:46	16:07
4	05:01		19:46 (6)	05:40		20:00 (6)	06:31	19:20 (2)	07:22	07:17	08:07
	21:41	68	20:54 (1)	21:05	17	20:17 (6)	20:00	11 19:31 (2)	18:49	16:44	16:06
5	05:02		19:46 (6)	05:42		20:03 (6)	06:33	19:23 (2)	07:23	07:19	08:09
	21:41	69	20:55 (1)	21:03	12	20:15 (6)	19:58	3 19:26 (2)	18:47	16:42	16:06
6	05:02		19:46 (6)	05:44			06:35		07:25	07:20	08:10
	21:40	69	20:55 (1)	21:01			19:55		18:45	16:40	16:05
7	05:03		19:45 (6)	05:45			06:36	18:19 (4)	07:27	07:22	08:11
	21:40	69	20:54 (1)	20:59			19:53	13 18:32 (4)	18:43	16:38	16:05
8	05:04		19:46 (6)	05:47			06:38	18:16 (4)	07:28	17:07 (5)	07:24	08:12
	21:39	68	20:54 (1)	20:57			19:51	19 18:35 (4)	18:40	9 17:16 (5)	16:37	16:04
9	05:05		19:46 (6)	05:48			06:40	18:14 (4)	07:30	17:04 (5)	07:26	08:14
	21:38	68	20:54 (1)	20:56			19:48	23 18:37 (4)	18:38	16 17:20 (5)	16:35	16:04
10	05:06		19:46 (6)	05:50			06:41	18:12 (4)	07:32	17:01 (5)	07:28	08:15
	21:38	68	20:54 (1)	20:54			19:46	25 18:37 (4)	18:36	21 17:22 (5)	16:33	16:04
11	05:07		19:46 (6)	05:52			06:43	18:11 (4)	07:34	16:59 (5)	07:29	08:16
	21:37	68	20:54 (1)	20:52			19:44	27 18:38 (4)	18:33	23 17:22 (5)	16:32	16:04
12	05:08		19:46 (6)	05:53			06:45	18:09 (4)	07:35	16:57 (5)	07:31	08:17
	21:36	68	20:54 (1)	20:50			19:41	33 18:42 (3)	18:31	26 17:23 (5)	16:30	16:04
13	05:10		19:46 (6)	05:55			06:46	18:08 (4)	07:37	16:56 (5)	07:33	08:18
	21:35	68	20:54 (1)	20:48			19:39	36 18:44 (3)	18:29	28 17:24 (5)	16:29	16:03
14	05:11		19:46 (6)	05:57			06:48	18:07 (4)	07:39	16:55 (5)	07:35	08:19
	21:34	68	20:54 (1)	20:46			19:37	39 18:46 (3)	18:27	30 17:25 (5)	16:27	16:03
15	05:12		19:47 (6)	05:58			06:50	18:06 (4)	07:41	16:55 (5)	07:37	08:20
	21:33	67	20:54 (1)	20:44			19:34	40 18:46 (3)	18:24	30 17:25 (5)	16:26	16:04
16	05:13		19:47 (6)	06:00			06:51	18:06 (4)	07:42	16:54 (5)	07:38	08:21
	21:32	67	20:54 (1)	20:42			19:32	41 18:47 (3)	18:22	32 17:26 (5)	16:24	16:04
17	05:14		19:47 (6)	06:02			06:53	18:05 (4)	07:44	16:53 (5)	07:40	08:22
	21:31	66	20:53 (1)	20:40			19:29	41 18:46 (3)	18:20	32 17:25 (5)	16:23	16:04
18	05:16		19:47 (6)	06:03			06:55	18:05 (4)	07:46	16:53 (5)	07:42	08:22
	21:30	66	20:53 (1)	20:38			19:27	42 18:47 (3)	18:18	32 17:25 (5)	16:22	16:04
19	05:17		19:47 (6)	06:05			06:56	18:05 (4)	07:48	16:53 (5)	07:44	08:23
	21:29	65	20:52 (1)	20:35			19:25	42 18:47 (3)	18:16	32 17:25 (5)	16:20	16:04
20	05:18		19:48 (6)	06:07		19:26 (2)	06:58	18:04 (4)	07:49	16:53 (5)	07:45	08:24
	21:27	63	20:52 (1)	20:33	8	19:34 (2)	19:22	42 18:46 (3)	18:14	31 17:24 (5)	16:19	16:05
21	05:20		19:48 (6)	06:08		19:23 (2)	07:00	18:05 (4)	07:51	16:53 (5)	07:47	08:24
	21:26	62	20:51 (1)	20:31	14	19:37 (2)	19:20	40 18:45 (3)	18:11	31 17:24 (5)	16:18	16:05
22	05:21		19:48 (6)	06:10		19:21 (2)	07:01	18:05 (4)	07:53	16:53 (5)	07:49	08:25
	21:25	58	20:49 (1)	20:29	16	19:37 (2)	19:18	40 18:45 (3)	18:09	31 17:24 (5)	16:17	16:06
23	05:22		19:48 (6)	06:12		19:20 (2)	07:03	18:05 (4)	07:55	16:54 (5)	07:50	08:25
	21:24	54	20:47 (1)	20:27	19	19:39 (2)	19:15	38 18:43 (3)	18:07	29 17:23 (5)	16:15	16:06
24	05:24		19:49 (6)	06:13		19:18 (2)	07:05	18:06 (4)	07:57	16:55 (5)	07:52	08:26
	21:22	49	20:46 (1)	20:25	21	19:39 (2)	19:13	36 18:42 (3)	18:05	27 17:22 (5)	16:14	16:07
25	05:25		19:50 (6)	06:15		19:18 (2)	07:06	18:08 (4)	06:58	15:56 (5)	07:54	08:26
	21:21	39	20:29 (6)	20:23	22	19:40 (2)	19:11	32 18:40 (3)	17:03	25 16:21 (5)	16:13	16:07
26	05:27		19:50 (6)	06:17		19:16 (2)	07:08	18:09 (4)	07:00	15:57 (5)	07:55	08:26
	21:19	38	20:28 (6)	20:20	23	19:39 (2)	19:08	28 18:37 (3)	17:01	23 16:20 (5)	16:12	16:08
27	05:28		19:51 (6)	06:18		19:16 (2)	07:10	18:12 (4)	07:02	15:58 (5)	07:57	08:27
	21:18	37	20:28 (6)	20:18	24	19:40 (2)	19:06	12 18:24 (4)	16:59	20 16:18 (5)	16:11	16:09
28	05:30		19:51 (6)	06:20		19:16 (2)	07:11		07:04	16:00 (5)	07:59	08:27
	21:16	36	20:27 (6)	20:16	24	19:40 (2)	19:03		16:57	16 16:16 (5)	16:10	16:10
29	05:31		19:52 (6)	06:22		19:15 (2)	07:13		07:06	16:03 (5)	08:00	08:27
	21:15	35	20:27 (6)	20:14	24	19:39 (2)	19:01		16:55	9 16:12 (5)	16:10	16:10
30	05:33		19:53 (6)	06:23		19:16 (2)	07:15		07:08		08:02	08:27
	21:13	32	20:25 (6)	20:11	23	19:39 (2)	18:59		16:53		16:09	16:11
31	05:34		19:53 (6)	06:25		19:15 (2)			07:09			08:27
	21:12	31	20:24 (6)	20:09	22	19:37 (2)			16:51			16:12
Sonnenscheinstunden	504			455			381		331		265	241
astr.max.mögl.Beschattung		1821			344			758		553		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37		0,31		
Reduktion Betriebsdauer		1,00			1,00			1,00		1,00		
Reduktion Windrichtung		0,65			0,69			0,74		0,75		
Gesamte Reduktion		0,27			0,31			0,28		0,24		
Met.wahrsch.Beschattung		493			107			211		130		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AG - Hauptstraße 46

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		16:24 (5)	06:54		18:18 (4)	05:48			05:02		19:38 (6)
	16:14	17:02			17:55	27	16:51 (5)	19:50	28	18:46 (4)	20:42			21:28	68	20:46 (1)
2	08:27	07:58			07:03		16:25 (5)	06:51		18:19 (4)	05:46			05:01		19:38 (6)
	16:15	17:04			17:56	25	16:50 (5)	19:51	25	18:44 (4)	20:43			21:29	68	20:46 (1)
3	08:27	07:56			07:01		16:26 (5)	06:49		18:20 (4)	05:44			05:00		19:38 (6)
	16:16	17:06			17:58	21	16:47 (5)	19:53	22	18:42 (4)	20:45			21:30	68	20:46 (1)
4	08:27	07:55			06:59		16:28 (5)	06:47		18:22 (4)	05:42			04:59		19:39 (6)
	16:17	17:08			18:00	18	16:46 (5)	19:55	18	18:40 (4)	20:47			21:32	68	20:47 (1)
5	08:26	07:53			06:56		16:31 (5)	06:44		18:25 (4)	05:40			04:59		19:39 (6)
	16:18	17:10			18:02	12	16:43 (5)	19:57	11	18:36 (4)	20:48			21:33	68	20:47 (1)
6	08:26	07:51			06:54			06:42			05:38			04:58		19:39 (6)
	16:19	17:12			18:04			19:58			20:50			21:34	69	20:48 (1)
7	08:26	07:50			06:52			06:40		19:25 (2)	05:37		19:52 (6)	04:57		19:39 (6)
	16:21	17:13			18:06			20:00	6	19:31 (2)	20:52	12	20:04 (6)	21:34	69	20:48 (1)
8	08:25	07:48			06:50			06:38		19:21 (2)	05:35		19:48 (6)	04:57		19:40 (6)
	16:22	17:15			18:07			20:02	13	19:34 (2)	20:53	19	20:07 (6)	21:35	68	20:48 (1)
9	08:25	07:46			06:47			06:35		19:19 (2)	05:33		19:47 (6)	04:56		19:40 (6)
	16:23	17:17			18:09			20:04	16	19:35 (2)	20:55	22	20:09 (6)	21:36	68	20:48 (1)
10	08:24	07:44			06:45			06:33		19:17 (2)	05:31		19:45 (6)	04:56		19:40 (6)
	16:25	17:19			18:11			20:05	20	19:37 (2)	20:57	26	20:11 (6)	21:37	68	20:48 (1)
11	08:24	07:42			06:43			06:31		19:16 (2)	05:30		19:43 (6)	04:55		19:41 (6)
	16:26	17:21			18:13			20:07	22	19:38 (2)	20:58	29	20:12 (6)	21:38	68	20:49 (1)
12	08:23	07:40			06:40			06:28		19:16 (2)	05:28		19:42 (6)	04:55		19:40 (6)
	16:28	17:23			18:15			20:09	22	19:38 (2)	21:00	31	20:13 (6)	21:39	68	20:48 (1)
13	08:22	07:39		16:33 (5)	06:38			06:26		19:14 (2)	05:26		19:41 (6)	04:55		19:41 (6)
	16:29	17:25	11	16:44 (5)	18:16			20:10	23	19:37 (2)	21:01	33	20:14 (6)	21:39	68	20:49 (1)
14	08:21	07:37		16:30 (5)	06:36			06:24		19:14 (2)	05:25		19:41 (6)	04:55		19:41 (6)
	16:31	17:27	17	16:47 (5)	18:18			20:12	24	19:38 (2)	21:03	34	20:15 (6)	21:40	68	20:49 (1)
15	08:21	07:35		16:28 (5)	06:34			06:22		19:14 (2)	05:23		19:39 (6)	04:54		19:42 (6)
	16:32	17:29	20	16:48 (5)	18:20			20:14	23	19:37 (2)	21:05	36	20:15 (6)	21:40	67	20:49 (1)
16	08:20	07:33		16:26 (5)	06:31		17:30 (4)	06:19		19:14 (2)	05:21		19:39 (6)	04:54		19:42 (6)
	16:34	17:30	24	16:50 (5)	18:22	12	17:42 (4)	20:16	23	19:37 (2)	21:06	37	20:16 (6)	21:41	68	20:50 (1)
17	08:19	07:31		16:25 (5)	06:29		17:27 (4)	06:17		19:14 (2)	05:20		19:39 (6)	04:54		19:42 (6)
	16:35	17:32	26	16:51 (5)	18:23	28	17:55 (3)	20:17	23	19:37 (2)	21:08	38	20:17 (6)	21:41	68	20:50 (1)
18	08:18	07:29		16:24 (5)	06:27		17:24 (4)	06:15		19:15 (2)	05:18		19:38 (6)	04:54		19:43 (6)
	16:37	17:34	28	16:52 (5)	18:25	32	17:56 (3)	20:19	21	19:36 (2)	21:09	39	20:17 (6)	21:42	67	20:50 (1)
19	08:17	07:27		16:24 (5)	06:24		17:23 (4)	06:13		19:14 (2)	05:17		19:38 (6)	04:54		19:43 (6)
	16:39	17:36	29	16:53 (5)	18:27	35	17:58 (3)	20:21	20	19:34 (2)	21:11	50	20:35 (1)	21:42	67	20:50 (1)
20	08:16	07:25		16:23 (5)	06:22		17:22 (4)	06:11		19:15 (2)	05:16		19:38 (6)	04:54		19:43 (6)
	16:41	17:38	31	16:54 (5)	18:29	37	17:59 (3)	20:23	18	19:33 (2)	21:12	54	20:37 (1)	21:42	67	20:50 (1)
21	08:15	07:23		16:23 (5)	06:20		17:20 (4)	06:09		19:17 (2)	05:14		19:38 (6)	04:54		19:43 (6)
	16:42	17:40	31	16:54 (5)	18:30	39	17:59 (3)	20:24	15	19:32 (2)	21:14	58	20:39 (1)	21:43	67	20:50 (1)
22	08:13	07:20		16:23 (5)	06:17		17:19 (4)	06:06		19:18 (2)	05:13		19:37 (6)	04:55		19:44 (6)
	16:44	17:42	31	16:54 (5)	18:32	41	18:00 (3)	20:26	11	19:29 (2)	21:15	61	20:40 (1)	21:43	67	20:51 (1)
23	08:12	07:18		16:22 (5)	06:15		17:19 (4)	06:04			05:12		19:37 (6)	04:55		19:44 (6)
	16:46	17:44	32	16:54 (5)	18:34	41	18:00 (3)	20:28			21:17	64	20:41 (1)	21:43	67	20:51 (1)
24	08:11	07:16		16:22 (5)	06:12		17:17 (4)	06:02			05:10		19:37 (6)	04:55		19:44 (6)
	16:47	17:45	32	16:54 (5)	18:36	42	17:59 (3)	20:30			21:18	65	20:42 (1)	21:43	67	20:51 (1)
25	08:10	07:14		16:22 (5)	06:10		17:17 (4)	06:00			05:09		19:37 (6)	04:55		19:44 (6)
	16:49	17:47	32	16:54 (5)	18:37	42	17:59 (3)	20:31			21:19	65	20:42 (1)	21:43	68	20:52 (1)
26	08:08	07:12		16:22 (5)	06:08		17:17 (4)	05:58			05:08		19:37 (6)	04:56		19:44 (6)
	16:51	17:49	31	16:53 (5)	18:39	42	17:59 (3)	20:33			21:21	66	20:43 (1)	21:43	68	20:52 (1)
27	08:07	07:10		16:23 (5)	06:05		17:16 (4)	05:56			05:07		19:37 (6)	04:56		19:45 (6)
	16:53	17:51	30	16:53 (5)	18:41	41	17:57 (3)	20:35			21:22	67	20:44 (1)	21:43	68	20:53 (1)
28	08:06	07:08		16:23 (5)	06:03		17:17 (4)	05:54			05:06		19:37 (6)	04:57		19:44 (6)
	16:55	17:53	28	16:51 (5)	18:43	39	17:56 (3)	20:36			21:23	67	20:44 (1)	21:43	68	20:52 (1)
29	08:04				07:01		18:17 (4)	05:52			05:05		19:37 (6)	04:57		19:45 (6)
	16:57				19:44	38	18:55 (3)	20:38			21:25	68	20:45 (1)	21:43	68	20:53 (1)
30	08:03				06:58		18:17 (4)	05:50			05:04		19:37 (6)	04:58		19:45 (6)
	16:58				19:46	36	18:53 (3)	20:40			21:26	68	20:45 (1)	21:43	68	20:53 (1)
31	08:01				06:56		18:17 (4)				05:03		19:38 (6)			
	17:00				19:48	33	18:50 (3)				21:27	68	20:46 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			433			681			404			1177			2034	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,75			0,75			0,72			0,65			0,64	
Gesamte Reduktion			0,19			0,22			0,27			0,29			0,26	
Met.wahrsch.Beschattung			82			149			109			343			524	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AG - Hauptstraße 46

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		19:45 (6)	05:36		19:53 (6)	06:26	19:15 (2)	07:16	07:11	08:03
	21:42	68	20:53 (1)	21:10	30	20:23 (6)	20:07	21 19:36 (2)	18:56	16:49	16:08
2	04:59		19:44 (6)	05:37		19:54 (6)	06:28	19:15 (2)	07:18	07:13	08:05
	21:42	69	20:53 (1)	21:08	27	20:21 (6)	20:05	20 19:35 (2)	18:54	16:47	16:07
3	05:00		19:45 (6)	05:39		19:56 (6)	06:30	19:17 (2)	07:20	07:15	08:06
	21:42	68	20:53 (1)	21:06	25	20:21 (6)	20:02	16 19:33 (2)	18:52	16:46	16:07
4	05:01		19:45 (6)	05:40		19:57 (6)	06:31	19:19 (2)	07:22	07:17	08:07
	21:41	68	20:53 (1)	21:05	21	20:18 (6)	20:00	13 19:32 (2)	18:49	16:44	16:06
5	05:02		19:45 (6)	05:42		20:00 (6)	06:33	19:21 (2)	07:23	07:19	08:09
	21:41	69	20:54 (1)	21:03	16	20:16 (6)	19:58	7 19:28 (2)	18:47	16:42	16:06
6	05:02		19:46 (6)	05:44		20:03 (6)	06:35		07:25	07:20	08:10
	21:40	68	20:54 (1)	21:01	9	20:12 (6)	19:55		18:45	16:40	16:05
7	05:03		19:45 (6)	05:45			06:36	18:20 (4)	07:27	07:22	08:11
	21:40	68	20:53 (1)	20:59			19:53	11 18:31 (4)	18:43	16:38	16:05
8	05:04		19:45 (6)	05:47			06:38	18:17 (4)	07:28	17:09 (5)	07:24	08:12
	21:39	69	20:54 (1)	20:57			19:51	17 18:34 (4)	18:40	6 17:15 (5)	16:37	16:04
9	05:05		19:45 (6)	05:48			06:40	18:15 (4)	07:30	17:04 (5)	07:26	08:14
	21:38	69	20:54 (1)	20:56			19:48	21 18:36 (4)	18:38	15 17:19 (5)	16:35	16:04
10	05:06		19:45 (6)	05:50			06:41	18:12 (4)	07:32	17:02 (5)	07:28	08:15
	21:38	69	20:54 (1)	20:54			19:46	25 18:37 (4)	18:36	20 17:22 (5)	16:33	16:04
11	05:07		19:45 (6)	05:52			06:43	18:11 (4)	07:34	16:59 (5)	07:29	08:16
	21:37	69	20:54 (1)	20:52			19:44	27 18:38 (4)	18:33	23 17:22 (5)	16:32	16:04
12	05:08		19:45 (6)	05:53			06:45	18:09 (4)	07:35	16:58 (5)	07:31	08:17
	21:36	69	20:54 (1)	20:50			19:41	32 18:41 (3)	18:31	25 17:23 (5)	16:30	16:04
13	05:10		19:46 (6)	05:55			06:46	18:08 (4)	07:37	16:57 (5)	07:33	08:18
	21:35	67	20:53 (1)	20:48			19:39	36 18:44 (3)	18:29	27 17:24 (5)	16:29	16:03
14	05:11		19:46 (6)	05:57			06:48	18:07 (4)	07:39	16:56 (5)	07:35	08:19
	21:34	67	20:53 (1)	20:46			19:37	38 18:45 (3)	18:27	29 17:25 (5)	16:27	16:03
15	05:12		19:47 (6)	05:58			06:50	18:06 (4)	07:41	16:55 (5)	07:37	08:20
	21:33	67	20:54 (1)	20:44			19:34	40 18:46 (3)	18:24	30 17:25 (5)	16:26	16:04
16	05:13		19:46 (6)	06:00			06:51	18:06 (4)	07:42	16:55 (5)	07:38	08:21
	21:32	68	20:54 (1)	20:42			19:32	40 18:46 (3)	18:22	31 17:26 (5)	16:24	16:04
17	05:14		19:46 (6)	06:02			06:53	18:05 (4)	07:44	16:53 (5)	07:40	08:22
	21:31	67	20:53 (1)	20:40			19:29	41 18:46 (3)	18:20	32 17:25 (5)	16:23	16:04
18	05:16		19:46 (6)	06:03			06:55	18:05 (4)	07:46	16:53 (5)	07:42	08:22
	21:30	66	20:52 (1)	20:38			19:27	41 18:46 (3)	18:18	32 17:25 (5)	16:22	16:04
19	05:17		19:46 (6)	06:05			06:56	18:05 (4)	07:48	16:53 (5)	07:44	08:23
	21:29	66	20:52 (1)	20:35			19:25	42 18:47 (3)	18:16	32 17:25 (5)	16:20	16:04
20	05:18		19:47 (6)	06:07		19:27 (2)	06:58	18:04 (4)	07:49	16:53 (5)	07:45	08:24
	21:27	65	20:52 (1)	20:33	5	19:32 (2)	19:22	41 18:45 (3)	18:14	32 17:25 (5)	16:19	16:05
21	05:20		19:47 (6)	06:08		19:24 (2)	07:00	18:04 (4)	07:51	16:53 (5)	07:47	08:24
	21:26	63	20:51 (1)	20:31	11	19:35 (2)	19:20	41 18:45 (3)	18:11	31 17:24 (5)	16:18	16:05
22	05:21		19:47 (6)	06:10		19:21 (2)	07:01	18:05 (4)	07:53	16:54 (5)	07:49	08:25
	21:25	60	20:49 (1)	20:29	16	19:37 (2)	19:18	40 18:45 (3)	18:09	30 17:24 (5)	16:17	16:06
23	05:22		19:47 (6)	06:12		19:20 (2)	07:03	18:05 (4)	07:55	16:54 (5)	07:50	08:25
	21:24	57	20:48 (1)	20:27	18	19:38 (2)	19:15	38 18:43 (3)	18:07	29 17:23 (5)	16:15	16:06
24	05:24		19:48 (6)	06:13		19:18 (2)	07:05	18:06 (4)	07:57	16:55 (5)	07:52	08:26
	21:22	54	20:47 (1)	20:25	20	19:38 (2)	19:13	36 18:42 (3)	18:05	27 17:22 (5)	16:14	16:07
25	05:25		19:48 (6)	06:15		19:17 (2)	07:06	18:07 (4)	06:58	15:56 (5)	07:54	08:26
	21:21	48	20:44 (1)	20:23	22	19:39 (2)	19:11	33 18:40 (3)	17:03	25 16:21 (5)	16:13	16:07
26	05:27		19:48 (6)	06:17		19:16 (2)	07:08	18:08 (4)	07:00	15:57 (5)	07:55	08:26
	21:19	39	20:27 (6)	20:20	23	19:39 (2)	19:08	29 18:37 (3)	17:01	23 16:20 (5)	16:12	16:08
27	05:28		19:50 (6)	06:18		19:16 (2)	07:10	18:11 (4)	07:02	15:59 (5)	07:57	08:27
	21:18	37	20:27 (6)	20:18	23	19:39 (2)	19:06	18 18:33 (3)	16:59	19 16:18 (5)	16:11	16:09
28	05:30		19:50 (6)	06:20		19:16 (2)	07:11	18:17 (4)	07:04	16:01 (5)	07:59	08:27
	21:16	36	20:26 (6)	20:16	23	19:39 (2)	19:03	1 18:18 (4)	16:57	15 16:16 (5)	16:10	16:10
29	05:31		19:51 (6)	06:22		19:15 (2)	07:13		07:06	16:03 (5)	08:00	08:27
	21:15	35	20:26 (6)	20:14	23	19:38 (2)	19:01		16:55	9 16:12 (5)	16:10	16:10
30	05:33		19:51 (6)	06:23		19:15 (2)	07:15		07:08		08:02	08:27
	21:13	34	20:25 (6)	20:11	23	19:38 (2)	18:59		16:53		16:09	16:11
31	05:34		19:52 (6)	06:25		19:15 (2)			07:09			08:27
	21:12	32	20:24 (6)	20:09	22	19:37 (2)			16:51			16:12
Sonnenscheinstunden	504			455			381		331		265	241
astr.max.mögl.Beschattung		1851			357			765		542		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37		0,31		
Reduktion Betriebsdauer		1,00			1,00			1,00		1,00		
Reduktion Windrichtung		0,65			0,69			0,74		0,75		
Gesamte Reduktion		0,27			0,31			0,28		0,24		
Met.wahrsch.Beschattung		501			110			212		128		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AH - Hauptstraße 39A

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März		April		Mai		Juni	
1	08:27		08:00		07:05	16:27 (5)	06:54	18:21 (4)	05:48		05:02	19:42 (6)
	16:14		17:02		17:55 30	16:57 (5)	19:50 32	18:53 (3)	20:42		21:28 66	20:48 (1)
2	08:27		07:58		07:03	16:28 (5)	06:51	18:21 (4)	05:46		05:01	19:42 (6)
	16:15		17:04		17:56 28	16:56 (5)	19:51 28	18:49 (4)	20:43		21:29 66	20:48 (1)
3	08:27		07:56		07:01	16:28 (5)	06:49	18:22 (4)	05:44		05:00	19:42 (6)
	16:16		17:06		17:58 26	16:54 (5)	19:53 26	18:48 (4)	20:45		21:30 66	20:48 (1)
4	08:27		07:55		06:59	16:30 (5)	06:47	18:24 (4)	05:42		04:59	19:42 (6)
	16:17		17:08		18:00 23	16:53 (5)	19:55 23	18:47 (4)	20:47		21:32 67	20:49 (1)
5	08:26		07:53		06:56	16:31 (5)	06:44	18:25 (4)	05:40		04:59	19:42 (6)
	16:18		17:10		18:02 21	16:52 (5)	19:57 19	18:44 (4)	20:48		21:33 66	20:48 (1)
6	08:26		07:51		06:54	16:34 (5)	06:42	18:27 (4)	05:38		04:58	19:43 (6)
	16:19		17:12		18:04 16	16:50 (5)	19:58 15	18:42 (4)	20:50		21:34 66	20:49 (1)
7	08:26		07:50		06:52	16:36 (5)	06:40	18:32 (4)	05:37		04:57	19:43 (6)
	16:21		17:13		18:06 9	16:45 (5)	20:00 5	18:37 (4)	20:52		21:34 66	20:49 (1)
8	08:25		07:48		06:50		06:38	19:26 (2)	05:35	19:56 (6)	04:57	19:44 (6)
	16:22		17:15		18:07		20:02 7	19:33 (2)	20:53 10	20:06 (6)	21:35 66	20:50 (1)
9	08:25		07:46		06:47		06:35	19:23 (2)	05:33	19:53 (6)	04:56	19:43 (6)
	16:23		17:17		18:09		20:04 13	19:36 (2)	20:55 17	20:10 (6)	21:36 66	20:49 (1)
10	08:24		07:44		06:45		06:33	19:21 (2)	05:31	19:50 (6)	04:56	19:44 (6)
	16:25		17:19		18:11		20:05 17	19:38 (2)	20:57 22	20:12 (6)	21:37 66	20:50 (1)
11	08:24		07:42		06:43		06:31	19:20 (2)	05:30	19:48 (6)	04:55	19:44 (6)
	16:26		17:21		18:13		20:07 19	19:39 (2)	20:58 25	20:13 (6)	21:38 66	20:50 (1)
12	08:23		07:40		06:40		06:28	19:19 (2)	05:28	19:47 (6)	04:55	19:44 (6)
	16:28		17:23		18:15		20:09 21	19:40 (2)	21:00 28	20:15 (6)	21:39 66	20:50 (1)
13	08:22		07:39		06:38		06:26	19:17 (2)	05:26	19:46 (6)	04:55	19:44 (6)
	16:29		17:25		18:16		20:10 22	19:39 (2)	21:01 30	20:16 (6)	21:39 66	20:50 (1)
14	08:21		07:37		06:36		06:24	19:17 (2)	05:25	19:45 (6)	04:55	19:45 (6)
	16:31		17:27		18:18		20:12 23	19:40 (2)	21:03 32	20:17 (6)	21:40 66	20:51 (1)
15	08:21		07:35	16:37 (5)	06:34		06:22	19:16 (2)	05:23	19:44 (6)	04:54	19:45 (6)
	16:32		17:29 11	16:48 (5)	18:20		20:14 24	19:40 (2)	21:05 33	20:17 (6)	21:40 66	20:51 (1)
16	08:20		07:33	16:34 (5)	06:31		06:19	19:16 (2)	05:21	19:44 (6)	04:54	19:46 (6)
	16:34		17:30 17	16:51 (5)	18:22		20:16 24	19:40 (2)	21:06 34	20:18 (6)	21:41 65	20:51 (1)
17	08:19		07:31	16:32 (5)	06:29		06:17	19:16 (2)	05:20	19:43 (6)	04:54	19:46 (6)
	16:35		17:32 21	16:53 (5)	18:23		20:17 23	19:39 (2)	21:08 36	20:19 (6)	21:41 65	20:51 (1)
18	08:18		07:29	16:31 (5)	06:27	17:32 (4)	06:15	19:17 (2)	05:18	19:42 (6)	04:54	19:46 (6)
	16:37		17:34 24	16:55 (5)	18:25 24	17:56 (3)	20:19 22	19:39 (2)	21:09 37	20:19 (6)	21:42 66	20:52 (1)
19	08:17		07:27	16:30 (5)	06:24	17:30 (4)	06:13	19:16 (2)	05:17	19:42 (6)	04:54	19:46 (6)
	16:39		17:36 26	16:56 (5)	18:27 29	17:59 (3)	20:21 21	19:37 (2)	21:11 43	20:34 (1)	21:42 66	20:52 (1)
20	08:16		07:25	16:29 (5)	06:22	17:28 (4)	06:11	19:17 (2)	05:16	19:42 (6)	04:54	19:46 (6)
	16:41		17:38 28	16:57 (5)	18:29 33	18:01 (3)	20:23 19	19:36 (2)	21:12 51	20:38 (1)	21:42 66	20:52 (1)
21	08:15		07:23	16:28 (5)	06:20	17:26 (4)	06:09	19:18 (2)	05:14	19:42 (6)	04:54	19:46 (6)
	16:42		17:40 30	16:58 (5)	18:30 35	18:01 (3)	20:24 17	19:35 (2)	21:14 54	20:40 (1)	21:43 66	20:52 (1)
22	08:13		07:20	16:28 (5)	06:17	17:25 (4)	06:06	19:19 (2)	05:13	19:41 (6)	04:55	19:47 (6)
	16:44		17:42 30	16:58 (5)	18:32 37	18:02 (3)	20:26 14	19:33 (2)	21:15 57	20:40 (1)	21:43 66	20:53 (1)
23	08:12		07:18	16:27 (5)	06:15	17:24 (4)	06:04	19:21 (2)	05:12	19:41 (6)	04:55	19:47 (6)
	16:46		17:44 31	16:58 (5)	18:34 38	18:02 (3)	20:28 10	19:31 (2)	21:17 60	20:42 (1)	21:43 66	20:53 (1)
24	08:11		07:16	16:27 (5)	06:12	17:22 (4)	06:02		05:10	19:41 (6)	04:55	19:47 (6)
	16:47		17:45 31	16:58 (5)	18:36 40	18:02 (3)	20:30		21:18 62	20:43 (1)	21:43 66	20:53 (1)
25	08:10		07:14	16:27 (5)	06:10	17:22 (4)	06:00		05:09	19:41 (6)	04:55	19:48 (6)
	16:49		17:47 31	16:58 (5)	18:37 40	18:02 (3)	20:31		21:19 63	20:44 (1)	21:43 66	20:54 (1)
26	08:08		07:12	16:27 (5)	06:08	17:22 (4)	05:58		05:08	19:41 (6)	04:56	19:48 (6)
	16:51		17:49 31	16:58 (5)	18:39 40	18:02 (3)	20:33		21:21 63	20:44 (1)	21:43 65	20:53 (1)
27	08:07		07:10	16:27 (5)	06:05	17:21 (4)	05:56		05:07	19:41 (6)	04:56	19:48 (6)
	16:53		17:51 31	16:58 (5)	18:41 40	18:01 (3)	20:35		21:22 64	20:45 (1)	21:43 66	20:54 (1)
28	08:06		07:08	16:27 (5)	06:03	17:21 (4)	05:54		05:06	19:41 (6)	04:57	19:48 (6)
	16:55		17:53 30	16:57 (5)	18:43 39	18:00 (3)	20:36		21:23 65	20:46 (1)	21:43 66	20:54 (1)
29	08:04				07:01	18:21 (4)	05:52		05:05	19:41 (6)	04:57	19:49 (6)
	16:57				19:44 38	18:59 (3)	20:38		21:25 65	20:46 (1)	21:43 65	20:54 (1)
30	08:03				06:58	18:20 (4)	05:50		05:04	19:41 (6)	04:58	19:48 (6)
	16:58				19:46 37	18:57 (3)	20:40		21:26 65	20:46 (1)	21:43 66	20:54 (1)
31	08:01				06:56	18:21 (4)			05:03	19:42 (6)		
	17:00				19:48 35	18:56 (3)			21:27 65	20:47 (1)		
Sonnenscheinstunden	257		277		367		417		487		501	
astr.max.mögl.Beschattung			372		658		444		1081		1977	
Red.Sonnenscheinwahrsch.			0,25		0,29		0,37		0,45		0,40	
Reduktion Betriebsdauer			1,00		1,00		1,00		1,00		1,00	
Reduktion Windrichtung			0,75		0,75		0,72		0,65		0,64	
Gesamte Reduktion			0,19		0,22		0,27		0,29		0,26	
Met.wahrsch.Beschattung			71		144		120		314		508	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AH - Hauptstraße 39A

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		19:49 (6)	05:36		19:58 (6)	06:26		19:19 (2)	07:16			07:11	08:03
	21:42	66	20:55 (1)	21:10	27	20:25 (6)	20:07	19	19:38 (2)	18:56			16:49	16:08
2	04:59		19:48 (6)	05:37		19:59 (6)	06:28		19:19 (2)	07:18			07:13	08:05
	21:42	66	20:54 (1)	21:08	24	20:23 (6)	20:05	17	19:36 (2)	18:54			16:47	16:07
3	05:00		19:49 (6)	05:39		20:01 (6)	06:30		19:21 (2)	07:20			07:15	08:06
	21:42	66	20:55 (1)	21:06	21	20:22 (6)	20:02	13	19:34 (2)	18:52			16:46	16:07
4	05:01		19:49 (6)	05:40		20:03 (6)	06:31		19:24 (2)	07:22			07:17	08:07
	21:41	66	20:55 (1)	21:05	16	20:19 (6)	20:00	7	19:31 (2)	18:49			16:44	16:06
5	05:02		19:49 (6)	05:42		20:08 (6)	06:33		18:29 (4)	07:23			07:19	08:09
	21:41	66	20:55 (1)	21:03	7	20:15 (6)	19:58	3	18:32 (4)	18:47			16:42	16:06
6	05:02		19:49 (6)	05:44			06:35		18:24 (4)	07:25			07:20	08:10
	21:40	67	20:56 (1)	21:01			19:55	14	18:38 (4)	18:45			16:40	16:05
7	05:03		19:49 (6)	05:45			06:36		18:20 (4)	07:27		17:10 (5)	07:22	08:11
	21:40	66	20:55 (1)	20:59			19:53	19	18:39 (4)	18:43	13	17:23 (5)	16:38	16:05
8	05:04		19:49 (6)	05:47			06:38		18:18 (4)	07:28		17:07 (5)	07:24	08:12
	21:39	66	20:55 (1)	20:57			19:51	23	18:41 (4)	18:40	19	17:26 (5)	16:37	16:04
9	05:05		19:49 (6)	05:48			06:40		18:17 (4)	07:30		17:05 (5)	07:26	08:14
	21:38	66	20:55 (1)	20:56			19:48	25	18:42 (4)	18:38	22	17:27 (5)	16:35	16:04
10	05:06		19:49 (6)	05:50			06:41		18:15 (4)	07:32		17:04 (5)	07:28	08:15
	21:38	66	20:55 (1)	20:54			19:46	27	18:42 (4)	18:36	25	17:29 (5)	16:33	16:04
11	05:07		19:49 (6)	05:52			06:43		18:14 (4)	07:34		17:02 (5)	07:29	08:16
	21:37	66	20:55 (1)	20:52			19:44	31	18:45 (3)	18:33	27	17:29 (5)	16:32	16:04
12	05:08		19:49 (6)	05:53			06:45		18:12 (4)	07:35		17:01 (5)	07:31	08:17
	21:36	66	20:55 (1)	20:50			19:41	35	18:47 (3)	18:31	28	17:29 (5)	16:30	16:04
13	05:10		19:49 (6)	05:55			06:46		18:12 (4)	07:37		17:00 (5)	07:33	08:18
	21:35	66	20:55 (1)	20:48			19:39	36	18:48 (3)	18:29	30	17:30 (5)	16:29	16:03
14	05:11		19:49 (6)	05:57			06:48		18:11 (4)	07:39		17:00 (5)	07:35	08:19
	21:34	66	20:55 (1)	20:46			19:37	38	18:49 (3)	18:27	30	17:30 (5)	16:27	16:03
15	05:12		19:50 (6)	05:58			06:50		18:10 (4)	07:41		16:59 (5)	07:37	08:20
	21:33	65	20:55 (1)	20:44			19:34	39	18:49 (3)	18:24	32	17:31 (5)	16:26	16:04
16	05:13		19:50 (6)	06:00			06:51		18:10 (4)	07:42		16:59 (5)	07:38	08:21
	21:32	65	20:55 (1)	20:42			19:32	40	18:50 (3)	18:22	32	17:31 (5)	16:24	16:04
17	05:14		19:50 (6)	06:02			06:53		18:09 (4)	07:44		16:58 (5)	07:40	08:22
	21:31	64	20:54 (1)	20:40			19:29	40	18:49 (3)	18:20	32	17:30 (5)	16:23	16:04
18	05:16		19:50 (6)	06:03			06:55		18:09 (4)	07:46		16:58 (5)	07:42	08:22
	21:30	64	20:54 (1)	20:38			19:27	40	18:49 (3)	18:18	31	17:29 (5)	16:22	16:04
19	05:17		19:50 (6)	06:05		19:31 (2)	06:56		18:10 (4)	07:48		16:58 (5)	07:44	08:23
	21:29	63	20:53 (1)	20:35	1	19:32 (2)	19:25	39	18:49 (3)	18:16	31	17:29 (5)	16:20	16:04
20	05:18		19:51 (6)	06:07		19:26 (2)	06:58		18:09 (4)	07:49		16:58 (5)	07:45	08:24
	21:27	62	20:53 (1)	20:33	11	19:37 (2)	19:22	39	18:48 (3)	18:14	30	17:28 (5)	16:19	16:05
21	05:20		19:51 (6)	06:08		19:25 (2)	07:00		18:10 (4)	07:51		16:59 (5)	07:47	08:24
	21:26	60	20:52 (1)	20:31	14	19:39 (2)	19:20	37	18:47 (3)	18:11	29	17:28 (5)	16:18	16:05
22	05:21		19:51 (6)	06:10		19:22 (2)	07:01		18:11 (4)	07:53		17:00 (5)	07:49	08:25
	21:25	56	20:50 (1)	20:29	18	19:40 (2)	19:18	36	18:47 (3)	18:09	27	17:27 (5)	16:17	16:06
23	05:22		19:52 (6)	06:12		19:21 (2)	07:03		18:11 (4)	07:55		17:01 (5)	07:50	08:25
	21:24	52	20:48 (1)	20:27	20	19:41 (2)	19:15	34	18:45 (3)	18:07	25	17:26 (5)	16:15	16:06
24	05:24		19:53 (6)	06:13		19:20 (2)	07:05		18:13 (4)	07:57		17:02 (5)	07:52	08:26
	21:22	47	20:47 (1)	20:25	21	19:41 (2)	19:13	30	18:43 (3)	18:05	23	17:25 (5)	16:14	16:07
25	05:25		19:53 (6)	06:15		19:19 (2)	07:06		18:15 (4)	06:58		16:03 (5)	07:54	08:26
	21:21	37	20:30 (6)	20:23	23	19:42 (2)	19:11	26	18:41 (3)	17:03	20	16:23 (5)	16:13	16:07
26	05:27		19:53 (6)	06:17		19:18 (2)	07:08		18:18 (4)	07:00		16:05 (5)	07:55	08:26
	21:19	36	20:29 (6)	20:20	23	19:41 (2)	19:08	8	18:26 (4)	17:01	16	16:21 (5)	16:12	16:08
27	05:28		19:54 (6)	06:18		19:18 (2)	07:10			07:02		16:09 (5)	07:57	08:27
	21:18	36	20:30 (6)	20:18	23	19:41 (2)	19:06			16:59	9	16:18 (5)	16:11	16:09
28	05:30		19:54 (6)	06:20		19:18 (2)	07:11			07:04			07:59	08:27
	21:16	34	20:28 (6)	20:16	24	19:42 (2)	19:03			16:57			16:10	16:10
29	05:31		19:56 (6)	06:22		19:18 (2)	07:13			07:06			08:00	08:27
	21:15	32	20:28 (6)	20:14	22	19:40 (2)	19:01			16:55			16:10	16:10
30	05:33		19:56 (6)	06:23		19:18 (2)	07:15			07:08			08:02	08:27
	21:13	31	20:27 (6)	20:11	22	19:40 (2)	18:59			16:53			16:09	16:11
31	05:34		19:57 (6)	06:25		19:18 (2)				07:09				08:27
	21:12	28	20:25 (6)	20:09	21	19:39 (2)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		1757			338			715			531			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,64			0,69			0,74			0,75			
Gesamte Reduktion		0,27			0,31			0,28			0,24			
Met.wahrsch.Beschattung		474			105			199			125			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AI - Hauptstraße 39

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		16:28 (5)	06:54		18:22 (4)	05:48			05:02		19:40 (6)
	16:14	17:02			17:55	28	16:56 (5)	19:50	28	18:50 (4)	20:42			21:28	66	20:46 (1)
2	08:27	07:58			07:03		16:29 (5)	06:51		18:22 (4)	05:46			05:01		19:40 (6)
	16:15	17:04			17:56	27	16:56 (5)	19:51	26	18:48 (4)	20:43			21:29	66	20:46 (1)
3	08:27	07:56			07:01		16:29 (5)	06:49		18:23 (4)	05:44			05:00		19:40 (6)
	16:16	17:06			17:58	25	16:54 (5)	19:53	23	18:46 (4)	20:45			21:30	66	20:46 (1)
4	08:27	07:55			06:59		16:31 (5)	06:47		18:25 (4)	05:42			04:59		19:41 (6)
	16:17	17:08			18:00	22	16:53 (5)	19:55	20	18:45 (4)	20:47			21:32	66	20:47 (1)
5	08:26	07:53			06:56		16:32 (5)	06:44		18:26 (4)	05:40			04:59		19:41 (6)
	16:18	17:10			18:02	19	16:51 (5)	19:57	15	18:41 (4)	20:48			21:33	66	20:47 (1)
6	08:26	07:51			06:54		16:35 (5)	06:42		18:31 (4)	05:38		19:55 (6)	04:58		19:42 (6)
	16:19	17:12			18:04	14	16:49 (5)	19:58	6	18:37 (4)	20:50	9	20:04 (6)	21:34	65	20:47 (1)
7	08:26	07:50			06:52			06:40			05:37		19:51 (6)	04:57		19:42 (6)
	16:21	17:13			18:06			20:00			20:52	16	20:07 (6)	21:34	65	20:47 (1)
8	08:25	07:48			06:50			06:38		19:23 (2)	05:35		19:48 (6)	04:57		19:42 (6)
	16:22	17:15			18:07			20:02	11	19:34 (2)	20:53	21	20:09 (6)	21:35	66	20:48 (1)
9	08:25	07:46			06:47			06:35		19:21 (2)	05:33		19:47 (6)	04:56		19:42 (6)
	16:23	17:17			18:09			20:04	15	19:36 (2)	20:55	24	20:11 (6)	21:36	65	20:47 (1)
10	08:24	07:44			06:45			06:33		19:19 (2)	05:31		19:45 (6)	04:56		19:43 (6)
	16:25	17:19			18:11			20:05	19	19:38 (2)	20:57	27	20:12 (6)	21:37	65	20:48 (1)
11	08:24	07:42			06:43			06:31		19:18 (2)	05:30		19:44 (6)	04:55		19:43 (6)
	16:26	17:21			18:13			20:07	20	19:38 (2)	20:58	29	20:13 (6)	21:38	65	20:48 (1)
12	08:23	07:40			06:40			06:28		19:17 (2)	05:28		19:43 (6)	04:55		19:43 (6)
	16:28	17:23			18:15			20:09	22	19:39 (2)	21:00	32	20:15 (6)	21:39	65	20:48 (1)
13	08:22	07:39			06:38			06:26		19:16 (2)	05:26		19:42 (6)	04:55		19:43 (6)
	16:29	17:25			18:16			20:10	22	19:38 (2)	21:01	33	20:15 (6)	21:39	65	20:48 (1)
14	08:21	07:37			06:36			06:24		19:16 (2)	05:25		19:41 (6)	04:55		19:44 (6)
	16:31	17:27			18:18			20:12	23	19:39 (2)	21:03	35	20:16 (6)	21:40	64	20:48 (1)
15	08:21	07:35		16:37 (5)	06:34			06:22		19:16 (2)	05:23		19:40 (6)	04:54		19:44 (6)
	16:32	17:29	12	16:49 (5)	18:20			20:14	23	19:39 (2)	21:05	36	20:16 (6)	21:40	65	20:49 (1)
16	08:20	07:33		16:34 (5)	06:31			06:19		19:16 (2)	05:21		19:40 (6)	04:54		19:45 (6)
	16:34	17:30	18	16:52 (5)	18:22			20:16	22	19:38 (2)	21:06	37	20:17 (6)	21:41	64	20:49 (1)
17	08:19	07:31		16:33 (5)	06:29		17:35 (4)	06:17		19:16 (2)	05:20		19:40 (6)	04:54		19:45 (6)
	16:35	17:32	21	16:54 (5)	18:23	10	17:45 (4)	20:17	22	19:38 (2)	21:08	38	20:18 (6)	21:41	64	20:49 (1)
18	08:18	07:29		16:31 (5)	06:27		17:30 (4)	06:15		19:16 (2)	05:18		19:39 (6)	04:54		19:45 (6)
	16:37	17:34	24	16:55 (5)	18:25	27	17:57 (3)	20:19	21	19:37 (2)	21:09	49	20:34 (1)	21:42	64	20:49 (1)
19	08:17	07:27		16:30 (5)	06:24		17:28 (4)	06:13		19:16 (2)	05:17		19:39 (6)	04:54		19:45 (6)
	16:39	17:36	26	16:56 (5)	18:27	31	17:59 (3)	20:21	19	19:35 (2)	21:11	54	20:37 (1)	21:42	64	20:49 (1)
20	08:16	07:25		16:29 (5)	06:22		17:27 (4)	06:11		19:17 (2)	05:16		19:39 (6)	04:54		19:46 (6)
	16:41	17:38	28	16:57 (5)	18:29	34	18:01 (3)	20:23	17	19:34 (2)	21:12	58	20:39 (1)	21:42	63	20:49 (1)
21	08:15	07:23		16:29 (5)	06:20		17:25 (4)	06:09		19:18 (2)	05:14		19:39 (6)	04:54		19:46 (6)
	16:42	17:40	29	16:58 (5)	18:30	36	18:01 (3)	20:24	15	19:33 (2)	21:14	61	20:40 (1)	21:43	63	20:49 (1)
22	08:13	07:20		16:28 (5)	06:17		17:24 (4)	06:06		19:20 (2)	05:13		19:38 (6)	04:55		19:47 (6)
	16:44	17:42	31	16:59 (5)	18:32	37	18:01 (3)	20:26	11	19:31 (2)	21:15	62	20:40 (1)	21:43	63	20:50 (1)
23	08:12	07:18		16:27 (5)	06:15		17:23 (4)	06:04			05:12		19:38 (6)	04:55		19:46 (6)
	16:46	17:44	31	16:58 (5)	18:34	39	18:02 (3)	20:28			21:17	63	20:41 (1)	21:43	64	20:50 (1)
24	08:11	07:16		16:27 (5)	06:12		17:22 (4)	06:02			05:10		19:38 (6)	04:55		19:46 (6)
	16:47	17:45	31	16:58 (5)	18:36	39	18:01 (3)	20:30			21:18	64	20:42 (1)	21:43	64	20:50 (1)
25	08:10	07:14		16:27 (5)	06:10		17:21 (4)	06:00			05:09		19:39 (6)	04:55		19:47 (6)
	16:49	17:47	31	16:58 (5)	18:37	40	18:01 (3)	20:31			21:19	64	20:43 (1)	21:43	64	20:51 (1)
26	08:08	07:12		16:27 (5)	06:08		17:21 (4)	05:58			05:08		19:39 (6)	04:56		19:47 (6)
	16:51	17:49	31	16:58 (5)	18:39	40	18:01 (3)	20:33			21:21	64	20:43 (1)	21:43	64	20:51 (1)
27	08:07	07:10		16:28 (5)	06:05		17:20 (4)	05:56			05:07		19:39 (6)	04:56		19:48 (6)
	16:53	17:51	30	16:58 (5)	18:41	40	18:00 (3)	20:35			21:22	65	20:44 (1)	21:43	64	20:52 (1)
28	08:06	07:08		16:27 (5)	06:03		17:20 (4)	05:54			05:06		19:39 (6)	04:57		19:47 (6)
	16:55	17:53	30	16:57 (5)	18:43	39	17:59 (3)	20:36			21:23	65	20:44 (1)	21:43	64	20:51 (1)
29	08:04				07:01		18:21 (4)	05:52			05:05		19:39 (6)	04:57		19:48 (6)
	16:57				19:44	37	18:58 (3)	20:38			21:25	66	20:45 (1)	21:43	64	20:52 (1)
30	08:03				06:58		18:20 (4)	05:50			05:04		19:39 (6)	04:58		19:47 (6)
	16:58				19:46	36	18:56 (3)	20:40			21:26	66	20:45 (1)	21:43	65	20:52 (1)
31	08:01				06:56		18:21 (4)				05:03		19:40 (6)			
	17:00				19:48	33	18:54 (3)				21:27	66	20:46 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			373			653			400			1204			1938	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,75			0,75			0,72			0,65			0,64	
Gesamte Reduktion			0,19			0,22			0,27			0,29			0,26	
Met.wahrsch.Beschattung			71			143			108			351			499	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AI - Hauptstraße 39

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		19:48 (6)	05:36		19:54 (6)	06:26		19:17 (2)	07:16	07:11	08:03
	21:42	64	20:52 (1)	21:10	31	20:25 (6)	20:07	20	19:37 (2)	18:56	16:49	16:08
2	04:59		19:47 (6)	05:37		19:54 (6)	06:28		19:17 (2)	07:18	07:13	08:05
	21:42	65	20:52 (1)	21:08	29	20:23 (6)	20:05	19	19:36 (2)	18:54	16:47	16:07
3	05:00		19:47 (6)	05:39		19:56 (6)	06:30		19:19 (2)	07:20	07:15	08:06
	21:42	65	20:52 (1)	21:06	26	20:22 (6)	20:02	15	19:34 (2)	18:52	16:46	16:07
4	05:01		19:48 (6)	05:40		19:57 (6)	06:31		19:21 (2)	07:22	07:17	08:07
	21:41	65	20:53 (1)	21:05	23	20:20 (6)	20:00	11	19:32 (2)	18:49	16:44	16:06
5	05:02		19:48 (6)	05:42		19:59 (6)	06:33		19:25 (2)	07:23	07:19	08:09
	21:41	65	20:53 (1)	21:03	20	20:19 (6)	19:58	1	19:26 (2)	18:47	16:42	16:06
6	05:02		19:48 (6)	05:44		20:01 (6)	06:35		18:27 (4)	07:25	07:20	08:10
	21:40	66	20:54 (1)	21:01	15	20:16 (6)	19:55	6	18:33 (4)	18:45	16:40	16:05
7	05:03		19:47 (6)	05:45		20:06 (6)	06:36		18:22 (4)	07:27	17:12 (5)	07:22	08:11
	21:40	66	20:53 (1)	20:59	6	20:12 (6)	19:53	14	18:36 (4)	18:43	10	17:22 (5)	16:38	16:05
8	05:04		19:47 (6)	05:47			06:38		18:19 (4)	07:28		17:09 (5)	07:24	08:12
	21:39	66	20:53 (1)	20:57			19:51	20	18:39 (4)	18:40	16	17:25 (5)	16:37	16:04
9	05:05		19:47 (6)	05:48			06:40		18:18 (4)	07:30		17:07 (5)	07:26	08:14
	21:38	66	20:53 (1)	20:56			19:48	22	18:40 (4)	18:38	20	17:27 (5)	16:35	16:04
10	05:06		19:48 (6)	05:50			06:41		18:15 (4)	07:32		17:05 (5)	07:28	08:15
	21:38	65	20:53 (1)	20:54			19:46	26	18:41 (4)	18:36	23	17:28 (5)	16:33	16:04
11	05:07		19:48 (6)	05:52			06:43		18:14 (4)	07:34		17:03 (5)	07:29	08:16
	21:37	65	20:53 (1)	20:52			19:44	28	18:42 (4)	18:33	25	17:28 (5)	16:32	16:04
12	05:08		19:48 (6)	05:53			06:45		18:12 (4)	07:35		17:02 (5)	07:31	08:17
	21:36	65	20:53 (1)	20:50			19:41	33	18:45 (3)	18:31	27	17:29 (5)	16:30	16:04
13	05:10		19:48 (6)	05:55			06:46		18:12 (4)	07:37		17:01 (5)	07:33	08:18
	21:35	65	20:53 (1)	20:48			19:39	35	18:47 (3)	18:29	29	17:30 (5)	16:29	16:03
14	05:11		19:47 (6)	05:57			06:48		18:11 (4)	07:39		17:00 (5)	07:35	08:19
	21:34	66	20:53 (1)	20:46			19:37	37	18:48 (3)	18:27	30	17:30 (5)	16:27	16:03
15	05:12		19:48 (6)	05:58			06:50		18:10 (4)	07:41		17:00 (5)	07:37	08:20
	21:33	66	20:54 (1)	20:44			19:34	38	18:48 (3)	18:24	31	17:31 (5)	16:26	16:04
16	05:13		19:48 (6)	06:00			06:51		18:10 (4)	07:42		16:59 (5)	07:38	08:21
	21:32	66	20:54 (1)	20:42			19:32	39	18:49 (3)	18:22	32	17:31 (5)	16:24	16:04
17	05:14		19:48 (6)	06:02			06:53		18:09 (4)	07:44		16:58 (5)	07:40	08:22
	21:31	65	20:53 (1)	20:40			19:29	39	18:48 (3)	18:20	32	17:30 (5)	16:23	16:04
18	05:16		19:48 (6)	06:03			06:55		18:09 (4)	07:46		16:58 (5)	07:42	08:22
	21:30	65	20:53 (1)	20:38			19:27	40	18:49 (3)	18:18	31	17:29 (5)	16:22	16:04
19	05:17		19:48 (6)	06:05			06:56		18:09 (4)	07:48		16:59 (5)	07:44	08:23
	21:29	64	20:52 (1)	20:35			19:25	40	18:49 (3)	18:16	30	17:29 (5)	16:20	16:04
20	05:18		19:49 (6)	06:07		19:29 (2)	06:58		18:08 (4)	07:49		16:59 (5)	07:45	08:24
	21:27	63	20:52 (1)	20:33	4	19:33 (2)	19:22	39	18:47 (3)	18:14	30	17:29 (5)	16:19	16:05
21	05:20		19:49 (6)	06:08		19:25 (2)	07:00		18:09 (4)	07:51		16:59 (5)	07:47	08:24
	21:26	62	20:51 (1)	20:31	12	19:37 (2)	19:20	38	18:47 (3)	18:11	29	17:28 (5)	16:18	16:05
22	05:21		19:49 (6)	06:10		19:23 (2)	07:01		18:10 (4)	07:53		17:00 (5)	07:49	08:25
	21:25	61	20:50 (1)	20:29	15	19:38 (2)	19:18	36	18:46 (3)	18:09	27	17:27 (5)	16:17	16:06
23	05:22		19:49 (6)	06:12		19:21 (2)	07:03		18:10 (4)	07:55		17:01 (5)	07:50	08:25
	21:24	59	20:49 (1)	20:27	18	19:39 (2)	19:15	34	18:44 (3)	18:07	25	17:26 (5)	16:15	16:06
24	05:24		19:50 (6)	06:13		19:19 (2)	07:05		18:11 (4)	07:57		17:02 (5)	07:52	08:26
	21:22	55	20:48 (1)	20:25	20	19:39 (2)	19:13	32	18:43 (3)	18:05	23	17:25 (5)	16:14	16:07
25	05:25		19:50 (6)	06:15		19:19 (2)	07:06		18:13 (4)	06:58		16:03 (5)	07:54	08:26
	21:21	51	20:46 (1)	20:23	21	19:40 (2)	19:11	28	18:41 (3)	17:03	21	16:24 (5)	16:13	16:07
26	05:27		19:50 (6)	06:17		19:18 (2)	07:08		18:15 (4)	07:00		16:05 (5)	07:55	08:26
	21:19	46	20:44 (1)	20:20	22	19:40 (2)	19:08	20	18:37 (3)	17:01	17	16:22 (5)	16:12	16:08
27	05:28		19:51 (6)	06:18		19:17 (2)	07:10			07:02		16:08 (5)	07:57	08:27
	21:18	37	20:28 (6)	20:18	23	19:40 (2)	19:06			16:59	11	16:19 (5)	16:11	16:09
28	05:30		19:51 (6)	06:20		19:17 (2)	07:11			07:04			07:59	08:27
	21:16	36	20:27 (6)	20:16	23	19:40 (2)	19:03			16:57			16:10	16:10
29	05:31		19:52 (6)	06:22		19:17 (2)	07:13			07:06			08:00	08:27
	21:15	35	20:27 (6)	20:14	23	19:40 (2)	19:01			16:55			16:10	16:10
30	05:33		19:52 (6)	06:23		19:17 (2)	07:15			07:08			08:02	08:27
	21:13	34	20:26 (6)	20:11	22	19:39 (2)	18:59			16:53			16:09	16:11
31	05:34		19:52 (6)	06:25		19:16 (2)				07:09				08:27
	21:12	33	20:25 (6)	20:09	22	19:38 (2)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		1812			375			710			519			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,65			0,69			0,74			0,75			
Gesamte Reduktion		0,27			0,31			0,28			0,24			
Met.wahrsch.Beschattung		491			115			197			122			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AJ - Hauptstraße 44

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar		März			April			Mai			Juni		
1	08:27	08:00		07:05		16:25 (5)	06:54		18:19 (4)	05:48			05:02		19:35 (6)
	16:14	17:02		17:55	25	16:50 (5)	19:50	23	18:42 (4)	20:42			21:28	68	20:43 (1)
2	08:27	07:58		07:03		16:27 (5)	06:51		18:20 (4)	05:46			05:01		19:35 (6)
	16:15	17:04		17:56	22	16:49 (5)	19:51	20	18:40 (4)	20:43			21:29	68	20:43 (1)
3	08:27	07:56		07:01		16:28 (5)	06:49		18:23 (4)	05:44			05:00		19:35 (6)
	16:16	17:06		17:58	18	16:46 (5)	19:53	14	18:37 (4)	20:45			21:30	68	20:43 (1)
4	08:27	07:55		06:59		16:30 (5)	06:47		18:28 (4)	05:42		19:47 (6)	04:59		19:36 (6)
	16:17	17:08		18:00	14	16:44 (5)	19:55	4	18:32 (4)	20:47	14	20:01 (6)	21:32	68	20:44 (1)
5	08:26	07:53		06:56			06:44			05:40		19:44 (6)	04:59		19:36 (6)
	16:18	17:10		18:02			19:57			20:48	19	20:03 (6)	21:33	67	20:43 (1)
6	08:26	07:51		06:54			06:42		19:23 (2)	05:38		19:43 (6)	04:58		19:37 (6)
	16:19	17:12		18:04			19:58	7	19:30 (2)	20:50	23	20:06 (6)	21:34	67	20:44 (1)
7	08:26	07:50		06:52			06:40		19:20 (2)	05:37		19:41 (6)	04:57		19:37 (6)
	16:21	17:13		18:06			20:00	13	19:33 (2)	20:52	26	20:07 (6)	21:34	67	20:44 (1)
8	08:25	07:48		06:50			06:38		19:17 (2)	05:35		19:39 (6)	04:57		19:38 (6)
	16:22	17:15		18:07			20:02	17	19:34 (2)	20:53	29	20:08 (6)	21:35	66	20:44 (1)
9	08:25	07:46		06:47			06:35		19:16 (2)	05:33		19:38 (6)	04:56		19:38 (6)
	16:23	17:17		18:09			20:04	19	19:35 (2)	20:55	32	20:10 (6)	21:36	66	20:44 (1)
10	08:24	07:44		06:45			06:33		19:15 (2)	05:31		19:37 (6)	04:56		19:39 (6)
	16:25	17:19		18:11			20:05	21	19:36 (2)	20:57	33	20:10 (6)	21:37	65	20:44 (1)
11	08:24	07:42		06:43			06:31		19:14 (2)	05:30		19:36 (6)	04:55		19:39 (6)
	16:26	17:21		18:13			20:07	22	19:36 (2)	20:58	35	20:11 (6)	21:38	66	20:45 (1)
12	08:23	07:40		16:37 (5)			06:40		19:14 (2)	05:28		19:36 (6)	04:55		19:39 (6)
	16:28	17:23	4	16:41 (5)			18:15		20:09	23	19:37 (2)	21:00	36	20:12 (6)	21:39	65	20:44 (1)
13	08:22	07:39		16:32 (5)			06:38		19:12 (2)	05:26		19:34 (6)	04:55		19:39 (6)
	16:29	17:25	14	16:46 (5)			18:16		20:10	24	19:36 (2)	21:01	38	20:12 (6)	21:39	66	20:45 (1)
14	08:21	07:37		16:30 (5)			06:36		19:12 (2)	05:25		19:34 (6)	04:55		19:40 (6)
	16:31	17:27	18	16:48 (5)			18:18		20:12	24	19:36 (2)	21:03	39	20:13 (6)	21:40	65	20:45 (1)
15	08:21	07:35		16:27 (5)			06:34		17:30 (4)	06:22		19:13 (2)	05:23		19:33 (6)	04:54		19:40 (6)
	16:32	17:29	22	16:49 (5)			18:20	12	17:42 (4)	20:14	22	19:35 (2)	21:05	40	20:13 (6)	21:40	65	20:45 (1)
16	08:20	07:33		16:26 (5)			06:31		17:26 (4)	06:19		19:13 (2)	05:21		19:34 (6)	04:54		19:41 (6)
	16:34	17:30	24	16:50 (5)			18:22	27	17:53 (3)	20:16	22	19:35 (2)	21:06	49	20:31 (1)	21:41	64	20:45 (1)
17	08:19	07:31		16:25 (5)			06:29		17:24 (4)	06:17		19:13 (2)	05:20		19:34 (6)	04:54		19:41 (6)
	16:35	17:32	26	16:51 (5)			18:23	31	17:55 (3)	20:17	21	19:34 (2)	21:08	55	20:34 (1)	21:41	65	20:46 (1)
18	08:18	07:29		16:24 (5)			06:27		17:22 (4)	06:15		19:14 (2)	05:18		19:33 (6)	04:54		19:41 (6)
	16:37	17:34	28	16:52 (5)			18:25	34	17:56 (3)	20:19	19	19:33 (2)	21:09	59	20:35 (1)	21:42	65	20:46 (1)
19	08:17	07:27		16:24 (5)			06:24		17:20 (4)	06:13		19:14 (2)	05:17		19:33 (6)	04:54		19:42 (6)
	16:39	17:36	29	16:53 (5)			18:27	38	17:58 (3)	20:21	17	19:31 (2)	21:11	61	20:36 (1)	21:42	64	20:46 (1)
20	08:16	07:25		16:23 (5)			06:22		17:20 (4)	06:11		19:16 (2)	05:16		19:33 (6)	04:54		19:42 (6)
	16:41	17:38	31	16:54 (5)			18:29	38	17:58 (3)	20:23	13	19:29 (2)	21:12	63	20:37 (1)	21:42	64	20:46 (1)
21	08:15	07:23		16:23 (5)			06:20		17:18 (4)	06:09		19:18 (2)	05:14		19:33 (6)	04:54		19:42 (6)
	16:42	17:40	31	16:54 (5)			18:30	40	17:58 (3)	20:24	8	19:26 (2)	21:14	66	20:39 (1)	21:43	64	20:46 (1)
22	08:13	07:20		16:23 (5)			06:17		17:18 (4)	06:06			05:13		19:33 (6)	04:55		19:43 (6)
	16:44	17:42	31	16:54 (5)			18:32	40	17:58 (3)	20:26			21:15	65	20:38 (1)	21:43	64	20:47 (1)
23	08:12	07:18		16:22 (5)			06:15		17:17 (4)	06:04			05:12		19:33 (6)	04:55		19:43 (6)
	16:46	17:44	31	16:53 (5)			18:34	42	17:59 (3)	20:28			21:17	66	20:39 (1)	21:43	64	20:47 (1)
24	08:11	07:16		16:22 (5)			06:12		17:16 (4)	06:02			05:10		19:33 (6)	04:55		19:42 (6)
	16:47	17:45	31	16:53 (5)			18:36	42	17:58 (3)	20:30			21:18	67	20:40 (1)	21:43	65	20:47 (1)
25	08:10	07:14		16:23 (5)			06:10		17:16 (4)	06:00			05:09		19:33 (6)	04:55		19:43 (6)
	16:49	17:47	30	16:53 (5)			18:37	41	17:57 (3)	20:31			21:19	68	20:41 (1)	21:43	65	20:48 (1)
26	08:08	07:12		16:23 (5)			06:08		17:16 (4)	05:58			05:08		19:33 (6)	04:56		19:43 (6)
	16:51	17:49	30	16:53 (5)			18:39	41	17:57 (3)	20:33			21:21	68	20:41 (1)	21:43	65	20:48 (1)
27	08:07	07:10		16:24 (5)			06:05		17:16 (4)	05:56			05:07		19:34 (6)	04:56		19:44 (6)
	16:53	17:51	28	16:52 (5)			18:41	39	17:55 (3)	20:35			21:22	67	20:41 (1)	21:43	64	20:48 (1)
28	08:06	07:08		16:24 (5)			06:03		17:16 (4)	05:54			05:06		19:34 (6)	04:57		19:43 (6)
	16:55	17:53	27	16:51 (5)			18:43	38	17:54 (3)	20:36			21:23	68	20:42 (1)	21:43	65	20:48 (1)
29	08:04						07:01		18:17 (4)	05:52			05:05		19:34 (6)	04:57		19:44 (6)
	16:57						19:44	35	18:52 (3)	20:38			21:25	68	20:42 (1)	21:43	65	20:49 (1)
30	08:03						06:58		18:17 (4)	05:50			05:04		19:34 (6)	04:58		19:43 (6)
	16:58						19:46	32	18:49 (3)	20:40			21:26	68	20:42 (1)	21:43	65	20:48 (1)
31	08:01						06:56		18:18 (4)				05:03		19:35 (6)			
	17:00						19:48	26	18:44 (4)				21:27	68	20:43 (1)			
Sonnenscheinstunden	257	277		367			417			487			501		
astr.max.mögl.Beschattung			435			675			353			1390			1965
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00
Reduktion Windrichtung			0,75			0,75			0,72			0,65			0,65
Gesamte Reduktion			0,19			0,22			0,27			0,29			0,26
Met.wahrsch.Beschattung			82			147			95			407			509

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AJ - Hauptstraße 44

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		19:44 (6) | 05:36		19:46 (6) | 06:26		19:13 (2) | 07:16		07:11	08:03
	21:42	65	20:49 (1) | 21:10	36	20:22 (6) | 20:07	22	19:35 (2) | 18:56		16:49	16:08
2	04:59		19:43 (6) | 05:37		19:46 (6) | 06:28		19:13 (2) | 07:18		07:13	08:05
	21:42	66	20:49 (1) | 21:08	35	20:21 (6) | 20:05	21	19:34 (2) | 18:54		16:47	16:07
3	05:00		19:43 (6) | 05:39		19:48 (6) | 06:30		19:14 (2) | 07:20		07:15	08:06
	21:42	66	20:49 (1) | 21:06	32	20:20 (6) | 20:02	19	19:33 (2) | 18:52		16:46	16:07
4	05:01		19:43 (6) | 05:40		19:48 (6) | 06:31		19:15 (2) | 07:22		07:17	08:07
	21:41	67	20:50 (1) | 21:05	31	20:19 (6) | 20:00	17	19:32 (2) | 18:49		16:44	16:06
5	05:02		19:44 (6) | 05:42		19:50 (6) | 06:33		19:16 (2) | 07:23		07:19	08:09
	21:41	66	20:50 (1) | 21:03	28	20:18 (6) | 19:58	13	19:29 (2) | 18:47		16:42	16:06
6	05:02		19:44 (6) | 05:44		19:51 (6) | 06:35		19:19 (2) | 07:25		07:20	08:10
	21:40	66	20:50 (1) | 21:01	25	20:16 (6) | 19:55	7	19:26 (2) | 18:45		16:40	16:05
7	05:03		19:43 (6) | 05:45		19:53 (6) | 06:36		| 07:27		07:22	08:11
	21:40	67	20:50 (1) | 20:59	22	20:15 (6) | 19:53		| 18:43		16:38	16:05
8	05:04		19:43 (6) | 05:47		19:54 (6) | 06:38		18:23 (4) | 07:28		07:24	08:12
	21:39	67	20:50 (1) | 20:57	18	20:12 (6) | 19:51	2	18:25 (4) | 18:40		16:37	16:04
9	05:05		19:43 (6) | 05:48		19:58 (6) | 06:40		18:17 (4) | 07:30	17:07 (5)	07:26	08:14
	21:38	67	20:50 (1) | 20:56	11	20:09 (6) | 19:48	14	18:31 (4) | 18:38	10 17:17 (5)	16:35	16:04
10	05:06		19:43 (6) | 05:50		| 06:41		18:14 (4) | 07:32	17:04 (5)	07:28	08:15
	21:38	67	20:50 (1) | 20:54		| 19:46	19	18:33 (4) | 18:36	16 17:20 (5)	16:33	16:04
11	05:07		19:43 (6) | 05:52		| 06:43		18:12 (4) | 07:34	17:01 (5)	07:29	08:16
	21:37	68	20:51 (1) | 20:52		| 19:44	22	18:34 (4) | 18:33	20 17:21 (5)	16:32	16:04
12	05:08		19:43 (6) | 05:53		| 06:45		18:09 (4) | 07:35	16:59 (5)	07:31	08:17
	21:36	68	20:51 (1) | 20:50		| 19:41	26	18:35 (4) | 18:31	23 17:22 (5)	16:30	16:04
13	05:10		19:43 (6) | 05:55		| 06:46		18:08 (4) | 07:37	16:58 (5)	07:33	08:18
	21:35	68	20:51 (1) | 20:48		| 19:39	31	18:39 (3) | 18:29	25 17:23 (5)	16:29	16:03
14	05:11		19:42 (6) | 05:57		| 06:48		18:07 (4) | 07:39	16:57 (5)	07:35	08:19
	21:34	68	20:50 (1) | 20:46		| 19:37	35	18:42 (3) | 18:27	27 17:24 (5)	16:27	16:03
15	05:12		19:43 (6) | 05:58		| 06:50		18:06 (4) | 07:41	16:56 (5)	07:37	08:20
	21:33	68	20:51 (1) | 20:44		| 19:34	37	18:43 (3) | 18:24	29 17:25 (5)	16:26	16:04
16	05:13		19:43 (6) | 06:00		| 06:51		18:05 (4) | 07:42	16:55 (5)	07:38	08:21
	21:32	68	20:51 (1) | 20:42		| 19:32	39	18:44 (3) | 18:22	30 17:25 (5)	16:24	16:04
17	05:14		19:43 (6) | 06:02		| 06:53		18:04 (4) | 07:44	16:54 (5)	07:40	08:22
	21:31	68	20:51 (1) | 20:40		| 19:29	40	18:44 (3) | 18:20	31 17:25 (5)	16:23	16:04
18	05:16		19:43 (6) | 06:03		| 06:55		18:04 (4) | 07:46	16:54 (5)	07:42	08:22
	21:30	67	20:50 (1) | 20:38		| 19:27	41	18:45 (3) | 18:18	31 17:25 (5)	16:22	16:04
19	05:17		19:43 (6) | 06:05		| 06:56		18:04 (4) | 07:48	16:53 (5)	07:44	08:23
	21:29	67	20:50 (1) | 20:35		| 19:25	41	18:45 (3) | 18:16	32 17:25 (5)	16:20	16:04
20	05:18		19:43 (6) | 06:07		| 06:58		18:03 (4) | 07:49	16:53 (5)	07:45	08:24
	21:27	67	20:50 (1) | 20:33		| 19:22	41	18:44 (3) | 18:14	32 17:25 (5)	16:19	16:05
21	05:20		19:43 (6) | 06:08		| 07:00		18:03 (4) | 07:51	16:54 (5)	07:47	08:24
	21:26	66	20:49 (1) | 20:31		| 19:20	41	18:44 (3) | 18:11	30 17:24 (5)	16:18	16:05
22	05:21		19:43 (6) | 06:10		19:22 (2) | 07:01		18:03 (4) | 07:53	16:54 (5)	07:49	08:25
	21:25	66	20:49 (1) | 20:29	10	19:32 (2) | 19:18	41	18:44 (3) | 18:09	30 17:24 (5)	16:17	16:06
23	05:22		19:43 (6) | 06:12		19:20 (2) | 07:03		18:03 (4) | 07:55	16:54 (5)	07:50	08:25
	21:24	65	20:48 (1) | 20:27	14	19:34 (2) | 19:15	39	18:42 (3) | 18:07	29 17:23 (5)	16:15	16:06
24	05:24		19:44 (6) | 06:13		19:18 (2) | 07:05		18:04 (4) | 07:57	16:55 (5)	07:52	08:26
	21:22	62	20:47 (1) | 20:25	17	19:35 (2) | 19:13	38	18:42 (3) | 18:05	28 17:23 (5)	16:14	16:07
25	05:25		19:43 (6) | 06:15		19:17 (2) | 07:06		18:05 (4) | 06:58	15:56 (5)	07:54	08:26
	21:21	61	20:46 (1) | 20:23	19	19:36 (2) | 19:11	35	18:40 (3) | 17:03	26 16:22 (5)	16:13	16:07
26	05:27		19:43 (6) | 06:17		19:15 (2) | 07:08		18:05 (4) | 07:00	15:57 (5)	07:55	08:26
	21:19	57	20:44 (1) | 20:20	21	19:36 (2) | 19:08	33	18:38 (3) | 17:01	23 16:20 (5)	16:12	16:08
27	05:28		19:44 (6) | 06:18		19:15 (2) | 07:10		18:07 (4) | 07:02	15:58 (5)	07:57	08:27
	21:18	53	20:43 (1) | 20:18	22	19:37 (2) | 19:06	29	18:36 (3) | 16:59	21 16:19 (5)	16:11	16:09
28	05:30		19:44 (6) | 06:20		19:14 (2) | 07:11		18:09 (4) | 07:04	16:00 (5)	07:59	08:27
	21:16	47	20:40 (1) | 20:16	23	19:37 (2) | 19:03	15	18:24 (4) | 16:57	17 16:17 (5)	16:10	16:10
29	05:31		19:45 (6) | 06:22		19:13 (2) | 07:13		18:14 (4) | 07:06	16:02 (5)	08:00	08:27
	21:15	39	20:24 (6) | 20:14	23	19:36 (2) | 19:01	3	18:17 (4) | 16:55	12 16:14 (5)	16:10	16:10
30	05:33		19:45 (6) | 06:23		19:13 (2) | 07:15		| 07:08		08:02	08:27
	21:13	38	20:23 (6) | 20:11	24	19:37 (2) | 18:59		| 16:53		16:09	16:11
31	05:34		19:45 (6) | 06:25		19:13 (2) |		| 07:09			08:27
	21:12	37	20:22 (6) | 20:09	23	19:36 (2) |		| 16:51			16:12
Sonnenscheinstunden	504		| 455		| 381		| 331		265	241
astr.max.mögl.Beschattung		1932	|	434	|	761	|	522	|	|
Red.Sonnenscheinwahrsch.		0,42	|	0,44	|	0,37	|	0,31	|	|
Reduktion Betriebsdauer		1,00	|	1,00	|	1,00	|	1,00	|	|
Reduktion Windrichtung		0,65	|	0,68	|	0,74	|	0,75	|	|
Gesamte Reduktion		0,27	|	0,31	|	0,28	|	0,24	|	|
Met.wahrsch.Beschattung		525	|	133	|	211	|	123	|	|

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AK - Hauptstraße 35

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März		April		Mai		Juni	
1	08:27		08:00		07:05	16:30 (5)	06:54	18:23 (4)	05:48		05:02	19:38 (6)
	16:14		17:02		17:55 27	16:57 (5)	19:50 24	18:47 (4)	20:42		21:28 64	20:42 (1)
2	08:27		07:58		07:03	16:31 (5)	06:51	18:24 (4)	05:46		05:01	19:38 (6)
	16:15		17:04		17:56 25	16:56 (5)	19:51 21	18:45 (4)	20:43		21:29 64	20:42 (1)
3	08:27		07:56		07:01	16:31 (5)	06:49	18:26 (4)	05:44	19:49 (6)	05:00	19:38 (6)
	16:16		17:06		17:58 23	16:54 (5)	19:53 17	18:43 (4)	20:45 13	20:02 (6)	21:30 64	20:42 (1)
4	08:27		07:55		06:59	16:33 (5)	06:47	18:29 (4)	05:42	19:45 (6)	04:59	19:39 (6)
	16:17		17:08		18:00 20	16:53 (5)	19:55 11	18:40 (4)	20:47 19	20:04 (6)	21:32 63	20:42 (1)
5	08:26		07:53		06:56	16:35 (5)	06:44		05:40	19:43 (6)	04:59	19:40 (6)
	16:18		17:10		18:02 16	16:51 (5)	19:57		20:48 23	20:06 (6)	21:33 62	20:42 (1)
6	08:26		07:51		06:54	16:39 (5)	06:42	19:26 (2)	05:38	19:42 (6)	04:58	19:41 (6)
	16:19		17:12		18:04 9	16:48 (5)	19:58 4	19:30 (2)	20:50 26	20:08 (6)	21:34 62	20:43 (1)
7	08:26		07:50		06:52		06:40	19:22 (2)	05:37	19:41 (6)	04:57	19:41 (6)
	16:21		17:13		18:06		20:00 12	19:34 (2)	20:52 28	20:09 (6)	21:34 61	20:42 (1)
8	08:25		07:48		06:50		06:38	19:19 (2)	05:35	19:39 (6)	04:57	19:41 (6)
	16:22		17:15		18:07		20:02 16	19:35 (2)	20:53 30	20:09 (6)	21:35 62	20:43 (1)
9	08:25		07:46		06:47		06:35	19:18 (2)	05:33	19:39 (6)	04:56	19:41 (6)
	16:23		17:17		18:09		20:04 18	19:36 (2)	20:55 32	20:11 (6)	21:36 60	20:42 (1)
10	08:24		07:44		06:45		06:33	19:17 (2)	05:31	19:38 (6)	04:56	19:42 (6)
	16:25		17:19		18:11		20:05 20	19:37 (2)	20:57 33	20:11 (6)	21:37 60	20:43 (1)
11	08:24		07:42		06:43		06:31	19:16 (2)	05:30	19:36 (6)	04:55	19:43 (6)
	16:26		17:21		18:13		20:07 21	19:37 (2)	20:58 35	20:11 (6)	21:38 58	20:43 (1)
12	08:23		07:40		06:40		06:28	19:15 (2)	05:28	19:36 (6)	04:55	19:43 (6)
	16:28		17:23		18:15		20:09 23	19:38 (2)	21:00 36	20:12 (6)	21:39 59	20:43 (1)
13	08:22		07:39		06:38		06:26	19:14 (2)	05:26	19:35 (6)	04:55	19:43 (6)
	16:29		17:25		18:16		20:10 23	19:37 (2)	21:01 37	20:12 (6)	21:39 58	20:43 (1)
14	08:21		07:37		06:36		06:24	19:14 (2)	05:25	19:36 (6)	04:55	19:44 (6)
	16:31		17:27		18:18		20:12 23	19:37 (2)	21:03 42	20:28 (1)	21:40 57	20:43 (1)
15	08:21		07:35	16:38 (5)	06:34		06:22	19:14 (2)	05:23	19:35 (6)	04:54	19:44 (6)
	16:32		17:29 12	16:50 (5)	18:20		20:14 22	19:36 (2)	21:05 50	20:31 (1)	21:40 56	20:43 (1)
16	08:20		07:33	16:36 (5)	06:31	17:35 (4)	06:19	19:15 (2)	05:21	19:35 (6)	04:54	19:45 (6)
	16:34		17:30 17	16:53 (5)	18:22 9	17:44 (4)	20:16 21	19:36 (2)	21:06 54	20:33 (1)	21:41 56	20:44 (1)
17	08:19		07:31	16:34 (5)	06:29	17:31 (4)	06:17	19:15 (2)	05:20	19:35 (6)	04:54	19:45 (6)
	16:35		17:32 21	16:55 (5)	18:23 25	17:56 (3)	20:17 20	19:35 (2)	21:08 57	20:35 (1)	21:41 56	20:44 (1)
18	08:18		07:29	16:33 (5)	06:27	17:28 (4)	06:15	19:16 (2)	05:18	19:34 (6)	04:54	19:45 (6)
	16:37		17:34 23	16:56 (5)	18:25 29	17:57 (3)	20:19 18	19:34 (2)	21:09 60	20:35 (1)	21:42 55	20:44 (1)
19	08:17		07:27	16:32 (5)	06:24	17:26 (4)	06:13	19:16 (2)	05:17	19:35 (6)	04:54	19:46 (6)
	16:39		17:36 25	16:57 (5)	18:27 33	17:59 (3)	20:21 16	19:32 (2)	21:11 62	20:37 (1)	21:42 54	20:44 (1)
20	08:16		07:25	16:31 (5)	06:22	17:25 (4)	06:11	19:18 (2)	05:16	19:35 (6)	04:54	19:46 (6)
	16:41		17:38 27	16:58 (5)	18:29 35	18:00 (3)	20:23 12	19:30 (2)	21:12 63	20:38 (1)	21:42 54	20:44 (1)
21	08:15		07:23	16:30 (5)	06:20	17:23 (4)	06:09	19:20 (2)	05:14	19:35 (6)	04:54	19:46 (6)
	16:42		17:40 29	16:59 (5)	18:30 37	18:00 (3)	20:24 7	19:27 (2)	21:14 64	20:39 (1)	21:43 54	20:44 (1)
22	08:13		07:20	16:30 (5)	06:17	17:23 (4)	06:06		05:13	19:34 (6)	04:55	19:47 (6)
	16:44		17:42 29	16:59 (5)	18:32 38	18:01 (3)	20:26		21:15 64	20:38 (1)	21:43 54	20:45 (1)
23	08:12		07:18	16:29 (5)	06:15	17:22 (4)	06:04		05:12	19:35 (6)	04:55	19:47 (6)
	16:46		17:44 30	16:59 (5)	18:34 39	18:01 (3)	20:28		21:17 64	20:39 (1)	21:43 54	20:45 (1)
24	08:11		07:16	16:29 (5)	06:12	17:21 (4)	06:02		05:10	19:35 (6)	04:55	19:47 (6)
	16:47		17:45 30	16:59 (5)	18:36 39	18:00 (3)	20:30		21:18 65	20:40 (1)	21:43 54	20:45 (1)
25	08:10		07:14	16:29 (5)	06:10	17:21 (4)	06:00		05:09	19:35 (6)	04:55	19:47 (6)
	16:49		17:47 30	16:59 (5)	18:37 39	18:00 (3)	20:31		21:19 65	20:40 (1)	21:43 56	20:46 (1)
26	08:08		07:12	16:29 (5)	06:08	17:21 (4)	05:58		05:08	19:36 (6)	04:56	19:47 (6)
	16:51		17:49 30	16:59 (5)	18:39 39	18:00 (3)	20:33		21:21 64	20:40 (1)	21:43 56	20:46 (1)
27	08:07		07:10	16:29 (5)	06:05	17:20 (4)	05:56		05:07	19:36 (6)	04:56	19:48 (6)
	16:53		17:51 30	16:59 (5)	18:41 38	17:58 (3)	20:35		21:22 65	20:41 (1)	21:43 55	20:46 (1)
28	08:06		07:08	16:29 (5)	06:03	17:21 (4)	05:54		05:06	19:36 (6)	04:57	19:47 (6)
	16:55		17:53 29	16:58 (5)	18:43 36	17:57 (3)	20:36		21:23 65	20:41 (1)	21:43 57	20:46 (1)
29	08:04				07:01	18:21 (4)	05:52		05:05	19:36 (6)	04:57	19:48 (6)
	16:57				19:44 35	18:56 (3)	20:38		21:25 65	20:41 (1)	21:43 57	20:47 (1)
30	08:03				06:58	18:21 (4)	05:50		05:04	19:37 (6)	04:58	19:47 (6)
	16:58				19:46 32	18:53 (3)	20:40		21:26 64	20:41 (1)	21:43 58	20:47 (1)
31	08:01				06:56	18:22 (4)			05:03	19:38 (6)		
	17:00				19:48 26	18:48 (3)			21:27 64	20:42 (1)		
Sonnenscheinstunden	257		277		367		417		487		501	
astr.max.mögl.Beschattung			362		649		349		1409		1740	
Red.Sonnenscheinwahrsch.			0,25		0,29		0,37		0,45		0,40	
Reduktion Betriebsdauer			1,00		1,00		1,00		1,00		1,00	
Reduktion Windrichtung			0,75		0,75		0,72		0,65		0,65	
Gesamte Reduktion			0,19		0,22		0,27		0,29		0,26	
Met.wahrsch.Beschattung			69		142		94		413		451	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AK - Hauptstraße 35

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober			November	Dezember
1	04:59		19:47 (6)	05:36		19:47 (6)	06:26		19:15 (2)	07:16	07:11	08:03
	21:42	58	20:47 (1)	21:10	36	20:23 (6)	20:07	21	19:36 (2)	18:56	16:49	16:08
2	04:59		19:46 (6)	05:37		19:47 (6)	06:28		19:15 (2)	07:18	07:13	08:05
	21:42	60	20:47 (1)	21:08	35	20:22 (6)	20:05	20	19:35 (2)	18:54	16:47	16:07
3	05:00		19:47 (6)	05:39		19:48 (6)	06:30		19:16 (2)	07:20	07:15	08:06
	21:42	60	20:48 (1)	21:06	33	20:21 (6)	20:02	18	19:34 (2)	18:52	16:46	16:07
4	05:01		19:47 (6)	05:40		19:49 (6)	06:31		19:17 (2)	07:22	07:17	08:07
	21:41	61	20:48 (1)	21:05	31	20:20 (6)	20:00	16	19:33 (2)	18:49	16:44	16:06
5	05:02		19:47 (6)	05:42		19:50 (6)	06:33		19:18 (2)	07:23	07:19	08:09
	21:41	62	20:49 (1)	21:03	29	20:19 (6)	19:58	12	19:30 (2)	18:47	16:42	16:06
6	05:02		19:47 (6)	05:44		19:50 (6)	06:35		19:22 (2)	07:25	07:20	08:10
	21:40	62	20:49 (1)	21:01	28	20:18 (6)	19:55	4	19:26 (2)	18:45	16:40	16:05
7	05:03		19:46 (6)	05:45		19:52 (6)	06:36			07:27	07:22	08:11
	21:40	62	20:48 (1)	20:59	25	20:17 (6)	19:53			18:43	16:38	16:05
8	05:04		19:46 (6)	05:47		19:53 (6)	06:38		18:23 (4)	07:28	17:12 (5)	07:24	08:12
	21:39	63	20:49 (1)	20:57	22	20:15 (6)	19:51	10	18:33 (4)	18:40	13	17:25 (5)	16:37	16:04
9	05:05		19:46 (6)	05:48		19:56 (6)	06:40		18:20 (4)	07:30		17:09 (5)	07:26	08:14
	21:38	63	20:49 (1)	20:56	17	20:13 (6)	19:48	17	18:37 (4)	18:38	18	17:27 (5)	16:35	16:04
10	05:06		19:46 (6)	05:50		19:58 (6)	06:41		18:17 (4)	07:32		17:07 (5)	07:28	08:15
	21:38	63	20:49 (1)	20:54	11	20:09 (6)	19:46	21	18:38 (4)	18:36	22	17:29 (5)	16:33	16:04
11	05:07		19:46 (6)	05:52			06:43		18:15 (4)	07:34		17:05 (5)	07:29	08:16
	21:37	63	20:49 (1)	20:52			19:44	24	18:39 (4)	18:33	24	17:29 (5)	16:32	16:04
12	05:08		19:45 (6)	05:53			06:45		18:13 (4)	07:35		17:04 (5)	07:31	08:17
	21:36	64	20:49 (1)	20:50			19:41	26	18:39 (4)	18:31	26	17:30 (5)	16:30	16:04
13	05:10		19:45 (6)	05:55			06:46		18:12 (4)	07:37		17:03 (5)	07:33	08:18
	21:35	65	20:50 (1)	20:48			19:39	32	18:44 (3)	18:29	27	17:30 (5)	16:29	16:03
14	05:11		19:45 (6)	05:57			06:48		18:12 (4)	07:39		17:02 (5)	07:35	08:19
	21:34	65	20:50 (1)	20:46			19:37	34	18:46 (3)	18:27	29	17:31 (5)	16:27	16:03
15	05:12		19:46 (6)	05:58			06:50		18:10 (4)	07:41		17:02 (5)	07:37	08:20
	21:33	64	20:50 (1)	20:44			19:34	36	18:46 (3)	18:24	29	17:31 (5)	16:26	16:04
16	05:13		19:46 (6)	06:00			06:51		18:10 (4)	07:42		17:01 (5)	07:38	08:21
	21:32	64	20:50 (1)	20:42			19:32	37	18:47 (3)	18:22	30	17:31 (5)	16:24	16:04
17	05:14		19:45 (6)	06:02			06:53		18:08 (4)	07:44		17:00 (5)	07:40	08:22
	21:31	65	20:50 (1)	20:40			19:29	39	18:47 (3)	18:20	30	17:30 (5)	16:23	16:04
18	05:16		19:45 (6)	06:03			06:55		18:08 (4)	07:46		17:00 (5)	07:42	08:22
	21:30	65	20:50 (1)	20:38			19:27	39	18:47 (3)	18:18	30	17:30 (5)	16:22	16:04
19	05:17		19:45 (6)	06:05			06:56		18:08 (4)	07:48		17:00 (5)	07:44	08:23
	21:29	64	20:49 (1)	20:35			19:25	40	18:48 (3)	18:16	30	17:30 (5)	16:20	16:04
20	05:18		19:45 (6)	06:07			06:58		18:08 (4)	07:49		17:00 (5)	07:45	08:24
	21:27	65	20:50 (1)	20:33			19:22	39	18:47 (3)	18:14	30	17:30 (5)	16:19	16:05
21	05:20		19:45 (6)	06:08			07:00		18:08 (4)	07:51		17:01 (5)	07:47	08:24
	21:26	64	20:49 (1)	20:31			19:20	38	18:46 (3)	18:11	28	17:29 (5)	16:18	16:05
22	05:21		19:45 (6)	06:10		19:24 (2)	07:01		18:09 (4)	07:53		17:02 (5)	07:49	08:25
	21:25	64	20:49 (1)	20:29	8	19:32 (2)	19:18	37	18:46 (3)	18:09	26	17:28 (5)	16:17	16:06
23	05:22		19:45 (6)	06:12		19:22 (2)	07:03		18:09 (4)	07:55		17:02 (5)	07:50	08:25
	21:24	63	20:48 (1)	20:27	13	19:35 (2)	19:15	35	18:44 (3)	18:07	25	17:27 (5)	16:15	16:06
24	05:24		19:45 (6)	06:13		19:20 (2)	07:05		18:10 (4)	07:57		17:04 (5)	07:52	08:26
	21:22	63	20:48 (1)	20:25	16	19:36 (2)	19:13	33	18:43 (3)	18:05	22	17:26 (5)	16:14	16:07
25	05:25		19:45 (6)	06:15		19:19 (2)	07:06		18:11 (4)	06:58		16:05 (5)	07:54	08:26
	21:21	62	20:47 (1)	20:23	18	19:37 (2)	19:11	31	18:42 (3)	17:03	20	16:25 (5)	16:13	16:07
26	05:27		19:45 (6)	06:17		19:17 (2)	07:08		18:12 (4)	07:00		16:07 (5)	07:55	08:26
	21:19	58	20:45 (1)	20:20	20	19:37 (2)	19:08	26	18:38 (3)	17:01	16	16:23 (5)	16:12	16:08
27	05:28		19:46 (6)	06:18		19:16 (2)	07:10		18:15 (4)	07:02		16:10 (5)	07:57	08:27
	21:18	56	20:45 (1)	20:18	22	19:38 (2)	19:06	12	18:27 (4)	16:59	9	16:19 (5)	16:11	16:09
28	05:30		19:45 (6)	06:20		19:16 (2)	07:11			07:04			07:59	08:27
	21:16	53	20:43 (1)	20:16	22	19:38 (2)	19:03			16:57			16:10	16:10
29	05:31		19:46 (6)	06:22		19:15 (2)	07:13			07:06			08:00	08:27
	21:15	47	20:41 (1)	20:14	23	19:38 (2)	19:01			16:55			16:10	16:10
30	05:33		19:46 (6)	06:23		19:15 (2)	07:15			07:08			08:02	08:27
	21:13	38	20:24 (6)	20:11	23	19:38 (2)	18:59			16:53			16:09	16:11
31	05:34		19:46 (6)	06:25		19:14 (2)				07:09				08:27
	21:12	37	20:23 (6)	20:09	23	19:37 (2)				16:51				16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		1863			455			697			484			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,65			0,68			0,74			0,75			
Gesamte Reduktion		0,27			0,30			0,28			0,24			
Met.wahrsch.Beschattung		507			138			193			114			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AL - Hauptstraße 37

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05		16:30 (5)	06:54		18:24 (4)	05:48		19:46 (6)	05:02		19:37 (6)
	16:14	17:02			17:55	26	16:56 (5)	19:50	20	18:44 (4)	20:42	13	19:59 (6)	21:28	61	20:39 (1)
2	08:27	07:58			07:03		16:31 (5)	06:51		18:25 (4)	05:46		19:43 (6)	05:01		19:37 (6)
	16:15	17:04			17:56	24	16:55 (5)	19:51	16	18:41 (4)	20:43	19	20:02 (6)	21:29	61	20:39 (1)
3	08:27	07:56			07:01		16:32 (5)	06:49		18:28 (4)	05:44		19:41 (6)	05:00		19:37 (6)
	16:16	17:06			17:58	21	16:53 (5)	19:53	9	18:37 (4)	20:45	22	20:03 (6)	21:30	60	20:39 (1)
4	08:27	07:55			06:59		16:34 (5)	06:47			05:42		19:39 (6)	04:59		19:39 (6)
	16:17	17:08			18:00	17	16:51 (5)	19:55			20:47	25	20:04 (6)	21:32	58	20:39 (1)
5	08:26	07:53			06:56		16:37 (5)	06:44			05:40		19:37 (6)	04:59		19:39 (6)
	16:18	17:10			18:02	11	16:48 (5)	19:57			20:48	28	20:05 (6)	21:33	57	20:39 (1)
6	08:26	07:51			06:54			06:42		19:21 (2)	05:38		19:37 (6)	04:58		19:40 (6)
	16:19	17:12			18:04			19:58	11	19:32 (2)	20:50	30	20:07 (6)	21:34	56	20:39 (1)
7	08:26	07:50			06:52			06:40		19:19 (2)	05:37		19:35 (6)	04:57		19:40 (6)
	16:21	17:13			18:06			20:00	15	19:34 (2)	20:52	33	20:08 (6)	21:34	55	20:39 (1)
8	08:25	07:48			06:50			06:38		19:16 (2)	05:35		19:34 (6)	04:57		19:41 (6)
	16:22	17:15			18:07			20:02	18	19:34 (2)	20:53	34	20:08 (6)	21:35	54	20:39 (1)
9	08:25	07:46			06:47			06:35		19:15 (2)	05:33		19:34 (6)	04:56		19:41 (6)
	16:23	17:17			18:09			20:04	20	19:35 (2)	20:55	35	20:09 (6)	21:36	53	20:39 (1)
10	08:24	07:44			06:45			06:33		19:15 (2)	05:31		19:33 (6)	04:56		19:42 (6)
	16:25	17:19			18:11			20:05	21	19:36 (2)	20:57	36	20:09 (6)	21:37	52	20:39 (1)
11	08:24	07:42			06:43			06:31		19:14 (2)	05:30		19:32 (6)	04:55		19:43 (6)
	16:26	17:21			18:13			20:07	22	19:36 (2)	20:58	37	20:09 (6)	21:38	51	20:40 (1)
12	08:23	07:40			06:40			06:28		19:14 (2)	05:28		19:32 (6)	04:55		19:43 (6)
	16:28	17:23			18:15			20:09	22	19:36 (2)	21:00	38	20:10 (6)	21:39	49	20:39 (1)
13	08:22	07:39			06:38			06:26		19:13 (2)	05:26		19:32 (6)	04:55		19:44 (6)
	16:29	17:25			18:16			20:10	22	19:35 (2)	21:01	49	20:28 (1)	21:39	48	20:39 (1)
14	08:21	07:37		16:41 (5)	06:36			06:24		19:13 (2)	05:25		19:32 (6)	04:55		19:44 (6)
	16:31	17:27	7	16:48 (5)	18:18			20:12	22	19:35 (2)	21:03	54	20:30 (1)	21:40	47	20:39 (1)
15	08:21	07:35		16:37 (5)	06:34		17:35 (4)	06:22		19:13 (2)	05:23		19:31 (6)	04:54		19:45 (6)
	16:32	17:29	14	16:51 (5)	18:20	7	17:42 (4)	20:14	21	19:34 (2)	21:05	57	20:31 (1)	21:40	47	20:40 (1)
16	08:20	07:33		16:35 (5)	06:31		17:30 (4)	06:19		19:14 (2)	05:21		19:32 (6)	04:54		19:46 (6)
	16:34	17:30	18	16:53 (5)	18:22	21	17:53 (3)	20:16	20	19:34 (2)	21:06	59	20:33 (1)	21:41	45	20:40 (1)
17	08:19	07:31		16:33 (5)	06:29		17:28 (4)	06:17		19:15 (2)	05:20		19:32 (6)	04:54		19:46 (6)
	16:35	17:32	22	16:55 (5)	18:23	28	17:56 (3)	20:17	18	19:33 (2)	21:08	61	20:34 (1)	21:41	45	20:40 (1)
18	08:18	07:29		16:32 (5)	06:27		17:25 (4)	06:15		19:16 (2)	05:18		19:31 (6)	04:54		19:46 (6)
	16:37	17:34	24	16:56 (5)	18:25	32	17:57 (3)	20:19	15	19:31 (2)	21:09	63	20:34 (1)	21:42	45	20:40 (1)
19	08:17	07:27		16:31 (5)	06:24		17:24 (4)	06:13		19:16 (2)	05:17		19:32 (6)	04:54		19:47 (6)
	16:39	17:36	26	16:57 (5)	18:27	35	17:59 (3)	20:21	13	19:29 (2)	21:11	63	20:35 (1)	21:42	44	20:40 (1)
20	08:16	07:25		16:30 (5)	06:22		17:23 (4)	06:11		19:19 (2)	05:16		19:32 (6)	04:54		19:47 (6)
	16:41	17:38	28	16:58 (5)	18:29	37	18:00 (3)	20:23	7	19:26 (2)	21:12	64	20:36 (1)	21:42	44	20:40 (1)
21	08:15	07:23		16:30 (5)	06:20		17:22 (4)	06:09			05:14		19:33 (6)	04:54		19:47 (6)
	16:42	17:40	28	16:58 (5)	18:30	37	17:59 (3)	20:24			21:14	64	20:37 (1)	21:43	44	20:40 (1)
22	08:13	07:20		16:30 (5)	06:17		17:21 (4)	06:06			05:13		19:32 (6)	04:55		19:48 (6)
	16:44	17:42	29	16:59 (5)	18:32	39	18:00 (3)	20:26			21:15	65	20:37 (1)	21:43	44	20:41 (1)
23	08:12	07:18		16:28 (5)	06:15		17:21 (4)	06:04			05:12		19:32 (6)	04:55		19:48 (6)
	16:46	17:44	30	16:58 (5)	18:34	39	18:00 (3)	20:28			21:17	65	20:37 (1)	21:43	44	20:41 (1)
24	08:11	07:16		16:28 (5)	06:12		17:20 (4)	06:02			05:10		19:33 (6)	04:55		19:48 (6)
	16:47	17:45	30	16:58 (5)	18:36	39	17:59 (3)	20:30			21:18	64	20:37 (1)	21:43	44	20:41 (1)
25	08:10	07:14		16:29 (5)	06:10		17:20 (4)	06:00			05:09		19:33 (6)	04:55		19:48 (6)
	16:49	17:47	29	16:58 (5)	18:37	38	17:58 (3)	20:31			21:19	65	20:38 (1)	21:43	45	20:42 (1)
26	08:08	07:12		16:29 (5)	06:08		17:20 (4)	05:58			05:08		19:34 (6)	04:56		19:48 (6)
	16:51	17:49	29	16:58 (5)	18:39	38	17:58 (3)	20:33			21:21	64	20:38 (1)	21:43	45	20:42 (1)
27	08:07	07:10		16:29 (5)	06:05		17:19 (4)	05:56			05:07		19:34 (6)	04:56		19:48 (6)
	16:53	17:51	29	16:58 (5)	18:41	37	17:56 (3)	20:35			21:22	64	20:38 (1)	21:43	47	20:43 (1)
28	08:06	07:08		16:29 (5)	06:03		17:20 (4)	05:54			05:06		19:34 (6)	04:57		19:48 (6)
	16:55	17:53	27	16:56 (5)	18:43	35	17:55 (3)	20:36			21:23	64	20:38 (1)	21:43	46	20:42 (1)
29	08:04				07:01		18:21 (4)	05:52			05:05		19:35 (6)	04:57		19:48 (6)
	16:57				19:44	32	18:53 (3)	20:38			21:25	63	20:38 (1)	21:43	48	20:43 (1)
30	08:03				06:58		18:21 (4)	05:50			05:04		19:35 (6)	04:58		19:47 (6)
	16:58				19:46	28	18:49 (3)	20:40			21:26	63	20:38 (1)	21:43	49	20:43 (1)
31	08:01				06:56		18:22 (4)				05:03		19:37 (6)			
	17:00				19:48	23	18:45 (4)				21:27	62	20:39 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			370			644			312			1523			1488	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,75			0,75			0,72			0,65			0,65	
Gesamte Reduktion			0,19			0,22			0,27			0,29			0,26	
Met.wahrsch.Beschattung			70			141			84			448			386	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AL - Hauptstraße 37

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		19:48 (6)	05:36		19:43 (6)	06:26	19:13 (2)	07:16	07:11	08:03
	21:42	50	20:44 (1)	21:10	37	20:20 (6)	20:07	22 19:35 (2)	18:56	16:49	16:08
2	04:59		19:47 (6)	05:37		19:43 (6)	06:28	19:13 (2)	07:18	07:13	08:05
	21:42	50	20:43 (1)	21:08	37	20:20 (6)	20:05	21 19:34 (2)	18:54	16:47	16:07
3	05:00		19:47 (6)	05:39		19:44 (6)	06:30	19:13 (2)	07:20	07:15	08:06
	21:42	52	20:44 (1)	21:06	36	20:20 (6)	20:02	20 19:33 (2)	18:52	16:46	16:07
4	05:01		19:47 (6)	05:40		19:44 (6)	06:31	19:14 (2)	07:22	07:17	08:07
	21:41	54	20:45 (1)	21:05	34	20:18 (6)	20:00	18 19:32 (2)	18:49	16:44	16:06
5	05:02		19:47 (6)	05:42		19:45 (6)	06:33	19:15 (2)	07:23	07:19	08:09
	21:41	54	20:45 (1)	21:03	33	20:18 (6)	19:58	15 19:30 (2)	18:47	16:42	16:06
6	05:02		19:47 (6)	05:44		19:45 (6)	06:35	19:17 (2)	07:25	07:20	08:10
	21:40	55	20:46 (1)	21:01	32	20:17 (6)	19:55	11 19:28 (2)	18:45	16:40	16:05
7	05:03		19:45 (6)	05:45		19:46 (6)	06:36		07:27	07:22	08:11
	21:40	57	20:45 (1)	20:59	30	20:16 (6)	19:53		18:43	16:38	16:05
8	05:04		19:45 (6)	05:47		19:47 (6)	06:38		07:28	17:14 (5)	07:24	08:12
	21:39	59	20:46 (1)	20:57	27	20:14 (6)	19:51		18:40	7 17:21 (5)	16:37	16:04
9	05:05		19:45 (6)	05:48		19:49 (6)	06:40	18:23 (4)	07:30	17:10 (5)	07:26	08:14
	21:38	59	20:46 (1)	20:56	24	20:13 (6)	19:48	8 18:31 (4)	18:38	15 17:25 (5)	16:35	16:04
10	05:06		19:45 (6)	05:50		19:50 (6)	06:41	18:18 (4)	07:32	17:08 (5)	07:28	08:15
	21:38	60	20:46 (1)	20:54	21	20:11 (6)	19:46	16 18:34 (4)	18:36	19 17:27 (5)	16:33	16:04
11	05:07		19:45 (6)	05:52		19:52 (6)	06:43	18:16 (4)	07:34	17:05 (5)	07:29	08:16
	21:37	60	20:46 (1)	20:52	17	20:09 (6)	19:44	20 18:36 (4)	18:33	22 17:27 (5)	16:32	16:04
12	05:08		19:44 (6)	05:53		19:54 (6)	06:45	18:13 (4)	07:35	17:04 (5)	07:31	08:17
	21:36	63	20:47 (1)	20:50	12	20:06 (6)	19:41	23 18:36 (4)	18:31	24 17:28 (5)	16:30	16:04
13	05:10		19:44 (6)	05:55			06:46	18:12 (4)	07:37	17:03 (5)	07:33	08:18
	21:35	63	20:47 (1)	20:48			19:39	27 18:39 (3)	18:29	26 17:29 (5)	16:29	16:03
14	05:11		19:44 (6)	05:57			06:48	18:11 (4)	07:39	17:02 (5)	07:35	08:19
	21:34	63	20:47 (1)	20:46			19:37	32 18:43 (3)	18:27	28 17:30 (5)	16:27	16:03
15	05:12		19:44 (6)	05:58			06:50	18:09 (4)	07:41	17:01 (5)	07:37	08:20
	21:33	64	20:48 (1)	20:44			19:34	35 18:44 (3)	18:24	29 17:30 (5)	16:26	16:04
16	05:13		19:44 (6)	06:00			06:51	18:09 (4)	07:42	17:01 (5)	07:38	08:21
	21:32	64	20:48 (1)	20:42			19:32	36 18:45 (3)	18:22	30 17:31 (5)	16:24	16:04
17	05:14		19:43 (6)	06:02			06:53	18:07 (4)	07:44	17:00 (5)	07:40	08:22
	21:31	65	20:48 (1)	20:40			19:29	38 18:45 (3)	18:20	30 17:30 (5)	16:23	16:04
18	05:16		19:43 (6)	06:03			06:55	18:07 (4)	07:46	17:00 (5)	07:42	08:22
	21:30	64	20:47 (1)	20:38			19:27	39 18:46 (3)	18:18	30 17:30 (5)	16:22	16:04
19	05:17		19:43 (6)	06:05			06:56	18:07 (4)	07:48	17:00 (5)	07:44	08:23
	21:29	64	20:47 (1)	20:35			19:25	39 18:46 (3)	18:16	29 17:29 (5)	16:20	16:04
20	05:18		19:42 (6)	06:07			06:58	18:06 (4)	07:49	17:00 (5)	07:45	08:24
	21:27	65	20:47 (1)	20:33			19:22	39 18:45 (3)	18:14	29 17:29 (5)	16:19	16:05
21	05:20		19:43 (6)	06:08			07:00	18:07 (4)	07:51	17:00 (5)	07:47	08:24
	21:26	64	20:47 (1)	20:31			19:20	38 18:45 (3)	18:11	29 17:29 (5)	16:18	16:05
22	05:21		19:42 (6)	06:10			07:01	18:07 (4)	07:53	17:01 (5)	07:49	08:25
	21:25	65	20:47 (1)	20:29			19:18	38 18:45 (3)	18:09	27 17:28 (5)	16:17	16:06
23	05:22		19:42 (6)	06:12		19:23 (2)	07:03	18:07 (4)	07:55	17:02 (5)	07:50	08:25
	21:24	64	20:46 (1)	20:27	8	19:31 (2)	19:15	36 18:43 (3)	18:07	25 17:27 (5)	16:15	16:06
24	05:24		19:42 (6)	06:13		19:20 (2)	07:05	18:07 (4)	07:57	17:03 (5)	07:52	08:26
	21:22	64	20:46 (1)	20:25	13	19:33 (2)	19:13	36 18:43 (3)	18:05	23 17:26 (5)	16:14	16:07
25	05:25		19:42 (6)	06:15		19:18 (2)	07:06	18:09 (4)	06:58	16:04 (5)	07:54	08:26
	21:21	64	20:46 (1)	20:23	16	19:34 (2)	19:11	32 18:41 (3)	17:03	21 16:25 (5)	16:13	16:07
26	05:27		19:42 (6)	06:17		19:16 (2)	07:08	18:09 (4)	07:00	16:05 (5)	07:55	08:26
	21:19	62	20:44 (1)	20:20	19	19:35 (2)	19:08	30 18:39 (3)	17:01	18 16:23 (5)	16:12	16:08
27	05:28		19:42 (6)	06:18		19:16 (2)	07:10	18:11 (4)	07:02	16:08 (5)	07:57	08:27
	21:18	61	20:44 (1)	20:18	20	19:36 (2)	19:06	25 18:36 (3)	16:59	12 16:20 (5)	16:11	16:09
28	05:30		19:42 (6)	06:20		19:15 (2)	07:11	18:14 (4)	07:04	16:13 (5)	07:59	08:27
	21:16	59	20:43 (1)	20:16	21	19:36 (2)	19:03	11 18:25 (4)	16:57	2 16:15 (5)	16:10	16:10
29	05:31		19:43 (6)	06:21		19:14 (2)	07:13		07:06		08:00	08:27
	21:15	56	20:42 (1)	20:14	22	19:36 (2)	19:01		16:55		16:10	16:10
30	05:33		19:42 (6)	06:23		19:14 (2)	07:15		07:08		08:02	08:27
	21:13	52	20:40 (1)	20:11	22	19:36 (2)	18:59		16:53		16:09	16:11
31	05:34		19:42 (6)	06:25		19:13 (2)			07:09			08:27
	21:12	46	20:37 (1)	20:09	22	19:35 (2)			16:51			16:12
Sonnenscheinstunden	504			455			381		331		265	241
astr.max.mögl.Beschattung		1842			503			705		475		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37		0,31		
Reduktion Betriebsdauer		1,00			1,00			1,00		1,00		
Reduktion Windrichtung		0,65			0,68			0,74		0,75		
Gesamte Reduktion		0,27			0,30			0,28		0,24		
Met.wahrsch.Beschattung		503			153			195		112		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AM - Hauptstraße 42

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar		März		April		Mai		Juni	
1	08:27	08:00		07:05	16:26 (5)	06:54	18:23 (4)	05:48	19:37 (6)	05:02	19:32 (6)
	16:14	17:02		17:55	19 16:45 (5)	19:50	9 18:32 (4)	20:42	21 19:58 (6)	21:28	63 20:37 (1)
2	08:27	07:58		07:03	16:28 (5)	06:51		05:46	19:35 (6)	05:01	19:32 (6)
	16:15	17:04		17:56	15 16:43 (5)	19:51		20:43	25 20:00 (6)	21:29	62 20:37 (1)
3	08:27	07:56		07:01	16:32 (5)	06:49		05:44	19:33 (6)	05:00	19:32 (6)
	16:16	17:06		17:58	6 16:38 (5)	19:53		20:45	28 20:01 (6)	21:30	62 20:37 (1)
4	08:27	07:55		06:59		06:47	19:21 (2)	05:42	19:31 (6)	04:59	19:33 (6)
	16:17	17:08		18:00		19:55	6 19:27 (2)	20:47	31 20:02 (6)	21:32	60 20:37 (1)
5	08:26	07:53		06:56		06:44	19:16 (2)	05:40	19:30 (6)	04:59	19:34 (6)
	16:18	17:10		18:02		19:57	13 19:29 (2)	20:48	33 20:03 (6)	21:33	58 20:37 (1)
6	08:26	07:51		06:54		06:42	19:15 (2)	05:38	19:30 (6)	04:58	19:35 (6)
	16:19	17:12		18:04		19:58	16 19:31 (2)	20:50	34 20:04 (6)	21:34	59 20:38 (1)
7	08:26	07:50		06:52		06:40	19:13 (2)	05:37	19:29 (6)	04:57	19:35 (6)
	16:21	17:13		18:06		20:00	19 19:32 (2)	20:52	35 20:04 (6)	21:34	57 20:37 (1)
8	08:25	07:48		06:50		06:38	19:11 (2)	05:35	19:28 (6)	04:57	19:36 (6)
	16:22	17:15		18:07		20:02	21 19:32 (2)	20:53	37 20:05 (6)	21:35	56 20:38 (1)
9	08:25	07:46		06:47		06:35	19:11 (2)	05:33	19:28 (6)	04:56	19:36 (6)
	16:23	17:17		18:09		20:04	22 19:33 (2)	20:55	38 20:06 (6)	21:36	54 20:37 (1)
10	08:24	07:44		06:45		06:33	19:10 (2)	05:31	19:27 (6)	04:56	19:37 (6)
	16:25	17:19		18:11		20:05	23 19:33 (2)	20:57	39 20:06 (6)	21:37	53 20:37 (1)
11	08:24	07:42	16:32 (5)	06:43		06:31	19:10 (2)	05:30	19:26 (6)	04:55	19:38 (6)
	16:26	17:21	9 16:41 (5)	18:13		20:07	23 19:33 (2)	20:58	40 20:06 (6)	21:38	53 20:38 (1)
12	08:23	07:40	16:29 (5)	06:40		06:28	19:10 (2)	05:28	19:26 (6)	04:55	19:38 (6)
	16:28	17:23	15 16:44 (5)	18:15		20:09	23 19:33 (2)	21:00	49 20:25 (1)	21:39	51 20:37 (1)
13	08:22	07:39	16:27 (5)	06:38	17:25 (4)	06:26	19:09 (2)	05:26	19:26 (6)	04:55	19:39 (6)
	16:29	17:25	19 16:46 (5)	18:16	13 17:38 (4)	20:10	23 19:32 (2)	21:01	54 20:27 (1)	21:39	50 20:37 (1)
14	08:21	07:37	16:26 (5)	06:36	17:23 (4)	06:24	19:10 (2)	05:25	19:26 (6)	04:55	19:39 (6)
	16:31	17:27	22 16:48 (5)	18:18	22 17:48 (3)	20:12	21 19:31 (2)	21:03	58 20:29 (1)	21:40	49 20:37 (1)
15	08:21	07:35	16:24 (5)	06:34	17:21 (4)	06:22	19:10 (2)	05:23	19:25 (6)	04:54	19:40 (6)
	16:32	17:29	24 16:48 (5)	18:20	31 17:52 (3)	20:14	20 19:30 (2)	21:05	61 20:30 (1)	21:40	49 20:38 (1)
16	08:20	07:33	16:23 (5)	06:31	17:18 (4)	06:19	19:11 (2)	05:21	19:26 (6)	04:54	19:40 (6)
	16:34	17:30	26 16:49 (5)	18:22	35 17:53 (3)	20:16	18 19:29 (2)	21:06	63 20:31 (1)	21:41	48 20:38 (1)
17	08:19	07:31	16:22 (5)	06:29	17:17 (4)	06:17	19:12 (2)	05:20	19:26 (6)	04:54	19:41 (6)
	16:35	17:32	28 16:50 (5)	18:23	38 17:55 (3)	20:17	16 19:28 (2)	21:08	65 20:33 (1)	21:41	47 20:38 (1)
18	08:18	07:29	16:22 (5)	06:27	17:16 (4)	06:15	19:14 (2)	05:18	19:25 (6)	04:54	19:41 (6)
	16:37	17:34	29 16:51 (5)	18:25	39 17:55 (3)	20:19	12 19:26 (2)	21:09	68 20:33 (1)	21:42	47 20:38 (1)
19	08:17	07:27	16:21 (5)	06:24	17:15 (4)	06:13	19:16 (2)	05:17	19:26 (6)	04:54	19:42 (6)
	16:39	17:36	30 16:51 (5)	18:27	41 17:56 (3)	20:21	6 19:22 (2)	21:11	68 20:34 (1)	21:42	46 20:38 (1)
20	08:16	07:25	16:21 (5)	06:22	17:15 (4)	06:11		05:16	19:26 (6)	04:54	19:42 (6)
	16:41	17:38	30 16:51 (5)	18:29	41 17:56 (3)	20:23		21:12	68 20:34 (1)	21:42	46 20:38 (1)
21	08:15	07:23	16:21 (5)	06:20	17:13 (4)	06:09		05:14	19:27 (6)	04:54	19:42 (6)
	16:42	17:40	31 16:52 (5)	18:30	42 17:55 (3)	20:24		21:14	68 20:35 (1)	21:43	46 20:38 (1)
22	08:13	07:20	16:21 (5)	06:17	17:13 (4)	06:06		05:13	19:26 (6)	04:55	19:43 (6)
	16:44	17:42	31 16:52 (5)	18:32	42 17:55 (3)	20:26		21:15	69 20:35 (1)	21:43	46 20:39 (1)
23	08:12	07:18	16:20 (5)	06:15	17:14 (4)	06:04		05:12	19:27 (6)	04:55	19:43 (6)
	16:46	17:44	30 16:50 (5)	18:34	41 17:55 (3)	20:28		21:17	68 20:35 (1)	21:43	46 20:39 (1)
24	08:11	07:16	16:21 (5)	06:12	17:13 (4)	06:02		05:10	19:27 (6)	04:55	19:42 (6)
	16:47	17:45	29 16:50 (5)	18:36	41 17:54 (3)	20:30		21:18	69 20:36 (1)	21:43	47 20:39 (1)
25	08:10	07:14	16:22 (5)	06:10	17:13 (4)	06:00		05:09	19:28 (6)	04:55	19:43 (6)
	16:49	17:47	28 16:50 (5)	18:37	40 17:53 (3)	20:31		21:19	68 20:36 (1)	21:43	47 20:40 (1)
26	08:08	07:12	16:22 (5)	06:08	17:14 (4)	05:58		05:08	19:28 (6)	04:56	19:43 (6)
	16:51	17:49	27 16:49 (5)	18:39	38 17:52 (3)	20:33		21:21	68 20:36 (1)	21:43	47 20:40 (1)
27	08:07	07:10	16:24 (5)	06:05	17:14 (4)	05:56		05:07	19:29 (6)	04:56	19:43 (6)
	16:53	17:51	24 16:48 (5)	18:41	35 17:49 (3)	20:35		21:22	67 20:36 (1)	21:43	49 20:41 (1)
28	08:06	07:08	16:24 (5)	06:03	17:15 (4)	05:54		05:06	19:29 (6)	04:57	19:43 (6)
	16:55	17:53	22 16:46 (5)	18:43	32 17:47 (3)	20:36		21:23	67 20:36 (1)	21:43	49 20:41 (1)
29	08:04			07:01	18:16 (4)	05:52	19:43 (6)	05:05	19:29 (6)	04:57	19:43 (6)
	16:57			19:44	24 18:40 (4)	20:38	8 19:51 (6)	21:25	66 20:36 (1)	21:43	50 20:41 (1)
30	08:03			06:58	18:17 (4)	05:50	19:39 (6)	05:04	19:30 (6)	04:58	19:42 (6)
	16:58			19:46	20 18:37 (4)	20:40	16 19:55 (6)	21:26	65 20:36 (1)	21:43	51 20:41 (1)
31	08:01			06:56	18:19 (4)			05:03	19:31 (6)		
	17:00			19:48	16 18:35 (4)			21:27	64 20:37 (1)		
Sonnenscheinstunden	257	277		367		417		487		501	
astr.max.mögl.Beschattung			454		671		315		1654		1548
Red.Sonnenscheinwahrsch.			0,25		0,29		0,37		0,45		0,40
Reduktion Betriebsdauer			1,00		1,00		1,00		1,00		1,00
Reduktion Windrichtung			0,75		0,75		0,71		0,66		0,65
Gesamte Reduktion			0,19		0,22		0,27		0,29		0,26
Met.wahrsch.Beschattung			86		146		84		488		403

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AM - Hauptstraße 42

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		19:42 (6)	05:36		19:37 (6)	06:26		19:09 (2)	07:16		18:08 (4)	07:11	08:03
	21:42	53	20:42 (1)	21:10	46	20:34 (1)	20:07	23	19:32 (2)	18:56	7	18:15 (4)	16:49	16:08
2	04:59		19:41 (6)	05:37		19:37 (6)	06:28		19:08 (2)	07:18			07:13	08:05
	21:42	53	20:41 (1)	21:08	39	20:16 (6)	20:05	23	19:31 (2)	18:54			16:47	16:07
3	05:00		19:41 (6)	05:39		19:37 (6)	06:30		19:09 (2)	07:20			07:15	08:06
	21:42	54	20:42 (1)	21:06	39	20:16 (6)	20:02	22	19:31 (2)	18:52			16:46	16:07
4	05:01		19:41 (6)	05:40		19:37 (6)	06:31		19:09 (2)	07:22			07:17	08:07
	21:41	56	20:43 (1)	21:05	38	20:15 (6)	20:00	21	19:30 (2)	18:49			16:44	16:06
5	05:02		19:41 (6)	05:42		19:38 (6)	06:33		19:09 (2)	07:23			07:19	08:09
	21:41	56	20:43 (1)	21:03	37	20:15 (6)	19:58	19	19:28 (2)	18:47			16:42	16:06
6	05:02		19:41 (6)	05:44		19:38 (6)	06:35		19:11 (2)	07:25			07:20	08:10
	21:40	58	20:44 (1)	21:01	36	20:14 (6)	19:55	16	19:27 (2)	18:45			16:40	16:05
7	05:03		19:40 (6)	05:45		19:40 (6)	06:36		19:11 (2)	07:27			07:22	08:11
	21:40	59	20:43 (1)	20:59	33	20:13 (6)	19:53	13	19:24 (2)	18:43			16:38	16:05
8	05:04		19:40 (6)	05:47		19:40 (6)	06:38		19:15 (2)	07:28			07:24	08:12
	21:39	60	20:44 (1)	20:57	32	20:12 (6)	19:51	6	19:21 (2)	18:40			16:37	16:04
9	05:05		19:40 (6)	05:48		19:41 (6)	06:40			07:30			07:26	08:14
	21:38	61	20:44 (1)	20:56	30	20:11 (6)	19:48			18:38			16:35	16:04
10	05:06		19:39 (6)	05:50		19:42 (6)	06:41			07:32			07:28	08:15
	21:38	63	20:44 (1)	20:54	27	20:09 (6)	19:46			18:36			16:33	16:04
11	05:07		19:39 (6)	05:52		19:44 (6)	06:43		18:15 (4)	07:34		17:03 (5)	07:29	08:16
	21:37	64	20:45 (1)	20:52	24	20:08 (6)	19:44	8	18:23 (4)	18:33	11	17:14 (5)	16:32	16:04
12	05:08		19:39 (6)	05:53		19:45 (6)	06:45		18:11 (4)	07:35		17:00 (5)	07:31	08:17
	21:36	65	20:45 (1)	20:50	20	20:05 (6)	19:41	15	18:26 (4)	18:31	17	17:17 (5)	16:30	16:04
13	05:10		19:38 (6)	05:55		19:48 (6)	06:46		18:08 (4)	07:37		16:58 (5)	07:33	08:18
	21:35	66	20:45 (1)	20:48	15	20:03 (6)	19:39	20	18:28 (4)	18:29	21	17:19 (5)	16:29	16:03
14	05:11		19:38 (6)	05:57		19:54 (6)	06:48		18:07 (4)	07:39		16:56 (5)	07:35	08:19
	21:34	67	20:45 (1)	20:46	4	19:58 (6)	19:37	23	18:30 (4)	18:27	24	17:20 (5)	16:27	16:03
15	05:12		19:39 (6)	05:58			06:50		18:04 (4)	07:41		16:55 (5)	07:37	08:20
	21:33	67	20:46 (1)	20:44			19:34	32	18:36 (3)	18:24	26	17:21 (5)	16:26	16:04
16	05:13		19:38 (6)	06:00			06:51		18:03 (4)	07:42		16:54 (5)	07:38	08:21
	21:32	68	20:46 (1)	20:42			19:32	35	18:38 (3)	18:22	28	17:22 (5)	16:24	16:04
17	05:14		19:38 (6)	06:02			06:53		18:01 (4)	07:44		16:53 (5)	07:40	08:22
	21:31	68	20:46 (1)	20:40			19:29	38	18:39 (3)	18:20	28	17:21 (5)	16:23	16:04
18	05:16		19:37 (6)	06:03			06:55		18:01 (4)	07:46		16:52 (5)	07:42	08:22
	21:30	69	20:46 (1)	20:38			19:27	39	18:40 (3)	18:18	30	17:22 (5)	16:22	16:04
19	05:17		19:37 (6)	06:05			06:56		18:00 (4)	07:48		16:52 (5)	07:44	08:23
	21:29	68	20:45 (1)	20:35			19:25	41	18:41 (3)	18:16	30	17:22 (5)	16:20	16:04
20	05:18		19:38 (6)	06:07			06:58		17:59 (4)	07:49		16:51 (5)	07:45	08:24
	21:27	68	20:46 (1)	20:33			19:22	41	18:40 (3)	18:14	31	17:22 (5)	16:19	16:05
21	05:20		19:37 (6)	06:08			07:00		17:59 (4)	07:51		16:51 (5)	07:47	08:24
	21:26	69	20:46 (1)	20:31			19:20	42	18:41 (3)	18:11	31	17:22 (5)	16:18	16:05
22	05:21		19:37 (6)	06:10			07:01		17:59 (4)	07:53		16:51 (5)	07:49	08:25
	21:25	68	20:45 (1)	20:29			19:18	42	18:41 (3)	18:09	31	17:22 (5)	16:17	16:06
23	05:22		19:36 (6)	06:12			07:03		17:58 (4)	07:55		16:52 (5)	07:50	08:25
	21:24	68	20:44 (1)	20:27			19:15	42	18:40 (3)	18:07	29	17:21 (5)	16:15	16:06
24	05:24		19:37 (6)	06:13		19:19 (2)	07:05		17:59 (4)	07:57		16:52 (5)	07:52	08:26
	21:22	68	20:45 (1)	20:25	7	19:26 (2)	19:13	40	18:39 (3)	18:05	29	17:21 (5)	16:14	16:07
25	05:25		19:36 (6)	06:15		19:16 (2)	07:06		17:59 (4)	06:58		15:53 (5)	07:54	08:26
	21:21	67	20:44 (1)	20:23	13	19:29 (2)	19:11	40	18:39 (3)	17:03	27	16:20 (5)	16:13	16:07
26	05:27		19:36 (6)	06:17		19:14 (2)	07:08		17:59 (4)	07:00		15:53 (5)	07:55	08:26
	21:19	66	20:43 (1)	20:20	16	19:30 (2)	19:08	38	18:37 (3)	17:01	26	16:19 (5)	16:12	16:08
27	05:28		19:36 (6)	06:18		19:13 (2)	07:10		18:00 (4)	07:02		15:54 (5)	07:57	08:27
	21:18	65	20:43 (1)	20:18	18	19:31 (2)	19:06	36	18:36 (3)	16:59	24	16:18 (5)	16:11	16:09
28	05:30		19:36 (6)	06:20		19:12 (2)	07:11		18:01 (4)	07:04		15:55 (5)	07:59	08:27
	21:16	62	20:41 (1)	20:16	20	19:32 (2)	19:03	33	18:34 (3)	16:57	22	16:17 (5)	16:10	16:10
29	05:31		19:37 (6)	06:22		19:10 (2)	07:13		18:02 (4)	07:06		15:56 (5)	08:00	08:27
	21:15	60	20:41 (1)	20:14	22	19:32 (2)	19:01	28	18:30 (3)	16:55	19	16:15 (5)	16:10	16:10
30	05:33		19:36 (6)	06:23		19:10 (2)	07:15		18:04 (4)	07:08		15:58 (5)	08:02	08:27
	21:13	57	20:39 (1)	20:11	23	19:33 (2)	18:59	15	18:19 (4)	16:53	15	16:13 (5)	16:09	16:11
31	05:34		19:36 (6)	06:25		19:09 (2)				07:09		16:01 (5)		08:27
	21:12	54	20:37 (1)	20:09	23	19:32 (2)				16:51	8	16:09 (5)		16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		1947			562			791			514			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,65			0,68			0,74			0,75			
Gesamte Reduktion		0,27			0,30			0,28			0,23			
Met.wahrsch.Beschattung		533			170			219			121			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AN - Hauptstraße 40

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar		März		April		Mai		Juni	
1	08:27	08:00		07:05	16:28 (5)	06:54		05:48	19:28 (6)	05:02	19:33 (6)
	16:14	17:02		17:55	15 16:43 (5)	19:50		20:42	30 19:58 (6)	21:28	50 20:32 (1)
2	08:27	07:58		07:03	16:31 (5)	06:51		05:46	19:27 (6)	05:01	19:33 (6)
	16:15	17:04		17:56	9 16:40 (5)	19:51		20:43	32 19:59 (6)	21:29	49 20:32 (1)
3	08:27	07:56		07:01		06:49	19:18 (2)	05:44	19:25 (6)	05:00	19:34 (6)
	16:16	17:06		17:58		19:53	8 19:26 (2)	20:45	35 20:00 (6)	21:30	46 20:31 (1)
4	08:27	07:55		06:59		06:47	19:15 (2)	05:42	19:24 (6)	04:59	19:36 (6)
	16:17	17:08		18:00		19:55	13 19:28 (2)	20:47	36 20:00 (6)	21:32	44 20:32 (1)
5	08:26	07:53		06:56		06:44	19:12 (2)	05:40	19:24 (6)	04:59	19:37 (6)
	16:18	17:10		18:02		19:57	17 19:29 (2)	20:48	36 20:00 (6)	21:33	41 20:31 (1)
6	08:26	07:51		06:54		06:42	19:11 (2)	05:38	19:24 (6)	04:58	19:39 (6)
	16:19	17:12		18:04		19:58	19 19:30 (2)	20:50	37 20:01 (6)	21:34	38 20:32 (1)
7	08:26	07:50		06:52		06:40	19:10 (2)	05:37	19:23 (6)	04:57	19:40 (6)
	16:21	17:13		18:06		20:00	21 19:31 (2)	20:52	38 20:01 (6)	21:34	34 20:31 (1)
8	08:25	07:48		06:50		06:38	19:09 (2)	05:35	19:22 (6)	04:57	19:43 (6)
	16:22	17:15		18:07		20:02	22 19:31 (2)	20:53	39 20:01 (6)	21:35	29 20:31 (1)
9	08:25	07:46		06:47		06:35	19:08 (2)	05:33	19:23 (6)	04:56	20:07 (1)
	16:23	17:17		18:09		20:04	23 19:31 (2)	20:55	47 20:21 (1)	21:36	24 20:31 (1)
10	08:24	07:44		06:45		06:33	19:08 (2)	05:31	19:22 (6)	04:56	20:08 (1)
	16:25	17:19		18:11		20:05	23 19:31 (2)	20:57	53 20:23 (1)	21:37	23 20:31 (1)
11	08:24	07:42	16:31 (5)	06:43		06:31	19:08 (2)	05:30	19:21 (6)	04:55	20:09 (1)
	16:26	17:21	12 16:43 (5)	18:13		20:07	23 19:31 (2)	20:58	59 20:25 (1)	21:38	22 20:31 (1)
12	08:23	07:40	16:28 (5)	06:40	17:25 (4)	06:28	19:09 (2)	05:28	19:22 (6)	04:55	20:09 (1)
	16:28	17:23	17 16:45 (5)	18:15	13 17:38 (4)	20:09	21 19:30 (2)	21:00	59 20:26 (1)	21:39	21 20:30 (1)
13	08:22	07:39	16:27 (5)	06:38	17:21 (4)	06:26	19:08 (2)	05:26	19:21 (6)	04:55	20:09 (1)
	16:29	17:25	20 16:47 (5)	18:16	19 17:40 (4)	20:10	21 19:29 (2)	21:01	63 20:27 (1)	21:39	22 20:31 (1)
14	08:21	07:37	16:25 (5)	06:36	17:19 (4)	06:24	19:09 (2)	05:25	19:22 (6)	04:55	20:10 (1)
	16:31	17:27	23 16:48 (5)	18:18	31 17:50 (3)	20:12	19 19:28 (2)	21:03	63 20:28 (1)	21:40	21 20:31 (1)
15	08:21	07:35	16:23 (5)	06:34	17:18 (4)	06:22	19:10 (2)	05:23	19:22 (6)	04:54	20:10 (1)
	16:32	17:29	25 16:48 (5)	18:20	35 17:53 (3)	20:14	17 19:27 (2)	21:05	65 20:29 (1)	21:40	21 20:31 (1)
16	08:20	07:33	16:23 (5)	06:31	17:16 (4)	06:19	19:11 (2)	05:21	19:22 (6)	04:54	20:11 (1)
	16:34	17:30	26 16:49 (5)	18:22	37 17:53 (3)	20:16	14 19:25 (2)	21:06	67 20:30 (1)	21:41	20 20:31 (1)
17	08:19	07:31	16:22 (5)	06:29	17:15 (4)	06:17	19:14 (2)	05:20	19:23 (6)	04:54	20:11 (1)
	16:35	17:32	28 16:50 (5)	18:23	39 17:54 (3)	20:17	9 19:23 (2)	21:08	66 20:30 (1)	21:41	20 20:31 (1)
18	08:18	07:29	16:22 (5)	06:27	17:14 (4)	06:15		05:18	19:23 (6)	04:54	20:11 (1)
	16:37	17:34	29 16:51 (5)	18:25	40 17:54 (3)	20:19		21:09	66 20:30 (1)	21:42	20 20:31 (1)
19	08:17	07:27	16:22 (5)	06:24	17:14 (4)	06:13		05:17	19:23 (6)	04:54	20:12 (1)
	16:39	17:36	29 16:51 (5)	18:27	40 17:54 (3)	20:21		21:11	67 20:31 (1)	21:42	19 20:31 (1)
20	08:16	07:25	16:21 (5)	06:22	17:13 (4)	06:11		05:16	19:24 (6)	04:54	20:12 (1)
	16:40	17:38	30 16:51 (5)	18:29	42 17:55 (3)	20:23		21:12	66 20:31 (1)	21:42	19 20:31 (1)
21	08:15	07:23	16:22 (5)	06:20	17:12 (4)	06:09		05:14	19:25 (6)	04:54	20:12 (1)
	16:42	17:40	29 16:51 (5)	18:30	42 17:54 (3)	20:24		21:14	66 20:32 (1)	21:43	19 20:31 (1)
22	08:13	07:20	16:22 (5)	06:17	17:13 (4)	06:06		05:13	19:24 (6)	04:55	20:13 (1)
	16:44	17:42	29 16:51 (5)	18:32	41 17:54 (3)	20:26		21:15	66 20:31 (1)	21:43	19 20:32 (1)
23	08:12	07:18	16:21 (5)	06:15	17:13 (4)	06:04		05:12	19:25 (6)	04:55	20:13 (1)
	16:46	17:44	29 16:50 (5)	18:34	40 17:53 (3)	20:28		21:17	64 20:32 (1)	21:43	19 20:32 (1)
24	08:11	07:16	16:22 (5)	06:12	17:12 (4)	06:02		05:10	19:26 (6)	04:55	20:13 (1)
	16:47	17:45	28 16:50 (5)	18:36	39 17:51 (3)	20:30		21:18	63 20:32 (1)	21:43	19 20:32 (1)
25	08:10	07:14	16:23 (5)	06:10	17:13 (4)	06:00		05:09	19:26 (6)	04:55	20:13 (1)
	16:49	17:47	26 16:49 (5)	18:37	37 17:50 (3)	20:31		21:19	63 20:32 (1)	21:43	20 20:33 (1)
26	08:08	07:12	16:24 (5)	06:08	17:14 (4)	05:58	19:39 (6)	05:08	19:27 (6)	04:56	20:13 (1)
	16:51	17:49	24 16:48 (5)	18:39	35 17:49 (3)	20:33	9 19:48 (6)	21:21	61 20:32 (1)	21:43	20 20:33 (1)
27	08:07	07:10	16:25 (5)	06:05	17:14 (4)	05:56	19:35 (6)	05:07	19:28 (6)	04:56	20:12 (1)
	16:53	17:51	22 16:47 (5)	18:41	31 17:45 (3)	20:35	16 19:51 (6)	21:22	60 20:32 (1)	21:43	21 20:33 (1)
28	08:06	07:08	16:25 (5)	06:03	17:16 (4)	05:54	19:32 (6)	05:06	19:29 (6)	04:57	20:13 (1)
	16:55	17:53	20 16:45 (5)	18:43	21 17:37 (4)	20:36	22 19:54 (6)	21:23	58 20:32 (1)	21:43	21 20:34 (1)
29	08:04			07:01	18:18 (4)	05:52	19:30 (6)	05:05	19:29 (6)	04:57	20:13 (1)
	16:57			19:44	17 18:35 (4)	20:38	25 19:55 (6)	21:25	57 20:32 (1)	21:43	22 20:35 (1)
30	08:03			06:58	18:20 (4)	05:50	19:28 (6)	05:04	19:30 (6)	04:58	20:13 (1)
	16:58			19:46	12 18:32 (4)	20:40	28 19:56 (6)	21:26	55 20:32 (1)	21:43	21 20:34 (1)
31	08:01			06:56				05:03	19:32 (6)		
	17:00			19:48				21:27	52 20:32 (1)		
Sonnenscheinstunden	257	277		367		417		487		501	
astr.max.mögl.Beschattung			446		635		370		1689		784
Red.Sonnenscheinwahrsch.			0,25		0,29		0,37		0,45		0,40
Reduktion Betriebsdauer			1,00		1,00		1,00		1,00		1,00
Reduktion Windrichtung			0,75		0,75		0,71		0,66		0,65
Gesamte Reduktion			0,19		0,22		0,26		0,30		0,26
Met.wahrsch.Beschattung			84		139		98		500		203

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AN - Hauptstraße 40

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November	Dezember
1	04:59		20:13 (1)	05:36	19:32 (6)	06:26	19:07 (2)	07:16	18:02 (4)	07:11	08:03
	21:42	22	20:35 (1)	21:10	59	20:36 (1)	20:07	23	19:30 (2)	18:56	16	18:18 (4)	16:49	16:08
2	04:59		20:12 (1)	05:37	19:32 (6)	06:28	19:06 (2)	07:18	18:06 (4)	07:13	08:05
	21:42	23	20:35 (1)	21:08	56	20:34 (1)	20:05	23	19:29 (2)	18:54	8	18:14 (4)	16:47	16:07
3	05:00		20:13 (1)	05:39	19:32 (6)	06:30	19:06 (2)	07:20		07:15	08:06
	21:42	23	20:36 (1)	21:06	52	20:33 (1)	20:02	23	19:29 (2)	18:52			16:46	16:07
4	05:01		20:13 (1)	05:40	19:32 (6)	06:31	19:07 (2)	07:22		07:17	08:07
	21:41	24	20:37 (1)	21:05	42	20:28 (1)	20:00	22	19:29 (2)	18:49			16:44	16:06
5	05:02		19:47 (6)	05:42	19:33 (6)	06:33	19:06 (2)	07:23		07:19	08:09
	21:41	32	20:37 (1)	21:03	39	20:12 (6)	19:58	21	19:27 (2)	18:47			16:42	16:06
6	05:02		19:46 (6)	05:44	19:32 (6)	06:35	19:07 (2)	07:25		07:20	08:10
	21:40	36	20:38 (1)	21:01	39	20:11 (6)	19:55	19	19:26 (2)	18:45			16:40	16:05
7	05:03		19:44 (6)	05:45	19:33 (6)	06:36	19:07 (2)	07:27		07:22	08:11
	21:40	38	20:37 (1)	20:59	38	20:11 (6)	19:53	17	19:24 (2)	18:43			16:38	16:05
8	05:04		19:43 (6)	05:47	19:33 (6)	06:38	19:09 (2)	07:28		07:24	08:12
	21:39	42	20:38 (1)	20:57	37	20:10 (6)	19:51	14	19:23 (2)	18:40			16:37	16:04
9	05:05		19:42 (6)	05:48	19:34 (6)	06:40	19:12 (2)	07:30		07:26	08:14
	21:38	44	20:38 (1)	20:56	35	20:09 (6)	19:48	8	19:20 (2)	18:38			16:35	16:04
10	05:06		19:41 (6)	05:50	19:34 (6)	06:41		07:32		07:28	08:15
	21:38	47	20:39 (1)	20:54	34	20:08 (6)	19:46			18:36			16:33	16:04
11	05:07		19:40 (6)	05:52	19:35 (6)	06:43		07:34		07:29	08:16
	21:37	49	20:39 (1)	20:52	32	20:07 (6)	19:44			18:33			16:32	16:04
12	05:08		19:40 (6)	05:53	19:36 (6)	06:45		07:35	17:03 (5)	07:31	08:17
	21:36	52	20:40 (1)	20:50	30	20:06 (6)	19:41			18:31	12	17:15 (5)	16:30	16:04
13	05:10		19:39 (6)	05:55	19:37 (6)	06:46	18:11 (4)	07:37	17:00 (5)	07:33	08:18
	21:35	54	20:40 (1)	20:48	28	20:05 (6)	19:39	11	18:22 (4)	18:29	17	17:17 (5)	16:29	16:03
14	05:11		19:38 (6)	05:57	19:39 (6)	06:48	18:08 (4)	07:39	16:58 (5)	07:35	08:19
	21:34	56	20:40 (1)	20:46	24	20:03 (6)	19:37	17	18:25 (4)	18:27	21	17:19 (5)	16:27	16:03
15	05:12		19:39 (6)	05:58	19:40 (6)	06:50	18:05 (4)	07:41	16:56 (5)	07:37	08:20
	21:33	56	20:41 (1)	20:44	21	20:01 (6)	19:34	21	18:26 (4)	18:24	24	17:20 (5)	16:26	16:04
16	05:13		19:38 (6)	06:00	19:43 (6)	06:51	18:04 (4)	07:42	16:55 (5)	07:38	08:21
	21:32	58	20:41 (1)	20:42	15	19:58 (6)	19:32	30	18:34 (3)	18:22	26	17:21 (5)	16:24	16:04
17	05:14		19:37 (6)	06:02	19:47 (6)	06:53	18:02 (4)	07:44	16:53 (5)	07:40	08:22
	21:31	60	20:41 (1)	20:40	6	19:53 (6)	19:29	34	18:36 (3)	18:20	28	17:21 (5)	16:23	16:04
18	05:16		19:36 (6)	06:03			06:55		18:01 (4)	07:46		16:53 (5)	07:42	08:22
	21:30	62	20:41 (1)	20:38			19:27	36	18:37 (3)	18:18	28	17:21 (5)	16:22	16:04
19	05:17		19:36 (6)	06:05			06:56		18:00 (4)	07:48		16:52 (5)	07:44	08:23
	21:29	62	20:41 (1)	20:35			19:25	39	18:39 (3)	18:16	29	17:21 (5)	16:20	16:04
20	05:18		19:35 (6)	06:07			06:58		17:58 (4)	07:49		16:52 (5)	07:45	08:24
	21:27	64	20:41 (1)	20:33			19:22	40	18:38 (3)	18:14	30	17:22 (5)	16:19	16:05
21	05:20		19:35 (6)	06:08			07:00		17:58 (4)	07:51		16:52 (5)	07:47	08:24
	21:26	65	20:42 (1)	20:31			19:20	41	18:39 (3)	18:11	30	17:22 (5)	16:18	16:05
22	05:21		19:34 (6)	06:10			07:01		17:58 (4)	07:53		16:52 (5)	07:49	08:25
	21:25	66	20:42 (1)	20:29			19:18	41	18:39 (3)	18:09	29	17:21 (5)	16:17	16:06
23	05:22		19:34 (6)	06:12			07:03		17:57 (4)	07:55		16:52 (5)	07:50	08:25
	21:24	65	20:41 (1)	20:27			19:15	41	18:38 (3)	18:07	29	17:21 (5)	16:15	16:06
24	05:24		19:34 (6)	06:13			07:05		17:57 (4)	07:57		16:52 (5)	07:52	08:26
	21:22	66	20:42 (1)	20:25			19:13	41	18:38 (3)	18:05	29	17:21 (5)	16:14	16:07
25	05:25		19:33 (6)	06:15			07:06		17:57 (4)	06:58		15:53 (5)	07:54	08:26
	21:21	66	20:41 (1)	20:23			19:11	41	18:38 (3)	17:03	27	16:20 (5)	16:13	16:07
26	05:27		19:33 (6)	06:17	19:15 (2)		07:08		17:57 (4)	07:00		15:53 (5)	07:55	08:26
	21:19	65	20:40 (1)	20:20	10	19:25 (2)	19:08	39	18:36 (3)	17:01	27	16:20 (5)	16:12	16:08
27	05:28		19:33 (6)	06:18	19:13 (2)		07:10		17:58 (4)	07:02		15:54 (5)	07:57	08:27
	21:18	66	20:41 (1)	20:18	14	19:27 (2)	19:06	37	18:35 (3)	16:59	25	16:19 (5)	16:11	16:09
28	05:30		19:33 (6)	06:20	19:12 (2)		07:11		17:58 (4)	07:04		15:55 (5)	07:59	08:27
	21:16	65	20:40 (1)	20:16	17	19:29 (2)	19:03	36	18:34 (3)	16:57	23	16:18 (5)	16:10	16:10
29	05:31		19:33 (6)	06:21	19:10 (2)		07:13		17:59 (4)	07:06		15:56 (5)	08:00	08:27
	21:15	65	20:40 (1)	20:14	19	19:29 (2)	19:01	32	18:31 (3)	16:55	19	16:15 (5)	16:10	16:10
30	05:33		19:32 (6)	06:23	19:09 (2)		07:15		18:00 (4)	07:08		15:57 (5)	08:02	08:27
	21:13	63	20:38 (1)	20:11	21	19:30 (2)	18:59	27	18:28 (3)	16:53	16	16:13 (5)	16:09	16:11
31	05:34		19:32 (6)	06:25	19:08 (2)					07:09		16:00 (5)		08:27
	21:12	61	20:37 (1)	20:09	21	19:29 (2)				16:51	11	16:11 (5)		16:12
Sonnenscheinstunden	504			455			381			331			265	241
astr.max.mögl.Beschattung		1617			689			774			504			
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			
Reduktion Windrichtung		0,66			0,67			0,74			0,75			
Gesamte Reduktion		0,27			0,30			0,28			0,23			
Met.wahrsch.Beschattung		444			207			214			118			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AO - Hauptstraße 38

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März		April		Mai		Juni	
1	08:27		08:00		07:05	16:30 (5)	06:54		05:48	19:22 (6)	05:02	19:36 (6)
	16:14		17:02		17:55	8 16:38 (5)	19:50		20:42	35 19:57 (6)	21:28	35 20:28 (1)
2	08:27		07:58		07:03		06:51	19:16 (2)	05:46	19:21 (6)	05:01	19:39 (6)
	16:15		17:04		17:56		19:51	8 19:24 (2)	20:43	36 19:57 (6)	21:29	27 20:28 (1)
3	08:27		07:56		07:01		06:49	19:13 (2)	05:44	19:21 (6)	05:00	20:03 (1)
	16:16		17:06		17:58		19:53	14 19:27 (2)	20:45	36 19:57 (6)	21:30	24 20:27 (1)
4	08:27		07:55		06:59		06:47	19:11 (2)	05:42	19:20 (6)	04:59	20:04 (1)
	16:17		17:08		18:00		19:55	17 19:28 (2)	20:47	38 19:58 (6)	21:32	24 20:28 (1)
5	08:26		07:53		06:56		06:44	19:09 (2)	05:40	19:19 (6)	04:59	20:04 (1)
	16:18		17:10		18:02		19:57	19 19:28 (2)	20:48	39 19:58 (6)	21:33	23 20:27 (1)
6	08:26		07:51		06:54		06:42	19:08 (2)	05:38	19:19 (6)	04:58	20:05 (1)
	16:19		17:12		18:04		19:58	21 19:29 (2)	20:50	40 19:59 (6)	21:34	22 20:27 (1)
7	08:26		07:50		06:52		06:40	19:08 (2)	05:37	19:19 (6)	04:57	20:05 (1)
	16:21		17:13		18:06		20:00	22 19:30 (2)	20:52	43 20:16 (1)	21:34	22 20:27 (1)
8	08:25		07:48		06:50		06:38	19:07 (2)	05:35	19:18 (6)	04:57	20:06 (1)
	16:22		17:15		18:07		20:02	22 19:29 (2)	20:53	53 20:20 (1)	21:35	21 20:27 (1)
9	08:25		07:46		06:47		06:35	19:06 (2)	05:33	19:19 (6)	04:56	20:06 (1)
	16:23		17:17		18:09		20:04	23 19:29 (2)	20:55	56 20:22 (1)	21:36	20 20:26 (1)
10	08:24		07:44	16:29 (5)	06:45	17:26 (4)	06:33	19:07 (2)	05:31	19:18 (6)	04:56	20:07 (1)
	16:25		17:19	12 16:41 (5)	18:11	5 17:31 (4)	20:05	22 19:29 (2)	20:57	59 20:23 (1)	21:37	19 20:26 (1)
11	08:24		07:42	16:27 (5)	06:43	17:22 (4)	06:31	19:07 (2)	05:30	19:18 (6)	04:55	20:08 (1)
	16:26		17:21	17 16:44 (5)	18:13	14 17:36 (4)	20:07	21 19:28 (2)	20:58	62 20:24 (1)	21:38	18 20:26 (1)
12	08:23		07:40	16:25 (5)	06:40	17:19 (4)	06:28	19:07 (2)	05:28	19:19 (6)	04:55	20:08 (1)
	16:28		17:23	20 16:45 (5)	18:15	20 17:39 (4)	20:09	21 19:28 (2)	21:00	63 20:26 (1)	21:39	17 20:25 (1)
13	08:22		07:39	16:24 (5)	06:38	17:17 (4)	06:26	19:07 (2)	05:26	19:18 (6)	04:55	20:09 (1)
	16:29		17:25	23 16:47 (5)	18:16	31 17:48 (3)	20:10	19 19:26 (2)	21:01	65 20:26 (1)	21:39	16 20:25 (1)
14	08:21		07:37	16:23 (5)	06:36	17:16 (4)	06:24	19:08 (2)	05:25	19:19 (6)	04:55	20:10 (1)
	16:31		17:27	25 16:48 (5)	18:18	35 17:51 (3)	20:12	17 19:25 (2)	21:03	65 20:27 (1)	21:40	15 20:25 (1)
15	08:21		07:35	16:21 (5)	06:34	17:15 (4)	06:22	19:10 (2)	05:23	19:19 (6)	04:54	20:10 (1)
	16:32		17:29	27 16:48 (5)	18:20	37 17:52 (3)	20:14	13 19:23 (2)	21:05	65 20:27 (1)	21:40	15 20:25 (1)
16	08:20		07:33	16:21 (5)	06:31	17:13 (4)	06:19	19:12 (2)	05:21	19:20 (6)	04:54	20:11 (1)
	16:34		17:30	27 16:48 (5)	18:22	39 17:52 (3)	20:16	9 19:21 (2)	21:06	65 20:28 (1)	21:41	14 20:25 (1)
17	08:19		07:31	16:20 (5)	06:29	17:13 (4)	06:17	05:20	19:20 (6)	04:54	20:11 (1)
	16:35		17:32	29 16:49 (5)	18:23	40 17:53 (3)	20:17	21:08	65 20:28 (1)	21:41	14 20:25 (1)
18	08:18		07:29	16:20 (5)	06:27	17:11 (4)	06:15	05:18	19:20 (6)	04:54	20:12 (1)
	16:37		17:34	29 16:49 (5)	18:25	42 17:53 (3)	20:19	21:09	65 20:28 (1)	21:42	13 20:25 (1)
19	08:17		07:27	16:20 (5)	06:24	17:11 (4)	06:13	05:17	19:21 (6)	04:54	20:12 (1)
	16:39		17:36	29 16:49 (5)	18:27	42 17:53 (3)	20:21	21:11	65 20:29 (1)	21:42	13 20:25 (1)
20	08:16		07:25	16:20 (5)	06:22	17:11 (4)	06:11	05:16	19:22 (6)	04:54	20:12 (1)
	16:40		17:38	29 16:49 (5)	18:29	42 17:53 (3)	20:23	21:12	64 20:29 (1)	21:42	13 20:25 (1)
21	08:15		07:23	16:20 (5)	06:20	17:10 (4)	06:09	05:14	19:23 (6)	04:54	20:12 (1)
	16:42		17:40	29 16:49 (5)	18:30	42 17:52 (3)	20:24	21:14	63 20:29 (1)	21:43	13 20:25 (1)
22	08:13		07:20	16:21 (5)	06:17	17:11 (4)	06:06	05:13	19:23 (6)	04:55	20:13 (1)
	16:44		17:42	28 16:49 (5)	18:32	40 17:51 (3)	20:26	21:15	61 20:29 (1)	21:43	13 20:26 (1)
23	08:12		07:18	16:20 (5)	06:15	17:11 (4)	06:04	05:12	19:24 (6)	04:55	20:13 (1)
	16:46		17:44	28 16:48 (5)	18:34	40 17:51 (3)	20:28	21:17	60 20:29 (1)	21:43	13 20:26 (1)
24	08:11		07:16	16:21 (5)	06:12	17:11 (4)	06:02	19:35 (6)	05:10	19:25 (6)	04:55	20:13 (1)
	16:47		17:45	26 16:47 (5)	18:36	38 17:49 (3)	20:30	10 19:45 (6)	21:18	58 20:29 (1)	21:43	13 20:26 (1)
25	08:10		07:14	16:22 (5)	06:10	17:12 (4)	06:00	19:31 (6)	05:09	19:26 (6)	04:55	20:14 (1)
	16:49		17:47	24 16:46 (5)	18:37	35 17:47 (3)	20:31	18 19:49 (6)	21:19	57 20:29 (1)	21:43	13 20:27 (1)
26	08:08		07:12	16:23 (5)	06:08	17:13 (4)	05:58	19:29 (6)	05:08	19:27 (6)	04:56	20:13 (1)
	16:51		17:49	22 16:45 (5)	18:39	32 17:45 (3)	20:33	22 19:51 (6)	21:21	54 20:29 (1)	21:43	14 20:27 (1)
27	08:07		07:10	16:25 (5)	06:05	17:14 (4)	05:56	19:27 (6)	05:07	19:28 (6)	04:56	20:13 (1)
	16:53		17:51	19 16:44 (5)	18:41	20 17:34 (4)	20:35	25 19:52 (6)	21:22	52 20:29 (1)	21:43	14 20:27 (1)
28	08:06		07:08	16:26 (5)	06:03	17:16 (4)	05:54	19:25 (6)	05:06	19:29 (6)	04:57	20:13 (1)
	16:55		17:53	15 16:41 (5)	18:43	16 17:32 (4)	20:36	29 19:54 (6)	21:23	50 20:29 (1)	21:43	15 20:28 (1)
29	08:04				07:01	18:20 (4)	05:52	19:24 (6)	05:05	19:30 (6)	04:57	20:13 (1)
	16:57				19:44	9 18:29 (4)	20:38	30 19:54 (6)	21:25	46 20:28 (1)	21:43	16 20:29 (1)
30	08:03				06:58		05:50	19:23 (6)	05:04	19:31 (6)	04:58	20:13 (1)
	16:58				19:46		20:40	32 19:55 (6)	21:26	44 20:28 (1)	21:43	16 20:29 (1)
31	08:01				06:56				05:03	19:34 (6)		
	17:00				19:48				21:27	40 20:29 (1)		
Sonnenscheinstunden	257		277		367		417		487		501	
astr.max.mögl.Beschattung		458		627		434		1664		525		
Red.Sonnenscheinwahrsch.		0,25		0,29		0,37		0,45		0,40		
Reduktion Betriebsdauer		1,00		1,00		1,00		1,00		1,00		
Reduktion Windrichtung		0,75		0,75		0,70		0,66		0,65		
Gesamte Reduktion		0,19		0,22		0,26		0,30		0,26		
Met.wahrsch.Beschattung		87		137		114		495		136		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM) Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenanfang Zeitpunkt (SS:MM) Schattenende	(WEA mit erstem Schatten) (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AO - Hauptstraße 38

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November		Dezember
1	04:59		20:13 (1)	05:36	19:29 (6)	06:26	19:06 (2)	07:16	17:58 (4)	07:11	15:58 (5)	08:03
	21:42	17	20:30 (1)	21:10 63	20:36 (1)	20:07 21	19:27 (2)	18:56 26	18:26 (3)	16:49 11	16:09 (5)	16:08
2	04:59		20:12 (1)	05:37	19:28 (6)	06:28	19:05 (2)	07:18	18:00 (4)	07:13		08:05
	21:42	18	20:30 (1)	21:08 61	20:34 (1)	20:05 22	19:27 (2)	18:54 16	18:16 (4)	16:47		16:07
3	05:00		20:12 (1)	05:39	19:29 (6)	06:30	19:04 (2)	07:20	18:02 (4)	07:15		08:06
	21:42	19	20:31 (1)	21:06 58	20:33 (1)	20:02 23	19:27 (2)	18:52 10	18:12 (4)	16:46		16:07
4	05:01		20:12 (1)	05:40	19:28 (6)	06:31	19:05 (2)	07:22		07:17		08:07
	21:41	20	20:32 (1)	21:05 55	20:31 (1)	20:00 22	19:27 (2)	18:49		16:44		16:06
5	05:02		20:12 (1)	05:42	19:29 (6)	06:33	19:04 (2)	07:23		07:19		08:09
	21:41	21	20:33 (1)	21:03 50	20:29 (1)	19:58 22	19:26 (2)	18:47		16:42		16:06
6	05:02		20:12 (1)	05:44	19:28 (6)	06:35	19:05 (2)	07:25		07:20		08:10
	21:40	22	20:34 (1)	21:01 40	20:08 (6)	19:55 20	19:25 (2)	18:45		16:40		16:05
7	05:03		20:11 (1)	05:45	19:29 (6)	06:36	19:04 (2)	07:27		07:22		08:11
	21:40	22	20:33 (1)	20:59 39	20:08 (6)	19:53 20	19:24 (2)	18:43		16:38		16:05
8	05:04		20:11 (1)	05:47	19:29 (6)	06:38	19:06 (2)	07:28		07:24		08:12
	21:39	23	20:34 (1)	20:57 38	20:07 (6)	19:51 16	19:22 (2)	18:40		16:37		16:04
9	05:05		20:10 (1)	05:48	19:29 (6)	06:40	19:07 (2)	07:30		07:26		08:14
	21:38	24	20:34 (1)	20:56 38	20:07 (6)	19:48 14	19:21 (2)	18:38		16:35		16:04
10	05:06		20:10 (1)	05:50	19:29 (6)	06:41	19:09 (2)	07:32		07:28		08:15
	21:38	25	20:35 (1)	20:54 37	20:06 (6)	19:46 8	19:17 (2)	18:36		16:33		16:04
11	05:07		19:44 (6)	05:52	19:30 (6)	06:43		07:34		07:29		08:16
	21:37	34	20:36 (1)	20:52 36	20:06 (6)	19:44		18:33		16:32		16:04
12	05:08		19:42 (6)	05:53	19:30 (6)	06:45		07:35		07:31		08:17
	21:36	38	20:36 (1)	20:50 34	20:04 (6)	19:41		18:31		16:30		16:04
13	05:10		19:41 (6)	05:55	19:31 (6)	06:46		07:37	17:01 (5)	07:33		08:18
	21:35	42	20:36 (1)	20:48 33	20:04 (6)	19:39		18:29 12	17:13 (5)	16:29		16:03
14	05:11		19:39 (6)	05:57	19:33 (6)	06:48	18:11 (4)	07:39	16:58 (5)	07:35		08:19
	21:34	46	20:37 (1)	20:46 30	20:03 (6)	19:37 7	18:18 (4)	18:27 17	17:15 (5)	16:27		16:03
15	05:12		19:39 (6)	05:58	19:33 (6)	06:50	18:06 (4)	07:41	16:56 (5)	07:37		08:20
	21:33	48	20:38 (1)	20:44 28	20:01 (6)	19:34 15	18:21 (4)	18:24 21	17:17 (5)	16:26		16:04
16	05:13		19:38 (6)	06:00	19:35 (6)	06:51	18:04 (4)	07:42	16:55 (5)	07:38		08:21
	21:32	50	20:38 (1)	20:42 25	20:00 (6)	19:32 19	18:23 (4)	18:22 23	17:18 (5)	16:24		16:04
17	05:14		19:37 (6)	06:02	19:36 (6)	06:53	18:01 (4)	07:44	16:53 (5)	07:40		08:22
	21:31	53	20:38 (1)	20:40 21	19:57 (6)	19:29 30	18:31 (3)	18:20 25	17:18 (5)	16:23		16:04
18	05:16		19:36 (6)	06:03	19:39 (6)	06:55	18:00 (4)	07:46	16:52 (5)	07:42		08:22
	21:30	55	20:38 (1)	20:38 16	19:55 (6)	19:27 34	18:34 (3)	18:18 27	17:19 (5)	16:22		16:04
19	05:17		19:35 (6)	06:05	19:42 (6)	06:56	17:59 (4)	07:48	16:51 (5)	07:44		08:23
	21:29	56	20:38 (1)	20:35 8	19:50 (6)	19:25 37	18:36 (3)	18:16 28	17:19 (5)	16:20		16:04
20	05:18		19:34 (6)	06:07		06:58	17:57 (4)	07:49	16:51 (5)	07:45		08:24
	21:27	58	20:38 (1)	20:33		19:22 39	18:36 (3)	18:14 29	17:20 (5)	16:19		16:05
21	05:20		19:34 (6)	06:08		07:00	17:57 (4)	07:51	16:51 (5)	07:47		08:24
	21:26	61	20:39 (1)	20:31		19:20 40	18:37 (3)	18:11 29	17:20 (5)	16:18		16:05
22	05:21		19:33 (6)	06:10		07:01	17:56 (4)	07:53	16:50 (5)	07:49		08:25
	21:25	62	20:39 (1)	20:29		19:18 41	18:37 (3)	18:09 30	17:20 (5)	16:17		16:06
23	05:22		19:32 (6)	06:12		07:03	17:55 (4)	07:55	16:50 (5)	07:50		08:25
	21:24	63	20:39 (1)	20:27		19:15 41	18:36 (3)	18:07 30	17:20 (5)	16:15		16:06
24	05:24		19:32 (6)	06:13		07:05	17:55 (4)	07:57	16:50 (5)	07:52		08:26
	21:22	64	20:39 (1)	20:25		19:13 41	18:36 (3)	18:05 29	17:19 (5)	16:14		16:07
25	05:25		19:31 (6)	06:15		07:06	17:55 (4)	06:58	15:51 (5)	07:54		08:26
	21:21	66	20:39 (1)	20:23		19:11 41	18:36 (3)	17:03 28	16:19 (5)	16:13		16:07
26	05:27		19:31 (6)	06:17		07:08	17:54 (4)	07:00	15:51 (5)	07:55		08:26
	21:19	65	20:38 (1)	20:20		19:08 41	18:35 (3)	17:01 28	16:19 (5)	16:12		16:08
27	05:28		19:31 (6)	06:18	19:14 (2)	07:10	17:55 (4)	07:02	15:52 (5)	07:57		08:27
	21:18	66	20:39 (1)	20:18 9	19:23 (2)	19:06 39	18:34 (3)	16:59 26	16:18 (5)	16:11		16:09
28	05:30		19:30 (6)	06:20	19:11 (2)	07:11	17:55 (4)	07:04	15:53 (5)	07:59		08:27
	21:16	66	20:38 (1)	20:16 14	19:25 (2)	19:03 38	18:33 (3)	16:57 24	16:17 (5)	16:10		16:10
29	05:31		19:30 (6)	06:21	19:09 (2)	07:13	17:55 (4)	07:06	15:53 (5)	08:00		08:27
	21:15	66	20:38 (1)	20:14 17	19:26 (2)	19:01 36	18:31 (3)	16:55 22	16:15 (5)	16:10		16:10
30	05:33		19:29 (6)	06:23	19:08 (2)	07:15	17:56 (4)	07:08	15:54 (5)	08:02		08:27
	21:13	65	20:37 (1)	20:11 19	19:27 (2)	18:59 33	18:29 (3)	16:53 20	16:14 (5)	16:09		16:11
31	05:34		19:29 (6)	06:25	19:06 (2)			07:09	15:56 (5)			08:27
	21:12	64	20:36 (1)	20:09 21	19:27 (2)			16:51 16	16:12 (5)			16:12
Sonnenscheinstunden	504			455		381		331		265		241
astr.max.mögl.Beschattung		1399		790		760		516		11		
Red.Sonnenscheinwahrsch.		0,42		0,44		0,37		0,31		0,21		
Reduktion Betriebsdauer		1,00		1,00		1,00		1,00		1,00		
Reduktion Windrichtung		0,66		0,67		0,74		0,75		0,75		
Gesamte Reduktion		0,28		0,30		0,28		0,23		0,16		
Met.wahrsch.Beschattung		386		238		211		121		2		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AP - Hauptstraße 36

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar		März		April		Mai		Juni	
1	08:27	08:00		07:05		06:54		19:13 (2)	05:48	19:15 (6)	05:02	20:00 (1)
	16:14	17:02		17:55		19:50	10	19:23 (2)	20:42	38 19:53 (6)	21:28	22 20:22 (1)
2	08:27	07:58		07:03		06:51		19:09 (2)	05:46	19:15 (6)	05:01	20:01 (1)
	16:15	17:04		17:56		19:51	15	19:24 (2)	20:43	38 19:53 (6)	21:29	20 20:21 (1)
3	08:27	07:56		07:01		06:49		19:08 (2)	05:44	19:14 (6)	05:00	20:01 (1)
	16:16	17:06		17:58		19:53	18	19:26 (2)	20:45	39 19:53 (6)	21:30	20 20:21 (1)
4	08:27	07:55		06:59		06:47		19:07 (2)	05:42	19:14 (6)	04:59	20:03 (1)
	16:17	17:08		18:00		19:55	20	19:27 (2)	20:47	39 19:53 (6)	21:32	18 20:21 (1)
5	08:26	07:53		06:56		06:44		19:05 (2)	05:40	19:13 (6)	04:59	20:03 (1)
	16:18	17:10		18:02		19:57	21	19:26 (2)	20:48	49 20:14 (1)	21:33	17 20:20 (1)
6	08:26	07:51		06:54		06:42		19:05 (2)	05:38	19:14 (6)	04:58	20:05 (1)
	16:19	17:12		18:04		19:58	22	19:27 (2)	20:50	54 20:17 (1)	21:34	15 20:20 (1)
7	08:26	07:50		06:52		06:40		19:05 (2)	05:37	19:14 (6)	04:57	20:05 (1)
	16:21	17:13		18:06		20:00	22	19:27 (2)	20:52	57 20:19 (1)	21:34	14 20:19 (1)
8	08:25	07:48	16:27 (5)	06:50		06:38		19:04 (2)	05:35	19:13 (6)	04:57	20:07 (1)
	16:22	17:15	9 16:36 (5)	18:07		20:02	22	19:26 (2)	20:53	61 20:20 (1)	21:35	12 20:19 (1)
9	08:25	07:46	16:25 (5)	06:47	17:20 (4)	06:35		19:04 (2)	05:33	19:14 (6)	04:56	20:07 (1)
	16:23	17:17	15 16:40 (5)	18:09	13 17:33 (4)	20:04	22	19:26 (2)	20:55	61 20:21 (1)	21:36	10 20:17 (1)
10	08:24	07:44	16:23 (5)	06:45	17:16 (4)	06:33		19:04 (2)	05:31	19:14 (6)	04:56	20:09 (1)
	16:25	17:19	19 16:42 (5)	18:11	18 17:34 (4)	20:05	21	19:25 (2)	20:57	63 20:22 (1)	21:37	8 20:17 (1)
11	08:24	07:42	16:22 (5)	06:43	17:15 (4)	06:31		19:05 (2)	05:30	19:14 (6)	04:55	20:11 (1)
	16:26	17:21	21 16:43 (5)	18:13	25 17:43 (3)	20:07	20	19:25 (2)	20:58	64 20:22 (1)	21:38	5 20:16 (1)
12	08:23	07:40	16:21 (5)	06:40	17:13 (4)	06:28		19:06 (2)	05:28	19:15 (6)	04:55	
	16:28	17:23	23 16:44 (5)	18:15	34 17:47 (3)	20:09	18	19:24 (2)	21:00	64 20:23 (1)	21:39	
13	08:22	07:39	16:20 (5)	06:38	17:11 (4)	06:26		19:06 (2)	05:26	19:15 (6)	04:55	
	16:29	17:25	25 16:45 (5)	18:16	37 17:48 (3)	20:10	15	19:21 (2)	21:01	64 20:23 (1)	21:39	
14	08:21	07:37	16:19 (5)	06:36	17:11 (4)	06:24		19:08 (2)	05:25	19:15 (6)	04:55	
	16:31	17:27	27 16:46 (5)	18:18	39 17:50 (3)	20:12	11	19:19 (2)	21:03	65 20:24 (1)	21:40	
15	08:21	07:35	16:18 (5)	06:34	17:10 (4)	06:22			05:23	19:15 (6)	04:54	
	16:32	17:29	27 16:45 (5)	18:20	41 17:51 (3)	20:14			21:05	65 20:24 (1)	21:40	
16	08:20	07:33	16:17 (5)	06:31	17:09 (4)	06:19			05:21	19:17 (6)	04:54	
	16:34	17:30	29 16:46 (5)	18:22	41 17:50 (3)	20:16			21:06	62 20:24 (1)	21:41	
17	08:19	07:31	16:17 (5)	06:29	17:09 (4)	06:17			05:20	19:18 (6)	04:54	
	16:35	17:32	29 16:46 (5)	18:23	42 17:51 (3)	20:17			21:08	62 20:25 (1)	21:41	
18	08:18	07:29	16:17 (5)	06:27	17:08 (4)	06:15			05:18	19:18 (6)	04:54	
	16:37	17:34	29 16:46 (5)	18:25	42 17:50 (3)	20:19			21:09	60 20:24 (1)	21:42	
19	08:17	07:27	16:17 (5)	06:24	17:08 (4)	06:13			05:17	19:19 (6)	04:54	
	16:39	17:36	29 16:46 (5)	18:27	42 17:50 (3)	20:21			21:11	59 20:25 (1)	21:42	
20	08:16	07:25	16:18 (5)	06:22	17:08 (4)	06:11			05:16	19:20 (6)	04:54	
	16:40	17:38	28 16:46 (5)	18:29	42 17:50 (3)	20:23			21:12	57 20:25 (1)	21:42	
21	08:15	07:23	16:18 (5)	06:20	17:08 (4)	06:09		19:31 (6)	05:14	19:22 (6)	04:54	
	16:42	17:40	28 16:46 (5)	18:30	40 17:48 (3)	20:24	8	19:39 (6)	21:14	55 20:25 (1)	21:43	
22	08:13	07:20	16:19 (5)	06:17	17:09 (4)	06:06		19:27 (6)	05:13	19:22 (6)	04:55	
	16:44	17:42	26 16:45 (5)	18:32	38 17:47 (3)	20:26	16	19:43 (6)	21:15	52 20:24 (1)	21:43	
23	08:12	07:18	16:19 (5)	06:15	17:10 (4)	06:04		19:24 (6)	05:12	19:23 (6)	04:55	
	16:46	17:44	25 16:44 (5)	18:34	36 17:46 (3)	20:28	22	19:46 (6)	21:17	50 20:24 (1)	21:43	
24	08:11	07:16	16:20 (5)	06:12	17:10 (4)	06:02		19:22 (6)	05:10	19:25 (6)	04:55	
	16:47	17:45	23 16:43 (5)	18:36	33 17:43 (3)	20:30	25	19:47 (6)	21:18	45 20:24 (1)	21:43	
25	08:10	07:14	16:21 (5)	06:10	17:11 (4)	06:00		19:21 (6)	05:09	19:27 (6)	04:55	
	16:49	17:47	21 16:42 (5)	18:37	27 17:40 (3)	20:31	28	19:49 (6)	21:19	42 20:24 (1)	21:43	
26	08:08	07:12	16:23 (5)	06:08	17:14 (4)	05:58		19:19 (6)	05:08	19:30 (6)	04:56	
	16:51	17:49	17 16:40 (5)	18:39	16 17:30 (4)	20:33	31	19:50 (6)	21:21	36 20:24 (1)	21:43	
27	08:07	07:10	16:26 (5)	06:05	17:16 (4)	05:56		19:18 (6)	05:07	19:57 (1)	04:56	
	16:53	17:51	12 16:38 (5)	18:41	9 17:25 (4)	20:35	33	19:51 (6)	21:22	27 20:24 (1)	21:43	
28	08:06	07:08		06:03		05:54		19:17 (6)	05:06	19:58 (1)	04:57	
	16:55	17:53		18:43		20:36	34	19:51 (6)	21:23	25 20:23 (1)	21:43	
29	08:04			07:01		05:52		19:16 (6)	05:05	19:58 (1)	04:57	
	16:57			19:44		20:38	36	19:52 (6)	21:25	25 20:23 (1)	21:43	
30	08:03			06:58		05:50		19:15 (6)	05:04	19:58 (1)	04:58	
	16:58			19:46		20:40	37	19:52 (6)	21:26	24 20:22 (1)	21:43	
31	08:01			06:56					05:03	20:00 (1)		
	17:00			19:48					21:27	23 20:23 (1)		
Sonnenscheinstunden	257	277		367		417			487		501	
astr.max.mögl.Beschattung			462		615		527			1525		161
Red.Sonnenscheinwahrsch.			0,25		0,29		0,37			0,45		0,40
Reduktion Betriebsdauer			1,00		1,00		1,00			1,00		1,00
Reduktion Windrichtung			0,75		0,75		0,70			0,67		0,65
Gesamte Reduktion			0,19		0,22		0,26			0,30		0,26
Met.wahrsch.Beschattung			87		134		139			457		42

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AP - Hauptstraße 36

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November		Dezember
1	04:59		20:16 (1)	05:36	19:25 (6)	06:26	19:04 (2)	07:16	17:52 (4)	07:11	15:52 (5)	08:03
	21:42	3	20:19 (1)	21:10 63	20:33 (1)	20:07 20	19:24 (2)	18:56 35	18:27 (3)	16:49 18	16:10 (5)	16:08
2	04:59		20:13 (1)	05:37	19:24 (6)	06:28	19:02 (2)	07:18	17:53 (4)	07:13	15:54 (5)	08:05
	21:42	7	20:20 (1)	21:08 63	20:32 (1)	20:05 21	19:23 (2)	18:54 31	18:24 (3)	16:47 14	16:08 (5)	16:07
3	05:00		20:13 (1)	05:39	19:24 (6)	06:30	19:02 (2)	07:20	17:53 (4)	07:15	15:58 (5)	08:06
	21:42	9	20:22 (1)	21:06 63	20:32 (1)	20:02 22	19:24 (2)	18:52 20	18:13 (4)	16:46 6	16:04 (5)	16:07
4	05:01		20:12 (1)	05:40	19:23 (6)	06:31	19:02 (2)	07:22	17:55 (4)	07:17		08:07
	21:41	11	20:23 (1)	21:05 62	20:30 (1)	20:00 22	19:24 (2)	18:49 16	18:11 (4)	16:44		16:06
5	05:02		20:12 (1)	05:42	19:24 (6)	06:33	19:01 (2)	07:23	17:59 (4)	07:19		08:09
	21:41	13	20:25 (1)	21:03 59	20:30 (1)	19:58 22	19:23 (2)	18:47 8	18:07 (4)	16:42		16:06
6	05:02		20:11 (1)	05:44	19:23 (6)	06:35	19:01 (2)	07:25		07:20		08:10
	21:40	15	20:26 (1)	21:01 57	20:28 (1)	19:55 22	19:23 (2)	18:45		16:40		16:05
7	05:03		20:10 (1)	05:45	19:23 (6)	06:36	19:00 (2)	07:27		07:22		08:11
	21:40	16	20:26 (1)	20:59 53	20:26 (1)	19:53 22	19:22 (2)	18:43		16:38		16:05
8	05:04		20:09 (1)	05:47	19:23 (6)	06:38	19:01 (2)	07:28		07:24		08:12
	21:39	18	20:27 (1)	20:57 45	20:22 (1)	19:51 20	19:21 (2)	18:40		16:37		16:04
9	05:05		20:09 (1)	05:48	19:23 (6)	06:40	19:02 (2)	07:30		07:26		08:14
	21:38	19	20:28 (1)	20:56 40	20:03 (6)	19:48 18	19:20 (2)	18:38		16:35		16:04
10	05:06		20:09 (1)	05:50	19:23 (6)	06:41	19:02 (2)	07:32		07:28		08:15
	21:38	20	20:29 (1)	20:54 39	20:02 (6)	19:46 16	19:18 (2)	18:36		16:33		16:04
11	05:07		20:08 (1)	05:52	19:23 (6)	06:43	19:05 (2)	07:34		07:29		08:16
	21:37	21	20:29 (1)	20:52 39	20:02 (6)	19:44 11	19:16 (2)	18:33		16:32		16:04
12	05:08		20:08 (1)	05:53	19:23 (6)	06:45		07:35		07:31		08:17
	21:36	22	20:30 (1)	20:50 38	20:01 (6)	19:41		18:31		16:30		16:04
13	05:10		20:07 (1)	05:55	19:24 (6)	06:46		07:37		07:33		08:18
	21:35	24	20:31 (1)	20:48 36	20:00 (6)	19:39		18:29		16:29		16:03
14	05:11		20:07 (1)	05:57	19:25 (6)	06:48		07:39	17:01 (5)	07:35		08:19
	21:34	24	20:31 (1)	20:46 35	20:00 (6)	19:37		18:27 6	17:07 (5)	16:27		16:03
15	05:12		20:07 (1)	05:58	19:25 (6)	06:50		07:41	16:57 (5)	07:37		08:20
	21:33	25	20:32 (1)	20:44 34	19:59 (6)	19:34		18:24 14	17:11 (5)	16:26		16:04
16	05:13		20:07 (1)	06:00	19:26 (6)	06:51	18:07 (4)	07:42	16:55 (5)	07:38		08:21
	21:32	26	20:33 (1)	20:42 32	19:58 (6)	19:32 7	18:14 (4)	18:22 18	17:13 (5)	16:24		16:04
17	05:14		19:41 (6)	06:02	19:26 (6)	06:53	18:02 (4)	07:44	16:52 (5)	07:40		08:22
	21:31	32	20:33 (1)	20:40 30	19:56 (6)	19:29 15	18:17 (4)	18:20 22	17:14 (5)	16:23		16:04
18	05:16		19:38 (6)	06:03	19:27 (6)	06:55	17:59 (4)	07:46	16:51 (5)	07:42		08:22
	21:30	38	20:33 (1)	20:38 28	19:55 (6)	19:27 20	18:19 (4)	18:18 24	17:15 (5)	16:22		16:04
19	05:17		19:36 (6)	06:05	19:28 (6)	06:56	17:58 (4)	07:48	16:50 (5)	07:44		08:23
	21:29	44	20:34 (1)	20:35 25	19:53 (6)	19:25 32	18:30 (3)	18:16 25	17:15 (5)	16:20		16:04
20	05:18		19:34 (6)	06:07	19:30 (6)	06:58	17:55 (4)	07:49	16:49 (5)	07:45		08:24
	21:27	48	20:34 (1)	20:33 21	19:51 (6)	19:22 36	18:31 (3)	18:14 27	17:16 (5)	16:19		16:05
21	05:20		19:33 (6)	06:08	19:33 (6)	07:00	17:54 (4)	07:51	16:48 (5)	07:47		08:24
	21:26	51	20:35 (1)	20:31 16	19:49 (6)	19:20 39	18:33 (3)	18:11 28	17:16 (5)	16:18		16:05
22	05:21		19:32 (6)	06:10	19:37 (6)	07:01	17:54 (4)	07:53	16:48 (5)	07:49		08:25
	21:25	54	20:35 (1)	20:29 6	19:43 (6)	19:18 40	18:34 (3)	18:09 29	17:17 (5)	16:17		16:06
23	05:22		19:30 (6)	06:12		07:03	17:52 (4)	07:55	16:48 (5)	07:50		08:25
	21:24	55	20:34 (1)	20:27		19:15 41	18:33 (3)	18:07 29	17:17 (5)	16:15		16:06
24	05:24		19:30 (6)	06:13		07:05	17:52 (4)	07:57	16:48 (5)	07:52		08:26
	21:22	58	20:35 (1)	20:25		19:13 41	18:33 (3)	18:05 29	17:17 (5)	16:14		16:07
25	05:25		19:29 (6)	06:15		07:06	17:51 (4)	06:58	15:48 (5)	07:54		08:26
	21:21	60	20:35 (1)	20:23		19:11 43	18:34 (3)	17:03 29	16:17 (5)	16:13		16:07
26	05:27		19:28 (6)	06:17		07:08	17:50 (4)	07:00	15:48 (5)	07:55		08:26
	21:19	61	20:35 (1)	20:20		19:08 43	18:33 (3)	17:01 28	16:16 (5)	16:12		16:08
27	05:28		19:28 (6)	06:18		07:10	17:50 (4)	07:02	15:48 (5)	07:57		08:27
	21:18	62	20:35 (1)	20:18		19:06 42	18:32 (3)	16:59 28	16:16 (5)	16:11		16:09
28	05:30		19:27 (6)	06:20	19:14 (2)	07:11	17:51 (4)	07:04	15:49 (5)	07:59		08:27
	21:16	63	20:35 (1)	20:16 3	19:17 (2)	19:03 41	18:32 (3)	16:57 26	16:15 (5)	16:10		16:10
29	05:31		19:27 (6)	06:21	19:09 (2)	07:13	17:50 (4)	07:06	15:49 (5)	08:00		08:27
	21:15	64	20:35 (1)	20:14 11	19:20 (2)	19:01 40	18:30 (3)	16:55 25	16:14 (5)	16:10		16:10
30	05:33		19:26 (6)	06:23	19:07 (2)	07:15	17:51 (4)	07:08	15:50 (5)	08:02		08:27
	21:13	64	20:34 (1)	20:11 15	19:22 (2)	18:59 38	18:29 (3)	16:53 23	16:13 (5)	16:09		16:11
31	05:34		19:25 (6)	06:25	19:05 (2)			07:09	15:51 (5)			08:27
	21:12	64	20:33 (1)	20:09 17	19:22 (2)			16:51 20	16:11 (5)			16:12
Sonnenscheinstunden	504			455		381		331		265		241
astr.max.mögl.Beschattung		1091		930		734		540		38		
Red.Sonnenscheinwahrsch.		0,42		0,44		0,37		0,31		0,21		
Reduktion Betriebsdauer		1,00		1,00		1,00		1,00		1,00		
Reduktion Windrichtung		0,66		0,68		0,74		0,75		0,75		
Gesamte Reduktion		0,28		0,30		0,28		0,23		0,16		
Met.wahrsch.Beschattung		302		282		203		126		6		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AQ - Hauptstraße 36A

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni		
1	08:27	08:00			07:05			06:54		19:11 (2)	05:48		19:13 (6)	05:02		20:00 (1)
	16:14	17:02			17:55			19:50	12	19:23 (2)	20:42	39	19:52 (6)	21:28	20	20:20 (1)
2	08:27	07:58			07:03			06:51		19:08 (2)	05:46		19:13 (6)	05:01		20:01 (1)
	16:15	17:04			17:56			19:51	16	19:24 (2)	20:43	39	19:52 (6)	21:29	18	20:19 (1)
3	08:27	07:56			07:01			06:49		19:07 (2)	05:44		19:12 (6)	05:00		20:01 (1)
	16:16	17:06			17:58			19:53	18	19:25 (2)	20:45	40	19:52 (6)	21:30	17	20:18 (1)
4	08:27	07:55			06:59			06:47		19:06 (2)	05:42		19:12 (6)	04:59		20:03 (1)
	16:17	17:08			18:00			19:55	20	19:26 (2)	20:47	46	20:12 (1)	21:32	15	20:18 (1)
5	08:26	07:53			06:56			06:44		19:04 (2)	05:40		19:12 (6)	04:59		20:03 (1)
	16:18	17:10			18:02			19:57	22	19:26 (2)	20:48	52	20:15 (1)	21:33	14	20:17 (1)
6	08:26	07:51			06:54			06:42		19:04 (2)	05:38		19:12 (6)	04:58		20:05 (1)
	16:19	17:12			18:04			19:58	22	19:26 (2)	20:50	57	20:17 (1)	21:34	12	20:17 (1)
7	08:26	07:50			06:52			06:40		19:04 (2)	05:37		19:12 (6)	04:57		20:06 (1)
	16:21	17:13			18:06			20:00	22	19:26 (2)	20:52	59	20:19 (1)	21:34	10	20:16 (1)
8	08:25	07:48		16:25 (5)	06:50		17:21 (4)	06:38		19:03 (2)	05:35		19:12 (6)	04:57		20:08 (1)
	16:22	17:15	11	16:36 (5)	18:07	9	17:30 (4)	20:02	22	19:25 (2)	20:53	61	20:19 (1)	21:35	7	20:15 (1)
9	08:25	07:46		16:23 (5)	06:47		17:17 (4)	06:35		19:03 (2)	05:33		19:13 (6)	04:56		20:10 (1)
	16:23	17:17	17	16:40 (5)	18:09	16	17:33 (4)	20:04	22	19:25 (2)	20:55	62	20:21 (1)	21:36	2	20:12 (1)
10	08:24	07:44		16:22 (5)	06:45		17:14 (4)	06:33		19:04 (2)	05:31		19:13 (6)	04:56		
	16:25	17:19	19	16:41 (5)	18:11	20	17:34 (4)	20:05	20	19:24 (2)	20:57	62	20:21 (1)	21:37		
11	08:24	07:42		16:20 (5)	06:43		17:13 (4)	06:31		19:04 (2)	05:30		19:13 (6)	04:55		
	16:26	17:21	23	16:43 (5)	18:13	32	17:45 (3)	20:07	19	19:23 (2)	20:58	64	20:21 (1)	21:38		
12	08:23	07:40		16:20 (5)	06:40		17:12 (4)	06:28		19:06 (2)	05:28		19:14 (6)	04:55		
	16:28	17:23	24	16:44 (5)	18:15	35	17:47 (3)	20:09	16	19:22 (2)	21:00	64	20:22 (1)	21:39		
13	08:22	07:39		16:19 (5)	06:38		17:10 (4)	06:26		19:06 (2)	05:26		19:14 (6)	04:55		
	16:29	17:25	26	16:45 (5)	18:16	38	17:48 (3)	20:10	13	19:19 (2)	21:01	63	20:22 (1)	21:39		
14	08:21	07:37		16:18 (5)	06:36		17:09 (4)	06:24		19:09 (2)	05:25		19:15 (6)	04:55		
	16:31	17:27	27	16:45 (5)	18:18	40	17:49 (3)	20:12	8	19:17 (2)	21:03	63	20:23 (1)	21:40		
15	08:21	07:35		16:17 (5)	06:34		17:09 (4)	06:22			05:23		19:15 (6)	04:54		
	16:32	17:29	28	16:45 (5)	18:20	41	17:50 (3)	20:14			21:05	63	20:23 (1)	21:40		
16	08:20	07:33		16:17 (5)	06:31		17:08 (4)	06:19			05:21		19:16 (6)	04:54		
	16:34	17:30	28	16:45 (5)	18:22	42	17:50 (3)	20:16			21:06	61	20:23 (1)	21:41		
17	08:19	07:31		16:16 (5)	06:29		17:08 (4)	06:17			05:20		19:17 (6)	04:54		
	16:35	17:32	29	16:45 (5)	18:23	42	17:50 (3)	20:17			21:08	60	20:24 (1)	21:41		
18	08:18	07:29		16:17 (5)	06:27		17:07 (4)	06:15			05:18		19:17 (6)	04:54		
	16:37	17:34	28	16:45 (5)	18:25	42	17:49 (3)	20:19			21:09	58	20:23 (1)	21:42		
19	08:17	07:27		16:17 (5)	06:24		17:07 (4)	06:13			05:17		19:19 (6)	04:54		
	16:39	17:36	28	16:45 (5)	18:27	42	17:49 (3)	20:21			21:11	56	20:23 (1)	21:42		
20	08:16	07:25		16:17 (5)	06:22		17:08 (4)	06:11		19:31 (6)	05:16		19:20 (6)	04:54		
	16:40	17:38	28	16:45 (5)	18:29	41	17:49 (3)	20:23	6	19:37 (6)	21:12	53	20:23 (1)	21:42		
21	08:15	07:23		16:18 (5)	06:20		17:07 (4)	06:09		19:26 (6)	05:14		19:22 (6)	04:54		
	16:42	17:40	27	16:45 (5)	18:30	40	17:47 (3)	20:24	15	19:41 (6)	21:14	51	20:24 (1)	21:43		
22	08:13	07:20		16:18 (5)	06:17		17:08 (4)	06:06		19:23 (6)	05:13		19:22 (6)	04:55		
	16:44	17:42	26	16:44 (5)	18:32	38	17:46 (3)	20:26	21	19:44 (6)	21:15	48	20:23 (1)	21:43		
23	08:12	07:18		16:18 (5)	06:15		17:09 (4)	06:04		19:21 (6)	05:12		19:24 (6)	04:55		
	16:46	17:44	25	16:43 (5)	18:34	36	17:45 (3)	20:28	25	19:46 (6)	21:17	45	20:23 (1)	21:43		
24	08:11	07:16		16:20 (5)	06:12		17:10 (4)	06:02		19:19 (6)	05:10		19:27 (6)	04:55		
	16:47	17:45	22	16:42 (5)	18:36	31	17:41 (3)	20:30	28	19:47 (6)	21:18	39	20:23 (1)	21:43		
25	08:10	07:14		16:21 (5)	06:10		17:12 (4)	06:00		19:18 (6)	05:09		19:55 (1)	04:55		
	16:49	17:47	19	16:40 (5)	18:37	17	17:29 (4)	20:31	30	19:48 (6)	21:19	27	20:22 (1)	21:43		
26	08:08	07:12		16:24 (5)	06:08		17:14 (4)	05:58		19:17 (6)	05:08		19:56 (1)	04:56		
	16:51	17:49	14	16:38 (5)	18:39	13	17:27 (4)	20:33	32	19:49 (6)	21:21	26	20:22 (1)	21:43		
27	08:07	07:10		16:27 (5)	06:05			05:56		19:16 (6)	05:07		19:56 (1)	04:56		
	16:53	17:51	8	16:35 (5)	18:41			20:35	34	19:50 (6)	21:22	26	20:22 (1)	21:43		
28	08:06	07:08			06:03			05:54		19:15 (6)	05:06		19:57 (1)	04:57		
	16:55	17:53			18:43			20:36	35	19:50 (6)	21:23	24	20:21 (1)	21:43		
29	08:04				07:01			05:52		19:14 (6)	05:05		19:57 (1)	04:57		
	16:57				19:44			20:38	37	19:51 (6)	21:25	24	20:21 (1)	21:43		
30	08:03				06:58			05:50		19:13 (6)	05:04		19:58 (1)	04:58		
	16:58				19:46			20:40	38	19:51 (6)	21:26	22	20:20 (1)	21:43		
31	08:01				06:56		19:14 (2)				05:03		20:00 (1)			
	17:00				19:48	6	19:20 (2)				21:27	21	20:21 (1)			
Sonnenscheinstunden	257	277			367			417			487			501		
astr.max.mögl.Beschattung			457			621			553			1475			115	
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,75			0,75			0,70			0,67			0,65	
Gesamte Reduktion			0,19			0,22			0,26			0,30			0,26	
Met.wahrsch.Beschattung			86			135			146			443			30	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AQ - Hauptstraße 36A

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		19:24 (6)	06:26		19:03 (2)	07:16		17:50 (4)	07:11		15:51 (5)	08:03
	21:42			21:10	64	20:33 (1)	20:07	19	19:22 (2)	18:56	37	18:27 (3)	16:49	19	16:10 (5)	16:08
2	04:59			05:37		19:23 (6)	06:28		19:02 (2)	07:18		17:51 (4)	07:13		15:52 (5)	08:05
	21:42			21:08	63	20:31 (1)	20:05	20	19:22 (2)	18:54	34	18:25 (3)	16:47	16	16:08 (5)	16:07
3	05:00			05:39		19:23 (6)	06:30		19:01 (2)	07:20		17:51 (4)	07:15		15:55 (5)	08:06
	21:42			21:06	63	20:31 (1)	20:02	22	19:23 (2)	18:52	22	18:13 (4)	16:46	10	16:05 (5)	16:07
4	05:01		20:14 (1)	05:40		19:22 (6)	06:31		19:01 (2)	07:22		17:53 (4)	07:17			08:07
	21:41	5	20:19 (1)	21:05	63	20:30 (1)	20:00	22	19:23 (2)	18:49	18	18:11 (4)	16:44			16:06
5	05:02		20:13 (1)	05:42		19:22 (6)	06:33		19:00 (2)	07:23		17:56 (4)	07:19			08:09
	21:41	8	20:21 (1)	21:03	60	20:29 (1)	19:58	22	19:22 (2)	18:47	12	18:08 (4)	16:42			16:06
6	05:02		20:12 (1)	05:44		19:21 (6)	06:35		19:00 (2)	07:25			07:20			08:10
	21:40	11	20:23 (1)	21:01	60	20:28 (1)	19:55	22	19:22 (2)	18:45			16:40			16:05
7	05:03		20:10 (1)	05:45		19:22 (6)	06:36		18:59 (2)	07:27			07:22			08:11
	21:40	13	20:23 (1)	20:59	55	20:26 (1)	19:53	22	19:21 (2)	18:43			16:38			16:05
8	05:04		20:10 (1)	05:47		19:21 (6)	06:38		19:00 (2)	07:28			07:24			08:12
	21:39	14	20:24 (1)	20:57	51	20:23 (1)	19:51	20	19:20 (2)	18:40			16:37			16:04
9	05:05		20:09 (1)	05:48		19:21 (6)	06:40		19:01 (2)	07:30			07:26			08:14
	21:38	16	20:25 (1)	20:56	40	20:01 (6)	19:48	19	19:20 (2)	18:38			16:35			16:04
10	05:06		20:08 (1)	05:50		19:21 (6)	06:41		19:01 (2)	07:32			07:28			08:15
	21:38	18	20:26 (1)	20:54	39	20:00 (6)	19:46	17	19:18 (2)	18:36			16:33			16:04
11	05:07		20:08 (1)	05:52		19:21 (6)	06:43		19:03 (2)	07:34			07:29			08:16
	21:37	19	20:27 (1)	20:52	39	20:00 (6)	19:44	13	19:16 (2)	18:33			16:32			16:04
12	05:08		20:07 (1)	05:53		19:21 (6)	06:45		19:04 (2)	07:35			07:31			08:17
	21:36	21	20:28 (1)	20:50	38	19:59 (6)	19:41	8	19:12 (2)	18:31			16:30			16:04
13	05:10		20:07 (1)	05:55		19:22 (6)	06:46			07:37			07:33			08:18
	21:35	21	20:28 (1)	20:48	37	19:59 (6)	19:39			18:29			16:29			16:03
14	05:11		20:06 (1)	05:57		19:22 (6)	06:48			07:39			07:35			08:19
	21:34	23	20:29 (1)	20:46	37	19:59 (6)	19:37			18:27			16:27			16:03
15	05:12		20:07 (1)	05:58		19:22 (6)	06:50			07:41		16:58 (5)	07:37			08:20
	21:33	24	20:31 (1)	20:44	36	19:58 (6)	19:34			18:24	11	17:09 (5)	16:26			16:04
16	05:13		20:06 (1)	06:00		19:23 (6)	06:51			07:42		16:55 (5)	07:38			08:21
	21:32	25	20:31 (1)	20:42	34	19:57 (6)	19:32			18:22	16	17:11 (5)	16:24			16:04
17	05:14		20:06 (1)	06:02		19:23 (6)	06:53		18:03 (4)	07:44		16:52 (5)	07:40			08:22
	21:31	25	20:31 (1)	20:40	32	19:55 (6)	19:29	11	18:14 (4)	18:20	20	17:12 (5)	16:23			16:04
18	05:16		20:05 (1)	06:03		19:25 (6)	06:55		18:00 (4)	07:46		16:50 (5)	07:42			08:22
	21:30	27	20:32 (1)	20:38	30	19:55 (6)	19:27	16	18:16 (4)	18:18	23	17:13 (5)	16:22			16:04
19	05:17		19:38 (6)	06:05		19:25 (6)	06:56		17:58 (4)	07:48		16:49 (5)	07:44			08:23
	21:29	34	20:32 (1)	20:35	28	19:53 (6)	19:25	28	18:28 (3)	18:16	25	17:14 (5)	16:20			16:04
20	05:18		19:35 (6)	06:07		19:27 (6)	06:58		17:55 (4)	07:49		16:48 (5)	07:45			08:24
	21:27	41	20:32 (1)	20:33	24	19:51 (6)	19:22	35	18:30 (3)	18:14	27	17:15 (5)	16:19			16:05
21	05:20		19:34 (6)	06:08		19:29 (6)	07:00		17:54 (4)	07:51		16:48 (5)	07:47			08:24
	21:26	45	20:33 (1)	20:31	20	19:49 (6)	19:20	37	18:31 (3)	18:11	27	17:15 (5)	16:18			16:05
22	05:21		19:32 (6)	06:10		19:31 (6)	07:01		17:53 (4)	07:53		16:47 (5)	07:49			08:25
	21:25	49	20:33 (1)	20:29	15	19:46 (6)	19:18	39	18:32 (3)	18:09	29	17:16 (5)	16:17			16:06
23	05:22		19:31 (6)	06:12		19:38 (6)	07:03		17:51 (4)	07:55		16:47 (5)	07:50			08:25
	21:24	51	20:33 (1)	20:27	1	19:39 (6)	19:15	41	18:32 (3)	18:07	29	17:16 (5)	16:15			16:06
24	05:24		19:30 (6)	06:13			07:05		17:51 (4)	07:57		16:47 (5)	07:52			08:26
	21:22	55	20:34 (1)	20:25			19:13	42	18:33 (3)	18:05	29	17:16 (5)	16:14			16:07
25	05:25		19:29 (6)	06:15			07:06		17:50 (4)	06:58		15:47 (5)	07:54			08:26
	21:21	57	20:34 (1)	20:23			19:11	43	18:33 (3)	17:03	29	16:16 (5)	16:13			16:07
26	05:27		19:27 (6)	06:17			07:08		17:49 (4)	07:00		15:47 (5)	07:55			08:26
	21:19	59	20:33 (1)	20:20			19:08	43	18:32 (3)	17:01	29	16:16 (5)	16:12			16:08
27	05:28		19:27 (6)	06:18			07:10		17:49 (4)	07:02		15:47 (5)	07:57			08:27
	21:18	61	20:34 (1)	20:18			19:06	43	18:32 (3)	16:59	28	16:15 (5)	16:11			16:09
28	05:30		19:26 (6)	06:20			07:11		17:49 (4)	07:04		15:48 (5)	07:59			08:27
	21:16	61	20:33 (1)	20:16			19:03	42	18:31 (3)	16:57	27	16:15 (5)	16:10			16:10
29	05:31		19:26 (6)	06:21		19:09 (2)	07:13		17:49 (4)	07:06		15:47 (5)	08:00			08:27
	21:15	62	20:34 (1)	20:14	9	19:18 (2)	19:01	40	18:29 (3)	16:55	26	16:13 (5)	16:10			16:10
30	05:33		19:25 (6)	06:23		19:07 (2)	07:15		17:49 (4)	07:08		15:48 (5)	08:02			08:27
	21:13	63	20:33 (1)	20:11	13	19:20 (2)	18:59	39	18:28 (3)	16:53	24	16:12 (5)	16:09			16:11
31	05:34		19:24 (6)	06:25		19:04 (2)				07:09		15:49 (5)				08:27
	21:12	63	20:32 (1)	20:09	17	19:21 (2)				16:51	22	16:11 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		971			968			725			544			45		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,66			0,68			0,74			0,75			0,75		
Gesamte Reduktion		0,28			0,30			0,28			0,23			0,16		
Met.wahrsch.Beschattung		270			294			201			127			7		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AR - Hauptstraße 34

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar			Februar			März			April			Mai			Juni		
1	08:27			08:00			07:05			06:54		19:07 (2)	05:48		19:10 (6)	05:02		20:00 (1)
	16:14			17:02			17:55			19:50	16	19:23 (2)	20:42	39	19:49 (6)	21:28	16	20:16 (1)
2	08:27			07:58			07:03			06:51		19:05 (2)	05:46		19:10 (6)	05:01		20:01 (1)
	16:15			17:04			17:56			19:51	19	19:24 (2)	20:43	39	19:49 (6)	21:29	13	20:14 (1)
3	08:27			07:56			07:01			06:49		19:04 (2)	05:44		19:09 (6)	05:00		20:02 (1)
	16:16			17:06			17:58			19:53	20	19:24 (2)	20:45	49	20:11 (1)	21:30	11	20:13 (1)
4	08:27			07:55			06:59			06:47		19:04 (2)	05:42		19:09 (6)	04:59		20:04 (1)
	16:17			17:08			18:00			19:55	21	19:25 (2)	20:47	54	20:14 (1)	21:32	8	20:12 (1)
5	08:26			07:53			06:56			06:44		19:02 (2)	05:40		19:09 (6)	04:59		20:06 (1)
	16:18			17:10			18:02			19:57	22	19:24 (2)	20:48	57	20:15 (1)	21:33	4	20:10 (1)
6	08:26			07:51			06:54			06:42		19:02 (2)	05:38		19:10 (6)	04:58		
	16:19			17:12			18:04			19:58	22	19:24 (2)	20:50	59	20:17 (1)	21:34		
7	08:26			07:50		16:24 (5)	06:52		17:18 (4)	06:40		19:02 (2)	05:37		19:10 (6)	04:57		
	16:21			17:13	10	16:34 (5)	18:06	9	17:27 (4)	20:00	22	19:24 (2)	20:52	61	20:18 (1)	21:34		
8	08:25			07:48		16:21 (5)	06:50		17:15 (4)	06:38		19:01 (2)	05:35		19:09 (6)	04:57		
	16:22			17:15	16	16:37 (5)	18:07	16	17:31 (4)	20:02	22	19:23 (2)	20:53	63	20:18 (1)	21:35		
9	08:25			07:46		16:20 (5)	06:47		17:13 (4)	06:35		19:02 (2)	05:33		19:10 (6)	04:56		
	16:23			17:17	20	16:40 (5)	18:09	20	17:33 (4)	20:04	21	19:23 (2)	20:55	64	20:20 (1)	21:36		
10	08:24			07:44		16:19 (5)	06:45		17:11 (4)	06:33		19:03 (2)	05:31		19:11 (6)	04:56		
	16:25			17:19	22	16:41 (5)	18:11	30	17:42 (3)	20:05	19	19:22 (2)	20:57	64	20:20 (1)	21:37		
11	08:24			07:42		16:18 (5)	06:43		17:10 (4)	06:31		19:04 (2)	05:30		19:11 (6)	04:55		
	16:26			17:21	24	16:42 (5)	18:13	35	17:45 (3)	20:07	17	19:21 (2)	20:58	64	20:20 (1)	21:38		
12	08:23			07:40		16:17 (5)	06:40		17:09 (4)	06:28		19:05 (2)	05:28		19:12 (6)	04:55		
	16:28			17:23	26	16:43 (5)	18:15	38	17:47 (3)	20:09	14	19:19 (2)	21:00	61	20:20 (1)	21:39		
13	08:22			07:39		16:17 (5)	06:38		17:07 (4)	06:26		19:07 (2)	05:26		19:12 (6)	04:55		
	16:29			17:25	26	16:43 (5)	18:16	40	17:47 (3)	20:10	8	19:15 (2)	21:01	61	20:20 (1)	21:39		
14	08:21			07:37		16:16 (5)	06:36		17:07 (4)	06:24			05:25		19:13 (6)	04:55		
	16:31			17:27	28	16:44 (5)	18:18	41	17:48 (3)	20:12			21:03	61	20:21 (1)	21:40		
15	08:21			07:35		16:15 (5)	06:34		17:07 (4)	06:22			05:23		19:14 (6)	04:54		
	16:32			17:29	28	16:43 (5)	18:20	42	17:49 (3)	20:14			21:05	58	20:20 (1)	21:40		
16	08:20			07:33		16:15 (5)	06:31		17:06 (4)	06:19			05:21		19:15 (6)	04:54		
	16:34			17:30	29	16:44 (5)	18:22	42	17:48 (3)	20:16			21:06	57	20:21 (1)	21:41		
17	08:19			07:31		16:15 (5)	06:29		17:06 (4)	06:17			05:20		19:17 (6)	04:54		
	16:35			17:32	29	16:44 (5)	18:23	42	17:48 (3)	20:17			21:08	55	20:21 (1)	21:41		
18	08:18			07:29		16:15 (5)	06:27		17:05 (4)	06:15			05:18		19:17 (6)	04:54		
	16:37			17:34	29	16:44 (5)	18:25	42	17:47 (3)	20:19			21:09	52	20:20 (1)	21:42		
19	08:17			07:27		16:15 (5)	06:24		17:06 (4)	06:13		19:25 (6)	05:17		19:19 (6)	04:54		
	16:39			17:36	28	16:43 (5)	18:27	41	17:47 (3)	20:21	12	19:37 (6)	21:11	50	20:21 (1)	21:42		
20	08:16			07:25		16:16 (5)	06:22		17:06 (4)	06:11		19:21 (6)	05:16		19:21 (6)	04:54		
	16:40			17:38	27	16:43 (5)	18:29	40	17:46 (3)	20:23	19	19:40 (6)	21:12	45	20:21 (1)	21:42		
21	08:15			07:23		16:17 (5)	06:20		17:06 (4)	06:09		19:19 (6)	05:14		19:24 (6)	04:54		
	16:42			17:40	26	16:43 (5)	18:30	39	17:45 (3)	20:24	23	19:42 (6)	21:14	40	20:21 (1)	21:43		
22	08:13			07:20		16:18 (5)	06:17		17:07 (4)	06:06		19:17 (6)	05:13		19:28 (6)	04:55		
	16:44			17:42	24	16:42 (5)	18:32	36	17:43 (3)	20:26	27	19:44 (6)	21:15	30	20:20 (1)	21:43		
23	08:12			07:18		16:18 (5)	06:15		17:09 (4)	06:04		19:16 (6)	05:12		19:53 (1)	04:55		
	16:46			17:44	22	16:40 (5)	18:34	32	17:41 (3)	20:28	29	19:45 (6)	21:17	27	20:20 (1)	21:43		
24	08:11			07:16		16:19 (5)	06:12		17:10 (4)	06:02		19:14 (6)	05:10		19:53 (1)	04:55		
	16:47			17:45	20	16:39 (5)	18:36	17	17:27 (4)	20:30	32	19:46 (6)	21:18	26	20:19 (1)	21:43		
25	08:10			07:14		16:22 (5)	06:10		17:13 (4)	06:00		19:13 (6)	05:09		19:54 (1)	04:55		
	16:49			17:47	15	16:37 (5)	18:37	11	17:24 (4)	20:31	34	19:47 (6)	21:19	25	20:19 (1)	21:43		
26	08:08			07:12		16:25 (5)	06:08			05:58		19:12 (6)	05:08		19:55 (1)	04:56		
	16:51			17:49	9	16:34 (5)	18:39			20:33	35	19:47 (6)	21:21	24	20:19 (1)	21:43		
27	08:07			07:10			06:05			05:56		19:11 (6)	05:07		19:55 (1)	04:56		
	16:53			17:51			18:41			20:35	37	19:48 (6)	21:22	23	20:18 (1)	21:43		
28	08:06			07:08			06:03			05:54		19:11 (6)	05:06		19:56 (1)	04:57		
	16:55			17:53			18:43			20:36	37	19:48 (6)	21:23	22	20:18 (1)	21:43		
29	08:04						07:01			05:52		19:10 (6)	05:05		19:57 (1)	04:57		
	16:57						19:44			20:38	38	19:48 (6)	21:25	20	20:17 (1)	21:43		
30	08:03						06:58		19:13 (2)	05:50		19:09 (6)	05:04		19:57 (1)	04:58		
	16:58						19:46	4	19:17 (2)	20:40	39	19:48 (6)	21:26	19	20:16 (1)	21:43		
31	08:01						06:56		19:09 (2)				05:03		19:59 (1)			
	17:00						19:48	12	19:21 (2)				21:27	17	20:16 (1)			
Sonnenscheinstunden	257			277			367			417			487			501		
astr.max.mögl.Beschattung			458					629			605			1386			52	
Red.Sonnenscheinwahrsch.			0,25					0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer			1,00					1,00			1,00			1,00			1,00	
Reduktion Windrichtung			0,75					0,75			0,70			0,67			0,65	
Gesamte Reduktion			0,19					0,22			0,26			0,30			0,26	
Met.wahrsch.Beschattung			86					137			160			417			14	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AR - Hauptstraße 34

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		19:22 (6)	06:26		19:03 (2)	07:16		17:47 (4)	07:11		15:48 (5)	08:03
	21:42			21:10	63	20:31 (1)	20:07	17	19:20 (2)	18:56	39	18:26 (3)	16:49	21	16:09 (5)	16:08
2	04:59			05:37		19:21 (6)	06:28		19:01 (2)	07:18		17:48 (4)	07:13		15:49 (5)	08:05
	21:42			21:08	63	20:30 (1)	20:05	19	19:20 (2)	18:54	37	18:25 (3)	16:47	19	16:08 (5)	16:07
3	05:00			05:39		19:21 (6)	06:30		19:00 (2)	07:20		17:48 (4)	07:15		15:51 (5)	08:06
	21:42			21:06	63	20:30 (1)	20:02	21	19:21 (2)	18:52	33	18:21 (3)	16:46	15	16:06 (5)	16:07
4	05:01			05:40		19:20 (6)	06:31		19:00 (2)	07:22		17:49 (4)	07:17		15:54 (5)	08:07
	21:41			21:05	63	20:29 (1)	20:00	21	19:21 (2)	18:49	22	18:11 (4)	16:44	9	16:03 (5)	16:06
5	05:02			05:42		19:20 (6)	06:33		18:58 (2)	07:23		17:51 (4)	07:19			08:09
	21:41			21:03	62	20:28 (1)	19:58	22	19:20 (2)	18:47	18	18:09 (4)	16:42			16:06
6	05:02			05:44		19:19 (6)	06:35		18:58 (2)	07:25		17:53 (4)	07:20			08:10
	21:40			21:01	61	20:27 (1)	19:55	23	19:21 (2)	18:45	13	18:06 (4)	16:40			16:05
7	05:03			05:45		19:19 (6)	06:36		18:57 (2)	07:27			07:22			08:11
	21:40			20:59	59	20:26 (1)	19:53	23	19:20 (2)	18:43			16:38			16:05
8	05:04		20:11 (1)	05:47		19:18 (6)	06:38		18:58 (2)	07:28			07:24			08:12
	21:39	7	20:18 (1)	20:57	57	20:24 (1)	19:51	21	19:19 (2)	18:40			16:37			16:04
9	05:05		20:10 (1)	05:48		19:18 (6)	06:40		18:58 (2)	07:30			07:26			08:14
	21:38	10	20:20 (1)	20:56	53	20:22 (1)	19:48	21	19:19 (2)	18:38			16:35			16:04
10	05:06		20:09 (1)	05:50		19:18 (6)	06:41		18:58 (2)	07:32			07:28			08:15
	21:38	12	20:21 (1)	20:54	45	20:18 (1)	19:46	19	19:17 (2)	18:36			16:33			16:04
11	05:07		20:08 (1)	05:52		19:18 (6)	06:43		19:00 (2)	07:34			07:29			08:16
	21:37	14	20:22 (1)	20:52	40	19:58 (6)	19:44	16	19:16 (2)	18:33			16:32			16:04
12	05:08		20:07 (1)	05:53		19:18 (6)	06:45		19:00 (2)	07:35			07:31			08:17
	21:36	17	20:24 (1)	20:50	39	19:57 (6)	19:41	13	19:13 (2)	18:31			16:30			16:04
13	05:10		20:06 (1)	05:55		19:18 (6)	06:46		19:04 (2)	07:37			07:33			08:18
	21:35	18	20:24 (1)	20:48	39	19:57 (6)	19:39	6	19:10 (2)	18:29			16:29			16:03
14	05:11		20:05 (1)	05:57		19:19 (6)	06:48			07:39			07:35			08:19
	21:34	20	20:25 (1)	20:46	38	19:57 (6)	19:37			18:27			16:27			16:03
15	05:12		20:06 (1)	05:58		19:18 (6)	06:50			07:41			07:37			08:20
	21:33	21	20:27 (1)	20:44	37	19:55 (6)	19:34			18:24			16:26			16:04
16	05:13		20:05 (1)	06:00		19:19 (6)	06:51			07:42		16:56 (5)	07:38			08:21
	21:32	22	20:27 (1)	20:42	36	19:55 (6)	19:32			18:22	11	17:07 (5)	16:24			16:04
17	05:14		20:04 (1)	06:02		19:19 (6)	06:53			07:44		16:52 (5)	07:40			08:22
	21:31	24	20:28 (1)	20:40	35	19:54 (6)	19:29			18:20	17	17:09 (5)	16:23			16:04
18	05:16		20:04 (1)	06:03		19:20 (6)	06:55		18:01 (4)	07:46		16:50 (5)	07:42			08:22
	21:30	24	20:28 (1)	20:38	33	19:53 (6)	19:27	10	18:11 (4)	18:18	20	17:10 (5)	16:22			16:04
19	05:17		20:03 (1)	06:05		19:20 (6)	06:56		17:58 (4)	07:48		16:49 (5)	07:44			08:23
	21:29	26	20:29 (1)	20:35	31	19:51 (6)	19:25	16	18:14 (4)	18:16	23	17:12 (5)	16:20			16:04
20	05:18		20:02 (1)	06:07		19:21 (6)	06:58		17:55 (4)	07:49		16:48 (5)	07:45			08:24
	21:27	27	20:29 (1)	20:33	30	19:51 (6)	19:22	30	18:26 (3)	18:14	25	17:13 (5)	16:19			16:05
21	05:20		20:03 (1)	06:08		19:23 (6)	07:00		17:53 (4)	07:51		16:47 (5)	07:47			08:24
	21:26	27	20:30 (1)	20:31	26	19:49 (6)	19:20	35	18:28 (3)	18:11	26	17:13 (5)	16:18			16:05
22	05:21		19:35 (6)	06:10		19:24 (6)	07:01		17:52 (4)	07:53		16:46 (5)	07:49			08:25
	21:25	36	20:30 (1)	20:29	23	19:47 (6)	19:18	38	18:30 (3)	18:09	28	17:14 (5)	16:17			16:06
23	05:22		19:32 (6)	06:12		19:26 (6)	07:03		17:50 (4)	07:55		16:46 (5)	07:50			08:25
	21:24	42	20:30 (1)	20:27	19	19:45 (6)	19:15	40	18:30 (3)	18:07	28	17:14 (5)	16:15			16:06
24	05:24		19:31 (6)	06:13		19:29 (6)	07:05		17:49 (4)	07:57		16:46 (5)	07:52			08:26
	21:22	46	20:31 (1)	20:25	11	19:40 (6)	19:13	42	18:31 (3)	18:05	28	17:14 (5)	16:14			16:07
25	05:25		19:29 (6)	06:15			07:06		17:49 (4)	06:58		15:45 (5)	07:54			08:26
	21:21	50	20:31 (1)	20:23			19:11	42	18:31 (3)	17:03	29	16:14 (5)	16:13			16:07
26	05:27		19:27 (6)	06:17			07:08		17:47 (4)	07:00		15:45 (5)	07:55			08:26
	21:19	54	20:31 (1)	20:20			19:08	43	18:30 (3)	17:01	29	16:14 (5)	16:12			16:08
27	05:28		19:26 (6)	06:18			07:10		17:47 (4)	07:02		15:46 (5)	07:57			08:27
	21:18	56	20:32 (1)	20:18			19:06	43	18:30 (3)	16:59	28	16:14 (5)	16:11			16:09
28	05:30		19:25 (6)	06:20			07:11		17:47 (4)	07:04		15:46 (5)	07:59			08:27
	21:16	58	20:31 (1)	20:16			19:03	43	18:30 (3)	16:57	27	16:13 (5)	16:10			16:10
29	05:31		19:25 (6)	06:21			07:13		17:46 (4)	07:06		15:45 (5)	08:00			08:27
	21:15	59	20:32 (1)	20:14			19:01	42	18:28 (3)	16:55	27	16:12 (5)	16:10			16:10
30	05:33		19:23 (6)	06:23		19:08 (2)	07:15		17:47 (4)	07:08		15:46 (5)	08:02			08:27
	21:13	61	20:31 (1)	20:11	8	19:16 (2)	18:59	41	18:28 (3)	16:53	25	16:11 (5)	16:09			16:11
31	05:34		19:22 (6)	06:25		19:04 (2)				07:09		15:47 (5)				08:27
	21:12	63	20:31 (1)	20:09	14	19:18 (2)				16:51	23	16:10 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		794			1048			707			556			64		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,66			0,68			0,74			0,75			0,75		
Gesamte Reduktion		0,28			0,30			0,28			0,23			0,16		
Met.wahrsch.Beschattung		221			319			196			130			10		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AS - Bahnhofstraße 1

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März		April		Mai		Juni	
1	08:27		08:00		07:05		06:54		19:02 (2)		05:48	19:03 (6)	05:02	19:58 (1)
	16:14		17:02		17:55		19:50	20	19:22 (2)	41	20:42	19:44 (6)	21:28	12 20:10 (1)
2	08:27		07:58		07:03		06:51		19:00 (2)		05:46	19:03 (6)	05:01	20:00 (1)
	16:15		17:04		17:56		19:51	21	19:21 (2)	52	20:43	20:09 (1)	21:29	9 20:09 (1)
3	08:27		07:56		07:01		06:49		19:00 (2)		05:44	19:03 (6)	05:00	20:02 (1)
	16:16		17:06		17:58		19:53	22	19:22 (2)	56	20:45	20:11 (1)	21:30	4 20:06 (1)
4	08:27		07:55	16:18 (5)	06:59		06:47		18:59 (2)		05:42	19:03 (6)	04:59	
	16:17		17:08	10 16:28 (5)	18:00		19:55	23	19:22 (2)	60	20:47	20:13 (1)	21:32	
5	08:26		07:53	16:15 (5)	06:56	17:11 (4)	06:44		18:58 (2)		05:40	19:03 (6)	04:59	
	16:18		17:10	15 16:30 (5)	18:02	13 17:24 (4)	19:57	23	19:21 (2)	62	20:48	20:14 (1)	21:33	
6	08:26		07:51	16:13 (5)	06:54	17:09 (4)	06:42		18:59 (2)		05:38	19:04 (6)	04:58	
	16:19		17:12	19 16:32 (5)	18:04	18 17:27 (4)	19:58	22	19:21 (2)	63	20:50	20:15 (1)	21:34	
7	08:26		07:50	16:12 (5)	06:52	17:06 (4)	06:40		18:59 (2)		05:37	19:04 (6)	04:57	
	16:21		17:13	21 16:33 (5)	18:06	22 17:28 (4)	20:00	21	19:20 (2)	64	20:52	20:16 (1)	21:34	
8	08:25		07:48	16:11 (5)	06:50	17:05 (4)	06:38		18:59 (2)		05:35	19:04 (6)	04:57	
	16:22		17:15	23 16:34 (5)	18:07	28 17:37 (3)	20:02	20	19:19 (2)	64	20:53	20:16 (1)	21:35	
9	08:25		07:46	16:11 (5)	06:47	17:04 (4)	06:35		18:59 (2)		05:33	19:05 (6)	04:56	
	16:23		17:17	25 16:36 (5)	18:09	37 17:41 (3)	20:04	19	19:18 (2)	64	20:55	20:17 (1)	21:36	
10	08:24		07:44	16:10 (5)	06:45	17:02 (4)	06:33		19:01 (2)		05:31	19:05 (6)	04:56	
	16:25		17:19	27 16:37 (5)	18:11	40 17:42 (3)	20:05	16	19:17 (2)	64	20:57	20:17 (1)	21:37	
11	08:24		07:42	16:10 (5)	06:43	17:02 (4)	06:31		19:02 (2)		05:30	19:06 (6)	04:55	
	16:26		17:21	28 16:38 (5)	18:13	42 17:44 (3)	20:07	13	19:15 (2)	63	20:58	20:17 (1)	21:38	
12	08:23		07:40	16:10 (5)	06:40	17:01 (4)	06:28		19:06 (2)		05:28	19:07 (6)	04:55	
	16:28		17:23	28 16:38 (5)	18:15	44 17:45 (3)	20:09	5	19:11 (2)	63	21:00	20:18 (1)	21:39	
13	08:22		07:39	16:09 (5)	06:38	17:00 (4)	06:26				05:26	19:08 (6)	04:55	
	16:29		17:25	29 16:38 (5)	18:16	44 17:44 (3)	20:10			59	21:01	20:17 (1)	21:39	
14	08:21		07:37	16:09 (5)	06:36	17:00 (4)	06:24				05:25	19:09 (6)	04:55	
	16:31		17:27	29 16:38 (5)	18:18	45 17:45 (3)	20:12			59	21:03	20:18 (1)	21:40	
15	08:21		07:35	16:08 (5)	06:34	17:00 (4)	06:22				05:23	19:10 (6)	04:54	
	16:32		17:29	29 16:37 (5)	18:20	45 17:45 (3)	20:14			55	21:05	20:17 (1)	21:40	
16	08:20		07:33	16:09 (5)	06:31	17:00 (4)	06:19				05:21	19:12 (6)	04:54	
	16:34		17:30	28 16:37 (5)	18:22	44 17:44 (3)	20:16			53	21:06	20:18 (1)	21:41	
17	08:19		07:31	16:09 (5)	06:29	17:00 (4)	06:17		19:19 (6)		05:20	19:14 (6)	04:54	
	16:35		17:32	28 16:37 (5)	18:23	44 17:44 (3)	20:17	15	19:34 (6)	49	21:08	20:18 (1)	21:41	
18	08:18		07:29	16:10 (5)	06:27	17:00 (4)	06:15		19:16 (6)		05:18	19:15 (6)	04:54	
	16:37		17:34	27 16:37 (5)	18:25	42 17:42 (3)	20:19	20	19:36 (6)	46	21:09	20:17 (1)	21:42	
19	08:17		07:27	16:11 (5)	06:24	17:01 (4)	06:13		19:13 (6)		05:17	19:18 (6)	04:54	
	16:39		17:36	25 16:36 (5)	18:27	41 17:42 (3)	20:21	24	19:37 (6)	39	21:11	20:17 (1)	21:42	
20	08:16		07:25	16:12 (5)	06:22	17:02 (4)	06:11		19:11 (6)		05:16	19:48 (1)	04:54	
	16:40		17:38	23 16:35 (5)	18:29	39 17:41 (3)	20:23	28	19:39 (6)	29	21:12	20:17 (1)	21:42	
21	08:15		07:23	16:13 (5)	06:20	17:03 (4)	06:09		19:09 (6)		05:14	19:49 (1)	04:54	
	16:42		17:40	21 16:34 (5)	18:30	34 17:38 (3)	20:24	31	19:40 (6)	28	21:14	20:17 (1)	21:43	
22	08:13		07:20	16:15 (5)	06:17	17:05 (4)	06:06		19:08 (6)		05:13	19:49 (1)	04:55	
	16:44		17:42	18 16:33 (5)	18:32	24 17:35 (3)	20:26	33	19:41 (6)	27	21:15	20:16 (1)	21:43	
23	08:12		07:18	16:16 (5)	06:15	17:08 (4)	06:04		19:07 (6)		05:12	19:49 (1)	04:55	
	16:46		17:44	13 16:29 (5)	18:34	11 17:19 (4)	20:28	35	19:42 (6)	27	21:17	20:16 (1)	21:43	
24	08:11		07:16	16:21 (5)	06:12		06:02		19:06 (6)		05:10	19:50 (1)	04:55	
	16:47		17:45	4 16:25 (5)	18:36		20:30	36	19:42 (6)	26	21:18	20:16 (1)	21:43	
25	08:10		07:14		06:10		06:00		19:05 (6)		05:09	19:51 (1)	04:55	
	16:49		17:47		18:37		20:31	38	19:43 (6)	24	21:19	20:15 (1)	21:43	
26	08:08		07:12		06:08		05:58		19:05 (6)		05:08	19:52 (1)	04:56	
	16:51		17:49		18:39		20:33	38	19:43 (6)	23	21:21	20:15 (1)	21:43	
27	08:07		07:10		06:05		05:56		19:04 (6)		05:07	19:52 (1)	04:56	
	16:53		17:51		18:41		20:35	39	19:43 (6)	22	21:22	20:14 (1)	21:43	
28	08:06		07:08		06:03		05:54		19:03 (6)		05:06	19:53 (1)	04:57	
	16:55		17:53		18:43		20:36	41	19:44 (6)	20	21:23	20:13 (1)	21:43	
29	08:04				07:01	19:08 (2)	05:52		19:03 (6)		05:05	19:54 (1)	04:57	
	16:57				19:44	9 19:17 (2)	20:38	40	19:43 (6)	19	21:25	20:13 (1)	21:43	
30	08:03				06:58	19:05 (2)	05:50		19:03 (6)		05:04	19:55 (1)	04:58	
	16:58				19:46	14 19:19 (2)	20:40	40	19:43 (6)	17	21:26	20:12 (1)	21:43	
31	08:01				06:56	19:03 (2)					05:03	19:57 (1)		
	17:00				19:48	17 19:20 (2)				15	21:27	20:12 (1)		
Sonnenscheinstunden	257		277		367		417		487		501			
astr.max.mögl.Beschattung		470			697		683		1353		25			
Red.Sonnenscheinwahrsch.		0,25			0,29		0,37		0,45		0,40			
Reduktion Betriebsdauer		1,00			1,00		1,00		1,00		1,00			
Reduktion Windrichtung		0,74			0,75		0,71		0,67		0,66			
Gesamte Reduktion		0,19			0,22		0,27		0,30		0,26			
Met.wahrsch.Beschattung		88			152		181		409		7			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AS - Bahnhofstraße 1

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		19:17 (6)	06:26		19:01 (2)	07:16		17:40 (4)	07:11		15:39 (5)	08:03
	21:42			21:10	62	20:28 (1)	20:07	13	19:14 (2)	18:56	44	18:24 (3)	16:49	27	16:06 (5)	16:08
2	04:59			05:37		19:16 (6)	06:28		18:59 (2)	07:18		17:40 (4)	07:13		15:40 (5)	08:05
	21:42			21:08	63	20:27 (1)	20:05	16	19:15 (2)	18:54	43	18:23 (3)	16:47	25	16:05 (5)	16:07
3	05:00			05:39		19:16 (6)	06:30		18:57 (2)	07:20		17:40 (4)	07:15		15:41 (5)	08:06
	21:42			21:06	64	20:27 (1)	20:02	19	19:16 (2)	18:52	41	18:21 (3)	16:46	23	16:04 (5)	16:07
4	05:01			05:40		19:14 (6)	06:31		18:57 (2)	07:22		17:40 (4)	07:17		15:42 (5)	08:07
	21:41			21:05	65	20:26 (1)	20:00	20	19:17 (2)	18:49	39	18:19 (3)	16:44	21	16:03 (5)	16:06
5	05:02			05:42		19:14 (6)	06:33		18:55 (2)	07:23		17:41 (4)	07:19		15:43 (5)	08:09
	21:41			21:03	65	20:26 (1)	19:58	22	19:17 (2)	18:47	35	18:17 (3)	16:42	19	16:02 (5)	16:06
6	05:02			05:44		19:13 (6)	06:35		18:55 (2)	07:25		17:42 (4)	07:20		15:45 (5)	08:10
	21:40			21:01	64	20:25 (1)	19:55	22	19:17 (2)	18:45	24	18:06 (4)	16:40	15	16:00 (5)	16:05
7	05:03			05:45		19:13 (6)	06:36		18:54 (2)	07:27		17:43 (4)	07:22		15:48 (5)	08:11
	21:40			20:59	62	20:24 (1)	19:53	22	19:16 (2)	18:43	20	18:03 (4)	16:38	9	15:57 (5)	16:05
8	05:04			05:47		19:12 (6)	06:38		18:54 (2)	07:28		17:45 (4)	07:24			08:12
	21:39			20:57	62	20:23 (1)	19:51	22	19:16 (2)	18:40	16	18:01 (4)	16:37			16:04
9	05:05			05:48		19:12 (6)	06:40		18:54 (2)	07:30		17:48 (4)	07:26			08:14
	21:38			20:56	59	20:22 (1)	19:48	22	19:16 (2)	18:38	9	17:57 (4)	16:35			16:04
10	05:06		20:08 (1)	05:50		19:11 (6)	06:41		18:53 (2)	07:32			07:28			08:15
	21:38	7	20:15 (1)	20:54	56	20:19 (1)	19:46	22	19:15 (2)	18:36			16:33			16:04
11	05:07		20:06 (1)	05:52		19:12 (6)	06:43		18:54 (2)	07:34			07:29			08:16
	21:37	11	20:17 (1)	20:52	50	20:17 (1)	19:44	20	19:14 (2)	18:33			16:32			16:04
12	05:08		20:05 (1)	05:53		19:11 (6)	06:45		18:54 (2)	07:35			07:31			08:17
	21:36	14	20:19 (1)	20:50	41	19:52 (6)	19:41	18	19:12 (2)	18:31			16:30			16:04
13	05:10		20:04 (1)	05:55		19:11 (6)	06:46		18:56 (2)	07:37			07:33			08:18
	21:35	16	20:20 (1)	20:48	41	19:52 (6)	19:39	14	19:10 (2)	18:29			16:29			16:03
14	05:11		20:03 (1)	05:57		19:12 (6)	06:48		18:58 (2)	07:39			07:35			08:19
	21:34	18	20:21 (1)	20:46	40	19:52 (6)	19:37	10	19:08 (2)	18:27			16:27			16:03
15	05:12		20:03 (1)	05:58		19:11 (6)	06:50			07:41			07:37			08:20
	21:33	20	20:23 (1)	20:44	40	19:51 (6)	19:34			18:24			16:26			16:04
16	05:13		20:02 (1)	06:00		19:12 (6)	06:51			07:42			07:38			08:21
	21:32	21	20:23 (1)	20:42	39	19:51 (6)	19:32			18:22			16:24			16:04
17	05:14		20:02 (1)	06:02		19:11 (6)	06:53			07:44			07:40			08:22
	21:31	22	20:24 (1)	20:40	39	19:50 (6)	19:29			18:20			16:23			16:04
18	05:16		20:01 (1)	06:03		19:12 (6)	06:55			07:46		16:50 (5)	07:42			08:22
	21:30	23	20:24 (1)	20:38	37	19:49 (6)	19:27			18:18	9	16:59 (5)	16:22			16:04
19	05:17		20:00 (1)	06:05		19:12 (6)	06:56			07:48		16:46 (5)	07:44			08:23
	21:29	25	20:25 (1)	20:35	36	19:48 (6)	19:25			18:16	16	17:02 (5)	16:20			16:04
20	05:18		19:59 (1)	06:07		19:13 (6)	06:58		17:55 (4)	07:49		16:44 (5)	07:45			08:24
	21:27	26	20:25 (1)	20:33	34	19:47 (6)	19:22	8	18:03 (4)	18:14	19	17:03 (5)	16:19			16:05
21	05:20		20:00 (1)	06:08		19:14 (6)	07:00		17:51 (4)	07:51		16:43 (5)	07:47			08:24
	21:26	27	20:27 (1)	20:31	33	19:47 (6)	19:20	20	18:19 (3)	18:11	22	17:05 (5)	16:18			16:05
22	05:21		19:59 (1)	06:10		19:14 (6)	07:01		17:49 (4)	07:53		16:42 (5)	07:49			08:25
	21:25	28	20:27 (1)	20:29	31	19:45 (6)	19:18	32	18:23 (3)	18:09	24	17:06 (5)	16:17			16:06
23	05:22		19:58 (1)	06:12		19:16 (6)	07:03		17:46 (4)	07:55		16:41 (5)	07:50			08:25
	21:24	29	20:27 (1)	20:27	28	19:44 (6)	19:15	38	18:24 (3)	18:07	26	17:07 (5)	16:15			16:06
24	05:24		19:31 (6)	06:13		19:17 (6)	07:05		17:45 (4)	07:57		16:40 (5)	07:52			08:26
	21:22	35	20:28 (1)	20:25	24	19:41 (6)	19:13	40	18:25 (3)	18:05	27	17:07 (5)	16:14			16:07
25	05:25		19:27 (6)	06:15		19:19 (6)	07:06		17:44 (4)	06:58		15:39 (5)	07:54			08:26
	21:21	43	20:28 (1)	20:23	20	19:39 (6)	19:11	42	18:26 (3)	17:03	29	16:08 (5)	16:13			16:07
26	05:27		19:24 (6)	06:17		19:21 (6)	07:08		17:42 (4)	07:00		15:39 (5)	07:55			08:26
	21:19	48	20:28 (1)	20:20	14	19:35 (6)	19:08	43	18:25 (3)	17:01	29	16:08 (5)	16:12			16:08
27	05:28		19:23 (6)	06:18			07:10		17:42 (4)	07:02		15:39 (5)	07:57			08:27
	21:18	51	20:28 (1)	20:18			19:06	44	18:26 (3)	16:59	29	16:08 (5)	16:11			16:09
28	05:30		19:21 (6)	06:20			07:11		17:41 (4)	07:04		15:39 (5)	07:59			08:27
	21:16	55	20:28 (1)	20:16			19:03	45	18:26 (3)	16:57	29	16:08 (5)	16:10			16:10
29	05:31		19:21 (6)	06:21			07:13		17:40 (4)	07:06		15:38 (5)	08:00			08:27
	21:15	57	20:29 (1)	20:14			19:01	45	18:25 (3)	16:55	29	16:07 (5)	16:10			16:10
30	05:33		19:19 (6)	06:23			07:15		17:40 (4)	07:08		15:38 (5)	08:02			08:27
	21:13	59	20:28 (1)	20:11			18:59	44	18:24 (3)	16:53	28	16:06 (5)	16:09			16:11
31	05:34		19:18 (6)	06:25		19:05 (2)				07:09		15:39 (5)				08:27
	21:12	61	20:28 (1)	20:09	5	19:10 (2)				16:51	27	16:06 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		696			1174			663			614			139		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,67			0,69			0,74			0,75			0,74		
Gesamte Reduktion		0,28			0,31			0,28			0,23			0,16		
Met.wahrsch.Beschattung		194			360			184			143			22		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AT - Bahnhofstraße 2

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar		März		April		Mai		Juni
1	08:27	08:00		07:05		06:54		18:59 (2)	05:48	19:01 (6)	05:02
	16:14	17:02		17:55		19:50	21	19:20 (2)	20:42	55	20:09 (1)	21:28
2	08:27	07:58		07:03		06:51		18:58 (2)	05:46	19:01 (6)	05:01
	16:15	17:04		17:56		19:51	22	19:20 (2)	20:43	58	20:10 (1)	21:29
3	08:27	07:56	16:19 (5)	07:01		06:49		18:58 (2)	05:44	19:01 (6)	05:00
	16:16	17:06	7	16:26 (5)	17:58	19:53	22	19:20 (2)	20:45	60	20:11 (1)	21:30
4	08:27	07:55	16:15 (5)	06:59		17:10 (4)	06:47	18:58 (2)	05:42	19:01 (6)	04:59
	16:17	17:08	14	16:29 (5)	18:00	12	17:22 (4)	19:55	22	19:20 (2)	20:47	61	20:12 (1)	21:32
5	08:26	07:53	16:13 (5)	06:56		17:07 (4)	06:44	18:57 (2)	05:40	19:01 (6)	04:59
	16:18	17:10	18	16:31 (5)	18:02	18	17:25 (4)	19:57	22	19:19 (2)	20:48	62	20:12 (1)	21:33
6	08:26	07:51	16:12 (5)	06:54		17:05 (4)	06:42	18:57 (2)	05:38	19:02 (6)	04:58
	16:19	17:12	20	16:32 (5)	18:04	22	17:27 (4)	19:58	22	19:19 (2)	20:50	63	20:14 (1)	21:34
7	08:26	07:50	16:11 (5)	06:52		17:03 (4)	06:40	18:58 (2)	05:37	19:03 (6)	04:57
	16:21	17:13	22	16:33 (5)	18:06	24	17:27 (4)	20:00	20	19:18 (2)	20:52	61	20:14 (1)	21:34
8	08:25	07:48	16:10 (5)	06:50		17:02 (4)	06:38	18:58 (2)	05:35	19:03 (6)	04:57
	16:22	17:15	24	16:34 (5)	18:07	37	17:39 (3)	20:02	18	19:16 (2)	20:53	61	20:14 (1)	21:35
9	08:25	07:46	16:10 (5)	06:47		17:02 (4)	06:35	18:59 (2)	05:33	19:05 (6)	04:56
	16:23	17:17	26	16:36 (5)	18:09	39	17:41 (3)	20:04	16	19:15 (2)	20:55	60	20:15 (1)	21:36
10	08:24	07:44	16:10 (5)	06:45		17:00 (4)	06:33	19:01 (2)	05:31	19:05 (6)	04:56
	16:25	17:19	27	16:37 (5)	18:11	42	17:42 (3)	20:05	12	19:13 (2)	20:57	60	20:15 (1)	21:37
11	08:24	07:42	16:09 (5)	06:43		17:00 (4)	06:31	19:06 (2)	05:30	19:06 (6)	04:55
	16:26	17:21	28	16:37 (5)	18:13	43	17:43 (3)	20:07	2	19:08 (2)	20:58	56	20:14 (1)	21:38
12	08:23	07:40	16:09 (5)	06:40		17:00 (4)	06:28		05:28	19:08 (6)	04:55
	16:28	17:23	28	16:37 (5)	18:15	44	17:44 (3)	20:09		21:00	54	20:15 (1)	21:39
13	08:22	07:39	16:09 (5)	06:38		16:59 (4)	06:26		05:26	19:09 (6)	04:55
	16:29	17:25	28	16:37 (5)	18:16	44	17:43 (3)	20:10		21:01	50	20:14 (1)	21:39
14	08:21	07:37	16:09 (5)	06:36		16:59 (4)	06:24	19:21 (6)	05:25	19:11 (6)	04:55
	16:31	17:27	28	16:37 (5)	18:18	45	17:44 (3)	20:12	4	19:25 (6)	21:03	48	20:15 (1)	21:40
15	08:21	07:35	16:08 (5)	06:34		16:59 (4)	06:22	19:15 (6)	05:23	19:14 (6)	04:54
	16:32	17:29	28	16:36 (5)	18:20	45	17:44 (3)	20:14	16	19:31 (6)	21:05	41	20:14 (1)	21:40
16	08:20	07:33	16:09 (5)	06:31		16:59 (4)	06:19	19:12 (6)	05:21	19:45 (1)	04:54
	16:34	17:30	27	16:36 (5)	18:22	43	17:42 (3)	20:16	21	19:33 (6)	21:06	29	20:14 (1)	21:41
17	08:19	07:31	16:09 (5)	06:29		17:00 (4)	06:17	19:10 (6)	05:20	19:45 (1)	04:54
	16:35	17:32	27	16:36 (5)	18:23	42	17:42 (3)	20:17	25	19:35 (6)	21:08	29	20:14 (1)	21:41
18	08:18	07:29	16:10 (5)	06:27		17:00 (4)	06:15	19:08 (6)	05:18	19:45 (1)	04:54
	16:37	17:34	25	16:35 (5)	18:25	40	17:40 (3)	20:19	29	19:37 (6)	21:09	28	20:13 (1)	21:42
19	08:17	07:27	16:11 (5)	06:24		17:01 (4)	06:13	19:06 (6)	05:17	19:46 (1)	04:54
	16:39	17:36	23	16:34 (5)	18:27	38	17:39 (3)	20:21	31	19:37 (6)	21:11	27	20:13 (1)	21:42
20	08:16	07:25	16:12 (5)	06:22		17:03 (4)	06:11	19:05 (6)	05:16	19:47 (1)	04:54
	16:40	17:38	21	16:33 (5)	18:29	33	17:38 (3)	20:23	33	19:38 (6)	21:12	26	20:13 (1)	21:42
21	08:15	07:23	16:14 (5)	06:20		17:04 (4)	06:09	19:04 (6)	05:14	19:48 (1)	04:54
	16:42	17:40	18	16:32 (5)	18:30	23	17:34 (3)	20:24	35	19:39 (6)	21:14	25	20:13 (1)	21:43
22	08:13	07:20	16:16 (5)	06:17		17:08 (4)	06:06	19:03 (6)	05:13	19:48 (1)	04:55
	16:44	17:42	14	16:30 (5)	18:32	8	17:16 (4)	20:26	36	19:39 (6)	21:15	23	20:11 (1)	21:43
23	08:12	07:18	16:18 (5)	06:15		06:04		19:02 (6)	05:12	19:48 (1)	04:55
	16:46	17:44	8	16:26 (5)	18:34		20:28	38	19:40 (6)	21:17	23	20:11 (1)	21:43
24	08:11	07:16		06:12		06:02		19:02 (6)	05:10	19:50 (1)	04:55
	16:47	17:45		18:36		20:30	38	19:40 (6)	21:18	20	20:10 (1)	21:43
25	08:10	07:14		06:10		06:00		19:01 (6)	05:09	19:51 (1)	04:55
	16:49	17:47		18:37		20:31	39	19:40 (6)	21:19	18	20:09 (1)	21:43
26	08:08	07:12		06:08		05:58		19:01 (6)	05:08	19:52 (1)	04:56
	16:51	17:49		18:39		20:33	39	19:40 (6)	21:21	17	20:09 (1)	21:43
27	08:07	07:10		06:05		05:56		19:00 (6)	05:07	19:53 (1)	04:56
	16:53	17:51		18:41		20:35	40	19:40 (6)	21:22	15	20:08 (1)	21:43
28	08:06	07:08		06:03		18:06 (2)	05:54	19:00 (6)	05:06	19:55 (1)	04:57
	16:55	17:53		18:43	9	18:15 (2)	20:36	40	19:40 (6)	21:23	11	20:06 (1)	21:43
29	08:04			07:01		19:04 (2)	05:52	19:00 (6)	05:05	19:57 (1)	04:57
	16:57			19:44	14	19:18 (2)	20:38	40	19:40 (6)	21:25	7	20:04 (1)	21:43
30	08:03			06:58		19:01 (2)	05:50	19:00 (6)	05:04		04:58
	16:58			19:46	18	19:19 (2)	20:40	51	20:06 (1)	21:26		21:43
31	08:01			06:56		19:00 (2)			05:03		
	17:00			19:48	20	19:20 (2)			21:27		
Sonnenscheinstunden	257	277		367		417		487		501
astr.max.mögl.Beschattung			461		703		754		1148	
Red.Sonnenscheinwahrsch.			0,25		0,29		0,37		0,45	
Reduktion Betriebsdauer			1,00		1,00		1,00		1,00	
Reduktion Windrichtung			0,74		0,75		0,71		0,68	
Gesamte Reduktion			0,19		0,22		0,27		0,30	
Met.wahrsch.Beschattung			86		154		200		348	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AT - Bahnhofstraße 2

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		19:18 (6)	06:26		19:04 (2)	07:16		17:38 (4)	07:11		15:38 (5)	08:03
	21:42			21:10	54	20:25 (1)	20:07	3	19:07 (2)	18:56	45	18:23 (3)	16:49	27	16:05 (5)	16:08
2	04:59			05:37		19:16 (6)	06:28		18:59 (2)	07:18		17:39 (4)	07:13		15:39 (5)	08:05
	21:42			21:08	58	20:25 (1)	20:05	12	19:11 (2)	18:54	43	18:22 (3)	16:47	25	16:04 (5)	16:07
3	05:00			05:39		19:15 (6)	06:30		18:57 (2)	07:20		17:38 (4)	07:15		15:40 (5)	08:06
	21:42			21:06	59	20:25 (1)	20:02	16	19:13 (2)	18:52	42	18:20 (3)	16:46	24	16:04 (5)	16:07
4	05:01			05:40		19:14 (6)	06:31		18:56 (2)	07:22		17:38 (4)	07:17		15:41 (5)	08:07
	21:41			21:05	60	20:24 (1)	20:00	18	19:14 (2)	18:49	41	18:19 (3)	16:44	22	16:03 (5)	16:06
5	05:02			05:42		19:13 (6)	06:33		18:54 (2)	07:23		17:39 (4)	07:19		15:42 (5)	08:09
	21:41			21:03	62	20:24 (1)	19:58	20	19:14 (2)	18:47	38	18:17 (3)	16:42	20	16:02 (5)	16:06
6	05:02			05:44		19:12 (6)	06:35		18:53 (2)	07:25		17:40 (4)	07:20		15:43 (5)	08:10
	21:40			21:01	62	20:23 (1)	19:55	22	19:15 (2)	18:45	32	18:14 (3)	16:40	17	16:00 (5)	16:05
7	05:03			05:45		19:11 (6)	06:36		18:52 (2)	07:27		17:40 (4)	07:22		15:45 (5)	08:11
	21:40			20:59	63	20:23 (1)	19:53	22	19:14 (2)	18:43	23	18:03 (4)	16:38	13	15:58 (5)	16:05
8	05:04			05:47		19:10 (6)	06:38		18:52 (2)	07:28		17:41 (4)	07:24		15:49 (5)	08:12
	21:39			20:57	63	20:22 (1)	19:51	22	19:14 (2)	18:40	20	18:01 (4)	16:37	6	15:55 (5)	16:04
9	05:05			05:48		19:10 (6)	06:40		18:52 (2)	07:30		17:43 (4)	07:26			08:14
	21:38			20:56	62	20:21 (1)	19:48	22	19:14 (2)	18:38	16	17:59 (4)	16:35			16:04
10	05:06			05:50		19:09 (6)	06:41		18:51 (2)	07:32		17:46 (4)	07:28			08:15
	21:38			20:54	60	20:19 (1)	19:46	22	19:13 (2)	18:36	10	17:56 (4)	16:33			16:04
11	05:07			05:52		19:09 (6)	06:43		18:52 (2)	07:34			07:29			08:16
	21:37			20:52	57	20:18 (1)	19:44	21	19:13 (2)	18:33			16:32			16:04
12	05:08			05:53		19:08 (6)	06:45		18:51 (2)	07:35			07:31			08:17
	21:36			20:50	55	20:16 (1)	19:41	20	19:11 (2)	18:31			16:30			16:04
13	05:10			05:55		19:08 (6)	06:46		18:52 (2)	07:37			07:33			08:18
	21:35			20:48	49	20:13 (1)	19:39	18	19:10 (2)	18:29			16:29			16:03
14	05:11		20:07 (1)	05:57		19:08 (6)	06:48		18:54 (2)	07:39			07:35			08:19
	21:34	4	20:11 (1)	20:46	40	19:48 (6)	19:37	15	19:09 (2)	18:27			16:27			16:03
15	05:12		20:05 (1)	05:58		19:08 (6)	06:50		18:55 (2)	07:41			07:37			08:20
	21:33	10	20:15 (1)	20:44	40	19:48 (6)	19:34	10	19:05 (2)	18:24			16:26			16:03
16	05:13		20:03 (1)	06:00		19:08 (6)	06:51			07:42			07:38			08:21
	21:32	13	20:16 (1)	20:42	40	19:48 (6)	19:32			18:22			16:24			16:04
17	05:14		20:02 (1)	06:02		19:07 (6)	06:53			07:44			07:40			08:22
	21:31	16	20:18 (1)	20:40	40	19:47 (6)	19:29			18:20			16:23			16:04
18	05:16		20:01 (1)	06:03		19:08 (6)	06:55			07:46			07:42			08:22
	21:30	18	20:19 (1)	20:38	39	19:47 (6)	19:27			18:18			16:22			16:04
19	05:17		20:00 (1)	06:05		19:07 (6)	06:56			07:48		16:48 (5)	07:44			08:23
	21:29	19	20:19 (1)	20:35	39	19:46 (6)	19:25			18:16	11	16:59 (5)	16:20			16:04
20	05:18		19:59 (1)	06:07		19:08 (6)	06:58			07:49		16:45 (5)	07:45			08:24
	21:27	21	20:20 (1)	20:33	37	19:45 (6)	19:22			18:14	16	17:01 (5)	16:19			16:05
21	05:20		19:59 (1)	06:08		19:09 (6)	07:00		17:56 (4)	07:51		16:43 (5)	07:47			08:24
	21:26	23	20:22 (1)	20:31	36	19:45 (6)	19:20	3	17:59 (4)	18:11	20	17:03 (5)	16:18			16:05
22	05:21		19:58 (1)	06:10		19:09 (6)	07:01		17:50 (4)	07:53		16:42 (5)	07:49			08:25
	21:25	24	20:22 (1)	20:29	34	19:43 (6)	19:18	19	18:18 (3)	18:09	22	17:04 (5)	16:17			16:06
23	05:22		19:57 (1)	06:12		19:10 (6)	07:03		17:47 (4)	07:55		16:41 (5)	07:50			08:25
	21:24	25	20:22 (1)	20:27	33	19:43 (6)	19:15	31	18:20 (3)	18:07	24	17:05 (5)	16:15			16:06
24	05:24		19:57 (1)	06:13		19:10 (6)	07:05		17:45 (4)	07:57		16:40 (5)	07:52			08:26
	21:22	27	20:24 (1)	20:25	31	19:41 (6)	19:13	37	18:22 (3)	18:05	26	17:06 (5)	16:14			16:07
25	05:25		19:56 (1)	06:15		19:11 (6)	07:06		17:44 (4)	06:58		15:39 (5)	07:54			08:26
	21:21	28	20:24 (1)	20:23	29	19:40 (6)	19:11	40	18:24 (3)	17:03	27	16:06 (5)	16:13			16:07
26	05:27		19:55 (1)	06:17		19:12 (6)	07:08		17:42 (4)	07:00		15:39 (5)	07:55			08:26
	21:19	29	20:24 (1)	20:20	25	19:37 (6)	19:08	41	18:23 (3)	17:01	28	16:07 (5)	16:12			16:08
27	05:28		19:56 (1)	06:18		19:14 (6)	07:10		17:41 (4)	07:02		15:39 (5)	07:57			08:27
	21:18	29	20:25 (1)	20:18	21	19:35 (6)	19:06	43	18:24 (3)	16:59	28	16:07 (5)	16:11			16:09
28	05:30		19:27 (6)	06:20		19:17 (6)	07:11		17:40 (4)	07:04		15:38 (5)	07:59			08:27
	21:16	36	20:25 (1)	20:16	15	19:32 (6)	19:03	44	18:24 (3)	16:57	29	16:07 (5)	16:10			16:10
29	05:31		19:24 (6)	06:21		19:23 (6)	07:13		17:39 (4)	07:06		15:37 (5)	08:00			08:27
	21:15	43	20:25 (1)	20:14	2	19:25 (6)	19:01	44	18:23 (3)	16:55	29	16:06 (5)	16:10			16:10
30	05:33		19:21 (6)	06:23			07:15		17:39 (4)	07:08		15:38 (5)	08:02			08:27
	21:13	48	20:25 (1)	20:11			18:59	44	18:23 (3)	16:53	28	16:06 (5)	16:09			16:11
31	05:34		19:19 (6)	06:25						07:09		15:38 (5)				08:27
	21:12	52	20:25 (1)	20:09						16:51	27	16:05 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		465			1265			609			625			154		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,66			0,69			0,74			0,75			0,74		
Gesamte Reduktion		0,28			0,31			0,28			0,23			0,16		
Met.wahrsch.Beschattung		129			390			169			146			25		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AU - Bahnhofstraße 6

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar			Februar			März			April			Mai			Juni		
1	08:27			08:00		16:01 (5)	07:05		16:56 (4)	06:54		18:52 (2)	05:48		18:50 (6)	05:02		
	16:14			17:02	20	16:21 (5)	17:55	20	17:16 (4)	19:50	23	19:15 (2)	20:42	62	20:06 (1)	21:28		
2	08:27			07:58		15:59 (5)	07:03		16:55 (4)	06:51		18:51 (2)	05:46		18:50 (6)	05:01		
	16:15			17:04	23	16:22 (5)	17:56	22	17:17 (4)	19:51	23	19:14 (2)	20:43	64	20:07 (1)	21:29		
3	08:27			07:56		15:59 (5)	07:01		16:53 (4)	06:49		18:51 (2)	05:44		18:51 (6)	05:00		
	16:16			17:06	24	16:23 (5)	17:58	25	17:18 (4)	19:53	23	19:14 (2)	20:45	64	20:07 (1)	21:31		
4	08:27			07:55		15:59 (5)	06:59		16:52 (4)	06:47		18:52 (2)	05:42		18:51 (6)	04:59		
	16:17			17:08	25	16:24 (5)	18:00	27	17:19 (4)	19:55	21	19:13 (2)	20:47	63	20:07 (1)	21:32		
5	08:26			07:53		15:58 (5)	06:56		16:51 (4)	06:44		18:52 (2)	05:40		18:52 (6)	04:59		
	16:18			17:10	27	16:25 (5)	18:02	41	17:33 (3)	19:57	19	19:11 (2)	20:48	62	20:08 (1)	21:33		
6	08:26			07:51		15:57 (5)	06:54		16:51 (4)	06:42		18:53 (2)	05:38		18:54 (6)	04:58		
	16:19			17:12	28	16:25 (5)	18:04	44	17:35 (3)	19:58	17	19:10 (2)	20:50	61	20:09 (1)	21:34		
7	08:26			07:50		15:57 (5)	06:52		16:49 (4)	06:40		18:54 (2)	05:37		18:55 (6)	04:57		
	16:21			17:13	28	16:25 (5)	18:06	46	17:35 (3)	20:00	15	19:09 (2)	20:52	58	20:08 (1)	21:35		
8	08:25			07:48		15:57 (5)	06:50		16:49 (4)	06:38		18:56 (2)	05:35		18:56 (6)	04:57		
	16:22			17:15	29	16:26 (5)	18:07	47	17:36 (3)	20:02	9	19:05 (2)	20:53	56	20:08 (1)	21:35		
9	08:25			07:46		15:58 (5)	06:47		16:49 (4)	06:35			05:33		18:58 (6)	04:56		
	16:23			17:17	29	16:27 (5)	18:09	48	17:37 (3)	20:04			20:55	54	20:09 (1)	21:36		
10	08:24			07:44		15:58 (5)	06:45		16:49 (4)	06:33		19:10 (6)	05:31		19:00 (6)	04:56		
	16:25			17:19	29	16:27 (5)	18:11	48	17:37 (3)	20:05	6	19:16 (6)	20:57	49	20:09 (1)	21:37		
11	08:24			07:42		15:58 (5)	06:43		16:49 (4)	06:31		19:05 (6)	05:30		19:02 (6)	04:55		
	16:26			17:21	28	16:26 (5)	18:13	48	17:37 (3)	20:07	16	19:21 (6)	20:58	44	20:08 (1)	21:38		
12	08:23			07:40		15:58 (5)	06:40		16:50 (4)	06:28		19:02 (6)	05:28		19:37 (1)	04:55		
	16:28			17:23	28	16:26 (5)	18:15	47	17:37 (3)	20:09	22	19:24 (6)	21:00	31	20:08 (1)	21:39		
13	08:22			07:39		15:59 (5)	06:38		16:49 (4)	06:26		18:59 (6)	05:26		19:37 (1)	04:55		
	16:29			17:25	27	16:26 (5)	18:16	47	17:36 (3)	20:10	26	19:25 (6)	21:01	31	20:08 (1)	21:39		
14	08:21			07:37		16:00 (5)	06:36		16:50 (4)	06:24		18:57 (6)	05:25		19:38 (1)	04:55		
	16:31			17:27	25	16:25 (5)	18:18	45	17:35 (3)	20:12	30	19:27 (6)	21:03	30	20:08 (1)	21:40		
15	08:21			07:35		16:00 (5)	06:34		16:52 (4)	06:22		18:56 (6)	05:23		19:37 (1)	04:54		
	16:32			17:29	23	16:23 (5)	18:20	43	17:35 (3)	20:14	32	19:28 (6)	21:05	30	20:07 (1)	21:40		
16	08:20			07:33		16:01 (5)	06:31		16:52 (4)	06:19		18:54 (6)	05:21		19:38 (1)	04:54		
	16:34			17:30	22	16:23 (5)	18:22	39	17:33 (3)	20:16	35	19:29 (6)	21:06	29	20:07 (1)	21:41		
17	08:19			07:31		16:02 (5)	06:29		16:54 (4)	06:17		18:53 (6)	05:20		19:39 (1)	04:54		
	16:35			17:32	19	16:21 (5)	18:23	31	17:31 (3)	20:17	37	19:30 (6)	21:08	28	20:07 (1)	21:41		
18	08:18			07:29		16:04 (5)	06:27		16:57 (4)	06:15		18:52 (6)	05:18		19:39 (1)	04:54		
	16:37			17:34	15	16:19 (5)	18:25	20	17:28 (3)	20:19	38	19:30 (6)	21:09	27	20:06 (1)	21:42		
19	08:17			07:27		16:08 (5)	06:24			06:13		18:51 (6)	05:17		19:40 (1)	04:54		
	16:39			17:36	8	16:16 (5)	18:27			20:21	39	19:30 (6)	21:11	25	20:05 (1)	21:42		
20	08:16			07:25			06:22			06:11		18:50 (6)	05:16		19:41 (1)	04:54		
	16:40			17:38			18:29			20:23	40	19:30 (6)	21:12	24	20:05 (1)	21:43		
21	08:15			07:23			06:20			06:09		18:50 (6)	05:14		19:42 (1)	04:54		
	16:42			17:40			18:30			20:24	41	19:31 (6)	21:14	23	20:05 (1)	21:43		
22	08:13			07:20			06:17			06:06		18:49 (6)	05:13		19:42 (1)	04:55		
	16:44			17:42			18:32			20:26	42	19:31 (6)	21:15	21	20:03 (1)	21:43		
23	08:12			07:18			06:15			06:04		18:49 (6)	05:12		19:44 (1)	04:55		
	16:46			17:44			18:34			20:28	42	19:31 (6)	21:17	18	20:02 (1)	21:43		
24	08:11			07:16			06:12			06:02		18:49 (6)	05:10		19:45 (1)	04:55		
	16:47			17:45			18:36			20:30	42	19:31 (6)	21:18	16	20:01 (1)	21:43		
25	08:10			07:14			06:10		18:02 (2)	06:00		18:48 (6)	05:09		19:47 (1)	04:55		
	16:49			17:47			18:37	6	18:08 (2)	20:31	42	19:30 (6)	21:19	13	20:00 (1)	21:43		
26	08:08			07:12			06:08		17:59 (2)	05:58		18:48 (6)	05:08		19:49 (1)	04:56		
	16:51			17:49			18:39	13	18:12 (2)	20:33	42	19:30 (6)	21:21	9	19:58 (1)	21:43		
27	08:07			07:10		17:04 (4)	06:05		17:56 (2)	05:56		18:48 (6)	05:07			04:56		
	16:53			17:51	6	17:10 (4)	18:41	16	18:12 (2)	20:35	50	19:58 (1)	21:22			21:43		
28	08:06			07:08		16:59 (4)	06:03		17:55 (2)	05:54		18:48 (6)	05:06			04:57		
	16:55			17:53	14	17:13 (4)	18:43	19	18:14 (2)	20:36	56	20:01 (1)	21:23			21:43		
29	08:04		16:06 (5)				07:01		18:54 (2)	05:52		18:49 (6)	05:05			04:57		
	16:57	8	16:14 (5)				19:44	21	19:15 (2)	20:38	59	20:03 (1)	21:25			21:43		
30	08:03		16:04 (5)				06:58		18:52 (2)	05:50		18:49 (6)	05:04			04:58		
	16:58	14	16:18 (5)				19:46	22	19:14 (2)	20:40	61	20:04 (1)	21:26			21:43		
31	08:01		16:02 (5)				06:56		18:52 (2)				05:03					
	17:00	17	16:19 (5)				19:48	23	19:15 (2)				21:27					
Sonnenscheinstunden	257			277			367			417			487			501		
astr.max.mögl.Beschattung		39			477			808			948			992				
Red.Sonnenscheinwahrsch.		0,18			0,25			0,29			0,37			0,45				
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00				
Reduktion Windrichtung		0,73			0,74			0,75			0,71			0,68				
Gesamte Reduktion		0,14			0,19			0,22			0,27			0,30				
Met.wahrsch.Beschattung		5			88			177			253			302				

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AU - Bahnhofstraße 6

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		19:16 (6)	06:26		19:04 (6)	07:16		17:29 (4)	07:11		15:27 (5)	08:03
	21:42			21:10	38	20:19 (1)	20:07	16	19:20 (6)	18:56	47	18:16 (3)	16:49	28	15:55 (5)	16:08
2	04:59			05:37		19:11 (6)	06:28		19:08 (6)	07:18		17:28 (4)	07:13		15:26 (5)	08:05
	21:42			21:08	46	20:18 (1)	20:05	6	19:14 (6)	18:54	48	18:16 (3)	16:47	29	15:55 (5)	16:07
3	05:00			05:39		19:09 (6)	06:30			07:20		17:27 (4)	07:15		15:27 (5)	08:06
	21:42			21:06	51	20:19 (1)	20:02			18:52	48	18:15 (3)	16:46	28	15:55 (5)	16:07
4	05:01			05:40		19:07 (6)	06:31		18:54 (2)	07:22		17:26 (4)	07:17		15:27 (5)	08:07
	21:41			21:05	54	20:18 (1)	20:00	9	19:03 (2)	18:49	48	18:14 (3)	16:44	28	15:55 (5)	16:06
5	05:02			05:42		19:06 (6)	06:33		18:50 (2)	07:23		17:26 (4)	07:19		15:27 (5)	08:09
	21:41			21:03	58	20:19 (1)	19:58	15	19:05 (2)	18:47	48	18:14 (3)	16:42	28	15:55 (5)	16:06
6	05:02			05:44		19:04 (6)	06:35		18:49 (2)	07:25		17:26 (4)	07:20		15:28 (5)	08:10
	21:40			21:01	59	20:18 (1)	19:55	17	19:06 (2)	18:45	47	18:13 (3)	16:40	26	15:54 (5)	16:05
7	05:03			05:45		19:03 (6)	06:36		18:47 (2)	07:27		17:26 (4)	07:22		15:28 (5)	08:11
	21:40			20:59	61	20:18 (1)	19:53	19	19:06 (2)	18:43	45	18:11 (3)	16:38	26	15:54 (5)	16:05
8	05:04			05:47		19:01 (6)	06:38		18:46 (2)	07:28		17:26 (4)	07:24		15:29 (5)	08:12
	21:39			20:57	63	20:17 (1)	19:51	21	19:07 (2)	18:40	43	18:09 (3)	16:37	24	15:53 (5)	16:04
9	05:05			05:48		19:01 (6)	06:40		18:45 (2)	07:30		17:26 (4)	07:26		15:30 (5)	08:14
	21:38			20:56	63	20:17 (1)	19:48	23	19:08 (2)	18:38	36	18:06 (3)	16:35	22	15:52 (5)	16:04
10	05:06			05:50		18:59 (6)	06:41		18:44 (2)	07:32		17:27 (4)	07:28		15:32 (5)	08:15
	21:38			20:54	63	20:15 (1)	19:46	23	19:07 (2)	18:36	26	17:53 (4)	16:33	19	15:51 (5)	16:04
11	05:07			05:52		18:59 (6)	06:43		18:44 (2)	07:34		17:27 (4)	07:29		15:33 (5)	08:16
	21:37			20:52	63	20:15 (1)	19:44	23	19:07 (2)	18:33	24	17:51 (4)	16:32	17	15:50 (5)	16:04
12	05:08			05:53		18:57 (6)	06:45		18:43 (2)	07:35		17:29 (4)	07:31		15:35 (5)	08:17
	21:36			20:50	62	20:13 (1)	19:41	23	19:06 (2)	18:31	21	17:50 (4)	16:30	13	15:48 (5)	16:04
13	05:10			05:55		18:57 (6)	06:46		18:44 (2)	07:37		17:30 (4)	07:33		15:38 (5)	08:18
	21:35			20:48	61	20:12 (1)	19:39	22	19:06 (2)	18:29	18	17:48 (4)	16:29	7	15:45 (5)	16:03
14	05:11			05:57		18:57 (6)	06:48		18:44 (2)	07:39		17:33 (4)	07:35			08:19
	21:34			20:46	58	20:11 (1)	19:37	21	19:05 (2)	18:27	12	17:45 (4)	16:27			16:03
15	05:12			05:58		18:56 (6)	06:50		18:44 (2)	07:41			07:37			08:20
	21:33			20:44	54	20:08 (1)	19:34	19	19:03 (2)	18:24			16:26			16:03
16	05:13			06:00		18:56 (6)	06:51		18:45 (2)	07:42			07:38			08:21
	21:32			20:42	46	20:04 (1)	19:32	17	19:02 (2)	18:22			16:24			16:04
17	05:14		20:00 (1)	06:02		18:55 (6)	06:53		18:46 (2)	07:44			07:40			08:22
	21:31	6	20:06 (1)	20:40	42	19:37 (6)	19:29	13	18:59 (2)	18:20			16:23			16:04
18	05:16		19:57 (1)	06:03		18:55 (6)	06:55		18:49 (2)	07:46			07:42			08:22
	21:30	11	20:08 (1)	20:38	42	19:37 (6)	19:27	7	18:56 (2)	18:18			16:22			16:04
19	05:17		19:56 (1)	06:05		18:54 (6)	06:56			07:48			07:44			08:23
	21:29	14	20:10 (1)	20:35	42	19:36 (6)	19:25			18:16			16:20			16:04
20	05:18		19:54 (1)	06:07		18:55 (6)	06:58			07:49			07:45			08:24
	21:27	17	20:11 (1)	20:33	41	19:36 (6)	19:22			18:14			16:19			16:05
21	05:20		19:54 (1)	06:08		18:55 (6)	07:00			07:51			07:47			08:24
	21:26	19	20:13 (1)	20:31	41	19:36 (6)	19:20			18:11			16:18			16:05
22	05:21		19:52 (1)	06:10		18:54 (6)	07:01			07:53			07:49			08:25
	21:25	22	20:14 (1)	20:29	41	19:35 (6)	19:18			18:09			16:17			16:06
23	05:22		19:51 (1)	06:12		18:55 (6)	07:03			07:55		16:37 (5)	07:50			08:25
	21:24	23	20:14 (1)	20:27	40	19:35 (6)	19:15			18:07	11	16:48 (5)	16:15			16:06
24	05:24		19:51 (1)	06:13		18:55 (6)	07:05			07:57		16:34 (5)	07:52			08:26
	21:22	25	20:16 (1)	20:25	39	19:34 (6)	19:13			18:05	16	16:50 (5)	16:14			16:07
25	05:25		19:50 (1)	06:15		18:55 (6)	07:06		17:42 (4)	06:58		15:32 (5)	07:54			08:26
	21:21	26	20:16 (1)	20:23	38	19:33 (6)	19:11	14	18:10 (3)	17:03	20	15:52 (5)	16:13			16:07
26	05:27		19:49 (1)	06:17		18:55 (6)	07:08		17:37 (4)	07:00		15:31 (5)	07:55			08:26
	21:19	27	20:16 (1)	20:20	36	19:31 (6)	19:08	28	18:12 (3)	17:01	22	15:53 (5)	16:12			16:08
27	05:28		19:49 (1)	06:18		18:56 (6)	07:10		17:35 (4)	07:02		15:30 (5)	07:57			08:27
	21:18	29	20:18 (1)	20:18	35	19:31 (6)	19:06	36	18:14 (3)	16:59	24	15:54 (5)	16:11			16:09
28	05:30		19:48 (1)	06:20		18:57 (6)	07:11		17:33 (4)	07:04		15:29 (5)	07:59			08:27
	21:16	30	20:18 (1)	20:16	33	19:30 (6)	19:03	42	18:15 (3)	16:57	26	15:55 (5)	16:10			16:10
29	05:31		19:49 (1)	06:21		18:58 (6)	07:13		17:30 (4)	07:06		15:27 (5)	08:00			08:27
	21:15	30	20:19 (1)	20:14	29	19:27 (6)	19:01	45	18:15 (3)	16:55	27	15:54 (5)	16:10			16:10
30	05:33		19:48 (1)	06:23		19:00 (6)	07:15		17:29 (4)	07:08		15:27 (5)	08:02			08:27
	21:13	30	20:18 (1)	20:11	26	19:26 (6)	18:59	47	18:16 (3)	16:53	28	15:55 (5)	16:09			16:11
31	05:34		19:47 (1)	06:25		19:01 (6)				07:09		15:27 (5)				08:27
	21:12	31	20:18 (1)	20:09	22	19:23 (6)				16:51	28	15:55 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		340			1447			506			713			295		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,66			0,70			0,74			0,75			0,73		
Gesamte Reduktion		0,28			0,31			0,28			0,23			0,16		
Met.wahrsch.Beschattung		94			452			140			166			46		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AV - Bahnhofstraße 9

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März		April		Mai		Juni	
1	08:27		08:00		15:57 (5)	07:05	16:56 (4)	06:54	18:53 (2)	05:48	18:50 (6)	05:02	19:55 (1)
	16:14		17:02	22	16:19 (5)	17:55 19	17:15 (4)	19:50 23	19:16 (2)	20:42 62	20:06 (1)	21:28 4	19:59 (1)
2	08:27		07:58		15:56 (5)	07:03	16:54 (4)	06:51	18:51 (2)	05:46	18:50 (6)	05:01	
	16:15		17:04	24	16:20 (5)	17:56 23	17:17 (4)	19:51 24	19:15 (2)	20:43 63	20:07 (1)	21:29	
3	08:27		07:56		15:56 (5)	07:01	16:52 (4)	06:49	18:52 (2)	05:44	18:50 (6)	05:00	
	16:16		17:06	26	16:22 (5)	17:58 25	17:17 (4)	19:53 23	19:15 (2)	20:45 65	20:08 (1)	21:31	
4	08:27		07:55		15:56 (5)	06:59	16:51 (4)	06:47	18:52 (2)	05:42	18:50 (6)	04:59	
	16:17		17:08	26	16:22 (5)	18:00 27	17:18 (4)	19:55 23	19:15 (2)	20:47 66	20:09 (1)	21:32	
5	08:26		07:53		15:55 (5)	06:56	16:50 (4)	06:44	18:51 (2)	05:40	18:51 (6)	04:59	
	16:18		17:10	28	16:23 (5)	18:02 39	17:32 (3)	19:57 22	19:13 (2)	20:48 66	20:09 (1)	21:33	
6	08:26		07:51		15:55 (5)	06:54	16:50 (4)	06:42	18:52 (2)	05:38	18:52 (6)	04:58	
	16:19		17:12	28	16:23 (5)	18:04 44	17:34 (3)	19:58 20	19:12 (2)	20:50 67	20:11 (1)	21:34	
7	08:26		07:50		15:54 (5)	06:52	16:48 (4)	06:40	18:53 (2)	05:37	18:52 (6)	04:57	
	16:21		17:13	30	16:24 (5)	18:06 47	17:35 (3)	20:00 18	19:11 (2)	20:52 67	20:11 (1)	21:35	
8	08:25		07:48		15:54 (5)	06:50	16:48 (4)	06:38	18:54 (2)	05:35	18:53 (6)	04:57	
	16:22		17:15	30	16:24 (5)	18:07 48	17:36 (3)	20:02 14	19:08 (2)	20:53 65	20:11 (1)	21:35	
9	08:25		07:46		15:55 (5)	06:47	16:48 (4)	06:35	18:56 (2)	05:33	18:54 (6)	04:56	
	16:23		17:17	30	16:25 (5)	18:09 49	17:37 (3)	20:04 10	19:06 (2)	20:55 65	20:12 (1)	21:36	
10	08:24		07:44		15:55 (5)	06:45	16:47 (4)	06:33		05:31	18:55 (6)	04:56	
	16:25		17:19	30	16:25 (5)	18:11 50	17:37 (3)	20:05		20:57 64	20:12 (1)	21:37	
11	08:24		07:42		15:56 (5)	06:43	16:48 (4)	06:31		05:30	18:56 (6)	04:55	
	16:26		17:21	29	16:25 (5)	18:13 49	17:37 (3)	20:07		20:58 60	20:11 (1)	21:38	
12	08:23		07:40		15:56 (5)	06:40	16:48 (4)	06:28	19:11 (6)	05:28	18:58 (6)	04:55	
	16:28		17:23	28	16:24 (5)	18:15 49	17:37 (3)	20:09 8	19:19 (6)	21:00 58	20:12 (1)	21:39	
13	08:22		07:39		15:56 (5)	06:38	16:48 (4)	06:26	19:05 (6)	05:26	18:59 (6)	04:55	
	16:29		17:25	28	16:24 (5)	18:16 48	17:36 (3)	20:10 18	19:23 (6)	21:01 54	20:11 (1)	21:39	
14	08:21		07:37		15:57 (5)	06:36	16:49 (4)	06:24	19:02 (6)	05:25	19:01 (6)	04:55	
	16:31		17:27	26	16:23 (5)	18:18 47	17:36 (3)	20:12 23	19:25 (6)	21:03 52	20:12 (1)	21:40	
15	08:21		07:35		15:57 (5)	06:34	16:50 (4)	06:22	19:00 (6)	05:23	19:03 (6)	04:54	
	16:32		17:29	24	16:21 (5)	18:20 45	17:35 (3)	20:14 27	19:27 (6)	21:05 46	20:11 (1)	21:40	
16	08:20		07:33		15:58 (5)	06:31	16:50 (4)	06:19	18:58 (6)	05:21	19:07 (6)	04:54	
	16:34		17:30	22	16:20 (5)	18:22 43	17:33 (3)	20:16 31	19:29 (6)	21:06 38	20:11 (1)	21:41	
17	08:19		07:31		16:00 (5)	06:29	16:52 (4)	06:17	18:57 (6)	05:20	19:40 (1)	04:54	
	16:35		17:32	19	16:19 (5)	18:23 36	17:32 (3)	20:17 33	19:30 (6)	21:08 32	20:12 (1)	21:41	
18	08:18		07:29		16:02 (5)	06:27	16:53 (4)	06:15	18:56 (6)	05:18	19:40 (1)	04:54	
	16:37		17:34	15	16:17 (5)	18:25 28	17:29 (3)	20:19 35	19:31 (6)	21:09 31	20:11 (1)	21:42	
19	08:17		07:27		16:06 (5)	06:24	16:57 (4)	06:13	18:54 (6)	05:17	19:41 (1)	04:54	
	16:39		17:36	8	16:14 (5)	18:27 13	17:26 (3)	20:21 37	19:31 (6)	21:11 30	20:11 (1)	21:42	
20	08:16		07:25			06:22		06:11	18:53 (6)	05:16	19:41 (1)	04:54	
	16:40		17:38			18:29		20:23 39	19:32 (6)	21:12 29	20:10 (1)	21:43	
21	08:15		07:23			06:20		06:09	18:52 (6)	05:14	19:42 (1)	04:54	
	16:42		17:40			18:30		20:24 40	19:32 (6)	21:14 28	20:10 (1)	21:43	
22	08:13		07:20			06:17		06:06	18:51 (6)	05:13	19:42 (1)	04:55	
	16:44		17:42			18:32		20:26 42	19:33 (6)	21:15 27	20:09 (1)	21:43	
23	08:12		07:18			06:15		06:04	18:51 (6)	05:12	19:43 (1)	04:55	
	16:46		17:44			18:34		20:28 42	19:33 (6)	21:17 26	20:09 (1)	21:43	
24	08:11		07:16			06:12		06:02	18:50 (6)	05:10	19:44 (1)	04:55	
	16:47		17:45			18:36		20:30 43	19:33 (6)	21:18 24	20:08 (1)	21:43	
25	08:10		07:14			06:10		06:00	18:50 (6)	05:09	19:45 (1)	04:55	
	16:49		17:47			18:37		20:31 43	19:33 (6)	21:19 23	20:08 (1)	21:43	
26	08:08		07:12			06:08	18:02 (2)	05:58	18:49 (6)	05:08	19:45 (1)	04:56	
	16:51		17:49			18:39 8	18:10 (2)	20:33 44	19:33 (6)	21:21 22	20:07 (1)	21:43	
27	08:07		07:10		17:05 (4)	06:05	17:58 (2)	05:56	18:49 (6)	05:07	19:46 (1)	04:56	
	16:53		17:51	2	17:07 (4)	18:41 14	18:12 (2)	20:35 44	19:33 (6)	21:22 20	20:06 (1)	21:43	
28	08:06	16:06 (5)	07:08		16:58 (4)	06:03	17:56 (2)	05:54	18:49 (6)	05:06	19:48 (1)	04:57	
	16:55 4	16:10 (5)	17:53	14	17:12 (4)	18:43 18	18:14 (2)	20:36 44	19:33 (6)	21:23 17	20:05 (1)	21:43	
29	08:04	16:02 (5)				07:01	18:55 (2)	05:52	18:49 (6)	05:05	19:49 (1)	04:57	
	16:57 12	16:14 (5)				19:44 20	19:15 (2)	20:38 50	20:00 (1)	21:25 15	20:04 (1)	21:43	
30	08:03	16:00 (5)				06:58	18:53 (2)	05:50	18:49 (6)	05:04	19:50 (1)	04:58	
	16:58 17	16:17 (5)				19:46 22	19:15 (2)	20:40 57	20:03 (1)	21:26 13	20:03 (1)	21:43	
31	08:01	15:59 (5)				06:56	18:53 (2)			05:03	19:53 (1)		
	17:00 19	16:18 (5)				19:48 23	19:16 (2)			21:27 9	20:02 (1)		
Sonnenscheinstunden	257		277			367		417		487		501	
astr.max.mögl.Beschattung	52		489			834		877		1304		4	
Red.Sonnenscheinwahrsch.	0,18		0,25			0,29		0,37		0,45		0,40	
Reduktion Betriebsdauer	1,00		1,00			1,00		1,00		1,00		1,00	
Reduktion Windrichtung	0,73		0,73			0,75		0,71		0,68		0,66	
Gesamte Reduktion	0,14		0,18			0,22		0,27		0,30		0,26	
Met.wahrsch.Beschattung	7		90			183		234		397		1	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AV - Bahnhofstraße 9

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		19:07 (6)	06:26			07:16		17:27 (4)	07:11		15:24 (5)	08:03
	21:42			21:10	59	20:22 (1)	20:07			18:56	49	18:16 (3)	16:49	29	15:53 (5)	16:08
2	04:59			05:37		19:06 (6)	06:28			07:18		17:27 (4)	07:13		15:24 (5)	08:05
	21:42			21:08	62	20:22 (1)	20:05			18:54	49	18:16 (3)	16:47	29	15:53 (5)	16:07
3	05:00			05:39		19:05 (6)	06:30		18:54 (2)	07:20		17:25 (4)	07:15		15:24 (5)	08:06
	21:42			21:06	64	20:22 (1)	20:02	10	19:04 (2)	18:52	50	18:15 (3)	16:46	29	15:53 (5)	16:07
4	05:01			05:40		19:03 (6)	06:31		18:52 (2)	07:22		17:25 (4)	07:17		15:24 (5)	08:07
	21:41			21:05	65	20:21 (1)	20:00	14	19:06 (2)	18:49	49	18:14 (3)	16:44	29	15:53 (5)	16:06
5	05:02			05:42		19:03 (6)	06:33		18:49 (2)	07:23		17:25 (4)	07:19		15:25 (5)	08:09
	21:41			21:03	66	20:21 (1)	19:58	18	19:07 (2)	18:47	49	18:14 (3)	16:42	28	15:53 (5)	16:06
6	05:02			05:44		19:01 (6)	06:35		18:48 (2)	07:25		17:25 (4)	07:20		15:25 (5)	08:10
	21:40			21:01	67	20:20 (1)	19:55	20	19:08 (2)	18:45	48	18:13 (3)	16:40	28	15:53 (5)	16:05
7	05:03			05:45		19:01 (6)	06:36		18:47 (2)	07:27		17:24 (4)	07:22		15:26 (5)	08:11
	21:40			20:59	67	20:20 (1)	19:53	21	19:08 (2)	18:43	46	18:10 (3)	16:38	26	15:52 (5)	16:05
8	05:04			05:47		19:00 (6)	06:38		18:46 (2)	07:28		17:25 (4)	07:24		15:26 (5)	08:12
	21:39			20:57	67	20:19 (1)	19:51	23	19:09 (2)	18:40	43	18:08 (3)	16:37	26	15:52 (5)	16:04
9	05:05			05:48		19:00 (6)	06:40		18:46 (2)	07:30		17:25 (4)	07:26		15:27 (5)	08:14
	21:38			20:56	66	20:18 (1)	19:48	23	19:09 (2)	18:38	36	18:05 (3)	16:35	24	15:51 (5)	16:04
10	05:06			05:50		18:58 (6)	06:41		18:45 (2)	07:32		17:26 (4)	07:28		15:28 (5)	08:15
	21:38			20:54	65	20:16 (1)	19:46	23	19:08 (2)	18:36	27	17:53 (4)	16:33	22	15:50 (5)	16:04
11	05:07			05:52		18:58 (6)	06:43		18:45 (2)	07:34		17:26 (4)	07:29		15:30 (5)	08:16
	21:37			20:52	64	20:15 (1)	19:44	23	19:08 (2)	18:33	25	17:51 (4)	16:32	19	15:49 (5)	16:04
12	05:08		20:01 (1)	05:53		18:57 (6)	06:45		18:44 (2)	07:35		17:28 (4)	07:31		15:31 (5)	08:17
	21:36	8	20:09 (1)	20:50	61	20:13 (1)	19:41	23	19:07 (2)	18:31	21	17:49 (4)	16:30	17	15:48 (5)	16:04
13	05:10		19:59 (1)	05:55		18:57 (6)	06:46		18:45 (2)	07:37		17:30 (4)	07:33		15:34 (5)	08:18
	21:35	12	20:11 (1)	20:48	57	20:11 (1)	19:39	21	19:06 (2)	18:29	17	17:47 (4)	16:29	12	15:46 (5)	16:03
14	05:11		19:58 (1)	05:57		18:57 (6)	06:48		18:45 (2)	07:39		17:33 (4)	07:35		15:38 (5)	08:19
	21:34	14	20:12 (1)	20:46	48	20:07 (1)	19:37	21	19:06 (2)	18:27	11	17:44 (4)	16:27	4	15:42 (5)	16:03
15	05:12		19:58 (1)	05:58		18:57 (6)	06:50		18:45 (2)	07:41			07:37			08:20
	21:33	16	20:14 (1)	20:44	43	19:40 (6)	19:34	19	19:04 (2)	18:24			16:26			16:04
16	05:13		19:56 (1)	06:00		18:57 (6)	06:51		18:47 (2)	07:42			07:38			08:21
	21:32	19	20:15 (1)	20:42	44	19:41 (6)	19:32	15	19:02 (2)	18:22			16:24			16:04
17	05:14		19:55 (1)	06:02		18:56 (6)	06:53		18:48 (2)	07:44			07:40			08:22
	21:31	21	20:16 (1)	20:40	44	19:40 (6)	19:29	11	18:59 (2)	18:20			16:23			16:04
18	05:16		19:54 (1)	06:03		18:56 (6)	06:55			07:46			07:42			08:22
	21:30	23	20:17 (1)	20:38	44	19:40 (6)	19:27			18:18			16:22			16:04
19	05:17		19:54 (1)	06:05		18:56 (6)	06:56			07:48			07:44			08:23
	21:29	23	20:17 (1)	20:35	43	19:39 (6)	19:25			18:16			16:20			16:04
20	05:18		19:53 (1)	06:07		18:56 (6)	06:58			07:49			07:45			08:24
	21:27	25	20:18 (1)	20:33	43	19:39 (6)	19:22			18:14			16:19			16:05
21	05:20		19:53 (1)	06:08		18:57 (6)	07:00			07:51			07:47			08:24
	21:26	26	20:19 (1)	20:31	41	19:38 (6)	19:20			18:11			16:18			16:05
22	05:21		19:52 (1)	06:10		18:57 (6)	07:01			07:53			07:49			08:25
	21:25	28	20:20 (1)	20:29	40	19:37 (6)	19:18			18:09			16:17			16:06
23	05:22		19:51 (1)	06:12		18:58 (6)	07:03			07:55		16:35 (5)	07:50			08:25
	21:24	29	20:20 (1)	20:27	38	19:36 (6)	19:15			18:07	10	16:45 (5)	16:15			16:06
24	05:24		19:52 (1)	06:13		18:58 (6)	07:05			07:57		16:32 (5)	07:52			08:26
	21:22	29	20:21 (1)	20:25	37	19:35 (6)	19:13			18:05	16	16:48 (5)	16:14			16:07
25	05:25		19:51 (1)	06:15		18:59 (6)	07:06		17:38 (4)	06:58		15:30 (5)	07:54			08:26
	21:21	30	20:21 (1)	20:23	35	19:34 (6)	19:11	25	18:12 (3)	17:03	20	15:50 (5)	16:13			16:07
26	05:27		19:50 (1)	06:17		18:59 (6)	07:08		17:34 (4)	07:00		15:29 (5)	07:55			08:26
	21:19	31	20:21 (1)	20:20	33	19:32 (6)	19:08	34	18:13 (3)	17:01	22	15:51 (5)	16:12			16:08
27	05:28		19:50 (1)	06:18		19:00 (6)	07:10		17:32 (4)	07:02		15:27 (5)	07:57			08:27
	21:18	32	20:22 (1)	20:18	31	19:31 (6)	19:06	42	18:15 (3)	16:59	25	15:52 (5)	16:11			16:09
28	05:30		19:16 (6)	06:20		19:02 (6)	07:11		17:31 (4)	07:04		15:27 (5)	07:59			08:27
	21:16	42	20:22 (1)	20:16	27	19:29 (6)	19:03	45	18:16 (3)	16:57	26	15:53 (5)	16:10			16:10
29	05:31		19:13 (6)	06:22		19:03 (6)	07:13		17:29 (4)	07:06		15:25 (5)	08:00			08:27
	21:15	50	20:23 (1)	20:14	23	19:26 (6)	19:01	46	18:15 (3)	16:55	27	15:52 (5)	16:10			16:10
30	05:33		19:11 (6)	06:23		19:06 (6)	07:15		17:28 (4)	07:08		15:24 (5)	08:02			08:27
	21:13	52	20:22 (1)	20:11	17	19:23 (6)	18:59	48	18:16 (3)	16:53	29	15:53 (5)	16:09			16:11
31	05:34		19:08 (6)	06:25		19:10 (6)				07:09		15:24 (5)				08:27
	21:12	57	20:22 (1)	20:09	8	19:18 (6)				16:51	29	15:53 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		567			1469			525			724			322		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,67			0,70			0,74			0,75			0,73		
Gesamte Reduktion		0,28			0,31			0,28			0,23			0,16		
Met.wahrsch.Beschattung		158			458			146			169			51		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AW - Bahnhofstraße 11

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März		April		Mai		Juni	
1	08:27		08:00		15:51 (5)	07:05	16:49 (4)	06:54	18:50 (2)	05:48	18:46 (6)	05:02	19:55 (1)
	16:14		17:02	26	16:17 (5)	17:55	24	17:13 (4)	19:50	24	19:14 (2)	20:42	64	20:05 (1)	21:28	1	19:56 (1)
2	08:27		07:58		15:50 (5)	07:03	16:47 (4)	06:51	18:49 (2)	05:46	18:46 (6)	05:01	
	16:15		17:04	27	16:17 (5)	17:56	28	17:15 (4)	19:51	24	19:13 (2)	20:43	66	20:06 (1)	21:29		
3	08:27		07:56		15:51 (5)	07:01	16:46 (4)	06:49	18:49 (2)	05:44	18:46 (6)	05:00	
	16:16		17:06	28	16:19 (5)	17:58	30	17:24 (3)	19:53	23	19:12 (2)	20:45	67	20:07 (1)	21:31		
4	08:27		07:55		15:50 (5)	06:59	16:45 (4)	06:47	18:50 (2)	05:42	18:46 (6)	04:59	
	16:17		17:08	29	16:19 (5)	18:00	42	17:30 (3)	19:55	22	19:12 (2)	20:47	68	20:08 (1)	21:32		
5	08:26		07:53		15:50 (5)	06:56	16:45 (4)	06:44	18:50 (2)	05:40	18:47 (6)	04:59	
	16:18		17:10	29	16:19 (5)	18:02	47	17:32 (3)	19:57	20	19:10 (2)	20:48	68	20:08 (1)	21:33		
6	08:26		07:51		15:50 (5)	06:54	16:44 (4)	06:42	18:51 (2)	05:38	18:48 (6)	04:58	
	16:19		17:12	29	16:19 (5)	18:04	49	17:33 (3)	19:58	18	19:09 (2)	20:50	67	20:09 (1)	21:34		
7	08:26		07:50		15:50 (5)	06:52	16:43 (4)	06:40	18:52 (2)	05:37	18:49 (6)	04:57	
	16:21		17:13	29	16:19 (5)	18:06	50	17:33 (3)	20:00	16	19:08 (2)	20:52	66	20:09 (1)	21:35		
8	08:25		07:48		15:50 (5)	06:50	16:43 (4)	06:38	18:53 (2)	05:35	18:49 (6)	04:57	
	16:22		17:15	29	16:19 (5)	18:07	51	17:34 (3)	20:02	11	19:04 (2)	20:53	66	20:09 (1)	21:35		
9	08:25		07:46		15:51 (5)	06:47	16:44 (4)	06:35		05:33	18:51 (6)	04:56	
	16:23		17:17	29	16:20 (5)	18:09	51	17:35 (3)	20:04		20:55	64	20:10 (1)	21:36		
10	08:24		07:44		15:51 (5)	06:45	16:43 (4)	06:33		05:31	18:52 (6)	04:56	
	16:25		17:19	29	16:20 (5)	18:11	51	17:34 (3)	20:05		20:57	62	20:10 (1)	21:37		
11	08:24		07:42		15:52 (5)	06:43	16:44 (4)	06:31	19:05 (6)	05:30	18:53 (6)	04:55	
	16:26		17:21	27	16:19 (5)	18:13	50	17:34 (3)	20:07	12	19:17 (6)	20:58	60	20:10 (1)	21:38		
12	08:23		07:40		15:52 (5)	06:40	16:44 (4)	06:28	19:01 (6)	05:28	18:55 (6)	04:55	
	16:28		17:23	27	16:19 (5)	18:15	50	17:34 (3)	20:09	20	19:21 (6)	21:00	56	20:10 (1)	21:39		
13	08:22		07:39		15:53 (5)	06:38	16:44 (4)	06:26	18:57 (6)	05:26	18:56 (6)	04:55	
	16:29		17:25	25	16:18 (5)	18:16	49	17:33 (3)	20:10	25	19:22 (6)	21:01	54	20:10 (1)	21:39		
14	08:21		07:37		15:54 (5)	06:36	16:46 (4)	06:24	18:55 (6)	05:25	18:59 (6)	04:55	
	16:31		17:27	23	16:17 (5)	18:18	46	17:32 (3)	20:12	29	19:24 (6)	21:03	48	20:10 (1)	21:40		
15	08:21		07:35		15:56 (5)	06:34	16:47 (4)	06:22	18:54 (6)	05:23	19:02 (6)	04:54	
	16:32		17:29	20	16:16 (5)	18:20	42	17:31 (3)	20:14	32	19:26 (6)	21:05	40	20:09 (1)	21:40		
16	08:20		07:33		15:56 (5)	06:31	16:48 (4)	06:19	18:52 (6)	05:21	19:37 (1)	04:54	
	16:34		17:30	17	16:13 (5)	18:22	35	17:29 (3)	20:16	35	19:27 (6)	21:06	33	20:10 (1)	21:41		
17	08:19		07:31		15:59 (5)	06:29	16:51 (4)	06:17	18:51 (6)	05:20	19:38 (1)	04:54	
	16:35		17:32	12	16:11 (5)	18:23	25	17:27 (3)	20:17	37	19:28 (6)	21:08	32	20:10 (1)	21:41		
18	08:18		07:29			06:27	17:18 (3)	06:15	18:50 (6)	05:18	19:38 (1)	04:54	
	16:37		17:34			18:25	4	17:22 (3)	20:19	39	19:29 (6)	21:09	31	20:09 (1)	21:42		
19	08:17		07:27			06:24			06:13		18:48 (6)	05:17		19:38 (1)	04:54		
	16:39		17:36			18:27			20:21	41	19:29 (6)	21:11	31	20:09 (1)	21:42		
20	08:16		07:25			06:22			06:11		18:47 (6)	05:16		19:39 (1)	04:54		
	16:40		17:38			18:29			20:23	42	19:29 (6)	21:12	30	20:09 (1)	21:43		
21	08:15		07:23			06:20			06:09		18:47 (6)	05:14		19:40 (1)	04:54		
	16:42		17:40			18:30			20:24	42	19:29 (6)	21:14	28	20:08 (1)	21:43		
22	08:13		07:20			06:17			06:06		18:46 (6)	05:13		19:40 (1)	04:55		
	16:44		17:42			18:32			20:26	44	19:30 (6)	21:15	27	20:07 (1)	21:43		
23	08:12		07:18			06:15			06:04		18:46 (6)	05:12		19:41 (1)	04:55		
	16:46		17:44			18:34			20:28	44	19:30 (6)	21:17	26	20:07 (1)	21:43		
24	08:11		07:16			06:12			06:02		18:45 (6)	05:10		19:42 (1)	04:55		
	16:47		17:45			18:36			20:30	45	19:30 (6)	21:18	24	20:06 (1)	21:43		
25	08:10		07:14			06:10		17:59 (2)	06:00		18:45 (6)	05:09		19:43 (1)	04:55		
	16:49		17:47			18:37	9	18:08 (2)	20:31	45	19:30 (6)	21:19	23	20:06 (1)	21:43		
26	08:08	15:59 (5)	07:12		16:56 (4)	06:08		17:57 (2)	05:58		18:45 (6)	05:08		19:44 (1)	04:56		
	16:51	8	16:07 (5)	17:49	12	17:08 (4)	18:39	14	18:11 (2)	20:33	45	19:30 (6)	21:21	21	20:05 (1)	21:43		
27	08:07	15:56 (5)	07:10		16:53 (4)	06:05		17:54 (2)	05:56		18:45 (6)	05:07		19:45 (1)	04:56		
	16:53	13	16:09 (5)	17:51	18	17:11 (4)	18:41	18	18:12 (2)	20:35	45	19:30 (6)	21:22	19	20:04 (1)	21:43		
28	08:06	15:55 (5)	07:08		16:50 (4)	06:03		17:53 (2)	05:54		18:45 (6)	05:06		19:46 (1)	04:57		
	16:55	17	16:12 (5)	17:53	22	17:12 (4)	18:43	20	18:13 (2)	20:36	44	19:29 (6)	21:23	17	20:03 (1)	21:43		
29	08:04	15:53 (5)					07:01		18:52 (2)	05:52		18:45 (6)	05:05		19:47 (1)	04:57		
	16:57	20	16:13 (5)				19:44	22	19:14 (2)	20:38	57	20:01 (1)	21:25	15	20:02 (1)	21:43		
30	08:03	15:53 (5)					06:58		18:50 (2)	05:50		18:45 (6)	05:04		19:48 (1)	04:58		
	16:58	22	16:15 (5)				19:46	23	19:13 (2)	20:40	61	20:03 (1)	21:26	13	20:01 (1)	21:43		
31	08:01	15:52 (5)					06:56		18:50 (2)				05:03		19:51 (1)			
	17:00	24	16:16 (5)				19:48	24	19:14 (2)				21:27	9	20:00 (1)			
Sonnenscheinstunden	257		277		367		417		487		501		
astr.max.mögl.Beschattung	104		487		854		942		1295		1		
Red.Sonnenscheinwahrsch.	0,18		0,25		0,29		0,37		0,45		0,40		
Reduktion Betriebsdauer	1,00		1,00		1,00		1,00		1,00		1,00		
Reduktion Windrichtung	0,73		0,73		0,75		0,72		0,68		0,66		
Gesamte Reduktion	0,14		0,18		0,22		0,27		0,31		0,26		
Met.wahrsch.Beschattung	14		90		187		253		395		0		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AW - Bahnhofstraße 11

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		19:04 (6)	06:26		19:04 (6)	07:16		17:24 (4)	07:11		15:20 (5)	08:03
	21:42			21:10	59	20:21 (1)	20:07	12	19:16 (6)	18:56	49	18:13 (3)	16:49	29	15:49 (5)	16:08
2	04:59			05:37		19:02 (6)	06:28			07:18		17:23 (4)	07:13		15:19 (5)	08:05
	21:42			21:08	61	20:20 (1)	20:05			18:54	50	18:13 (3)	16:47	30	15:49 (5)	16:07
3	05:00			05:39		19:02 (6)	06:30			07:20		17:21 (4)	07:15		15:19 (5)	08:06
	21:42			21:06	63	20:20 (1)	20:02			18:52	51	18:12 (3)	16:46	30	15:49 (5)	16:07
4	05:01			05:40		19:00 (6)	06:31		18:51 (2)	07:22		17:21 (4)	07:17		15:19 (5)	08:07
	21:41			21:05	65	20:20 (1)	20:00	11	19:02 (2)	18:49	51	18:12 (3)	16:44	30	15:49 (5)	16:06
5	05:02			05:42		18:59 (6)	06:33		18:48 (2)	07:23		17:20 (4)	07:19		15:19 (5)	08:09
	21:41			21:03	67	20:20 (1)	19:58	16	19:04 (2)	18:47	52	18:12 (3)	16:42	30	15:49 (5)	16:06
6	05:02			05:44		18:58 (6)	06:35		18:47 (2)	07:25		17:20 (4)	07:20		15:20 (5)	08:10
	21:40			21:01	67	20:19 (1)	19:55	18	19:05 (2)	18:45	51	18:11 (3)	16:40	29	15:49 (5)	16:05
7	05:03			05:45		18:57 (6)	06:36		18:45 (2)	07:27		17:19 (4)	07:22		15:20 (5)	08:11
	21:40			20:59	68	20:19 (1)	19:53	20	19:05 (2)	18:43	50	18:09 (3)	16:38	29	15:49 (5)	16:05
8	05:04			05:47		18:56 (6)	06:38		18:44 (2)	07:28		17:20 (4)	07:24		15:20 (5)	08:12
	21:39			20:57	68	20:17 (1)	19:51	22	19:06 (2)	18:40	48	18:08 (3)	16:37	28	15:48 (5)	16:04
9	05:05			05:48		18:56 (6)	06:40		18:44 (2)	07:30		17:20 (4)	07:26		15:21 (5)	08:14
	21:38			20:56	67	20:17 (1)	19:48	23	19:07 (2)	18:38	45	18:06 (3)	16:35	27	15:48 (5)	16:04
10	05:06			05:50		18:54 (6)	06:41		18:42 (2)	07:32		17:20 (4)	07:28		15:22 (5)	08:15
	21:38			20:54	67	20:15 (1)	19:46	24	19:06 (2)	18:36	39	18:03 (3)	16:33	25	15:47 (5)	16:04
11	05:07			05:52		18:54 (6)	06:43		18:42 (2)	07:34		17:20 (4)	07:29		15:23 (5)	08:16
	21:37			20:52	67	20:15 (1)	19:44	24	19:06 (2)	18:33	28	17:48 (4)	16:32	24	15:47 (5)	16:04
12	05:08		20:00 (1)	05:53		18:53 (6)	06:45		18:41 (2)	07:35		17:21 (4)	07:31		15:24 (5)	08:17
	21:36	6	20:06 (1)	20:50	63	20:12 (1)	19:41	24	19:05 (2)	18:31	26	17:47 (4)	16:30	22	15:46 (5)	16:04
13	05:10		19:58 (1)	05:55		18:53 (6)	06:46		18:42 (2)	07:37		17:22 (4)	07:33		15:25 (5)	08:18
	21:35	10	20:08 (1)	20:48	61	20:11 (1)	19:39	23	19:05 (2)	18:29	24	17:46 (4)	16:29	20	15:45 (5)	16:03
14	05:11		19:56 (1)	05:57		18:53 (6)	06:48		18:42 (2)	07:39		17:24 (4)	07:35		15:27 (5)	08:19
	21:34	14	20:10 (1)	20:46	55	20:08 (1)	19:37	22	19:04 (2)	18:27	20	17:44 (4)	16:27	17	15:44 (5)	16:03
15	05:12		19:56 (1)	05:58		18:52 (6)	06:50		18:42 (2)	07:41		17:26 (4)	07:37		15:29 (5)	08:20
	21:33	16	20:12 (1)	20:44	45	19:37 (6)	19:34	20	19:02 (2)	18:24	16	17:42 (4)	16:26	13	15:42 (5)	16:04
16	05:13		19:55 (1)	06:00		18:52 (6)	06:51		18:43 (2)	07:42		17:29 (4)	07:38		15:32 (5)	08:21
	21:32	18	20:13 (1)	20:42	45	19:37 (6)	19:32	18	19:01 (2)	18:22	9	17:38 (4)	16:24	8	15:40 (5)	16:04
17	05:14		19:54 (1)	06:02		18:51 (6)	06:53		18:44 (2)	07:44			07:40			08:22
	21:31	20	20:14 (1)	20:40	45	19:36 (6)	19:29	15	18:59 (2)	18:20			16:23			16:04
18	05:16		19:53 (1)	06:03		18:52 (6)	06:55		18:46 (2)	07:46			07:42			08:22
	21:30	22	20:15 (1)	20:38	44	19:36 (6)	19:27	10	18:56 (2)	18:18			16:22			16:04
19	05:17		19:52 (1)	06:05		18:51 (6)	06:56			07:48			07:44			08:23
	21:29	24	20:16 (1)	20:35	45	19:36 (6)	19:25			18:16			16:20			16:04
20	05:18		19:51 (1)	06:07		18:51 (6)	06:58			07:49			07:45			08:24
	21:27	25	20:16 (1)	20:33	44	19:35 (6)	19:22			18:14			16:19			16:05
21	05:20		19:51 (1)	06:08		18:52 (6)	07:00			07:51			07:47			08:24
	21:26	26	20:17 (1)	20:31	43	19:35 (6)	19:20			18:11			16:18			16:05
22	05:21		19:50 (1)	06:10		18:52 (6)	07:01			07:53			07:49			08:25
	21:25	28	20:18 (1)	20:29	42	19:34 (6)	19:18			18:09			16:17			16:06
23	05:22		19:49 (1)	06:12		18:52 (6)	07:03			07:55			07:50			08:25
	21:24	29	20:18 (1)	20:27	42	19:34 (6)	19:15			18:07			16:15			16:06
24	05:24		19:49 (1)	06:13		18:52 (6)	07:05			07:57		16:34 (5)	07:52			08:26
	21:22	30	20:19 (1)	20:25	40	19:32 (6)	19:13			18:05	4	16:38 (5)	16:14			16:07
25	05:25		19:49 (1)	06:15		18:53 (6)	07:06			06:58		15:29 (5)	07:54			08:26
	21:21	30	20:19 (1)	20:23	39	19:32 (6)	19:11			17:03	13	15:42 (5)	16:13			16:07
26	05:27		19:48 (1)	06:17		18:53 (6)	07:08		17:34 (4)	07:00		15:26 (5)	07:55			08:26
	21:19	31	20:19 (1)	20:20	37	19:30 (6)	19:08	22	18:08 (3)	17:01	18	15:44 (5)	16:12			16:08
27	05:28		19:48 (1)	06:18		18:54 (6)	07:10		17:31 (4)	07:02		15:25 (5)	07:57			08:27
	21:18	32	20:20 (1)	20:18	35	19:29 (6)	19:06	32	18:10 (3)	16:59	21	15:46 (5)	16:11			16:09
28	05:30		19:48 (1)	06:20		18:56 (6)	07:11		17:29 (4)	07:04		15:23 (5)	07:59			08:27
	21:16	32	20:20 (1)	20:16	32	19:28 (6)	19:03	40	18:12 (3)	16:57	24	15:47 (5)	16:10			16:10
29	05:31		19:12 (6)	06:22		18:56 (6)	07:13		17:26 (4)	07:06		15:21 (5)	08:00			08:27
	21:15	44	20:21 (1)	20:14	29	19:25 (6)	19:01	45	18:12 (3)	16:55	26	15:47 (5)	16:10			16:10
30	05:33		19:08 (6)	06:23		18:58 (6)	07:15		17:25 (4)	07:08		15:21 (5)	08:02			08:27
	21:13	52	20:21 (1)	20:11	25	19:23 (6)	18:59	47	18:12 (3)	16:53	27	15:48 (5)	16:09			16:11
31	05:34		19:06 (6)	06:25		19:00 (6)				07:09		15:20 (5)				08:27
	21:12	54	20:20 (1)	20:09	20	19:20 (6)				16:51	28	15:48 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		543			1550			488			770			391		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,67			0,70			0,74			0,75			0,73		
Gesamte Reduktion		0,28			0,31			0,28			0,23			0,16		
Met.wahrsch.Beschattung		151			485			135			180			61		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AX - Bahnhofstraße 13

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar			Februar			März			April			Mai			Juni		
1	08:27			08:00		15:43 (5)	07:05		16:40 (4)	06:54		18:47 (2)	05:48		18:40 (6)	05:02		19:49 (1)
	16:14			17:02	29	16:12 (5)	17:55	30	17:10 (4)	19:50	24	19:11 (2)	20:42	67	20:04 (1)	21:28	10	19:59 (1)
2	08:27			07:58		15:43 (5)	07:03		16:40 (4)	06:51		18:46 (2)	05:46		18:40 (6)	05:01		19:51 (1)
	16:15			17:04	29	16:12 (5)	17:56	39	17:25 (3)	19:51	24	19:10 (2)	20:43	69	20:05 (1)	21:29	5	19:56 (1)
3	08:27			07:56		15:43 (5)	07:01		16:38 (4)	06:49		18:47 (2)	05:44		18:41 (6)	05:00		
	16:16			17:06	30	16:13 (5)	17:58	46	17:27 (3)	19:53	23	19:10 (2)	20:45	69	20:06 (1)	21:31		
4	08:27			07:55		15:43 (5)	06:59		16:38 (4)	06:47		18:47 (2)	05:42		18:41 (6)	04:59		
	16:17			17:08	30	16:13 (5)	18:00	51	17:29 (3)	19:55	22	19:09 (2)	20:47	71	20:07 (1)	21:32		
5	08:26			07:53		15:43 (5)	06:56		16:38 (4)	06:44		18:47 (2)	05:40		18:41 (6)	04:59		
	16:18			17:10	30	16:13 (5)	18:02	52	17:30 (3)	19:57	20	19:07 (2)	20:48	71	20:07 (1)	21:33		
6	08:26			07:51		15:43 (5)	06:54		16:38 (4)	06:42		18:49 (2)	05:38		18:43 (6)	04:58		
	16:19			17:12	30	16:13 (5)	18:04	53	17:31 (3)	19:58	17	19:06 (2)	20:50	70	20:08 (1)	21:34		
7	08:26			07:50		15:43 (5)	06:52		16:37 (4)	06:40		18:51 (2)	05:37		18:44 (6)	04:57		
	16:21			17:13	30	16:13 (5)	18:06	54	17:31 (3)	20:00	13	19:04 (2)	20:52	68	20:08 (1)	21:35		
8	08:25			07:48		15:44 (5)	06:50		16:38 (4)	06:38		18:54 (2)	05:35		18:44 (6)	04:57		
	16:22			17:15	29	16:13 (5)	18:07	53	17:31 (3)	20:02	5	18:59 (2)	20:53	68	20:08 (1)	21:35		
9	08:25			07:46		15:45 (5)	06:47		16:38 (4)	06:35			05:33		18:46 (6)	04:56		
	16:23			17:17	28	16:13 (5)	18:09	54	17:32 (3)	20:04			20:55	66	20:09 (1)	21:36		
10	08:24			07:44		15:46 (5)	06:45		16:38 (4)	06:33		18:59 (6)	05:31		18:47 (6)	04:56		
	16:25			17:19	27	16:13 (5)	18:11	53	17:31 (3)	20:05	15	19:14 (6)	20:57	64	20:09 (1)	21:37		
11	08:24			07:42		15:47 (5)	06:43		16:39 (4)	06:31		18:55 (6)	05:30		18:48 (6)	04:55		
	16:26			17:21	25	16:12 (5)	18:13	52	17:31 (3)	20:07	22	19:17 (6)	20:58	62	20:09 (1)	21:38		
12	08:23			07:40		15:48 (5)	06:40		16:40 (4)	06:28		18:53 (6)	05:28		18:50 (6)	04:55		
	16:28			17:23	23	16:11 (5)	18:15	50	17:30 (3)	20:09	27	19:20 (6)	21:00	59	20:09 (1)	21:39		
13	08:22			07:39		15:49 (5)	06:38		16:41 (4)	06:26		18:50 (6)	05:26		18:51 (6)	04:55		
	16:29			17:25	21	16:10 (5)	18:16	46	17:29 (3)	20:10	31	19:21 (6)	21:02	56	20:09 (1)	21:39		
14	08:21			07:37		15:51 (5)	06:36		16:43 (4)	06:24		18:48 (6)	05:25		18:54 (6)	04:55		
	16:31			17:27	17	16:08 (5)	18:18	40	17:28 (3)	20:12	34	19:22 (6)	21:03	50	20:09 (1)	21:40		
15	08:21			07:35		15:54 (5)	06:34		16:45 (4)	06:22		18:47 (6)	05:23		18:57 (6)	04:54		
	16:32			17:29	11	16:05 (5)	18:20	32	17:26 (3)	20:14	36	19:23 (6)	21:05	43	20:08 (1)	21:40		
16	08:20			07:33			06:31		16:48 (4)	06:19		18:46 (6)	05:21		19:35 (1)	04:54		
	16:34			17:30			18:22	20	17:23 (3)	20:16	38	19:24 (6)	21:06	33	20:08 (1)	21:41		
17	08:19			07:31			06:29			06:17		18:45 (6)	05:20		19:36 (1)	04:54		
	16:35			17:32			18:23			20:17	40	19:25 (6)	21:08	33	20:09 (1)	21:41		
18	08:18			07:29			06:27			06:15		18:44 (6)	05:18		19:35 (1)	04:54		
	16:37			17:34			18:25			20:19	42	19:26 (6)	21:09	33	20:08 (1)	21:42		
19	08:17			07:27			06:24			06:13		18:42 (6)	05:17		19:36 (1)	04:54		
	16:39			17:36			18:27			20:21	43	19:25 (6)	21:11	32	20:08 (1)	21:42		
20	08:16			07:25			06:22			06:11		18:41 (6)	05:16		19:37 (1)	04:54		
	16:40			17:38			18:29			20:23	45	19:26 (6)	21:12	31	20:08 (1)	21:43		
21	08:15			07:23			06:20			06:09		18:41 (6)	05:14		19:37 (1)	04:54		
	16:42			17:40			18:30			20:24	45	19:26 (6)	21:14	30	20:07 (1)	21:43		
22	08:13			07:20			06:17			06:06		18:40 (6)	05:13		19:37 (1)	04:55		
	16:44			17:42			18:32			20:26	46	19:26 (6)	21:15	29	20:06 (1)	21:43		
23	08:12		15:50 (5)	07:18		16:55 (4)	06:15			06:04		18:40 (6)	05:12		19:38 (1)	04:55		
	16:46	10	16:00 (5)	17:44	1	16:56 (4)	18:34			20:28	46	19:26 (6)	21:17	28	20:06 (1)	21:43		
24	08:11		15:49 (5)	07:16		16:49 (4)	06:12		17:56 (2)	06:02		18:40 (6)	05:10		19:39 (1)	04:55		
	16:47	14	16:03 (5)	17:45	14	17:03 (4)	18:36	9	18:05 (2)	20:30	46	19:26 (6)	21:18	26	20:05 (1)	21:43		
25	08:10		15:47 (5)	07:14		16:46 (4)	06:10		17:54 (2)	06:00		18:39 (6)	05:09		19:40 (1)	04:55		
	16:49	18	16:05 (5)	17:47	19	17:05 (4)	18:37	14	18:08 (2)	20:31	47	19:26 (6)	21:19	25	20:05 (1)	21:43		
26	08:08		15:46 (5)	07:12		16:45 (4)	06:08		17:52 (2)	05:58		18:39 (6)	05:08		19:41 (1)	04:56		
	16:51	21	16:07 (5)	17:49	22	17:07 (4)	18:39	18	18:10 (2)	20:33	47	19:26 (6)	21:21	23	20:04 (1)	21:43		
27	08:07		15:45 (5)	07:10		16:43 (4)	06:05		17:50 (2)	05:56		18:39 (6)	05:07		19:42 (1)	04:56		
	16:53	23	16:08 (5)	17:51	26	17:09 (4)	18:41	20	18:10 (2)	20:35	47	19:26 (6)	21:22	22	20:04 (1)	21:43		
28	08:06		15:45 (5)	07:08		16:41 (4)	06:03		17:49 (2)	05:54		18:39 (6)	05:06		19:43 (1)	04:57		
	16:55	24	16:09 (5)	17:53	28	17:09 (4)	18:43	22	18:11 (2)	20:36	54	19:57 (1)	21:23	20	20:03 (1)	21:43		
29	08:04		15:44 (5)				07:01		18:48 (2)	05:52		18:39 (6)	05:05		19:44 (1)	04:57		
	16:57	26	16:10 (5)				19:44	24	19:12 (2)	20:38	61	20:00 (1)	21:25	18	20:02 (1)	21:43		
30	08:03		15:44 (5)				06:58		18:47 (2)	05:50		18:39 (6)	05:04		19:45 (1)	04:58		
	16:58	27	16:11 (5)				19:46	24	19:11 (2)	20:40	65	20:02 (1)	21:26	16	20:01 (1)	21:43		
31	08:01		15:44 (5)				06:56		18:47 (2)				05:03		19:47 (1)			
	17:00	28	16:12 (5)				19:48	24	19:11 (2)				21:27	13	20:00 (1)			
Sonnenscheinstunden	257			277			367			417			487			501		
astr.max.mögl.Beschattung		191			499			880			1025			1365			15	
Red.Sonnenscheinwahrsch.		0,18			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung		0,72			0,73			0,75			0,72			0,68			0,66	
Gesamte Reduktion		0,13			0,18			0,22			0,27			0,31			0,26	
Met.wahrsch.Beschattung		26			92			193			276			417			4	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AX - Bahnhofstraße 13

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		19:00 (6)	06:26		18:54 (6)	07:16		17:20 (4)	07:11		15:14 (5)	08:03
	21:42			21:10	59	20:19 (1)	20:07	22	19:16 (6)	18:56	47	18:09 (3)	16:49	27	15:41 (5)	16:08
2	04:59			05:37		18:58 (6)	06:28		18:57 (6)	07:18		17:18 (4)	07:13		15:14 (5)	08:05
	21:42			21:08	63	20:19 (1)	20:05	15	19:12 (6)	18:54	51	18:09 (3)	16:47	28	15:42 (5)	16:07
3	05:00			05:39		18:57 (6)	06:30			07:20		17:16 (4)	07:15		15:13 (5)	08:06
	21:42			21:06	65	20:19 (1)	20:02			18:52	53	18:09 (3)	16:46	29	15:42 (5)	16:07
4	05:01			05:40		18:55 (6)	06:31		18:52 (2)	07:22		17:16 (4)	07:17		15:13 (5)	08:07
	21:41			21:05	66	20:18 (1)	20:00	5	18:57 (2)	18:49	53	18:09 (3)	16:44	30	15:43 (5)	16:06
5	05:02			05:42		18:54 (6)	06:33		18:47 (2)	07:23		17:15 (4)	07:19		15:13 (5)	08:09
	21:41			21:03	70	20:19 (1)	19:58	13	19:00 (2)	18:47	53	18:08 (3)	16:42	30	15:43 (5)	16:06
6	05:02			05:44		18:53 (6)	06:35		18:45 (2)	07:25		17:15 (4)	07:20		15:13 (5)	08:10
	21:40			21:01	70	20:18 (1)	19:55	17	19:02 (2)	18:45	53	18:08 (3)	16:40	30	15:43 (5)	16:05
7	05:03			05:45		18:52 (6)	06:36		18:43 (2)	07:27		17:13 (4)	07:22		15:13 (5)	08:11
	21:40			20:59	70	20:17 (1)	19:53	19	19:02 (2)	18:43	54	18:07 (3)	16:38	30	15:43 (5)	16:05
8	05:04			05:47		18:51 (6)	06:38		18:42 (2)	07:28		17:13 (4)	07:24		15:13 (5)	08:12
	21:39			20:57	70	20:16 (1)	19:51	21	19:03 (2)	18:40	53	18:06 (3)	16:37	30	15:43 (5)	16:04
9	05:05			05:48		18:50 (6)	06:40		18:41 (2)	07:30		17:13 (4)	07:26		15:13 (5)	08:14
	21:38			20:56	71	20:16 (1)	19:48	23	19:04 (2)	18:38	52	18:05 (3)	16:35	30	15:43 (5)	16:04
10	05:06			05:50		18:49 (6)	06:41		18:40 (2)	07:32		17:13 (4)	07:28		15:14 (5)	08:15
	21:38			20:54	70	20:14 (1)	19:46	23	19:03 (2)	18:36	49	18:03 (3)	16:33	29	15:43 (5)	16:04
11	05:07		19:57 (1)	05:52		18:49 (6)	06:43		18:39 (2)	07:34		17:13 (4)	07:29		15:14 (5)	08:16
	21:37	8	20:05 (1)	20:52	68	20:13 (1)	19:44	24	19:03 (2)	18:33	43	18:00 (3)	16:32	29	15:43 (5)	16:04
12	05:08		19:55 (1)	05:53		18:48 (6)	06:45		18:38 (2)	07:35		17:13 (4)	07:31		15:15 (5)	08:17
	21:36	12	20:07 (1)	20:50	66	20:11 (1)	19:41	25	19:03 (2)	18:31	35	17:56 (3)	16:30	27	15:42 (5)	16:04
13	05:10		19:54 (1)	05:55		18:48 (6)	06:46		18:38 (2)	07:37		17:14 (4)	07:33		15:16 (5)	08:18
	21:35	15	20:09 (1)	20:48	63	20:10 (1)	19:39	24	19:02 (2)	18:29	29	17:43 (4)	16:29	26	15:42 (5)	16:03
14	05:11		19:53 (1)	05:57		18:48 (6)	06:48		18:39 (2)	07:39		17:15 (4)	07:35		15:17 (5)	08:19
	21:34	17	20:10 (1)	20:46	60	20:08 (1)	19:37	23	19:02 (2)	18:27	27	17:42 (4)	16:27	24	15:41 (5)	16:03
15	05:12		19:53 (1)	05:58		18:47 (6)	06:50		18:38 (2)	07:41		17:16 (4)	07:37		15:18 (5)	08:20
	21:33	19	20:12 (1)	20:44	50	20:02 (1)	19:34	23	19:01 (2)	18:24	25	17:41 (4)	16:26	22	15:40 (5)	16:04
16	05:13		19:52 (1)	06:00		18:47 (6)	06:51		18:39 (2)	07:42		17:17 (4)	07:38		15:19 (5)	08:21
	21:32	21	20:13 (1)	20:42	46	19:33 (6)	19:32	21	19:00 (2)	18:22	22	17:39 (4)	16:24	21	15:40 (5)	16:04
17	05:14		19:51 (1)	06:02		18:46 (6)	06:53		18:39 (2)	07:44		17:18 (4)	07:40		15:21 (5)	08:22
	21:31	22	20:13 (1)	20:40	47	19:33 (6)	19:29	19	18:58 (2)	18:20	18	17:36 (4)	16:23	18	15:39 (5)	16:04
18	05:16		19:50 (1)	06:03		18:46 (6)	06:55		18:41 (2)	07:46		17:21 (4)	07:42		15:23 (5)	08:22
	21:30	24	20:14 (1)	20:38	47	19:33 (6)	19:27	15	18:56 (2)	18:18	12	17:33 (4)	16:22	14	15:37 (5)	16:04
19	05:17		19:49 (1)	06:05		18:45 (6)	06:56		18:43 (2)	07:48			07:44		15:25 (5)	08:23
	21:29	26	20:15 (1)	20:35	47	19:32 (6)	19:25	11	18:54 (2)	18:16			16:20	10	15:35 (5)	16:04
20	05:18		19:48 (1)	06:07		18:46 (6)	06:58			07:49			07:45			08:24
	21:27	27	20:15 (1)	20:33	46	19:32 (6)	19:22			18:14			16:19			16:05
21	05:20		19:48 (1)	06:08		18:46 (6)	07:00			07:51			07:47			08:24
	21:26	29	20:17 (1)	20:31	46	19:32 (6)	19:20			18:11			16:18			16:05
22	05:21		19:47 (1)	06:10		18:45 (6)	07:01			07:53			07:49			08:25
	21:25	30	20:17 (1)	20:29	46	19:31 (6)	19:18			18:09			16:17			16:06
23	05:22		19:47 (1)	06:12		18:46 (6)	07:03			07:55			07:50			08:25
	21:24	30	20:17 (1)	20:27	44	19:30 (6)	19:15			18:07			16:15			16:06
24	05:24		19:47 (1)	06:13		18:46 (6)	07:05			07:57			07:52			08:26
	21:22	31	20:18 (1)	20:25	43	19:29 (6)	19:13			18:05			16:14			16:07
25	05:25		19:46 (1)	06:15		18:47 (6)	07:06			06:58			07:54			08:26
	21:21	32	20:18 (1)	20:23	42	19:29 (6)	19:11			17:03			16:13			16:07
26	05:27		19:45 (1)	06:17		18:46 (6)	07:08			07:00		15:28 (5)	07:55			08:26
	21:19	33	20:18 (1)	20:20	41	19:27 (6)	19:08			17:01	3	15:31 (5)	16:12			16:08
27	05:28		19:46 (1)	06:18		18:47 (6)	07:10		17:54 (3)	07:02		15:23 (5)	07:57			08:27
	21:18	33	20:19 (1)	20:18	39	19:26 (6)	19:06	10	18:04 (3)	16:59	13	15:36 (5)	16:11			16:09
28	05:30		19:45 (1)	06:20		18:49 (6)	07:11		17:27 (4)	07:04		15:20 (5)	07:59			08:27
	21:16	34	20:19 (1)	20:16	36	19:25 (6)	19:03	28	18:06 (3)	16:57	18	15:38 (5)	16:10			16:10
29	05:31		19:07 (6)	06:22		18:49 (6)	07:13		17:23 (4)	07:06		15:17 (5)	08:00			08:27
	21:15	46	20:20 (1)	20:14	34	19:23 (6)	19:01	37	18:07 (3)	16:55	21	15:38 (5)	16:10			16:10
30	05:33		19:03 (6)	06:23		18:51 (6)	07:15		17:21 (4)	07:08		15:16 (5)	08:02			08:27
	21:13	53	20:19 (1)	20:11	30	19:21 (6)	18:59	43	18:08 (3)	16:53	24	15:40 (5)	16:09			16:11
31	05:34		19:01 (6)	06:25		18:52 (6)				07:09		15:15 (5)				08:27
	21:12	57	20:19 (1)	20:09	27	19:19 (6)				16:51	26	15:41 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		599			1642			461			834			484		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,67			0,70			0,74			0,75			0,72		
Gesamte Reduktion		0,28			0,31			0,28			0,23			0,15		
Met.wahrsch.Beschattung		167			516			127			195			75		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AY - Bahnhofstraße 15A

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar			Februar			März			April			Mai			Juni		
1	08:27			08:00		15:40 (5)	07:05		16:37 (4)	06:54		18:46 (2)	05:48		18:38 (6)	05:02		19:47 (1)
	16:14			17:02	30	16:10 (5)	17:55	37	17:22 (3)	19:50	24	19:10 (2)	20:42	69	20:04 (1)	21:28	12	19:59 (1)
2	08:27			07:58		15:39 (5)	07:03		16:37 (4)	06:51		18:45 (2)	05:46		18:38 (6)	05:01		19:49 (1)
	16:15			17:04	31	16:10 (5)	17:56	45	17:26 (3)	19:51	24	19:09 (2)	20:43	70	20:05 (1)	21:29	8	19:57 (1)
3	08:27			07:56		15:40 (5)	07:01		16:35 (4)	06:49		18:46 (2)	05:44		18:38 (6)	05:00		
	16:16			17:06	31	16:11 (5)	17:58	50	17:27 (3)	19:53	22	19:08 (2)	20:45	72	20:06 (1)	21:31		
4	08:27			07:55		15:40 (5)	06:59		16:35 (4)	06:47		18:47 (2)	05:42		18:39 (6)	04:59		
	16:17			17:08	31	16:11 (5)	18:00	53	17:28 (3)	19:55	20	19:07 (2)	20:47	72	20:06 (1)	21:32		
5	08:26			07:53		15:40 (5)	06:56		16:35 (4)	06:44		18:47 (2)	05:40		18:39 (6)	04:59		
	16:18			17:10	31	16:11 (5)	18:02	54	17:29 (3)	19:57	18	19:05 (2)	20:48	72	20:06 (1)	21:33		
6	08:26			07:51		15:40 (5)	06:54		16:36 (4)	06:42		18:48 (2)	05:38		18:41 (6)	04:58		
	16:19			17:12	30	16:10 (5)	18:04	54	17:30 (3)	19:58	16	19:04 (2)	20:50	71	20:08 (1)	21:34		
7	08:26			07:50		15:41 (5)	06:52		16:35 (4)	06:40		18:51 (2)	05:37		18:41 (6)	04:57		
	16:21			17:13	29	16:10 (5)	18:06	55	17:30 (3)	20:00	10	19:01 (2)	20:52	70	20:08 (1)	21:35		
8	08:25			07:48		15:41 (5)	06:50		16:35 (4)	06:38			05:35		18:42 (6)	04:57		
	16:22			17:15	28	16:09 (5)	18:07	55	17:30 (3)	20:02			20:53	69	20:08 (1)	21:35		
9	08:25			07:46		15:43 (5)	06:47		16:36 (4)	06:35		18:58 (6)	05:33		18:44 (6)	04:56		
	16:23			17:17	27	16:10 (5)	18:09	54	17:30 (3)	20:04	12	19:10 (6)	20:55	67	20:09 (1)	21:36		
10	08:24			07:44		15:44 (5)	06:45		16:36 (4)	06:33		18:54 (6)	05:31		18:45 (6)	04:56		
	16:25			17:19	25	16:09 (5)	18:11	53	17:29 (3)	20:05	20	19:14 (6)	20:57	64	20:08 (1)	21:37		
11	08:24			07:42		15:45 (5)	06:43		16:37 (4)	06:31		18:51 (6)	05:30		18:45 (6)	04:55		
	16:26			17:21	23	16:08 (5)	18:13	52	17:29 (3)	20:07	26	19:17 (6)	20:58	63	20:08 (1)	21:38		
12	08:23			07:40		15:46 (5)	06:40		16:39 (4)	06:28		18:49 (6)	05:28		18:48 (6)	04:55		
	16:28			17:23	21	16:07 (5)	18:15	46	17:28 (3)	20:09	30	19:19 (6)	21:00	60	20:09 (1)	21:39		
13	08:22			07:39		15:48 (5)	06:38		16:39 (4)	06:26		18:46 (6)	05:26		18:49 (6)	04:55		
	16:29			17:25	17	16:05 (5)	18:16	42	17:26 (3)	20:10	34	19:20 (6)	21:02	56	20:08 (1)	21:39		
14	08:21			07:37		15:51 (5)	06:36		16:42 (4)	06:24		18:45 (6)	05:25		18:52 (6)	04:55		
	16:31			17:27	12	16:03 (5)	18:18	34	17:25 (3)	20:12	36	19:21 (6)	21:03	50	20:08 (1)	21:40		
15	08:21			07:35			06:34		16:45 (4)	06:22		18:44 (6)	05:23		18:55 (6)	04:54		
	16:32			17:29			18:20	25	17:24 (3)	20:14	38	19:22 (6)	21:05	44	20:08 (1)	21:40		
16	08:20			07:33			06:31		17:12 (3)	06:19		18:42 (6)	05:21		19:34 (1)	04:54		
	16:34			17:30			18:22	8	17:20 (3)	20:16	41	19:23 (6)	21:06	34	20:08 (1)	21:41		
17	08:19			07:31			06:29			06:17		18:42 (6)	05:20		19:34 (1)	04:54		
	16:35			17:32			18:23			20:17	42	19:24 (6)	21:08	34	20:08 (1)	21:41		
18	08:18			07:29			06:27			06:15		18:41 (6)	05:18		19:34 (1)	04:54		
	16:37			17:34			18:25			20:19	43	19:24 (6)	21:09	33	20:07 (1)	21:42		
19	08:17			07:27			06:24			06:13		18:39 (6)	05:17		19:35 (1)	04:54		
	16:39			17:36			18:27			20:21	45	19:24 (6)	21:11	32	20:07 (1)	21:42		
20	08:16			07:25			06:22			06:11		18:38 (6)	05:16		19:36 (1)	04:54		
	16:40			17:38			18:29			20:23	46	19:24 (6)	21:12	31	20:07 (1)	21:43		
21	08:15		15:49 (5)	07:23			06:20			06:09		18:38 (6)	05:14		19:36 (1)	04:54		
	16:42	7	15:56 (5)	17:40			18:30			20:24	47	19:25 (6)	21:14	31	20:07 (1)	21:43		
22	08:13		15:46 (5)	07:20		16:52 (4)	06:17			06:06		18:37 (6)	05:13		19:36 (1)	04:55		
	16:44	13	15:59 (5)	17:42	4	16:56 (4)	18:32			20:26	48	19:25 (6)	21:15	30	20:06 (1)	21:43		
23	08:12		15:44 (5)	07:18		16:46 (4)	06:15		17:59 (2)	06:04		18:37 (6)	05:12		19:37 (1)	04:55		
	16:46	17	16:01 (5)	17:44	14	17:00 (4)	18:34	3	18:02 (2)	20:28	48	19:25 (6)	21:17	28	20:05 (1)	21:43		
24	08:11		15:44 (5)	07:16		16:44 (4)	06:12		17:54 (2)	06:02		18:37 (6)	05:10		19:38 (1)	04:55		
	16:47	19	16:03 (5)	17:45	19	17:03 (4)	18:36	12	18:06 (2)	20:30	48	19:25 (6)	21:18	27	20:05 (1)	21:43		
25	08:10		15:42 (5)	07:14		16:42 (4)	06:10		17:51 (2)	06:00		18:37 (6)	05:09		19:39 (1)	04:55		
	16:49	22	16:04 (5)	17:47	23	17:05 (4)	18:37	17	18:08 (2)	20:31	48	19:25 (6)	21:19	25	20:04 (1)	21:43		
26	08:08		15:42 (5)	07:12		16:40 (4)	06:08		17:50 (2)	05:58		18:37 (6)	05:08		19:40 (1)	04:56		
	16:51	23	16:05 (5)	17:49	26	17:06 (4)	18:39	20	18:10 (2)	20:33	47	19:24 (6)	21:21	24	20:04 (1)	21:43		
27	08:07		15:41 (5)	07:10		16:39 (4)	06:05		17:48 (2)	05:56		18:36 (6)	05:07		19:40 (1)	04:56		
	16:53	25	16:06 (5)	17:51	29	17:08 (4)	18:41	22	18:10 (2)	20:35	48	19:24 (6)	21:22	23	20:03 (1)	21:43		
28	08:06		15:41 (5)	07:08		16:38 (4)	06:03		17:47 (2)	05:54		18:36 (6)	05:06		19:41 (1)	04:57		
	16:55	27	16:08 (5)	17:53	30	17:08 (4)	18:43	23	18:10 (2)	20:36	58	19:57 (1)	21:23	21	20:02 (1)	21:43		
29	08:04		15:40 (5)				07:01		18:47 (2)	05:52		18:37 (6)	05:05		19:42 (1)	04:57		
	16:57	28	16:08 (5)				19:44	24	19:11 (2)	20:38	62	20:00 (1)	21:25	19	20:01 (1)	21:43		
30	08:03		15:41 (5)				06:58		18:46 (2)	05:50		18:37 (6)	05:04		19:43 (1)	04:58		
	16:58	28	16:09 (5)				19:46	24	19:10 (2)	20:40	67	20:02 (1)	21:26	17	20:00 (1)	21:43		
31	08:01		15:40 (5)				06:56		18:46 (2)				05:03		19:46 (1)			
	17:00	29	16:09 (5)				19:48	24	19:10 (2)				21:27	14	20:00 (1)			
Sonnenscheinstunden	257			277			367			417			487			501		
astr.max.mögl.Beschattung		238			511			886			1068			1392			20	
Red.Sonnenscheinwahrsch.		0,18			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung		0,72			0,73			0,75			0,72			0,68			0,66	
Gesamte Reduktion		0,13			0,18			0,22			0,27			0,31			0,26	
Met.wahrsch.Beschattung		32			94			194			288			426			5	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)	
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)	

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AY - Bahnhofstraße 15A

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		18:57 (6)	06:26		18:50 (6)	07:16		17:18 (4)	07:11		15:12 (5)	08:03
	21:42			21:10	61	20:19 (1)	20:07	26	19:16 (6)	18:56	46	18:07 (3)	16:49	26	15:38 (5)	16:08
2	04:59			05:37		18:55 (6)	06:28		18:52 (6)	07:18		17:17 (4)	07:13		15:11 (5)	08:05
	21:42			21:08	64	20:18 (1)	20:05	20	19:12 (6)	18:54	48	18:07 (3)	16:47	28	15:39 (5)	16:07
3	05:00			05:39		18:54 (6)	06:30		18:56 (6)	07:20		17:14 (4)	07:15		15:11 (5)	08:06
	21:42			21:06	67	20:19 (1)	20:02	13	19:09 (6)	18:52	53	18:07 (3)	16:46	28	15:39 (5)	16:07
4	05:01			05:40		18:53 (6)	06:31			07:22		17:13 (4)	07:17		15:10 (5)	08:07
	21:41			21:05	67	20:18 (1)	20:00			18:49	54	18:07 (3)	16:44	30	15:40 (5)	16:06
5	05:02			05:42		18:52 (6)	06:33		18:47 (2)	07:23		17:13 (4)	07:19		15:10 (5)	08:09
	21:41			21:03	70	20:18 (1)	19:58	10	18:57 (2)	18:47	54	18:07 (3)	16:42	30	15:40 (5)	16:06
6	05:02			05:44		18:50 (6)	06:35		18:44 (2)	07:25		17:12 (4)	07:20		15:10 (5)	08:10
	21:40			21:01	71	20:17 (1)	19:55	16	19:00 (2)	18:45	55	18:07 (3)	16:40	30	15:40 (5)	16:05
7	05:03			05:45		18:50 (6)	06:36		18:42 (2)	07:27		17:11 (4)	07:22		15:10 (5)	08:11
	21:40			20:59	71	20:17 (1)	19:53	18	19:00 (2)	18:43	54	18:05 (3)	16:38	30	15:40 (5)	16:05
8	05:04			05:47		18:48 (6)	06:38		18:41 (2)	07:28		17:10 (4)	07:24		15:10 (5)	08:12
	21:39			20:57	72	20:16 (1)	19:51	20	19:01 (2)	18:40	55	18:05 (3)	16:37	31	15:41 (5)	16:04
9	05:05			05:48		18:48 (6)	06:40		18:40 (2)	07:30		17:10 (4)	07:26		15:10 (5)	08:14
	21:38			20:56	71	20:15 (1)	19:48	22	19:02 (2)	18:38	54	18:04 (3)	16:35	31	15:41 (5)	16:04
10	05:06		19:58 (1)	05:50		18:47 (6)	06:41		18:38 (2)	07:32		17:10 (4)	07:28		15:11 (5)	08:15
	21:38	5	20:03 (1)	20:54	71	20:14 (1)	19:46	24	19:02 (2)	18:36	53	18:03 (3)	16:33	29	15:40 (5)	16:04
11	05:07		19:55 (1)	05:52		18:46 (6)	06:43		18:38 (2)	07:34		17:10 (4)	07:29		15:11 (5)	08:16
	21:37	10	20:05 (1)	20:52	70	20:13 (1)	19:44	24	19:02 (2)	18:33	47	18:00 (3)	16:32	29	15:40 (5)	16:04
12	05:08		19:54 (1)	05:53		18:45 (6)	06:45		18:37 (2)	07:35		17:10 (4)	07:31		15:12 (5)	08:17
	21:36	13	20:07 (1)	20:50	69	20:11 (1)	19:41	24	19:01 (2)	18:31	43	17:58 (3)	16:30	28	15:40 (5)	16:04
13	05:10		19:52 (1)	05:55		18:45 (6)	06:46		18:37 (2)	07:37		17:10 (4)	07:33		15:12 (5)	08:18
	21:35	16	20:08 (1)	20:48	66	20:10 (1)	19:39	24	19:01 (2)	18:29	31	17:41 (4)	16:29	28	15:40 (5)	16:03
14	05:11		19:51 (1)	05:57		18:45 (6)	06:48		18:37 (2)	07:39		17:11 (4)	07:35		15:13 (5)	08:19
	21:34	18	20:09 (1)	20:46	62	20:08 (1)	19:37	24	19:01 (2)	18:27	29	17:40 (4)	16:27	26	15:39 (5)	16:03
15	05:12		19:51 (1)	05:58		18:44 (6)	06:50		18:37 (2)	07:41		17:12 (4)	07:37		15:14 (5)	08:20
	21:33	20	20:11 (1)	20:44	54	20:03 (1)	19:34	23	19:00 (2)	18:24	27	17:39 (4)	16:26	25	15:39 (5)	16:04
16	05:13		19:50 (1)	06:00		18:44 (6)	06:51		18:37 (2)	07:42		17:13 (4)	07:38		15:15 (5)	08:21
	21:32	22	20:12 (1)	20:42	48	19:32 (6)	19:32	22	18:59 (2)	18:22	25	17:38 (4)	16:24	23	15:38 (5)	16:04
17	05:14		19:49 (1)	06:02		18:43 (6)	06:53		18:37 (2)	07:44		17:14 (4)	07:40		15:16 (5)	08:22
	21:31	24	20:13 (1)	20:40	48	19:31 (6)	19:29	20	18:57 (2)	18:20	21	17:35 (4)	16:23	22	15:38 (5)	16:04
18	05:16		19:49 (1)	06:03		18:43 (6)	06:55		18:38 (2)	07:46		17:16 (4)	07:42		15:18 (5)	08:22
	21:30	25	20:14 (1)	20:38	48	19:31 (6)	19:27	18	18:56 (2)	18:18	17	17:33 (4)	16:22	19	15:37 (5)	16:04
19	05:17		19:48 (1)	06:05		18:43 (6)	06:56		18:40 (2)	07:48		17:18 (4)	07:44		15:19 (5)	08:23
	21:29	26	20:14 (1)	20:35	47	19:30 (6)	19:25	14	18:54 (2)	18:16	12	17:30 (4)	16:20	17	15:36 (5)	16:04
20	05:18		19:47 (1)	06:07		18:43 (6)	06:58		18:43 (2)	07:49			07:45		15:21 (5)	08:24
	21:27	28	20:15 (1)	20:33	47	19:30 (6)	19:22	6	18:49 (2)	18:14			16:19	13	15:34 (5)	16:05
21	05:20		19:47 (1)	06:08		18:43 (6)	07:00			07:51			07:47		15:25 (5)	08:24
	21:26	29	20:16 (1)	20:31	47	19:30 (6)	19:20			18:11			16:18	7	15:32 (5)	16:05
22	05:21		19:46 (1)	06:10		18:43 (6)	07:01			07:53			07:49			08:25
	21:25	30	20:16 (1)	20:29	46	19:29 (6)	19:18			18:09			16:17			16:06
23	05:22		19:46 (1)	06:12		18:43 (6)	07:03			07:55			07:50			08:25
	21:24	31	20:17 (1)	20:27	46	19:29 (6)	19:15			18:07			16:15			16:06
24	05:24		19:46 (1)	06:13		18:43 (6)	07:05			07:57			07:52			08:26
	21:22	32	20:18 (1)	20:25	45	19:28 (6)	19:13			18:05			16:14			16:07
25	05:25		19:45 (1)	06:15		18:44 (6)	07:06			06:58			07:54			08:26
	21:21	33	20:18 (1)	20:23	43	19:27 (6)	19:11			17:03			16:13			16:07
26	05:27		19:44 (1)	06:17		18:43 (6)	07:08			07:00			07:55			08:26
	21:19	34	20:18 (1)	20:20	43	19:26 (6)	19:08			17:01			16:12			16:08
27	05:28		19:45 (1)	06:18		18:44 (6)	07:10		17:56 (3)	07:02		15:25 (5)	07:57			08:27
	21:18	34	20:19 (1)	20:18	41	19:25 (6)	19:06	3	17:59 (3)	16:59	3	15:28 (5)	16:11			16:09
28	05:30		19:44 (1)	06:20		18:45 (6)	07:11		17:28 (4)	07:04		15:20 (5)	07:59			08:27
	21:16	34	20:18 (1)	20:16	39	19:24 (6)	19:03	18	18:03 (3)	16:57	13	15:33 (5)	16:10			16:10
29	05:31		19:05 (6)	06:22		18:46 (6)	07:13		17:23 (4)	07:06		15:16 (5)	08:00			08:27
	21:15	47	20:19 (1)	20:14	36	19:22 (6)	19:01	31	18:04 (3)	16:55	18	15:34 (5)	16:10			16:10
30	05:33		19:01 (6)	06:23		18:47 (6)	07:15		17:20 (4)	07:08		15:15 (5)	08:02			08:27
	21:13	53	20:19 (1)	20:11	34	19:21 (6)	18:59	40	18:06 (3)	16:53	21	15:36 (5)	16:09			16:11
31	05:34		18:59 (6)	06:25		18:48 (6)				07:09		15:13 (5)				08:27
	21:12	57	20:18 (1)	20:09	30	19:18 (6)				16:51	24	15:37 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		621			1694			460			857			530		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,67			0,71			0,74			0,75			0,72		
Gesamte Reduktion		0,28			0,31			0,28			0,23			0,15		
Met.wahrsch.Beschattung		173			533			127			201			82		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AZ - Bahnhofstraße 15

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März		April		Mai		Juni	
1	08:27		08:00		15:37 (5)	07:05	16:34 (4)	06:54	18:44 (2)	05:48	18:35 (6)	05:02	19:46 (1)
	16:14		17:02	30	16:07 (5)	17:55 44	17:23 (3)	19:50 25	19:09 (2)	20:42 71	20:03 (1)	21:28 11	19:57 (1)
2	08:27		07:58		15:37 (5)	07:03	16:34 (4)	06:51	18:44 (2)	05:46	18:36 (6)	05:01	19:49 (1)
	16:15		17:04	30	16:07 (5)	17:56 49	17:26 (3)	19:51 23	19:07 (2)	20:43 71	20:04 (1)	21:29 5	19:54 (1)
3	08:27		07:56		15:38 (5)	07:01	16:33 (4)	06:49	18:45 (2)	05:44	18:36 (6)	05:00	
	16:16		17:06	30	16:08 (5)	17:58 52	17:26 (3)	19:53 22	19:07 (2)	20:45 72	20:05 (1)	21:31	
4	08:27		07:55		15:38 (5)	06:59	16:33 (4)	06:47	18:46 (2)	05:42	18:37 (6)	04:59	
	16:17		17:08	30	16:08 (5)	18:00 54	17:27 (3)	19:55 20	19:06 (2)	20:47 71	20:05 (1)	21:32	
5	08:26		07:53		15:38 (5)	06:56	16:33 (4)	06:44	18:46 (2)	05:40	18:37 (6)	04:59	
	16:18		17:10	30	16:08 (5)	18:02 55	17:28 (3)	19:57 17	19:03 (2)	20:48 72	20:06 (1)	21:33	
6	08:26		07:51		15:38 (5)	06:54	16:33 (4)	06:42	18:48 (2)	05:38	18:39 (6)	04:58	
	16:19		17:12	30	16:08 (5)	18:04 56	17:29 (3)	19:58 14	19:02 (2)	20:50 71	20:07 (1)	21:34	
7	08:26		07:50		15:39 (5)	06:52	16:33 (4)	06:40	18:51 (2)	05:37	18:39 (6)	04:57	
	16:21		17:13	28	16:07 (5)	18:06 55	17:28 (3)	20:00 7	18:58 (2)	20:52 70	20:07 (1)	21:35	
8	08:25		07:48		15:39 (5)	06:50	16:34 (4)	06:38	18:56 (6)	05:35	18:40 (6)	04:57	
	16:22		17:15	27	16:06 (5)	18:07 55	17:29 (3)	20:02 11	19:07 (6)	20:53 69	20:07 (1)	21:35	
9	08:25		07:46		15:41 (5)	06:47	16:34 (4)	06:35	18:52 (6)	05:33	18:42 (6)	04:56	
	16:23		17:17	26	16:07 (5)	18:09 55	17:29 (3)	20:04 20	19:12 (6)	20:55 67	20:08 (1)	21:36	
10	08:24		07:44		15:42 (5)	06:45	16:34 (4)	06:33	18:49 (6)	05:31	18:43 (6)	04:56	
	16:25		17:19	24	16:06 (5)	18:11 52	17:27 (3)	20:05 26	19:15 (6)	20:57 64	20:07 (1)	21:37	
11	08:24		07:42		15:44 (5)	06:43	16:36 (4)	06:31	18:47 (6)	05:30	18:44 (6)	04:55	
	16:26		17:21	21	16:05 (5)	18:13 48	17:27 (3)	20:07 30	19:17 (6)	20:58 61	20:07 (1)	21:38	
12	08:23		07:40		15:45 (5)	06:40	16:38 (4)	06:28	18:45 (6)	05:28	18:46 (6)	04:55	
	16:28		17:23	18	16:03 (5)	18:15 43	17:26 (3)	20:09 33	19:18 (6)	21:00 59	20:08 (1)	21:39	
13	08:22		07:39		15:48 (5)	06:38	16:39 (4)	06:26	18:42 (6)	05:26	18:48 (6)	04:55	
	16:29		17:25	13	16:01 (5)	18:16 37	17:24 (3)	20:10 37	19:19 (6)	21:02 53	20:07 (1)	21:39	
14	08:21		07:37			06:36	16:42 (4)	06:24	18:41 (6)	05:25	18:52 (6)	04:55	
	16:31		17:27			18:18 28	17:23 (3)	20:12 39	19:20 (6)	21:03 46	20:07 (1)	21:40	
15	08:21		07:35			06:34	17:09 (3)	06:22	18:40 (6)	05:23	19:32 (1)	04:54	
	16:32		17:29			18:20 11	17:20 (3)	20:14 41	19:21 (6)	21:05 35	20:07 (1)	21:40	
16	08:20		07:33			06:31		06:19	18:39 (6)	05:21	19:32 (1)	04:54	
	16:34		17:30			18:22		20:16 43	19:22 (6)	21:06 35	20:07 (1)	21:41	
17	08:19		07:31			06:29		06:17	18:38 (6)	05:20	19:33 (1)	04:54	
	16:35		17:32			18:23		20:17 44	19:22 (6)	21:08 34	20:07 (1)	21:41	
18	08:18		07:29			06:27		06:15	18:37 (6)	05:18	19:33 (1)	04:54	
	16:37		17:34			18:25		20:19 46	19:23 (6)	21:09 33	20:06 (1)	21:42	
19	08:17		07:27			06:24		06:13	18:36 (6)	05:17	19:34 (1)	04:54	
	16:39		17:36			18:27		20:21 46	19:22 (6)	21:11 32	20:06 (1)	21:42	
20	08:16	15:44 (5)	07:25			06:22		06:11	18:35 (6)	05:16	19:34 (1)	04:54	
	16:41 10	15:54 (5)	17:38			18:29		20:23 47	19:22 (6)	21:12 32	20:06 (1)	21:43	
21	08:15	15:43 (5)	07:23		16:50 (4)	06:20		06:09	18:35 (6)	05:14	19:35 (1)	04:54	
	16:42 14	15:57 (5)	17:40	3	16:53 (4)	18:30		20:24 48	19:23 (6)	21:14 31	20:06 (1)	21:43	
22	08:13	15:42 (5)	07:20		16:45 (4)	06:17		06:06	18:35 (6)	05:13	19:35 (1)	04:55	
	16:44 17	15:59 (5)	17:42	14	16:59 (4)	18:32		20:26 48	19:23 (6)	21:15 29	20:04 (1)	21:43	
23	08:12	15:40 (5)	07:18		16:41 (4)	06:15	17:55 (2)	06:04	18:34 (6)	05:12	19:36 (1)	04:55	
	16:46 20	16:00 (5)	17:44	19	17:00 (4)	18:34 9	18:04 (2)	20:28 49	19:23 (6)	21:17 28	20:04 (1)	21:43	
24	08:11	15:40 (5)	07:16		16:39 (4)	06:12	17:51 (2)	06:02	18:34 (6)	05:10	19:37 (1)	04:55	
	16:47 22	16:02 (5)	17:45	23	17:02 (4)	18:36 15	18:06 (2)	20:30 49	19:23 (6)	21:18 27	20:04 (1)	21:43	
25	08:10	15:39 (5)	07:14		16:38 (4)	06:10	17:49 (2)	06:00	18:34 (6)	05:09	19:38 (1)	04:55	
	16:49 24	16:03 (5)	17:47	26	17:04 (4)	18:37 19	18:08 (2)	20:31 48	19:22 (6)	21:19 25	20:03 (1)	21:43	
26	08:08	15:39 (5)	07:12		16:37 (4)	06:08	17:48 (2)	05:58	18:34 (6)	05:08	19:38 (1)	04:56	
	16:51 25	16:04 (5)	17:49	28	17:05 (4)	18:39 21	18:09 (2)	20:33 48	19:22 (6)	21:21 25	20:03 (1)	21:43	
27	08:07	15:38 (5)	07:10		16:36 (4)	06:05	17:46 (2)	05:56	18:34 (6)	05:07	19:39 (1)	04:56	
	16:53 26	16:04 (5)	17:51	30	17:06 (4)	18:41 23	18:09 (2)	20:35 49	19:51 (1)	21:22 23	20:02 (1)	21:43	
28	08:06	15:38 (5)	07:08		16:35 (4)	06:03	17:46 (2)	05:54	18:34 (6)	05:06	19:40 (1)	04:57	
	16:55 28	16:06 (5)	17:53	31	17:06 (4)	18:43 23	18:09 (2)	20:36 60	19:57 (1)	21:23 21	20:01 (1)	21:43	
29	08:04	15:37 (5)				07:01	18:45 (2)	05:52	18:34 (6)	05:05	19:41 (1)	04:57	
	16:57 29	16:06 (5)				19:44 25	19:10 (2)	20:38 66	20:00 (1)	21:25 19	20:00 (1)	21:43	
30	08:03	15:38 (5)				06:58	18:44 (2)	05:50	18:34 (6)	05:04	19:43 (1)	04:58	
	16:58 29	16:07 (5)				19:46 25	19:09 (2)	20:40 68	20:01 (1)	21:26 16	19:59 (1)	21:43	
31	08:01	15:37 (5)				06:56	18:44 (2)			05:03	19:45 (1)		
	17:00 30	16:07 (5)				19:48 25	19:09 (2)			21:27 14	19:59 (1)		
Sonnenscheinstunden	257		277		367		417		487		501		
astr.max.mögl.Beschattung	274		511		879		1124		1376		16		
Red.Sonnenscheinwahrsch.	0,18		0,25		0,29		0,37		0,45		0,40		
Reduktion Betriebsdauer	1,00		1,00		1,00		1,00		1,00		1,00		
Reduktion Windrichtung	0,72		0,73		0,75		0,72		0,68		0,66		
Gesamte Reduktion	0,13		0,18		0,22		0,27		0,31		0,26		
Met.wahrsch.Beschattung	36		94		192		303		421		4		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM) Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenanfang Zeitpunkt (SS:MM) Schattenende	(WEA mit erstem Schatten) (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: AZ - Bahnhofstraße 15

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		18:56 (6)	06:26		18:46 (6)	07:16		17:17 (4)	07:11		15:11 (5)	08:03
	21:42			21:10	60	20:18 (1)	20:07	30	19:16 (6)	18:56	42	18:05 (3)	16:49	24	15:35 (5)	16:08
2	04:59			05:37		18:54 (6)	06:28		18:47 (6)	07:18		17:15 (4)	07:13		15:10 (5)	08:05
	21:42			21:08	62	20:17 (1)	20:05	25	19:12 (6)	18:54	47	18:05 (3)	16:47	26	15:36 (5)	16:07
3	05:00			05:39		18:53 (6)	06:30		18:50 (6)	07:20		17:13 (4)	07:15		15:09 (5)	08:06
	21:42			21:06	65	20:18 (1)	20:02	20	19:10 (6)	18:52	50	18:05 (3)	16:46	27	15:36 (5)	16:07
4	05:01			05:40		18:51 (6)	06:31		18:54 (6)	07:22		17:12 (4)	07:17		15:08 (5)	08:07
	21:41			21:05	67	20:17 (1)	20:00	12	19:06 (6)	18:49	53	18:05 (3)	16:44	29	15:37 (5)	16:06
5	05:02			05:42		18:50 (6)	06:33		18:47 (2)	07:23		17:11 (4)	07:19		15:08 (5)	08:09
	21:41			21:03	69	20:17 (1)	19:58	7	18:54 (2)	18:47	54	18:05 (3)	16:42	29	15:37 (5)	16:06
6	05:02			05:44		18:48 (6)	06:35		18:44 (2)	07:25		17:10 (4)	07:20		15:08 (5)	08:10
	21:40			21:01	70	20:16 (1)	19:55	14	18:58 (2)	18:45	55	18:05 (3)	16:40	30	15:38 (5)	16:05
7	05:03			05:45		18:48 (6)	06:36		18:41 (2)	07:27		17:09 (4)	07:22		15:08 (5)	08:11
	21:40			20:59	71	20:16 (1)	19:53	17	18:58 (2)	18:43	55	18:04 (3)	16:38	30	15:38 (5)	16:05
8	05:04			05:47		18:46 (6)	06:38		18:40 (2)	07:28		17:08 (4)	07:24		15:08 (5)	08:12
	21:39			20:57	73	20:15 (1)	19:51	20	19:00 (2)	18:40	56	18:04 (3)	16:37	30	15:38 (5)	16:04
9	05:05			05:48		18:46 (6)	06:40		18:39 (2)	07:30		17:08 (4)	07:26		15:08 (5)	08:14
	21:38			20:56	73	20:15 (1)	19:48	22	19:01 (2)	18:38	55	18:03 (3)	16:35	30	15:38 (5)	16:04
10	05:06			05:50		18:44 (6)	06:41		18:37 (2)	07:32		17:08 (4)	07:28		15:08 (5)	08:15
	21:38			20:54	72	20:13 (1)	19:46	23	19:00 (2)	18:36	54	18:02 (3)	16:33	30	15:38 (5)	16:04
11	05:07		19:55 (1)	05:52		18:44 (6)	06:43		18:37 (2)	07:34		17:07 (4)	07:29		15:08 (5)	08:16
	21:37	8	20:03 (1)	20:52	70	20:12 (1)	19:44	24	19:01 (2)	18:33	51	18:00 (3)	16:32	30	15:38 (5)	16:04
12	05:08		19:53 (1)	05:53		18:43 (6)	06:45		18:36 (2)	07:35		17:07 (4)	07:31		15:09 (5)	08:17
	21:36	12	20:05 (1)	20:50	70	20:11 (1)	19:41	24	19:00 (2)	18:31	47	17:58 (3)	16:30	29	15:38 (5)	16:04
13	05:10		19:52 (1)	05:55		18:43 (6)	06:46		18:35 (2)	07:37		17:07 (4)	07:33		15:09 (5)	08:18
	21:35	15	20:07 (1)	20:48	67	20:09 (1)	19:39	25	19:00 (2)	18:29	41	17:55 (3)	16:29	29	15:38 (5)	16:03
14	05:11		19:50 (1)	05:57		18:43 (6)	06:48		18:36 (2)	07:39		17:08 (4)	07:35		15:10 (5)	08:19
	21:34	18	20:08 (1)	20:46	65	20:08 (1)	19:37	24	19:00 (2)	18:27	31	17:39 (4)	16:27	28	15:38 (5)	16:03
15	05:12		19:50 (1)	05:58		18:41 (6)	06:50		18:35 (2)	07:41		17:09 (4)	07:37		15:11 (5)	08:20
	21:33	20	20:10 (1)	20:44	60	20:04 (1)	19:34	24	18:59 (2)	18:24	29	17:38 (4)	16:26	26	15:37 (5)	16:04
16	05:13		19:49 (1)	06:00		18:41 (6)	06:51		18:35 (2)	07:42		17:10 (4)	07:38		15:12 (5)	08:21
	21:32	22	20:11 (1)	20:42	48	19:29 (6)	19:32	23	18:58 (2)	18:22	27	17:37 (4)	16:24	25	15:37 (5)	16:04
17	05:14		19:48 (1)	06:02		18:40 (6)	06:53		18:35 (2)	07:44		17:10 (4)	07:40		15:13 (5)	08:22
	21:31	24	20:12 (1)	20:40	49	19:29 (6)	19:29	21	18:56 (2)	18:20	25	17:35 (4)	16:23	23	15:36 (5)	16:04
18	05:16		19:47 (1)	06:03		18:41 (6)	06:55		18:36 (2)	07:46		17:11 (4)	07:42		15:14 (5)	08:22
	21:30	25	20:12 (1)	20:38	48	19:29 (6)	19:27	19	18:55 (2)	18:18	22	17:33 (4)	16:22	22	15:36 (5)	16:04
19	05:17		19:47 (1)	06:05		18:40 (6)	06:56		18:38 (2)	07:48		17:13 (4)	07:44		15:15 (5)	08:23
	21:29	26	20:13 (1)	20:35	48	19:28 (6)	19:25	16	18:54 (2)	18:16	18	17:31 (4)	16:20	20	15:35 (5)	16:04
20	05:18		19:47 (1)	06:07		18:40 (6)	06:58		18:39 (2)	07:49		17:16 (4)	07:45		15:17 (5)	08:24
	21:27	27	20:14 (1)	20:33	48	19:28 (6)	19:22	11	18:50 (2)	18:14	12	17:28 (4)	16:19	17	15:34 (5)	16:05
21	05:20		19:46 (1)	06:08		18:40 (6)	07:00			07:51			07:47		15:19 (5)	08:24
	21:26	29	20:15 (1)	20:31	48	19:28 (6)	19:20			18:11			16:18	14	15:33 (5)	16:05
22	05:21		19:45 (1)	06:10		18:40 (6)	07:01			07:53			07:49		15:20 (5)	08:25
	21:25	30	20:15 (1)	20:29	47	19:27 (6)	19:18			18:09			16:17	10	15:30 (5)	16:06
23	05:22		19:44 (1)	06:12		18:40 (6)	07:03			07:55			07:50			08:25
	21:24	31	20:15 (1)	20:27	47	19:27 (6)	19:15			18:07			16:15			16:06
24	05:24		19:45 (1)	06:13		18:40 (6)	07:05			07:57			07:52			08:26
	21:22	32	20:17 (1)	20:25	46	19:26 (6)	19:13			18:05			16:14			16:07
25	05:25		19:44 (1)	06:15		18:40 (6)	07:06			06:58			07:54			08:26
	21:21	33	20:17 (1)	20:23	45	19:25 (6)	19:11			17:03			16:13			16:07
26	05:27		19:43 (1)	06:17		18:40 (6)	07:08			07:00			07:55			08:26
	21:19	34	20:17 (1)	20:20	44	19:24 (6)	19:08			17:01			16:12			16:08
27	05:28		19:43 (1)	06:18		18:41 (6)	07:10			07:02			07:57			08:27
	21:18	35	20:18 (1)	20:18	42	19:23 (6)	19:06			16:59			16:11			16:09
28	05:30		19:43 (1)	06:20		18:42 (6)	07:11		17:52 (3)	07:04		15:21 (5)	07:59			08:27
	21:16	34	20:17 (1)	20:16	41	19:23 (6)	19:03	8	18:00 (3)	16:57	6	15:27 (5)	16:10			16:10
29	05:31		19:06 (6)	06:22		18:42 (6)	07:13		17:24 (4)	07:06		15:16 (5)	08:00			08:27
	21:15	40	20:18 (1)	20:14	39	19:21 (6)	19:01	22	18:02 (3)	16:55	14	15:30 (5)	16:10			16:10
30	05:33		19:01 (6)	06:23		18:43 (6)	07:15		17:20 (4)	07:08		15:14 (5)	08:02			08:27
	21:13	49	20:18 (1)	20:11	37	19:20 (6)	18:59	33	18:03 (3)	16:53	18	15:32 (5)	16:09			16:11
31	05:34		18:58 (6)	06:25		18:44 (6)				07:09		15:12 (5)				08:27
	21:12	54	20:17 (1)	20:09	33	19:17 (6)				16:51	21	15:33 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		598			1724			464			883			558		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,67			0,71			0,74			0,75			0,72		
Gesamte Reduktion		0,28			0,32			0,28			0,23			0,15		
Met.wahrsch.Beschattung		167			543			128			207			86		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BA - Bahnhofstraße 17

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar			Februar			März			April			Mai			Juni		
1	08:27			08:00		15:32 (5)	07:05		16:29 (4)	06:54		18:42 (2)	05:48		18:31 (6)	05:02		19:44 (1)
	16:14			17:02	31	16:03 (5)	17:55	51	17:23 (3)	19:50	24	19:06 (2)	20:42	73	20:03 (1)	21:28	12	19:56 (1)
2	08:27			07:58		15:32 (5)	07:03		16:29 (4)	06:51		18:42 (2)	05:46		18:32 (6)	05:01		19:46 (1)
	16:15			17:04	31	16:03 (5)	17:56	54	17:25 (3)	19:51	23	19:05 (2)	20:43	73	20:03 (1)	21:29	7	19:53 (1)
3	08:27			07:56		15:34 (5)	07:01		16:28 (4)	06:49		18:43 (2)	05:44		18:32 (6)	05:00		
	16:16			17:06	30	16:04 (5)	17:58	56	17:25 (3)	19:53	21	19:04 (2)	20:45	74	20:04 (1)	21:31		
4	08:27			07:55		15:34 (5)	06:59		16:29 (4)	06:47		18:44 (2)	05:42		18:33 (6)	04:59		
	16:17			17:08	30	16:04 (5)	18:00	57	17:26 (3)	19:55	19	19:03 (2)	20:47	73	20:04 (1)	21:32		
5	08:26			07:53		15:34 (5)	06:56		16:29 (4)	06:44		18:45 (2)	05:40		18:33 (6)	04:59		
	16:18			17:10	29	16:03 (5)	18:02	57	17:26 (3)	19:57	15	19:00 (2)	20:48	73	20:04 (1)	21:33		
6	08:26			07:51		15:35 (5)	06:54		16:30 (4)	06:42		18:48 (2)	05:38		18:35 (6)	04:58		
	16:19			17:12	27	16:02 (5)	18:04	57	17:27 (3)	19:58	10	18:58 (2)	20:50	73	20:06 (1)	21:34		
7	08:26			07:50		15:35 (5)	06:52		16:29 (4)	06:40		18:51 (6)	05:37		18:36 (6)	04:57		
	16:21			17:13	27	16:02 (5)	18:06	56	17:26 (3)	20:00	15	19:06 (6)	20:52	70	20:06 (1)	21:35		
8	08:25			07:48		15:36 (5)	06:50		16:30 (4)	06:38		18:47 (6)	05:35		18:37 (6)	04:57		
	16:22			17:15	25	16:01 (5)	18:07	55	17:26 (3)	20:02	22	19:09 (6)	20:53	69	20:06 (1)	21:35		
9	08:25			07:46		15:39 (5)	06:47		16:31 (4)	06:35		18:44 (6)	05:33		18:38 (6)	04:56		
	16:23			17:17	22	16:01 (5)	18:09	52	17:26 (3)	20:04	27	19:11 (6)	20:55	67	20:06 (1)	21:36		
10	08:24			07:44		15:40 (5)	06:45		16:32 (4)	06:33		18:42 (6)	05:31		18:40 (6)	04:56		
	16:25			17:19	19	15:59 (5)	18:11	48	17:24 (3)	20:05	31	19:13 (6)	20:57	63	20:06 (1)	21:37		
11	08:24			07:42		15:42 (5)	06:43		16:34 (4)	06:31		18:40 (6)	05:30		18:41 (6)	04:55		
	16:26			17:21	15	15:57 (5)	18:13	42	17:23 (3)	20:07	35	19:15 (6)	20:58	61	20:06 (1)	21:38		
12	08:23			07:41		15:45 (5)	06:40		16:36 (4)	06:28		18:39 (6)	05:28		18:44 (6)	04:55		
	16:28			17:23	9	15:54 (5)	18:15	36	17:22 (3)	20:09	37	19:16 (6)	21:00	56	20:06 (1)	21:39		
13	08:22			07:39			06:38		16:39 (4)	06:26		18:36 (6)	05:26		18:46 (6)	04:55		
	16:29			17:25			18:16	25	17:20 (3)	20:10	41	19:17 (6)	21:02	51	20:06 (1)	21:39		
14	08:21			07:37			06:36		17:06 (3)	06:24		18:35 (6)	05:25		18:52 (6)	04:55		
	16:31			17:27			18:18	12	17:18 (3)	20:12	43	19:18 (6)	21:03	40	20:06 (1)	21:40		
15	08:21			07:35			06:34			06:22		18:34 (6)	05:23		19:30 (1)	04:54		
	16:32			17:29			18:20			20:14	44	19:18 (6)	21:05	35	20:05 (1)	21:40		
16	08:20			07:33			06:31			06:19		18:34 (6)	05:21		19:30 (1)	04:54		
	16:34			17:30			18:22			20:16	45	19:19 (6)	21:06	35	20:05 (1)	21:41		
17	08:19		15:40 (5)	07:31			06:29			06:17		18:33 (6)	05:20		19:31 (1)	04:54		
	16:35	8	15:48 (5)	17:32			18:23			20:17	46	19:19 (6)	21:08	35	20:06 (1)	21:41		
18	08:18		15:38 (5)	07:29			06:27			06:15		18:32 (6)	05:18		19:31 (1)	04:54		
	16:37	13	15:51 (5)	17:34			18:25			20:19	48	19:20 (6)	21:09	34	20:05 (1)	21:42		
19	08:17		15:37 (5)	07:27			06:24			06:13		18:31 (6)	05:17		19:32 (1)	04:54		
	16:39	16	15:53 (5)	17:36			18:27			20:21	48	19:19 (6)	21:11	33	20:05 (1)	21:42		
20	08:16		15:36 (5)	07:25		16:41 (4)	06:22			06:11		18:30 (6)	05:16		19:32 (1)	04:54		
	16:41	18	15:54 (5)	17:38	12	16:53 (4)	18:29			20:23	49	19:19 (6)	21:12	32	20:04 (1)	21:43		
21	08:15		15:35 (5)	07:23		16:38 (4)	06:20			06:09		18:30 (6)	05:14		19:33 (1)	04:54		
	16:42	21	15:56 (5)	17:40	18	16:56 (4)	18:30			20:24	49	19:19 (6)	21:14	31	20:04 (1)	21:43		
22	08:13		15:35 (5)	07:20		16:36 (4)	06:17		17:53 (2)	06:06		18:30 (6)	05:13		19:33 (1)	04:55		
	16:44	23	15:58 (5)	17:42	23	16:59 (4)	18:32	8	18:01 (2)	20:26	49	19:19 (6)	21:15	30	20:03 (1)	21:43		
23	08:12		15:34 (5)	07:18		16:34 (4)	06:15		17:50 (2)	06:04		18:30 (6)	05:12		19:34 (1)	04:55		
	16:46	24	15:58 (5)	17:44	25	16:59 (4)	18:34	14	18:04 (2)	20:28	49	19:19 (6)	21:17	29	20:03 (1)	21:43		
24	08:11		15:34 (5)	07:16		16:33 (4)	06:12		17:47 (2)	06:02		18:29 (6)	05:10		19:35 (1)	04:55		
	16:47	25	15:59 (5)	17:45	28	17:01 (4)	18:36	18	18:05 (2)	20:30	50	19:19 (6)	21:18	27	20:02 (1)	21:43		
25	08:10		15:33 (5)	07:14		16:32 (4)	06:10		17:46 (2)	06:00		18:29 (6)	05:09		19:36 (1)	04:55		
	16:49	27	16:00 (5)	17:47	30	17:02 (4)	18:37	21	18:07 (2)	20:31	50	19:19 (6)	21:19	26	20:02 (1)	21:43		
26	08:08		15:33 (5)	07:12		16:31 (4)	06:08		17:45 (2)	05:58		18:29 (6)	05:08		19:36 (1)	04:56		
	16:51	28	16:01 (5)	17:49	31	17:02 (4)	18:39	23	18:08 (2)	20:33	50	19:19 (6)	21:21	25	20:01 (1)	21:43		
27	08:07		15:32 (5)	07:10		16:31 (4)	06:05		17:43 (2)	05:56		18:29 (6)	05:07		19:37 (1)	04:56		
	16:53	29	16:01 (5)	17:51	35	17:17 (3)	18:41	24	18:07 (2)	20:35	59	19:54 (1)	21:22	23	20:00 (1)	21:43		
28	08:06		15:33 (5)	07:08		16:29 (4)	06:03		17:43 (2)	05:54		18:30 (6)	05:06		19:38 (1)	04:57		
	16:55	29	16:02 (5)	17:53	47	17:21 (3)	18:43	25	18:08 (2)	20:36	64	19:57 (1)	21:23	22	20:00 (1)	21:43		
29	08:04		15:32 (5)				07:01		18:43 (2)	05:52		18:30 (6)	05:05		19:39 (1)	04:57		
	16:57	30	16:02 (5)				19:44	25	19:08 (2)	20:38	68	19:59 (1)	21:25	20	19:59 (1)	21:43		
30	08:03		15:33 (5)				06:58		18:42 (2)	05:50		18:30 (6)	05:04		19:41 (1)	04:58		
	16:58	30	16:03 (5)				19:46	25	19:07 (2)	20:40	71	20:00 (1)	21:26	16	19:57 (1)	21:43		
31	08:01		15:33 (5)				06:56		18:42 (2)				05:03		19:43 (1)			
	17:00	30	16:03 (5)				19:48	25	19:07 (2)				21:27	14	19:57 (1)			
Sonnenscheinstunden	257			277			367			417			487			501		
astr.max.mögl.Beschattung		351			544			866			1202			1383			19	
Red.Sonnenscheinwahrsch.		0,18			0,25			0,29			0,37			0,45			0,40	
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00			1,00	
Reduktion Windrichtung		0,71			0,73			0,75			0,72			0,68			0,66	
Gesamte Reduktion		0,13			0,18			0,22			0,27			0,31			0,27	
Met.wahrsch.Beschattung		46			100			189			325			423			5	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BA - Bahnhofstraße 17

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		18:53 (6)	06:26		18:39 (6)	07:16		17:16 (4)	07:11		15:08 (5)	08:03
	21:42			21:10	59	20:17 (1)	20:07	35	19:14 (6)	18:56	33	18:01 (3)	16:49	20	15:28 (5)	16:08
2	04:59			05:37		18:51 (6)	06:28		18:40 (6)	07:18		17:14 (4)	07:13		15:07 (5)	08:05
	21:42			21:08	61	20:16 (1)	20:05	31	19:11 (6)	18:54	40	18:02 (3)	16:47	23	15:30 (5)	16:07
3	05:00			05:39		18:49 (6)	06:30		18:42 (6)	07:20		17:11 (4)	07:15		15:06 (5)	08:06
	21:42			21:06	65	20:16 (1)	20:02	27	19:09 (6)	18:52	46	18:02 (3)	16:46	25	15:31 (5)	16:07
4	05:01			05:40		18:47 (6)	06:31		18:45 (6)	07:22		17:09 (4)	07:17		15:05 (5)	08:07
	21:41			21:05	68	20:16 (1)	20:00	22	19:07 (6)	18:49	49	18:02 (3)	16:44	27	15:32 (5)	16:06
5	05:02			05:42		18:46 (6)	06:33		18:47 (6)	07:23		17:08 (4)	07:19		15:04 (5)	08:09
	21:41			21:03	70	20:16 (1)	19:58	15	19:02 (6)	18:47	53	18:03 (3)	16:42	28	15:32 (5)	16:06
6	05:02			05:44		18:45 (6)	06:35		18:44 (2)	07:25		17:07 (4)	07:20		15:04 (5)	08:10
	21:40			21:01	71	20:15 (1)	19:55	9	18:53 (2)	18:45	55	18:03 (3)	16:40	29	15:33 (5)	16:05
7	05:03			05:45		18:44 (6)	06:36		18:40 (2)	07:27		17:05 (4)	07:22		15:04 (5)	08:11
	21:40			20:59	72	20:15 (1)	19:53	15	18:55 (2)	18:43	57	18:02 (3)	16:38	29	15:33 (5)	16:05
8	05:04			05:47		18:42 (6)	06:38		18:39 (2)	07:28		17:04 (4)	07:24		15:03 (5)	08:12
	21:39			20:57	74	20:14 (1)	19:51	18	18:57 (2)	18:40	57	18:01 (3)	16:37	31	15:34 (5)	16:04
9	05:05			05:48		18:42 (6)	06:40		18:37 (2)	07:30		17:04 (4)	07:26		15:03 (5)	08:14
	21:38			20:56	74	20:14 (1)	19:48	21	18:58 (2)	18:38	57	18:01 (3)	16:35	31	15:34 (5)	16:04
10	05:06		19:55 (1)	05:50		18:40 (6)	06:41		18:35 (2)	07:32		17:04 (4)	07:28		15:03 (5)	08:15
	21:38	4	19:59 (1)	20:54	74	20:12 (1)	19:46	23	18:58 (2)	18:36	56	18:00 (3)	16:33	31	15:34 (5)	16:04
11	05:07		19:53 (1)	05:52		18:40 (6)	06:43		18:35 (2)	07:34		17:02 (4)	07:29		15:03 (5)	08:16
	21:37	9	20:02 (1)	20:52	74	20:12 (1)	19:44	24	18:59 (2)	18:33	55	17:58 (3)	16:32	31	15:34 (5)	16:04
12	05:08		19:51 (1)	05:53		18:39 (6)	06:45		18:33 (2)	07:35		17:02 (4)	07:31		15:04 (5)	08:17
	21:36	13	20:04 (1)	20:50	71	20:10 (1)	19:41	25	18:58 (2)	18:31	52	17:57 (3)	16:30	30	15:34 (5)	16:04
13	05:10		19:50 (1)	05:55		18:38 (6)	06:46		18:33 (2)	07:37		17:02 (4)	07:33		15:04 (5)	08:18
	21:35	15	20:05 (1)	20:48	71	20:09 (1)	19:39	25	18:58 (2)	18:29	49	17:55 (3)	16:29	30	15:34 (5)	16:03
14	05:11		19:48 (1)	05:57		18:38 (6)	06:48		18:33 (2)	07:39		17:03 (4)	07:35		15:05 (5)	08:19
	21:34	19	20:07 (1)	20:46	68	20:07 (1)	19:37	25	18:58 (2)	18:27	43	17:53 (3)	16:27	29	15:34 (5)	16:03
15	05:12		19:48 (1)	05:58		18:37 (6)	06:50		18:32 (2)	07:41		17:03 (4)	07:37		15:05 (5)	08:20
	21:33	21	20:09 (1)	20:44	63	20:04 (1)	19:34	25	18:57 (2)	18:24	32	17:35 (4)	16:26	29	15:34 (5)	16:04
16	05:13		19:47 (1)	06:00		18:37 (6)	06:51		18:33 (2)	07:42		17:04 (4)	07:38		15:06 (5)	08:21
	21:32	22	20:09 (1)	20:42	57	20:01 (1)	19:32	24	18:57 (2)	18:22	30	17:34 (4)	16:24	28	15:34 (5)	16:04
17	05:14		19:46 (1)	06:02		18:36 (6)	06:53		18:32 (2)	07:44		17:04 (4)	07:40		15:07 (5)	08:22
	21:31	24	20:10 (1)	20:40	49	19:25 (6)	19:29	23	18:55 (2)	18:20	29	17:33 (4)	16:23	27	15:34 (5)	16:04
18	05:16		19:45 (1)	06:03		18:36 (6)	06:55		18:33 (2)	07:46		17:04 (4)	07:42		15:08 (5)	08:22
	21:30	26	20:11 (1)	20:38	50	19:26 (6)	19:27	21	18:54 (2)	18:18	27	17:31 (4)	16:22	25	15:33 (5)	16:04
19	05:17		19:45 (1)	06:05		18:35 (6)	06:56		18:34 (2)	07:48		17:06 (4)	07:44		15:09 (5)	08:23
	21:29	26	20:11 (1)	20:35	50	19:25 (6)	19:25	19	18:53 (2)	18:16	24	17:30 (4)	16:20	24	15:33 (5)	16:04
20	05:18		19:45 (1)	06:07		18:35 (6)	06:58		18:35 (2)	07:49		17:07 (4)	07:45		15:10 (5)	08:24
	21:27	28	20:13 (1)	20:33	50	19:25 (6)	19:22	15	18:50 (2)	18:14	21	17:28 (4)	16:19	23	15:33 (5)	16:05
21	05:20		19:44 (1)	06:08		18:35 (6)	07:00		18:37 (2)	07:51		17:09 (4)	07:47		15:11 (5)	08:24
	21:26	29	20:13 (1)	20:31	50	19:25 (6)	19:20	11	18:48 (2)	18:11	17	17:26 (4)	16:18	21	15:32 (5)	16:05
22	05:21		19:43 (1)	06:10		18:35 (6)	07:01			07:53		17:13 (4)	07:49		15:12 (5)	08:25
	21:25	31	20:14 (1)	20:29	49	19:24 (6)	19:18			18:09	10	17:23 (4)	16:17	18	15:30 (5)	16:06
23	05:22		19:42 (1)	06:12		18:35 (6)	07:03			07:55			07:50		15:13 (5)	08:25
	21:24	32	20:14 (1)	20:27	49	19:24 (6)	19:15			18:07			16:15	16	15:29 (5)	16:06
24	05:24		19:42 (1)	06:13		18:35 (6)	07:05			07:57			07:52		15:15 (5)	08:26
	21:22	33	20:15 (1)	20:25	48	19:23 (6)	19:13			18:05			16:14	13	15:28 (5)	16:07
25	05:25		19:42 (1)	06:15		18:35 (6)	07:06			06:58			07:54		15:18 (5)	08:26
	21:21	33	20:15 (1)	20:23	48	19:23 (6)	19:11			17:03			16:13	8	15:26 (5)	16:07
26	05:27		19:41 (1)	06:17		18:35 (6)	07:08			07:00			07:55			08:26
	21:19	34	20:15 (1)	20:20	46	19:21 (6)	19:08			17:01			16:12			16:08
27	05:28		19:41 (1)	06:18		18:35 (6)	07:10			07:02			07:57			08:27
	21:18	35	20:16 (1)	20:18	46	19:21 (6)	19:06			16:59			16:11			16:09
28	05:30		19:41 (1)	06:20		18:36 (6)	07:11			07:04			07:59			08:27
	21:16	35	20:16 (1)	20:16	44	19:20 (6)	19:03			16:57			16:10			16:10
29	05:31		19:41 (1)	06:22		18:36 (6)	07:13		17:48 (3)	07:06			08:00			08:27
	21:15	36	20:17 (1)	20:14	42	19:18 (6)	19:01	8	17:56 (3)	16:55			16:10			16:10
30	05:33		18:59 (6)	06:23		18:37 (6)	07:15		17:22 (4)	07:08		15:13 (5)	08:02			08:27
	21:13	46	20:16 (1)	20:11	40	19:17 (6)	18:59	17	17:59 (3)	16:53	11	15:24 (5)	16:09			16:11
31	05:34		18:55 (6)	06:25		18:38 (6)				07:09		15:10 (5)				08:27
	21:12	53	20:16 (1)	20:09	37	19:15 (6)				16:51	16	15:26 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		604			1790			478			919			626		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,67			0,71			0,74			0,75			0,71		
Gesamte Reduktion		0,28			0,32			0,27			0,23			0,15		
Met.wahrsch.Beschattung		168			566			131			216			95		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BB - Bahnhofstraße 20

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar			Februar			März			April			Mai			Juni
1	08:27			08:00		15:35 (5)	07:05		16:30 (4)	06:54		18:42 (2)	05:48		18:33 (6)	05:02
	16:14			17:02	30	16:05 (5)	17:55	51	17:23 (3)	19:50	20	19:02 (2)	20:42	64	19:59 (1)	21:28
2	08:27			07:58		15:35 (5)	07:03		16:30 (4)	06:51		18:42 (2)	05:46		18:35 (6)	05:01
	16:15			17:04	30	16:05 (5)	17:56	53	17:24 (3)	19:51	18	19:00 (2)	20:43	60	19:59 (1)	21:29
3	08:27			07:56		15:36 (5)	07:01		16:29 (4)	06:49		18:43 (2)	05:44		18:36 (6)	05:00
	16:16			17:06	29	16:05 (5)	17:58	54	17:24 (3)	19:53	18	19:01 (6)	20:45	58	19:59 (1)	21:31
4	08:27			07:55		15:37 (5)	06:59		16:29 (4)	06:47		18:43 (6)	05:42		18:38 (6)	04:59
	16:17			17:08	28	16:05 (5)	18:00	56	17:25 (3)	19:55	22	19:05 (6)	20:47	55	19:59 (1)	21:32
5	08:26			07:53		15:37 (5)	06:56		16:30 (4)	06:44		18:40 (6)	05:40		18:41 (6)	04:59
	16:18			17:10	27	16:04 (5)	18:02	55	17:25 (3)	19:57	26	19:06 (6)	20:48	48	19:59 (1)	21:33
6	08:26			07:51		15:38 (5)	06:54		16:31 (4)	06:42		18:38 (6)	05:38		19:25 (1)	04:58
	16:19			17:12	26	16:04 (5)	18:04	53	17:25 (3)	19:58	30	19:08 (6)	20:50	34	19:59 (1)	21:34
7	08:26			07:50		15:38 (5)	06:52		16:31 (4)	06:40		18:36 (6)	05:37		19:24 (1)	04:57
	16:21			17:13	25	16:03 (5)	18:06	51	17:24 (3)	20:00	34	19:10 (6)	20:52	35	19:59 (1)	21:35
8	08:25			07:48		15:39 (5)	06:50		16:32 (4)	06:38		18:34 (6)	05:35		19:24 (1)	04:57
	16:22			17:15	23	16:02 (5)	18:07	48	17:24 (3)	20:02	36	19:10 (6)	20:53	35	19:59 (1)	21:35
9	08:25			07:46		15:41 (5)	06:47		16:34 (4)	06:35		18:33 (6)	05:33		19:25 (1)	04:56
	16:23			17:17	21	16:02 (5)	18:09	44	17:23 (3)	20:04	38	19:11 (6)	20:55	34	19:59 (1)	21:36
10	08:24			07:44		15:43 (5)	06:45		16:35 (4)	06:33		18:32 (6)	05:31		19:25 (1)	04:56
	16:25			17:19	17	16:00 (5)	18:11	39	17:22 (3)	20:05	40	19:12 (6)	20:57	33	19:58 (1)	21:37
11	08:24			07:42		15:46 (5)	06:43		16:38 (4)	06:31		18:31 (6)	05:30		19:24 (1)	04:55
	16:26			17:21	12	15:58 (5)	18:13	30	17:21 (3)	20:07	42	19:13 (6)	20:58	33	19:57 (1)	21:38
12	08:23			07:40		15:51 (5)	06:40		17:04 (3)	06:28		18:30 (6)	05:28		19:25 (1)	04:55
	16:28			17:23	2	15:53 (5)	18:15	15	17:19 (3)	20:09	44	19:14 (6)	21:00	33	19:58 (1)	21:39
13	08:22			07:39			06:38		17:06 (3)	06:26		18:28 (6)	05:26		19:25 (1)	04:55
	16:29			17:25			18:16	10	17:16 (3)	20:10	45	19:13 (6)	21:02	32	19:57 (1)	21:39
14	08:21			07:37			06:36			06:24		18:28 (6)	05:25		19:26 (1)	04:55
	16:31			17:27			18:18			20:12	45	19:13 (6)	21:03	31	19:57 (1)	21:40
15	08:21			07:35			06:34			06:22		18:28 (6)	05:23		19:26 (1)	04:54
	16:32			17:29			18:20			20:14	46	19:14 (6)	21:05	29	19:55 (1)	21:40
16	08:20			07:33			06:31			06:19		18:27 (6)	05:21		19:28 (1)	04:54
	16:34			17:30			18:22			20:16	47	19:14 (6)	21:06	27	19:55 (1)	21:41
17	08:19			07:31			06:29			06:17		18:27 (6)	05:20		19:29 (1)	04:54
	16:35			17:32			18:23			20:17	47	19:14 (6)	21:08	26	19:55 (1)	21:41
18	08:18		15:42 (5)	07:29			06:27			06:15		18:27 (6)	05:18		19:29 (1)	04:54
	16:37	9	15:51 (5)	17:34			18:25			20:19	47	19:14 (6)	21:09	24	19:53 (1)	21:42
19	08:17		15:41 (5)	07:27		16:42 (4)	06:24			06:13		18:26 (6)	05:17		19:31 (1)	04:54
	16:39	13	15:54 (5)	17:36	10	16:52 (4)	18:27			20:21	47	19:13 (6)	21:11	22	19:53 (1)	21:42
20	08:16		15:39 (5)	07:25		16:39 (4)	06:22			06:11		18:26 (6)	05:16		19:32 (1)	04:54
	16:40	16	15:55 (5)	17:38	16	16:55 (4)	18:29			20:23	47	19:13 (6)	21:12	20	19:52 (1)	21:43
21	08:15		15:38 (5)	07:23		16:37 (4)	06:20		17:48 (2)	06:09		18:26 (6)	05:14		19:34 (1)	04:54
	16:42	19	15:57 (5)	17:40	20	16:57 (4)	18:30	12	18:00 (2)	20:24	46	19:12 (6)	21:14	17	19:51 (1)	21:43
22	08:13		15:38 (5)	07:20		16:35 (4)	06:17		17:46 (2)	06:06		18:26 (6)	05:13		19:35 (1)	04:55
	16:44	21	15:59 (5)	17:42	24	16:59 (4)	18:32	16	18:02 (2)	20:26	46	19:12 (6)	21:15	13	19:48 (1)	21:43
23	08:12		15:36 (5)	07:18		16:33 (4)	06:15		17:45 (2)	06:04		18:27 (6)	05:12		19:38 (1)	04:55
	16:46	23	15:59 (5)	17:44	26	16:59 (4)	18:34	19	18:04 (2)	20:28	53	19:48 (1)	21:17	8	19:46 (1)	21:43
24	08:11		15:36 (5)	07:16		16:32 (4)	06:12		17:43 (2)	06:02		18:27 (6)	05:10			04:55
	16:47	25	16:01 (5)	17:45	28	17:00 (4)	18:36	21	18:04 (2)	20:30	60	19:51 (1)	21:18			21:43
25	08:10		15:35 (5)	07:14		16:32 (4)	06:10		17:42 (2)	06:00		18:27 (6)	05:09			04:55
	16:49	26	16:01 (5)	17:47	29	17:01 (4)	18:37	23	18:05 (2)	20:31	63	19:53 (1)	21:19			21:43
26	08:08		15:36 (5)	07:12		16:31 (4)	06:08		17:42 (2)	05:58		18:28 (6)	05:08			04:56
	16:51	26	16:02 (5)	17:49	31	17:02 (4)	18:39	23	18:05 (2)	20:33	65	19:55 (1)	21:21			21:43
27	08:07		15:35 (5)	07:10		16:31 (4)	06:05		17:40 (2)	05:56		18:29 (6)	05:07			04:56
	16:53	28	16:03 (5)	17:51	43	17:20 (3)	18:41	25	18:05 (2)	20:35	66	19:56 (1)	21:22			21:43
28	08:06		15:35 (5)	07:08		16:30 (4)	06:03		17:40 (2)	05:54		18:29 (6)	05:06			04:57
	16:55	29	16:04 (5)	17:53	47	17:21 (3)	18:43	25	18:05 (2)	20:36	67	19:57 (1)	21:23			21:43
29	08:04		15:35 (5)				07:01		18:41 (2)	05:52		18:30 (6)	05:05			04:57
	16:57	29	16:04 (5)				19:44	24	19:05 (2)	20:38	66	19:57 (1)	21:25			21:43
30	08:03		15:36 (5)				06:58		18:40 (2)	05:50		18:31 (6)	05:04			04:58
	16:58	29	16:05 (5)				19:46	23	19:03 (2)	20:40	66	19:58 (1)	21:26			21:43
31	08:01		15:35 (5)				06:56		18:41 (2)				05:03			
	17:00	30	16:05 (5)				19:48	22	19:03 (2)				21:27			
Sonnenscheinstunden	257			277			367			417			487			501
astr.max.mögl.Beschattung		323			544			792			1337			771		
Red.Sonnenscheinwahrsch.		0,18			0,25			0,29			0,37			0,45		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,71			0,73			0,75			0,72			0,68		
Gesamte Reduktion		0,13			0,18			0,22			0,27			0,30		
Met.wahrsch.Beschattung		43			100			173			361			235		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BB - Bahnhofstraße 20

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		19:36 (1)	06:26		18:30 (6)	07:16		17:44 (3)	07:11		15:11 (5)	08:03
	21:42			21:10	32	20:08 (1)	20:07	42	19:12 (6)	18:56	13	17:57 (3)	16:49	18	15:29 (5)	16:08
2	04:59			05:37		19:35 (1)	06:28		18:30 (6)	07:18		17:19 (4)	07:13		15:10 (5)	08:05
	21:42			21:08	33	20:08 (1)	20:05	40	19:10 (6)	18:54	25	17:59 (3)	16:47	21	15:31 (5)	16:07
3	05:00			05:39		19:35 (1)	06:30		18:31 (6)	07:20		17:14 (4)	07:15		15:09 (5)	08:06
	21:42			21:06	34	20:09 (1)	20:02	38	19:09 (6)	18:52	35	17:59 (3)	16:46	23	15:32 (5)	16:07
4	05:01			05:40		19:34 (1)	06:31		18:32 (6)	07:22		17:12 (4)	07:17		15:08 (5)	08:07
	21:41			21:05	34	20:08 (1)	20:00	36	19:08 (6)	18:49	41	18:00 (3)	16:44	25	15:33 (5)	16:06
5	05:02			05:42		19:34 (1)	06:33		18:32 (6)	07:23		17:10 (4)	07:19		15:07 (5)	08:09
	21:41			21:03	35	20:09 (1)	19:58	34	19:06 (6)	18:47	47	18:01 (3)	16:42	27	15:34 (5)	16:06
6	05:02			05:44		19:34 (1)	06:35		18:34 (6)	07:25		17:08 (4)	07:20		15:07 (5)	08:10
	21:40			21:01	34	20:08 (1)	19:55	30	19:04 (6)	18:45	51	18:01 (3)	16:40	27	15:34 (5)	16:05
7	05:03			05:45		18:54 (6)	06:36		18:35 (6)	07:27		17:06 (4)	07:22		15:06 (5)	08:11
	21:40			20:59	42	20:09 (1)	19:53	27	19:02 (6)	18:43	53	18:00 (3)	16:38	29	15:35 (5)	16:05
8	05:04			05:47		18:49 (6)	06:38		18:37 (6)	07:28		17:05 (4)	07:24		15:06 (5)	08:12
	21:39			20:57	51	20:08 (1)	19:51	22	18:59 (6)	18:40	54	18:00 (3)	16:37	29	15:35 (5)	16:04
9	05:05			05:48		18:47 (6)	06:40		18:38 (2)	07:30		17:05 (4)	07:26		15:06 (5)	08:14
	21:38			20:56	55	20:08 (1)	19:48	18	18:56 (6)	18:38	55	18:00 (3)	16:35	29	15:35 (5)	16:04
10	05:06			05:50		18:44 (6)	06:41		18:35 (2)	07:32		17:04 (4)	07:28		15:06 (5)	08:15
	21:38			20:54	59	20:07 (1)	19:46	18	18:53 (2)	18:36	55	17:59 (3)	16:33	30	15:36 (5)	16:04
11	05:07			05:52		18:43 (6)	06:43		18:34 (2)	07:34		17:03 (4)	07:29		15:06 (5)	08:16
	21:37			20:52	61	20:07 (1)	19:44	20	18:54 (2)	18:33	54	17:58 (3)	16:32	30	15:36 (5)	16:04
12	05:08			05:53		18:40 (6)	06:45		18:32 (2)	07:35		17:03 (4)	07:31		15:06 (5)	08:17
	21:36			20:50	64	20:06 (1)	19:41	22	18:54 (2)	18:31	52	17:57 (3)	16:30	30	15:36 (5)	16:04
13	05:10			05:55		18:39 (6)	06:46		18:31 (2)	07:37		17:03 (4)	07:33		15:07 (5)	08:18
	21:35			20:48	65	20:06 (1)	19:39	24	18:55 (2)	18:29	49	17:55 (3)	16:29	29	15:36 (5)	16:03
14	05:11			05:57		18:38 (6)	06:48		18:31 (2)	07:39		17:03 (4)	07:35		15:07 (5)	08:19
	21:34			20:46	67	20:06 (1)	19:37	24	18:55 (2)	18:27	46	17:54 (3)	16:27	29	15:36 (5)	16:03
15	05:12			05:58		18:37 (6)	06:50		18:30 (2)	07:41		17:03 (4)	07:37		15:08 (5)	08:20
	21:33			20:44	66	20:04 (1)	19:34	24	18:54 (2)	18:24	41	17:51 (3)	16:26	28	15:36 (5)	16:04
16	05:13			06:00		18:36 (6)	06:51		18:30 (2)	07:42		17:03 (4)	07:38		15:09 (5)	08:21
	21:32			20:42	66	20:03 (1)	19:32	24	18:54 (2)	18:22	31	17:34 (4)	16:24	26	15:35 (5)	16:04
17	05:14			06:02		18:34 (6)	06:53		18:29 (2)	07:44		17:03 (4)	07:40		15:09 (5)	08:22
	21:31			20:40	65	20:01 (1)	19:29	24	18:53 (2)	18:20	29	17:32 (4)	16:23	26	15:35 (5)	16:04
18	05:16			06:03		18:34 (6)	06:55		18:29 (2)	07:46		17:04 (4)	07:42		15:10 (5)	08:22
	21:30			20:38	63	20:00 (1)	19:27	23	18:52 (2)	18:18	27	17:31 (4)	16:22	25	15:35 (5)	16:04
19	05:17			06:05		18:33 (6)	06:56		18:30 (2)	07:48		17:05 (4)	07:44		15:11 (5)	08:23
	21:29			20:35	58	19:56 (1)	19:25	22	18:52 (2)	18:16	25	17:30 (4)	16:20	23	15:34 (5)	16:04
20	05:18		19:49 (1)	06:07		18:32 (6)	06:58		18:30 (2)	07:49		17:06 (4)	07:45		15:13 (5)	08:24
	21:27	4	19:53 (1)	20:33	53	19:53 (1)	19:22	20	18:50 (2)	18:14	23	17:29 (4)	16:19	21	15:34 (5)	16:05
21	05:20		19:47 (1)	06:08		18:32 (6)	07:00		18:31 (2)	07:51		17:08 (4)	07:47		15:14 (5)	08:24
	21:26	11	19:58 (1)	20:31	45	19:17 (6)	19:20	17	18:48 (2)	18:11	19	17:27 (4)	16:18	19	15:33 (5)	16:05
22	05:21		19:44 (1)	06:10		18:31 (6)	07:01		18:33 (2)	07:53		17:10 (4)	07:49		15:15 (5)	08:25
	21:25	15	19:59 (1)	20:29	46	19:17 (6)	19:18	13	18:46 (2)	18:09	15	17:25 (4)	16:17	16	15:31 (5)	16:06
23	05:22		19:43 (1)	06:12		18:31 (6)	07:03		18:36 (2)	07:55		17:14 (4)	07:50		15:17 (5)	08:25
	21:24	18	20:01 (1)	20:27	46	19:17 (6)	19:15	6	18:42 (2)	18:07	7	17:21 (4)	16:15	13	15:30 (5)	16:06
24	05:24		19:42 (1)	06:13		18:30 (6)	07:05			07:57			07:52		15:19 (5)	08:26
	21:22	21	20:03 (1)	20:25	47	19:17 (6)	19:13			18:05			16:14	9	15:28 (5)	16:07
25	05:25		19:41 (1)	06:15		18:30 (6)	07:06			06:58			07:54			08:26
	21:21	22	20:03 (1)	20:23	47	19:17 (6)	19:11			17:03			16:13			16:07
26	05:27		19:39 (1)	06:17		18:29 (6)	07:08			07:00			07:55			08:26
	21:19	25	20:04 (1)	20:20	47	19:16 (6)	19:08			17:01			16:12			16:08
27	05:28		19:39 (1)	06:18		18:29 (6)	07:10			07:02			07:57			08:27
	21:18	27	20:06 (1)	20:18	47	19:16 (6)	19:06			16:59			16:11			16:09
28	05:30		19:38 (1)	06:20		18:29 (6)	07:11			07:04			07:59			08:27
	21:16	28	20:06 (1)	20:16	47	19:16 (6)	19:03			16:57			16:10			16:10
29	05:31		19:38 (1)	06:22		18:29 (6)	07:13			07:06			08:00			08:27
	21:15	29	20:07 (1)	20:14	45	19:14 (6)	19:01			16:55			16:10			16:10
30	05:33		19:37 (1)	06:23		18:29 (6)	07:15		17:48 (3)	07:08		15:17 (5)	08:02			08:27
	21:13	30	20:07 (1)	20:11	45	19:14 (6)	18:59	6	17:54 (3)	16:53	7	15:24 (5)	16:09			16:11
31	05:34		19:36 (1)	06:25		18:29 (6)				07:09		15:14 (5)				08:27
	21:12	31	20:07 (1)	20:09	44	19:13 (6)				16:51	13	15:27 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		261			1543			574			867			582		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,67			0,71			0,74			0,75			0,71		
Gesamte Reduktion		0,28			0,32			0,27			0,23			0,15		
Met.wahrsch.Beschattung		73			487			158			204			89		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BC - Hauptstraße 30B

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März		April		Mai		Juni	
1	08:27		08:00		07:05		06:54		18:59 (2)		05:48	19:01 (6)	05:02
	16:14		17:02		17:55		19:50	21	19:20 (2)	56	20:42	20:09 (1)	21:28
2	08:27		07:58		07:03		06:51		18:58 (2)		05:46	19:01 (6)	05:01
	16:15		17:04		17:56		19:51	22	19:20 (2)	59	20:43	20:10 (1)	21:29
3	08:27		07:56		07:01		06:49		18:58 (2)		05:44	19:01 (6)	05:00
	16:16		17:06		17:58		19:53	22	19:20 (2)	60	20:45	20:11 (1)	21:30
4	08:27		07:55		16:19 (5)	06:59	17:11 (4)	06:47	18:58 (2)		05:42	19:01 (6)	04:59
	16:17		17:08	10	16:29 (5)	18:00	12	17:23 (4)	19:55	22	19:20 (2)	20:47	60	20:11 (1)	21:32
5	08:26		07:53		16:16 (5)	06:56	17:08 (4)	06:44	18:57 (2)		05:40	19:02 (6)	04:59
	16:18		17:10	15	16:31 (5)	18:02	18	17:26 (4)	19:57	21	19:18 (2)	20:48	60	20:12 (1)	21:33
6	08:26		07:51		16:14 (5)	06:54	17:06 (4)	06:42	18:57 (2)		05:38	19:03 (6)	04:58
	16:19		17:12	19	16:33 (5)	18:04	22	17:28 (4)	19:58	21	19:18 (2)	20:50	60	20:13 (1)	21:34
7	08:26		07:50		16:13 (5)	06:52	17:04 (4)	06:40	18:58 (2)		05:37	19:04 (6)	04:57
	16:21		17:13	21	16:34 (5)	18:06	24	17:28 (4)	20:00	19	19:17 (2)	20:52	59	20:13 (1)	21:34
8	08:25		07:48		16:12 (5)	06:50	17:03 (4)	06:38	18:58 (2)		05:35	19:04 (6)	04:57
	16:22		17:15	23	16:35 (5)	18:07	37	17:40 (3)	20:02	17	19:15 (2)	20:53	58	20:13 (1)	21:35
9	08:25		07:46		16:12 (5)	06:47	17:03 (4)	06:35	19:00 (2)		05:33	19:06 (6)	04:56
	16:23		17:17	25	16:37 (5)	18:09	39	17:42 (3)	20:04	13	19:13 (2)	20:55	55	20:13 (1)	21:36
10	08:24		07:44		16:12 (5)	06:45	17:01 (4)	06:33	19:02 (2)		05:31	19:07 (6)	04:56
	16:25		17:19	26	16:38 (5)	18:11	41	17:42 (3)	20:05	9	19:11 (2)	20:57	53	20:13 (1)	21:37
11	08:24		07:42		16:11 (5)	06:43	17:01 (4)	06:31			05:30	19:08 (6)	04:55
	16:26		17:21	27	16:38 (5)	18:13	42	17:43 (3)	20:07			20:58	50	20:13 (1)	21:38
12	08:23		07:40		16:11 (5)	06:40	17:01 (4)	06:28			05:28	19:11 (6)	04:55
	16:28		17:23	28	16:39 (5)	18:15	43	17:44 (3)	20:09			21:00	45	20:13 (1)	21:39
13	08:22		07:39		16:11 (5)	06:38	17:00 (4)	06:26	19:21 (6)		05:26	19:14 (6)	04:55
	16:29		17:25	28	16:39 (5)	18:16	44	17:44 (3)	20:10	3	19:24 (6)	21:01	38	20:12 (1)	21:39
14	08:21		07:37		16:11 (5)	06:36	17:00 (4)	06:24	19:15 (6)		05:25	19:44 (1)	04:55
	16:31		17:27	28	16:39 (5)	18:18	44	17:44 (3)	20:12	15	19:30 (6)	21:03	29	20:13 (1)	21:40
15	08:21		07:35		16:10 (5)	06:34	17:00 (4)	06:22	19:12 (6)		05:23	19:43 (1)	04:54
	16:32		17:29	28	16:38 (5)	18:20	44	17:44 (3)	20:14	21	19:33 (6)	21:05	29	20:12 (1)	21:40
16	08:20		07:33		16:10 (5)	06:31	17:00 (4)	06:19	19:10 (6)		05:21	19:44 (1)	04:54
	16:34		17:30	28	16:38 (5)	18:22	43	17:43 (3)	20:16	24	19:34 (6)	21:06	28	20:12 (1)	21:41
17	08:19		07:31		16:11 (5)	06:29	17:01 (4)	06:17	19:08 (6)		05:20	19:45 (1)	04:54
	16:35		17:32	26	16:37 (5)	18:23	41	17:42 (3)	20:17	28	19:36 (6)	21:08	27	20:12 (1)	21:41
18	08:18		07:29		16:11 (5)	06:27	17:01 (4)	06:15	19:07 (6)		05:18	19:45 (1)	04:54
	16:37		17:34	26	16:37 (5)	18:25	39	17:40 (3)	20:19	30	19:37 (6)	21:09	26	20:11 (1)	21:42
19	08:17		07:27		16:12 (5)	06:24	17:02 (4)	06:13	19:04 (6)		05:17	19:46 (1)	04:54
	16:39		17:36	24	16:36 (5)	18:27	37	17:39 (3)	20:21	33	19:37 (6)	21:11	24	20:10 (1)	21:42
20	08:16		07:25		16:13 (5)	06:22	17:04 (4)	06:11	19:03 (6)		05:16	19:47 (1)	04:54
	16:40		17:38	22	16:35 (5)	18:29	31	17:37 (3)	20:23	35	19:38 (6)	21:12	23	20:10 (1)	21:42
21	08:15		07:23		16:15 (5)	06:20	17:06 (4)	06:09	19:03 (6)		05:14	19:48 (1)	04:54
	16:42		17:40	19	16:34 (5)	18:30	18	17:33 (3)	20:24	35	19:38 (6)	21:14	22	20:10 (1)	21:43
22	08:13		07:20		16:17 (5)	06:17	17:11 (4)	06:06	19:02 (6)		05:13	19:48 (1)	04:55
	16:44		17:42	15	16:32 (5)	18:32	3	17:14 (4)	20:26	37	19:39 (6)	21:15	20	20:08 (1)	21:43
23	08:12		07:18		16:19 (5)	06:15			06:04		19:01 (6)	05:12		19:49 (1)	04:55
	16:46		17:44	9	16:28 (5)	18:34			20:28	38	19:39 (6)	21:17	18	20:07 (1)	21:43
24	08:11		07:16			06:12			06:02		19:01 (6)	05:10		19:51 (1)	04:55
	16:47		17:45			18:36			20:30	38	19:39 (6)	21:18	15	20:06 (1)	21:43
25	08:10		07:14			06:10			06:00		19:00 (6)	05:09		19:52 (1)	04:55
	16:49		17:47			18:37			20:31	39	19:39 (6)	21:19	13	20:05 (1)	21:43
26	08:08		07:12			06:08			05:58		19:00 (6)	05:08		19:54 (1)	04:56
	16:51		17:49			18:39			20:33	39	19:39 (6)	21:21	9	20:03 (1)	21:43
27	08:07		07:10			06:05			05:56		19:00 (6)	05:07			04:56
	16:53		17:51			18:41			20:35	39	19:39 (6)	21:22			21:43
28	08:06		07:08			06:03		18:05 (2)	05:54		19:00 (6)	05:06			04:57
	16:55		17:53			18:43	11	18:16 (2)	20:36	39	19:39 (6)	21:23			21:43
29	08:04					07:01		19:03 (2)	05:52		19:00 (6)	05:05			04:57
	16:57					19:44	15	19:18 (2)	20:38	50	20:05 (1)	21:25			21:43
30	08:03					06:58		19:01 (2)	05:50		19:00 (6)	05:04			04:58
	16:58					19:46	18	19:19 (2)	20:40	55	20:07 (1)	21:26			21:43
31	08:01					06:56		19:00 (2)				05:03			
	17:00					19:48	20	19:20 (2)				21:27			
Sonnenscheinstunden	257		277			367			417			487			501
astr.max.mögl.Beschattung				447			686			785			996		
Red.Sonnenscheinwahrsch.				0,25			0,29			0,37			0,45		
Reduktion Betriebsdauer				1,00			1,00			1,00			1,00		
Reduktion Windrichtung				0,74			0,75			0,71			0,68		
Gesamte Reduktion				0,19			0,22			0,27			0,30		
Met.wahrsch.Beschattung				84			150			208			302		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BC - Hauptstraße 30B

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		19:21 (6)	06:26			07:16		17:40 (4)	07:11		15:40 (5)	08:03
	21:42			21:10	47	20:24 (1)	20:07		19:00 (2)	18:56	43	18:23 (3)	16:49	26	16:06 (5)	16:08
2	04:59			05:37		19:18 (6)	06:28		19:00 (2)	07:18		17:40 (4)	07:13		15:41 (5)	08:05
	21:42			21:08	51	20:23 (1)	20:05	9	19:09 (2)	18:54	43	18:23 (3)	16:47	25	16:06 (5)	16:07
3	05:00			05:39		19:17 (6)	06:30		18:58 (2)	07:20		17:39 (4)	07:15		15:42 (5)	08:06
	21:42			21:06	53	20:23 (1)	20:02	13	19:11 (2)	18:52	42	18:21 (3)	16:46	23	16:05 (5)	16:07
4	05:01			05:40		19:15 (6)	06:31		18:56 (2)	07:22		17:39 (4)	07:17		15:43 (5)	08:07
	21:41			21:05	57	20:23 (1)	20:00	17	19:13 (2)	18:49	40	18:19 (3)	16:44	21	16:04 (5)	16:06
5	05:02			05:42		19:14 (6)	06:33		18:54 (2)	07:23		17:40 (4)	07:19		15:44 (5)	08:09
	21:41			21:03	58	20:23 (1)	19:58	19	19:13 (2)	18:47	38	18:18 (3)	16:42	19	16:03 (5)	16:06
6	05:02			05:44		19:13 (6)	06:35		18:54 (2)	07:25		17:41 (4)	07:20		15:46 (5)	08:10
	21:40			21:01	59	20:22 (1)	19:55	20	19:14 (2)	18:45	33	18:15 (3)	16:40	15	16:01 (5)	16:05
7	05:03			05:45		19:12 (6)	06:36		18:52 (2)	07:27		17:41 (4)	07:22		15:49 (5)	08:11
	21:40			20:59	61	20:22 (1)	19:53	22	19:14 (2)	18:43	22	18:03 (4)	16:38	9	15:58 (5)	16:05
8	05:04			05:47		19:11 (6)	06:38		18:52 (2)	07:28		17:42 (4)	07:24			08:12
	21:39			20:57	61	20:21 (1)	19:51	22	19:14 (2)	18:40	20	18:02 (4)	16:37			16:04
9	05:05			05:48		19:11 (6)	06:40		18:52 (2)	07:30		17:44 (4)	07:26			08:14
	21:38			20:56	61	20:21 (1)	19:48	22	19:14 (2)	18:38	16	18:00 (4)	16:35			16:04
10	05:06			05:50		19:09 (6)	06:41		18:51 (2)	07:32		17:48 (4)	07:28			08:15
	21:38			20:54	61	20:19 (1)	19:46	22	19:13 (2)	18:36	8	17:56 (4)	16:33			16:04
11	05:07			05:52		19:09 (6)	06:43		18:51 (2)	07:34			07:29			08:16
	21:37			20:52	58	20:18 (1)	19:44	22	19:13 (2)	18:33			16:32			16:04
12	05:08			05:53		19:08 (6)	06:45		18:51 (2)	07:35			07:31			08:17
	21:36			20:50	57	20:16 (1)	19:41	20	19:11 (2)	18:31			16:30			16:04
13	05:10			05:55		19:08 (6)	06:46		18:52 (2)	07:37			07:33			08:18
	21:35			20:48	54	20:15 (1)	19:39	18	19:10 (2)	18:29			16:29			16:03
14	05:11			05:57		19:08 (6)	06:48		18:53 (2)	07:39			07:35			08:19
	21:34			20:46	48	20:12 (1)	19:37	16	19:09 (2)	18:27			16:27			16:03
15	05:12			05:58		19:07 (6)	06:50		18:54 (2)	07:41			07:37			08:20
	21:33			20:44	39	19:46 (6)	19:34	12	19:06 (2)	18:24			16:26			16:03
16	05:13			06:00		19:07 (6)	06:51		18:58 (2)	07:42			07:38			08:21
	21:32			20:42	40	19:47 (6)	19:32	4	19:02 (2)	18:22			16:24			16:04
17	05:14		20:05 (1)	06:02		19:07 (6)	06:53			07:44			07:40			08:22
	21:31	7	20:12 (1)	20:40	39	19:46 (6)	19:29			18:20			16:23			16:04
18	05:16		20:03 (1)	06:03		19:07 (6)	06:55			07:46			07:42			08:22
	21:30	11	20:14 (1)	20:38	39	19:46 (6)	19:27			18:18			16:22			16:04
19	05:17		20:01 (1)	06:05		19:06 (6)	06:56			07:48		16:49 (5)	07:44			08:23
	21:29	14	20:15 (1)	20:35	39	19:45 (6)	19:25			18:16	12	17:01 (5)	16:20			16:04
20	05:18		20:00 (1)	06:07		19:07 (6)	06:58			07:49		16:47 (5)	07:45			08:24
	21:27	16	20:16 (1)	20:33	38	19:45 (6)	19:22			18:14	16	17:03 (5)	16:19			16:05
21	05:20		19:59 (1)	06:08		19:08 (6)	07:00			07:51		16:45 (5)	07:47			08:24
	21:26	19	20:18 (1)	20:31	36	19:44 (6)	19:20			18:11	20	17:05 (5)	16:18			16:05
22	05:21		19:58 (1)	06:10		19:07 (6)	07:01		17:52 (4)	07:53		16:44 (5)	07:49			08:25
	21:25	21	20:19 (1)	20:29	36	19:43 (6)	19:18	12	18:04 (4)	18:09	22	17:06 (5)	16:17			16:06
23	05:22		19:57 (1)	06:12		19:08 (6)	07:03		17:48 (4)	07:55		16:42 (5)	07:50			08:25
	21:24	22	20:19 (1)	20:27	34	19:42 (6)	19:15	29	18:20 (3)	18:07	25	17:07 (5)	16:15			16:06
24	05:24		19:57 (1)	06:13		19:08 (6)	07:05		17:47 (4)	07:57		16:42 (5)	07:52			08:26
	21:22	24	20:21 (1)	20:25	33	19:41 (6)	19:13	35	18:22 (3)	18:05	25	17:07 (5)	16:14			16:07
25	05:25		19:56 (1)	06:15		19:10 (6)	07:06		17:45 (4)	06:58		15:41 (5)	07:54			08:26
	21:21	25	20:21 (1)	20:23	30	19:40 (6)	19:11	39	18:24 (3)	17:03	27	16:08 (5)	16:13			16:07
26	05:27		19:55 (1)	06:17		19:10 (6)	07:08		17:43 (4)	07:00		15:41 (5)	07:55			08:26
	21:19	26	20:21 (1)	20:20	28	19:38 (6)	19:08	41	18:24 (3)	17:01	27	16:08 (5)	16:12			16:08
27	05:28		19:55 (1)	06:18		19:12 (6)	07:10		17:42 (4)	07:02		15:40 (5)	07:57			08:27
	21:18	27	20:22 (1)	20:18	24	19:36 (6)	19:06	42	18:24 (3)	16:59	28	16:08 (5)	16:11			16:09
28	05:30		19:54 (1)	06:20		19:14 (6)	07:11		17:41 (4)	07:04		15:40 (5)	07:59			08:27
	21:16	28	20:22 (1)	20:16	20	19:34 (6)	19:03	43	18:24 (3)	16:57	28	16:08 (5)	16:10			16:10
29	05:31		19:55 (1)	06:21		19:16 (6)	07:13		17:40 (4)	07:06		15:39 (5)	08:00			08:27
	21:15	28	20:23 (1)	20:14	14	19:30 (6)	19:01	44	18:24 (3)	16:55	28	16:07 (5)	16:10			16:10
30	05:33		19:54 (1)	06:23			07:15		17:40 (4)	07:08		15:40 (5)	08:02			08:27
	21:13	29	20:23 (1)	20:11			18:59	43	18:23 (3)	16:53	27	16:07 (5)	16:09			16:11
31	05:34		19:23 (6)	06:25						07:09		15:40 (5)				08:27
	21:12	42	20:23 (1)	20:09						16:51	27	16:07 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		339			1275			586			617			138		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,66			0,69			0,74			0,75			0,74		
Gesamte Reduktion		0,28			0,31			0,28			0,23			0,16		
Met.wahrsch.Beschattung		94			394			162			144			22		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BD - Hauptstraße 30C

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni	
1	08:27	08:00			07:05			06:54		18:57 (2)	05:48		18:58 (6)	05:02	
	16:14	17:02			17:55			19:50	21	19:18 (2)	20:42	59	20:08 (1)	21:28	
2	08:27	07:58			07:03		17:12 (4)	06:51		18:55 (2)	05:46		18:59 (6)	05:01	
	16:15	17:04			17:56	6	17:18 (4)	19:51	23	19:18 (2)	20:43	59	20:09 (1)	21:29	
3	08:27	07:56		16:17 (5)	07:01		17:07 (4)	06:49		18:56 (2)	05:44		18:59 (6)	05:00	
	16:16	17:06	11	16:28 (5)	17:58	14	17:21 (4)	19:53	21	19:17 (2)	20:45	59	20:09 (1)	21:30	
4	08:27	07:55		16:14 (5)	06:59		17:05 (4)	06:47		18:56 (2)	05:42		19:00 (6)	04:59	
	16:17	17:08	16	16:30 (5)	18:00	19	17:24 (4)	19:55	21	19:17 (2)	20:47	57	20:09 (1)	21:32	
5	08:26	07:53		16:13 (5)	06:56		17:04 (4)	06:44		18:56 (2)	05:40		19:01 (6)	04:59	
	16:18	17:10	18	16:31 (5)	18:02	21	17:25 (4)	19:57	20	19:16 (2)	20:48	56	20:09 (1)	21:33	
6	08:26	07:51		16:11 (5)	06:54		17:02 (4)	06:42		18:56 (2)	05:38		19:03 (6)	04:58	
	16:19	17:11	22	16:33 (5)	18:04	25	17:27 (4)	19:58	19	19:15 (2)	20:50	54	20:10 (1)	21:34	
7	08:26	07:50		16:10 (5)	06:52		17:01 (4)	06:40		18:58 (2)	05:37		19:04 (6)	04:57	
	16:21	17:13	24	16:34 (5)	18:06	37	17:38 (3)	20:00	15	19:13 (2)	20:52	52	20:10 (1)	21:34	
8	08:25	07:48		16:10 (5)	06:50		17:00 (4)	06:38		18:58 (2)	05:35		19:05 (6)	04:57	
	16:22	17:15	24	16:34 (5)	18:07	40	17:40 (3)	20:02	13	19:11 (2)	20:53	48	20:10 (1)	21:35	
9	08:25	07:46		16:10 (5)	06:47		17:00 (4)	06:35		19:02 (2)	05:33		19:09 (6)	04:56	
	16:23	17:17	26	16:36 (5)	18:09	41	17:41 (3)	20:04	5	19:07 (2)	20:55	43	20:10 (1)	21:36	
10	08:24	07:44		16:10 (5)	06:45		16:58 (4)	06:33			05:31		19:13 (6)	04:56	
	16:25	17:19	26	16:36 (5)	18:11	43	17:41 (3)	20:05			20:57	33	20:10 (1)	21:37	
11	08:24	07:42		16:09 (5)	06:43		16:58 (4)	06:31		19:15 (6)	05:30		19:40 (1)	04:55	
	16:26	17:21	28	16:37 (5)	18:13	44	17:42 (3)	20:07	8	19:23 (6)	20:58	29	20:09 (1)	21:38	
12	08:23	07:40		16:09 (5)	06:40		16:59 (4)	06:28		19:11 (6)	05:28		19:41 (1)	04:55	
	16:28	17:23	28	16:37 (5)	18:15	43	17:42 (3)	20:09	17	19:28 (6)	21:00	28	20:09 (1)	21:39	
13	08:22	07:39		16:09 (5)	06:38		16:58 (4)	06:26		19:07 (6)	05:26		19:40 (1)	04:55	
	16:29	17:25	28	16:37 (5)	18:16	44	17:42 (3)	20:10	22	19:29 (6)	21:01	28	20:08 (1)	21:39	
14	08:21	07:37		16:09 (5)	06:36		16:58 (4)	06:24		19:05 (6)	05:25		19:41 (1)	04:55	
	16:31	17:27	28	16:37 (5)	18:18	44	17:42 (3)	20:12	26	19:31 (6)	21:03	27	20:08 (1)	21:40	
15	08:21	07:35		16:09 (5)	06:34		16:59 (4)	06:22		19:04 (6)	05:23		19:41 (1)	04:54	
	16:32	17:29	27	16:36 (5)	18:20	42	17:41 (3)	20:14	28	19:32 (6)	21:05	26	20:07 (1)	21:40	
16	08:20	07:33		16:09 (5)	06:31		16:59 (4)	06:19		19:02 (6)	05:21		19:42 (1)	04:54	
	16:34	17:30	26	16:35 (5)	18:22	41	17:40 (3)	20:16	32	19:34 (6)	21:06	25	20:07 (1)	21:41	
17	08:19	07:31		16:10 (5)	06:29		17:00 (4)	06:17		19:01 (6)	05:20		19:43 (1)	04:54	
	16:35	17:32	25	16:35 (5)	18:23	39	17:39 (3)	20:17	33	19:34 (6)	21:08	24	20:07 (1)	21:41	
18	08:18	07:29		16:11 (5)	06:27		17:01 (4)	06:15		19:00 (6)	05:18		19:44 (1)	04:54	
	16:37	17:34	23	16:34 (5)	18:25	36	17:37 (3)	20:19	35	19:35 (6)	21:09	21	20:05 (1)	21:42	
19	08:17	07:27		16:12 (5)	06:24		17:03 (4)	06:13		18:59 (6)	05:17		19:45 (1)	04:54	
	16:39	17:36	21	16:33 (5)	18:27	28	17:35 (3)	20:21	36	19:35 (6)	21:11	20	20:05 (1)	21:42	
20	08:16	07:25		16:14 (5)	06:22		17:06 (4)	06:11		18:58 (6)	05:16		19:46 (1)	04:54	
	16:40	17:38	18	16:32 (5)	18:29	14	17:31 (3)	20:23	37	19:35 (6)	21:12	18	20:04 (1)	21:42	
21	08:15	07:23		16:16 (5)	06:20			06:09		18:58 (6)	05:14		19:48 (1)	04:54	
	16:42	17:40	14	16:30 (5)	18:30			20:24	37	19:35 (6)	21:14	15	20:03 (1)	21:43	
22	08:13	07:20		16:19 (5)	06:17			06:06		18:57 (6)	05:13		19:49 (1)	04:55	
	16:44	17:42	8	16:27 (5)	18:32			20:26	38	19:35 (6)	21:15	12	20:01 (1)	21:43	
23	08:12	07:18			06:15			06:04		18:57 (6)	05:12		19:52 (1)	04:55	
	16:46	17:44			18:34			20:28	38	19:35 (6)	21:17	7	19:59 (1)	21:43	
24	08:11	07:16			06:12			06:02		18:57 (6)	05:10			04:55	
	16:47	17:45			18:36			20:30	38	19:35 (6)	21:18			21:43	
25	08:10	07:14			06:10			06:00		18:56 (6)	05:09			04:55	
	16:49	17:47			18:37			20:31	39	19:35 (6)	21:19			21:43	
26	08:08	07:12			06:08		18:08 (2)	05:58		18:56 (6)	05:08			04:56	
	16:51	17:49			18:39	2	18:10 (2)	20:33	39	19:35 (6)	21:21			21:43	
27	08:07	07:10			06:05		18:03 (2)	05:56		18:56 (6)	05:07			04:56	
	16:53	17:51			18:41	11	18:14 (2)	20:35	48	20:01 (1)	21:22			21:43	
28	08:06	07:08			06:03		18:01 (2)	05:54		18:56 (6)	05:06			04:57	
	16:55	17:53			18:43	15	18:16 (2)	20:36	54	20:04 (1)	21:23			21:43	
29	08:04				07:01		18:59 (2)	05:52		18:57 (6)	05:05			04:57	
	16:57				19:44	19	19:18 (2)	20:38	55	20:05 (1)	21:25			21:43	
30	08:03				06:58		18:58 (2)	05:50		18:57 (6)	05:04			04:58	
	16:58				19:46	19	19:17 (2)	20:40	58	20:06 (1)	21:26			21:43	
31	08:01				06:56		18:57 (2)				05:03				
	17:00				19:48	21	19:18 (2)				21:27				
Sonnenscheinstunden	257	277			367			417			487			501	
astr.max.mögl.Beschattung			441			708			876			800			
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			
Reduktion Windrichtung			0,74			0,75			0,71			0,68			
Gesamte Reduktion			0,19			0,22			0,27			0,30			
Met.wahrsch.Beschattung			82			155			233			243			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BD - Hauptstraße 30C

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		19:51 (1)	06:26		19:14 (6)	07:16		17:37 (4)	07:11		15:38 (5)	08:03
	21:42			21:10	29	20:20 (1)	20:07	8	19:22 (6)	18:56	44	18:21 (3)	16:49	27	16:05 (5)	16:08
2	04:59			05:37		19:50 (1)	06:28			07:18		17:37 (4)	07:13		15:39 (5)	08:05
	21:42			21:08	29	20:19 (1)	20:05			18:54	44	18:21 (3)	16:47	26	16:05 (5)	16:07
3	05:00			05:39		19:21 (6)	06:30		19:00 (2)	07:20		17:36 (4)	07:15		15:40 (5)	08:06
	21:42			21:06	38	20:20 (1)	20:02	5	19:05 (2)	18:52	43	18:19 (3)	16:46	24	16:04 (5)	16:07
4	05:01			05:40		19:17 (6)	06:31		18:56 (2)	07:22		17:36 (4)	07:17		15:40 (5)	08:07
	21:41			21:05	45	20:20 (1)	20:00	13	19:09 (2)	18:49	43	18:19 (3)	16:44	23	16:03 (5)	16:06
5	05:02			05:42		19:15 (6)	06:33		18:54 (2)	07:23		17:37 (4)	07:19		15:41 (5)	08:09
	21:41			21:03	50	20:20 (1)	19:58	15	19:09 (2)	18:47	40	18:17 (3)	16:42	21	16:02 (5)	16:06
6	05:02			05:44		19:13 (6)	06:35		18:52 (2)	07:25		17:37 (4)	07:20		15:43 (5)	08:10
	21:40			21:01	52	20:19 (1)	19:55	19	19:11 (2)	18:45	39	18:16 (3)	16:40	18	16:01 (5)	16:05
7	05:03			05:45		19:12 (6)	06:36		18:51 (2)	07:27		17:37 (4)	07:22		15:44 (5)	08:11
	21:40			20:59	54	20:19 (1)	19:53	20	19:11 (2)	18:43	33	18:12 (3)	16:38	15	15:59 (5)	16:05
8	05:04			05:47		19:10 (6)	06:38		18:50 (2)	07:28		17:38 (4)	07:24		15:47 (5)	08:12
	21:39			20:57	57	20:19 (1)	19:51	21	19:11 (2)	18:40	23	18:01 (4)	16:37	10	15:57 (5)	16:04
9	05:05			05:48		19:09 (6)	06:40		18:50 (2)	07:30		17:39 (4)	07:26			08:14
	21:38			20:56	57	20:18 (1)	19:48	22	19:12 (2)	18:38	21	18:00 (4)	16:35			16:04
10	05:06			05:50		19:07 (6)	06:41		18:49 (2)	07:32		17:41 (4)	07:28			08:15
	21:38			20:54	58	20:17 (1)	19:46	22	19:11 (2)	18:36	17	17:58 (4)	16:33			16:04
11	05:07			05:52		19:07 (6)	06:43		18:49 (2)	07:34		17:43 (4)	07:29			08:16
	21:37			20:52	59	20:17 (1)	19:44	22	19:11 (2)	18:33	11	17:54 (4)	16:32			16:04
12	05:08			05:53		19:06 (6)	06:45		18:48 (2)	07:35			07:31			08:17
	21:36			20:50	57	20:15 (1)	19:41	21	19:09 (2)	18:31			16:30			16:04
13	05:10			05:55		19:05 (6)	06:46		18:49 (2)	07:37			07:33			08:18
	21:35			20:48	58	20:15 (1)	19:39	20	19:09 (2)	18:29			16:29			16:03
14	05:11			05:57		19:05 (6)	06:48		18:50 (2)	07:39			07:35			08:19
	21:34			20:46	55	20:13 (1)	19:37	18	19:08 (2)	18:27			16:27			16:03
15	05:12			05:58		19:04 (6)	06:50		18:50 (2)	07:41			07:37			08:20
	21:33			20:44	53	20:11 (1)	19:34	16	19:06 (2)	18:24			16:26			16:03
16	05:13			06:00		19:04 (6)	06:51		18:52 (2)	07:42			07:38			08:21
	21:32			20:42	47	20:08 (1)	19:32	12	19:04 (2)	18:22			16:24			16:04
17	05:14			06:02		19:03 (6)	06:53		18:54 (2)	07:44			07:40			08:22
	21:31			20:40	39	19:42 (6)	19:29	6	19:00 (2)	18:20			16:23			16:04
18	05:16			06:03		19:03 (6)	06:55			07:46			07:42			08:22
	21:30			20:38	39	19:42 (6)	19:27			18:18			16:22			16:04
19	05:17			06:05		19:02 (6)	06:56			07:48			07:44			08:23
	21:29			20:35	39	19:41 (6)	19:25			18:16			16:20			16:04
20	05:18			06:07		19:02 (6)	06:58			07:49		16:48 (5)	07:45			08:24
	21:27			20:33	39	19:41 (6)	19:22			18:14	10	16:58 (5)	16:19			16:05
21	05:20		20:01 (1)	06:08		19:03 (6)	07:00			07:51		16:45 (5)	07:47			08:24
	21:26	9	20:10 (1)	20:31	38	19:41 (6)	19:20			18:11	16	17:01 (5)	16:18			16:05
22	05:21		19:58 (1)	06:10		19:02 (6)	07:01			07:53		16:43 (5)	07:49			08:25
	21:25	14	20:12 (1)	20:29	38	19:40 (6)	19:18			18:09	20	17:03 (5)	16:17			16:06
23	05:22		19:57 (1)	06:12		19:03 (6)	07:03		17:51 (4)	07:55		16:42 (5)	07:50			08:25
	21:24	16	20:13 (1)	20:27	37	19:40 (6)	19:15	7	17:58 (4)	18:07	22	17:04 (5)	16:15			16:06
24	05:24		19:56 (1)	06:13		19:03 (6)	07:05		17:47 (4)	07:57		16:41 (5)	07:52			08:26
	21:22	19	20:15 (1)	20:25	35	19:38 (6)	19:13	25	18:18 (3)	18:05	24	17:05 (5)	16:14			16:07
25	05:25		19:55 (1)	06:15		19:03 (6)	07:06		17:45 (4)	06:58		15:40 (5)	07:54			08:26
	21:21	21	20:16 (1)	20:23	35	19:38 (6)	19:11	34	18:20 (3)	17:03	26	16:06 (5)	16:13			16:07
26	05:27		19:54 (1)	06:17		19:03 (6)	07:08		17:42 (4)	07:00		15:40 (5)	07:55			08:26
	21:19	22	20:16 (1)	20:20	33	19:36 (6)	19:08	38	18:20 (3)	17:01	26	16:06 (5)	16:12			16:08
27	05:28		19:54 (1)	06:18		19:04 (6)	07:10		17:41 (4)	07:02		15:39 (5)	07:57			08:27
	21:18	24	20:18 (1)	20:18	31	19:35 (6)	19:06	40	18:21 (3)	16:59	27	16:06 (5)	16:11			16:09
28	05:30		19:52 (1)	06:20		19:06 (6)	07:11		17:40 (4)	07:04		15:39 (5)	07:59			08:27
	21:16	26	20:18 (1)	20:16	28	19:34 (6)	19:03	42	18:22 (3)	16:57	28	16:07 (5)	16:10			16:10
29	05:31		19:52 (1)	06:21		19:06 (6)	07:13		17:38 (4)	07:06		15:38 (5)	08:00			08:27
	21:15	27	20:19 (1)	20:14	26	19:32 (6)	19:01	43	18:21 (3)	16:55	28	16:06 (5)	16:10			16:10
30	05:33		19:52 (1)	06:23		19:08 (6)	07:15		17:38 (4)	07:08		15:38 (5)	08:02			08:27
	21:13	27	20:19 (1)	20:11	22	19:30 (6)	18:59	43	18:21 (3)	16:53	28	16:06 (5)	16:09			16:11
31	05:34		19:51 (1)	06:25		19:10 (6)				07:09		15:38 (5)				08:27
	21:12	28	20:19 (1)	20:09	17	19:27 (6)				16:51	27	16:05 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		233			1294			532			640			164		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,66			0,69			0,74			0,75			0,74		
Gesamte Reduktion		0,28			0,31			0,28			0,23			0,16		
Met.wahrsch.Beschattung		65			401			147			149			26		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BE - Hauptstraße 30D

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni	
1	08:27	08:00			07:05		17:08 (4)	06:54		18:54 (2)	05:48		18:57 (6)	05:02	
	16:14	17:02			17:55	9	17:17 (4)	19:50	22	19:16 (2)	20:42	56	20:06 (1)	21:28	
2	08:27	07:58		16:14 (5)	07:03		17:05 (4)	06:51		18:53 (2)	05:46		18:58 (6)	05:01	
	16:15	17:04	11	16:25 (5)	17:56	15	17:20 (4)	19:51	22	19:15 (2)	20:43	54	20:06 (1)	21:29	
3	08:27	07:56		16:13 (5)	07:01		17:02 (4)	06:49		18:54 (2)	05:44		18:59 (6)	05:00	
	16:16	17:06	15	16:28 (5)	17:58	20	17:22 (4)	19:53	20	19:14 (2)	20:45	52	20:06 (1)	21:30	
4	08:27	07:55		16:11 (5)	06:59		17:00 (4)	06:47		18:54 (2)	05:42		19:00 (6)	04:59	
	16:17	17:08	19	16:30 (5)	18:00	23	17:23 (4)	19:55	20	19:14 (2)	20:47	50	20:06 (1)	21:32	
5	08:26	07:53		16:10 (5)	06:56		16:59 (4)	06:44		18:54 (2)	05:40		19:02 (6)	04:59	
	16:18	17:10	21	16:31 (5)	18:02	25	17:24 (4)	19:57	18	19:12 (2)	20:48	45	20:06 (1)	21:33	
6	08:26	07:51		16:09 (5)	06:54		16:59 (4)	06:42		18:56 (2)	05:38		19:07 (6)	04:58	
	16:19	17:11	23	16:32 (5)	18:04	37	17:36 (3)	19:58	14	19:10 (2)	20:50	36	20:06 (1)	21:34	
7	08:26	07:50		16:08 (5)	06:52		16:57 (4)	06:40		18:58 (2)	05:37		19:36 (1)	04:57	
	16:21	17:13	25	16:33 (5)	18:06	40	17:37 (3)	20:00	10	19:08 (2)	20:52	30	20:06 (1)	21:34	
8	08:25	07:48		16:08 (5)	06:50		16:57 (4)	06:38			05:35		19:36 (1)	04:57	
	16:22	17:15	25	16:33 (5)	18:07	42	17:39 (3)	20:02			20:53	29	20:05 (1)	21:35	
9	08:25	07:46		16:08 (5)	06:47		16:57 (4)	06:35		19:08 (6)	05:33		19:37 (1)	04:56	
	16:23	17:17	27	16:35 (5)	18:09	43	17:40 (3)	20:04	13	19:21 (6)	20:55	29	20:06 (1)	21:36	
10	08:24	07:44		16:08 (5)	06:45		16:56 (4)	06:33		19:05 (6)	05:31		19:37 (1)	04:56	
	16:25	17:19	27	16:35 (5)	18:11	44	17:40 (3)	20:05	19	19:24 (6)	20:57	28	20:05 (1)	21:37	
11	08:24	07:42		16:08 (5)	06:43		16:56 (4)	06:31		19:03 (6)	05:30		19:37 (1)	04:55	
	16:26	17:21	27	16:35 (5)	18:13	44	17:40 (3)	20:07	23	19:26 (6)	20:58	27	20:04 (1)	21:38	
12	08:23	07:40		16:08 (5)	06:40		16:56 (4)	06:28		19:01 (6)	05:28		19:38 (1)	04:55	
	16:28	17:23	27	16:35 (5)	18:15	44	17:40 (3)	20:09	27	19:28 (6)	21:00	26	20:04 (1)	21:39	
13	08:22	07:39		16:08 (5)	06:38		16:56 (4)	06:26		18:59 (6)	05:26		19:38 (1)	04:55	
	16:29	17:25	27	16:35 (5)	18:16	43	17:39 (3)	20:10	29	19:28 (6)	21:01	25	20:03 (1)	21:39	
14	08:21	07:37		16:08 (5)	06:36		16:57 (4)	06:24		18:58 (6)	05:25		19:39 (1)	04:55	
	16:31	17:27	27	16:35 (5)	18:18	42	17:39 (3)	20:12	31	19:29 (6)	21:03	23	20:02 (1)	21:40	
15	08:21	07:35		16:08 (5)	06:34		16:58 (4)	06:22		18:57 (6)	05:23		19:40 (1)	04:54	
	16:32	17:29	25	16:33 (5)	18:20	40	17:38 (3)	20:14	33	19:30 (6)	21:05	21	20:01 (1)	21:40	
16	08:20	07:33		16:08 (5)	06:31		16:58 (4)	06:19		18:56 (6)	05:21		19:41 (1)	04:54	
	16:34	17:30	25	16:33 (5)	18:22	39	17:37 (3)	20:16	35	19:31 (6)	21:06	20	20:01 (1)	21:41	
17	08:19	07:31		16:09 (5)	06:29		17:00 (4)	06:17		18:55 (6)	05:20		19:43 (1)	04:54	
	16:35	17:32	23	16:32 (5)	18:23	33	17:35 (3)	20:17	36	19:31 (6)	21:08	17	20:00 (1)	21:41	
18	08:18	07:29		16:10 (5)	06:27		17:02 (4)	06:15		18:55 (6)	05:18		19:44 (1)	04:54	
	16:37	17:34	21	16:31 (5)	18:25	24	17:32 (3)	20:19	37	19:32 (6)	21:09	14	19:58 (1)	21:42	
19	08:17	07:27		16:12 (5)	06:24			06:13		18:53 (6)	05:17		19:46 (1)	04:54	
	16:39	17:36	18	16:30 (5)	18:27			20:21	38	19:31 (6)	21:11	10	19:56 (1)	21:42	
20	08:16	07:25		16:14 (5)	06:22			06:11		18:53 (6)	05:16			04:54	
	16:40	17:38	14	16:28 (5)	18:29			20:23	38	19:31 (6)	21:12			21:42	
21	08:15	07:23		16:18 (5)	06:20			06:09		18:53 (6)	05:14			04:54	
	16:42	17:40	6	16:24 (5)	18:30			20:24	38	19:31 (6)	21:14			21:43	
22	08:13	07:20			06:17			06:06		18:52 (6)	05:13			04:55	
	16:44	17:42			18:32			20:26	39	19:31 (6)	21:15			21:43	
23	08:12	07:18			06:15			06:04		18:52 (6)	05:12			04:55	
	16:46	17:44			18:34			20:28	38	19:30 (6)	21:17			21:43	
24	08:11	07:16			06:12			06:02		18:52 (6)	05:10			04:55	
	16:47	17:45			18:36			20:30	38	19:30 (6)	21:18			21:43	
25	08:10	07:14			06:10		18:04 (2)	06:00		18:53 (6)	05:09			04:55	
	16:49	17:47			18:37	6	18:10 (2)	20:31	48	19:58 (1)	21:19			21:43	
26	08:08	07:12			06:08		18:01 (2)	05:58		18:53 (6)	05:08			04:56	
	16:51	17:49			18:39	12	18:13 (2)	20:33	52	20:00 (1)	21:21			21:43	
27	08:07	07:10			06:05		17:58 (2)	05:56		18:53 (6)	05:07			04:56	
	16:53	17:51			18:41	16	18:14 (2)	20:35	55	20:02 (1)	21:22			21:43	
28	08:06	07:08			06:03		17:57 (2)	05:54		18:54 (6)	05:06			04:57	
	16:55	17:53			18:43	18	18:15 (2)	20:36	56	20:03 (1)	21:23			21:43	
29	08:04				07:01		18:56 (2)	05:52		18:54 (6)	05:05			04:57	
	16:57				19:44	20	19:16 (2)	20:38	58	20:04 (1)	21:25			21:43	
30	08:03				06:58		18:54 (2)	05:50		18:55 (6)	05:04			04:58	
	16:58				19:46	22	19:16 (2)	20:40	56	20:04 (1)	21:26			21:43	
31	08:01				06:56		18:54 (2)				05:03				
	17:00				19:48	22	19:16 (2)				21:27				
Sonnenscheinstunden	257	277			367			417			487			501	
astr.max.mögl.Beschattung			433			723			963			592			
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			
Reduktion Windrichtung			0,74			0,75			0,71			0,68			
Gesamte Reduktion			0,19			0,22			0,27			0,30			
Met.wahrsch.Beschattung			81			158			257			179			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BE - Hauptstraße 30D

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		19:48 (1)	06:26		19:02 (6)	07:16		17:36 (4)	07:11		15:37 (5)	08:03
	21:42			21:10	27	20:15 (1)	20:07	23	19:25 (6)	18:56	43	18:19 (3)	16:49	26	16:03 (5)	16:08
2	04:59			05:37		19:47 (1)	06:28		19:03 (6)	07:18		17:35 (4)	07:13		15:37 (5)	08:05
	21:42			21:08	27	20:14 (1)	20:05	19	19:22 (6)	18:54	44	18:19 (3)	16:47	26	16:03 (5)	16:07
3	05:00			05:39		19:47 (1)	06:30		19:06 (6)	07:20		17:34 (4)	07:15		15:37 (5)	08:06
	21:42			21:06	28	20:15 (1)	20:02	13	19:19 (6)	18:52	44	18:18 (3)	16:46	26	16:03 (5)	16:07
4	05:01			05:40		19:46 (1)	06:31			07:22		17:34 (4)	07:17		15:38 (5)	08:07
	21:41			21:05	29	20:15 (1)	20:00			18:49	43	18:17 (3)	16:44	24	16:02 (5)	16:06
5	05:02			05:42		19:46 (1)	06:33		18:54 (2)	07:23		17:34 (4)	07:19		15:39 (5)	08:09
	21:41			21:03	30	20:16 (1)	19:58	10	19:04 (2)	18:47	42	18:16 (3)	16:42	22	16:01 (5)	16:06
6	05:02			05:44		19:46 (1)	06:35		18:52 (2)	07:25		17:34 (4)	07:20		15:40 (5)	08:10
	21:40			21:01	29	20:15 (1)	19:55	14	19:06 (2)	18:45	41	18:15 (3)	16:40	20	16:00 (5)	16:05
7	05:03			05:45		19:15 (6)	06:36		18:49 (2)	07:27		17:33 (4)	07:22		15:41 (5)	08:11
	21:40			20:59	40	20:16 (1)	19:53	18	19:07 (2)	18:43	40	18:13 (3)	16:38	18	15:59 (5)	16:05
8	05:04			05:47		19:11 (6)	06:38		18:49 (2)	07:28		17:34 (4)	07:24		15:43 (5)	08:12
	21:39			20:57	46	20:15 (1)	19:51	19	19:08 (2)	18:40	34	18:10 (3)	16:37	15	15:58 (5)	16:04
9	05:05			05:48		19:09 (6)	06:40		18:48 (2)	07:30		17:35 (4)	07:26		15:45 (5)	08:14
	21:38			20:56	50	20:15 (1)	19:48	20	19:08 (2)	18:38	24	17:59 (4)	16:35	11	15:56 (5)	16:04
10	05:06			05:50		19:07 (6)	06:41		18:46 (2)	07:32		17:36 (4)	07:28			08:15
	21:38			20:54	52	20:14 (1)	19:46	22	19:08 (2)	18:36	22	17:58 (4)	16:33			16:04
11	05:07			05:52		19:06 (6)	06:43		18:46 (2)	07:34		17:37 (4)	07:29			08:16
	21:37			20:52	55	20:14 (1)	19:44	22	19:08 (2)	18:33	18	17:55 (4)	16:32			16:04
12	05:08			05:53		19:04 (6)	06:45		18:45 (2)	07:35		17:39 (4)	07:31			08:17
	21:36			20:50	56	20:13 (1)	19:41	22	19:07 (2)	18:31	13	17:52 (4)	16:30			16:04
13	05:10			05:55		19:03 (6)	06:46		18:46 (2)	07:37		17:43 (4)	07:33			08:18
	21:35			20:48	57	20:13 (1)	19:39	21	19:07 (2)	18:29	5	17:48 (4)	16:29			16:03
14	05:11			05:57		19:03 (6)	06:48		18:46 (2)	07:39			07:35			08:19
	21:34			20:46	56	20:12 (1)	19:37	20	19:06 (2)	18:27			16:27			16:03
15	05:12			05:58		19:01 (6)	06:50		18:46 (2)	07:41			07:37			08:20
	21:33			20:44	56	20:10 (1)	19:34	19	19:05 (2)	18:24			16:26			16:03
16	05:13			06:00		19:01 (6)	06:51		18:47 (2)	07:42			07:38			08:21
	21:32			20:42	54	20:09 (1)	19:32	17	19:04 (2)	18:22			16:24			16:04
17	05:14			06:02		18:59 (6)	06:53		18:48 (2)	07:44			07:40			08:22
	21:31			20:40	53	20:07 (1)	19:29	13	19:01 (2)	18:20			16:23			16:04
18	05:16			06:03		18:59 (6)	06:55		18:50 (2)	07:46			07:42			08:22
	21:30			20:38	47	20:04 (1)	19:27	8	18:58 (2)	18:18			16:22			16:04
19	05:17			06:05		18:58 (6)	06:56			07:48			07:44			08:23
	21:29			20:35	38	19:36 (6)	19:25			18:16			16:20			16:04
20	05:18			06:07		18:58 (6)	06:58			07:49			07:45			08:24
	21:27			20:33	38	19:36 (6)	19:22			18:14			16:19			16:05
21	05:20			06:08		18:58 (6)	07:00			07:51		16:47 (5)	07:47			08:24
	21:26			20:31	38	19:36 (6)	19:20			18:11	9	16:56 (5)	16:18			16:05
22	05:21			06:10		18:57 (6)	07:01			07:53		16:44 (5)	07:49			08:25
	21:25			20:29	39	19:36 (6)	19:18			18:09	15	16:59 (5)	16:17			16:06
23	05:22			06:12		18:58 (6)	07:03			07:55		16:42 (5)	07:50			08:25
	21:24			20:27	38	19:36 (6)	19:15			18:07	19	17:01 (5)	16:15			16:06
24	05:24		19:59 (1)	06:13		18:57 (6)	07:05			07:57		16:41 (5)	07:52			08:26
	21:22	6	20:05 (1)	20:25	38	19:35 (6)	19:13			18:05	21	17:02 (5)	16:14			16:07
25	05:25		19:55 (1)	06:15		18:57 (6)	07:06		17:47 (4)	06:58		15:40 (5)	07:54			08:26
	21:21	12	20:07 (1)	20:23	37	19:34 (6)	19:11	19	18:15 (3)	17:03	23	16:03 (5)	16:13			16:07
26	05:27		19:53 (1)	06:17		18:57 (6)	07:08		17:43 (4)	07:00		15:39 (5)	07:55			08:26
	21:19	16	20:09 (1)	20:20	36	19:33 (6)	19:08	29	18:16 (3)	17:01	25	16:04 (5)	16:12			16:08
27	05:28		19:53 (1)	06:18		18:58 (6)	07:10		17:41 (4)	07:02		15:38 (5)	07:57			08:27
	21:18	18	20:11 (1)	20:18	35	19:33 (6)	19:06	37	18:18 (3)	16:59	26	16:04 (5)	16:11			16:09
28	05:30		19:51 (1)	06:20		18:58 (6)	07:11		17:39 (4)	07:04		15:38 (5)	07:59			08:27
	21:16	20	20:11 (1)	20:16	34	19:32 (6)	19:03	40	18:19 (3)	16:57	26	16:04 (5)	16:10			16:10
29	05:31		19:51 (1)	06:21		18:58 (6)	07:13		17:37 (4)	07:06		15:36 (5)	08:00			08:27
	21:15	22	20:13 (1)	20:14	32	19:30 (6)	19:01	42	18:19 (3)	16:55	28	16:04 (5)	16:10			16:10
30	05:33		19:49 (1)	06:23		19:00 (6)	07:15		17:36 (4)	07:08		15:36 (5)	08:02			08:27
	21:13	24	20:13 (1)	20:11	29	19:29 (6)	18:59	43	18:19 (3)	16:53	28	16:04 (5)	16:09			16:11
31	05:34		19:48 (1)	06:25		19:00 (6)				07:09		15:36 (5)				08:27
	21:12	25	20:13 (1)	20:09	27	19:27 (6)				16:51	28	16:04 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		143			1251			510			661			188		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,67			0,70			0,74			0,75			0,74		
Gesamte Reduktion		0,28			0,31			0,28			0,23			0,16		
Met.wahrsch.Beschattung		40			389			141			154			30		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BF - Hauptstraße 30

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni	
1	08:27	08:00			07:05			06:54		19:01 (2)	05:48		19:04 (6)	05:02	
	16:14	17:02			17:55			19:50	20	19:21 (2)	20:42	56	20:10 (1)	21:28	
2	08:27	07:58			07:03			06:51		19:00 (2)	05:46		19:04 (6)	05:01	
	16:15	17:04			17:56			19:51	21	19:21 (2)	20:43	57	20:11 (1)	21:29	
3	08:27	07:56			07:01			06:49		19:00 (2)	05:44		19:04 (6)	05:00	
	16:16	17:06			17:58			19:53	21	19:21 (2)	20:45	58	20:11 (1)	21:30	
4	08:27	07:55			06:59			06:47		19:00 (2)	05:42		19:05 (6)	04:59	
	16:17	17:08			18:00			19:55	21	19:21 (2)	20:47	58	20:12 (1)	21:32	
5	08:26	07:53			06:56		17:16 (4)	06:44		18:59 (2)	05:40		19:05 (6)	04:59	
	16:18	17:10			18:02	10	17:26 (4)	19:57	21	19:20 (2)	20:48	57	20:12 (1)	21:33	
6	08:26	07:51		16:24 (5)	06:54		17:13 (4)	06:42		18:59 (2)	05:38		19:07 (6)	04:58	
	16:19	17:11	10	16:34 (5)	18:04	16	17:29 (4)	19:58	20	19:19 (2)	20:50	56	20:13 (1)	21:34	
7	08:26	07:50		16:22 (5)	06:52		17:10 (4)	06:40		19:00 (2)	05:37		19:08 (6)	04:57	
	16:21	17:13	14	16:36 (5)	18:06	20	17:30 (4)	20:00	19	19:19 (2)	20:52	54	20:13 (1)	21:34	
8	08:25	07:48		16:20 (5)	06:50		17:09 (4)	06:38		19:00 (2)	05:35		19:09 (6)	04:57	
	16:22	17:15	18	16:38 (5)	18:07	25	17:38 (3)	20:02	16	19:16 (2)	20:53	51	20:12 (1)	21:35	
9	08:25	07:46		16:20 (5)	06:47		17:08 (4)	06:35		19:02 (2)	05:33		19:11 (6)	04:56	
	16:23	17:17	20	16:40 (5)	18:09	35	17:43 (3)	20:04	13	19:15 (2)	20:55	49	20:13 (1)	21:36	
10	08:24	07:44		16:19 (5)	06:45		17:06 (4)	06:33		19:04 (2)	05:31		19:13 (6)	04:56	
	16:25	17:19	22	16:41 (5)	18:11	38	17:44 (3)	20:05	8	19:12 (2)	20:57	44	20:13 (1)	21:37	
11	08:24	07:42		16:18 (5)	06:43		17:06 (4)	06:31			05:30		19:15 (6)	04:55	
	16:26	17:21	24	16:42 (5)	18:13	39	17:45 (3)	20:07			20:58	39	20:12 (1)	21:38	
12	08:23	07:40		16:17 (5)	06:40		17:05 (4)	06:28			05:28		19:44 (1)	04:55	
	16:28	17:23	26	16:43 (5)	18:15	41	17:46 (3)	20:09			21:00	28	20:12 (1)	21:39	
13	08:22	07:39		16:17 (5)	06:38		17:04 (4)	06:26		19:21 (6)	05:26		19:44 (1)	04:55	
	16:29	17:25	26	16:43 (5)	18:16	42	17:46 (3)	20:10	6	19:27 (6)	21:01	28	20:12 (1)	21:39	
14	08:21	07:37		16:17 (5)	06:36		17:04 (4)	06:24		19:16 (6)	05:25		19:45 (1)	04:55	
	16:31	17:27	27	16:44 (5)	18:18	42	17:46 (3)	20:12	16	19:32 (6)	21:03	27	20:12 (1)	21:40	
15	08:21	07:35		16:16 (5)	06:34		17:05 (4)	06:22		19:14 (6)	05:23		19:45 (1)	04:54	
	16:32	17:29	27	16:43 (5)	18:20	41	17:46 (3)	20:14	20	19:34 (6)	21:05	26	20:11 (1)	21:40	
16	08:20	07:33		16:16 (5)	06:31		17:04 (4)	06:19		19:12 (6)	05:21		19:46 (1)	04:54	
	16:34	17:30	27	16:43 (5)	18:22	41	17:45 (3)	20:16	24	19:36 (6)	21:06	25	20:11 (1)	21:41	
17	08:19	07:31		16:16 (5)	06:29		17:05 (4)	06:17		19:10 (6)	05:20		19:47 (1)	04:54	
	16:35	17:32	27	16:43 (5)	18:23	40	17:45 (3)	20:17	28	19:38 (6)	21:08	24	20:11 (1)	21:41	
18	08:18	07:29		16:16 (5)	06:27		17:05 (4)	06:15		19:09 (6)	05:18		19:47 (1)	04:54	
	16:37	17:34	27	16:43 (5)	18:25	38	17:43 (3)	20:19	30	19:39 (6)	21:09	22	20:09 (1)	21:42	
19	08:17	07:27		16:17 (5)	06:24		17:06 (4)	06:13		19:07 (6)	05:17		19:48 (1)	04:54	
	16:39	17:36	25	16:42 (5)	18:27	36	17:42 (3)	20:21	32	19:39 (6)	21:11	21	20:09 (1)	21:42	
20	08:16	07:25		16:18 (5)	06:22		17:07 (4)	06:11		19:06 (6)	05:16		19:49 (1)	04:54	
	16:40	17:38	24	16:42 (5)	18:29	34	17:41 (3)	20:23	33	19:39 (6)	21:12	19	20:08 (1)	21:42	
21	08:15	07:23		16:19 (5)	06:20		17:08 (4)	06:09		19:05 (6)	05:14		19:50 (1)	04:54	
	16:42	17:40	22	16:41 (5)	18:30	27	17:38 (3)	20:24	35	19:40 (6)	21:14	17	20:07 (1)	21:43	
22	08:13	07:20		16:20 (5)	06:17		17:11 (4)	06:06		19:04 (6)	05:13		19:51 (1)	04:55	
	16:44	17:42	20	16:40 (5)	18:32	11	17:22 (4)	20:26	36	19:40 (6)	21:15	14	20:05 (1)	21:43	
23	08:12	07:18		16:21 (5)	06:15			06:04		19:04 (6)	05:12		19:53 (1)	04:55	
	16:46	17:44	16	16:37 (5)	18:34			20:28	36	19:40 (6)	21:17	11	20:04 (1)	21:43	
24	08:11	07:16		16:23 (5)	06:12			06:02		19:03 (6)	05:10		19:56 (1)	04:55	
	16:47	17:45	12	16:35 (5)	18:36			20:30	37	19:40 (6)	21:18	6	20:02 (1)	21:43	
25	08:10	07:14			06:10			06:00		19:03 (6)	05:09			04:55	
	16:49	17:47			18:37			20:31	37	19:40 (6)	21:19			21:43	
26	08:08	07:12			06:08			05:58		19:03 (6)	05:08			04:56	
	16:51	17:49			18:39			20:33	37	19:40 (6)	21:21			21:43	
27	08:07	07:10			06:05			05:56		19:03 (6)	05:07			04:56	
	16:53	17:51			18:41			20:35	37	19:40 (6)	21:22			21:43	
28	08:06	07:08			06:03		18:08 (2)	05:54		19:03 (6)	05:06			04:57	
	16:55	17:53			18:43	8	18:16 (2)	20:36	46	20:04 (1)	21:23			21:43	
29	08:04				07:01		19:05 (2)	05:52		19:03 (6)	05:05			04:57	
	16:57				19:44	14	19:19 (2)	20:38	50	20:06 (1)	21:25			21:43	
30	08:03				06:58		19:03 (2)	05:50		19:03 (6)	05:04			04:58	
	16:58				19:46	17	19:20 (2)	20:40	54	20:08 (1)	21:26			21:43	
31	08:01				06:56		19:02 (2)				05:03				
	17:00				19:48	19	19:21 (2)				21:27				
Sonnenscheinstunden	257	277			367			417			487			501	
astr.max.mögl.Beschattung			414			634			774			847			
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45			
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00			
Reduktion Windrichtung			0,75			0,75			0,71			0,68			
Gesamte Reduktion			0,19			0,22			0,26			0,30			
Met.wahrsch.Beschattung			78			138			205			257			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BF - Hauptstraße 30

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		19:30 (6)	06:26			07:16		17:44 (4)	07:11		15:47 (5)	08:03
	21:42			21:10	31	20:23 (1)	20:07			18:56	41	18:25 (3)	16:49	23	16:10 (5)	16:08
2	04:59			05:37		19:24 (6)	06:28		19:02 (2)	07:18		17:44 (4)	07:13		15:48 (5)	08:05
	21:42			21:08	42	20:23 (1)	20:05	8	19:10 (2)	18:54	40	18:24 (3)	16:47	21	16:09 (5)	16:07
3	05:00			05:39		19:22 (6)	06:30		19:00 (2)	07:20		17:44 (4)	07:15		15:50 (5)	08:06
	21:42			21:06	47	20:23 (1)	20:02	13	19:13 (2)	18:52	38	18:22 (3)	16:46	18	16:08 (5)	16:07
4	05:01			05:40		19:20 (6)	06:31		18:58 (2)	07:22		17:44 (4)	07:17		15:52 (5)	08:07
	21:41			21:05	49	20:22 (1)	20:00	16	19:14 (2)	18:49	36	18:20 (3)	16:44	14	16:06 (5)	16:06
5	05:02			05:42		19:19 (6)	06:33		18:56 (2)	07:23		17:45 (4)	07:19		15:54 (5)	08:09
	21:41			21:03	53	20:23 (1)	19:58	19	19:15 (2)	18:47	32	18:18 (3)	16:42	9	16:03 (5)	16:06
6	05:02			05:44		19:17 (6)	06:35		18:55 (2)	07:25		17:46 (4)	07:20			08:10
	21:40			21:01	54	20:22 (1)	19:55	20	19:15 (2)	18:45	22	18:08 (4)	16:40			16:05
7	05:03			05:45		19:16 (6)	06:36		18:54 (2)	07:27		17:47 (4)	07:22			08:11
	21:40			20:59	57	20:22 (1)	19:53	21	19:15 (2)	18:43	18	18:05 (4)	16:38			16:05
8	05:04			05:47		19:15 (6)	06:38		18:54 (2)	07:28		17:49 (4)	07:24			08:12
	21:39			20:57	57	20:21 (1)	19:51	21	19:15 (2)	18:40	14	18:03 (4)	16:37			16:04
9	05:05			05:48		19:14 (6)	06:40		18:54 (2)	07:30		17:54 (4)	07:26			08:14
	21:38			20:56	58	20:21 (1)	19:48	21	19:15 (2)	18:38	4	17:58 (4)	16:35			16:04
10	05:06			05:50		19:13 (6)	06:41		18:53 (2)	07:32			07:28			08:15
	21:38			20:54	58	20:20 (1)	19:46	21	19:14 (2)	18:36			16:33			16:04
11	05:07			05:52		19:12 (6)	06:43		18:53 (2)	07:34			07:29			08:16
	21:37			20:52	58	20:19 (1)	19:44	21	19:14 (2)	18:33			16:32			16:04
12	05:08			05:53		19:11 (6)	06:45		18:53 (2)	07:35			07:31			08:17
	21:36			20:50	56	20:17 (1)	19:41	19	19:12 (2)	18:31			16:30			16:04
13	05:10			05:55		19:11 (6)	06:46		18:54 (2)	07:37			07:33			08:18
	21:35			20:48	54	20:16 (1)	19:39	17	19:11 (2)	18:29			16:29			16:03
14	05:11			05:57		19:11 (6)	06:48		18:56 (2)	07:39			07:35			08:19
	21:34			20:46	50	20:14 (1)	19:37	14	19:10 (2)	18:27			16:27			16:03
15	05:12			05:58		19:10 (6)	06:50		18:57 (2)	07:41			07:37			08:20
	21:33			20:44	44	20:10 (1)	19:34	9	19:06 (2)	18:24			16:26			16:03
16	05:13			06:00		19:10 (6)	06:51			07:42			07:38			08:21
	21:32			20:42	38	19:48 (6)	19:32			18:22			16:24			16:04
17	05:14			06:02		19:09 (6)	06:53			07:44		16:58 (5)	07:40			08:22
	21:31			20:40	38	19:47 (6)	19:29			18:20	5	17:03 (5)	16:23			16:04
18	05:16			06:03		19:10 (6)	06:55			07:46		16:54 (5)	07:42			08:22
	21:30			20:38	37	19:47 (6)	19:27			18:18	13	17:07 (5)	16:22			16:04
19	05:17			06:05		19:09 (6)	06:56			07:48		16:51 (5)	07:44			08:23
	21:29			20:35	37	19:46 (6)	19:25			18:16	18	17:09 (5)	16:20			16:04
20	05:18		20:04 (1)	06:07		19:10 (6)	06:58			07:49		16:50 (5)	07:45			08:24
	21:27	8	20:12 (1)	20:33	36	19:46 (6)	19:22			18:14	20	17:10 (5)	16:19			16:05
21	05:20		20:02 (1)	06:08		19:10 (6)	07:00		17:58 (4)	07:51		16:49 (5)	07:47			08:24
	21:26	13	20:15 (1)	20:31	36	19:46 (6)	19:20	9	18:07 (4)	18:11	22	17:11 (5)	16:18			16:05
22	05:21		20:01 (1)	06:10		19:10 (6)	07:01		17:54 (4)	07:53		16:48 (5)	07:49			08:25
	21:25	15	20:16 (1)	20:29	34	19:44 (6)	19:18	23	18:22 (3)	18:09	24	17:12 (5)	16:17			16:06
23	05:22		19:59 (1)	06:12		19:11 (6)	07:03		17:51 (4)	07:55		16:47 (5)	07:50			08:25
	21:24	18	20:17 (1)	20:27	33	19:44 (6)	19:15	33	18:24 (3)	18:07	26	17:13 (5)	16:15			16:06
24	05:24		19:59 (1)	06:13		19:11 (6)	07:05		17:50 (4)	07:57		16:47 (5)	07:52			08:26
	21:22	20	20:19 (1)	20:25	31	19:42 (6)	19:13	36	18:26 (3)	18:05	26	17:13 (5)	16:14			16:07
25	05:25		19:58 (1)	06:15		19:12 (6)	07:06		17:49 (4)	06:58		15:46 (5)	07:54			08:26
	21:21	22	20:20 (1)	20:23	29	19:41 (6)	19:11	38	18:27 (3)	17:03	27	16:13 (5)	16:13			16:07
26	05:27		19:57 (1)	06:17		19:12 (6)	07:08		17:47 (4)	07:00		15:46 (5)	07:55			08:26
	21:19	23	20:20 (1)	20:20	27	19:39 (6)	19:08	39	18:26 (3)	17:01	27	16:13 (5)	16:12			16:08
27	05:28		19:57 (1)	06:18		19:14 (6)	07:10		17:46 (4)	07:02		15:46 (5)	07:57			08:27
	21:18	24	20:21 (1)	20:18	24	19:38 (6)	19:06	41	18:27 (3)	16:59	27	16:13 (5)	16:11			16:09
28	05:30		19:56 (1)	06:20		19:16 (6)	07:11		17:46 (4)	07:04		15:46 (5)	07:59			08:27
	21:16	25	20:21 (1)	20:16	20	19:36 (6)	19:03	41	18:27 (3)	16:57	27	16:13 (5)	16:10			16:10
29	05:31		19:56 (1)	06:21		19:17 (6)	07:13		17:44 (4)	07:06		15:45 (5)	08:00			08:27
	21:15	26	20:22 (1)	20:14	16	19:33 (6)	19:01	42	18:26 (3)	16:55	27	16:12 (5)	16:10			16:10
30	05:33		19:55 (1)	06:23		19:23 (6)	07:15		17:44 (4)	07:08		15:46 (5)	08:02			08:27
	21:13	27	20:22 (1)	20:11	5	19:28 (6)	18:59	42	18:26 (3)	16:53	25	16:11 (5)	16:09			16:11
31	05:34		19:54 (1)	06:25						07:09		15:47 (5)				08:27
	21:12	28	20:22 (1)	20:09						16:51	24	16:11 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		249			1209			584			583			85		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,66			0,69			0,74			0,75			0,75		
Gesamte Reduktion		0,28			0,31			0,28			0,23			0,16		
Met.wahrsch.Beschattung		69			373			162			136			14		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BG - Hauptstraße 26

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar		März			April		Mai		Juni
1	08:27	08:00		07:05			06:54		18:57 (2)	05:48	19:01 (6)	05:02
	16:14	17:02		17:55			19:50	21	19:18 (2)	20:42	54	20:07 (1)	21:28
2	08:27	07:58		07:03			06:51		18:56 (2)	05:46	19:02 (6)	05:01
	16:15	17:04		17:56			19:51	21	19:17 (2)	20:43	52	20:07 (1)	21:29
3	08:27	07:56		07:01		17:11 (4)	06:49		18:56 (2)	05:44	19:03 (6)	05:00
	16:16	17:06		17:58	11	17:22 (4)	19:53	21	19:17 (2)	20:45	51	20:07 (1)	21:30
4	08:27	07:55		06:59		17:08 (4)	06:47		18:57 (2)	05:42	19:04 (6)	04:59
	16:17	17:08	8	16:30 (5)	17	17:25 (4)	19:55	19	19:16 (2)	20:47	48	20:07 (1)	21:32
5	08:26	07:53		16:19 (5)		17:07 (4)	06:44		18:56 (2)	05:40	19:06 (6)	04:59
	16:18	17:10	14	16:33 (5)	20	17:27 (4)	19:57	19	19:15 (2)	20:48	44	20:07 (1)	21:33
6	08:26	07:51		16:17 (5)		17:05 (4)	06:42		18:57 (2)	05:38	19:10 (6)	04:58
	16:19	17:11	18	16:35 (5)	23	17:28 (4)	19:58	17	19:14 (2)	20:50	38	20:08 (1)	21:34
7	08:26	07:50		16:16 (5)		17:04 (4)	06:40		18:59 (2)	05:37	19:39 (1)	04:57
	16:21	17:13	20	16:36 (5)	34	17:38 (3)	20:00	13	19:12 (2)	20:52	28	20:07 (1)	21:34
8	08:25	07:48		16:15 (5)		17:03 (4)	06:38		19:01 (2)	05:35	19:38 (1)	04:57
	16:22	17:15	22	16:37 (5)	37	17:40 (3)	20:02	7	19:08 (2)	20:53	29	20:07 (1)	21:35
9	08:25	07:46		16:15 (5)		17:02 (4)	06:35			05:33	19:39 (1)	04:56
	16:23	17:17	24	16:39 (5)	40	17:42 (3)	20:04			20:55	28	20:07 (1)	21:36
10	08:24	07:44		16:15 (5)		17:01 (4)	06:33		19:12 (6)	05:31	19:39 (1)	04:56
	16:25	17:19	24	16:39 (5)	41	17:42 (3)	20:05	13	19:25 (6)	20:57	27	20:06 (1)	21:37
11	08:24	07:42		16:14 (5)		17:01 (4)	06:31		19:09 (6)	05:30	19:39 (1)	04:55
	16:26	17:21	26	16:40 (5)	42	17:43 (3)	20:07	19	19:28 (6)	20:58	26	20:05 (1)	21:38
12	08:23	07:40		16:14 (5)		17:01 (4)	06:28		19:07 (6)	05:28	19:40 (1)	04:55
	16:28	17:23	26	16:40 (5)	42	17:43 (3)	20:09	23	19:30 (6)	21:00	25	20:05 (1)	21:39
13	08:22	07:39		16:14 (5)		17:01 (4)	06:26		19:04 (6)	05:26	19:40 (1)	04:55
	16:29	17:25	26	16:40 (5)	42	17:43 (3)	20:10	27	19:31 (6)	21:01	24	20:04 (1)	21:39
14	08:21	07:37		16:14 (5)		17:01 (4)	06:24		19:03 (6)	05:25	19:42 (1)	04:55
	16:31	17:27	27	16:41 (5)	42	17:43 (3)	20:12	29	19:32 (6)	21:03	22	20:04 (1)	21:40
15	08:21	07:35		16:13 (5)		17:02 (4)	06:22		19:02 (6)	05:23	19:42 (1)	04:54
	16:32	17:29	27	16:40 (5)	40	17:42 (3)	20:14	31	19:33 (6)	21:05	20	20:02 (1)	21:40
16	08:20	07:33		16:13 (5)		17:02 (4)	06:19		19:01 (6)	05:21	19:44 (1)	04:54
	16:34	17:30	26	16:39 (5)	39	17:41 (3)	20:16	33	19:34 (6)	21:06	18	20:02 (1)	21:41
17	08:19	07:31		16:14 (5)		17:03 (4)	06:17		19:00 (6)	05:20	19:45 (1)	04:54
	16:35	17:32	25	16:39 (5)	37	17:40 (3)	20:17	34	19:34 (6)	21:08	16	20:01 (1)	21:41
18	08:18	07:29		16:14 (5)		17:04 (4)	06:15		18:59 (6)	05:18	19:47 (1)	04:54
	16:37	17:34	24	16:38 (5)	34	17:38 (3)	20:19	36	19:35 (6)	21:09	11	19:58 (1)	21:42
19	08:17	07:27		16:15 (5)		17:06 (4)	06:13		18:58 (6)	05:17	19:50 (1)	04:54
	16:39	17:36	23	16:38 (5)	25	17:36 (3)	20:21	36	19:34 (6)	21:11	6	19:56 (1)	21:42
20	08:16	07:25		16:17 (5)		17:10 (4)	06:11		18:58 (6)	05:16		04:54
	16:40	17:38	20	16:37 (5)	7	17:17 (4)	20:23	36	19:34 (6)	21:12		21:42
21	08:15	07:23		16:18 (5)			06:09		18:57 (6)	05:14		04:54
	16:42	17:40	17	16:35 (5)			20:24	37	19:34 (6)	21:14		21:43
22	08:13	07:20		16:21 (5)			06:06		18:57 (6)	05:13		04:55
	16:44	17:42	12	16:33 (5)			20:26	37	19:34 (6)	21:15		21:43
23	08:12	07:18					06:04		18:57 (6)	05:12		04:55
	16:46	17:44					20:28	37	19:34 (6)	21:17		21:43
24	08:11	07:16					06:02		18:57 (6)	05:10		04:55
	16:47	17:45					20:30	36	19:33 (6)	21:18		21:43
25	08:10	07:14					06:00		18:57 (6)	05:09		04:55
	16:49	17:47					20:31	45	19:59 (1)	21:19		21:43
26	08:08	07:12				18:06 (2)	05:58		18:57 (6)	05:08		04:56
	16:51	17:49			7	18:13 (2)	20:33	50	20:02 (1)	21:21		21:43
27	08:07	07:10				18:02 (2)	05:56		18:58 (6)	05:07		04:56
	16:53	17:51			13	18:15 (2)	20:35	52	20:03 (1)	21:22		21:43
28	08:06	07:08				18:00 (2)	05:54		18:58 (6)	05:06		04:57
	16:55	17:53			17	18:17 (2)	20:36	54	20:04 (1)	21:23		21:43
29	08:04					18:59 (2)	05:52		18:58 (6)	05:05		04:57
	16:57				19	19:18 (2)	20:38	55	20:05 (1)	21:25		21:43
30	08:03					18:57 (2)	05:50		18:59 (6)	05:04		04:58
	16:58				20	19:17 (2)	20:40	55	20:06 (1)	21:26		21:43
31	08:01					18:57 (2)				05:03		
	17:00				21	19:18 (2)				21:27		
Sonnenscheinstunden	257	277		367			417		487		501	
astr.max.mögl.Beschattung			409		670			913		567		
Red.Sonnenscheinwahrsch.			0,25		0,29			0,37		0,45		
Reduktion Betriebsdauer			1,00		1,00			1,00		1,00		
Reduktion Windrichtung			0,74		0,75			0,71		0,67		
Gesamte Reduktion			0,19		0,22			0,27		0,30		
Met.wahrsch.Beschattung			77		146			243		172		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BG - Hauptstraße 26

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November		Dezember
1	04:59		05:36	19:50 (1)	06:26	19:08 (6)	07:16	17:40 (4)	07:11	15:43 (5)	08:03
	21:42		21:10 26	20:16 (1)	20:07 19	19:27 (6)	18:56 42	18:22 (3)	16:49 25	16:08 (5)	16:08
2	04:59		05:37	19:49 (1)	06:28	19:10 (6)	07:18	17:40 (4)	07:13	15:44 (5)	08:05
	21:42		21:08 27	20:16 (1)	20:05 13	19:23 (6)	18:54 42	18:22 (3)	16:47 23	16:07 (5)	16:07
3	05:00		05:39	19:49 (1)	06:30		07:20	17:39 (4)	07:15	15:45 (5)	08:06
	21:42		21:06 28	20:17 (1)	20:02		18:52 41	18:20 (3)	16:46 22	16:07 (5)	16:07
4	05:01		05:40	19:49 (1)	06:31	18:59 (2)	07:22	17:39 (4)	07:17	15:46 (5)	08:07
	21:41		21:05 27	20:16 (1)	20:00 7	19:06 (2)	18:49 40	18:19 (3)	16:44 19	16:05 (5)	16:06
5	05:02		05:42	19:49 (1)	06:33	18:55 (2)	07:23	17:40 (4)	07:19	15:47 (5)	08:09
	21:41		21:03 28	20:17 (1)	19:58 13	19:08 (2)	18:47 38	18:18 (3)	16:42 17	16:04 (5)	16:06
6	05:02		05:44	19:48 (1)	06:35	18:54 (2)	07:25	17:40 (4)	07:20	15:49 (5)	08:10
	21:40		21:01 29	20:17 (1)	19:55 16	19:10 (2)	18:45 36	18:16 (3)	16:40 13	16:02 (5)	16:05
7	05:03		05:45	19:18 (6)	06:36	18:51 (2)	07:27	17:40 (4)	07:22	15:52 (5)	08:11
	21:40		20:59 41	20:17 (1)	19:53 19	19:10 (2)	18:43 29	18:12 (3)	16:38 7	15:59 (5)	16:05
8	05:04		05:47	19:15 (6)	06:38	18:51 (2)	07:28	17:41 (4)	07:24		08:12
	21:39		20:57 45	20:16 (1)	19:51 20	19:11 (2)	18:40 22	18:03 (4)	16:37		16:04
9	05:05		05:48	19:13 (6)	06:40	18:50 (2)	07:30	17:42 (4)	07:26		08:14
	21:38		20:56 50	20:17 (1)	19:48 21	19:11 (2)	18:38 19	18:01 (4)	16:35		16:04
10	05:06		05:50	19:11 (6)	06:41	18:49 (2)	07:32	17:44 (4)	07:28		08:15
	21:38		20:54 52	20:16 (1)	19:46 21	19:10 (2)	18:36 15	17:59 (4)	16:33		16:04
11	05:07		05:52	19:10 (6)	06:43	18:49 (2)	07:34	17:47 (4)	07:29		08:16
	21:37		20:52 53	20:16 (1)	19:44 21	19:10 (2)	18:33 7	17:54 (4)	16:32		16:04
12	05:08		05:53	19:08 (6)	06:45	18:48 (2)	07:35		07:31		08:17
	21:36		20:50 55	20:14 (1)	19:41 21	19:09 (2)	18:31		16:30		16:04
13	05:09		05:55	19:07 (6)	06:46	18:49 (2)	07:37		07:33		08:18
	21:35		20:48 56	20:14 (1)	19:39 20	19:09 (2)	18:29		16:29		16:03
14	05:11		05:57	19:07 (6)	06:48	18:49 (2)	07:39		07:35		08:19
	21:34		20:46 54	20:13 (1)	19:37 19	19:08 (2)	18:27		16:27		16:03
15	05:12		05:58	19:05 (6)	06:50	18:49 (2)	07:41		07:37		08:20
	21:33		20:44 55	20:12 (1)	19:34 17	19:06 (2)	18:24		16:26		16:03
16	05:13		06:00	19:05 (6)	06:51	18:51 (2)	07:42		07:38		08:21
	21:32		20:42 52	20:10 (1)	19:32 14	19:05 (2)	18:22		16:24		16:04
17	05:14		06:02	19:04 (6)	06:53	18:52 (2)	07:44		07:40		08:22
	21:31		20:40 49	20:08 (1)	19:29 9	19:01 (2)	18:20		16:23		16:04
18	05:16		06:03	19:04 (6)	06:55		07:46		07:42		08:22
	21:30		20:38 44	20:05 (1)	19:27		18:18		16:22		16:04
19	05:17		06:05	19:03 (6)	06:56		07:48	16:54 (5)	07:44		08:23
	21:29		20:35 36	19:39 (6)	19:25		18:16 7	17:01 (5)	16:20		16:04
20	05:18		06:07	19:03 (6)	06:58		07:49	16:50 (5)	07:45		08:24
	21:27		20:33 36	19:39 (6)	19:22		18:14 14	17:04 (5)	16:19		16:05
21	05:20		06:08	19:03 (6)	07:00		07:51	16:48 (5)	07:47		08:24
	21:26		20:31 37	19:40 (6)	19:20		18:11 18	17:06 (5)	16:18		16:05
22	05:21		06:10	19:02 (6)	07:01		07:53	16:47 (5)	07:49		08:25
	21:25		20:29 37	19:39 (6)	19:18		18:09 20	17:07 (5)	16:17		16:06
23	05:22		06:12	19:02 (6)	07:03		07:55	16:46 (5)	07:50		08:25
	21:24		20:27 37	19:39 (6)	19:15		18:07 22	17:08 (5)	16:15		16:06
24	05:24		06:13	19:02 (6)	07:05	17:50 (4)	07:57	16:45 (5)	07:52		08:26
	21:22		20:25 36	19:38 (6)	19:13 21	18:18 (3)	18:05 24	17:09 (5)	16:14		16:07
25	05:25	19:59 (1)	06:15	19:02 (6)	07:06	17:48 (4)	06:58	15:44 (5)	07:54		08:26
	21:21 9	20:08 (1)	20:23 35	19:37 (6)	19:11 32	18:21 (3)	17:03 26	16:10 (5)	16:13		16:07
26	05:27	19:56 (1)	06:17	19:02 (6)	07:08	17:45 (4)	07:00	15:44 (5)	07:55		08:26
	21:19 14	20:10 (1)	20:20 34	19:36 (6)	19:08 36	18:21 (3)	17:01 26	16:10 (5)	16:12		16:08
27	05:28	19:55 (1)	06:18	19:03 (6)	07:10	17:44 (4)	07:02	15:43 (5)	07:57		08:27
	21:18 17	20:12 (1)	20:18 32	19:35 (6)	19:06 38	18:22 (3)	16:59 27	16:10 (5)	16:11		16:09
28	05:30	19:54 (1)	06:20	19:04 (6)	07:11	17:43 (4)	07:04	15:43 (5)	07:59		08:27
	21:16 19	20:13 (1)	20:16 31	19:35 (6)	19:03 40	18:23 (3)	16:57 27	16:10 (5)	16:10		16:10
29	05:31	19:53 (1)	06:21	19:04 (6)	07:13	17:41 (4)	07:06	15:42 (5)	08:00		08:27
	21:15 21	20:14 (1)	20:14 29	19:33 (6)	19:01 41	18:22 (3)	16:55 27	16:09 (5)	16:10		16:10
30	05:33	19:52 (1)	06:23	19:05 (6)	07:15	17:41 (4)	07:08	15:42 (5)	08:02		08:27
	21:13 22	20:14 (1)	20:11 26	19:31 (6)	18:59 41	18:22 (3)	16:53 27	16:09 (5)	16:09		16:11
31	05:34	19:51 (1)	06:25	19:06 (6)			07:09	15:43 (5)			08:27
	21:12 24	20:15 (1)	20:09 23	19:29 (6)			16:51 25	16:08 (5)			16:12
Sonnenscheinstunden	504		455		381		331		265		241
astr.max.mögl.Beschattung	126		1200		519		621		126		
Red.Sonnenscheinwahrsch.	0,42		0,44		0,37		0,31		0,21		
Reduktion Betriebsdauer	1,00		1,00		1,00		1,00		1,00		
Reduktion Windrichtung	0,67		0,69		0,74		0,75		0,74		
Gesamte Reduktion	0,28		0,31		0,28		0,23		0,16		
Met.wahrsch.Beschattung	35		372		143		145		20		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BH - Hauptstraße 24

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar		März		April		Mai		Juni
1	08:27	08:00		16:15 (5)	07:05	17:01 (4)	06:54	18:51 (2)	05:48	19:31 (1)	05:02
	16:14	17:02	9	16:24 (5)	17:55 18	17:19 (4)	19:50 20	19:11 (2)	20:42 29	20:00 (1)	21:28
2	08:27	07:58		16:12 (5)	07:03	16:59 (4)	06:51	18:51 (2)	05:46	19:31 (1)	05:01
	16:15	17:04	14	16:26 (5)	17:56 22	17:21 (4)	19:51 18	19:09 (2)	20:43 28	19:59 (1)	21:29
3	08:27	07:56		16:11 (5)	07:01	16:57 (4)	06:49	18:52 (2)	05:44	19:31 (1)	05:00
	16:16	17:06	18	16:29 (5)	17:58 24	17:21 (4)	19:53 16	19:08 (2)	20:45 28	19:59 (1)	21:30
4	08:27	07:55		16:10 (5)	06:59	16:57 (4)	06:47	18:54 (2)	05:42	19:31 (1)	04:59
	16:17	17:08	20	16:30 (5)	18:00 33	17:32 (3)	19:55 13	19:07 (2)	20:47 27	19:58 (1)	21:32
5	08:26	07:53		16:09 (5)	06:56	16:56 (4)	06:44	18:56 (2)	05:40	19:31 (1)	04:59
	16:18	17:10	22	16:31 (5)	18:02 39	17:35 (3)	19:57 20	19:16 (6)	20:48 26	19:57 (1)	21:33
6	08:26	07:51		16:08 (5)	06:54	16:56 (4)	06:42	18:59 (6)	05:38	19:32 (1)	04:58
	16:19	17:11	24	16:32 (5)	18:04 40	17:36 (3)	19:58 20	19:19 (6)	20:50 26	19:58 (1)	21:34
7	08:26	07:50		16:08 (5)	06:52	16:55 (4)	06:40	18:57 (6)	05:37	19:32 (1)	04:57
	16:21	17:13	24	16:32 (5)	18:06 42	17:37 (3)	20:00 24	19:21 (6)	20:52 25	19:57 (1)	21:34
8	08:25	07:48		16:07 (5)	06:50	16:55 (4)	06:38	18:54 (6)	05:35	19:32 (1)	04:57
	16:22	17:15	26	16:33 (5)	18:07 42	17:37 (3)	20:02 27	19:21 (6)	20:53 23	19:55 (1)	21:35
9	08:25	07:46		16:08 (5)	06:47	16:55 (4)	06:35	18:53 (6)	05:33	19:34 (1)	04:56
	16:23	17:17	26	16:34 (5)	18:09 43	17:38 (3)	20:04 30	19:23 (6)	20:55 21	19:55 (1)	21:36
10	08:24	07:44		16:08 (5)	06:45	16:54 (4)	06:33	18:52 (6)	05:31	19:35 (1)	04:56
	16:25	17:19	26	16:34 (5)	18:11 43	17:37 (3)	20:05 32	19:24 (6)	20:57 19	19:54 (1)	21:37
11	08:24	07:42		16:08 (5)	06:43	16:55 (4)	06:31	18:51 (6)	05:30	19:36 (1)	04:55
	16:26	17:21	26	16:34 (5)	18:13 42	17:37 (3)	20:07 33	19:24 (6)	20:58 16	19:52 (1)	21:38
12	08:23	07:40		16:08 (5)	06:40	16:56 (4)	06:28	18:51 (6)	05:28	19:38 (1)	04:55
	16:28	17:23	26	16:34 (5)	18:15 41	17:37 (3)	20:09 34	19:25 (6)	21:00 12	19:50 (1)	21:39
13	08:22	07:39		16:08 (5)	06:38	16:56 (4)	06:26	18:49 (6)	05:26	19:41 (1)	04:55
	16:29	17:25	26	16:34 (5)	18:16 40	17:36 (3)	20:10 35	19:24 (6)	21:01 6	19:47 (1)	21:39
14	08:21	07:37		16:09 (5)	06:36	16:58 (4)	06:24	18:49 (6)	05:25		04:55
	16:31	17:27	24	16:33 (5)	18:18 37	17:35 (3)	20:12 36	19:25 (6)	21:03		21:40
15	08:21	07:35		16:09 (5)	06:34	17:00 (4)	06:22	18:48 (6)	05:23		04:54
	16:32	17:29	23	16:32 (5)	18:20 31	17:34 (3)	20:14 37	19:25 (6)	21:05		21:40
16	08:20	07:33		16:10 (5)	06:31	17:02 (4)	06:19	18:48 (6)	05:21		04:54
	16:34	17:30	21	16:31 (5)	18:22 20	17:31 (3)	20:16 37	19:25 (6)	21:06		21:41
17	08:19	07:31		16:11 (5)	06:29	17:24 (3)	06:17	18:48 (6)	05:20		04:54
	16:35	17:32	19	16:30 (5)	18:23 3	17:27 (3)	20:17 37	19:25 (6)	21:08		21:41
18	08:18	07:29		16:12 (5)	06:27		06:15	18:48 (6)	05:18		04:54
	16:37	17:34	16	16:28 (5)	18:25		20:19 36	19:24 (6)	21:09		21:42
19	08:17	07:27		16:15 (5)	06:24		06:13	18:47 (6)	05:17		04:54
	16:39	17:36	11	16:26 (5)	18:27		20:21 36	19:23 (6)	21:11		21:42
20	08:16	07:25			06:22		06:11	18:48 (6)	05:16		04:54
	16:40	17:38			18:29		20:23 35	19:23 (6)	21:12		21:42
21	08:15	07:23			06:20		06:09	18:48 (6)	05:14		04:54
	16:42	17:40			18:30		20:24 45	19:52 (1)	21:14		21:43
22	08:13	07:20			06:17		06:06	18:48 (6)	05:13		04:55
	16:44	17:42			18:32		20:26 49	19:54 (1)	21:15		21:43
23	08:12	07:18			06:15	18:01 (2)	06:04	18:49 (6)	05:12		04:55
	16:46	17:44			18:34 6	18:07 (2)	20:28 51	19:56 (1)	21:17		21:43
24	08:11	07:16			06:12	17:57 (2)	06:02	18:50 (6)	05:10		04:55
	16:47	17:45			18:36 12	18:09 (2)	20:30 51	19:57 (1)	21:18		21:43
25	08:10	07:14			06:10	17:55 (2)	06:00	18:51 (6)	05:09		04:55
	16:49	17:47			18:37 16	18:11 (2)	20:31 51	19:58 (1)	21:19		21:43
26	08:08	07:12			06:08	17:54 (2)	05:58	18:52 (6)	05:08		04:56
	16:51	17:49			18:39 18	18:12 (2)	20:33 50	19:58 (1)	21:21		21:43
27	08:07	07:10		17:07 (4)	06:05	17:52 (2)	05:56	18:53 (6)	05:07		04:56
	16:53	17:51	7	17:14 (4)	18:41 20	18:12 (2)	20:35 49	19:59 (1)	21:22		21:43
28	08:06	07:08		17:03 (4)	06:03	17:52 (2)	05:54	18:55 (6)	05:06		04:57
	16:55	17:53	14	17:17 (4)	18:43 21	18:13 (2)	20:36 46	19:59 (1)	21:23		21:43
29	08:04				07:01	18:52 (2)	05:52	18:58 (6)	05:05		04:57
	16:57				19:44 21	19:13 (2)	20:38 39	19:59 (1)	21:25		21:43
30	08:03				06:58	18:51 (2)	05:50	19:30 (1)	05:04		04:58
	16:58				19:46 21	19:12 (2)	20:40 29	19:59 (1)	21:26		21:43
31	08:01				06:56	18:51 (2)			05:03		
	17:00				19:48 21	19:12 (2)			21:27		
Sonnenscheinstunden	257	277			367		417		487		501
astr.max.mögl.Beschattung			422		716		1036		286		
Red.Sonnenscheinwahrsch.			0,25		0,29		0,37		0,45		
Reduktion Betriebsdauer			1,00		1,00		1,00		1,00		
Reduktion Windrichtung			0,74		0,75		0,71		0,67		
Gesamte Reduktion			0,19		0,22		0,27		0,30		
Met.wahrsch.Beschattung			79		156		277		86		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BH - Hauptstraße 24

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		19:48 (1)	06:26		18:50 (6)	07:16		17:35 (4)	07:11		15:37 (5)	08:03
	21:42			21:10	14	20:02 (1)	20:07	33	19:23 (6)	18:56	41	18:16 (3)	16:49	26	16:03 (5)	16:08
2	04:59			05:37		19:46 (1)	06:28		18:50 (6)	07:18		17:34 (4)	07:13		15:37 (5)	08:05
	21:42			21:08	17	20:03 (1)	20:05	32	19:22 (6)	18:54	42	18:16 (3)	16:47	26	16:03 (5)	16:07
3	05:00			05:39		19:45 (1)	06:30		18:51 (6)	07:20		17:33 (4)	07:15		15:37 (5)	08:06
	21:42			21:06	19	20:04 (1)	20:02	30	19:21 (6)	18:52	42	18:15 (3)	16:46	25	16:02 (5)	16:07
4	05:01			05:40		19:43 (1)	06:31		18:52 (6)	07:22		17:32 (4)	07:17		15:38 (5)	08:07
	21:41			21:05	22	20:05 (1)	20:00	28	19:20 (6)	18:49	43	18:15 (3)	16:44	24	16:02 (5)	16:06
5	05:02			05:42		19:43 (1)	06:33		18:53 (6)	07:23		17:32 (4)	07:19		15:38 (5)	08:09
	21:41			21:03	23	20:06 (1)	19:58	24	19:17 (6)	18:47	43	18:15 (3)	16:42	23	16:01 (5)	16:06
6	05:02			05:44		19:41 (1)	06:35		18:55 (6)	07:25		17:32 (4)	07:20		15:39 (5)	08:10
	21:40			21:01	25	20:06 (1)	19:55	20	19:15 (6)	18:45	42	18:14 (3)	16:40	22	16:01 (5)	16:05
7	05:03			05:45		19:41 (1)	06:36		18:51 (2)	07:27		17:31 (4)	07:22		15:40 (5)	08:11
	21:40			20:59	26	20:07 (1)	19:53	20	19:11 (6)	18:43	41	18:12 (3)	16:38	20	16:00 (5)	16:05
8	05:04			05:47		19:40 (1)	06:38		18:48 (2)	07:28		17:31 (4)	07:24		15:41 (5)	08:12
	21:39			20:57	27	20:07 (1)	19:51	14	19:05 (6)	18:40	40	18:11 (3)	16:37	17	15:58 (5)	16:04
9	05:05			05:48		19:40 (1)	06:40		18:47 (2)	07:30		17:31 (4)	07:26		15:43 (5)	08:14
	21:38			20:56	28	20:08 (1)	19:48	15	19:02 (2)	18:38	37	18:09 (3)	16:35	14	15:57 (5)	16:04
10	05:06			05:50		19:39 (1)	06:41		18:45 (2)	07:32		17:32 (4)	07:28		15:46 (5)	08:15
	21:38			20:54	28	20:07 (1)	19:46	18	19:03 (2)	18:36	25	17:57 (4)	16:33	9	15:55 (5)	16:04
11	05:07			05:52		19:39 (1)	06:43		18:44 (2)	07:34		17:32 (4)	07:29			08:16
	21:37			20:52	29	20:08 (1)	19:44	19	19:03 (2)	18:33	23	17:55 (4)	16:32			16:04
12	05:08			05:53		19:38 (1)	06:45		18:42 (2)	07:35		17:33 (4)	07:31			08:17
	21:36			20:50	29	20:07 (1)	19:41	21	19:03 (2)	18:31	20	17:53 (4)	16:30			16:04
13	05:09			05:55		19:39 (1)	06:46		18:42 (2)	07:37		17:35 (4)	07:33			08:18
	21:35			20:48	28	20:07 (1)	19:39	21	19:03 (2)	18:29	16	17:51 (4)	16:29			16:03
14	05:11			05:57		19:06 (6)	06:48		18:42 (2)	07:39		17:37 (4)	07:35			08:19
	21:34			20:46	41	20:07 (1)	19:37	21	19:03 (2)	18:27	12	17:49 (4)	16:27			16:03
15	05:12			05:58		19:02 (6)	06:50		18:41 (2)	07:41			07:37			08:20
	21:33			20:44	46	20:06 (1)	19:34	21	19:02 (2)	18:24			16:26			16:03
16	05:13			06:00		19:01 (6)	06:51		18:42 (2)	07:42			07:38			08:21
	21:32			20:42	48	20:06 (1)	19:32	20	19:02 (2)	18:22			16:24			16:04
17	05:14			06:02		18:58 (6)	06:53		18:41 (2)	07:44			07:40			08:22
	21:31			20:40	51	20:05 (1)	19:29	19	19:00 (2)	18:20			16:23			16:04
18	05:16			06:03		18:57 (6)	06:55		18:42 (2)	07:46			07:42			08:22
	21:30			20:38	52	20:04 (1)	19:27	17	18:59 (2)	18:18			16:22			16:04
19	05:17			06:05		18:55 (6)	06:56		18:44 (2)	07:48			07:44			08:23
	21:29			20:35	51	20:02 (1)	19:25	13	18:57 (2)	18:16			16:20			16:04
20	05:18			06:07		18:55 (6)	06:58		18:45 (2)	07:49			07:45			08:24
	21:27			20:33	50	20:01 (1)	19:22	9	18:54 (2)	18:14			16:19			16:05
21	05:20			06:08		18:54 (6)	07:00			07:51			07:47			08:24
	21:26			20:31	49	20:00 (1)	19:20			18:11			16:18			16:05
22	05:21			06:10		18:53 (6)	07:01			07:53		16:48 (5)	07:49			08:25
	21:25			20:29	44	19:56 (1)	19:18			18:09	6	16:54 (5)	16:17			16:06
23	05:22			06:12		18:52 (6)	07:03			07:55		16:45 (5)	07:50			08:25
	21:24			20:27	35	19:27 (6)	19:15			18:07	12	16:57 (5)	16:15			16:06
24	05:24			06:13		18:51 (6)	07:05			07:57		16:42 (5)	07:52			08:26
	21:22			20:25	36	19:27 (6)	19:13			18:05	17	16:59 (5)	16:14			16:07
25	05:25			06:15		18:51 (6)	07:06			06:58		15:41 (5)	07:54			08:26
	21:21			20:23	36	19:27 (6)	19:11			17:03	20	16:01 (5)	16:13			16:07
26	05:27			06:17		18:50 (6)	07:08			07:00		15:40 (5)	07:55			08:26
	21:19			20:20	36	19:26 (6)	19:08			17:01	22	16:02 (5)	16:12			16:08
27	05:28			06:18		18:50 (6)	07:10		17:45 (4)	07:02		15:39 (5)	07:57			08:27
	21:18			20:18	37	19:27 (6)	19:06	16	18:12 (3)	16:59	23	16:02 (5)	16:11			16:09
28	05:30			06:20		18:50 (6)	07:11		17:41 (4)	07:04		15:38 (5)	07:59			08:27
	21:16			20:16	37	19:27 (6)	19:03	28	18:14 (3)	16:57	25	16:03 (5)	16:10			16:09
29	05:31			06:21		18:49 (6)	07:13		17:38 (4)	07:06		15:37 (5)	08:00			08:27
	21:15			20:14	36	19:25 (6)	19:01	35	18:14 (3)	16:55	25	16:02 (5)	16:10			16:10
30	05:33			06:23		18:50 (6)	07:15		17:36 (4)	07:08		15:37 (5)	08:02			08:27
	21:13			20:11	35	19:25 (6)	18:59	39	18:15 (3)	16:53	26	16:03 (5)	16:09			16:11
31	05:34		19:50 (1)	06:25		18:49 (6)				07:09		15:36 (5)				08:27
	21:12	9	19:59 (1)	20:09	35	19:24 (6)				16:51	27	16:03 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		9			1070			533			670			206		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,67			0,70			0,74			0,75			0,74		
Gesamte Reduktion		0,28			0,31			0,27			0,23			0,16		
Met.wahrsch.Beschattung		3			334			146			156			33		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BI - Hauptstraße 28

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März		April		Mai		Juni	
1	08:27		08:00		07:05		06:54		18:59 (2)		05:48	
	16:14		17:02		17:55		19:50	21	19:20 (2)	55	20:08 (1)	19:03 (6)
2	08:27		07:58		07:03		06:51		18:58 (2)		05:46	
	16:15		17:04		17:56		19:51	21	19:19 (2)	54	20:09 (1)	19:04 (6)
3	08:27		07:56		07:01		06:49		18:58 (2)		05:44	
	16:16		17:06		17:58		19:53	21	19:19 (2)	54	20:09 (1)	19:04 (6)
4	08:27		07:55		06:59		06:47		18:58 (2)		05:42	
	16:17		17:08		18:00	6	17:23 (4)	21	19:19 (2)	52	20:09 (1)	19:05 (6)
5	08:26		07:53		06:56		17:13 (4)		18:58 (2)		05:40	
	16:18		17:10		18:02	14	17:27 (4)	19	19:17 (2)	48	20:09 (1)	19:07 (6)
6	08:26		07:51		16:25 (5)		06:54		17:11 (4)		06:42	
	16:19		17:11	9	16:34 (5)	18	18:04	18	17:29 (4)	45	19:58	20:09 (1)
7	08:26		07:50		16:22 (5)		06:52		17:08 (4)		06:40	
	16:21		17:13	15	16:37 (5)	22	18:06	20	17:30 (4)	39	20:00	20:09 (1)
8	08:25		07:48		16:20 (5)		06:50		17:07 (4)		06:38	
	16:22		17:15	18	16:38 (5)	33	18:07	13	17:40 (3)	28	20:02	20:08 (1)
9	08:25		07:46		16:20 (5)		06:47		17:07 (4)		06:35	
	16:23		17:17	21	16:41 (5)	36	18:09	7	17:43 (3)	28	20:04	20:09 (1)
10	08:24		07:44		16:19 (5)		06:45		17:05 (4)		06:33	
	16:25		17:19	23	16:42 (5)	38	18:11		17:43 (3)	27	20:05	20:08 (1)
11	08:24		07:42		16:19 (5)		06:43		17:05 (4)		06:31	
	16:26		17:21	24	16:43 (5)	39	18:13	8	17:44 (3)	26	20:07	19:18 (6)
12	08:23		07:40		16:18 (5)		06:40		17:05 (4)		06:28	
	16:28		17:23	25	16:43 (5)	40	18:15	16	17:45 (3)	25	20:09	19:30 (6)
13	08:22		07:39		16:18 (5)		06:38		17:04 (4)		06:26	
	16:29		17:25	26	16:44 (5)	41	18:16	21	17:45 (3)	24	20:10	19:31 (6)
14	08:21		07:37		16:17 (5)		06:36		17:04 (4)		06:24	
	16:31		17:27	27	16:44 (5)	41	18:18	25	17:45 (3)	23	20:12	19:33 (6)
15	08:21		07:35		16:16 (5)		06:34		17:04 (4)		06:22	
	16:32		17:29	27	16:43 (5)	41	18:20	27	17:45 (3)	22	20:14	19:34 (6)
16	08:20		07:33		16:16 (5)		06:31		17:04 (4)		06:19	
	16:34		17:30	27	16:43 (5)	40	18:22	29	17:44 (3)	19	20:16	19:35 (6)
17	08:19		07:31		16:17 (5)		06:29		17:05 (4)		06:17	
	16:35		17:32	26	16:43 (5)	38	18:23	31	17:43 (3)	18	20:17	19:36 (6)
18	08:18		07:29		16:17 (5)		06:27		17:05 (4)		06:15	
	16:37		17:34	26	16:43 (5)	36	18:25	33	17:41 (3)	15	20:19	19:37 (6)
19	08:17		07:27		16:18 (5)		06:24		17:07 (4)		06:13	
	16:39		17:36	24	16:42 (5)	33	18:27	34	17:40 (3)	11	20:21	19:36 (6)
20	08:16		07:25		16:19 (5)		06:22		17:09 (4)		06:11	
	16:40		17:38	23	16:42 (5)	27	18:29	36	17:38 (3)	6	20:23	19:37 (6)
21	08:15		07:23		16:20 (5)		06:20		17:11 (4)		06:09	
	16:42		17:40	21	16:41 (5)	10	18:30	36	17:21 (4)		20:24	19:37 (6)
22	08:13		07:20		16:21 (5)		06:17				06:06	
	16:44		17:42	18	16:39 (5)		18:32	36			20:26	19:37 (6)
23	08:12		07:18		16:22 (5)		06:15				06:04	
	16:46		17:44	15	16:37 (5)		18:34	37			20:28	19:37 (6)
24	08:11		07:16		16:26 (5)		06:12				06:02	
	16:47		17:45	7	16:33 (5)		18:36	37			20:30	19:37 (6)
25	08:10		07:14				06:10				06:00	
	16:49		17:47				18:37	36			20:31	19:36 (6)
26	08:08		07:12				06:08				05:58	
	16:51		17:49				18:39	46			20:33	20:01 (1)
27	08:07		07:10				06:05				05:56	
	16:53		17:51				18:41	7			18:14 (2)	20:35
28	08:06		07:08				06:03				18:04 (2)	05:54
	16:55		17:53				18:43	13			18:17 (2)	20:36
29	08:04						07:01				19:02 (2)	05:52
	16:57						19:44	17			19:19 (2)	20:38
30	08:03						06:58				19:00 (2)	05:50
	16:58						19:46	19			19:19 (2)	20:40
31	08:01						06:56				19:00 (2)	
	17:00						19:48	19			19:19 (2)	
Sonnenscheinstunden	257		277		367		417		487		501	
astr.max.mögl.Beschattung				402		628		856		619		
Red.Sonnenscheinwahrsch.				0,25		0,29		0,37		0,45		
Reduktion Betriebsdauer				1,00		1,00		1,00		1,00		
Reduktion Windrichtung				0,75		0,75		0,71		0,67		
Gesamte Reduktion				0,19		0,22		0,27		0,30		
Met.wahrsch.Beschattung				76		137		227		187		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BI - Hauptstraße 28

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		19:52 (1)	06:26		19:17 (6)	07:16		17:44 (4)	07:11		15:48 (5)	08:03
	21:42			21:10	26	20:18 (1)	20:07	8	19:25 (6)	18:56	40	18:24 (3)	16:49	22	16:10 (5)	16:08
2	04:59			05:37		19:51 (1)	06:28			07:18		17:44 (4)	07:13		15:49 (5)	08:05
	21:42			21:08	27	20:18 (1)	20:05			18:54	40	18:24 (3)	16:47	20	16:09 (5)	16:07
3	05:00			05:39		19:51 (1)	06:30		19:01 (2)	07:20		17:43 (4)	07:15		15:50 (5)	08:06
	21:42			21:06	28	20:19 (1)	20:02	7	19:08 (2)	18:52	39	18:22 (3)	16:46	18	16:08 (5)	16:07
4	05:01			05:40		19:51 (1)	06:31		18:58 (2)	07:22		17:43 (4)	07:17		15:52 (5)	08:07
	21:41			21:05	27	20:18 (1)	20:00	13	19:11 (2)	18:49	37	18:20 (3)	16:44	14	16:06 (5)	16:06
5	05:02			05:42		19:25 (6)	06:33		18:56 (2)	07:23		17:44 (4)	07:19		15:55 (5)	08:09
	21:41			21:03	32	20:19 (1)	19:58	15	19:11 (2)	18:47	34	18:18 (3)	16:42	8	16:03 (5)	16:06
6	05:02			05:44		19:20 (6)	06:35		18:55 (2)	07:25		17:45 (4)	07:20			08:10
	21:40			21:01	41	20:18 (1)	19:55	18	19:13 (2)	18:45	26	18:14 (3)	16:40			16:05
7	05:03			05:45		19:18 (6)	06:36		18:53 (2)	07:27		17:45 (4)	07:22			08:11
	21:40			20:59	46	20:19 (1)	19:53	19	19:12 (2)	18:43	20	18:05 (4)	16:38			16:05
8	05:04			05:47		19:16 (6)	06:38		18:52 (2)	07:28		17:47 (4)	07:24			08:12
	21:39			20:57	49	20:18 (1)	19:51	21	19:13 (2)	18:40	16	18:03 (4)	16:37			16:04
9	05:05			05:48		19:14 (6)	06:40		18:52 (2)	07:30		17:49 (4)	07:26			08:14
	21:38			20:56	52	20:18 (1)	19:48	21	19:13 (2)	18:38	12	18:01 (4)	16:35			16:04
10	05:06			05:50		19:13 (6)	06:41		18:51 (2)	07:32			07:28			08:15
	21:38			20:54	53	20:17 (1)	19:46	21	19:12 (2)	18:36			16:33			16:04
11	05:07			05:52		19:12 (6)	06:43		18:51 (2)	07:34			07:29			08:16
	21:37			20:52	55	20:17 (1)	19:44	21	19:12 (2)	18:33			16:32			16:04
12	05:08			05:53		19:10 (6)	06:45		18:51 (2)	07:35			07:31			08:17
	21:36			20:50	56	20:16 (1)	19:41	20	19:11 (2)	18:31			16:30			16:04
13	05:09			05:55		19:10 (6)	06:46		18:51 (2)	07:37			07:33			08:18
	21:35			20:48	55	20:15 (1)	19:39	19	19:10 (2)	18:29			16:29			16:03
14	05:11			05:57		19:09 (6)	06:48		18:52 (2)	07:39			07:35			08:19
	21:34			20:46	54	20:14 (1)	19:37	17	19:09 (2)	18:27			16:27			16:03
15	05:12			05:58		19:08 (6)	06:50		18:53 (2)	07:41			07:37			08:20
	21:33			20:44	52	20:12 (1)	19:34	14	19:07 (2)	18:24			16:26			16:03
16	05:13			06:00		19:08 (6)	06:51		18:55 (2)	07:42			07:38			08:21
	21:32			20:42	49	20:10 (1)	19:32	9	19:04 (2)	18:22			16:24			16:04
17	05:14			06:02		19:07 (6)	06:53			07:44			07:40			08:22
	21:31			20:40	44	20:07 (1)	19:29			18:20			16:23			16:04
18	05:16			06:03		19:07 (6)	06:55			07:46		16:56 (5)	07:42			08:22
	21:30			20:38	36	19:43 (6)	19:27			18:18	10	17:06 (5)	16:22			16:04
19	05:17			06:05		19:06 (6)	06:56			07:48		16:53 (5)	07:44			08:23
	21:29			20:35	36	19:42 (6)	19:25			18:16	16	17:09 (5)	16:20			16:04
20	05:18			06:07		19:06 (6)	06:58			07:49		16:51 (5)	07:45			08:24
	21:27			20:33	36	19:42 (6)	19:22			18:14	19	17:10 (5)	16:19			16:05
21	05:20			06:08		19:06 (6)	07:00			07:51		16:50 (5)	07:47			08:24
	21:26			20:31	36	19:42 (6)	19:20			18:11	21	17:11 (5)	16:18			16:05
22	05:21			06:10		19:06 (6)	07:01		17:58 (4)	07:53		16:49 (5)	07:49			08:25
	21:25			20:29	35	19:41 (6)	19:18	7	18:05 (4)	18:09	23	17:12 (5)	16:17			16:06
23	05:22			06:12		19:06 (6)	07:03		17:53 (4)	07:55		16:48 (5)	07:50			08:25
	21:24			20:27	35	19:41 (6)	19:15	23	18:21 (3)	18:07	25	17:13 (5)	16:15			16:06
24	05:24		20:01 (1)	06:13		19:06 (6)	07:05		17:51 (4)	07:57		16:47 (5)	07:52			08:26
	21:22	9	20:10 (1)	20:25	34	19:40 (6)	19:13	32	18:23 (3)	18:05	26	17:13 (5)	16:14			16:07
25	05:25		19:59 (1)	06:15		19:07 (6)	07:06		17:49 (4)	06:58		15:47 (5)	07:54			08:26
	21:21	13	20:12 (1)	20:23	33	19:40 (6)	19:11	36	18:25 (3)	17:03	26	16:13 (5)	16:13			16:07
26	05:27		19:57 (1)	06:17		19:06 (6)	07:08		17:47 (4)	07:00		15:47 (5)	07:55			08:26
	21:19	16	20:13 (1)	20:20	32	19:38 (6)	19:08	38	18:25 (3)	17:01	27	16:14 (5)	16:12			16:08
27	05:28		19:56 (1)	06:18		19:08 (6)	07:10		17:46 (4)	07:02		15:47 (5)	07:57			08:27
	21:18	19	20:15 (1)	20:18	29	19:37 (6)	19:06	39	18:25 (3)	16:59	27	16:14 (5)	16:11			16:09
28	05:30		19:55 (1)	06:20		19:09 (6)	07:11		17:45 (4)	07:04		15:47 (5)	07:59			08:27
	21:16	20	20:15 (1)	20:16	27	19:36 (6)	19:03	41	18:26 (3)	16:57	26	16:13 (5)	16:10			16:10
29	05:31		19:54 (1)	06:21		19:09 (6)	07:13		17:44 (4)	07:06		15:46 (5)	08:00			08:27
	21:15	23	20:17 (1)	20:14	25	19:34 (6)	19:01	41	18:25 (3)	16:55	26	16:12 (5)	16:10			16:10
30	05:33		19:53 (1)	06:23		19:11 (6)	07:15		17:44 (4)	07:08		15:47 (5)	08:02			08:27
	21:13	24	20:17 (1)	20:11	21	19:32 (6)	18:59	41	18:25 (3)	16:53	25	16:12 (5)	16:09			16:11
31	05:34		19:52 (1)	06:25		19:13 (6)				07:09		15:47 (5)				08:27
	21:12	25	20:17 (1)	20:09	16	19:29 (6)				16:51	24	16:11 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		149			1177			541			585			82		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,66			0,69			0,74			0,75			0,75		
Gesamte Reduktion		0,28			0,31			0,28			0,23			0,16		
Met.wahrsch.Beschattung		41			364			150			137			13		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BJ - Hauptstraße 22

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar		März		April		Mai		Juni
1	08:27	08:00		07:05		06:54		18:55 (2)	05:48	19:06 (6) 05:02
	16:14	17:02		17:55		19:50	21	19:16 (2)	20:42 38	20:03 (1) 21:28
2	08:27	07:58		07:03	17:15 (4)	06:51		18:55 (2)	05:46	19:35 (1) 05:01
	16:15	17:04		17:56	5 17:20 (4)	19:51	20	19:15 (2)	20:43 28	20:03 (1) 21:29
3	08:27	07:56		07:01	17:10 (4)	06:49		18:55 (2)	05:44	19:35 (1) 05:00
	16:16	17:06		17:58	13 17:23 (4)	19:53	19	19:14 (2)	20:45 28	20:03 (1) 21:30
4	08:27	07:55		06:59	17:08 (4)	06:47		18:56 (2)	05:42	19:35 (1) 04:59
	16:17	17:08		18:00	18 17:26 (4)	19:55	17	19:13 (2)	20:47 27	20:02 (1) 21:32
5	08:26	07:53	16:23 (5)	06:56	17:06 (4)	06:44		18:56 (2)	05:40	19:35 (1) 04:59
	16:18	17:10	10 16:33 (5)	18:02	21 17:27 (4)	19:57	15	19:11 (2)	20:48 27	20:02 (1) 21:33
6	08:26	07:51	16:21 (5)	06:54	17:05 (4)	06:42		18:58 (2)	05:38	19:36 (1) 04:58
	16:19	17:11	14 16:35 (5)	18:04	27 17:36 (3)	19:58	11	19:09 (2)	20:50 26	20:02 (1) 21:34
7	08:26	07:50	16:19 (5)	06:52	17:04 (4)	06:40		19:13 (6)	05:37	19:36 (1) 04:57
	16:21	17:13	18 16:37 (5)	18:06	35 17:39 (3)	20:00	7	19:20 (6)	20:52 25	20:01 (1) 21:34
8	08:25	07:48	16:18 (5)	06:50	17:03 (4)	06:38		19:07 (6)	05:35	19:36 (1) 04:57
	16:22	17:15	20 16:38 (5)	18:07	37 17:40 (3)	20:02	16	19:23 (6)	20:53 24	20:00 (1) 21:35
9	08:25	07:46	16:18 (5)	06:47	17:03 (4)	06:35		19:05 (6)	05:33	19:37 (1) 04:56
	16:23	17:17	22 16:40 (5)	18:09	39 17:42 (3)	20:04	20	19:25 (6)	20:55 23	20:00 (1) 21:36
10	08:24	07:44	16:17 (5)	06:45	17:02 (4)	06:33		19:03 (6)	05:31	19:38 (1) 04:56
	16:25	17:19	24 16:41 (5)	18:11	40 17:42 (3)	20:05	24	19:27 (6)	20:57 21	19:59 (1) 21:37
11	08:24	07:42	16:17 (5)	06:43	17:02 (4)	06:31		19:01 (6)	05:30	19:38 (1) 04:55
	16:26	17:21	24 16:41 (5)	18:13	40 17:42 (3)	20:07	27	19:28 (6)	20:58 19	19:57 (1) 21:38
12	08:23	07:40	16:16 (5)	06:40	17:02 (4)	06:28		19:00 (6)	05:28	19:40 (1) 04:55
	16:28	17:23	26 16:42 (5)	18:15	41 17:43 (3)	20:09	29	19:29 (6)	21:00 16	19:56 (1) 21:39
13	08:22	07:39	16:16 (5)	06:38	17:02 (4)	06:26		18:58 (6)	05:26	19:42 (1) 04:55
	16:29	17:25	26 16:42 (5)	18:16	40 17:42 (3)	20:10	31	19:29 (6)	21:01 12	19:54 (1) 21:39
14	08:21	07:37	16:16 (5)	06:36	17:02 (4)	06:24		18:57 (6)	05:25	19:45 (1) 04:55
	16:31	17:27	26 16:42 (5)	18:18	40 17:42 (3)	20:12	33	19:30 (6)	21:03 7	19:52 (1) 21:40
15	08:21	07:35	16:15 (5)	06:34	17:03 (4)	06:22		18:57 (6)	05:23	04:54
	16:32	17:29	26 16:41 (5)	18:20	38 17:41 (3)	20:14	33	19:30 (6)	21:05	21:40
16	08:20	07:33	16:16 (5)	06:31	17:03 (4)	06:19		18:56 (6)	05:21	04:54
	16:34	17:30	25 16:41 (5)	18:22	36 17:39 (3)	20:16	35	19:31 (6)	21:06	21:41
17	08:19	07:31	16:16 (5)	06:29	17:05 (4)	06:17		18:56 (6)	05:20	04:54
	16:35	17:32	25 16:41 (5)	18:23	33 17:38 (3)	20:17	35	19:31 (6)	21:08	21:41
18	08:18	07:29	16:17 (5)	06:27	17:06 (4)	06:15		18:56 (6)	05:18	04:54
	16:37	17:34	23 16:40 (5)	18:25	25 17:35 (3)	20:19	35	19:31 (6)	21:09	21:42
19	08:17	07:27	16:18 (5)	06:24	17:11 (4)	06:13		18:55 (6)	05:17	04:54
	16:39	17:36	21 16:39 (5)	18:27	8 17:31 (3)	20:21	35	19:30 (6)	21:11	21:42
20	08:16	07:25	16:19 (5)	06:22		06:11		18:55 (6)	05:16	04:54
	16:40	17:38	19 16:38 (5)	18:29		20:23	35	19:30 (6)	21:12	21:42
21	08:15	07:23	16:21 (5)	06:20		06:09		18:55 (6)	05:14	04:54
	16:42	17:40	16 16:37 (5)	18:30		20:24	34	19:29 (6)	21:14	21:43
22	08:13	07:20	16:23 (5)	06:17		06:06		18:55 (6)	05:13	04:55
	16:44	17:42	11 16:34 (5)	18:32		20:26	40	19:53 (1)	21:15	21:43
23	08:12	07:18		06:15		06:04		18:55 (6)	05:12	04:55
	16:46	17:44		18:34		20:28	46	19:57 (1)	21:17	21:43
24	08:11	07:16		06:12		06:02		18:56 (6)	05:10	04:55
	16:47	17:45		18:36		20:30	49	19:59 (1)	21:18	21:43
25	08:10	07:14		06:10	18:04 (2)	06:00		18:56 (6)	05:09	04:55
	16:49	17:47		18:37	7 18:11 (2)	20:31	50	20:00 (1)	21:19	21:43
26	08:08	07:12		06:08	18:01 (2)	05:58		18:57 (6)	05:08	04:56
	16:51	17:49		18:39	13 18:14 (2)	20:33	51	20:01 (1)	21:21	21:43
27	08:07	07:10		06:05	17:59 (2)	05:56		18:58 (6)	05:07	04:56
	16:53	17:51		18:41	16 18:15 (2)	20:35	50	20:01 (1)	21:22	21:43
28	08:06	07:08		06:03	17:58 (2)	05:54		18:59 (6)	05:06	04:57
	16:55	17:53		18:43	18 18:16 (2)	20:36	50	20:02 (1)	21:23	21:43
29	08:04			07:01	18:57 (2)	05:52		19:00 (6)	05:05	04:57
	16:57			19:44	19 19:16 (2)	20:38	47	20:02 (1)	21:25	21:43
30	08:03			06:58	18:55 (2)	05:50		19:02 (6)	05:04	04:58
	16:58			19:46	21 19:16 (2)	20:40	44	20:02 (1)	21:26	21:43
31	08:01			06:56	18:55 (2)				05:03	
	17:00			19:48	21 19:16 (2)				21:27	
Sonnenscheinstunden	257	277		367		417		487		501
astr.max.mögl.Beschattung			376		651		959		321	
Red.Sonnenscheinwahrsch.			0,25		0,29		0,37		0,45	
Reduktion Betriebsdauer			1,00		1,00		1,00		1,00	
Reduktion Windrichtung			0,75		0,75		0,71		0,67	
Gesamte Reduktion			0,19		0,22		0,27		0,30	
Met.wahrsch.Beschattung			71		142		255		96	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)	
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)	

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BJ - Hauptstraße 22

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		19:50 (1)	06:26		19:00 (6)	07:16		17:41 (4)	07:11		15:46 (5)	08:03
	21:42			21:10	17	20:07 (1)	20:07	27	19:27 (6)	18:56	40	18:21 (3)	16:49	23	16:09 (5)	16:08
2	04:59			05:37		19:48 (1)	06:28		19:01 (6)	07:18		17:41 (4)	07:13		15:47 (5)	08:05
	21:42			21:08	20	20:08 (1)	20:05	24	19:25 (6)	18:54	40	18:21 (3)	16:47	22	16:09 (5)	16:07
3	05:00			05:39		19:48 (1)	06:30		19:03 (6)	07:20		17:40 (4)	07:15		15:48 (5)	08:06
	21:42			21:06	21	20:09 (1)	20:02	20	19:23 (6)	18:52	40	18:20 (3)	16:46	20	16:08 (5)	16:07
4	05:01			05:40		19:47 (1)	06:31		19:05 (6)	07:22		17:40 (4)	07:17		15:49 (5)	08:07
	21:41			21:05	23	20:10 (1)	20:00	16	19:21 (6)	18:49	39	18:19 (3)	16:44	17	16:06 (5)	16:06
5	05:02			05:42		19:46 (1)	06:33		19:08 (6)	07:23		17:40 (4)	07:19		15:51 (5)	08:09
	21:41			21:03	25	20:11 (1)	19:58	8	19:16 (6)	18:47	38	18:18 (3)	16:42	14	16:05 (5)	16:06
6	05:02			05:44		19:45 (1)	06:35		18:55 (2)	07:25		17:40 (4)	07:20		15:53 (5)	08:10
	21:40			21:01	26	20:11 (1)	19:55	10	19:05 (2)	18:45	37	18:17 (3)	16:40	9	16:02 (5)	16:05
7	05:03			05:45		19:45 (1)	06:36		18:52 (2)	07:27		17:40 (4)	07:22			08:11
	21:40			20:59	26	20:11 (1)	19:53	14	19:06 (2)	18:43	33	18:13 (3)	16:38			16:05
8	05:04			05:47		19:44 (1)	06:38		18:50 (2)	07:28		17:41 (4)	07:24			08:12
	21:39			20:57	27	20:11 (1)	19:51	17	19:07 (2)	18:40	22	18:03 (4)	16:37			16:04
9	05:05			05:48		19:44 (1)	06:40		18:50 (2)	07:30		17:42 (4)	07:26			08:14
	21:38			20:56	28	20:12 (1)	19:48	18	19:08 (2)	18:38	20	18:02 (4)	16:35			16:04
10	05:06			05:50		19:44 (1)	06:41		18:48 (2)	07:32		17:44 (4)	07:28			08:15
	21:38			20:54	27	20:11 (1)	19:46	20	19:08 (2)	18:36	16	18:00 (4)	16:33			16:04
11	05:07			05:52		19:18 (6)	06:43		18:48 (2)	07:34		17:45 (4)	07:29			08:16
	21:37			20:52	30	20:11 (1)	19:44	20	19:08 (2)	18:33	11	17:56 (4)	16:32			16:04
12	05:08			05:53		19:12 (6)	06:45		18:47 (2)	07:35			07:31			08:17
	21:36			20:50	41	20:11 (1)	19:41	20	19:07 (2)	18:31			16:30			16:04
13	05:09			05:55		19:10 (6)	06:46		18:47 (2)	07:37			07:33			08:18
	21:35			20:48	45	20:11 (1)	19:39	20	19:07 (2)	18:29			16:29			16:03
14	05:11			05:57		19:08 (6)	06:48		18:47 (2)	07:39			07:35			08:19
	21:34			20:46	49	20:11 (1)	19:37	20	19:07 (2)	18:27			16:27			16:03
15	05:12			05:58		19:06 (6)	06:50		18:47 (2)	07:41			07:37			08:20
	21:33			20:44	50	20:09 (1)	19:34	18	19:05 (2)	18:24			16:26			16:03
16	05:13			06:00		19:05 (6)	06:51		18:48 (2)	07:42			07:38			08:21
	21:32			20:42	51	20:09 (1)	19:32	16	19:04 (2)	18:22			16:24			16:04
17	05:14			06:02		19:03 (6)	06:53		18:48 (2)	07:44			07:40			08:22
	21:31			20:40	51	20:07 (1)	19:29	14	19:02 (2)	18:20			16:23			16:04
18	05:16			06:03		19:03 (6)	06:55		18:51 (2)	07:46			07:42			08:22
	21:30			20:38	49	20:06 (1)	19:27	8	18:59 (2)	18:18			16:22			16:04
19	05:17			06:05		19:01 (6)	06:56			07:48		16:57 (5)	07:44			08:23
	21:29			20:35	49	20:04 (1)	19:25			18:16	5	17:02 (5)	16:20			16:04
20	05:18			06:07		19:01 (6)	06:58			07:49		16:53 (5)	07:45			08:24
	21:27			20:33	45	20:02 (1)	19:22			18:14	13	17:06 (5)	16:19			16:05
21	05:20			06:08		19:00 (6)	07:00			07:51		16:51 (5)	07:47			08:24
	21:26			20:31	37	19:57 (1)	19:20			18:11	17	17:08 (5)	16:18			16:05
22	05:21			06:10		18:59 (6)	07:01			07:53		16:49 (5)	07:49			08:25
	21:25			20:29	35	19:34 (6)	19:18			18:09	20	17:09 (5)	16:17			16:06
23	05:22			06:12		18:59 (6)	07:03			07:55		16:48 (5)	07:50			08:25
	21:24			20:27	35	19:34 (6)	19:15			18:07	22	17:10 (5)	16:15			16:06
24	05:24			06:13		18:58 (6)	07:05			07:57		16:47 (5)	07:52			08:26
	21:22			20:25	35	19:33 (6)	19:13			18:05	24	17:11 (5)	16:14			16:07
25	05:25			06:15		18:59 (6)	07:06		17:51 (4)	06:58		15:47 (5)	07:54			08:26
	21:21			20:23	35	19:34 (6)	19:11	21	18:18 (3)	17:03	24	16:11 (5)	16:13			16:07
26	05:27			06:17		18:58 (6)	07:08		17:47 (4)	07:00		15:46 (5)	07:55			08:26
	21:19			20:20	35	19:33 (6)	19:08	31	18:19 (3)	17:01	25	16:11 (5)	16:12			16:08
27	05:28			06:18		18:58 (6)	07:10		17:46 (4)	07:02		15:46 (5)	07:57			08:27
	21:18			20:18	34	19:32 (6)	19:06	35	18:21 (3)	16:59	26	16:12 (5)	16:11			16:09
28	05:30			06:20		18:59 (6)	07:11		17:44 (4)	07:04		15:45 (5)	07:59			08:27
	21:16			20:16	33	19:32 (6)	19:03	38	18:22 (3)	16:57	26	16:11 (5)	16:10			16:09
29	05:31			06:21		18:58 (6)	07:13		17:42 (4)	07:06		15:45 (5)	08:00			08:27
	21:15			20:14	33	19:31 (6)	19:01	39	18:21 (3)	16:55	26	16:11 (5)	16:10			16:10
30	05:33		19:54 (1)	06:23		18:59 (6)	07:15		17:42 (4)	07:08		15:45 (5)	08:02			08:27
	21:13	10	20:04 (1)	20:11	31	19:30 (6)	18:59	39	18:21 (3)	16:53	25	16:10 (5)	16:09			16:11
31	05:34		19:51 (1)	06:25		18:59 (6)				07:09		15:45 (5)				08:27
	21:12	14	20:05 (1)	20:09	29	19:28 (6)				16:51	25	16:10 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		24			1072			513			614			105		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,67			0,70			0,74			0,75			0,75		
Gesamte Reduktion		0,28			0,31			0,28			0,23			0,16		
Met.wahrsch.Beschattung		7			333			141			143			17		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BK - Hauptstraße 21

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar		März		April		Mai		Juni
1	08:27	08:00		07:05		06:54		18:57 (2)	05:48	19:36 (1) 05:02
	16:14	17:02		17:55		19:50	20	19:17 (2)	20:42	26 20:02 (1) 21:28
2	08:27	07:58		07:03		06:51		18:56 (2)	05:46	19:35 (1) 05:01
	16:15	17:04		17:56		19:51	20	19:16 (2)	20:43	27 20:02 (1) 21:29
3	08:27	07:56		07:01		06:49		18:56 (2)	05:44	19:35 (1) 05:00
	16:16	17:06		17:58		19:53	19	19:15 (2)	20:45	27 20:02 (1) 21:30
4	08:27	07:55		06:59	17:14 (4)	06:47		18:57 (2)	05:42	19:35 (1) 04:59
	16:17	17:08		18:00	12 17:26 (4)	19:55	17	19:14 (2)	20:47	26 20:01 (1) 21:32
5	08:26	07:53		06:56	17:11 (4)	06:44		18:57 (2)	05:40	19:35 (1) 04:59
	16:18	17:10		18:02	17 17:28 (4)	19:57	15	19:12 (2)	20:48	25 20:00 (1) 21:33
6	08:26	07:51		06:54	17:10 (4)	06:42		18:59 (2)	05:38	19:36 (1) 04:58
	16:19	17:11		18:04	20 17:30 (4)	19:58	11	19:10 (2)	20:50	25 20:01 (1) 21:34
7	08:26	07:50	16:27 (5)	06:52	17:08 (4)	06:40		19:04 (2)	05:37	19:37 (1) 04:57
	16:21	17:13	10 16:37 (5)	18:06	28 17:38 (3)	20:00	7	19:20 (6)	20:52	23 20:00 (1) 21:34
8	08:25	07:48	16:25 (5)	06:50	17:07 (4)	06:38		19:09 (6)	05:35	19:37 (1) 04:57
	16:22	17:15	15 16:40 (5)	18:07	34 17:41 (3)	20:02	15	19:24 (6)	20:53	21 19:58 (1) 21:35
9	08:25	07:46	16:24 (5)	06:47	17:07 (4)	06:35		19:06 (6)	05:33	19:38 (1) 04:56
	16:23	17:17	18 16:42 (5)	18:09	36 17:43 (3)	20:04	20	19:26 (6)	20:55	20 19:58 (1) 21:36
10	08:24	07:44	16:23 (5)	06:45	17:05 (4)	06:33		19:04 (6)	05:31	19:39 (1) 04:56
	16:25	17:19	20 16:43 (5)	18:11	38 17:43 (3)	20:05	24	19:28 (6)	20:57	17 19:56 (1) 21:37
11	08:24	07:42	16:22 (5)	06:43	17:05 (4)	06:31		19:03 (6)	05:30	19:40 (1) 04:55
	16:26	17:21	22 16:44 (5)	18:13	39 17:44 (3)	20:07	26	19:29 (6)	20:58	15 19:55 (1) 21:38
12	08:23	07:40	16:22 (5)	06:40	17:05 (4)	06:28		19:02 (6)	05:28	19:43 (1) 04:55
	16:28	17:23	23 16:45 (5)	18:15	39 17:44 (3)	20:09	28	19:30 (6)	21:00	10 19:53 (1) 21:39
13	08:22	07:39	16:21 (5)	06:38	17:05 (4)	06:26		19:00 (6)	05:26	04:55
	16:29	17:25	24 16:45 (5)	18:16	38 17:43 (3)	20:10	30	19:30 (6)	21:01	21:39
14	08:21	07:37	16:21 (5)	06:36	17:05 (4)	06:24		18:59 (6)	05:25	04:55
	16:31	17:27	25 16:46 (5)	18:18	38 17:43 (3)	20:12	31	19:30 (6)	21:03	21:40
15	08:21	07:35	16:20 (5)	06:34	17:06 (4)	06:22		18:59 (6)	05:23	04:54
	16:32	17:29	25 16:45 (5)	18:20	37 17:43 (3)	20:14	32	19:31 (6)	21:05	21:40
16	08:20	07:33	16:20 (5)	06:31	17:06 (4)	06:19		18:58 (6)	05:21	04:54
	16:34	17:30	25 16:45 (5)	18:22	36 17:42 (3)	20:16	33	19:31 (6)	21:06	21:41
17	08:19	07:31	16:20 (5)	06:29	17:07 (4)	06:17		18:58 (6)	05:20	04:54
	16:35	17:32	25 16:45 (5)	18:23	34 17:41 (3)	20:17	33	19:31 (6)	21:08	21:41
18	08:18	07:29	16:21 (5)	06:27	17:08 (4)	06:15		18:57 (6)	05:18	04:54
	16:37	17:34	24 16:45 (5)	18:25	29 17:38 (3)	20:19	33	19:30 (6)	21:09	21:42
19	08:17	07:27	16:21 (5)	06:24	17:11 (4)	06:13		18:57 (6)	05:17	04:54
	16:39	17:36	23 16:44 (5)	18:27	19 17:36 (3)	20:21	33	19:30 (6)	21:11	21:42
20	08:16	07:25	16:22 (5)	06:22		06:11		18:57 (6)	05:16	04:54
	16:40	17:38	22 16:44 (5)	18:29		20:23	33	19:30 (6)	21:12	21:42
21	08:15	07:23	16:23 (5)	06:20		06:09		18:57 (6)	05:14	04:54
	16:42	17:40	20 16:43 (5)	18:30		20:24	32	19:29 (6)	21:14	21:43
22	08:13	07:20	16:25 (5)	06:17		06:06		18:57 (6)	05:13	04:55
	16:44	17:42	16 16:41 (5)	18:32		20:26	42	19:55 (1)	21:15	21:43
23	08:12	07:18	16:26 (5)	06:15		06:04		18:57 (6)	05:12	04:55
	16:46	17:44	12 16:38 (5)	18:34		20:28	46	19:57 (1)	21:17	21:43
24	08:11	07:16	16:30 (5)	06:12		06:02		18:58 (6)	05:10	04:55
	16:47	17:45	4 16:34 (5)	18:36		20:30	48	19:59 (1)	21:18	21:43
25	08:10	07:14		06:10	18:07 (2)	06:00		18:59 (6)	05:09	04:55
	16:49	17:47		18:37	3 18:10 (2)	20:31	48	20:00 (1)	21:19	21:43
26	08:08	07:12		06:08	18:03 (2)	05:58		18:59 (6)	05:08	04:56
	16:51	17:49		18:39	11 18:14 (2)	20:33	49	20:01 (1)	21:21	21:43
27	08:07	07:10		06:05	18:00 (2)	05:56		19:01 (6)	05:07	04:56
	16:53	17:51		18:41	15 18:15 (2)	20:35	47	20:01 (1)	21:22	21:43
28	08:06	07:08		06:03	17:59 (2)	05:54		19:02 (6)	05:06	04:57
	16:55	17:53		18:43	17 18:16 (2)	20:36	45	20:01 (1)	21:23	21:43
29	08:04			07:01	18:58 (2)	05:52		19:04 (6)	05:05	04:57
	16:57			19:44	19 19:17 (2)	20:38	42	20:02 (1)	21:25	21:43
30	08:03			06:58	18:57 (2)	05:50		19:06 (6)	05:04	04:58
	16:58			19:46	20 19:17 (2)	20:40	38	20:02 (1)	21:26	21:43
31	08:01			06:56	18:57 (2)				05:03	
	17:00			19:48	20 19:17 (2)				21:27	
Sonnenscheinstunden	257	277		367		417			487	501
astr.max.mögl.Beschattung			353		599		917		262	
Red.Sonnenscheinwahrsch.			0,25		0,29		0,37		0,45	
Reduktion Betriebsdauer			1,00		1,00		1,00		1,00	
Reduktion Windrichtung			0,75		0,75		0,71		0,67	
Gesamte Reduktion			0,19		0,22		0,27		0,30	
Met.wahrsch.Beschattung			66		130		243		79	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BK - Hauptstraße 21

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli			August			September			Oktober			November			Dezember
1	04:59			05:36		19:52 (1)	06:26		19:02 (6)	07:16		17:44 (4)	07:11		15:52 (5)	08:03
	21:42			21:10	12	20:04 (1)	20:07	26	19:28 (6)	18:56	39	18:23 (3)	16:49	20	16:12 (5)	16:08
2	04:59			05:37		19:50 (1)	06:28		19:02 (6)	07:18		17:44 (4)	07:13		15:53 (5)	08:05
	21:42			21:08	16	20:06 (1)	20:05	24	19:26 (6)	18:54	39	18:23 (3)	16:47	18	16:11 (5)	16:07
3	05:00			05:39		19:49 (1)	06:30		19:04 (6)	07:20		17:43 (4)	07:15		15:55 (5)	08:06
	21:42			21:06	18	20:07 (1)	20:02	20	19:24 (6)	18:52	38	18:21 (3)	16:46	14	16:09 (5)	16:07
4	05:01			05:40		19:48 (1)	06:31		19:07 (6)	07:22		17:43 (4)	07:17		15:57 (5)	08:07
	21:41			21:05	20	20:08 (1)	20:00	15	19:22 (6)	18:49	37	18:20 (3)	16:44	9	16:06 (5)	16:06
5	05:02			05:42		19:47 (1)	06:33		19:10 (6)	07:23		17:44 (4)	07:19			08:09
	21:41			21:03	22	20:09 (1)	19:58	7	19:17 (6)	18:47	35	18:19 (3)	16:42			16:06
6	05:02			05:44		19:46 (1)	06:35		18:56 (2)	07:25		17:44 (4)	07:20			08:10
	21:40			21:01	23	20:09 (1)	19:55	10	19:06 (2)	18:45	33	18:17 (3)	16:40			16:05
7	05:03			05:45		19:46 (1)	06:36		18:53 (2)	07:27		17:44 (4)	07:22			08:11
	21:40			20:59	24	20:10 (1)	19:53	14	19:07 (2)	18:42	22	18:06 (4)	16:38			16:05
8	05:04			05:47		19:45 (1)	06:38		18:51 (2)	07:28		17:46 (4)	07:24			08:12
	21:39			20:57	25	20:10 (1)	19:51	17	19:08 (2)	18:40	18	18:04 (4)	16:37			16:04
9	05:05			05:48		19:45 (1)	06:40		18:51 (2)	07:30		17:47 (4)	07:26			08:14
	21:38			20:56	26	20:11 (1)	19:48	18	19:09 (2)	18:38	15	18:02 (4)	16:35			16:04
10	05:06			05:50		19:44 (1)	06:41		18:49 (2)	07:32		17:50 (4)	07:28			08:15
	21:38			20:54	26	20:10 (1)	19:46	20	19:09 (2)	18:36	9	17:59 (4)	16:33			16:04
11	05:07			05:52		19:44 (1)	06:43		18:49 (2)	07:34			07:29			08:16
	21:37			20:52	27	20:11 (1)	19:44	20	19:09 (2)	18:33			16:32			16:04
12	05:08			05:53		19:43 (1)	06:45		18:48 (2)	07:35			07:31			08:17
	21:36			20:50	27	20:10 (1)	19:41	20	19:08 (2)	18:31			16:30			16:04
13	05:09			05:55		19:14 (6)	06:46		18:48 (2)	07:37			07:33			08:18
	21:35			20:48	38	20:10 (1)	19:39	20	19:08 (2)	18:29			16:29			16:03
14	05:11			05:57		19:12 (6)	06:48		18:48 (2)	07:39			07:35			08:19
	21:34			20:46	43	20:10 (1)	19:37	19	19:07 (2)	18:27			16:27			16:03
15	05:12			05:58		19:09 (6)	06:50		18:48 (2)	07:41			07:37			08:20
	21:33			20:44	46	20:09 (1)	19:34	18	19:06 (2)	18:24			16:26			16:03
16	05:13			06:00		19:08 (6)	06:51		18:49 (2)	07:42			07:38			08:21
	21:32			20:42	48	20:09 (1)	19:32	16	19:05 (2)	18:22			16:24			16:04
17	05:14			06:02		19:06 (6)	06:53		18:50 (2)	07:44			07:40			08:22
	21:31			20:40	48	20:07 (1)	19:29	12	19:02 (2)	18:20			16:23			16:04
18	05:16			06:03		19:05 (6)	06:55		18:53 (2)	07:46		16:59 (5)	07:42			08:22
	21:30			20:38	48	20:06 (1)	19:27	6	18:59 (2)	18:18	9	17:08 (5)	16:22			16:04
19	05:17			06:05		19:03 (6)	06:56			07:48		16:56 (5)	07:44			08:23
	21:29			20:35	48	20:04 (1)	19:25			18:16	15	17:11 (5)	16:20			16:04
20	05:18			06:07		19:03 (6)	06:58			07:49		16:55 (5)	07:45			08:24
	21:27			20:33	46	20:03 (1)	19:22			18:14	17	17:12 (5)	16:19			16:05
21	05:20			06:08		19:02 (6)	07:00			07:51		16:53 (5)	07:47			08:24
	21:26			20:31	41	19:59 (1)	19:20			18:11	20	17:13 (5)	16:18			16:05
22	05:21			06:10		19:01 (6)	07:01			07:53		16:52 (5)	07:49			08:25
	21:25			20:29	33	19:34 (6)	19:18			18:09	22	17:14 (5)	16:17			16:06
23	05:22			06:12		19:01 (6)	07:03			07:55		16:51 (5)	07:50			08:25
	21:24			20:27	34	19:35 (6)	19:15			18:07	24	17:15 (5)	16:15			16:06
24	05:24			06:13		19:00 (6)	07:05		17:55 (4)	07:57		16:51 (5)	07:52			08:26
	21:22			20:25	34	19:34 (6)	19:13	14	18:18 (3)	18:05	24	17:15 (5)	16:14			16:07
25	05:25			06:15		19:00 (6)	07:06		17:52 (4)	06:58		15:51 (5)	07:54			08:26
	21:21			20:23	34	19:34 (6)	19:11	27	18:21 (3)	17:03	25	16:16 (5)	16:13			16:07
26	05:27			06:17		19:00 (6)	07:08		17:49 (4)	07:00		15:50 (5)	07:55			08:26
	21:19			20:20	33	19:33 (6)	19:08	33	18:22 (3)	17:01	26	16:16 (5)	16:12			16:08
27	05:28			06:18		19:00 (6)	07:10		17:48 (4)	07:02		15:50 (5)	07:57			08:27
	21:18			20:18	33	19:33 (6)	19:06	35	18:23 (3)	16:59	26	16:16 (5)	16:11			16:09
28	05:30			06:20		19:00 (6)	07:11		17:47 (4)	07:04		15:50 (5)	07:59			08:27
	21:16			20:16	33	19:33 (6)	19:03	37	18:24 (3)	16:57	24	16:14 (5)	16:10			16:09
29	05:31			06:21		19:00 (6)	07:13		17:45 (4)	07:06		15:50 (5)	08:00			08:27
	21:15			20:14	31	19:31 (6)	19:01	38	18:23 (3)	16:55	24	16:14 (5)	16:10			16:10
30	05:33			06:23		19:01 (6)	07:15		17:45 (4)	07:08		15:50 (5)	08:02			08:27
	21:13			20:11	30	19:31 (6)	18:59	38	18:23 (3)	16:53	23	16:13 (5)	16:09			16:11
31	05:34		19:55 (1)	06:25		19:01 (6)				07:09		15:51 (5)				08:27
	21:12	6	20:01 (1)	20:09	28	19:29 (6)				16:51	22	16:13 (5)				16:12
Sonnenscheinstunden	504			455			381			331			265			241
astr.max.mögl.Beschattung		6			995			524			586			61		
Red.Sonnenscheinwahrsch.		0,42			0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,67			0,70			0,74			0,75			0,75		
Gesamte Reduktion		0,28			0,31			0,28			0,23			0,16		
Met.wahrsch.Beschattung		2			308			144			137			10		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BL - Hauptstraße 20

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März		April		Mai		Juni	
1	08:27		08:00		07:05		06:54		18:54 (2)		05:48	19:31 (1)
	16:14		17:02		17:55		19:50	18	19:12 (2)	26	20:42	19:57 (1)
2	08:27		07:58		07:03		17:10 (4)	06:51		18:53 (2)	05:46	19:31 (1)
	16:15		17:04		17:56	12	17:22 (4)	19:51	18	19:11 (2)	20:43	25 19:56 (1)
3	08:27		07:56		07:01		17:07 (4)	06:49		18:55 (2)	05:44	19:31 (1)
	16:16		17:06		17:58	17	17:24 (4)	19:53	15	19:10 (2)	20:45	24 19:55 (1)
4	08:27		07:55		06:59		17:06 (4)	06:47		18:56 (2)	05:42	19:32 (1)
	16:17		17:08		18:00	19	17:25 (4)	19:55	16	19:14 (6)	20:47	23 19:55 (1)
5	08:26		07:53	16:25 (5)	06:56		17:05 (4)	06:44		18:59 (2)	05:40	19:32 (1)
	16:18		17:10	8 16:33 (5)	18:02	22	17:27 (4)	19:57	19	19:18 (6)	20:48	21 19:53 (1)
6	08:26		07:51	16:22 (5)	06:54		17:04 (4)	06:42		19:01 (6)	05:38	19:34 (1)
	16:19		17:11	14 16:36 (5)	18:04	33	17:37 (3)	19:58	20	19:21 (6)	20:50	19 19:53 (1)
7	08:26		07:50	16:21 (5)	06:52		17:02 (4)	06:40		18:59 (6)	05:37	19:35 (1)
	16:21		17:13	16 16:37 (5)	18:06	36	17:38 (3)	20:00	24	19:23 (6)	20:52	17 19:52 (1)
8	08:25		07:48	16:19 (5)	06:50		17:02 (4)	06:38		18:57 (6)	05:35	19:36 (1)
	16:22		17:15	19 16:38 (5)	18:07	38	17:40 (3)	20:02	26	19:23 (6)	20:53	14 19:50 (1)
9	08:25		07:46	16:19 (5)	06:47		17:02 (4)	06:35		18:56 (6)	05:33	19:39 (1)
	16:23		17:17	21 16:40 (5)	18:09	39	17:41 (3)	20:04	28	19:24 (6)	20:55	9 19:48 (1)
10	08:24		07:44	16:19 (5)	06:45		17:01 (4)	06:33		18:55 (6)	05:31	
	16:25		17:19	22 16:41 (5)	18:11	39	17:40 (3)	20:05	30	19:25 (6)	20:57	
11	08:24		07:42	16:18 (5)	06:43		17:01 (4)	06:31		18:54 (6)	05:30	
	16:26		17:21	24 16:42 (5)	18:13	40	17:41 (3)	20:07	31	19:25 (6)	20:58	
12	08:23		07:40	16:18 (5)	06:40		17:02 (4)	06:28		18:54 (6)	05:28	
	16:28		17:23	24 16:42 (5)	18:15	39	17:41 (3)	20:09	32	19:26 (6)	21:00	
13	08:22		07:39	16:18 (5)	06:38		17:02 (4)	06:26		18:52 (6)	05:26	
	16:29		17:25	24 16:42 (5)	18:16	38	17:40 (3)	20:10	33	19:25 (6)	21:01	
14	08:21		07:37	16:18 (5)	06:36		17:03 (4)	06:24		18:52 (6)	05:25	
	16:31		17:27	24 16:42 (5)	18:18	36	17:39 (3)	20:12	33	19:25 (6)	21:03	
15	08:21		07:35	16:17 (5)	06:34		17:04 (4)	06:22		18:52 (6)	05:23	
	16:32		17:29	24 16:41 (5)	18:20	34	17:38 (3)	20:14	33	19:25 (6)	21:05	
16	08:20		07:33	16:17 (5)	06:31		17:05 (4)	06:19		18:52 (6)	05:21	
	16:34		17:30	24 16:41 (5)	18:22	30	17:36 (3)	20:16	33	19:25 (6)	21:06	
17	08:19		07:31	16:18 (5)	06:29		17:08 (4)	06:17		18:52 (6)	05:20	
	16:35		17:32	23 16:41 (5)	18:23	20	17:34 (3)	20:17	33	19:25 (6)	21:08	
18	08:18		07:29	16:18 (5)	06:27			06:15		18:51 (6)	05:18	
	16:37		17:34	22 16:40 (5)	18:25			20:19	32	19:23 (6)	21:09	
19	08:17		07:27	16:19 (5)	06:24			06:13		18:52 (6)	05:17	
	16:39		17:36	20 16:39 (5)	18:27			20:21	36	19:48 (1)	21:11	
20	08:16		07:25	16:21 (5)	06:22			06:11		18:52 (6)	05:16	
	16:40		17:38	17 16:38 (5)	18:29			20:23	43	19:52 (1)	21:12	
21	08:15		07:23	16:23 (5)	06:20			06:09		18:53 (6)	05:14	
	16:42		17:40	13 16:36 (5)	18:30			20:24	45	19:54 (1)	21:14	
22	08:13		07:20	16:26 (5)	06:17			06:06		18:54 (6)	05:13	
	16:44		17:42	7 16:33 (5)	18:32			20:26	46	19:55 (1)	21:15	
23	08:12		07:18		06:15			06:04		18:55 (6)	05:12	
	16:46		17:44		18:34			20:28	46	19:56 (1)	21:17	
24	08:11		07:16		06:12		18:00 (2)	06:02		18:56 (6)	05:10	
	16:47		17:45		18:36	9	18:09 (2)	20:30	44	19:56 (1)	21:18	
25	08:10		07:14		06:10		17:58 (2)	06:00		18:58 (6)	05:09	
	16:49		17:47		18:37	14	18:12 (2)	20:31	42	19:57 (1)	21:19	
26	08:08		07:12		06:08		17:57 (2)	05:58		19:00 (6)	05:08	
	16:51		17:49		18:39	16	18:13 (2)	20:33	39	19:57 (1)	21:21	
27	08:07		07:10		06:05		17:55 (2)	05:56		19:05 (6)	05:07	
	16:53		17:51		18:41	18	18:13 (2)	20:35	28	19:57 (1)	21:22	
28	08:06		07:08		06:03		17:54 (2)	05:54		19:30 (1)	05:06	
	16:55		17:53		18:43	20	18:14 (2)	20:36	27	19:57 (1)	21:23	
29	08:04				07:01		18:54 (2)	05:52		19:30 (1)	05:05	
	16:57				19:44	20	19:14 (2)	20:38	27	19:57 (1)	21:25	
30	08:03				06:58		18:53 (2)	05:50		19:30 (1)	05:04	
	16:58				19:46	20	19:13 (2)	20:40	26	19:56 (1)	21:26	
31	08:01				06:56		18:53 (2)				05:03	
	17:00				19:48	20	19:13 (2)				21:27	
Sonnenscheinstunden	257		277		367			417			487	501
astr.max.mögl.Beschattung				346		629			923		178	
Red.Sonnenscheinwahrsch.				0,25		0,29			0,37		0,45	
Reduktion Betriebsdauer				1,00		1,00			1,00		1,00	
Reduktion Windrichtung				0,75		0,75			0,71		0,68	
Gesamte Reduktion				0,19		0,22			0,27		0,30	
Met.wahrsch.Beschattung				65		137			246		54	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BL - Hauptstraße 20

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August			September			Oktober			November			Dezember
1	04:59		05:36			06:26		18:53 (6)	07:16		17:41 (4)	07:11		15:47 (5)	08:03
	21:42		21:10			20:07	31	19:24 (6)	18:56	39	18:20 (3)	16:49	23	16:10 (5)	16:08
2	04:59		05:37			06:28		18:53 (6)	07:18		17:40 (4)	07:13		15:48 (5)	08:05
	21:42		21:08			20:05	30	19:23 (6)	18:54	40	18:20 (3)	16:47	21	16:09 (5)	16:07
3	05:00		05:39		19:52 (1)	06:30		18:54 (6)	07:20		17:39 (4)	07:15		15:49 (5)	08:06
	21:42		21:06	3	19:55 (1)	20:02	28	19:22 (6)	18:52	39	18:18 (3)	16:46	19	16:08 (5)	16:07
4	05:01		05:40		19:47 (1)	06:31		18:55 (6)	07:22		17:39 (4)	07:17		15:50 (5)	08:07
	21:41		21:05	11	19:58 (1)	20:00	26	19:21 (6)	18:49	39	18:18 (3)	16:44	17	16:07 (5)	16:06
5	05:02		05:42		19:46 (1)	06:33		18:55 (6)	07:23		17:39 (4)	07:19		15:52 (5)	08:09
	21:41		21:03	15	20:01 (1)	19:58	24	19:19 (6)	18:47	38	18:17 (3)	16:42	13	16:05 (5)	16:06
6	05:02		05:44		19:44 (1)	06:35		18:57 (6)	07:25		17:39 (4)	07:20		15:55 (5)	08:10
	21:40		21:01	17	20:01 (1)	19:55	20	19:17 (6)	18:45	37	18:16 (3)	16:40	7	16:02 (5)	16:05
7	05:03		05:45		19:43 (1)	06:36		18:54 (2)	07:27		17:39 (4)	07:22			08:11
	21:40		20:59	20	20:03 (1)	19:53	19	19:14 (6)	18:42	34	18:13 (3)	16:38			16:05
8	05:04		05:47		19:41 (1)	06:38		18:51 (2)	07:28		17:39 (4)	07:24			08:12
	21:39		20:57	22	20:03 (1)	19:51	17	19:09 (6)	18:40	30	18:11 (3)	16:37			16:04
9	05:05		05:48		19:41 (1)	06:40		18:49 (2)	07:30		17:40 (4)	07:26			08:14
	21:38		20:56	23	20:04 (1)	19:48	15	19:04 (2)	18:38	21	18:01 (4)	16:35			16:04
10	05:06		05:50		19:40 (1)	06:41		18:47 (2)	07:32		17:41 (4)	07:28			08:15
	21:38		20:54	24	20:04 (1)	19:46	17	19:04 (2)	18:36	19	18:00 (4)	16:33			16:04
11	05:07		05:52		19:39 (1)	06:43		18:46 (2)	07:34		17:42 (4)	07:29			08:16
	21:37		20:52	26	20:05 (1)	19:44	19	19:05 (2)	18:33	15	17:57 (4)	16:32			16:04
12	05:08		05:53		19:38 (1)	06:45		18:45 (2)	07:35		17:45 (4)	07:31			08:17
	21:36		20:50	27	20:05 (1)	19:41	19	19:04 (2)	18:31	9	17:54 (4)	16:30			16:04
13	05:09		05:55		19:39 (1)	06:46		18:44 (2)	07:37			07:33			08:18
	21:35		20:48	26	20:05 (1)	19:39	20	19:04 (2)	18:29			16:29			16:03
14	05:11		05:57		19:39 (1)	06:48		18:44 (2)	07:39			07:35			08:19
	21:34		20:46	26	20:05 (1)	19:37	20	19:04 (2)	18:27			16:27			16:03
15	05:12		05:58		19:38 (1)	06:50		18:44 (2)	07:41			07:37			08:20
	21:33		20:44	27	20:05 (1)	19:34	19	19:03 (2)	18:24			16:26			16:03
16	05:13		06:00		19:11 (6)	06:51		18:44 (2)	07:42			07:38			08:21
	21:32		20:42	33	20:05 (1)	19:32	19	19:03 (2)	18:22			16:24			16:04
17	05:14		06:02		19:06 (6)	06:53		18:44 (2)	07:44			07:40			08:22
	21:31		20:40	40	20:04 (1)	19:29	17	19:01 (2)	18:20			16:23			16:04
18	05:16		06:03		19:04 (6)	06:55		18:45 (2)	07:46			07:42			08:22
	21:30		20:38	42	20:03 (1)	19:27	15	19:00 (2)	18:18			16:22			16:04
19	05:17		06:05		19:01 (6)	06:56		18:47 (2)	07:48			07:44			08:23
	21:29		20:35	45	20:02 (1)	19:25	11	18:58 (2)	18:16			16:20			16:04
20	05:18		06:07		19:00 (6)	06:58			07:49		16:55 (5)	07:45			08:24
	21:27		20:33	46	20:01 (1)	19:22			18:14	10	17:05 (5)	16:19			16:05
21	05:20		06:08		18:58 (6)	07:00			07:51		16:53 (5)	07:47			08:24
	21:26		20:31	46	19:59 (1)	19:20			18:11	14	17:07 (5)	16:18			16:05
22	05:21		06:10		18:57 (6)	07:01			07:53		16:51 (5)	07:49			08:25
	21:25		20:29	45	19:58 (1)	19:18			18:09	18	17:09 (5)	16:17			16:06
23	05:22		06:12		18:57 (6)	07:03			07:55		16:50 (5)	07:50			08:25
	21:24		20:27	42	19:56 (1)	19:15			18:07	20	17:10 (5)	16:15			16:06
24	05:24		06:13		18:55 (6)	07:05			07:57		16:49 (5)	07:52			08:26
	21:22		20:25	35	19:51 (1)	19:13			18:05	22	17:11 (5)	16:14			16:07
25	05:25		06:15		18:55 (6)	07:06			06:58		15:48 (5)	07:54			08:26
	21:21		20:23	32	19:27 (6)	19:11			17:03	23	16:11 (5)	16:13			16:07
26	05:27		06:17		18:54 (6)	07:08		17:51 (4)	07:00		15:48 (5)	07:55			08:26
	21:19		20:20	33	19:27 (6)	19:08	15	18:15 (3)	17:01	24	16:12 (5)	16:12			16:08
27	05:28		06:18		18:54 (6)	07:10		17:47 (4)	07:02		15:47 (5)	07:57			08:27
	21:18		20:18	33	19:27 (6)	19:06	28	18:17 (3)	16:59	25	16:12 (5)	16:11			16:09
28	05:30		06:20		18:54 (6)	07:11		17:45 (4)	07:04		15:46 (5)	07:59			08:27
	21:16		20:16	33	19:27 (6)	19:03	34	18:19 (3)	16:57	25	16:11 (5)	16:10			16:09
29	05:31		06:21		18:53 (6)	07:13		17:43 (4)	07:06		15:46 (5)	08:00			08:27
	21:15		20:14	33	19:26 (6)	19:01	36	18:19 (3)	16:55	25	16:11 (5)	16:10			16:10
30	05:33		06:23		18:53 (6)	07:15		17:42 (4)	07:08		15:46 (5)	08:02			08:27
	21:13		20:11	33	19:26 (6)	18:59	37	18:19 (3)	16:53	25	16:11 (5)	16:09			16:11
31	05:34		06:25		18:53 (6)				07:09		15:47 (5)				08:27
	21:12		20:09	32	19:25 (6)				16:51	23	16:10 (5)				16:12
Sonnenscheinstunden	504		455			381			331			265			241
astr.max.mögl.Beschattung				870			536			614			100		
Red.Sonnenscheinwahrsch.				0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer				1,00			1,00			1,00			1,00		
Reduktion Windrichtung				0,70			0,74			0,75			0,75		
Gesamte Reduktion				0,31			0,27			0,23			0,16		
Met.wahrsch.Beschattung				272			147			143			16		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BM - Rümmersche Str. 2

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar		März		April		Mai		Juni
1	08:27	08:00		07:05	17:09 (4)	06:54		05:48	19:29 (1)	05:02
	16:14	17:02		17:55	11 17:20 (4)	19:50		20:42	24 19:53 (1)	21:28
2	08:27	07:58		07:03	17:07 (4)	06:51		05:46	19:29 (1)	05:01
	16:15	17:04		17:56	16 17:23 (4)	19:51		20:43	23 19:52 (1)	21:29
3	08:27	07:56		07:01	17:04 (4)	06:49	19:02 (6)	05:44	19:30 (1)	05:00
	16:16	17:06		17:58	19 17:23 (4)	19:53	13 19:15 (6)	20:45	21 19:51 (1)	21:30
4	08:27	07:55	16:27 (5)	06:59	17:03 (4)	06:47	18:59 (6)	05:42	19:30 (1)	04:59
	16:17	17:08	3 16:30 (5)	18:00	22 17:25 (4)	19:55	19 19:18 (6)	20:47	19 19:49 (1)	21:32
5	08:26	07:53	16:22 (5)	06:56	17:02 (4)	06:44	18:56 (6)	05:40	19:32 (1)	04:59
	16:18	17:10	12 16:34 (5)	18:02	24 17:26 (4)	19:57	23 19:19 (6)	20:48	16 19:48 (1)	21:33
6	08:26	07:51	16:20 (5)	06:54	17:02 (4)	06:42	18:55 (6)	05:38	19:34 (1)	04:58
	16:19	17:11	16 16:36 (5)	18:04	24 17:26 (4)	19:58	25 19:20 (6)	20:50	13 19:47 (1)	21:34
7	08:26	07:50	16:19 (5)	06:52	17:00 (4)	06:40	18:54 (6)	05:37	19:36 (1)	04:57
	16:21	17:13	18 16:37 (5)	18:06	26 17:26 (4)	20:00	27 19:21 (6)	20:52	7 19:43 (1)	21:34
8	08:25	07:48	16:18 (5)	06:50	17:00 (4)	06:38	18:52 (6)	05:35		04:57
	16:22	17:15	20 16:38 (5)	18:07	26 17:26 (4)	20:02	29 19:21 (6)	20:53		21:35
9	08:25	07:46	16:18 (5)	06:47	17:00 (4)	06:35	18:51 (6)	05:33		04:56
	16:23	17:17	22 16:40 (5)	18:09	26 17:26 (4)	20:04	31 19:22 (6)	20:55		21:36
10	08:24	07:44	16:18 (5)	06:45	17:00 (4)	06:33	18:51 (6)	05:31		04:56
	16:25	17:19	22 16:40 (5)	18:11	25 17:25 (4)	20:05	31 19:22 (6)	20:57		21:37
11	08:24	07:42	16:17 (5)	06:43	17:00 (4)	06:31	18:50 (6)	05:30		04:55
	16:26	17:21	24 16:41 (5)	18:13	25 17:25 (4)	20:07	33 19:23 (6)	20:58		21:38
12	08:23	07:40	16:17 (5)	06:40	17:01 (4)	06:28	18:50 (6)	05:28		04:55
	16:28	17:23	24 16:41 (5)	18:15	23 17:24 (4)	20:09	33 19:23 (6)	21:00		21:39
13	08:22	07:39	16:17 (5)	06:38	17:01 (4)	06:26	18:49 (6)	05:26		04:55
	16:29	17:25	24 16:41 (5)	18:16	21 17:22 (4)	20:10	33 19:22 (6)	21:01		21:39
14	08:21	07:37	16:17 (5)	06:36	17:02 (4)	06:24	18:49 (6)	05:25		04:55
	16:31	17:27	24 16:41 (5)	18:18	19 17:21 (4)	20:12	33 19:22 (6)	21:03		21:40
15	08:21	07:35	16:16 (5)	06:34	17:04 (4)	06:22	18:49 (6)	05:23		04:54
	16:32	17:29	24 16:40 (5)	18:20	15 17:19 (4)	20:14	32 19:21 (6)	21:05		21:40
16	08:20	07:33	16:17 (5)	06:31	17:06 (4)	06:19	18:49 (6)	05:21		04:54
	16:34	17:30	23 16:40 (5)	18:22	10 17:16 (4)	20:16	32 19:21 (6)	21:06		21:41
17	08:19	07:31	16:17 (5)	06:29		06:17	18:50 (6)	05:20		04:54
	16:35	17:32	22 16:39 (5)	18:23		20:17	30 19:20 (6)	21:08		21:41
18	08:18	07:29	16:18 (5)	06:27		06:15	18:49 (6)	05:18		04:54
	16:37	17:34	20 16:38 (5)	18:25		20:19	41 19:48 (1)	21:09		21:42
19	08:17	07:27	16:20 (5)	06:24		06:13	18:50 (6)	05:17		04:54
	16:39	17:36	17 16:37 (5)	18:27		20:21	44 19:50 (1)	21:11		21:42
20	08:16	07:25	16:21 (5)	06:22		06:11	18:51 (6)	05:16		04:54
	16:40	17:38	15 16:36 (5)	18:29		20:23	44 19:51 (1)	21:12		21:42
21	08:15	07:23	16:24 (5)	06:20		06:09	18:52 (6)	05:14		04:54
	16:42	17:40	9 16:33 (5)	18:30		20:24	44 19:52 (1)	21:14		21:43
22	08:13	07:20		06:17		06:06	18:53 (6)	05:13		04:55
	16:44	17:42		18:32		20:26	44 19:53 (1)	21:15		21:43
23	08:12	07:18		06:15		06:04	18:55 (6)	05:12		04:55
	16:46	17:44		18:34		20:28	41 19:54 (1)	21:17		21:43
24	08:11	07:16		06:12		06:02	18:58 (6)	05:10		04:55
	16:47	17:45		18:36		20:30	35 19:54 (1)	21:18		21:43
25	08:10	07:14		06:10		06:00	19:28 (1)	05:09		04:55
	16:49	17:47		18:37		20:31	26 19:54 (1)	21:19		21:43
26	08:08	07:12		06:08		05:58	19:28 (1)	05:08		04:56
	16:51	17:49		18:39		20:33	26 19:54 (1)	21:21		21:43
27	08:07	07:10		06:05		05:56	19:28 (1)	05:07		04:56
	16:53	17:51		18:41		20:35	26 19:54 (1)	21:22		21:43
28	08:06	07:08		06:03		05:54	19:27 (1)	05:06		04:57
	16:55	17:53		18:43		20:36	27 19:54 (1)	21:23		21:43
29	08:04			07:01		05:52	19:27 (1)	05:05		04:57
	16:57			19:44		20:38	26 19:53 (1)	21:25		21:43
30	08:03			06:58		05:50	19:28 (1)	05:04		04:58
	16:58			19:46		20:40	25 19:53 (1)	21:26		21:43
31	08:01			06:56				05:03		
	17:00			19:48				21:27		
Sonnenscheinstunden	257	277		367		417		487		501
astr.max.mögl.Beschattung			339		332		873		123	
Red.Sonnenscheinwahrsch.			0,25		0,29		0,37		0,45	
Reduktion Betriebsdauer			1,00		1,00		1,00		1,00	
Reduktion Windrichtung			0,75		0,75		0,71		0,68	
Gesamte Reduktion			0,19		0,22		0,27		0,31	
Met.wahrsch.Beschattung			64		73		232		38	

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BM - Rümmersche Str. 2

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September			Oktober			November			Dezember
1	04:59		05:36		06:26		18:49 (6)	07:16		17:40 (4)	07:11		15:46 (5)	08:03
	21:42		21:10		20:07	33	19:22 (6)	18:56	23	18:03 (4)	16:49	23	16:09 (5)	16:08
2	04:59		05:37		06:28		18:49 (6)	07:18		17:39 (4)	07:13		15:47 (5)	08:05
	21:42		21:08		20:05	31	19:20 (6)	18:54	24	18:03 (4)	16:47	21	16:08 (5)	16:07
3	05:00		05:39		06:30		18:49 (6)	07:20		17:38 (4)	07:15		15:48 (5)	08:06
	21:42		21:06		20:02	31	19:20 (6)	18:52	25	18:03 (4)	16:46	19	16:07 (5)	16:07
4	05:01		05:40		06:31		18:50 (6)	07:22		17:37 (4)	07:17		15:49 (5)	08:07
	21:41		21:05		20:00	29	19:19 (6)	18:49	26	18:03 (4)	16:44	17	16:06 (5)	16:06
5	05:02		05:42		06:33		18:50 (6)	07:23		17:37 (4)	07:19		15:50 (5)	08:09
	21:41		21:03		19:58	27	19:17 (6)	18:47	26	18:03 (4)	16:42	15	16:05 (5)	16:06
6	05:02		05:44		06:35		18:51 (6)	07:25		17:37 (4)	07:20		15:53 (5)	08:10
	21:40		21:01	9	19:54 (1)	19:55	25	19:16 (6)	18:45	26	18:03 (4)	16:40	10	16:03 (5)	16:05
7	05:03		05:45		19:43 (1)	06:36		18:51 (6)	07:27		17:37 (4)	07:22			08:11
	21:40		20:59	14	19:57 (1)	19:53	23	19:14 (6)	18:42	24	18:01 (4)	16:38			16:05
8	05:04		05:47		19:41 (1)	06:38		18:53 (6)	07:28		17:37 (4)	07:24			08:12
	21:39		20:57	17	19:58 (1)	19:51	19	19:12 (6)	18:40	24	18:01 (4)	16:37			16:04
9	05:05		05:48		19:40 (1)	06:40		18:56 (6)	07:30		17:38 (4)	07:26			08:14
	21:38		20:56	19	19:59 (1)	19:48	14	19:10 (6)	18:38	22	18:00 (4)	16:35			16:04
10	05:06		05:50		19:38 (1)	06:41			07:32		17:38 (4)	07:28			08:15
	21:38		20:54	21	19:59 (1)	19:46			18:36	21	17:59 (4)	16:33			16:04
11	05:07		05:52		19:38 (1)	06:43			07:34		17:39 (4)	07:29			08:16
	21:37		20:52	23	20:01 (1)	19:44			18:33	18	17:57 (4)	16:32			16:04
12	05:08		05:53		19:36 (1)	06:45			07:35		17:41 (4)	07:31			08:17
	21:36		20:50	24	20:00 (1)	19:41			18:31	14	17:55 (4)	16:30			16:04
13	05:09		05:55		19:36 (1)	06:46			07:37		17:44 (4)	07:33			08:18
	21:35		20:48	25	20:01 (1)	19:39			18:29	7	17:51 (4)	16:29			16:03
14	05:11		05:57		19:36 (1)	06:48			07:39			07:35			08:19
	21:34		20:46	26	20:02 (1)	19:37			18:27			16:27			16:03
15	05:12		05:58		19:35 (1)	06:50			07:41			07:37			08:20
	21:33		20:44	26	20:01 (1)	19:34			18:24			16:26			16:03
16	05:13		06:00		19:35 (1)	06:51			07:42			07:38			08:21
	21:32		20:42	27	20:02 (1)	19:32			18:22			16:24			16:04
17	05:14		06:02		19:34 (1)	06:53			07:44			07:40			08:22
	21:31		20:40	27	20:01 (1)	19:29			18:20			16:23			16:04
18	05:16		06:03		19:35 (1)	06:55			07:46			07:42			08:22
	21:30		20:38	26	20:01 (1)	19:27			18:18			16:22			16:04
19	05:17		06:05		19:03 (6)	06:56			07:48			07:44			08:23
	21:29		20:35	38	20:00 (1)	19:25			18:16			16:20			16:04
20	05:18		06:07		19:01 (6)	06:58			07:49			07:45			08:24
	21:27		20:33	41	19:59 (1)	19:22			18:14			16:19			16:05
21	05:20		06:08		18:58 (6)	07:00			07:51		16:53 (5)	07:47			08:24
	21:26		20:31	44	19:58 (1)	19:20			18:11	12	17:05 (5)	16:18			16:05
22	05:21		06:10		18:57 (6)	07:01			07:53		16:51 (5)	07:49			08:25
	21:25		20:29	44	19:57 (1)	19:18			18:09	16	17:07 (5)	16:17			16:06
23	05:22		06:12		18:55 (6)	07:03			07:55		16:50 (5)	07:50			08:25
	21:24		20:27	44	19:56 (1)	19:15			18:07	18	17:08 (5)	16:15			16:06
24	05:24		06:13		18:54 (6)	07:05			07:57		16:48 (5)	07:52			08:26
	21:22		20:25	43	19:53 (1)	19:13			18:05	21	17:09 (5)	16:14			16:07
25	05:25		06:15		18:53 (6)	07:06			06:58		15:48 (5)	07:54			08:26
	21:21		20:23	39	19:51 (1)	19:11			17:03	22	16:10 (5)	16:13			16:07
26	05:27		06:17		18:51 (6)	07:08			07:00		15:47 (5)	07:55			08:26
	21:19		20:20	31	19:22 (6)	19:08			17:01	23	16:10 (5)	16:12			16:08
27	05:28		06:18		18:51 (6)	07:10		17:50 (4)	07:02		15:47 (5)	07:57			08:27
	21:18		20:18	32	19:23 (6)	19:06	6	17:56 (4)	16:59	24	16:11 (5)	16:11			16:09
28	05:30		06:20		18:51 (6)	07:11		17:46 (4)	07:04		15:45 (5)	07:59			08:27
	21:16		20:16	32	19:23 (6)	19:03	13	17:59 (4)	16:57	25	16:10 (5)	16:10			16:09
29	05:31		06:21		18:50 (6)	07:13		17:43 (4)	07:06		15:45 (5)	08:00			08:27
	21:15		20:14	32	19:22 (6)	19:01	17	18:00 (4)	16:55	25	16:10 (5)	16:10			16:10
30	05:33		06:23		18:50 (6)	07:15		17:41 (4)	07:08		15:46 (5)	08:02			08:27
	21:13		20:11	33	19:23 (6)	18:59	21	18:02 (4)	16:53	24	16:10 (5)	16:09			16:11
31	05:34		06:25		18:49 (6)				07:09		15:46 (5)				08:27
	21:12		20:09	33	19:22 (6)				16:51	23	16:09 (5)				16:12
Sonnenscheinstunden	504		455			381			331			265			241
astr.max.mögl.Beschattung				770			289			513			105		
Red.Sonnenscheinwahrsch.				0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer				1,00			1,00			1,00			1,00		
Reduktion Windrichtung				0,70			0,73			0,75			0,75		
Gesamte Reduktion				0,31			0,27			0,23			0,16		
Met.wahrsch.Beschattung				241			79			120			17		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BN - Rümmersche Str. 1A

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar		März		April		Mai		Juni
1	08:27	08:00		07:05		17:03 (4)	06:54	18:51 (2)	05:48	19:27 (1) 05:02
	16:14	17:02		17:55	17	17:20 (4)	19:50	16 19:07 (2)	20:42	24 19:51 (1) 21:28
2	08:27	07:58		07:03		17:01 (4)	06:51	18:52 (2)	05:46	19:28 (1) 05:01
	16:15	17:04		17:56	20	17:21 (4)	19:51	20 19:12 (6)	20:43	22 19:50 (1) 21:29
3	08:27	07:56		16:20 (5)	07:01		16:59 (4)	06:49	18:54 (2)	05:44 19:28 (1) 05:00
	16:16	17:06	9	16:29 (5)	17:58	23	17:22 (4)	19:53	21 19:15 (6)	20:45 21 19:49 (1) 21:30
4	08:27	07:55		16:18 (5)	06:59		16:59 (4)	06:47	18:54 (6)	05:42 19:29 (1) 04:59
	16:17	17:08	13	16:31 (5)	18:00	31	17:32 (3)	19:55	23 19:17 (6)	20:47 18 19:47 (1) 21:32
5	08:26	07:53		16:16 (5)	06:56		16:58 (4)	06:44	18:52 (6)	05:40 19:30 (1) 04:59
	16:18	17:10	17	16:33 (5)	18:02	37	17:35 (3)	19:57	25 19:17 (6)	20:48 15 19:45 (1) 21:33
6	08:26	07:51		16:15 (5)	06:54		16:58 (4)	06:42	18:51 (6)	05:38 19:33 (1) 04:58
	16:19	17:11	19	16:34 (5)	18:04	38	17:36 (3)	19:58	28 19:19 (6)	20:50 11 19:44 (1) 21:34
7	08:26	07:50		16:14 (5)	06:52		16:57 (4)	06:40	18:50 (6)	05:37 19:37 (1) 04:57
	16:21	17:13	21	16:35 (5)	18:06	39	17:36 (3)	20:00	29 19:19 (6)	20:52 2 19:39 (1) 21:34
8	08:25	07:48		16:13 (5)	06:50		16:57 (4)	06:38	18:48 (6)	05:35 04:57
	16:22	17:15	23	16:36 (5)	18:07	40	17:37 (3)	20:02	31 19:19 (6)	20:53 21:35
9	08:25	07:46		16:14 (5)	06:47		16:57 (4)	06:35	18:47 (6)	05:33 04:56
	16:23	17:17	23	16:37 (5)	18:09	41	17:38 (3)	20:04	33 19:20 (6)	20:55 21:36
10	08:24	07:44		16:13 (5)	06:45		16:57 (4)	06:33	18:47 (6)	05:31 04:56
	16:25	17:19	24	16:37 (5)	18:11	40	17:37 (3)	20:05	33 19:20 (6)	20:57 21:37
11	08:24	07:42		16:13 (5)	06:43		16:58 (4)	06:31	18:47 (6)	05:30 04:55
	16:26	17:21	25	16:38 (5)	18:13	39	17:37 (3)	20:07	33 19:20 (6)	20:58 21:38
12	08:23	07:40		16:13 (5)	06:40		16:59 (4)	06:28	18:47 (6)	05:28 04:55
	16:28	17:23	25	16:38 (5)	18:15	37	17:36 (3)	20:09	33 19:20 (6)	21:00 21:39
13	08:22	07:39		16:13 (5)	06:38		16:59 (4)	06:26	18:46 (6)	05:26 04:55
	16:29	17:25	25	16:38 (5)	18:16	36	17:35 (3)	20:10	33 19:19 (6)	21:01 21:39
14	08:21	07:37		16:14 (5)	06:36		17:01 (4)	06:24	18:46 (6)	05:25 04:55
	16:31	17:27	23	16:37 (5)	18:18	31	17:34 (3)	20:12	33 19:19 (6)	21:03 21:40
15	08:21	07:35		16:13 (5)	06:34		17:04 (4)	06:22	18:46 (6)	05:23 04:54
	16:32	17:29	23	16:36 (5)	18:20	21	17:32 (3)	20:14	32 19:18 (6)	21:05 21:40
16	08:20	07:33		16:14 (5)	06:31		17:22 (3)	06:19	18:46 (6)	05:21 04:54
	16:34	17:30	21	16:35 (5)	18:22	6	17:28 (3)	20:16	32 19:18 (6)	21:06 21:41
17	08:19	07:31		16:15 (5)	06:29			06:17	18:47 (6)	05:20 04:54
	16:35	17:32	20	16:35 (5)	18:23			20:17	37 19:45 (1)	21:08 21:41
18	08:18	07:29		16:16 (5)	06:27			06:15	18:47 (6)	05:18 04:54
	16:37	17:34	17	16:33 (5)	18:25			20:19	42 19:47 (1)	21:09 21:42
19	08:17	07:27		16:18 (5)	06:24			06:13	18:48 (6)	05:17 04:54
	16:39	17:36	14	16:32 (5)	18:27			20:21	44 19:49 (1)	21:11 21:42
20	08:16	07:25		16:21 (5)	06:22			06:11	18:49 (6)	05:16 04:54
	16:40	17:38	8	16:29 (5)	18:29			20:23	44 19:50 (1)	21:12 21:42
21	08:15	07:23			06:20			06:09	18:50 (6)	05:14 04:54
	16:42	17:40			18:30			20:24	43 19:51 (1)	21:14 21:43
22	08:13	07:20			06:17		17:58 (2)	06:06	18:52 (6)	05:13 04:55
	16:44	17:42			18:32	7	18:05 (2)	20:26	41 19:52 (1)	21:15 21:43
23	08:12	07:18			06:15		17:56 (2)	06:04	18:54 (6)	05:12 04:55
	16:46	17:44			18:34	12	18:08 (2)	20:28	37 19:52 (1)	21:17 21:43
24	08:11	07:16			06:12		17:53 (2)	06:02	19:26 (1)	05:10 04:55
	16:47	17:45			18:36	16	18:09 (2)	20:30	27 19:53 (1)	21:18 21:43
25	08:10	07:14			06:10		17:52 (2)	06:00	19:26 (1)	05:09 04:55
	16:49	17:47			18:37	18	18:10 (2)	20:31	27 19:53 (1)	21:19 21:43
26	08:08	07:12			06:08		17:51 (2)	05:58	19:26 (1)	05:08 04:56
	16:51	17:49			18:39	20	18:11 (2)	20:33	27 19:53 (1)	21:21 21:43
27	08:07	07:10		17:10 (4)	06:05		17:50 (2)	05:56	19:26 (1)	05:07 04:56
	16:53	17:51	4	17:14 (4)	18:41	20	18:10 (2)	20:35	26 19:52 (1)	21:22 21:43
28	08:06	07:08		17:05 (4)	06:03		17:50 (2)	05:54	19:26 (1)	05:06 04:57
	16:55	17:53	12	17:17 (4)	18:43	20	18:10 (2)	20:36	26 19:52 (1)	21:23 21:43
29	08:04				07:01		18:50 (2)	05:52	19:26 (1)	05:05 04:57
	16:57				19:44	20	19:10 (2)	20:38	25 19:51 (1)	21:25 21:43
30	08:03				06:58		18:50 (2)	05:50	19:26 (1)	05:04 04:58
	16:58				19:46	19	19:09 (2)	20:40	25 19:51 (1)	21:26 21:43
31	08:01				06:56		18:50 (2)			05:03
	17:00				19:48	18	19:08 (2)			21:27
Sonnenscheinstunden	257	277			367			417		487 501
astr.max.mögl.Beschattung			366			666			926	113
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37	0,45
Reduktion Betriebsdauer			1,00			1,00			1,00	1,00
Reduktion Windrichtung			0,74			0,75			0,71	0,69
Gesamte Reduktion			0,19			0,22			0,27	0,31
Met.wahrsch.Beschattung			68			145			247	35

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BN - Rümmersche Str. 1A

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August			September			Oktober			November			Dezember
1	04:59		05:36			06:26		18:46 (6)	07:16		17:38 (4)	07:11		15:42 (5)	08:03
	21:42		21:10			20:07	33	19:19 (6)	18:56	37	18:15 (3)	16:49	24	16:06 (5)	16:08
2	04:59		05:37			06:28		18:45 (6)	07:18		17:37 (4)	07:13		15:42 (5)	08:05
	21:42		21:08			20:05	33	19:18 (6)	18:54	38	18:15 (3)	16:47	24	16:06 (5)	16:07
3	05:00		05:39			06:30		18:45 (6)	07:20		17:35 (4)	07:15		15:43 (5)	08:06
	21:42		21:06			20:02	33	19:18 (6)	18:52	40	18:15 (3)	16:46	22	16:05 (5)	16:07
4	05:01		05:40			06:31		18:46 (6)	07:22		17:34 (4)	07:17		15:44 (5)	08:07
	21:41		21:05			20:00	31	19:17 (6)	18:49	41	18:15 (3)	16:44	21	16:05 (5)	16:06
5	05:02		05:42			06:33		18:46 (6)	07:23		17:34 (4)	07:19		15:45 (5)	08:09
	21:41		21:03			19:58	29	19:15 (6)	18:47	40	18:14 (3)	16:42	19	16:04 (5)	16:06
6	05:02		05:44		19:44 (1)	06:35		18:47 (6)	07:25		17:34 (4)	07:20		15:46 (5)	08:10
	21:40		21:01	7	19:51 (1)	19:55	28	19:15 (6)	18:45	40	18:14 (3)	16:40	16	16:02 (5)	16:05
7	05:03		05:45		19:42 (1)	06:36		18:47 (6)	07:27		17:33 (4)	07:22		15:48 (5)	08:11
	21:40		20:59	12	19:54 (1)	19:53	26	19:13 (6)	18:42	39	18:12 (3)	16:38	13	16:01 (5)	16:05
8	05:04		05:47		19:39 (1)	06:38		18:48 (6)	07:28		17:33 (4)	07:24		15:50 (5)	08:12
	21:39		20:57	16	19:55 (1)	19:51	23	19:11 (6)	18:40	38	18:11 (3)	16:37	9	15:59 (5)	16:04
9	05:05		05:48		19:38 (1)	06:40		18:49 (2)	07:30		17:33 (4)	07:26			08:14
	21:38		20:56	19	19:57 (1)	19:48	20	19:09 (6)	18:38	36	18:09 (3)	16:35			16:04
10	05:06		05:50		19:36 (1)	06:41		18:45 (2)	07:32		17:34 (4)	07:28			08:15
	21:38		20:54	21	19:57 (1)	19:46	21	19:06 (6)	18:36	27	18:05 (3)	16:33			16:04
11	05:07		05:52		19:36 (1)	06:43		18:44 (2)	07:34		17:34 (4)	07:29			08:16
	21:37		20:52	23	19:59 (1)	19:44	16	19:00 (6)	18:33	21	17:55 (4)	16:32			16:04
12	05:08		05:53		19:34 (1)	06:45		18:42 (2)	07:35		17:35 (4)	07:31			08:17
	21:36		20:50	25	19:59 (1)	19:41	17	18:59 (2)	18:31	19	17:54 (4)	16:30			16:04
13	05:09		05:55		19:34 (1)	06:46		18:41 (2)	07:37		17:37 (4)	07:33			08:18
	21:35		20:48	25	19:59 (1)	19:39	19	19:00 (2)	18:29	15	17:52 (4)	16:29			16:03
14	05:11		05:57		19:34 (1)	06:48		18:41 (2)	07:39		17:39 (4)	07:35			08:19
	21:34		20:46	26	20:00 (1)	19:37	19	19:00 (2)	18:27	10	17:49 (4)	16:27			16:03
15	05:12		05:58		19:33 (1)	06:50		18:39 (2)	07:41			07:37			08:20
	21:33		20:44	27	20:00 (1)	19:34	20	18:59 (2)	18:24			16:26			16:03
16	05:13		06:00		19:33 (1)	06:51		18:39 (2)	07:42			07:38			08:21
	21:32		20:42	27	20:00 (1)	19:32	20	18:59 (2)	18:22			16:24			16:04
17	05:14		06:02		19:32 (1)	06:53		18:39 (2)	07:44			07:40			08:22
	21:31		20:40	27	19:59 (1)	19:29	19	18:58 (2)	18:20			16:23			16:04
18	05:16		06:03		19:33 (1)	06:55		18:39 (2)	07:46			07:42			08:22
	21:30		20:38	26	19:59 (1)	19:27	18	18:57 (2)	18:18			16:22			16:04
19	05:17		06:05		19:05 (6)	06:56		18:40 (2)	07:48			07:44			08:23
	21:29		20:35	28	19:58 (1)	19:25	17	18:57 (2)	18:16			16:20			16:04
20	05:18		06:07		18:59 (6)	06:58		18:41 (2)	07:49			07:45			08:24
	21:27		20:33	39	19:58 (1)	19:22	13	18:54 (2)	18:14			16:19			16:05
21	05:20		06:08		18:56 (6)	07:00		18:43 (2)	07:51			07:47			08:24
	21:26		20:31	42	19:57 (1)	19:20	9	18:52 (2)	18:11			16:18			16:05
22	05:21		06:10		18:54 (6)	07:01			07:53		16:50 (5)	07:49			08:25
	21:25		20:29	44	19:56 (1)	19:18			18:09	10	17:00 (5)	16:17			16:06
23	05:22		06:12		18:53 (6)	07:03			07:55		16:48 (5)	07:50			08:25
	21:24		20:27	45	19:55 (1)	19:15			18:07	15	17:03 (5)	16:15			16:06
24	05:24		06:13		18:51 (6)	07:05			07:57		16:46 (5)	07:52			08:26
	21:22		20:25	45	19:53 (1)	19:13			18:05	18	17:04 (5)	16:14			16:07
25	05:25		06:15		18:50 (6)	07:06			06:58		15:45 (5)	07:54			08:26
	21:21		20:23	43	19:51 (1)	19:11			17:03	20	16:05 (5)	16:13			16:07
26	05:27		06:17		18:49 (6)	07:08			07:00		15:44 (5)	07:55			08:26
	21:19		20:20	37	19:47 (1)	19:08			17:01	22	16:06 (5)	16:12			16:08
27	05:28		06:18		18:48 (6)	07:10			07:02		15:44 (5)	07:57			08:27
	21:18		20:18	32	19:20 (6)	19:06			16:59	23	16:07 (5)	16:11			16:09
28	05:30		06:20		18:48 (6)	07:11		17:47 (4)	07:04		15:42 (5)	07:59			08:27
	21:16		20:16	32	19:20 (6)	19:03	15	18:12 (3)	16:57	24	16:06 (5)	16:10			16:09
29	05:31		06:21		18:47 (6)	07:13		17:42 (4)	07:06		15:42 (5)	08:00			08:27
	21:15		20:14	33	19:20 (6)	19:01	27	18:13 (3)	16:55	24	16:06 (5)	16:10			16:10
30	05:33		06:23		18:47 (6)	07:15		17:40 (4)	07:08		15:42 (5)	08:02			08:27
	21:13		20:11	33	19:20 (6)	18:59	34	18:14 (3)	16:53	24	16:06 (5)	16:09			16:11
31	05:34		06:25		18:46 (6)				07:09		15:42 (5)				08:27
	21:12		20:09	33	19:19 (6)				16:51	24	16:06 (5)				16:12
Sonnenscheinstunden	504		455			381			331			265			241
astr.max.mögl.Beschattung				767			540			645			148		
Red.Sonnenscheinwahrsch.				0,44			0,37			0,31			0,21		
Reduktion Betriebsdauer				1,00			1,00			1,00			1,00		
Reduktion Windrichtung				0,70			0,74			0,75			0,74		
Gesamte Reduktion				0,31			0,27			0,23			0,16		
Met.wahrsch.Beschattung				241			148			151			24		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BO - Rümmersche Str. 1

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar			März			April			Mai			Juni
1	08:27	08:00			07:05		16:59 (4)	06:54		18:51 (2)	05:48		19:26 (1)	05:02
	16:14	17:02			17:55	20	17:19 (4)	19:50	20	19:11 (6)	20:42	21	19:47 (1)	21:28
2	08:27	07:58		16:17 (5)	07:03		16:58 (4)	06:51		18:52 (2)	05:46		19:26 (1)	05:01
	16:15	17:04	9	16:26 (5)	17:56	22	17:20 (4)	19:51	21	19:13 (6)	20:43	20	19:46 (1)	21:29
3	08:27	07:56		16:16 (5)	07:01		16:56 (4)	06:49		18:50 (6)	05:44		19:27 (1)	05:00
	16:16	17:06	13	16:29 (5)	17:58	32	17:30 (3)	19:53	24	19:14 (6)	20:45	17	19:44 (1)	21:30
4	08:27	07:55		16:14 (5)	06:59		16:56 (4)	06:47		18:49 (6)	05:42		19:29 (1)	04:59
	16:17	17:08	17	16:31 (5)	18:00	36	17:32 (3)	19:55	27	19:16 (6)	20:47	13	19:42 (1)	21:32
5	08:26	07:53		16:13 (5)	06:56		16:55 (4)	06:44		18:47 (6)	05:40		19:31 (1)	04:59
	16:18	17:10	19	16:32 (5)	18:02	39	17:34 (3)	19:57	29	19:16 (6)	20:48	9	19:40 (1)	21:33
6	08:26	07:51		16:12 (5)	06:54		16:55 (4)	06:42		18:46 (6)	05:38			04:58
	16:19	17:11	21	16:33 (5)	18:04	40	17:35 (3)	19:58	31	19:17 (6)	20:50			21:34
7	08:26	07:50		16:11 (5)	06:52		16:54 (4)	06:40		18:45 (6)	05:37			04:57
	16:21	17:13	22	16:33 (5)	18:06	41	17:35 (3)	20:00	32	19:17 (6)	20:52			21:34
8	08:25	07:48		16:11 (5)	06:50		16:55 (4)	06:38		18:44 (6)	05:35			04:57
	16:22	17:15	23	16:34 (5)	18:07	40	17:35 (3)	20:02	32	19:16 (6)	20:53			21:35
9	08:25	07:46		16:11 (5)	06:47		16:55 (4)	06:35		18:44 (6)	05:33			04:56
	16:23	17:17	24	16:35 (5)	18:09	41	17:36 (3)	20:04	33	19:17 (6)	20:55			21:36
10	08:24	07:44		16:11 (5)	06:45		16:55 (4)	06:33		18:43 (6)	05:31			04:56
	16:25	17:19	24	16:35 (5)	18:11	40	17:35 (3)	20:05	34	19:17 (6)	20:57			21:37
11	08:24	07:42		16:11 (5)	06:43		16:56 (4)	06:31		18:43 (6)	05:30			04:55
	16:26	17:21	25	16:36 (5)	18:13	38	17:34 (3)	20:07	34	19:17 (6)	20:58			21:38
12	08:23	07:40		16:11 (5)	06:40		16:58 (4)	06:28		18:44 (6)	05:28			04:55
	16:28	17:23	24	16:35 (5)	18:15	36	17:34 (3)	20:09	33	19:17 (6)	21:00			21:39
13	08:22	07:39		16:12 (5)	06:38		16:59 (4)	06:26		18:43 (6)	05:26			04:55
	16:29	17:25	23	16:35 (5)	18:16	30	17:32 (3)	20:10	32	19:15 (6)	21:01			21:39
14	08:21	07:37		16:12 (5)	06:36		17:02 (4)	06:24		18:43 (6)	05:25			04:55
	16:31	17:27	23	16:35 (5)	18:18	20	17:30 (3)	20:12	32	19:15 (6)	21:03			21:40
15	08:21	07:35		16:12 (5)	06:34		17:21 (3)	06:22		18:44 (6)	05:23			04:54
	16:32	17:29	21	16:33 (5)	18:20	7	17:28 (3)	20:14	30	19:14 (6)	21:05			21:40
16	08:20	07:33		16:13 (5)	06:31			06:19		18:44 (6)	05:21			04:54
	16:34	17:30	19	16:32 (5)	18:22			20:16	39	19:44 (1)	21:06			21:41
17	08:19	07:31		16:14 (5)	06:29			06:17		18:45 (6)	05:20			04:54
	16:35	17:32	17	16:31 (5)	18:23			20:17	42	19:46 (1)	21:08			21:41
18	08:18	07:29		16:16 (5)	06:27			06:15		18:45 (6)	05:18			04:54
	16:37	17:34	14	16:30 (5)	18:25			20:19	43	19:47 (1)	21:09			21:42
19	08:17	07:27		16:19 (5)	06:24			06:13		18:46 (6)	05:17			04:54
	16:39	17:36	8	16:27 (5)	18:27			20:21	44	19:48 (1)	21:11			21:42
20	08:16	07:25			06:22			06:11		18:48 (6)	05:16			04:54
	16:40	17:38			18:29			20:23	42	19:49 (1)	21:12			21:42
21	08:15	07:23			06:20		17:57 (2)	06:09		18:50 (6)	05:14			04:54
	16:42	17:40			18:30	6	18:03 (2)	20:24	40	19:50 (1)	21:14			21:43
22	08:13	07:20			06:17		17:54 (2)	06:06		18:55 (6)	05:13			04:55
	16:44	17:42			18:32	12	18:06 (2)	20:26	31	19:50 (1)	21:15			21:43
23	08:12	07:18			06:15		17:52 (2)	06:04		19:24 (1)	05:12			04:55
	16:46	17:44			18:34	16	18:08 (2)	20:28	26	19:50 (1)	21:17			21:43
24	08:11	07:16			06:12		17:50 (2)	06:02		19:24 (1)	05:10			04:55
	16:47	17:45			18:36	18	18:08 (2)	20:30	26	19:50 (1)	21:18			21:43
25	08:10	07:14			06:10		17:49 (2)	06:00		19:23 (1)	05:09			04:55
	16:49	17:47			18:37	19	18:08 (2)	20:31	27	19:50 (1)	21:19			21:43
26	08:08	07:12		17:07 (4)	06:08		17:49 (2)	05:58		19:23 (1)	05:08			04:56
	16:51	17:49	5	17:12 (4)	18:39	20	18:09 (2)	20:33	27	19:50 (1)	21:21			21:43
27	08:07	07:10		17:03 (4)	06:05		17:48 (2)	05:56		19:23 (1)	05:07			04:56
	16:53	17:51	13	17:16 (4)	18:41	20	18:08 (2)	20:35	27	19:50 (1)	21:22			21:43
28	08:06	07:08		17:00 (4)	06:03		17:48 (2)	05:54		19:23 (1)	05:06			04:57
	16:55	17:53	17	17:17 (4)	18:43	20	18:08 (2)	20:36	26	19:49 (1)	21:23			21:43
29	08:04				07:01		18:48 (2)	05:52		19:24 (1)	05:05			04:57
	16:57				19:44	20	19:08 (2)	20:38	24	19:48 (1)	21:25			21:43
30	08:03				06:58		18:48 (2)	05:50		19:24 (1)	05:04			04:58
	16:58				19:46	18	19:06 (2)	20:40	23	19:47 (1)	21:26			21:43
31	08:01				06:56		18:49 (2)				05:03			
	17:00				19:48	19	19:08 (6)				21:27			
Sonnenscheinstunden	257	277			367			417			487			501
astr.max.mögl.Beschattung			381			670			931			80		
Red.Sonnenscheinwahrsch.			0,25			0,29			0,37			0,45		
Reduktion Betriebsdauer			1,00			1,00			1,00			1,00		
Reduktion Windrichtung			0,74			0,75			0,72			0,69		
Gesamte Reduktion			0,19			0,22			0,27			0,31		
Met.wahrsch.Beschattung			71			146			249			25		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BO - Rümmersche Str. 1

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli	August		September		Oktober		November		Dezember
1	04:59	05:36		06:26		18:42 (6)	07:16	17:37 (4)	07:11	15:40 (5)	08:03
	21:42	21:10		20:07	34	19:16 (6)	18:56	34	18:12 (3)	16:49	24	16:04 (5)	16:08
2	04:59	05:37		06:28		18:41 (6)	07:18	17:36 (4)	07:13	15:40 (5)	08:05
	21:42	21:08		20:05	34	19:15 (6)	18:54	37	18:13 (3)	16:47	24	16:04 (5)	16:07
3	05:00	05:39		06:30		18:42 (6)	07:20	17:34 (4)	07:15	15:40 (5)	08:06
	21:42	21:06		20:02	33	19:15 (6)	18:52	38	18:12 (3)	16:46	24	16:04 (5)	16:07
4	05:01	05:40		06:31		18:42 (6)	07:22	17:33 (4)	07:17	15:41 (5)	08:07
	21:41	21:05		20:00	33	19:15 (6)	18:49	40	18:13 (3)	16:44	22	16:03 (5)	16:06
5	05:02	05:42		06:33		18:41 (6)	07:23	17:32 (4)	07:19	15:42 (5)	08:09
	21:41	21:03		19:58	32	19:13 (6)	18:47	41	18:13 (3)	16:42	20	16:02 (5)	16:06
6	05:02	05:44		06:35		18:42 (6)	07:25	17:32 (4)	07:20	15:43 (5)	08:10
	21:40	21:01		19:55	31	19:13 (6)	18:45	40	18:12 (3)	16:40	19	16:02 (5)	16:05
7	05:03	05:45		06:36		18:42 (6)	07:27	17:30 (4)	07:22	15:44 (5)	08:11
	21:40	20:59		19:53	29	19:11 (6)	18:42	41	18:11 (3)	16:38	16	16:00 (5)	16:05
8	05:04	05:47		19:39 (1)	06:38		18:43 (6)	07:28	17:30 (4)	07:24	15:46 (5)	08:12
	21:39	20:57	11	19:50 (1)	19:51	27	19:10 (6)	18:40	40	18:10 (3)	16:37	13	15:59 (5)	16:04
9	05:05	05:48		19:38 (1)	06:40		18:44 (6)	07:30	17:30 (4)	07:26	15:48 (5)	08:14
	21:38	20:56	14	19:52 (1)	19:48	25	19:09 (6)	18:38	38	18:08 (3)	16:35	9	15:57 (5)	16:04
10	05:06	05:50		19:35 (1)	06:41		18:45 (6)	07:32	17:31 (4)	07:28		08:15
	21:38	20:54	18	19:53 (1)	19:46	21	19:06 (6)	18:36	34	18:06 (3)	16:33			16:04
11	05:07	05:52		19:34 (1)	06:43		18:43 (2)	07:34	17:30 (4)	07:29		08:16
	21:37	20:52	21	19:55 (1)	19:44	21	19:04 (6)	18:33	24	17:54 (4)	16:32			16:04
12	05:08	05:53		19:33 (1)	06:45		18:41 (2)	07:35	17:31 (4)	07:31		08:17
	21:36	20:50	22	19:55 (1)	19:41	19	19:00 (6)	18:31	22	17:53 (4)	16:30			16:04
13	05:09	05:55		19:32 (1)	06:46		18:40 (2)	07:37	17:32 (4)	07:33		08:18
	21:35	20:48	24	19:56 (1)	19:39	17	18:57 (2)	18:29	19	17:51 (4)	16:29			16:03
14	05:11	05:57		19:32 (1)	06:48		18:39 (2)	07:39	17:34 (4)	07:35		08:19
	21:34	20:46	25	19:57 (1)	19:37	19	18:58 (2)	18:27	16	17:50 (4)	16:27			16:03
15	05:12	05:58		19:31 (1)	06:50		18:38 (2)	07:41	17:36 (4)	07:37		08:20
	21:33	20:44	26	19:57 (1)	19:34	19	18:57 (2)	18:24	11	17:47 (4)	16:26			16:03
16	05:13	06:00		19:31 (1)	06:51		18:37 (2)	07:42			07:38			08:21
	21:32	20:42	26	19:57 (1)	19:32	21	18:58 (2)	18:22			16:24			16:04
17	05:14	06:02		19:30 (1)	06:53		18:36 (2)	07:44			07:40			08:22
	21:31	20:40	27	19:57 (1)	19:29	20	18:56 (2)	18:20			16:23			16:04
18	05:16	06:03		19:30 (1)	06:55		18:37 (2)	07:46			07:42			08:22
	21:30	20:38	27	19:57 (1)	19:27	19	18:56 (2)	18:18			16:22			16:04
19	05:17	06:05		19:29 (1)	06:56		18:37 (2)	07:48			07:44			08:23
	21:29	20:35	27	19:56 (1)	19:25	18	18:55 (2)	18:16			16:20			16:04
20	05:18	06:07		19:30 (1)	06:58		18:37 (2)	07:49			07:45			08:24
	21:27	20:33	26	19:56 (1)	19:22	16	18:53 (2)	18:14			16:19			16:05
21	05:20	06:08		18:58 (6)	07:00		18:39 (2)	07:51			07:47			08:24
	21:26	20:31	34	19:55 (1)	19:20	13	18:52 (2)	18:11			16:18			16:05
22	05:21	06:10		18:55 (6)	07:01		18:41 (2)	07:53			07:49			08:25
	21:25	20:29	39	19:54 (1)	19:18	8	18:49 (2)	18:09			16:17			16:06
23	05:22	06:12		18:53 (6)	07:03			07:55	16:48 (5)	07:50		08:25
	21:24	20:27	42	19:54 (1)	19:15			18:07	10	16:58 (5)	16:15			16:06
24	05:24	06:13		18:50 (6)	07:05			07:57	16:46 (5)	07:52		08:26
	21:22	20:25	44	19:52 (1)	19:13			18:05	15	17:01 (5)	16:14			16:07
25	05:25	06:15		18:49 (6)	07:06			06:58	15:44 (5)	07:54		08:26
	21:21	20:23	43	19:51 (1)	19:11			17:03	18	16:02 (5)	16:13			16:07
26	05:27	06:17		18:47 (6)	07:08			07:00	15:43 (5)	07:55		08:26
	21:19	20:20	42	19:48 (1)	19:08			17:01	20	16:03 (5)	16:12			16:08
27	05:28	06:18		18:46 (6)	07:10			07:02	15:42 (5)	07:57		08:27
	21:18	20:18	38	19:45 (1)	19:06			16:59	22	16:04 (5)	16:11			16:09
28	05:30	06:20		18:45 (6)	07:11		18:04 (3)	07:04	15:40 (5)	07:59		08:27
	21:16	20:16	31	19:16 (6)	19:03	2	18:06 (3)	16:57	24	16:04 (5)	16:10			16:09
29	05:31	06:21		18:44 (6)	07:13		17:45 (4)	07:06	15:40 (5)	08:00		08:27
	21:15	20:14	32	19:16 (6)	19:01	12	18:09 (3)	16:55	24	16:04 (5)	16:10			16:10
30	05:33	06:23		18:44 (6)	07:15		17:40 (4)	07:08	15:40 (5)	08:02		08:27
	21:13	20:11	32	19:16 (6)	18:59	26	18:11 (3)	16:53	24	16:04 (5)	16:09			16:11
31	05:34	06:25		18:42 (6)				07:09	15:40 (5)			08:27
	21:12	20:09	34	19:16 (6)				16:51	24	16:04 (5)				16:12
Sonnenscheinstunden	504	455		381				331		265				241
astr.max.mögl.Beschattung			705		549				656		171			
Red.Sonnenscheinwahrsch.			0,44		0,37				0,31		0,21			
Reduktion Betriebsdauer			1,00		1,00				1,00		1,00			
Reduktion Windrichtung			0,71		0,74				0,75		0,74			
Gesamte Reduktion			0,31		0,27				0,23		0,16			
Met.wahrsch.Beschattung			222		151				153		27			

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BP - Rümmersche Str. 3

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar		März		April		Mai		Juni
1	08:27	08:00		16:15 (5)	07:05	16:55 (4)	06:54	18:48 (6)	05:48	19:25 (1)	05:02
	16:14	17:02	9	16:24 (5)	17:55	23 17:18 (4)	19:50	23 19:11 (6)	20:42	17 19:42 (1)	21:28
2	08:27	07:58		16:13 (5)	07:03	16:55 (4)	06:51	18:46 (6)	05:46	19:26 (1)	05:01
	16:15	17:04	14	16:27 (5)	17:56	24 17:19 (4)	19:51	26 19:12 (6)	20:43	14 19:40 (1)	21:29
3	08:27	07:56		16:12 (5)	07:01	16:53 (4)	06:49	18:45 (6)	05:44	19:28 (1)	05:00
	16:16	17:06	17	16:29 (5)	17:58	25 17:18 (4)	19:53	28 19:13 (6)	20:45	9 19:37 (1)	21:30
4	08:27	07:55		16:11 (5)	06:59	16:53 (4)	06:47	18:44 (6)	05:42		04:59
	16:17	17:08	19	16:30 (5)	18:00	26 17:19 (4)	19:55	30 19:14 (6)	20:47		21:32
5	08:26	07:53		16:10 (5)	06:56	16:53 (4)	06:44	18:42 (6)	05:40		04:59
	16:18	17:10	21	16:31 (5)	18:02	26 17:19 (4)	19:57	31 19:13 (6)	20:48		21:33
6	08:26	07:51		16:10 (5)	06:54	16:53 (4)	06:42	18:42 (6)	05:38		04:58
	16:19	17:11	22	16:32 (5)	18:04	26 17:19 (4)	19:58	32 19:14 (6)	20:50		21:34
7	08:26	07:50		16:09 (5)	06:52	16:53 (4)	06:40	18:41 (6)	05:37		04:57
	16:21	17:13	23	16:32 (5)	18:06	25 17:18 (4)	20:00	33 19:14 (6)	20:52		21:34
8	08:25	07:48		16:09 (5)	06:50	16:53 (4)	06:38	18:40 (6)	05:35		04:57
	16:22	17:15	23	16:32 (5)	18:07	24 17:17 (4)	20:02	33 19:13 (6)	20:53		21:35
9	08:25	07:46		16:09 (5)	06:47	16:54 (4)	06:35	18:40 (6)	05:33		04:56
	16:23	17:17	25	16:34 (5)	18:09	23 17:17 (4)	20:04	33 19:13 (6)	20:55		21:36
10	08:24	07:44		16:09 (5)	06:45	16:54 (4)	06:33	18:40 (6)	05:31		04:56
	16:25	17:19	25	16:34 (5)	18:11	21 17:15 (4)	20:05	33 19:13 (6)	20:57		21:37
11	08:24	07:42		16:10 (5)	06:43	16:56 (4)	06:31	18:40 (6)	05:30		04:55
	16:26	17:21	24	16:34 (5)	18:13	17 17:13 (4)	20:07	33 19:13 (6)	20:58		21:38
12	08:23	07:40		16:10 (5)	06:40	16:58 (4)	06:28	18:41 (6)	05:28		04:55
	16:28	17:23	23	16:33 (5)	18:15	13 17:11 (4)	20:09	31 19:12 (6)	21:00		21:39
13	08:22	07:39		16:10 (5)	06:38	17:01 (4)	06:26	18:40 (6)	05:26		04:55
	16:29	17:25	23	16:33 (5)	18:16	6 17:07 (4)	20:10	31 19:11 (6)	21:01		21:39
14	08:21	07:37		16:11 (5)	06:36		06:24	18:41 (6)	05:25		04:55
	16:31	17:27	21	16:32 (5)	18:18		20:12	33 19:38 (1)	21:03		21:40
15	08:21	07:35		16:11 (5)	06:34		06:22	18:42 (6)	05:23		04:54
	16:32	17:29	20	16:31 (5)	18:20		20:14	39 19:42 (1)	21:05		21:40
16	08:20	07:33		16:12 (5)	06:31		06:19	18:43 (6)	05:21		04:54
	16:34	17:30	18	16:30 (5)	18:22		20:16	43 19:45 (1)	21:06		21:41
17	08:19	07:31		16:14 (5)	06:29		06:17	18:44 (6)	05:20		04:54
	16:35	17:32	14	16:28 (5)	18:23		20:17	42 19:46 (1)	21:08		21:41
18	08:18	07:29		16:17 (5)	06:27		06:15	18:45 (6)	05:18		04:54
	16:37	17:34	8	16:25 (5)	18:25		20:19	40 19:46 (1)	21:09		21:42
19	08:17	07:27			06:24		06:13	18:48 (6)	05:17		04:54
	16:39	17:36			18:27		20:21	37 19:47 (1)	21:11		21:42
20	08:16	07:25			06:22	17:56 (2)	06:11	19:22 (1)	05:16		04:54
	16:40	17:38			18:29	6 18:02 (2)	20:23	25 19:47 (1)	21:12		21:42
21	08:15	07:23			06:20	17:52 (2)	06:09	19:21 (1)	05:14		04:54
	16:42	17:40			18:30	12 18:04 (2)	20:24	26 19:47 (1)	21:14		21:43
22	08:13	07:20			06:17	17:50 (2)	06:06	19:21 (1)	05:13		04:55
	16:44	17:42			18:32	15 18:05 (2)	20:26	26 19:47 (1)	21:15		21:43
23	08:12	07:18			06:15	17:49 (2)	06:04	19:21 (1)	05:12		04:55
	16:46	17:44			18:34	18 18:07 (2)	20:28	26 19:47 (1)	21:17		21:43
24	08:11	07:16			06:12	17:47 (2)	06:02	19:21 (1)	05:10		04:55
	16:47	17:45			18:36	19 18:06 (2)	20:30	26 19:47 (1)	21:18		21:43
25	08:10	07:14		17:04 (4)	06:10	17:47 (2)	06:00	19:21 (1)	05:09		04:55
	16:49	17:47	7	17:11 (4)	18:37	20 18:07 (2)	20:31	26 19:47 (1)	21:19		21:43
26	08:08	07:12		17:00 (4)	06:08	17:47 (2)	05:58	19:21 (1)	05:08		04:56
	16:51	17:49	14	17:14 (4)	18:39	20 18:07 (2)	20:33	25 19:46 (1)	21:21		21:43
27	08:07	07:10		16:58 (4)	06:05	17:46 (2)	05:56	19:21 (1)	05:07		04:56
	16:53	17:51	18	17:16 (4)	18:41	20 18:06 (2)	20:35	25 19:46 (1)	21:22		21:43
28	08:06	07:08		16:56 (4)	06:03	17:46 (2)	05:54	19:21 (1)	05:06		04:57
	16:55	17:53	21	17:17 (4)	18:43	20 18:06 (2)	20:36	24 19:45 (1)	21:23		21:43
29	08:04				07:01	18:47 (2)	05:52	19:22 (1)	05:05		04:57
	16:57				19:44	18 19:05 (2)	20:38	22 19:44 (1)	21:25		21:43
30	08:03				06:58	18:47 (2)	05:50	19:23 (1)	05:04		04:58
	16:58				19:46	20 19:07 (6)	20:40	20 19:43 (1)	21:26		21:43
31	08:01				06:56	18:49 (2)			05:03		
	17:00				19:48	21 19:10 (6)			21:27		
Sonnenscheinstunden	257	277			367		417		487		501
astr.max.mögl.Beschattung			409		488		902		40		
Red.Sonnenscheinwahrsch.			0,25		0,29		0,37		0,45		
Reduktion Betriebsdauer			1,00		1,00		1,00		1,00		
Reduktion Windrichtung			0,74		0,75		0,72		0,69		
Gesamte Reduktion			0,19		0,22		0,27		0,31		
Met.wahrsch.Beschattung			76		106		242		12		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BP - Rümmersche Str. 3

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli		August		September		Oktober		November		Dezember
1	04:59		05:36		06:26	18:39 (6)	07:16	17:38 (4)	07:11	15:38 (5)	08:03
	21:42		21:10		20:07 33	19:12 (6)	18:56 11	17:49 (4)	16:49 24	16:02 (5)	16:08
2	04:59		05:37		06:28	18:38 (6)	07:18	17:36 (4)	07:13	15:38 (5)	08:05
	21:42		21:08		20:05 33	19:11 (6)	18:54 15	17:51 (4)	16:47 24	16:02 (5)	16:07
3	05:00		05:39		06:30	18:38 (6)	07:20	17:33 (4)	07:15	15:38 (5)	08:06
	21:42		21:06		20:02 33	19:11 (6)	18:52 19	17:52 (4)	16:46 24	16:02 (5)	16:07
4	05:01		05:40		06:31	18:38 (6)	07:22	17:32 (4)	07:17	15:39 (5)	08:07
	21:41		21:05		20:00 33	19:11 (6)	18:49 21	17:53 (4)	16:44 23	16:02 (5)	16:06
5	05:02		05:42		06:33	18:37 (6)	07:23	17:31 (4)	07:19	15:39 (5)	08:09
	21:41		21:03		19:58 33	19:10 (6)	18:47 23	17:54 (4)	16:42 22	16:01 (5)	16:06
6	05:02		05:44		06:35	18:38 (6)	07:25	17:30 (4)	07:20	15:40 (5)	08:10
	21:40		21:01		19:55 32	19:10 (6)	18:45 24	17:54 (4)	16:40 21	16:01 (5)	16:05
7	05:03		05:45		06:36	18:37 (6)	07:27	17:28 (4)	07:22	15:41 (5)	08:11
	21:40		20:59		19:53 31	19:08 (6)	18:42 26	17:54 (4)	16:38 19	16:00 (5)	16:05
8	05:04		05:47		06:38	18:38 (6)	07:28	17:28 (4)	07:24	15:42 (5)	08:12
	21:39		20:57		19:51 30	19:08 (6)	18:40 26	17:54 (4)	16:37 17	15:59 (5)	16:04
9	05:05		05:48		06:40	18:39 (6)	07:30	17:28 (4)	07:26	15:44 (5)	08:14
	21:38		20:56		19:48 28	19:07 (6)	18:38 26	17:54 (4)	16:35 13	15:57 (5)	16:04
10	05:06		05:50	19:36 (1)	06:41	18:39 (6)	07:32	17:28 (4)	07:28	15:47 (5)	08:15
	21:38		20:54 11	19:47 (1)	19:46 26	19:05 (6)	18:36 25	17:53 (4)	16:33 8	15:55 (5)	16:04
11	05:07		05:52	19:34 (1)	06:43	18:40 (6)	07:34	17:27 (4)	07:29		08:16
	21:37		20:52 15	19:49 (1)	19:44 24	19:04 (6)	18:33 25	17:52 (4)	16:32		16:04
12	05:08		05:53	19:32 (1)	06:45	18:40 (2)	07:35	17:28 (4)	07:31		08:17
	21:36		20:50 18	19:50 (1)	19:41 21	19:01 (6)	18:31 23	17:51 (4)	16:30		16:04
13	05:09		05:55	19:31 (1)	06:46	18:39 (2)	07:37	17:29 (4)	07:33		08:18
	21:35		20:48 20	19:51 (1)	19:39 20	18:59 (6)	18:29 21	17:50 (4)	16:29		16:03
14	05:11		05:57	19:30 (1)	06:48	18:38 (2)	07:39	17:30 (4)	07:35		08:19
	21:34		20:46 23	19:53 (1)	19:37 17	18:55 (2)	18:27 19	17:49 (4)	16:27		16:03
15	05:12		05:58	19:29 (1)	06:50	18:36 (2)	07:41	17:31 (4)	07:37		08:20
	21:33		20:44 24	19:53 (1)	19:34 19	18:55 (2)	18:24 17	17:48 (4)	16:26		16:03
16	05:13		06:00	19:28 (1)	06:51	18:35 (2)	07:42	17:33 (4)	07:38		08:21
	21:32		20:42 25	19:53 (1)	19:32 20	18:55 (2)	18:22 12	17:45 (4)	16:24		16:04
17	05:14		06:02	19:27 (1)	06:53	18:34 (2)	07:44		07:40		08:22
	21:31		20:40 26	19:53 (1)	19:29 20	18:54 (2)	18:20		16:23		16:04
18	05:16		06:03	19:27 (1)	06:55	18:34 (2)	07:46		07:42		08:22
	21:30		20:38 27	19:54 (1)	19:27 20	18:54 (2)	18:18		16:22		16:04
19	05:17		06:05	19:26 (1)	06:56	18:35 (2)	07:48		07:44		08:23
	21:29		20:35 27	19:53 (1)	19:25 19	18:54 (2)	18:16		16:20		16:04
20	05:18		06:07	19:26 (1)	06:58	18:34 (2)	07:49		07:45		08:24
	21:27		20:33 27	19:53 (1)	19:22 18	18:52 (2)	18:14		16:19		16:05
21	05:20		06:08	19:26 (1)	07:00	18:35 (2)	07:51		07:47		08:24
	21:26		20:31 26	19:52 (1)	19:20 16	18:51 (2)	18:11		16:18		16:05
22	05:21		06:10	19:26 (1)	07:01	18:37 (2)	07:53		07:49		08:25
	21:25		20:29 26	19:52 (1)	19:18 13	18:50 (2)	18:09		16:17		16:06
23	05:22		06:12	18:56 (6)	07:03	18:38 (2)	07:55		07:50		08:25
	21:24		20:27 30	19:52 (1)	19:15 8	18:46 (2)	18:07		16:15		16:06
24	05:24		06:13	18:51 (6)	07:05		07:57	16:46 (5)	07:52		08:26
	21:22		20:25 37	19:50 (1)	19:13		18:05 11	16:57 (5)	16:14		16:07
25	05:25		06:15	18:49 (6)	07:06		06:58	15:44 (5)	07:54		08:26
	21:21		20:23 40	19:50 (1)	19:11		17:03 15	15:59 (5)	16:13		16:07
26	05:27		06:16	18:46 (6)	07:08		07:00	15:42 (5)	07:55		08:26
	21:19		20:20 42	19:48 (1)	19:08		17:01 18	16:00 (5)	16:12		16:08
27	05:28		06:18	18:45 (6)	07:10		07:02	15:41 (5)	07:57		08:27
	21:18		20:18 42	19:46 (1)	19:06		16:59 20	16:01 (5)	16:11		16:09
28	05:30		06:20	18:44 (6)	07:11		07:04	15:39 (5)	07:59		08:27
	21:16		20:16 39	19:44 (1)	19:03		16:57 22	16:01 (5)	16:10		16:09
29	05:31		06:21	18:42 (6)	07:13		07:06	15:39 (5)	08:00		08:27
	21:15		20:14 33	19:39 (1)	19:01		16:55 23	16:02 (5)	16:10		16:10
30	05:33		06:23	18:41 (6)	07:15		07:08	15:38 (5)	08:02		08:27
	21:13		20:11 31	19:12 (6)	18:59		16:53 24	16:02 (5)	16:09		16:11
31	05:34		06:25	18:40 (6)			07:09	15:38 (5)			08:27
	21:12		20:09 31	19:11 (6)			16:51 24	16:02 (5)			16:12
Sonnenscheinstunden	504		455		381		331		265		241
astr.max.mögl.Beschattung			620		547		490		195		
Red.Sonnenscheinwahrsch.			0,44		0,37		0,31		0,21		
Reduktion Betriebsdauer			1,00		1,00		1,00		1,00		
Reduktion Windrichtung			0,71		0,74		0,75		0,74		
Gesamte Reduktion			0,31		0,27		0,23		0,16		
Met.wahrsch.Beschattung			195		150		115		31		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BQ - Rümmersche Str. 5

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar			Februar			März			April			Mai			Juni
1	08:27			08:00		16:09 (5)	07:05		16:50 (4)	06:54		18:39 (6)	05:48		19:26 (1)	05:02
	16:14			17:02	15	16:24 (5)	17:55	24	17:14 (4)	19:50	29	19:08 (6)	20:42	5	19:31 (1)	21:28
2	08:27			07:58		16:07 (5)	07:03		16:50 (4)	06:51		18:37 (6)	05:46			05:01
	16:15			17:04	18	16:25 (5)	17:56	25	17:15 (4)	19:51	31	19:08 (6)	20:43			21:29
3	08:27			07:56		16:07 (5)	07:01		16:49 (4)	06:49		18:37 (6)	05:44			05:00
	16:16			17:06	20	16:27 (5)	17:58	25	17:14 (4)	19:53	32	19:09 (6)	20:45			21:30
4	08:27			07:55		16:06 (5)	06:59		16:49 (4)	06:47		18:36 (6)	05:42			04:59
	16:17			17:08	22	16:28 (5)	18:00	25	17:14 (4)	19:55	33	19:09 (6)	20:47			21:32
5	08:26			07:53		16:06 (5)	06:56		16:49 (4)	06:44		18:35 (6)	05:40			04:59
	16:18			17:10	22	16:28 (5)	18:02	25	17:14 (4)	19:57	33	19:08 (6)	20:48			21:33
6	08:26			07:51		16:05 (5)	06:54		16:50 (4)	06:42		18:35 (6)	05:38			04:58
	16:19			17:11	24	16:29 (5)	18:04	24	17:14 (4)	19:58	33	19:08 (6)	20:50			21:34
7	08:26			07:50		16:05 (5)	06:52		16:50 (4)	06:40		18:35 (6)	05:37			04:57
	16:21			17:13	24	16:29 (5)	18:06	22	17:12 (4)	20:00	33	19:08 (6)	20:52			21:34
8	08:25			07:48		16:05 (5)	06:50		16:51 (4)	06:38		18:34 (6)	05:35			04:57
	16:22			17:15	24	16:29 (5)	18:07	20	17:11 (4)	20:02	33	19:07 (6)	20:53			21:35
9	08:25			07:46		16:06 (5)	06:47		16:52 (4)	06:35		18:35 (6)	05:33			04:56
	16:23			17:17	24	16:30 (5)	18:09	18	17:10 (4)	20:04	31	19:06 (6)	20:55			21:36
10	08:24			07:44		16:06 (5)	06:45		16:53 (4)	06:33		18:35 (6)	05:31			04:56
	16:25			17:19	24	16:30 (5)	18:11	14	17:07 (4)	20:05	31	19:06 (6)	20:57			21:37
11	08:24			07:42		16:07 (5)	06:43		16:57 (4)	06:31		18:36 (6)	05:30			04:55
	16:26			17:21	22	16:29 (5)	18:13	7	17:04 (4)	20:07	29	19:05 (6)	20:58			21:38
12	08:23			07:40		16:07 (5)	06:40			06:28		18:37 (6)	05:28			04:55
	16:28			17:23	22	16:29 (5)	18:15			20:09	33	19:35 (1)	21:00			21:39
13	08:22			07:39		16:08 (5)	06:38			06:26		18:37 (6)	05:26			04:55
	16:29			17:25	20	16:28 (5)	18:16			20:10	39	19:38 (1)	21:01			21:39
14	08:21			07:37		16:09 (5)	06:36			06:24		18:38 (6)	05:25			04:55
	16:31			17:27	18	16:27 (5)	18:18			20:12	41	19:40 (1)	21:03			21:40
15	08:21			07:35		16:10 (5)	06:34			06:22		18:40 (6)	05:23			04:54
	16:32			17:29	15	16:25 (5)	18:20			20:14	39	19:41 (1)	21:05			21:40
16	08:20			07:33		16:12 (5)	06:31			06:19		18:43 (6)	05:21			04:54
	16:34			17:30	11	16:23 (5)	18:22			20:16	35	19:42 (1)	21:06			21:41
17	08:19			07:31			06:29			06:17		18:48 (6)	05:20			04:54
	16:35			17:32			18:23			20:17	27	19:43 (1)	21:08			21:41
18	08:18			07:29			06:27			06:15		19:17 (1)	05:18			04:54
	16:37			17:34			18:25			20:19	25	19:42 (1)	21:09			21:42
19	08:17			07:27			06:24			06:13		19:17 (1)	05:17			04:54
	16:39			17:36			18:27			20:21	26	19:43 (1)	21:11			21:42
20	08:16			07:25			06:22			06:11		19:16 (1)	05:16			04:54
	16:40			17:38			18:29			20:23	27	19:43 (1)	21:12			21:42
21	08:15			07:23			06:20			06:09		19:16 (1)	05:14			04:54
	16:42			17:40			18:30			20:24	27	19:43 (1)	21:14			21:43
22	08:13			07:20			06:17			06:06		19:16 (1)	05:13			04:55
	16:44			17:42			18:32			20:26	27	19:43 (1)	21:15			21:43
23	08:12			07:18		17:00 (4)	06:15			06:04		19:16 (1)	05:12			04:55
	16:46			17:44	5	17:05 (4)	18:34			20:28	26	19:42 (1)	21:17			21:43
24	08:11			07:16		16:56 (4)	06:12			06:02		19:16 (1)	05:10			04:55
	16:47			17:45	13	17:09 (4)	18:36			20:30	26	19:42 (1)	21:18			21:43
25	08:10			07:14		16:54 (4)	06:10			06:00		19:17 (1)	05:09			04:55
	16:49			17:47	17	17:11 (4)	18:37			20:31	24	19:41 (1)	21:19			21:43
26	08:08			07:12		16:53 (4)	06:08			05:58		19:17 (1)	05:08			04:56
	16:51			17:49	20	17:13 (4)	18:39			20:33	23	19:40 (1)	21:21			21:43
27	08:07			07:10		16:52 (4)	06:05		17:49 (6)	05:56		19:18 (1)	05:07			04:56
	16:53			17:51	22	17:14 (4)	18:41	11	18:00 (6)	20:35	21	19:39 (1)	21:22			21:43
28	08:06			07:08		16:50 (4)	06:03		17:46 (6)	05:54		19:19 (1)	05:06			04:57
	16:55			17:53	24	17:14 (4)	18:43	17	18:03 (6)	20:36	19	19:38 (1)	21:23			21:43
29	08:04						07:01		18:44 (6)	05:52		19:20 (1)	05:05			04:57
	16:57						19:44	22	19:06 (6)	20:38	16	19:36 (1)	21:25			21:43
30	08:03		16:13 (5)				06:58		18:41 (6)	05:50		19:22 (1)	05:04			04:58
	16:58	7	16:20 (5)				19:46	25	19:06 (6)	20:40	12	19:34 (1)	21:26			21:43
31	08:01		16:10 (5)				06:56		18:40 (6)				05:03			
	17:00	12	16:22 (5)				19:48	27	19:07 (6)				21:27			
Sonnenscheinstunden	257			277			367			417			487			501
astr.max.mögl.Beschattung		19			426			331			861			5		
Red.Sonnenscheinwahrsch.		0,18			0,25			0,29			0,37			0,45		
Reduktion Betriebsdauer		1,00			1,00			1,00			1,00			1,00		
Reduktion Windrichtung		0,74			0,74			0,75			0,72			0,70		
Gesamte Reduktion		0,14			0,19			0,22			0,27			0,31		
Met.wahrsch.Beschattung		3			79			72			232			2		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang (WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende (WEA mit letztem Schatten)

SHADOW - Kalender

Berechnung: Schattenwurf WP VolkmarsdorfSchattenrezeptor: BQ - Rümmersche Str. 5

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

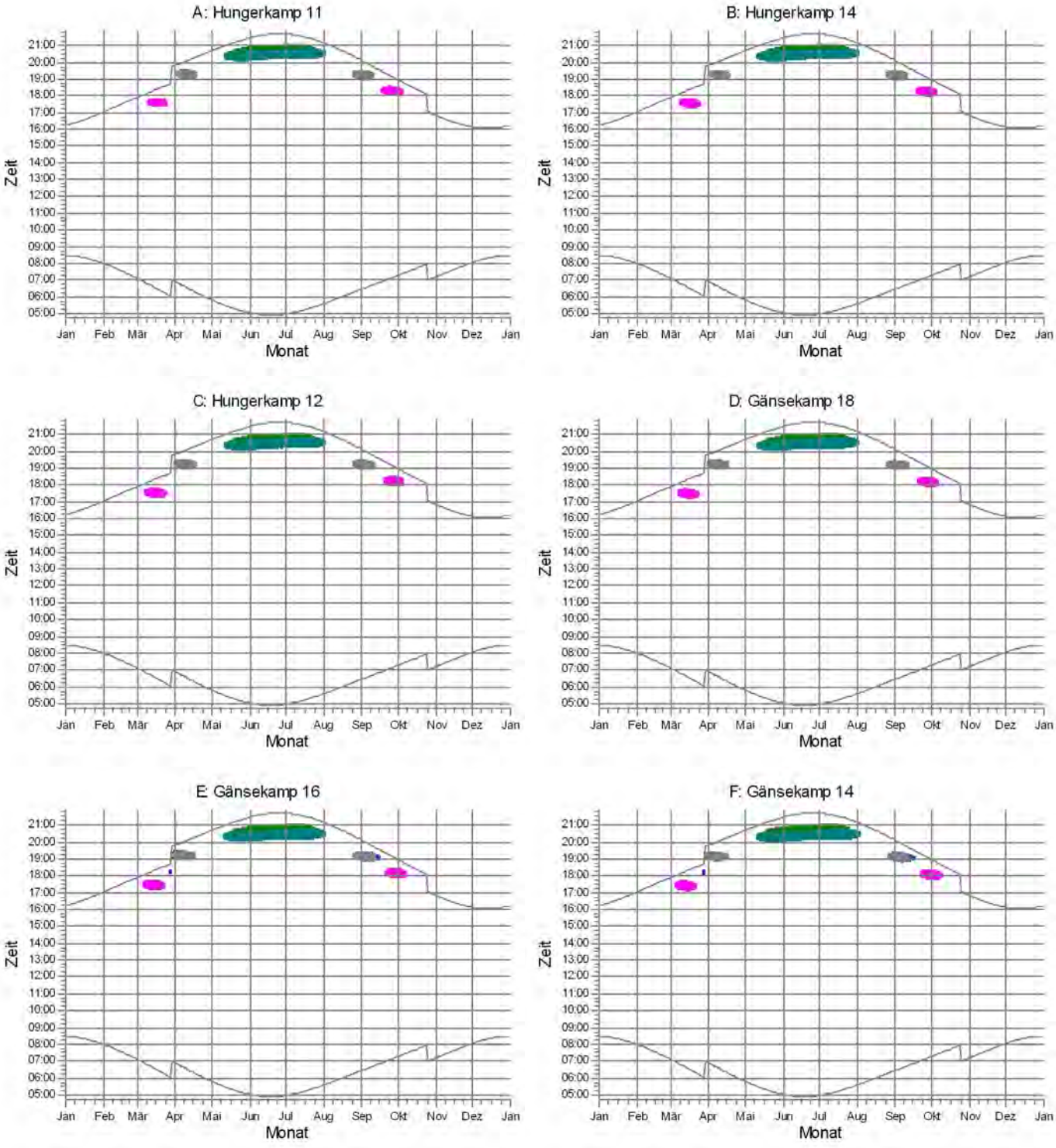
	Juli	August		September		Oktober		November		Dezember
1	04:59	05:36		06:26	18:35 (6)	07:16		07:11	15:35 (5)	08:03
	21:42	21:10		20:07 29	19:04 (6)	18:56		16:49 23	15:58 (5)	16:08
2	04:59	05:37		06:28	18:33 (6)	07:18		07:13	15:35 (5)	08:05
	21:42	21:08		20:05 31	19:04 (6)	18:54		16:47 24	15:59 (5)	16:07
3	05:00	05:39		06:30	18:33 (6)	07:20	17:32 (4)	07:15	15:35 (5)	08:06
	21:42	21:06		20:02 31	19:04 (6)	18:52 12	17:44 (4)	16:46 24	15:59 (5)	16:07
4	05:01	05:40		06:31	18:32 (6)	07:22	17:30 (4)	07:17	15:35 (5)	08:07
	21:41	21:05		20:00 33	19:05 (6)	18:49 16	17:46 (4)	16:44 24	15:59 (5)	16:06
5	05:02	05:42		06:33	18:31 (6)	07:23	17:28 (4)	07:19	15:35 (5)	08:09
	21:41	21:03		19:58 33	19:04 (6)	18:47 20	17:48 (4)	16:42 23	15:58 (5)	16:06
6	05:02	05:44		06:35	18:31 (6)	07:25	17:27 (4)	07:20	15:36 (5)	08:10
	21:40	21:01		19:55 33	19:04 (6)	18:45 22	17:49 (4)	16:40 22	15:58 (5)	16:05
7	05:03	05:45		06:36	18:30 (6)	07:27	17:25 (4)	07:22	15:36 (5)	08:11
	21:40	20:59		19:53 33	19:03 (6)	18:42 23	17:48 (4)	16:38 21	15:57 (5)	16:05
8	05:04	05:47		06:38	18:31 (6)	07:28	17:24 (4)	07:24	15:37 (5)	08:12
	21:39	20:57		19:51 32	19:03 (6)	18:40 25	17:49 (4)	16:37 20	15:57 (5)	16:04
9	05:05	05:48		06:40	18:31 (6)	07:30	17:24 (4)	07:26	15:38 (5)	08:14
	21:38	20:56		19:48 32	19:03 (6)	18:38 25	17:49 (4)	16:35 18	15:56 (5)	16:04
10	05:06	05:50		06:41	18:30 (6)	07:32	17:24 (4)	07:28	15:40 (5)	08:15
	21:38	20:54		19:46 31	19:01 (6)	18:36 25	17:49 (4)	16:33 15	15:55 (5)	16:04
11	05:07	05:52		06:43	18:31 (6)	07:34	17:23 (4)	07:29	15:41 (5)	08:16
	21:37	20:52		19:44 30	19:01 (6)	18:33 25	17:48 (4)	16:32 12	15:53 (5)	16:04
12	05:08	05:53	19:32 (1)	06:45	18:31 (6)	07:35	17:23 (4)	07:31	15:44 (5)	08:17
	21:36	20:50 8	19:40 (1)	19:41 28	18:59 (6)	18:31 25	17:48 (4)	16:30 7	15:51 (5)	16:04
13	05:09	05:55	19:30 (1)	06:46	18:32 (6)	07:37	17:23 (4)	07:33		08:18
	21:35	20:48 13	19:43 (1)	19:39 26	18:58 (6)	18:29 24	17:47 (4)	16:29		16:03
14	05:11	05:57	19:28 (1)	06:48	18:34 (6)	07:39	17:24 (4)	07:35		08:19
	21:34	20:46 17	19:45 (1)	19:37 22	18:56 (6)	18:27 23	17:47 (4)	16:27		16:03
15	05:12	05:58	19:26 (1)	06:50	18:35 (6)	07:41	17:25 (4)	07:37		08:20
	21:33	20:44 19	19:45 (1)	19:34 18	18:53 (6)	18:24 21	17:46 (4)	16:26		16:03
16	05:13	06:00	19:25 (1)	06:51	18:37 (6)	07:42	17:26 (4)	07:38		08:21
	21:32	20:42 22	19:47 (1)	19:32 13	18:50 (6)	18:22 18	17:44 (4)	16:24		16:04
17	05:14	06:02	19:23 (1)	06:53		07:44	17:26 (4)	07:40		08:22
	21:31	20:40 24	19:47 (1)	19:29		18:20 16	17:42 (4)	16:23		16:04
18	05:16	06:03	19:23 (1)	06:55		07:46	17:29 (4)	07:42		08:22
	21:30	20:38 25	19:48 (1)	19:27		18:18 10	17:39 (4)	16:22		16:04
19	05:17	06:05	19:22 (1)	06:56		07:48		07:44		08:23
	21:29	20:35 25	19:47 (1)	19:25		18:16		16:20		16:04
20	05:18	06:07	19:22 (1)	06:58		07:49		07:45		08:24
	21:27	20:33 26	19:48 (1)	19:22		18:14		16:19		16:05
21	05:20	06:08	19:21 (1)	07:00		07:51		07:47		08:24
	21:26	20:31 26	19:47 (1)	19:20		18:11		16:18		16:05
22	05:21	06:10	19:21 (1)	07:01		07:53		07:49		08:25
	21:25	20:29 26	19:47 (1)	19:18		18:09		16:17		16:06
23	05:22	06:12	19:21 (1)	07:03		07:55		07:50		08:25
	21:24	20:27 27	19:48 (1)	19:15		18:07		16:15		16:06
24	05:24	06:13	19:20 (1)	07:05		07:57		07:52		08:26
	21:22	20:25 26	19:46 (1)	19:13		18:05		16:14		16:07
25	05:25	06:15	19:21 (1)	07:06		06:58	15:45 (5)	07:54		08:26
	21:21	20:23 25	19:46 (1)	19:11		17:03 6	15:51 (5)	16:13		16:07
26	05:27	06:16	18:48 (6)	07:08		07:00	15:42 (5)	07:55		08:26
	21:19	20:20 30	19:45 (1)	19:08		17:01 12	15:54 (5)	16:12		16:08
27	05:28	06:18	18:44 (6)	07:10		07:02	15:40 (5)	07:57		08:27
	21:18	20:18 36	19:44 (1)	19:06		16:59 16	15:56 (5)	16:11		16:09
28	05:30	06:20	18:42 (6)	07:11		07:04	15:37 (5)	07:59		08:27
	21:16	20:16 39	19:43 (1)	19:03		16:57 19	15:56 (5)	16:10		16:09
29	05:31	06:21	18:39 (6)	07:13		07:06	15:36 (5)	08:00		08:27
	21:15	20:14 41	19:41 (1)	19:01		16:55 21	15:57 (5)	16:10		16:10
30	05:33	06:23	18:38 (6)	07:15		07:08	15:36 (5)	08:02		08:27
	21:13	20:11 38	19:39 (1)	18:59		16:53 22	15:58 (5)	16:09		16:11
31	05:34	06:25	18:36 (6)			07:09	15:35 (5)			08:27
	21:12	20:09 33	19:34 (1)			16:51 23	15:58 (5)			16:12
Sonnenscheinstunden	504	455		381		331		265		241
astr.max.mögl.Beschattung		526		455		449		233		
Red.Sonnenscheinwahrsch.		0,44		0,37		0,31		0,21		
Reduktion Betriebsdauer		1,00		1,00		1,00		1,00		
Reduktion Windrichtung		0,71		0,74		0,75		0,74		
Gesamte Reduktion		0,32		0,27		0,23		0,16		
Met.wahrsch.Beschattung		166		125		105		37		

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)		Zeitpunkt (SS:MM) Schattenanfang	(WEA mit erstem Schatten)
	Sonnenuntergang (SS:MM)	Minuten mit Schatten	Zeitpunkt (SS:MM) Schattenende	(WEA mit letztem Schatten)

SHADOW - Grafischer Kalender

Berechnung: Schattenwurf WP Volkmarsdorf

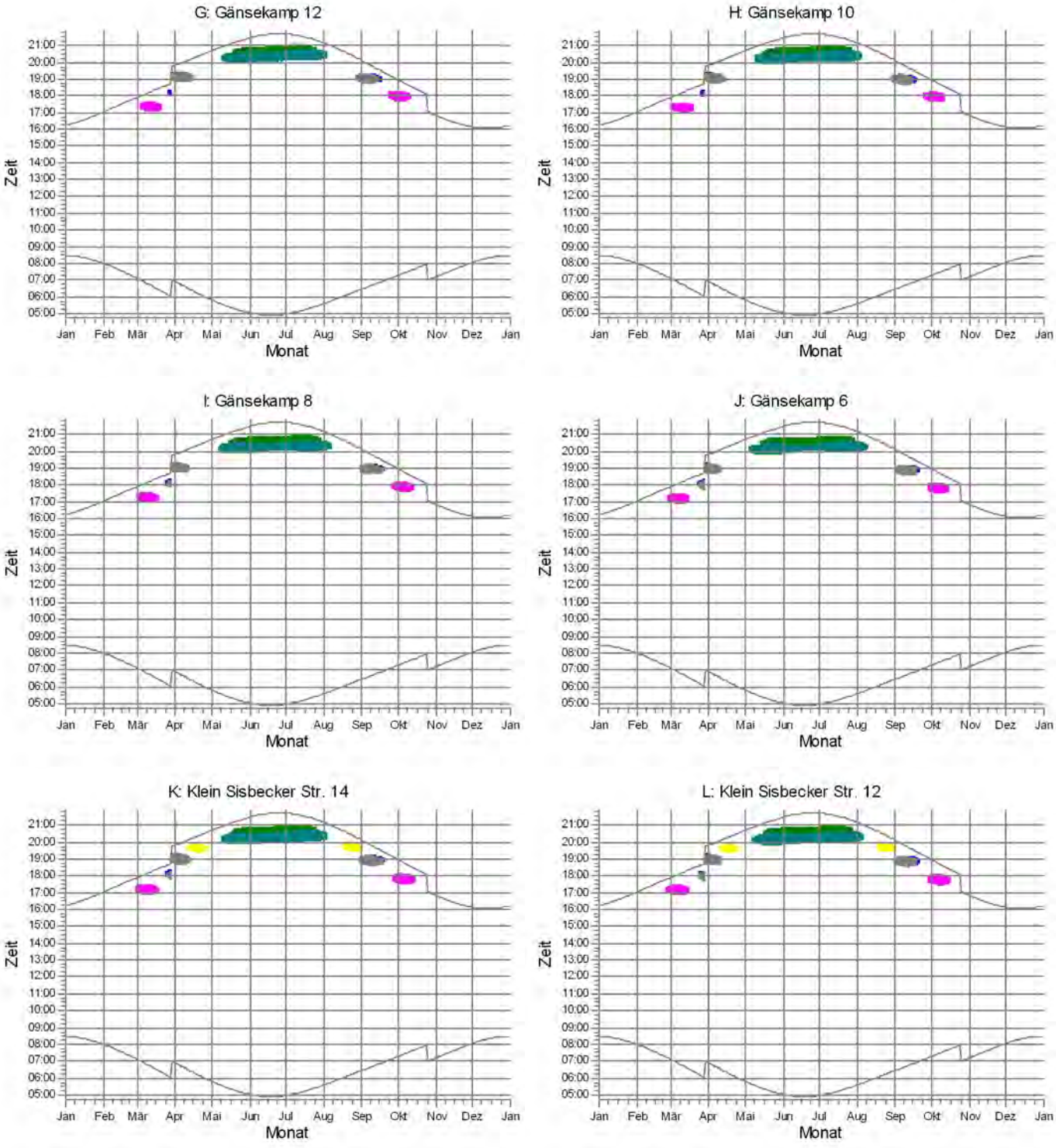


WEA

1: GE 5.5-158	4: GE 5.5-158	6: GE 5.5-158
3: GE 5.5-158	5: GE 5.5-158	

SHADOW - Grafischer Kalender

Berechnung: Schattenwurf WP Volkmarsdorf

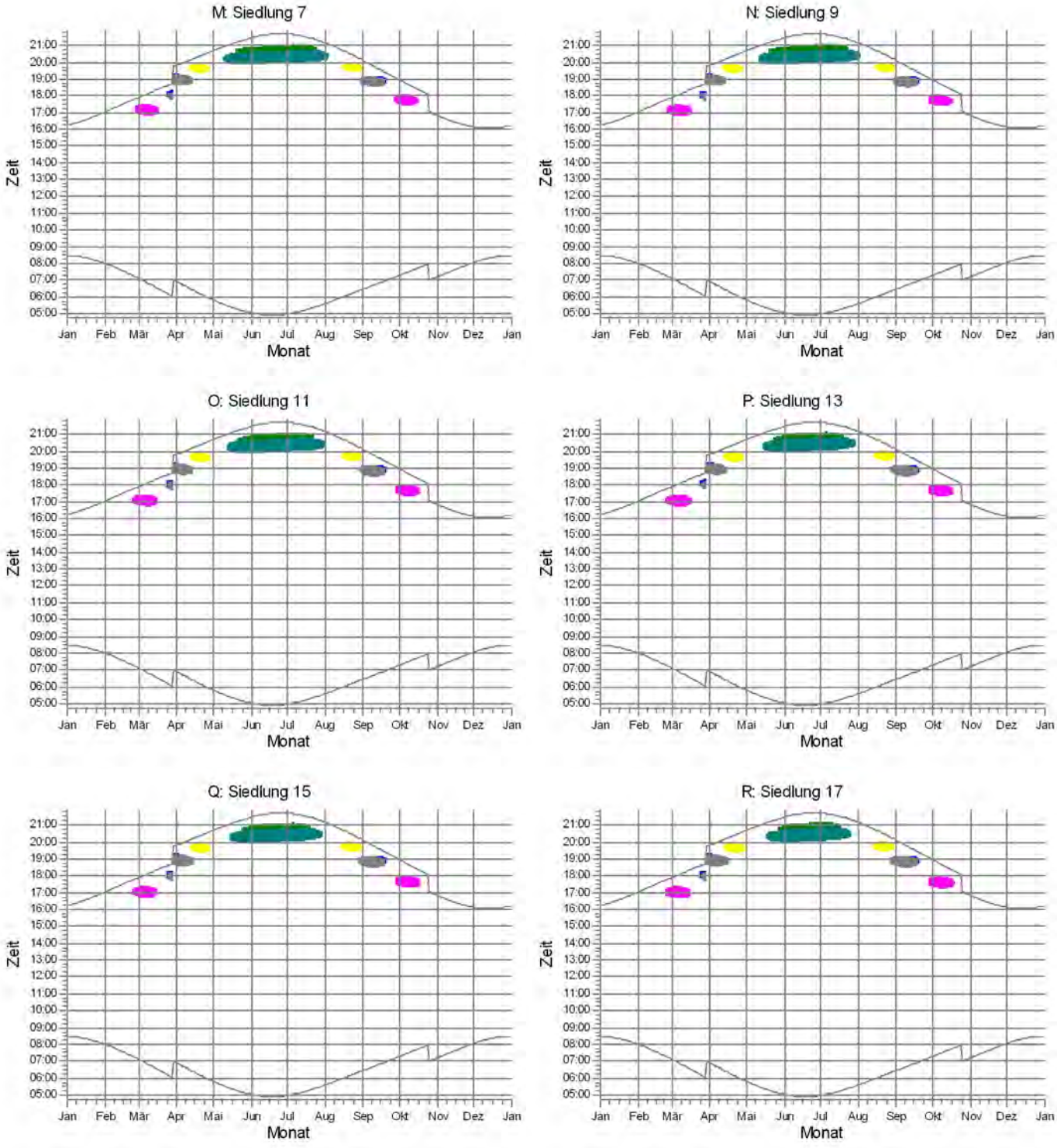


WEA

1: GE 5.5-158	3: GE 5.5-158	5: GE 5.5-158
2: GE 5.5-158	4: GE 5.5-158	6: GE 5.5-158

SHADOW - Grafischer Kalender

Berechnung: Schattenwurf WP Volkmarsdorf

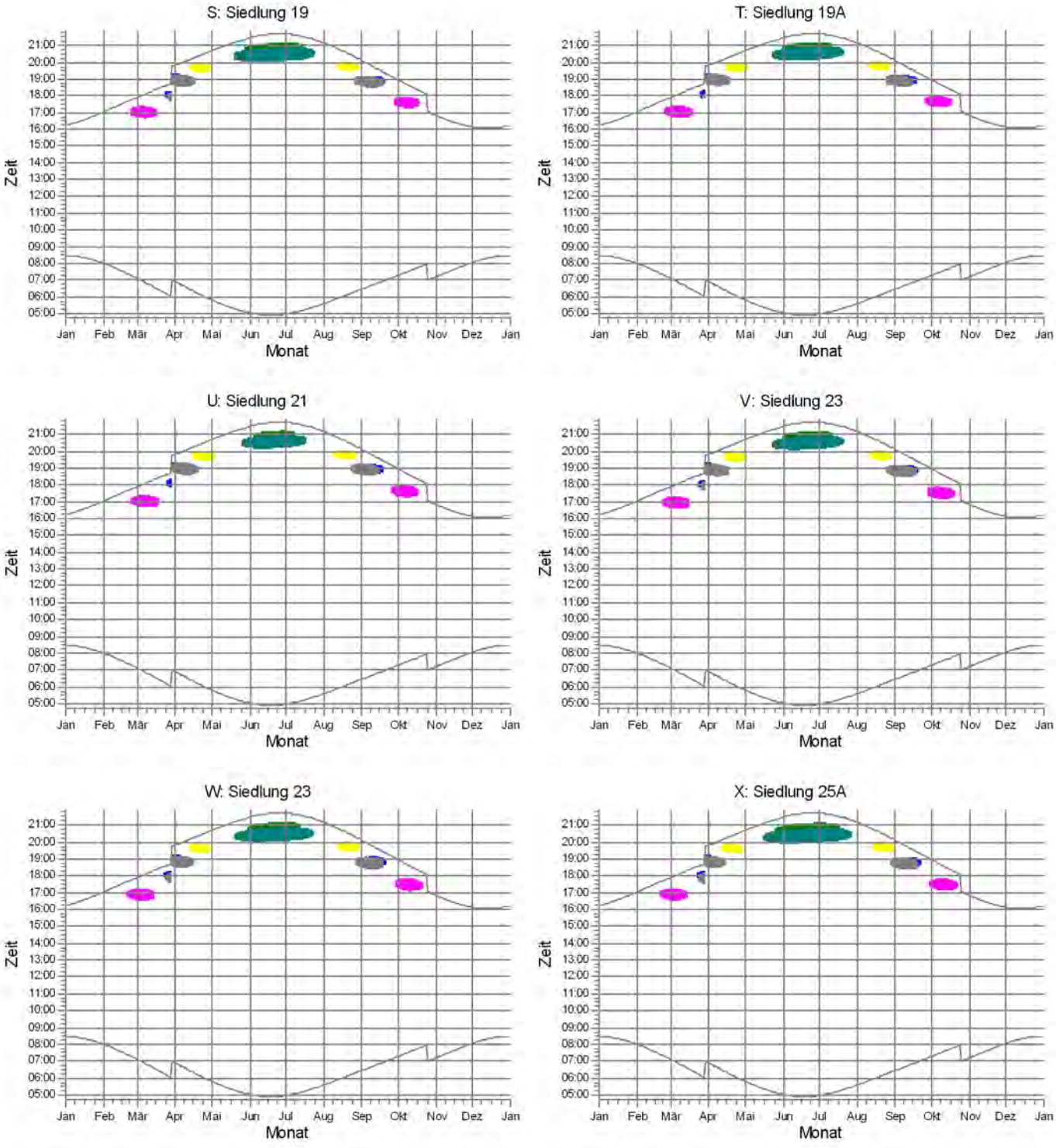


WEA

1: GE 5.5-158	3: GE 5.5-158	5: GE 5.5-158
2: GE 5.5-158	4: GE 5.5-158	6: GE 5.5-158

SHADOW - Grafischer Kalender

Berechnung: Schattenwurf WP Volkmarsdorf

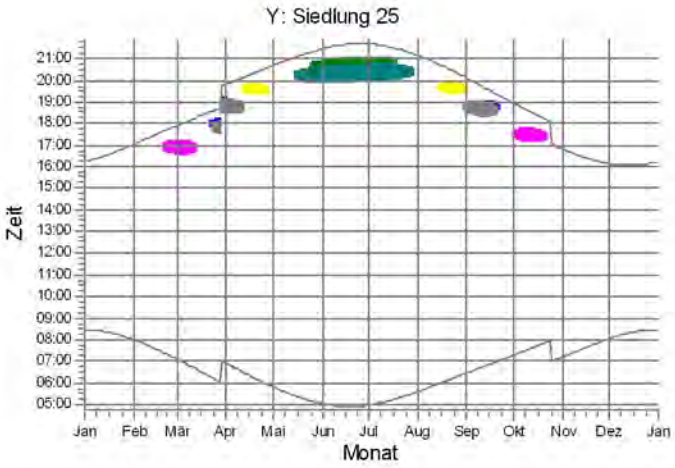


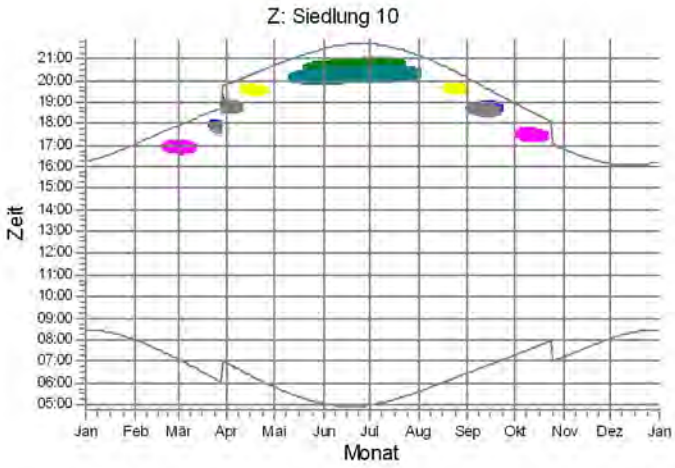
WEA

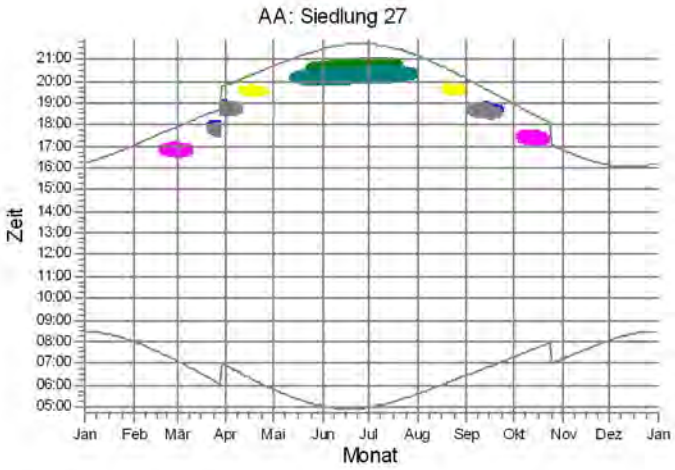
1: GE 5.5-158	3: GE 5.5-158	5: GE 5.5-158
2: GE 5.5-158	4: GE 5.5-158	6: GE 5.5-158

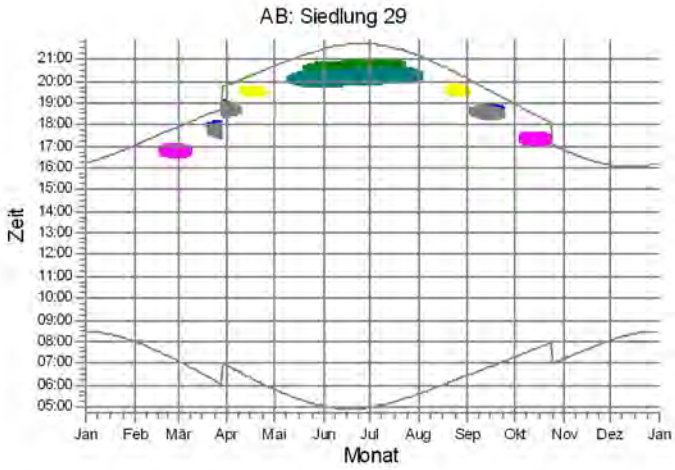
SHADOW - Grafischer Kalender

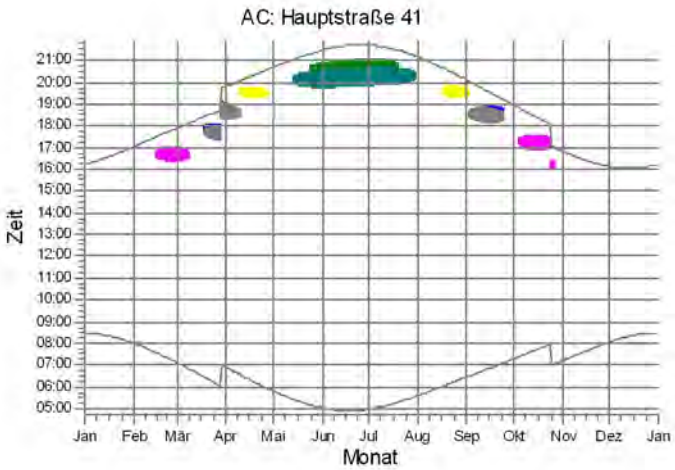
Berechnung: Schattenwurf WP Volkmarsdorf

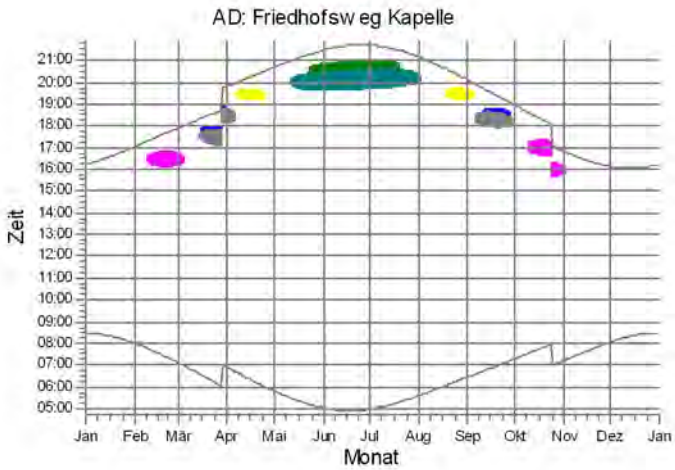












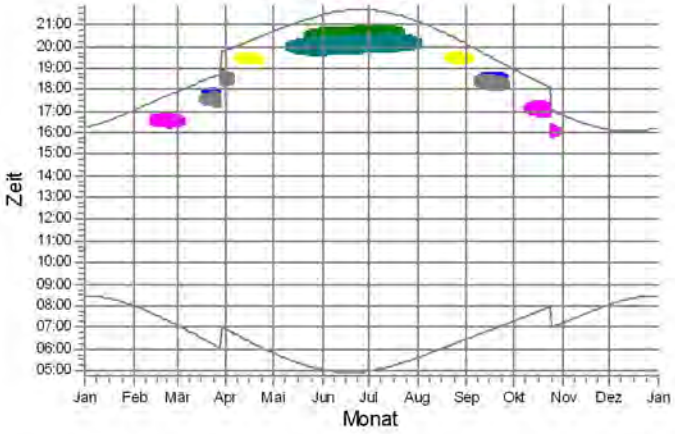
WEA

1: GE 5.5-158	3: GE 5.5-158	5: GE 5.5-158
2: GE 5.5-158	4: GE 5.5-158	6: GE 5.5-158

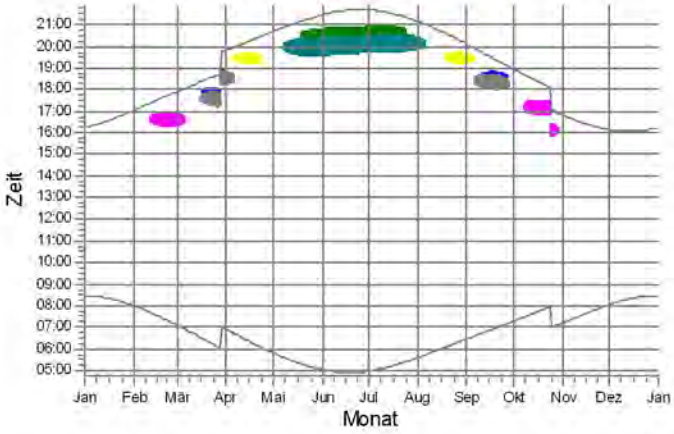
SHADOW - Grafischer Kalender

Berechnung: Schattenwurf WP Volkmarsdorf

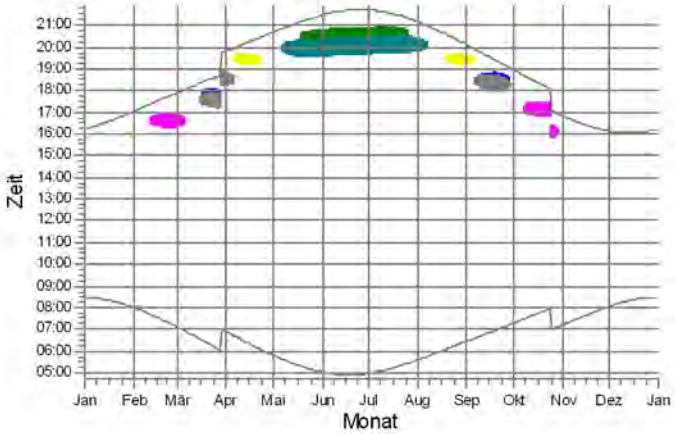
AE: Friedhofsweg 2



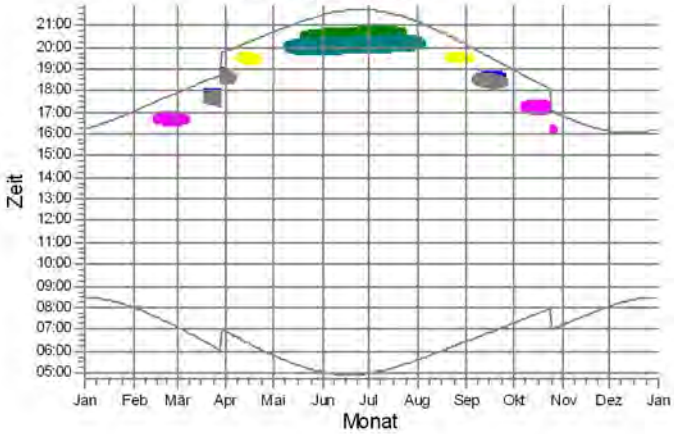
AF: Hauptstraße 48



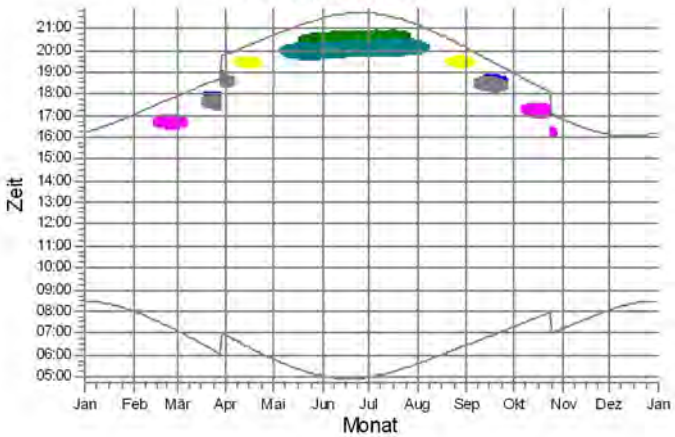
AG: Hauptstraße 46



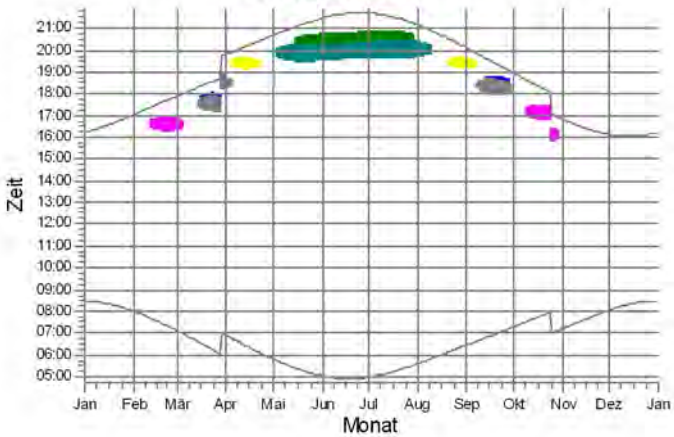
AH: Hauptstraße 39A



AI: Hauptstraße 39



AJ: Hauptstraße 44

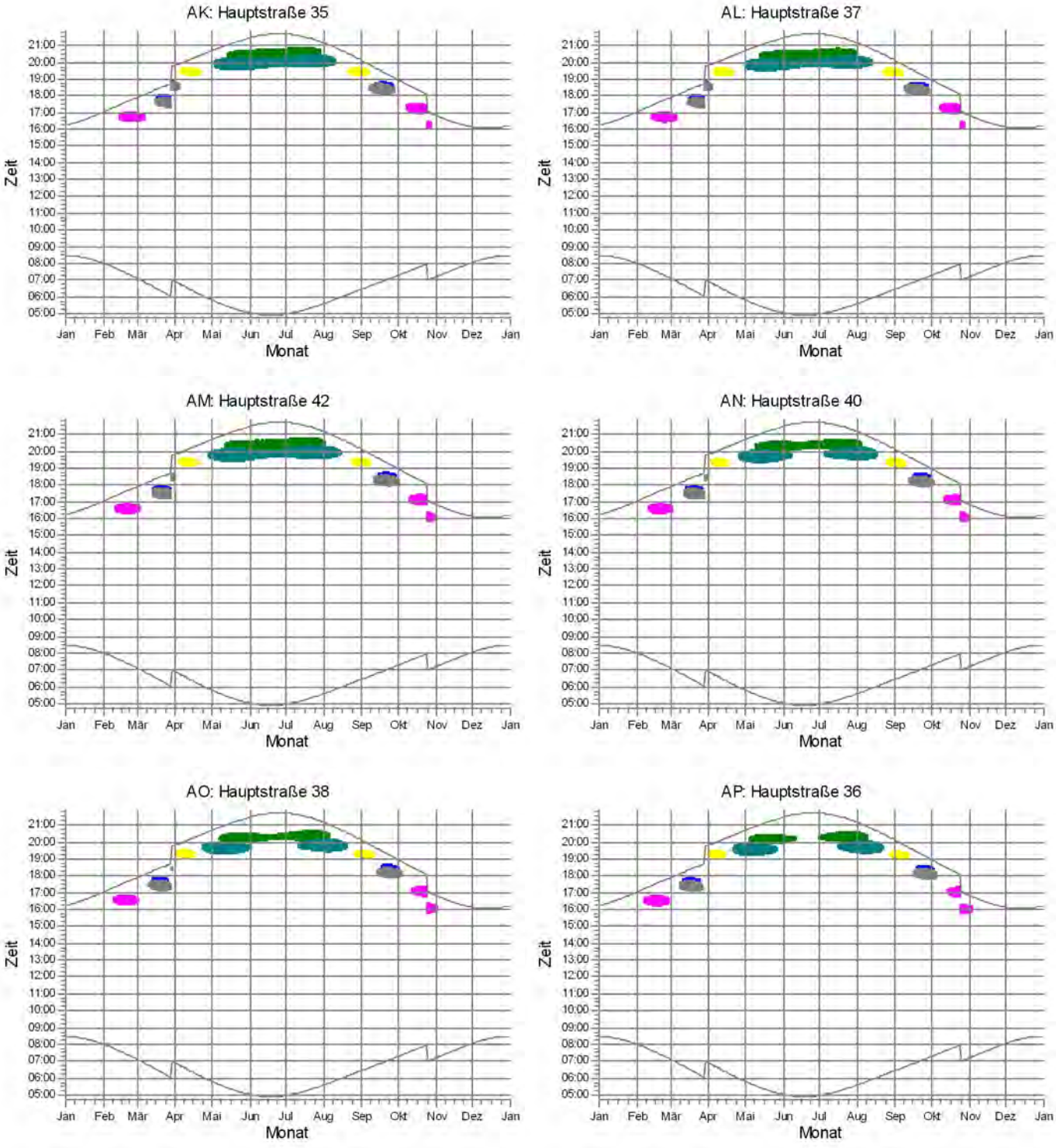


WEA

1: GE 5.5-158	3: GE 5.5-158	5: GE 5.5-158
2: GE 5.5-158	4: GE 5.5-158	6: GE 5.5-158

SHADOW - Grafischer Kalender

Berechnung: Schattenwurf WP Volkmarsdorf

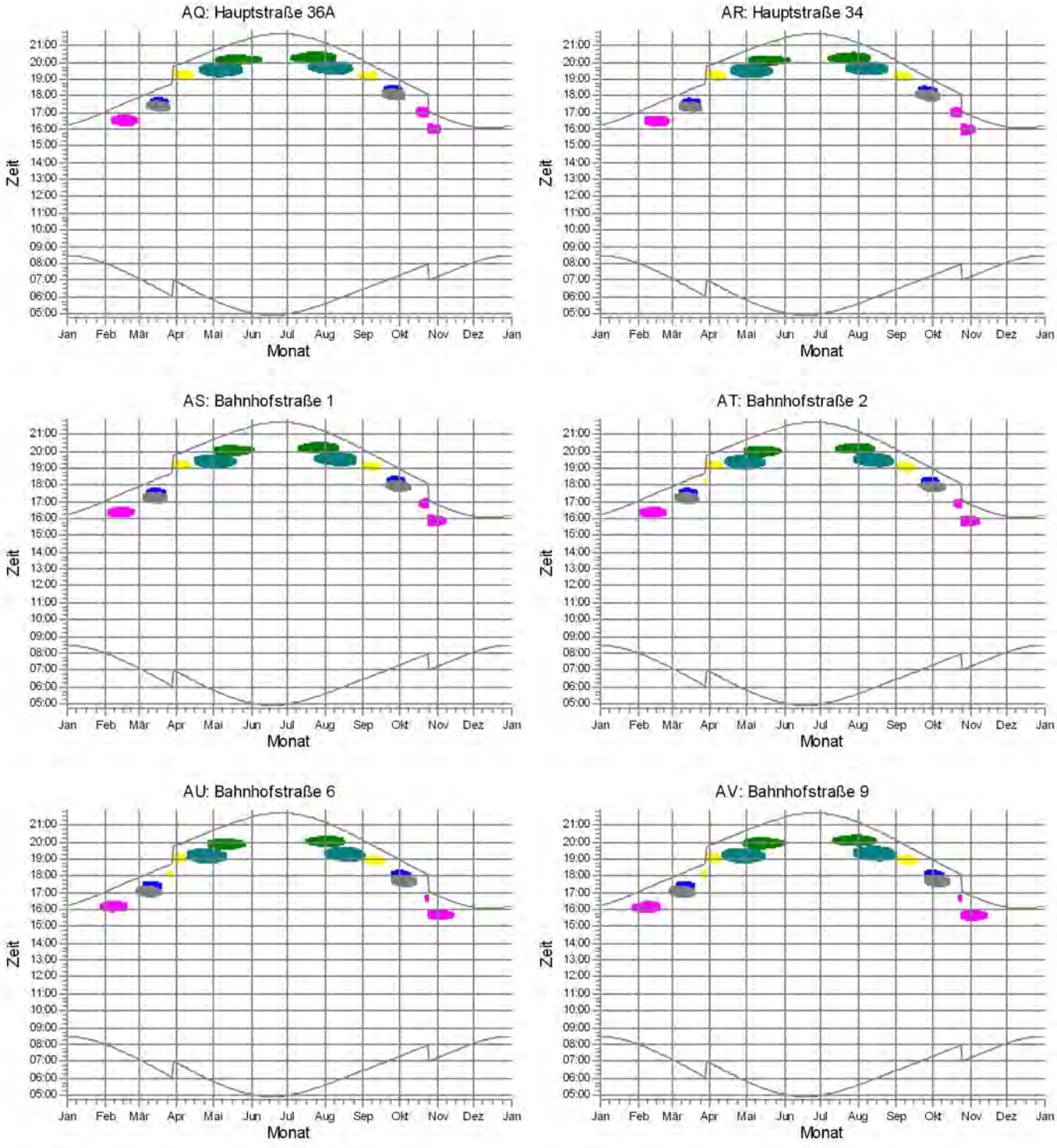


WEA

1: GE 5.5-158	3: GE 5.5-158	5: GE 5.5-158
2: GE 5.5-158	4: GE 5.5-158	6: GE 5.5-158

SHADOW - Grafischer Kalender

Berechnung: Schattenwurf WP Volkmarsdorf

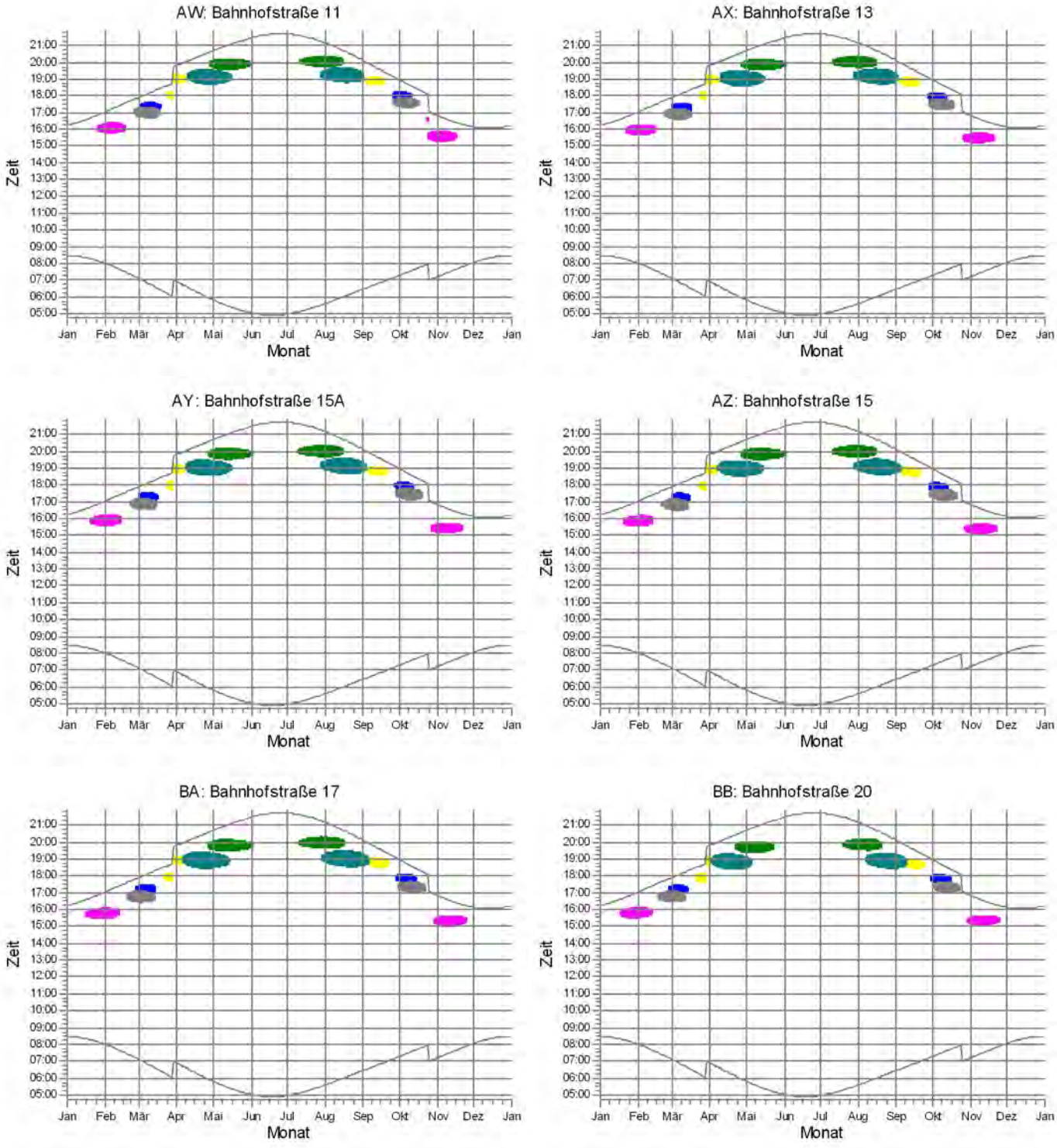


WEA

1: GE 5.5-158	3: GE 5.5-158	5: GE 5.5-158
2: GE 5.5-158	4: GE 5.5-158	6: GE 5.5-158

SHADOW - Grafischer Kalender

Berechnung: Schattenwurf WP Volkmarsdorf



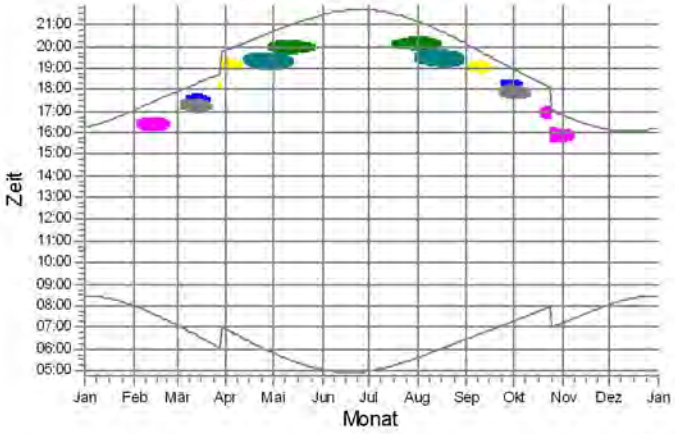
WEA

1: GE 5.5-158	3: GE 5.5-158	5: GE 5.5-158
2: GE 5.5-158	4: GE 5.5-158	6: GE 5.5-158

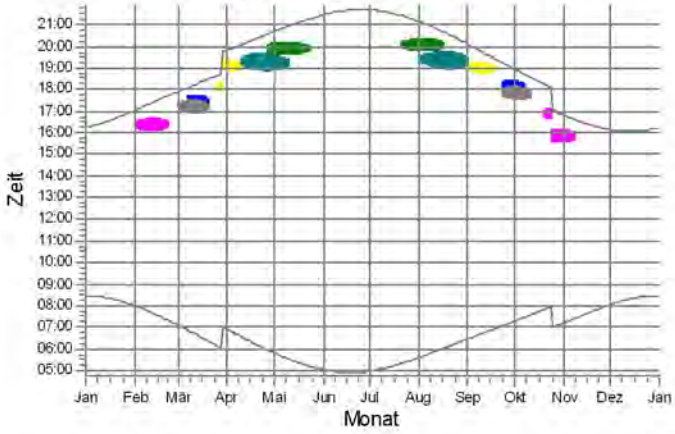
SHADOW - Grafischer Kalender

Berechnung: Schattenwurf WP Volkmarsdorf

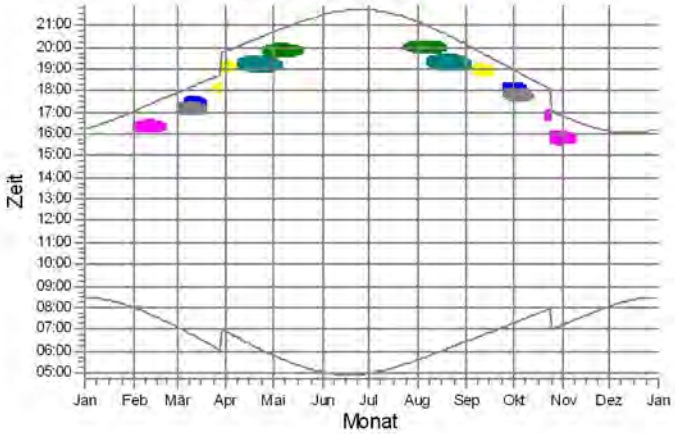
BC: Hauptstraße 30B



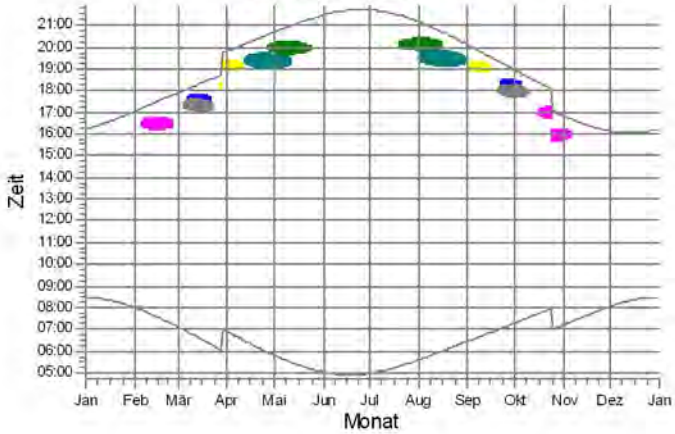
BD: Hauptstraße 30C



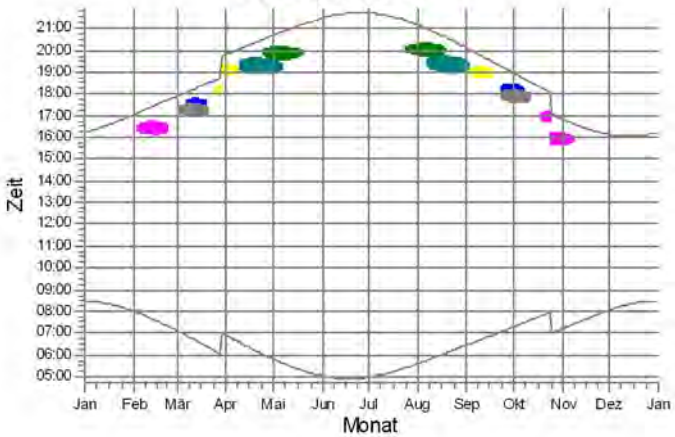
BE: Hauptstraße 30D



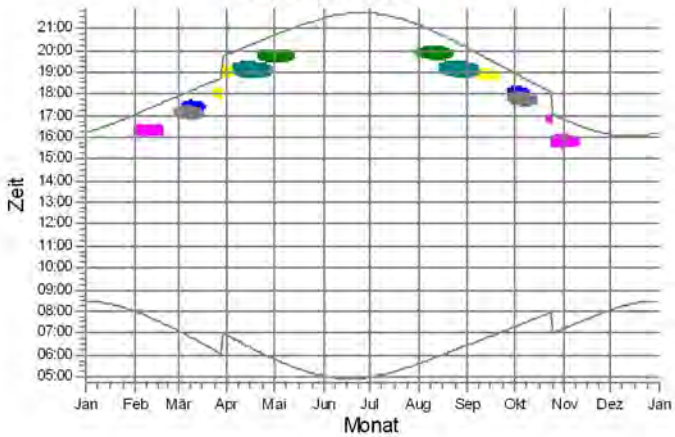
BF: Hauptstraße 30



BG: Hauptstraße 26



BH: Hauptstraße 24

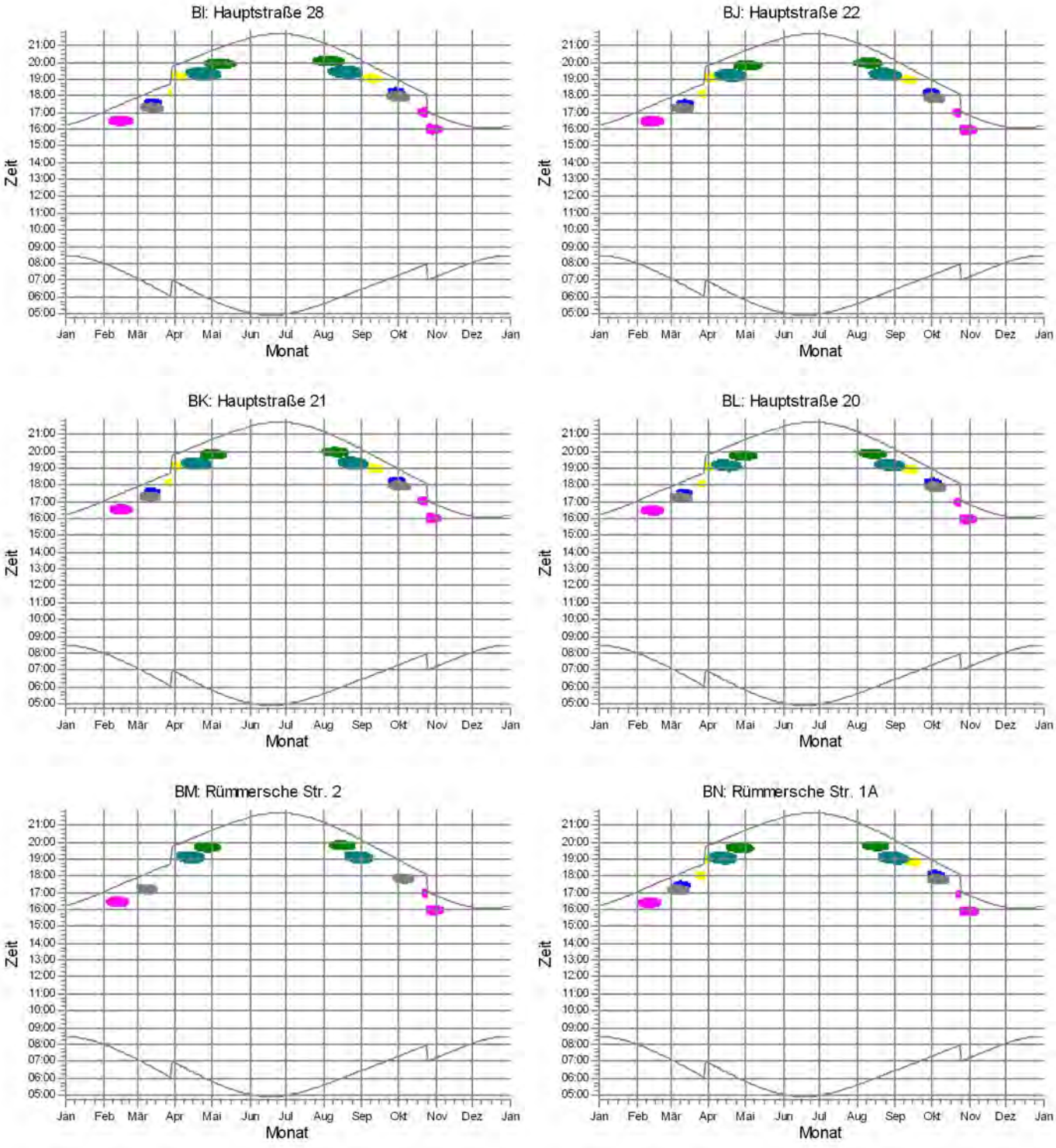


WEA

1: GE 5.5-158	3: GE 5.5-158	5: GE 5.5-158
2: GE 5.5-158	4: GE 5.5-158	6: GE 5.5-158

SHADOW - Grafischer Kalender

Berechnung: Schattenwurf WP Volkmarsdorf



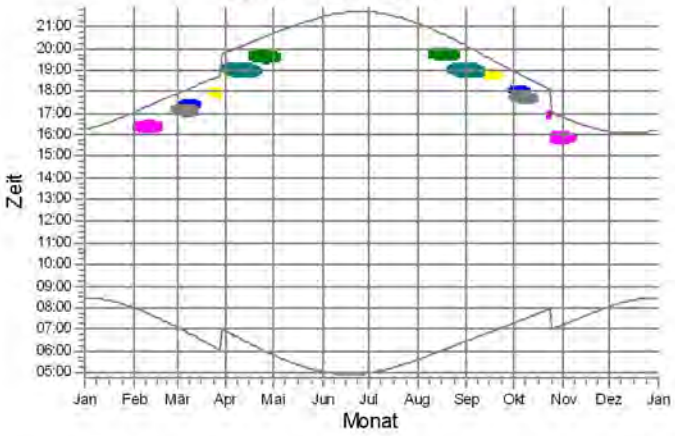
WEA

1: GE 5.5-158	3: GE 5.5-158	5: GE 5.5-158
2: GE 5.5-158	4: GE 5.5-158	6: GE 5.5-158

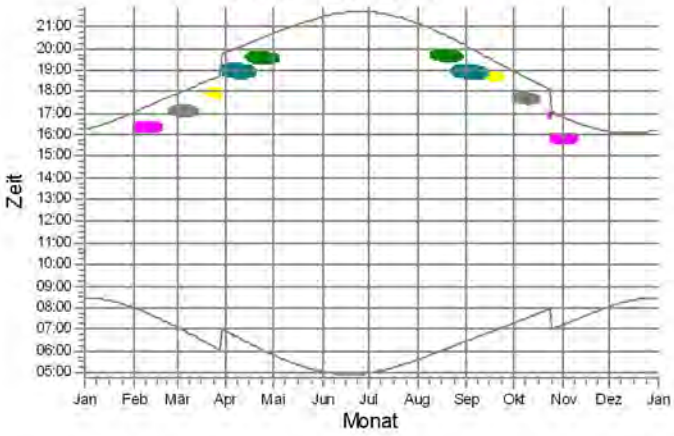
SHADOW - Grafischer Kalender

Berechnung: Schattenwurf WP Volkmarsdorf

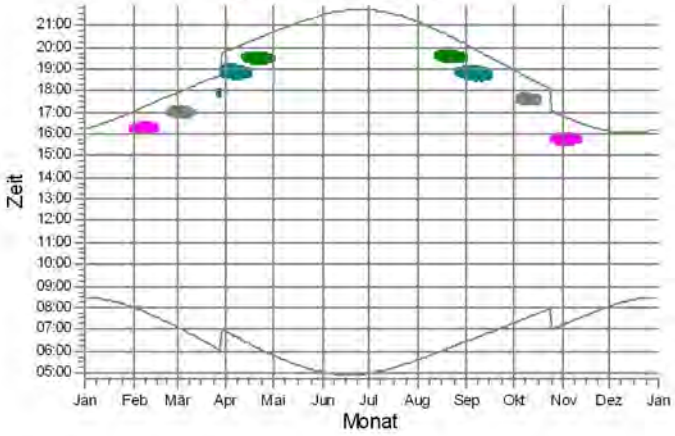
BO: Rümmersche Str. 1



BP: Rümmersche Str. 3



BQ: Rümmersche Str. 5



WEA

1: GE 5.5-158	3: GE 5.5-158	5: GE 5.5-158
2: GE 5.5-158	4: GE 5.5-158	6: GE 5.5-158

SHADOW - Kalender pro WEA

Berechnung: Schattenwurf WP VolkmarsdorfWEA: 1 - GE 5.5-158

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar	März	April	Mai	Juni	Juli	August	September	Oktober	November	Dezember
1	08:27	08:00	07:05	06:54	05:48 19:25-20:10/45	05:02 19:44-20:55/71	04:59 20:13-21:08/55	05:36 19:36-20:36/60	06:27	07:16	07:11	08:03
	16:14	17:02	17:55	19:50	20:42	21:28	21:43	21:10	20:07	18:56	16:49	16:08
2	08:27	07:58	07:03	06:51	05:46 19:26-20:11/45	05:01 19:46-19:57/11	04:59 20:12-21:07/55	05:37 19:35-20:34/59	06:28	07:18	07:13	08:05
	16:15	17:04	17:57	19:51	20:43	21:29 20:00-20:56/56	21:42	21:08	20:05	18:54	16:47	16:07
3	08:27	07:57	07:01	06:49	05:44 19:25-20:11/46	05:00 20:01-20:57/56	05:00 20:12-21:07/55	05:39 19:35-20:33/58	06:30	07:20	07:15	08:06
	16:16	17:06	17:58	19:53	20:45	21:31	21:42	21:07	20:02	18:52	16:46	16:07
4	08:27	07:55	06:59	06:47	05:42 19:24-20:14/50	04:59 20:03-20:58/55	05:01 20:12-21:07/55	05:41 19:34-20:31/57	06:32	07:22	07:17	08:07
	16:17	17:08	18:00	19:55	20:47	21:32	21:41	21:05	20:00	18:50	16:44	16:06
5	08:27	07:53	06:57	06:45	05:40 19:24-20:15/51	04:59 20:03-20:59/56	05:02 20:12-21:07/55	05:42 19:34-20:30/56	06:33	07:23	07:19	08:09
	16:18	17:10	18:02	19:57	20:48	21:33	21:41	21:03	19:58	18:47	16:42	16:06
6	08:26	07:51	06:54	06:42	05:39 19:25-20:17/52	04:58 20:05-21:00/55	05:02 20:11-21:07/56	05:44 19:34-20:28/54	06:35	07:25	07:20	08:10
	16:19	17:12	18:04	19:58	20:50	21:34	21:40	21:01	19:55	18:45	16:40	16:05
7	08:26	07:50	06:52	06:40	05:37 19:24-20:19/55	04:57 20:05-21:00/55	05:03 20:10-21:05/55	05:45 19:34-20:26/52	06:36	07:27	07:22	08:11
	16:21	17:13	18:06	20:00	20:52	21:35	21:40	20:59	19:53	18:43	16:39	16:05
8	08:25	07:48	06:50	06:38	05:35 19:24-20:20/56	04:57 20:06-21:02/56	05:04 20:09-21:05/56	05:47 19:33-20:24/51	06:38	07:28	07:24	08:13
	16:22	17:15	18:07	20:02	20:53	21:35	21:39	20:58	19:51	18:40	16:37	16:04
9	08:25	07:46	06:47	06:35	05:33 19:25-20:22/57	04:56 20:06-21:02/56	05:05 20:09-21:04/55	05:49 19:34-20:22/48	06:40	07:30	07:26	08:14
	16:23	17:17	18:09	20:04	20:55	21:36	21:38	20:56	19:48	18:38	16:35	16:04
10	08:24	07:44	06:45	06:33	05:31 19:25-20:23/58	04:56 20:07-21:03/56	05:06 19:55-20:03/8	05:50 19:33-20:20/47	06:41	07:32	07:28	08:15
	16:25	17:19	18:11	20:05	20:57	21:37	21:38 20:08-21:04/56	20:54	19:46	18:36	16:33	16:04
11	08:24	07:42	06:43	06:31	05:30 19:24-20:25/61	04:55 20:08-21:04/56	05:07 19:53-20:05/12	05:52 19:34-20:19/45	06:43	07:34	07:30	08:16
	16:26	17:21	18:13	20:07	20:58	21:38	21:37 20:06-21:03/57	20:52	19:44	18:33	16:32	16:04
12	08:23	07:41	06:41	06:29 19:29-19:35/6	05:28 19:25-20:26/61	04:55 20:08-21:04/56	05:08 19:51-21:02/71	05:53 19:32-20:17/45	06:45	07:35	07:31	08:17
	16:28	17:23	18:15	20:09	21:00	21:39	21:36	20:50	19:41	18:31	16:30	16:04
13	08:22	07:39	06:38	06:26 19:24-19:38/14	05:26 19:25-20:28/63	04:55 20:09-21:04/55	05:10 19:50-21:02/72	05:55 19:30-20:16/46	06:46	07:37	07:33	08:18
	16:29	17:25	18:16	20:11	21:02	21:39	21:35	20:48	19:39	18:29	16:29	16:04
14	08:22	07:37	06:36	06:24 19:22-19:40/18	05:25 19:26-20:33/67	04:55 20:10-21:05/55	05:11 19:48-21:01/73	05:57 19:28-20:14/46	06:48	07:39	07:35	08:19
	16:31	17:27	18:18	20:12	21:03	21:40	21:34	20:46	19:37	18:27	16:27	16:03
15	08:21	07:35	06:34	06:22 19:21-19:42/21	05:23 19:26-20:34/68	04:54 20:10-21:05/55	05:12 19:48-21:01/73	05:58 19:26-20:12/46	06:50	07:41	07:37	08:20
	16:32	17:29	18:20	20:14	21:05	21:40	21:33	20:44	19:34	18:25	16:26	16:04
16	08:20	07:33	06:31	06:20 19:20-19:45/25	05:21 19:28-20:35/67	04:54 20:11-21:06/55	05:13 19:47-21:00/73	06:00 19:25-20:10/45	06:51	07:42	07:38	08:21
	16:34	17:30	18:22	20:16	21:06	21:41	21:32	20:42	19:32	18:22	16:24	16:04
17	08:19	07:31	06:29	06:17 19:19-19:46/27	05:20 19:29-20:37/68	04:54 20:11-21:06/55	05:14 19:46-20:59/73	06:02 19:23-20:08/45	06:53	07:44	07:40	08:22
	16:36	17:32	18:23	20:17	21:08	21:41	21:31	20:40	19:30	18:20	16:23	16:04
18	08:18	07:29	06:27	06:15 19:17-19:48/31	05:18 19:29-20:38/69	04:54 20:11-21:07/56	05:16 19:45-20:58/73	06:03 19:23-20:06/43	06:55	07:46	07:42	08:22
	16:37	17:34	18:25	20:19	21:09	21:42	21:30	20:38	19:27	18:18	16:22	16:04
19	08:17	07:27	06:24	06:13 19:17-19:50/33	05:17 19:31-20:40/69	04:54 20:12-21:07/55	05:17 19:45-20:56/71	06:05 19:22-20:04/42	06:56	07:48	07:44	08:23
	16:39	17:36	18:27	20:21	21:11	21:42	21:29	20:36	19:25	18:16	16:20	16:04
20	08:16	07:25	06:22	06:11 19:16-19:52/36	05:16 19:32-20:41/69	04:54 20:12-21:07/55	05:18 19:45-20:56/71	06:07 19:22-20:03/41	06:58	07:50	07:45	08:24
	16:41	17:38	18:29	20:23	21:12	21:43	21:28	20:33	19:22	18:14	16:19	16:05
21	08:15	07:23	06:20	06:09 19:16-19:54/38	05:14 19:33-20:43/70	04:54 20:12-21:07/55	05:20 19:44-20:55/71	06:08 19:21-20:00/39	07:00	07:51	07:47	08:24
	16:42	17:40	18:31	20:24	21:14	21:43	21:26	20:31	19:20	18:11	16:18	16:05
22	08:14	07:21	06:17	06:06 19:16-19:55/39	05:13 19:33-20:43/70	04:55 20:13-21:08/55	05:21 19:43-20:53/70	06:10 19:21-19:58/37	07:01	07:53	07:49	08:25
	16:44	17:42	18:32	20:26	21:15	21:43	21:25	20:29	19:18	18:09	16:17	16:06
23	08:12	07:18	06:15	06:04 19:16-19:57/41	05:12 19:34-20:45/71	04:55 20:13-21:08/55	05:22 19:42-20:52/70	06:12 19:21-19:56/35	07:03	07:55	07:51	08:25
	16:46	17:44	18:34	20:28	21:17	21:43	21:24	20:27	19:15	18:07	16:15	16:06
24	08:11	07:16	06:13	06:02 19:16-19:59/43	05:10 19:35-20:46/71	04:55 20:13-21:08/55	05:24 19:42-20:51/69	06:13 19:20-19:53/33	07:05	07:57	07:52	08:26
	16:48	17:45	18:36	20:30	21:18	21:43	21:22	20:25	19:13	18:05	16:14	16:07
25	08:10	07:14	06:10	06:00 19:17-20:00/43	05:09 19:36-20:47/71	04:55 20:13-21:08/55	05:25 19:41-20:49/68	06:15 19:21-19:51/30	07:06	06:59	07:54	08:26
	16:49	17:47	18:38	20:31	21:20	21:43	21:21	20:23	19:11	17:03	16:13	16:07
26	08:08	07:12	06:08	05:58 19:17-20:02/45	05:08 19:36-20:49/73	04:56 20:13-21:08/55	05:27 19:39-20:48/69	06:17 19:21-19:48/27	07:08	07:00	07:55	08:27
	16:51	17:49	18:39	20:33	21:21	21:43	21:19	20:20	19:08	17:01	16:12	16:08
27	08:07	07:10	06:06	05:56 19:18-20:03/45	05:07 19:37-20:50/73	04:56 20:12-21:09/57	05:28 19:39-20:47/68	06:18 19:22-19:46/24	07:10	07:02	07:57	08:27
	16:53	17:51	18:41	20:35	21:22	21:43	21:18	20:18	19:06	16:59	16:11	16:09
28	08:06	07:08	06:03	05:54 19:19-20:05/46	05:06 19:38-20:51/73	04:57 20:13-21:08/55	05:30 19:38-20:45/67	06:20 19:23-19:44/21	07:11	07:04	07:59	08:27
	16:55	17:53	18:43	20:36	21:23	21:43	21:16	20:16	19:04	16:57	16:10	16:10
29	08:04		07:01	05:52 19:20-20:06/46	05:05 19:39-20:52/73	04:57 20:13-21:09/56	05:31 19:38-20:44/66	06:22 19:23-19:41/18	07:13	07:06	08:00	08:27
	16:57		19:44	20:38	21:25	21:43	21:15	20:14	19:01	16:55	16:10	16:10
30	08:03		06:58	05:50 19:22-20:08/46	05:04 19:41-20:53/72	04:58 20:13-21:08/55	05:33 19:37-20:40/63	06:23 19:26-19:39/13	07:15	07:08	08:02	08:27
	16:58		19:46	20:40	21:26	21:43	21:13	20:11	18:59	16:53	16:09	16:11
31	08:01		06:56		05:03 19:43-20:55/72		05:34 19:36-20:37/61	06:25 19:28-19:34/6		07:09		08:27
	17:00		19:48		21:27		21:12	20:09		16:51		16:12
Sonnenscheinstunden	257	277	367	417	487	501	504	455	381	331	265	241
Anzahl Minuten mit Schatten	0	0	0	643	1966	1689	2022	1269	0	0	0	0

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)	Zeitpunkt (SS:MM) Schattenanfang-Zeitpunkt (SS:MM) Schattenende/Minuten mit Schatten
	Sonnenuntergang (SS:MM)	Zeitpunkt (SS:MM) Schattenanfang-Zeitpunkt (SS:MM) Schattenende/Minuten mit Schatten

SHADOW - Kalender pro WEA

Berechnung: Schattenwurf WP VolkmarsdorfWEA: 2 - GE 5.5-158

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar	März	April	Mai	Juni	Juli	August	September	Oktober	November	Dezember
1	08:27	08:00	07:05	06:54 18:42-19:23/41	05:48 19:35-19:49/14	05:02	04:59	05:36	06:27 19:01-19:40/39	07:17	07:11	08:03
	16:14	17:02	17:55	19:50	20:42	21:28	21:43	21:10	20:07	18:57	16:49	16:08
2	08:27	07:58	07:03	06:52 18:42-19:24/42	05:46 19:37-19:46/9	05:01	04:59	05:37	06:28 18:59-19:36/37	07:18	07:13	08:05
	16:15	17:04	17:57	19:51	20:43	21:29	21:42	21:08	20:05	18:54	16:48	16:07
3	08:27	07:57	07:01	06:49 18:43-19:27/44	05:44	05:00	05:00	05:39	06:30 18:54-19:34/40	07:20	07:15	08:06
	16:16	17:06	17:58	19:53	20:45	21:31	21:42	21:07	20:02	18:52	16:46	16:07
4	08:27	07:55	06:59	06:47 18:44-19:28/44	05:42	04:59	05:01	05:41	06:32 18:51-19:33/42	07:22	07:17	08:07
	16:17	17:08	18:00	19:55	20:47	21:32	21:41	21:05	20:00	18:50	16:44	16:06
5	08:27	07:53	06:57	06:45 18:45-19:29/44	05:40	04:59	05:02	05:42	06:33 18:47-19:30/43	07:23	07:19	08:09
	16:18	17:10	18:02	19:57	20:48	21:33	21:41	21:03	19:58	18:47	16:42	16:06
6	08:26	07:51	06:54	06:42 18:48-19:32/44	05:39	04:58	05:02	05:44	06:35 18:44-19:28/44	07:25	07:20	08:10
	16:19	17:12	18:04	19:58	20:50	21:34	21:40	21:01	19:55	18:45	16:40	16:05
7	08:26	07:50	06:52	06:40 18:51-19:34/43	05:37	04:57	05:03	05:45	06:37 18:40-19:24/44	07:27	07:22	08:11
	16:21	17:13	18:06	20:00	20:52	21:35	21:40	20:59	19:53	18:43	16:39	16:05
8	08:25	07:48	06:50	06:38 18:53-19:35/42	05:35	04:57	05:04	05:47	06:38 18:39-19:23/44	07:28	07:24	08:13
	16:22	17:15	18:07	20:02	20:53	21:35	21:39	20:58	19:51	18:40	16:37	16:04
9	08:25	07:46	06:47	06:35 18:56-19:36/40	05:33	04:56	05:05	05:49	06:40 18:37-19:21/44	07:30	07:26	08:14
	16:23	17:17	18:09	20:04	20:55	21:36	21:38	20:56	19:48	18:38	16:35	16:04
10	08:24	07:44	06:45	06:33 19:01-19:38/37	05:31	04:56	05:06	05:50 19:48-19:52/4	06:41 18:35-19:18/43	07:32	07:28	08:15
	16:25	17:19	18:11	20:05	20:57	21:37	21:38	20:54	19:46	18:36	16:34	16:04
11	08:24	07:42	06:43	06:31 19:02-19:41/39	05:30	04:56	05:07	05:52 19:44-19:56/12	06:43 18:34-19:16/42	07:34	07:30	08:16
	16:26	17:21	18:13	20:07	20:58	21:38	21:37	20:52	19:44	18:33	16:32	16:04
12	08:23	07:41	06:41	06:29 19:05-19:43/38	05:28	04:55	05:08	05:53 19:43-19:58/15	06:45 18:32-19:13/41	07:35	07:31	08:17
	16:28	17:23	18:15	20:09	21:00	21:39	21:36	20:50	19:41	18:31	16:30	16:04
13	08:22	07:39	06:38	06:26 19:06-19:43/37	05:26	04:55	05:10	05:55 19:40-19:58/18	06:46 18:31-19:11/40	07:37	07:33	08:18
	16:29	17:25	18:16	20:11	21:02	21:39	21:35	20:48	19:39	18:29	16:29	16:04
14	08:22	07:37	06:36	06:24 19:08-19:45/37	05:25	04:55	05:11	05:57 19:38-19:59/21	06:48 18:31-19:10/39	07:39	07:35	08:19
	16:31	17:27	18:18	20:12	21:03	21:40	21:34	20:46	19:37	18:27	16:27	16:04
15	08:21	07:35	06:34	06:22 19:10-19:47/37	05:23	04:54	05:12	05:58 19:36-19:59/23	06:50 18:30-19:07/37	07:41	07:37	08:20
	16:32	17:29	18:20	20:14	21:05	21:40	21:33	20:44	19:34	18:25	16:26	16:04
16	08:20	07:33	06:31	06:20 19:11-19:49/38	05:22	04:54	05:13	06:00 19:35-20:00/25	06:51 18:30-19:05/35	07:42	07:38	08:21
	16:34	17:31	18:22	20:16	21:06	21:41	21:32	20:42	19:32	18:22	16:24	16:04
17	08:19	07:31	06:29	06:17 19:12-19:51/39	05:20	04:54	05:14	06:02 19:31-20:00/29	06:53 18:29-19:02/33	07:44	07:40	08:22
	16:36	17:32	18:24	20:18	21:08	21:41	21:31	20:40	19:30	18:20	16:23	16:04
18	08:18	07:29	06:27	06:15 19:13-19:52/39	05:19	04:54	05:16	06:03 19:29-20:00/31	06:55 18:29-19:00/31	07:46	07:42	08:22
	16:37	17:34	18:25	20:19	21:09	21:42	21:30	20:38	19:27	18:18	16:22	16:04
19	08:17	07:27	06:24	06:13 19:13-19:52/39	05:17	04:54	05:17	06:05 19:24-20:00/36	06:56 18:30-18:58/28	07:48	07:44	08:23
	16:39	17:36	18:27	20:21	21:11	21:42	21:29	20:36	19:25	18:16	16:20	16:04
20	08:16	07:25	06:22 17:56-18:02/6	06:11 19:13-19:53/40	05:16	04:54	05:18	06:07 19:22-20:00/38	06:58 18:30-18:54/24	07:50	07:45	08:24
	16:41	17:38	18:29	20:23	21:12	21:43	21:28	20:33	19:22	18:14	16:19	16:05
21	08:15	07:23	06:20 17:48-18:04/16	06:09 19:14-19:54/40	05:14	04:54	05:20	06:08 19:20-20:00/40	07:00 18:31-18:52/21	07:51	07:47	08:24
	16:42	17:40	18:31	20:24	21:14	21:43	21:26	20:31	19:20	18:12	16:18	16:05
22	08:14	07:21	06:17 17:46-18:06/20	06:07 19:15-19:54/39	05:13	04:55	05:21	06:10 19:19-19:58/39	07:01 18:33-18:50/17	07:53	07:49	08:25
	16:44	17:42	18:32	20:26	21:15	21:43	21:25	20:29	19:18	18:09	16:17	16:06
23	08:12	07:18	06:15 17:45-18:08/23	06:04 19:16-19:54/38	05:12	04:55	05:22	06:12 19:18-19:58/40	07:03 18:36-18:46/10	07:55	07:51	08:25
	16:46	17:44	18:34	20:28	21:17	21:43	21:24	20:27	19:15	18:07	16:16	16:06
24	08:11	07:16	06:13 17:43-18:09/26	06:02 19:19-19:54/35	05:10	04:55	05:24	06:13 19:16-19:56/40	07:05	07:57	07:52	08:26
	16:48	17:46	18:36	20:30	21:18	21:43	21:22	20:25	19:13	18:05	16:14	16:07
25	08:10	07:14	06:10 17:42-18:12/30	06:00 19:23-19:54/31	05:09	04:56	05:25	06:15 19:16-19:55/39	07:06	06:59	07:54	08:26
	16:49	17:47	18:38	20:31	21:20	21:43	21:21	20:23	19:11	17:03	16:13	16:07
26	08:09	07:12	06:08 17:42-18:14/32	05:58 19:25-19:53/28	05:08	04:56	05:27	06:17 19:14-19:52/38	07:08	07:00	07:55	08:27
	16:51	17:49	18:39	20:33	21:21	21:43	21:19	20:20	19:08	17:01	16:12	16:08
27	08:07	07:10	06:06 17:40-18:15/35	05:56 19:28-19:53/25	05:07	04:56	05:28	06:18 19:13-19:50/37	07:10	07:02	07:57	08:27
	16:53	17:51	18:41	20:35	21:22	21:43	21:18	20:18	19:06	16:59	16:11	16:09
28	08:06	07:08	06:03 17:40-18:17/37	05:54 19:29-19:52/23	05:06	04:57	05:30	06:20 19:11-19:49/38	07:11	07:04	07:59	08:27
	16:55	17:53	18:43	20:36	21:23	21:43	21:16	20:16	19:04	16:57	16:11	16:10
29	08:04		07:01 18:41-19:19/38	05:52 19:30-19:51/21	05:05	04:57	05:31	06:22 19:09-19:46/37	07:13	07:06	08:00	08:27
	16:57		19:44	20:38	21:25	21:43	21:15	20:14	19:01	16:55	16:10	16:10
30	08:03		06:59 18:40-19:20/40	05:50 19:32-19:49/17	05:04	04:58	05:33	06:23 19:07-19:44/37	07:15	07:08	08:02	08:27
	16:58		19:46	20:40	21:26	21:43	21:13	20:11	18:59	16:53	16:09	16:11
31	08:01		06:56 18:41-19:21/40		05:03		05:34	06:25 19:04-19:41/37		07:09		08:27
	17:00		19:48		21:27		21:12	20:09		16:51		16:12
Sonnenscheinstunden	257	277	367	417	487	501	504	455	381	331	265	241
Anzahl Minuten mit Schatten	0	0	343	1101	23	0	0	674	818	0	0	0

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)	Zeitpunkt (SS:MM)	Schattenanfang-Zeitpunkt (SS:MM) Schattenende/Minuten mit Schatten
	Sonnenuntergang (SS:MM)	Zeitpunkt (SS:MM)	Schattenanfang-Zeitpunkt (SS:MM) Schattenende/Minuten mit Schatten

SHADOW - Kalender pro WEA

Berechnung: Schattenwurf WP VolkmarsdorfWEA: 3 - GE 5.5-158

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar	März	April	Mai	Juni	Juli	August	September	Oktober	November	Dezember
1	08:27	08:00	07:05 17:04-17:23/19	06:54 18:41-19:24/43	05:48	05:02	04:59	05:36	06:27	07:17 17:43-18:27/44	07:11	08:03
	16:14	17:02	17:55	19:50	20:42	21:28	21:43	21:10	20:07	18:57	16:49	16:08
2	08:27	07:58	07:03 17:03-17:26/23	06:52 18:42-19:24/42	05:46	05:01	04:59	05:37	06:28 18:58-19:02/4	07:18 17:41-18:25/44	07:13	08:05
	16:15	17:04	17:57	19:51	20:43	21:29	21:42	21:08	20:05	18:54	16:48	16:07
3	08:27	07:57	07:01 17:02-17:30/28	06:49 18:45-19:24/39	05:44	05:00	05:00	05:39	06:30 18:54-19:15/21	07:20 17:39-18:22/43	07:15	08:06
	16:16	17:06	17:58	19:53	20:45	21:31	21:42	21:07	20:02	18:52	16:46	16:07
4	08:27	07:55	06:59 17:01-17:32/31	06:47 18:48-19:24/36	05:42	04:59	05:01	05:41	06:32 18:52-19:17/25	07:22 17:39-18:20/41	07:17	08:07
	16:17	17:08	18:00	19:55	20:47	21:32	21:41	21:05	20:00	18:50	16:44	16:06
5	08:27	07:53	06:57 17:01-17:35/34	06:45 18:48-19:23/35	05:40	04:59	05:02	05:42	06:33 18:48-19:17/29	07:23 17:38-18:19/41	07:19	08:09
	16:18	17:10	18:02	19:57	20:48	21:33	21:41	21:03	19:58	18:47	16:42	16:06
6	08:26	07:51	06:54 17:01-17:37/36	06:42 18:50-19:22/32	05:39	04:58	05:03	05:44	06:35 18:46-19:18/32	07:25 17:37-18:17/40	07:20	08:10
	16:19	17:12	18:04	19:58	20:50	21:34	21:40	21:01	19:55	18:45	16:40	16:05
7	08:26	07:50	06:52 17:00-17:39/39	06:40 18:52-19:21/29	05:37	04:57	05:03	05:45	06:37 18:44-19:18/34	07:27 17:36-18:13/37	07:22	08:11
	16:21	17:13	18:06	20:00	20:52	21:35	21:40	20:59	19:53	18:43	16:39	16:05
8	08:25	07:48	06:50 17:01-17:41/40	06:38 18:54-19:19/25	05:35	04:57	05:04	05:47	06:38 18:42-19:18/36	07:28 17:36-18:11/35	07:24	08:13
	16:22	17:15	18:07	20:02	20:53	21:35	21:39	20:58	19:51	18:40	16:37	16:04
9	08:25	07:46	06:47 17:01-17:43/42	06:35 18:56-19:17/21	05:33	04:56	05:05	05:49	06:40 18:40-19:18/38	07:30 17:36-18:09/33	07:26	08:14
	16:23	17:17	18:09	20:04	20:55	21:36	21:38	20:56	19:48	18:38	16:35	16:04
10	08:24	07:44	06:45 17:01-17:44/43	06:33 19:00-19:04/4	05:31	04:56	05:06	05:50	06:41 18:36-19:17/41	07:32 17:36-18:06/30	07:28	08:15
	16:25	17:19	18:11	20:05	20:57	21:37	21:38	20:54	19:46	18:36	16:34	16:04
11	08:24	07:42	06:43 17:02-17:45/43	06:31	05:30	04:56	05:07	05:52	06:43 18:34-19:17/43	07:34 17:36-18:00/24	07:30	08:16
	16:26	17:21	18:13	20:07	20:58	21:38	21:37	20:52	19:44	18:33	16:32	16:04
12	08:23	07:41	06:41 17:03-17:47/44	06:29	05:28	04:55	05:08	05:53	06:45 18:28-19:14/46	07:35 17:37-17:58/21	07:31	08:17
	16:28	17:23	18:15	20:09	21:00	21:39	21:36	20:50	19:41	18:31	16:30	16:04
13	08:22	07:39	06:38 17:04-17:48/44	06:26	05:26	04:55	05:10	05:55	06:46 18:26-19:12/46	07:37 17:38-17:55/17	07:33	08:18
	16:29	17:25	18:16	20:11	21:02	21:39	21:35	20:48	19:39	18:29	16:29	16:04
14	08:22	07:37	06:36 17:06-17:51/45	06:24	05:25	04:55	05:11	05:57	06:48 18:24-19:10/46	07:39 17:40-17:54/14	07:35	08:19
	16:31	17:27	18:18	20:12	21:03	21:40	21:34	20:46	19:37	18:27	16:27	16:04
15	08:21	07:35	06:34 17:09-17:53/44	06:22	05:23	04:54	05:12	05:58	06:50 18:22-19:07/45	07:41 17:42-17:51/9	07:37	08:20
	16:32	17:29	18:20	20:14	21:05	21:40	21:33	20:44	19:34	18:25	16:26	16:04
16	08:20	07:33	06:31 17:11-17:53/42	06:20	05:22	04:54	05:13	06:00	06:51 18:21-19:05/44	07:42	07:38	08:21
	16:34	17:31	18:22	20:16	21:06	21:41	21:32	20:42	19:32	18:22	16:24	16:04
17	08:19	07:31	06:29 17:15-17:56/41	06:17	05:20	04:54	05:14	06:02	06:53 18:20-19:02/42	07:44	07:40	08:22
	16:36	17:32	18:24	20:17	21:08	21:41	21:31	20:40	19:30	18:20	16:23	16:04
18	08:18	07:29	06:27 17:17-17:57/40	06:15	05:19	04:54	05:16	06:03	06:55 18:19-19:00/41	07:46	07:42	08:22
	16:37	17:34	18:25	20:19	21:09	21:42	21:30	20:38	19:27	18:18	16:22	16:04
19	08:17	07:27	06:24 17:21-17:59/38	06:13	05:17	04:54	05:17	06:05	06:56 18:19-18:58/39	07:48	07:44	08:23
	16:39	17:36	18:27	20:21	21:11	21:42	21:29	20:36	19:25	18:16	16:20	16:04
20	08:16	07:25	06:22 17:24-18:01/37	06:11	05:16	04:54	05:18	06:07	06:58 18:16-18:55/39	07:50	07:45	08:24
	16:41	17:38	18:29	20:23	21:12	21:43	21:28	20:33	19:22	18:14	16:19	16:05
21	08:15	07:23	06:20 17:25-18:03/38	06:09	05:14	04:54	05:20	06:08	07:00 18:14-18:51/37	07:51	07:47	08:24
	16:42	17:40	18:31	20:24	21:14	21:43	21:26	20:31	19:20	18:12	16:18	16:05
22	08:14	07:21	06:17 17:28-18:05/37	06:07	05:13	04:55	05:21	06:10	07:01 18:11-18:49/38	07:53	07:49	08:25
	16:44	17:42	18:32	20:26	21:15	21:43	21:25	20:29	19:18	18:09	16:17	16:06
23	08:12	07:18	06:15 17:30-18:08/38	06:04	05:12	04:55	05:22	06:12	07:03 18:08-18:46/38	07:55	07:51	08:25
	16:46	17:44	18:34	20:28	21:17	21:43	21:24	20:27	19:15	18:07	16:16	16:06
24	08:11	07:16	06:13 17:31-18:10/39	06:02	05:10	04:55	05:24	06:13	07:05 18:06-18:43/37	07:57	07:52	08:26
	16:48	17:46	18:36	20:30	21:18	21:43	21:22	20:25	19:13	18:05	16:14	16:07
25	08:10	07:14	06:10 17:32-18:12/40	06:00	05:09	04:56	05:25	06:15	07:06 18:01-18:42/41	06:59	07:54	08:26
	16:49	17:47	18:38	20:31	21:19	21:43	21:21	20:23	19:11	17:03	16:13	16:07
26	08:08	07:12	06:08 17:32-18:14/42	05:58	05:08	04:56	05:27	06:17	07:08 17:57-18:39/42	07:00	07:55	08:27
	16:51	17:49	18:39	20:33	21:21	21:43	21:19	20:20	19:08	17:01	16:12	16:08
27	08:07	07:10 17:09-17:20/11	06:06 17:32-18:15/43	05:56	05:07	04:56	05:28	06:18	07:10 17:54-18:36/42	07:02	07:57	08:27
	16:53	17:51	18:41	20:35	21:22	21:43	21:18	20:18	19:06	16:59	16:11	16:09
28	08:06	07:08 17:06-17:21/15	06:03 17:33-18:17/44	05:54	05:06	04:57	05:30	06:20	07:11 17:51-18:34/43	07:04	07:59	08:27
	16:55	17:53	18:43	20:36	21:23	21:43	21:16	20:16	19:04	16:57	16:11	16:10
29	08:04		07:01 18:34-19:19/45	05:52	05:05	04:57	05:31	06:22	07:13 17:48-18:31/43	07:06	08:00	08:27
	16:57		19:44	20:38	21:25	21:43	21:15	20:14	19:01	16:55	16:10	16:10
30	08:03		06:59 18:34-19:20/46	05:50	05:04	04:58	05:33	06:23	07:15 17:45-18:29/44	07:08	08:02	08:27
	16:58		19:46	20:40	21:26	21:43	21:13	20:11	18:59	16:53	16:09	16:11
31	08:01		06:56 18:37-19:22/45		05:03		05:34	06:25		07:09		08:27
	17:00		19:48		21:27		21:12	20:09		16:51		16:12
Sonnenscheinstunden	257	277	367	417	487	501	504	455	381	331	265	241
Anzahl Minuten mit Schatten	0	26	1210	306	0	0	0	0	1096	473	0	0

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)	Zeitpunkt (SS:MM) Schattenanfang-Zeitpunkt (SS:MM) Schattenende/Minuten mit Schatten
	Sonnenuntergang (SS:MM)	Zeitpunkt (SS:MM) Schattenanfang-Zeitpunkt (SS:MM) Schattenende/Minuten mit Schatten

SHADOW - Kalender pro WEA

Berechnung: Schattenwurf WP VolkmarsdorfWEA: 4 - GE 5.5-158

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar		März		April		Mai	Juni
1	08:27	08:00		07:05	16:29-17:20/51	06:54	18:12-19:21/69	05:48	05:02
	16:14	17:02		17:55		19:50		20:42	21:28
2	08:27	07:58		07:03	16:29-17:23/54	06:51	18:12-19:22/70	05:46	05:01
	16:15	17:04		17:57		19:51		20:43	21:29
3	08:27	07:56		07:01	16:28-17:24/56	06:49	18:14-19:25/71	05:44	05:00
	16:16	17:06		17:58		19:53		20:45	21:31
4	08:27	07:55		06:59	16:29-17:26/57	06:47	18:15-19:27/72	05:42	04:59
	16:17	17:08		18:00		19:55		20:47	21:32
5	08:26	07:53		06:57	16:29-17:28/59	06:45	18:17-19:28/71	05:40	04:59
	16:18	17:10		18:02		19:57		20:48	21:33
6	08:26	07:51		06:54	16:30-17:30/60	06:42	18:20-19:29/69	05:39	04:58
	16:19	17:12		18:04		19:58		20:50	21:34
7	08:26	07:50		06:52	16:29-17:30/61	06:40	18:25-19:29/64	05:37	04:57
	16:21	17:13		18:06		20:00		20:52	21:35
8	08:25	07:48		06:50	16:30-17:32/62	06:38	18:26-19:29/63	05:35	04:57
	16:22	17:15		18:07		20:02		20:53	21:35
9	08:25	07:46		06:47	16:31-17:33/62	06:35	18:29-19:29/60	05:33	04:56
	16:23	17:17		18:09		20:04		20:55	21:36
10	08:24	07:44		06:45	16:32-17:34/62	06:33	18:34-19:29/55	05:31	04:56
	16:25	17:19		18:11		20:05		20:57	21:37
11	08:24	07:42		06:43	16:34-17:36/62	06:31	18:35-19:29/54	05:30	04:56
	16:26	17:21		18:13		20:07		20:58	21:38
12	08:23	07:41		06:41	16:36-17:39/63	06:29	18:36-19:29/53	05:28	04:55
	16:28	17:23		18:15		20:09		21:00	21:39
13	08:22	07:39		06:38	16:39-17:40/61	06:26	18:36-19:27/51	05:26	04:55
	16:29	17:25		18:16		20:11		21:02	21:39
14	08:21	07:37		06:36	16:42-17:41/59	06:24	18:38-19:27/49	05:25	04:55
	16:31	17:27		18:18		20:12		21:03	21:40
15	08:21	07:35		06:34	16:45-17:43/58	06:22	18:40-19:26/46	05:23	04:54
	16:32	17:29		18:20		20:14		21:05	21:40
16	08:20	07:33		06:31	16:48-17:45/57	06:20	18:42-19:24/42	05:22	04:54
	16:34	17:31		18:22		20:16		21:06	21:41
17	08:19	07:31		06:29	16:51-17:48/57	06:17	18:45-19:05/20	05:20	04:54
	16:36	17:32		18:23		20:17	19:06-19:23/17	21:08	21:41
18	08:18	07:29		06:27	16:53-17:49/56	06:15	18:47-19:03/16	05:19	04:54
	16:37	17:34		18:25		20:19	19:09-19:19/10	21:09	21:42
19	08:17	07:27	16:42-16:52/10	06:24	16:57-17:50/53	06:13	18:49-18:59/10	05:17	04:54
	16:39	17:36		18:27		20:21		21:11	21:42
20	08:16	07:25	16:39-16:55/16	06:22	17:02-17:51/49	06:11		05:16	04:54
	16:41	17:38		18:29		20:23		21:12	21:43
21	08:15	07:23	16:37-16:57/20	06:20	17:03-17:53/50	06:09		05:14	04:54
	16:42	17:40		18:31		20:24		21:14	21:43
22	08:14	07:21	16:35-16:59/24	06:17	17:05-17:55/50	06:07		05:13	04:55
	16:44	17:42		18:32		20:26		21:15	21:43
23	08:12	07:18	16:33-17:05/32	06:15	17:08-17:59/51	06:04		05:12	04:55
	16:46	17:44		18:34		20:28		21:17	21:43
24	08:11	07:16	16:32-17:09/37	06:13	17:10-18:00/50	06:02		05:10	04:55
	16:48	17:45		18:36		20:30		21:18	21:43
25	08:10	07:14	16:32-17:11/39	06:10	17:11-18:06/55	06:00		05:09	04:56
	16:49	17:47		18:38		20:31		21:19	21:43
26	08:08	07:12	16:31-17:14/43	06:08	17:11-18:09/58	05:58		05:08	04:56
	16:51	17:49		18:39		20:33		21:21	21:43
27	08:07	07:10	16:31-17:16/45	06:06	17:10-18:10/60	05:56		05:07	04:56
	16:53	17:51		18:41		20:35		21:22	21:43
28	08:06	07:08	16:29-17:17/48	06:03	17:11-18:12/61	05:54		05:06	04:57
	16:55	17:53		18:43		20:36		21:23	21:43
29	08:04			07:01	18:11-19:14/63	05:52		05:05	04:57
	16:57			19:44		20:38		21:25	21:43
30	08:03			06:58	18:11-19:15/64	05:50		05:04	04:58
	16:58			19:46		20:40		21:26	21:43
31	08:01			06:56	18:11-19:18/67			05:03	
	17:00			19:48				21:27	
Sonnenscheinstunden	257	277		367		417		487	501
Anzahl Minuten mit Schatten	0	314		1788		1032		0	0

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)	Zeitpunkt (SS:MM)	Schattenanfang-Zeitpunkt (SS:MM)	Schattenende/Minuten mit Schatten
	Sonnenuntergang (SS:MM)	Zeitpunkt (SS:MM)	Schattenanfang-Zeitpunkt (SS:MM)	Schattenende/Minuten mit Schatten

SHADOW - Kalender pro WEA

Berechnung: Schattenwurf WP VolkmarsdorfWEA: 4 - GE 5.5-158

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli	August		September		Oktober		November	Dezember
1	04:59	05:36		06:27	18:34-19:28/54	07:16	17:16-18:18/62	07:11	08:03
	21:42	21:10		20:07		18:56		16:49	16:08
2	04:59	05:37		06:28	18:32-19:27/55	07:18	17:14-18:16/62	07:13	08:05
	21:42	21:08		20:05		18:54		16:48	16:07
3	05:00	05:39		06:30	18:27-19:27/60	07:20	17:11-18:13/62	07:15	08:06
	21:42	21:07		20:02		18:52		16:46	16:07
4	05:01	05:41		06:32	18:24-19:27/63	07:22	17:09-18:11/62	07:17	08:07
	21:41	21:05		20:00		18:50		16:44	16:06
5	05:02	05:42		06:33	18:22-19:25/63	07:23	17:08-18:09/61	07:19	08:09
	21:41	21:03		19:58		18:47		16:42	16:06
6	05:02	05:44		06:35	18:16-19:25/69	07:25	17:07-18:08/61	07:20	08:10
	21:40	21:01		19:55		18:45		16:40	16:05
7	05:03	05:45		06:36	18:12-19:23/71	07:27	17:05-18:06/61	07:22	08:11
	21:40	20:59		19:53		18:43		16:39	16:05
8	05:04	05:47		06:38	18:10-19:21/71	07:28	17:04-18:04/60	07:24	08:13
	21:39	20:58		19:51		18:40		16:37	16:04
9	05:05	05:49		06:40	18:08-19:19/71	07:30	17:04-18:02/58	07:26	08:14
	21:38	20:56		19:48		18:38		16:35	16:04
10	05:06	05:50		06:41	18:06-19:16/70	07:32	17:04-18:00/56	07:28	08:15
	21:38	20:54		19:46		18:36		16:34	16:04
11	05:07	05:52		06:43	18:05-19:13/68	07:34	17:02-17:57/55	07:29	08:16
	21:37	20:52		19:44		18:33		16:32	16:04
12	05:08	05:53		06:45	18:03-19:10/67	07:35	17:02-17:55/53	07:31	08:17
	21:36	20:50		19:41		18:31		16:30	16:04
13	05:10	05:55		06:46	18:02-19:07/65	07:37	17:02-17:52/50	07:33	08:18
	21:35	20:48		19:39		18:29		16:29	16:04
14	05:11	05:57		06:48	18:01-19:05/64	07:39	17:03-17:50/47	07:35	08:19
	21:34	20:46		19:37		18:27		16:27	16:04
15	05:12	05:58		06:50	18:00-19:02/62	07:41	17:03-17:48/45	07:37	08:20
	21:33	20:44		19:34		18:25		16:26	16:04
16	05:13	06:00		06:51	18:00-19:00/60	07:42	17:03-17:45/42	07:38	08:21
	21:32	20:42		19:32		18:22		16:24	16:04
17	05:14	06:02		06:53	17:59-18:57/58	07:44	17:03-17:42/39	07:40	08:22
	21:31	20:40		19:30		18:20		16:23	16:04
18	05:16	06:03		06:55	17:59-18:54/55	07:46	17:04-17:39/35	07:42	08:22
	21:30	20:38		19:27		18:18		16:22	16:04
19	05:17	06:05		06:56	17:58-18:48/50	07:48	17:05-17:31/26	07:44	08:23
	21:29	20:36		19:25		18:16		16:20	16:04
20	05:18	06:07		06:58	17:55-18:45/50	07:50	17:06-17:29/23	07:45	08:24
	21:28	20:33		19:22		18:14		16:19	16:05
21	05:20	06:08		07:00	17:51-18:42/51	07:51	17:08-17:27/19	07:47	08:24
	21:26	20:31		19:20		18:12		16:18	16:05
22	05:21	06:10		07:01	17:49-18:40/51	07:53	17:10-17:25/15	07:49	08:25
	21:25	20:29		19:18		18:09		16:17	16:06
23	05:22	06:12		07:03	17:46-18:36/50	07:55	17:14-17:21/7	07:51	08:25
	21:24	20:27		19:15		18:07		16:16	16:06
24	05:24	06:13	18:53-19:03/10	07:05	17:45-18:34/49	07:57		07:52	08:26
	21:22	20:25		19:13		18:05		16:14	16:07
25	05:25	06:15	18:50-19:06/16	07:06	17:38-18:33/55	06:58		07:54	08:26
	21:21	20:23	19:12-19:23/11	19:11		17:03		16:13	16:07
26	05:27	06:17	18:47-19:07/20	07:08	17:34-18:30/56	07:00		07:55	08:27
	21:19	20:20	19:08-19:25/17	19:08		17:01		16:12	16:08
27	05:28	06:18	18:44-19:26/42	07:10	17:31-18:28/57	07:02		07:57	08:27
	21:18	20:18		19:06		16:59		16:11	16:09
28	05:30	06:20	18:42-19:28/46	07:11	17:27-18:25/58	07:04		07:59	08:27
	21:16	20:16		19:04		16:57		16:11	16:10
29	05:31	06:22	18:39-19:28/49	07:13	17:23-18:22/59	07:06		08:00	08:27
	21:15	20:14		19:01		16:55		16:10	16:10
30	05:33	06:23	18:37-19:28/51	07:15	17:20-18:20/60	07:08		08:02	08:27
	21:13	20:11		18:59		16:53		16:09	16:11
31	05:34	06:25	18:35-19:28/53			07:09			08:27
	21:12	20:09				16:51			16:12
Sonnenscheinstunden	504	455		381		331		265	241
Anzahl Minuten mit Schatten	0	315		1792		1061		0	0

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)	Zeitpunkt (SS:MM)	Schattenanfang-Zeitpunkt (SS:MM)	Schattenende/Minuten mit Schatten
	Sonnenuntergang (SS:MM)	Zeitpunkt (SS:MM)	Schattenanfang-Zeitpunkt (SS:MM)	Schattenende/Minuten mit Schatten

SHADOW - Kalender pro WEA

Berechnung: Schattenwurf WP VolkmarsdorfWEA: 5 - GE 5.5-158

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar		Februar		März		April	Mai	Juni
1	08:27		08:00	15:32-16:24/52	07:05	16:16-17:23/67	06:54	05:48	05:02
	16:14		17:02		17:55		19:50	20:42	21:28
2	08:27		07:58	15:32-16:27/55	07:03	16:18-17:26/68	06:51	05:46	05:01
	16:15		17:04		17:57		19:51	20:43	21:29
3	08:27		07:56	15:34-16:29/55	07:01	16:19-17:27/68	06:49	05:44	05:00
	16:16		17:06		17:58		19:53	20:45	21:31
4	08:27		07:55	15:34-16:31/57	06:59	16:23-17:29/66	06:47	05:42	04:59
	16:17		17:08		18:00		19:55	20:47	21:32
5	08:26		07:53	15:34-16:34/60	06:56	16:28-17:31/63	06:45	05:40	04:59
	16:18		17:10		18:02		19:57	20:48	21:33
6	08:26		07:51	15:35-16:36/61	06:54	16:30-17:34/64	06:42	05:39	04:58
	16:19		17:12		18:04		19:58	20:50	21:34
7	08:26		07:50	15:35-16:37/62	06:52	16:31-17:36/65	06:40	05:37	04:57
	16:21		17:13		18:06		20:00	20:52	21:35
8	08:25		07:48	15:36-16:40/64	06:50	16:35-17:38/63	06:38	05:35	04:57
	16:22		17:15		18:07		20:02	20:53	21:35
9	08:25		07:46	15:39-16:42/63	06:47	16:39-17:41/62	06:35	05:33	04:56
	16:23		17:17		18:09		20:04	20:55	21:36
10	08:24		07:44	15:40-16:43/63	06:45	16:39-17:43/64	06:33	05:31	04:56
	16:25		17:19		18:11		20:05	20:57	21:37
11	08:24		07:42	15:42-16:44/62	06:43	16:41-17:45/64	06:31	05:30	04:56
	16:26		17:21		18:13		20:07	20:58	21:38
12	08:23		07:41	15:45-16:45/60	06:41	16:43-17:47/64	06:29	05:28	04:55
	16:28		17:23		18:15		20:09	21:00	21:39
13	08:22		07:39	15:48-16:47/59	06:38	16:44-17:47/63	06:26	05:26	04:55
	16:29		17:25		18:16		20:11	21:02	21:39
14	08:21		07:37	15:51-16:48/57	06:36	16:46-17:48/62	06:24	05:25	04:55
	16:31		17:27		18:18		20:12	21:03	21:40
15	08:21		07:35	15:54-16:51/57	06:34	16:49-17:47/58	06:22	05:23	04:54
	16:32		17:29		18:20		20:14	21:05	21:40
16	08:20		07:33	15:56-16:53/57	06:31	16:50-17:48/58	06:20	05:22	04:54
	16:34		17:31		18:22		20:16	21:06	21:41
17	08:19	15:40-15:48/8	07:31	15:59-16:55/56	06:29	16:53-17:06/13	06:17	05:20	04:54
	16:36		17:32		18:23	17:07-17:48/41	20:17	21:08	21:41
18	08:18	15:38-15:51/13	07:29	16:02-16:56/54	06:27	17:10-17:47/37	06:15	05:19	04:54
	16:37		17:34		18:25		20:19	21:09	21:42
19	08:17	15:37-15:54/17	07:27	16:06-16:58/52	06:24	17:12-17:47/35	06:13	05:17	04:54
	16:39		17:36		18:27		20:21	21:11	21:42
20	08:16	15:36-15:55/19	07:25	16:12-17:00/48	06:22	17:15-17:47/32	06:11	05:16	04:54
	16:41		17:38		18:29		20:23	21:12	21:43
21	08:15	15:35-15:57/22	07:23	16:13-17:03/50	06:20	17:17-17:45/28	06:09	05:14	04:54
	16:42		17:40		18:31		20:24	21:14	21:43
22	08:14	15:35-15:59/24	07:20	16:13-17:06/53	06:17	17:20-17:44/24	06:07	05:13	04:55
	16:44		17:42		18:32		20:26	21:15	21:43
23	08:12	15:34-16:01/27	07:18	16:12-17:07/55	06:15	17:23-17:43/20	06:04	05:12	04:55
	16:46		17:44		18:34		20:28	21:17	21:43
24	08:11	15:34-16:03/29	07:16	16:12-17:08/56	06:13	17:26-17:40/14	06:02	05:10	04:55
	16:48		17:45		18:36		20:30	21:18	21:43
25	08:10	15:33-16:05/32	07:14	16:13-17:11/58	06:10	17:30-17:36/6	06:00	05:09	04:56
	16:49		17:47		18:37		20:31	21:19	21:43
26	08:08	15:33-16:07/34	07:12	16:14-17:15/61	06:08		05:58	05:08	04:56
	16:51		17:49		18:39		20:33	21:21	21:43
27	08:07	15:32-16:09/37	07:10	16:15-17:19/64	06:06		05:56	05:07	04:56
	16:53		17:51		18:41		20:35	21:22	21:43
28	08:06	15:33-16:12/39	07:08	16:15-17:21/66	06:03		05:54	05:06	04:57
	16:55		17:53		18:43		20:36	21:23	21:43
29	08:04	15:32-16:14/42			07:01		05:52	05:05	04:57
	16:57				19:44		20:38	21:25	21:43
30	08:03	15:33-16:20/47			06:58		05:50	05:04	04:58
	16:58				19:46		20:40	21:26	21:43
31	08:01	15:33-16:22/49			06:56			05:03	
	17:00				19:48			21:27	
Sonnenscheinstunden	257		277		367		417	487	501
Anzahl Minuten mit Schatten	439		1617		1269		0	0	0

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)	Zeitpunkt (SS:MM)	Schattenanfang-Zeitpunkt (SS:MM)	Schattenende/Minuten mit Schatten
	Sonnenuntergang (SS:MM)	Zeitpunkt (SS:MM)	Schattenanfang-Zeitpunkt (SS:MM)	Schattenende/Minuten mit Schatten

SHADOW - Kalender pro WEA

Berechnung: Schattenwurf WP VolkmarsdorfWEA: 5 - GE 5.5-158

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Juli	August	September	Oktober	November	Dezember
1	04:59	05:36	06:27	07:16 17:22-18:26/64	07:11 15:08-16:12/64	08:03
	21:42	21:10	20:07	18:56	16:49	16:08
2	04:59	05:37	06:28	07:18 17:20-18:25/65	07:13 15:07-16:11/64	08:05
	21:42	21:08	20:05	18:54	16:48	16:07
3	05:00	05:39	06:30	07:20 17:18-18:21/63	07:15 15:06-16:09/63	08:06
	21:42	21:07	20:02	18:52	16:46	16:07
4	05:01	05:41	06:32	07:22 17:16-18:19/63	07:17 15:05-16:07/62	08:07
	21:41	21:05	20:00	18:50	16:44	16:06
5	05:02	05:42	06:33	07:23 17:14-18:16/62	07:19 15:04-16:05/61	08:09
	21:41	21:03	19:58	18:47	16:42	16:06
6	05:02	05:44	06:35	07:25 17:10-18:14/64	07:20 15:04-16:03/59	08:10
	21:40	21:01	19:55	18:45	16:40	16:05
7	05:03	05:45	06:36	07:27 17:06-18:10/64	07:22 15:04-16:01/57	08:11
	21:40	20:59	19:53	18:43	16:39	16:05
8	05:04	05:47	06:38	07:28 17:05-18:08/63	07:24 15:03-15:59/56	08:13
	21:39	20:57	19:51	18:40	16:37	16:04
9	05:05	05:49	06:40	07:30 17:01-18:05/64	07:26 15:03-15:57/54	08:14
	21:38	20:56	19:48	18:38	16:35	16:04
10	05:06	05:50	06:41	07:32 16:56-18:03/67	07:28 15:03-15:55/52	08:15
	21:38	20:54	19:46	18:36	16:34	16:04
11	05:07	05:52	06:43	07:34 16:52-18:00/68	07:29 15:03-15:53/50	08:16
	21:37	20:52	19:44	18:33	16:32	16:04
12	05:08	05:53	06:45	07:35 16:50-17:58/68	07:31 15:04-15:51/47	08:17
	21:36	20:50	19:41	18:31	16:30	16:04
13	05:10	05:55	06:46	07:37 16:49-17:56/67	07:33 15:04-15:46/42	08:18
	21:35	20:48	19:39	18:29	16:29	16:04
14	05:11	05:57	06:48	07:39 16:48-17:53/65	07:35 15:05-15:44/39	08:19
	21:34	20:46	19:37	18:27	16:27	16:04
15	05:12	05:58	06:50	07:41 16:46-17:49/63	07:37 15:05-15:42/37	08:20
	21:33	20:44	19:34	18:25	16:26	16:04
16	05:13	06:00	06:51	07:42 16:46-17:46/60	07:38 15:06-15:40/34	08:21
	21:32	20:42	19:32	18:22	16:24	16:04
17	05:14	06:02	06:53	07:44 16:44-17:41/57	07:40 15:07-15:39/32	08:22
	21:31	20:40	19:30	18:20	16:23	16:04
18	05:16	06:03	06:55 18:19-18:22/3	07:46 16:44-17:39/55	07:42 15:08-15:37/29	08:22
	21:30	20:38	19:27	18:18	16:22	16:04
19	05:17	06:05	06:56 18:14-18:27/13	07:48 16:43-17:37/54	07:44 15:09-15:36/27	08:23
	21:29	20:36	19:25	18:16	16:20	16:04
20	05:18	06:07	06:58 18:10-18:28/18	07:49 16:43-17:35/52	07:45 15:10-15:34/24	08:24
	21:27	20:33	19:22	18:14	16:19	16:05
21	05:20	06:08	07:00 18:07-18:29/22	07:51 16:43-17:33/50	07:47 15:11-15:33/22	08:24
	21:26	20:31	19:20	18:12	16:18	16:05
22	05:21	06:10	07:01 18:04-18:30/26	07:53 16:42-17:30/48	07:49 15:12-15:31/19	08:25
	21:25	20:29	19:18	18:09	16:17	16:06
23	05:22	06:12	07:03 18:00-18:30/30	07:55 16:35-17:28/53	07:50 15:13-15:30/17	08:25
	21:24	20:27	19:15	18:07	16:16	16:06
24	05:24	06:13	07:05 17:57-18:31/34	07:57 16:32-17:26/54	07:52 15:15-15:28/13	08:26
	21:22	20:25	19:13	18:05	16:14	16:07
25	05:25	06:15	07:06 17:54-18:31/37	06:58 15:29-16:25/56	07:54 15:18-15:26/8	08:26
	21:21	20:23	19:11	17:03	16:13	16:07
26	05:27	06:17	07:08 17:36-17:46/10	07:00 15:26-16:23/57	07:55	08:26
	21:19	20:20	19:08 17:51-18:30/39	17:01	16:12	16:08
27	05:28	06:18	07:10 17:33-18:30/57	07:02 15:23-16:20/57	07:57	08:27
	21:18	20:18	19:06	16:59	16:11	16:09
28	05:30	06:20	07:11 17:31-18:29/58	07:04 15:20-16:18/58	07:59	08:27
	21:16	20:16	19:04	16:57	16:11	16:10
29	05:31	06:22	07:13 17:27-18:28/61	07:06 15:16-16:15/59	08:00	08:27
	21:15	20:14	19:01	16:55	16:10	16:10
30	05:33	06:23	07:15 17:24-18:27/63	07:08 15:13-16:14/61	08:02	08:27
	21:13	20:11	18:59	16:53	16:09	16:11
31	05:34	06:25		07:09 15:10-16:13/63		08:27
	21:12	20:09		16:51		16:12
Sonnenscheinstunden	504	455	381	331	265	241
Anzahl Minuten mit Schatten	0	0	471	1864	1032	0

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)	Zeitpunkt (SS:MM)	Schattenanfang-Zeitpunkt (SS:MM)	Schattenende/Minuten mit Schatten
	Sonnenuntergang (SS:MM)	Zeitpunkt (SS:MM)	Schattenanfang-Zeitpunkt (SS:MM)	Schattenende/Minuten mit Schatten

SHADOW - Kalender pro WEA

Berechnung: Schattenwurf WP VolkmarsdorfWEA: 6 - GE 5.5-158

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

	Januar	Februar	März	April	Mai	Juni
1	08:27 16:14	08:00 17:02	07:05 17:55	06:54 18:39-19:11/32 19:50	05:48 18:31-19:59/88 20:42	05:02 19:32-20:43/71 21:28
2	08:27 16:15	07:58 17:04	07:03 17:57	06:51 18:37-19:13/36 19:51	05:46 18:32-20:02/90 20:43	05:01 19:32-20:44/72 21:29
3	08:27 16:16	07:56 17:06	07:01 17:58	06:49 18:37-19:15/38 19:53	05:44 18:32-20:03/91 20:45	05:00 19:32-20:45/73 21:31
4	08:27 16:17	07:55 17:08	06:59 18:00	06:47 18:36-19:18/42 19:55	05:42 18:33-20:04/91 20:47	04:59 19:33-20:46/73 21:32
5	08:27 16:18	07:53 17:10	06:56 18:02	06:45 18:35-19:19/44 19:57	05:40 18:33-20:12/99 20:48	04:59 19:34-20:46/72 21:33
6	08:26 16:19	07:51 17:12	06:54 18:04	06:42 18:35-19:21/46 19:58	05:38 18:35-20:15/100 20:50	04:58 19:35-20:47/72 21:34
7	08:26 16:21	07:50 17:13	06:52 18:06	06:40 18:35-19:23/48 20:00	05:37 18:36-20:17/101 20:52	04:57 19:35-20:47/72 21:35
8	08:25 16:22	07:48 17:15	06:50 18:07	06:38 18:34-19:24/50 20:02	05:35 18:37-20:18/101 20:53	04:57 19:36-20:48/72 21:35
9	08:25 16:23	07:46 17:17	06:47 18:09	06:35 18:33-19:26/53 20:04	05:33 18:38-20:21/103 20:55	04:56 19:36-20:48/72 21:36
10	08:24 16:25	07:44 17:19	06:45 18:11	06:33 18:32-19:28/56 20:05	05:31 18:40-20:22/102 20:57	04:56 19:37-20:49/72 21:37
11	08:24 16:26	07:42 17:21	06:43 18:13	06:31 18:31-19:29/58 20:07	05:30 18:41-20:24/103 20:58	04:55 19:38-20:50/72 21:38
12	08:23 16:28	07:41 17:23	06:41 18:15	06:28 18:30-19:30/60 20:09	05:28 18:44-20:29/105 21:00	04:55 19:38-20:49/71 21:39
13	08:22 16:29	07:39 17:25	06:38 18:16	06:26 18:28-19:31/63 20:11	05:26 18:46-20:30/104 21:02	04:55 19:39-20:50/71 21:39
14	08:21 16:31	07:37 17:27	06:36 18:18	06:24 18:28-19:33/65 20:12	05:25 18:52-20:32/100 21:03	04:55 19:39-20:50/71 21:40
15	08:21 16:32	07:35 17:29	06:34 18:20	06:22 18:28-19:34/66 20:14	05:23 18:55-20:33/98 21:05	04:54 19:40-20:51/71 21:40
16	08:20 16:34	07:33 17:30	06:31 18:22	06:20 18:27-19:36/69 20:16	05:21 19:07-20:34/87 21:06	04:54 19:40-20:51/71 21:41
17	08:19 16:36	07:31 17:32	06:29 18:23	06:17 18:27-19:38/71 20:17	05:20 19:14-20:35/81 21:08	04:54 19:41-20:51/70 21:41
18	08:18 16:37	07:29 17:34	06:27 18:25	06:15 18:27-19:39/72 20:19	05:18 19:15-20:35/80 21:09	04:54 19:41-20:52/71 21:42
19	08:17 16:39	07:27 17:36	06:24 18:27	06:13 18:26-19:39/73 20:21	05:17 19:18-20:36/78 21:11	04:54 19:42-20:52/70 21:42
20	08:16 16:41	07:25 17:38	06:22 18:29	06:11 18:26-19:40/74 20:23	05:16 19:20-20:37/77 21:12	04:54 19:42-20:52/70 21:43
21	08:15 16:42	07:23 17:40	06:20 18:30	06:09 18:26-19:42/76 20:24	05:14 19:22-20:37/75 21:14	04:54 19:42-20:52/70 21:43
22	08:14 16:44	07:20 17:42	06:17 18:32	06:06 18:26-19:44/78 20:26	05:13 19:22-20:37/75 21:15	04:55 19:43-20:53/70 21:43
23	08:12 16:46	07:18 17:44	06:15 18:34	06:04 18:27-19:46/79 20:28	05:12 19:23-20:37/74 21:17	04:55 19:43-20:53/70 21:43
24	08:11 16:48	07:16 17:45	06:13 18:36	06:02 18:27-19:47/80 20:30	05:10 19:25-20:38/73 21:18	04:55 19:42-20:53/71 21:43
25	08:10 16:49	07:14 17:47	06:10 18:37	06:00 18:27-19:49/82 20:31	05:09 19:26-20:38/72 21:19	04:55 19:43-20:54/71 21:43
26	08:08 16:51	07:12 17:49	06:08 18:39	05:58 18:28-19:51/83 20:33	05:08 19:27-20:38/71 21:21	04:56 19:43-20:53/70 21:43
27	08:07 16:53	07:10 17:51	06:05 17:49-18:00/11 18:41	05:56 18:29-19:52/83 20:35	05:07 19:28-20:38/70 21:22	04:56 19:43-20:54/71 21:43
28	08:06 16:55	07:08 17:53	06:03 17:46-18:03/17 18:43	05:54 18:29-19:54/85 20:36	05:06 19:29-20:39/70 21:23	04:57 19:43-20:54/71 21:43
29	08:04 16:57		07:01 18:44-19:06/22 19:44	05:52 18:30-19:55/85 20:38	05:05 19:29-20:40/71 21:25	04:57 19:43-20:54/71 21:43
30	08:03 16:58		06:58 18:41-19:07/26 19:46	05:50 18:30-19:56/86 20:40	05:04 19:30-20:41/71 21:26	04:58 19:42-20:54/72 21:43
31	08:01 17:00		06:56 18:40-19:10/30 19:48		05:03 19:31-20:43/72 21:27	
Sonnenscheinstunden	257	277	367	417	487	501
Anzahl Minuten mit Schatten	0	0	106	1933	2673	2136

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)	Zeitpunkt (SS:MM)	Schattenanfang-Zeitpunkt (SS:MM)	Schattenende/Minuten mit Schatten
	Sonnenuntergang (SS:MM)	Zeitpunkt (SS:MM)	Schattenanfang-Zeitpunkt (SS:MM)	Schattenende/Minuten mit Schatten

SHADOW - Kalender pro WEA

Berechnung: Schattenwurf WP VolkmarsdorfWEA: 6 - GE 5.5-158

Voraussetzungen für Berechnung des Schattenwurfs

Sonnenscheinwahrscheinlichkeit S (Mittlere tägliche Sonnenstunden) [BRAUNSCHWEIG]

Jan	Feb	Mär	Apr	Mai	Jun	Jul	Aug	Sep	Okt	Nov	Dez
1,53	2,47	3,43	5,17	7,00	6,63	6,76	6,51	4,71	3,31	1,88	1,07

Betriebsdauer je Sektor

N	NNO	ONO	O	OSO	SSO	S	SSW	WSW	W	WNW	NNW	Summe
295	327	470	618	636	554	417	707	1.680	1.709	910	437	8.760

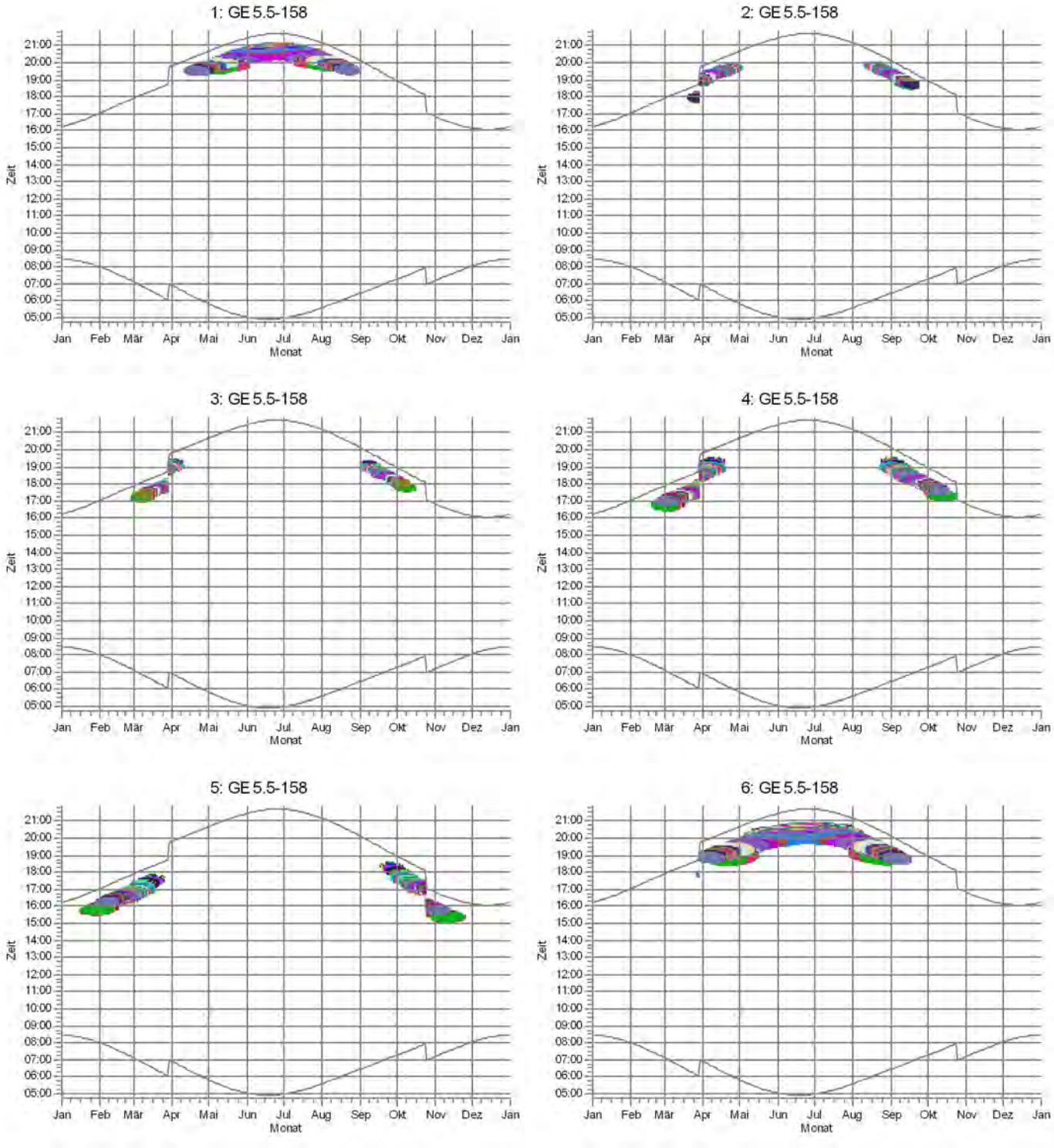
	Juli		August		September		Oktober	Novembe	Dezember
1	04:59	19:42-20:54/72	05:36	18:53-20:38/105	06:27	18:30-19:28/58	07:16	07:11	08:03
	21:42		21:10		20:07		18:56	16:49	16:08
2	04:59	19:41-20:53/72	05:37	18:51-20:33/102	06:28	18:30-19:26/56	07:18	07:13	08:05
	21:42		21:08		20:05		18:54	16:47	16:07
3	05:00	19:41-20:53/72	05:39	18:49-20:32/103	06:30	18:31-19:24/53	07:20	07:15	08:06
	21:42		21:07		20:02		18:52	16:46	16:07
4	05:01	19:41-20:54/73	05:41	18:47-20:30/103	06:32	18:32-19:22/50	07:22	07:17	08:07
	21:41		21:05		20:00		18:49	16:44	16:06
5	05:02	19:41-20:54/73	05:42	18:46-20:28/102	06:33	18:31-19:19/48	07:23	07:19	08:09
	21:41		21:03		19:58		18:47	16:42	16:06
6	05:02	19:41-20:54/73	05:44	18:45-20:26/101	06:35	18:31-19:17/46	07:25	07:20	08:10
	21:40		21:01		19:55		18:45	16:40	16:05
7	05:03	19:40-20:53/73	05:45	18:44-20:24/100	06:36	18:30-19:14/44	07:27	07:22	08:11
	21:40		20:59		19:53		18:43	16:39	16:05
8	05:04	19:40-20:52/72	05:47	18:42-20:20/98	06:38	18:31-19:12/41	07:28	07:24	08:13
	21:39		20:58		19:51		18:40	16:37	16:04
9	05:05	19:40-20:52/72	05:49	18:42-20:13/91	06:40	18:31-19:10/39	07:30	07:26	08:14
	21:38		20:56		19:48		18:38	16:35	16:04
10	05:06	19:39-20:52/73	05:50	18:40-20:11/91	06:41	18:30-19:06/36	07:32	07:28	08:15
	21:38		20:54		19:46		18:36	16:33	16:04
11	05:07	19:39-20:51/72	05:52	18:40-20:09/89	06:43	18:31-19:04/33	07:34	07:29	08:16
	21:37		20:52		19:44		18:33	16:32	16:04
12	05:08	19:39-20:51/72	05:53	18:39-20:06/87	06:45	18:31-19:01/30	07:35	07:31	08:17
	21:36		20:50		19:41		18:31	16:30	16:04
13	05:10	19:38-20:50/72	05:55	18:38-20:05/87	06:46	18:32-18:59/27	07:37	07:33	08:18
	21:35		20:48		19:39		18:29	16:29	16:04
14	05:11	19:38-20:49/71	05:57	18:38-20:03/85	06:48	18:34-18:56/22	07:39	07:35	08:19
	21:34		20:46		19:37		18:27	16:27	16:03
15	05:12	19:39-20:49/70	05:58	18:37-20:01/84	06:50	18:35-18:53/18	07:41	07:37	08:20
	21:33		20:44		19:34		18:24	16:26	16:04
16	05:13	19:38-20:48/70	06:00	18:36-20:00/84	06:51	18:37-18:50/13	07:42	07:38	08:21
	21:32		20:42		19:32		18:22	16:24	16:04
17	05:14	19:37-20:48/71	06:02	18:34-19:57/83	06:53		07:44	07:40	08:22
	21:31		20:40		19:30		18:20	16:23	16:04
18	05:16	19:36-20:48/72	06:03	18:34-19:55/81	06:55		07:46	07:42	08:22
	21:30		20:38		19:27		18:18	16:22	16:04
19	05:17	19:35-20:47/72	06:05	18:33-19:53/80	06:56		07:48	07:44	08:23
	21:29		20:36		19:25		18:16	16:20	16:04
20	05:18	19:34-20:47/73	06:07	18:32-19:51/79	06:58		07:49	07:45	08:24
	21:28		20:33		19:22		18:14	16:19	16:05
21	05:20	19:33-20:48/75	06:08	18:32-19:49/77	07:00		07:51	07:47	08:24
	21:26		20:31		19:20		18:11	16:18	16:05
22	05:21	19:32-20:47/75	06:10	18:31-19:47/76	07:01		07:53	07:49	08:25
	21:25		20:29		19:18		18:09	16:17	16:06
23	05:22	19:30-20:47/77	06:12	18:31-19:45/74	07:03		07:55	07:51	08:25
	21:24		20:27		19:15		18:07	16:15	16:06
24	05:24	19:30-20:47/77	06:13	18:30-19:42/72	07:05		07:57	07:52	08:26
	21:22		20:25		19:13		18:05	16:14	16:07
25	05:25	19:27-20:46/79	06:15	18:30-19:41/71	07:06		06:58	07:54	08:26
	21:21		20:23		19:11		17:03	16:13	16:07
26	05:27	19:24-20:45/81	06:17	18:29-19:39/70	07:08		07:00	07:55	08:27
	21:19		20:20		19:08		17:01	16:12	16:08
27	05:28	19:23-20:45/82	06:18	18:29-19:38/69	07:10		07:02	07:57	08:27
	21:18		20:18		19:06		16:59	16:11	16:09
28	05:30	19:16-20:44/88	06:20	18:29-19:36/67	07:11		07:04	07:59	08:27
	21:16		20:16		19:04		16:57	16:10	16:10
29	05:31	19:05-20:44/99	06:22	18:29-19:34/65	07:13		07:06	08:00	08:27
	21:15		20:14		19:01		16:55	16:10	16:10
30	05:33	18:59-20:42/103	06:23	18:29-19:32/63	07:15		07:08	08:02	08:27
	21:13		20:11		18:59		16:53	16:09	16:11
31	05:34	18:55-20:40/105	06:25	18:29-19:29/60			07:09		08:27
	21:12		20:09				16:51		16:12
Sonnenscheinstunden	504		455		381		331	265	241
Anzahl Minuten mit Schatten	2381		2599		614		0	0	0

Tabellen-Layout: Die Daten für jeden Tag sind in folgender Matrix wiedergegeben (Sommerzeit wie Bezugsjahr):

Tag im Monat	Sonnenaufgang (SS:MM)	Zeitpunkt (SS:MM)	Schattenanfang-Zeitpunkt (SS:MM)	Schattenende/Minuten mit Schatten
	Sonnenuntergang (SS:MM)	Zeitpunkt (SS:MM)	Schattenanfang-Zeitpunkt (SS:MM)	Schattenende/Minuten mit Schatten

SHADOW - Grafischer Kalender pro WEA

Berechnung: Schattenwurf WP Volkmarsdorf

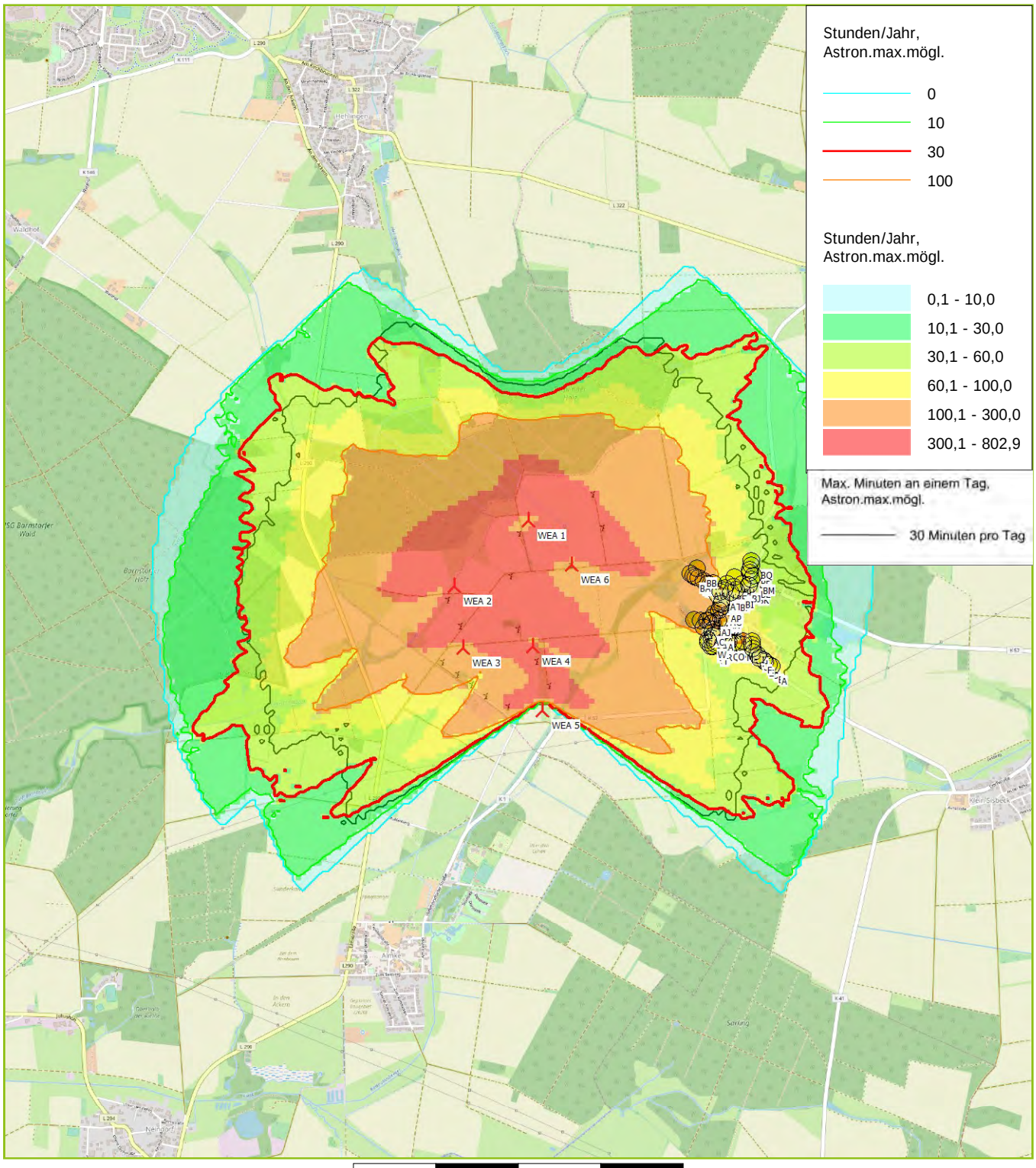


Schattenrezeptoren

A: Hungerkamp 11	M: Siedlung 7	Y: Siedlung 25	AK: Hauptstraße 35	AW: Bahnhofstraße 11	BI: Hauptstraße 28
B: Hungerkamp 14	N: Siedlung 9	Z: Siedlung 10	AL: Hauptstraße 37	AX: Bahnhofstraße 13	BJ: Hauptstraße 22
C: Hungerkamp 12	O: Siedlung 11	AA: Siedlung 27	AM: Hauptstraße 42	AY: Bahnhofstraße 15A	BK: Hauptstraße 21
D: Gänsekamp 18	P: Siedlung 13	AB: Siedlung 29	AN: Hauptstraße 40	AZ: Bahnhofstraße 15	BL: Hauptstraße 20
E: Gänsekamp 16	Q: Siedlung 15	AC: Hauptstraße 41	AO: Hauptstraße 38	BA: Bahnhofstraße 17	BM: Rümmersche Str. 2
F: Gänsekamp 14	R: Siedlung 17	AD: Friedhofsweg Kapelle	AP: Hauptstraße 36	BB: Bahnhofstraße 20	BN: Rümmersche Str. 1A
G: Gänsekamp 12	S: Siedlung 19	AE: Friedhofsweg 2	AQ: Hauptstraße 36A	BC: Hauptstraße 30B	BO: Rümmersche Str. 1
H: Gänsekamp 10	T: Siedlung 19A	AF: Hauptstraße 48	AR: Hauptstraße 34	BD: Hauptstraße 30C	BP: Rümmersche Str. 3
I: Gänsekamp 8	U: Siedlung 21	AG: Hauptstraße 46	AS: Bahnhofstraße 1	BE: Hauptstraße 30D	BQ: Rümmersche Str. 5
J: Gänsekamp 6	V: Siedlung 23	AH: Hauptstraße 39A	AT: Bahnhofstraße 2	BF: Hauptstraße 30	
K: Klein Sisbecker Str. 14	W: Siedlung 25	AI: Hauptstraße 39	AU: Bahnhofstraße 6	BG: Hauptstraße 32	
L: Klein Sisbecker Str. 12	X: Siedlung 25A	AJ: Hauptstraße 44	AV: Bahnhofstraße 9	BH: Hauptstraße 24	

SHADOW - Karte

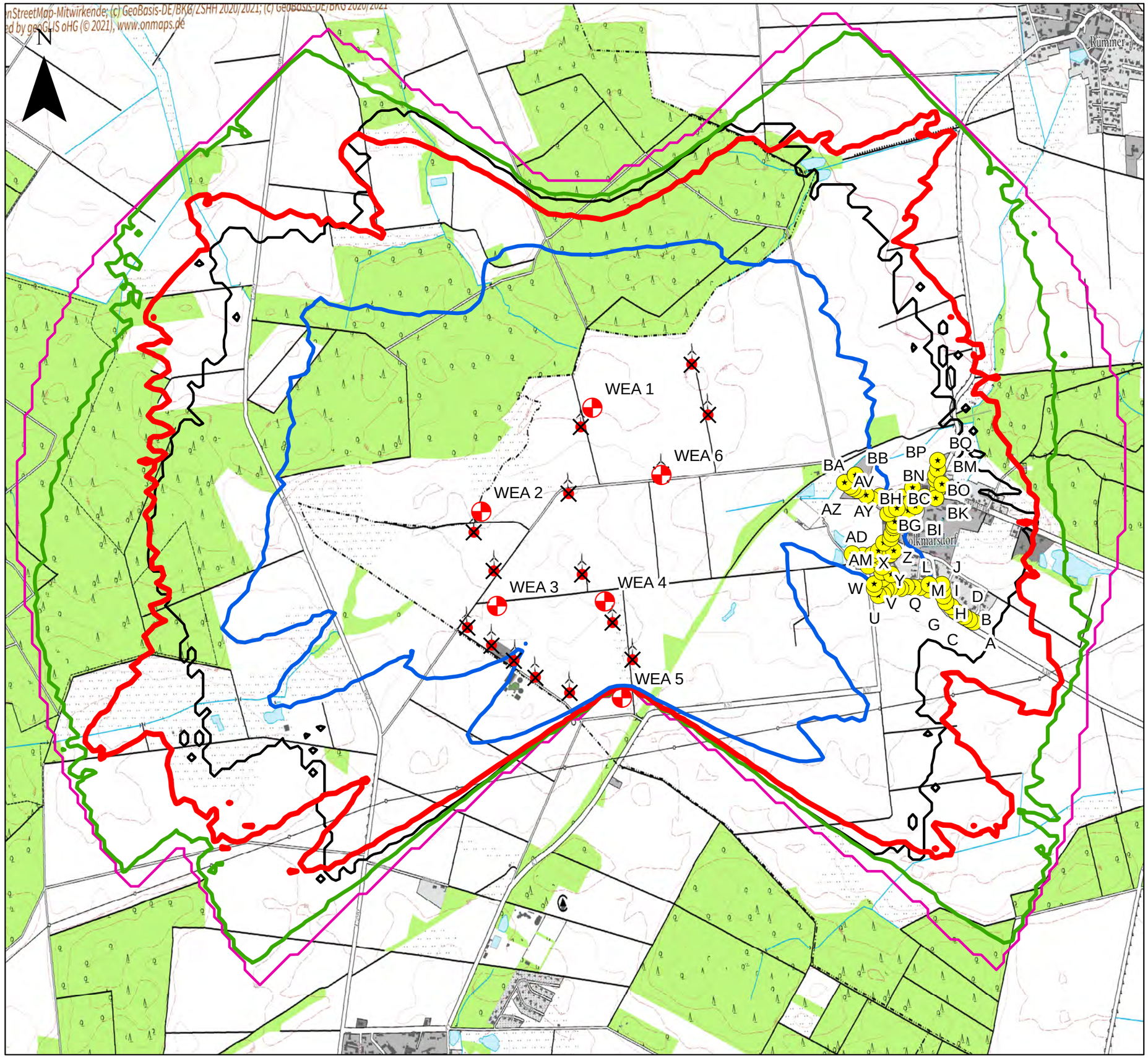
Berechnung: Schattenwurf WP Volkmarsdorf



Karte: EMD OpenStreetMap , Maßstab 1:35.000, Mitte: UTM (north)-ETRS89 Zone: 32 Ost: 627.060 Nord: 5.803.140

Neue WEA Schattenrezeptor

Höhe der Schattenkarte: Höhenraster-Objekt: Schattenwurf_WP_Volkmarsdorf_Rev00_EMDGrid_0.wpg (24)



Schattenwurf Zusatzbelastung

Legende

- geplante WEA
- Bestand / Repowering
- Schattenrezeptoren

Zusatzbelastung

- 0 Stunden/Jahr
- 10 Stunden/Jahr
- 30 Stunden/Jahr
- 100 Stunden/Jahr
- Schattenwurf (30 Minuten/Tag)

0 250 500 1.000 Meter

WP Volkmarsdorf

Auftraggeber

Swisspower Renewables Volkmarsdorf GmbH
Charlottenstraße 35/36
10117 Berlin

bearbeitet von

PLANGIS
Sedanstr. 29
D - 30161 Hannover
Tel. (0511) 336 48 300
Fax (0511) 336 48 535
E-Mail: info@plangis.de

Karte
Schattenwurf
Zusatzbelastung

Maßstab A3 quer
M 1:15.000

Datum / Bearbeiter
02-2021 / WP