

INTEGRALE RICOSTRUZIONE PARCHI EOLICI "Faeto-Celle"

**ADEGUAMENTO TECNICO IMPIANTO EOLICO MEDIANTE INTERVENTO DI REPOWERING
DELLE TORRI ESISTENTI E RIDUZIONE NUMERICA DEGLI AEROGENERATORI**



Edison Rinnovabili Spa
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Opera	Progetto di Integrale Ricostruzione di n. 1 impianto eolico composto da 14 aerogeneratori da 6,6 MW per una potenza complessiva di 92,4 MW nei Comuni di Faeto e Celle di San Vito e relative opere di connessione alla località "Monte S.Vito - Ciuccia - Crepacore" con smantellamento di n. 60 aerogeneratori di potenza in esercizio pari a 33,75 MW.		
Oggetto	Nome Elaborato: VIA_03_R2P8522-SHFCK_Shadow flickering	Foglio: VIA_03_Relazioni Specialistiche	
	Descrizione Elaborato: Shadow flickering		
00	Novembre 2023	Emissione per progetto definitivo	VEGA Arch. A. Demaio Edison Rinnovabili Spa
Rev.	Data	Oggetto della revisione	Elaborazione Verifica Approvazione
Scala:	----	Integrale Ricostruzione Faeto - Celle	
Formato:	Codice progetto AU R2P8522		

Integrale Ricostruzione Parco Eolico “Faeto-CelleSV”.
Adeguamento tecnico impianto eolico mediante intervento di Repowering delle torri esistenti e riduzione numerica degli aerogeneratori.

1. PREMESSA

La presente relazione è relativa alla progettazione definitiva in seno al procedimento autorizzativo del “Progetto per il rifacimento e potenziamento di un parco eolico” che la **Edison Rinnovabili Spa** intende realizzare nei comuni Faeto e Celle di San Vito (FG), nello specifico la proposta progettuale prevede la dismissione dell’ impianto esistente costituito da n. 60 aerogeneratori (n. 51 WTG modello Enercon E40, diametro 44m, hub 46m e potenza unitaria 600 kW/WTG e n. 9 WTG modello monopala diametro 33m, hub 40 e potenza unitaria 350 kW/WTG) per una potenza complessiva di 33,75 MW, e la realizzazione di un nuovo impianto costituito da n. 14 aerogeneratori di diametro rotore 155m, altezza al mozzo 102,5 m, per una potenza nominale di 6,6 MW e complessiva 92,4 MW)

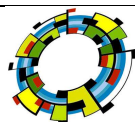
Nome WTG	WGS 84 UTM33	
	Est	Nord
1	515361	4573236
2	514821	4573266
3	514522	4572869
4	515107	4572861
5	515492	4572695
6	514194	4572505
7	514707	4572498
8	515527	4572194
9	515893	4571874
10	514710	4571345
11	515030	4571756
12	515294	4571114
13	515757	4571034
14	515603	4570594

Il presente elaborato ha lo scopo di valutare in maniera tecnica l'eventuale impatto generato dall'evoluzione dell'ombra derivante dalla futura installazione dell’impianto eolico sopra descritto.

2. LO SHADOW FLICKERING

Per lo studio dello Shadow Flicker è stata presa in considerazione una SIEMENS-GAMESA SG155 che ha le medesime caratteristiche dimensionali dell’aerogeneratore di progetto avente un’altezza al mozzo pari a 102,5 metri ed un diametro del rotore pari a 155 metri.

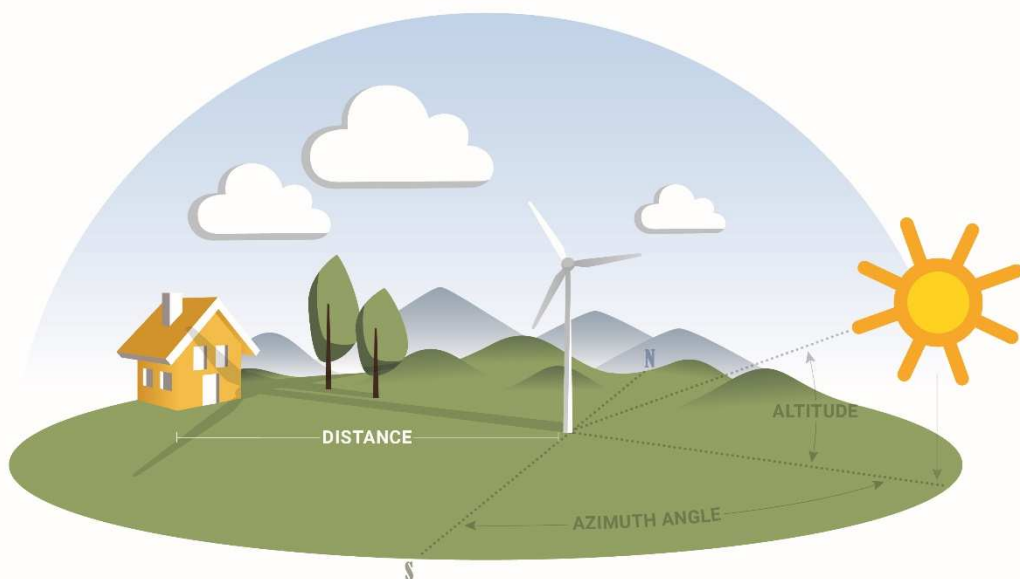
Lo Shadow-Flickering è l’espressione comunemente impiegata in ambito specialistico per descrivere l’effetto stroboscopico delle ombre proiettate dalle pale rotanti degli aerogeneratori eolici quando sussistono le



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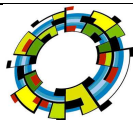
condizioni meteorologiche opportune; infatti la possibilità e la durata di tali effetti dipendono da una serie di condizioni ambientali, tra cui : la posizione del sole, l'ora del giorno, il giorno dell'anno, le condizioni atmosferiche ambientali e la posizione della turbina eolica rispetto ad un recettore sensibile. La valutazione tecnica è eseguita con l'ausilio di un software di simulazione specifico per la progettazione degli impianti eolici WIND PRO®, costituito da un insieme di moduli di elaborazione orientati alla simulazione di una serie di aspetti che caratterizzano le diverse fasi progettuali. Il modulo SHADOW è quello specifico per la valutazione dell'evoluzione dell'ombra e del flickering. In tale report è riportata:

- *La descrizione del caso studio con le posizioni delle turbine e loro caratteristiche tecniche*
- *Una breve descrizione tecnica del fenomeno di shadow flickering*
- *La descrizione dei recettori soggetti al fenomeno per i quali è stata richiesta questa analisi*
- *Sintesi della metodologia di analisi seguita per lo studio*
- *Sintesi dei risultati ottenuti, con allegati grafici ed analitici di dettaglio che descrivono il fenomeno su ognuno dei recettori e da parte di ognuna delle turbine per tutto l'anno solare.*



3. STUDIO DELL'EVOLUZIONE DELL'OMBRA GIORNALIERA GENERATA DAGLI AEROGENERATORI

Le turbine eoliche, come altre strutture fortemente sviluppate in altezza, proiettano un'ombra sulle aree adiacenti in presenza della luce solare diretta. Per chi vive in tali zone prossime all'insediamento eolico può essere molto fastidioso il cosiddetto fenomeno del "flicker" che consiste in un effetto di lampeggiamento che si verifica quando le pale del rotore in movimento "tagliano" la luce solare in maniera intermittente. Una



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progettazione attenta a questa problematica permette di evitare questo spiacevole fenomeno semplicemente prevedendo il luogo di incidenza dell'ombra e disponendo le turbine in maniera tale che l'ombra sulle zone sensibili non superi un certo numero di ore all'anno. Il grafico in figura i riporta l'evoluzione annuale dell'ombra di una turbina considerando il caso peggiore di pale sempre in rotazione intorno al mozzo, e orientate sempre ortogonalmente al sole durante la sua evoluzione giornaliera.

Come è evidente dal grafico e dalla legenda le ore annue di ombra sono sempre minori con l'aumentare della distanza dal pilone secondo una particolare geometria dettata dalla posizione geografica; da osservare che l'ombra arriva a proiettarsi anche sino ad una distanza di 1 km, anche se solo per pochi minuti all'anno.

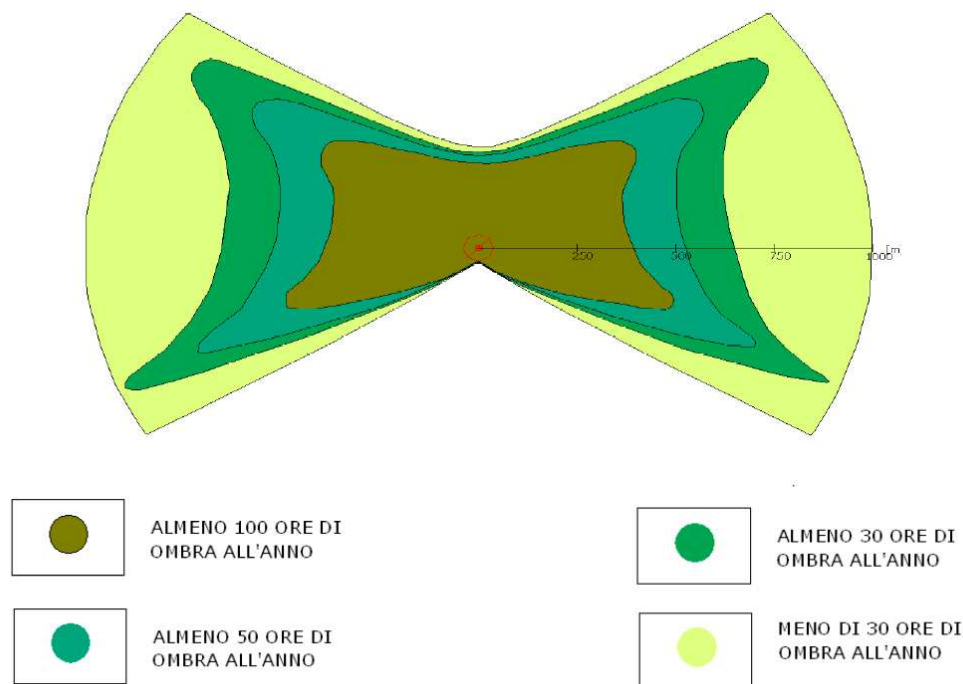


Figura 2: Evoluzione annuale tipo dell'ombra di una pala

Considerati i pochi precedenti esistenti (Germania) e le ipotesi così penalizzanti con cui è stata calcolato tale grafico si è ritenuto opportuno effettuare una sovrapposizione sull'impianto della parte più interna del grafico ovvero dell'area **che supera le 100 ore all'anno di ombra dei punti di installazione, intendendo questo come limite da non superarsi.**

In Italia, così come nella maggior parte dei paesi Europei ed extraeuropei non esiste una normativa specifica in relativa al disturbo generato dal fenomeno di Shadow – Flickering. Esistono delle regolamentazioni locali

ma quasi mai comprendono limiti numerici specifici, quanto piuttosto delle raccomandazioni tese a sottolineare che il fenomeno non sia “unreasonable” o “significant”.

4. INDIVIDUAZIONE DEI RECETTORI ED IPOTESI DI CALCOLO

L’analisi di shadow-flickering di cui al presente studio è stata elaborata per specifici 14 recettori che circondano l’impianto; tuttavia, alcune strutture inserite nel modello di simulazione potrebbero essere ruderi non abitati e sostanzialmente privi di caratteristiche minime di abitabilità o agibilità; il che sarà analizzato nel seguito.

Lo studio, i cui risultati in dettaglio sono riportati nei report allegati alla presente relazione, è stato condotto con uno specifico software (WindPRO).

Nello studio ci si è posti nella condizione più sfavorevole possibile, in quanto si è considerato che:

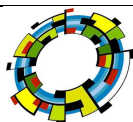
- il sole risplende per tutta la giornata dall'alba al tramonto (cioè si è **sempre** in assenza di copertura nuvolosa);
- il piano di rotazione delle pale è sempre perpendicolare alla linea che passa per il sole e per l'aerogeneratore (l'aerogeneratore “insegue” il sole);
- l'aerogeneratore è sempre operativo.

Allo stesso tempo, si è trascurata la presenza degli alberi e di altri ostacoli che bordano le strade “intercettando” l’ombra degli aerogeneratori riducendo il fenomeno del flickering sui recettori.

Ciò significa che i risultati forniti dal calcolo sono ampiamente cautelativi.

In base alla metodologia descritta nei paragrafi precedenti, sono stati utilizzati i seguenti dati di input per impostare il modello di simulazione per la valutazione del fenomeno di Shadow-Flickering degli aerogeneratori di progetto:

- Il DTM o Modello del terreno digitale** per caratterizzare l'orografia è stato estrapolato dal grid disponibile in download dal SIT della Regione Puglia, georeferenziato, sovrapposto, confrontato e adeguato con le curve di livello presenti sulla cartografia ufficiale CTR 1:5.000 con uno step di 5 m. Il modello digitale ottenuto copre un’area sufficiente ad inglobare l’area del parco eolico di progetto e trova un ottimo riscontro con l’andamento orografico verificato in sito.
- Posizioni geografiche di recettori con dettaglio dimensionale delle aree più esposte.** Sono i ricettori individuati dallo studio acustico e in quello della gittata massima degli elementi rotanti; essi sono classificati secondo la loro abitabilità e destinazione d’uso. Per tutti i ricettori si è ritenuto opportuno usare l'ipotesi di cautela della modalità “green house mode”. Questa scelta è stata operata poiché in



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talune circostanze anche lo spazio antistante le strutture può essere considerato o adibito a luogo di riposo e relax. La scelta di una singola finestra o di una facciata in alcune condizioni potrebbe risultare riduttiva allo scopo di una vera valutazione d'impatto.

c) Posizioni geografiche delle turbine eoliche e loro caratteristiche dimensionali

Gli aerogeneratori di progetto con le loro caratteristiche dimensionali e tecnologiche

d) Nessun ostacolo naturale o artificiale è stato modellato.

Ricettore	Name WindPro		Coordinate		Ore di ombra	Giorni di	Max ore
	ID	Name	E	N	x anno	ombra x anno	ombra x giorno
R12	1	A	515448	4573583	231:30	159	2:05
R13	2	B	515462	4573569	245:12	163	2:07
R14	3	C	515085	4573247	398:15	317	2:06
R15	4	D	514918	4573437	453:18	195	2:44
R16	5	E	514897	4573394	656:31	251	3:18
R29	6	F	514411	4572830	635:32	282	2:10
R30	7	G	514529	4572445	380:26	178	4:15
R31	8	H	514666	4572282	79:48	78	3:00
R32	9	I	514718	4572266	71:46	73	1:32
R33	10	J	514695	4572299	109:14	80	1:26
R34	11	K	514574	4572137	23:10	104	1:43
R35	12	L	514739	4572132	23:02	54	0:30
R36	13	M	514923	4571642	59:19	118	0:57
R67	14	N	515916	4570243	0:00	0	0:00

Tab. 1 – Coordinate ricettori UTM-WGS84

5. I RISULTATI DEL CALCOLO DELL'EVOLUZIONE DELL'OMBRA

Come sopra accennato, nella procedura “Worst case”, (quella di cui ai calcoli effettuati), il fenomeno di shadow/flickering viene calcolato non tenendo conto di una serie di fattori, i cui dati allo stato dell’arte per il sito in questione non sono disponibili. Se fossero considerati tali fattori si potrebbe calcolare il fenomeno di shadow/flickering con la metodologia “real case”, nel qual caso, da quanto riportato nella letteratura specialistica secondo altri casi simili, si avrebbero risultati indicanti una riduzione del fenomeno ad 1/3 dei valori.

Cautelativamente assumiamo per effetto di tali fattori una riduzione del fenomeno del flickering di 1/2.

Dalle simulazioni effettuate, i cui risultati sono riportati nella **Tab. 1**, si evince che gli aerogeneratori di progetto generano maggiormente il fenomeno di shadow/flickering sui recettori evidenziati, considerando

solo quelli di categoria catastale più interessante per il fenomeno (recettori con categoria catastale A e con più di 30 ore/anno nel “Worst Case”:

R12,R33

Per tali recettori si ha un massimo di ore di ombra calcolato pari a 231:00 ore/anno.

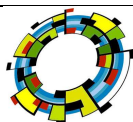
In riferimento alle considerazioni sopra fatte circa i fattori attenuanti, nel “Real Case” tale valore diventa pari alla metà e quindi di 115:00 ore/anno.

Tale valore è certamente di poco superiore alle 100 ore/anno, sopra citato quale limite da non superare e anche se superiore alle 30 ore/anno quale valore ancora più restrittivo che in alcune valutazioni più severe viene considerato, ma si può considerare ininfluente in quanto trattasi di recettori disabilitati.

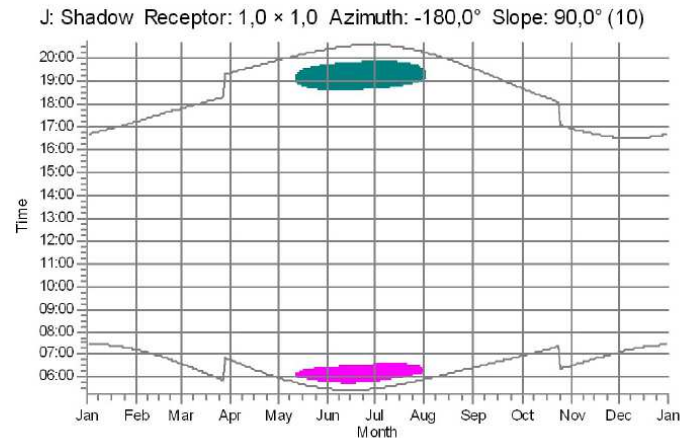
Solo da osservare che:

1. prendendo a riferimento il valore limite di 100 ore/anno, non considerando i fattori di attenuazione del “real case” e considerando **tutti** i recettori indistintamente, solo il recettori R45 supera tale valore: tuttavia trattasi di recettori classificati come opifici, magazzini, ruderi o in stato di abbandono o comunque disabilitati.
2. Considerando i recettori **“R12, R33”** anche senza considerare i fattori di attenuazione il valore massimo delle ore di ombra è di 115:00 fondamentalmente di poco superiore al valore limite di 100 ore/anno e anche se superiore a quello limite assunto in valutazioni più severe di 30 ore/anno si può considerare ininfluente in quanto trattasi di recettori disabilitati.

E’ stato elaborato un calendario dell’ombra riportato in appendice (rif. Appendice Calendar), che riporta in maniera grafica giorno per giorno, per tutto l’anno, la durata giornaliera del fenomeno, l’orario di inizio e di fine del fenomeno, nelle condizioni di caso reale. Dalla lettura del “Calendar” si legge che il fenomeno dell’ombreggiamento, si esplica sui recettori con intensità maggiore nel periodo compreso tra Giugno-Agosto nelle prime ore del mattino e Giugno-Agosto nelle tarde ore del tramonto. Nella figura che segue è riportato a titolo di esempio il grafico "calendar" di un recettore: le macchie individuano i momenti di shadow, la posizione nel grafico individua tempo e durata del fenomeno, il colore della macchia individua la turbina che causa il fenomeno.



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- 5: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (5)
- 6: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (6)

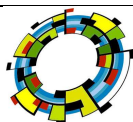
L'allegato 2 riporta il dettaglio analitico di quanto espresso dal grafico precedente con gli specifici orari di inizio e di fine del fenomeno. A seguire è altresì riportata la sintesi grafica annuale (come mostra l'immagine precedente) dell'apporto di ombreggiamento a carico di ogni recettore ed il/gli aerogeneratore/i responsabile/i del fenomeno.

E' stata inoltre elaborata una mappa (report Map, Allegato 3) in cui vengono riportate, con diverse gradazioni di colore, le zone soggette ad una determinata durata del fenomeno dell'ombreggiamento oltre all'estensione areale nella quale il fenomeno risulta significativo.

Il fenomeno dell'ombreggiamento interessa marginalmente tratti di strade provinciali e strade comunali e/o private per un numero di ore all'anno del tutto irrilevanti e cioè pari ad un massimo di 30 ore/anno, ma solo in alcuni tratti. Preme tuttavia evidenziare che nelle simulazioni non si è tenuto conto della possibile presenza di vegetazione capace di offrire un effetto “barriera” ai recettori e/o alle strade limitrofe. Inoltre, la percezione dell'impianto dalla strada risulterebbe essere “in movimento” e quindi legata alla breve permanenza delle automobili in transito, per cui il fastidio indotto sarebbe temporalmente limitato. A questo si aggiunge che le simulazioni sono state effettuate assumendo le “condizioni peggiori”, sovrastimando pertanto l'effetto di flickering.

6. CONCLUSIONI E RACCOMANDAZIONI

In conclusione, si può affermare che i risultati ottenuti dell'elaborazione evidenziano, pur considerando le condizioni più sfavorevoli, che le turbine di progetto generano effetti di shadow flickering i cui impatti risultano essere nulli per la maggior parte dei recettori individuati, e piuttosto modesti per gli altri e



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comunque questi sono interessati per un numero massimo di ore l’anno inferiore al limite accettabile sia di tipo ordinario ma anche in valutazioni più severe e restrittive.

In ogni caso è comunque da rimarcare l’effetto di sovrastima dovuto al grado di cautela utilizzato per la simulazione che non tiene in conto di tutte le possibili fonti di attenuazione dell’effetto cui ogni recettore è (o può essere) soggetto quali presenza di alberi, ostacoli, siepi e quant’altro possa attenuare il fenomeno dell’evoluzione giornaliera dell’ombra.

6. ELENCO ALLEGATI

Di seguito vengono riportati i risultati dello Shadow Flicker elaborati con il software *WindPro*

1. Main result: quadro sintetico dei risultati di calcolo;
2. Calendar: analisi giornaliera dell’effetto “flickering” ricevuto da ogni recettore;
3. Calendar, graphical: grafico dell’analisi giornaliera dell’effetto “flickering” ricevuto da ogni recettore;
4. Calendar per WTG: analisi giornaliera dell’effetto “flickering” indotto da ogni aerogeneratore sui recettori;
5. Calendar per WTG, graphical: grafico dell’analisi giornaliera dell’effetto “flickering” indotto da ogni aerogeneratore sui recettori;
6. Map: mappa delle aree soggette ad ombreggiamento.

Foggia, Dicembre 2023



Il Tecnico
Arch. Antonio DEMAIO

SHADOW - Main Result

Calculation: Shadow

Assumptions for shadow calculations

Maximum distance for influence

Calculate only when more than 20 % of sun is covered by the blade

Please look in WTG table

Minimum sun height over horizon for influence

3 °

Day step for calculation

1 days

Time step for calculation

1 minutes

The calculated times are "worst case" given by the following assumptions:

The sun is shining all the day, from sunrise to sunset

The rotor plane is always perpendicular to the line from the WTG to the sun

The WTG is always operating

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:

Height contours used: Elevation Grid Data Object: IR_FaetoCelle_20km_EMD

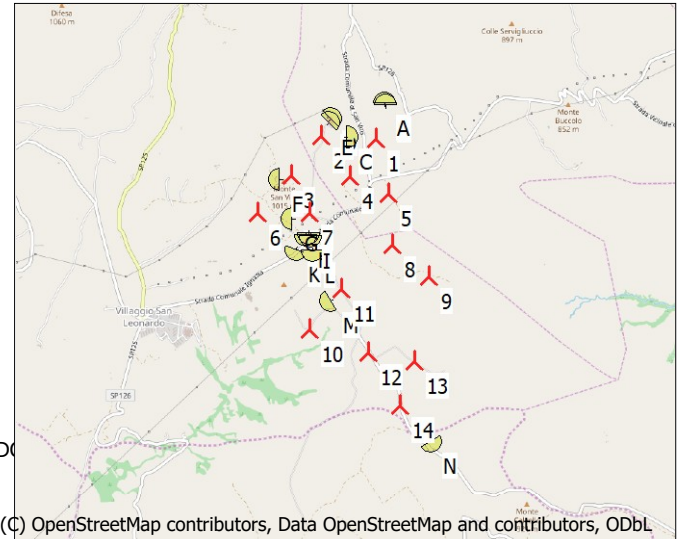
Obstacles used in calculation

Receptor grid resolution: 1,0 m

All coordinates are in

UTM (north)-WGS84 Zone: 33

WTGs



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL

Scale 1:75.000
New WTG Shadow receptor

	Easting	Northing	Z	Row data/Description	WTG type		Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.					Calculation distance [m]	RPM [RPM]
			[m]									
1	515.361	4.573.236	909,6	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	102,5	2.042	11.6
2	514.821	4.573.266	925,2	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	102,5	2.042	11.6
3	514.522	4.572.869	1.011,0	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	102,5	2.042	11.6
4	515.107	4.572.861	958,3	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	102,5	2.042	11.6
5	515.492	4.572.695	925,3	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	102,5	2.042	11.6
6	514.194	4.572.505	978,6	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	102,5	2.042	11.6
7	514.707	4.572.498	969,7	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	102,5	2.042	11.6
8	515.527	4.572.194	896,1	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	102,5	2.042	11.6
9	515.893	4.571.874	863,7	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	102,5	2.042	11.6
10	514.710	4.571.345	911,3	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	102,5	2.042	11.6
11	515.030	4.571.756	925,8	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	102,5	2.042	11.6
12	515.294	4.571.114	931,0	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	102,5	2.042	11.6
13	515.757	4.571.034	899,8	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	102,5	2.042	11.6
14	515.603	4.570.594	887,5	Siemens Gamesa SG 6...	Yes	Siemens Gamesa	SG 6.6-155-6.600	6.600	155,0	102,5	2.042	11.6

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation	Degrees from	Slope of	Direction mode	Eye height
			[m]	[m]	[m]	a.g.l. [m]	south cw [°]	window [°]		(ZVI) a.g.l. [m]
A	515.448	4.573.583	857,0	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
B	515.462	4.573.569	859,1	1,0	1,0	1,0	0,0	90,0	Fixed direction	2,0
C	515.085	4.573.247	917,5	1,0	1,0	1,0	90,0	90,0	Fixed direction	2,0
D	514.918	4.573.437	912,8	1,0	1,0	1,0	45,0	90,0	Fixed direction	2,0
E	514.897	4.573.394	915,9	1,0	1,0	1,0	45,0	90,0	Fixed direction	2,0
F	514.411	4.572.830	1.021,4	1,0	1,0	1,0	-90,0	90,0	Fixed direction	2,0
G	514.529	4.572.445	976,1	1,0	1,0	1,0	-90,0	90,0	Fixed direction	2,0
H	514.666	4.572.282	942,7	1,0	1,0	1,0	180,0	90,0	Fixed direction	2,0
I	514.718	4.572.266	939,4	1,0	1,0	1,0	180,0	90,0	Fixed direction	2,0
J	514.695	4.572.299	943,2	1,0	1,0	1,0	180,0	90,0	Fixed direction	2,0
K	514.574	4.572.137	929,9	1,0	1,0	1,0	-160,0	90,0	Fixed direction	2,0
L	514.739	4.572.132	932,9	1,0	1,0	1,0	180,0	90,0	Fixed direction	2,0
M	514.923	4.571.642	914,9	1,0	1,0	1,0	-120,0	90,0	Fixed direction	2,0
N	515.916	4.570.243	872,4	1,0	1,0	1,0	150,0	90,0	Fixed direction	2,0

SHADOW - Main Result

Calculation: Shadow

Calculation Results

Shadow receptor

Shadow, worst case

No.	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
A	231:30	159	2:05
B	245:12	163	2:07
C	398:15	317	2:06
D	453:18	195	2:44
E	656:31	251	3:18
F	635:32	282	4:15
G	380:26	178	3:00
H	79:48	78	1:32
I	71:46	73	1:26
J	109:14	80	1:43
K	23:10	104	0:30
L	23:02	54	0:38
M	59:19	118	0:57
N	0:00	0	0:00

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]
1	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (1)	175:39
2	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (2)	1031:20
3	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (3)	675:31
4	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (4)	47:48
5	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (5)	51:38
6	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (6)	95:51
7	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (7)	432:14
8	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (8)	29:38
9	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (9)	15:31
10	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (10)	0:00
11	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (11)	0:00
12	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (12)	11:43
13	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (13)	34:45
14	Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (14)	0:00

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

SHADOW - Calendar

Calculation: ShadowShadow receptor: A - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June			
1	07:26 16:41 124	12:08 (1) 15:53 (6) 17:15 103	07:12 17:15 103	12:35 (1) 16:05 (3) 17:49 45	06:36 17:49 45	15:57 (2) 16:42 (2) 19:24	06:45 19:24	05:59 19:56	05:29 20:26
2	07:26 16:41 123	12:09 (1) 15:54 (6) 17:16 100	07:11 17:16 100	12:37 (1) 16:05 (3) 17:51 43	06:34 17:51 43	15:58 (2) 16:41 (2) 19:25	06:43 19:25	05:57 19:57	05:29 20:27
3	07:26 16:42 123	12:09 (1) 15:54 (6) 17:18 95	07:10 17:18 95	12:39 (1) 16:05 (3) 17:52 42	06:33 17:52 42	15:59 (2) 16:41 (2) 19:26	06:41 19:26	05:56 19:58	05:28 20:27
4	07:26 16:43 122	12:10 (1) 15:54 (6) 17:19 89	07:09 17:19 89	12:42 (1) 16:04 (3) 17:53 39	06:31 17:53 39	16:00 (2) 16:39 (2) 19:27	06:40 19:27	05:55 19:59	05:28 20:28
5	07:26 16:44 122	12:11 (1) 15:55 (6) 17:20 96	07:08 17:20 96	12:44 (1) 16:26 (2) 17:54 37	06:30 17:54 37	16:01 (2) 16:38 (2) 19:28	06:38 19:28	05:53 20:00	05:28 20:29
6	07:26 16:45 122	12:11 (1) 15:55 (6) 17:21 98	07:07 17:21 98	12:47 (1) 16:30 (2) 17:55 34	06:28 17:55 34	16:02 (2) 16:36 (2) 19:29	06:36 19:29	05:52 20:01	05:27 20:29
7	07:26 16:46 120	12:12 (1) 15:55 (6) 17:23 95	07:06 17:23 95	12:51 (1) 16:33 (2) 17:56 30	06:26 17:56 30	16:04 (2) 16:34 (2) 19:30	06:35 19:30	05:51 20:03	05:27 20:30
8	07:26 16:47 120	12:13 (1) 15:56 (6) 17:24 89	07:05 17:24 89	12:54 (1) 16:34 (2) 17:58 26	06:25 17:58 26	16:06 (2) 16:32 (2) 19:31	06:33 19:31	05:50 20:04	05:27 20:31
9	07:26 16:48 118	12:14 (1) 15:56 (6) 17:25 79	07:04 17:25 79	13:00 (1) 16:36 (2) 17:59 20	06:23 17:59 20	16:09 (2) 16:29 (2) 19:33	06:31 19:33	05:49 20:05	05:27 20:31
10	07:25 16:49 119	12:13 (1) 15:56 (6) 17:26 60	07:02 17:26 60	13:08 (1) 16:38 (2) 18:00 12	06:22 18:00 12	16:12 (2) 16:24 (2) 19:34	06:30 19:34	05:47 20:06	05:26 20:32
11	07:25 16:50 117	12:14 (1) 15:56 (6) 17:28 38	07:01 17:28 38	16:02 (2) 16:40 (2) 18:01	06:20 18:01	06:28 19:35	06:28 20:07	05:46 20:07	05:26 20:32
12	07:25 16:51 116	12:15 (1) 15:56 (6) 17:29 40	07:00 17:29 40	16:00 (2) 16:40 (2) 18:02	06:18 18:02	06:27 19:36	06:27 20:08	05:45 20:08	05:26 20:33
13	07:25 16:52 114	12:15 (1) 15:55 (6) 17:30 42	06:59 17:30 42	15:59 (2) 16:41 (2) 18:03	06:17 18:03	06:25 19:37	06:25 20:09	05:44 20:09	05:26 20:33
14	07:24 16:53 112	12:16 (1) 15:55 (6) 17:31 44	06:57 17:31 44	15:59 (2) 16:43 (2) 18:04	06:15 18:04	06:23 19:38	06:23 20:10	05:43 20:10	05:26 20:34
15	07:24 16:54 112	12:17 (1) 15:54 (6) 17:33 45	06:56 17:33 45	15:59 (2) 16:44 (2) 18:05	06:13 18:05	06:22 19:39	06:22 20:11	05:42 20:11	05:26 20:34
16	07:23 16:55 112	12:18 (1) 15:54 (3) 17:34 47	06:55 17:34 47	15:57 (2) 16:44 (2) 18:07	06:12 18:07	06:20 19:40	06:20 20:12	05:41 20:12	05:26 20:35
17	07:23 16:57 114	12:18 (1) 15:55 (3) 17:35 47	06:53 17:35 47	15:57 (2) 16:44 (2) 18:08	06:10 18:08	06:19 19:41	06:19 20:13	05:40 20:13	05:26 20:35
18	07:23 16:58 116	12:19 (1) 15:57 (3) 17:36 48	06:52 17:36 48	15:56 (2) 16:44 (2) 18:09	06:08 18:09	06:17 19:42	06:17 20:14	05:39 20:14	05:26 20:35
19	07:22 16:59 116	12:20 (1) 15:58 (3) 17:38 49	06:51 17:38 49	15:56 (2) 16:45 (2) 18:10	06:07 18:10	06:16 19:43	06:16 20:15	05:38 20:15	05:26 20:36
20	07:21 17:00 118	12:20 (1) 15:59 (3) 17:39 50	06:49 17:39 50	15:56 (2) 16:46 (2) 18:11	06:05 18:11	06:14 19:44	06:14 20:16	05:37 20:16	05:26 20:36
21	07:21 17:01 118	12:22 (1) 16:01 (3) 17:40 49	06:48 17:40 49	15:56 (2) 16:45 (2) 18:12	06:03 18:12	06:13 19:45	06:13 20:17	05:37 20:17	05:26 20:36
22	07:20 17:03 118	12:22 (1) 16:01 (3) 17:41 50	06:46 17:41 50	15:56 (2) 16:46 (2) 18:13	06:02 18:13	06:11 19:46	06:11 20:17	05:36 20:17	05:27 20:36
23	07:20 17:04 119	12:23 (1) 16:02 (3) 17:42 50	06:45 17:42 50	15:55 (2) 16:45 (2) 18:14	06:00 18:14	06:10 19:48	06:10 20:18	05:35 20:18	05:27 20:37
24	07:19 17:05 117	12:25 (1) 16:03 (3) 17:44 49	06:43 17:44 49	15:56 (2) 16:45 (2) 18:15	05:58 18:15	06:08 19:49	06:08 20:19	05:34 20:19	05:27 20:37
25	07:18 17:06 117	12:26 (1) 16:04 (3) 17:45 49	06:42 17:45 49	15:56 (2) 16:45 (2) 18:16	05:56 18:16	06:07 19:50	06:07 20:20	05:34 20:20	05:27 20:37
26	07:17 17:08 115	12:27 (1) 16:04 (3) 17:46 49	06:40 17:46 49	15:56 (2) 16:45 (2) 18:17	05:55 18:17	06:05 19:51	06:05 20:21	05:33 20:21	05:28 20:37
27	07:17 17:09 114	12:28 (1) 16:04 (3) 17:47 48	06:39 17:47 48	15:56 (2) 16:44 (2) 18:19	05:53 18:19	06:04 19:52	06:04 20:22	05:32 20:22	05:28 20:37
28	07:16 17:10 114	12:29 (1) 16:05 (3) 17:48 47	06:37 17:48 47	15:56 (2) 16:43 (2) 18:20	05:51 18:20	06:03 19:53	06:03 20:23	05:32 20:23	05:28 20:37
29	07:15 17:11 111	12:30 (1) 16:05 (3)	06:50 	06:50 19:21	06:50 19:21	06:01 19:54	06:01 20:24	05:31 20:24	05:29 20:37
30	07:14 17:13 108	12:32 (1) 16:05 (3)	06:48 	06:48 19:22	06:48 19:22	06:00 19:55	06:00 20:24	05:30 20:24	05:29 20:37
31	07:13 17:14 106	12:33 (1) 16:05 (3)	06:46 	06:46 19:23	06:46 19:23	05:30 20:25	05:30 20:25	05:29 20:25	05:29 20:37
Potential sun hours	297	297	369	399	449	453			
Total, worst case	3617	1745	328						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: ShadowShadow receptor: A - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December	
1	05:30 20:37	05:54 20:18	06:25 19:34	06:55 18:43	06:30 16:56	12:36 (1) 16:08 (2)	07:05 15:38 (6)
2	05:30 20:37	05:55 20:17	06:26 19:33	06:56 18:42	06:31 16:55	12:29 (1) 16:06 (2)	07:06 15:39 (6)
3	05:31 20:37	05:56 20:16	06:27 19:31	06:58 18:40	16:55 (2) 16:59 (2)	06:32 16:54	12:23 (1) 16:31
4	05:31 20:36	05:57 20:14	06:28 19:29	06:59 18:38	16:48 (2) 17:05 (2)	06:34 16:53	12:20 (1) 16:31
5	05:32 20:36	05:58 20:13	06:29 19:28	07:00 18:37	16:44 (2) 17:08 (2)	06:35 16:51	12:17 (1) 16:31
6	05:32 20:36	05:59 20:12	06:30 19:26	07:01 18:35	16:41 (2) 17:10 (2)	06:36 16:50	12:14 (1) 15:55 (2)
7	05:33 20:36	06:00 20:11	06:31 19:24	07:02 18:33	16:39 (2) 17:11 (2)	06:37 16:49	12:11 (1) 15:34 (3)
8	05:34 20:35	06:01 20:10	06:32 19:23	07:03 18:32	16:37 (2) 17:12 (2)	06:38 16:48	12:10 (1) 15:36 (3)
9	05:34 20:35	06:02 20:08	06:33 19:21	07:04 18:30	16:35 (2) 17:13 (2)	06:40 16:47	12:08 (1) 15:36 (3)
10	05:35 20:35	06:03 20:07	06:34 19:19	07:05 18:28	16:33 (2) 17:14 (2)	06:41 16:46	12:06 (1) 15:36 (3)
11	05:36 20:34	06:04 20:06	06:35 19:18	07:06 18:27	16:32 (2) 17:14 (2)	06:42 16:45	12:05 (1) 15:37 (3)
12	05:36 20:34	06:05 20:04	06:36 19:16	07:07 18:25	16:32 (2) 17:16 (2)	06:43 16:44	12:04 (1) 15:37 (3)
13	05:37 20:33	06:06 20:03	06:37 19:14	07:08 18:24	16:30 (2) 17:16 (2)	06:44 16:43	12:02 (1) 15:37 (3)
14	05:38 20:33	06:07 20:02	06:38 19:12	07:09 18:22	16:29 (2) 17:16 (2)	06:46 16:42	12:01 (1) 15:36 (3)
15	05:39 20:32	06:08 20:00	06:39 19:11	07:10 18:20	16:29 (2) 17:16 (2)	06:47 16:41	12:01 (1) 15:37 (3)
16	05:40 20:32	06:09 19:59	06:40 19:09	07:12 18:19	16:28 (2) 17:16 (2)	06:48 16:40	12:00 (1) 15:37 (3)
17	05:40 20:31	06:10 19:57	06:41 19:07	07:13 18:17	16:27 (2) 17:16 (2)	06:49 16:40	11:59 (1) 15:37 (3)
18	05:41 20:30	06:11 19:56	06:42 19:06	07:14 18:16	16:26 (2) 17:16 (2)	06:50 16:39	11:59 (1) 15:37 (3)
19	05:42 20:30	06:12 19:55	06:43 19:04	07:15 18:14	16:27 (2) 17:17 (2)	06:52 16:38	11:58 (1) 15:37 (3)
20	05:43 20:29	06:13 19:53	06:44 19:02	07:16 18:13	16:26 (2) 17:16 (2)	06:53 16:37	11:57 (1) 15:36 (3)
21	05:44 20:28	06:14 19:52	06:45 19:00	07:17 18:11	16:26 (2) 17:16 (2)	06:54 16:37	11:57 (1) 15:36 (3)
22	05:45 20:27	06:15 19:50	06:46 18:59	07:18 18:10	16:26 (2) 17:15 (2)	06:55 16:36	11:57 (1) 15:36 (3)
23	05:45 20:26	06:16 19:49	06:47 18:57	07:19 18:08	16:26 (2) 17:15 (2)	06:56 16:35	11:57 (1) 15:35 (3)
24	05:46 20:26	06:17 19:47	06:48 18:55	07:21 18:07	16:27 (2) 17:15 (2)	06:57 16:35	11:56 (1) 15:34 (3)
25	05:47 20:25	06:18 19:45	06:49 18:54	07:22 17:06	15:27 (2) 16:14 (2)	06:59 16:34	11:56 (1) 15:34 (3)
26	05:48 20:24	06:19 19:44	06:50 18:52	06:23 17:04	15:27 (2) 16:13 (2)	07:00 16:34	11:56 (1) 15:33 (3)
27	05:49 20:23	06:20 19:42	06:51 18:50	06:24 17:03	15:27 (2) 16:12 (2)	07:01 16:33	11:56 (1) 15:33 (6)
28	05:50 20:22	06:21 19:41	06:52 18:48	06:25 17:01	15:29 (2) 16:12 (2)	07:02 16:33	11:57 (1) 15:35 (6)
29	05:51 20:21	06:22 19:39	06:53 18:47	06:26 17:00	15:29 (2) 16:11 (2)	07:03 16:32	11:56 (1) 15:36 (6)
30	05:52 20:20	06:23 19:38	06:54 18:45	06:28 16:59	15:30 (2) 16:10 (2)	07:04 16:32	11:56 (1) 15:37 (6)
31	05:53 20:19	06:24 19:36	06:55 18:44	06:29 16:58	15:31 (2) 16:08 (2)	07:05 16:40	11:55 (1) 15:37 (6)
Potential sun hours	460	428	375	345	297	287	3808
Total, worst case				1189	3203		3808

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: ShadowShadow receptor: B - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:26 16:41 126	07:12 17:15 113	12:41 (1) 16:09 (3) 47	06:36 17:49 47	16:01 (2) 06:45 19:24	05:59 19:56 20:26
2	07:26 16:41 126	07:11 17:16 111	12:42 (1) 16:09 (3) 46	06:34 17:51 46	16:01 (2) 06:43 19:25	05:57 19:57 20:27
3	07:26 16:42 126	07:10 17:18 107	12:44 (1) 16:09 (3) 45	06:33 17:52 45	16:02 (2) 06:41 19:26	05:56 19:58 20:27
4	07:26 16:43 126	07:09 17:19 104	12:46 (1) 16:09 (3) 43	06:31 17:53 43	16:03 (2) 06:40 19:27	05:55 19:59 20:28
5	07:26 16:44 125	07:08 17:20 99	12:48 (1) 16:08 (3) 41	06:30 17:54 41	16:04 (2) 06:38 19:28	05:53 20:00 20:29
6	07:26 16:45 126	07:07 17:21 95	12:50 (1) 16:08 (3) 39	06:28 17:55 39	16:05 (2) 06:36 19:29	05:52 20:01 20:29
7	07:26 16:46 124	07:06 17:23 90	12:52 (1) 16:07 (3) 37	06:26 17:56 37	16:05 (2) 06:35 19:30	05:51 20:02 20:30
8	07:26 16:47 124	07:05 17:24 99	12:54 (1) 16:32 (2) 34	06:25 17:58 34	16:07 (2) 06:33 19:31	05:50 20:04 20:31
9	07:26 16:48 124	07:04 17:25 98	12:57 (1) 16:36 (2) 30	06:23 17:59 30	16:09 (2) 06:31 19:33	05:49 20:05 20:31
10	07:25 16:49 124	07:02 17:26 95	13:01 (1) 16:39 (2) 26	06:22 18:00 26	16:10 (2) 06:30 19:34	05:47 20:06 20:32
11	07:25 16:50 123	07:01 17:28 86	13:05 (1) 16:41 (2) 20	06:20 18:01 20	16:14 (2) 06:28 19:35	05:46 20:07 20:32
12	07:25 16:51 121	07:00 17:29 71	13:09 (1) 16:42 (2) 11	06:18 18:02 11	16:18 (2) 06:27 19:36	05:45 20:08 20:33
13	07:25 16:52 120	06:59 17:30 60	13:16 (1) 16:44 (2) 6	06:17 18:03 6	06:25 19:37 20:09	05:44 20:09 20:33
14	07:24 16:53 119	06:57 17:31 38	16:07 (2) 16:45 (2) 18:04	06:15 18:04 18:04	06:23 19:38 20:10	05:43 20:10 20:34
15	07:24 16:54 116	06:56 17:33 41	16:06 (2) 16:47 (2) 18:05	06:13 18:05 18:05	06:22 19:39 20:11	05:42 20:11 20:34
16	07:23 16:55 115	06:55 17:34 43	16:04 (2) 16:47 (2) 18:07	06:12 18:07 18:07	06:20 19:40 20:12	05:41 20:12 20:35
17	07:23 16:57 114	06:53 17:35 44	16:04 (2) 16:48 (2) 18:08	06:10 18:08 18:08	06:19 19:41 20:13	05:40 20:13 20:35
18	07:23 16:58 114	06:52 17:36 45	16:03 (2) 16:48 (2) 18:09	06:08 18:09 18:09	06:17 19:42 20:14	05:39 20:14 20:35
19	07:22 16:59 116	06:51 17:38 47	16:02 (2) 16:49 (2) 18:10	06:07 18:10 18:10	06:16 19:43 20:15	05:38 20:15 20:36
20	07:21 17:00 118	06:49 17:39 48	16:02 (2) 16:50 (2) 18:11	06:05 18:11 18:11	06:14 19:44 20:16	05:37 20:16 20:36
21	07:21 17:01 119	06:48 17:40 49	16:01 (2) 16:50 (2) 18:12	06:03 18:12 18:12	06:13 19:45 20:17	05:37 20:17 20:36
22	07:20 17:03 120	06:46 17:41 48	16:02 (2) 16:50 (2) 18:13	06:02 18:13 18:13	06:11 19:46 20:17	05:36 20:17 20:36
23	07:20 17:04 121	06:45 17:42 49	16:01 (2) 16:50 (2) 18:14	06:00 18:14 18:14	06:10 19:48 20:18	05:35 20:18 20:37
24	07:19 17:05 122	06:43 17:44 49	16:01 (2) 16:50 (2) 18:15	05:58 18:15 18:15	06:08 19:49 20:19	05:34 20:19 20:37
25	07:18 17:06 121	06:42 17:45 49	16:01 (2) 16:50 (2) 18:16	05:56 18:16 18:16	06:07 19:50 20:20	05:34 20:20 20:37
26	07:17 17:08 121	06:40 17:46 49	16:01 (2) 16:50 (2) 18:17	05:55 18:17 18:17	06:05 19:51 20:21	05:33 20:21 20:37
27	07:17 17:09 120	06:39 17:47 48	16:01 (2) 16:49 (2) 18:19	05:53 18:19 18:19	06:04 19:52 20:22	05:32 20:22 20:37
28	07:16 17:10 120	06:37 17:48 47	16:01 (2) 16:48 (2) 18:20	05:51 18:20 18:20	06:03 19:53 20:23	05:32 20:23 20:37
29	07:15 17:11 118	12:37 (1) 16:08 (3) 118	06:50 19:21 19:21	06:50 19:21 19:21	06:01 19:54 20:24	05:31 20:24 20:37
30	07:14 17:13 117	12:38 (1) 16:08 (3) 117	06:48 19:22 19:22	06:48 19:22 19:22	06:00 19:55 20:24	05:30 20:24 20:37
31	07:13 17:14 115	12:39 (1) 16:08 (3) 115	06:46 19:23 19:23	06:46 19:23 19:23	05:30 20:25 20:25	05:30 20:25 20:25
Potential sun hours	297	297	369	399	449	453
Total, worst case	3741	1922	419			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: ShadowShadow receptor: B - Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December	
1	05:30 20:37	05:54 20:18	06:25 19:34	06:55 18:43	2 17:02 (2) 06:30 17:04 (2) 16:56	12:30 (1) 07:05 16:08 (2) 16:32	12:05 (1) 15:41 (6)
2	05:30 20:37	05:55 20:17	06:26 19:33	06:56 18:42	17 17:11 (2) 16:55 16:50 (2) 06:32	12:27 (1) 07:06 16:05 (2) 16:31	12:05 (1) 15:42 (6)
3	05:31 20:37	05:56 20:16	06:27 19:31	06:58 18:40	24 17:14 (2) 16:54 16:47 (2) 06:34	12:24 (1) 07:07 16:01 (2) 16:31	12:06 (1) 15:42 (6)
4	05:31 20:36	05:57 20:14	06:28 19:29	06:59 18:38	29 17:16 (2) 16:53 16:45 (2) 06:35	12:22 (1) 07:08 15:37 (3) 16:31	12:06 (1) 15:43 (6)
5	05:32 20:36	05:58 20:13	06:29 19:28	07:00 18:37	32 17:17 (2) 16:51 16:43 (2) 06:36	12:19 (1) 07:09 15:38 (3) 16:31	12:06 (1) 15:43 (6)
6	05:32 20:36	05:59 20:12	06:30 19:26	07:01 18:35	35 17:18 (2) 16:50 16:41 (2) 06:37	12:17 (1) 07:10 15:38 (3) 16:31	12:06 (1) 15:44 (6)
7	05:33 20:36	06:00 20:11	06:31 19:24	07:02 18:33	38 17:19 (2) 16:49 16:39 (2) 06:38	12:15 (1) 07:11 15:38 (3) 16:30	12:07 (1) 15:45 (6)
8	05:34 20:35	06:01 20:10	06:32 19:23	07:03 18:32	41 17:20 (2) 16:48 16:38 (2) 06:40	12:14 (1) 07:12 15:40 (3) 16:30	12:07 (1) 15:45 (6)
9	05:34 20:35	06:02 20:08	06:33 19:21	07:04 18:30	42 17:20 (2) 16:47 16:37 (2) 06:41	12:13 (1) 07:13 15:40 (3) 16:30	12:08 (1) 15:46 (6)
10	05:35 20:35	06:03 20:07	06:34 19:19	07:05 18:28	44 17:21 (2) 16:46 16:36 (2) 06:42	12:11 (1) 07:14 15:39 (3) 16:30	12:08 (1) 15:46 (6)
11	05:36 20:34	06:04 20:06	06:35 19:18	07:06 18:27	45 17:21 (2) 16:45 16:35 (2) 06:43	12:11 (1) 07:15 15:40 (3) 16:30	12:09 (1) 15:47 (6)
12	05:36 20:34	06:05 20:04	06:36 19:16	07:07 18:25	47 17:22 (2) 16:44 16:35 (2) 06:44	12:10 (1) 07:16 15:40 (3) 16:31	12:08 (1) 15:46 (6)
13	05:37 20:33	06:06 20:03	06:37 19:14	07:08 18:24	47 17:22 (2) 16:43 16:34 (2) 06:46	12:09 (1) 07:16 15:40 (3) 16:31	12:09 (1) 15:47 (6)
14	05:38 20:33	06:07 20:02	06:38 19:12	07:09 18:22	48 17:22 (2) 16:42 16:33 (2) 06:47	12:08 (1) 07:17 15:39 (3) 16:31	12:10 (1) 15:48 (6)
15	05:39 20:32	06:08 20:00	06:39 19:11	07:10 18:20	49 17:22 (2) 16:41 16:32 (2) 06:48	12:08 (1) 07:18 15:40 (3) 16:31	12:10 (1) 15:48 (6)
16	05:40 20:32	06:09 19:59	06:40 19:09	07:12 18:19	49 17:22 (2) 16:40 16:32 (2) 06:49	12:07 (1) 07:19 15:40 (3) 16:31	12:10 (1) 15:48 (6)
17	05:40 20:31	06:10 19:57	06:41 19:07	07:13 18:17	49 17:21 (2) 16:40 16:32 (2) 06:50	12:06 (1) 07:19 15:39 (3) 16:32	12:11 (1) 15:49 (6)
18	05:41 20:30	06:11 19:56	06:42 19:06	07:14 18:16	49 17:21 (2) 16:39 16:32 (2) 06:52	12:06 (1) 07:20 15:39 (3) 16:32	12:12 (1) 15:50 (6)
19	05:42 20:30	06:12 19:55	06:43 19:04	07:15 18:14	49 17:21 (2) 16:38 16:32 (2) 06:53	12:06 (1) 07:21 15:39 (3) 16:32	12:12 (1) 15:50 (6)
20	05:43 20:29	06:13 19:53	06:44 19:02	07:16 18:13	49 17:21 (2) 16:37 16:32 (2) 06:54	12:05 (1) 07:21 15:38 (3) 16:33	12:13 (1) 15:51 (6)
21	05:44 20:29	06:14 19:53	06:45 19:02	07:17 18:13	49 17:21 (2) 16:37 16:32 (2) 06:54	12:05 (1) 07:22 15:38 (3) 16:33	12:12 (1) 15:51 (6)
22	05:45 20:27	06:15 19:52	06:46 19:00	07:18 18:11	48 17:20 (2) 16:37 16:32 (2) 06:55	12:05 (1) 07:22 15:37 (3) 16:33	12:13 (1) 15:50 (6)
23	05:45 20:26	06:16 19:49	06:47 18:57	07:19 18:10	47 17:19 (2) 16:36 16:32 (2) 06:56	12:05 (1) 07:23 15:37 (3) 16:34	12:13 (1) 15:51 (6)
24	05:46 20:26	06:17 19:47	06:48 18:55	07:21 18:07	46 17:18 (2) 16:35 16:32 (2) 06:57	12:05 (1) 07:23 15:36 (3) 16:34	12:15 (1) 15:52 (6)
25	05:47 20:25	06:18 19:45	06:49 18:54	07:22 17:06	43 16:17 (2) 16:34 15:34 (2) 06:59	12:04 (1) 07:24 15:35 (6) 16:35	12:15 (1) 15:53 (6)
26	05:48 20:24	06:19 19:44	06:50 18:52	07:23 17:04	42 16:16 (2) 16:34 15:35 (2) 07:01	12:04 (1) 07:24 15:36 (6) 16:36	12:15 (1) 15:53 (6)
27	05:49 20:23	06:20 19:42	06:51 18:50	07:24 17:03	40 16:15 (2) 16:33 15:35 (2) 07:02	12:04 (1) 07:24 15:37 (6) 16:37	12:16 (1) 15:54 (6)
28	05:50 20:22	06:21 19:41	06:52 18:48	07:25 17:01	38 16:15 (2) 16:33 12:44 (1) 07:03	12:05 (1) 07:25 15:39 (6) 16:37	12:16 (1) 15:54 (6)
29	05:51 20:21	06:22 19:39	06:53 18:47	07:26 17:00	62 16:13 (2) 16:32 12:38 (1) 07:04	12:05 (1) 07:25 15:40 (6) 16:38	12:17 (1) 15:55 (6)
30	05:52 20:20	06:23 19:38	06:54 18:45	07:28 16:59	75 16:11 (2) 16:32 12:33 (1)	12:05 (1) 07:25 15:41 (6) 16:39	12:17 (1) 15:55 (6)
31	05:53 20:19	06:24 19:36		07:29 16:58	88 16:09 (2)	16:40	12:17 (1) 15:55 (6)
Potential sun hours	460	428	375	345	297	287	
Total, worst case				1359	3379	3892	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: ShadowShadow receptor: C - Shadow Receptor: 1,0 × 1,0 Azimuth: 90,0° Slope: 90,0° (3)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June							
1	07:26 16:41	12:01 (4) 17:15	07:12 17:15	15:33 (3) 17:49	06:36 17:49	15:39 (3) 19:24	06:45 19:24	17:29 (2) 19:56	05:59 125	16:57 (2) 19:02 (2)	05:29 20:26	17:05 (2) 117	19:02 (2) 19:02 (2)
2	07:26 16:41	12:02 (4) 17:16	07:11 17:16	15:32 (3) 17:51	06:34 17:51	15:42 (3) 19:25	06:43 19:25	17:27 (2) 19:57	05:57 126	16:57 (2) 19:02 (2)	05:29 20:27	17:06 (2) 116	19:02 (2) 19:02 (2)
3	07:26 16:42	12:02 (4) 17:18	07:10 17:18	15:31 (3) 17:52	06:33 17:52	15:46 (3) 19:26	06:41 19:26	17:24 (2) 19:58	05:56 125	16:57 (2) 19:02 (2)	05:29 20:27	17:06 (2) 116	19:02 (2) 19:02 (2)
4	07:26 16:43	12:03 (4) 17:19	07:09 17:19	15:31 (3) 17:53	06:31 17:53	16:01 (3) 19:27	06:40 19:27	17:21 (2) 19:59	05:55 125	16:57 (2) 19:02 (2)	05:28 20:28	17:07 (2) 115	19:02 (2) 19:02 (2)
5	07:26 16:44	12:03 (4) 17:20	07:08 17:20	15:30 (3) 17:54	06:30 17:54	16:01 (3) 19:28	06:38 19:28	17:20 (2) 20:00	05:53 126	16:57 (2) 19:03 (2)	05:28 20:29	17:08 (2) 115	19:02 (2) 19:03 (2)
6	07:26 16:45	12:04 (4) 17:21	07:07 17:21	15:30 (3) 17:55	06:28 17:55	16:01 (3) 19:29	06:36 19:29	17:18 (2) 20:01	05:52 126	16:57 (2) 19:03 (2)	05:27 20:30	17:07 (2) 115	19:02 (2) 19:02 (2)
7	07:26 16:46	12:04 (4) 17:23	07:06 17:23	15:29 (3) 17:56	06:26 17:56	16:01 (3) 19:30	06:35 19:30	17:16 (2) 20:03	05:51 126	16:57 (2) 19:03 (2)	05:27 20:30	17:08 (2) 114	19:02 (2) 19:02 (2)
8	07:26 16:47	12:05 (4) 17:24	07:05 17:24	15:28 (3) 17:58	06:25 17:58	16:01 (3) 19:31	06:33 19:31	17:15 (2) 20:04	05:50 125	16:58 (2) 19:02 (2)	05:27 20:31	17:08 (2) 114	19:02 (2) 19:02 (2)
9	07:26 16:48	12:06 (4) 17:25	07:04 17:25	15:28 (3) 17:59	06:23 17:59	16:01 (3) 19:32	06:31 19:32	17:13 (2) 20:05	05:49 125	16:57 (2) 19:02 (2)	05:27 20:31	17:09 (2) 114	19:02 (2) 19:02 (2)
10	07:25 16:49	12:05 (4) 17:26	07:02 17:26	15:28 (3) 18:00	06:22 18:00	16:01 (3) 19:33	06:30 19:33	17:11 (2) 20:06	05:47 125	16:57 (2) 19:02 (2)	05:26 20:32	17:10 (2) 113	19:02 (2) 19:03 (2)
11	07:25 16:50	12:06 (4) 17:28	07:01 17:28	15:28 (3) 18:01	06:20 18:01	16:01 (3) 19:34	06:28 19:34	17:10 (2) 20:06	05:46 125	16:57 (2) 19:02 (2)	05:26 20:32	17:09 (2) 113	19:02 (2) 19:02 (2)
12	07:25 16:51	12:07 (4) 17:29	07:00 17:29	15:27 (3) 18:02	06:18 18:02	16:01 (3) 19:35	06:27 19:35	17:08 (2) 20:07	05:45 124	16:58 (2) 19:02 (2)	05:26 20:33	17:09 (2) 113	19:02 (2) 19:02 (2)
13	07:25 16:52	12:06 (4) 17:30	06:59 17:30	15:27 (3) 18:03	06:17 18:03	16:01 (3) 19:36	06:25 19:36	17:08 (2) 20:09	05:44 124	16:58 (2) 19:02 (2)	05:26 20:33	17:10 (2) 113	19:02 (2) 19:03 (2)
14	07:24 16:53	12:07 (4) 17:31	06:57 17:31	15:28 (3) 18:04	06:15 18:04	16:01 (3) 19:37	06:23 19:37	17:06 (2) 20:10	05:43 124	16:58 (2) 19:02 (2)	05:26 20:34	17:10 (2) 113	19:02 (2) 19:03 (2)
15	07:24 16:54	12:07 (4) 17:33	06:56 17:33	15:28 (3) 18:05	06:13 18:05	16:01 (3) 19:38	06:22 19:38	17:06 (2) 20:11	05:42 124	16:58 (2) 19:02 (2)	05:26 20:34	17:11 (2) 112	19:02 (2) 19:03 (2)
16	07:24 16:56	12:08 (4) 17:34	06:55 17:34	15:28 (3) 18:07	06:12 18:07	16:01 (3) 19:39	06:20 19:39	17:04 (2) 20:12	05:41 123	17:00 (2) 19:03 (2)	05:26 20:35	17:11 (2) 112	19:02 (2) 19:03 (2)
17	07:23 16:57	12:08 (4) 17:35	06:53 17:35	15:28 (3) 18:08	06:10 18:08	16:01 (3) 19:40	06:19 19:40	17:04 (2) 20:13	05:40 123	17:00 (2) 19:02 (2)	05:26 20:35	17:11 (2) 112	19:02 (2) 19:03 (2)
18	07:23 16:58	12:09 (4) 17:36	06:52 17:36	15:28 (3) 18:09	06:08 18:09	16:01 (3) 19:41	06:17 19:41	17:03 (2) 20:14	05:39 123	17:00 (2) 19:02 (2)	05:26 20:35	17:12 (2) 112	19:02 (2) 19:03 (2)
19	07:22 16:59	12:23 (4) 17:37	06:51 17:37	15:28 (3) 18:09	06:07 18:09	16:01 (3) 19:42	06:16 19:42	17:02 (2) 20:14	05:38 122	17:00 (2) 19:02 (2)	05:26 20:36	17:12 (2) 112	19:02 (2) 19:04 (2)
20	07:21 17:00	12:22 (4) 17:39	06:49 17:39	15:29 (3) 18:10	06:05 18:10	16:01 (3) 19:43	06:14 19:43	19:00 (2) 20:15	05:38 122	17:01 (2) 19:02 (2)	05:26 20:36	17:12 (2) 112	19:02 (2) 19:04 (2)
21	07:21 17:01	12:20 (4) 17:39	06:48 17:39	15:30 (3) 18:11	06:03 18:11	16:01 (3) 19:44	06:13 19:44	17:01 (2) 20:16	05:37 122	17:00 (2) 19:02 (2)	05:26 20:36	17:12 (2) 112	19:02 (2) 19:04 (2)
22	07:20 17:03	12:10 (4) 17:40	06:48 17:40	15:30 (3) 18:12	06:03 18:12	16:01 (3) 19:45	06:13 19:45	17:01 (2) 20:17	05:37 122	17:00 (2) 19:02 (2)	05:26 20:36	17:12 (2) 112	19:02 (2) 19:04 (2)
23	07:20 17:04	12:10 (4) 17:41	06:45 17:41	15:31 (3) 18:13	06:02 18:13	16:01 (3) 19:46	06:11 19:46	17:00 (2) 20:17	05:36 121	17:00 (2) 19:03 (2)	05:27 20:37	17:12 (2) 112	19:02 (2) 19:04 (2)
24	07:19 17:05	12:10 (4) 17:42	06:45 17:42	15:31 (3) 18:14	06:00 18:14	16:01 (3) 19:47	06:10 19:47	17:00 (2) 20:18	05:35 120	17:00 (2) 19:02 (2)	05:27 20:37	17:13 (2) 112	19:02 (2) 19:05 (2)
25	07:18 17:06	12:12 (4) 17:44	06:43 17:44	15:32 (3) 18:15	05:58 18:15	16:01 (3) 19:48	06:08 19:48	16:59 (2) 20:19	05:34 120	17:02 (2) 19:02 (2)	05:27 20:37	17:13 (2) 112	19:02 (2) 19:05 (2)
26	07:17 17:08	15:43 (3) 17:46	06:40 17:46	15:35 (3) 18:17	05:55 18:17	16:01 (3) 19:49	06:07 19:49	16:59 (2) 20:20	05:34 119	17:03 (2) 19:02 (2)	05:27 20:37	17:13 (2) 112	19:02 (2) 19:05 (2)
27	07:17 17:09	15:40 (3) 17:47	06:39 17:47	15:36 (3) 18:19	05:53 18:19	16:01 (3) 19:50	06:04 19:50	16:59 (2) 20:21	05:33 119	17:03 (2) 19:02 (2)	05:28 20:37	17:13 (2) 112	19:02 (2) 19:05 (2)
28	07:16 17:10	16:01 (3) 17:48	06:37 17:48	15:36 (3) 18:20	05:51 18:20	16:01 (3) 19:51	06:03 19:51	16:58 (2) 20:22	05:32 119	17:03 (2) 19:02 (2)	05:28 20:37	17:14 (2) 112	19:02 (2) 19:06 (2)
29	07:15 17:11	15:38 (3) 17:48	06:37 17:48	15:37 (3) 18:20	05:51 18:20	16:01 (3) 19:52	06:03 19:52	16:58 (2) 20:23	05:32 118	17:04 (2) 19:02 (2)	05:28 20:37	17:13 (2) 113	19:02 (2) 19:06 (2)
30	07:14 17:13	15:37 (3) 17:48	06:37 17:48	15:37 (3) 18:20	05:51 18:20	16:01 (3) 19:53	06:03 19:53	16:58 (2) 20:23	05:32 118	17:04 (2) 19:02 (2)	05:28 20:37	17:13 (2) 113	19:02 (2) 19:06 (2)
31	07:13 17:14	16:03 (3) 17:48	06:37 17:48	16:09 (3) 18:20	05:49 18:20	16:01 (3) 19:54	06:01 19:54	16:57 (2) 20:24	05:31 118	17:04 (2) 19:02 (2)	05:29 20:37	17:14 (2) 113	19:02 (2) 19:07 (2)
Potential sun hours	297	297	369	399	449	453							
Total, worst case	604	1275	353	3224	3798	3395							

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: ShadowShadow receptor: C - Shadow Receptor: 1,0 × 1,0 Azimuth: 90,0° Slope: 90,0° (3)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December					
1	05:30 20:37	17:14 (2) 19:07 (2)	05:54 20:18	17:08 (2) 19:13 (2)	06:25 19:34	17:09 (2) 18:43	06:55 18:43	16:30 16:56	14:58 (3) 15:47 (3)	07:05 16:32	11:48 (4) 12:11 (4)
2	05:30 20:37	17:14 (2) 19:07 (2)	05:55 20:17	17:08 (2) 19:33	06:26 19:33	17:10 (2) 18:42	06:56 18:42	06:31 16:55	14:58 (3) 15:47 (3)	07:06 16:31	11:48 (4) 12:12 (4)
3	05:31 20:37	17:14 (2) 19:08 (2)	05:56 20:16	17:08 (2) 19:13 (2)	06:27 19:31	17:11 (2) 18:40	06:58 18:40	06:32 16:54	14:58 (3) 15:46 (3)	07:07 16:31	11:49 (4) 12:13 (4)
4	05:31 20:36	17:14 (2) 19:08 (2)	05:57 20:14	17:07 (2) 19:13 (2)	06:28 19:29	17:12 (2) 18:38	06:59 18:38	06:34 16:53	14:59 (3) 15:46 (3)	07:08 16:31	11:49 (4) 12:14 (4)
5	05:32 20:36	17:14 (2) 19:08 (2)	05:58 20:13	17:07 (2) 19:13 (2)	06:29 19:28	17:13 (2) 18:37	07:00 18:37	06:35 16:51	15:00 (3) 15:45 (3)	07:09 16:31	11:49 (4) 12:14 (4)
6	05:33 20:36	17:14 (2) 19:08 (2)	05:59 20:12	17:07 (2) 19:13 (2)	06:30 19:26	17:14 (2) 18:35	07:01 18:35	06:36 16:50	15:00 (3) 15:44 (3)	07:10 16:31	11:50 (4) 12:15 (4)
7	05:33 20:36	17:14 (2) 19:09 (2)	06:00 20:11	17:07 (2) 19:12 (2)	06:31 19:24	17:15 (2) 18:33	07:02 18:33	06:37 16:49	15:01 (3) 15:43 (3)	07:11 16:30	11:50 (4) 12:16 (4)
8	05:34 20:35	17:14 (2) 19:09 (2)	06:01 20:10	17:07 (2) 19:12 (2)	06:32 19:23	17:16 (2) 18:32	07:03 18:32	06:38 16:48	15:02 (3) 15:43 (3)	07:12 16:30	11:51 (4) 12:17 (4)
9	05:34 20:35	17:13 (2) 19:09 (2)	06:02 20:08	17:06 (2) 19:12 (2)	06:33 19:21	17:18 (2) 18:30	07:04 18:30	06:40 16:47	15:03 (3) 15:42 (3)	07:13 16:30	11:51 (4) 12:18 (4)
10	05:35 20:35	17:14 (2) 19:10 (2)	06:03 20:07	17:06 (2) 19:12 (2)	06:34 19:19	17:20 (2) 18:28	07:05 18:28	06:41 16:46	15:04 (3) 15:41 (3)	07:14 16:30	11:52 (4) 12:19 (4)
11	05:36 20:34	17:14 (2) 19:10 (2)	06:04 20:06	17:06 (2) 19:11 (2)	06:35 19:18	17:22 (2) 18:27	07:06 18:27	9 16:23 (3) 16:32 (3)	16:17 (3) 16:46	06:42 16:30	11:52 (4) 12:19 (4)
12	05:37 20:34	17:13 (2) 19:10 (2)	06:05 20:04	17:06 (2) 19:11 (2)	06:36 19:16	17:24 (2) 18:25	07:07 18:25	25 16:15 (3) 16:40 (3)	06:43 16:44	07:15 16:31	11:52 (4) 12:20 (4)
13	05:37 20:33	17:13 (2) 19:10 (2)	06:06 20:03	17:06 (2) 19:11 (2)	06:37 19:14	17:26 (2) 18:24	07:08 18:24	16:12 (3) 16:43	06:44 16:43	07:16 16:31	11:53 (4) 12:21 (4)
14	05:38 20:33	17:13 (2) 19:11 (2)	06:07 20:02	17:06 (2) 19:10 (2)	06:38 19:12	17:29 (2) 18:22	07:09 18:22	33 16:10 (3) 16:43 (3)	06:46 16:42	07:17 16:31	11:53 (4) 12:22 (4)
15	05:39 20:32	17:12 (2) 19:10 (2)	06:08 20:00	17:06 (2) 19:10 (2)	06:39 19:11	17:31 (2) 18:20	07:10 18:20	37 16:07 (3) 16:44 (3)	06:47 16:41	07:18 16:31	11:54 (4) 12:23 (4)
16	05:40 20:32	17:12 (2) 19:11 (2)	06:09 19:59	17:05 (2) 19:09 (2)	06:40 19:09	17:36 (2) 18:19	07:12 18:19	39 16:06 (3) 16:45 (3)	06:48 16:40	07:19 16:31	11:54 (4) 12:22 (4)
17	05:40 20:31	17:12 (2) 19:11 (2)	06:10 19:57	17:04 (2) 19:07 (2)	06:41 19:07	17:41 (2) 18:17	07:13 18:17	41 16:04 (3) 16:45 (3)	06:49 16:40	07:20 16:32	11:55 (4) 12:23 (4)
18	05:41 20:30	17:12 (2) 19:12 (2)	06:11 19:56	17:04 (2) 19:07 (2)	06:42 19:06	18:08 (2) 18:16	07:14 18:16	43 16:03 (3) 16:46 (3)	06:50 16:39	07:21 16:32	11:55 (4) 12:24 (4)
19	05:42 20:30	17:12 (2) 19:12 (2)	06:12 19:55	17:04 (2) 19:06 (2)	06:43 19:04	18:15 18:14	07:15 18:14	45 16:02 (3) 16:47 (3)	06:52 16:38	11:45 (4) 16:32	07:21 12:24 (4)
20	05:43 20:29	17:11 (2) 19:12 (2)	06:13 19:53	17:05 (2) 19:06 (2)	06:44 19:02	18:14 18:13	07:16 18:13	47 16:01 (3) 16:48 (3)	06:53 16:37	11:45 (4) 16:33	07:21 12:25 (4)
21	05:44 20:28	17:11 (2) 19:12 (2)	06:14 19:52	17:05 (2) 19:05 (2)	06:45 19:00	18:13 18:11	07:17 18:11	47 16:00 (3) 16:48 (3)	06:54 16:37	11:45 (4) 11:53 (4)	07:22 16:33
22	05:45 20:27	17:11 (2) 19:12 (2)	06:15 19:50	17:05 (2) 19:04 (2)	06:46 18:59	18:11 18:10	07:18 18:10	48 15:59 (3) 16:48 (3)	06:55 16:36	11:46 (4) 16:34	07:22 12:26 (4)
23	05:46 20:26	17:11 (2) 19:13 (2)	06:16 19:49	17:05 (2) 19:03 (2)	06:47 18:57	18:08 18:07	07:19 18:07	50 15:58 (3) 16:48 (3)	06:56 16:35	11:46 (4) 16:34	07:23 12:26 (4)
24	05:46 20:26	17:11 (2) 19:13 (2)	06:17 19:47	17:05 (2) 19:02 (2)	06:48 18:55	18:07 18:07	07:21 18:07	51 15:58 (3) 16:49 (3)	06:57 16:35	11:46 (4) 16:35	07:23 12:27 (4)
25	05:47 20:25	17:11 (2) 19:13 (2)	06:18 19:45	17:05 (2) 19:01 (2)	06:49 18:54	18:06 18:06	07:22 18:06	51 14:58 (3) 15:49 (3)	06:59 16:34	11:46 (4) 12:02 (4)	07:24 16:35
26	05:48 20:24	17:10 (2) 19:13 (2)	06:19 19:44	17:06 (2) 19:00 (2)	06:50 18:52	17:06 17:04	06:23 17:04	51 14:57 (3) 15:48 (3)	07:00 16:34	07:24 12:03 (4)	11:59 (4) 16:36
27	05:49 20:23	17:10 (2) 19:13 (2)	06:20 19:42	17:06 (2) 18:59 (2)	06:51 18:50	17:04 17:03	06:24 17:03	51 14:57 (3) 15:48 (3)	07:01 16:33	07:24 12:05 (4)	12:00 (4) 16:37
28	05:50 20:22	17:09 (2) 19:13 (2)	06:21 19:41	17:07 (2) 18:58 (2)	06:52 18:48	17:02 17:02	06:25 17:02	52 14:57 (3) 15:49 (3)	07:02 16:33	07:25 16:37	12:00 (4) 12:28 (4)
29	05:51 20:21	17:09 (2) 19:13 (2)	06:22 19:39	17:07 (2) 18:57 (2)	06:53 18:47	17:00 17:00	06:26 17:00	51 14:57 (3) 15:48 (3)	07:03 16:32	07:25 16:38	12:00 (4) 12:29 (4)
30	05:52 20:20	17:09 (2) 19:13 (2)	06:23 19:38	17:08 (2) 18:56 (2)	06:54 18:45	16:59 16:59	06:28 16:59	51 14:57 (3) 15:48 (3)	07:04 16:32	07:25 16:39	12:01 (4) 12:29 (4)
31	05:53 20:19	17:08 (2) 19:13 (2)	06:24 19:36	17:08 (2) 18:54 (2)		16:59 16:58	06:29 16:58	51 14:57 (3) 15:47 (3)	16:32 16:31	07:25 16:40	12:01 (4) 12:29 (4)
Potential sun hours	460	428	375	345	297	287					
Total, worst case	3680	3744	1286	922	763	851					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: ShadowShadow receptor: D - Shadow Receptor: 1,0 × 1,0 Azimuth: 45,0° Slope: 90,0° (4)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June			
1	07:26 16:41 147	12:33 (2) 15:00 (2)	07:12 17:15 162	12:35 (2) 15:17 (2)	06:36 17:49 149	12:45 (2) 15:14 (2)	06:45 19:24 19:56	05:59 19:56 20:26	
2	07:26 16:41 147	12:33 (2) 15:00 (2)	07:11 17:16 163	12:35 (2) 15:18 (2)	06:34 17:51 147	12:46 (2) 15:13 (2)	06:43 19:25 19:57	05:57 19:57 20:27	
3	07:26 16:42 148	12:33 (2) 15:01 (2)	07:10 17:18 163	12:35 (2) 15:18 (2)	06:33 17:52 145	12:48 (2) 15:13 (2)	06:41 19:26 19:58	05:56 19:58 20:27	
4	07:26 16:43 148	12:33 (2) 15:01 (2)	07:09 17:19 163	12:35 (2) 15:18 (2)	06:31 17:53 143	12:49 (2) 15:12 (2)	06:40 19:27 19:59	05:55 19:59 20:28	
5	07:26 16:44 148	12:34 (2) 15:02 (2)	07:08 17:20 164	12:35 (2) 15:19 (2)	06:30 17:54 141	12:51 (2) 15:12 (2)	06:38 19:28 20:00	05:53 20:00 20:29	
6	07:26 16:45 149	12:34 (2) 15:03 (2)	07:07 17:21 164	12:35 (2) 15:19 (2)	06:28 17:55 138	12:53 (2) 15:11 (2)	06:36 19:29 20:01	05:52 20:01 20:30	
7	07:26 16:46 150	12:34 (2) 15:04 (2)	07:06 17:23 163	12:36 (2) 15:19 (2)	06:26 17:56 135	12:54 (2) 15:09 (2)	06:35 19:30 20:03	05:51 20:03 20:30	
8	07:26 16:47 150	12:35 (2) 15:05 (2)	07:05 17:24 164	12:35 (2) 15:19 (2)	06:25 17:58 132	12:57 (2) 15:09 (2)	06:33 19:31 20:04	05:50 20:04 20:31	
9	07:26 16:48 151	12:35 (2) 15:06 (2)	07:04 17:25 164	12:35 (2) 15:19 (2)	06:23 17:59 129	12:59 (2) 15:08 (2)	06:32 19:33 20:05	05:49 20:05 20:31	
10	07:25 16:49 151	12:34 (2) 15:05 (2)	07:02 17:26 163	12:36 (2) 15:19 (2)	06:22 18:00 125	13:01 (2) 15:06 (2)	06:30 19:34 20:06	05:47 20:06 20:32	
11	07:25 16:50 151	12:35 (2) 15:06 (2)	07:01 17:28 164	12:36 (2) 15:20 (2)	06:20 18:01 122	13:04 (2) 15:06 (2)	06:28 19:35 20:07	05:46 20:07 20:32	
12	07:25 16:51 152	12:35 (2) 15:07 (2)	07:00 17:29 164	12:35 (2) 15:19 (2)	06:18 18:02 118	13:06 (2) 15:04 (2)	06:27 19:36 20:08	05:45 20:08 20:33	
13	07:25 16:52 152	12:35 (2) 15:07 (2)	06:59 17:30 163	12:36 (2) 15:19 (2)	06:17 18:03 114	13:09 (2) 15:03 (2)	06:25 19:37 20:09	05:44 20:09 20:33	
14	07:24 16:53 154	12:35 (2) 15:09 (2)	06:57 17:31 164	12:36 (2) 15:20 (2)	06:15 18:04 110	13:12 (2) 15:02 (2)	06:23 19:38 20:10	05:43 20:10 20:34	
15	07:24 16:54 154	12:35 (2) 15:09 (2)	06:56 17:33 163	12:37 (2) 15:20 (2)	06:13 18:05 106	13:15 (2) 15:01 (2)	06:22 19:39 20:11	05:42 20:11 20:34	
16	07:24 16:56 155	12:35 (2) 15:10 (2)	06:55 17:34 162	12:37 (2) 15:19 (2)	06:12 18:07 101	13:18 (2) 14:59 (2)	06:20 19:40 20:12	05:41 20:12 20:35	
17	07:23 16:57 155	12:35 (2) 15:10 (2)	06:53 17:35 162	12:37 (2) 15:19 (2)	06:10 18:08 96	13:22 (2) 14:58 (2)	06:19 19:41 20:13	05:40 20:13 20:35	
18	07:23 16:58 155	12:36 (2) 15:11 (2)	06:52 17:36 162	12:37 (2) 15:19 (2)	06:08 18:09 91	13:25 (2) 14:56 (2)	06:17 19:42 20:14	05:39 20:14 20:35	
19	07:22 16:59 156	12:35 (2) 15:11 (2)	06:51 17:38 161	12:38 (2) 15:19 (2)	06:07 18:10 86	13:28 (2) 14:54 (2)	06:16 19:43 20:15	05:38 20:15 20:36	
20	07:21 17:00 157	12:35 (2) 15:12 (2)	06:49 17:39 160	12:39 (2) 15:19 (2)	06:05 18:11 81	13:32 (2) 14:53 (2)	06:14 19:44 20:16	05:38 20:16 20:36	
21	07:21 17:01 158	12:35 (2) 15:13 (2)	06:48 17:40 159	12:39 (2) 15:18 (2)	06:03 18:12 75	13:36 (2) 14:51 (2)	06:13 19:45 20:17	05:37 20:17 20:36	
22	07:20 17:03 158	12:35 (2) 15:13 (2)	06:46 17:41 158	12:40 (2) 15:18 (2)	06:02 18:13 69	13:39 (2) 14:48 (2)	06:11 19:47 20:17	05:36 20:17 20:37	
23	07:20 17:04 158	12:35 (2) 15:13 (2)	06:45 17:42 157	12:40 (2) 15:17 (2)	06:00 18:14 63	13:43 (2) 14:46 (2)	06:10 19:48 20:18	05:35 20:18 20:37	
24	07:19 17:05 159	12:36 (2) 15:15 (2)	06:43 17:44 156	12:41 (2) 15:17 (2)	05:58 18:15 56	13:48 (2) 14:44 (2)	06:08 19:49 20:19	05:34 20:19 20:37	
25	07:18 17:06 160	12:36 (2) 15:15 (2)	06:42 17:45 155	12:41 (2) 15:16 (2)	05:56 18:16 49	13:52 (2) 14:41 (2)	06:07 19:50 20:20	05:34 20:20 20:37	
26	07:17 17:08 160	12:35 (2) 15:15 (2)	06:40 17:46 153	12:43 (2) 15:16 (2)	05:55 18:17 40	13:57 (2) 14:37 (2)	06:05 19:51 20:21	05:33 20:21 20:37	
27	07:17 17:09 161	12:35 (2) 15:16 (2)	06:39 17:47 152	12:43 (2) 15:15 (2)	05:53 18:19 29	14:04 (2) 14:33 (2)	06:04 19:52 20:22	05:32 20:22 20:37	
28	07:16 17:10 161	12:35 (2) 15:16 (2)	06:37 17:48 150	12:45 (2) 15:15 (2)	05:51 18:20 12	14:13 (2) 14:25 (2)	06:03 19:53 20:23	05:32 20:23 20:38	
29	07:15 17:11 161	12:35 (2) 15:16 (2)			06:50 19:21		06:01 19:54 20:24	05:31 20:24 20:37	
30	07:14 17:13 162	12:35 (2) 15:17 (2)			06:48 19:22		06:00 19:55 20:24	05:30 20:24 20:37	
31	07:13 17:14 162	12:35 (2) 15:17 (2)			06:46 19:23		05:30 20:25		
Potential sun hours	297		297		369		399	449	453
Total, worst case	4790		4498		2802				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: ShadowShadow receptor: D - Shadow Receptor: 1,0 × 1,0 Azimuth: 45,0° Slope: 90,0° (4)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December			
1	05:30 20:37	05:54 20:18	06:25 19:34	06:55 18:43	13:47 (2) 15:44 (2)	06:30 16:56	12:05 (2) 14:49 (2)	07:05 16:32	12:17 (2) 14:49 (2)
2	05:30 20:37	05:55 20:17	06:26 19:33	06:56 18:42	13:44 (2) 15:44 (2)	06:31 16:55	12:05 (2) 14:49 (2)	07:06 16:31	12:17 (2) 14:49 (2)
3	05:31 20:37	05:56 20:16	06:27 19:31	06:58 18:40	13:41 (2) 15:45 (2)	06:32 16:54	12:05 (2) 14:49 (2)	07:07 16:31	12:18 (2) 14:49 (2)
4	05:31 20:36	05:57 20:14	06:28 19:29	06:59 18:38	13:38 (2) 15:45 (2)	06:34 16:53	12:06 (2) 14:49 (2)	07:08 16:31	12:19 (2) 14:49 (2)
5	05:32 20:36	05:58 20:13	06:29 19:28	07:00 18:37	13:35 (2) 15:45 (2)	06:35 16:51	12:05 (2) 14:49 (2)	07:09 16:31	12:19 (2) 14:49 (2)
6	05:33 20:36	05:59 20:12	06:30 19:26	07:01 18:35	13:32 (2) 15:46 (2)	06:36 16:50	12:05 (2) 14:49 (2)	07:10 16:31	12:20 (2) 14:49 (2)
7	05:33 20:36	06:00 20:11	06:31 19:24	07:02 18:33	13:30 (2) 15:46 (2)	06:37 16:49	12:05 (2) 14:48 (2)	07:11 16:30	12:21 (2) 14:49 (2)
8	05:34 20:35	06:01 20:10	06:32 19:23	07:03 18:32	13:27 (2) 15:46 (2)	06:38 16:48	12:06 (2) 14:49 (2)	07:12 16:30	12:21 (2) 14:50 (2)
9	05:34 20:35	06:02 20:08	06:33 19:21	07:04 18:30	13:25 (2) 15:47 (2)	06:40 16:47	12:06 (2) 14:49 (2)	07:13 16:30	12:22 (2) 14:50 (2)
10	05:35 20:35	06:03 20:07	06:34 19:19	07:05 18:28	13:23 (2) 15:47 (2)	06:41 16:46	12:06 (2) 14:48 (2)	07:14 16:30	12:23 (2) 14:50 (2)
11	05:36 20:34	06:04 20:06	06:35 19:18	07:06 18:27	13:21 (2) 15:47 (2)	06:42 16:45	12:07 (2) 14:49 (2)	07:15 16:31	12:24 (2) 14:51 (2)
12	05:37 20:34	06:05 20:04	06:36 19:16	07:07 18:25	13:20 (2) 15:48 (2)	06:43 16:44	12:07 (2) 14:49 (2)	07:16 16:31	12:24 (2) 14:50 (2)
13	05:37 20:33	06:06 20:03	06:37 19:14	07:08 18:24	13:18 (2) 15:48 (2)	06:44 16:43	12:07 (2) 14:48 (2)	07:16 16:31	12:24 (2) 14:51 (2)
14	05:38 20:33	06:07 20:02	06:38 19:12	07:09 18:22	13:17 (2) 15:48 (2)	06:46 16:42	12:07 (2) 14:48 (2)	07:17 16:31	12:25 (2) 14:51 (2)
15	05:39 20:32	06:08 20:00	06:39 19:11	07:10 18:20	13:15 (2) 15:48 (2)	06:47 16:41	12:08 (2) 14:49 (2)	07:18 16:31	12:26 (2) 14:52 (2)
16	05:40 20:32	06:09 19:59	06:40 19:09	07:12 18:19	14:53 (2) 15:20 (2)	06:48 16:40	12:08 (2) 14:48 (2)	07:19 16:31	12:26 (2) 14:51 (2)
17	05:40 20:31	06:10 19:57	06:41 19:07	07:13 18:17	14:47 (2) 15:24 (2)	06:49 16:40	12:08 (2) 14:48 (2)	07:19 16:32	12:27 (2) 14:52 (2)
18	05:41 20:30	06:11 19:56	06:42 19:06	07:14 18:16	14:41 (2) 15:27 (2)	06:50 16:39	12:10 (2) 14:49 (2)	07:20 16:32	12:28 (2) 14:53 (2)
19	05:42 20:30	06:12 19:55	06:43 19:04	07:15 18:14	14:35 (2) 15:30 (2)	06:52 16:38	12:10 (2) 14:48 (2)	07:21 16:32	12:28 (2) 14:53 (2)
20	05:43 20:29	06:13 19:53	06:44 19:02	07:16 18:13	14:31 (2) 15:32 (2)	06:53 16:37	12:10 (2) 14:48 (2)	07:21 16:33	12:29 (2) 14:54 (2)
21	05:44 20:28	06:14 19:52	06:45 19:00	07:17 18:11	14:26 (2) 15:33 (2)	06:54 16:37	12:10 (2) 14:48 (2)	07:22 16:33	12:29 (2) 14:54 (2)
22	05:45 20:27	06:15 19:50	06:46 18:59	07:18 18:10	14:21 (2) 15:35 (2)	06:55 16:36	12:12 (2) 14:49 (2)	07:22 16:34	12:30 (2) 14:55 (2)
23	05:46 20:26	06:16 19:49	06:47 18:57	07:19 18:08	14:17 (2) 15:36 (2)	06:56 16:35	12:12 (2) 14:48 (2)	07:23 16:34	12:30 (2) 14:55 (2)
24	05:46 20:26	06:17 19:47	06:48 18:55	07:21 18:07	14:13 (2) 15:37 (2)	06:57 16:35	12:13 (2) 14:48 (2)	07:23 16:35	12:31 (2) 14:56 (2)
25	05:47 20:25	06:18 19:45	06:49 18:54	07:22 18:06	14:09 (2) 15:38 (2)	06:59 16:34	12:13 (2) 14:48 (2)	07:24 16:35	12:31 (2) 14:56 (2)
26	05:48 20:24	06:19 19:44	06:50 18:52	07:23 18:04	14:05 (2) 15:39 (2)	07:00 16:34	12:13 (2) 14:48 (2)	07:24 16:36	12:31 (2) 14:56 (2)
27	05:49 20:23	06:20 19:42	06:51 18:50	07:24 18:03	14:01 (2) 15:40 (2)	07:01 16:33	12:14 (2) 14:48 (2)	07:24 16:37	12:32 (2) 14:57 (2)
28	05:50 20:22	06:21 19:41	06:52 18:48	07:25 18:02	13:57 (2) 15:41 (2)	07:02 16:33	12:15 (2) 14:49 (2)	07:25 16:37	12:32 (2) 14:58 (2)
29	05:51 20:21	06:22 19:39	06:53 18:47	07:26 18:00	13:54 (2) 15:42 (2)	07:03 16:32	12:16 (2) 14:49 (2)	07:25 16:38	12:32 (2) 14:58 (2)
30	05:52 20:20	06:23 19:38	06:54 18:45	07:28 17:59	13:51 (2) 15:43 (2)	07:04 16:32	12:16 (2) 14:49 (2)	07:25 16:39	12:32 (2) 14:58 (2)
31	05:53 20:19	06:24 19:36		07:29 16:58				07:25 16:40	12:32 (2) 14:59 (2)
Potential sun hours	460	428	375	345	297	287			
Total, worst case			1140	4629	4786	4553			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: ShadowShadow receptor: E - Shadow Receptor: 1,0 × 1,0 Azimuth: 45,0° Slope: 90,0° (5)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:26 16:41 154	12:25 (2) 07:12 17:15 181	12:19 (2) 06:36 17:49 197	12:10 (2) 06:45 19:24 134	13:54 (2) 05:59 19:56 20:26	05:29 20:26
2	07:26 16:41 155	12:25 (2) 07:11 17:16 182	12:19 (2) 06:34 17:51 197	12:10 (2) 06:43 19:25 129	13:59 (2) 05:57 19:57 20:27	05:29 20:27
3	07:26 16:42 155	12:25 (2) 07:10 17:18 184	12:18 (2) 06:33 17:52 197	12:10 (2) 06:41 19:26 125	14:02 (2) 05:56 19:58 20:27	05:29 20:27
4	07:26 16:43 156	12:25 (2) 07:09 17:19 184	12:18 (2) 06:31 17:53 197	12:10 (2) 06:40 19:27 119	14:06 (2) 05:55 19:59 20:28	05:28 20:28
5	07:26 16:44 156	12:25 (2) 07:08 17:20 185	12:18 (2) 06:30 17:54 197	12:10 (2) 06:38 19:28 115	14:10 (2) 05:53 20:00 20:29	05:28 20:29
6	07:26 16:45 157	12:25 (2) 07:07 17:21 186	12:18 (2) 06:28 17:55 196	12:10 (2) 06:36 19:29 110	14:13 (2) 05:52 20:01 20:30	05:27 20:30
7	07:26 16:46 157	12:25 (2) 07:06 17:23 187	12:17 (2) 06:26 17:56 197	12:09 (2) 06:35 19:30 106	14:16 (2) 05:51 20:03 20:30	05:27 20:30
8	07:26 16:47 157	12:26 (2) 07:05 17:24 188	12:16 (2) 06:25 17:58 196	12:10 (2) 06:33 19:31 101	14:20 (2) 05:50 20:04 20:31	05:27 20:31
9	07:26 16:48 157	12:26 (2) 07:04 17:25 189	12:16 (2) 06:23 17:59 195	12:10 (2) 06:32 19:33 98	14:22 (2) 05:49 20:05 20:31	05:27 20:31
10	07:25 16:49 158	12:25 (2) 07:02 17:26 189	12:16 (2) 06:22 18:00 194	12:10 (2) 06:30 19:34 93	14:25 (2) 05:47 20:06 20:32	05:26 20:32
11	07:25 16:50 159	12:25 (2) 07:01 17:28 190	12:16 (2) 06:20 18:01 194	12:11 (2) 06:28 19:35 88	14:29 (2) 05:46 20:07 20:32	05:26 20:32
12	07:25 16:51 161	12:25 (2) 07:00 17:29 190	12:15 (2) 06:18 18:02 193	12:11 (2) 06:27 19:36 84	14:31 (2) 05:45 20:08 20:33	05:26 20:33
13	07:25 16:52 161	12:25 (2) 06:59 17:30 191	12:15 (2) 06:17 18:03 192	12:11 (2) 06:25 19:37 80	14:35 (2) 05:44 20:09 20:33	05:26 20:33
14	07:24 16:53 162	12:25 (2) 06:57 17:31 193	12:14 (2) 06:15 18:04 191	12:12 (2) 06:23 19:38 76	14:37 (2) 05:43 20:10 20:34	05:26 20:34
15	07:24 16:54 163	12:24 (2) 06:56 17:33 193	12:14 (2) 06:13 18:05 189	12:13 (2) 06:22 19:39 72	14:40 (2) 05:42 20:11 20:34	05:26 20:34
16	07:24 16:56 164	12:25 (2) 06:55 17:34 194	12:13 (2) 06:12 18:07 188	12:13 (2) 06:20 19:40 67	14:43 (2) 05:41 20:12 20:35	05:26 20:35
17	07:23 16:57 165	12:24 (2) 06:53 17:35 194	12:13 (2) 06:10 18:08 186	12:15 (2) 06:19 19:41 62	14:46 (2) 05:40 20:13 20:35	05:26 20:35
18	07:23 16:58 167	12:24 (2) 06:52 17:36 194	12:13 (2) 06:08 18:09 185	12:15 (2) 06:17 19:42 58	14:48 (2) 05:39 20:14 20:35	05:26 20:35
19	07:22 16:59 167	12:24 (2) 06:51 17:38 195	12:13 (2) 06:07 18:10 183	12:16 (2) 06:16 19:43 53	14:52 (2) 05:38 20:15 20:36	05:26 20:36
20	07:21 17:00 168	12:23 (2) 06:49 17:39 195	12:13 (2) 06:05 18:11 180	12:19 (2) 06:14 19:44 48	14:54 (2) 05:38 20:16 20:36	05:26 20:36
21	07:21 17:01 170	12:23 (2) 06:48 17:40 196	12:12 (2) 06:03 18:12 178	12:20 (2) 06:13 19:45 44	14:57 (2) 05:37 20:17 20:36	05:26 20:36
22	07:20 17:03 170	12:23 (2) 06:46 17:41 196	12:12 (2) 06:02 18:13 175	12:22 (2) 06:11 19:47 38	15:00 (2) 05:36 20:18 20:37	05:27 20:37
23	07:20 17:04 172	12:22 (2) 06:45 17:42 197	12:11 (2) 06:00 18:14 173	12:23 (2) 06:10 19:48 31	15:04 (2) 05:35 20:19 20:37	05:27 20:37
24	07:19 17:05 172	12:23 (2) 06:43 17:44 197	12:11 (2) 05:58 18:15 169	12:27 (2) 06:08 19:49 23	15:08 (2) 05:34 20:20 20:37	05:27 20:37
25	07:18 17:06 174	12:22 (2) 06:42 17:45 197	12:11 (2) 05:56 18:16 166	12:29 (2) 06:07 19:50 13	15:14 (2) 05:34 20:21 20:37	05:27 20:37
26	07:17 17:08 175	12:22 (2) 06:40 17:46 197	12:11 (2) 05:55 18:17 162	12:32 (2) 06:05 19:51 20:21 20:37	15:15 (2) 05:33 20:22 20:37	05:28 20:37
27	07:17 17:09 176	12:21 (2) 06:39 17:47 198	12:10 (2) 05:53 18:19 158	12:36 (2) 06:04 19:52 20:22 20:37	15:18 (2) 05:32 20:23 20:37	05:28 20:37
28	07:16 17:10 177	12:21 (2) 06:37 17:48 197	12:11 (2) 05:51 18:20 154	12:39 (2) 06:03 19:53 20:23 20:37	15:21 (2) 05:32 20:24 20:37	05:29 20:37
29	07:15 17:11 178	12:20 (2) 06:36 17:49 197	12:11 (2) 05:50 18:21 154	13:43 (2) 06:01 19:54 20:24 20:37	15:24 (2) 05:31 20:25 20:37	05:29 20:37
30	07:14 17:13 179	12:20 (2) 06:35 17:50 197	12:10 (2) 05:48 18:22 154	13:47 (2) 06:00 19:55 20:25 20:37	15:27 (2) 05:30 20:26 20:37	05:29 20:37
31	07:13 17:14 181	12:19 (2) 06:34 17:51 197	12:10 (2) 05:46 18:23 154	13:51 (2) 06:00 19:56 20:26 20:37	15:30 (2) 05:30 20:27 20:37	05:29 20:37
Potential sun hours	297	297	369	399	449	453
Total, worst case	5123	5359	5610	1967		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: ShadowShadow receptor: E - Shadow Receptor: 1,0 × 1,0 Azimuth: 45,0° Slope: 90,0° (5)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December				
1	05:30 20:37	05:54 20:18	06:25 19:34	14:27 (2) 15:56 (2)	06:55 18:43	12:51 (2) 16:03 (2)	06:30 16:56	11:46 (2) 14:55 (2)	07:05 16:32	12:07 (2) 14:47 (2)
2	05:30 20:37	05:55 20:17	06:26 19:33	14:24 (2) 15:57 (2)	06:56 18:42	12:50 (2) 16:03 (2)	06:31 16:55	11:46 (2) 14:54 (2)	07:06 16:31	12:08 (2) 14:46 (2)
3	05:31 20:37	05:56 20:16	06:27 19:31	14:20 (2) 15:58 (2)	06:58 18:40	12:49 (2) 16:03 (2)	06:32 16:54	11:46 (2) 14:54 (2)	07:07 16:31	12:09 (2) 14:46 (2)
4	05:31 20:36	05:57 20:14	06:28 19:29	14:17 (2) 15:58 (2)	06:59 18:38	12:48 (2) 16:03 (2)	06:34 16:53	11:47 (2) 14:54 (2)	07:08 16:31	12:10 (2) 14:47 (3)
5	05:32 20:36	05:58 20:13	06:29 19:28	14:13 (2) 15:59 (2)	07:00 18:37	12:47 (2) 16:02 (2)	06:35 16:51	11:48 (2) 14:53 (2)	07:09 16:31	12:10 (2) 14:47 (3)
6	05:33 20:36	05:59 20:12	06:30 19:26	14:09 (2) 15:59 (2)	07:01 18:35	12:46 (2) 16:02 (2)	06:36 16:50	11:48 (2) 14:53 (2)	07:10 16:31	12:11 (2) 14:48 (3)
7	05:33 20:36	06:00 20:11	06:31 19:24	14:05 (2) 16:00 (2)	07:02 18:33	12:46 (2) 16:02 (2)	06:37 16:49	11:48 (2) 14:52 (2)	07:11 16:30	14:49 (3) 14:48 (3)
8	05:34 20:35	06:01 20:10	06:32 19:23	14:01 (2) 16:00 (2)	07:03 18:32	12:45 (2) 16:02 (2)	06:38 16:48	11:49 (2) 14:52 (2)	07:12 16:30	12:13 (2) 14:49 (3)
9	05:34 20:35	06:02 20:08	06:33 19:21	13:57 (2) 16:01 (2)	07:04 18:30	12:44 (2) 16:01 (2)	06:40 16:47	11:50 (2) 14:52 (2)	07:13 16:30	12:14 (2) 14:49 (3)
10	05:35 20:35	06:03 20:07	06:34 19:19	13:52 (2) 16:01 (2)	07:05 18:28	12:44 (2) 16:01 (2)	06:41 16:46	11:50 (2) 14:51 (2)	07:14 16:30	12:15 (2) 14:50 (3)
11	05:36 20:34	06:04 20:06	06:35 19:18	13:48 (2) 16:02 (2)	07:06 18:27	12:43 (2) 16:01 (2)	06:42 16:45	11:51 (2) 14:52 (2)	07:15 16:31	12:16 (2) 14:50 (3)
12	05:37 20:34	06:05 20:04	06:36 19:16	13:44 (2) 16:02 (2)	07:07 18:25	12:44 (2) 16:01 (2)	06:43 16:44	11:52 (2) 14:51 (2)	07:16 16:31	12:15 (2) 14:50 (3)
13	05:37 20:33	06:06 20:03	06:37 19:14	13:39 (2) 16:02 (2)	07:08 18:24	12:44 (2) 16:01 (2)	06:44 16:43	11:52 (2) 14:50 (2)	07:16 16:31	12:16 (2) 14:51 (3)
14	05:38 20:33	06:07 20:02	06:38 19:12	13:35 (2) 16:03 (2)	07:09 18:22	12:43 (2) 16:00 (2)	06:46 16:42	11:53 (2) 14:50 (2)	07:17 16:31	12:17 (2) 14:51 (3)
15	05:39 20:32	06:08 20:00	06:39 19:11	13:29 (2) 16:02 (2)	07:10 18:20	12:43 (2) 16:00 (2)	06:47 16:41	11:54 (2) 14:50 (2)	07:18 16:31	12:18 (2) 14:52 (3)
16	05:40 20:32	06:09 19:59	06:40 19:09	13:25 (2) 16:02 (2)	07:12 18:19	12:43 (2) 16:00 (2)	06:48 16:40	11:55 (2) 14:50 (2)	07:19 16:31	12:18 (2) 14:52 (3)
17	05:40 20:31	06:10 19:57	06:41 19:07	13:21 (2) 16:02 (2)	07:13 18:17	12:42 (2) 15:59 (2)	06:49 16:40	11:55 (2) 14:49 (2)	07:19 16:32	12:19 (2) 14:53 (3)
18	05:41 20:30	06:11 19:56	15:18 (2) 19:06	06:42 15:34 (2)	07:14 18:16	12:42 (2) 15:59 (2)	06:50 16:39	11:57 (2) 14:49 (2)	07:20 16:32	12:20 (2) 14:53 (3)
19	05:42 20:30	06:12 19:55	15:13 (2) 15:38 (2)	06:43 19:04	07:15 18:14	12:43 (2) 15:59 (2)	06:52 16:38	11:57 (2) 14:49 (2)	07:21 16:32	12:20 (2) 14:53 (3)
20	05:43 20:29	06:13 19:53	15:08 (2) 15:41 (2)	06:44 19:02	07:16 18:13	12:43 (2) 15:59 (2)	06:53 16:37	11:58 (2) 14:48 (2)	07:21 16:33	12:21 (2) 14:54 (3)
21	05:44 20:28	06:14 19:52	15:04 (2) 15:43 (2)	06:45 19:00	07:17 18:11	12:43 (2) 15:58 (2)	06:54 16:37	11:58 (2) 14:48 (2)	07:22 16:33	12:21 (2) 14:54 (3)
22	05:45 20:27	06:15 19:50	15:01 (2) 15:45 (2)	06:46 18:59	07:18 18:10	12:42 (2) 15:58 (2)	06:55 16:36	12:00 (2) 14:48 (2)	07:22 16:34	12:22 (2) 14:55 (3)
23	05:46 20:26	06:16 19:49	14:57 (2) 15:46 (2)	06:47 18:57	07:19 18:08	12:42 (2) 15:57 (2)	06:56 16:35	12:01 (2) 14:48 (2)	07:23 16:34	12:22 (2) 14:55 (3)
24	05:46 20:26	06:17 19:47	14:54 (2) 15:48 (2)	06:48 18:55	07:21 18:07	12:43 (2) 15:58 (2)	06:57 16:35	12:01 (2) 14:48 (2)	07:23 16:35	12:23 (2) 14:56 (3)
25	05:47 20:25	06:18 19:45	14:51 (2) 15:49 (2)	06:49 18:54	07:22 18:06	11:43 (2) 14:57 (2)	06:59 16:34	12:02 (2) 14:47 (2)	07:24 16:35	12:23 (2) 14:56 (3)
26	05:48 20:24	06:19 19:44	14:47 (2) 15:50 (2)	06:50 18:52	07:23 18:04	11:43 (2) 14:56 (2)	07:00 16:34	12:03 (2) 14:47 (2)	07:24 16:36	12:23 (2) 14:57 (3)
27	05:49 20:23	06:20 19:42	14:44 (2) 15:52 (2)	06:51 18:50	07:24 18:03	11:43 (2) 14:56 (2)	07:01 16:33	12:03 (2) 14:47 (2)	07:24 16:37	12:24 (2) 14:58 (3)
28	05:50 20:22	06:21 19:41	14:41 (2) 15:53 (2)	06:52 18:48	07:25 18:02	11:44 (2) 14:56 (2)	07:02 16:33	12:05 (2) 14:47 (2)	07:25 16:37	12:24 (2) 14:58 (3)
29	05:51 20:21	06:22 19:39	14:38 (2) 15:54 (2)	06:53 18:47	07:26 18:00	11:44 (2) 14:56 (2)	07:03 16:32	12:06 (2) 14:47 (2)	07:25 16:38	12:24 (2) 14:58 (3)
30	05:52 20:20	06:23 19:38	14:34 (2) 15:55 (2)	06:54 18:45	07:28 18:03	11:44 (2) 14:55 (2)	07:04 16:32	12:06 (2) 14:47 (2)	07:25 16:39	12:24 (2) 14:59 (3)
31	05:53 20:19	06:24 19:36	14:31 (2) 15:55 (2)	06:55 16:58	07:29 16:58	11:45 (2) 14:55 (2)	07:05 16:32	12:07 (2) 16:40	07:26 16:40	12:24 (2) 14:59 (3)
Potential sun hours	460	428	375	345	297	287				
Total, worst case		762	4470	6047	5255	4798				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: ShadowShadow receptor: F - Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (6)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June				
1	07:26 16:41	08:10 (7) 09:19 (7)	07:12 17:15	06:36 17:50	06:45 19:24	07:03 (4) 19:56	05:59 20:26	06:37 (3) 20:26	05:29 251	06:11 (3) 10:22 (3)
2	07:26 16:41	08:10 (7) 09:19 (7)	07:11 17:16	06:34 17:51	06:43 19:25	07:02 (4) 19:57	05:57 210	06:36 (3) 20:27	05:29 252	06:11 (3) 10:23 (3)
3	07:26 16:42	08:11 (7) 09:19 (7)	07:10 17:18	06:33 17:52	06:41 19:26	07:00 (4) 19:58	05:56 212	06:34 (3) 20:27	05:29 252	06:10 (3) 10:22 (3)
4	07:26 16:43	08:12 (7) 09:19 (7)	07:09 17:19	06:31 17:53	06:40 19:27	06:58 (4) 19:59	05:55 215	06:32 (3) 20:28	05:28 252	06:11 (3) 10:23 (3)
5	07:26 16:44	08:13 (7) 09:19 (7)	07:08 17:20	06:30 17:54	06:38 19:28	06:57 (4) 20:00	05:53 218	06:31 (3) 20:29	05:28 252	06:11 (3) 10:23 (3)
6	07:26 16:45	08:14 (7) 09:20 (7)	07:07 17:21	06:28 17:55	06:36 19:29	06:55 (4) 20:01	05:52 220	06:30 (3) 20:30	05:27 253	06:10 (3) 10:23 (3)
7	07:26 16:46	08:15 (7) 09:20 (7)	07:06 17:23	06:26 17:56	06:35 19:30	06:53 (4) 20:03	05:51 222	06:29 (3) 20:30	05:27 253	06:10 (3) 10:23 (3)
8	07:26 16:47	08:16 (7) 09:20 (7)	07:05 17:24	06:25 17:58	06:33 19:31	06:52 (4) 20:04	05:50 224	06:28 (3) 20:31	05:27 253	06:10 (3) 10:23 (3)
9	07:26 16:48	08:17 (7) 09:20 (7)	07:04 17:25	06:23 17:59	06:32 19:33	06:50 (4) 20:05	05:49 226	06:27 (3) 20:31	05:27 254	06:10 (3) 10:24 (3)
10	07:25 16:49	08:18 (7) 09:19 (7)	07:02 17:26	06:22 18:00	06:30 19:34	06:48 (4) 20:06	05:48 229	06:07 (1) 20:32	05:26 254	06:10 (3) 10:24 (3)
11	07:25 16:50	08:19 (7) 09:18 (7)	07:01 17:28	06:20 18:01	06:28 19:35	06:47 (4) 20:07	05:46 231	06:06 (1) 20:32	05:26 254	06:09 (3) 10:23 (3)
12	07:25 16:51	08:21 (7) 09:18 (7)	07:00 17:29	06:18 18:02	06:27 19:36	06:45 (4) 20:08	05:45 234	06:05 (1) 20:33	05:26 255	06:09 (3) 10:24 (3)
13	07:25 16:52	08:21 (7) 09:17 (7)	06:59 17:30	06:17 18:03	06:25 19:37	06:47 (4) 20:09	05:44 236	06:04 (1) 20:33	05:26 254	06:10 (3) 10:24 (3)
14	07:24 16:53	08:23 (7) 09:17 (7)	06:57 17:31	06:15 18:04	06:24 19:38	06:49 (4) 20:10	05:43 238	06:03 (1) 20:34	05:26 254	06:10 (3) 10:24 (3)
15	07:24 16:55	08:24 (7) 09:16 (7)	06:56 17:33	06:13 18:05	06:22 19:39	06:51 (4) 20:11	05:42 241	06:02 (1) 20:34	05:26 254	06:10 (3) 10:24 (3)
16	07:24 16:56	08:26 (7) 09:15 (7)	06:55 17:34	06:12 18:07	06:20 19:40	06:55 (4) 20:12	05:41 242	06:02 (1) 20:35	05:26 254	06:10 (3) 10:24 (3)
17	07:23 16:57	08:27 (7) 09:14 (7)	06:53 17:35	06:10 18:08	06:19 19:41	07:07 (3) 20:13	05:40 243	06:01 (1) 20:35	05:26 254	06:10 (3) 10:24 (3)
18	07:23 16:58	08:29 (7) 09:13 (7)	06:52 17:36	06:08 18:09	06:17 19:42	07:04 (3) 20:14	05:39 245	06:00 (1) 20:35	05:26 255	06:11 (3) 10:26 (3)
19	07:22 16:59	08:31 (7) 09:11 (7)	06:51 17:38	06:07 18:10	06:16 19:43	07:01 (3) 20:15	05:38 246	05:59 (1) 20:36	05:26 255	06:11 (3) 10:26 (3)
20	07:21 17:00	08:32 (7) 09:09 (7)	06:49 17:39	06:05 18:11	06:14 19:44	06:58 (3) 20:16	05:38 247	05:58 (1) 20:36	05:26 255	06:11 (3) 10:26 (3)
21	07:21 17:02	08:35 (7) 09:08 (7)	06:48 17:40	06:03 18:12	06:13 19:45	06:56 (3) 20:17	05:37 248	05:57 (1) 20:36	05:27 255	06:11 (3) 10:26 (3)
22	07:20 17:03	08:38 (7) 09:05 (7)	06:46 17:41	06:02 18:13	06:11 19:47	06:54 (3) 20:17	05:36 247	05:57 (1) 20:37	05:27 255	06:11 (3) 10:26 (3)
23	07:20 17:04	08:42 (7) 09:02 (7)	06:45 17:42	06:00 18:14	06:10 19:48	06:52 (3) 20:18	05:35 248	05:56 (1) 20:37	05:27 255	06:12 (3) 10:27 (3)
24	07:19 17:05	08:49 (7) 08:56 (7)	06:43 17:44	05:58 18:15	06:08 19:49	06:49 (3) 20:19	05:34 248	05:55 (1) 20:37	05:27 255	06:12 (3) 10:27 (3)
25	07:18 17:06	08:56 (7) 09:07 (7)	06:42 17:45	05:57 18:16	06:07 19:50	06:48 (3) 20:20	05:34 247	06:14 (3) 20:37	05:27 254	06:12 (3) 10:26 (3)
26	07:17 17:08	09:09 (7) 09:10 (7)	06:40 17:46	05:55 18:17	06:05 19:51	06:46 (3) 20:21	05:33 248	06:13 (3) 20:37	05:28 254	06:12 (3) 10:26 (3)
27	07:17 17:09	09:11 (7) 09:12 (7)	06:39 17:47	05:53 18:19	06:04 19:52	06:44 (3) 20:22	05:32 249	06:12 (3) 20:37	05:28 254	06:13 (3) 10:27 (3)
28	07:16 17:10	09:13 (7) 09:14 (7)	06:37 17:48	05:51 18:20	06:03 19:53	06:42 (3) 20:23	05:32 250	06:12 (3) 20:37	05:29 254	06:13 (3) 10:27 (3)
29	07:15 17:11	09:15 (7) 09:16 (7)	06:35 17:49	05:49 18:21	06:01 19:54	06:41 (3) 20:24	05:31 249	06:12 (3) 20:37	05:29 254	06:14 (3) 10:28 (3)
30	07:14 17:13	09:17 (7) 09:18 (7)	06:33 17:50	05:47 18:22	06:00 19:55	06:38 (3) 20:24	05:30 250	06:12 (3) 20:37	05:29 254	06:14 (3) 10:28 (3)
31	07:13 17:14	09:19 (7) 09:20 (7)	06:31 17:51	05:45 18:23	07:05 (4) 07:32 (4)	05:30 20:25	06:11 (3) 251	06:11 (3) 10:22 (3)	06:11 (3) 453	06:11 (3) 10:28 (3)
Potential sun hours	297	297	369	399	449	453				
Total, worst case	1240		274	4195	7321	7614				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: ShadowShadow receptor: F - Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (6)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December					
1	05:30 20:37	06:14 (3) 20:18	05:54 233	06:16 (1) 10:25 (3)	06:25 19:34	06:46 (4) 144	06:55 09:16 (3)	07:16 (5) 7	06:30 16:56	07:05 16:32	08:01 (7) 59
2	05:30 20:37	06:14 (3) 20:17	05:55 230	06:17 (1) 10:24 (3)	06:26 19:33	06:47 (4) 135	06:57 09:11 (3)	07:17 (5) 6	06:31 16:55	07:06 16:31	08:01 (7) 61
3	05:31 20:37	06:15 (3) 20:16	05:56 227	06:36 (3) 10:23 (3)	06:27 19:31	06:48 (4) 126	06:58 09:06 (3)	07:18 (5) 6	06:32 16:54	07:07 16:31	08:00 (7) 63
4	05:31 20:37	06:15 (3) 20:14	05:57 226	06:37 (3) 10:23 (3)	06:28 19:29	06:49 (4) 115	06:59 09:00 (3)	07:19 (5) 5	06:34 16:53	07:08 16:31	08:00 (7) 64
5	05:32 20:36	06:16 (3) 20:13	05:58 224	06:38 (3) 10:22 (3)	06:29 19:28	06:50 (4) 103	07:00 08:53 (3)	07:20 (5) 4	06:35 16:52	07:09 16:31	08:00 (7) 65
6	05:33 20:36	06:16 (3) 20:12	05:59 221	06:39 (3) 10:20 (3)	06:30 19:26	06:51 (4) 87	07:01 08:45 (3)	07:21 (5) 2	06:36 16:50	07:10 16:31	08:00 (7) 66
7	05:33 20:36	06:17 (3) 20:11	06:00 219	06:40 (3) 10:19 (3)	06:31 19:24	06:52 (4) 63	07:02 08:33 (3)	07:22 (5) 1	06:37 16:49	07:11 16:31	08:00 (7) 66
8	05:34 20:35	06:18 (3) 20:10	06:01 217	06:41 (3) 10:18 (3)	06:32 19:23	06:53 (4) 31	07:03 07:24 (4)	07:03 18:32	06:38 16:48	07:12 16:30	08:00 (7) 67
9	05:34 20:35	06:17 (3) 20:08	06:02 215	06:42 (3) 10:17 (3)	06:33 19:21	06:54 (4) 31	07:04 07:25 (4)	07:04 18:30	06:40 16:47	07:13 16:30	08:00 (7) 68
10	05:35 20:35	06:18 (3) 20:07	06:03 211	06:44 (3) 10:15 (3)	06:34 19:19	06:55 (4) 30	07:05 07:25 (4)	07:05 18:28	06:41 16:46	07:14 16:30	08:00 (7) 69
11	05:36 20:34	06:19 (3) 20:06	06:04 209	06:45 (3) 10:14 (3)	06:35 19:18	06:56 (4) 28	07:06 07:24 (4)	07:06 18:27	06:42 16:45	07:15 16:31	08:01 (7) 69
12	05:37 20:34	06:19 (3) 20:04	06:05 206	06:46 (3) 10:12 (3)	06:36 19:16	06:57 (4) 27	07:07 07:24 (4)	07:07 18:25	06:43 16:44	07:16 16:31	08:00 (7) 70
13	05:37 20:33	06:20 (3) 20:03	06:06 204	06:47 (3) 10:11 (3)	06:37 19:14	06:58 (4) 26	07:08 07:24 (4)	07:08 18:24	06:45 16:43	07:16 16:31	08:00 (7) 71
14	05:38 20:33	06:21 (3) 20:02	06:07 200	06:49 (3) 10:09 (3)	06:38 19:13	06:59 (4) 25	07:09 07:24 (4)	07:09 18:22	06:46 16:42	07:17 16:31	08:01 (7) 71
15	05:39 20:32	06:21 (3) 20:00	06:08 197	06:50 (3) 10:07 (3)	06:39 19:11	07:00 (4) 23	07:10 07:23 (4)	07:10 18:21	06:47 16:41	07:18 16:31	08:01 (7) 72
16	05:40 20:32	06:21 (3) 19:59	06:09 193	06:52 (3) 10:05 (3)	06:40 19:09	07:00 (4) 21	07:11 07:21 (4)	07:11 18:19	06:48 16:40	07:19 16:31	08:01 (7) 72
17	05:40 20:31	06:22 (3) 19:57	06:10 190	06:53 (3) 10:03 (3)	06:41 19:07	07:01 (4) 20	07:12 07:21 (4)	07:12 18:17	06:49 16:40	07:19 16:32	08:02 (7) 72
18	05:41 20:30	06:23 (3) 19:56	06:11 186	06:55 (3) 10:01 (3)	06:42 19:06	07:02 (4) 18	07:13 07:20 (4)	07:13 18:16	06:50 16:39	07:20 16:32	08:02 (7) 73
19	05:42 20:30	06:05 (1) 19:55	06:12 183	06:55 (3) 09:58 (3)	06:43 19:04	07:03 (4) 16	07:14 07:19 (4)	07:14 18:14	06:52 16:38	07:21 16:32	08:02 (7) 73
20	05:43 20:29	06:05 (1) 19:53	06:13 179	06:57 (3) 09:56 (3)	06:44 19:02	07:04 (4) 14	07:15 07:18 (4)	07:15 18:13	06:53 16:37	07:21 16:33	08:03 (7) 73
21	05:44 20:28	06:06 (1) 19:52	06:14 174	06:59 (3) 09:53 (3)	06:45 19:00	07:05 (4) 12	07:16 07:17 (4)	07:16 18:11	06:54 16:37	07:22 16:33	08:03 (7) 73
22	05:45 20:27	06:07 (1) 19:50	06:15 170	07:01 (3) 09:51 (3)	06:46 18:59	07:06 (4) 9	07:17 07:15 (4)	07:17 18:10	06:55 16:36	07:22 16:34	08:04 (7) 73
23	05:46 20:26	06:08 (1) 19:49	06:16 165	07:03 (3) 09:48 (3)	06:47 18:57	07:07 (4) 7	07:18 07:14 (4)	07:18 18:09	06:56 16:35	07:23 16:34	08:04 (7) 73
24	05:46 20:26	06:09 (1) 19:47	06:17 160	07:05 (3) 09:45 (3)	06:48 18:55	07:08 (4) 4	07:19 07:12 (4)	07:19 18:07	06:57 16:35	07:23 16:35	08:05 (7) 73
25	05:47 20:25	06:10 (1) 19:45	06:18 155	07:07 (3) 09:42 (3)	06:49 18:54	07:09 (4) 1	07:20 07:10 (4)	07:20 17:06	06:59 16:34	07:24 16:35	08:05 (7) 73
26	05:48 20:24	06:11 (1) 19:44	06:19 150	07:09 (3) 09:39 (3)	06:50 18:52	07:10 (5) 3	07:21 07:13 (5)	07:21 17:04	07:00 16:34	07:24 16:36	08:06 (7) 72
27	05:49 20:23	06:12 (1) 19:42	06:20 159	07:11 (5) 09:36 (3)	06:51 18:50	07:12 (5) 6	07:22 07:11 (5)	07:22 17:03	07:01 16:33	07:24 16:37	08:07 (7) 72
28	05:50 20:22	06:13 (1) 19:41	06:21 160	07:12 (5) 09:32 (3)	06:52 18:48	07:13 (5) 7	07:23 07:19 (5)	07:23 17:02	07:02 16:33	07:25 16:37	08:07 (7) 72
29	05:51 20:21	06:13 (1) 19:39	06:22 160	07:14 (5) 09:29 (3)	06:53 18:47	07:14 (5) 7	07:24 07:21 (5)	07:24 17:00	07:03 16:32	07:25 16:38	08:08 (7) 71
30	05:52 20:20	06:14 (1) 19:38	06:23 157	07:15 (5) 09:25 (3)	06:54 18:45	07:15 (5) 7	07:25 07:22 (5)	07:25 16:59	07:04 16:32	07:25 16:39	08:08 (7) 71
31	05:53 20:19	06:15 (1) 19:36	06:24 153	07:16 (5) 09:21 (3)	06:55 18:45	07:16 (5) 7	07:26 07:23 (5)	07:26 16:59	07:05 16:32	07:25 16:40	08:09 (7) 70
Potential sun hours	460	428	375	345	297	287					
Total, worst case	7698	5933	1146	31	523	2157					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: ShadowShadow receptor: G - Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (7)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:26 16:41	07:12 17:15	06:36 17:50	06:55 (8) 07:08 (8)	06:45 19:24	05:59 19:56
2	07:26 16:41	07:11 17:16	06:34 17:51	06:53 (8) 07:07 (8)	06:43 19:25	05:57 19:57
3	07:26 16:42	07:10 17:18	06:33 17:52	06:52 (8) 07:06 (8)	06:41 19:26	05:56 19:58
4	07:26 16:43	07:09 17:19	06:31 17:53	06:50 (8) 07:03 (8)	06:40 19:27	05:55 19:59
5	07:26 16:44	07:08 17:20	06:30 17:54	06:49 (8) 07:01 (8)	06:38 19:28	05:53 20:00
6	07:26 16:45	07:07 17:21	06:28 17:55	06:47 (8) 06:57 (8)	06:36 19:29	05:52 20:01
7	07:26 16:46	07:06 17:23	06:26 17:56	06:26 19:30	06:35 19:30	05:51 20:03
8	07:26 16:47	07:05 17:24	06:25 17:58	06:25 19:31	06:33 19:31	05:50 20:04
9	07:26 16:48	07:04 17:25	06:23 17:59	06:23 19:33	06:32 19:33	05:49 20:05
10	07:25 16:49	07:02 17:26	06:22 18:00	06:22 19:34	06:30 19:34	05:48 20:06
11	07:25 16:50	07:01 17:28	06:20 18:01	06:20 19:35	06:28 19:35	05:46 20:07
12	07:25 16:51	07:00 17:29	06:18 18:02	06:18 19:36	06:27 19:36	05:45 20:08
13	07:25 16:52	06:59 17:30	06:17 18:03	06:17 19:37	06:25 19:37	05:44 20:09
14	07:24 16:53	06:57 17:31	06:15 18:04	06:15 19:38	06:24 19:38	05:43 20:10
15	07:24 16:55	06:56 17:33	06:13 18:05	06:13 19:39	06:22 19:39	05:42 20:11
16	07:24 16:56	06:55 17:34	06:12 18:07	06:12 19:40	06:20 19:40	05:41 20:12
17	07:23 16:57	06:53 17:35	06:10 18:08	06:10 19:41	06:19 19:41	05:40 20:13
18	07:23 16:58	06:52 17:36	06:08 18:09	06:08 19:42	06:17 19:42	05:39 20:14
19	07:22 16:59	06:51 17:38	06:07 07:10 (8)	06:07 18:10	06:16 19:43	05:38 20:15
20	07:21 17:00	06:49 17:39	06:05 07:09 (8)	06:05 18:11	06:14 19:44	05:38 20:16
21	07:21 17:02	06:48 17:40	06:03 07:07 (8)	06:03 18:12	06:13 19:45	05:37 20:17
22	07:20 17:03	06:46 17:41	06:02 07:12 (8)	06:02 18:13	06:11 19:47	05:36 20:17
23	07:20 17:04	06:45 17:42	06:00 07:04 (8)	06:00 18:14	06:10 19:48	05:35 20:18
24	07:19 17:05	06:43 17:44	05:58 07:12 (8)	05:58 18:15	06:08 19:49	05:34 20:19
25	07:18 17:06	06:42 17:45	05:57 07:01 (8)	05:57 18:16	06:07 19:50	05:34 20:20
26	07:17 17:08	06:40 17:46	05:55 07:00 (8)	05:55 18:17	06:05 19:51	05:33 20:21
27	07:17 17:09	06:39 17:47	05:53 06:58 (8)	05:53 18:19	06:04 19:52	05:32 20:22
28	07:16 17:10	06:37 17:48	05:51 07:10 (8)	05:51 18:20	06:03 19:53	05:32 20:23
29	07:15 17:11		06:50 19:21	06:50 19:21	06:01 19:54	05:31 20:24
30	07:14 17:13		06:48 19:22	06:48 19:22	06:00 19:55	05:30 20:24
31	07:13 17:14		06:46 19:23	06:46 19:23	05:30 20:25	06:10 (7) 09:07 (7)
Potential sun hours	297	297	369	399	449	453
Total, worst case		78	76	2322	5187	5380

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: ShadowShadow receptor: G - Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (7)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December				
1	05:30 20:37	06:15 (7) 09:14 (7)	05:54 20:18	06:29 (7) 09:11 (7)	06:25 19:34	07:21 (7) 08:08 (7)	06:55 18:43	06:30 16:56	07:05 16:32	
2	05:30 20:37	06:14 (7) 09:14 (7)	05:55 20:17	06:30 (7) 09:11 (7)	06:26 19:33	07:29 (7) 08:00 (7)	06:57 18:42	06:31 16:55	07:06 16:31	
3	05:31 20:37	06:15 (7) 09:14 (7)	05:56 20:16	06:30 (7) 09:10 (7)	06:27 19:31		06:58 18:40	06:32 16:54	07:07 16:31	
4	05:31 20:36	06:15 (7) 09:14 (7)	05:57 20:14	06:31 (7) 09:10 (7)	06:28 19:29		06:59 18:38	06:34 16:53	07:08 16:31	
5	05:32 20:36	06:16 (7) 09:15 (7)	05:58 20:13	06:30 (5) 09:09 (7)	06:29 19:28		07:00 18:37	06:35 16:52	07:09 16:31	
6	05:33 20:36	06:16 (7) 09:14 (7)	05:59 20:12	06:27 (5) 09:08 (7)	06:30 19:26		07:01 18:35	06:36 16:50	07:10 16:31	
7	05:33 20:36	06:16 (7) 09:15 (7)	06:00 20:11	06:25 (5) 09:07 (7)	06:31 19:24		07:02 18:33	06:37 16:49	07:11 16:31	
8	05:34 20:35	06:17 (7) 09:15 (7)	06:01 20:10	06:23 (5) 09:07 (7)	06:32 19:23		07:03 18:32	07:23 (8) 07:35 (8)	06:38 16:48	07:12 16:30
9	05:34 20:35	06:17 (7) 09:15 (7)	06:02 20:08	06:24 (5) 09:06 (7)	06:33 19:21		07:04 18:30	07:24 (8) 07:37 (8)	06:40 16:47	07:13 16:30
10	05:35 20:35	06:18 (7) 09:15 (7)	06:03 20:07	06:25 (5) 09:05 (7)	06:34 19:19		07:05 18:28	07:25 (8) 07:39 (8)	06:41 16:46	07:14 16:30
11	05:36 20:34	06:18 (7) 09:16 (7)	06:04 20:06	06:26 (5) 09:03 (7)	06:35 19:18		07:06 18:27	07:26 (8) 07:40 (8)	06:42 16:45	07:15 16:31
12	05:37 20:34	06:18 (7) 09:15 (7)	06:05 20:04	06:27 (5) 09:02 (7)	06:36 19:16		07:07 18:25	07:28 (8) 07:41 (8)	06:43 16:44	07:16 16:31
13	05:37 20:33	06:19 (7) 09:15 (7)	06:06 20:03	06:28 (5) 09:01 (7)	06:37 19:14		07:08 18:24	07:29 (8) 07:42 (8)	06:44 16:43	07:16 16:31
14	05:38 20:33	06:19 (7) 09:16 (7)	06:07 20:02	06:29 (5) 09:00 (7)	06:38 19:12		07:09 18:22	07:30 (8) 07:42 (8)	06:46 16:42	07:17 16:31
15	05:39 20:32	06:19 (7) 09:15 (7)	06:08 20:00	06:30 (5) 08:58 (7)	06:39 19:11		07:10 18:21	07:31 (8) 07:43 (8)	06:47 16:41	07:18 16:31
16	05:40 20:32	06:20 (7) 09:15 (7)	06:09 19:59	06:31 (5) 08:57 (7)	06:40 19:09		07:12 18:19	07:32 (8) 07:43 (8)	06:48 16:40	07:19 16:31
17	05:40 20:31	06:20 (7) 09:15 (7)	06:10 19:57	06:32 (5) 08:55 (7)	06:41 19:07		07:13 18:17	07:33 (8) 07:43 (8)	06:49 16:40	07:19 16:32
18	05:41 20:30	06:21 (7) 09:16 (7)	06:11 19:56	06:33 (5) 08:53 (7)	06:42 19:06		07:14 18:16	07:34 (8) 07:42 (8)	06:50 16:39	07:20 16:32
19	05:42 20:30	06:22 (7) 09:16 (7)	06:12 19:55	06:33 (5) 08:50 (7)	06:43 19:04		07:15 18:14	07:36 (8) 07:43 (8)	06:52 16:38	07:21 16:32
20	05:43 20:29	06:21 (7) 09:15 (7)	06:13 19:53	06:34 (5) 08:48 (7)	06:44 19:02		07:16 18:13	07:37 (8) 07:43 (8)	06:53 16:37	07:21 16:33
21	05:44 20:28	06:22 (7) 09:15 (7)	06:14 19:52	06:35 (5) 08:46 (7)	06:45 19:00		07:17 18:11	07:38 (8) 07:42 (8)	06:54 16:37	07:22 16:33
22	05:45 20:27	06:23 (7) 09:15 (7)	06:15 19:50	06:36 (5) 08:44 (7)	06:46 18:59		07:18 18:10	07:39 (8) 07:41 (8)	06:55 16:36	07:22 16:34
23	05:46 20:26	06:23 (7) 09:15 (7)	06:16 19:49	06:37 (5) 08:42 (7)	06:47 18:57		07:19 18:08	07:40 (8) 07:41 (8)	06:56 16:35	07:23 16:34
24	05:46 20:26	06:24 (7) 09:15 (7)	06:17 19:47	06:38 (5) 08:39 (7)	06:48 18:55		07:21 18:07		06:57 16:35	07:23 16:35
25	05:47 20:25	06:25 (7) 09:15 (7)	06:18 19:45	06:39 (5) 08:37 (7)	06:49 18:54		06:22 17:06		06:59 16:34	07:24 16:35
26	05:48 20:24	06:25 (7) 09:14 (7)	06:19 19:44	06:40 (5) 08:34 (7)	06:50 18:52		06:23 17:04		07:00 16:34	07:24 16:36
27	05:49 20:23	06:26 (7) 09:14 (7)	06:20 19:42	06:41 (5) 08:30 (7)	06:51 18:50		06:24 17:03		07:01 16:33	07:24 16:37
28	05:50 20:22	06:27 (7) 09:14 (7)	06:21 19:41	06:42 (5) 08:27 (7)	06:52 18:48		06:25 17:02		07:02 16:33	07:25 16:37
29	05:51 20:21	06:27 (7) 09:13 (7)	06:22 19:39	07:08 (7) 08:23 (7)	06:53 18:47		06:26 17:00		07:03 16:32	07:25 16:38
30	05:52 20:20	06:27 (7) 09:12 (7)	06:23 19:38	07:12 (7) 08:19 (7)	06:54 18:45		06:28 16:59		07:04 16:32	07:25 16:39
31	05:53 20:19	06:28 (7) 09:12 (7)	06:24 19:36	07:16 (7) 08:14 (7)			06:29 16:58		07:25 16:40	
Potential sun hours	460	428	375	345	297	287				
Total, worst case	5400	4153	78	152						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: ShadowShadow receptor: H - Shadow Receptor: 1,0 × 1,0 Azimuth: -180,0° Slope: 90,0° (8)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:26 16:41	07:12 17:15	06:36 17:50	06:45 19:24	05:59 19:56	05:29 20:26	05:51 (5) 20:37	05:53 (5) 20:18	05:54 19:34	06:25 18:43	06:55 16:32	06:30 16:56	
2	07:26 16:41	07:11 17:16	06:34 17:51	06:43 19:25	05:57 19:57	05:29 20:27	05:51 (5) 20:37	05:53 (5) 20:17	05:55 19:33	06:26 18:42	06:57 16:31	06:31 16:55	
3	07:26 16:42	07:10 17:18	06:33 17:52	06:41 19:26	05:56 19:58	05:29 20:27	05:50 (5) 20:37	05:54 (5) 20:16	05:56 19:31	06:27 18:40	06:58 16:34	06:32 16:54	
4	07:26 16:43	07:09 17:19	06:31 17:53	06:40 19:27	05:55 19:59	05:28 20:28	05:50 (5) 20:36	05:57 20:14	05:57 19:29	06:28 18:38	06:59 16:33	06:34 16:53	
5	07:26 16:44	07:08 17:20	06:30 17:54	06:38 19:28	05:53 20:00	05:28 20:29	05:50 (5) 20:36	05:58 20:13	05:58 19:28	06:29 18:37	07:00 16:52	06:35 16:31	
6	07:26 16:45	07:07 17:21	06:28 17:55	06:36 19:29	05:52 20:01	05:27 20:29	05:49 (5) 20:36	05:59 20:12	05:59 19:26	06:30 18:35	07:01 16:50	06:36 16:31	
7	07:26 16:46	07:06 17:23	06:26 17:56	06:35 19:30	05:51 20:03	05:27 20:30	05:49 (5) 20:36	06:00 20:11	06:00 19:24	06:31 18:33	07:02 16:49	06:37 16:31	
8	07:26 16:47	07:05 17:24	06:25 17:58	06:33 19:31	05:50 20:04	05:27 20:31	05:49 (5) 20:35	06:01 20:10	06:01 19:23	06:32 18:32	07:03 16:48	06:38 16:30	
9	07:26 16:48	07:04 17:25	06:23 17:59	06:32 19:33	05:49 20:05	05:27 20:31	05:49 (5) 20:35	06:02 20:08	06:02 19:21	06:33 18:30	07:04 16:47	06:40 16:30	
10	07:25 16:49	07:02 17:26	06:22 18:00	06:30 19:34	05:48 20:06	05:26 20:32	05:49 (5) 20:35	06:03 20:07	06:03 19:19	06:34 18:28	07:05 16:46	06:41 16:30	
11	07:25 16:50	07:01 17:28	06:20 18:01	06:28 19:35	05:46 20:07	05:26 20:32	05:48 (5) 20:34	06:04 20:06	06:04 19:18	06:35 18:27	07:06 16:45	06:42 16:31	
12	07:25 16:51	07:00 17:29	06:18 18:02	06:27 19:36	05:45 20:08	05:26 20:33	05:48 (5) 20:34	06:05 20:04	06:05 19:16	06:36 18:25	07:07 16:44	06:43 16:31	
13	07:25 16:52	06:59 17:30	06:17 18:03	06:25 19:37	05:44 20:09	05:26 20:33	05:48 (5) 20:33	06:06 20:03	06:06 19:14	06:37 18:24	07:08 16:43	06:44 16:31	
14	07:24 16:53	06:57 17:31	06:15 18:04	06:24 19:38	05:43 20:10	05:26 20:34	05:48 (5) 20:33	06:07 20:02	06:07 19:12	06:38 18:22	07:09 16:42	06:46 16:31	
15	07:24 16:55	06:56 17:33	06:13 18:05	06:22 19:39	05:42 20:11	05:26 20:34	05:48 (5) 20:32	06:08 20:00	06:08 19:11	06:39 18:21	07:10 16:41	06:47 16:31	
16	07:23 16:56	06:55 17:34	06:12 18:07	06:20 19:40	05:41 20:12	05:26 20:35	05:48 (5) 20:32	06:09 20:00	06:09 19:09	06:40 18:19	07:12 16:40	06:48 16:31	
17	07:23 16:57	06:53 17:35	06:10 18:08	06:19 19:41	05:40 20:13	05:26 20:35	05:48 (5) 20:31	06:10 20:00	06:10 19:07	06:41 18:17	07:13 16:40	06:49 16:32	
18	07:23 16:58	06:52 17:36	06:08 18:09	06:17 19:42	05:39 20:14	05:26 20:35	05:49 (5) 20:30	06:11 20:00	06:11 19:06	06:42 18:16	07:14 16:39	06:50 16:32	
19	07:22 16:59	06:51 17:38	06:07 18:10	06:16 19:43	05:38 20:15	05:26 20:36	05:49 (5) 20:30	06:12 20:00	06:12 19:04	06:43 18:14	07:15 16:38	06:52 16:32	
20	07:21 17:00	06:49 17:39	06:05 18:11	06:14 19:44	05:38 20:16	05:26 20:36	05:49 (5) 20:29	06:13 20:00	06:13 19:02	06:44 18:13	07:16 16:37	06:53 16:33	
21	07:21 17:02	06:48 17:40	06:03 18:12	06:13 19:45	05:37 20:17	05:27 20:36	05:49 (5) 20:28	06:14 20:00	06:14 19:02	06:45 18:13	07:17 16:37	06:54 16:33	
22	07:20 17:03	06:46 17:41	06:02 18:13	06:11 19:47	05:36 20:17	05:27 20:36	05:49 (5) 20:27	06:15 20:00	06:15 18:59	06:46 18:10	07:18 16:36	06:55 16:34	
23	07:20 17:04	06:45 17:42	06:00 18:14	06:10 19:48	05:35 20:18	05:27 20:37	05:50 (5) 20:26	06:16 20:00	06:16 18:57	06:47 18:08	07:19 16:35	06:56 16:34	
24	07:19 17:05	06:43 17:44	05:58 18:15	06:08 19:49	05:34 20:19	05:27 20:37	05:50 (5) 20:26	06:17 20:00	06:17 18:55	06:48 18:07	07:21 16:35	06:57 16:35	
25	07:18 17:06	06:42 17:45	05:57 18:16	06:07 19:50	05:34 20:20	05:27 20:37	05:50 (5) 20:25	06:18 20:00	06:18 18:54	06:49 17:06	07:22 16:34	06:59 16:35	
26	07:17 17:08	06:40 17:46	05:55 18:17	06:05 19:51	05:33 20:21	05:28 20:37	05:50 (5) 20:24	06:19 20:00	06:19 18:52	06:50 17:04	07:23 16:34	07:00 16:36	
27	07:17 17:09	06:39 17:47	05:53 18:19	06:04 19:52	05:32 20:22	05:28 20:37	05:51 (5) 20:23	06:20 20:00	06:20 18:50	06:51 17:03	07:24 16:33	07:01 16:37	
28	07:16 17:10	06:37 17:48	05:51 18:20	06:03 19:53	05:32 20:23	05:29 20:37	05:51 (5) 20:22	06:21 20:00	06:21 18:48	06:52 17:02	07:25 16:33	07:02 16:37	
29	07:15 17:11	06:36 19:21	05:50 19:21	06:01 19:54	05:31 20:24	05:29 20:37	05:52 (5) 20:21	06:22 20:00	06:22 18:47	06:53 17:00	07:25 16:32	07:03 16:38	
30	07:14 17:13	06:48 19:22	06:00 19:22	06:00 19:55	05:30 20:24	05:29 20:37	05:52 (5) 20:20	06:23 20:00	06:23 18:45	06:54 16:59	07:26 16:32	07:04 16:39	
31	07:13 17:14	06:46 19:23	06:00 19:23	06:00 20:25	05:30 20:25	05:29 19:39 (6)	05:53 20:19	06:24 19:36	06:24 16:58	06:29 16:58	07:27 16:40	07:05 16:40	
Potential sun hours	297	297	369	399	449	605	453	460	428	375	345	297	287
Total, worst case						605	2632	1551					

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

SHADOW - Calendar

Calculation: ShadowShadow receptor: K - Shadow Receptor: 1,0 × 1,0 Azimuth: -160,0° Slope: 90,0° (11)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June		
1	07:26 16:41	07:12 17:15	06:36 17:50	06:55 (9) 07:00 (9)	06:45 19:24	07:03 (8) 19:56	05:59 20:26	
2	07:26 16:41	07:11 17:16	06:34 17:51	06:53 (9) 06:59 (9)	06:43 19:25	07:02 (8) 19:57	05:29 20:27	
3	07:26 16:42	07:10 17:18	06:33 17:52	06:52 (9) 06:59 (9)	06:41 19:26	07:00 (8) 19:58	05:56 20:27	
4	07:26 16:43	07:09 17:19	06:31 17:53	06:50 (9) 06:58 (9)	06:40 19:27	06:58 (8) 19:59	05:55 20:28	
5	07:26 16:44	07:08 17:20	06:30 17:54	06:49 (9) 06:58 (9)	06:38 19:28	06:57 (8) 20:00	05:53 20:29	05:28 2 05:52 (5)
6	07:26 16:45	07:07 17:21	06:28 17:55	06:47 (9) 06:57 (9)	06:36 19:29	06:55 (8) 20:01	05:52 20:29	05:27 3 05:52 (5)
7	07:26 16:46	07:06 17:23	06:26 17:56	06:45 (9) 06:55 (9)	06:35 19:30	06:53 (8) 20:03	05:51 20:30	05:27 5 05:54 (5)
8	07:26 16:47	07:05 17:24	06:25 17:58	06:44 (9) 06:53 (9)	06:33 19:31	06:52 (8) 20:04	05:50 20:31	05:27 6 05:55 (5)
9	07:26 16:48	07:04 17:25	06:23 17:59	06:42 (9) 06:50 (9)	06:32 19:33	06:50 (8) 20:05	05:49 20:31	05:27 7 05:56 (5)
10	07:25 16:49	07:02 17:26	06:22 18:00	06:41 (9) 18:01	06:31 19:34	06:48 (8) 20:06	05:48 20:32	05:26 8 05:57 (5)
11	07:25 16:50	07:01 17:28	06:20 18:01	06:40 (9) 18:02	06:29 19:35	06:50 (8) 20:07	05:46 20:32	05:26 9 05:57 (5)
12	07:25 16:51	07:00 17:29	06:18 18:02	06:38 (9) 18:03	06:27 19:36	06:51 (8) 20:08	05:45 20:33	05:26 10 05:58 (5)
13	07:25 16:52	06:59 17:30	06:17 18:03	06:37 (9) 18:04	06:26 19:37	06:53 (8) 20:09	05:44 20:33	05:26 10 05:58 (5)
14	07:24 16:53	06:57 17:31	06:15 18:04	06:35 (9) 18:05	06:24 19:38	06:55 (8) 20:10	05:43 20:34	05:26 11 05:59 (5)
15	07:24 16:54	06:56 17:32	06:13 18:05	06:33 (9) 18:06	06:22 19:39	07:00 (8) 20:11	05:42 20:34	05:26 11 05:59 (5)
16	07:23 16:55	06:55 17:33	06:12 18:06	06:32 (9) 18:07	06:21 19:40	07:06 (8) 20:12	05:41 20:35	05:26 11 05:59 (5)
17	07:23 16:56	06:53 17:34	06:10 18:07	06:30 (9) 18:08	06:19 19:41	07:15 (8) 20:13	05:40 20:35	05:26 12 06:00 (5)
18	07:23 16:57	06:52 17:35	06:08 18:08	06:28 (9) 18:09	06:17 19:42	07:18 (8) 20:14	05:39 20:35	05:26 12 06:01 (5)
19	07:22 16:58	06:51 17:36	06:07 18:09	06:27 (9) 18:10	06:16 19:43	07:21 (8) 20:15	05:38 20:36	05:26 12 06:01 (5)
20	07:21 17:00	06:49 17:37	06:05 18:10	06:25 (9) 18:11	06:14 19:44	07:24 (8) 20:16	05:38 20:36	05:26 12 06:01 (5)
21	07:21 17:01	06:48 17:38	06:03 18:11	06:23 (9) 18:12	06:13 19:45	07:27 (8) 20:17	05:37 20:36	05:27 12 06:01 (5)
22	07:20 17:02	06:46 17:39	06:02 18:12	06:21 (9) 18:13	06:11 19:46	07:30 (8) 20:18	05:36 20:37	05:27 12 06:02 (5)
23	07:20 17:03	06:45 17:40	06:00 18:13	06:19 (9) 18:14	06:10 19:47	07:33 (8) 20:19	05:35 20:37	05:27 12 06:02 (5)
24	07:19 17:04	06:43 17:41	05:58 18:14	06:17 (8) 18:15	06:08 19:48	07:36 (8) 20:20	05:34 20:37	05:27 12 06:02 (5)
25	07:18 17:05	06:42 17:42	05:57 18:15	06:15 (8) 18:16	06:07 19:49	07:39 (8) 20:21	05:34 20:37	05:28 12 06:02 (5)
26	07:17 17:06	06:40 17:43	05:55 18:16	06:13 (8) 18:17	06:05 19:50	07:42 (8) 20:22	05:33 20:37	05:28 12 06:02 (5)
27	07:17 17:07	06:39 17:44	05:53 18:17	06:11 (8) 18:18	06:04 19:51	07:45 (8) 20:23	05:32 20:37	05:28 11 06:02 (5)
28	07:16 17:08	06:37 17:45	05:51 18:18	06:09 (8) 18:19	06:03 19:52	07:48 (8) 20:24	05:32 20:37	05:29 11 06:02 (5)
29	07:15 17:09	06:36 17:46	05:49 18:19	06:07 (8) 18:20	06:01 19:53	07:51 (8) 20:25	05:31 20:37	05:29 11 06:02 (5)
30	07:14 17:10	06:35 17:47	05:48 18:20	06:05 (8) 18:21	06:00 19:54	07:54 (8) 20:26	05:30 20:37	05:29 10 06:02 (5)
31	07:13 17:11	06:34 17:48	05:46 18:21	06:03 (8) 18:22	06:00 19:55	07:57 (8) 20:27	05:30 20:37	05:29 10 06:02 (5)
Potential sun hours	297	297	369	399	449	453	255	
Total, worst case		5	172	361				

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: ShadowShadow receptor: K - Shadow Receptor: 1,0 × 1,0 Azimuth: -160,0° Slope: 90,0° (11)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30	05:53 (5)	06:25	06:49 (8)	06:55	06:30
	20:37	06:02 (5)	19:34	07:16 (8)	18:43	16:56
2	05:30	05:53 (5)	06:26	06:47 (8)	06:57	06:31
	20:37	06:01 (5)	19:33	07:17 (8)	18:42	16:55
3	05:31	05:54 (5)	06:27	06:48 (8)	06:58	06:32
	20:37	06:02 (5)	19:31	07:18 (8)	18:40	16:54
4	05:31	05:54 (5)	06:28	06:49 (8)	06:59	07:19 (9)
	20:36	06:01 (5)	19:29	07:18 (8)	18:38	16:53
5	05:32	05:55 (5)	06:29	06:50 (8)	07:00	07:20 (9)
	20:36	06:00 (5)	19:28	07:19 (8)	18:37	16:52
6	05:33	05:55 (5)	06:30	06:51 (8)	07:01	07:21 (9)
	20:36	05:59 (5)	19:26	07:19 (8)	18:35	16:50
7	05:33	05:56 (5)	06:31	06:52 (8)	07:02	07:22 (9)
	20:36	05:59 (5)	19:24	07:19 (8)	18:33	16:49
8	05:34	05:57 (5)	06:32	06:53 (8)	07:03	07:23 (9)
	20:35	05:58 (5)	19:23	07:19 (8)	18:32	16:48
9	05:34		06:33	06:54 (8)	07:04	07:24 (9)
	20:35		19:21	07:19 (8)	18:30	16:47
10	05:35		06:34	06:55 (8)	07:05	07:25 (9)
	20:35		19:19	07:18 (8)	18:28	16:46
11	05:36		06:35	06:56 (8)	07:06	07:26 (9)
	20:34		19:18	07:18 (8)	18:27	16:45
12	05:37		06:36	06:57 (8)	07:07	07:28 (9)
	20:34		19:16	07:17 (8)	18:25	16:44
13	05:37		06:37	06:58 (8)	07:08	07:29 (9)
	20:33		19:14	07:17 (8)	18:24	16:43
14	05:38		06:38	06:59 (8)	07:09	07:30 (9)
	20:33		19:12	07:16 (8)	18:22	16:42
15	05:39		06:39	07:00 (8)	07:10	07:31 (9)
	20:32		19:11	07:15 (8)	18:21	16:41
16	05:40		06:40	07:00 (8)	07:12	06:48
	20:32		19:09	07:13 (8)	18:19	16:40
17	05:40		06:41	07:01 (8)	07:13	06:49
	20:31		19:07	07:11 (8)	18:17	16:40
18	05:41		06:42	07:02 (8)	07:14	06:50
	20:30		19:06	07:09 (8)	18:16	16:39
19	05:42		06:43	07:03 (8)	07:15	06:52
	20:30		19:04	07:07 (8)	18:14	16:38
20	05:43		06:44	07:04 (8)	07:16	06:53
	20:29		19:02	07:05 (8)	18:13	16:37
21	05:44		06:45		07:17	06:54
	20:28		19:00		18:11	16:37
22	05:45		06:46		07:18	06:55
	20:27		18:59		18:10	16:36
23	05:46		06:47		07:19	06:56
	20:26		18:57		18:09	16:35
24	05:46		06:48		07:21	06:57
	20:26		18:55		18:07	16:35
25	05:47		06:49		06:22	06:59
	20:25		19:45		17:06	16:34
26	05:48		06:50		06:23	07:00
	20:24		18:52		17:04	16:34
27	05:49		06:51		06:24	07:01
	20:23		18:50		17:03	16:33
28	05:50		06:52		06:25	07:02
	20:22	7	07:07 (8)		17:02	16:33
29	05:51		06:55 (8)		06:26	07:03
	20:21	16	07:11 (8)		17:00	16:32
30	05:52		06:53 (8)		06:28	07:04
	20:20	20	07:13 (8)		16:59	16:32
31	05:53		06:51 (8)		06:29	07:25
	20:19	24	07:15 (8)		16:58	16:40
Potential sun hours	460	428	375	345	297	287
Total, worst case	45	67	402	83		

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: ShadowShadow receptor: M - Shadow Receptor: 1,0 × 1,0 Azimuth: -120,0° Slope: 90,0° (13)
Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:26 16:41	07:48 (13) 09:30 (12)	07:12 17:15	06:36 17:50	06:45 19:24	05:59 19:56
2	07:26 16:41	07:48 (13) 09:29 (12)	07:11 17:16	06:34 17:51	06:43 19:25	05:57 19:57
3	07:26 16:42	07:48 (13) 09:28 (12)	07:10 17:18	06:33 17:52	06:41 19:26	05:56 19:58
4	07:26 16:43	07:48 (13) 09:27 (12)	07:09 17:19	06:31 17:53	06:40 19:27	05:55 19:59
5	07:26 16:44	07:48 (13) 09:25 (12)	07:08 17:20	06:30 17:54	06:38 19:28	05:53 20:00
6	07:26 16:45	07:48 (13) 08:19 (13)	07:07 17:21	06:28 17:55	06:36 19:29	05:52 20:01
7	07:26 16:46	07:48 (13) 08:20 (13)	07:06 17:23	06:26 17:56	06:35 19:30	05:51 20:02
8	07:26 16:47	07:48 (13) 08:21 (13)	07:05 17:24	06:25 17:58	06:33 19:31	05:50 20:04
9	07:26 16:48	07:48 (13) 08:20 (13)	07:04 17:25	06:23 17:59	06:32 19:33	05:49 20:05
10	07:25 16:49	07:47 (13) 08:21 (13)	07:02 17:26	06:22 18:00	06:30 19:34	05:48 20:06
11	07:25 16:50	07:47 (13) 08:21 (13)	07:01 17:28	06:20 18:01	06:28 19:35	05:46 20:07
12	07:25 16:51	07:47 (13) 08:22 (13)	07:00 17:29	06:18 18:02	06:27 19:36	05:45 20:08
13	07:25 16:52	07:46 (13) 08:21 (13)	06:59 17:30	06:17 18:03	06:25 19:37	05:44 20:09
14	07:24 16:53	07:47 (13) 08:22 (13)	06:57 17:31	06:15 18:04	06:24 19:38	05:43 20:10
15	07:24 16:55	07:47 (13) 08:21 (13)	06:56 17:33	06:13 18:05	06:22 19:39	05:42 20:11
16	07:23 16:56	07:48 (13) 08:22 (13)	06:55 17:34	06:12 18:07	06:20 19:40	05:41 20:12
17	07:23 16:57	07:49 (13) 08:21 (13)	06:53 17:35	06:10 18:08	06:19 19:41	05:40 20:13
18	07:23 16:58	07:50 (13) 08:21 (13)	06:52 17:36	06:08 18:09	06:17 19:42	05:39 20:14
19	07:22 16:59	07:51 (13) 08:21 (13)	06:51 17:38	06:07 18:10	06:16 19:43	05:38 20:15
20	07:21 17:00	07:51 (13) 08:20 (13)	06:49 17:39	06:05 18:11	06:14 19:44	05:38 20:16
21	07:21 17:02	07:53 (13) 08:20 (13)	06:48 17:40	06:03 18:12	06:13 19:45	05:37 20:16
22	07:20 17:03	07:54 (13) 08:19 (13)	06:46 17:41	06:02 18:13	06:11 19:46	05:36 20:17
23	07:20 17:04	07:55 (13) 08:18 (13)	06:45 17:42	06:00 18:14	06:10 19:48	05:35 20:18
24	07:19 17:05	07:58 (13) 08:18 (13)	06:43 17:44	05:58 18:15	06:08 19:49	05:34 20:19
25	07:18 17:06	07:59 (13) 08:16 (13)	06:42 17:45	05:56 18:16	06:07 19:50	05:34 20:20
26	07:17 17:08	08:02 (13) 08:13 (13)	06:40 17:46	05:55 18:17	06:05 19:51	05:33 20:21
27	07:17 17:09	08:13 (13)	06:39 17:47	05:53 18:19	06:04 19:52	05:32 20:22
28	07:16 17:10	06:37 17:48	05:51 18:20	06:03 19:53	06:22 (9) 06:45 (9)	05:32 20:23
29	07:15 17:11		06:50 19:21	06:01 19:54	06:21 (9) 06:45 (9)	05:31 20:24
30	07:14 17:13		06:48 19:22	06:00 19:55	06:19 (9) 06:43 (9)	05:30 20:24
31	07:13 17:14		06:46 19:23		05:30 20:25	
Potential sun hours	297	297	369	399	449	453
Total, worst case	842			295	90	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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SHADOW - Calendar

Calculation: ShadowShadow receptor: M - Shadow Receptor: 1,0 × 1,0 Azimuth: -120,0° Slope: 90,0° (13)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December	
1	05:30 20:37	05:54 20:18	06:25 19:34	06:55 18:43	06:30 16:56	07:05 16:32	34 07:29 (13) 08:03 (13)
2	05:30 20:37	05:55 20:17	06:26 19:33	06:56 18:42	06:31 16:55	07:06 16:31	34 07:30 (13) 08:04 (13)
3	05:31 20:37	05:56 20:16	06:27 19:31	06:58 18:40	06:32 16:54	07:07 16:31	33 07:31 (13) 08:04 (13)
4	05:31 20:36	05:57 20:14	06:28 19:29	06:59 18:38	06:34 16:53	07:08 16:31	33 07:32 (13) 08:05 (13)
5	05:32 20:36	05:58 20:13	06:29 19:28	07:00 18:37	06:35 16:52	07:09 16:31	32 07:33 (13) 08:05 (13)
6	05:33 20:36	05:59 20:12	06:30 19:26	07:01 18:35	06:36 16:50	07:10 16:31	32 07:34 (13) 08:06 (13)
7	05:33 20:36	06:00 20:11	06:31 19:24	07:02 18:33	06:37 16:49	07:11 16:31	37 07:35 (13) 09:11 (12)
8	05:34 20:35	06:01 20:10	06:32 (9) 19:23	07:03 18:32	06:38 16:48	07:12 16:30	44 07:36 (13) 09:15 (12)
9	05:34 20:35	06:02 20:08	06:29 (9) 19:21	06:33 18:30	07:04 16:47	07:13 16:30	46 07:37 (13) 09:17 (12)
10	05:35 20:35	06:03 20:07	06:27 (9) 19:19	06:34 18:28	07:05 16:46	07:14 16:30	49 07:38 (13) 09:19 (12)
11	05:36 20:34	06:04 20:06	06:26 (9) 19:18	06:35 18:27	07:06 16:45	07:15 16:31	50 07:39 (13) 09:21 (12)
12	05:37 20:34	06:05 20:04	06:27 (9) 19:16	06:36 18:25	07:07 16:44	07:16 16:31	52 07:39 (13) 09:21 (12)
13	05:37 20:33	06:06 20:03	06:28 (9) 19:14	06:37 18:24	07:08 16:43	07:16 16:31	53 07:40 (13) 09:23 (12)
14	05:38 20:33	06:07 20:02	06:29 (9) 19:12	06:38 18:22	07:09 16:42	07:17 16:31	54 07:41 (13) 09:24 (12)
15	05:39 20:32	06:08 20:00	06:30 (9) 19:11	06:39 18:21	07:10 16:41	07:18 16:31	55 07:42 (13) 09:26 (12)
16	05:40 20:31	06:09 19:59	06:31 (9) 19:09	06:40 18:19	07:12 16:40	07:19 16:31	56 07:42 (13) 09:26 (12)
17	05:40 20:31	06:10 19:57	06:32 (9) 19:07	06:41 18:17	06:49 16:40	07:19 16:32	55 07:43 (13) 09:27 (12)
18	05:41 20:30	06:11 19:56	06:32 (9) 19:06	06:42 18:16	06:50 16:39	07:20 16:32	56 07:44 (13) 09:28 (12)
19	05:42 20:29	06:12 19:55	06:33 (9) 19:04	06:43 18:14	06:52 16:38	07:21 16:32	56 07:44 (13) 09:28 (12)
20	05:43 20:29	06:13 19:53	06:34 (9) 19:02	06:44 18:13	06:53 16:37	07:21 16:33	56 07:45 (13) 09:29 (12)
21	05:44 20:28	06:14 19:52	06:35 (9) 19:00	06:45 18:11	06:54 16:37	07:22 16:33	57 07:45 (13) 09:29 (12)
22	05:45 20:27	06:15 19:50	06:36 (9) 18:59	06:46 18:10	06:55 16:36	07:22 16:34	57 07:46 (13) 09:30 (12)
23	05:46 20:26	06:16 19:49	06:37 (9) 18:57	06:47 18:08	06:56 16:35	07:23 16:34	56 07:46 (13) 09:30 (12)
24	05:46 20:26	06:17 19:47	06:38 (9) 18:55	06:48 18:07	06:57 16:35	07:23 16:35	56 07:47 (13) 09:31 (12)
25	05:47 20:25	06:18 19:45	06:39 (9) 18:54	06:49 17:06	06:59 16:34	07:24 16:35	56 07:47 (13) 09:31 (12)
26	05:48 20:24	06:19 19:44	06:40 (9) 18:52	06:50 17:04	07:00 16:34	07:24 16:36	56 07:47 (13) 09:31 (12)
27	05:49 20:23	06:20 19:42	06:41 (9) 18:50	06:51 17:03	07:01 16:33	07:24 16:37	55 07:47 (13) 09:31 (12)
28	05:50 20:22	06:21 19:41	06:42 (9) 18:48	06:52 17:02	07:02 16:33	07:25 16:37	56 07:48 (13) 09:32 (12)
29	05:51 20:21	06:22 19:39	06:43 (9) 18:47	06:53 17:00	07:03 16:32	07:25 16:38	54 07:48 (13) 09:31 (12)
30	05:52 20:20	06:23 19:38	06:44 (9) 18:45	06:54 16:59	06:28 16:32	07:25 16:39	53 07:48 (13) 09:31 (12)
31	05:53 20:19	06:24 19:36		06:29 16:58		07:25 16:40	53 07:48 (13) 09:31 (12)
Potential sun hours	460	428	375	345	297	287	1526
Total, worst case		386			420		

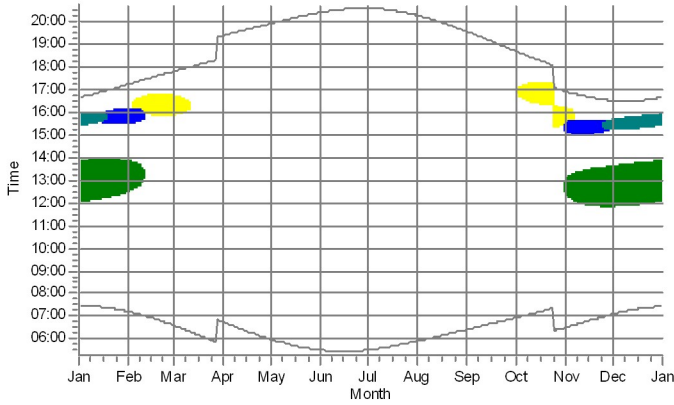
Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Sun set (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
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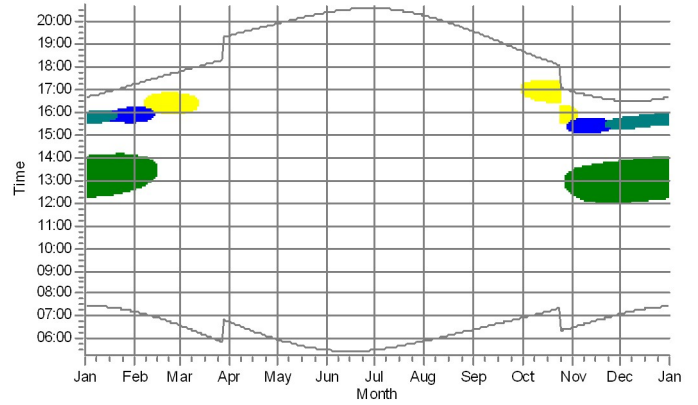
SHADOW - Calendar, graphical

Calculation: Shadow

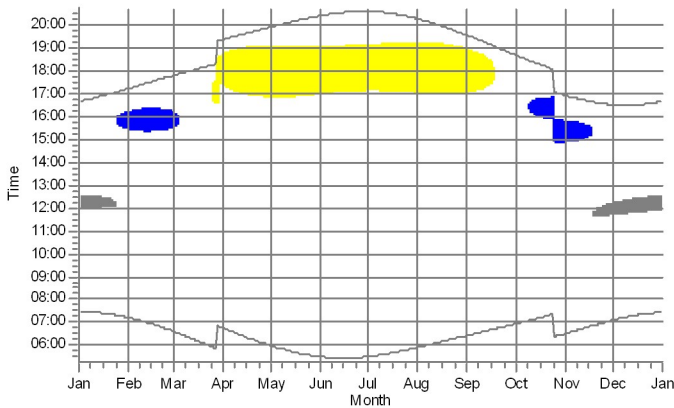
A: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)



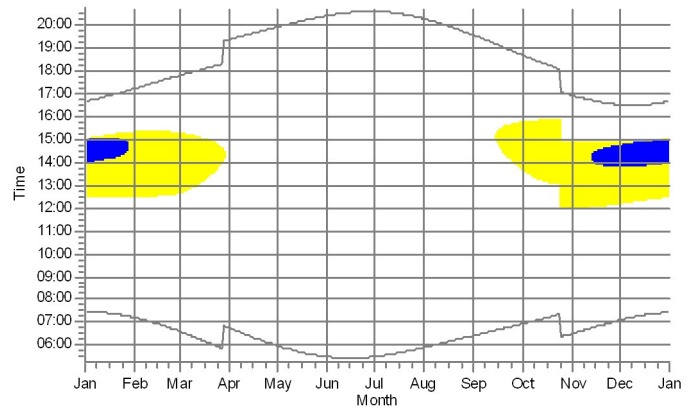
B: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)



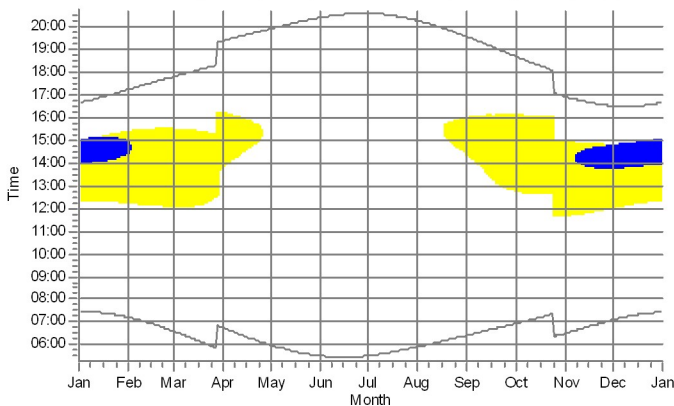
C: Shadow Receptor: 1,0 × 1,0 Azimuth: 90,0° Slope: 90,0° (3)



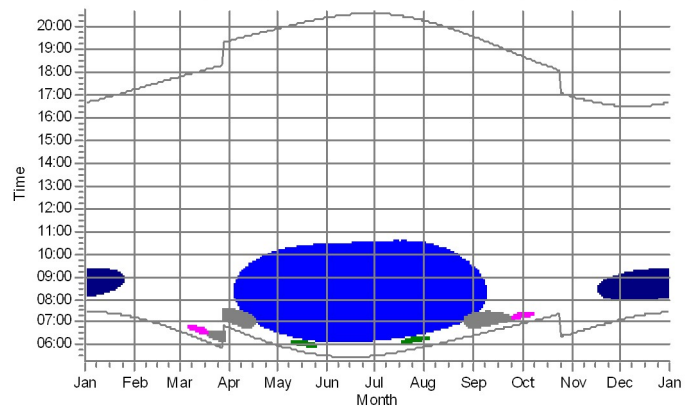
D: Shadow Receptor: 1,0 × 1,0 Azimuth: 45,0° Slope: 90,0° (4)



E: Shadow Receptor: 1,0 × 1,0 Azimuth: 45,0° Slope: 90,0° (5)



F: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (6)



WTGs

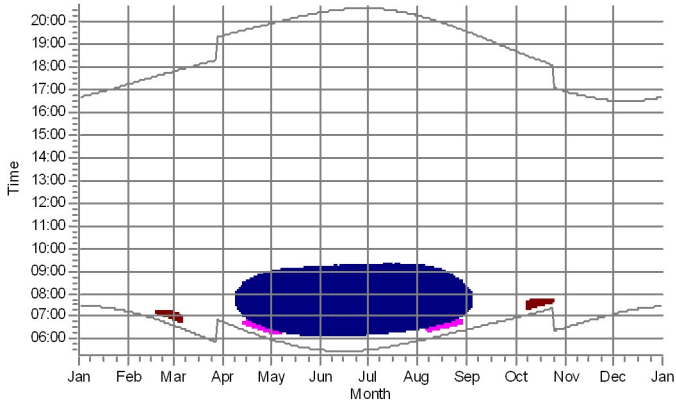
- 1: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (1)
- 2: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (2)
- 3: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (3)
- 4: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (4)

- 5: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (5)
- 6: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (6)
- 7: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (7)

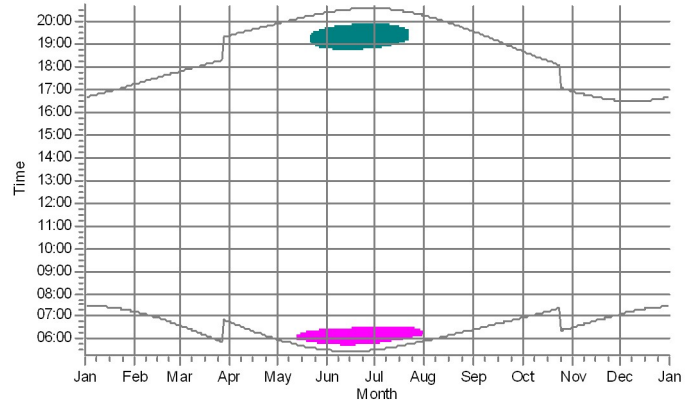
SHADOW - Calendar, graphical

Calculation: Shadow

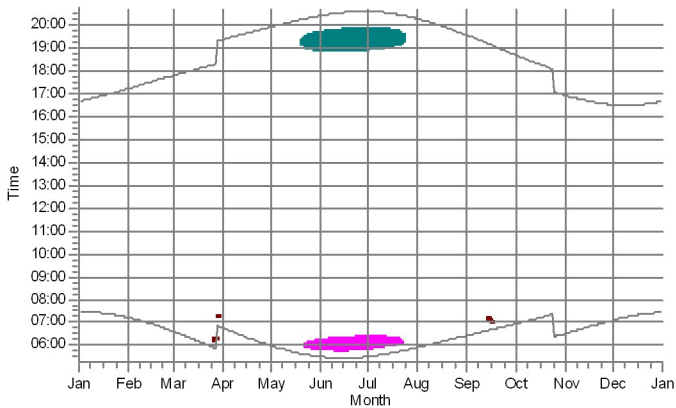
G: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (7)



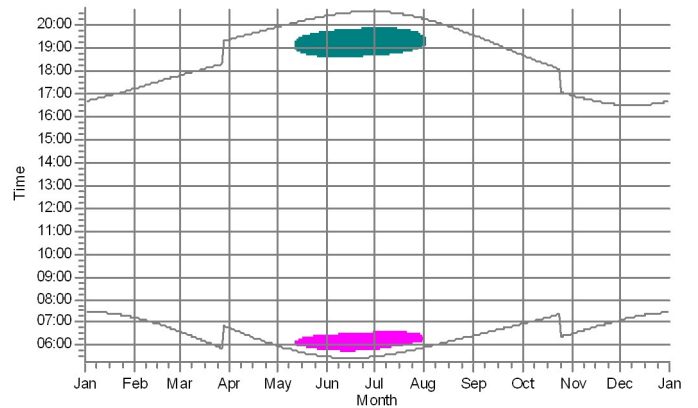
H: Shadow Receptor: 1,0 × 1,0 Azimuth: -180,0° Slope: 90,0° (8)



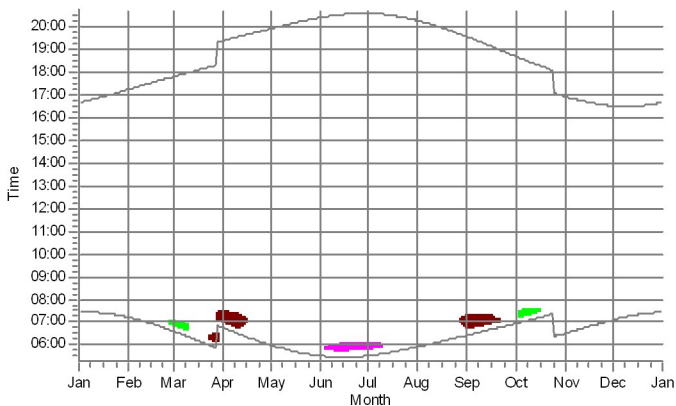
I: Shadow Receptor: 1,0 × 1,0 Azimuth: -180,0° Slope: 90,0° (9)



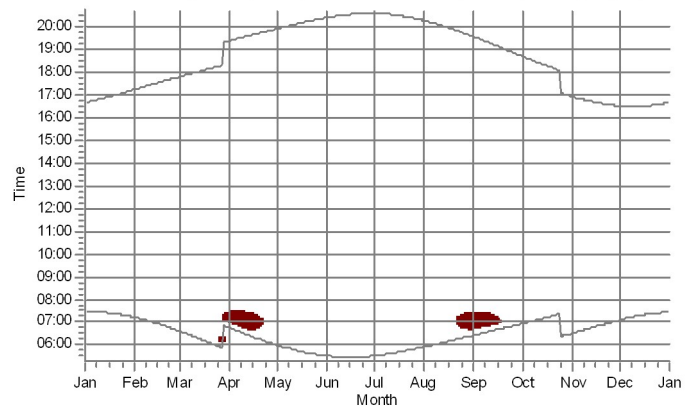
J: Shadow Receptor: 1,0 × 1,0 Azimuth: -180,0° Slope: 90,0° (10)



K: Shadow Receptor: 1,0 × 1,0 Azimuth: -160,0° Slope: 90,0° (11)



L: Shadow Receptor: 1,0 × 1,0 Azimuth: -180,0° Slope: 90,0° (12)



WTGs

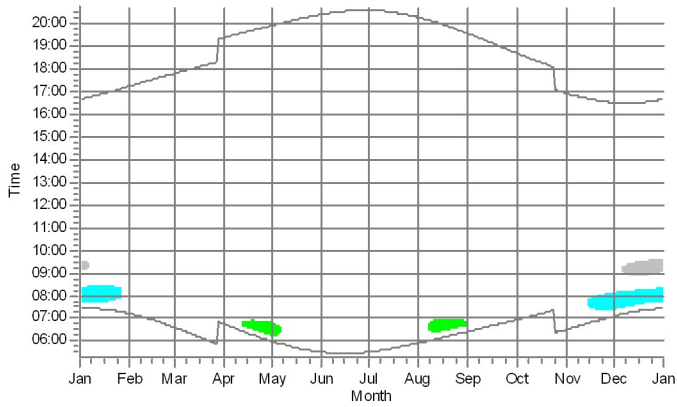
- 5: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (5)
- 6: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (6)
- 7: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (7)

- 8: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (8)
- 9: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (9)

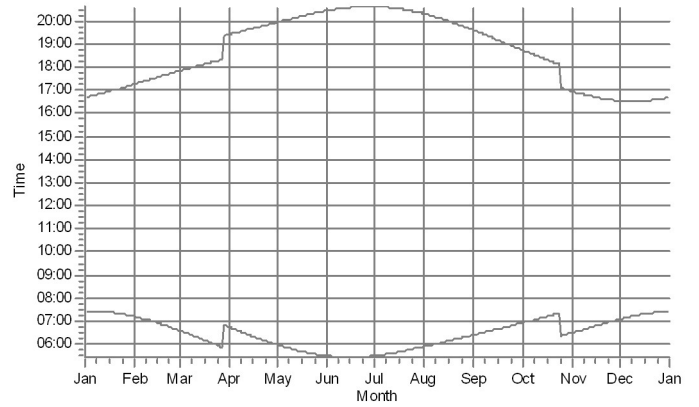
SHADOW - Calendar, graphical

Calculation: Shadow

M: Shadow Receptor: 1,0 × 1,0 Azimuth: -120,0° Slope: 90,0° (13)



N: Shadow Receptor: 1,0 × 1,0 Azimuth: 150,0° Slope: 90,0° (14)



WTGs

9: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (9)
12: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (12)

13: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (13)

SHADOW - Calendar per WTG

Calculation: ShadowWTG: 1 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (1)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:26 12:08-14:01/113 16:41	07:12 12:35-14:03/88 17:15	06:36 17:49	06:45 19:24	05:59 19:56	05:29 20:26
2	07:26 12:09-14:01/112 16:41	07:11 12:37-14:02/85 17:16	06:34 17:51	06:43 19:25	05:57 19:57	05:29 20:27
3	07:26 12:09-14:01/112 16:42	07:10 12:39-14:01/82 17:18	06:33 17:52	06:41 19:26	05:56 19:58	05:28 20:27
4	07:26 12:10-14:02/112 16:43	07:09 12:42-14:00/78 17:19	06:31 17:53	06:40 19:27	05:55 19:59	05:28 20:28
5	07:26 12:11-14:02/111 16:44	07:08 12:44-13:59/75 17:20	06:30 17:54	06:38 19:28	05:53 20:00	05:28 20:29
6	07:26 12:11-14:03/112 16:45	07:07 12:47-13:58/71 17:21	06:28 17:55	06:36 19:29	05:52 20:01	05:27 20:29
7	07:26 12:12-14:03/111 16:46	07:06 12:51-13:57/66 17:23	06:26 17:56	06:35 19:30	05:51 20:02	05:27 20:30
8	07:26 12:13-14:04/111 16:47	07:05 12:54-13:55/61 17:24	06:25 17:58	06:33 19:31	05:50 20:04	05:27 20:31
9	07:26 12:14-14:05/111 16:48	07:04 12:57-13:53/56 17:25	06:23 17:59	06:31 19:33	05:49 20:05	05:27 20:31
10	07:25 12:13-14:04/111 16:49	07:02 13:01-13:51/50 17:26	06:22 18:00	06:30 19:34	05:47 06:07-06:08/1 20:06	05:26 20:32
11	07:25 12:14-14:05/111 16:50	07:01 13:05-13:48/43 17:28	06:20 18:01	06:28 19:35	05:46 06:06-06:07/1 20:07	05:26 20:32
12	07:25 12:15-14:05/110 16:51	07:00 13:09-13:44/35 17:29	06:18 18:02	06:27 19:36	05:45 06:05-06:07/2 20:08	05:26 20:33
13	07:25 12:15-14:05/110 16:52	06:59 13:16-13:39/23 17:30	06:17 18:03	06:25 19:37	05:44 06:04-06:07/3 20:09	05:26 20:33
14	07:24 12:16-14:06/110 16:53	06:57 17:31	06:15 18:04	06:23 19:38	05:43 06:03-06:06/3 20:10	05:26 20:34
15	07:24 12:17-14:05/108 16:54	06:56 17:33	06:13 18:05	06:22 19:39	05:42 06:02-06:06/4 20:11	05:26 20:34
16	07:23 12:18-14:06/108 16:56	06:55 17:34	06:12 18:07	06:20 19:40	05:41 06:02-06:06/4 20:12	05:26 20:35
17	07:23 12:18-14:06/108 16:57	06:53 17:35	06:10 18:08	06:19 19:41	05:40 06:01-06:05/4 20:13	05:26 20:35
18	07:23 12:19-14:06/107 16:58	06:52 17:36	06:08 18:09	06:17 19:42	05:39 06:00-06:04/4 20:14	05:26 20:35
19	07:22 12:20-14:06/106 16:59	06:51 17:38	06:07 18:10	06:16 19:43	05:38 05:59-06:03/4 20:15	05:26 20:36
20	07:21 12:20-14:06/106 17:00	06:49 17:39	06:05 18:11	06:14 19:44	05:37 05:58-06:02/4 20:16	05:26 20:36
21	07:21 12:22-14:07/105 17:01	06:48 17:40	06:03 18:12	06:13 19:45	05:37 05:57-06:01/4 20:17	05:26 20:36
22	07:20 12:22-14:06/104 17:03	06:46 17:41	06:02 18:13	06:11 19:46	05:36 05:57-06:00/3 20:17	05:27 20:36
23	07:20 12:23-14:06/103 17:04	06:45 17:42	06:00 18:14	06:10 19:48	05:35 05:56-05:59/3 20:18	05:27 20:37
24	07:19 12:25-14:07/102 17:05	06:43 17:44	05:58 18:15	06:08 19:49	05:34 05:55-05:57/2 20:19	05:27 20:37
25	07:18 12:26-14:06/100 17:06	06:42 17:45	05:56 18:16	06:07 19:50	05:34 20:20	05:27 20:37
26	07:17 12:27-14:06/99 17:08	06:40 17:46	05:55 18:17	06:05 19:51	05:33 20:21	05:28 20:37
27	07:17 12:28-14:05/97 17:09	06:39 17:47	05:53 18:19	06:04 19:52	05:32 20:22	05:28 20:37
28	07:16 12:29-14:05/96 17:10	06:37 17:48	05:51 18:20	06:03 19:53	05:32 20:23	05:28 20:37
29	07:15 12:30-14:04/94 17:11		06:50 19:21	06:01 19:54	05:31 20:24	05:29 20:37
30	07:14 12:32-14:04/92 17:13		06:48 19:22	06:00 19:55	05:30 20:24	05:29 20:37
31	07:13 12:33-14:03/90 17:14		06:46 19:23		05:30 20:25	
Potential sun hours	297	297	369	399	449	453
Sum of minutes with flicker	3282	813	0	0	46	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: ShadowWTG: 1 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (1)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:37	05:54 06:16-06:18/2 20:18	06:25 19:34	06:55 18:43	06:30 12:30-13:21/51 16:56	07:05 11:56-13:47/111 16:32
2	05:30 20:37	05:55 06:17-06:18/1 20:17	06:26 19:33	06:56 18:42	06:31 12:27-13:23/56 16:55	07:06 11:57-13:47/110 16:31
3	05:31 20:37	05:56 20:16	06:27 19:31	06:58 18:40	06:32 12:23-13:25/62 16:54	07:07 11:57-13:48/111 16:31
4	05:31 20:36	05:57 20:14	06:28 19:29	06:59 18:38	06:34 12:20-13:27/67 16:53	07:08 11:57-13:48/111 16:31
5	05:32 20:36	05:58 20:13	06:29 19:28	07:00 18:37	06:35 12:17-13:28/71 16:51	07:09 11:57-13:48/111 16:31
6	05:33 20:36	05:59 20:12	06:30 19:26	07:01 18:35	06:36 12:14-13:29/75 16:50	07:10 11:57-13:49/112 16:31
7	05:33 20:36	06:00 20:11	06:31 19:24	07:02 18:33	06:37 12:11-13:30/79 16:49	07:11 11:58-13:49/111 16:30
8	05:34 20:35	06:01 20:10	06:32 19:23	07:03 18:32	06:38 12:10-13:32/82 16:48	07:12 11:58-13:50/112 16:30
9	05:34 20:35	06:02 20:08	06:33 19:21	07:04 18:30	06:40 12:08-13:33/85 16:47	07:13 11:59-13:50/111 16:30
10	05:35 20:35	06:03 20:07	06:34 19:19	07:05 18:28	06:41 12:06-13:34/88 16:46	07:14 11:59-13:51/112 16:30
11	05:36 20:34	06:04 20:06	06:35 19:18	07:06 18:27	06:42 12:05-13:35/90 16:45	07:15 12:00-13:52/112 16:30
12	05:37 20:34	06:05 20:04	06:36 19:16	07:07 18:25	06:43 12:04-13:36/92 16:44	07:16 11:59-13:51/112 16:31
13	05:37 20:33	06:06 20:03	06:37 19:14	07:08 18:24	06:44 12:02-13:36/94 16:43	07:16 12:00-13:52/112 16:31
14	05:38 20:33	06:07 20:02	06:38 19:12	07:09 18:22	06:46 12:01-13:37/96 16:42	07:17 12:00-13:53/113 16:31
15	05:39 20:32	06:08 20:00	06:39 19:11	07:10 18:20	06:47 12:01-13:38/97 16:41	07:18 12:01-13:53/112 16:31
16	05:40 20:32	06:09 19:59	06:40 19:09	07:12 18:19	06:48 12:00-13:39/99 16:40	07:19 12:01-13:53/112 16:31
17	05:40 20:31	06:10 19:57	06:41 19:07	07:13 18:17	06:49 11:59-13:39/100 16:40	07:19 12:02-13:54/112 16:32
18	05:41 20:30	06:11 19:56	06:42 19:06	07:14 18:16	06:50 11:59-13:41/102 16:39	07:20 12:02-13:55/113 16:32
19	05:42 06:05-06:06/1 20:30	06:12 19:55	06:43 19:04	07:15 18:14	06:52 11:58-13:41/103 16:38	07:21 12:02-13:55/113 16:32
20	05:43 06:05-06:07/2 20:29	06:13 19:53	06:44 19:02	07:16 18:13	06:53 11:57-13:41/104 16:37	07:21 12:03-13:56/113 16:33
21	05:44 06:06-06:09/3 20:28	06:14 19:52	06:45 19:00	07:17 18:11	06:54 11:57-13:42/105 16:37	07:22 12:03-13:56/113 16:33
22	05:45 06:07-06:11/4 20:27	06:15 19:50	06:46 18:59	07:18 18:10	06:55 11:57-13:43/106 16:36	07:22 12:04-13:57/113 16:34
23	05:45 06:08-06:12/4 20:26	06:16 19:49	06:47 18:57	07:19 18:08	06:56 11:57-13:43/106 16:35	07:23 12:04-13:57/113 16:34
24	05:46 06:09-06:13/4 20:26	06:17 19:47	06:48 18:55	07:21 18:07	06:57 11:56-13:43/107 16:35	07:23 12:05-13:58/113 16:35
25	05:47 06:10-06:14/4 20:25	06:18 19:45	06:49 18:54	07:22 17:06	06:59 11:56-13:44/108 16:34	07:24 12:05-13:58/113 16:35
26	05:48 06:11-06:15/4 20:24	06:19 19:44	06:50 18:52	07:23 17:04	07:00 11:56-13:44/108 16:34	07:24 12:05-13:58/113 16:36
27	05:49 06:12-06:16/4 20:23	06:20 19:42	06:51 18:50	07:24 17:03	07:01 11:56-13:44/108 16:33	07:24 12:07-13:59/112 16:37
28	05:50 06:13-06:17/4 20:22	06:21 19:41	06:52 18:48	07:25 17:01	07:02 11:57-13:46/109 16:33	07:25 12:07-13:59/112 16:37
29	05:51 06:13-06:16/3 20:21	06:22 19:39	06:53 18:47	07:26 12:44-13:10/26 17:00	07:03 11:56-13:46/110 16:32	07:25 12:07-14:00/113 16:38
30	05:52 06:14-06:17/3 20:20	06:23 19:38	06:54 18:45	07:28 12:38-13:15/37 16:59	07:04 11:56-13:46/110 16:32	07:25 12:08-14:00/112 16:39
31	05:53 06:15-06:17/2 20:19	06:24 19:36		07:29 12:33-13:18/45 16:58		07:25 12:08-14:00/112 16:40
Potential sun hours	460	428	375	345	297	287
Sum of minutes with flicker	42	3	0	108	2770	3475

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: ShadowWTG: 4 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (4)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:26 12:01-12:29/28 16:41	07:12 17:15	06:36 17:49	06:45 07:03-07:31/28 19:24	05:59 19:56	05:29 20:26
2	07:26 12:02-12:29/27 16:41	07:11 17:16	06:34 17:51	06:43 07:02-07:31/29 19:25	05:57 19:57	05:29 20:27
3	07:26 12:02-12:29/27 16:42	07:10 17:18	06:33 17:52	06:41 07:00-07:30/30 19:26	05:56 19:58	05:29 20:27
4	07:26 12:03-12:29/26 16:43	07:09 17:19	06:31 17:53	06:40 06:58-07:29/31 19:27	05:55 19:59	05:28 20:28
5	07:26 12:03-12:29/26 16:44	07:08 17:20	06:30 17:54	06:38 06:57-07:29/32 19:28	05:53 20:00	05:28 20:29
6	07:26 12:04-12:29/25 16:45	07:07 17:21	06:28 17:55	06:36 06:55-07:28/33 19:29	05:52 20:01	05:27 20:29
7	07:26 12:04-12:29/25 16:46	07:06 17:23	06:26 17:56	06:35 06:53-07:27/34 19:30	05:51 20:03	05:27 20:30
8	07:26 12:05-12:30/25 16:47	07:05 17:24	06:25 17:58	06:33 06:52-07:26/34 19:31	05:50 20:04	05:27 20:31
9	07:26 12:06-12:30/24 16:48	07:04 17:25	06:23 17:59	06:32 06:50-07:24/34 19:33	05:49 20:05	05:27 20:31
10	07:25 12:05-12:29/24 16:49	07:02 17:26	06:22 18:00	06:30 06:48-07:22/34 19:34	05:47 20:06	05:26 20:32
11	07:25 12:06-12:29/23 16:50	07:01 17:28	06:20 18:01	06:28 06:47-07:21/34 19:35	05:46 20:07	05:26 20:32
12	07:25 12:07-12:28/21 16:51	07:00 17:29	06:18 18:02	06:27 06:45-07:19/34 19:36	05:45 20:08	05:26 20:33
13	07:25 12:06-12:27/21 16:52	06:59 17:30	06:17 18:03	06:25 06:47-07:18/31 19:37	05:44 20:09	05:26 20:33
14	07:24 12:07-12:27/20 16:53	06:57 17:31	06:15 18:04	06:23 06:49-07:15/26 19:38	05:43 20:10	05:26 20:34
15	07:24 12:07-12:26/19 16:54	06:56 17:33	06:13 18:05	06:22 06:51-07:13/22 19:39	05:42 20:11	05:26 20:34
16	07:23 12:08-12:26/18 16:56	06:55 17:34	06:12 18:07	06:20 06:55-07:08/13 19:40	05:41 20:12	05:26 20:35
17	07:23 12:08-12:24/16 16:57	06:53 17:35	06:10 18:08	06:19 19:41	05:40 20:13	05:26 20:35
18	07:23 12:09-12:23/14 16:58	06:52 17:36	06:08 18:09	06:17 19:42	05:39 20:14	05:26 20:35
19	07:22 12:09-12:22/13 16:59	06:51 17:38	06:07 18:10	06:16 19:43	05:38 20:15	05:26 20:36
20	07:21 12:09-12:20/11 17:00	06:49 17:39	06:05 18:11	06:14 19:44	05:38 20:16	05:26 20:36
21	07:21 12:10-12:18/8 17:01	06:48 17:40	06:03 18:12	06:13 19:45	05:37 20:17	05:26 20:36
22	07:20 12:10-12:16/6 17:03	06:46 17:41	06:02 18:13	06:11 19:46	05:36 20:17	05:27 20:36
23	07:20 12:10-12:12/2 17:04	06:45 17:42	06:00 18:14	06:10 19:48	05:35 20:18	05:27 20:37
24	07:19 17:05 17:06	06:43 17:44	05:58 18:15	06:08 19:49	05:34 20:19	05:27 20:37
25	07:18 17:06 17:07	06:42 17:45	05:56 18:16	06:07 19:50	05:34 20:20	05:27 20:37
26	07:17 17:08 17:09	06:40 17:46	05:55 18:17	06:05 19:51	05:33 20:21	05:28 20:37
27	07:17 17:09 17:10	06:39 17:47	05:53 18:19	06:04 19:52	05:32 20:22	05:28 20:37
28	07:16 17:10 17:11	06:37 17:48	05:51 18:20	06:03 19:53	05:32 20:23	05:29 20:37
29	07:15 17:11 17:12		06:50 19:21	06:01 19:54	05:31 20:24	05:29 20:37
30	07:14 17:13 17:14		06:48 19:22	06:00 19:55	05:30 20:24	05:29 20:37
31	07:13 17:14		06:46 19:23		05:30 20:25	
Potential sun hours	297	297	369	399	449	453
Sum of minutes with flicker	449	0	216	479	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: ShadowWTG: 4 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (4)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:37	05:54 20:18	06:25 06:46-07:20/34 19:34	06:55 18:43	06:30 16:56	07:05 11:48-12:11/23 16:32
2	05:30 20:37	05:55 20:17	06:26 06:47-07:21/34 19:33	06:56 18:42	06:31 16:55	07:06 11:48-12:12/24 16:31
3	05:31 20:37	05:56 20:16	06:27 06:48-07:22/34 19:31	06:58 18:40	06:32 16:54	07:07 11:49-12:13/24 16:31
4	05:31 20:36	05:57 20:14	06:28 06:49-07:23/34 19:29	06:59 18:38	06:34 16:53	07:08 11:49-12:14/25 16:31
5	05:32 20:36	05:58 20:13	06:29 06:50-07:24/34 19:28	07:00 18:37	06:35 16:51	07:09 11:49-12:14/25 16:31
6	05:33 20:36	05:59 20:12	06:30 06:51-07:24/33 19:26	07:01 18:35	06:36 16:50	07:10 11:50-12:15/25 16:31
7	05:33 20:36	06:00 20:11	06:31 06:52-07:24/32 19:24	07:02 18:33	06:37 16:49	07:11 11:50-12:16/26 16:31
8	05:34 20:35	06:01 20:10	06:32 06:53-07:24/31 19:23	07:03 18:32	06:38 16:48	07:12 11:51-12:17/26 16:30
9	05:34 20:35	06:02 20:08	06:33 06:54-07:25/31 19:21	07:04 18:30	06:40 16:47	07:13 11:51-12:18/27 16:30
10	05:35 20:35	06:03 20:07	06:34 06:55-07:25/30 19:19	07:05 18:28	06:41 16:46	07:14 11:52-12:19/27 16:30
11	05:36 20:34	06:04 20:06	06:35 06:56-07:24/28 19:18	07:06 18:27	06:42 16:45	07:15 11:52-12:20/28 16:31
12	05:37 20:34	06:05 20:04	06:36 06:57-07:24/27 19:16	07:07 18:25	06:43 16:44	07:16 11:52-12:20/28 16:31
13	05:37 20:33	06:06 20:03	06:37 06:58-07:24/26 19:14	07:08 18:24	06:44 16:43	07:16 11:53-12:21/28 16:31
14	05:38 20:33	06:07 20:02	06:38 06:59-07:24/25 19:12	07:09 18:22	06:46 16:42	07:17 11:53-12:22/29 16:31
15	05:39 20:32	06:08 20:00	06:39 07:00-07:23/23 19:11	07:10 18:20	06:47 16:41	07:18 11:54-12:23/29 16:31
16	05:40 20:32	06:09 19:59	06:40 07:00-07:21/21 19:09	07:12 18:19	06:48 16:40	07:19 11:54-12:22/28 16:31
17	05:40 20:31	06:10 19:57	06:41 07:01-07:21/20 19:07	07:13 18:17	06:49 16:40	07:19 11:55-12:23/28 16:32
18	05:41 20:30	06:11 19:56	06:42 07:02-07:20/18 19:06	07:14 18:16	06:50 16:39	07:20 11:55-12:24/29 16:32
19	05:42 20:30	06:12 19:55	06:43 07:03-07:19/16 19:04	07:15 18:14	06:52 11:45-11:47/2 16:38	07:21 11:55-12:24/29 16:32
20	05:43 20:29	06:13 19:53	06:44 07:04-07:18/14 19:02	07:16 18:13	06:53 11:45-11:51/6 16:37	07:21 11:56-12:25/29 16:33
21	05:44 20:28	06:14 19:52	06:45 07:05-07:17/12 19:00	07:17 18:11	06:54 11:45-11:53/8 16:37	07:22 11:56-12:25/29 16:33
22	05:45 20:27	06:15 19:50	06:46 07:06-07:15/9 18:59	07:18 18:10	06:55 11:46-11:57/11 16:36	07:22 11:57-12:26/29 16:34
23	05:46 20:26	06:16 19:49	06:47 07:07-07:14/7 18:57	07:19 18:08	06:56 11:46-11:59/13 16:35	07:23 11:57-12:26/29 16:34
24	05:46 20:26	06:17 19:47	06:48 07:08-07:12/4 18:55	07:21 18:07	06:57 11:46-12:00/14 16:35	07:23 11:58-12:27/29 16:35
25	05:47 20:25	06:18 19:45	06:49 07:09-07:10/1 18:54	06:22 17:06	06:59 11:46-12:02/16 16:34	07:24 11:58-12:27/29 16:35
26	05:48 20:24	06:19 19:44	06:50 18:52	06:23 17:04	07:00 11:46-12:03/17 16:34	07:24 11:59-12:27/28 16:36
27	05:49 20:23	06:20 06:56-07:10/14 19:42	06:51 18:50	06:24 17:03	07:01 11:46-12:05/19 16:33	07:24 12:00-12:28/28 16:37
28	05:50 20:22	06:21 06:52-07:14/22 19:41	06:52 18:48	06:25 17:02	07:02 11:47-12:07/20 16:33	07:25 12:00-12:28/28 16:37
29	05:51 20:21	06:22 06:49-07:16/27 19:39	06:53 18:47	06:26 17:00	07:03 11:48-12:08/20 16:32	07:25 12:00-12:29/29 16:38
30	05:52 20:20	06:23 06:47-07:18/31 19:38	06:54 18:45	06:28 16:59	07:04 11:48-12:09/21 16:32	07:25 12:01-12:29/28 16:39
31	05:53 20:19	06:24 06:45-07:19/34 19:36		06:29 16:58		07:25 12:01-12:29/28 16:40
Potential sun hours	460	428	375	345	297	287
Sum of minutes with flicker	0	128	578	0	167	851

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: ShadowWTG: 5 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (5)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:26 16:41	07:12 17:15	06:36 17:49	06:45 19:24	05:59 19:56	06:18-06:42/24 20:26
2	07:26 16:41	07:11 17:16	06:34 17:51	06:43 19:25	05:57 19:57	06:17-06:41/24 20:27
3	07:26 16:42	07:10 17:18	06:33 17:52	06:41 19:26	05:56 19:58	06:15-06:39/24 20:27
4	07:26 16:43	07:09 17:19	06:31 17:53	06:40 19:27	05:55 19:59	06:14-06:38/24 20:28
5	07:26 16:44	07:08 17:20	06:30 17:54	06:38 19:28	05:53 20:00	06:14-06:37/23 20:29
6	07:26 16:45	07:07 17:21	06:28 17:55	06:36 19:29	05:52 20:01	06:16-06:35/19 20:29
7	07:26 16:46	07:06 17:23	06:26 17:56	06:35 19:30	05:51 20:02	06:18-06:33/15 20:30
8	07:26 16:47	07:05 17:24	06:25 17:58	06:33 19:31	05:50 20:04	06:21-06:30/9 20:31
9	07:26 16:48	07:03 17:25	06:23 17:59	06:31 19:33	05:49 20:05	06:42-06:46/4 20:31
10	07:25 16:49	07:02 17:26	06:22 18:00	06:30 19:34	05:47 20:06	06:40-06:45/5 20:32
11	07:25 16:50	07:01 17:28	06:20 18:01	06:28 19:35	05:46 20:07	06:39-06:45/6 20:32
12	07:25 16:51	07:00 17:29	06:18 18:02	06:27 19:36	05:45 20:08	06:37-06:44/7 20:33
13	07:25 16:52	06:59 17:30	06:17 18:03	06:25 19:37	05:44 20:09	06:35-06:42/7 20:33
14	07:24 16:53	06:57 17:31	06:15 18:04	06:23 19:38	05:43 20:10	06:34-06:41/7 20:34
15	07:24 16:54	06:56 17:33	06:13 18:05	06:22 19:39	05:42 20:11	06:32-06:39/7 20:34
16	07:23 16:56	06:55 17:34	06:12 18:07	06:20 19:40	05:41 20:12	06:30-06:36/6 20:35
17	07:23 16:57	06:53 17:35	06:10 18:08	06:19 19:41	05:40 20:13	06:29-06:33/4 20:35
18	07:23 16:58	06:52 17:36	06:08 18:09	06:17 19:42	05:39 20:14	06:36-06:45/9 20:35
19	07:22 16:59	06:51 17:38	06:07 18:10	06:16 19:43	05:38 20:15	06:35-06:46/11 20:36
20	07:21 17:00	06:49 17:39	06:05 18:11	06:14 19:44	05:38 20:16	06:33-06:46/13 20:36
21	07:21 17:01	06:48 17:40	06:03 18:12	06:13 19:45	05:37 20:16	06:32-06:46/14 20:36
22	07:20 17:03	06:46 17:41	06:02 18:13	06:11 19:46	05:36 20:17	06:30-06:46/16 20:36
23	07:20 17:04	06:45 17:42	06:00 18:14	06:10 19:48	05:35 20:18	06:29-06:46/17 20:37
24	07:19 17:05	06:43 17:44	05:58 18:15	06:08 19:49	05:34 20:19	06:27-06:45/18 20:37
25	07:18 17:06	06:42 17:45	05:56 18:16	06:07 19:50	05:34 20:20	06:26-06:45/19 20:37
26	07:17 17:08	06:40 17:46	05:55 18:17	06:05 19:51	05:33 20:21	06:25-06:45/20 20:37
27	07:17 17:09	06:39 17:47	05:53 18:19	06:04 19:52	05:32 20:22	06:23-06:44/21 20:37
28	07:16 17:10	06:37 17:48	05:51 18:20	06:03 19:53	05:32 20:23	06:22-06:44/22 20:37
29	07:15 17:11	06:36 17:49	05:50 18:21	06:01 19:54	05:31 20:24	06:21-06:44/23 20:37
30	07:14 17:13	06:35 17:50	05:48 18:22	06:00 19:55	05:30 20:24	06:19-06:42/23 20:37
31	07:13 17:14	06:34 17:51	05:46 18:23	05:59 19:56	05:30 20:25	06:18-06:41/23 20:37
Potential sun hours	297	297	369	399	449	453
Sum of minutes with flicker	0	0	58	240	521	1062

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: ShadowWTG: 5 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (5)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 05:53-06:29/36 20:37	05:54 20:18	06:25 19:34	06:55 07:16-07:23/7 18:43	06:30 16:56	07:05 16:32
2	05:30 05:53-06:28/35 20:37	05:55 20:17	06:26 19:33	06:56 07:17-07:23/6 18:42	06:31 16:55	07:06 16:31
3	05:31 05:54-06:29/35 20:37	05:56 20:16	06:27 19:31	06:58 07:18-07:24/6 18:40	06:32 16:54	07:07 16:31
4	05:31 05:54-06:29/35 20:36	05:57 20:14	06:28 19:29	06:59 07:19-07:24/5 18:38	06:34 16:53	07:08 16:31
5	05:32 05:55-06:29/34 20:36	05:58 06:30-06:41/11 20:13	06:29 19:28	07:00 07:20-07:24/4 18:37	06:35 16:51	07:09 16:31
6	05:33 05:55-06:29/34 20:36	05:59 06:27-06:44/17 20:12	06:30 19:26	07:01 07:21-07:23/2 18:35	06:36 16:50	07:10 16:31
7	05:33 05:56-06:29/33 20:36	06:00 06:25-06:45/20 20:11	06:31 19:24	07:02 07:22-07:23/1 18:33	06:37 16:49	07:11 16:30
8	05:34 05:57-06:30/33 20:35	06:01 06:23-06:47/24 20:10	06:32 19:23	07:03 18:32	06:38 16:48	07:12 16:30
9	05:34 05:57-06:29/32 20:35	06:02 06:24-06:48/24 20:08	06:33 19:21	07:04 18:30	06:40 16:47	07:13 16:30
10	05:35 05:58-06:30/32 20:35	06:03 06:25-06:49/24 20:07	06:34 19:19	07:05 18:28	06:41 16:46	07:14 16:30
11	05:36 05:59-06:30/31 20:34	06:04 06:26-06:50/24 20:06	06:35 19:18	07:06 18:27	06:42 16:45	07:15 16:30
12	05:37 05:59-06:29/30 20:34	06:05 06:27-06:51/24 20:04	06:36 19:16	07:07 18:25	06:43 16:44	07:16 16:31
13	05:37 06:00-06:30/30 20:33	06:06 06:28-06:51/23 20:03	06:37 19:14	07:08 18:24	06:44 16:43	07:16 16:31
14	05:38 06:01-06:30/29 20:33	06:07 06:29-06:52/23 20:02	06:38 19:12	07:09 18:22	06:46 16:42	07:17 16:31
15	05:39 06:01-06:29/28 20:32	06:08 06:30-06:52/22 20:00	06:39 19:11	07:10 18:20	06:47 16:41	07:18 16:31
16	05:40 06:02-06:29/27 20:31	06:09 06:31-06:52/21 19:59	06:40 19:09	07:12 18:19	06:48 16:40	07:19 16:31
17	05:40 06:03-06:29/26 20:31	06:10 06:32-06:52/20 19:57	06:41 19:07	07:13 18:17	06:49 16:40	07:19 16:32
18	05:41 06:04-06:29/25 20:30	06:11 06:33-06:52/19 19:56	06:42 19:06	07:14 18:16	06:50 16:39	07:20 16:32
19	05:42 06:05-06:29/24 20:29	06:12 06:33-06:51/18 19:54	06:43 19:04	07:15 18:14	06:52 16:38	07:21 16:32
20	05:43 06:05-06:28/23 20:29	06:13 06:34-06:51/17 19:53	06:44 19:02	07:16 18:13	06:53 16:37	07:21 16:33
21	05:44 06:06-06:27/21 20:28	06:14 06:35-06:50/15 19:52	06:45 19:00	07:17 18:11	06:54 16:37	07:22 16:33
22	05:45 06:07-06:27/20 20:27	06:15 06:36-06:50/14 19:50	06:46 18:59	07:18 18:10	06:55 16:36	07:22 16:34
23	05:46 06:08-06:27/19 20:26	06:16 06:37-06:49/12 19:49	06:47 18:57	07:19 18:08	06:56 16:35	07:23 16:34
24	05:46 06:09-06:26/17 20:26	06:17 06:38-06:49/11 19:47	06:48 18:55	07:21 18:07	06:57 16:35	07:23 16:35
25	05:47 06:10-06:25/15 20:25	06:18 06:39-06:48/9 19:45	06:49 18:54	07:22 17:06	06:59 16:34	07:24 16:35
26	05:48 06:11-06:25/14 20:24	06:19 06:40-06:47/7 19:44	06:50 07:10-07:13/3 18:52	06:23 17:04	07:00 16:34	07:24 16:36
27	05:49 06:12-06:24/12 20:23	06:20 06:41-06:46/5 19:42	06:51 07:11-07:17/6 18:50	06:24 17:03	07:01 16:33	07:24 16:37
28	05:50 06:12-06:21/9 20:22	06:21 06:42-06:44/2 19:41	06:52 07:12-07:19/7 18:48	06:25 17:01	07:02 16:33	07:25 16:37
29	05:51 06:13-06:20/7 20:21	06:22 19:39	06:53 07:14-07:21/7 18:47	06:26 17:00	07:03 16:32	07:25 16:38
30	05:52 06:14-06:18/4 20:20	06:23 19:38	06:54 07:15-07:22/7 18:45	06:28 16:59	07:04 16:32	07:25 16:39
31	05:53 20:19	06:24 19:36		06:29 16:58		07:25 16:40
Potential sun hours	460	428	375	345	297	287
Sum of minutes with flicker	750	406	30	31	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm) Sun set (hh:mm)	First time (hh:mm) with flicker-Last time (hh:mm) with flicker/Minutes with flicker
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SHADOW - Calendar per WTG

Calculation: ShadowWTG: 6 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (6)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:26 15:30-15:56/26 16:41	07:12 17:15	06:36 17:50	06:45 19:24	05:59 19:56	05:29 18:42-19:43/61 20:26
2	07:26 15:31-15:56/25 16:42	07:11 17:16	06:34 17:51	06:43 19:25	05:57 19:57	05:29 18:42-19:44/62 20:27
3	07:26 15:31-15:57/26 16:42	07:10 17:18	06:33 17:52	06:41 19:26	05:56 19:58	05:29 18:41-19:44/63 20:27
4	07:26 15:32-15:57/25 16:43	07:09 17:19	06:31 17:53	06:40 19:27	05:55 19:59	05:28 18:42-19:45/63 20:28
5	07:26 15:32-15:58/26 16:44	07:08 17:20	06:30 17:54	06:38 19:28	05:53 20:00	05:28 18:42-19:46/64 20:29
6	07:26 15:33-15:58/25 16:45	07:07 17:21	06:28 17:55	06:36 19:29	05:52 20:01	05:27 18:41-19:46/65 20:30
7	07:26 15:34-15:58/24 16:46	07:06 17:23	06:26 17:56	06:35 19:30	05:51 20:03	05:27 18:41-19:46/65 20:30
8	07:26 15:35-15:59/24 16:47	07:05 17:24	06:25 17:58	06:33 19:32	05:50 20:04	05:27 18:41-19:47/66 20:31
9	07:26 15:36-15:59/23 16:48	07:04 17:25	06:23 17:59	06:32 19:33	05:49 20:05	05:27 18:42-19:48/66 20:31
10	07:25 15:36-15:59/23 16:49	07:02 17:26	06:22 18:00	06:30 19:34	05:48 20:06	05:26 18:42-19:48/66 20:32
11	07:25 15:37-15:59/22 16:50	07:01 17:28	06:20 18:01	06:28 19:35	05:46 20:07	05:26 18:41-19:48/67 20:32
12	07:25 15:38-16:00/22 16:51	07:00 17:29	06:18 18:02	06:27 19:36	05:45 20:08	05:26 18:41-19:48/67 20:33
13	07:25 15:39-15:59/20 16:52	06:59 17:30	06:17 18:03	06:25 19:37	05:44 19:02-19:19/17 20:09	05:26 18:41-19:49/68 20:33
14	07:24 15:40-15:59/19 16:53	06:57 17:31	06:15 18:04	06:24 19:38	05:43 18:58-19:22/24 20:10	05:26 18:41-19:49/68 20:34
15	07:24 15:41-15:58/17 16:55	06:56 17:33	06:13 18:05	06:22 19:39	05:42 18:55-19:25/30 20:11	05:26 18:42-19:50/68 20:34
16	07:24 15:43-15:58/15 16:56	06:55 17:34	06:12 18:07	06:20 19:40	05:41 18:54-19:28/34 20:12	05:26 18:42-19:50/68 20:35
17	07:23 15:44-15:57/13 16:57	06:53 17:35	06:10 18:08	06:19 19:41	05:40 18:53-19:29/36 20:13	05:26 18:42-19:50/68 20:35
18	07:23 15:47-15:56/9 16:58	06:52 17:36	06:08 18:09	06:17 19:42	05:39 18:51-19:31/40 20:14	05:26 18:43-19:51/68 20:35
19	07:22 15:50-15:53/3 16:59	06:51 17:38	06:07 18:10	06:16 19:43	05:38 18:50-19:32/42 20:15	05:26 18:43-19:51/68 20:36
20	07:21 17:00 17:02	06:49 17:39	06:05 18:11	06:14 19:44	05:38 18:48-19:33/45 20:16	05:26 18:43-19:51/68 20:36
21	07:21 17:03 17:04	06:48 17:40	06:03 18:12	06:13 19:45	05:37 18:47-19:34/47 20:17	05:27 18:43-19:52/69 20:36
22	07:20 17:04 17:05	06:46 17:41	06:02 18:13	06:11 19:47	05:36 18:47-19:35/48 20:17	05:27 18:43-19:52/69 20:37
23	07:20 17:04 17:05	06:45 17:42	06:00 18:14	06:10 19:48	05:35 18:46-19:36/50 20:18	05:27 18:44-19:52/68 20:37
24	07:19 17:05 17:06	06:43 17:44	05:58 18:15	06:08 19:49	05:34 18:45-19:36/51 20:19	05:27 18:44-19:52/68 20:37
25	07:18 17:06 17:07	06:42 17:45	05:57 18:16	06:07 19:50	05:34 18:45-19:38/53 20:20	05:28 18:44-19:52/68 20:37
26	07:17 17:08 17:09	06:40 17:46	05:55 18:18	06:05 19:51	05:33 18:44-19:38/54 20:21	05:28 18:44-19:52/68 20:37
27	07:17 17:09 17:10	06:39 17:47	05:53 18:19	06:04 19:52	05:32 18:43-19:39/56 20:22	05:28 18:45-19:53/68 20:37
28	07:16 17:10 17:11	06:37 17:48	05:51 18:20	06:03 19:53	05:32 18:43-19:40/57 20:23	05:29 18:45-19:52/67 20:37
29	07:15 17:11 17:12		06:50 19:21	06:01 19:54	05:31 18:42-19:40/58 20:24	05:29 18:45-19:53/68 20:37
30	07:14 17:13 17:14		06:48 19:22	06:00 19:55	05:31 18:42-19:41/59 20:24	05:29 18:45-19:53/68 20:37
31	07:13 17:14		06:46 19:23		05:30 18:42-19:41/59 20:25	
Potential sun hours	297	297	369	399	449	453
Sum of minutes with flicker	387	0	0	0	860	2000

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: ShadowWTG: 6 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (6)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 18:46-19:53/67 20:37	05:54 20:18	06:25 19:34	06:55 18:43	06:30 16:56	07:05 15:19-15:41/22 16:32
2	05:30 18:46-19:53/67 20:37	05:55 20:17	06:26 19:33	06:57 18:42	06:31 16:55	07:06 15:19-15:42/23 16:31
3	05:31 18:47-19:53/66 20:37	05:56 20:16	06:27 19:31	06:58 18:40	06:32 16:54	07:07 15:19-15:42/23 16:31
4	05:31 18:47-19:52/65 20:37	05:57 20:14	06:28 19:29	06:59 18:38	06:34 16:53	07:08 15:19-15:43/24 16:31
5	05:32 18:47-19:53/66 20:36	05:58 20:13	06:29 19:28	07:00 18:37	06:35 16:52	07:09 15:19-15:43/24 16:31
6	05:33 18:47-19:52/65 20:36	05:59 20:12	06:30 19:26	07:01 18:35	06:36 16:50	07:10 15:19-15:44/25 16:31
7	05:33 18:48-19:52/64 20:36	06:00 20:11	06:31 19:24	07:02 18:33	06:37 16:49	07:11 15:19-15:45/26 16:31
8	05:34 18:49-19:52/63 20:35	06:01 20:10	06:32 19:23	07:03 18:32	06:38 16:48	07:12 15:20-15:45/25 16:30
9	05:34 18:48-19:51/63 20:35	06:02 20:08	06:33 19:21	07:04 18:30	06:40 16:47	07:13 15:20-15:46/26 16:30
10	05:35 18:49-19:51/62 20:35	06:03 20:07	06:34 19:19	07:05 18:28	06:41 16:46	07:14 15:21-15:46/25 16:31
11	05:36 18:50-19:51/61 20:34	06:04 20:06	06:35 19:18	07:06 18:27	06:42 16:45	07:15 15:21-15:47/26 16:31
12	05:37 18:50-19:50/60 20:34	06:05 20:04	06:36 19:16	07:07 18:25	06:43 16:44	07:16 15:21-15:46/25 16:31
13	05:37 18:51-19:50/59 20:33	06:06 20:03	06:37 19:14	07:08 18:24	06:45 16:43	07:16 15:21-15:47/26 16:31
14	05:38 18:51-19:49/58 20:33	06:07 20:02	06:38 19:13	07:09 18:22	06:46 16:42	07:17 15:22-15:48/26 16:31
15	05:39 18:51-19:48/57 20:32	06:08 20:00	06:39 19:11	07:10 18:21	06:47 16:41	07:18 15:23-15:48/25 16:31
16	05:40 18:52-19:48/56 20:32	06:09 19:59	06:40 19:09	07:12 18:19	06:48 16:40	07:19 15:22-15:48/26 16:31
17	05:40 18:53-19:48/55 20:31	06:10 19:57	06:41 19:07	07:13 18:17	06:49 16:40	07:19 15:23-15:49/26 16:32
18	05:41 18:54-19:48/54 20:30	06:11 19:56	06:42 19:06	07:14 18:16	06:50 16:39	07:20 15:24-15:50/26 16:32
19	05:42 18:55-19:47/52 20:30	06:12 19:55	06:43 19:04	07:15 18:14	06:52 16:38	07:21 15:24-15:50/26 16:32
20	05:43 18:55-19:46/51 20:29	06:13 19:53	06:44 19:02	07:16 18:13	06:53 16:37	07:21 15:25-15:51/26 16:33
21	05:44 18:56-19:45/49 20:28	06:14 19:52	06:45 19:00	07:17 18:11	06:54 16:37	07:22 15:25-15:50/25 16:33
22	05:45 18:57-19:45/48 20:27	06:15 19:50	06:46 18:59	07:18 18:10	06:55 16:36	07:22 15:26-15:51/25 16:34
23	05:46 18:58-19:44/46 20:26	06:16 19:49	06:47 18:57	07:20 18:09	06:56 16:35	07:23 15:26-15:52/26 16:34
24	05:46 18:59-19:43/44 20:26	06:17 19:47	06:48 18:55	07:21 18:07	06:58 16:35	07:23 15:27-15:53/26 16:35
25	05:47 19:01-19:42/41 20:25	06:18 19:45	06:49 18:54	07:22 17:06	06:59 16:34	07:24 15:27-15:53/26 16:35
26	05:48 19:02-19:40/38 20:24	06:19 19:44	06:50 18:52	07:23 17:04	07:00 16:34	07:24 15:27-15:53/26 16:36
27	05:49 19:04-19:39/35 20:23	06:20 19:42	06:51 18:50	07:24 17:03	07:01 16:33	07:24 15:28-15:54/26 16:37
28	05:50 19:05-19:36/31 20:22	06:21 19:41	06:52 18:48	07:25 17:02	07:02 16:33	07:25 15:29-15:54/25 16:37
29	05:51 19:07-19:34/27 20:21	06:22 19:39	06:53 18:47	07:26 17:00	07:03 16:32	07:25 15:29-15:55/26 16:38
30	05:52 19:10-19:31/21 20:20	06:23 19:38	06:54 18:45	07:27 16:59	07:04 16:32	07:25 15:29-15:55/26 16:39
31	05:53 19:14-19:27/13 20:19	06:24 19:36		06:29 16:58		07:25 15:30-15:55/25 16:40
Potential sun hours	460	428	375	345	297	287
Sum of minutes with flicker	1604	0	0	0	117	783

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: ShadowWTG: 7 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (7)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:26 08:10-09:19/69 16:41	07:12 06:36 06:45 17:15 17:50 19:24			05:59 06:30-08:54/144 19:56	05:29 06:10-09:07/177 20:26
2	07:26 08:10-09:19/69 16:41	07:11 06:34 06:43 17:16 17:51 19:25			05:57 06:29-08:55/146 19:57	05:29 06:10-09:08/178 20:27
3	07:26 08:11-09:19/68 16:42	07:10 06:33 06:41 17:18 17:52 19:26			05:56 06:27-08:55/148 19:58	05:29 06:10-09:08/178 20:27
4	07:26 08:12-09:19/67 16:43	07:09 06:31 06:40 17:19 17:53 19:27			05:55 06:26-08:56/150 19:59	05:28 06:10-09:08/178 20:28
5	07:26 08:13-09:19/66 16:44	07:08 06:30 06:38 17:20 17:54 19:28			05:53 06:25-08:57/152 20:00	05:28 06:10-09:09/179 20:29
6	07:26 08:14-09:20/66 16:45	07:07 06:28 06:36 17:21 17:55 19:29			05:52 06:24-08:58/154 20:01	05:27 06:10-09:08/178 20:29
7	07:26 08:15-09:20/65 16:46	07:06 06:26 06:35 17:23 17:56 19:30			05:51 06:23-08:59/156 20:03	05:27 06:10-09:08/178 20:30
8	07:26 08:16-09:20/64 16:47	07:05 06:25 06:33 17:24 17:58 19:31			05:50 06:22-09:00/158 20:04	05:27 06:10-09:09/179 20:31
9	07:26 08:17-09:20/63 16:48	07:04 06:23 06:32 17:25 17:59 19:33			05:49 06:21-09:00/159 20:05	05:27 06:10-09:09/179 20:31
10	07:25 08:18-09:19/61 16:49	07:02 06:22 06:30 17:26 18:00 19:34		07:30-08:01/31	05:48 06:19-09:00/161 20:06	05:26 06:10-09:10/180 20:32
11	07:25 08:19-09:18/59 16:50	07:01 06:20 06:28 17:28 18:01 19:35		07:22-08:09/47	05:46 06:19-09:01/162 20:07	05:26 06:10-09:09/179 20:32
12	07:25 08:21-09:18/57 16:51	07:00 06:18 06:27 17:29 18:02 19:36		07:16-08:14/58	05:45 06:18-09:01/163 20:08	05:26 06:10-09:09/179 20:33
13	07:25 08:21-09:17/56 16:52	06:59 06:17 06:25 17:30 18:03 19:37		07:12-08:19/67	05:44 06:17-09:01/164 20:09	05:26 06:10-09:09/179 20:33
14	07:24 08:23-09:17/54 16:53	06:57 06:15 06:24 17:31 18:04 19:38		07:07-08:22/75	05:43 06:16-09:02/166 20:10	05:26 06:10-09:10/180 20:34
15	07:24 08:24-09:16/52 16:55	06:56 06:13 06:22 17:33 18:05 19:39		07:04-08:26/82	05:42 06:17-09:03/166 20:11	05:26 06:10-09:10/180 20:34
16	07:24 08:26-09:15/49 16:56	06:55 06:12 06:20 17:34 18:07 19:40		07:00-08:29/89	05:41 06:16-09:04/168 20:12	05:26 06:10-09:10/180 20:35
17	07:23 08:27-09:14/47 16:57	06:53 06:10 06:19 17:35 18:08 19:41		06:58-08:32/94	05:40 06:15-09:04/169 20:13	05:26 06:10-09:10/180 20:35
18	07:23 08:29-09:13/44 16:58	06:52 06:08 06:17 17:36 18:09 19:42		06:54-08:34/100	05:39 06:15-09:04/169 20:14	05:26 06:11-09:11/180 20:35
19	07:22 08:31-09:11/40 16:59	06:51 06:07 06:16 17:38 18:10 19:43		06:52-08:37/105	05:38 06:14-09:04/170 20:15	05:26 06:11-09:11/180 20:36
20	07:21 08:32-09:09/37 17:00	06:49 06:05 06:14 17:39 18:11 19:44		06:49-08:38/109	05:38 06:13-09:04/171 20:16	05:26 06:11-09:11/180 20:36
21	07:21 08:35-09:08/33 17:02	06:48 06:03 06:13 17:40 18:12 19:45		06:47-08:41/114	05:37 06:13-09:04/171 20:17	05:27 06:11-09:11/180 20:36
22	07:20 08:38-09:05/27 17:03	06:46 06:02 06:11 17:41 18:13 19:47		06:45-08:42/117	05:36 06:13-09:05/172 20:17	05:27 06:11-09:11/180 20:36
23	07:20 08:42-09:02/20 17:04	06:45 06:00 06:10 17:42 18:14 19:48		06:43-08:44/121	05:35 06:12-09:05/173 20:18	05:27 06:12-09:12/180 20:37
24	07:19 08:49-08:56/7 17:05	06:43 05:58 06:08 17:44 18:15 19:49		06:41-08:45/124	05:34 06:12-09:05/173 20:19	05:27 06:12-09:12/180 20:37
25	07:18 17:06	06:42 05:57 06:07 17:45 18:16 19:50		06:39-08:47/128	05:34 06:12-09:06/174 20:20	05:27 06:12-09:12/180 20:37
26	07:17 17:08	06:40 05:55 06:05 17:46 18:17 19:51		06:38-08:49/131	05:33 06:11-09:06/175 20:21	05:28 06:12-09:12/180 20:37
27	07:17 17:09	06:39 05:53 06:04 17:47 18:19 19:52		06:35-08:49/134	05:32 06:11-09:06/175 20:22	05:28 06:13-09:13/180 20:37
28	07:16 17:10	06:37 05:51 06:03 17:48 18:20 19:53		06:34-08:51/137	05:32 06:11-09:07/176 20:23	05:29 06:13-09:13/180 20:37
29	07:15 17:11	06:50 06:01 19:21 19:54		06:33-08:52/139	05:31 06:10-09:06/176 20:24	05:29 06:14-09:14/180 20:37
30	07:14 17:13	06:48 06:00 19:22 19:55		06:31-08:53/142	05:30 06:11-09:07/176 20:24	05:29 06:14-09:13/179 20:37
31	07:13 17:14	06:46 19:23			05:30 06:10-09:07/177 20:25	
Potential sun hours	297	297	369	399	449	453
Sum of minutes with flicker	1240	0	0	2144	5114	5380

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: ShadowWTG: 7 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (7)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 06:15-09:14/179 20:37	05:54 06:29-09:11/162 20:18	06:25 07:21-08:08/47 19:34	06:55 06:30 18:43 16:56		07:05 08:01-09:00/59 16:32
2	05:30 06:14-09:14/180 20:37	05:55 06:30-09:11/161 20:17	06:26 07:29-08:00/31 19:33	06:57 06:31 18:42 16:55		07:06 08:01-09:02/61 16:31
3	05:31 06:15-09:14/179 20:37	05:56 06:30-09:10/160 20:16	06:27 06:27 19:31	06:58 06:32 18:40 16:54		07:07 08:00-09:03/63 16:31
4	05:31 06:15-09:14/179 20:36	05:57 06:31-09:10/159 20:14	06:28 06:28 19:29	06:59 06:34 18:38 16:53		07:08 08:00-09:04/64 16:31
5	05:32 06:16-09:15/179 20:36	05:58 06:32-09:09/157 20:13	06:29 06:29 19:28	07:00 06:35 18:37 16:52		07:09 08:00-09:05/65 16:31
6	05:33 06:16-09:14/178 20:36	05:59 06:33-09:08/155 20:12	06:30 06:30 19:26	07:01 06:36 18:35 16:50		07:10 08:00-09:06/66 16:31
7	05:33 06:16-09:15/179 20:36	06:00 06:34-09:07/153 20:11	06:31 06:31 19:24	07:02 06:37 18:33 16:49		07:11 08:00-09:06/66 16:31
8	05:34 06:17-09:15/178 20:35	06:01 06:35-09:07/152 20:10	06:32 06:32 19:23	07:03 06:38 18:32 16:48		07:12 08:00-09:07/67 16:30
9	05:34 06:17-09:15/178 20:35	06:02 06:36-09:06/150 20:08	06:33 06:33 19:21	07:04 06:40 18:30 16:47		07:13 08:00-09:08/68 16:30
10	05:35 06:18-09:15/177 20:35	06:03 06:37-09:05/148 20:07	06:34 06:34 19:19	07:05 06:41 18:28 16:46		07:14 08:00-09:09/69 16:30
11	05:36 06:18-09:16/178 20:34	06:04 06:38-09:03/145 20:06	06:35 06:35 19:18	07:06 06:42 18:27 16:45		07:15 08:01-09:10/69 16:31
12	05:37 06:18-09:15/177 20:34	06:05 06:39-09:02/143 20:04	06:36 06:36 19:16	07:07 06:43 18:25 16:44		07:16 08:00-09:10/70 16:31
13	05:37 06:19-09:15/176 20:33	06:06 06:40-09:01/141 20:03	06:37 06:37 19:14	07:08 06:44 18:24 16:43		07:16 08:00-09:11/71 16:31
14	05:38 06:19-09:16/177 20:33	06:07 06:41-09:00/139 20:02	06:38 06:38 19:12	07:09 06:46 18:22 16:42		07:17 08:01-09:12/71 16:31
15	05:39 06:19-09:15/176 20:32	06:08 06:42-08:58/136 20:00	06:39 06:39 19:11	07:10 06:47 18:21 16:41		07:18 08:01-09:13/72 16:31
16	05:40 06:20-09:15/175 20:32	06:09 06:44-08:57/133 19:59	06:40 06:40 19:09	07:12 06:48 18:19 16:40		07:19 08:01-09:13/72 16:31
17	05:40 06:20-09:15/175 20:31	06:10 06:45-08:55/130 19:57	06:41 06:41 19:07	07:13 06:49 18:17 16:40		07:19 08:02-09:14/72 16:32
18	05:41 06:21-09:16/175 20:30	06:11 06:46-08:53/127 19:56	06:42 06:42 19:06	07:14 06:50 18:16 16:39	08:23-08:31/8	07:20 08:02-09:15/73 16:32
19	05:42 06:22-09:16/174 20:30	06:12 06:47-08:50/123 19:55	06:43 06:43 19:04	07:15 06:52 18:14 16:38	08:17-08:37/20	07:21 08:02-09:15/73 16:32
20	05:43 06:21-09:15/174 20:29	06:13 06:48-08:48/120 19:53	06:44 06:44 19:02	07:16 06:53 18:13 16:37	08:13-08:40/27	07:21 08:03-09:16/73 16:33
21	05:44 06:22-09:15/173 20:28	06:14 06:50-08:46/116 19:52	06:45 06:45 19:00	07:17 06:54 18:11 16:37	08:11-08:43/32	07:22 08:03-09:16/73 16:33
22	05:45 06:23-09:15/172 20:27	06:15 06:52-08:44/112 19:50	06:46 06:46 18:59	07:18 06:55 18:10 16:36	08:09-08:46/37	07:22 08:04-09:17/73 16:34
23	05:46 06:23-09:15/172 20:26	06:16 06:53-08:42/109 19:49	06:47 06:47 18:57	07:19 06:56 18:08 16:35	08:08-08:48/40	07:23 08:04-09:17/73 16:34
24	05:46 06:24-09:15/171 20:26	06:17 06:55-08:39/104 19:47	06:48 06:48 18:55	07:21 06:57 18:07 16:35	08:06-08:50/44	07:23 08:05-09:18/73 16:35
25	05:47 06:25-09:15/170 20:25	06:18 06:58-08:37/99 19:45	06:49 06:49 18:54	07:22 06:59 17:06 16:34	08:05-08:52/47	07:24 08:05-09:18/73 16:35
26	05:48 06:25-09:14/169 20:24	06:19 07:00-08:34/94 19:44	06:50 06:50 18:52	07:23 07:00 17:04 16:34	08:04-08:53/49	07:24 08:06-09:18/72 16:36
27	05:49 06:26-09:14/168 20:23	06:20 07:02-08:30/88 19:42	06:51 06:51 18:50	07:24 07:01 17:03 16:33	08:03-08:55/52	07:24 08:07-09:19/72 16:37
28	05:50 06:27-09:14/167 20:22	06:21 07:05-08:27/82 19:41	06:52 06:52 18:48	07:25 07:02 17:02 16:33	08:03-08:57/54	07:25 08:07-09:19/72 16:37
29	05:51 06:27-09:13/166 20:21	06:22 07:08-08:23/75 19:39	06:53 06:53 18:47	07:26 07:03 17:00 16:32	08:02-08:58/56	07:25 08:08-09:19/71 16:38
30	05:52 06:27-09:12/165 20:20	06:23 07:12-08:19/67 19:38	06:54 06:54 18:45	07:27 07:04 16:59 16:32	08:02-08:59/57	07:25 08:08-09:19/71 16:39
31	05:53 06:28-09:12/164 20:19	06:24 07:16-08:14/58 19:36	06:55 06:55 18:44	07:28 07:05 16:58 16:31		07:25 08:09-09:19/70 16:40
Potential sun hours	460	428	375	345	297	287
Sum of minutes with flicker	5400	3898	78	0	523	2157

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: ShadowWTG: 8 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (8)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:26 16:41	07:12 17:15	06:36 06:55-07:08/13 17:49	06:45 07:03-07:25/22 19:24	05:59 19:56	05:29 20:26
2	07:26 16:41	07:11 17:16	06:34 06:53-07:07/14 17:51	06:43 07:02-07:26/24 19:25	05:57 19:57	05:29 20:27
3	07:26 16:42	07:10 17:18	06:33 06:52-07:06/14 17:52	06:41 07:00-07:27/27 19:26	05:56 19:58	05:29 20:27
4	07:26 16:43	07:09 17:19	06:31 06:50-07:03/13 17:53	06:40 06:58-07:27/29 19:27	05:55 19:59	05:28 20:28
5	07:26 16:44	07:08 17:20	06:30 06:49-07:01/12 17:54	06:38 06:57-07:27/30 19:28	05:53 20:00	05:28 20:29
6	07:26 16:45	07:07 17:21	06:28 06:47-06:57/10 17:55	06:36 06:55-07:27/32 19:29	05:52 20:01	05:27 20:29
7	07:26 16:46	07:06 17:23	06:26 17:56	06:35 06:53-07:26/33 19:30	05:51 20:02	05:27 20:30
8	07:26 16:47	07:05 17:24	06:25 17:58	06:33 06:52-07:26/34 19:31	05:50 20:04	05:27 20:31
9	07:26 16:48	07:03 17:25	06:23 17:59	06:31 06:50-07:25/35 19:33	05:49 20:05	05:27 20:31
10	07:25 16:49	07:02 17:26	06:22 18:00	06:30 06:48-07:24/36 19:34	05:47 20:06	05:26 20:32
11	07:25 16:50	07:01 17:28	06:20 18:01	06:28 06:47-07:24/37 19:35	05:46 20:07	05:26 20:32
12	07:25 16:51	07:00 17:29	06:18 18:02	06:27 06:45-07:22/37 19:36	05:45 20:08	05:26 20:33
13	07:25 16:52	06:59 17:30	06:17 18:03	06:25 06:44-07:22/38 19:37	05:44 20:09	05:26 20:33
14	07:24 16:53	06:57 17:31	06:15 18:04	06:23 06:42-07:20/38 19:38	05:43 20:10	05:26 20:34
15	07:24 16:54	06:56 17:33	06:13 18:05	06:22 06:44-07:20/36 19:39	05:42 20:11	05:26 20:34
16	07:23 16:56	06:55 17:34	06:12 18:07	06:20 06:44-07:18/34 19:40	05:41 20:12	05:26 20:35
17	07:23 16:57	06:53 17:35	06:10 18:08	06:19 06:46-07:17/31 19:41	05:40 20:13	05:26 20:35
18	07:23 16:58	06:52 17:36	06:08 18:09	06:17 06:47-07:14/27 19:42	05:39 20:14	05:26 20:35
19	07:22 16:59	06:51 07:10-07:11/1 17:38	06:07 18:10	06:16 06:49-07:12/23 19:43	05:38 20:15	05:26 20:36
20	07:21 17:00	06:49 07:09-07:12/3 17:39	06:05 18:11	06:14 06:51-07:09/18 19:44	05:38 20:16	05:26 20:36
21	07:21 17:01	06:48 07:07-07:12/5 17:40	06:03 18:12	06:13 06:55-07:05/10 19:45	05:37 20:16	05:26 20:36
22	07:20 17:03	06:46 07:06-07:12/6 17:41	06:02 18:13	06:11 19:46	05:36 20:17	05:27 20:36
23	07:20 17:04	06:45 07:04-07:12/8 17:42	06:00 18:14	06:10 19:48	05:35 20:18	05:27 20:37
24	07:19 17:05	06:43 07:03-07:12/9 17:44	05:58 06:17-06:20/3 18:15	06:08 19:49	05:34 20:19	05:27 20:37
25	07:18 17:06	06:42 07:01-07:11/10 17:45	05:56 06:15-06:22/7 18:16	06:07 19:50	05:34 20:20	05:27 20:37
26	07:17 17:08	06:40 07:00-07:11/11 17:46	05:55 06:13-06:23/10 18:17	06:05 19:51	05:33 20:21	05:28 20:37
27	07:17 17:09	06:39 06:58-07:10/12 17:47	05:53 06:12-06:24/12 18:19	06:04 19:52	05:32 20:22	05:28 20:37
28	07:16 17:10	06:37 06:57-07:10/13 17:48	05:51 06:10-06:24/14 18:20	06:03 19:53	05:32 20:23	05:29 20:37
29	07:15 17:11		06:50 07:08-07:24/16 19:21	06:01 19:54	05:31 20:24	05:29 20:37
30	07:14 17:13		06:48 07:07-07:25/18 19:22	06:00 19:55	05:30 20:24	05:29 20:37
31	07:13 17:14		06:46 07:05-07:25/20 19:23		05:30 20:25	
Potential sun hours	297	297	369	399	449	453
Sum of minutes with flicker	0	78	176	631	0	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: ShadowWTG: 8 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (8)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December	
1	05:30 20:37	05:54 20:18	06:25 19:34	06:46-07:23/37 18:43	06:55 18:43	06:30 16:56	07:05 16:32
2	05:30 20:37	05:55 20:17	06:26 19:33	06:47-07:23/36 18:42	06:56 18:42	06:31 16:55	07:06 16:31
3	05:31 20:37	05:56 20:15	06:27 19:31	06:48-07:23/35 18:40	06:58 18:40	06:32 16:54	07:07 16:31
4	05:31 20:36	05:57 20:14	06:28 19:29	06:49-07:23/34 18:38	06:59 18:38	06:34 16:53	07:08 16:31
5	05:32 20:36	05:58 20:13	06:29 19:28	06:50-07:23/33 18:37	07:00 18:37	06:35 16:51	07:09 16:31
6	05:33 20:36	05:59 20:12	06:30 19:26	06:51-07:23/32 18:35	07:01 18:35	06:36 16:50	07:10 16:31
7	05:33 20:36	06:00 20:11	06:31 19:24	06:52-07:22/30 18:33	07:02 18:33	06:37 16:49	07:11 16:30
8	05:34 20:35	06:01 20:10	06:32 19:23	06:53-07:22/29 18:32	07:03 18:32	07:23-07:35/12 16:48	07:12 16:30
9	05:34 20:35	06:02 20:08	06:33 19:21	06:54-07:21/27 18:30	07:04 18:30	07:24-07:37/13 16:47	07:13 16:30
10	05:35 20:35	06:03 20:07	06:34 19:19	06:55-07:19/24 18:28	07:05 18:28	07:25-07:39/14 16:46	07:14 16:30
11	05:36 20:34	06:04 20:06	06:35 19:18	06:56-07:18/22 18:27	07:06 18:27	07:26-07:40/14 16:45	07:15 16:31
12	05:37 20:34	06:05 20:04	06:36 19:16	06:57-07:17/20 18:25	07:07 18:25	07:28-07:41/13 16:44	07:16 16:31
13	05:37 20:33	06:06 20:03	06:37 19:14	06:58-07:17/19 18:24	07:08 18:24	07:29-07:42/13 16:43	07:16 16:31
14	05:38 20:33	06:07 20:02	06:38 19:12	06:59-07:16/17 18:22	07:09 18:22	07:30-07:42/12 16:42	07:17 16:31
15	05:39 20:32	06:08 20:00	06:39 19:11	07:00-07:15/15 18:20	07:10 18:20	07:31-07:43/12 16:41	07:18 16:31
16	05:40 20:31	06:09 19:59	06:40 19:09	07:00-07:13/13 18:19	07:12 18:19	07:32-07:43/11 16:40	07:19 16:31
17	05:40 20:31	06:10 19:57	06:41 19:07	07:01-07:11/10 18:17	07:13 18:17	07:33-07:43/10 16:40	07:19 16:32
18	05:41 20:30	06:11 19:56	06:42 19:06	07:02-07:09/7 18:16	07:14 18:16	07:34-07:42/8 16:39	07:20 16:32
19	05:42 20:29	06:12 19:54	06:43 19:04	07:03-07:07/4 18:14	07:15 18:14	07:36-07:43/7 16:38	07:21 16:32
20	05:43 20:29	06:13 19:53	06:44 19:02	07:04-07:05/1 18:13	07:16 18:13	07:37-07:43/6 16:37	07:21 16:33
21	05:44 20:28	06:14 19:52	06:45 19:00	07:05-07:04/0 18:11	07:17 18:11	07:38-07:42/4 16:37	07:22 16:33
22	05:45 20:27	06:15 19:50	06:46 18:59	07:06-07:03/0 18:10	07:18 18:10	07:39-07:41/2 16:36	07:22 16:34
23	05:46 20:26	06:16 19:48	06:47 18:57	07:07-07:02/0 18:08	07:19 18:08	07:40-07:41/1 16:35	07:23 16:34
24	05:46 20:26	06:17 19:47	06:48 18:55	07:08-07:01/0 18:07	07:21 18:07	06:57 16:35	07:23 16:35
25	05:47 20:25	06:18 19:45	06:49 18:54	07:09-07:00/0 17:06	06:22 17:06	06:59 16:34	07:24 16:35
26	05:48 20:24	06:19 19:44	06:50 18:52	07:10-07:00/0 17:04	06:23 17:04	07:00 16:34	07:24 16:36
27	05:49 20:23	06:20 19:42	06:51 18:50	07:11-07:00/0 17:03	06:24 17:03	07:01 16:33	07:24 16:37
28	05:50 20:22	06:21 19:41	06:52 18:48	07:12-07:00/0 17:02	06:25 17:02	07:02 16:33	07:25 16:37
29	05:51 20:21	06:22 19:39	06:53 18:47	07:13-07:00/0 17:00	06:26 17:00	07:03 16:32	07:25 16:38
30	05:52 20:20	06:23 19:38	06:54 18:45	07:14-07:00/0 16:59	06:28 16:59	07:04 16:32	07:25 16:39
31	05:53 20:19	06:24 19:36	06:55-07:22/37 16:58	06:29 16:58	06:29 16:58	07:25 16:40	07:25 16:40
Potential sun hours	460	428	375	345	297	287	
Sum of minutes with flicker	0	296	445	152	0	0	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: ShadowWTG: 9 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (9)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	January	February	March	April	May	June
1	07:26 16:41	07:12 17:15	06:36 06:55-07:00/5 17:49	06:45 19:24	05:59 06:18-06:42/24 19:56	05:29 20:26
2	07:26 16:41	07:11 17:16	06:34 06:53-06:59/6 17:51	06:43 19:25	05:57 06:17-06:40/23 19:57	05:29 20:27
3	07:26 16:42	07:10 17:18	06:33 06:52-06:59/7 17:52	06:41 19:26	05:56 06:18-06:38/20 19:58	05:29 20:27
4	07:26 16:43	07:09 17:19	06:31 06:50-06:58/8 17:53	06:40 19:27	05:55 06:21-06:36/15 19:59	05:28 20:28
5	07:26 16:44	07:08 17:20	06:30 06:49-06:58/9 17:54	06:38 19:28	05:53 06:24-06:32/8 20:00	05:28 20:29
6	07:26 16:45	07:07 17:21	06:28 06:47-06:57/10 17:55	06:36 19:29	05:52 20:01	05:27 20:29
7	07:26 16:46	07:06 17:23	06:26 06:45-06:55/10 17:56	06:35 19:30	05:51 20:02	05:27 20:30
8	07:26 16:47	07:05 17:24	06:25 06:44-06:53/9 17:58	06:33 19:31	05:50 20:03	05:27 20:31
9	07:26 16:48	07:03 17:25	06:23 06:42-06:50/8 17:59	06:31 19:32	05:49 20:05	05:27 20:31
10	07:25 16:49	07:02 17:26	06:21 18:00	06:30 19:34	05:47 20:06	05:26 20:32
11	07:25 16:50	07:01 17:28	06:20 18:01	06:28 19:35	05:46 20:07	05:26 20:32
12	07:25 16:51	07:00 17:29	06:18 18:02	06:27 19:36	05:45 20:08	05:26 20:33
13	07:25 16:52	06:59 17:30	06:17 18:03	06:25 06:44-06:47/3 19:37	05:44 20:09	05:26 20:33
14	07:24 16:53	06:57 17:31	06:15 18:04	06:23 06:42-06:47/5 19:38	05:43 20:10	05:26 20:34
15	07:24 16:54	06:56 17:33	06:13 18:05	06:22 06:41-06:49/8 19:39	05:42 20:11	05:26 20:34
16	07:23 16:56	06:55 17:34	06:12 18:07	06:20 06:39-06:49/10 19:40	05:41 20:12	05:26 20:35
17	07:23 16:57	06:53 17:35	06:10 18:08	06:19 06:38-06:49/11 19:41	05:40 20:13	05:26 20:35
18	07:22 16:58	06:52 17:36	06:08 18:09	06:17 06:36-06:49/13 19:42	05:39 20:14	05:26 20:35
19	07:22 16:59	06:51 17:38	06:07 18:10	06:16 06:35-06:50/15 19:43	05:38 20:15	05:26 20:36
20	07:21 17:00	06:49 17:39	06:05 18:11	06:14 06:33-06:49/16 19:44	05:38 20:16	05:26 20:36
21	07:21 17:01	06:48 17:40	06:03 18:12	06:13 06:32-06:49/17 19:45	05:37 20:16	05:26 20:36
22	07:20 17:03	06:46 17:41	06:02 18:13	06:11 06:30-06:49/19 19:46	05:36 20:17	05:27 20:36
23	07:20 17:04	06:45 17:42	06:00 18:14	06:10 06:29-06:49/20 19:48	05:35 20:18	05:27 20:37
24	07:19 17:05	06:43 17:44	05:58 18:15	06:08 06:27-06:48/21 19:49	05:34 20:19	05:27 20:37
25	07:18 17:06	06:42 17:45	05:56 18:16	06:07 06:26-06:47/21 19:50	05:34 20:20	05:27 20:37
26	07:17 17:08	06:40 17:46	05:55 18:17	06:05 06:25-06:47/22 19:51	05:33 20:21	05:28 20:37
27	07:17 17:09	06:39 06:58-07:00/2 17:47	05:53 18:18	06:04 06:23-06:46/23 19:52	05:32 20:22	05:28 20:37
28	07:16 17:10	06:37 06:57-07:00/3 17:48	05:51 18:20	06:03 06:22-06:45/23 19:53	05:32 20:23	05:29 20:37
29	07:15 17:11		06:50 19:21	06:01 06:21-06:45/24 19:54	05:31 20:23	05:29 20:37
30	07:14 17:13		06:48 19:22	06:00 06:19-06:43/24 19:55	05:30 20:24	05:29 20:37
31	07:13 17:14		06:46 19:23		05:30 20:25	
Potential sun hours	297	297	369	399	449	453
Sum of minutes with flicker	0	5	72	295	90	0

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

SHADOW - Calendar per WTG

Calculation: ShadowWTG: 9 - Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0 m) (9)

Assumptions for shadow calculations

The calculated times are "worst case" given by the following assumptions:

- The sun is shining all the day, from sunrise to sunset
- The rotor plane is always perpendicular to the line from the WTG to the sun
- The WTG is always operating

	July	August	September	October	November	December
1	05:30 20:37	05:54 20:18	06:25 19:34	06:55 18:43	06:30 16:56	07:05 16:32
2	05:30 20:37	05:55 20:17	06:26 19:33	06:56 18:42	06:31 16:55	07:06 16:31
3	05:31 20:37	05:56 20:15	06:27 19:31	06:57 18:40	06:32 16:54	07:07 16:31
4	05:31 20:36	05:57 20:14	06:28 19:29	06:59 18:38	07:19-07:26/7 06:34	07:08 16:31
5	05:32 20:36	05:58 20:13	06:29 19:28	07:00 18:37	07:20-07:29/9 06:35	07:09 16:31
6	05:33 20:36	05:59 20:12	06:30 19:26	07:01 18:35	07:21-07:31/10 06:36	07:10 16:31
7	05:33 20:36	06:00 20:11	06:31 19:24	07:02 18:33	07:22-07:32/10 06:37	07:11 16:30
8	05:34 20:35	06:01 20:09	06:32 19:23	07:03 18:32	07:23-07:32/9 06:38	07:12 16:30
9	05:34 20:35	06:02 20:08	06:33 19:21	07:04 18:30	07:24-07:33/9 06:40	07:13 16:30
10	05:35 20:35	06:03 20:07	06:34 19:19	07:05 18:28	07:25-07:33/8 06:41	07:14 16:30
11	05:36 20:34	06:04 20:06	06:35 19:18	07:06 18:27	07:26-07:33/7 06:42	07:15 16:30
12	05:37 20:34	06:05 20:04	06:36 19:16	07:07 18:25	07:28-07:34/6 06:43	07:16 16:31
13	05:37 20:33	06:06 20:03	06:37 19:14	07:08 18:24	07:29-07:33/4 06:44	07:16 16:31
14	05:38 20:33	06:07 20:02	06:38 19:12	07:09 18:22	07:30-07:33/3 06:46	07:17 16:31
15	05:39 20:32	06:08 20:00	06:39 19:11	07:10 18:20	07:31-07:32/1 06:47	07:18 16:31
16	05:40 20:31	06:09 19:59	06:40 19:09	07:12 18:19	06:48 16:40	07:19 16:31
17	05:40 20:31	06:10 19:57	06:41 19:07	07:13 18:17	06:49 16:40	07:19 16:32
18	05:41 20:30	06:11 19:56	06:42 19:06	07:14 18:16	06:50 16:39	07:20 16:32
19	05:42 20:29	06:12 19:54	06:43 19:04	07:15 18:14	06:52 16:38	07:21 16:32
20	05:43 20:29	06:13 19:53	06:44 19:02	07:16 18:13	06:53 16:37	07:21 16:33
21	05:44 20:28	06:14 19:51	06:45 19:00	07:17 18:11	06:54 16:37	07:22 16:33
22	05:45 20:27	06:15 19:50	06:46 18:59	07:18 18:10	06:55 16:36	07:22 16:34
23	05:46 20:26	06:16 19:48	06:47 18:57	07:19 18:08	06:56 16:35	07:23 16:34
24	05:46 20:26	06:17 19:47	06:48 18:55	07:21 18:07	06:57 16:35	07:23 16:35
25	05:47 20:25	06:18 19:45	06:49 18:54	06:22 17:06	06:59 16:34	07:24 16:35
26	05:48 20:24	06:19 19:44	06:50 18:52	06:23 17:04	07:00 16:34	07:24 16:36
27	05:49 20:23	06:20 19:42	06:51 18:50	06:24 17:03	07:01 16:33	07:24 16:37
28	05:50 20:22	06:21 19:41	06:52 18:48	06:25 17:01	07:02 16:33	07:25 16:37
29	05:51 20:21	06:22 19:39	06:53 18:47	06:26 17:00	07:03 16:32	07:25 16:38
30	05:52 20:20	06:23 19:37	06:54 18:45	06:28 16:59	07:04 16:32	07:25 16:39
31	05:53 20:19	06:24 19:36		06:29 16:58		07:25 16:40
Potential sun hours	460	428	375	345	297	287
Sum of minutes with flicker	0	386	0	83	0	0

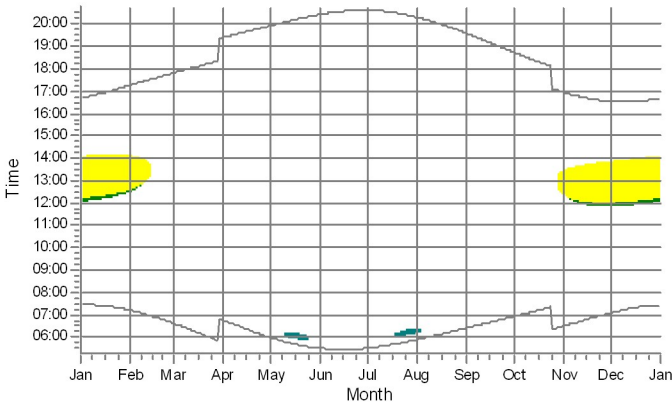
Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker
	Sun set (hh:mm)	First time (hh:mm) with flicker	Last time (hh:mm) with flicker	Minutes with flicker

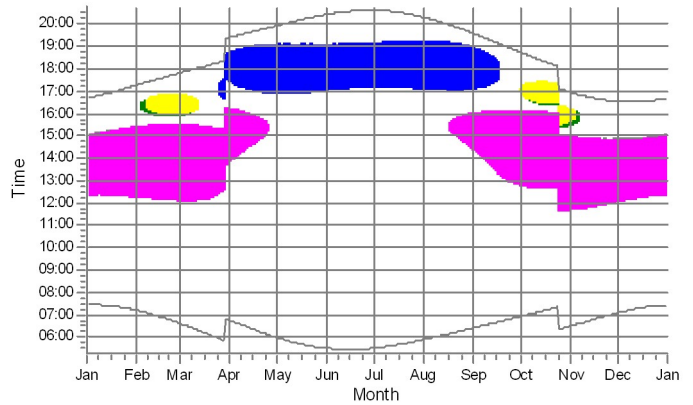
SHADOW - Calendar per WTG, graphical

Calculation: Shadow

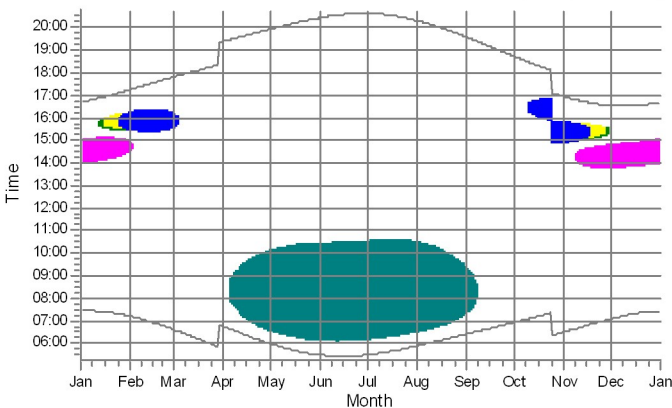
1: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0



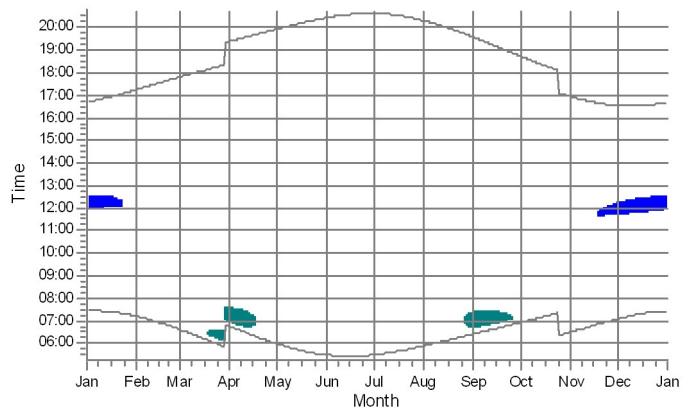
2: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0



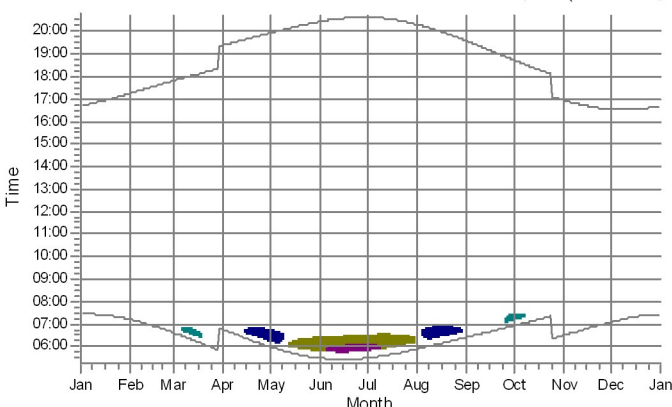
3: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0



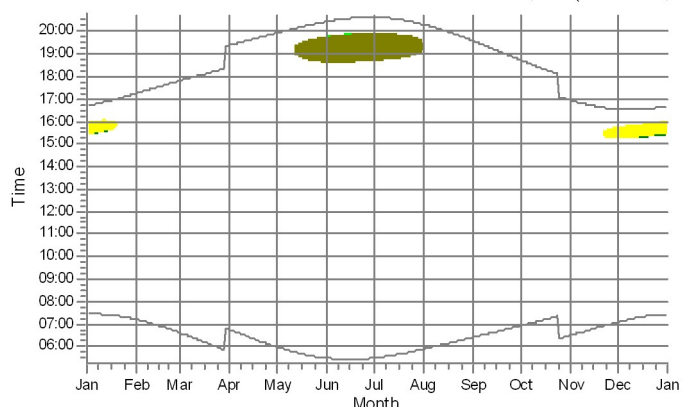
4: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0



5: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0



6: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0



Shadow receptors

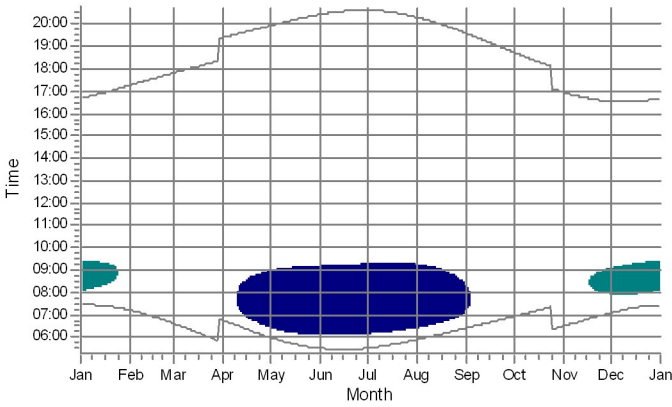
- A: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (1)
- B: Shadow Receptor: 1,0 × 1,0 Azimuth: 0,0° Slope: 90,0° (2)
- C: Shadow Receptor: 1,0 × 1,0 Azimuth: 90,0° Slope: 90,0° (3)
- D: Shadow Receptor: 1,0 × 1,0 Azimuth: 45,0° Slope: 90,0° (4)
- E: Shadow Receptor: 1,0 × 1,0 Azimuth: 45,0° Slope: 90,0° (5)
- F: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (6)

- G: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (7)
- H: Shadow Receptor: 1,0 × 1,0 Azimuth: -180,0° Slope: 90,0° (8)
- I: Shadow Receptor: 1,0 × 1,0 Azimuth: -180,0° Slope: 90,0° (9)
- J: Shadow Receptor: 1,0 × 1,0 Azimuth: -180,0° Slope: 90,0° (10)
- K: Shadow Receptor: 1,0 × 1,0 Azimuth: -160,0° Slope: 90,0° (11)

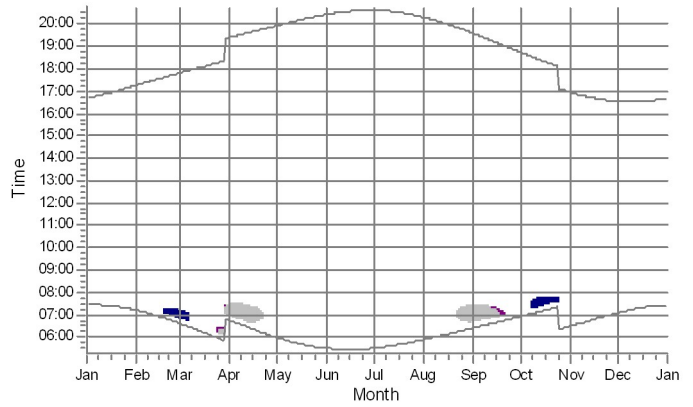
SHADOW - Calendar per WTG, graphical

Calculation: Shadow

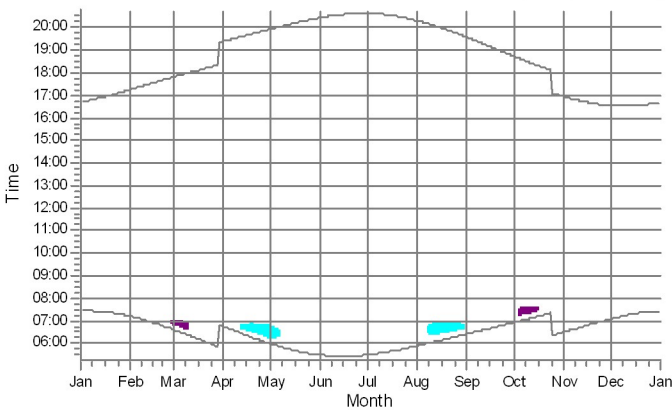
7: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0



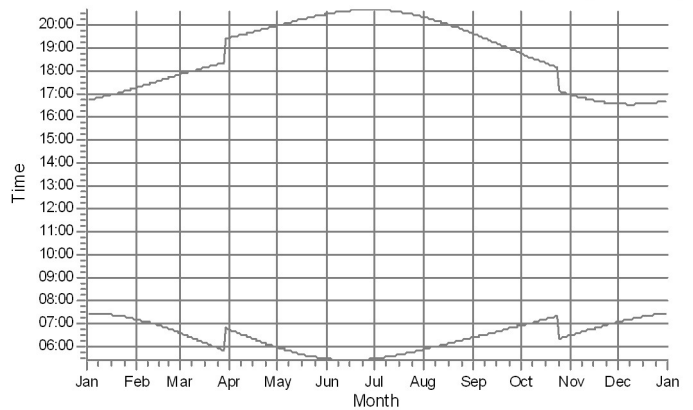
8: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0



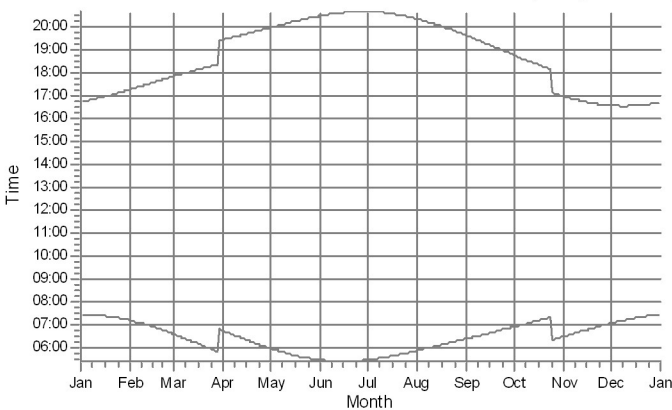
9: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0



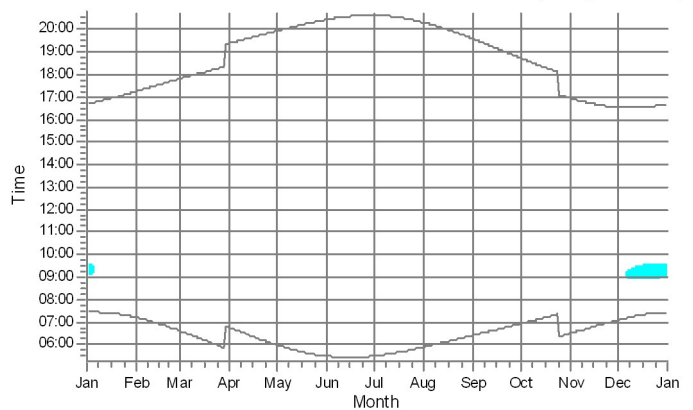
10: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0



11: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0



12: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0



Shadow receptors

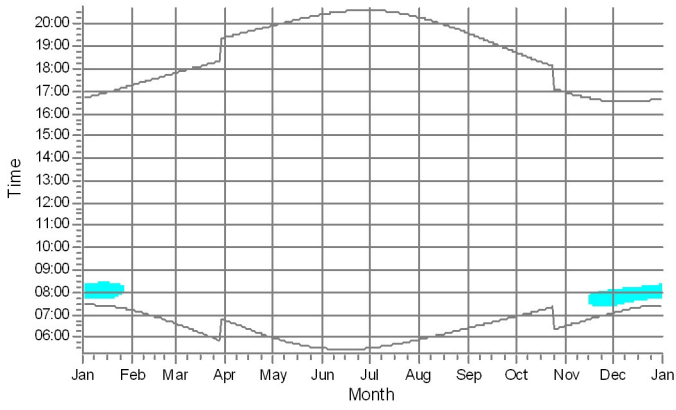
F: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (6)
G: Shadow Receptor: 1,0 × 1,0 Azimuth: -90,0° Slope: 90,0° (7)
I: Shadow Receptor: 1,0 × 1,0 Azimuth: -180,0° Slope: 90,0° (9)

K: Shadow Receptor: 1,0 × 1,0 Azimuth: -160,0° Slope: 90,0° (11)
L: Shadow Receptor: 1,0 × 1,0 Azimuth: -180,0° Slope: 90,0° (12)
M: Shadow Receptor: 1,0 × 1,0 Azimuth: -120,0° Slope: 90,0° (13)

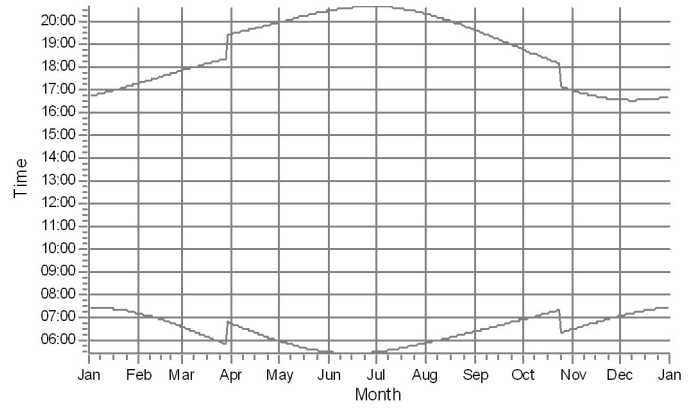
SHADOW - Calendar per WTG, graphical

Calculation: Shadow


13: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0



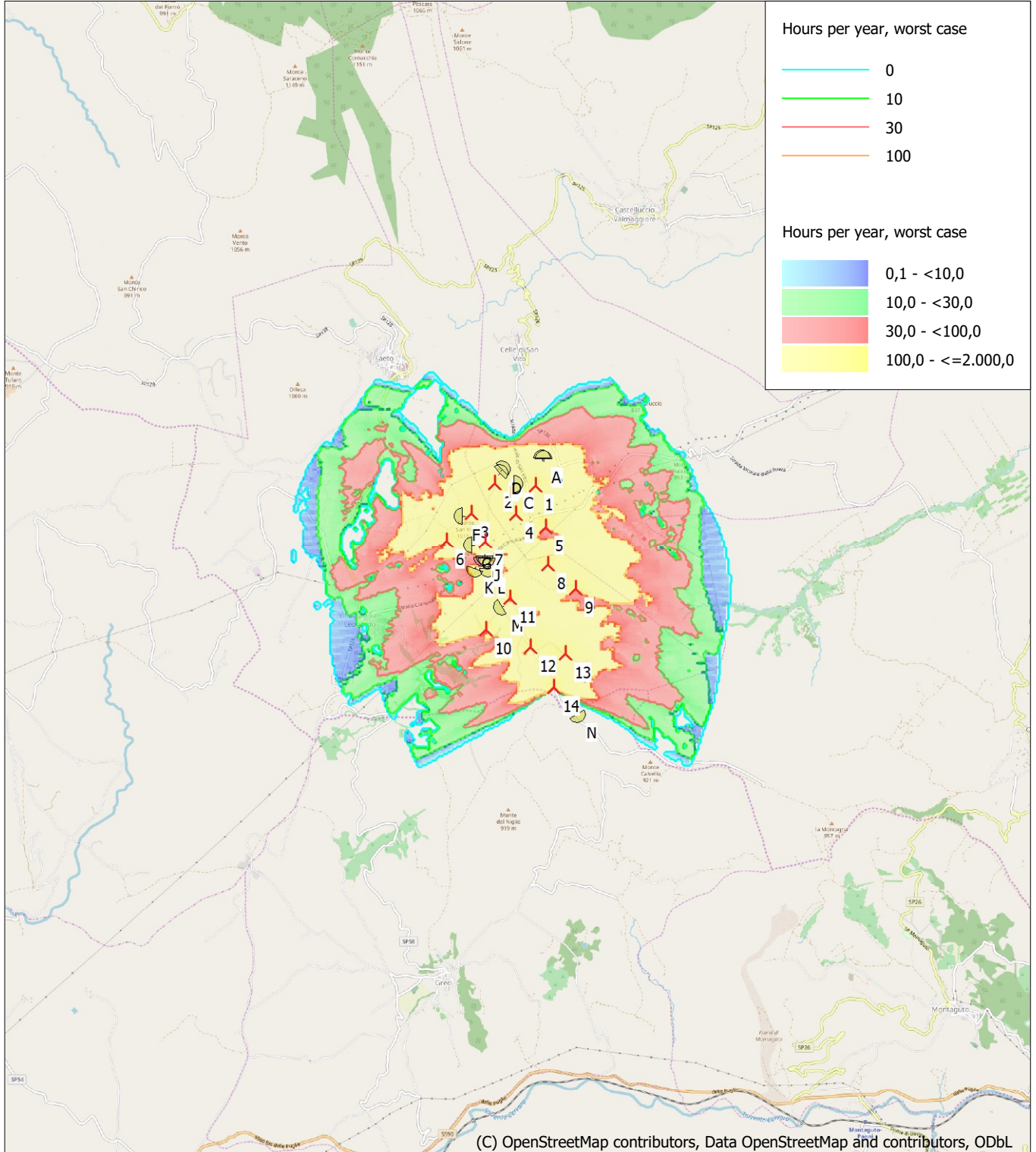
14: Siemens Gamesa SG 6.6-155 6600 155.0 !O! hub: 102,5 m (TOT: 180,0



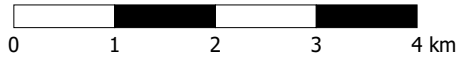
Shadow receptors

 M: Shadow Receptor: 1,0 × 1,0 Azimuth: -120,0° Slope: 90,0° (13)

SHADOW - Map
Calculation: Shadow



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL



Map: EMD OpenStreetMap , Print scale 1:75.000, Map center UTM (north)-WGS84 Zone: 33 East: 515.100 North: 4.572.000

New WTG

Shadow receptor

Flicker map level: Elevation Grid Data Object: IR_FaetoCelle_20km_EMDGrid_0.wpg (1)

Time step: 4 minutes, Day step: 14 days, Map resolution: 30 m, Visibility resolution: 15 m, Eye height: 1,5 m