

REGIONE BASILICATA
PROVINCIA DI POTENZA

Melfi (PZ)

LOCALITA' "S. ALESSANDRO - PIANA DEI GELSI - SERRA SCHIAVONE"

VARIANTE DEL PROGETTO EOLICO "MELFI - SANT'ALESSANDRO" 12 AEROGENERATORI

Progetto originario a 14 aerogeneratori autorizzato con decreto n.23AF.2016/D.00335
del 22/11/2016

Titolo elaborato:

STUDIO SUGLI EFFETTI DI SHADOW-FLICKERING

N. Elaborato: **A.8**

Scala:

Proponente

Breva Wind Srl



Via Roberto Lepetit, 8/10 - 20124 Milano (MI)

Progettista



Sede legale e operativa

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Sede operativa

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1. EVOLUZIONE DELL'OMBRA 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 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 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.

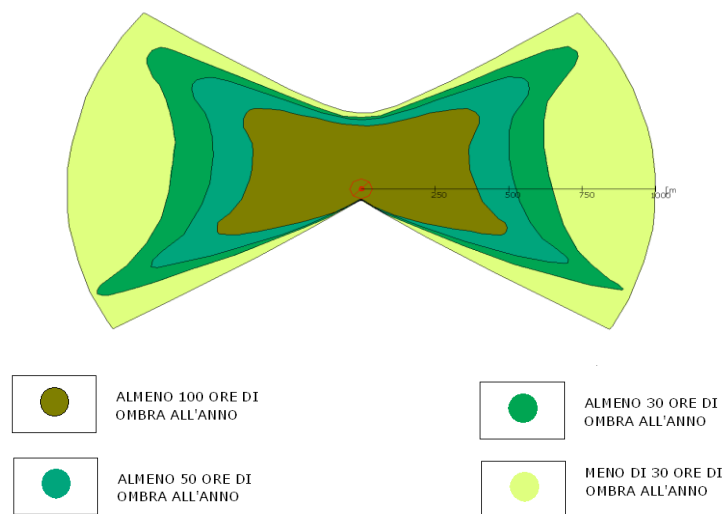




Figura 1: Evoluzione annuale tipo dell'ombra di una pala

In Italia, questo fenomeno è meno importante rispetto alle latitudini più settentrionali (come Danimarca, Germania) perché l'altezza media del sole è più elevata e, inversamente, la zona d'influenza è più ridotta.

Sono soprattutto le zone situate ad est o ad ovest degli impianti eolici che sono più suscettibili a subire questi fenomeni all'alba ed al tramonto. E' possibile stimare questi fenomeni tramite degli appositi software.

In Italia e nel mondo non esiste alcuna norma o regolamento che regoli questo aspetto a livello nazionale.

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2. IL CASO STUDIO

Oggetto della presente relazione è la stima del fenomeno dello shadow-flickering relativo alla variante non sostanziale del progetto d'impianto eolico previsto nel territorio del Comune di Melfi in località S. Alessandro, Piana dei Gelsi e Serra Schiavone originariamente autorizzato con autorizzato con Decreto Dirigenziale n. 601/2013 e successivamente con decreto n.23AF.2016/D.00335 del 22/11/2016.

Nella proposta di variante non sostanziale si prevede l'installazione dei seguenti 12 aerogeneratori di potenza installata complessiva è pari a 43.8 MW.

Proponente del progetto è la società Brevia Wind srl.

Tabella 1 – Caratteristiche turbine Variante non sostanziale

WTG PROPOSTE IN VARIANTE NON SOSTANZIALE	Coordinate UTMwgs 84		TIPO TORRE	Raggio pala (m)	Altezza al mozzo (m)	Altezza complessiva (m)	Potenza (MW)
	x(east)	y north					
AG01	549273	4539483	VESTAS V136	68	82	150	3,45
AG07	550435	4542881	VESTAS V150	75	105	180	4,2
AG14	548916	4543362	VESTAS V150	75	124,6	199,6	4,2
AG15	548964	4539816	VESTAS V136	68	82	150	3,45
AG13	552334	4541149	VESTAS V136	68	82	150	3,6
AG20	551884	4541384	VESTAS V150	75	105	180	4,2
AG21	550015	4542259	VESTAS V150	75	124,6	199,6	4,2
AG22	549997	4542997	VESTAS V150	75	124,6	199,6	4,2
AG25	548705	4543800	VESTAS V150	75	105	180	4,2
AG27	551263	4542172	VESTAS V150	75	105	180	4,2
AG28	551229	4541533	VESTAS V150	75	105	180	4,2
AG29	547716	4543593	VESTAS V150	75	105	180	4,2
POTENZA COMPLESSIVA							48,3

Sul territorio del comune di Melfi e, in particolare, in prossimità delle aree ove si prevede l'installazione delle turbine di progetto, sono attualmente altri impianti eolici (Parco Eolico della società Breathe srl e Parco Eolico della società Alfa Wind), per cui si verificano effetti di cumulo che sono stati considerati nel presente studio.

Le aree interessate dall'intervento sono caratterizzate da basso grado di urbanizzazione. L'urbanizzazione è costituita da poche case sparse, masserie, depositi, cascine. Di fatto, non tutti i fabbricati hanno le caratteristiche di edificio (inteso come "costruzione duratura, stabile, che serve per l'abitazione oppure per il lavoro, la formazione, la cultura o lo sport") o permettono la permanenza persone o lo svolgimento di attività antropiche. Per tanto, ai fini della valutazione degli impatti indotti dall'impianto eolico di progetto e, in particolare, dell'effetto di flickering/ombreggiamento, sono stati individuati i soli "recettori sensibili" costituiti da abitazioni così come definite dal PIEAR vigente.

Da un analisi del territorio si hanno i seguenti fabbricati prossimi alle aree d'impianto :

ID RECETTORE	Long. Est WGS 84 [m]	Lat. Nord WGS 84 [m]	Altitudine [m]	Foglio	Particella	Classe catastale
R00	549086	4539981	468,8	71	25	FR
R02	550361	4539422	601,7	58	242	A/3
R03.1	551476	4541136	590	37	40,42,79	A/10-D10-A/7
R03.2	551446	4541081	590	37	93	A/2
R04	550809	4542369	514	29	408	A/2
R06.1	550034	4542622	494,2	29	52,6	D/10
R06.2	550024	4542562	486,9	29	29,30,31	D/10
R11.1	548172	4543607	450	28	107,58	D/10
R11.2	548259	4543692	458,1	28	171	A/2
R15	548018	4543953	417,7	27	111	A/2
R16.1	552521	4540795	564,5	49	648	A/2
R16.2	552667	4540827	564,3	49	641,642	A/2 - A/3
R16.3	552692	4540820	566,2	49	644,345	D/10
R16.4	552672	4540788	562,7	49	643	D/10
R17	552259	4540766	582,1	49	221	A/4
R18	550760	4539741	637,6	58	214,215,217,219	A/2
R19	550402	4538904	577,4	58	272	A/7
R20	551134	4537742	604,4	79	715	A/3
R21	551161	4537431	593,4	79	805	A/4
R22	550949	4537283	619,2	79	791,812	A/4
R23	549507	4543510	541,6	22	331,332	D10

Si e' proceduto ad analizzare il fenomeno del flickering sui soli recettori abitati ritenuti sensibili anche in base alla classe catastale cosi come definito da Peiar vigente ovvero :

ID RECETTORE	Long. Est WGS 84 [m]	Lat. Nord WGS 84 [m]	Altitudine [m]	Foglio	Particella	Classe catastale
R02	550361	4539422	601,7	58	242	A/3
R03.1	551476	4541136	590	37	40,42,79	A/10- A/7
R03.2	551446	4541081	590	37	93	A/2
R04	550809	4542369	514	29	408	A/2
R11.2	548259	4543692	458,1	28	171	A/2
R15	548018	4543953	417,7	27	111	A/2
R16.1	552521	4540795	564,5	49	648	A/2
R16.2	552667	4540827	564,3	49	641,642	A/2 - A/3
R17	552259	4540766	582,1	49	221	A/4
R18	550760	4539741	637,6	58	214,215,217,219	A/2
R19	550402	4538904	577,4	58	272	A/7
R20	551134	4537742	604,4	79	715	A/3
R21	551161	4537431	593,4	79	805	A/4
R22	550949	4537283	619,2	79	791,812	A/4

A seguire si riporta uno stralcio con l'indicazione degli aerogeneratori di progetto e dei "recettori" sensibili, rimandando all'elaborato grafico (cfr. A.16.B.1.1.REV01) per maggiori dettagli.

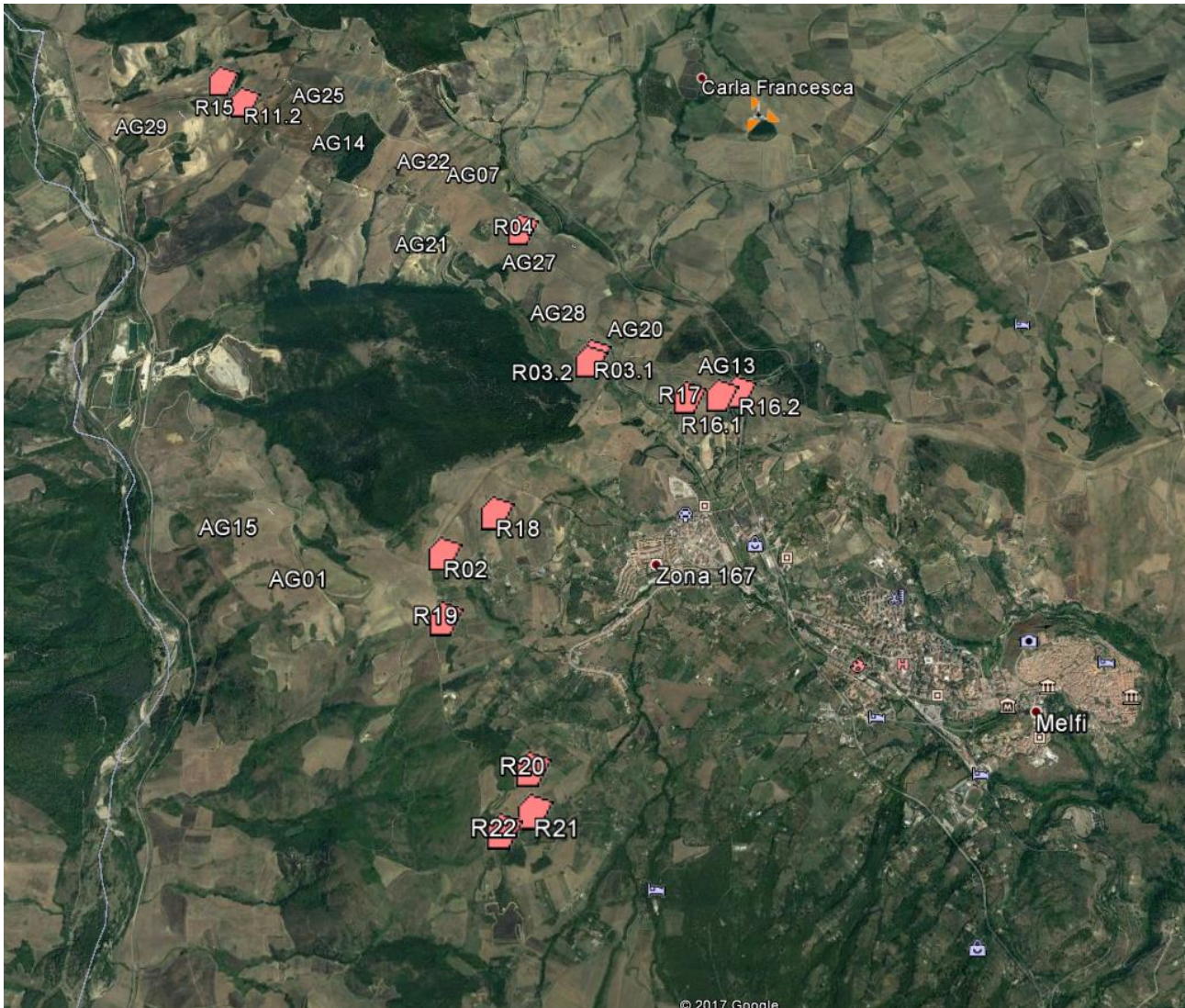


Figura 2: Individuazione dei recettori sensibili (edifici ed abitazioni) e degli aerogeneratori su ortofoto.



Restano quindi fuori calcolo i recettori che non presentano caratteristiche di abitazione (ad esempio opifici, ruderi, resti di case distrutte etc..).

3. IPOTESI DI CALCOLO

Al fine di stimare l'effetto di ombreggiamento indotto dall'impianto eolico di progetto, è stato effettuato il calcolo nell'ipotesi di "condizioni più sfavorevoli" (worst case)

Le ipotesi più restrittive prevedono 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);

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- l'aerogeneratore è sempre operativo;
- il recettore stesso è considerato completamente finestrato su tutti i suoi lati (green house mode); inoltre, nel calcolo non sono stati considerati gli eventuali ostacoli che potrebbero intercettare l'ombra generata dalle pale (filari alberi, muri perimetrali alle masserie, ecc.), tenendo conto esclusivamente della sola orografia.

Data l'assenza di una normativa di settore in Italia, si è assunto come limite di buona progettazione il rispetto di 100 ore/anno di flickering, limite rilevato anche da esperienze pregresse maturate su numerosi studi effettuati nel settore eolico.

Anche limiti superiori a tale limite possono comunque essere accettabili date le condizioni di stima adottate, e valutando poi nella fattispecie le particolari condizioni su ogni recettore.

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4. ANALISI DEI RISULTATI PER SOLO IMPIANTO DI PROGETTO

A seguire si riporta la sintesi dei risultati con riferimento alle ipotesi di calcolo richiamate nel paragrafo precedente per le sole turbine di progetto.

4.1 Worst Case

Con riferimento a tale condizione, i risultati, dettagliatamente riportati nell'allegato "**Main Result**", hanno evidenziato che nessun recettore supera il limite delle 100 ore di ombreggiamento anno. Il recettore più sollecitato riceve al più 61.48 ore/anno (recettore R04). Nello stesso report, è indicata, per ogni aerogeneratore, la durata totale di ombreggiamento annuo generata sui recettori. In particolare la torre che genera maggiore ombreggiamento è la torre indicata AG27, che genera complessive 61:48 ore di flickering all'anno sui recettori (in tal caso proprio sul recettore R04). Dalla lettura del "**Calendar**", è possibile leggere giorno per giorno, per tutto l'anno e per singolo recettore, la durata giornaliera del fenomeno, l'orario di inizio e di fine del fenomeno e l'aerogeneratore, o gli aerogeneratori, responsabili dello stesso. Con riferimento al recettore R04, dal "**Calendar**" si desume che il recettore riceve ombreggiamento durante tutti i mesi dell'anno. Il picco è stimato nel mese di ottobre con 1451 minuti complessivi. Su tale report si possono, altresì, ottenere informazioni circa:



- i giorni in cui il fenomeno del flickering è maggiormente presente
(per il recettore R04 sono alcuni giorni di marzo e il 06 ottobre 63 min. al giorno);
- per ogni giorno dell'anno, l'aerogeneratore con il quale inizia il fenomeno del flickering e quello con il quale termina
(sul recettore R04, l'aerogeneratore è AG27)
- l'ora di inizio e l'ora di fine del fenomeno e, quindi, la durata giornaliera in minuti del fenomeno
(per il recettore R04 la massima durata giornaliera di ombreggiamento è di 63 min. al giorno ad esempio il 6 ottobre);

Oltre al **Calendar**, è stato stilato anche il report **Calendar per WTG** sul quale viene riportato, per ogni aerogeneratore e per ogni giorno dell'anno, l'orario in cui lo stesso inizia a generare ombreggiamento e quello in cui il fenomeno cessa, oltre alla durata complessiva giornaliera.

In particolare, con riferimento all'aerogeneratore AG27, che tra tutti è quello che genera maggior ombreggiamento si leggono le seguenti informazioni:

- l'aerogeneratore AG27 genera flickering dal mese di settembre al mese di marzo;
- il fenomeno risulta essere maggiormente evidente nel mese di ottobre con 1451 minuti complessivi di ombreggiamento;
- la massima durata giornaliera di induzione del fenomeno è di 63 minuti che si verifica ad esempio il giorno 16 ottobre;

I risultati delle suddette elaborazioni sono riportati in formato grafico, rispettivamente, nei report "**Calendar, graphical**" e "**Calendar per WTG, graphical**". Infine, si allega la Mappa (report "**Map – Worst case**") in cui vengono indicate, 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.

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5.ANALISI DEI RISULTATI EFFETTI DI CUMULO

A seguire si riporta la sintesi dei risultati con riferimento alle ipotesi di calcolo richiamate nel paragrafo precedente per le turbine di progetto e per quelle esistenti relative agli impianti delle società Breathe srl e Alfa Wind srl che insistono nello stesso areale delle torri di progetto.

5.1 Worst Case

Con riferimento a tale condizione, i risultati, dettagliatamente riportati nell'allegato "**Main Result**", hanno evidenziato che nessun recettore supera il limite delle 100 ore di ombreggiamento anno. Il recettore più sollecitato riceve al più 63.42 ore/anno (recettore R11.2). Lo stesso recettore nelle ipotesi di considerare solo gli aerogeneratori di progetto riceveva 53.33 ore/anno di ombreggiamento.

Anche se incrementato l'ombreggiamento per tale recettore non supera i limiti tecnici di 100 ore/anno di ombreggiamento.

Nello stesso report, è indicata, per ogni aerogeneratore, la durata totale di ombreggiamento annuo generata sui recettori. In particolare la torre che genera maggiore ombreggiamento è la torre indicata AG27, che genera complessive 61.48 ore di flickering all'anno sui recettori prossimi al sito d'impianto (torre di progetto).



Dalla lettura del "**Calendar**", è possibile leggere giorno per giorno, per tutto l'anno e per singolo recettore, la durata giornaliera del fenomeno, l'orario di inizio e di fine del fenomeno e l'aerogeneratore, o gli aerogeneratori, responsabili dello stesso. Con riferimento al recettore R11.2, dal "**Calendar**" si desume che il recettore riceve ombreggiamento durante tutti i mesi dell'anno. Il picco è stimato nel mese di marzo con 1450 minuti complessivi. Su tale report si possono, altresì, ottenere informazioni circa:

- i giorni in cui il fenomeno del flickering è maggiormente presente
(per il recettore R11.2 sono i giorni dal 16-22 marzo al 23 al 26 settembre 57-60 min . al giorno);
- per ogni giorno dell'anno, l'aerogeneratore con il quale inizia il fenomeno del flickering e quello con il quale termina
(sul recettore R11.2, gli aerogeneratori che generano maggior ombreggiamento sono il n.AG27, AG29 e A21)
- l'ora di inizio e l'ora di fine del fenomeno e, quindi, la durata giornaliera in minuti del fenomeno
(per il recettore R11.2 la massima durata giornaliera di ombreggiamento è di 60 min. al giorno ad esempio il 20 marzo);

Oltre al **Calendar**, è stato stilato anche il report **Calendar per WTG** sul quale viene riportato, per ogni aerogeneratore e per ogni giorno dell'anno, l'orario in cui lo stesso inizia a generare ombreggiamento e quello in cui il fenomeno cessa, oltre alla durata complessiva giornaliera.

In particolare, con riferimento all'aerogeneratore AG27, che tra tutti è quello che genera maggior ombreggiamento si leggono le seguenti informazioni:

- l'aerogeneratore AG27 genera flickering nei mesi tra febbraio e marzo e tra settembre e novembre;
- il fenomeno risulta essere maggiormente evidente nel mese di settembre e novembre;
- la massima durata giornaliera di induzione del fenomeno è di 60 minuti che si verifica ad esempio il

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giorno 6 marzo;

I risultati delle suddette elaborazioni sono riportati in formato grafico, rispettivamente, nei report “**Calendar, graphical**” e “**Calendar per WTG, graphical**”.

Infine, si allega la Mappa (report “**Map – Worst case**”) in cui vengono indicate, 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.



6 CONSIDERAZIONI CONCLUSIVE

E’ stato verificato l’effetto di ombreggiamento indotto dall’impianto eolico di progetto e dagli impianti esistenti, sui recettori ricadenti in prossimità del sito d’impianto. Le simulazioni sono state effettuate grazie all’ausilio del software Windpro della EMD considerando la doppia ipotesi di “condizioni sfavorevoli” (worst case).

Nonostante si abbiano incrementi del fenomeno di ombreggiamento considerando l’effetto cumulativo, si osserva che gli stessi sono tali da non superare in ogni caso il limite delle 100 ore /anno (limite rilevato anche da esperienze pregresse maturate su numerosi studi effettuati nel settore eolico). In entrambi i casi, si sottolinea che i risultati sono ampiamente cautelativi, in quanto nei calcoli, sono stati esclusi tutti gli eventuali ostacoli che potrebbero intercettare l’ombra generata dalle pale (filari alberi, muri perimetrali alle masserie, ecc....), tenendo conto della sola orografia.

Come discusso nel presente studio, i limiti di ombreggiamento sono ampiamente soddisfatti in quanto, si stimano i seguenti valori di shadow-ombreggiamento:

- per solo impianto di progetto ombreggiamento massimo : R04 61:48ore;
- per impianto di progetto ed esistenti ombreggiamento massimo : R11.2 63:42

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6. ALLEGATI

Si allegano alla presente seguenti elaborati

IMPIANTO DI PROGETTO

- **Main result:** quadro sintetico dei risultati di calcolo (con risultati relativi a “worst case”);
- **Calendar :** Riporta i minuti d’ombra per ogni giorno dell’ anno e l’intervallo in cui esse si verificano, su ogni recettore (con risultati relativi a “worst case”)
- **;Calendar Graphical:** Visualizzazione grafica dell’ allegato Calendar (con risultati relativi a “worst case”);
- **Calendar per Wtg:** Riporta i minuti d’ombra per ogni giorno dell’ anno e l’intervallo in cui esse si verificano, prodotti da ogni pala (con risultati relativi a “worst case”);
- **Calendar per Wtg graphical:** Visualizzazione grafica dell’ allegato Calendar per Wtg (con risultati relativi a “worst case”);
- **Map1:** mappa delle aree soggette ad ombreggiamento (con risultati relativi a “worst case”);

IMPIANTO DI PROGETTO ED ESISTENTI (CUMULATIVO)

- **Main result:** quadro sintetico dei risultati di calcolo (con risultati relativi a “worst case”);
- **Calendar :** Riporta i minuti d’ombra per ogni giorno dell’ anno e l’intervallo in cui esse si verificano, su ogni recettore (con risultati relativi a “worst case”)
- **;Calendar Graphical:** Visualizzazione grafica dell’ allegato Calendar (con risultati relativi a “worst case”);
- **Calendar per Wtg:** Riporta i minuti d’ombra per ogni giorno dell’ anno e l’intervallo in cui esse si verificano, prodotti da ogni pala (con risultati relativi a “worst case”);
- **Calendar per Wtg graphical:** Visualizzazione grafica dell’ allegato Calendar per Wtg (con risultati relativi a “worst case”);
- **Map2:** mappa delle aree soggette ad ombreggiamento (con risultati relativi a “worst case”);

SHADOW - Main Result

Calculation: Solo torri di progetto

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

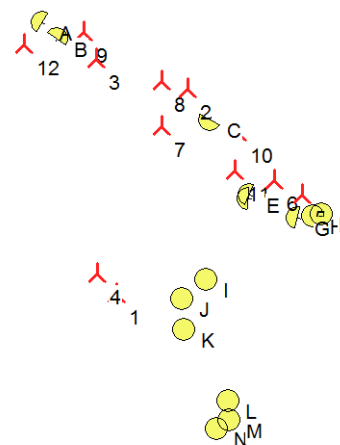
A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:

Height contours used: Height Contours: CONTOURLINE_ONLINEDATA_3.w


Obstacles used in calculation

Eye height: 1,7 m

Grid resolution: 10 m



 New WTG

Scale 1:125.000
 Shadow receptor

WTGs

UTM WGS84 Zone: 33 East	North	Z [m]	Row data/Description	WTG type			Rotor diameter [m]	Hub height [m]	Shadow data		
				Valid	Manufact.	Type-generator			Power, rated [kW]	Calculation distance [m]	RPM [RPM]
549.273	4.539.483	546,3	AG01	No	VESTAS	V136-3.450	3.450	136,0	82,0	1.712	12,8
550.435	4.542.881	509,5	AG07	No	VESTAS	V150-4.200	4.200	150,0	105,0	2.000	11,7
548.916	4.543.362	511,3	AG14	No	VESTAS	V150-4.200	4.200	150,0	124,6	2.000	11,7
548.964	4.539.816	481,2	AG15	No	VESTAS	V136-3.450	3.450	136,0	82,0	1.712	12,8
552.334	4.541.149	575,0	AG13	Yes	VESTAS	V136-3.6-3.600	3.600	136,0	82,0	1.817	11,7
551.881	4.541.382	540,3	AG20	No	VESTAS	V150-4.200	4.200	150,0	105,0	2.000	11,7
550.015	4.542.259	449,2	AG21	No	VESTAS	V150-4.200	4.200	150,0	124,6	2.000	11,7
549.997	4.542.997	525,0	AG22	No	VESTAS	V150-4.200	4.200	150,0	124,6	2.000	11,7
548.705	4.543.800	524,2	AG25	No	VESTAS	V150-4.200	4.200	150,0	105,0	2.000	11,7
551.263	4.542.172	525,0	AG27	No	VESTAS	V150-4.200	4.200	150,0	105,0	2.000	11,7
551.229	4.541.533	536,8	AG28	No	VESTAS	V150-4.200	4.200	150,0	105,0	2.000	11,7
547.716	4.543.593	425,0	AG29	No	VESTAS	V150-4.200	4.200	150,0	105,0	2.000	11,7

Shadow receptor-Input

No.	Name	UTM WGS84 Zone: 33			Width [m]	Height [m]	Height a.g.l. [m]	Degrees from south cw [°]	Slope of window [°]	Direction mode
		East	North	Z						
A	R15	548.018	4.543.953	417,1	1,0	1,0	0,0	-58,6	90,0	Fixed direction
B	R11.2	548.259	4.543.692	458,3	1,0	1,0	0,0	33,8	90,0	Fixed direction
C	R04	550.809	4.542.369	500,0	1,0	1,0	0,0	-152,3	90,0	Fixed direction
D	R03.2	551.446	4.541.081	575,0	1,0	1,0	0,0	-86,3	90,0	Fixed direction
E	R03.1	551.471	4.541.136	575,0	1,0	1,0	0,0	-65,9	90,0	Fixed direction
F	R16.2	552.667	4.540.827	570,5	1,0	1,0	0,0	0,0	90,0	"Green house mode"
G	R17	552.259	4.540.766	575,0	1,0	1,0	0,0	-75,5	90,0	Fixed direction
H	R16.1	552.521	4.540.795	564,2	1,0	1,0	0,0	0,0	90,0	"Green house mode"
I	R18	550.760	4.539.741	635,1	1,0	1,0	0,0	0,0	90,0	"Green house mode"
J	R02	550.361	4.539.422	600,0	1,0	1,0	0,0	0,0	90,0	"Green house mode"
K	R19	550.402	4.538.904	575,0	1,0	1,0	0,0	0,0	90,0	"Green house mode"
L	R20	551.134	4.537.742	602,8	1,0	1,0	0,0	0,0	90,0	"Green house mode"
M	R21	551.161	4.537.431	600,0	1,0	1,0	0,0	0,0	90,0	"Green house mode"
N	R22	550.949	4.537.283	622,1	1,0	1,0	0,0	0,0	90,0	"Green house mode"

SHADOW - Main Result

Calculation: Solo torri di progetto

Calculation Results

Shadow receptor

Shadow, worst case

No.	Name	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
A	R15	59:05	115	0:46
B	R11.2	53:33	80	1:00
C	R04	61:48	89	1:03
D	R03.2	24:15	81	0:34
E	R03.1	57:33	118	0:45
F	R16.2	10:53	65	0:13
G	R17	0:00	0	0:00
H	R16.1	3:10	34	0:08
I	R18	0:00	0	0:00
J	R02	3:14	26	0:11
K	R19	10:00	60	0:14
L	R20	0:00	0	0:00
M	R21	0:00	0	0:00
N	R22	0:00	0	0:00

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

No.	Name	Worst case [h/year]	Expected [h/year]
1	AG01	13:11	
2	AG07	0:00	
3	AG14	23:09	
4	AG15	0:00	
5	AG13	26:20	
6	AG20	39:02	
7	AG21	0:00	
8	AG22	0:00	
9	AG25	35:56	
10	AG27	61:48	
11	AG28	10:51	
12	AG29	53:33	

SHADOW - Calendar**Calculation: Solo torri di progettoShadow receptor: A - R15****Assumptions for shadow calculations**

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June		
1	07:23 16:40	07:10 17:14	08:02 (3) 08:34 (3)	06:34 17:48	06:43 19:22	08:05 (9) 08:44 (9)	05:58 19:54	05:29 20:24
2	07:23 16:41	07:09 17:15	08:02 (3) 08:34 (3)	06:33 17:49	06:42 19:23	08:06 (9) 08:42 (9)	05:56 19:55	05:28 20:24
3	07:24 16:42	07:08 17:17	08:02 (3) 08:35 (3)	06:31 17:50	06:40 19:24	08:06 (9) 08:40 (9)	05:55 19:56	05:28 20:25
4	07:24 16:42	07:07 17:18	08:02 (3) 08:35 (3)	06:29 17:52	06:38 19:25	08:08 (9) 08:39 (9)	05:54 19:57	05:27 20:26
5	07:24 16:43	07:06 17:19	08:02 (3) 08:35 (3)	06:28 17:53	06:37 19:26	08:09 (9) 08:37 (9)	05:52 19:58	05:27 20:26
6	07:24 16:44	07:05 17:20	08:03 (3) 08:35 (3)	06:26 17:54	06:35 19:28	08:11 (9) 08:35 (9)	05:51 19:59	05:27 20:27
7	07:24 16:45	07:04 17:22	08:02 (3) 08:34 (3)	06:25 17:55	06:33 19:29	08:13 (9) 08:31 (9)	05:50 20:00	05:26 20:28
8	07:23 16:46	07:03 17:23	08:03 (3) 08:34 (3)	06:23 17:56	06:32 19:30	08:17 (9) 08:26 (9)	05:49 20:01	05:26 20:28
9	07:23 16:47	07:01 17:24	08:04 (3) 08:33 (3)	06:21 17:57	06:30 19:31		05:48 20:02	05:26 20:29
10	07:23 16:48	07:00 17:25	08:05 (3) 08:33 (3)	06:20 17:58	07:28 (9) 07:38 (9)	06:29 19:32	05:47 20:03	05:26 20:29
11	07:23 16:49	06:59 17:27	08:06 (3) 08:32 (3)	06:18 18:00	07:22 (9) 07:42 (9)	06:27 19:33	05:45 20:04	05:26 20:30
12	07:23 16:50	06:58 17:28	08:06 (3) 08:30 (3)	06:17 18:01	07:19 (9) 07:44 (9)	06:25 19:34	05:44 20:05	05:25 20:31
13	07:22 16:51	06:57 17:29	08:08 (3) 08:29 (3)	06:15 18:02	07:17 (9) 07:47 (9)	06:24 19:35	05:43 20:06	05:25 20:31
14	07:22 16:53	06:55 17:30	08:10 (3) 08:28 (3)	06:13 18:03	07:15 (9) 07:48 (9)	06:22 19:36	05:42 20:07	05:25 20:31
15	07:22 16:54	06:54 17:31	08:12 (3) 08:25 (3)	06:12 18:04	07:13 (9) 07:49 (9)	06:21 19:37	05:41 20:08	05:25 20:32
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 18:06	07:12 (9) 07:50 (9)	06:19 19:38	05:40 20:09	05:25 20:32
17	07:21 16:56	06:51 17:34	06:08 18:06	06:18 18:07	07:10 (9) 07:51 (9)	06:18 19:39	05:39 20:10	05:25 20:33
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 18:07	07:09 (9) 07:51 (9)	06:16 19:40	05:38 20:11	05:25 20:33
19	07:20 16:58	06:49 17:36	06:05 18:08	06:15 18:08	07:08 (9) 07:52 (9)	06:15 19:41	05:38 20:12	05:26 20:33
20	07:19 16:59	08:13 (3) 08:18 (3)	06:47 17:38	06:03 18:09	07:07 (9) 07:52 (9)	06:13 19:42	05:37 20:13	05:26 20:34
21	07:19 17:01	08:09 (3) 08:21 (3)	06:46 17:39	06:02 18:10	07:06 (9) 07:51 (9)	06:12 19:43	05:36 20:14	05:26 20:34
22	07:18 17:02	08:08 (3) 08:24 (3)	06:44 17:40	06:00 18:12	07:06 (9) 07:52 (9)	06:10 19:45	05:35 20:15	05:26 20:34
23	07:17 17:03	08:07 (3) 08:26 (3)	06:43 17:41	05:58 18:13	07:05 (9) 07:51 (9)	06:09 19:46	05:34 20:16	05:26 20:34
24	07:17 17:04	08:05 (3) 08:27 (3)	06:42 17:42	05:57 18:14	07:05 (9) 07:51 (9)	06:07 19:47	05:34 20:17	05:26 20:34
25	07:16 17:05	08:04 (3) 08:28 (3)	06:40 17:43	05:55 18:15	07:04 (9) 07:50 (9)	06:06 19:48	05:33 20:18	05:27 20:34
26	07:15 17:07	08:04 (3) 08:30 (3)	06:39 17:45	05:53 18:16	07:04 (9) 07:50 (9)	06:04 19:49	05:32 20:19	05:27 20:35
27	07:14 17:08	08:04 (3) 08:31 (3)	06:37 17:46	05:52 18:17	07:04 (9) 07:49 (9)	06:03 19:50	05:31 20:20	05:27 20:35
28	07:14 17:09	08:03 (3) 08:32 (3)	06:36 17:47	05:50 18:18	07:04 (9) 07:48 (9)	06:02 19:51	05:31 20:20	05:28 20:35
29	07:13 17:10	08:03 (3) 08:32 (3)		06:48 19:19	08:04 (9) 08:48 (9)	06:00 19:52	05:30 20:21	05:28 20:35
30	07:12 17:12	08:02 (3) 08:33 (3)		06:47 19:20	08:04 (9) 08:46 (9)	05:59 19:53	05:30 20:22	05:29 20:35
31	07:11 17:13	08:02 (3) 08:34 (3)		06:45 19:21	08:04 (9) 08:45 (9)		05:29 20:23	
Potential sun hours	297	297	369	399	448	452		
Total, worst case	272	417	855	219				

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: Solo torri di progettoShadow receptor: A - R15****Assumptions for shadow calculations**

Maximum distance for influence 2.000 m
 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

	July	August	September	October	November	December		
1	05:29	05:53	06:24	06:54	07:58 (9)	06:28	07:34 (3)	07:03
	20:34	20:16	19:32	18:42	08:25 (9)	16:55	08:03 (3)	16:31
2	05:30	05:54	06:25	06:55	08:00 (9)	06:29	07:33 (3)	07:04
	20:34	20:14	19:31	18:40	08:22 (9)	16:54	08:03 (3)	16:31
3	05:30	05:55	06:26	06:56	08:03 (9)	06:30	07:33 (3)	07:05
	20:34	20:13	19:29	18:39	08:18 (9)	16:53	08:04 (3)	16:30
4	05:31	05:56	06:27	08:14 (9)	06:57	06:32	07:32 (3)	07:06
	20:34	20:12	19:28	08:23 (9)	18:37	16:52	08:04 (3)	16:30
5	05:31	05:57	06:28	08:09 (9)	06:58	06:33	07:33 (3)	07:07
	20:34	20:11	19:26	18:27 (9)	18:35	16:50	08:05 (3)	16:30
6	05:32	05:58	06:29	08:06 (9)	06:59	06:34	07:32 (3)	07:08
	20:34	20:10	19:24	24 08:30 (9)	18:34	16:49	08:05 (3)	16:30
7	05:32	05:59	06:30	08:04 (9)	07:00	06:35	07:32 (3)	07:09
	20:33	20:09	19:23	28 08:32 (9)	18:32	16:48	08:05 (3)	16:30
8	05:33	06:00	06:31	08:02 (9)	07:01	06:36	07:32 (3)	07:10
	20:33	20:07	19:21	31 08:33 (9)	18:30	16:47	08:05 (3)	16:30
9	05:34	06:01	06:32	08:00 (9)	07:02	06:38	07:33 (3)	07:11
	20:33	20:06	19:19	34 08:34 (9)	18:29	16:46	08:05 (3)	16:30
10	05:34	06:02	06:33	07:59 (9)	07:03	06:39	07:33 (3)	07:12
	20:32	20:05	19:18	36 08:35 (9)	18:27	16:45	08:05 (3)	16:30
11	05:35	06:03	06:34	07:58 (9)	07:04	06:40	07:33 (3)	07:12
	20:32	20:04	19:16	38 08:36 (9)	18:25	16:44	08:04 (3)	16:30
12	05:36	06:04	06:35	07:57 (9)	07:05	06:41	07:34 (3)	07:13
	20:31	20:02	19:14	40 08:37 (9)	18:24	16:43	08:05 (3)	16:30
13	05:37	06:05	06:36	07:56 (9)	07:06	06:42	07:35 (3)	07:14
	20:31	20:01	19:12	41 08:37 (9)	18:22	16:42	08:04 (3)	16:30
14	05:37	06:06	06:37	07:55 (9)	07:08	06:44	07:35 (3)	07:15
	20:30	20:00	19:11	43 08:38 (9)	18:21	16:41	08:04 (3)	16:30
15	05:38	06:07	06:38	07:54 (9)	07:09	06:45	07:36 (3)	07:16
	20:30	19:58	19:09	44 08:38 (9)	18:19	16:40	08:03 (3)	16:30
16	05:39	06:08	06:39	07:53 (9)	07:10	06:46	07:37 (3)	07:16
	20:29	19:57	19:07	45 08:38 (9)	18:18	16:39	08:03 (3)	16:31
17	05:40	06:09	06:40	07:53 (9)	07:11	06:47	07:38 (3)	07:17
	20:29	19:55	19:06	45 08:38 (9)	18:16	16:39	08:02 (3)	16:31
18	05:40	06:10	06:41	07:52 (9)	07:12	06:48	07:39 (3)	07:18
	20:28	19:54	19:04	46 08:38 (9)	18:15	16:38	08:01 (3)	16:31
19	05:41	06:11	06:42	07:52 (9)	07:13	06:49	07:41 (3)	07:18
	20:27	19:52	19:02	46 08:38 (9)	18:13	16:37	08:00 (3)	16:32
20	05:42	06:12	06:43	07:52 (9)	07:14	06:51	07:43 (3)	07:19
	20:26	19:51	19:01	46 08:38 (9)	18:12	16:36	07:59 (3)	16:32
21	05:43	06:13	06:44	07:51 (9)	07:15	06:52	07:45 (3)	07:19
	20:26	19:50	18:59	46 08:37 (9)	18:10	16:36	07:57 (3)	16:33
22	05:44	06:14	06:45	07:51 (9)	07:16	06:53	07:49 (3)	07:20
	20:25	19:48	18:57	46 08:37 (9)	18:09	16:35	07:54 (3)	16:33
23	05:45	06:15	06:46	07:51 (9)	07:18	06:54		07:20
	20:24	19:47	18:55	45 08:36 (9)	18:07	16:34		16:34
24	05:46	06:16	06:47	07:52 (9)	07:19	06:55		07:21
	20:23	19:45	18:54	43 08:35 (9)	18:06	16:34		16:34
25	05:46	06:17	06:48	07:52 (9)	06:20	06:56		07:21
	20:22	19:44	18:52	42 08:34 (9)	17:04	16:33		16:35
26	05:47	06:18	06:49	07:52 (9)	06:21	06:57		07:22
	20:22	19:42	18:50	41 08:33 (9)	17:03	6 07:51 (3)	16:33	16:35
27	05:48	06:19	06:50	07:53 (9)	06:22	07:41 (3)	06:59	07:22
	20:21	19:40	18:49	39 08:32 (9)	17:02	14 07:55 (3)	16:32	16:36
28	05:49	06:20	06:51	07:54 (9)	06:23	07:39 (3)	07:00	07:22
	20:20	19:39	18:47	37 08:31 (9)	17:00	19 07:58 (3)	16:32	16:37
29	05:50	06:21	06:52	07:55 (9)	06:24	07:37 (3)	07:01	07:23
	20:19	19:37	18:45	34 08:29 (9)	16:59	22 07:59 (3)	16:32	16:37
30	05:51	06:22	06:53	07:56 (9)	06:26	07:36 (3)	07:02	07:23
	20:18	19:36	18:44	31 08:27 (9)	16:58	24 08:00 (3)	16:31	16:38
31	05:52	06:23		06:27	07:34 (3)			07:23
	20:17	19:34		16:56	27 08:01 (3)			16:39
Potential sun hours	459	428	375	345		298	588	288
Total, worst case			1018	345	176		588	288

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: Solo torri di progetto Shadow receptor: B - R11.2

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December			
1	07:23 16:40	07:10 17:14	06:34 17:48	16:58 (12) 17:27 (12)	06:43 19:22	18:03 (12) 18:26 (12)	05:58 19:54	05:29 20:24	05:29 20:34	05:53 20:16	06:24 19:32	06:54 18:42	17:28 (12) 18:19 (12)	06:28 16:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:33 17:49	16:56 (12) 17:27 (12)	06:42 19:23	18:07 (12) 18:21 (12)	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 18:40	17:28 (12) 18:18 (12)	06:29 16:54	07:04 16:31
3	07:24 16:42	07:08 17:17	06:31 17:50	16:55 (12) 17:29 (12)	06:40 19:24		05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:39	17:27 (12) 18:16 (12)	06:30 16:53	07:05 16:30
4	07:24 16:42	07:07 17:18	06:29 17:52	16:54 (12) 17:30 (12)	06:38 19:25		05:54 19:57	05:27 20:26	05:31 20:34	05:56 20:12	06:27 19:28	06:57 18:37	17:27 (12) 18:14 (12)	06:32 16:52	07:06 16:30
5	07:24 16:43	07:06 17:19	06:28 17:53	16:53 (12) 17:32 (12)	06:37 19:26		05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 19:26	06:58 18:35	17:27 (12) 18:12 (12)	06:33 16:50	07:07 16:30
6	07:24 16:44	07:05 17:20	06:26 17:54	16:52 (12) 17:33 (12)	06:35 19:28		05:51 19:59	05:27 20:27	05:32 20:34	05:58 20:10	06:29 19:24	06:59 18:34	17:27 (12) 18:11 (12)	06:34 16:49	07:08 16:30
7	07:23 16:45	07:04 17:22	06:25 17:55	16:51 (12) 17:33 (12)	06:33 19:29		05:50 20:00	05:26 20:28	05:32 20:33	05:59 20:09	06:30 19:23	07:00 18:32	17:27 (12) 18:09 (12)	06:35 16:48	07:09 16:30
8	07:23 16:46	07:03 17:23	06:23 17:56	16:51 (12) 17:35 (12)	06:32 19:30		05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 19:21	07:01 18:30	17:28 (12) 18:07 (12)	06:36 16:47	07:10 16:30
9	07:23 16:47	07:01 17:24	06:21 17:57	16:50 (12) 17:36 (12)	06:30 19:31		05:48 20:02	05:26 20:29	05:34 20:33	06:01 20:06	06:32 19:19	07:02 18:29	17:28 (12) 18:05 (12)	06:38 16:46	07:11 16:30
10	07:23 16:48	07:00 17:25	06:20 17:58	16:50 (12) 17:38 (12)	06:29 19:32		05:47 20:03	05:26 20:29	05:34 20:32	06:02 20:05	06:33 19:18	07:03 18:13 (12)	17:29 (12) 18:27	06:39 16:45	07:12 16:30
11	07:23 16:49	06:59 17:27	06:18 18:00	16:49 (12) 17:38 (12)	06:27 19:33		05:45 20:04	05:26 20:30	05:35 20:32	06:03 20:04	06:34 19:16	07:04 18:18 (12)	17:55 (12) 18:25	06:40 16:44	07:12 16:30
12	07:23 16:50	06:58 17:28	06:17 18:01	16:48 (12) 17:39 (12)	06:25 19:34		05:44 20:05	05:25 20:31	05:36 20:31	06:04 20:02	06:35 19:14	07:05 18:21 (12)	17:52 (12) 18:24	06:41 16:43	07:13 16:30
13	07:22 16:51	06:57 17:29	06:15 18:02	16:49 (12) 17:41 (12)	06:24 19:35		05:43 20:06	05:25 20:31	05:37 20:31	06:05 20:01	06:36 19:12	07:06 18:23 (12)	17:49 (12) 18:22	06:42 16:42	07:14 16:30
14	07:22 16:53	06:55 17:30	06:13 18:03	16:48 (12) 17:42 (12)	06:22 19:36		05:42 20:07	05:25 20:31	05:37 20:30	06:06 20:00	06:37 19:11	07:08 18:24 (12)	17:47 (12) 18:21	06:43 16:41	07:15 16:30
15	07:22 16:54	06:54 17:31	06:12 18:04	16:48 (12) 17:43 (12)	06:21 19:37		05:41 20:08	05:25 20:32	05:38 20:30	06:07 19:58	06:38 19:09	07:09 18:26 (12)	17:44 (12) 18:19	06:45 16:40	07:15 16:30
16	07:21 16:55	06:53 17:33	06:10 18:05	16:48 (12) 17:44 (12)	06:19 19:38		05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:39 19:07	07:10 18:27 (12)	17:42 (12) 18:18	06:46 16:39	07:16 16:31
17	07:21 16:56	06:51 17:34	06:08 18:06	16:48 (12) 17:45 (12)	06:18 19:39		05:39 20:10	05:25 20:33	05:40 20:29	06:09 19:55	06:40 19:06	07:11 18:28 (12)	17:41 (12) 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 18:07	16:48 (12) 17:46 (12)	06:16 19:40		05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 19:04	07:12 18:29 (12)	17:39 (12) 18:15	06:48 16:38	07:18 16:31
19	07:20 16:58	06:49 17:36	06:05 18:08	16:48 (12) 17:48 (12)	06:15 19:41		05:38 20:12	05:25 20:33	05:41 20:27	06:11 19:52	06:42 19:02	07:13 18:29 (12)	17:38 (12) 18:13	06:49 16:37	07:18 16:32
20	07:19 16:59	06:47 17:38	06:03 18:09	16:48 (12) 17:47 (12)	06:13 19:42		05:37 20:13	05:26 20:34	05:42 20:26	06:12 19:51	06:43 19:01	07:14 18:30 (12)	17:36 (12) 18:12	06:51 16:36	07:19 16:32
21	07:19 17:01	06:46 17:39	06:02 18:10	16:48 (12) 17:46 (12)	06:12 19:43		05:36 20:14	05:26 20:34	05:43 20:26	06:13 19:50	06:44 18:59	07:15 18:32 (12)	17:35 (12) 18:10	06:52 16:36	07:19 16:33
22	07:18 17:02	06:44 17:40	06:00 17:16 (12)	16:49 (12) 17:45 (12)	06:10 19:44		05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	07:16 18:31 (12)	17:34 (12) 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 17:11 (12)	16:50 (12) 17:44 (12)	06:09 19:46		05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:47	06:46 18:55	07:17 18:32 (12)	17:33 (12) 18:07	06:54 16:34	07:20 16:33
24	07:17 17:04	06:42 17:42	05:57 17:08 (12)	16:50 (12) 17:42 (12)	06:07 19:47		05:34 20:17	05:26 20:34	05:46 20:26	06:16 19:45	06:47 18:54	07:19 18:31 (12)	17:32 (12) 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 17:05 (12)	16:50 (12) 17:41 (12)	06:06 19:48		05:33 20:18	05:27 20:34	05:47 20:22	06:17 19:43	06:48 18:52	07:20 18:30 (12)	17:31 (12) 18:04	06:56 16:33	07:21 16:35
26	07:15 17:07	06:39 17:45	05:53 17:03 (12)	16:52 (12) 17:40 (12)	06:04 19:49		05:32 20:19	05:27 20:35	05:47 20:21	06:18 19:42	06:49 18:50	07:21 18:32 (12)	17:30 (12) 18:03	06:57 16:33	07:22 16:35
27	07:14 17:08	06:37 17:46	05:52 17:01 (12)	16:53 (12) 17:38 (12)	06:03 19:50		05:31 20:20	05:27 20:35	05:48 20:21	06:19 19:40	06:50 18:49	07:22 18:26 (12)	17:30 (12) 18:02	06:59 16:32	07:22 16:36
28	07:14 17:09	06:36 17:47	05:50 17:00 (12)	16:54 (12) 17:36 (12)	06:02 19:51		05:31 20:20	05:28 20:35	05:49 20:20	06:20 19:39	06:51 18:47	07:23 18:25 (12)	17:29 (12) 18:00	06:52 16:32	07:23 16:37
29	07:13 17:10	06:35 17:48	05:48 17:02 (12)	16:54 (12) 17:52 (12)	06:00 19:52		05:30 20:21	05:28 20:35	05:50 20:19	06:21 19:37	06:52 18:45	07:24 18:23 (12)	17:28 (12) 18:05	06:53 16:32	07:23 16:37
30	07:12 17:12	06:34 17:49	05:47 17:03 (12)	16:55 (12) 18:32 (12)	05:59 19:53		05:30 20:22	05:29 20:35	05:51 20:18	06:22 19:36	06:53 18:44	07:25 18:21 (12)	17:28 (12) 18:06	06:26 16:31	07:23 16:38
31	07:11 17:13	06:33 17:50	05:46 17:04 (12)	16:56 (12) 18:29 (12)	05:58 19:54		05:29 20:23	05:52 20:17	05:52 20:17	06:23 19:34	06:23 18:44	07:26 18:21 (12)	17:29 (12) 18:07	06:27 16:56	07:23 16:39
Potential sun hours	297	297	369	399	448	452	459	428	375	298	345	298	288	288	288
Total, worst case		109	1450	37					989	628					

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	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: Solo torri di progetto Shadow receptor: C - R04

Assumptions for shadow calculations

Maximum distance for influence 2.000 m

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

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:23 16:40	07:10 17:14	06:34 17:48	07:24 (10) 08:19 (10)	06:43 19:22	05:57 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 19:32	08:05 (10) 09:01 (10)	06:28 16:55	07:08 (10) 07:24 (10)	07:03 16:31
2	07:23 16:41	07:09 17:15	06:32 17:49	07:23 (10) 08:20 (10)	06:42 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	08:04 (10) 09:02 (10)	06:29 16:54	07:11 (10) 07:23 (10)	07:04 16:30
3	07:23 16:41	07:08 17:16	06:31 17:50	07:23 (10) 08:22 (10)	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	08:03 (10) 09:02 (10)	06:30 16:53	07:14 (10) 07:22 (10)	07:05 16:30
4	07:23 16:42	07:07 17:18	06:29 17:51	07:23 (10) 08:22 (10)	06:38 19:25	05:54 19:57	05:27 20:26	05:31 20:34	05:56 20:12	06:27 19:27	08:02 (10) 09:03 (10)	06:31 16:51	07:16 (10) 07:20 (10)	07:06 16:30
5	07:23 16:43	07:06 17:19	06:28 17:53	07:24 (10) 08:24 (10)	06:37 19:26	05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 19:26	08:01 (10) 09:03 (10)	06:33 16:50	07:07 07:10	07:07 16:30
6	07:23 16:44	07:05 17:20	06:26 17:54	07:23 (10) 08:25 (10)	06:35 19:27	05:51 19:59	05:27 20:27	05:32 20:33	05:58 20:10	06:29 19:24	08:00 (10) 09:03 (10)	06:34 16:49	07:08 07:09	07:08 16:30
7	07:22 16:45	07:04 17:21	06:25 17:55	07:23 (10) 08:26 (10)	06:33 19:28	05:50 20:00	05:26 20:28	05:32 20:33	05:59 20:08	06:30 19:22	07:59 (10) 09:01 (10)	06:35 16:48	07:11 (10) 07:14 (10)	07:09 16:30
8	07:23 16:46	07:02 17:23	06:23 17:56	07:24 (10) 08:27 (10)	06:32 19:29	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 19:21	07:58 (10) 09:00 (10)	06:36 16:47	07:10 07:10	07:10 16:30
9	07:23 16:47	07:01 17:24	06:21 17:57	07:24 (10) 08:26 (10)	06:30 19:31	05:48 20:02	05:26 20:29	05:34 20:32	06:01 20:06	06:32 19:19	07:58 (10) 09:03 (10)	06:37 16:46	07:10 07:10	07:10 16:30
10	07:23 16:48	07:00 17:25	06:20 17:58	07:24 (10) 08:24 (10)	06:28 19:32	05:46 20:03	05:26 20:29	05:34 20:32	06:02 20:05	06:33 19:17	07:57 (10) 09:04 (10)	06:39 16:45	07:11 07:11	07:11 16:30
11	07:23 16:49	06:59 17:26	06:18 17:59	07:25 (10) 08:24 (10)	06:27 19:33	05:45 20:04	05:26 20:32	05:35 20:32	06:03 20:03	06:34 19:16	07:57 (10) 09:04 (10)	06:40 16:44	07:12 07:12	07:12 16:30
12	07:22 16:50	06:58 17:28	06:16 18:00	07:25 (10) 08:22 (10)	06:25 19:34	05:44 20:05	05:25 20:30	05:36 20:31	06:04 20:02	06:35 19:14	07:57 (10) 09:04 (10)	06:41 16:43	07:13 07:13	07:13 16:30
13	07:22 16:51	06:56 17:29	06:15 18:02	07:26 (10) 08:21 (10)	06:24 19:35	05:43 20:06	05:25 20:31	05:36 20:31	06:05 20:01	06:36 19:12	07:56 (10) 09:05 (10)	06:42 16:42	07:14 07:14	07:14 16:30
14	07:22 16:52	06:55 17:30	06:13 18:03	07:27 (10) 08:19 (10)	06:22 19:36	05:42 20:07	05:25 20:31	05:37 20:30	06:06 19:59	06:37 19:11	07:57 (10) 09:06 (10)	06:43 16:41	07:15 07:15	07:15 16:30
15	07:21 16:54	06:54 17:31	06:12 18:04	07:27 (10) 08:17 (10)	06:21 19:37	05:41 20:08	05:25 20:32	05:38 20:30	06:07 19:58	06:38 19:09	07:56 (10) 09:07 (10)	06:45 16:40	07:15 07:15	07:15 16:30
16	07:21 16:55	06:53 17:33	06:10 18:05	07:28 (10) 08:15 (10)	06:19 19:38	05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:39 19:07	07:56 (10) 09:08 (10)	06:46 16:39	07:16 07:16	07:16 16:30
17	07:21 16:56	06:51 17:34	06:08 18:06	07:30 (10) 08:14 (10)	06:17 19:39	05:39 20:10	05:25 20:32	05:40 20:28	06:09 19:55	06:40 19:06	07:56 (10) 09:09 (10)	06:47 16:39	07:17 07:17	07:17 16:30
18	07:20 16:57	06:50 17:35	06:07 18:07	07:31 (10) 08:11 (10)	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 19:04	07:56 (10) 09:10 (10)	06:48 16:39	07:17 07:17	07:17 16:30
19	07:20 16:58	06:49 17:36	06:05 18:08	07:32 (10) 08:07 (10)	06:15 19:41	05:37 20:12	05:25 20:33	05:41 20:27	06:11 19:52	06:42 19:02	07:57 (10) 09:11 (10)	06:49 16:37	07:18 07:18	07:18 16:30
20	07:19 16:59	06:47 17:37	06:03 18:09	07:33 (10) 08:07 (10)	06:13 19:42	05:37 20:13	05:26 20:33	05:42 20:26	06:12 19:51	06:43 19:00	07:57 (10) 09:12 (10)	06:50 16:36	07:19 07:19	07:19 16:30
21	07:18 17:01	06:46 17:39	06:02 18:10	07:34 (10) 08:09 (10)	06:11 19:43	05:36 20:14	05:26 20:34	05:43 20:26	06:13 19:49	06:44 18:59	07:58 (10) 09:13 (10)	06:52 16:36	07:19 07:19	07:19 16:30
22	07:18 17:02	06:44 17:40	06:00 18:11	07:35 (10) 08:10 (10)	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	07:59 (10) 09:14 (10)	06:53 16:35	07:20 07:20	07:20 16:30
23	07:17 17:03	06:43 17:41	05:58 18:12	07:36 (10) 08:12 (10)	06:08 19:45	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:46	06:46 18:55	07:59 (10) 09:15 (10)	06:54 16:34	07:21 07:21	07:21 16:30
24	07:16 17:04	06:41 17:42	05:57 18:14	07:37 (10) 08:13 (10)	06:07 19:46	05:33 20:17	05:26 20:34	05:45 20:23	06:16 19:45	06:47 18:54	07:59 (10) 09:16 (10)	06:55 16:34	07:22 07:22	07:22 16:30
25	07:16 17:05	06:40 17:43	05:55 18:15	07:38 (10) 08:14 (10)	06:06 19:48	05:32 20:18	05:26 20:34	05:46 20:22	06:17 19:43	06:48 18:52	07:59 (10) 09:17 (10)	06:56 16:33	07:23 07:23	07:23 16:30
26	07:15 17:07	06:38 17:45	05:53 18:16	07:39 (10) 08:15 (10)	06:04 19:49	05:32 20:19	05:27 20:34	05:47 20:21	06:18 19:42	06:49 18:50	07:59 (10) 09:18 (10)	06:57 16:33	07:24 07:24	07:24 16:30
27	07:14 17:08	06:37 17:46	05:52 18:17	07:40 (10) 08:17 (10)	06:03 19:52	05:31 20:20	05:27 20:34	05:48 20:20	06:19 19:40	06:50 18:48	07:59 (10) 09:19 (10)	06:58 16:32	07:25 07:25	07:25 16:30
28	07:13 17:09	06:35 17:47	05:50 18:18	07:41 (10) 08:17 (10)	06:01 19:51	05:31 20:20	05:28 20:34	05:49 20:19	06:20 19:39	06:51 18:47	07:59 (10) 09:20 (10)	06:59 16:31	07:26 07:26	07:26 16:30
29	07:13 17:10	06:34 17:48	05:48 18:19	07:42 (10) 08:18 (10)	06:00 19:52	05:30 20:21	05:28 20:34	05:50 20:18	06:21 19:37	06:52 18:45	07:59 (10) 09:21 (10)	07:00 16:30	07:27 07:27	07:27 16:30
30	07:12 17:11	06:47 17:49	05:47 18:20	07:43 (10) 08:19 (10)	05:59 19:53	05:30 20:22	05:29 20:34	05:51 20:17	06:22 19:36	06:53 18:43	07:59 (10) 09:22 (10)	07:02 16:31	07:28 07:28	07:28 16:30
31	07:11 17:13	06:45 17:51	05:45 18:21	07:44 (10) 08:20 (10)	05:48 19:54	05:29 20:23	05:28 20:34	05:52 20:16	06:23 19:34	06:54 18:42	07:59 (10) 09:23 (10)	07:03 16:32	07:29 07:29	07:29 16:30
Potential sun hours	297	297	369	399	448	452	459	428	375	345	298	40	288	288
Total, worst case		731	1108						378	1451	40			

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: Solo torri di progettoShadow receptor: D - R03.2****Assumptions for shadow calculations**

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June		
1	07:23	07:10	06:34	06:43	07:02 (5)	05:57	05:29	
	16:40	17:14	17:48	19:22	07:23 (5)	19:54	20:23	
2	07:23	07:09	06:32	06:41	07:00 (5)	05:56	05:28	
	16:41	17:15	17:49	19:23	07:23 (5)	19:55	20:24	
3	07:23	07:08	06:31	06:40	06:58 (5)	05:55	05:28	
	16:41	17:16	17:50	19:24	07:23 (5)	19:56	20:25	
4	07:23	07:07	06:29	06:38	06:57 (5)	05:54	05:27	
	16:42	17:18	17:51	19:25	07:24 (5)	19:57	20:25	
5	07:23	07:06	06:28	06:37	06:55 (5)	05:52	05:27	05:49 (6)
	16:43	17:19	17:53	19:26	07:23 (5)	19:58	20:26	2 05:51 (6)
6	07:23	07:05	06:26	06:35	06:53 (5)	05:51	05:27	05:48 (6)
	16:44	17:20	17:54	19:27	07:23 (5)	19:59	20:27	5 05:53 (6)
7	07:23	07:04	06:24	06:33	06:52 (5)	05:50	05:26	05:48 (6)
	16:45	17:21	17:55	19:28	07:23 (5)	20:00	20:27	6 05:54 (6)
8	07:23	07:02	06:23	06:32	06:50 (5)	05:49	05:26	05:48 (6)
	16:46	17:23	17:56	19:29	07:22 (5)	20:01	20:28	8 05:56 (6)
9	07:23	07:01	06:21	06:30	06:49 (5)	05:48	05:26	05:48 (6)
	16:47	17:24	17:57	19:31	07:22 (5)	20:02	20:29	9 05:57 (6)
10	07:23	07:00	06:20	06:28	06:47 (5)	05:46	05:26	05:48 (6)
	16:48	17:25	17:58	19:32	07:21 (5)	20:03	20:29	11 05:59 (6)
11	07:23	06:59	06:18	06:27	06:47 (5)	05:45	05:26	05:48 (6)
	16:49	17:26	17:59	19:33	07:19 (5)	20:04	20:30	12 06:00 (6)
12	07:22	06:58	06:16	06:25	06:48 (5)	05:44	05:25	05:47 (6)
	16:50	17:28	18:00	19:34	07:19 (5)	20:05	20:30	12 05:59 (6)
13	07:22	06:56	06:15	06:24	06:49 (5)	05:43	05:25	05:47 (6)
	16:51	17:29	18:02	19:35	07:17 (5)	20:06	20:31	13 06:00 (6)
14	07:22	06:55	06:13	06:22	06:50 (5)	05:42	05:25	05:47 (6)
	16:52	17:30	18:03	19:36	07:16 (5)	20:07	20:31	14 06:01 (6)
15	07:21	06:54	06:11	06:21	06:51 (5)	05:41	05:25	05:47 (6)
	16:54	17:31	18:04	19:37	07:14 (5)	20:08	20:32	15 06:02 (6)
16	07:21	06:53	06:10	06:19	06:53 (5)	05:40	05:25	05:47 (6)
	16:55	17:33	18:05	19:38	07:12 (5)	20:09	20:32	15 06:02 (6)
17	07:21	06:51	06:08	06:17	06:55 (5)	05:39	05:25	05:48 (6)
	16:56	17:34	18:06	19:39	07:09 (5)	20:10	20:32	15 06:03 (6)
18	07:20	06:50	06:07	06:16	06:58 (5)	05:38	05:25	05:48 (6)
	16:57	17:35	18:07	19:40	20:11	20:33	16 06:04 (6)	
19	07:20	06:48	06:05	06:14	06:57 (5)	05:37	05:25	05:48 (6)
	16:58	17:36	18:08	19:41	20:12	20:33	16 06:04 (6)	
20	07:19	06:47	06:03	06:13	06:57 (5)	05:36	05:26	05:48 (6)
	16:59	17:37	18:09	19:42	20:13	20:33	16 06:04 (6)	
21	07:18	06:46	06:02	06:11	06:56 (5)	05:36	05:26	05:48 (6)
	17:01	17:39	18:10	19:43	20:14	20:34	16 06:04 (6)	
22	07:18	06:44	06:00	06:10	06:55 (5)	05:35	05:26	05:48 (6)
	17:02	17:40	18:11	19:44	20:15	20:34	16 06:04 (6)	
23	07:17	06:43	05:58	06:08	06:54 (5)	05:34	05:26	05:49 (6)
	17:03	17:41	18:12	19:45	20:16	20:34	16 06:05 (6)	
24	07:16	06:41	05:57	06:07	06:53 (5)	05:33	05:26	05:49 (6)
	17:04	17:42	18:14	19:46	20:17	20:34	16 06:05 (6)	
25	07:16	06:40	05:55	06:06	06:52 (5)	05:33	05:27	05:49 (6)
	17:05	17:43	18:15	19:47	20:18	20:34	16 06:05 (6)	
26	07:15	06:38	05:53	06:12 (5)	06:04	05:32	05:27	05:50 (6)
	17:07	17:45	18:16	2 06:14 (5)	19:49	20:18	20:34	15 06:05 (6)
27	07:14	06:37	05:51	06:10 (5)	06:03	05:31	05:27	05:50 (6)
	17:08	17:46	18:17	7 06:17 (5)	19:50	20:19	20:34	15 06:05 (6)
28	07:13	06:35	05:50	06:08 (5)	06:01	05:31	05:28	05:50 (6)
	17:09	17:47	18:18	11 06:19 (5)	19:51	20:20	20:34	14 06:04 (6)
29	07:12		06:48	07:07 (5)	06:00	05:30	05:28	05:51 (6)
	17:10		19:19	14 07:21 (5)	19:52	20:21	20:34	14 06:05 (6)
30	07:12		06:46	07:05 (5)	05:59	05:30	05:29	05:51 (6)
	17:11		19:20	17 07:22 (5)	19:53	20:22	20:34	13 06:04 (6)
31	07:11		06:45	07:03 (5)		05:29		
	17:13		19:21	19 07:22 (5)		20:23		
Potential sun hours	297	297	369	399	448	452	336	
Total, worst case			70	457				

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: Solo torri di progettoShadow receptor: D - R03.2****Assumptions for shadow calculations**

Maximum distance for influence 2.000 m
 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

	July	August	September	October	November	December		
1	05:29	05:52 (6)	05:53	06:24	06:46 (5)	06:54	06:28	07:03
	20:34	06:04 (6)	20:15	19:32	07:18 (5)	18:42	16:55	16:31
2	05:30	05:52 (6)	05:54	06:25	06:45 (5)	06:55	06:29	07:04
	20:34	06:03 (6)	20:14	19:31	07:19 (5)	18:40	16:54	16:30
3	05:30	05:53 (6)	05:55	06:26	06:46 (5)	06:56	06:30	07:05
	20:34	06:03 (6)	20:13	19:29	07:19 (5)	18:38	16:53	16:30
4	05:31	05:53 (6)	05:56	06:27	06:47 (5)	06:57	06:31	07:06
	20:34	06:02 (6)	20:12	19:27	07:19 (5)	18:37	16:51	16:30
5	05:31	05:54 (6)	05:57	06:28	06:48 (5)	06:58	06:33	07:07
	20:34	06:01 (6)	20:11	19:26	07:19 (5)	18:35	16:50	16:30
6	05:32	05:54 (6)	05:58	06:29	06:49 (5)	06:59	06:34	07:08
	20:33	05:59 (6)	20:10	19:24	07:19 (5)	18:33	16:49	16:30
7	05:32	05:55 (6)	05:59	06:30	06:50 (5)	07:00	06:35	07:09
	20:33	05:58 (6)	20:08	19:22	07:18 (5)	18:32	16:48	16:30
8	05:33	05:56 (6)	06:00	06:31	06:51 (5)	07:01	06:36	07:10
	20:33	05:57 (6)	20:07	19:21	07:18 (5)	18:30	16:47	16:30
9	05:34	06:01	06:03	06:32	06:52 (5)	07:02	06:37	07:10
	20:32	20:06	19:19	19:19	07:17 (5)	18:29	16:46	16:30
10	05:34	06:02	06:33	06:33	06:53 (5)	07:03	06:39	07:11
	20:32	20:05	19:17	19:17	07:16 (5)	18:27	16:45	16:30
11	05:35	06:03	06:34	06:34	06:54 (5)	07:04	06:40	07:12
	20:32	20:03	19:16	19:16	07:15 (5)	18:25	16:44	16:30
12	05:36	06:04	06:35	06:35	06:55 (5)	07:05	06:41	07:13
	20:31	20:02	19:14	19:14	07:14 (5)	18:24	16:43	16:30
13	05:36	06:05	06:36	06:36	06:56 (5)	07:06	06:42	07:14
	20:31	20:01	19:12	19:12	07:13 (5)	18:22	16:42	16:30
14	05:37	06:06	06:37	06:37	06:57 (5)	07:07	06:43	07:15
	20:30	19:59	19:11	19:11	07:11 (5)	18:21	16:41	16:30
15	05:38	06:07	06:38	06:38	06:58 (5)	07:08	06:44	07:15
	20:29	19:58	19:09	19:09	07:09 (5)	18:19	16:40	16:30
16	05:39	06:08	06:39	06:39	06:59 (5)	07:10	06:46	07:16
	20:29	19:57	19:07	19:07	07:07 (5)	18:18	16:39	16:31
17	05:40	06:09	06:40	06:40	07:00 (5)	07:11	06:47	07:17
	20:28	19:55	19:05	19:05	07:03 (5)	18:16	16:39	16:31
18	05:40	06:10	06:41	06:41	07:12	07:12	06:48	07:17
	20:28	19:54	19:04	19:04	18:14	16:38	16:31	
19	05:41	06:11	06:42	06:42	07:13	06:49	07:18	
	20:27	19:52	19:02	19:02	18:13	16:37	16:32	
20	05:42	06:12	06:43	06:43	07:14	06:50	07:19	
	20:26	19:51	19:00	19:00	18:11	16:36	16:32	
21	05:43	06:13	06:43	06:43	07:15	06:52	07:19	
	20:25	19:49	18:59	18:59	18:10	16:36	16:32	
22	05:44	06:14	06:45	06:45	07:16	06:53	07:20	
	20:25	19:48	18:57	18:57	18:09	16:35	16:33	
23	05:45	06:15	06:46	06:46	07:17	06:54	07:20	
	20:24	19:46	18:55	18:55	18:07	16:34	16:33	
24	05:45	06:16	06:47	06:47	07:19	06:55	07:21	
	20:23	19:45	18:54	18:54	18:06	16:34	16:34	
25	05:46	06:17	07:03 (5)	06:48	06:20	06:56	07:21	
	20:22	19:43	07:07 (5)	18:52	17:04	16:33	16:35	
26	05:47	06:18	06:58 (5)	06:49	06:21	06:57	07:21	
	20:21	19:42	07:12 (5)	18:50	17:03	16:33	16:35	
27	05:48	06:19	06:55 (5)	06:50	06:22	06:58	07:22	
	20:20	19:40	07:14 (5)	18:48	17:02	16:32	16:36	
28	05:49	06:20	06:53 (5)	06:51	06:23	06:59	07:22	
	20:19	19:39	07:16 (5)	18:47	17:00	16:32	16:37	
29	05:50	06:21	06:51 (5)	06:52	06:24	07:01	07:22	
	20:18	19:37	07:17 (5)	18:45	16:59	16:31	16:37	
30	05:51	06:22	06:50 (5)	06:53	06:25	07:02	07:23	
	20:17	19:35	07:18 (5)	18:43	16:58	16:31	16:38	
31	05:52	06:23	06:48 (5)	06:54	06:27	07:03	07:23	
	20:16	19:34	07:19 (5)	18:41	16:56	16:30	16:39	
Potential sun hours	459	428	375	388	345	298	288	
Total, worst case	59	145	388	388	345	298	288	

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: Solo torri di progettoShadow receptor: E - R03.1

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June		
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 17:48	07:02 (5) 07:35 (5)	05:57 19:54	05:29 20:23	05:50 (6) 06:25 (6)
2	07:23 16:41	07:09 17:15	06:32 17:49	06:41 19:23	07:00 (5) 07:34 (5)	05:56 19:55	05:28 20:24	05:50 (6) 06:26 (6)
3	07:23 16:41	07:08 17:16	06:31 17:50	06:40 19:24	06:58 (5) 07:33 (5)	05:55 19:56	05:28 20:25	05:49 (6) 06:26 (6)
4	07:23 16:42	07:07 17:18	06:29 17:51	06:38 19:25	06:59 (5) 07:32 (5)	05:54 19:57	05:27 20:25	05:49 (6) 06:27 (6)
5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 19:26	06:59 (5) 07:31 (5)	05:52 19:58	05:27 20:26	05:49 (6) 06:28 (6)
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 19:27	07:00 (5) 07:29 (5)	05:51 19:59	05:27 20:27	05:48 (6) 06:28 (6)
7	07:23 16:45	07:04 17:21	06:24 17:55	06:33 19:28	07:01 (5) 07:28 (5)	05:50 20:00	05:26 20:27	05:48 (6) 06:28 (6)
8	07:23 16:46	07:02 17:23	06:23 17:56	06:32 19:29	07:02 (5) 07:26 (5)	05:49 20:01	05:26 20:28	05:48 (6) 06:29 (6)
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:31	07:04 (5) 07:25 (5)	05:48 20:02	05:26 20:29	05:48 (6) 06:30 (6)
10	07:23 16:48	07:00 17:25	06:20 17:58	06:28 19:32	07:06 (5) 07:22 (5)	05:46 20:03	05:26 20:29	05:48 (6) 06:30 (6)
11	07:23 16:49	06:59 17:26	06:18 17:59	06:27 19:33	07:09 (5) 07:17 (5)	05:45 20:04	05:26 20:30	05:48 (6) 06:31 (6)
12	07:22 16:50	06:58 17:28	06:16 18:00	06:25 19:34	05:44 20:05	05:44 20:05	05:25 20:30	05:47 (6) 06:30 (6)
13	07:22 16:51	06:56 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:43 20:06	05:25 20:31	05:47 (6) 06:31 (6)
14	07:22 16:52	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:42 20:07	05:25 20:31	05:47 (6) 06:31 (6)
15	07:21 16:54	06:54 17:31	06:11 18:04	06:21 19:37	05:41 20:08	05:41 20:08	05:25 20:32	05:47 (6) 06:32 (6)
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:40 20:09	05:25 20:32	05:47 (6) 06:32 (6)
17	07:21 16:56	06:51 17:34	06:08 18:06	06:17 19:39	05:39 20:10	05:39 20:10	05:25 20:32	05:48 (6) 06:33 (6)
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:38 20:11	05:25 20:33	05:48 (6) 06:33 (6)
19	07:20 16:58	06:48 17:36	06:05 18:08	06:14 19:41	05:37 20:12	5 06:04 (6) 05:58 (6)	05:25 20:33	05:48 (6) 06:33 (6)
20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	9 06:07 (6) 05:57 (6)	05:26 20:33	05:48 (6) 06:33 (6)
21	07:18 17:01	06:46 17:39	06:02 18:10	06:11 19:43	05:36 20:14	05:56 (6) 06:11 (6)	05:26 20:34	05:48 (6) 06:33 (6)
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:56 (6) 06:14 (6)	05:26 20:34	05:48 (6) 06:33 (6)
23	07:17 17:03	06:43 17:41	05:58 18:12	06:10 19:45	05:34 20:16	05:55 (6) 06:15 (6)	05:26 20:34	05:49 (6) 06:34 (6)
24	07:16 17:04	06:41 17:42	05:57 18:14	06:07 19:46	05:33 20:17	05:54 (6) 06:16 (6)	05:26 20:34	05:49 (6) 06:34 (6)
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:47	05:33 20:18	05:54 (6) 06:18 (6)	05:27 20:34	05:49 (6) 06:34 (6)
26	07:15 17:07	06:38 17:45	05:53 18:16	06:04 19:49	05:32 20:18	05:53 (6) 06:19 (6)	05:27 20:34	05:50 (6) 06:35 (6)
27	07:14 17:08	06:37 17:46	05:51 18:17	06:03 19:50	05:31 20:19	05:52 (6) 06:20 (6)	05:27 20:34	05:50 (6) 06:35 (6)
28	07:13 17:09	06:35 17:47	05:50 18:18	06:01 19:51	05:31 20:20	05:52 (6) 06:21 (6)	05:28 20:34	05:50 (6) 06:34 (6)
29	07:12 17:10		06:48 19:19	07:07 (5) 19:52	06:00 19:52	05:51 (6) 06:22 (6)	05:28 20:34	05:51 (6) 06:35 (6)
30	07:12 17:11		06:46 19:20	07:05 (5) 19:53	05:59 20:22	05:51 (6) 06:23 (6)	05:29 20:34	05:51 (6) 06:35 (6)
31	07:11 17:13		06:45 19:21	07:03 (5) 07:35 (5)	05:57 20:23	05:50 (6) 06:23 (6)		
Potential sun hours	297	297	369	399	448	452	1281	
Total, worst case			260	292	304			

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: Solo torri di progettoShadow receptor: E - R03.1****Assumptions for shadow calculations**

Maximum distance for influence 2.000 m
 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

	July	August	September	October	November	December		
1	05:29	05:52 (6)	05:53	06:24	07:08 (5)	06:54	06:28	07:03
	20:34	06:35 (6)	20:15	19:32	07:16 (5)	18:42	16:55	16:31
2	05:30	05:52 (6)	05:54	06:25	07:04 (5)	06:55	06:29	07:04
	20:34	06:35 (6)	20:14	19:31	07:20 (5)	18:40	16:54	16:30
3	05:30	05:53 (6)	05:55	06:26	07:01 (5)	06:56	06:30	07:05
	20:34	06:35 (6)	20:13	19:29	07:22 (5)	18:38	16:53	16:30
4	05:31	05:53 (6)	05:56	06:27	06:59 (5)	06:57	06:31	07:06
	20:34	06:34 (6)	20:12	19:27	07:23 (5)	18:37	16:51	16:30
5	05:31	05:54 (6)	05:57	06:28	06:57 (5)	06:58	06:33	07:07
	20:34	06:35 (6)	20:11	19:26	07:24 (5)	18:35	16:50	16:30
6	05:32	05:54 (6)	05:58	06:29	06:56 (5)	06:59	06:34	07:08
	20:33	06:34 (6)	20:10	19:24	07:25 (5)	18:33	16:49	16:30
7	05:32	05:55 (6)	05:59	06:30	06:54 (5)	07:00	06:35	07:09
	20:33	06:34 (6)	20:08	19:22	07:26 (5)	18:32	16:48	16:30
8	05:33	05:56 (6)	06:00	06:31	06:53 (5)	07:01	06:36	07:10
	20:33	06:34 (6)	20:07	19:21	07:26 (5)	18:30	16:47	16:30
9	05:34	05:56 (6)	06:01	06:32	06:52 (5)	07:02	06:37	07:10
	20:32	06:33 (6)	20:06	19:19	07:27 (5)	18:29	16:46	16:30
10	05:34	05:57 (6)	06:02	06:33	06:53 (5)	07:03	06:39	07:11
	20:32	06:33 (6)	20:05	19:17	07:27 (5)	18:27	16:45	16:30
11	05:35	05:58 (6)	06:03	06:34	06:54 (5)	07:04	06:40	07:12
	20:32	06:33 (6)	20:03	19:16	07:27 (5)	18:25	16:44	16:30
12	05:36	05:58 (6)	06:04	06:35	06:55 (5)	07:05	06:41	07:13
	20:31	06:32 (6)	20:02	19:14	07:27 (5)	18:24	16:43	16:30
13	05:36	05:59 (6)	06:05	06:36	06:56 (5)	07:06	06:42	07:14
	20:31	06:32 (6)	20:01	19:12	07:27 (5)	18:22	16:42	16:30
14	05:37	06:00 (6)	06:06	06:37	06:57 (5)	07:07	06:43	07:15
	20:30	06:31 (6)	19:59	19:11	07:26 (5)	18:21	16:41	16:30
15	05:38	06:00 (6)	06:07	06:38	06:58 (5)	07:08	06:44	07:15
	20:29	06:30 (6)	19:58	19:09	07:26 (5)	18:19	16:40	16:30
16	05:39	06:01 (6)	06:08	06:39	06:59 (5)	07:10	06:46	07:16
	20:29	06:29 (6)	19:57	19:07	07:25 (5)	18:18	16:39	16:31
17	05:40	06:02 (6)	06:09	06:40	07:00 (5)	07:11	06:47	07:17
	20:28	06:29 (6)	19:55	19:05	07:24 (5)	18:16	16:39	16:31
18	05:40	06:03 (6)	06:10	06:41	07:01 (5)	07:12	06:48	07:17
	20:28	06:28 (6)	19:54	19:04	07:23 (5)	18:14	16:38	16:31
19	05:41	06:04 (6)	06:11	06:42	07:02 (5)	07:13	06:49	07:18
	20:27	06:27 (6)	19:52	19:02	07:22 (5)	18:13	16:37	16:32
20	05:42	06:04 (6)	06:12	06:43	07:03 (5)	07:14	06:50	07:19
	20:26	06:25 (6)	19:51	19:00	07:20 (5)	18:11	16:36	16:32
21	05:43	06:05 (6)	06:13	06:43	07:04 (5)	07:15	06:52	07:19
	20:25	06:24 (6)	19:49	18:59	07:19 (5)	18:10	16:36	16:32
22	05:44	06:06 (6)	06:14	06:44	07:05 (5)	07:16	06:53	07:20
	20:25	06:23 (6)	19:48	18:57	07:17 (5)	18:09	16:35	16:33
23	05:45	06:07 (6)	06:15	06:46	07:06 (5)	07:17	06:54	07:20
	20:24	06:21 (6)	19:46	18:55	07:14 (5)	18:07	16:34	16:33
24	05:45	06:08 (6)	06:16	06:47	07:07 (5)	07:19	06:55	07:21
	20:23	06:19 (6)	19:45	18:54	07:10 (5)	18:06	16:34	16:34
25	05:46	06:09 (6)	06:17	06:48	07:08 (5)	07:20	06:56	07:21
	20:22	06:16 (6)	19:43	18:52	07:17 (5)	17:04	16:33	16:35
26	05:47	06:10 (6)	06:18	06:49	07:09 (5)	07:21	06:57	07:21
	20:21	06:12 (6)	19:42	18:50	07:16 (5)	17:03	16:33	16:35
27	05:48	06:11 (6)	06:19	06:50	07:10 (5)	07:22	06:58	07:22
	20:20	06:11 (6)	19:40	18:48	07:15 (5)	17:02	16:32	16:36
28	05:49	06:12 (6)	06:20	06:51	07:11 (5)	07:23	06:59	07:22
	20:19	06:11 (6)	19:39	18:47	07:14 (5)	17:00	16:32	16:36
29	05:50	06:13 (6)	06:21	06:52	07:12 (5)	07:24	07:01	07:22
	20:18	06:11 (6)	19:37	18:45	07:17 (5)	16:59	16:31	16:37
30	05:51	06:14 (6)	06:22	06:53	07:13 (5)	07:25	07:02	07:23
	20:17	06:11 (6)	19:35	18:43	07:18 (5)	16:58	16:31	16:38
31	05:52	06:15 (6)	06:23	06:54	07:14 (5)	07:26	07:03	07:23
	20:16	06:11 (6)	19:34	18:42	07:19 (5)	16:56	16:31	16:39
Potential sun hours	459	428	375	345	298	288		
Total, worst case	757		559					

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: Solo torri di progetto Shadow receptor: F - R16.2

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:23	19:48 (11) 19:58 (11)	05:29 20:34	19:56 (11) 20:09 (11)	05:53 20:15	06:24 19:32	06:54 18:42	06:28 16:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:32 17:49	06:41 19:23	05:56 19:55	05:28 20:24	19:49 (11) 19:59 (11)	05:30 20:34	19:56 (11) 20:09 (11)	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:30
3	07:23 16:41	07:08 17:16	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	19:48 (11) 20:00 (11)	05:30 20:34	19:56 (11) 20:09 (11)	05:55 20:13	06:26 19:29	06:56 18:38	06:30 16:53	07:05 16:30
4	07:23 16:42	07:07 17:18	06:29 17:51	06:38 19:25	05:54 19:57	05:27 20:25	19:49 (11) 20:00 (11)	05:31 20:34	19:56 (11) 20:08 (11)	05:56 20:12	06:27 19:27	06:57 18:37	06:31 16:51	07:06 16:30
5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 19:26	05:52 19:58	05:27 20:26	19:50 (11) 20:01 (11)	05:31 20:34	19:56 (11) 20:08 (11)	05:57 20:11	06:28 19:26	06:58 18:35	06:32 16:50	07:07 16:30
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 19:27	05:51 19:59	05:27 20:27	19:49 (11) 20:01 (11)	05:32 20:33	19:56 (11) 20:08 (11)	05:58 20:10	06:29 19:24	06:59 18:33	06:34 16:49	07:08 16:30
7	07:23 16:45	07:03 17:21	06:24 17:55	06:33 19:28	05:50 20:00	05:26 20:28	19:50 (11) 20:02 (11)	05:32 20:33	19:56 (11) 20:08 (11)	05:59 20:08	06:30 19:22	07:00 18:32	06:35 16:48	07:09 16:30
8	07:23 16:46	07:02 17:22	06:23 17:56	06:32 19:29	05:49 20:01	05:26 20:28	19:51 (11) 20:03 (11)	05:33 20:33	19:56 (11) 20:08 (11)	06:00 20:07	06:31 19:21	07:01 18:30	06:36 16:47	07:10 16:30
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:30	05:48 20:02	05:26 20:29	19:51 (11) 20:04 (11)	05:34 20:32	19:56 (11) 20:07 (11)	06:01 20:06	06:32 19:19	07:02 18:28	06:37 16:46	07:10 16:30
10	07:23 16:48	07:00 17:25	06:20 17:58	06:28 19:32	05:46 20:03	05:26 20:29	19:52 (11) 20:04 (11)	05:34 20:32	19:56 (11) 20:07 (11)	06:02 20:05	06:33 19:17	07:03 18:27	06:38 16:45	07:11 16:30
11	07:23 16:49	06:59 17:26	06:18 17:59	06:27 19:33	05:45 20:04	05:25 20:30	19:51 (11) 20:04 (11)	05:35 20:31	19:56 (11) 20:07 (11)	06:03 20:03	06:34 19:16	07:04 18:25	06:40 16:44	07:12 16:30
12	07:22 16:50	06:58 17:28	06:16 18:00	06:25 19:34	05:44 20:05	05:25 20:30	19:52 (11) 20:04 (11)	05:36 20:31	19:56 (11) 20:06 (11)	06:04 20:02	06:35 19:14	07:05 18:24	06:41 16:43	07:13 16:30
13	07:22 16:51	06:56 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 20:31	19:52 (11) 20:05 (11)	05:36 20:31	19:56 (11) 20:06 (11)	06:05 20:01	06:36 19:12	07:06 18:22	06:42 16:42	07:14 16:30
14	07:22 16:52	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 20:31	19:53 (11) 20:05 (11)	05:37 20:30	19:56 (11) 20:05 (11)	06:06 19:59	06:36 19:11	07:07 18:21	06:43 16:41	07:14 16:30
15	07:21 16:54	06:54 17:31	06:11 18:04	06:20 19:37	05:41 20:08	05:25 20:32	19:53 (11) 20:06 (11)	05:38 20:29	19:56 (11) 20:04 (11)	06:07 19:58	06:37 19:09	07:08 18:19	06:44 16:40	07:15 16:30
16	07:21 16:55	06:52 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	19:53 (11) 20:06 (11)	05:39 20:29	19:56 (11) 20:04 (11)	06:08 19:57	06:38 19:07	07:09 18:17	06:46 16:39	07:16 16:31
17	07:20 16:56	06:51 17:34	06:08 18:06	06:17 19:39	05:39 20:10	05:25 20:32	19:54 (11) 20:06 (11)	05:39 20:28	19:56 (11) 20:04 (11)	06:09 19:55	06:39 19:05	07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:06 18:07	06:16 19:40	05:38 20:11	05:25 20:33	19:55 (11) 20:08 (11)	05:40 20:28	19:57 (11) 20:03 (11)	06:10 19:54	06:40 19:04	07:12 18:14	06:48 16:38	07:17 16:31
19	07:19 16:58	06:48 17:36	06:05 18:08	06:14 19:41	05:37 20:12	05:25 20:33	19:55 (11) 20:08 (11)	05:41 20:27	19:57 (11) 20:03 (11)	06:11 19:52	06:41 19:02	07:13 18:13	06:49 16:37	07:18 16:32
20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:33	19:55 (11) 20:08 (11)	05:42 20:26	19:57 (11) 20:01 (11)	06:12 19:51	06:42 19:00	07:14 18:11	06:50 16:36	07:18 16:32
21	07:18 17:00	06:46 17:39	06:01 18:10	06:11 19:43	05:36 20:14	05:26 20:34	19:55 (11) 20:08 (11)	05:43 20:25	19:57 (11) 20:01 (11)	06:13 19:49	06:43 18:59	07:15 18:10	06:51 16:36	07:19 16:32
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	19:55 (11) 20:08 (11)	05:44 20:25	19:58 (11) 20:00 (11)	06:14 19:48	06:44 18:57	07:16 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 18:12	06:08 19:45	05:34 20:16	05:26 20:34	19:47 (11) 19:51 (11)	05:45 20:34	19:58 (11) 20:09 (11)	06:15 19:46	06:45 18:55	07:17 18:07	06:54 16:34	07:20 16:33
24	07:16 17:04	06:41 17:42	05:56 18:13	06:07 19:46	05:33 20:17	05:26 20:34	19:47 (11) 19:52 (11)	05:45 20:34	19:56 (11) 20:09 (11)	06:16 19:45	06:46 18:53	07:18 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:47	05:33 20:18	05:27 20:34	19:47 (11) 19:53 (11)	05:46 20:34	19:56 (11) 20:08 (11)	06:17 19:43	06:47 18:52	07:19 17:04	06:56 16:33	07:21 16:35
26	07:15 17:06	06:38 17:44	05:53 18:16	06:04 19:48	05:32 20:18	05:27 20:34	19:47 (11) 19:54 (11)	05:47 20:34	19:56 (11) 20:09 (11)	06:18 19:42	06:48 18:50	07:20 17:03	06:57 16:33	07:21 16:35
27	07:14 17:08	06:37 17:46	05:51 18:17	06:03 19:50	05:31 20:19	05:27 20:34	19:47 (11) 19:54 (11)	05:48 20:34	19:56 (11) 20:09 (11)	06:19 19:40	06:49 18:48	07:21 17:02	06:58 16:32	07:22 16:36
28	07:13 17:09	06:35 17:47	05:50 18:18	06:01 19:51	05:31 20:20	05:28 20:34	19:47 (11) 19:56 (11)	05:49 20:34	19:56 (11) 20:09 (11)	06:20 19:39	06:51 18:47	07:22 17:00	06:59 16:32	07:22 16:36
29	07:12 17:10	06:48 19:19	06:00 19:52	06:00 20:21	05:30 20:21	05:28 20:34	19:47 (11) 19:56 (11)	05:50 20:34	19:56 (11) 20:09 (11)	06:21 19:37	06:52 18:45	07:23 16:59	07:00 16:31	07:22 16:37
30	07:12 17:11	06:46 19:20	05:59 19:53	05:30 20:22	05:29 20:22	05:29 20:34	19:48 (11) 19:57 (11)	05:51 20:34	19:56 (11) 20:09 (11)	06:22 19:35	06:53 18:43	07:24 16:58	07:02 16:31	07:23 16:38
31	07:11 17:13	06:45 19:21	05:58 19:21	05:29 20:22	05:29 20:22	05:29 20:34	19:47 (11) 19:57 (11)	05:52 20:16	06:23 19:34	06:23 18:43	06:27 16:56	07:25 16:58	07:23 16:39	07:23 16:39
Potential sun hours	297	297	369	399	448	452	459	459	428	375	345	298	288	288
Total, worst case					73	371	209							

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: Solo torri di progetto Shadow receptor: G - R17

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 19:32	06:54 18:42	06:28 16:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:32 17:49	06:41 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:30
3	07:23 16:41	07:08 17:16	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:38	06:30 16:53	07:05 16:30
4	07:23 16:42	07:07 17:18	06:29 17:51	06:38 19:25	05:54 19:57	05:27 20:25	05:31 20:34	05:56 20:12	06:27 19:27	06:57 18:37	06:31 16:51	07:06 16:30
5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 19:26	05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 19:26	06:58 18:35	06:33 16:50	07:07 16:30
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 19:27	05:51 19:59	05:27 20:27	05:32 20:33	05:58 20:10	06:29 19:24	06:59 18:33	06:34 16:49	07:08 16:30
7	07:23 16:45	07:03 17:21	06:24 17:55	06:33 19:28	05:50 20:00	05:26 20:27	05:32 20:33	05:59 20:08	06:30 19:22	07:00 18:32	06:35 16:48	07:09 16:30
8	07:23 16:46	07:02 17:23	06:23 17:56	06:32 19:29	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 19:21	07:01 18:30	06:36 16:47	07:09 16:30
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:30	05:48 20:02	05:26 20:29	05:34 20:32	06:01 20:06	06:32 19:19	07:02 18:29	06:37 16:46	07:10 16:30
10	07:23 16:48	07:00 17:25	06:20 17:58	06:28 19:32	05:46 20:03	05:26 20:29	05:34 20:32	06:02 20:05	06:33 19:17	07:03 18:27	06:38 16:45	07:11 16:30
11	07:23 16:49	06:59 17:26	06:18 17:59	06:27 19:33	05:45 20:04	05:25 20:30	05:35 20:31	06:03 20:03	06:34 19:16	07:04 18:25	06:40 16:44	07:12 16:30
12	07:22 16:50	06:58 17:28	06:16 18:00	06:25 19:34	05:44 20:05	05:25 20:30	05:36 20:31	06:04 20:02	06:35 19:14	07:05 18:24	06:41 16:43	07:13 16:30
13	07:22 16:51	06:56 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 20:31	05:36 20:31	06:05 20:01	06:36 19:12	07:06 18:22	06:42 16:42	07:14 16:30
14	07:22 16:52	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 20:31	05:37 20:30	06:06 19:59	06:37 19:11	07:07 18:21	06:43 16:41	07:14 16:30
15	07:21 16:54	06:54 17:31	06:11 18:04	06:21 19:37	05:41 20:08	05:25 20:32	05:38 20:29	06:07 19:58	06:38 19:09	07:08 18:19	06:44 16:40	07:15 16:30
16	07:21 16:55	06:52 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:38 19:07	07:10 18:17	06:46 16:39	07:16 16:31
17	07:20 16:56	06:51 17:34	06:08 18:06	06:17 19:39	05:39 20:10	05:25 20:32	05:40 20:28	06:09 19:55	06:39 19:05	07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:06 18:07	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:40 19:04	07:12 18:14	06:48 16:38	07:17 16:31
19	07:19 16:58	06:48 17:36	06:05 18:08	06:14 19:41	05:37 20:12	05:25 20:33	05:41 20:27	06:11 19:52	06:41 19:02	07:13 18:13	06:49 16:37	07:18 16:32
20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:33	05:42 20:26	06:12 19:51	06:42 19:00	07:14 18:11	06:50 16:36	07:18 16:32
21	07:18 17:00	06:46 17:39	06:01 18:10	06:11 19:43	05:36 20:14	05:26 20:34	05:43 20:25	06:13 19:49	06:43 18:59	07:15 18:10	06:51 16:36	07:19 16:32
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:44 18:57	07:16 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 18:12	06:08 19:45	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:46	06:45 18:55	07:17 18:07	06:54 16:34	07:20 16:33
24	07:16 17:04	06:41 17:42	05:56 18:13	06:07 19:46	05:33 20:17	05:26 20:34	05:45 20:23	06:16 19:45	06:46 18:54	07:18 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:47	05:33 20:18	05:27 20:34	05:46 20:22	06:17 19:43	06:47 18:52	07:19 17:04	06:56 16:33	07:21 16:35
26	07:15 17:07	06:38 17:44	05:53 18:16	06:04 19:49	05:32 20:18	05:27 20:34	05:47 20:21	06:18 19:42	06:48 18:50	07:20 17:03	06:57 16:33	07:21 16:35
27	07:14 17:08	06:37 17:46	05:51 18:17	06:03 19:50	05:31 20:19	05:27 20:34	05:48 20:20	06:19 19:40	06:50 18:48	07:22 17:02	06:58 16:32	07:22 16:36
28	07:13 17:09	06:35 17:47	05:50 18:18	06:01 19:51	05:31 20:20	05:28 20:34	05:49 20:19	06:20 19:39	06:51 18:47	07:23 17:00	06:59 16:32	07:22 16:36
29	07:12 17:10		06:48 19:19	06:00 19:52	05:30 20:21	05:28 20:34	05:50 20:18	06:21 19:37	06:52 18:45	07:24 16:59	07:00 16:31	07:22 16:37
30	07:12 17:11		06:46 19:20	05:59 19:53	05:30 20:22	05:29 20:34	05:51 20:17	06:22 19:35	06:53 18:43	07:25 16:58	07:02 16:31	07:23 16:38
31	07:11 17:13		06:45 19:21		05:29 20:22		05:52 20:16	06:23 19:34		06:27 16:56		07:23 16:39
Potential sun hours	297	297	369	399	448	452	459	428	375	345	298	288
Total, worst case												

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: Solo torri di progetto Shadow receptor: H - R16.1

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:23	05:29 20:34	20:04 (11) 05:53	05:53 20:15	06:24 19:32	06:54 18:42	06:28 16:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:32 17:49	06:41 19:23	05:56 19:55	05:28 20:24	05:30 20:34	20:03 (11) 05:54	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:30
3	07:23 16:41	07:08 17:16	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	20:04 (11) 05:55	05:55 20:13	06:26 19:29	06:56 18:38	06:30 16:53	07:05 16:30
4	07:23 16:42	07:07 17:18	06:29 17:51	06:38 19:25	05:54 19:57	05:27 20:25	05:31 20:34	20:04 (11) 05:56	05:56 20:12	06:27 19:27	06:57 18:37	06:31 16:51	07:06 16:30
5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 19:26	05:52 19:58	05:27 20:26	20:00 (11) 20:34	20:05 (11) 05:57	05:57 20:11	06:28 19:26	06:58 18:35	06:32 16:50	07:07 16:30
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 19:27	05:51 19:59	05:27 20:27	19:59 (11) 20:32	20:05 (11) 05:58	05:58 20:10	06:29 19:24	06:59 18:33	06:34 16:49	07:08 16:30
7	07:23 16:45	07:03 17:21	06:24 17:55	06:33 19:28	05:50 20:00	05:26 20:27	19:59 (11) 20:33	20:06 (11) 05:59	05:59 20:08	06:30 19:22	07:00 18:32	06:35 16:48	07:09 16:30
8	07:23 16:46	07:02 17:23	06:23 17:56	06:32 19:29	05:49 20:01	05:26 20:28	19:59 (11) 20:33	20:07 (11) 06:00	06:00 19:21	06:31 19:21	07:01 18:30	06:36 16:47	07:09 16:30
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:30	05:48 20:02	05:26 20:29	19:59 (11) 20:32	06:01 20:06	06:01 19:19	06:32 19:19	07:02 18:28	06:37 16:46	07:10 16:30
10	07:23 16:48	07:00 17:25	06:20 17:58	06:28 19:32	05:46 20:03	05:26 20:29	19:59 (11) 20:32	06:02 20:05	06:02 19:17	06:33 18:27	07:03 18:27	06:38 16:45	07:11 16:30
11	07:23 16:49	06:59 17:26	06:18 17:59	06:27 19:33	05:45 20:04	05:25 20:30	20:04 (11) 20:31	06:03 20:03	06:03 19:16	06:34 18:25	07:04 18:25	06:40 16:44	07:12 16:30
12	07:22 16:50	06:58 17:28	06:16 18:00	06:25 19:34	05:44 20:05	05:25 20:30	20:04 (11) 20:31	06:04 20:02	06:04 19:14	06:35 18:24	07:05 18:24	06:41 16:43	07:13 16:30
13	07:22 16:51	06:56 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 20:31	19:59 (11) 20:31	06:05 20:01	06:05 19:12	06:36 18:22	07:06 18:22	06:42 16:42	07:14 16:30
14	07:22 16:52	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 20:31	19:59 (11) 20:30	06:06 19:59	06:06 19:11	06:37 18:27	07:07 18:27	06:43 16:41	07:14 16:30
15	07:21 16:54	06:54 17:31	06:11 18:04	06:20 19:37	05:41 20:08	05:25 20:32	19:59 (11) 20:29	06:07 19:58	06:07 19:09	06:37 18:19	07:08 18:19	06:44 16:40	07:15 16:30
16	07:21 16:55	06:52 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	19:59 (11) 20:29	06:08 19:57	06:08 19:07	06:38 18:17	07:09 18:17	06:46 16:39	07:16 16:31
17	07:20 16:56	06:51 17:34	06:08 18:06	06:17 19:39	05:39 20:10	05:25 20:32	19:59 (11) 20:28	06:09 19:55	06:09 19:05	06:39 18:16	07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:06 18:07	06:16 19:40	05:38 20:11	05:25 20:33	20:00 (11) 20:28	06:10 19:54	06:10 19:04	06:40 18:14	07:12 18:14	06:48 16:38	07:17 16:31
19	07:19 16:58	06:48 17:36	06:05 18:08	06:14 19:41	05:37 20:12	05:25 20:33	20:00 (11) 20:27	06:11 19:52	06:11 19:02	06:41 18:13	07:13 18:13	06:49 16:37	07:18 16:32
20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:33	20:00 (11) 20:26	06:12 19:51	06:12 19:00	06:42 18:11	07:14 18:11	06:50 16:36	07:18 16:32
21	07:18 17:00	06:46 17:39	06:01 18:10	06:11 19:43	05:36 20:14	05:26 20:34	20:00 (11) 20:25	06:13 19:49	06:13 18:59	06:43 18:10	07:15 18:10	06:51 16:36	07:19 16:32
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	20:00 (11) 20:25	06:14 19:48	06:14 18:57	06:44 18:09	07:16 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 18:12	06:08 19:45	05:34 20:16	05:26 20:34	20:01 (11) 20:24	06:15 19:46	06:15 18:55	06:45 18:07	07:17 18:07	06:54 16:34	07:20 16:33
24	07:16 17:04	06:41 17:42	05:56 18:13	06:07 19:46	05:33 20:17	05:26 20:34	20:01 (11) 20:23	06:16 19:45	06:16 18:54	06:46 18:06	07:18 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:47	05:33 20:18	05:27 20:34	20:01 (11) 20:22	06:17 19:43	06:17 18:52	06:47 17:04	06:20 16:33	06:56 16:33	07:21 16:35
26	07:15 17:06	06:38 17:44	05:53 18:16	06:04 19:48	05:32 20:18	05:27 20:34	20:02 (11) 20:21	06:18 19:42	06:18 18:50	06:48 17:03	06:21 16:33	06:57 16:35	07:21 16:35
27	07:14 17:08	06:37 17:46	05:51 18:17	06:03 19:50	05:31 20:19	05:27 20:34	20:02 (11) 20:20	06:19 19:40	06:19 18:48	06:49 17:02	06:22 16:32	06:58 16:36	07:22 16:36
28	07:13 17:09	06:35 17:47	05:50 18:18	06:01 19:51	05:31 20:20	05:28 20:34	20:02 (11) 20:19	06:20 19:39	06:20 18:47	06:51 17:23	06:23 16:32	06:59 16:32	07:22 16:36
29	07:12 17:10		06:48 19:19	06:00 19:52	05:30 20:21	05:28 20:34	20:03 (11) 20:18	06:21 19:37	06:21 18:45	06:52 16:59	06:24 16:59	07:00 16:31	07:22 16:37
30	07:12 17:11		06:46 19:20	05:59 19:53	05:30 20:22	05:29 20:34	20:03 (11) 20:17	06:22 19:35	06:22 18:43	06:53 16:58	06:25 16:58	07:02 16:31	07:23 16:38
31	07:11 17:13		06:45 19:21		05:29 20:22		05:52 20:16	06:23 19:34		06:27 16:56		06:27 16:39	07:23 16:39
Potential sun hours	297	297	369	399	448	452	160	428	375	345	298	288	
Total, worst case													

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: Solo torri di progettoShadow receptor: I - R18****Assumptions for shadow calculations**

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03
	16:40	17:14	17:48	19:22	19:54	20:23	20:34	20:15	19:32	18:42	16:55	16:31
2	07:23	07:09	06:32	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31
3	07:23	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:38	16:53	16:30
4	07:23	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:31	07:06
	16:42	17:18	17:52	19:25	19:57	20:25	20:34	20:12	19:27	18:37	16:52	16:30
5	07:23	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30
6	07:23	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08
	16:44	17:20	17:54	19:27	19:59	20:27	20:33	20:10	19:24	18:33	16:49	16:30
7	07:23	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09
	16:45	17:22	17:55	19:28	20:00	20:27	20:33	20:08	19:22	18:32	16:48	16:30
8	07:23	07:02	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10
	16:46	17:23	17:56	19:29	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:37	07:10
	16:47	17:24	17:57	19:31	20:02	20:29	20:32	20:06	19:19	18:29	16:46	16:30
10	07:23	07:00	06:20	06:28	05:47	05:26	05:34	06:02	06:33	07:03	06:39	07:11
	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:17	18:27	16:45	16:30
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12
	16:49	17:26	17:59	19:33	20:04	20:30	20:32	20:03	19:16	18:25	16:44	16:30
12	07:22	06:58	06:16	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13
	16:50	17:28	18:01	19:34	20:05	20:30	20:31	20:02	19:14	18:24	16:43	16:30
13	07:22	06:56	06:15	06:24	05:43	05:25	05:37	06:05	06:36	07:06	06:42	07:14
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:07	06:43	07:15
	16:53	17:30	18:03	19:36	20:07	20:31	20:30	19:59	19:11	18:21	16:41	16:30
15	07:21	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:08	06:44	07:15
	16:54	17:31	18:04	19:37	20:08	20:32	20:29	19:58	19:09	18:19	16:40	16:30
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17
	16:56	17:34	18:06	19:39	20:10	20:32	20:28	19:55	19:06	18:16	16:39	16:31
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:17
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31
19	07:20	06:48	06:05	06:14	05:38	05:26	05:41	06:11	06:42	07:13	06:49	07:18
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:50	07:19
	16:59	17:37	18:09	19:42	20:13	20:33	20:26	19:51	19:00	18:12	16:36	16:32
21	07:18	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19
	17:01	17:39	18:10	19:43	20:14	20:34	20:25	19:49	18:59	18:10	16:36	16:33
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20
	17:02	17:40	18:11	19:44	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:17	06:54	07:20
	17:03	17:41	18:12	19:45	20:16	20:34	20:24	19:46	18:55	18:07	16:34	16:33
24	07:16	06:41	05:57	06:07	05:33	05:26	05:46	06:16	06:47	07:19	06:55	07:21
	17:04	17:42	18:14	19:46	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21
	17:05	17:43	18:15	19:47	20:18	20:34	20:22	19:43	18:52	17:04	16:33	16:35
26	07:15	06:38	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:57	07:21
	17:07	17:45	18:16	19:49	20:18	20:34	20:21	19:42	18:50	17:03	16:33	16:35
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:58	07:22
	17:08	17:46	18:17	19:50	20:19	20:34	20:20	19:40	18:48	17:02	16:32	16:36
28	07:13	06:35	05:50	06:01	05:31	05:28	05:49	06:20	06:51	06:23	06:59	07:22
	17:09	17:47	18:18	19:51	20:20	20:34	20:19	19:39	18:47	17:00	16:32	16:37
29	07:12		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:24	07:01	07:22
	17:10		19:19	19:52	20:21	20:34	20:18	19:37	18:45	16:59	16:32	16:37
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:25	07:02	07:23
	17:12		19:20	19:53	20:22	20:34	20:17	19:35	18:43	16:58	16:31	16:38
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23
	17:13		19:21		20:23		20:16	19:34		16:56		16:39
Potential sun hours	298	297	369	399	448	452	459	428	375	345	298	288
Total, worst case												

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: Solo torri di progettoShadow receptor: J - R02

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	18:53 (1) 19:01 (1)	05:57 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 19:32	06:54 18:42	06:28 16:55
2	07:23 16:41	07:09 17:15	06:32 17:49	06:42 19:23	18:53 (1) 19:02 (1)	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54
3	07:23 16:42	07:08 17:17	06:31 17:50	06:40 19:24	18:53 (1) 19:03 (1)	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:38	06:30 16:53
4	07:23 16:42	07:07 17:18	06:29 17:52	06:38 19:25	18:54 (1) 19:04 (1)	05:54 19:57	05:27 20:25	05:31 20:34	05:56 20:12	06:27 19:28	18:58 (1) 19:04 (1)	06:57 18:37
5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 19:26	18:54 (1) 19:05 (1)	05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 19:26	18:54 (1) 19:03 (1)	06:58 18:35
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7	07:23 16:45	07:04 17:22	06:25 17:55	06:33 19:28	18:58 (1) 19:07 (1)	05:50 20:00	05:26 20:27	05:32 20:33	05:59 20:08	06:30 19:22	18:50 (1) 19:00 (1)	07:00 18:32
8	07:23 16:46	07:02 17:23	06:23 17:56	06:32 19:29	19:01 (1) 19:07 (1)	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 19:21	18:48 (1) 18:58 (1)	07:01 18:30
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:31	05:48 20:02	05:48 20:29	05:26 20:29	05:34 20:32	06:01 20:06	06:32 19:19	18:47 (1) 18:57 (1)	07:02 18:29
10	07:23 16:48	07:00 17:25	06:20 17:58	06:29 19:32	05:47 20:03	05:26 20:29	05:26 20:29	05:34 20:32	06:02 20:05	06:33 19:17	18:46 (1) 18:55 (1)	07:03 18:27
11	07:23 16:49	06:59 17:27	06:18 17:59	06:27 19:33	05:45 20:04	05:26 20:30	05:26 20:30	05:35 20:32	06:03 20:03	06:34 19:16	18:45 (1) 18:53 (1)	07:04 18:25
12	07:22 16:50	06:58 17:28	06:16 18:01	06:25 19:34	05:44 20:05	05:25 20:30	05:25 20:30	05:36 20:31	06:04 20:02	06:35 19:14	18:44 (1) 18:52 (1)	07:05 18:24
13	07:22 16:51	06:56 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 20:31	05:25 20:31	05:37 20:01	06:05 20:01	06:36 19:12	18:44 (1) 18:50 (1)	07:06 18:22
14	07:22 16:53	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 20:31	05:25 20:30	05:37 20:30	06:06 19:59	06:37 19:11	18:44 (1) 18:49 (1)	07:07 18:21
15	07:21 16:54	06:54 17:31	06:12 18:04	06:21 19:37	05:41 20:08	05:25 20:32	05:25 20:30	05:38 20:30	06:07 19:58	06:38 19:09	18:43 (1) 18:47 (1)	07:08 18:19
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	05:25 20:29	05:39 20:29	06:08 19:57	06:39 19:07	18:44 (1) 18:45 (1)	07:10 18:18
17	07:21 16:56	06:51 17:34	06:08 18:06	06:18 19:39	05:39 20:10	05:25 20:32	05:40 20:28	06:09 19:55	06:40 19:06	06:40 19:06	07:11 18:16	06:47 16:39
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 19:04	06:41 19:04	07:12 18:15	06:48 16:38
19	07:20 16:58	06:49 17:36	06:05 18:08	06:14 19:41	05:38 20:12	05:26 20:33	05:41 20:27	06:11 19:52	06:42 19:02	06:42 19:02	07:13 18:13	06:49 16:37
20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:33	05:26 20:26	06:12 19:51	06:43 19:00	06:43 19:00	07:14 18:12	06:50 16:36
21	07:18 17:01	06:46 17:39	06:02 18:10	06:11 19:43	05:36 20:14	05:26 20:34	05:43 20:25	06:13 19:49	06:44 18:59	06:44 18:59	07:15 18:10	06:52 16:36
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	06:45 18:57	07:16 18:09	06:53 16:35
23	07:17 17:03	06:43 17:41	05:58 18:12	06:09 19:45	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:46	06:46 18:55	06:46 18:55	07:17 18:07	06:54 16:34
24	07:16 17:04	06:41 17:42	05:57 18:14	06:07 19:46	05:34 20:17	05:27 20:34	05:46 20:23	06:16 19:45	06:47 18:54	06:47 18:54	07:19 18:06	06:55 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:34	05:46 20:22	06:17 19:43	06:48 18:52	06:48 18:52	07:20 17:04	06:56 16:33
26	07:15 17:07	06:38 17:45	05:53 18:16	06:04 19:49	05:32 20:18	05:27 20:34	05:47 20:21	06:18 19:42	06:49 18:50	06:49 18:50	07:21 17:03	06:57 16:33
27	07:14 17:08	06:37 17:46	05:52 18:17	17:54 (1) 19:50	06:03 19:50	05:27 20:34	05:48 20:20	06:19 19:40	06:50 18:49	06:50 18:49	07:22 17:02	06:58 16:32
28	07:13 17:09	06:35 17:47	05:50 18:18	17:53 (1) 19:51	06:02 19:51	05:28 20:34	05:49 20:19	06:20 19:39	06:51 18:47	06:51 18:47	07:23 17:00	06:59 16:32
29	07:13 17:10	06:34 17:48	05:48 18:19	18:53 (1) 19:52	06:00 19:52	05:28 20:34	05:50 20:18	06:21 19:37	06:52 18:45	06:52 18:45	07:24 16:59	07:01 16:32
30	07:12 17:12	06:33 17:47	05:47 18:20	18:53 (1) 19:53	05:59 19:53	05:29 20:34	05:51 20:17	06:22 19:35	06:53 18:43	06:53 18:43	07:25 16:58	07:02 16:31
31	07:11 17:13	06:32 17:49	05:45 18:21	18:52 (1) 19:54	05:58 19:54	05:29 20:34	05:52 20:16	06:23 19:34	06:54 18:43	06:54 18:43	07:26 16:56	07:23 16:39
Potential sun hours	298	297	369	399	448	452	459	428	375	345	298	288
Total, worst case			23	73					98			

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: Solo torri di progetto Shadow receptor: K - R19

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:23	19:49 (1) 20:34	05:29 20:09 (1)	19:56 (1) 20:15	06:24 19:32	06:54 18:42	06:28 16:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:32 17:49	06:42 19:23	05:56 19:55	05:28 20:24	19:50 (1) 20:34	05:30 20:08 (1)	19:56 (1) 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:31
3	07:23 16:42	07:08 17:17	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	19:49 (1) 20:34	05:30 20:09 (1)	19:57 (1) 20:13	06:26 19:29	06:56 18:38	06:30 16:53	07:05 16:30
4	07:23 16:42	07:07 17:18	06:29 17:52	06:38 19:25	05:54 19:57	05:27 20:25	19:50 (1) 20:34	05:31 20:00 (1)	19:57 (1) 20:12	06:27 19:27	06:57 18:37	06:31 16:52	07:06 16:30
5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 19:26	05:52 19:58	05:27 20:26	19:50 (1) 20:34	05:31 20:01 (1)	19:57 (1) 20:11	06:28 19:26	06:58 18:35	06:33 16:50	07:07 16:30
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 19:27	05:51 19:59	05:27 20:27	19:50 (1) 20:33	05:32 20:01 (1)	19:56 (1) 20:10	06:29 19:24	06:59 18:33	06:34 16:49	07:08 16:30
7	07:23 16:45	07:04 17:22	06:25 17:55	06:33 19:28	05:50 20:00	05:26 20:27	19:50 (1) 20:33	05:32 20:02 (1)	19:57 (1) 20:08	06:30 19:22	07:00 18:32	06:35 16:48	07:09 16:30
8	07:23 16:46	07:02 17:23	06:23 17:56	06:32 19:29	05:49 20:01	05:26 20:28	19:51 (1) 20:33	05:33 20:03 (1)	19:57 (1) 20:07	06:00 19:21	06:31 18:30	06:36 16:47	07:09 16:30
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:31	05:48 20:02	05:26 20:29	19:51 (1) 20:34	05:34 20:04 (1)	19:57 (1) 20:06	06:32 19:19	07:02 18:29	06:37 16:46	07:10 16:30
10	07:23 16:48	07:00 17:25	06:20 17:58	06:29 19:32	05:47 20:03	05:26 20:29	19:52 (1) 20:32	05:34 20:04 (1)	19:57 (1) 20:05	06:02 19:17	06:33 18:27	07:03 16:45	06:39 16:30
11	07:23 16:49	06:59 17:27	06:18 17:59	06:27 19:33	05:45 20:04	05:26 20:30	19:52 (1) 20:32	05:35 20:05 (1)	19:57 (1) 20:03	06:34 19:16	07:04 18:25	06:40 16:44	07:12 16:30
12	07:22 16:50	06:58 17:28	06:16 18:01	06:25 19:34	05:44 20:05	05:26 20:30	19:53 (1) 20:31	05:36 20:05 (1)	19:57 (1) 20:02	06:35 19:14	07:05 18:24	06:41 16:43	07:13 16:30
13	07:22 16:51	06:56 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 20:31	19:52 (1) 20:31	05:37 20:05 (1)	19:57 (1) 20:01	06:36 19:12	07:06 18:22	06:42 16:42	07:14 16:30
14	07:22 16:53	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 20:31	19:52 (1) 20:30	05:37 20:05 (1)	19:58 (1) 19:59	06:37 19:11	07:07 18:21	06:43 16:41	07:15 16:30
15	07:21 16:54	06:54 17:31	06:12 18:04	06:21 19:37	05:41 20:08	05:25 20:32	19:54 (1) 20:29	05:38 20:07 (1)	19:58 (1) 19:58	06:38 19:09	07:08 18:19	06:44 16:40	07:15 16:30
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	19:54 (1) 20:29	05:39 20:07 (1)	19:58 (1) 19:57	06:39 19:07	07:10 18:18	06:46 16:39	07:16 16:31
17	07:21 16:56	06:51 17:34	06:08 18:06	06:18 19:39	05:39 20:10	05:25 20:32	19:54 (1) 20:28	05:40 20:07 (1)	19:59 (1) 19:55	06:40 19:06	07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:25 20:33	19:54 (1) 20:28	05:40 20:08 (1)	19:59 (1) 19:54	06:41 19:04	07:12 18:15	06:48 16:38	07:17 16:31
19	07:20 16:58	06:49 17:36	06:05 18:08	06:14 19:41	05:38 20:12	05:26 20:33	19:54 (1) 20:27	05:41 20:08 (1)	20:00 (1) 19:52	06:42 19:02	07:13 18:13	06:49 16:37	07:18 16:32
20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:33	19:54 (1) 20:26	05:42 20:08 (1)	20:00 (1) 19:51	06:12 19:00	06:43 18:12	06:50 16:36	07:19 16:32
21	07:18 17:01	06:46 17:39	06:02 18:10	06:12 19:43	05:36 20:14	05:26 20:34	19:54 (1) 20:25	05:43 20:08 (1)	20:00 (1) 19:49	06:13 18:59	06:44 18:10	06:52 16:36	07:19 16:33
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	19:54 (1) 20:25	05:44 20:08 (1)	06:14 19:48	06:45 18:57	07:16 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 18:12	06:09 19:45	05:34 20:16	05:26 20:34	19:55 (1) 20:24	05:45 20:09 (1)	06:15 19:46	06:46 18:55	07:17 18:07	06:54 16:34	07:20 16:34
24	07:16 17:04	06:41 17:42	05:57 18:14	06:07 19:46	05:34 20:17	05:27 20:34	19:55 (1) 20:23	05:46 20:09 (1)	06:16 19:45	06:47 18:54	07:19 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:34	19:55 (1) 20:22	05:47 20:08 (1)	06:17 19:43	06:48 18:52	06:20 17:04	06:56 16:33	07:21 16:35
26	07:15 17:07	06:38 17:45	05:53 18:16	06:04 19:49	05:32 20:18	05:27 20:34	19:56 (1) 20:21	05:47 20:09 (1)	06:18 19:42	06:49 18:50	06:21 17:03	06:57 16:33	07:21 16:35
27	07:14 17:08	06:37 17:46	05:52 18:17	06:03 19:50	05:31 20:19	05:27 20:34	19:56 (1) 20:20	05:48 20:09 (1)	06:19 19:40	06:50 18:49	06:22 17:02	06:58 16:32	07:22 16:36
28	07:13 17:09	06:35 17:47	05:50 18:18	06:02 19:51	05:31 20:20	05:28 20:34	19:55 (1) 20:19	05:49 20:08 (1)	06:20 19:39	06:51 18:47	06:23 17:00	06:59 16:32	07:22 16:37
29	07:12 17:10	06:48 17:19	05:50 18:19	06:00 19:52	05:30 20:21	05:28 20:34	19:49 (1) 20:18	05:28 20:09 (1)	06:21 19:37	06:52 18:45	06:24 16:59	07:01 16:32	07:22 16:37
30	07:12 17:12	06:47 17:20	05:59 18:20	05:30 19:53	05:30 20:22	05:29 20:34	19:49 (1) 20:17	05:29 20:09 (1)	06:22 19:35	06:53 18:43	06:25 16:58	07:02 16:31	07:23 16:38
31	07:11 17:13	06:45 17:21	05:58 18:21	05:29 19:54	05:29 20:23	05:28 20:34	19:50 (1) 19:58 (1)	05:52 20:16	06:23 19:34	06:27 16:56	06:27 16:56	06:31 16:39	07:23 16:39
Potential sun hours	298	297	369	399	448	47	452	459	428	375	345	298	288
Total, worst case							375	178					

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: Solo torri di progettoShadow receptor: L - R20****Assumptions for shadow calculations**

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03
	16:40	17:14	17:48	19:22	19:54	20:23	20:34	20:15	19:32	18:42	16:55	16:31
2	07:23	07:09	06:32	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31
3	07:23	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:38	16:53	16:30
4	07:23	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:31	07:06
	16:42	17:18	17:52	19:25	19:57	20:25	20:34	20:12	19:27	18:37	16:52	16:30
5	07:23	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07
	16:43	17:19	17:53	19:26	19:58	20:26	20:33	20:11	19:26	18:35	16:50	16:30
6	07:23	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08
	16:44	17:20	17:54	19:27	19:59	20:27	20:33	20:10	19:24	18:33	16:49	16:30
7	07:23	07:03	06:24	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09
	16:45	17:22	17:55	19:28	20:00	20:27	20:33	20:08	19:22	18:32	16:48	16:30
8	07:23	07:02	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:09
	16:46	17:23	17:56	19:29	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:37	07:10
	16:47	17:24	17:57	19:31	20:02	20:29	20:32	20:06	19:19	18:29	16:46	16:30
10	07:23	07:00	06:20	06:28	05:47	05:26	05:34	06:02	06:33	07:03	06:38	07:11
	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:17	18:27	16:45	16:30
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12
	16:49	17:27	17:59	19:33	20:04	20:30	20:31	20:03	19:16	18:25	16:44	16:30
12	07:22	06:58	06:16	06:25	05:44	05:26	05:36	06:04	06:35	07:05	06:41	07:13
	16:50	17:28	18:00	19:34	20:05	20:30	20:31	20:02	19:14	18:24	16:43	16:30
13	07:22	06:56	06:15	06:24	05:43	05:25	05:37	06:05	06:36	07:06	06:42	07:14
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:07	06:43	07:14
	16:53	17:30	18:03	19:36	20:07	20:31	20:30	19:59	19:11	18:21	16:41	16:30
15	07:21	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:08	06:44	07:15
	16:54	17:31	18:04	19:37	20:08	20:32	20:29	19:58	19:09	18:19	16:40	16:30
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31
17	07:20	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17
	16:56	17:34	18:06	19:39	20:10	20:32	20:28	19:55	19:05	18:16	16:39	16:31
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:17
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31
19	07:19	06:48	06:05	06:14	05:38	05:26	05:41	06:11	06:42	07:13	06:49	07:18
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:50	07:18
	16:59	17:37	18:09	19:42	20:13	20:33	20:26	19:51	19:00	18:12	16:36	16:32
21	07:18	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:51	07:19
	17:01	17:39	18:10	19:43	20:14	20:33	20:25	19:49	18:59	18:10	16:36	16:33
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20
	17:02	17:40	18:11	19:44	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:17	06:54	07:20
	17:03	17:41	18:12	19:45	20:16	20:34	20:24	19:46	18:55	18:07	16:34	16:34
24	07:16	06:41	05:57	06:07	05:34	05:27	05:46	06:16	06:47	07:18	06:55	07:21
	17:04	17:42	18:14	19:46	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	07:19	06:56	07:21
	17:05	17:43	18:15	19:47	20:17	20:34	20:22	19:43	18:52	17:04	16:33	16:35
26	07:15	06:38	05:53	06:04	05:32	05:27	05:47	06:18	06:49	07:20	06:57	07:21
	17:07	17:45	18:16	19:49	20:18	20:34	20:21	19:42	18:50	17:03	16:33	16:35
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	07:21	06:58	07:22
	17:08	17:46	18:17	19:50	20:19	20:34	20:20	19:40	18:48	17:02	16:32	16:36
28	07:13	06:35	05:50	06:02	05:31	05:28	05:49	06:20	06:51	07:22	06:59	07:22
	17:09	17:47	18:18	19:51	20:20	20:34	20:19	19:39	18:47	17:00	16:32	16:37
29	07:12		06:48	06:00	05:30	05:28	05:50	06:21	06:52	07:23	07:00	07:22
	17:10		19:19	19:52	20:21	20:34	20:18	19:37	18:45	16:59	16:32	16:37
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	07:24	07:02	07:23
	17:12		19:20	19:53	20:22	20:34	20:17	19:35	18:43	16:58	16:31	16:38
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23
	17:13		19:21		20:22		20:16	19:34		16:56		16:39
Potential sun hours	298	297	369	399	448	452	459	428	375	345	298	288
Total, worst case												

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: Solo torri di progettoShadow receptor: M - R21

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03
	16:40	17:14	17:48	19:22	19:54	20:23	20:34	20:15	19:32	18:42	16:55	16:31
2	07:23	07:09	06:32	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31
3	07:23	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:38	16:53	16:30
4	07:23	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:31	07:06
	16:42	17:18	17:52	19:25	19:57	20:25	20:34	20:12	19:27	18:37	16:52	16:30
5	07:23	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:32	07:07
	16:43	17:19	17:53	19:26	19:58	20:26	20:33	20:11	19:26	18:35	16:50	16:30
6	07:23	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08
	16:44	17:20	17:54	19:27	19:59	20:27	20:33	20:10	19:24	18:33	16:49	16:30
7	07:23	07:03	06:24	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09
	16:45	17:22	17:55	19:28	20:00	20:27	20:33	20:08	19:22	18:32	16:48	16:30
8	07:23	07:02	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:09
	16:46	17:23	17:56	19:29	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:37	07:10
	16:47	17:24	17:57	19:31	20:02	20:29	20:32	20:06	19:19	18:29	16:46	16:30
10	07:23	07:00	06:20	06:28	05:47	05:26	05:34	06:02	06:33	07:03	06:38	07:11
	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:17	18:27	16:45	16:30
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12
	16:49	17:27	17:59	19:33	20:04	20:30	20:31	20:03	19:16	18:25	16:44	16:30
12	07:22	06:58	06:16	06:25	05:44	05:26	05:36	06:04	06:35	07:05	06:41	07:13
	16:50	17:28	18:00	19:34	20:05	20:30	20:31	20:02	19:14	18:24	16:43	16:30
13	07:22	06:56	06:15	06:24	05:43	05:25	05:37	06:05	06:36	07:06	06:42	07:14
	16:51	17:29	18:02	19:35	20:06	20:31	20:30	20:01	19:12	18:22	16:42	16:30
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:07	06:43	07:14
	16:53	17:30	18:03	19:36	20:07	20:31	20:30	19:59	19:11	18:21	16:41	16:30
15	07:21	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:08	06:44	07:15
	16:54	17:31	18:04	19:37	20:08	20:32	20:29	19:58	19:09	18:19	16:40	16:30
16	07:21	06:52	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31
17	07:20	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17
	16:56	17:34	18:06	19:39	20:10	20:32	20:28	19:55	19:05	18:16	16:39	16:31
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:17
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31
19	07:19	06:48	06:05	06:14	05:38	05:26	05:41	06:11	06:42	07:13	06:49	07:18
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:50	07:18
	16:59	17:37	18:09	19:42	20:13	20:33	20:26	19:51	19:00	18:12	16:36	16:32
21	07:18	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:51	07:19
	17:01	17:39	18:10	19:43	20:14	20:33	20:25	19:49	18:59	18:10	16:36	16:33
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20
	17:02	17:40	18:11	19:44	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:17	06:54	07:20
	17:03	17:41	18:12	19:45	20:16	20:34	20:24	19:46	18:55	18:07	16:34	16:34
24	07:16	06:41	05:57	06:07	05:34	05:27	05:46	06:16	06:47	07:18	06:55	07:21
	17:04	17:42	18:14	19:46	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34
25	07:16	06:40	05:55	06:06	05:33	05:27	05:47	06:17	06:48	07:19	06:56	07:21
	17:05	17:43	18:15	19:47	20:17	20:34	20:22	19:43	18:52	17:04	16:33	16:35
26	07:15	06:38	05:53	06:04	05:32	05:27	05:47	06:18	06:49	07:20	06:57	07:21
	17:07	17:45	18:16	19:49	20:18	20:34	20:21	19:42	18:50	17:03	16:33	16:35
27	07:14	06:37	05:52	06:03	05:31	05:28	05:48	06:19	06:50	07:21	06:58	07:22
	17:08	17:46	18:17	19:50	20:19	20:34	20:20	19:40	18:48	17:02	16:32	16:36
28	07:13	06:35	05:50	06:02	05:31	05:28	05:49	06:20	06:51	07:22	06:59	07:22
	17:09	17:47	18:18	19:51	20:20	20:34	20:19	19:39	18:47	17:00	16:32	16:37
29	07:12		06:48	06:00	05:30	05:28	05:50	06:21	06:52	07:23	07:00	07:22
	17:10		19:19	19:52	20:21	20:34	20:18	19:37	18:45	16:59	16:32	16:37
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	07:24	07:02	07:23
	17:12		19:20	19:53	20:22	20:34	20:17	19:35	18:43	16:58	16:31	16:38
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23
	17:13		19:21		20:22		20:16	19:34		16:56		16:39
Potential sun hours	298	297	369	399	448	452	459	428	375	345	298	288
Total, worst case												

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: Solo torri di progettoShadow receptor: N - R22****Assumptions for shadow calculations**

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:58 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 19:32	06:54 18:42	06:28 16:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:32 17:49	06:42 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:31
3	07:23 16:42	07:08 17:17	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:38	06:30 16:53	07:05 16:30
4	07:23 16:42	07:07 17:18	06:29 17:52	06:38 19:25	05:54 19:57	05:27 20:25	05:31 20:34	05:56 20:12	06:27 19:27	06:57 18:37	06:31 16:52	07:06 16:30
5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 19:26	05:52 19:58	05:27 20:26	05:31 20:33	05:57 20:11	06:28 19:26	06:58 18:35	06:33 16:50	07:07 16:30
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 19:27	05:51 19:59	05:27 20:27	05:32 20:33	05:58 20:10	06:29 19:24	06:59 18:33	06:34 16:49	07:08 16:30
7	07:23 16:45	07:03 17:22	06:25 17:55	06:33 19:28	05:50 20:00	05:26 20:27	05:32 20:33	05:59 20:08	06:30 19:22	07:00 18:32	06:35 16:48	07:09 16:30
8	07:23 16:46	07:02 17:23	06:23 17:56	06:32 19:29	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 19:21	07:01 18:30	06:36 16:47	07:09 16:30
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:31	05:48 20:02	05:26 20:29	05:34 20:32	06:01 20:06	06:32 19:19	07:02 18:29	06:37 16:46	07:10 16:30
10	07:23 16:48	07:00 17:25	06:20 17:58	06:29 19:32	05:47 20:03	05:26 20:29	05:34 20:32	06:02 20:05	06:33 19:17	07:03 18:27	06:38 16:45	07:11 16:30
11	07:23 16:49	06:59 17:27	06:18 17:59	06:27 19:33	05:45 20:04	05:26 20:30	05:35 20:31	06:03 20:03	06:34 19:16	07:04 18:25	06:40 16:44	07:12 16:30
12	07:22 16:50	06:58 17:28	06:16 18:01	06:25 19:34	05:44 20:05	05:26 20:30	05:36 20:31	06:04 20:02	06:35 19:14	07:05 18:24	06:41 16:43	07:13 16:30
13	07:22 16:51	06:56 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 20:31	05:37 20:31	06:05 20:01	06:36 19:12	07:06 18:22	06:42 16:42	07:14 16:30
14	07:22 16:53	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 20:31	05:37 20:30	06:06 19:59	06:37 19:11	07:07 18:21	06:43 16:41	07:14 16:30
15	07:21 16:54	06:54 17:31	06:12 18:04	06:21 19:37	05:41 20:08	05:25 20:32	05:38 20:29	06:07 19:58	06:38 19:09	07:08 18:19	06:44 16:40	07:15 16:30
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:39 19:07	07:10 18:18	06:46 16:39	07:16 16:31
17	07:20 16:56	06:51 17:34	06:08 18:06	06:18 19:39	05:39 20:10	05:25 20:32	05:40 20:28	06:09 19:55	06:40 19:06	07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 19:04	07:12 18:15	06:48 16:38	07:17 16:31
19	07:19 16:58	06:48 17:36	06:05 18:08	06:14 19:41	05:38 20:12	05:26 20:33	05:41 20:27	06:11 19:52	06:42 19:02	07:13 18:13	06:49 16:37	07:18 16:32
20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:33	05:42 20:26	06:12 19:51	06:43 19:00	07:14 18:12	06:50 16:36	07:18 16:32
21	07:18 17:01	06:46 17:39	06:02 18:10	06:11 19:43	05:36 20:14	05:26 20:33	05:43 20:25	06:13 19:49	06:44 18:59	07:15 18:10	06:51 16:36	07:19 16:33
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	07:16 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 18:12	06:09 19:45	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:46	06:46 18:55	07:17 18:07	06:54 16:34	07:20 16:34
24	07:16 17:04	06:41 17:42	05:57 18:14	06:07 19:46	05:34 20:17	05:27 20:34	05:46 20:23	06:16 19:45	06:47 18:54	07:18 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:47	05:33 20:17	05:27 20:34	05:47 20:22	06:17 19:43	06:48 18:52	07:19 17:04	06:56 16:33	07:21 16:35
26	07:15 17:07	06:38 17:45	05:53 18:16	06:04 19:49	05:32 20:18	05:27 20:34	05:47 20:21	06:18 19:42	06:49 18:50	07:20 17:03	06:57 16:33	07:21 16:35
27	07:14 17:08	06:37 17:46	05:52 18:17	06:03 19:50	05:32 20:19	05:28 20:34	05:48 20:20	06:19 19:40	06:50 18:48	07:21 17:02	06:58 16:32	07:22 16:36
28	07:13 17:09	06:35 17:47	05:50 18:18	06:02 19:51	05:31 20:20	05:28 20:34	05:49 20:19	06:20 19:39	06:51 18:47	07:22 17:00	06:59 16:32	07:22 16:37
29	07:12 17:10		06:48 19:19	06:00 19:52	05:30 20:21	05:28 20:34	05:50 20:18	06:21 19:37	06:52 18:45	07:23 16:59	07:00 16:32	07:22 16:37
30	07:12 17:12		06:47 19:20	05:59 19:53	05:30 20:22	05:29 20:34	05:51 20:17	06:22 19:35	06:53 18:43	07:24 16:58	07:02 16:31	07:23 16:38
31	07:11 17:13		06:45 19:21		05:29 20:22		05:52 20:16	06:23 19:34		06:27 16:56		07:23 16:39
Potential sun hours	298	297	369	399	448	452	459	428	375	345	298	288
Total, worst case												

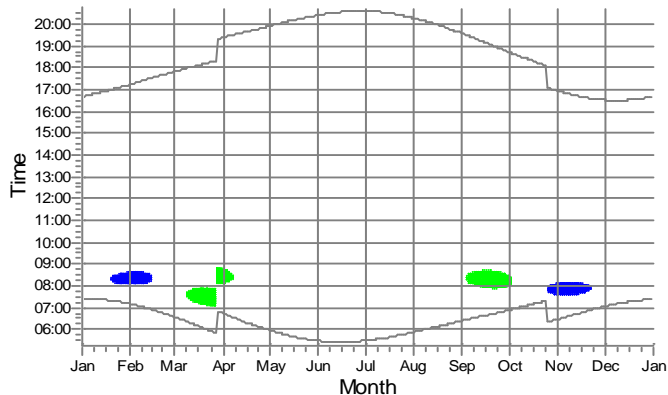
Table layout: For each day in each month the following matrix apply

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)

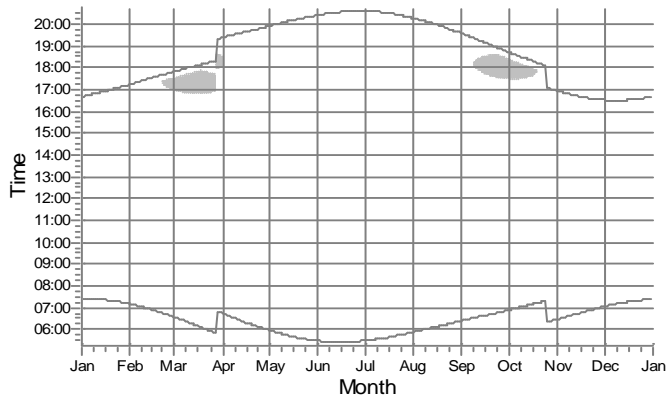
SHADOW - Calendar, graphical

Calculation: Solo torri di progetto

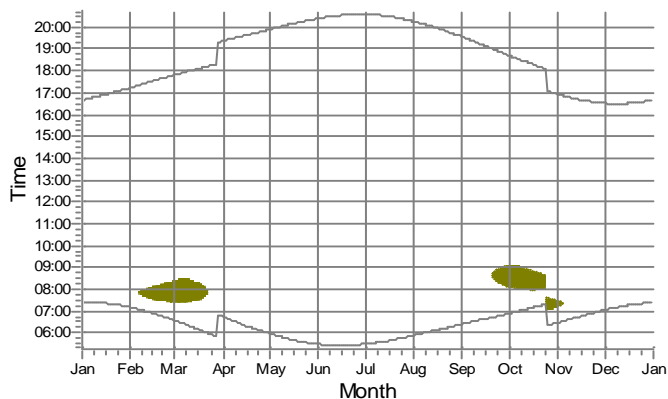
A: R15



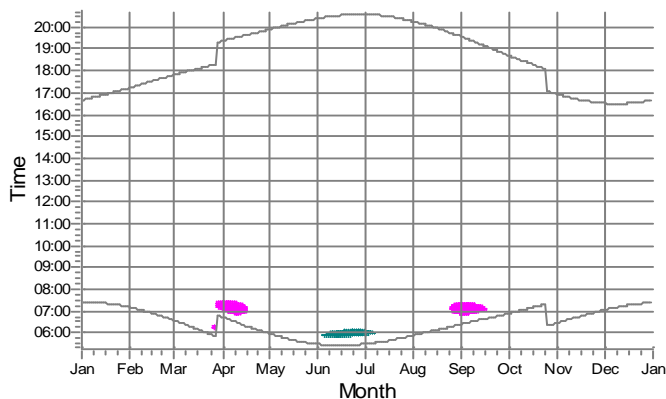
B: R11.2



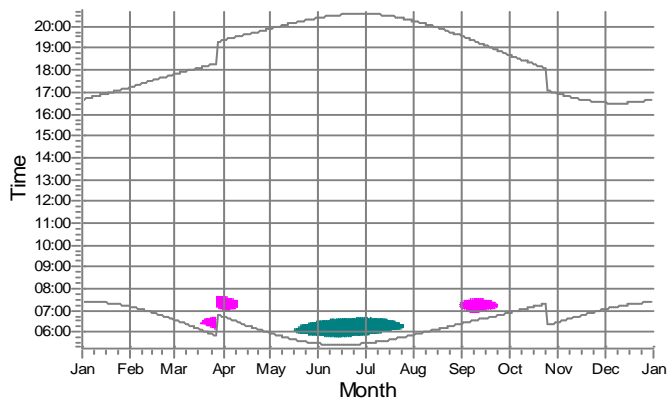
C: R04



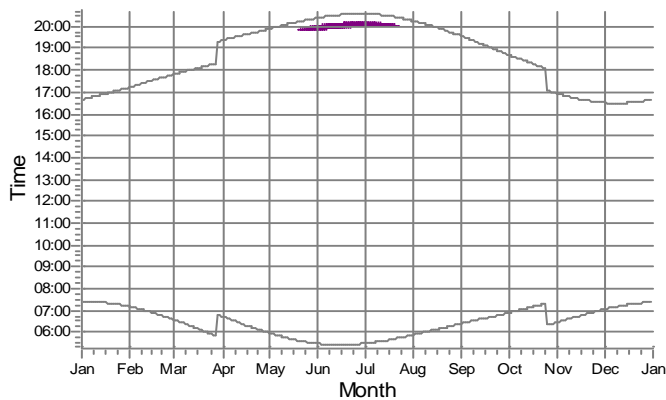
D: R03.2



E: R03.1



F: R16.2



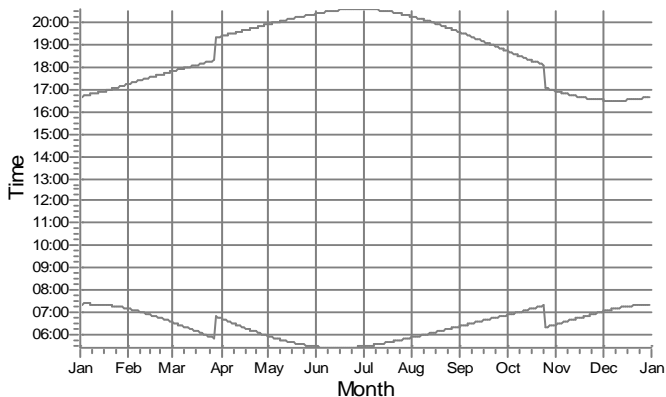
WTGs

	3: AG14		6: AG20		10: AG27		12: AG29
	5: AG13		9: AG25		11: AG28		

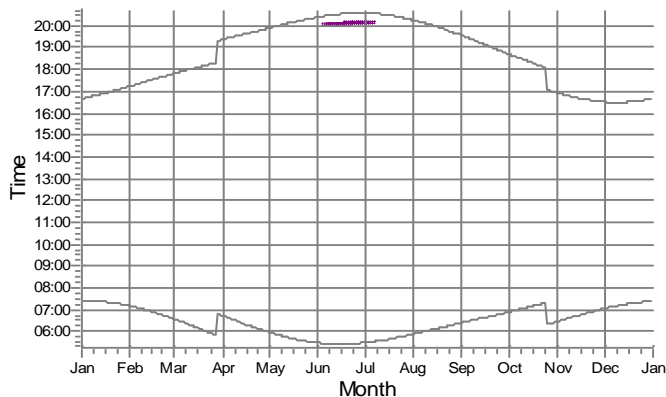
SHADOW - Calendar, graphical

Calculation: Solo torri di progetto

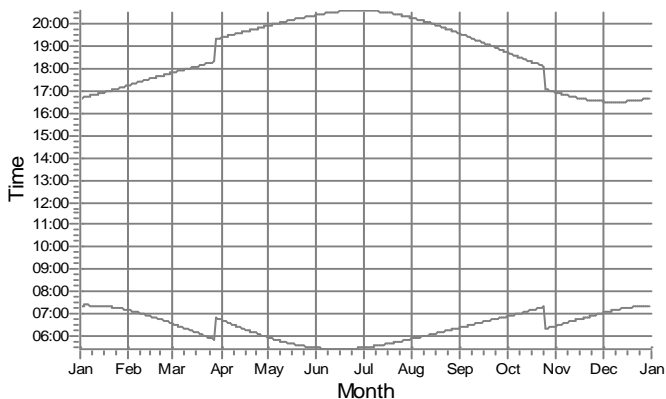
G: R17



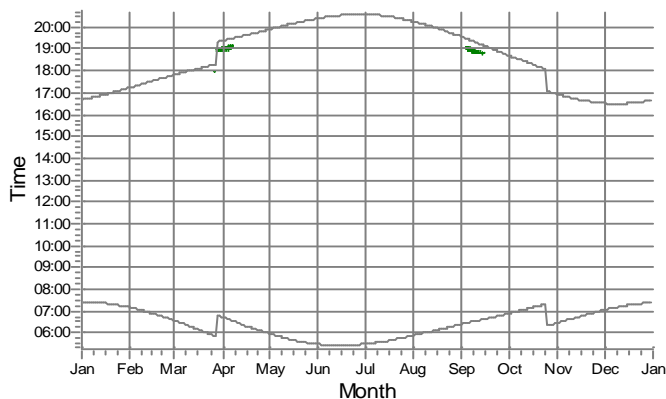
H: R16.1



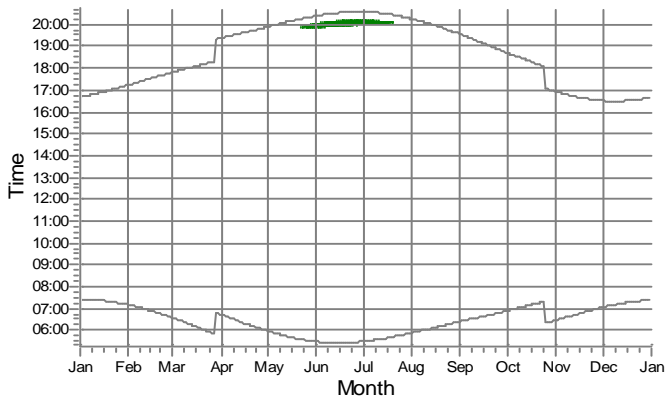
I: R18



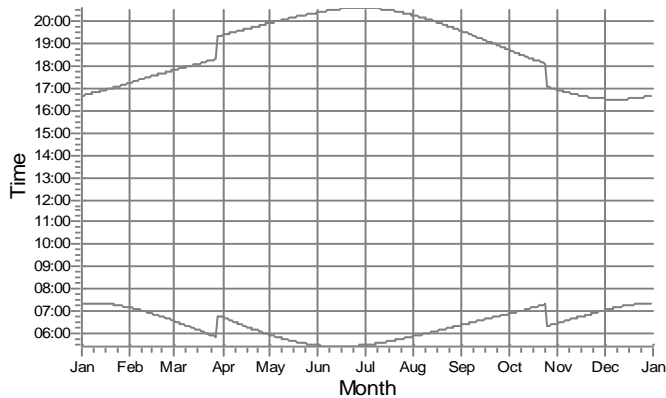
J: R02



K: R19



L: R20



WTGs



1: AG01

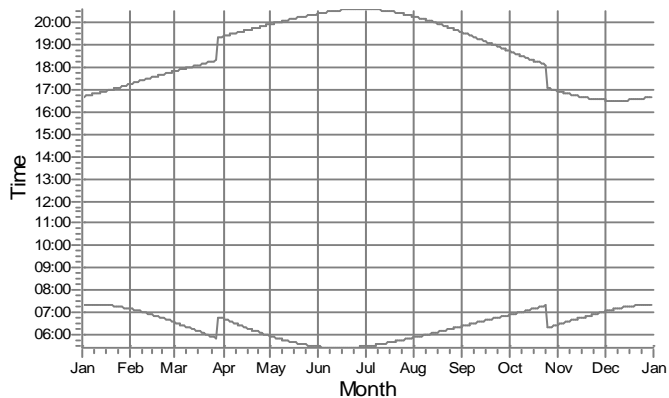


11: AG28

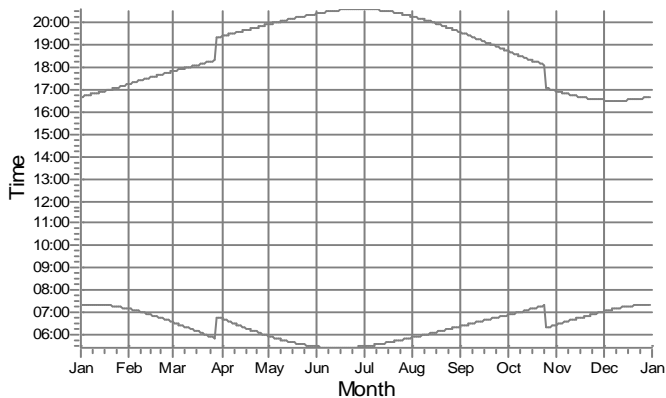
SHADOW - Calendar, graphical

Calculation: Solo torri di progetto

M: R21



N: R22



WTGs

SHADOW - Calendar per WTG**Calculation:** Solo torri di progetto **WTG: 1 - AG01****Assumptions for shadow calculations**

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 18:53-19:01/8 19:22	05:58 19:54	05:29 19:49-19:58/9 20:23
2	07:23 16:41	07:09 17:15	06:32 17:49	06:42 18:53-19:02/9 19:23	05:56 19:55	05:28 19:50-19:59/9 20:24
3	07:23 16:42	07:08 17:17	06:31 17:50	06:40 18:53-19:03/10 19:24	05:55 19:56	05:28 19:49-19:59/10 20:25
4	07:23 16:43	07:07 17:18	06:29 17:52	06:38 18:54-19:04/10 19:25	05:54 19:57	05:27 19:50-20:00/10 20:26
5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 18:54-19:05/11 19:26	05:52 19:58	05:27 19:50-20:01/11 20:26
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 18:55-19:05/10 19:27	05:51 19:59	05:27 19:50-20:01/11 20:27
7	07:23 16:45	07:04 17:22	06:25 17:55	06:33 18:58-19:07/9 19:28	05:50 20:00	05:26 19:50-20:02/12 20:28
8	07:23 16:46	07:02 17:23	06:23 17:56	06:32 19:01-19:07/6 19:30	05:49 20:01	05:26 19:51-20:03/12 20:28
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:31	05:48 20:02	05:26 19:51-20:04/13 20:29
10	07:23 16:48	07:00 17:25	06:20 17:58	06:29 19:32	05:47 20:03	05:26 19:52-20:04/12 20:29
11	07:23 16:49	06:59 17:27	06:18 17:59	06:27 19:33	05:45 20:04	05:26 19:52-20:05/13 20:30
12	07:22 16:50	06:58 17:28	06:17 18:01	06:25 19:34	05:44 20:05	05:26 19:53-20:05/12 20:30
13	07:22 16:52	06:56 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 19:52-20:05/13 20:31
14	07:22 16:53	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 19:52-20:05/13 20:31
15	07:21 16:54	06:54 17:31	06:12 18:04	06:21 19:37	05:41 20:08	05:25 19:54-20:07/13 20:32
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 19:54-20:07/13 20:32
17	07:21 16:56	06:51 17:34	06:08 18:06	06:18 19:39	05:39 20:10	05:25 19:54-20:07/13 20:32
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:25 19:54-20:08/14 20:33
19	07:20 16:58	06:49 17:36	06:05 18:08	06:15 19:41	05:38 20:12	05:26 19:54-20:08/14 20:33
20	07:19 16:59	06:47 17:38	06:03 18:09	06:13 19:42	05:37 20:13	05:26 19:54-20:08/14 20:33
21	07:18 17:01	06:46 17:39	06:02 18:10	06:12 19:43	05:36 20:14	05:26 19:54-20:08/14 20:34
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 19:54-20:08/14 20:34
23	07:17 17:03	06:43 17:41	05:58 18:13	06:09 19:45	05:34 19:50-19:51/1 20:16	05:26 19:55-20:09/14 20:34
24	07:16 17:04	06:41 17:42	05:57 18:14	06:07 19:47	05:34 19:49-19:52/3 20:17	05:27 19:55-20:09/14 20:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:48	05:33 19:50-19:53/3 20:18	05:27 19:55-20:08/13 20:34
26	07:15 17:07	06:39 17:45	05:53 18:16	06:04 19:49	05:32 19:49-19:54/5 20:18	05:27 19:56-20:09/13 20:34
27	07:14 17:08	06:37 17:46	05:52 17:54-17:56/2 18:17	06:03 19:50	05:32 19:50-19:55/5 20:19	05:28 19:56-20:09/13 20:34
28	07:13 17:09	06:35 17:47	05:50 17:53-17:56/3 18:18	06:02 19:51	05:31 19:49-19:55/6 20:20	05:28 19:55-20:08/13 20:34
29	07:13 17:10		06:48 18:53-18:58/5 19:19	06:00 19:52	05:30 19:49-19:56/7 20:21	05:28 19:56-20:09/13 20:34
30	07:12 17:12		06:47 18:53-18:59/6 19:20	05:59 19:53	05:30 19:49-19:57/8 20:22	05:29 19:56-20:09/13 20:34
31	07:11 17:13		06:45 18:52-18:59/7 19:21		05:29 19:50-19:58/8 20:23	
Potential sun hours	298	297	369	399	448	452
Sum of minutes with flicker	0	0	23	73	46	375

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: Solo torri di progetto WTG: 1 - AG01****Assumptions for shadow calculations**

Maximum distance for influence 2.000 m
 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

	July	August	September	October	November	December
1	05:29 19:56-20:09/13	05:53	06:24	06:54	06:28	07:03
	20:34	20:15	19:32	18:42	16:55	16:31
2	05:30 19:56-20:08/12	05:54	06:25	06:55	06:29	07:04
	20:34	20:14	19:31	18:40	16:54	16:31
3	05:30 19:57-20:09/12	05:55	06:26	06:56	06:30	07:05
	20:34	20:13	19:29	18:38	16:53	16:30
4	05:31 19:56-20:08/12	05:56	06:27 18:58-19:04/6	06:57	06:31	07:06
	20:34	20:12	19:27	18:37	16:52	16:30
5	05:31 19:57-20:08/11	05:57	06:28 18:54-19:03/9	06:58	06:33	07:07
	20:34	20:11	19:26	18:35	16:50	16:30
6	05:32 19:56-20:08/12	05:58	06:29 18:51-19:02/11	06:59	06:34	07:08
	20:33	20:10	19:24	18:34	16:49	16:30
7	05:33 19:57-20:08/11	05:59	06:30 18:50-19:00/10	07:00	06:35	07:09
	20:33	20:08	19:22	18:32	16:48	16:30
8	05:33 19:57-20:08/11	06:00	06:31 18:48-18:58/10	07:01	06:36	07:10
	20:33	20:07	19:21	18:30	16:47	16:30
9	05:34 19:57-20:07/10	06:01	06:32 18:47-18:57/10	07:02	06:37	07:10
	20:32	20:06	19:19	18:29	16:46	16:30
10	05:34 19:57-20:07/10	06:02	06:33 18:46-18:55/9	07:03	06:39	07:11
	20:32	20:05	19:17	18:27	16:45	16:30
11	05:35 19:57-20:07/10	06:03	06:34 18:45-18:53/8	07:04	06:40	07:12
	20:32	20:03	19:16	18:25	16:44	16:30
12	05:36 19:57-20:06/9	06:04	06:35 18:44-18:52/8	07:05	06:41	07:13
	20:31	20:02	19:14	18:24	16:43	16:30
13	05:37 19:57-20:06/9	06:05	06:36 18:44-18:50/6	07:06	06:42	07:14
	20:31	20:01	19:12	18:22	16:42	16:30
14	05:37 19:58-20:05/7	06:06	06:37 18:44-18:49/5	07:07	06:43	07:15
	20:30	19:59	19:11	18:21	16:41	16:30
15	05:38 19:58-20:05/7	06:07	06:38 18:43-18:47/4	07:09	06:45	07:15
	20:30	19:58	19:09	18:19	16:40	16:30
16	05:39 19:58-20:04/6	06:08	06:39 18:44-18:45/1	07:10	06:46	07:16
	20:29	19:57	19:07	18:18	16:40	16:31
17	05:40 19:58-20:03/5	06:09	06:40	07:11	06:47	07:17
	20:28	19:55	19:06	18:16	16:39	16:31
18	05:40 19:59-20:03/4	06:10	06:41	07:12	06:48	07:17
	20:28	19:54	19:04	18:15	16:38	16:31
19	05:41 20:00-20:03/3	06:11	06:42	07:13	06:49	07:18
	20:27	19:52	19:02	18:13	16:37	16:32
20	05:42 20:00-20:02/2	06:12	06:43	07:14	06:50	07:19
	20:26	19:51	19:00	18:12	16:36	16:32
21	05:43 20:00-20:01/1	06:13	06:44	07:15	06:52	07:19
	20:26	19:49	18:59	18:10	16:36	16:33
22	05:44	06:14	06:45	07:16	06:53	07:20
	20:25	19:48	18:57	18:09	16:35	16:33
23	05:45	06:15	06:46	07:17	06:54	07:20
	20:24	19:46	18:55	18:07	16:35	16:34
24	05:46	06:16	06:47	07:19	06:55	07:21
	20:23	19:45	18:54	18:06	16:34	16:34
25	05:47	06:17	06:48	06:20	06:56	07:21
	20:22	19:43	18:52	17:04	16:33	16:35
26	05:47	06:18	06:49	06:21	06:57	07:21
	20:21	19:42	18:50	17:03	16:33	16:35
27	05:48	06:19	06:50	06:22	06:58	07:22
	20:20	19:40	18:49	17:02	16:32	16:36
28	05:49	06:20	06:51	06:23	06:59	07:22
	20:19	19:39	18:47	17:00	16:32	16:37
29	05:50	06:21	06:52	06:24	07:01	07:22
	20:18	19:37	18:45	16:59	16:32	16:37
30	05:51	06:22	06:53	06:26	07:02	07:23
	20:17	19:36	18:44	16:58	16:31	16:38
31	05:52	06:23		06:27		07:23
	20:16	19:34		16:56		16:39
Potential sun hours	459	428	375	345	298	288
Sum of minutes with flicker	177	0	97	0	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: Solo torri di progetto WTG: 2 - AG07

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03
	16:40	17:14	17:48	19:22	19:54	20:23	20:34	20:15	19:32	18:42	16:55	16:31
2	07:23	07:09	06:32	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:30
3	07:23	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05
	16:41	17:16	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:38	16:53	16:30
4	07:23	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:31	07:06
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:27	18:37	16:51	16:30
5	07:23	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30
6	07:23	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08
	16:44	17:20	17:54	19:27	19:59	20:27	20:33	20:10	19:24	18:33	16:49	16:30
7	07:23	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09
	16:45	17:21	17:55	19:28	20:00	20:28	20:33	20:08	19:22	18:32	16:48	16:30
8	07:23	07:02	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:37	07:11
	16:47	17:24	17:57	19:31	20:02	20:29	20:32	20:06	19:19	18:29	16:46	16:30
10	07:23	07:00	06:20	06:28	05:46	05:26	05:34	06:02	06:33	07:03	06:39	07:11
	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:17	18:27	16:45	16:30
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12
	16:49	17:26	17:59	19:33	20:04	20:30	20:32	20:03	19:16	18:25	16:44	16:30
12	07:22	06:58	06:16	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13
	16:50	17:28	18:01	19:34	20:05	20:30	20:31	20:02	19:14	18:24	16:43	16:30
13	07:22	06:56	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:07	06:43	07:15
	16:52	17:30	18:03	19:36	20:07	20:31	20:30	19:59	19:11	18:21	16:41	16:30
15	07:21	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:15
	16:54	17:31	18:04	19:37	20:08	20:32	20:30	19:58	19:09	18:19	16:40	16:30
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31
17	07:21	06:51	06:08	06:17	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17
	16:56	17:34	18:06	19:39	20:10	20:33	20:28	19:55	19:06	18:16	16:39	16:31
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:17
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:14	16:38	16:31
19	07:20	06:49	06:05	06:14	05:37	05:25	05:41	06:11	06:42	07:13	06:49	07:18
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:50	07:19
	16:59	17:37	18:09	19:42	20:13	20:33	20:26	19:51	19:00	18:12	16:36	16:32
21	07:18	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:49	18:59	18:10	16:36	16:32
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20
	17:02	17:40	18:11	19:44	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:17	06:54	07:20
	17:03	17:41	18:12	19:45	20:16	20:34	20:24	19:46	18:55	18:07	16:34	16:33
24	07:17	06:41	05:57	06:07	05:33	05:26	05:46	06:16	06:47	07:19	06:55	07:21
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21
	17:05	17:43	18:15	19:48	20:18	20:34	20:22	19:43	18:52	17:04	16:33	16:35
26	07:15	06:38	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:57	07:22
	17:07	17:45	18:16	19:49	20:19	20:34	20:21	19:42	18:50	17:03	16:33	16:35
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:58	07:22
	17:08	17:46	18:17	19:50	20:19	20:34	20:20	19:40	18:49	17:02	16:32	16:36
28	07:13	06:35	05:50	06:01	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22
	17:09	17:47	18:18	19:51	20:20	20:34	20:19	19:39	18:47	17:00	16:32	16:36
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:24	07:01	07:22
	17:10		19:19	19:52	20:21	20:34	20:18	19:37	18:45	16:59	16:31	16:37
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23
	17:11		19:20	19:53	20:22	20:34	20:17	19:36	18:43	16:58	16:31	16:38
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23
	17:13		19:21		20:23		20:16	19:34		16:56		16:39
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Solo torri di progetto WTG: 3 - AG14

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
 - 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:40	07:10 08:02-08:34/32 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 19:32	06:54 18:42	06:28 07:34-08:03/29 16:55	07:03 16:31
2	07:23 16:41	07:09 08:02-08:34/32 17:15	06:32 17:49	06:42 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 18:40	06:29 07:33-08:03/30 16:54	07:04 16:31
3	07:23 16:42	07:08 08:02-08:35/33 17:17	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:38	06:30 07:33-08:04/31 16:53	07:05 16:30
4	07:24 16:42	07:07 08:02-08:35/33 17:18	06:29 17:52	06:38 19:25	05:54 19:57	05:27 20:26	05:31 20:34	05:56 20:12	06:27 19:27	06:57 18:37	06:32 07:32-08:04/32 16:52	07:06 16:30
5	07:24 16:43	07:06 08:02-08:35/33 17:19	06:28 17:53	06:37 19:26	05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 19:26	06:58 18:35	06:33 07:33-08:05/32 16:50	07:07 16:30
6	07:24 16:44	07:05 08:03-08:35/32 17:20	06:26 17:54	06:35 19:27	05:51 19:59	05:27 20:27	05:32 20:34	05:58 20:10	06:29 19:24	06:59 18:34	06:34 07:32-08:05/33 16:49	07:08 16:30
7	07:23 16:45	07:04 08:02-08:34/32 17:22	06:25 17:55	06:33 19:29	05:50 20:00	05:26 20:28	05:32 20:33	05:59 20:09	06:30 19:23	07:00 18:32	06:35 07:32-08:05/33 16:48	07:09 16:30
8	07:23 16:46	07:03 08:03-08:34/31 17:23	06:23 17:56	06:32 19:30	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 19:21	07:01 18:30	06:36 07:32-08:05/33 16:47	07:10 16:30
9	07:23 16:47	07:01 08:04-08:33/29 17:24	06:21 17:57	06:30 19:31	05:48 20:02	05:26 20:29	05:34 20:33	06:01 20:06	06:32 19:19	07:02 18:29	06:37 07:33-08:05/32 16:46	07:11 16:30
10	07:23 16:48	07:00 08:05-08:33/28 17:25	06:20 17:58	06:29 19:32	05:47 20:03	05:26 20:29	05:34 20:32	06:02 20:05	06:33 19:18	07:03 18:27	06:39 07:33-08:05/32 16:45	07:11 16:30
11	07:23 16:49	06:59 08:06-08:32/26 17:27	06:18 17:59	06:27 19:33	05:45 20:04	05:26 20:30	05:35 20:32	06:03 20:04	06:34 19:16	07:04 18:25	06:40 07:33-08:04/31 16:44	07:12 16:30
12	07:23 16:50	06:58 08:06-08:30/24 17:28	06:17 18:01	06:25 19:34	05:44 20:05	05:25 20:30	05:36 20:31	06:04 20:02	06:35 19:14	07:05 18:24	06:41 07:34-08:05/31 16:43	07:13 16:30
13	07:22 16:51	06:57 08:08-08:29/21 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 20:31	05:37 20:31	06:05 20:01	06:36 19:12	07:06 18:22	06:42 07:35-08:04/29 16:42	07:14 16:30
14	07:22 16:53	06:55 08:10-08:28/18 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 20:31	05:37 20:30	06:06 20:00	06:37 19:11	07:07 18:21	06:43 07:35-08:04/29 16:41	07:15 16:30
15	07:22 16:54	06:54 08:12-08:25/13 17:31	06:12 18:04	06:21 19:37	05:41 20:08	05:25 20:32	05:38 20:30	06:07 19:58	06:38 19:09	07:09 18:19	06:45 07:36-08:03/27 16:40	07:15 16:30
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:39 19:07	07:10 18:18	06:46 07:37-08:03/26 16:39	07:16 16:31
17	07:21 16:56	06:51 17:34	06:08 18:06	06:18 19:39	05:39 20:10	05:25 20:33	05:40 20:28	06:09 19:55	06:40 19:06	07:11 18:16	06:47 07:38-08:02/24 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 19:04	07:12 18:15	06:48 07:39-08:01/22 16:38	07:18 16:31
19	07:20 16:58	06:49 17:36	06:05 18:08	06:15 19:41	05:38 20:12	05:25 20:33	05:41 20:27	06:11 19:52	06:42 19:02	07:13 18:13	06:49 07:41-08:00/19 16:37	07:18 16:32
20	07:19 08:13-08:18/5 16:59	06:47 17:38	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:34	05:42 20:26	06:12 19:51	06:43 19:00	07:14 18:12	06:51 07:43-07:59/16 16:36	07:19 16:32
21	07:19 08:09-08:21/12 17:01	06:46 17:39	06:02 18:10	06:12 19:43	05:36 20:14	05:26 20:34	05:43 20:26	06:13 19:50	06:44 18:59	07:15 18:10	06:52 07:45-07:57/12 16:36	07:19 16:32
22	07:18 08:08-08:24/16 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	07:16 18:09	06:53 07:49-07:54/5 16:35	07:20 16:33
23	07:17 08:07-08:26/19 17:03	06:43 17:41	05:58 18:13	06:09 19:46	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:47	06:46 18:55	07:18 18:07	06:54 16:34	07:20 16:33
24	07:17 08:05-08:27/22 17:04	06:42 17:42	05:57 18:14	06:07 19:47	05:33 20:17	05:26 20:34	05:46 20:23	06:16 19:45	06:47 18:54	07:19 18:06	06:55 16:34	07:21 16:34
25	07:16 08:04-08:28/24 17:05	06:40 17:43	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:34	05:46 20:22	06:17 19:43	06:48 18:52	07:20 17:04	06:56 16:33	07:21 16:35
26	07:15 08:04-08:30/26 17:07	06:39 17:45	05:53 18:16	06:04 19:49	05:32 20:19	05:27 20:35	05:47 20:21	06:18 19:42	06:49 18:50	07:21 17:03	06:57 07:45-07:51/6 16:33	07:22 16:35
27	07:14 08:04-08:31/27 17:08	06:37 17:46	05:52 18:17	06:03 19:50	05:31 20:19	05:27 20:35	05:48 20:21	06:19 19:40	06:50 18:49	07:22 17:02	06:58 07:41-07:55/14 16:32	07:22 16:36
28	07:14 08:03-08:32/29 17:09	06:36 17:47	05:50 18:18	06:02 19:51	05:31 20:20	05:28 20:35	05:49 20:20	06:20 19:39	06:51 18:47	07:23 17:00	06:59 07:39-07:58/19 16:32	07:22 16:37
29	07:13 08:03-08:32/29 17:10	06:35 17:48	05:48 18:19	06:00 19:52	05:30 20:21	05:28 20:35	05:50 20:19	06:21 19:37	06:52 18:45	07:24 16:59	07:00 07:37-07:59/22 16:32	07:23 16:37
30	07:12 08:02-08:33/31 17:12	06:34 17:49	05:47 18:20	05:59 19:53	05:30 20:22	05:29 20:35	05:51 20:18	06:22 19:36	06:53 18:44	07:25 16:58	07:01 07:36-08:00/24 16:31	07:23 16:38
31	07:11 08:02-08:34/32 17:13	06:33 18:21	05:46 19:21	05:58 20:23	05:29 20:23	05:28 20:35	05:52 20:17	06:23 19:34	06:54 18:44	07:26 16:56	07:02 07:34-08:01/27 16:30	07:23 16:39
Potential sun hours	297	297	369	399	448	452	459	428	375	345	298	288
Sum of minutes with flicker	272	417	0	0	0	0	0	0	0	112	588	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: Solo torri di progetto WTG: 4 - AG15

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:43	05:58	05:29	05:29	05:53	06:24	06:54	06:28	07:03
	16:40	17:14	17:48	19:22	19:54	20:23	20:34	20:15	19:32	18:42	16:55	16:31
2	07:23	07:09	06:32	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31
3	07:23	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:39	16:53	16:30
4	07:23	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:31	07:06
	16:43	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:27	18:37	16:52	16:30
5	07:23	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30
6	07:23	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08
	16:44	17:20	17:54	19:27	19:59	20:27	20:33	20:10	19:24	18:34	16:49	16:30
7	07:23	07:04	06:25	06:33	05:50	05:26	05:33	05:59	06:30	07:00	06:35	07:09
	16:45	17:22	17:55	19:29	20:00	20:28	20:33	20:09	19:22	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:37	07:10
	16:47	17:24	17:57	19:31	20:02	20:29	20:32	20:06	19:19	18:29	16:46	16:30
10	07:23	07:00	06:20	06:29	05:47	05:26	05:34	06:02	06:33	07:03	06:39	07:11
	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:17	18:27	16:45	16:30
11	07:23	06:59	06:18	06:27	05:46	05:26	05:35	06:03	06:34	07:04	06:40	07:12
	16:49	17:27	17:59	19:33	20:04	20:30	20:32	20:03	19:16	18:25	16:44	16:30
12	07:22	06:58	06:17	06:25	05:44	05:26	05:36	06:04	06:35	07:05	06:41	07:13
	16:50	17:28	18:01	19:34	20:05	20:30	20:31	20:02	19:14	18:24	16:43	16:30
13	07:22	06:57	06:15	06:24	05:43	05:25	05:37	06:05	06:36	07:06	06:42	07:14
	16:52	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:07	06:43	07:15
	16:53	17:30	18:03	19:36	20:07	20:31	20:30	19:59	19:11	18:21	16:41	16:30
15	07:21	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:15
	16:54	17:31	18:04	19:37	20:08	20:32	20:30	19:58	19:09	18:19	16:40	16:30
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:40	16:31
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17
	16:56	17:34	18:06	19:39	20:10	20:32	20:28	19:55	19:06	18:16	16:39	16:31
18	07:20	06:50	06:07	06:16	05:38	05:25	05:41	06:10	06:41	07:12	06:48	07:17
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31
19	07:20	06:49	06:05	06:15	05:38	05:26	05:41	06:11	06:42	07:13	06:49	07:18
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:50	07:19
	16:59	17:38	18:09	19:42	20:13	20:33	20:26	19:51	19:00	18:12	16:36	16:32
21	07:18	06:46	06:02	06:12	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:49	18:59	18:10	16:36	16:33
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20
	17:02	17:40	18:11	19:44	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:17	06:54	07:20
	17:03	17:41	18:13	19:45	20:16	20:34	20:24	19:46	18:55	18:07	16:35	16:34
24	07:17	06:41	05:57	06:07	05:34	05:27	05:46	06:16	06:47	07:19	06:55	07:21
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34
25	07:16	06:40	05:55	06:06	05:33	05:27	05:47	06:17	06:48	06:20	06:56	07:21
	17:05	17:43	18:15	19:48	20:18	20:34	20:22	19:43	18:52	17:04	16:33	16:35
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:57	07:21
	17:07	17:45	18:16	19:49	20:19	20:34	20:21	19:42	18:50	17:03	16:33	16:35
27	07:14	06:37	05:52	06:03	05:32	05:28	05:48	06:19	06:50	06:22	06:58	07:22
	17:08	17:46	18:17	19:50	20:19	20:34	20:20	19:40	18:49	17:02	16:32	16:36
28	07:13	06:36	05:50	06:02	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22
	17:09	17:47	18:18	19:51	20:20	20:34	20:19	19:39	18:47	17:00	16:32	16:37
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:24	07:01	07:22
	17:10		19:19	19:52	20:21	20:34	20:18	19:37	18:45	16:59	16:32	16:37
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23
	17:12		19:20	19:53	20:22	20:34	20:17	19:36	18:44	16:58	16:31	16:38
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23
	17:13		19:21		20:23		20:16	19:34		16:56		16:39
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Solo torri di progetto WTG: 5 - AG13

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
 - 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 07:02-07:35/33 19:22	05:57 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 06:46-07:17/31 19:32 07:17-07:18/1	06:54 18:42	06:28 16:55	07:03 16:31	
2	07:23 16:41	07:09 17:15	06:32 17:49	06:41 07:00-07:34/34 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 06:45-07:20/35 19:31	06:55 18:40	06:29 16:54	07:04 16:30	
3	07:23 16:41	07:08 17:16	06:31 17:50	06:40 06:58-07:33/35 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 06:46-07:22/36 19:29	06:56 18:38	06:30 16:53	07:05 16:30	
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5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 06:55-07:31/36 19:26	05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 06:48-07:24/36 19:26	06:58 18:35	06:33 16:50	07:07 16:30	
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 06:53-07:29/36 19:27	05:51 19:59	05:27 20:27	05:32 20:33	05:58 20:10	06:29 06:49-07:25/36 19:24	06:59 18:33	06:34 16:49	07:08 16:30	
7	07:23 16:45	07:03 17:21	06:24 17:55	06:33 06:52-07:28/36 19:28	05:50 20:00	05:26 20:27	05:32 20:33	05:59 20:08	06:30 06:50-07:26/36 19:22	07:00 18:32	06:35 16:48	07:09 16:30	
8	07:23 16:46	07:02 17:23	06:23 17:56	06:32 06:50-07:26/36 19:29	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 06:51-07:26/35 19:21	07:01 18:30	06:36 16:47	07:09 16:30	
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 06:49-07:25/36 19:30	05:48 20:02	05:26 20:29	05:34 20:32	06:01 20:06	06:32 06:52-07:27/35 19:19	07:02 18:29	06:37 16:46	07:10 16:30	
10	07:23 16:48	07:00 17:25	06:20 17:58	06:28 06:47-07:22/35 19:32	05:46 20:03	05:26 20:29	05:34 20:32	06:02 20:05	06:33 06:53-07:27/34 19:17	07:03 18:27	06:38 16:45	07:11 16:30	
11	07:23 16:49	06:59 17:26	06:18 17:59	06:27 06:47-07:18/31 19:33	05:45 20:04	05:25 20:30	05:35 20:31	06:03 20:03	06:34 06:54-07:27/33 19:16	07:04 18:25	06:40 16:44	07:12 16:30	
12	07:22 16:50	06:58 17:28	06:16 18:00	06:25 06:48-07:19/31 19:34	05:44 20:05	05:25 20:30	05:36 20:31	06:04 20:02	06:35 06:55-07:27/32 19:14	07:05 18:24	06:41 16:43	07:13 16:30	
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24	07:16 17:04	06:41 17:42	05:56 18:13	06:07 19:46	05:33 20:17	05:26 20:34	05:45 20:23	06:16 19:45	06:46 07:07-07:10/3 18:54	07:18 18:06	06:55 16:34	07:21 16:34	
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Potential sun hours	297	297	369	399	448	452	459	428	375	651	345	298	288
Sum of minutes with flicker	0	0	259	525	0	0	0	145	651	0	0	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: Solo torri di progetto WTG: 6 - AG20

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:23	05:50-06:25/35 20:34	05:29 20:34	05:52-06:35/43 20:15	05:53 20:12	06:24 18:42	06:54 16:55	06:28 16:31	07:03
2	07:23 16:41	07:09 17:15	06:32 17:49	06:41 19:23	05:56 19:55	05:28 20:24	05:50-06:26/36 20:34	05:30 20:34	05:52-06:35/43 20:14	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:30
3	07:23 16:41	07:08 17:16	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	05:49-06:26/37 20:34	05:30 20:34	05:53-06:35/42 20:13	05:55 20:13	06:26 19:29	06:56 18:38	06:30 16:53	07:05 16:30
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6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 19:27	05:51 19:59	05:27 20:27	05:48-06:28/40 20:33	05:32 20:33	05:54-06:34/40 20:10	05:58 20:10	06:29 19:24	06:59 18:33	06:34 16:49	07:08 16:30
7	07:23 16:45	07:04 17:21	06:24 17:55	06:33 19:28	05:50 20:00	05:26 20:27	05:48-06:28/40 20:33	05:32 20:33	05:55-06:34/39 20:08	05:59 20:08	06:30 19:22	07:00 18:32	06:35 16:48	07:09 16:30
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16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	05:47-06:32/45 20:29	05:39 20:29	06:01-06:29/28 19:57	06:08 19:07	06:39 18:17	07:10 18:17	06:46 16:39	07:16 16:31
17	07:21 16:56	06:51 17:34	06:08 18:06	06:17 19:39	05:39 20:10	05:25 20:32	05:48-06:33/45 20:28	05:40 20:28	06:02-06:29/27 19:55	06:09 19:05	06:39 18:16	07:11 18:16	06:47 16:39	07:17 16:31
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Potential sun hours	297	297	369	399	448	452	459	428	375	345	298	288	288	0
Sum of minutes with flicker	0	0	0	0	304	1281	757	0	0	0	0	0	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: Solo torri di progetto WTG: 7 - AG21

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 19:32	06:54 18:42	06:28 16:55	07:03 16:31
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21	07:18 17:01	06:46 17:39	06:02 18:10	06:11 19:43	05:36 20:14	05:26 20:34	05:43 20:26	06:13 19:49	06:44 18:59	07:15 18:10	06:52 16:36	07:19 16:32
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	07:16 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 18:13	06:09 19:45	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:46	06:46 18:55	07:17 18:07	06:54 16:34	07:20 16:33
24	07:17 17:04	06:41 17:42	05:57 18:14	06:07 19:47	05:33 20:17	05:26 20:34	05:46 20:23	06:16 19:45	06:47 18:54	07:19 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:34	05:46 20:22	06:17 19:43	06:48 18:52	07:20 17:04	06:56 16:33	07:21 16:35
26	07:15 17:07	06:38 17:45	05:53 18:16	06:04 19:49	05:32 20:19	05:27 20:34	05:47 20:21	06:18 19:42	06:49 18:50	07:21 17:03	06:57 16:33	07:22 16:35
27	07:14 17:08	06:37 17:46	05:52 18:17	06:03 19:50	05:31 20:19	05:27 20:34	05:48 20:20	06:19 19:40	06:50 18:49	07:22 17:02	06:58 16:32	07:22 16:36
28	07:13 17:09	06:35 17:47	05:50 18:18	06:01 19:51	05:31 20:20	05:28 20:34	05:49 20:19	06:20 19:39	06:51 18:47	07:23 17:00	07:00 16:32	07:22 16:37
29	07:13 17:10		06:48 19:19	06:00 19:52	05:30 20:21	05:28 20:34	05:50 20:19	06:21 19:37	06:52 18:45	07:24 16:59	07:01 16:31	07:22 16:37
30	07:12 17:12		06:47 19:20	05:59 19:53	05:30 20:22	05:29 20:34	05:51 20:17	06:22 19:36	06:53 18:43	07:25 16:58	07:02 16:31	07:23 16:38
31	07:11 17:13		06:45 19:21		05:29 20:23		05:52 20:16	06:23 19:34		06:27 16:56		07:23 16:39
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Solo torri di progetto WTG: 8 - AG22

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03
	16:40	17:14	17:48	19:22	19:54	20:23	20:34	20:15	19:32	18:42	16:55	16:31
2	07:23	07:09	06:32	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31
3	07:23	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05
	16:41	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:38	16:53	16:30
4	07:23	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:31	07:06
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:27	18:37	16:52	16:30
5	07:23	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30
6	07:23	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08
	16:44	17:20	17:54	19:27	19:59	20:27	20:33	20:10	19:24	18:33	16:49	16:30
7	07:23	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09
	16:45	17:22	17:55	19:28	20:00	20:28	20:33	20:09	19:22	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:37	07:11
	16:47	17:24	17:57	19:31	20:02	20:29	20:32	20:06	19:19	18:29	16:46	16:30
10	07:23	07:00	06:20	06:29	05:46	05:26	05:34	06:02	06:33	07:03	06:39	07:11
	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:17	18:27	16:45	16:30
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12
	16:49	17:26	17:59	19:33	20:04	20:30	20:32	20:03	19:16	18:25	16:44	16:30
12	07:22	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13
	16:50	17:28	18:01	19:34	20:05	20:30	20:31	20:02	19:14	18:24	16:43	16:30
13	07:22	06:57	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:07	06:43	07:15
	16:52	17:30	18:03	19:36	20:07	20:31	20:30	19:59	19:11	18:21	16:41	16:30
15	07:21	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:15
	16:54	17:31	18:04	19:37	20:08	20:32	20:30	19:58	19:09	18:19	16:40	16:30
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31
17	07:21	06:51	06:08	06:17	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17
	16:56	17:34	18:06	19:39	20:10	20:33	20:28	19:55	19:06	18:16	16:39	16:31
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:17
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31
19	07:20	06:49	06:05	06:14	05:37	05:25	05:41	06:11	06:42	07:13	06:49	07:18
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:50	07:19
	16:59	17:37	18:09	19:42	20:13	20:33	20:26	19:51	19:00	18:12	16:36	16:32
21	07:18	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:49	18:59	18:10	16:36	16:32
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20
	17:02	17:40	18:11	19:44	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:17	06:54	07:20
	17:03	17:41	18:13	19:45	20:16	20:34	20:24	19:46	18:55	18:07	16:34	16:33
24	07:17	06:41	05:57	06:07	05:33	05:26	05:46	06:16	06:47	07:19	06:55	07:21
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21
	17:05	17:43	18:15	19:48	20:18	20:34	20:22	19:43	18:52	17:04	16:33	16:35
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:57	07:22
	17:07	17:45	18:16	19:49	20:19	20:34	20:21	19:42	18:50	17:03	16:33	16:35
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:58	07:22
	17:08	17:46	18:17	19:50	20:19	20:34	20:20	19:40	18:49	17:02	16:32	16:36
28	07:13	06:35	05:50	06:01	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:37
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:24	07:01	07:22
	17:10		19:19	19:52	20:21	20:34	20:19	19:37	18:45	16:59	16:31	16:37
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23
	17:12		19:20	19:53	20:22	20:34	20:18	19:36	18:43	16:58	16:31	16:38
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23
	17:13		19:21		20:23		20:16	19:34		16:56		16:39
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Solo torri di progetto WTG: 9 - AG25

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 08:05-08:44/39 19:22	05:57 19:54	05:29 20:24	05:29 20:34	05:53 20:15	06:24 19:32	06:54 07:58-08:25/27 18:42	06:28 16:55	07:03 16:31	
2	07:23 16:41	07:09 17:15	06:32 17:49	06:42 08:06-08:42/36 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 08:00-08:22/22 18:40	06:29 16:54	07:04 16:31	
3	07:24 16:42	07:08 17:17	06:31 17:50	06:40 08:06-08:40/34 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 08:03-08:18/15 18:39	06:30 16:53	07:05 16:30	
4	07:24 16:42	07:07 17:18	06:29 17:52	06:38 08:08-08:39/31 19:25	05:54 19:57	05:27 20:26	05:31 20:34	05:56 20:12	06:27 08:14-08:23/9 19:28	06:57 18:37	06:32 16:52	07:06 16:30	
5	07:24 16:43	07:06 17:19	06:28 17:53	06:37 08:09-08:37/28 19:26	05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 08:09-08:27/18 19:26	06:58 18:35	06:33 16:50	07:07 16:30	
6	07:24 16:44	07:05 17:20	06:26 17:54	06:35 08:11-08:35/24 19:27	05:51 19:59	05:27 20:27	05:32 20:34	05:58 20:10	06:29 08:06-08:30/24 19:24	06:59 18:34	06:34 16:49	07:08 16:30	
7	07:23 16:45	07:04 17:22	06:25 17:55	06:33 08:13-08:31/18 19:29	05:50 20:00	05:26 20:28	05:32 20:33	05:59 20:09	06:30 08:04-08:32/28 19:23	07:00 18:32	06:35 16:48	07:09 16:30	
8	07:23 16:46	07:03 17:23	06:23 17:56	06:32 08:17-08:26/9 19:30	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 08:02-08:33/31 19:21	07:01 18:30	06:36 16:47	07:10 16:30	
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:31	05:48 20:02	05:26 20:29	05:34 20:33	06:01 20:06	06:32 08:00-08:34/34 19:19	07:02 18:29	06:37 16:46	07:11 16:30	
10	07:23 16:48	07:00 17:25	06:20 07:28-07:38/10 17:58	06:29 19:32	05:47 20:03	05:26 20:29	05:34 20:32	06:02 20:05	06:33 07:59-08:35/36 19:18	07:03 18:27	06:39 16:45	07:11 16:30	
11	07:23 16:49	06:59 17:27	06:18 07:22-07:42/20 17:59	06:27 19:33	05:45 20:04	05:26 20:30	05:35 20:32	06:03 20:04	06:34 07:58-08:36/38 19:16	07:04 18:25	06:40 16:44	07:12 16:30	
12	07:23 16:50	06:58 17:28	06:17 07:19-07:44/25 18:01	06:25 19:34	05:44 20:05	05:25 20:30	05:36 20:31	06:04 20:02	06:35 07:57-08:37/40 19:14	07:05 18:24	06:41 16:43	07:13 16:30	
13	07:22 16:51	06:57 17:29	06:15 07:17-07:47/30 18:02	06:24 19:35	05:43 20:06	05:25 20:31	05:37 20:31	06:05 20:01	06:36 07:56-08:37/41 19:12	07:06 18:22	06:42 16:42	07:14 16:30	
14	07:22 16:53	06:55 17:30	06:13 07:15-07:48/33 18:03	06:22 19:36	05:42 20:07	05:25 20:31	05:37 20:30	06:06 20:00	06:37 07:55-08:38/43 19:11	07:08 18:21	06:43 16:41	07:15 16:30	
15	07:22 16:54	06:54 17:31	06:12 07:13-07:49/36 18:04	06:21 19:37	05:41 20:08	05:25 20:32	05:38 20:30	06:07 19:58	06:38 07:54-08:38/44 19:09	07:09 18:19	06:45 16:40	07:15 16:30	
16	07:21 16:55	06:53 17:33	06:10 07:12-07:50/38 18:05	06:19 19:38	05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:39 07:53-08:38/45 19:07	07:10 18:18	06:46 16:39	07:16 16:31	
17	07:21 16:56	06:51 17:34	06:08 07:10-07:51/41 18:06	06:18 19:39	05:39 20:10	05:25 20:33	05:40 20:28	06:09 19:55	06:40 07:53-08:38/45 19:06	07:11 18:16	06:47 16:39	07:17 16:31	
18	07:20 16:57	06:50 17:35	06:07 07:09-07:51/42 18:07	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 07:52-08:38/46 19:04	07:12 18:15	06:48 16:38	07:18 16:31	
19	07:20 16:58	06:49 17:36	06:05 07:08-07:52/44 18:08	06:15 19:41	05:38 20:12	05:25 20:33	05:41 20:27	06:11 19:52	06:42 07:52-08:38/46 19:02	07:13 18:13	06:49 16:37	07:18 16:32	
20	07:19 16:59	06:47 17:38	06:03 07:07-07:52/45 18:09	06:13 19:42	05:37 20:13	05:26 20:34	05:42 20:26	06:12 19:51	06:43 07:52-08:38/46 19:01	07:14 18:12	06:51 16:36	07:19 16:32	
21	07:19 17:01	06:46 17:39	06:02 07:06-07:51/45 18:10	06:12 19:43	05:36 20:14	05:26 20:34	05:43 20:26	06:13 19:50	06:44 07:51-08:37/46 18:59	07:15 18:10	06:52 16:36	07:19 16:32	
22	07:18 17:02	06:44 17:40	06:00 07:06-07:52/46 18:11	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 07:51-08:37/46 18:57	07:16 18:09	06:53 16:35	07:20 16:33	
23	07:17 17:03	06:43 17:41	05:58 07:05-07:51/46 18:13	06:09 19:46	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:47	06:46 07:51-08:36/45 18:55	07:18 18:07	06:54 16:34	07:20 16:33	
24	07:17 17:04	06:42 17:42	05:57 07:05-07:51/46 18:14	06:07 19:47	05:33 20:17	05:26 20:34	05:46 20:23	06:16 19:45	06:47 07:52-08:35/43 18:54	07:19 18:06	06:55 16:34	07:21 16:34	
25	07:16 17:05	06:40 17:43	05:55 07:04-07:50/46 18:15	06:06 19:48	05:33 20:18	05:27 20:34	05:46 20:22	06:17 19:43	06:48 07:52-08:34/42 18:52	07:20 17:04	06:56 16:33	07:21 16:35	
26	07:15 17:07	06:39 17:45	05:53 07:04-07:50/46 18:16	06:04 19:49	05:32 20:19	05:27 20:35	05:47 20:21	06:18 19:42	06:49 07:52-08:33/41 18:50	07:21 17:03	06:57 16:33	07:22 16:35	
27	07:14 17:08	06:37 17:46	05:52 07:04-07:49/45 18:17	06:03 19:50	05:31 20:19	05:27 20:35	05:48 20:21	06:19 19:40	06:50 07:53-08:32/39 18:49	07:22 17:02	06:59 16:32	07:22 16:36	
28	07:14 17:09	06:36 17:47	05:50 07:04-07:48/44 18:18	06:02 19:51	05:31 20:20	05:28 20:35	05:49 20:20	06:20 19:39	06:51 07:54-08:31/37 18:47	07:23 17:00	07:00 16:32	07:22 16:37	
29	07:13 17:10	06:35 19:19	05:48 08:04-08:48/44 19:19	06:00 19:52	05:30 20:21	05:28 20:35	05:50 20:19	06:21 19:37	06:52 07:55-08:29/34 18:45	07:24 16:59	07:01 16:32	07:23 16:37	
30	07:12 17:12	06:34 19:20	05:47 08:04-08:46/42 19:20	05:59 19:53	05:30 20:22	05:29 20:35	05:51 20:18	06:22 19:36	06:53 07:56-08:27/31 18:44	07:25 16:58	07:02 16:31	07:23 16:38	
31	07:11 17:13	06:33 19:21	05:45 08:04-08:45/41 19:21	05:58 19:54	05:29 20:23	05:28 20:35	05:52 20:17	06:23 19:34	06:54 07:56-08:26/30 18:43	07:26 16:56	07:03 16:30	07:23 16:39	
Potential sun hours	297	297	369	399	448	452	459	428	375	1018	64	298	288
Sum of minutes with flicker	0	0	855	219	0	0	0	0	1018	64	0	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: Solo torri di progetto WTG: 10 - AG27

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:40	07:10 17:14	06:34 07:24-08:19/55 17:48	06:43 19:22	05:57 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 19:32	06:54 08:05-09:01/56 18:42	06:28 07:08-07:24/16 18:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:32 07:23-08:20/57 17:49	06:42 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 08:04-09:02/58 18:40	06:29 07:11-07:23/12 18:54	07:04 16:30
3	07:23 16:41	07:08 17:16	06:31 07:23-08:22/59 17:50	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 08:03-09:02/59 18:38	06:30 07:14-07:22/8 18:53	07:05 16:30
4	07:23 16:42	07:07 17:18	06:29 07:23-08:22/59 17:51	06:38 19:25	05:54 19:57	05:27 20:26	05:31 20:34	05:56 20:12	06:27 19:27	06:57 08:02-09:03/61 18:37	06:31 07:16-07:20/4 18:51	07:06 16:30
5	07:23 16:43	07:06 17:19	06:28 07:24-08:24/60 17:53	06:37 19:26	05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 19:26	06:58 08:01-09:03/62 18:35	06:33 18:50	07:07 16:30
6	07:23 16:44	07:05 17:20	06:26 07:23-08:25/62 17:54	06:35 19:27	05:51 19:59	05:27 20:27	05:32 20:33	05:58 20:10	06:29 19:24	06:59 08:00-09:03/63 18:33	06:34 18:49	07:08 16:30
7	07:23 16:45	07:04 07:46-07:51/5 17:21	06:25 07:23-08:26/63 17:55	06:33 19:28	05:50 20:00	05:26 20:28	05:32 20:33	05:59 20:08	06:30 19:22	07:00 07:59-09:01/62 18:32	06:35 18:48	07:09 16:30
8	07:23 16:46	07:02 07:43-07:52/9 17:23	06:23 07:24-08:27/63 17:56	06:32 19:29	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 19:21	07:01 07:58-09:00/62 18:30	06:36 18:47	07:10 16:30
9	07:23 16:47	07:01 07:41-07:54/13 17:24	06:21 07:24-08:26/62 17:57	06:30 19:31	05:48 20:02	05:26 20:29	05:34 20:32	06:01 20:06	06:32 19:19	07:02 07:58-08:58/60 18:29	06:37 18:46	07:10 16:30
10	07:23 16:48	07:00 07:39-07:55/16 17:25	06:20 07:24-08:24/60 17:58	06:28 19:32	05:46 20:03	05:26 20:29	05:34 20:32	06:02 20:05	06:33 19:17	07:03 07:57-08:56/59 18:27	06:39 18:45	07:11 16:30
11	07:23 16:49	06:59 07:37-07:56/19 17:26	06:18 07:25-08:24/59 17:59	06:27 19:33	05:45 20:04	05:25 20:30	05:35 20:32	06:03 20:03	06:34 19:16	07:04 07:57-08:54/57 18:25	06:40 18:44	07:12 16:30
12	07:22 16:50	06:58 07:36-07:57/21 17:28	06:16 07:25-08:22/57 18:00	06:25 19:34	05:44 20:05	05:25 20:30	05:36 20:31	06:04 20:02	06:35 19:14	07:05 07:57-08:54/57 18:24	06:41 18:43	07:13 16:30
13	07:22 16:51	06:56 07:34-07:59/25 17:29	06:15 07:26-08:21/55 18:02	06:24 19:35	05:43 20:06	05:25 20:31	05:36 20:31	06:05 20:01	06:36 19:12	07:06 07:57-08:52/55 18:22	06:42 18:42	07:14 16:30
14	07:22 16:52	06:55 07:33-08:00/27 17:30	06:13 07:27-08:19/52 18:03	06:22 19:36	05:42 20:07	05:25 20:31	05:37 20:30	06:06 19:59	06:37 19:11	07:07 07:57-08:50/53 18:21	06:43 18:41	07:15 16:30
15	07:21 16:54	06:54 07:32-08:01/29 17:31	06:12 07:27-08:17/50 18:04	06:21 19:37	05:41 20:08	05:25 20:32	05:38 20:30	06:07 19:58	06:38 19:09	07:08 07:56-08:49/53 18:19	06:45 18:40	07:15 16:30
16	07:21 16:55	06:53 07:31-08:03/32 17:33	06:10 07:28-08:15/47 18:05	06:19 19:38	05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:39 19:07	07:10 07:56-08:47/51 18:18	06:46 18:39	07:16 16:31
17	07:21 16:56	06:51 07:30-08:04/34 17:34	06:08 07:30-08:14/44 18:06	06:17 19:39	05:39 20:10	05:25 20:32	05:40 20:28	06:09 19:55	06:40 19:06	07:11 07:56-08:45/49 18:16	06:47 18:39	07:17 16:31
18	07:20 16:57	06:50 07:29-08:05/36 17:35	06:07 07:31-08:11/40 18:07	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 19:04	07:12 07:56-08:43/47 18:14	06:48 18:38	07:17 16:31
19	07:20 16:58	06:49 07:28-08:07/39 17:36	06:05 07:33-08:08/35 18:08	06:14 19:41	05:37 20:12	05:25 20:33	05:41 20:27	06:11 19:52	06:42 19:02	07:13 07:57-08:43/46 18:13	06:49 18:37	07:18 16:31
20	07:19 16:59	06:47 07:27-08:07/40 17:37	06:03 07:35-08:06/31 18:09	06:13 19:42	05:37 20:13	05:26 20:33	05:42 20:26	06:12 19:51	06:43 19:00	07:14 07:57-08:41/44 18:11	06:50 18:36	07:19 16:32
21	07:18 17:00	06:46 07:27-08:09/42 17:39	06:02 07:38-08:02/24 18:10	06:11 19:43	05:36 20:14	05:26 20:34	05:43 20:26	06:13 19:49	06:44 18:59	08:30-08:41/11 18:10	07:15 07:58-08:39/41 18:10	06:52 18:36
22	07:18 17:02	06:44 07:26-08:10/44 17:40	06:00 07:42-07:56/14 18:11	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	08:24-08:46/22 18:09	07:16 07:58-08:38/40 18:09	06:53 18:35
23	07:17 17:03	06:43 07:26-08:12/46 17:41	05:58 18:12	06:08 19:45	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:46	06:46 18:55	08:21-08:50/29 18:07	07:17 07:58-08:36/38 18:07	06:54 18:34
24	07:16 17:04	06:41 07:26-08:13/47 17:42	05:57 18:14	06:07 19:46	05:33 20:17	05:26 20:34	05:45 20:23	06:16 19:45	06:47 18:54	08:18-08:52/34 18:06	07:19 08:00-08:35/35 18:06	06:55 18:34
25	07:16 17:05	06:40 07:25-08:14/49 17:43	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:34	05:46 20:22	06:17 19:43	06:48 18:52	08:15-08:54/39 17:04	06:20 07:00-07:34/34 17:04	06:56 18:33
26	07:15 17:07	06:38 07:25-08:16/51 17:45	05:53 18:16	06:04 19:49	05:32 20:18	05:27 20:34	05:47 20:21	06:18 19:42	06:49 18:50	08:13-08:56/43 17:03	06:21 07:01-07:32/31 17:03	06:57 18:33
27	07:14 17:08	06:37 07:24-08:17/53 17:46	05:51 18:17	06:03 19:50	05:31 20:19	05:27 20:34	05:48 20:20	06:19 19:40	06:50 18:48	08:11-08:57/46 17:02	06:22 07:02-07:30/28 17:02	06:58 18:32
28	07:13 17:09	06:35 07:23-08:17/54 17:47	05:50 18:18	06:01 19:51	05:31 20:20	05:28 20:34	05:49 20:19	06:20 19:39	06:51 18:47	08:09-08:58/49 17:03	06:23 07:02-07:29/27 17:03	06:59 18:32
29	07:13 17:10	07:10	06:48 19:19	06:00 19:52	05:30 20:21	05:28 20:34	05:50 20:18	06:21 19:37	06:52 18:45	08:08-08:59/51 16:59	06:24 07:04-07:28/24 16:59	07:01 18:31
30	07:12 17:11	07:11	06:46 19:20	05:59 19:53	05:30 20:22	05:29 20:34	05:51 20:17	06:22 19:35	06:53 18:43	08:06-09:00/54 16:58	06:25 07:06-07:27/21 16:58	07:02 18:31
31	07:11 17:13	07:11	06:45 19:21	05:59 19:23	05:29 20:23	05:29 20:34	05:52 20:16	06:23 19:34	06:53 18:43	06:27 07:07-07:25/18 16:56	07:02 16:39	
Potential sun hours	297	297	369	399	448	452	459	428	375	345	298	288
Sum of minutes with flicker	0	731	1108	0	0	0	0	0	378	1451	40	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: Solo torri di progetto WTG: 11 - AG28

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:23	19:48-19:58/10 20:34	05:29 20:34	19:56-20:09/13 20:15	05:53 20:15	06:24 18:42	06:54 16:55	06:28 16:31	07:03
2	07:23 16:41	07:09 17:15	06:32 17:49	06:42 19:23	05:56 19:55	05:28 20:24	19:49-19:59/10 20:34	05:30 20:34	19:56-20:09/13 20:14	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:30
3	07:23 16:41	07:08 17:16	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	19:48-20:00/12 20:34	05:30 20:34	19:56-20:09/13 20:13	05:55 20:13	06:26 19:29	06:56 18:38	06:30 16:53	07:05 16:30
4	07:23 16:42	07:07 17:18	06:29 17:51	06:38 19:25	05:54 19:57	05:27 20:26	19:49-20:00/11 20:34	05:31 20:34	19:56-20:08/12 20:12	05:56 20:12	06:27 19:27	06:57 18:37	06:31 16:51	07:06 16:30
5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 19:26	05:52 19:58	05:27 20:26	19:50-20:01/11 20:34	05:31 20:34	19:56-20:08/12 20:11	05:57 20:11	06:28 19:26	06:58 18:35	06:33 16:50	07:07 16:30
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 19:27	05:51 19:59	05:27 20:27	19:49-20:01/12 20:33	05:32 20:33	19:56-20:08/12 20:10	05:58 20:10	06:29 19:24	06:59 18:33	06:34 16:49	07:08 16:30
7	07:23 16:45	07:04 17:21	06:25 17:55	06:33 19:28	05:50 20:00	05:26 20:27	19:50-20:02/12 20:33	05:32 20:33	19:56-20:08/12 20:08	05:59 20:08	06:30 19:22	07:00 18:32	06:35 16:48	07:09 16:30
8	07:23 16:46	07:02 17:23	06:23 17:56	06:32 19:29	05:49 20:01	05:26 20:28	19:51-20:03/12 20:33	05:33 20:33	19:56-20:08/12 20:07	06:00 20:07	06:31 19:21	07:01 18:30	06:36 16:47	07:10 16:30
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:31	05:48 20:02	05:26 20:29	19:51-20:04/13 20:32	05:34 20:32	19:56-20:07/11 20:06	06:01 20:06	06:32 19:19	07:02 18:29	06:37 16:46	07:10 16:30
10	07:23 16:48	07:00 17:25	06:20 17:58	06:28 19:32	05:46 20:03	05:26 20:29	19:52-20:04/12 20:32	05:34 20:32	19:56-20:07/11 20:05	06:02 20:05	06:33 19:17	07:03 18:27	06:39 16:45	07:11 16:30
11	07:23 16:49	06:59 17:26	06:18 17:59	06:27 19:33	05:45 20:04	05:26 20:30	19:51-20:04/13 20:32	05:35 20:32	19:56-20:07/11 20:03	06:03 20:03	06:34 19:16	07:04 18:25	06:40 16:44	07:12 16:30
12	07:22 16:50	06:58 17:28	06:16 18:00	06:25 19:34	05:44 20:05	05:25 20:30	19:52-20:04/12 20:31	05:36 20:31	19:56-20:06/10 20:02	06:04 20:02	06:35 19:14	07:05 18:24	06:41 16:43	07:13 16:30
13	07:22 16:51	06:56 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 20:31	19:52-20:05/13 20:31	05:36 20:31	19:56-20:06/10 20:01	06:05 20:01	06:36 19:12	07:06 18:22	06:42 16:42	07:14 16:30
14	07:22 16:52	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 20:31	19:53-20:05/12 20:30	05:37 20:30	19:56-20:05/9 19:59	06:06 19:11	06:37 18:21	07:07 18:21	06:43 16:41	07:15 16:30
15	07:21 16:54	06:54 17:31	06:12 18:04	06:21 19:37	05:41 20:08	05:25 20:32	19:53-20:06/13 20:30	05:38 20:30	19:56-20:04/8 19:58	06:07 19:09	06:38 18:19	07:08 18:20	06:44 16:40	07:15 16:30
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	19:53-20:06/13 20:29	05:39 20:29	19:56-20:04/8 19:57	06:08 19:07	06:39 18:18	07:10 18:18	06:46 16:39	07:16 16:31
17	07:21 16:56	06:51 17:34	06:08 18:06	06:17 19:39	05:39 20:10	05:25 20:32	19:54-20:06/12 20:28	05:40 20:28	19:56-20:04/8 19:55	06:09 19:06	06:40 18:16	07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:25 20:33	19:55-20:08/13 20:28	05:40 20:28	19:57-20:03/6 19:54	06:10 19:04	06:41 18:14	07:12 18:14	06:48 16:38	07:17 16:31
19	07:20 16:58	06:48 17:36	06:05 18:08	06:14 19:41	05:37 20:12	05:25 20:33	19:55-20:08/13 20:27	05:41 20:27	19:57-20:03/6 19:52	06:11 19:02	06:42 18:13	07:13 18:13	06:49 16:37	07:18 16:32
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21	07:18 17:01	06:46 17:39	06:02 18:10	06:11 19:43	05:36 20:14	05:26 20:34	19:55-20:08/13 20:25	05:43 20:25	19:57-20:01/4 19:49	06:13 18:59	06:44 18:10	07:15 18:10	06:52 16:36	07:19 16:32
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	19:55-20:08/13 20:25	05:44 20:25	19:58-20:00/2 19:48	06:14 18:57	06:45 18:09	07:16 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 18:12	06:08 19:45	05:34 20:16	05:26 20:34	19:56-20:09/13 20:24	05:45 20:24	19:58-20:00/2 19:46	06:15 18:55	06:46 18:07	07:17 18:07	06:54 16:34	07:20 16:33
24	07:16 17:04	06:41 17:42	05:57 18:14	06:07 19:46	05:33 20:17	05:26 20:34	19:56-20:09/13 20:23	05:45 20:23	06:16 19:45	06:16 18:54	06:47 18:06	07:19 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:34	19:56-20:08/12 20:22	05:46 20:22	06:17 19:43	06:18 18:52	06:48 17:04	07:20 18:04	06:56 16:33	07:21 16:35
26	07:15 17:07	06:38 17:45	05:53 18:16	06:04 19:49	05:32 20:18	05:27 20:34	19:56-20:09/13 20:21	05:47 20:21	06:18 19:42	06:19 18:50	06:49 17:03	07:21 18:03	06:57 16:33	07:21 16:35
27	07:14 17:08	06:37 17:46	05:51 18:17	06:03 19:50	05:31 20:19	05:27 20:34	19:56-20:09/13 20:20	05:48 20:20	06:19 19:40	06:50 18:48	06:50 17:02	07:22 18:02	06:58 16:32	07:22 16:36
28	07:13 17:09	06:35 17:47	05:50 18:18	06:01 19:51	05:31 20:20	05:28 20:34	19:56-20:09/13 20:19	05:49 20:19	06:20 19:39	06:51 18:47	06:51 17:00	07:23 18:02	06:59 16:32	07:22 16:36
29	07:13 17:10		06:48 19:19	06:00 19:52	05:30 20:21	05:28 20:34	19:56-20:09/13 20:18	05:50 20:18	06:21 19:37	06:52 18:45	06:52 16:59	07:24 18:01	07:01 16:31	07:22 16:37
30	07:12 17:11		06:46 19:20	05:59 19:53	05:30 20:22	05:29 20:34	19:48-19:57/9 20:34	05:29 20:17	06:22 19:35	06:53 18:43	06:53 16:58	07:25 18:01	07:02 16:31	07:23 16:38
31	07:11 17:13		06:45 19:21		05:29 20:23		19:47-19:57/10	05:52 20:16	06:23 19:34		06:27 16:56		07:23 16:39	
Potential sun hours	297	297	369	399	448	452	371	459	428	375	345	298	288	0
Sum of minutes with flicker	0	0	0	0	71	371	209	0	0	0	0	0	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: Solo torri di progetto WTG: 12 - AG29

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
 - 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23 16:40	07:10 17:14	06:34 17:48	16:58-17:27/29 19:22	06:43 18:03-18:26/23 19:54	05:58 20:24	05:29 20:34	05:29 20:16	05:53 19:32	06:24 18:42	17:28-18:19/51 16:55	06:28 16:31	
2	07:23 16:41	07:09 17:15	06:33 17:49	16:56-17:27/31 19:23	06:42 18:07-18:21/14 19:55	05:56 20:24	05:28 20:34	05:30 20:14	05:54 19:31	06:25 18:40	17:28-18:18/50 16:54	06:29 16:31	
3	07:24 16:42	07:08 17:17	06:31 17:50	16:55-17:29/34 19:24	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:13	05:55 19:29	06:26 18:39	17:27-18:16/49 16:53	07:05 16:30	
4	07:24 16:42	07:07 17:18	06:29 17:52	16:54-17:30/36 19:25	06:38 19:25	05:54 19:57	05:27 20:26	05:31 20:34	05:56 20:12	06:27 19:28	17:27-18:14/47 16:52	07:06 16:30	
5	07:24 16:43	07:06 17:19	06:28 17:53	16:53-17:32/39 19:26	06:37 19:26	05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 19:26	17:27-18:12/45 16:50	07:07 16:30	
6	07:24 16:44	07:05 17:20	06:26 17:54	16:52-17:33/41 19:28	06:35 19:28	05:51 19:59	05:27 20:27	05:32 20:34	05:58 20:10	06:29 19:24	17:27-18:11/44 16:49	07:08 16:30	
7	07:24 16:45	07:04 17:22	06:25 17:55	16:51-17:33/42 19:29	06:33 19:29	05:50 20:00	05:26 20:28	05:32 20:33	05:59 20:09	06:30 19:23	17:27-18:09/42 16:48	07:09 16:30	
8	07:23 16:46	07:03 17:23	06:23 17:56	16:51-17:35/44 19:30	06:32 19:30	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 19:21	17:28-18:07/39 16:47	07:10 16:30	
9	07:23 16:47	07:01 17:24	06:21 17:57	16:50-17:36/46 19:31	06:30 19:31	05:48 20:02	05:26 20:29	05:34 20:33	06:01 20:06	06:32 19:19	17:28-18:05/37 16:46	07:11 16:30	
10	07:23 16:48	07:00 17:25	06:20 17:58	16:50-17:38/48 19:32	06:29 19:32	05:47 20:03	05:26 20:29	05:34 20:32	06:02 20:05	06:33 19:18	18:01-18:13/12 18:27	07:03 17:29-18:04/35 16:45	06:39 16:30
11	07:23 16:49	06:59 17:27	06:18 18:00	16:49-17:38/49 19:33	06:27 19:33	05:45 20:04	05:26 20:30	05:35 20:32	06:03 20:04	06:34 19:16	17:55-18:18/23 18:25	07:04 17:30-18:03/33 16:44	07:12 16:30
12	07:23 16:50	06:58 17:28	06:17 18:01	16:48-17:39/51 19:34	06:25 19:34	05:44 20:05	05:25 20:31	05:36 20:31	06:04 20:02	06:35 19:14	17:52-18:21/29 18:24	07:05 17:31-18:01/30 16:43	07:13 16:30
13	07:22 16:51	06:57 17:29	06:15 18:02	16:49-17:41/52 19:35	06:24 19:35	05:43 20:06	05:25 20:31	05:37 20:31	06:05 20:01	06:36 19:12	17:49-18:23/34 18:22	07:06 17:32-18:00/28 16:42	07:14 16:30
14	07:22 16:53	06:55 17:30	06:13 18:03	16:48-17:42/54 19:36	06:22 19:36	05:42 20:07	05:25 20:31	05:37 20:30	06:06 20:00	06:37 19:11	17:47-18:24/37 18:21	07:08 17:34-17:58/25 16:41	07:15 16:30
15	07:22 16:54	06:54 17:32	06:12 18:04	16:48-17:43/55 19:37	06:21 19:37	05:41 20:08	05:25 20:32	05:38 20:30	06:07 19:58	06:38 19:09	17:44-18:26/42 18:19	07:09 17:34-17:56/22 16:40	07:16 16:30
16	07:21 16:55	06:53 17:33	06:10 18:05	16:48-17:44/56 19:38	06:19 19:38	05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:39 19:07	17:42-18:27/45 18:18	07:10 17:36-17:54/18 16:39	07:16 16:31
17	07:21 16:56	06:51 17:34	06:08 18:06	16:48-17:45/57 19:39	06:18 19:39	05:39 20:10	05:25 20:33	05:40 20:29	06:09 19:55	06:40 19:06	17:41-18:28/47 18:16	07:11 17:37-17:53/16 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 18:07	16:48-17:46/58 19:40	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 19:04	17:39-18:29/50 18:15	07:12 17:41-17:52/11 16:38	07:18 16:31
19	07:20 16:58	06:49 17:36	06:05 18:08	16:48-17:48/60 19:41	06:15 19:41	05:38 20:12	05:26 20:33	05:41 20:27	06:11 19:53	06:42 19:02	17:38-18:29/51 18:13	07:13 17:44-17:50/6 16:37	07:18 16:32
20	07:19 16:59	06:47 17:38	06:03 18:09	16:48-17:47/59 19:42	06:13 19:42	05:37 20:13	05:26 20:34	05:42 20:26	06:12 19:51	06:43 19:01	17:36-18:30/54 18:12	07:14 18:12 16:36	07:19 16:32
21	07:19 17:01	06:46 17:39	06:02 18:10	16:48-17:46/58 19:43	06:12 19:43	05:36 20:14	05:26 20:34	05:43 20:25	06:13 19:50	06:44 18:59	17:35-18:30/55 18:10	07:15 16:36	07:19 16:33
22	07:18 17:02	06:44 17:40	17:16-17:18/2 18:12	06:00 19:45	16:49-17:45/56 19:45	06:10 19:45	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	08:45 17:34-18:31/57 18:09	07:16 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	17:11-17:19/8 18:13	05:58 19:46	16:50-17:44/54 19:46	06:09 19:46	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:47	17:33-18:31/58 18:07	07:18 16:34	07:20 16:34
24	07:17 17:04	06:42 17:42	17:08-17:21/13 18:14	05:57 19:47	16:50-17:42/52 19:47	06:07 19:47	05:34 20:17	05:27 20:34	05:46 20:23	06:16 19:45	17:32-18:31/59 18:06	07:19 16:35	07:21 16:34
25	07:16 17:05	06:40 17:44	17:05-17:22/17 18:15	05:55 19:48	16:50-17:41/51 19:48	06:06 19:48	05:33 20:18	05:27 20:34	05:47 20:22	06:17 19:44	17:31-18:30/59 18:05	06:20 17:04	07:21 16:33
26	07:15 17:07	06:39 17:45	17:03-17:23/20 18:16	05:53 19:49	16:52-17:40/48 19:49	06:04 19:49	05:32 20:19	05:27 20:35	05:47 20:22	06:18 19:42	17:30-18:28/58 18:03	06:21 17:03	07:22 16:33
27	07:14 17:08	06:37 17:46	17:01-17:24/23 18:17	05:52 19:50	16:53-17:38/45 19:50	06:03 19:50	05:31 20:20	05:27 20:35	05:48 20:21	06:19 19:40	17:30-18:26/56 18:02	06:22 17:02	07:22 16:32
28	07:14 17:09	06:36 17:47	17:00-17:26/26 18:18	05:50 19:51	16:54-17:36/42 19:51	06:02 19:51	05:31 20:20	05:28 20:35	05:49 20:20	06:20 19:39	17:29-18:25/56 18:01	06:23 17:00	07:22 16:32
29	07:13 17:10	06:35 17:48	17:01-17:24/23 18:19	05:52 19:52	16:53-17:38/45 19:52	06:03 19:52	05:31 20:21	05:27 20:35	05:48 20:19	06:19 19:37	17:30-18:26/56 18:01	06:22 16:59	07:22 16:32
30	07:12 17:12	06:34 17:49	17:00-17:26/26 18:20	05:51 19:53	16:54-17:36/42 19:53	06:02 19:53	05:31 20:22	05:28 20:35	05:49 20:18	06:20 19:36	17:29-18:25/56 18:01	06:23 16:58	07:22 16:31
31	07:11 17:13	06:33 17:50	17:00-17:26/26 19:21	05:50 19:54	16:54-17:36/42 19:54	06:02 19:54	05:31 20:23	05:28 20:17	05:49 20:13	06:20 19:34	17:29-18:25/56 18:01	06:23 16:57	07:23 16:30
Potential sun hours	297	297	369	399	448	452	459	428	375	989	628	298	288
Sum of minutes with flicker	0	109	1450	37	0	0	0	0	0	989	628	298	288

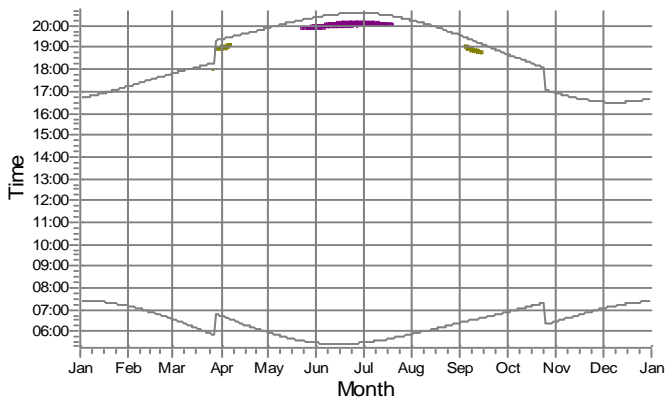
Table layout: For each day in each month the following matrix apply

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

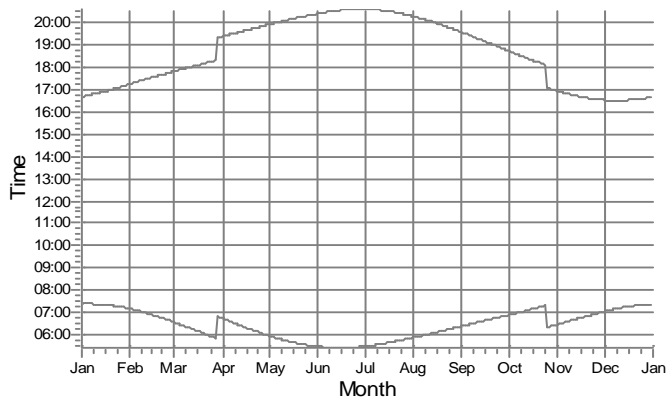
SHADOW - Calendar per WTG, graphical

Calculation: Solo torri di progetto

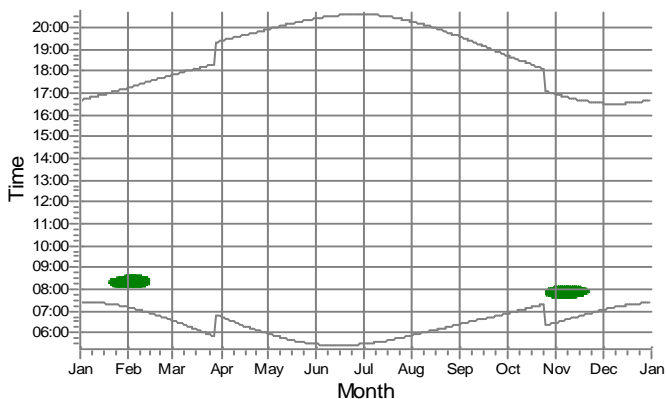
1: AG01



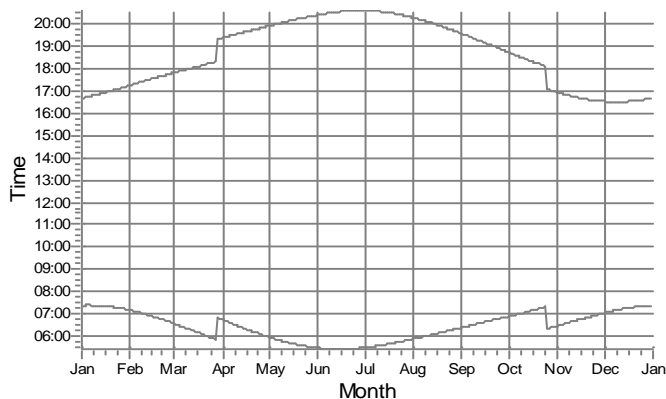
2: AG07



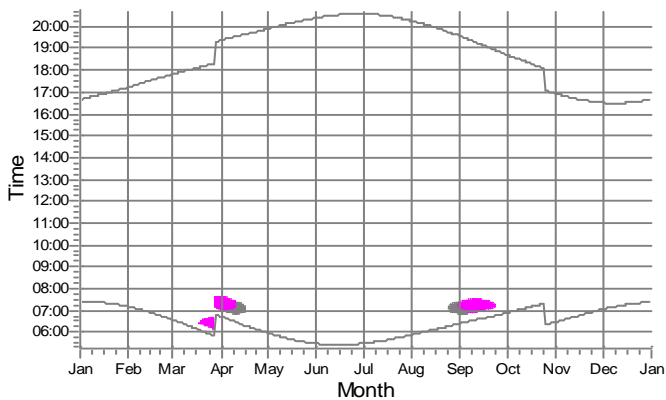
3: AG14



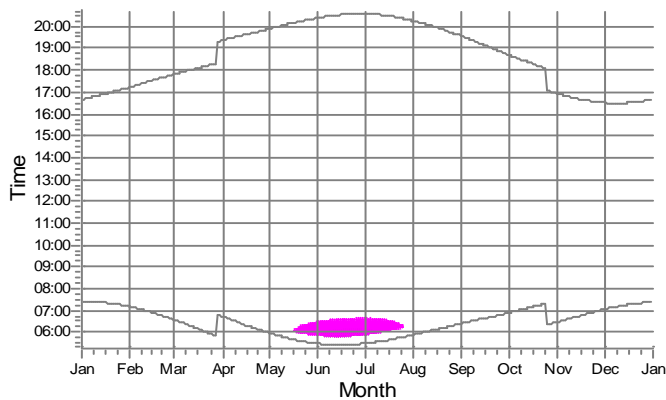
4: AG15



5: AG13



6: AG20



Shadow receptor

A: R15

D: R03.2

E: R03.1

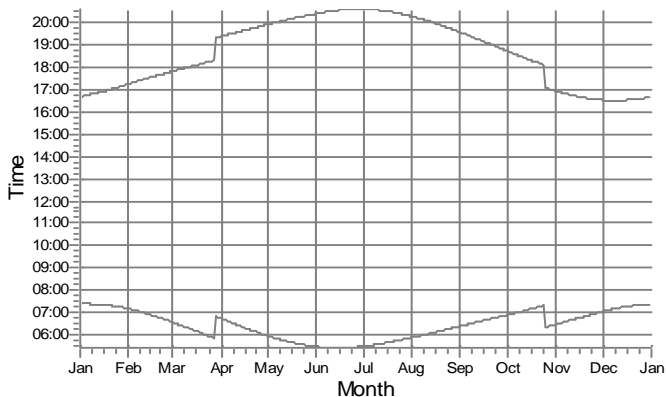
J: R02

K: R19

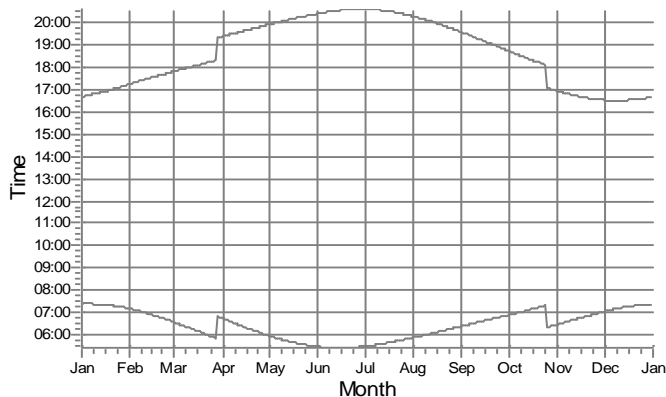
SHADOW - Calendar per WTG, graphical

Calculation: Solo torri di progetto

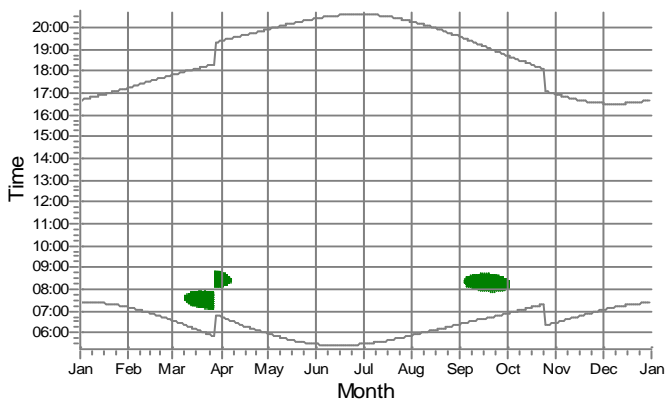
7: AG21



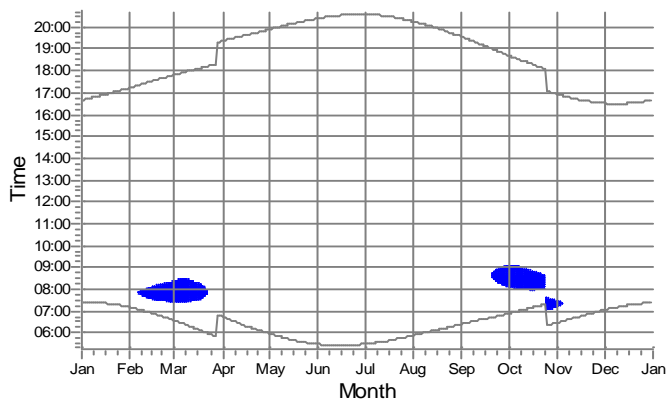
8: AG22



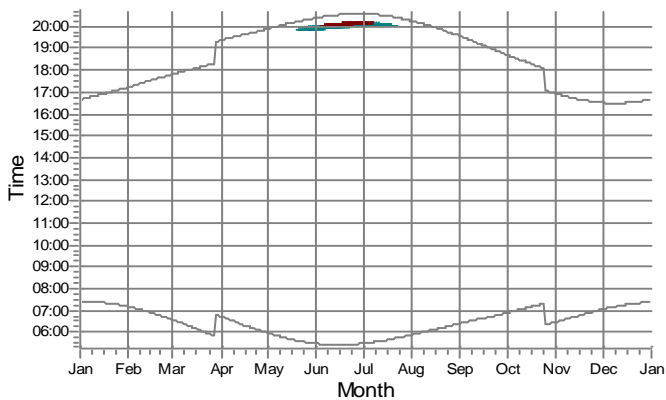
9: AG25



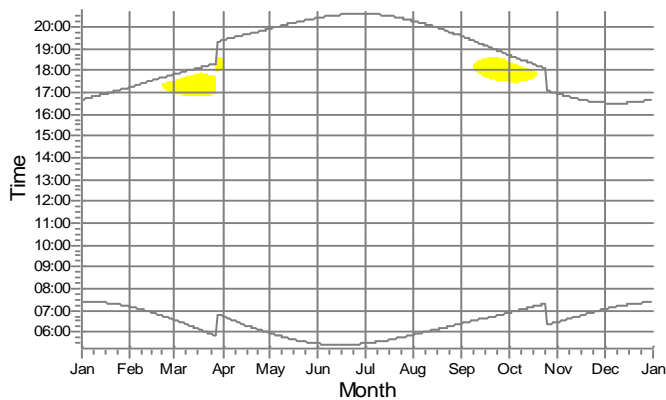
10: AG27



11: AG28



12: AG29



Shadow receptor

A: R15

B: R11.2

C: R04

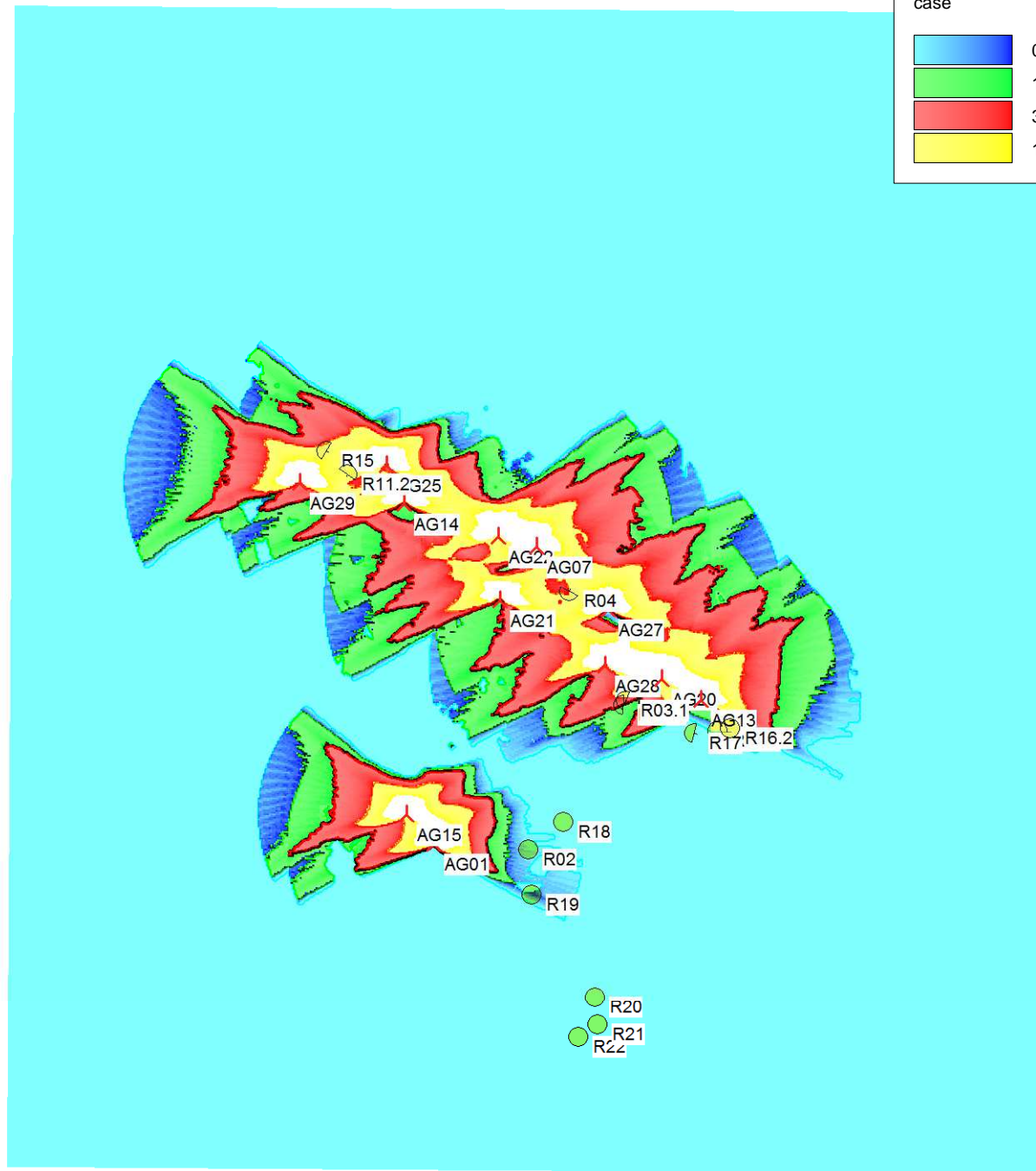
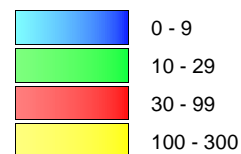
F: R16.2

H: R16.1

SHADOW - Map

Calculation: Solo torri di progetto

Hours per year, worst case



Map: Blank map , Print scale 1:75.000, Map center UTM WGS 84 Zone: 33 East: 550.340 North: 4.542.380

New WTG

Shadow receptor

Isolines showing shadow in Hours per year, worst case

0 10 30 100

SHADOW - Main Result

Calculation: Cumulative

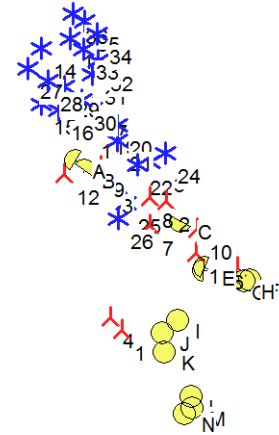
Assumptions for shadow calculations

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: Height Contours: CONTOURLINE_ONLINEDATA_3.w
 Obstacles used in calculation
 Eye height: 1,7 m
 Grid resolution: 10 m



Scale 1:200.000
 ▲ New WTG * Existing WTG ● Shadow receptor

WTGs

WTG type	UTM WGS84 Zone: 33			Row data/Description	Shadow data							
	East	North	Z		Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Calculation distance [m]	RPM [RPM]
	UTM WGS84 Zone: 33			[m]								
1	549.273	4.539.483	546,3	AG01	No	VESTAS	V136-3.450	3.450	136,0	82,0	1.712	12,8
2	550.435	4.542.881	509,5	AG07	No	VESTAS	V150-4.200	4.200	150,0	105,0	2.000	11,7
3	548.916	4.543.362	511,3	AG14	No	VESTAS	V150-4.200	4.200	150,0	124,6	2.000	11,7
4	548.964	4.539.816	481,2	AG15	No	VESTAS	V136-3.450	3.450	136,0	82,0	1.712	12,8
5	552.334	4.541.149	575,0	AG13	Yes	VESTAS	V136-3.6-3.600	3.600	136,0	82,0	1.817	11,7
6	551.881	4.541.382	540,3	AG20	No	VESTAS	V150-4.200	4.200	150,0	105,0	2.000	11,7
7	550.015	4.542.259	449,2	AG21	No	VESTAS	V150-4.200	4.200	150,0	124,6	2.000	11,7
8	549.997	4.542.997	525,0	AG22	No	VESTAS	V150-4.200	4.200	150,0	124,6	2.000	11,7
9	548.705	4.543.800	524,2	AG25	No	VESTAS	V150-4.200	4.200	150,0	105,0	2.000	11,7
10	551.263	4.542.172	525,0	AG27	No	VESTAS	V150-4.200	4.200	150,0	105,0	2.000	11,7
11	551.229	4.541.533	536,8	AG28	No	VESTAS	V150-4.200	4.200	150,0	105,0	2.000	11,7
12	547.716	4.543.593	425,0	AG29	No	VESTAS	V150-4.200	4.200	150,0	105,0	2.000	11,7
13	547.864	4.547.166	336,9	A7	Yes	VESTAS	V126-3.3 GridStreame-3.300	3.300	126,0	117,0	1.716	0,0
14	547.100	4.546.911	314,1	A11	Yes	VESTAS	V126-3.3 GridStreame-3.300	3.300	126,0	117,0	1.716	0,0
15	547.095	4.545.432	375,0	A12	Yes	VESTAS	V126-3.3 GridStreame-3.300	3.300	126,0	117,0	1.716	0,0
16	547.574	4.545.275	403,0	A10	Yes	VESTAS	V126-3.3 GridStreame-3.300	3.300	126,0	117,0	1.716	0,0
17	548.457	4.545.310	525,0	A6	Yes	VESTAS	V117-3.300	3.300	117,0	116,5	1.710	12,8
18	548.358	4.544.809	500,0	A1	Yes	VESTAS	V117-3.300	3.300	117,0	116,5	1.710	12,8
19	548.720	4.544.915	550,0	A15	Yes	VESTAS	V117-3.300	3.300	117,0	116,5	1.710	12,8
20	549.109	4.544.896	597,3	A16	Yes	VESTAS	V117-3.300	3.300	117,0	116,5	1.710	12,8
21	549.130	4.544.480	575,0	A17	Yes	VESTAS	V117-3.300	3.300	117,0	116,5	1.710	12,8
22	549.660	4.543.862	576,5	A18	Yes	VESTAS	V117-3.300	3.300	117,0	116,5	1.710	12,8
23	549.993	4.543.941	570,2	A19	Yes	VESTAS	V117-3.300	3.300	117,0	116,5	1.710	12,8
24	550.395	4.544.163	475,0	A3	Yes	VESTAS	V126-3.3 GridStreame-3.300	3.300	126,0	117,0	1.716	0,0
25	549.359	4.542.827	451,9	A21	Yes	VESTAS	V126-3.3 GridStreame-3.300	3.300	126,0	117,0	1.716	0,0
26	549.168	4.542.436	401,3	A22	Yes	VESTAS	V126-3.3 GridStreame-3.300	3.300	126,0	117,0	1.716	0,0
27	546.748	4.546.374	313,4	AW01	Yes	NORDEX	N117/3000-3.000	3.000	116,8	91,0	1.489	12,6
28	547.273	4.546.050	358,2	AW02	Yes	NORDEX	N117/2400-2.400	2.400	116,8	91,0	1.489	11,8
29	547.717	4.545.895	405,7	AW03	Yes	NORDEX	N117/2400-2.400	2.400	116,8	91,0	1.489	11,8
30	548.181	4.545.543	486,9	AW04	Yes	NORDEX	N117/3000-3.000	3.000	116,8	91,0	1.489	12,6
31	548.443	4.546.223	461,2	AW05	Yes	NORDEX	N117/3000-3.000	3.000	116,8	91,0	1.489	12,6
32	548.604	4.546.586	448,7	AW06	Yes	NORDEX	N117/3000-3.000	3.000	116,8	91,0	1.489	12,6
33	548.209	4.546.900	393,1	AW07	Yes	NORDEX	N117/3000-3.000	3.000	116,8	91,0	1.489	12,6
34	548.566	4.547.300	371,7	AW08	Yes	NORDEX	N117/3000-3.000	3.000	116,8	91,0	1.489	12,6
35	548.233	4.547.620	344,1	AW09	Yes	NORDEX	N117/3000-3.000	3.000	116,8	91,0	1.489	12,6
36	547.925	4.547.838	317,4	AW10	Yes	NORDEX	N117/3000-3.000	3.000	116,8	91,0	1.489	12,6

SHADOW - Main Result

Calculation: Cumulative

Shadow receptor-Input

UTM WGS84 Zone: 33

No.	Name	East	North	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
					[m]	[m]	[m]	[°]	[°]	
A	R15	548.018	4.543.953	417,1	1,0	1,0	0,0	-58,6	90,0	Fixed direction
B	R11.2	548.259	4.543.692	458,3	1,0	1,0	0,0	33,8	90,0	Fixed direction
C	R04	550.809	4.542.369	500,0	1,0	1,0	0,0	-152,3	90,0	Fixed direction
D	R03.2	551.446	4.541.081	575,0	1,0	1,0	0,0	-86,3	90,0	Fixed direction
E	R03.1	551.471	4.541.136	575,0	1,0	1,0	0,0	-65,9	90,0	Fixed direction
F	R16.2	552.667	4.540.827	570,5	1,0	1,0	0,0	0,0	90,0	"Green house mode"
G	R17	552.259	4.540.766	575,0	1,0	1,0	0,0	-75,5	90,0	Fixed direction
H	R16.1	552.521	4.540.795	564,2	1,0	1,0	0,0	0,0	90,0	"Green house mode"
I	R18	550.760	4.539.741	635,1	1,0	1,0	0,0	0,0	90,0	"Green house mode"
J	R02	550.361	4.539.422	600,0	1,0	1,0	0,0	0,0	90,0	"Green house mode"
K	R19	550.402	4.538.904	575,0	1,0	1,0	0,0	0,0	90,0	"Green house mode"
L	R20	551.134	4.537.742	602,8	1,0	1,0	0,0	0,0	90,0	"Green house mode"
M	R21	551.161	4.537.431	600,0	1,0	1,0	0,0	0,0	90,0	"Green house mode"
N	R22	550.949	4.537.283	622,1	1,0	1,0	0,0	0,0	90,0	"Green house mode"

Calculation Results

Shadow receptor

Shadow, worst case

No.	Name	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
A	R15	63:26	115	1:00
B	R11.2	63:42	118	1:00
C	R04	61:48	89	1:03
D	R03.2	24:15	81	0:34
E	R03.1	57:33	118	0:45
F	R16.2	10:53	65	0:13
G	R17	0:00	0	0:00
H	R16.1	3:10	34	0:08
I	R18	0:00	0	0:00
J	R02	3:14	26	0:11
K	R19	10:00	60	0:14
L	R20	0:00	0	0:00
M	R21	0:00	0	0:00
N	R22	0:00	0	0:00

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

No.	Name	Worst case [h/year]	Expected [h/year]
1	AG01	13:11	
2	AG07	0:00	
3	AG14	23:09	
4	AG15	0:00	
5	AG13	26:20	
6	AG20	39:02	
7	AG21	0:00	
8	AG22	0:00	
9	AG25	35:56	
10	AG27	61:48	
11	AG28	10:51	
12	AG29	53:33	
13	A7	0:00	
14	A11	0:00	
15	A12	0:00	
16	A10	0:00	
17	A6	0:00	
18	A1	0:00	

To be continued on next page...

SHADOW - Main Result**Calculation:** Cumulative

...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
19	A15	0:00	
20	A16	0:00	
21	A17	0:00	
22	A18	4:21	
23	A19	0:00	
24	A3	0:00	
25	A21	10:09	
26	A22	0:00	
27	AW01	0:00	
28	AW02	0:00	
29	AW03	0:00	
30	AW04	0:00	
31	AW05	0:00	
32	AW06	0:00	
33	AW07	0:00	
34	AW08	0:00	
35	AW09	0:00	
36	AW10	0:00	

SHADOW - Calendar

Calculation: CumulativeShadow receptor: A - R15

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June		
1	07:23 16:40	07:10 17:14	08:02 (3) 08:34 (3)	06:34 17:48	06:43 19:22	07:33 (22) 08:44 (9)	05:58 19:54	05:29 20:24
2	07:23 16:41	07:09 17:15	08:02 (3) 08:34 (3)	06:33 17:49	06:42 19:23	07:33 (22) 08:42 (9)	05:56 19:55	05:28 20:24
3	07:24 16:42	07:08 17:17	08:02 (3) 08:35 (3)	06:31 17:50	06:40 19:24	07:34 (22) 08:40 (9)	05:55 19:56	05:28 20:25
4	07:24 16:42	07:07 17:18	08:02 (3) 08:35 (3)	06:29 17:52	06:38 19:25	08:08 (9) 08:39 (9)	05:54 19:57	05:27 20:26
5	07:24 16:43	07:06 17:19	08:02 (3) 08:35 (3)	06:28 17:53	06:37 19:26	08:09 (9) 08:37 (9)	05:52 19:58	05:27 20:26
6	07:24 16:44	07:05 17:20	08:03 (3) 08:35 (3)	06:26 17:54	06:35 19:28	08:11 (9) 08:35 (9)	05:51 19:59	05:27 20:27
7	07:24 16:45	07:04 17:22	08:02 (3) 08:34 (3)	06:25 17:55	06:33 19:29	08:13 (9) 08:31 (9)	05:50 20:00	05:26 20:28
8	07:23 16:46	07:03 17:23	08:03 (3) 08:34 (3)	06:23 17:56	06:32 19:30	08:17 (9) 08:26 (9)	05:49 20:01	05:26 20:28
9	07:23 16:47	07:01 17:24	08:04 (3) 08:33 (3)	06:21 17:57	06:30 19:31		05:48 20:02	05:26 20:29
10	07:23 16:48	07:00 17:25	08:05 (3) 08:33 (3)	06:20 17:58	07:28 (9) 07:38 (9)		05:47 20:03	05:26 20:29
11	07:23 16:49	06:59 17:27	08:06 (3) 08:32 (3)	06:18 18:00	07:22 (9) 07:42 (9)		05:45 20:04	05:26 20:30
12	07:23 16:50	06:58 17:28	08:06 (3) 08:30 (3)	06:17 18:01	07:19 (9) 07:44 (9)		05:44 20:05	05:25 20:31
13	07:22 16:51	06:57 17:29	08:08 (3) 08:29 (3)	06:15 18:02	07:17 (9) 07:47 (9)		05:43 20:06	05:25 20:31
14	07:22 16:53	06:55 17:30	08:10 (3) 08:28 (3)	06:13 18:03	07:15 (9) 07:48 (9)		05:42 20:07	05:25 20:31
15	07:22 16:54	06:54 17:31	08:12 (3) 08:25 (3)	06:12 18:04	07:13 (9) 07:49 (9)		05:41 20:08	05:25 20:32
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 18:06	07:12 (9) 07:50 (9)		05:40 20:09	05:25 20:32
17	07:21 16:56	06:51 17:34	06:08 18:06	06:18 18:07	07:10 (9) 07:51 (9)		05:39 20:10	05:25 20:33
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 18:07	07:09 (9) 07:51 (9)		05:38 20:11	05:25 20:33
19	07:20 16:58	06:49 17:36	06:05 18:08	06:15 18:08	07:08 (9) 07:52 (9)		05:38 20:12	05:26 20:33
20	07:19 16:59	08:13 (3) 08:18 (3)	06:47 17:38	06:03 18:09	07:07 (9) 07:52 (9)		05:37 20:13	05:26 20:34
21	07:19 17:01	08:09 (3) 08:21 (3)	06:46 17:39	06:02 18:10	07:06 (9) 07:51 (9)		05:36 20:14	05:26 20:34
22	07:18 17:02	08:08 (3) 08:24 (3)	06:44 17:40	06:00 18:12	07:06 (9) 07:52 (9)		05:35 20:15	05:26 20:34
23	07:17 17:03	08:07 (3) 08:26 (3)	06:43 17:41	05:58 18:13	07:05 (9) 07:51 (9)		05:34 20:16	05:26 20:34
24	07:17 17:04	08:05 (3) 08:27 (3)	06:42 17:42	05:57 18:14	07:05 (9) 07:51 (9)		05:34 20:17	05:26 20:34
25	07:16 17:05	08:04 (3) 08:28 (3)	06:40 17:43	05:55 18:15	06:38 (22) 07:50 (9)		05:33 20:18	05:27 20:34
26	07:15 17:07	08:04 (3) 08:30 (3)	06:39 17:45	05:53 18:16	06:36 (22) 07:50 (9)		05:32 20:19	05:27 20:35
27	07:14 17:08	08:04 (3) 08:31 (3)	06:37 17:46	05:52 18:17	06:34 (22) 07:49 (9)		05:31 20:20	05:27 20:35
28	07:14 17:09	08:03 (3) 08:32 (3)	06:36 17:47	05:50 18:18	06:33 (22) 07:48 (9)		05:31 20:20	05:28 20:35
29	07:13 17:10	08:03 (3) 08:32 (3)		06:48 19:19	07:33 (22) 08:48 (9)		05:30 20:21	05:28 20:35
30	07:12 17:12	08:02 (3) 08:33 (3)		06:47 19:20	07:32 (22) 08:46 (9)		05:30 20:22	05:29 20:35
31	07:11 17:13	08:02 (3) 08:34 (3)		06:45 19:21	07:32 (22) 08:45 (9)		05:29 20:23	05:29 20:35
Potential sun hours	297	297	369	399	448	452		
Total, worst case	272	417	950	254				

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: CumulativeShadow receptor: A - R15****Assumptions for shadow calculations**

Maximum distance for influence 2.000 m
 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

	July	August	September	October	November	December
1	05:29 20:34	05:53 20:16	06:24 19:32	06:54 18:42	07:58 (9) 08:25 (9)	06:28 16:55
2	05:30 20:34	05:54 20:14	06:25 19:31	06:55 18:40	08:00 (9) 08:22 (9)	06:29 16:54
3	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:39	08:03 (9) 08:18 (9)	06:30 16:53
4	05:31 20:34	05:56 20:12	06:27 19:28	08:14 (9) 08:23 (9)	06:57 18:37	06:32 16:52
5	05:31 20:34	05:57 20:11	06:28 19:26	08:09 (9) 08:27 (9)	06:58 18:35	06:33 16:50
6	05:32 20:34	05:58 20:10	06:29 19:24	08:06 (9) 08:30 (9)	06:59 18:34	06:34 16:49
7	05:32 20:33	05:59 20:09	06:30 19:23	08:04 (9) 08:32 (9)	07:00 18:32	06:35 16:48
8	05:33 20:33	06:00 20:07	06:31 19:21	08:02 (9) 08:33 (9)	07:01 18:30	06:36 16:47
9	05:34 20:33	06:01 20:06	06:32 19:19	07:29 (22) 08:34 (9)	07:02 18:29	06:38 16:46
10	05:34 20:32	06:02 20:05	06:33 19:18	07:26 (22) 08:35 (9)	07:03 18:27	06:39 16:45
11	05:35 20:32	06:03 20:04	06:34 19:16	07:25 (22) 08:36 (9)	07:04 18:25	06:40 16:44
12	05:36 20:31	06:04 20:02	06:35 19:14	07:24 (22) 08:37 (9)	07:05 18:24	06:41 16:43
13	05:37 20:31	06:05 20:01	06:36 19:12	07:23 (22) 08:37 (9)	07:06 18:22	06:42 16:42
14	05:37 20:30	06:06 20:00	06:37 19:11	07:23 (22) 08:38 (9)	07:08 18:21	06:44 16:41
15	05:38 20:30	06:07 19:58	06:38 19:09	07:23 (22) 08:38 (9)	07:09 18:19	06:45 16:40
16	05:39 20:29	06:08 19:57	06:39 19:07	07:23 (22) 08:38 (9)	07:10 18:18	06:46 16:39
17	05:40 20:29	06:09 19:55	06:40 19:06	07:24 (22) 08:38 (9)	07:11 18:16	06:47 16:39
18	05:40 20:28	06:10 19:54	06:41 19:04	07:25 (22) 08:38 (9)	07:12 18:15	06:48 16:38
19	05:41 20:27	06:11 19:52	06:42 19:02	07:52 (9) 08:38 (9)	07:13 18:13	06:49 16:37
20	05:42 20:26	06:12 19:51	06:43 19:01	07:52 (9) 08:38 (9)	07:14 18:12	06:51 16:36
21	05:43 20:26	06:13 19:50	06:44 18:59	07:51 (9) 08:37 (9)	07:15 18:10	06:52 16:36
22	05:44 20:25	06:14 19:48	06:45 18:57	07:51 (9) 08:37 (9)	07:16 18:09	06:53 16:35
23	05:45 20:24	06:15 19:47	06:46 18:55	07:51 (9) 08:36 (9)	07:18 18:07	06:54 16:34
24	05:46 20:23	06:16 19:45	06:47 18:54	07:52 (9) 08:35 (9)	07:19 18:06	06:55 16:34
25	05:46 20:22	06:17 19:44	06:48 18:52	07:52 (9) 08:34 (9)	06:20 17:04	06:56 16:33
26	05:47 20:22	06:18 19:42	06:49 18:50	07:52 (9) 08:33 (9)	06:21 17:03	06:57 16:33
27	05:48 20:21	06:19 19:40	06:50 18:49	07:53 (9) 08:32 (9)	06:22 17:02	06:59 16:32
28	05:49 20:20	06:20 19:39	06:51 18:47	07:54 (9) 08:31 (9)	17:00 17:00	07:00 16:32
29	05:50 20:19	06:21 19:37	06:52 18:45	07:55 (9) 08:29 (9)	06:24 16:59	07:01 16:32
30	05:51 20:18	06:22 19:36	06:53 18:44	07:56 (9) 08:27 (9)	06:26 16:58	07:02 16:31
31	05:52 20:17	06:23 19:34		06:27 16:56	07:34 (3) 08:01 (3)	07:23 16:39
Potential sun hours	459	428	375	345	298	288
Total, worst case			1149	176	588	

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: CumulativeShadow receptor: B - R11.2

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June
1	07:23	07:55 (25)	07:10	06:34	16:58 (12)	06:43
	18	08:13 (25)	17:14	17:48	29	17:27 (12)
		07:56 (25)	07:09	06:33		16:56 (12)
2	07:23	07:56 (25)	07:09	06:33	16:56 (12)	06:42
	16:41	17	08:13 (25)	17:49	31	17:27 (12)
			17:15	17:49		19:23
3	07:24	07:57 (25)	07:08	06:31	16:55 (12)	06:40
	16:42	16	08:13 (25)	17:50	34	17:29 (12)
			17:17	06:29		16:54 (12)
4	07:24	07:58 (25)	07:07	06:29	16:54 (12)	06:38
	16:42	15	08:13 (25)	17:52	36	17:30 (12)
			17:18	06:28		16:53 (12)
5	07:24	07:59 (25)	07:06	06:28	16:53 (12)	06:37
	16:43	14	08:13 (25)	17:53	39	17:32 (12)
			17:19	06:26		16:52 (12)
6	07:24	08:00 (25)	07:05	06:26	16:52 (12)	06:35
	16:44	13	08:13 (25)	17:54	41	17:33 (12)
			17:20	06:25		16:51 (12)
7	07:23	08:01 (25)	07:04	06:25	16:51 (12)	06:33
	16:45	10	08:11 (25)	17:55	42	17:33 (12)
			17:22	06:23		16:51 (12)
8	07:23	08:03 (25)	07:03	06:23	16:51 (12)	06:32
	16:46	8	08:11 (25)	17:56	44	17:35 (12)
			17:23	06:21		16:50 (12)
9	07:23	08:06 (25)	07:01	06:21	16:50 (12)	06:30
	16:47	3	08:09 (25)	17:57	46	17:36 (12)
			17:24	06:20		16:50 (12)
10	07:23	07:00	06:20	16:50 (12)	06:29	06:29
	16:48		17:25	17:58	48	17:38 (12)
			06:59	06:18		16:49 (12)
11	07:23	06:59	06:18	16:49 (12)	06:27	06:27
	16:49		17:27	18:00	49	17:38 (12)
			06:58	06:17		16:48 (12)
12	07:23	06:58	06:17	16:48 (12)	06:25	06:25
	16:50		17:28	18:01	51	17:39 (12)
			06:57	06:15		16:49 (12)
13	07:22	06:57	06:15	16:49 (12)	06:24	06:24
	16:51		17:29	18:02	52	17:41 (12)
			06:55	06:13		16:48 (12)
14	07:22	06:55	06:13	16:48 (12)	06:22	06:22
	16:53		17:30	18:03	54	17:42 (12)
			06:54	06:12		16:48 (12)
15	07:22	06:54	06:12	16:48 (12)	06:21	06:21
	16:54		17:31	18:04	55	17:43 (12)
			06:53	06:10		16:48 (12)
16	07:21	06:53	06:10	16:48 (12)	06:19	06:19
	16:55		17:33	18:05	56	17:44 (12)
			06:51	06:08		16:48 (12)
17	07:21	06:51	06:08	16:48 (12)	06:18	06:18
	16:56		17:34	18:06	57	17:45 (12)
			06:50	06:07		16:48 (12)
18	07:20	06:50	06:07	16:48 (12)	06:16	06:16
	16:57		17:35	18:07	58	17:46 (12)
			06:49	06:05		16:48 (12)
19	07:20	06:49	06:05	16:48 (12)	06:15	06:15
	16:58		17:36	18:08	60	17:48 (12)
			06:47	06:03		16:48 (12)
20	07:19	06:47	06:03	16:48 (12)	06:13	06:13
	16:59		17:38	18:09	59	17:47 (12)
			06:46	06:02		16:48 (12)
21	07:19	06:46	06:02	16:48 (12)	06:12	06:12
	17:01		17:39	18:10	58	17:46 (12)
			06:44	06:00		16:49 (12)
22	07:18	06:44	06:00	16:49 (12)	06:10	06:10
	17:02		17:16 (12)	18:12	56	17:45 (12)
		2	17:18 (12)	18:12		17:45 (12)
23	07:17	06:43	17:11 (12)	05:58	16:50 (12)	06:09
	17:03		17:41	18:13	54	17:44 (12)
		8	17:19 (12)	18:13		17:44 (12)
24	07:17	06:42	17:08 (12)	05:57	16:50 (12)	06:07
	17:04		17:21 (12)	18:14	52	17:42 (12)
		13	17:21 (12)	18:14		17:42 (12)
25	07:16	06:40	17:05 (12)	05:55	16:50 (12)	06:06
	17:05		17:22 (12)	18:15	51	17:41 (12)
		17	17:22 (12)	18:15		17:41 (12)
26	07:15	06:39	17:03 (12)	05:53	16:52 (12)	06:04
	17:07		17:45	18:16	48	17:40 (12)
		20	17:23 (12)	18:16		17:40 (12)
27	07:14	06:37	17:01 (12)	05:52	16:53 (12)	06:03
	17:08		17:46	18:17	45	17:38 (12)
		23	17:24 (12)	18:17		17:38 (12)
28	07:14	06:36	17:00 (12)	05:50	16:54 (12)	06:02
	17:09		17:47	18:18	42	17:36 (12)
		26	17:26 (12)	18:18		17:36 (12)
29	07:13		06:48	17:56 (12)	06:00	06:00
	17:10		19:19	18:34 (12)	38	18:34 (12)
			06:47	17:57 (12)	35	18:32 (12)
30	07:12		19:20	18:32 (12)	19:53	19:53
	17:12		06:45	17:59 (12)		17:59 (12)
31	07:11		19:21	18:29 (12)	30	18:29 (12)
	17:13		06:45	17:59 (12)		17:59 (12)
Potential sun hours	297	297	369	399	399	452
Total, worst case	114	109	1450	37	448	452

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: CumulativeShadow receptor: B - R11.2

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	July	August	September	October	November	December			
1	05:29	05:53	06:24	06:54	17:28 (12)	06:28	07:03		
	20:34	20:16	19:32	18:42	18:19 (12)	16:55	16:31		
2	05:30	05:54	06:25	06:55	17:28 (12)	06:29	07:04		
	20:34	20:14	19:31	18:40	18:18 (12)	16:54	16:31		
3	05:30	05:55	06:26	06:56	17:27 (12)	06:30	07:05	07:50 (25)	
	20:34	20:13	19:29	18:39	18:16 (12)	16:53	16:30	3 07:53 (25)	
4	05:31	05:56	06:27	06:57	17:27 (12)	06:32	07:06	07:48 (25)	
	20:34	20:12	19:28	18:37	18:14 (12)	16:52	16:30	7 07:55 (25)	
5	05:31	05:57	06:28	06:58	17:27 (12)	06:33	07:07	07:47 (25)	
	20:34	20:11	19:26	18:35	18:12 (12)	16:50	16:30	10 07:57 (25)	
6	05:32	05:58	06:29	06:59	17:27 (12)	06:34	07:08	07:46 (25)	
	20:34	20:10	19:24	18:34	18:11 (12)	16:49	16:30	13 07:59 (25)	
7	05:32	05:59	06:30	07:00	17:27 (12)	06:35	07:09	07:46 (25)	
	20:33	20:09	19:23	18:32	18:09 (12)	16:48	16:30	14 08:00 (25)	
8	05:33	06:00	06:31	07:01	17:28 (12)	06:36	07:10	07:45 (25)	
	20:33	20:07	19:21	18:30	18:07 (12)	16:47	16:30	15 08:00 (25)	
9	05:34	06:01	06:32	07:02	17:28 (12)	06:38	07:11	07:45 (25)	
	20:33	20:06	19:19	18:29	18:05 (12)	16:46	16:30	16 08:01 (25)	
10	05:34	06:02	06:33	18:01 (12)	07:03	17:29 (12)	06:39	07:12	07:45 (25)
	20:32	20:05	19:18	18:13 (12)	18:27	18:04 (12)	16:45	16:30	17 08:02 (25)
11	05:35	06:03	06:34	17:55 (12)	07:04	17:30 (12)	06:40	07:12	07:45 (25)
	20:32	20:04	19:16	18:18 (12)	18:25	18:03 (12)	16:44	16:30	18 08:03 (25)
12	05:36	06:04	06:35	17:52 (12)	07:05	17:31 (12)	06:41	07:13	07:46 (25)
	20:31	20:02	19:14	18:21 (12)	18:24	18:01 (12)	16:43	16:30	18 08:04 (25)
13	05:37	06:05	06:36	17:49 (12)	07:06	17:32 (12)	06:42	07:14	07:46 (25)
	20:31	20:01	19:12	18:23 (12)	18:22	18:00 (12)	16:42	16:30	18 08:04 (25)
14	05:37	06:06	06:37	17:47 (12)	07:08	17:33 (12)	06:43	07:15	07:46 (25)
	20:30	20:00	19:11	18:24 (12)	18:21	17:58 (12)	16:41	16:30	18 08:04 (25)
15	05:38	06:07	06:38	17:44 (12)	07:09	17:34 (12)	06:45	07:15	07:46 (25)
	20:30	19:58	19:09	18:26 (12)	18:19	17:56 (12)	16:40	16:30	19 08:05 (25)
16	05:39	06:08	06:39	17:42 (12)	07:10	17:36 (12)	06:46	07:16	07:47 (25)
	20:29	19:57	19:07	18:27 (12)	18:18	17:54 (12)	16:39	16:31	19 08:06 (25)
17	05:40	06:09	06:40	17:41 (12)	07:11	17:37 (12)	06:47	07:17	07:47 (25)
	20:29	19:55	19:06	18:28 (12)	18:16	17:53 (12)	16:39	16:31	19 08:06 (25)
18	05:40	06:10	06:41	17:39 (12)	07:12	17:41 (12)	06:48	07:18	07:47 (25)
	20:28	19:54	19:04	18:29 (12)	18:15	17:52 (12)	16:38	16:31	20 08:07 (25)
19	05:41	06:11	06:42	17:38 (12)	07:13	17:44 (12)	06:49	07:18	07:48 (25)
	20:27	19:52	19:02	18:29 (12)	18:13	17:50 (12)	16:37	16:32	20 08:08 (25)
20	05:42	06:12	06:43	17:36 (12)	07:14		06:51	07:19	07:48 (25)
	20:26	19:51	19:01	18:30 (12)	18:12		16:36	16:32	20 08:08 (25)
21	05:43	06:13	06:44	17:35 (12)	07:15		06:52	07:19	07:49 (25)
	20:26	19:50	18:59	18:30 (12)	18:10		16:36	16:33	20 08:09 (25)
22	05:44	06:14	06:45	17:34 (12)	07:16		06:53	07:20	07:49 (25)
	20:25	19:48	18:57	18:31 (12)	18:09		16:35	16:33	20 08:09 (25)
23	05:45	06:15	06:46	17:33 (12)	07:18		06:54	07:20	07:50 (25)
	20:24	19:47	18:55	18:31 (12)	18:07		16:34	16:33	20 08:10 (25)
24	05:46	06:16	06:47	17:32 (12)	07:19		06:55	07:21	07:50 (25)
	20:23	19:45	18:54	18:31 (12)	18:06		16:34	16:34	20 08:10 (25)
25	05:46	06:17	06:48	17:31 (12)	06:20		06:56	07:21	07:50 (25)
	20:22	19:43	18:52	18:30 (12)	17:04		16:33	16:35	20 08:10 (25)
26	05:47	06:18	06:49	17:30 (12)	06:21		06:57	07:22	07:52 (25)
	20:21	19:42	18:50	18:28 (12)	17:03		16:33	16:35	19 08:11 (25)
27	05:48	06:19	06:50	17:30 (12)	06:22		06:59	07:22	07:52 (25)
	20:21	19:40	18:49	18:26 (12)	17:02		16:32	16:36	19 08:11 (25)
28	05:49	06:20	06:51	17:29 (12)	06:23		07:00	07:22	07:52 (25)
	20:20	19:39	18:47	18:25 (12)	17:00		16:32	16:37	19 08:11 (25)
29	05:50	06:21	06:52	17:29 (12)	06:24		07:01	07:23	07:53 (25)
	20:19	19:37	18:45	18:23 (12)	16:59		16:32	16:37	18 08:11 (25)
30	05:51	06:22	06:53	17:28 (12)	06:26		07:02	07:23	07:54 (25)
	20:18	19:36	18:44	18:21 (12)	16:58		16:31	16:38	18 08:12 (25)
31	05:52	06:23		06:27				07:23	07:55 (25)
	20:17	19:34		16:56				16:39	18 08:13 (25)
Potential sun hours	459	428	375	345	298	288	18	495	
Total, worst case			989	628					

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: CumulativeShadow receptor: C - R04

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
 - 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

	January	February	March	April	May	June	July	August	September	October	November	December			
1	07:23	07:10	06:34	07:24 (10)	06:43	05:57	05:29	05:29	05:53	06:24	06:54	08:05 (10)	06:28	07:08 (10)	07:03
	16:40	17:14	17:48	55 08:19 (10)	19:22	19:54	20:23	20:34	20:15	19:32	18:42	56 09:01 (10)	16:55	16 07:24 (10)	16:31
2	07:23	07:09	06:32	07:23 (10)	06:42	05:56	05:28	05:30	05:54	06:25	06:55	08:04 (10)	06:29	07:11 (10)	07:04
	16:41	17:15	17:49	57 08:20 (10)	19:23	19:55	20:24	20:34	20:14	19:31	18:40	58 09:02 (10)	16:54	12 07:23 (10)	16:30
3	07:23	07:08	06:31	07:23 (10)	06:40	05:55	05:28	05:30	05:55	06:26	06:56	08:03 (10)	06:30	07:14 (10)	07:05
	16:41	17:16	17:50	59 08:22 (10)	19:24	19:56	20:25	20:34	20:13	19:29	18:38	59 09:02 (10)	16:53	8 07:22 (10)	16:30
4	07:23	07:07	06:29	07:23 (10)	06:38	05:54	05:27	05:31	05:56	06:27	06:57	08:02 (10)	06:31	07:16 (10)	07:06
	16:42	17:18	17:51	59 08:22 (10)	19:25	19:57	20:26	20:34	20:12	19:27	18:37	61 09:03 (10)	16:51	4 07:20 (10)	16:30
5	07:23	07:06	06:28	07:24 (10)	06:37	05:52	05:27	05:31	05:57	06:28	06:58	08:01 (10)	06:33		07:07
	16:43	17:19	17:53	60 08:24 (10)	19:26	19:58	20:26	20:34	20:11	19:26	18:35	62 09:03 (10)	16:50		16:30
6	07:23	07:05	06:26	07:23 (10)	06:35	05:51	05:27	05:32	05:58	06:29	06:59	08:00 (10)	06:34		07:08
	16:44	17:20	17:54	62 08:25 (10)	19:27	19:59	20:27	20:33	20:10	19:24	18:33	63 09:03 (10)	16:49		16:30
7	07:22	07:04	06:25	07:23 (10)	06:33	05:50	05:26	05:32	05:59	06:30	07:00	07:59 (10)	06:35		07:09
	16:45	17:21	5 07:46 (10)	63 08:26 (10)	19:28	20:00	20:28	20:33	20:08	19:22	18:32	62 09:01 (10)	16:48		16:30
8	07:23	07:02	06:23	07:24 (10)	06:32	05:49	05:26	05:33	06:00	06:31	07:01	07:58 (10)	06:36		07:10
	16:46	17:23	9 07:52 (10)	63 08:27 (10)	19:29	20:01	20:28	20:33	20:07	19:21	18:30	62 09:00 (10)	16:47		16:30
9	07:23	07:01	06:21	07:24 (10)	06:30	05:48	05:26	05:34	06:01	06:32	07:02	07:58 (10)	06:37		07:10
	16:47	17:24	13 07:54 (10)	62 08:26 (10)	19:31	20:02	20:29	20:32	20:06	19:19	18:29	60 08:58 (10)	16:46		16:30
10	07:23	07:00	06:20	07:24 (10)	06:28	05:46	05:26	05:34	06:02	06:33	07:03	07:57 (10)	06:39		07:11
	16:48	17:25	16 07:55 (10)	60 08:24 (10)	19:32	20:03	20:29	20:32	20:05	19:17	18:27	59 08:56 (10)	16:45		16:30
11	07:23	06:59	06:18	07:25 (10)	06:27	05:45	05:26	05:35	06:03	06:34	07:04	07:57 (10)	06:40		07:12
	16:49	17:26	19 07:56 (10)	59 08:24 (10)	19:33	20:04	20:30	20:32	20:03	19:16	18:25	57 08:54 (10)	16:44		16:30
12	07:22	06:58	06:16	07:25 (10)	06:25	05:44	05:25	05:36	06:04	06:35	07:05	07:57 (10)	06:41		07:13
	16:50	17:28	21 07:57 (10)	57 08:22 (10)	19:34	20:05	20:30	20:31	20:02	19:14	18:24	57 08:54 (10)	16:43		16:30
13	07:22	06:56	06:15	07:26 (10)	06:24	05:43	05:25	05:36	06:05	06:36	07:06	07:57 (10)	06:42		07:14
	16:51	17:29	25 07:59 (10)	55 08:21 (10)	19:35	20:06	20:31	20:31	20:01	19:12	18:22	55 08:52 (10)	16:42		16:30
14	07:22	06:55	06:13	07:27 (10)	06:22	05:42	05:25	05:37	06:06	06:37	07:07	07:57 (10)	06:43		07:15
	16:52	17:30	27 08:00 (10)	52 08:19 (10)	19:36	20:07	20:31	20:30	19:59	19:11	18:21	53 08:50 (10)	16:41		16:30
15	07:21	06:54	06:12	07:27 (10)	06:21	05:41	05:25	05:38	06:07	06:38	07:08	07:56 (10)	06:45		07:15
	16:54	17:31	29 08:01 (10)	50 08:17 (10)	19:37	20:08	20:32	20:30	19:58	19:09	18:19	53 08:49 (10)	16:40		16:30
16	07:21	06:53	06:10	07:28 (10)	06:19	05:40	05:25	05:39	06:08	06:39	07:10	07:56 (10)	06:46		07:16
	16:55	17:33	32 08:03 (10)	47 08:15 (10)	19:38	20:09	20:32	20:29	19:57	19:07	18:18	51 08:47 (10)	16:39		16:31
17	07:21	06:51	06:08	07:30 (10)	06:17	05:39	05:25	05:40	06:09	06:40	07:11	07:56 (10)	06:47		07:17
	16:56	17:34	34 08:04 (10)	44 08:14 (10)	19:39	20:10	20:32	20:28	19:55	19:06	18:16	49 08:45 (10)	16:39		16:31
18	07:20	06:50	06:07	07:31 (10)	06:16	05:38	05:25	05:40	06:10	06:41	07:12	07:56 (10)	06:48		07:17
	16:57	17:35	36 08:05 (10)	40 08:11 (10)	19:40	20:11	20:33	20:28	19:54	19:04	18:14	47 08:43 (10)	16:38		16:31
19	07:20	06:49	06:05	07:33 (10)	06:14	05:37	05:25	05:41	06:11	06:42	07:13	07:57 (10)	06:49		07:18
	16:58	17:36	39 08:07 (10)	35 08:08 (10)	19:41	20:12	20:33	20:27	19:52	19:02	18:13	46 08:43 (10)	16:37		16:32
20	07:19	06:47	06:03	07:35 (10)	06:13	05:37	05:26	05:42	06:12	06:43	07:14	07:57 (10)	06:50		07:19
	16:59	17:37	40 08:07 (10)	31 08:06 (10)	19:42	20:13	20:33	20:26	19:51	19:00	18:11	44 08:41 (10)	16:36		16:32
21	07:18	06:46	06:02	07:38 (10)	06:11	05:36	05:26	05:43	06:13	06:44	07:15	07:58 (10)	06:52		07:19
	17:01	17:39	42 08:09 (10)	24 08:02 (10)	19:43	20:14	20:34	20:26	19:49	18:59	11 08:40 (10)	18:10	41 08:39 (10)	16:36	16:32
22	07:18	06:44	06:00	07:42 (10)	06:10	05:35	05:26	05:44	06:14	06:45	07:16	07:58 (10)	06:53		07:20
	17:02	17:40	44 08:10 (10)	14 07:56 (10)	19:44	20:15	20:34	20:25	19:48	18:57	22 08:46 (10)	18:09	40 08:38 (10)	16:35	16:33
23	07:17	06:43	05:58	06:08	05:34	05:26	05:45	06:15	06:46	06:46	07:17	07:58 (10)	06:54		07:20
	17:03	17:41	46 08:12 (10)	19:45	20:16	20:34	20:24	19:46	18:55	29 08:50 (10)	18:07	38 08:36 (10)	16:34		16:33
24	07:16	06:41	05:57	06:07	05:33	05:26	05:45	06:16	06:47	06:47	07:18	08:00 (10)	06:55		07:21
	17:04	17:42	47 08:13 (10)	19:46	20:17	20:34	20:23	19:45	18:54	34 08:52 (10)	18:06	35 08:35 (10)	16:34		16:34
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:48	07:19	08:01 (10)	06:56		07:21
	17:05	17:43	49 08:14 (10)	19:48	20:18	20:34	20:22	19:43	18:52	39 08:54 (10)	17:04	34 07:34 (10)	16:33		16:35
26	07:15	06:38	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:49	07:20	08:02 (10)	06:57		07:21
	17:07	17:45	51 08:16 (10)	19:49	20:19	20:34	20:21	19:42	18:50	43 08:56 (10)	17:03	31 07:32 (10)	16:33		16:35
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:50	07:21	08:03 (10)	06:58		07:22
	17:08	17:46	53 08:17 (10)	19:50	20:19	20:34	20:20	19:40	18:48	46 08:57 (10)	17:02	28 07:30 (10)	16:32		16:36
28	07:13	06:35	05:50	06:01	05:31	05:28	05:49	06:20	06:51	06:51	07:22	08:05 (10)	06:59		07:22
	17:09	17:47	54 08:17 (10)	19:51	20:20	20:34	20:19	19:39	18:47	49 08:58 (10)	17:00	27 07:29 (10)	16:32		16:36
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:52	07:23	08:08 (10)	07:01		07:22
	17:10		19:19	19:52	20:21	20:34	20:18	19:37	18:45	51 08:59 (10)	16:59	24 07:28 (10)	16:31		16:37
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:53	07:24	08:06 (10)	07:02		07:23
	17:11		19:20	19:53	20:22	20:34	20:17	19:36	18:43	54 09:00 (10)	16:58	21 07:27 (10)	16:31		16:38
31	07:11		06:45		05:29		05:52	06:23			06:27	07:07 (10)			07:23
	17:13		19:21		20:23		20:16	19:34			16:56	18 07:25 (10)			16:39
Potential sun hours	297	297	369	399	448	452	459	428	375	345	1451	298	40		288
Total, worst case		731	1108						378	345	1451		40		

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	(WTG causing flicker first time)
	Sun set (hh:mm)	Last time (hh:mm) with flicker	(WTG causing flicker last time)
	Minutes with flicker		

SHADOW - Calendar

Calculation: CumulativeShadow receptor: D - R03.2

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June		
1	07:23	07:10	06:34	06:43	07:02 (5)	05:57	05:29	
	16:40	17:14	17:48	19:22	07:23 (5)	19:54	20:23	
2	07:23	07:09	06:32	06:41	07:00 (5)	05:56	05:28	
	16:41	17:15	17:49	19:23	07:23 (5)	19:55	20:24	
3	07:23	07:08	06:31	06:40	06:58 (5)	05:55	05:28	
	16:41	17:16	17:50	19:24	07:23 (5)	19:56	20:25	
4	07:23	07:07	06:29	06:38	06:57 (5)	05:54	05:27	
	16:42	17:18	17:51	19:25	07:24 (5)	19:57	20:25	
5	07:23	07:06	06:28	06:37	06:55 (5)	05:52	05:27	
	16:43	17:19	17:53	19:26	07:23 (5)	19:58	20:26	
6	07:23	07:05	06:26	06:35	06:53 (5)	05:51	05:27	
	16:44	17:20	17:54	19:27	07:23 (5)	19:59	20:27	
7	07:23	07:04	06:24	06:33	06:52 (5)	05:50	05:26	
	16:45	17:21	17:55	19:28	07:23 (5)	20:00	20:27	
8	07:23	07:02	06:23	06:32	06:50 (5)	05:49	05:26	
	16:46	17:23	17:56	19:29	07:22 (5)	20:01	20:28	
9	07:23	07:01	06:21	06:30	06:49 (5)	05:48	05:26	
	16:47	17:24	17:57	19:31	07:22 (5)	20:02	20:29	
10	07:23	07:00	06:20	06:28	06:47 (5)	05:46	05:26	
	16:48	17:25	17:58	19:32	07:21 (5)	20:03	20:29	
11	07:23	06:59	06:18	06:27	06:47 (5)	05:45	05:26	
	16:49	17:26	17:59	19:33	07:19 (5)	20:04	20:30	
12	07:22	06:58	06:16	06:25	06:48 (5)	05:44	05:25	
	16:50	17:28	18:00	19:34	07:19 (5)	20:05	20:30	
13	07:22	06:56	06:15	06:24	06:49 (5)	05:43	05:25	
	16:51	17:29	18:02	19:35	07:17 (5)	20:06	20:31	
14	07:22	06:55	06:13	06:22	06:50 (5)	05:42	05:25	
	16:52	17:30	18:03	19:36	07:16 (5)	20:07	20:31	
15	07:21	06:54	06:11	06:21	06:51 (5)	05:41	05:25	
	16:54	17:31	18:04	19:37	07:14 (5)	20:08	20:32	
16	07:21	06:53	06:10	06:19	06:53 (5)	05:40	05:25	
	16:55	17:33	18:05	19:38	07:12 (5)	20:09	20:32	
17	07:21	06:51	06:08	06:17	06:55 (5)	05:39	05:25	
	16:56	17:34	18:06	19:39	07:09 (5)	20:10	20:32	
18	07:20	06:50	06:07	06:16	05:38	05:25	05:48 (6)	
	16:57	17:35	18:07	19:40	20:11	20:33	16 06:04 (6)	
19	07:20	06:48	06:05	06:14	05:37	05:25	05:48 (6)	
	16:58	17:36	18:08	19:41	20:12	20:33	16 06:04 (6)	
20	07:19	06:47	06:03	06:13	05:37	05:26	05:48 (6)	
	16:59	17:37	18:09	19:42	20:13	20:33	16 06:04 (6)	
21	07:18	06:46	06:02	06:11	05:36	05:26	05:48 (6)	
	17:01	17:39	18:10	19:43	20:14	20:34	16 06:04 (6)	
22	07:18	06:44	06:00	06:10	05:35	05:26	05:48 (6)	
	17:02	17:40	18:11	19:44	20:15	20:34	16 06:04 (6)	
23	07:17	06:43	05:58	06:08	05:34	05:26	05:49 (6)	
	17:03	17:41	18:12	19:45	20:16	20:34	16 06:05 (6)	
24	07:16	06:41	05:57	06:07	05:33	05:26	05:49 (6)	
	17:04	17:42	18:14	19:46	20:17	20:34	16 06:05 (6)	
25	07:16	06:40	05:55	06:06	05:33	05:27	05:49 (6)	
	17:05	17:43	18:15	19:47	20:18	20:34	16 06:05 (6)	
26	07:15	06:38	05:53	06:12 (5)	05:32	05:27	05:50 (6)	
	17:07	17:45	18:16	2 06:14 (5)	19:49	20:18	20:34	15 06:05 (6)
27	07:14	06:37	05:51	06:10 (5)	06:03	05:31	05:27	05:50 (6)
	17:08	17:46	18:17	7 06:17 (5)	19:50	20:19	20:34	15 06:05 (6)
28	07:13	06:35	05:50	06:08 (5)	06:01	05:31	05:28	05:50 (6)
	17:09	17:47	18:18	11 06:19 (5)	19:51	20:20	20:34	14 06:04 (6)
29	07:12		06:48	07:07 (5)	06:00	05:30	05:28	05:51 (6)
	17:10		19:19	14 07:21 (5)	19:52	20:21	20:34	14 06:05 (6)
30	07:12		06:46	07:05 (5)	05:59	05:30	05:29	05:51 (6)
	17:11		19:20	17 07:22 (5)	19:53	20:22	20:34	13 06:04 (6)
31	07:11		06:45	07:03 (5)		05:29		
	17:13		19:21	19 07:22 (5)		20:23		
Potential sun hours	297	297	369	399	448	452	336	
Total, worst case			70	457				

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: CumulativeShadow receptor: D - R03.2****Assumptions for shadow calculations**

Maximum distance for influence 2.000 m
 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

	July	August	September	October	November	December	
1	05:29	05:52 (6)	06:24	06:46 (5)	06:54	06:28	07:03
	20:34	06:04 (6)	19:32	07:18 (5)	18:42	16:55	16:31
2	05:30	05:52 (6)	06:25	06:45 (5)	06:55	06:29	07:04
	20:34	06:03 (6)	19:31	07:19 (5)	18:40	16:54	16:30
3	05:30	05:53 (6)	06:26	06:46 (5)	06:56	06:30	07:05
	20:34	06:03 (6)	19:29	07:19 (5)	18:38	16:53	16:30
4	05:31	05:53 (6)	06:27	06:47 (5)	06:57	06:31	07:06
	20:34	06:02 (6)	19:27	07:19 (5)	18:37	16:51	16:30
5	05:31	05:54 (6)	06:28	06:48 (5)	06:58	06:33	07:07
	20:34	06:01 (6)	19:26	07:19 (5)	18:35	16:50	16:30
6	05:32	05:54 (6)	06:29	06:49 (5)	06:59	06:34	07:08
	20:33	05:59 (6)	19:24	07:19 (5)	18:33	16:49	16:30
7	05:32	05:55 (6)	06:30	06:50 (5)	07:00	06:35	07:09
	20:33	05:58 (6)	19:22	07:18 (5)	18:32	16:48	16:30
8	05:33	05:56 (6)	06:31	06:51 (5)	07:01	06:36	07:10
	20:33	05:57 (6)	19:21	07:18 (5)	18:30	16:47	16:30
9	05:34	06:01	06:32	06:52 (5)	07:02	06:37	07:10
	20:32	20:06	19:19	07:17 (5)	18:29	16:46	16:30
10	05:34	06:02	06:33	06:53 (5)	07:03	06:39	07:11
	20:32	20:05	19:17	07:16 (5)	18:27	16:45	16:30
11	05:35	06:03	06:34	06:54 (5)	07:04	06:40	07:12
	20:32	20:03	19:16	07:15 (5)	18:25	16:44	16:30
12	05:36	06:04	06:35	06:55 (5)	07:05	06:41	07:13
	20:31	20:02	19:14	07:14 (5)	18:24	16:43	16:30
13	05:36	06:05	06:36	06:56 (5)	07:06	06:42	07:14
	20:31	20:01	19:12	07:13 (5)	18:22	16:42	16:30
14	05:37	06:06	06:37	06:57 (5)	07:07	06:43	07:15
	20:30	19:59	19:11	07:11 (5)	18:21	16:41	16:30
15	05:38	06:07	06:38	06:58 (5)	07:08	06:44	07:15
	20:29	19:58	19:09	07:09 (5)	18:19	16:40	16:30
16	05:39	06:08	06:39	06:59 (5)	07:10	06:46	07:16
	20:29	19:57	19:07	07:07 (5)	18:18	16:39	16:31
17	05:40	06:09	06:40	07:00 (5)	07:11	06:47	07:17
	20:28	19:55	19:05	07:03 (5)	18:16	16:39	16:31
18	05:40	06:10	06:41	07:12	07:12	06:48	07:17
	20:28	19:54	19:04	18:14	16:38	16:31	
19	05:41	06:11	06:42	07:13	06:49	07:18	
	20:27	19:52	19:02	18:13	16:37	16:32	
20	05:42	06:12	06:43	07:14	06:50	07:19	
	20:26	19:51	19:00	18:11	16:36	16:32	
21	05:43	06:13	06:43	07:15	06:52	07:19	
	20:25	19:49	18:59	18:10	16:36	16:32	
22	05:44	06:14	06:45	07:16	06:53	07:20	
	20:25	19:48	18:57	18:09	16:35	16:33	
23	05:45	06:15	06:46	07:17	06:54	07:20	
	20:24	19:46	18:55	18:07	16:34	16:33	
24	05:45	06:16	06:47	07:19	06:55	07:21	
	20:23	19:45	18:54	18:06	16:34	16:34	
25	05:46	06:17	07:03 (5)	06:48	06:20	06:56	07:21
	20:22	19:43	07:07 (5)	18:52	17:04	16:33	16:35
26	05:47	06:18	06:58 (5)	06:49	06:21	06:57	07:21
	20:21	19:42	07:12 (5)	18:50	17:03	16:33	16:35
27	05:48	06:19	06:55 (5)	06:50	06:22	06:58	07:22
	20:20	19:40	07:14 (5)	18:48	17:02	16:32	16:36
28	05:49	06:20	06:53 (5)	06:51	06:23	06:59	07:22
	20:19	19:39	07:16 (5)	18:47	17:00	16:32	16:37
29	05:50	06:21	06:51 (5)	06:52	06:24	07:01	07:22
	20:18	19:37	07:17 (5)	18:45	16:59	16:31	16:37
30	05:51	06:22	06:50 (5)	06:53	06:25	07:02	07:23
	20:17	19:35	07:18 (5)	18:43	16:58	16:31	16:38
31	05:52	06:23	06:48 (5)	06:54	06:27	07:03	07:23
	20:16	19:34	07:19 (5)	18:41	16:56	16:30	16:39
Potential sun hours	459	428	375	345	298	288	
Total, worst case	59	145	388				

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: CumulativeShadow receptor: E - R03.1

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June		
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 17:48	07:02 (5) 07:35 (5)	05:57 19:54	05:29 20:23	05:50 (6) 06:25 (6)
2	07:23 16:41	07:09 17:15	06:32 17:49	06:41 19:23	07:00 (5) 07:34 (5)	05:56 19:55	05:28 20:24	05:50 (6) 06:26 (6)
3	07:23 16:41	07:08 17:16	06:31 17:50	06:40 19:24	06:58 (5) 07:33 (5)	05:55 19:56	05:28 20:25	05:49 (6) 06:26 (6)
4	07:23 16:42	07:07 17:18	06:29 17:51	06:38 19:25	06:59 (5) 07:32 (5)	05:54 19:57	05:27 20:25	05:49 (6) 06:27 (6)
5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 19:26	06:59 (5) 07:31 (5)	05:52 19:58	05:27 20:26	05:49 (6) 06:28 (6)
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 19:27	07:00 (5) 07:29 (5)	05:51 19:59	05:27 20:27	05:48 (6) 06:28 (6)
7	07:23 16:45	07:04 17:21	06:24 17:55	06:33 19:28	07:01 (5) 07:28 (5)	05:50 20:00	05:26 20:27	05:48 (6) 06:28 (6)
8	07:23 16:46	07:02 17:23	06:23 17:56	06:32 19:29	07:02 (5) 07:26 (5)	05:49 20:01	05:26 20:28	05:48 (6) 06:29 (6)
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:31	07:04 (5) 07:25 (5)	05:48 20:02	05:26 20:29	05:48 (6) 06:30 (6)
10	07:23 16:48	07:00 17:25	06:20 17:58	06:28 19:32	07:06 (5) 07:22 (5)	05:46 20:03	05:26 20:29	05:48 (6) 06:30 (6)
11	07:23 16:49	06:59 17:26	06:18 17:59	06:27 19:33	07:09 (5) 07:17 (5)	05:45 20:04	05:26 20:30	05:48 (6) 06:31 (6)
12	07:22 16:50	06:58 17:28	06:16 18:00	06:25 19:34	05:44 20:05	05:44 20:05	05:25 20:30	05:47 (6) 06:30 (6)
13	07:22 16:51	06:56 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:43 20:06	05:25 20:31	05:47 (6) 06:31 (6)
14	07:22 16:52	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:42 20:07	05:25 20:31	05:47 (6) 06:31 (6)
15	07:21 16:54	06:54 17:31	06:11 18:04	06:21 19:37	05:41 20:08	05:41 20:08	05:25 20:32	05:47 (6) 06:32 (6)
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:40 20:09	05:25 20:32	05:47 (6) 06:32 (6)
17	07:21 16:56	06:51 17:34	06:08 18:06	06:17 19:39	05:39 20:10	05:39 20:10	05:25 20:32	05:48 (6) 06:33 (6)
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:38 20:11	05:25 20:33	05:48 (6) 06:33 (6)
19	07:20 16:58	06:48 17:36	06:05 18:08	06:14 19:41	05:37 20:12	5 06:04 (6) 05:58 (6)	05:25 20:33	05:48 (6) 06:33 (6)
20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	9 06:07 (6) 05:57 (6)	05:26 20:33	05:48 (6) 06:33 (6)
21	07:18 17:01	06:46 17:39	06:02 18:10	06:11 19:43	05:36 20:14	05:56 (6) 06:11 (6)	05:26 20:34	05:48 (6) 06:33 (6)
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:56 (6) 06:14 (6)	05:26 20:34	05:48 (6) 06:33 (6)
23	07:17 17:03	06:43 17:41	05:58 18:12	06:10 19:45	05:34 20:16	05:55 (6) 06:15 (6)	05:26 20:34	05:49 (6) 06:34 (6)
24	07:16 17:04	06:41 17:42	05:57 18:14	06:07 19:46	05:33 20:17	05:54 (6) 06:16 (6)	05:26 20:34	05:49 (6) 06:34 (6)
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:47	05:33 20:18	05:54 (6) 06:18 (6)	05:27 20:34	05:49 (6) 06:34 (6)
26	07:15 17:07	06:38 17:45	05:53 18:16	06:04 19:49	05:32 20:18	05:53 (6) 06:19 (6)	05:27 20:34	05:50 (6) 06:35 (6)
27	07:14 17:08	06:37 17:46	05:51 18:17	06:03 19:50	05:31 20:19	05:52 (6) 06:20 (6)	05:27 20:34	05:50 (6) 06:35 (6)
28	07:13 17:09	06:35 17:47	05:50 18:18	06:01 19:51	05:31 20:20	05:52 (6) 06:21 (6)	05:28 20:34	05:50 (6) 06:34 (6)
29	07:12 17:10		06:48 19:19	07:07 (5) 19:52	06:00 19:52	05:51 (6) 06:22 (6)	05:28 20:34	05:51 (6) 06:35 (6)
30	07:12 17:11		06:46 19:20	07:05 (5) 19:53	05:59 20:22	05:51 (6) 06:23 (6)	05:29 20:34	05:51 (6) 06:35 (6)
31	07:11 17:13		06:45 19:21	07:03 (5) 07:35 (5)	05:57 20:23	05:50 (6) 06:23 (6)		
Potential sun hours	297	297	369	399	448	452		
Total, worst case			260	292	304	1281		

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: Cumulative Shadow receptor: E - R03.1

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	July	August	September	October	November	December		
1	05:29	05:52 (6)	05:53	06:24	07:08 (5)	06:54	06:28	07:03
	20:34	06:35 (6)	20:15	19:32	8 07:16 (5)	18:42	16:55	16:31
2	05:30	05:52 (6)	05:54	06:25	07:04 (5)	06:55	06:29	07:04
	20:34	06:35 (6)	20:14	19:31	16 07:20 (5)	18:40	16:54	16:30
3	05:30	05:53 (6)	05:55	06:26	07:01 (5)	06:56	06:30	07:05
	20:34	06:35 (6)	20:13	19:29	21 07:22 (5)	18:38	16:53	16:30
4	05:31	05:53 (6)	05:56	06:27	06:59 (5)	06:57	06:31	07:06
	20:34	06:34 (6)	20:12	19:27	24 07:23 (5)	18:37	16:51	16:30
5	05:31	05:54 (6)	05:57	06:28	06:57 (5)	06:58	06:33	07:07
	20:34	06:35 (6)	20:11	19:26	27 07:24 (5)	18:35	16:50	16:30
6	05:32	05:54 (6)	05:58	06:29	06:56 (5)	06:59	06:34	07:08
	20:33	06:34 (6)	20:10	19:24	29 07:25 (5)	18:33	16:49	16:30
7	05:32	05:55 (6)	05:59	06:30	06:54 (5)	07:00	06:35	07:09
	20:33	06:34 (6)	20:08	19:22	32 07:26 (5)	18:32	16:48	16:30
8	05:33	05:56 (6)	06:00	06:31	06:53 (5)	07:01	06:36	07:10
	20:33	06:34 (6)	20:07	19:21	33 07:26 (5)	18:30	16:47	16:30
9	05:34	05:56 (6)	06:01	06:32	06:52 (5)	07:02	06:37	07:10
	20:32	06:33 (6)	20:06	19:19	35 07:27 (5)	18:29	16:46	16:30
10	05:34	05:57 (6)	06:02	06:33	06:53 (5)	07:03	06:39	07:11
	20:32	06:33 (6)	20:05	19:17	34 07:27 (5)	18:27	16:45	16:30
11	05:35	05:58 (6)	06:03	06:34	06:54 (5)	07:04	06:40	07:12
	20:32	06:33 (6)	20:03	19:16	33 07:27 (5)	18:25	16:44	16:30
12	05:36	05:58 (6)	06:04	06:35	06:55 (5)	07:05	06:41	07:13
	20:31	06:32 (6)	20:02	19:14	32 07:27 (5)	18:24	16:43	16:30
13	05:36	05:59 (6)	06:05	06:36	06:56 (5)	07:06	06:42	07:14
	20:31	06:32 (6)	20:01	19:12	31 07:27 (5)	18:22	16:42	16:30
14	05:37	06:00 (6)	06:06	06:37	06:57 (5)	07:07	06:43	07:15
	20:30	06:31 (6)	19:59	19:11	29 07:26 (5)	18:21	16:41	16:30
15	05:38	06:00 (6)	06:07	06:38	06:58 (5)	07:08	06:44	07:15
	20:29	06:30 (6)	19:58	19:09	28 07:26 (5)	18:19	16:40	16:30
16	05:39	06:01 (6)	06:08	06:39	06:59 (5)	07:10	06:46	07:16
	20:29	06:29 (6)	19:57	19:07	26 07:25 (5)	18:18	16:39	16:31
17	05:40	06:02 (6)	06:09	06:40	07:00 (5)	07:11	06:47	07:17
	20:28	06:29 (6)	19:55	19:05	24 07:24 (5)	18:16	16:39	16:31
18	05:40	06:03 (6)	06:10	06:41	07:01 (5)	07:12	06:48	07:17
	20:28	06:28 (6)	19:54	19:04	22 07:23 (5)	18:14	16:38	16:31
19	05:41	06:04 (6)	06:11	06:42	07:02 (5)	07:13	06:49	07:18
	20:27	06:27 (6)	19:52	19:02	20 07:22 (5)	18:13	16:37	16:32
20	05:42	06:04 (6)	06:12	06:43	07:03 (5)	07:14	06:50	07:19
	20:26	06:25 (6)	19:51	19:00	17 07:20 (5)	18:11	16:36	16:32
21	05:43	06:05 (6)	06:13	06:43	07:04 (5)	07:15	06:52	07:19
	20:25	06:24 (6)	19:49	18:59	15 07:19 (5)	18:10	16:36	16:32
22	05:44	06:06 (6)	06:14	06:44	07:05 (5)	07:16	06:53	07:20
	20:25	06:23 (6)	19:48	18:57	12 07:17 (5)	18:09	16:35	16:33
23	05:45	06:07 (6)	06:15	06:46	07:06 (5)	07:17	06:54	07:20
	20:24	06:21 (6)	19:46	18:55	8 07:14 (5)	18:07	16:34	16:33
24	05:45	06:08 (6)	06:16	06:47	07:07 (5)	07:19	06:55	07:21
	20:23	06:19 (6)	19:45	18:54	3 07:10 (5)	18:06	16:34	16:34
25	05:46	06:09 (6)	06:17	06:48	06:20	06:56	07:21	
	20:22	7 06:16 (6)	19:43	18:52	17:04	16:33	16:35	
26	05:47	06:10 (6)	06:18	06:49	06:21	06:57	07:21	
	20:21	2 06:12 (6)	19:42	18:50	17:03	16:33	16:35	
27	05:48	06:11 (6)	06:19	06:50	06:22	06:58	07:22	
	20:20	19:40	18:48	17:02	16:32	16:36		
28	05:49	06:20	06:51	06:23	06:59	07:22		
	20:19	19:39	18:47	17:00	16:32	16:36		
29	05:50	06:21	06:52	06:24	07:01	07:22		
	20:18	19:37	18:45	16:59	16:31	16:37		
30	05:51	06:22	06:53	06:25	07:02	07:23		
	20:17	19:35	18:43	16:58	16:31	16:38		
31	05:52	06:23	06:54	06:27	07:03	07:24		
	20:16	19:34	18:42	16:56	16:30	16:39		
Potential sun hours	459	428	375	345	298	288		
Total, worst case	757		559					

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: CumulativeShadow receptor: F - R16.2

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:23	19:48 (11) 19:58 (11)	05:29 20:34	19:56 (11) 20:09 (11)	05:53 20:15	06:24 19:32	06:54 18:42	06:28 16:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:32 17:49	06:41 19:23	05:56 19:55	05:28 20:24	19:49 (11) 19:59 (11)	05:30 20:34	19:56 (11) 20:09 (11)	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:30
3	07:23 16:41	07:08 17:16	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	19:48 (11) 20:00 (11)	05:30 20:34	19:56 (11) 20:09 (11)	05:55 20:13	06:26 19:29	06:56 18:38	06:30 16:53	07:05 16:30
4	07:23 16:42	07:07 17:18	06:29 17:51	06:38 19:25	05:54 19:57	05:27 20:25	19:49 (11) 20:00 (11)	05:31 20:34	19:56 (11) 20:08 (11)	05:56 20:12	06:27 19:27	06:57 18:37	06:31 16:51	07:06 16:30
5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 19:26	05:52 19:58	05:27 20:26	19:50 (11) 20:01 (11)	05:31 20:34	19:56 (11) 20:08 (11)	05:57 20:11	06:28 19:26	06:58 18:35	06:32 16:50	07:07 16:30
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 19:27	05:51 19:59	05:27 20:27	19:49 (11) 20:01 (11)	05:32 20:33	19:56 (11) 20:08 (11)	05:58 20:10	06:29 19:24	06:59 18:33	06:34 16:49	07:08 16:30
7	07:23 16:45	07:03 17:21	06:24 17:55	06:33 19:28	05:50 20:00	05:26 20:28	19:50 (11) 20:02 (11)	05:32 20:33	19:56 (11) 20:08 (11)	05:59 20:08	06:30 19:22	07:00 18:32	06:35 16:48	07:09 16:30
8	07:23 16:46	07:02 17:22	06:23 17:56	06:32 19:29	05:49 20:01	05:26 20:29	19:51 (11) 20:03 (11)	05:33 20:33	19:56 (11) 20:08 (11)	06:00 20:07	06:31 19:21	07:01 18:30	06:36 16:47	07:10 16:30
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:30	05:48 20:02	05:26 20:29	19:51 (11) 20:04 (11)	05:34 20:32	19:56 (11) 20:07 (11)	06:01 20:06	06:32 19:19	07:02 18:28	06:37 16:46	07:10 16:30
10	07:23 16:48	07:00 17:25	06:20 17:58	06:28 19:32	05:46 20:03	05:26 20:29	19:52 (11) 20:04 (11)	05:34 20:32	19:56 (11) 20:07 (11)	06:02 20:05	06:33 19:17	07:03 18:27	06:38 16:45	07:11 16:30
11	07:23 16:49	06:59 17:26	06:18 17:59	06:27 19:33	05:45 20:04	05:25 20:30	19:51 (11) 20:04 (11)	05:35 20:31	19:56 (11) 20:07 (11)	06:03 20:03	06:34 19:16	07:04 18:25	06:40 16:44	07:12 16:30
12	07:22 16:50	06:58 17:28	06:16 18:00	06:25 19:34	05:44 20:05	05:25 20:30	19:52 (11) 20:04 (11)	05:36 20:31	19:56 (11) 20:06 (11)	06:04 20:02	06:35 19:14	07:05 18:24	06:41 16:43	07:13 16:30
13	07:22 16:51	06:56 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 20:31	19:52 (11) 20:05 (11)	05:36 20:31	19:56 (11) 20:06 (11)	06:05 20:01	06:36 19:12	07:06 18:22	06:42 16:42	07:14 16:30
14	07:22 16:52	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 20:31	19:53 (11) 20:05 (11)	05:37 20:30	19:56 (11) 20:05 (11)	06:06 19:59	06:36 19:11	07:07 18:21	06:43 16:41	07:14 16:30
15	07:21 16:54	06:54 17:31	06:11 18:04	06:20 19:37	05:41 20:08	05:25 20:32	19:53 (11) 20:06 (11)	05:38 20:29	19:56 (11) 20:04 (11)	06:07 19:58	06:37 19:09	07:08 18:19	06:44 16:40	07:15 16:30
16	07:21 16:55	06:52 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	19:53 (11) 20:06 (11)	05:39 20:29	19:56 (11) 20:04 (11)	06:08 19:57	06:38 19:07	07:09 18:17	06:46 16:39	07:16 16:31
17	07:20 16:56	06:51 17:34	06:08 18:06	06:17 19:39	05:39 20:10	05:25 20:32	19:54 (11) 20:06 (11)	05:39 20:28	19:56 (11) 20:04 (11)	06:09 19:55	06:39 19:05	07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:06 18:07	06:16 19:40	05:38 20:11	05:25 20:33	19:55 (11) 20:08 (11)	05:40 20:28	19:57 (11) 20:03 (11)	06:10 19:54	06:40 19:04	07:12 18:14	06:48 16:38	07:17 16:31
19	07:19 16:58	06:48 17:36	06:05 18:08	06:14 19:41	05:37 20:12	05:25 20:33	19:55 (11) 20:08 (11)	05:41 20:27	19:57 (11) 20:03 (11)	06:11 19:52	06:41 19:02	07:13 18:13	06:49 16:37	07:18 16:32
20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:33	19:55 (11) 20:08 (11)	05:42 20:26	19:57 (11) 20:01 (11)	06:12 19:51	06:42 19:00	07:14 18:11	06:50 16:36	07:18 16:32
21	07:18 17:00	06:46 17:39	06:01 18:10	06:11 19:43	05:36 20:14	05:26 20:34	19:55 (11) 20:08 (11)	05:43 20:25	19:57 (11) 20:01 (11)	06:13 19:49	06:43 18:59	07:15 18:10	06:51 16:36	07:19 16:32
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	19:48 (11) 19:51 (11)	05:26 20:34	19:58 (11) 20:08 (11)	06:14 20:05	06:44 18:57	07:16 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 18:12	06:08 19:45	05:34 20:16	05:26 20:34	19:47 (11) 19:51 (11)	05:26 20:34	19:56 (11) 20:09 (11)	06:15 20:04	06:45 18:55	07:17 18:07	06:54 16:34	07:20 16:33
24	07:16 17:04	06:41 17:42	05:56 18:13	06:07 19:46	05:33 20:17	05:26 20:34	19:47 (11) 19:52 (11)	05:26 20:34	19:56 (11) 20:09 (11)	06:16 19:45	06:46 18:53	07:18 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:47	05:33 20:18	05:27 20:34	19:47 (11) 19:53 (11)	05:27 20:34	19:56 (11) 20:08 (11)	06:17 19:43	06:47 18:52	07:19 17:04	06:56 16:33	07:21 16:35
26	07:15 17:06	06:38 17:44	05:53 18:16	06:04 19:48	05:32 20:18	05:27 20:34	19:47 (11) 19:54 (11)	05:27 20:34	19:56 (11) 20:09 (11)	06:18 19:42	06:48 18:50	07:20 17:03	06:57 16:33	07:21 16:35
27	07:14 17:08	06:37 17:46	05:51 18:17	06:03 19:50	05:31 20:19	05:27 20:34	19:47 (11) 19:54 (11)	05:27 20:34	19:56 (11) 20:09 (11)	06:19 19:40	06:49 18:48	07:21 17:02	06:58 16:32	07:22 16:36
28	07:13 17:09	06:35 17:47	05:50 18:18	06:01 19:51	05:31 20:20	05:28 20:34	19:47 (11) 19:56 (11)	05:28 20:34	19:56 (11) 20:09 (11)	06:20 19:39	06:51 18:47	07:22 17:00	06:59 16:32	07:22 16:36
29	07:12 17:10	06:48 19:19	06:00 19:52	06:00 20:21	05:30 20:21	05:28 20:34	19:47 (11) 19:56 (11)	05:28 20:34	19:56 (11) 20:09 (11)	06:21 19:37	06:52 18:45	07:23 16:59	07:00 16:31	07:22 16:37
30	07:12 17:11	06:46 19:20	05:59 19:53	05:30 20:22	05:29 20:22	05:29 20:34	19:48 (11) 19:57 (11)	05:29 20:34	19:56 (11) 20:09 (11)	06:22 19:35	06:53 18:43	07:24 16:58	07:02 16:31	07:23 16:38
31	07:11 17:13	06:45 19:21	05:58 19:21	05:30 20:22	05:29 20:22	05:29 20:34	19:47 (11) 19:57 (11)	05:29 20:34	19:56 (11) 20:09 (11)	06:23 19:34	06:54 18:43	07:25 16:56	07:03 16:31	07:24 16:39
Potential sun hours	297	297	369	399	448	452	459	459	428	375	345	298	288	288
Total, worst case					73	371	209							

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: CumulativeShadow receptor: G - R17

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03
	16:40	17:14	17:48	19:22	19:54	20:23	20:34	20:15	19:32	18:42	16:55	16:31
2	07:23	07:09	06:32	06:41	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:30
3	07:23	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05
	16:41	17:16	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:38	16:53	16:30
4	07:23	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:31	07:06
	16:42	17:18	17:51	19:25	19:57	20:25	20:34	20:12	19:27	18:37	16:51	16:30
5	07:23	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30
6	07:23	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08
	16:44	17:20	17:54	19:27	19:59	20:27	20:33	20:10	19:24	18:33	16:49	16:30
7	07:23	07:03	06:24	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09
	16:45	17:21	17:55	19:28	20:00	20:27	20:33	20:08	19:22	18:32	16:48	16:30
8	07:23	07:02	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:09
	16:46	17:23	17:56	19:29	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:37	07:10
	16:47	17:24	17:57	19:30	20:02	20:29	20:32	20:06	19:19	18:29	16:46	16:30
10	07:23	07:00	06:20	06:28	05:46	05:26	05:34	06:02	06:33	07:03	06:38	07:11
	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:17	18:27	16:45	16:30
11	07:23	06:59	06:18	06:27	05:45	05:25	05:35	06:03	06:34	07:04	06:40	07:12
	16:49	17:26	17:59	19:33	20:04	20:30	20:31	20:03	19:16	18:25	16:44	16:30
12	07:22	06:58	06:16	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13
	16:50	17:28	18:00	19:34	20:05	20:30	20:31	20:02	19:14	18:24	16:43	16:30
13	07:22	06:56	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:07	06:43	07:14
	16:52	17:30	18:03	19:36	20:07	20:31	20:30	19:59	19:11	18:21	16:41	16:30
15	07:21	06:54	06:11	06:21	05:41	05:25	05:38	06:07	06:38	07:08	06:44	07:15
	16:54	17:31	18:04	19:37	20:08	20:32	20:29	19:58	19:09	18:19	16:40	16:30
16	07:21	06:52	06:10	06:19	05:40	05:25	05:39	06:08	06:38	07:10	06:46	07:16
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:17	16:39	16:31
17	07:20	06:51	06:08	06:17	05:39	05:25	05:40	06:09	06:39	07:11	06:47	07:17
	16:56	17:34	18:06	19:39	20:10	20:32	20:28	19:55	19:05	18:16	16:39	16:31
18	07:20	06:50	06:06	06:16	05:38	05:25	05:40	06:10	06:40	07:12	06:48	07:17
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:14	16:38	16:31
19	07:19	06:48	06:05	06:14	05:37	05:25	05:41	06:11	06:41	07:13	06:49	07:18
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:42	07:14	06:50	07:18
	16:59	17:37	18:09	19:42	20:13	20:33	20:26	19:51	19:00	18:11	16:36	16:32
21	07:18	06:46	06:01	06:11	05:36	05:26	05:43	06:13	06:43	07:15	06:51	07:19
	17:00	17:39	18:10	19:43	20:14	20:34	20:25	19:49	18:59	18:10	16:36	16:32
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:44	07:16	06:53	07:20
	17:02	17:40	18:11	19:44	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33
23	07:17	06:43	05:58	06:08	05:34	05:26	05:45	06:15	06:45	07:17	06:54	07:20
	17:03	17:41	18:12	19:45	20:16	20:34	20:24	19:46	18:55	18:07	16:34	16:33
24	07:16	06:41	05:56	06:07	05:33	05:26	05:45	06:16	06:46	07:18	06:55	07:21
	17:04	17:42	18:13	19:46	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:47	07:19	06:56	07:21
	17:05	17:43	18:15	19:47	20:18	20:34	20:22	19:43	18:52	17:04	16:33	16:35
26	07:15	06:38	05:53	06:04	05:32	05:27	05:47	06:18	06:48	07:20	06:57	07:21
	17:07	17:44	18:16	19:49	20:18	20:34	20:21	19:42	18:50	17:03	16:33	16:35
27	07:14	06:37	05:51	06:03	05:31	05:27	05:48	06:19	06:50	07:22	06:58	07:22
	17:08	17:46	18:17	19:50	20:19	20:34	20:20	19:40	18:48	17:02	16:32	16:36
28	07:13	06:35	05:50	06:01	05:31	05:28	05:49	06:20	06:51	07:23	06:59	07:22
	17:09	17:47	18:18	19:51	20:20	20:34	20:19	19:39	18:47	17:00	16:32	16:36
29	07:12		06:48	06:00	05:30	05:28	05:50	06:21	06:52	07:24	07:00	07:22
	17:10		19:19	19:52	20:21	20:34	20:18	19:37	18:45	16:59	16:31	16:37
30	07:12		06:46	05:59	05:30	05:29	05:51	06:22	06:53	07:25	07:02	07:23
	17:11		19:20	19:53	20:22	20:34	20:17	19:35	18:43	16:58	16:31	16:38
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23
	17:13		19:21		20:22		20:16	19:34		16:56		16:39
Potential sun hours	297	297	369	399	448	452	459	428	375	345	298	288
Total, worst case												

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: Cumulative Shadow receptor: H - R16.1

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:23	05:29 20:34	20:04 (11) 05:53	05:53 19:32	06:24 18:42	06:54 16:55	06:28 16:31	07:03
2	07:23 16:41	07:09 17:15	06:32 17:49	06:41 19:23	05:56 19:55	05:28 20:24	05:30 20:34	20:03 (11) 05:54	05:54 19:31	06:25 18:40	06:55 16:54	06:29 16:30	07:04
3	07:23 16:41	07:08 17:16	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	20:04 (11) 05:55	05:55 19:29	06:26 18:38	06:56 16:53	06:30 16:30	07:05
4	07:23 16:42	07:07 17:18	06:29 17:51	06:38 19:25	05:54 19:57	05:27 20:25	05:31 20:34	20:04 (11) 05:56	05:56 19:27	06:27 18:37	06:57 16:51	06:31 16:30	07:06
5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 19:26	05:52 19:58	05:27 20:26	20:00 (11) 20:34	20:05 (11) 05:57	05:57 19:26	06:28 18:35	06:58 16:50	06:32 16:30	07:07
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 19:27	05:51 19:59	05:27 20:27	19:59 (11) 20:33	20:05 (11) 05:58	05:58 19:24	06:29 18:33	06:59 16:49	06:34 16:30	07:08
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8	07:23 16:46	07:02 17:23	06:23 17:56	06:32 19:29	05:49 20:01	05:26 20:28	19:59 (11) 20:33	20:07 (11) 06:00	06:00 19:21	06:31 18:30	07:01 16:47	06:36 16:30	07:09
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:30	05:48 20:02	05:26 20:29	19:59 (11) 20:32	06:01 20:06	06:01 19:19	06:32 18:28	07:02 16:46	06:37 16:30	07:10
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18	07:20 16:57	06:50 17:35	06:06 18:07	06:16 19:40	05:38 20:11	05:25 20:33	20:00 (11) 20:28	06:10 19:54	06:10 19:04	06:40 18:14	07:12 16:38	06:48 16:31	07:17
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20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:33	20:00 (11) 20:26	06:12 19:51	06:12 19:00	06:42 18:11	07:14 16:36	06:50 16:32	07:18
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31	07:11 17:13		06:45 19:21		05:29 20:22		05:52 20:16	06:23 19:34		06:27 16:56		07:23 16:39	
Potential sun hours	297	297	369	399	448	452	160	428	375	345	298	288	
Total, worst case													

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: CumulativeShadow receptor: I - R18

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03
	16:40	17:14	17:48	19:22	19:54	20:23	20:34	20:15	19:32	18:42	16:55	16:31
2	07:23	07:09	06:32	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31
3	07:23	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:38	16:53	16:30
4	07:23	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:31	07:06
	16:42	17:18	17:52	19:25	19:57	20:25	20:34	20:12	19:27	18:37	16:52	16:30
5	07:23	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30
6	07:23	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08
	16:44	17:20	17:54	19:27	19:59	20:27	20:33	20:10	19:24	18:33	16:49	16:30
7	07:23	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09
	16:45	17:22	17:55	19:28	20:00	20:27	20:33	20:08	19:22	18:32	16:48	16:30
8	07:23	07:02	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10
	16:46	17:23	17:56	19:29	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:37	07:10
	16:47	17:24	17:57	19:31	20:02	20:29	20:32	20:06	19:19	18:29	16:46	16:30
10	07:23	07:00	06:20	06:28	05:47	05:26	05:34	06:02	06:33	07:03	06:39	07:11
	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:17	18:27	16:45	16:30
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12
	16:49	17:26	17:59	19:33	20:04	20:30	20:32	20:03	19:16	18:25	16:44	16:30
12	07:22	06:58	06:16	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13
	16:50	17:28	18:01	19:34	20:05	20:30	20:31	20:02	19:14	18:24	16:43	16:30
13	07:22	06:56	06:15	06:24	05:43	05:25	05:37	06:05	06:36	07:06	06:42	07:14
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:07	06:43	07:15
	16:53	17:30	18:03	19:36	20:07	20:31	20:30	19:59	19:11	18:21	16:41	16:30
15	07:21	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:08	06:44	07:15
	16:54	17:31	18:04	19:37	20:08	20:32	20:29	19:58	19:09	18:19	16:40	16:30
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17
	16:56	17:34	18:06	19:39	20:10	20:32	20:28	19:55	19:06	18:16	16:39	16:31
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:17
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31
19	07:20	06:48	06:05	06:14	05:38	05:26	05:41	06:11	06:42	07:13	06:49	07:18
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:50	07:19
	16:59	17:37	18:09	19:42	20:13	20:33	20:26	19:51	19:00	18:12	16:36	16:32
21	07:18	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19
	17:01	17:39	18:10	19:43	20:14	20:34	20:25	19:49	18:59	18:10	16:36	16:33
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20
	17:02	17:40	18:11	19:44	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:17	06:54	07:20
	17:03	17:41	18:12	19:45	20:16	20:34	20:24	19:46	18:55	18:07	16:34	16:33
24	07:16	06:41	05:57	06:07	05:33	05:26	05:46	06:16	06:47	07:19	06:55	07:21
	17:04	17:42	18:14	19:46	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	07:20	06:56	07:21
	17:05	17:43	18:15	19:47	20:18	20:34	20:22	19:43	18:52	17:04	16:33	16:35
26	07:15	06:38	05:53	06:04	05:32	05:27	05:47	06:18	06:49	07:21	06:57	07:21
	17:07	17:45	18:16	19:49	20:18	20:34	20:21	19:42	18:50	17:03	16:33	16:35
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	17:08	17:46	18:17	19:50	20:19	20:34	20:20	19:40	18:48	17:02	16:32	16:36
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	17:09	17:47	18:18	19:51	20:20	20:34	20:19	19:39	18:47	17:00	16:32	16:37
29	07:12		06:48	06:00	05:30	05:28	05:50	06:21	06:52	07:24	07:01	07:22
	17:10		19:19	19:52	20:21	20:34	20:18	19:37	18:45	16:59	16:32	16:37
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	07:25	07:02	07:23
	17:12		19:20	19:53	20:22	20:34	20:17	19:35	18:43	16:58	16:31	16:38
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23
	17:13		19:21		20:23		20:16	19:34		16:56		16:39
Potential sun hours	298	297	369	399	448	452	459	428	375	345	298	288
Total, worst case												

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: CumulativeShadow receptor: J - R02

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	18:53 (1) 19:01 (1)	05:57 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 19:32	06:54 18:42	06:28 16:55
2	07:23 16:41	07:09 17:15	06:32 17:49	06:42 19:23	18:53 (1) 19:02 (1)	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54
3	07:23 16:42	07:08 17:17	06:31 17:50	06:40 19:24	18:53 (1) 19:03 (1)	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:38	06:30 16:53
4	07:23 16:42	07:07 17:18	06:29 17:52	06:38 19:25	18:54 (1) 19:04 (1)	05:54 19:57	05:27 20:25	05:31 20:34	05:56 20:12	06:27 19:27	18:58 (1) 19:04 (1)	06:57 18:37
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11	07:23 16:49	06:59 17:27	06:18 17:59	06:27 19:33	05:45 20:04	05:26 20:30	05:35 20:32	06:03 20:03	06:34 19:16	06:34 19:16	18:45 (1) 18:53 (1)	07:04 18:25
12	07:22 16:50	06:58 17:28	06:16 18:01	06:25 19:34	05:44 20:05	05:25 20:30	05:36 20:31	06:04 20:02	06:35 19:14	06:35 19:14	18:44 (1) 18:52 (1)	07:05 18:24
13	07:22 16:51	06:56 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 20:31	05:37 20:31	06:05 20:01	06:36 19:12	06:36 19:12	18:44 (1) 18:50 (1)	07:06 18:22
14	07:22 16:53	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 20:31	05:37 20:30	06:06 19:59	06:37 19:11	06:37 19:11	18:44 (1) 18:49 (1)	07:07 18:21
15	07:21 16:54	06:54 17:31	06:12 18:04	06:21 19:37	05:41 20:08	05:25 20:32	05:38 20:30	06:07 19:58	06:38 19:09	06:38 19:09	18:43 (1) 18:47 (1)	07:08 18:19
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:39 19:07	06:39 19:07	18:44 (1) 18:45 (1)	07:10 18:18
17	07:21 16:56	06:51 17:34	06:08 18:06	06:18 19:39	05:39 20:10	05:25 20:32	05:40 20:28	06:09 19:55	06:40 19:06	06:40 19:06	07:11 18:16	06:47 16:39
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 19:04	06:41 19:04	07:12 18:15	06:48 16:38
19	07:20 16:58	06:49 17:36	06:05 18:08	06:14 19:41	05:38 20:12	05:26 20:33	05:41 20:27	06:11 19:52	06:42 19:02	06:42 19:02	07:13 18:13	06:49 16:37
20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:33	05:42 20:26	06:12 19:51	06:43 19:00	06:43 19:00	07:14 18:12	06:50 16:36
21	07:18 17:01	06:46 17:39	06:02 18:10	06:11 19:43	05:36 20:14	05:26 20:34	05:43 20:25	06:13 19:49	06:44 18:59	06:44 18:59	07:15 18:10	06:52 16:36
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	06:45 18:57	07:16 18:09	06:53 16:35
23	07:17 17:03	06:43 17:41	05:58 18:12	06:09 19:45	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:46	06:46 18:55	06:46 18:55	07:17 18:07	06:54 16:34
24	07:16 17:04	06:41 17:42	05:57 18:14	06:07 19:46	05:34 20:17	05:27 20:34	05:46 20:23	06:16 19:45	06:47 18:54	06:47 18:54	07:19 18:06	06:55 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:34	05:46 20:22	06:17 19:43	06:48 18:52	06:48 18:52	07:20 17:04	06:56 16:33
26	07:15 17:07	06:38 17:45	05:53 18:16	06:04 19:49	05:32 20:18	05:27 20:34	05:47 20:21	06:18 19:42	06:49 18:50	06:49 18:50	07:21 17:03	06:57 16:33
27	07:14 17:08	06:37 17:46	05:52 18:17	17:54 (1) 19:50	06:03 19:50	05:27 20:34	05:48 20:20	06:19 19:40	06:50 18:49	06:50 18:49	07:22 17:02	06:58 16:32
28	07:13 17:09	06:35 17:47	05:50 18:18	17:53 (1) 19:51	06:02 19:51	05:28 20:34	05:49 20:19	06:20 19:39	06:51 18:47	06:51 18:47	07:23 17:00	06:59 16:32
29	07:13 17:10	06:34 17:47	05:48 18:19	18:53 (1) 19:52	06:00 19:52	05:28 20:34	05:50 20:18	06:21 19:37	06:52 18:45	06:52 18:45	07:24 16:59	07:01 16:32
30	07:12 17:12	06:33 17:46	05:47 18:20	18:53 (1) 19:53	05:59 19:53	05:29 20:34	05:51 20:17	06:22 19:35	06:53 18:43	06:53 18:43	07:25 16:58	07:02 16:31
31	07:11 17:13	06:32 17:45	05:45 18:21	18:52 (1) 19:54	05:58 19:54	05:29 20:34	05:52 20:16	06:23 19:34	06:54 18:42	06:54 18:42	07:26 16:56	07:23 16:30
Potential sun hours	298	297	369	399	448	452	459	428	375	345	298	288
Total, worst case			23	73					98			

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: CumulativeShadow receptor: K - R19

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
 - 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:23	19:49 (1) 20:34	05:29 20:09 (1)	19:56 (1) 20:15	06:24 19:32	06:54 18:42	06:28 16:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:32 17:49	06:42 19:23	05:56 19:55	05:28 20:24	19:50 (1) 20:34	05:30 20:08 (1)	19:56 (1) 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:31
3	07:23 16:42	07:08 17:17	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	19:49 (1) 20:34	05:30 20:09 (1)	19:57 (1) 20:13	06:26 19:29	06:56 18:38	06:30 16:53	07:05 16:30
4	07:23 16:42	07:07 17:18	06:29 17:52	06:38 19:25	05:54 19:57	05:27 20:25	19:50 (1) 20:34	05:31 20:00 (1)	19:57 (1) 20:12	06:27 19:27	06:57 18:37	06:31 16:52	07:06 16:30
5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 19:26	05:52 19:58	05:27 20:26	19:50 (1) 20:34	05:31 20:01 (1)	19:57 (1) 20:11	06:28 19:26	06:58 18:35	06:33 16:50	07:07 16:30
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 19:27	05:51 19:59	05:27 20:27	19:50 (1) 20:33	05:32 20:01 (1)	19:56 (1) 20:10	06:29 19:24	06:59 18:33	06:34 16:49	07:08 16:30
7	07:23 16:45	07:04 17:22	06:25 17:55	06:33 19:28	05:50 20:00	05:26 20:27	19:50 (1) 20:33	05:32 20:02 (1)	19:57 (1) 20:08	06:30 19:22	07:00 18:32	06:35 16:48	07:09 16:30
8	07:23 16:46	07:02 17:23	06:23 17:56	06:32 19:29	05:49 20:01	05:26 20:28	19:51 (1) 20:33	05:33 20:03 (1)	19:57 (1) 20:07	06:00 19:21	06:31 18:30	06:36 16:47	07:09 16:30
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:31	05:48 20:02	05:26 20:29	19:51 (1) 20:34	05:34 20:04 (1)	19:57 (1) 20:06	06:32 19:19	07:02 18:29	06:37 16:46	07:10 16:30
10	07:23 16:48	07:00 17:25	06:20 17:58	06:29 19:32	05:47 20:03	05:26 20:29	19:52 (1) 20:34	05:34 20:04 (1)	19:57 (1) 20:05	06:02 19:17	06:33 18:27	07:03 16:45	06:39 16:30
11	07:23 16:49	06:59 17:27	06:18 17:59	06:27 19:33	05:45 20:04	05:26 20:30	19:52 (1) 20:32	05:35 20:05 (1)	19:57 (1) 20:03	06:34 19:16	07:04 18:25	06:40 16:44	07:12 16:30
12	07:22 16:50	06:58 17:28	06:16 18:01	06:25 19:34	05:44 20:05	05:26 20:30	19:53 (1) 20:31	05:36 20:05 (1)	19:57 (1) 20:02	06:35 19:14	07:05 18:24	06:41 16:43	07:13 16:30
13	07:22 16:51	06:56 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 20:31	19:52 (1) 20:31	05:37 20:05 (1)	19:57 (1) 20:01	06:36 19:12	07:06 18:22	06:42 16:42	07:14 16:30
14	07:22 16:53	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 20:31	19:52 (1) 20:30	05:37 20:05 (1)	19:58 (1) 19:59	06:37 19:11	07:07 18:21	06:43 16:41	07:15 16:30
15	07:21 16:54	06:54 17:31	06:12 18:04	06:21 19:37	05:41 20:08	05:25 20:32	19:54 (1) 20:29	05:38 20:07 (1)	19:58 (1) 19:58	06:38 19:09	07:08 18:19	06:44 16:40	07:15 16:30
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	19:54 (1) 20:29	05:39 20:07 (1)	19:58 (1) 19:57	06:39 19:07	07:10 18:18	06:46 16:39	07:16 16:31
17	07:21 16:56	06:51 17:34	06:08 18:06	06:18 19:39	05:39 20:10	05:25 20:32	19:54 (1) 20:28	05:40 20:07 (1)	19:58 (1) 19:55	06:40 19:06	07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:25 20:33	19:54 (1) 20:28	05:40 20:08 (1)	19:59 (1) 19:54	06:41 19:04	07:12 18:15	06:48 16:38	07:17 16:31
19	07:20 16:58	06:49 17:36	06:05 18:08	06:14 19:41	05:38 20:12	05:26 20:33	19:54 (1) 20:27	05:41 20:08 (1)	20:00 (1) 19:52	06:42 19:02	07:13 18:13	06:49 16:37	07:18 16:32
20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:33	19:54 (1) 20:26	05:42 20:08 (1)	20:00 (1) 19:51	06:43 19:00	07:14 18:12	06:50 16:36	07:19 16:32
21	07:18 17:01	06:46 17:39	06:02 18:10	06:12 19:43	05:36 20:14	05:26 20:34	19:54 (1) 20:25	05:43 20:08 (1)	20:00 (1) 19:49	06:44 18:59	07:15 18:10	06:52 16:36	07:19 16:33
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	19:54 (1) 20:25	05:44 20:08 (1)	06:14 19:48	06:45 18:57	07:16 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 18:12	06:09 19:45	05:34 20:16	05:26 20:34	19:55 (1) 20:24	05:45 20:09 (1)	06:15 19:46	06:46 18:55	07:17 18:07	06:54 16:34	07:20 16:34
24	07:16 17:04	06:41 17:42	05:57 18:14	06:07 19:46	05:34 20:17	05:27 20:34	19:49 (1) 20:24	05:46 20:09 (1)	06:16 19:45	06:47 18:54	07:19 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:34	19:50 (1) 20:22	05:47 20:08 (1)	06:17 19:43	06:48 18:52	06:20 17:04	06:56 16:33	07:21 16:35
26	07:15 17:07	06:38 17:45	05:53 18:16	06:04 19:49	05:32 20:18	05:27 20:34	19:49 (1) 20:21	05:47 20:09 (1)	06:18 19:42	06:49 18:50	06:21 17:03	06:57 16:33	07:21 16:35
27	07:14 17:08	06:37 17:46	05:52 18:17	06:03 19:50	05:31 20:19	05:27 20:34	19:50 (1) 20:20	05:48 20:09 (1)	06:19 19:40	06:50 18:49	06:22 17:02	06:58 16:32	07:22 16:36
28	07:13 17:09	06:35 17:47	05:50 18:18	06:02 19:51	05:31 20:20	05:28 20:34	19:49 (1) 20:19	05:49 20:08 (1)	06:20 19:39	06:51 18:47	06:23 17:00	06:59 16:32	07:22 16:37
29	07:12 17:10	06:48 17:19	05:50 18:19	06:00 19:52	05:30 20:21	05:28 20:34	19:49 (1) 20:18	05:50 20:09 (1)	06:21 19:37	06:52 18:45	06:24 16:59	07:01 16:32	07:22 16:37
30	07:12 17:12	06:47 17:20	05:59 18:20	05:30 19:53	05:30 20:22	05:29 20:34	19:49 (1) 20:17	05:29 20:09 (1)	06:22 19:35	06:53 18:43	06:25 16:58	07:02 16:31	07:23 16:38
31	07:11 17:13	06:45 19:21	05:50 19:21	05:29 20:23	05:29 20:23	05:29 20:34	19:50 (1) 19:58 (1)	05:52 20:16	06:23 19:34	06:27 16:56	06:27 16:56	06:27 16:56	07:23 16:39
Potential sun hours	298	297	369	399	448	47	452	459	428	375	345	298	288
Total, worst case							375	178					

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: CumulativeShadow receptor: L - R20

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03
	16:40	17:14	17:48	19:22	19:54	20:23	20:34	20:15	19:32	18:42	16:55	16:31
2	07:23	07:09	06:32	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31
3	07:23	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:38	16:53	16:30
4	07:23	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:31	07:06
	16:42	17:18	17:52	19:25	19:57	20:25	20:34	20:12	19:27	18:37	16:52	16:30
5	07:23	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07
	16:43	17:19	17:53	19:26	19:58	20:26	20:33	20:11	19:26	18:35	16:50	16:30
6	07:23	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08
	16:44	17:20	17:54	19:27	19:59	20:27	20:33	20:10	19:24	18:33	16:49	16:30
7	07:23	07:03	06:24	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09
	16:45	17:22	17:55	19:28	20:00	20:27	20:33	20:08	19:22	18:32	16:48	16:30
8	07:23	07:02	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:09
	16:46	17:23	17:56	19:29	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:37	07:10
	16:47	17:24	17:57	19:31	20:02	20:29	20:32	20:06	19:19	18:29	16:46	16:30
10	07:23	07:00	06:20	06:28	05:47	05:26	05:34	06:02	06:33	07:03	06:38	07:11
	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:17	18:27	16:45	16:30
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12
	16:49	17:27	17:59	19:33	20:04	20:30	20:31	20:03	19:16	18:25	16:44	16:30
12	07:22	06:58	06:16	06:25	05:44	05:26	05:36	06:04	06:35	07:05	06:41	07:13
	16:50	17:28	18:00	19:34	20:05	20:30	20:31	20:02	19:14	18:24	16:43	16:30
13	07:22	06:56	06:15	06:24	05:43	05:25	05:37	06:05	06:36	07:06	06:42	07:14
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:07	06:43	07:14
	16:53	17:30	18:03	19:36	20:07	20:31	20:30	19:59	19:11	18:21	16:41	16:30
15	07:21	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:08	06:44	07:15
	16:54	17:31	18:04	19:37	20:08	20:32	20:29	19:58	19:09	18:19	16:40	16:30
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31
17	07:20	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17
	16:56	17:34	18:06	19:39	20:10	20:32	20:28	19:55	19:05	18:16	16:39	16:31
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:17
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31
19	07:19	06:48	06:05	06:14	05:38	05:26	05:41	06:11	06:42	07:13	06:49	07:18
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:50	07:18
	16:59	17:37	18:09	19:42	20:13	20:33	20:26	19:51	19:00	18:12	16:36	16:32
21	07:18	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:51	07:19
	17:01	17:39	18:10	19:43	20:14	20:33	20:25	19:49	18:59	18:10	16:36	16:33
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20
	17:02	17:40	18:11	19:44	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:17	06:54	07:20
	17:03	17:41	18:12	19:45	20:16	20:34	20:24	19:46	18:55	18:07	16:34	16:34
24	07:16	06:41	05:57	06:07	05:34	05:27	05:46	06:16	06:47	07:18	06:55	07:21
	17:04	17:42	18:14	19:46	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	07:19	06:56	07:21
	17:05	17:43	18:15	19:47	20:17	20:34	20:22	19:43	18:52	17:04	16:33	16:35
26	07:15	06:38	05:53	06:04	05:32	05:27	05:47	06:18	06:49	07:20	06:57	07:21
	17:07	17:45	18:16	19:49	20:18	20:34	20:21	19:42	18:50	17:03	16:33	16:35
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	07:21	06:58	07:22
	17:08	17:46	18:17	19:50	20:19	20:34	20:20	19:40	18:48	17:02	16:32	16:36
28	07:13	06:35	05:50	06:02	05:31	05:28	05:49	06:20	06:51	07:22	06:59	07:22
	17:09	17:47	18:18	19:51	20:20	20:34	20:19	19:39	18:47	17:00	16:32	16:37
29	07:12		06:48	06:00	05:30	05:28	05:50	06:21	06:52	07:23	07:00	07:22
	17:10		19:19	19:52	20:21	20:34	20:18	19:37	18:45	16:59	16:32	16:37
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	07:24	07:02	07:23
	17:12		19:20	19:53	20:22	20:34	20:17	19:35	18:43	16:58	16:31	16:38
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23
	17:13		19:21		20:22		20:16	19:34		16:56		16:39
Potential sun hours	298	297	369	399	448	452	459	428	375	345	298	288
Total, worst case												

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: CumulativeShadow receptor: M - R21

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03
	16:40	17:14	17:48	19:22	19:54	20:23	20:34	20:15	19:32	18:42	16:55	16:31
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	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31
3	07:23	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:38	16:53	16:30
4	07:23	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:31	07:06
	16:42	17:18	17:52	19:25	19:57	20:25	20:34	20:12	19:27	18:37	16:52	16:30
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	16:44	17:20	17:54	19:27	19:59	20:27	20:33	20:10	19:24	18:33	16:49	16:30
7	07:23	07:03	06:24	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09
	16:45	17:22	17:55	19:28	20:00	20:27	20:33	20:08	19:22	18:32	16:48	16:30
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	16:47	17:24	17:57	19:31	20:02	20:29	20:32	20:06	19:19	18:29	16:46	16:30
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12	07:22	06:58	06:16	06:25	05:44	05:26	05:36	06:04	06:35	07:05	06:41	07:13
	16:50	17:28	18:00	19:34	20:05	20:30	20:31	20:02	19:14	18:24	16:43	16:30
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	16:54	17:31	18:04	19:37	20:08	20:32	20:29	19:58	19:09	18:19	16:40	16:30
16	07:21	06:52	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31
17	07:20	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17
	16:56	17:34	18:06	19:39	20:10	20:32	20:28	19:55	19:05	18:16	16:39	16:31
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:17
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31
19	07:19	06:48	06:05	06:14	05:38	05:26	05:41	06:11	06:42	07:13	06:49	07:18
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:50	07:18
	16:59	17:37	18:09	19:42	20:13	20:33	20:26	19:51	19:00	18:12	16:36	16:32
21	07:18	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:51	07:19
	17:01	17:39	18:10	19:43	20:14	20:33	20:25	19:49	18:59	18:10	16:36	16:33
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20
	17:02	17:40	18:11	19:44	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:17	06:54	07:20
	17:03	17:41	18:12	19:45	20:16	20:34	20:24	19:46	18:55	18:07	16:34	16:34
24	07:16	06:41	05:57	06:07	05:34	05:27	05:46	06:16	06:47	07:18	06:55	07:21
	17:04	17:42	18:14	19:46	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34
25	07:16	06:40	05:55	06:06	05:33	05:27	05:47	06:17	06:48	07:19	06:56	07:21
	17:05	17:43	18:15	19:47	20:17	20:34	20:22	19:43	18:52	17:04	16:33	16:35
26	07:15	06:38	05:53	06:04	05:32	05:27	05:47	06:18	06:49	07:20	06:57	07:21
	17:07	17:45	18:16	19:49	20:18	20:34	20:21	19:42	18:50	17:03	16:33	16:35
27	07:14	06:37	05:52	06:03	05:31	05:28	05:48	06:19	06:50	07:21	06:58	07:22
	17:08	17:46	18:17	19:50	20:19	20:34	20:20	19:40	18:48	17:02	16:32	16:36
28	07:13	06:35	05:50	06:02	05:31	05:28	05:49	06:20	06:51	07:22	06:59	07:22
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29	07:12		06:48	06:00	05:30	05:28	05:50	06:21	06:52	07:23	07:00	07:22
	17:10		19:19	19:52	20:21	20:34	20:18	19:37	18:45	16:59	16:32	16:37
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	07:24	07:02	07:23
	17:12		19:20	19:53	20:22	20:34	20:17	19:35	18:43	16:58	16:31	16:38
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23
	17:13		19:21		20:22		20:16	19:34		16:56		16:39
Potential sun hours	298	297	369	399	448	452	459	428	375	345	298	288
Total, worst case												

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: CumulativeShadow receptor: N - R22

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:43	05:58	05:29	05:29	05:53	06:24	06:54	06:28	07:03
	16:40	17:14	17:48	19:22	19:54	20:23	20:34	20:15	19:32	18:42	16:55	16:31
2	07:23	07:09	06:32	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31
3	07:23	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:38	16:53	16:30
4	07:23	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:31	07:06
	16:42	17:18	17:52	19:25	19:57	20:25	20:34	20:12	19:27	18:37	16:52	16:30
5	07:23	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07
	16:43	17:19	17:53	19:26	19:58	20:26	20:33	20:11	19:26	18:35	16:50	16:30
6	07:23	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08
	16:44	17:20	17:54	19:27	19:59	20:27	20:33	20:10	19:24	18:33	16:49	16:30
7	07:23	07:03	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09
	16:45	17:22	17:55	19:28	20:00	20:27	20:33	20:08	19:22	18:32	16:48	16:30
8	07:23	07:02	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:09
	16:46	17:23	17:56	19:29	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:37	07:10
	16:47	17:24	17:57	19:31	20:02	20:29	20:32	20:06	19:19	18:29	16:46	16:30
10	07:23	07:00	06:20	06:29	05:47	05:26	05:34	06:02	06:33	07:03	06:38	07:11
	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:17	18:27	16:45	16:30
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12
	16:49	17:27	17:59	19:33	20:04	20:30	20:31	20:03	19:16	18:25	16:44	16:30
12	07:22	06:58	06:16	06:25	05:44	05:26	05:36	06:04	06:35	07:05	06:41	07:13
	16:50	17:28	18:01	19:34	20:05	20:30	20:31	20:02	19:14	18:24	16:43	16:30
13	07:22	06:56	06:15	06:24	05:43	05:25	05:37	06:05	06:36	07:06	06:42	07:14
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:07	06:43	07:14
	16:53	17:30	18:03	19:36	20:07	20:31	20:30	19:59	19:11	18:21	16:41	16:30
15	07:21	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:08	06:44	07:15
	16:54	17:31	18:04	19:37	20:08	20:32	20:29	19:58	19:09	18:19	16:40	16:30
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31
17	07:20	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17
	16:56	17:34	18:06	19:39	20:10	20:32	20:28	19:55	19:06	18:16	16:39	16:31
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:17
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31
19	07:19	06:48	06:05	06:14	05:38	05:26	05:41	06:11	06:42	07:13	06:49	07:18
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:50	07:18
	16:59	17:37	18:09	19:42	20:13	20:33	20:26	19:51	19:00	18:12	16:36	16:32
21	07:18	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:51	07:19
	17:01	17:39	18:10	19:43	20:14	20:33	20:25	19:49	18:59	18:10	16:36	16:33
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20
	17:02	17:40	18:11	19:44	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:17	06:54	07:20
	17:03	17:41	18:12	19:45	20:16	20:34	20:24	19:46	18:55	18:07	16:34	16:34
24	07:16	06:41	05:57	06:07	05:34	05:27	05:46	06:16	06:47	07:18	06:55	07:21
	17:04	17:42	18:14	19:46	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34
25	07:16	06:40	05:55	06:06	05:33	05:27	05:47	06:17	06:48	07:19	06:56	07:21
	17:05	17:43	18:15	19:47	20:17	20:34	20:22	19:43	18:52	17:04	16:33	16:35
26	07:15	06:38	05:53	06:04	05:32	05:27	05:47	06:18	06:49	07:20	06:57	07:21
	17:07	17:45	18:16	19:49	20:18	20:34	20:21	19:42	18:50	17:03	16:33	16:35
27	07:14	06:37	05:52	06:03	05:32	05:28	05:48	06:19	06:50	07:21	06:58	07:22
	17:08	17:46	18:17	19:50	20:19	20:34	20:20	19:40	18:48	17:02	16:32	16:36
28	07:13	06:35	05:50	06:02	05:31	05:28	05:49	06:20	06:51	07:22	06:59	07:22
	17:09	17:47	18:18	19:51	20:20	20:34	20:19	19:39	18:47	17:00	16:32	16:37
29	07:12		06:48	06:00	05:30	05:28	05:50	06:21	06:52	07:23	07:00	07:22
	17:10		19:19	19:52	20:21	20:34	20:18	19:37	18:45	16:59	16:32	16:37
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	07:24	07:02	07:23
	17:12		19:20	19:53	20:22	20:34	20:17	19:35	18:43	16:58	16:31	16:38
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23
	17:13		19:21		20:22		20:16	19:34		16:56		16:39
Potential sun hours	298	297	369	399	448	452	459	428	375	345	298	288
Total, worst case												

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 per WTG

Calculation: Cumulative WTG: 1 - AG01

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 18:53-19:01/8 19:22	05:58 19:54	05:29 19:49-19:58/9 20:23
2	07:23 16:41	07:09 17:15	06:32 17:49	06:42 18:53-19:02/9 19:23	05:56 19:55	05:28 19:50-19:59/9 20:24
3	07:23 16:42	07:08 17:17	06:31 17:50	06:40 18:53-19:03/10 19:24	05:55 19:56	05:28 19:49-19:59/10 20:25
4	07:23 16:43	07:07 17:18	06:29 17:52	06:38 18:54-19:04/10 19:25	05:54 19:57	05:27 19:50-20:00/10 20:26
5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 18:54-19:05/11 19:26	05:52 19:58	05:27 19:50-20:01/11 20:26
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 18:55-19:05/10 19:27	05:51 19:59	05:27 19:50-20:01/11 20:27
7	07:23 16:45	07:04 17:22	06:25 17:55	06:33 18:58-19:07/9 19:28	05:50 20:00	05:26 19:50-20:02/12 20:28
8	07:23 16:46	07:02 17:23	06:23 17:56	06:32 19:01-19:07/6 19:30	05:49 20:01	05:26 19:51-20:03/12 20:28
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:31	05:48 20:02	05:26 19:51-20:04/13 20:29
10	07:23 16:48	07:00 17:25	06:20 17:58	06:29 19:32	05:47 20:03	05:26 19:52-20:04/12 20:29
11	07:23 16:49	06:59 17:27	06:18 17:59	06:27 19:33	05:45 20:04	05:26 19:52-20:05/13 20:30
12	07:22 16:50	06:58 17:28	06:17 18:01	06:25 19:34	05:44 20:05	05:26 19:53-20:05/12 20:30
13	07:22 16:52	06:56 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 19:52-20:05/13 20:31
14	07:22 16:53	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 19:52-20:05/13 20:31
15	07:21 16:54	06:54 17:31	06:12 18:04	06:21 19:37	05:41 20:08	05:25 19:54-20:07/13 20:32
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 19:54-20:07/13 20:32
17	07:21 16:56	06:51 17:34	06:08 18:06	06:18 19:39	05:39 20:10	05:25 19:54-20:07/13 20:32
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:25 19:54-20:08/14 20:33
19	07:20 16:58	06:49 17:36	06:05 18:08	06:15 19:41	05:38 20:12	05:26 19:54-20:08/14 20:33
20	07:19 16:59	06:47 17:38	06:03 18:09	06:13 19:42	05:37 20:13	05:26 19:54-20:08/14 20:33
21	07:18 17:01	06:46 17:39	06:02 18:10	06:12 19:43	05:36 20:14	05:26 19:54-20:08/14 20:34
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 19:54-20:08/14 20:34
23	07:17 17:03	06:43 17:41	05:58 18:13	06:09 19:45	05:34 19:50-19:51/1 20:16	05:26 19:55-20:09/14 20:34
24	07:16 17:04	06:41 17:42	05:57 18:14	06:07 19:47	05:34 19:49-19:52/3 20:17	05:27 19:55-20:09/14 20:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:48	05:33 19:50-19:53/3 20:18	05:27 19:55-20:08/13 20:34
26	07:15 17:07	06:39 17:45	05:53 18:16	06:04 19:49	05:32 19:49-19:54/5 20:18	05:27 19:56-20:09/13 20:34
27	07:14 17:08	06:37 17:46	05:52 17:54-17:56/2 18:17	06:03 19:50	05:32 19:50-19:55/5 20:19	05:28 19:56-20:09/13 20:34
28	07:13 17:09	06:35 17:47	05:50 17:53-17:56/3 18:18	06:02 19:51	05:31 19:49-19:55/6 20:20	05:28 19:55-20:08/13 20:34
29	07:13 17:10		06:48 18:53-18:58/5 19:19	06:00 19:52	05:30 19:49-19:56/7 20:21	05:28 19:56-20:09/13 20:34
30	07:12 17:12		06:47 18:53-18:59/6 19:20	05:59 19:53	05:30 19:49-19:57/8 20:22	05:29 19:56-20:09/13 20:34
31	07:11 17:13		06:45 18:52-18:59/7 19:21		05:29 19:50-19:58/8 20:23	
Potential sun hours	298	297	369	399	448	452
Sum of minutes with flicker	0	0	23	73	46	375

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: Cumulative WTG: 1 - AG01

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	July	August	September	October	November	December
1	05:29 19:56-20:09/13	05:53 20:15	06:24 19:32	06:54 18:42	06:28 16:55	07:03 16:31
2	05:30 19:56-20:08/12	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:31
3	05:30 19:57-20:09/12	05:55 20:13	06:26 19:29	06:56 18:38	06:30 16:53	07:05 16:30
4	05:31 19:56-20:08/12	05:56 20:12	06:27 18:58-19:04/6	06:57 18:37	06:31 16:52	07:06 16:30
5	05:31 19:57-20:08/11	05:57 20:11	06:28 18:54-19:03/9	06:58 18:35	06:33 16:50	07:07 16:30
6	05:32 19:56-20:08/12	05:58 20:10	06:29 18:51-19:02/11	06:59 18:34	06:34 16:49	07:08 16:30
7	05:33 19:57-20:08/11	05:59 20:08	06:30 18:50-19:00/10	07:00 18:32	06:35 16:48	07:09 16:30
8	05:33 19:57-20:08/11	06:00 20:07	06:31 18:48-18:58/10	07:01 18:30	06:36 16:47	07:10 16:30
9	05:34 19:57-20:07/10	06:01 20:06	06:32 18:47-18:57/10	07:02 18:29	06:37 16:46	07:10 16:30
10	05:34 19:57-20:07/10	06:02 20:05	06:33 18:46-18:55/9	07:03 18:27	06:39 16:45	07:11 16:30
11	05:35 19:57-20:07/10	06:03 20:03	06:34 18:45-18:53/8	07:04 18:25	06:40 16:44	07:12 16:30
12	05:36 19:57-20:06/9	06:04 20:02	06:35 18:44-18:52/8	07:05 18:24	06:41 16:43	07:13 16:30
13	05:37 19:57-20:06/9	06:05 20:01	06:36 18:44-18:50/6	07:06 18:22	06:42 16:42	07:14 16:30
14	05:37 19:58-20:05/7	06:06 19:59	06:37 18:44-18:49/5	07:07 18:21	06:43 16:41	07:15 16:30
15	05:38 19:58-20:05/7	06:07 19:58	06:38 18:43-18:47/4	07:09 18:19	06:45 16:40	07:15 16:30
16	05:39 19:58-20:04/6	06:08 19:57	06:39 18:44-18:45/1	07:10 18:18	06:46 16:40	07:16 16:31
17	05:40 19:58-20:03/5	06:09 19:55	06:40 19:06	07:11 18:16	06:47 16:39	07:17 16:31
18	05:40 19:59-20:03/4	06:10 19:54	06:41 19:04	07:12 18:15	06:48 16:38	07:17 16:31
19	05:41 20:00-20:03/3	06:11 19:52	06:42 19:02	07:13 18:13	06:49 16:37	07:18 16:32
20	05:42 20:00-20:02/2	06:12 19:51	06:43 19:00	07:14 18:12	06:50 16:36	07:19 16:32
21	05:43 20:00-20:01/1	06:13 19:49	06:44 18:59	07:15 18:10	06:52 16:36	07:19 16:33
22	05:44 20:25	06:14 19:48	06:45 18:57	07:16 18:09	06:53 16:35	07:20 16:33
23	05:45 20:24	06:15 19:46	06:46 18:55	07:17 18:07	06:54 16:35	07:20 16:34
24	05:46 20:23	06:16 19:45	06:47 18:54	07:19 18:06	06:55 16:34	07:21 16:34
25	05:47 20:22	06:17 19:43	06:48 18:52	07:20 17:04	06:56 16:33	07:21 16:35
26	05:47 20:21	06:18 19:42	06:49 18:50	07:21 17:03	06:57 16:33	07:21 16:35
27	05:48 20:20	06:19 19:40	06:50 18:49	07:22 17:02	06:58 16:32	07:22 16:36
28	05:49 20:19	06:20 19:39	06:51 18:47	07:23 17:00	06:59 16:32	07:22 16:37
29	05:50 20:18	06:21 19:37	06:52 18:45	07:24 16:59	07:01 16:32	07:22 16:37
30	05:51 20:17	06:22 19:36	06:53 18:44	07:26 16:58	07:02 16:31	07:23 16:38
31	05:52 20:16	06:23 19:34		07:27 16:56		07:23 16:39
Potential sun hours	459	428	375	345	298	288
Sum of minutes with flicker	177	0	97	0	0	0

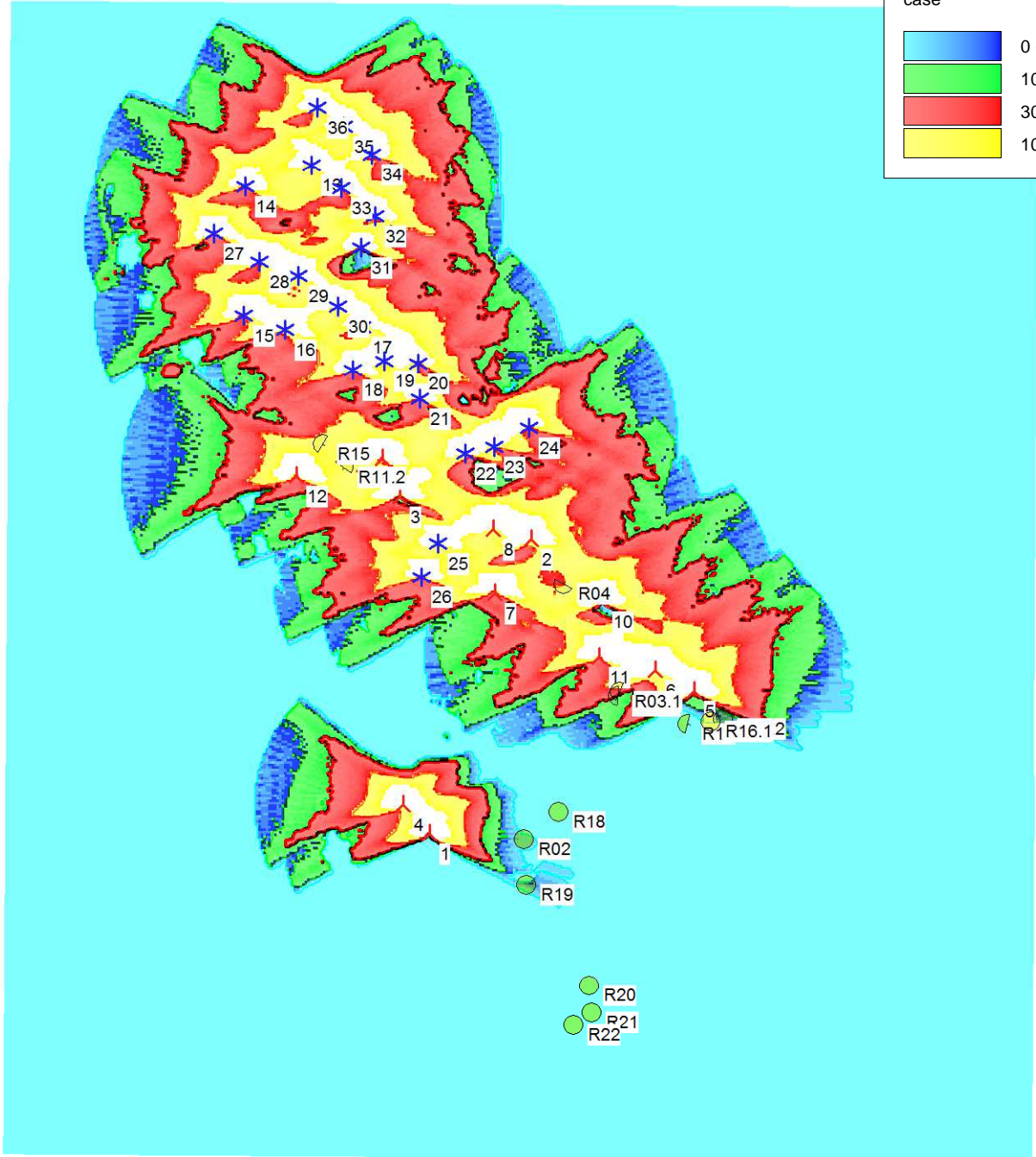
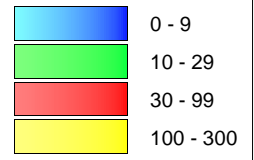
Table layout: For each day in each month the following matrix apply

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 - Map

Calculation: Cumulative

Hours per year, worst case



Map: Blank map , Print scale 1:75.000, Map center UTM WGS 84 Zone: 33 East: 550.320 North: 4.542.390

New WTG

Existing WTG

Shadow receptor

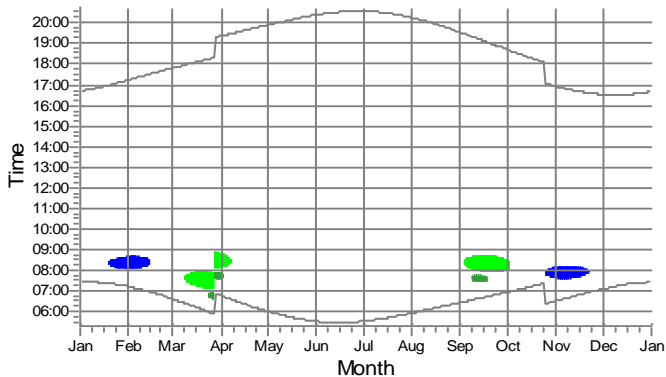
Isolines showing shadow in Hours per year, worst case

0 10 30 100

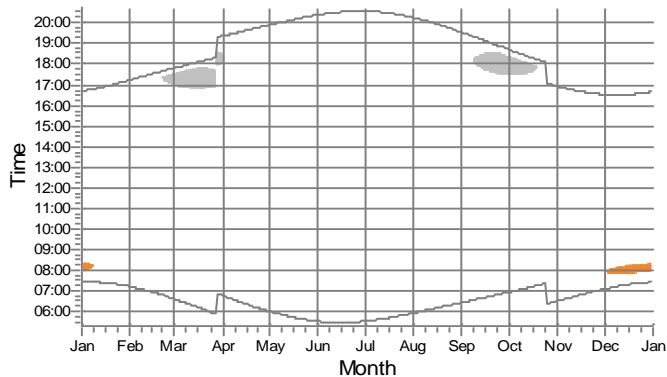
SHADOW - Calendar, graphical

Calculation: Cumulative

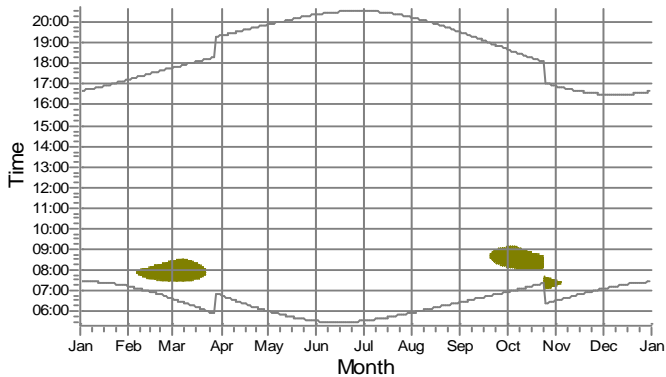
A: R15



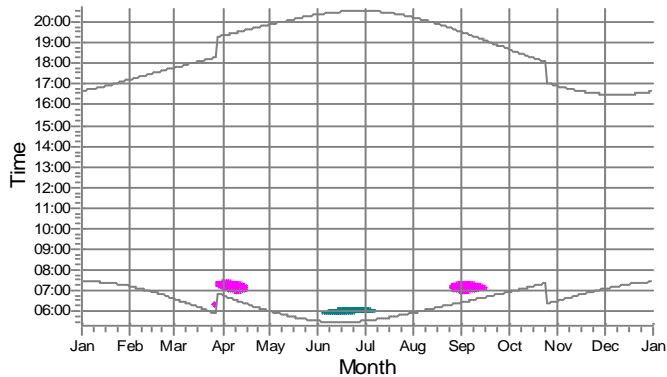
B: R11.2



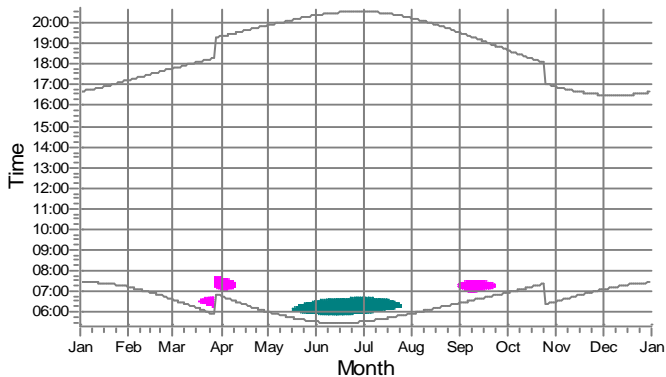
C: R04



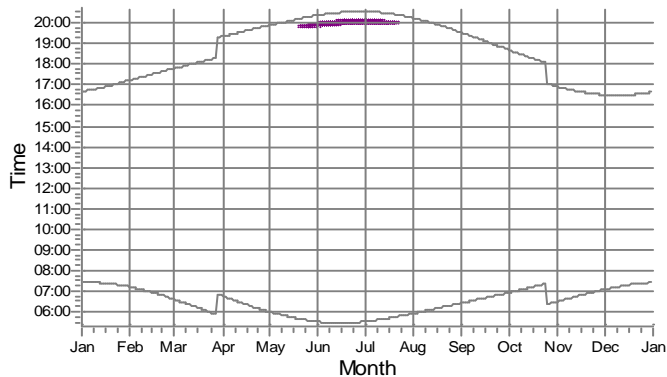
D: R03.2



E: R03.1



F: R16.2



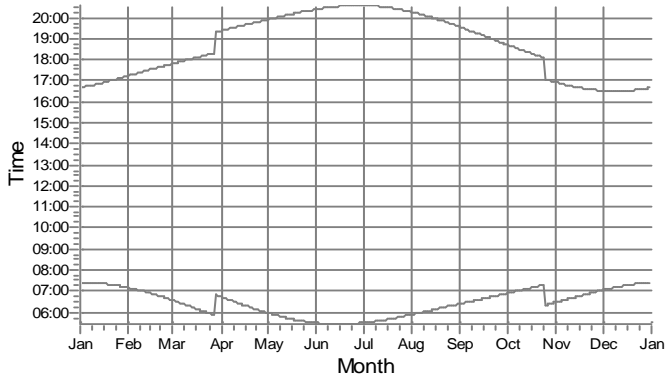
WTGs

- | | | | | |
|--|---|--|--|--|
|  3: AG14 |  6: AG20 |  10: AG27 |  12: AG29 |  25: A21 |
|  5: AG13 |  9: AG25 |  11: AG28 |  22: A18 | |

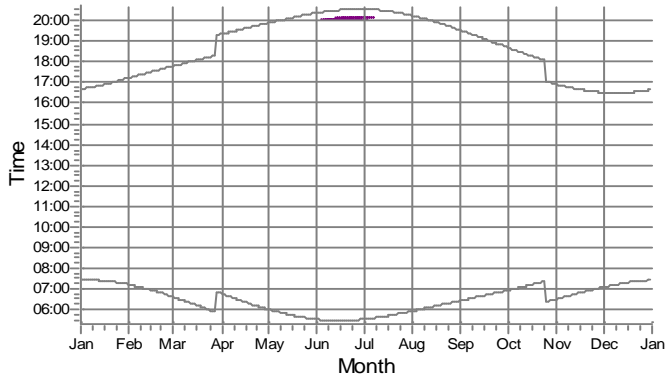
SHADOW - Calendar, graphical

Calculation: Cumulative

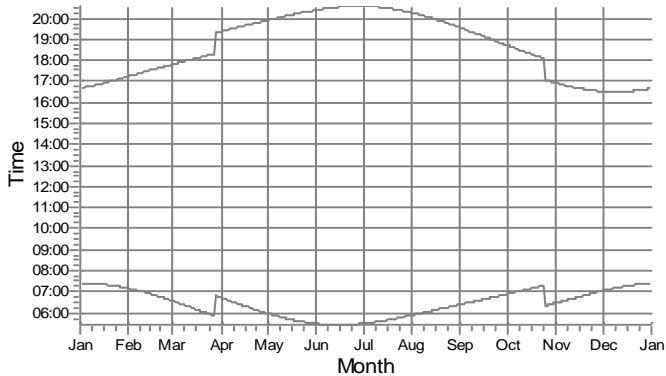
G: R17



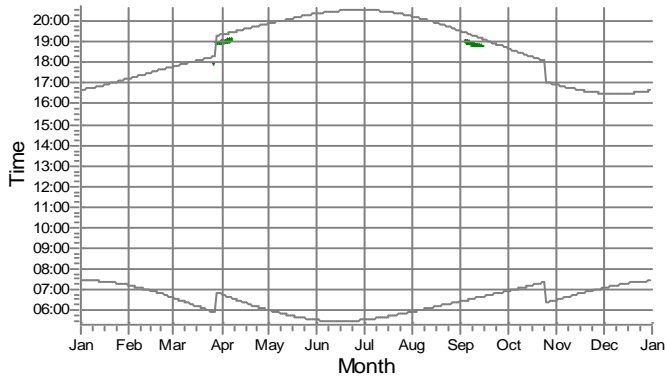
H: R16.1



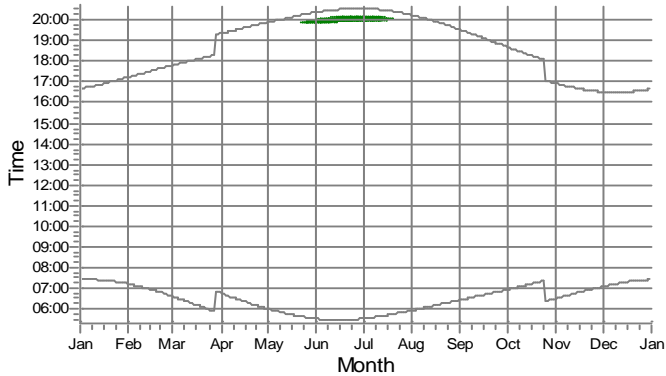
I: R18



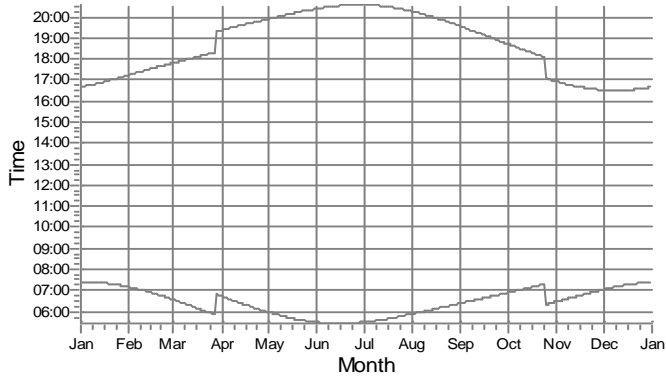
J: R02



K: R19



L: R20



WTGs



1: AG01

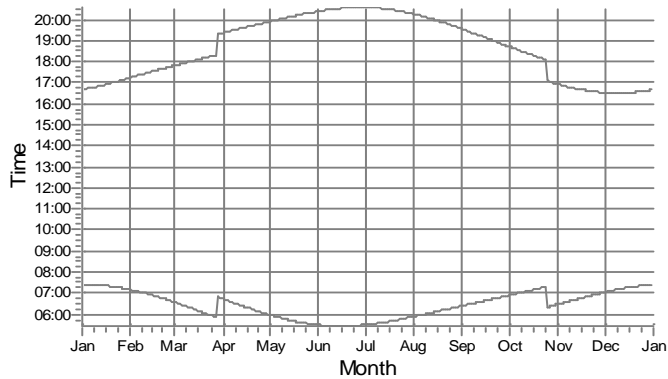


11: AG28

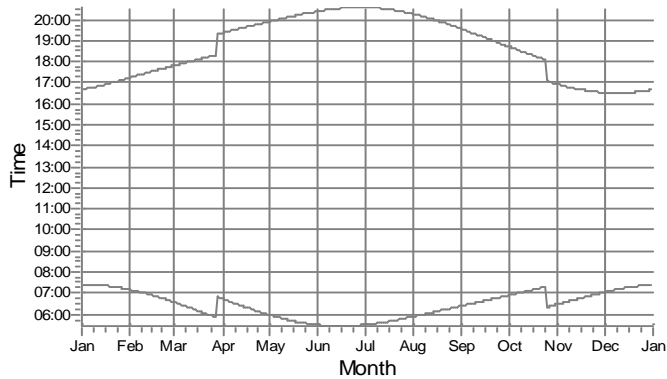
SHADOW - Calendar, graphical

Calculation: Cumulative

M: R21



N: R22

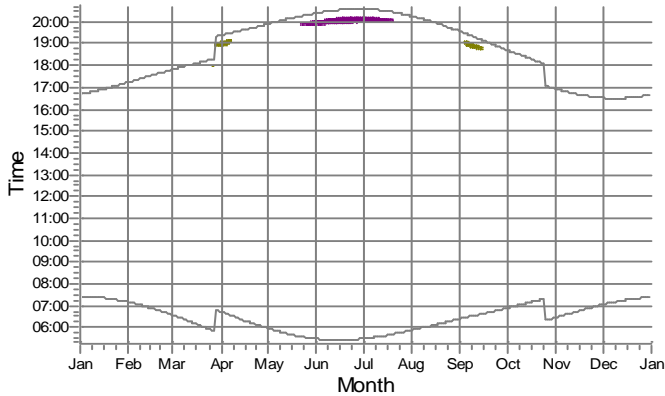


WTGs

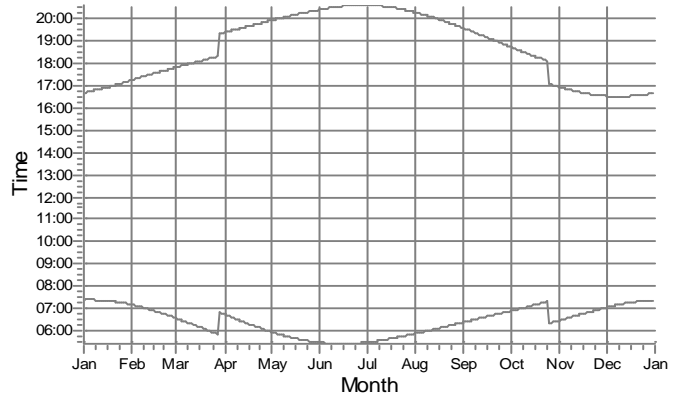
SHADOW - Calendar per WTG, graphical

Calculation: Cumulative

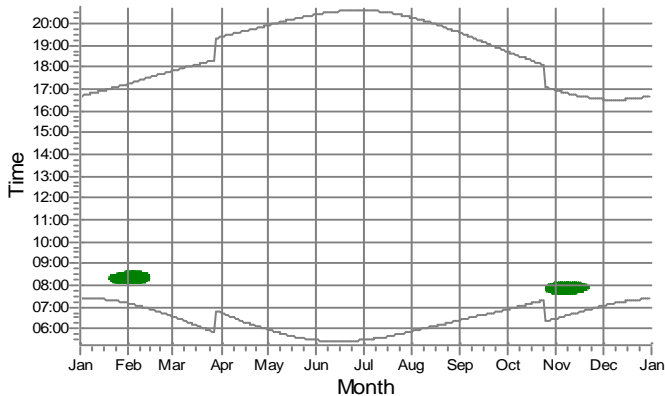
1: AG01



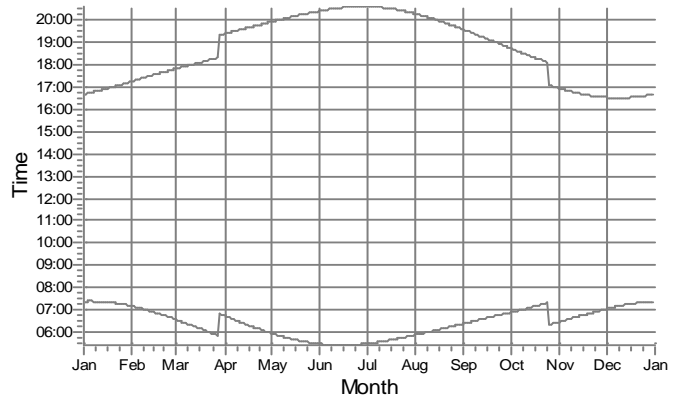
2: AG07



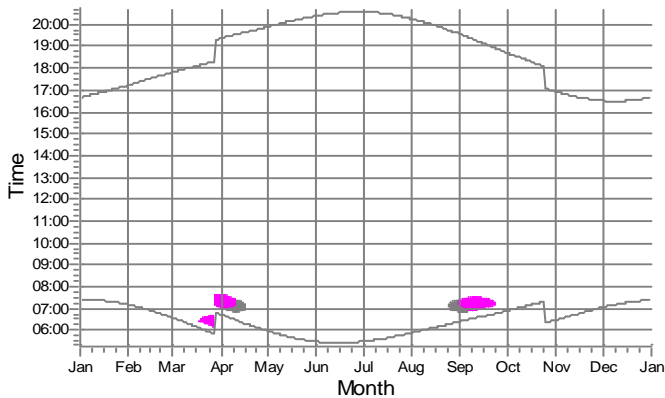
3: AG14



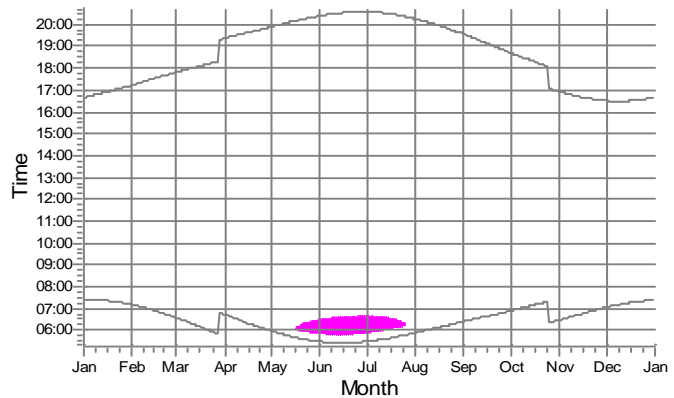
4: AG15



5: AG13



6: AG20



Shadow receptor

A: R15

D: R03.2

E: R03.1

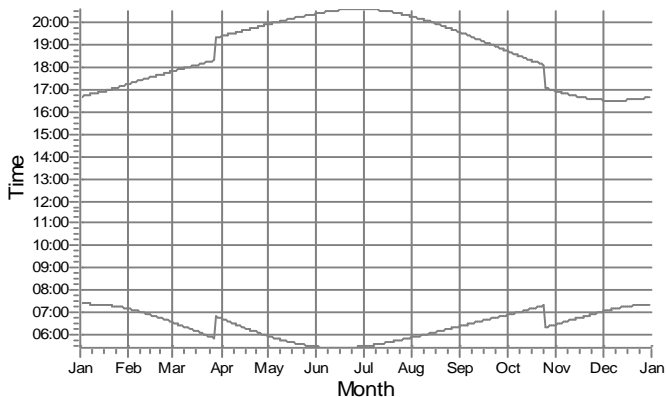
J: R02

K: R19

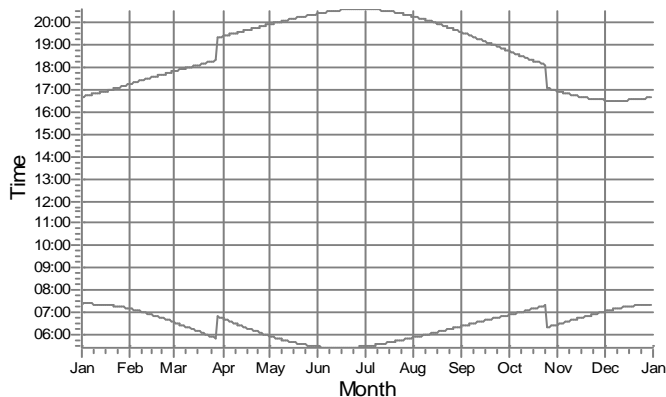
SHADOW - Calendar per WTG, graphical

Calculation: Cumulative

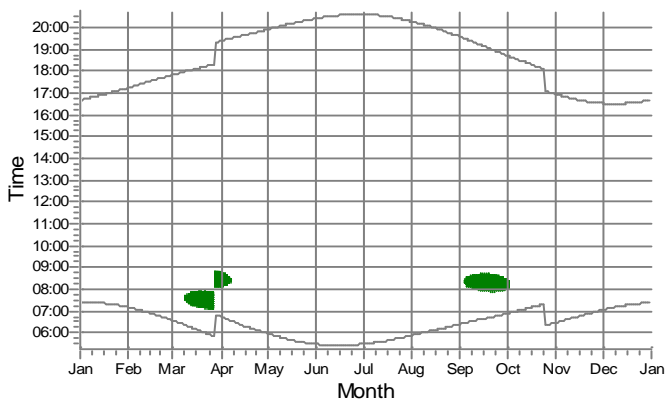
7: AG21



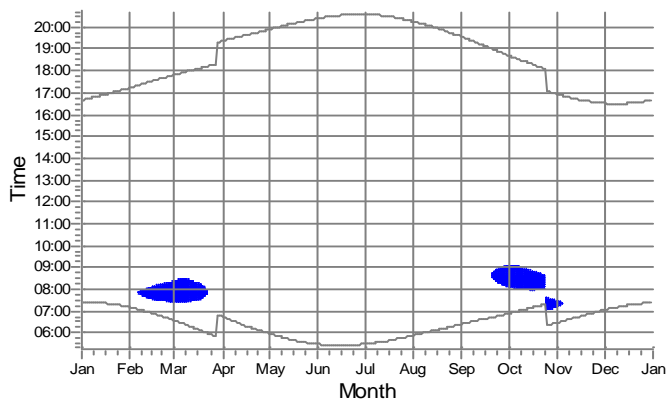
8: AG22



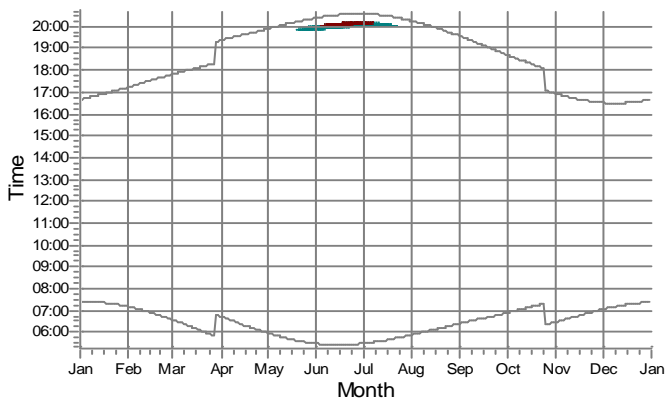
9: AG25



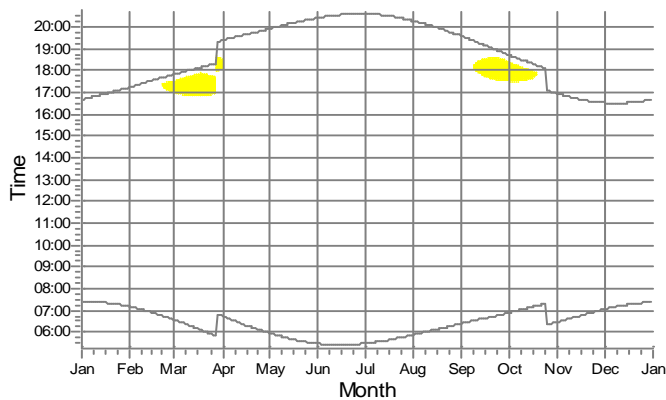
10: AG27



11: AG28



12: AG29



Shadow receptor

A: R15

B: R11.2

C: R04

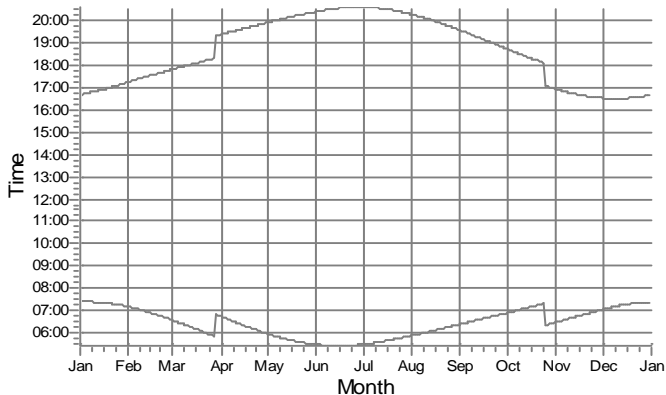
F: R16.2

H: R16.1

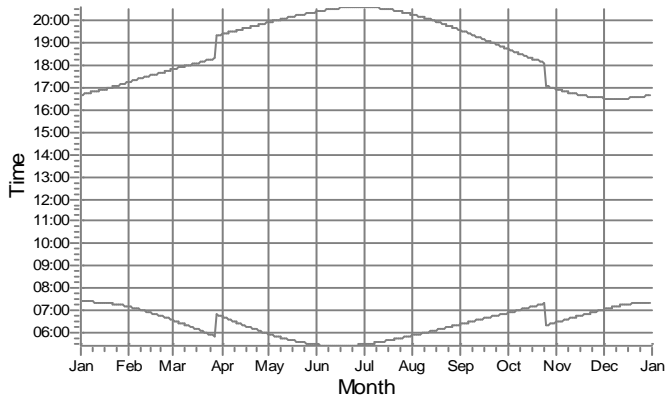
SHADOW - Calendar per WTG, graphical

Calculation: Cumulative

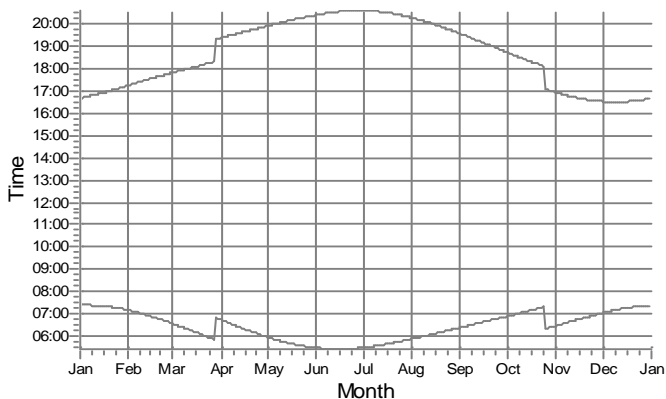
13: A7



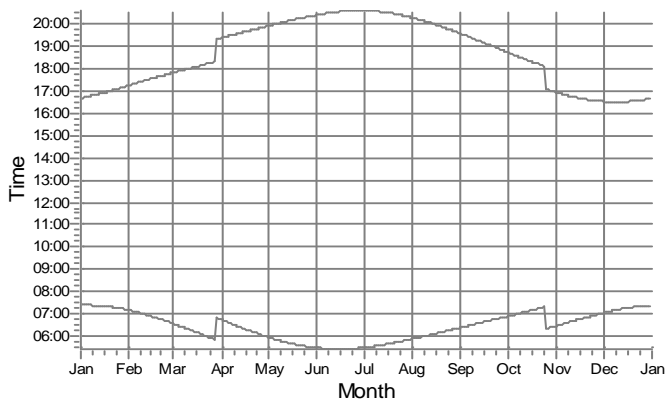
14: A11



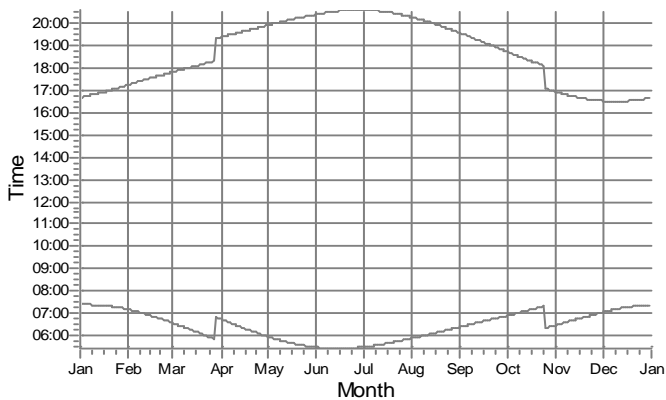
15: A12



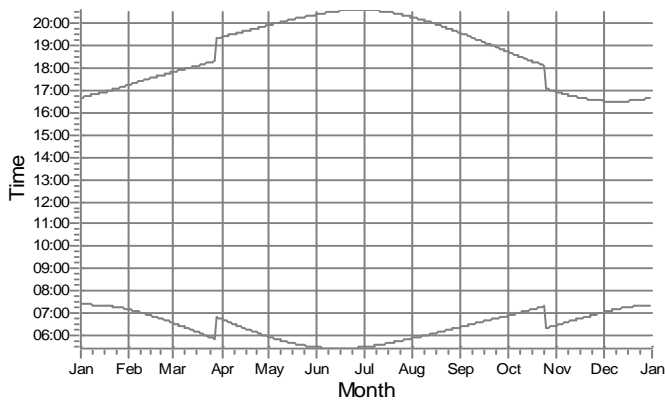
16: A10



17: A6



18: A1

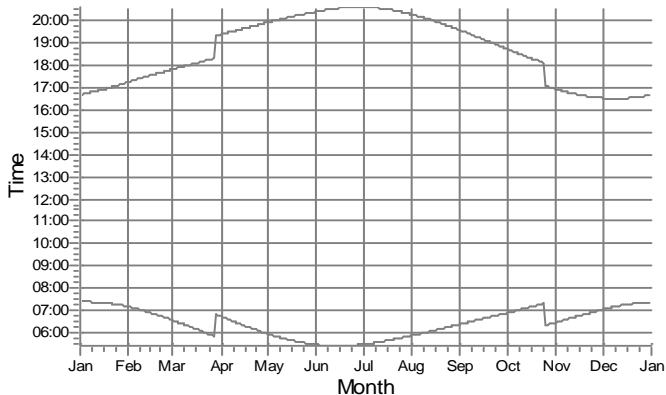


Shadow receptor

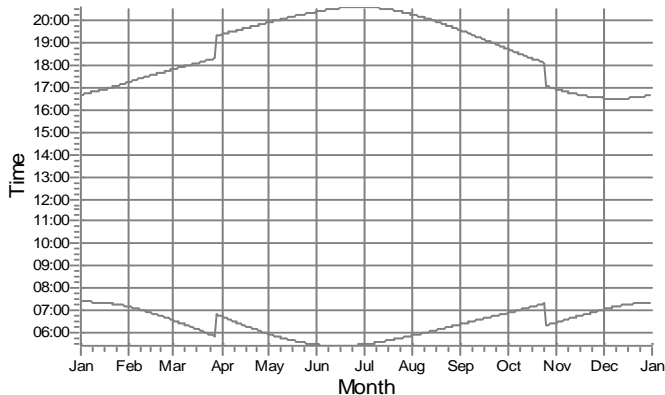
SHADOW - Calendar per WTG, graphical

Calculation: Cumulative

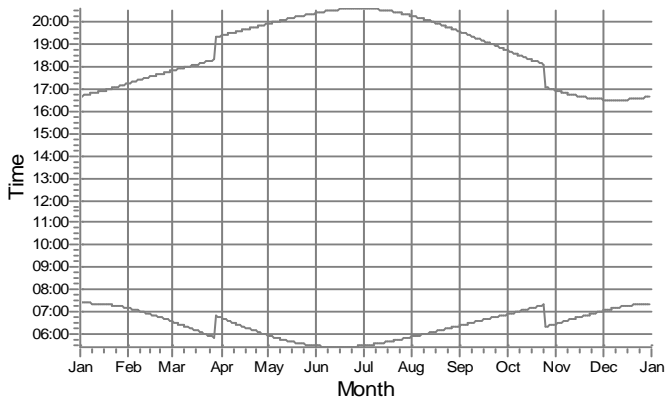
19: A15



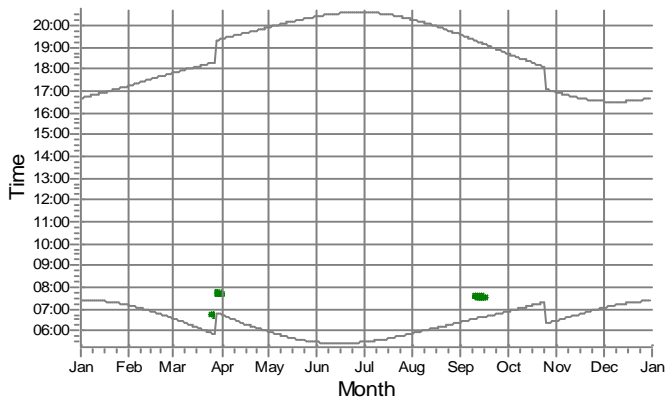
20: A16



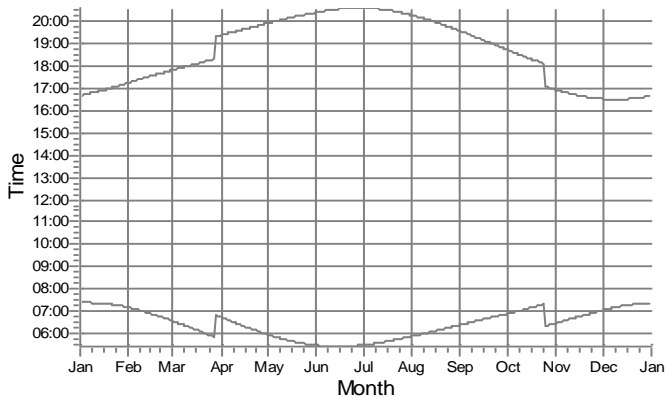
21: A17



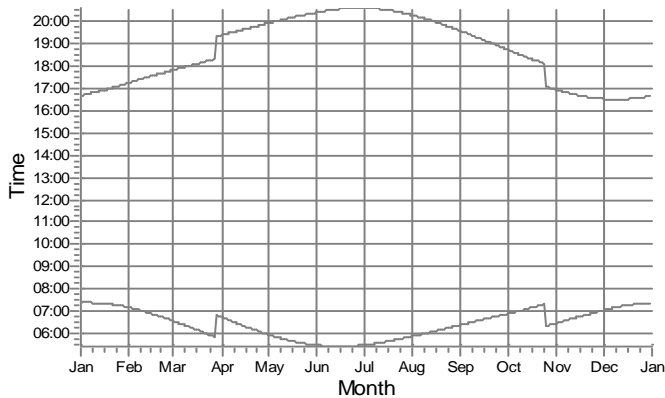
22: A18



23: A19



24: A3



Shadow receptor

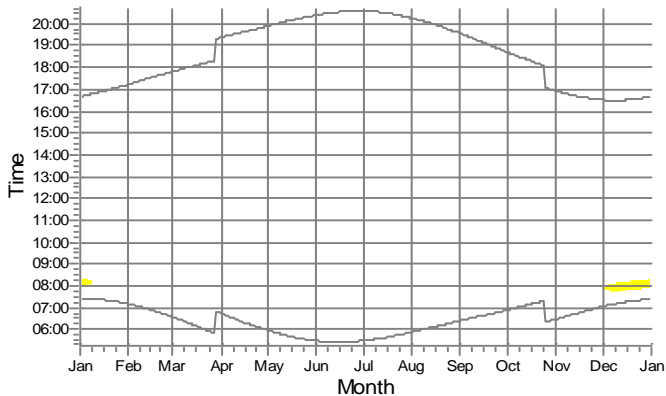


A: R15

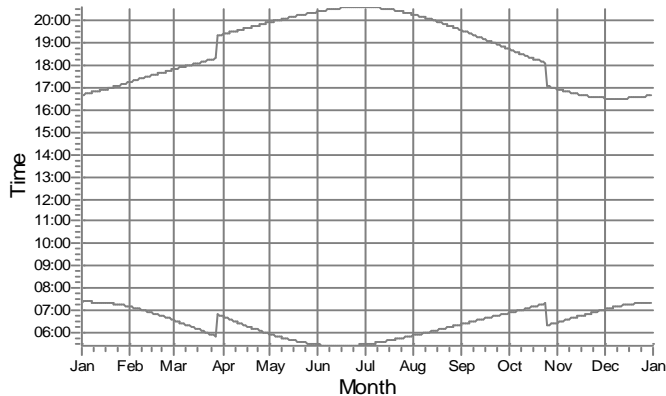
SHADOW - Calendar per WTG, graphical

Calculation: Cumulative

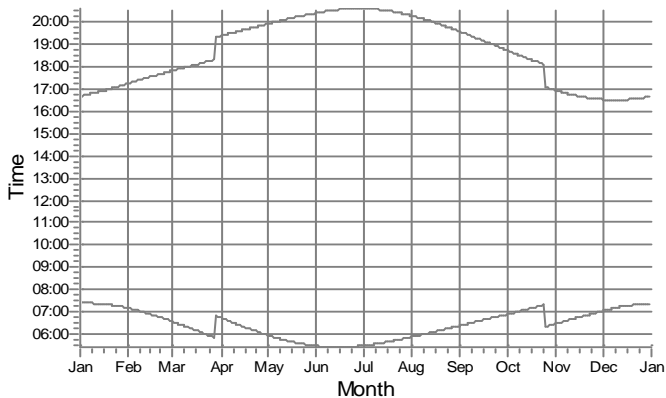
25: A21



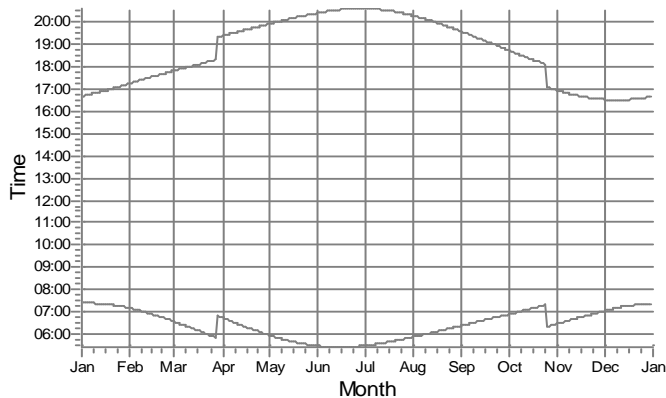
26: A22



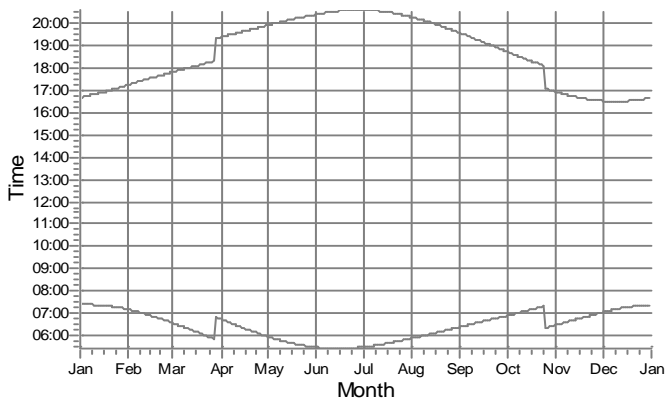
27: AW01



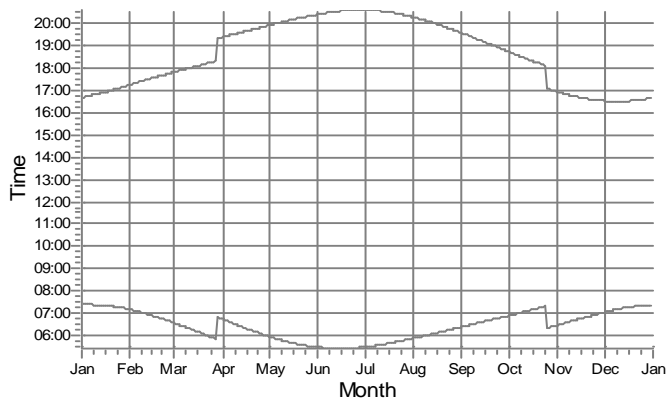
28: AW02



29: AW03



30: AW04



Shadow receptor

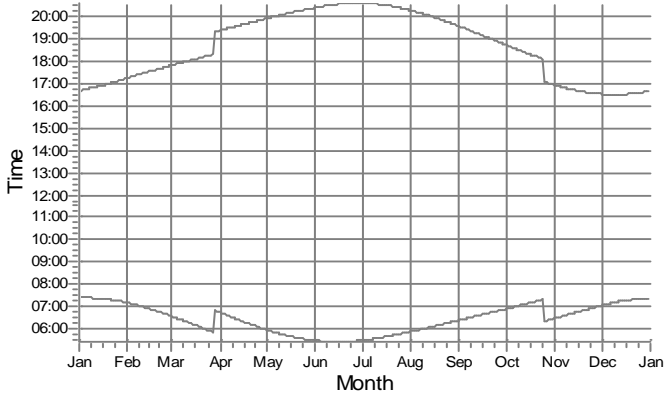


B: R11.2

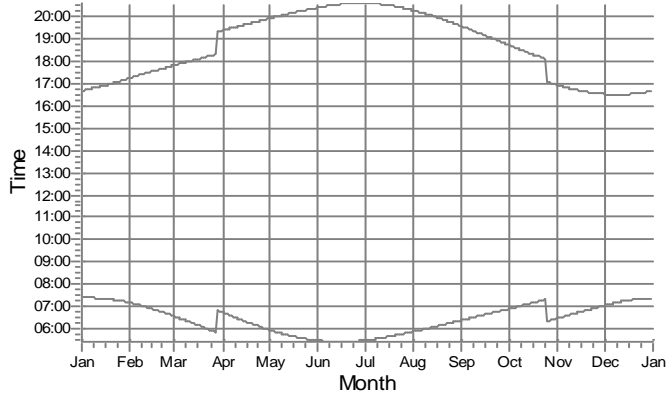
SHADOW - Calendar per WTG, graphical

Calculation: Cumulative

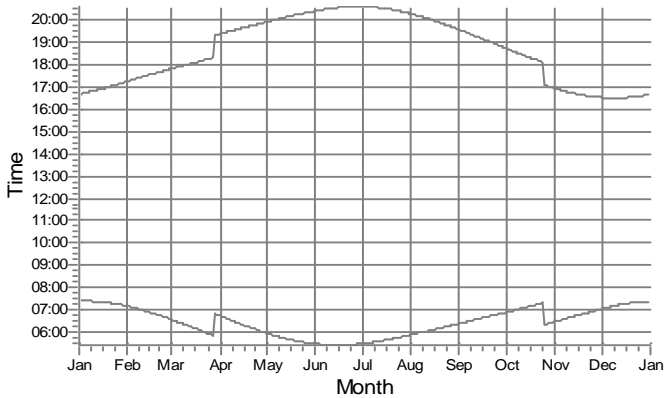
31: AW05



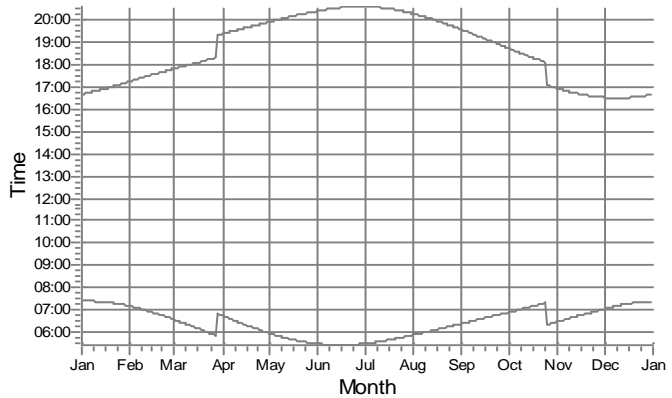
32: AW06



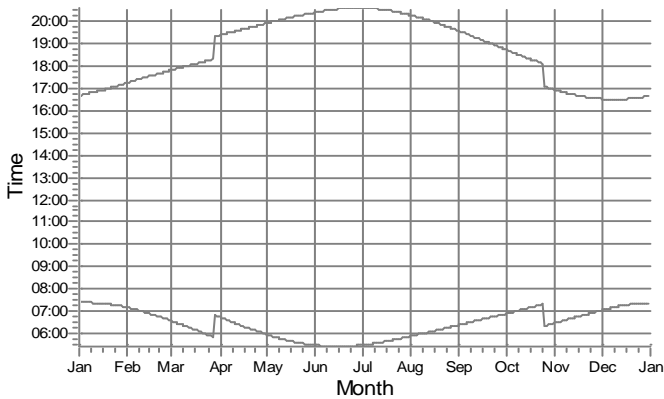
33: AW07



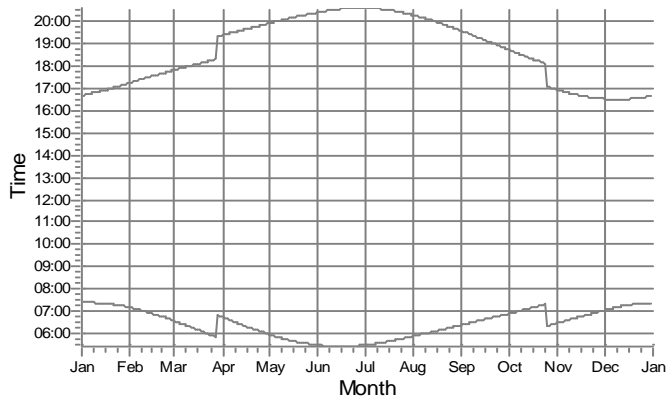
34: AW08



35: AW09



36: AW10



Shadow receptor

SHADOW - Calendar per WTG

Calculation: Cumulative WTG: 2 - AG07

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 19:32	06:54 18:42	06:28 16:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:32 17:49	06:42 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:30
3	07:23 16:41	07:08 17:16	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:38	06:30 16:53	07:05 16:30
4	07:23 16:42	07:07 17:18	06:29 17:52	06:38 19:25	05:54 19:57	05:27 20:26	05:31 20:34	05:56 20:12	06:27 19:27	06:57 18:37	06:31 16:51	07:06 16:30
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17	07:21 16:56	06:51 17:34	06:08 18:06	06:17 19:39	05:39 20:10	05:25 20:33	05:40 20:28	06:09 19:55	06:40 19:06	07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 19:04	07:12 18:14	06:48 16:38	07:17 16:31
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31	07:11 17:13		06:45 19:21		05:29 20:23		05:52 20:16	06:23 19:34		06:27 16:56		07:23 16:39
Potential sun hours	1297	297	369	399	448	452	459	428	375	345	298	288
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 3 - AG14

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:40	07:10 08:02-08:34/32 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 19:32	06:54 18:42	06:28 07:34-08:03/29 16:55	07:03 16:31
2	07:23 16:41	07:09 08:02-08:34/32 17:15	06:32 17:49	06:42 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 18:40	06:29 07:33-08:03/30 16:54	07:04 16:31
3	07:23 16:42	07:08 08:02-08:35/33 17:17	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:38	06:30 07:33-08:04/31 16:53	07:05 16:30
4	07:24 16:42	07:07 08:02-08:35/33 17:18	06:29 17:52	06:38 19:25	05:54 19:57	05:27 20:26	05:31 20:34	05:56 20:12	06:27 19:27	06:57 18:37	06:32 07:32-08:04/32 16:52	07:06 16:30
5	07:24 16:43	07:06 08:02-08:35/33 17:19	06:28 17:53	06:37 19:26	05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 19:26	06:58 18:35	06:33 07:33-08:05/32 16:50	07:07 16:30
6	07:24 16:44	07:05 08:03-08:35/32 17:20	06:26 17:54	06:35 19:27	05:51 19:59	05:27 20:27	05:32 20:34	05:58 20:10	06:29 19:24	06:59 18:34	06:34 07:32-08:05/33 16:49	07:08 16:30
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11	07:23 16:49	06:59 08:06-08:32/26 17:27	06:18 17:59	06:27 19:33	05:45 20:04	05:26 20:30	05:35 20:32	06:03 20:04	06:34 19:16	07:04 18:25	06:40 07:33-08:04/31 16:44	07:12 16:30
12	07:23 16:50	06:58 08:06-08:30/24 17:28	06:17 18:01	06:25 19:34	05:44 20:05	05:25 20:30	05:36 20:31	06:04 20:02	06:35 19:14	07:05 18:24	06:41 07:34-08:05/31 16:43	07:13 16:30
13	07:22 16:51	06:57 08:08-08:29/21 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 20:31	05:37 20:31	06:05 20:01	06:36 19:12	07:06 18:22	06:42 07:35-08:04/29 16:42	07:14 16:30
14	07:22 16:53	06:55 08:10-08:28/18 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 20:31	05:37 20:30	06:06 20:00	06:37 19:11	07:07 18:21	06:43 07:35-08:04/29 16:41	07:15 16:30
15	07:22 16:54	06:54 08:12-08:25/13 17:31	06:12 18:04	06:21 19:37	05:41 20:08	05:25 20:32	05:38 20:30	06:07 19:58	06:38 19:09	07:09 18:19	06:45 07:36-08:03/27 16:40	07:15 16:30
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:39 19:07	07:10 18:18	06:46 07:37-08:03/26 16:39	07:16 16:31
17	07:21 16:56	06:51 17:34	06:08 18:06	06:18 19:39	05:39 20:10	05:25 20:33	05:40 20:28	06:09 19:55	06:40 19:06	07:11 18:16	06:47 07:38-08:02/24 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 19:04	07:12 18:15	06:48 07:39-08:01/22 16:38	07:18 16:31
19	07:20 16:58	06:49 17:36	06:05 18:08	06:15 19:41	05:38 20:12	05:25 20:33	05:41 20:27	06:11 19:52	06:42 19:02	07:13 18:13	06:49 07:41-08:00/19 16:37	07:18 16:32
20	07:19 08:13-08:18/5 16:59	06:47 17:38	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:34	05:42 20:26	06:12 19:51	06:43 19:00	07:14 18:12	06:51 07:43-07:59/16 16:36	07:19 16:32
21	07:19 08:09-08:21/12 17:01	06:46 17:39	06:02 18:10	06:12 19:43	05:36 20:14	05:26 20:34	05:43 20:26	06:13 19:50	06:44 18:59	07:15 18:10	06:52 07:45-07:57/12 16:36	07:19 16:32
22	07:18 08:08-08:24/16 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	07:16 18:09	06:53 07:49-07:54/5 16:35	07:20 16:33
23	07:17 08:07-08:26/19 17:03	06:43 17:41	05:58 18:13	06:09 19:46	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:47	06:46 18:55	07:18 18:07	06:54 16:34	07:20 16:33
24	07:17 08:05-08:27/22 17:04	06:42 17:42	05:57 18:14	06:07 19:47	05:33 20:17	05:26 20:34	05:46 20:23	06:16 19:45	06:47 18:54	07:19 18:06	06:55 16:34	07:21 16:34
25	07:16 08:04-08:28/24 17:05	06:40 17:43	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:34	05:46 20:22	06:17 19:43	06:48 18:52	07:20 17:04	06:56 16:33	07:21 16:35
26	07:15 08:04-08:30/26 17:07	06:39 17:45	05:53 18:16	06:04 19:49	05:32 20:19	05:27 20:35	05:47 20:21	06:18 19:42	06:49 18:50	07:21 17:03	06:57 07:45-07:51/6 16:33	07:22 16:35
27	07:14 08:04-08:31/27 17:08	06:37 17:46	05:52 18:17	06:03 19:50	05:31 20:19	05:27 20:35	05:48 20:21	06:19 19:40	06:50 18:49	07:22 17:02	06:58 07:41-07:55/14 16:32	07:22 16:36
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29	07:13 08:03-08:32/29 17:10	06:35 17:48	05:48 18:19	06:00 19:52	05:30 20:21	05:28 20:35	05:50 20:19	06:21 19:37	06:52 18:45	07:24 16:59	07:00 07:37-07:59/22 16:32	07:23 16:37
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Potential sun hours	297	297	369	399	448	452	459	428	375	345	298	288
Sum of minutes with flicker	272	417	0	0	0	0	0	0	0	112	588	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: Cumulative WTG: 4 - AG15

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:58 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 19:32	06:54 18:42	06:28 16:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:32 17:49	06:42 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:31
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19	07:20 16:58	06:49 17:36	06:05 18:08	06:15 19:41	05:38 20:12	05:26 20:33	05:41 20:27	06:11 19:52	06:42 19:02	07:13 18:13	06:49 16:37	07:18 16:32
20	07:19 16:59	06:47 17:38	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:33	05:42 20:26	06:12 19:51	06:43 19:00	07:14 18:12	06:50 16:36	07:19 16:32
21	07:18 17:01	06:46 17:39	06:02 18:10	06:12 19:43	05:36 20:14	05:26 20:34	05:43 20:26	06:13 19:49	06:44 18:59	07:15 18:10	06:52 16:36	07:19 16:33
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	07:16 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 18:13	06:09 19:45	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:46	06:46 18:55	07:17 18:07	06:54 16:35	07:20 16:34
24	07:17 17:04	06:41 17:42	05:57 18:14	06:07 19:47	05:34 20:17	05:27 20:34	05:46 20:23	06:16 19:45	06:47 18:54	07:19 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:34	05:47 20:22	06:17 19:43	06:48 18:52	07:20 17:04	06:56 16:33	07:21 16:35
26	07:15 17:07	06:39 17:45	05:53 18:16	06:04 19:49	05:32 20:19	05:27 20:34	05:47 20:21	06:18 19:42	06:49 18:50	07:21 17:03	06:57 16:33	07:21 16:35
27	07:14 17:08	06:37 17:46	05:52 18:17	06:03 19:50	05:32 20:19	05:28 20:34	05:48 20:20	06:19 19:40	06:50 18:49	07:22 17:02	06:58 16:32	07:22 16:36
28	07:13 17:09	06:36 17:47	05:50 18:18	06:02 19:51	05:31 20:20	05:28 20:34	05:49 20:19	06:20 19:39	06:51 18:47	07:23 17:00	07:00 16:32	07:22 16:37
29	07:13 17:10		06:48 19:19	06:00 19:52	05:30 20:21	05:28 20:34	05:50 20:18	06:21 19:37	06:52 18:45	07:24 16:59	07:01 16:32	07:22 16:37
30	07:12 17:12		06:47 19:20	05:59 19:53	05:30 20:22	05:29 20:34	05:51 20:17	06:22 19:36	06:53 18:44	07:25 16:58	07:02 16:31	07:23 16:38
31	07:11 17:13		06:45 19:21		05:29 20:23		05:52 20:16	06:23 19:34		06:27 16:56		07:23 16:39
Potential sun hours	1297	1297	1297	1297	1297	1297	1297	1297	1297	1297	1298	1288
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 5 - AG13

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 07:02-07:35/33 19:22	05:57 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 06:46-07:17/31 19:32 07:17-07:18/1	06:54 18:42	06:28 16:55	07:03 16:31	
2	07:23 16:41	07:09 17:15	06:32 17:49	06:41 07:00-07:34/34 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 06:45-07:20/35 19:31	06:55 18:40	06:29 16:54	07:04 16:30	
3	07:23 16:41	07:08 17:16	06:31 17:50	06:40 06:58-07:33/35 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 06:46-07:22/36 19:29	06:56 18:38	06:30 16:53	07:05 16:30	
4	07:23 16:42	07:07 17:18	06:29 17:51	06:38 06:57-07:32/35 19:25	05:54 19:57	05:27 20:25	05:31 20:34	05:56 20:12	06:27 06:47-07:23/36 19:27	06:57 18:37	06:31 16:51	07:06 16:30	
5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 06:55-07:31/36 19:26	05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 06:48-07:24/36 19:26	06:58 18:35	06:33 16:50	07:07 16:30	
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 06:53-07:29/36 19:27	05:51 19:59	05:27 20:27	05:32 20:33	05:58 20:10	06:29 06:49-07:25/36 19:24	06:59 18:33	06:34 16:49	07:08 16:30	
7	07:23 16:45	07:03 17:21	06:24 17:55	06:33 06:52-07:28/36 19:28	05:50 20:00	05:26 20:27	05:32 20:33	05:59 20:08	06:30 06:50-07:26/36 19:22	07:00 18:32	06:35 16:48	07:09 16:30	
8	07:23 16:46	07:02 17:23	06:23 17:56	06:32 06:50-07:26/36 19:29	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 06:51-07:26/35 19:21	07:01 18:30	06:36 16:47	07:09 16:30	
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 06:49-07:25/36 19:30	05:48 20:02	05:26 20:29	05:34 20:32	06:01 20:06	06:32 06:52-07:27/35 19:19	07:02 18:29	06:37 16:46	07:10 16:30	
10	07:23 16:48	07:00 17:25	06:20 17:58	06:28 06:47-07:22/35 19:32	05:46 20:03	05:26 20:29	05:34 20:32	06:02 20:05	06:33 06:53-07:27/34 19:17	07:03 18:27	06:38 16:45	07:11 16:30	
11	07:23 16:49	06:59 17:26	06:18 17:59	06:27 06:47-07:18/31 19:33	05:45 20:04	05:25 20:30	05:35 20:31	06:03 20:03	06:34 06:54-07:27/33 19:16	07:04 18:25	06:40 16:44	07:12 16:30	
12	07:22 16:50	06:58 17:28	06:16 18:00	06:25 06:48-07:19/31 19:34	05:44 20:05	05:25 20:30	05:36 20:31	06:04 20:02	06:35 06:55-07:27/32 19:14	07:05 18:24	06:41 16:43	07:13 16:30	
13	07:22 16:51	06:56 17:29	06:15 18:02	06:24 06:49-07:17/28 19:35	05:43 20:06	05:25 20:31	05:36 20:31	06:05 20:01	06:36 06:56-07:27/31 19:12	07:06 18:22	06:42 16:42	07:14 16:30	
14	07:22 16:52	06:55 17:30	06:13 18:03	06:22 06:50-07:16/26 19:36	05:42 20:07	05:25 20:31	05:37 20:30	06:06 19:59	06:37 06:57-07:26/29 19:11	07:07 18:21	06:43 16:41	07:14 16:30	
15	07:21 16:54	06:54 17:31	06:11 18:04	06:21 06:51-07:14/23 19:37	05:41 20:08	05:25 20:32	05:38 20:29	06:07 19:58	06:37 06:58-07:26/28 19:09	07:08 18:19	06:44 16:40	07:15 16:30	
16	07:21 16:55	06:52 17:33	06:10 18:05	06:19 06:53-07:12/19 19:38	05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:38 06:59-07:25/26 19:07	07:10 18:17	06:46 16:39	07:16 16:31	
17	07:20 16:56	06:51 17:34	06:08 18:06	06:17 06:55-07:09/14 19:39	05:39 20:10	05:25 20:32	05:39 20:28	06:09 19:55	06:39 07:00-07:24/24 19:05	07:11 18:16	06:47 16:39	07:17 16:31	
18	07:20 16:57	06:50 17:35	06:06 18:07	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:40 07:01-07:23/22 19:04	07:12 18:14	06:48 16:38	07:17 16:31	
19	07:19 16:58	06:48 17:36	06:05 18:08	06:14 19:41	05:37 20:12	05:25 20:33	05:41 20:27	06:11 19:52	06:41 07:02-07:22/20 19:02	07:13 18:13	06:49 16:37	07:18 16:32	
20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:33	05:42 20:26	06:12 19:51	06:42 07:03-07:20/17 19:00	07:14 18:11	06:50 16:36	07:19 16:32	
21	07:18 17:00	06:46 17:39	06:01 18:10	06:11 19:43	05:36 20:14	05:26 20:34	05:43 20:25	06:13 19:49	06:43 07:04-07:19/15 18:59	07:15 18:10	06:51 16:36	07:19 16:32	
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:44 07:05-07:17/12 18:57	07:16 18:09	06:53 16:35	07:20 16:33	
23	07:17 17:03	06:43 17:41	05:58 18:12	06:17-06:34/17 19:45	06:08 19:45	05:34 20:16	05:45 20:24	06:15 19:46	06:45 07:06-07:14/8 18:55	07:17 18:07	06:54 16:34	07:20 16:33	
24	07:16 17:04	06:41 17:42	05:56 18:13	06:15-06:34/19 19:46	06:07 19:46	05:33 20:17	05:45 20:23	06:16 19:45	06:46 07:07-07:10/3 18:54	07:18 18:06	06:55 16:34	07:21 16:34	
25	07:16 17:05	06:40 17:43	05:55 18:15	06:13-06:35/22 19:47	06:06 19:47	05:33 20:18	05:46 20:22	06:17 07:03-07:07/4 19:43	06:47 18:52	06:20 17:04	06:56 16:33	07:21 16:35	
26	07:15 17:06	06:38 17:44	05:53 18:16	06:12-06:36/24 19:49	06:04 19:49	05:32 20:18	05:47 20:21	06:18 06:58-07:12/14 19:42	06:48 18:50	06:21 17:03	06:57 16:33	07:21 16:35	
27	07:14 17:08	06:37 17:46	05:51 18:17	06:10-06:36/26 19:50	06:03 19:50	05:31 20:19	05:48 20:20	06:19 06:55-07:14/19 19:40	06:50 18:48	06:22 17:02	06:58 16:32	07:22 16:36	
28	07:13 17:09	06:35 17:47	05:50 18:18	06:08-06:35/27 19:51	06:01 19:51	05:31 20:20	05:49 20:19	06:20 06:53-07:16/23 19:39	06:51 18:47	06:23 17:00	06:59 16:32	07:22 16:36	
29	07:12 17:10	06:34 19:19	05:48 19:19	07:07-07:36/29 19:52	06:00 19:52	05:30 20:21	05:50 20:18	06:21 06:51-07:17/26 19:37	06:52 18:45	06:24 16:59	07:00 16:31	07:22 16:37	
30	07:12 17:11	06:46 19:20	07:05-07:35/30 19:53	05:59 19:53	05:30 20:22	05:29 20:34	05:51 20:17	06:22 06:50-07:18/28 19:35	06:53 18:43	06:25 16:58	07:02 16:31	07:23 16:38	
31	07:11 17:13	06:45 19:21	07:03-07:35/32 19:21	05:59 20:22	05:30 20:22	05:29 20:34	05:52 20:16	06:23 06:48-07:19/31 19:34	06:54 18:43	06:27 16:56	07:23 16:39	07:23 16:39	
Potential sun hours	297	297	369	399	448	452	459	428	375	651	345	298	288
Sum of minutes with flicker	0	0	259	525	0	0	0	145	651	0	0	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: Cumulative WTG: 6 - AG20

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December			
1	07:23	07:10	06:34	06:43	05:57	05:29	05:50-06:25/35	05:29	05:52-06:35/43	05:53	06:24	06:54	06:28	07:03	
	16:40	17:14	17:48	19:22	19:54	20:23	20:23	20:34	20:15	19:32	18:42	16:55	16:31		
2	07:23	07:09	06:32	06:41	05:56	05:28	05:50-06:26/36	05:30	05:52-06:35/43	05:54	06:25	06:55	06:29	07:04	
	16:41	17:15	17:49	19:23	19:55	20:24	20:24	20:34	20:14	19:31	18:40	16:54	16:30		
3	07:23	07:08	06:31	06:40	05:55	05:28	05:49-06:26/37	05:30	05:53-06:35/42	05:55	06:26	06:56	06:30	07:05	
	16:41	17:16	17:50	19:24	19:56	20:25	20:25	20:34	20:13	19:29	18:38	16:53	16:30		
4	07:23	07:07	06:29	06:38	05:54	05:27	05:49-06:27/38	05:31	05:53-06:34/41	05:56	06:27	06:57	06:31	07:06	
	16:42	17:18	17:51	19:25	19:57	20:25	20:25	20:34	20:12	19:27	18:37	16:51	16:30		
5	07:23	07:06	06:28	06:37	05:52	05:27	05:49-06:28/39	05:31	05:54-06:35/41	05:57	06:28	06:58	06:33	07:07	
	16:43	17:19	17:53	19:26	19:58	20:26	20:26	20:34	20:11	19:26	18:35	16:50	16:30		
6	07:23	07:05	06:26	06:35	05:51	05:27	05:48-06:28/40	05:32	05:54-06:34/40	05:58	06:29	06:59	06:34	07:08	
	16:44	17:20	17:54	19:27	19:59	20:27	20:27	20:33	20:10	19:24	18:33	16:49	16:30		
7	07:23	07:04	06:24	06:33	05:50	05:26	05:48-06:28/40	05:32	05:55-06:34/39	05:59	06:30	07:00	06:35	07:09	
	16:45	17:21	17:55	19:28	20:00	20:27	20:27	20:33	20:08	19:22	18:32	16:48	16:30		
8	07:23	07:02	06:23	06:32	05:49	05:26	05:48-06:29/41	05:33	05:56-06:34/38	06:00	06:31	07:01	06:36	07:09	
	16:46	17:23	17:56	19:29	20:01	20:28	20:28	20:33	20:07	19:21	18:30	16:47	16:30		
9	07:23	07:01	06:21	06:30	05:48	05:26	05:48-06:30/42	05:34	05:56-06:33/37	06:01	06:32	07:02	06:37	07:10	
	16:47	17:24	17:57	19:31	20:02	20:29	20:29	20:32	20:06	19:19	18:29	16:46	16:30		
10	07:23	07:00	06:20	06:28	05:46	05:26	05:48-06:30/42	05:34	05:57-06:33/36	06:02	06:33	07:03	06:38	07:11	
	16:48	17:25	17:58	19:32	20:03	20:29	20:29	20:32	20:05	19:17	18:27	16:45	16:30		
11	07:23	06:59	06:18	06:27	05:45	05:25	05:48-06:31/43	05:35	05:58-06:33/35	06:03	06:34	07:04	06:40	07:12	
	16:49	17:26	17:59	19:33	20:04	20:30	20:30	20:32	20:03	19:16	18:25	16:44	16:30		
12	07:22	06:58	06:16	06:25	05:44	05:25	05:47-06:30/43	05:36	05:58-06:32/34	06:04	06:35	07:05	06:41	07:13	
	16:50	17:28	18:00	19:34	20:05	20:30	20:30	20:31	20:02	19:14	18:24	16:43	16:30		
13	07:22	06:56	06:15	06:24	05:43	05:25	05:47-06:31/44	05:36	05:59-06:32/33	06:05	06:36	07:06	06:42	07:14	
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:31	20:01	19:12	18:22	16:42	16:30		
14	07:22	06:55	06:13	06:22	05:42	05:25	05:47-06:31/44	05:37	06:00-06:31/31	06:06	06:37	07:07	06:43	07:15	
	16:52	17:30	18:03	19:36	20:07	20:31	20:31	20:30	19:59	19:11	18:21	16:41	16:30		
15	07:21	06:54	06:11	06:21	05:41	05:25	05:47-06:32/45	05:38	06:00-06:30/30	06:07	06:38	07:08	06:44	07:15	
	16:54	17:31	18:04	19:37	20:08	20:32	20:32	20:29	19:58	19:09	18:19	16:40	16:30		
16	07:21	06:53	06:10	06:19	05:40	05:25	05:47-06:32/45	05:39	06:01-06:29/28	06:08	06:39	07:10	06:46	07:16	
	16:55	17:33	18:05	19:38	20:09	20:32	20:32	20:29	19:57	19:07	18:17	16:39	16:31		
17	07:21	06:51	06:08	06:17	05:39	05:25	05:48-06:33/45	05:40	06:02-06:29/27	06:09	06:39	07:11	06:47	07:17	
	16:56	17:34	18:06	19:39	20:10	20:32	20:32	20:28	19:55	19:05	18:16	16:39	16:31		
18	07:20	06:50	06:07	06:16	05:38	05:59-06:04/5	05:25	05:48-06:33/45	05:40	06:03-06:28/25	06:10	06:40	07:12	06:48	07:17
	16:57	17:35	18:07	19:40	20:11	20:33	20:33	20:28	19:54	19:04	18:14	16:38	16:31		
19	07:20	06:48	06:05	06:14	05:37	05:58-06:07/9	05:25	05:48-06:33/45	05:41	06:04-06:27/23	06:11	06:41	07:13	06:49	07:18
	16:58	17:36	18:08	19:41	20:12	20:33	20:33	20:27	19:52	19:02	18:13	16:37	16:32		
20	07:19	06:47	06:03	06:13	05:37	05:57-06:09/12	05:26	05:48-06:33/45	05:42	06:04-06:25/21	06:12	06:42	07:14	06:50	07:19
	16:59	17:37	18:09	19:42	20:13	20:33	20:33	20:26	19:51	19:00	18:11	16:36	16:32		
21	07:18	06:46	06:02	06:11	05:36	05:56-06:11/15	05:26	05:48-06:33/45	05:43	06:05-06:24/19	06:13	06:43	07:15	06:52	07:19
	17:00	17:39	18:10	19:43	20:14	20:34	20:34	20:25	19:49	18:59	18:10	16:36	16:32		
22	07:18	06:44	06:00	06:10	05:35	05:56-06:14/18	05:26	05:48-06:33/45	05:44	06:06-06:23/17	06:14	06:44	07:16	06:53	07:20
	17:02	17:40	18:11	19:44	20:15	20:34	20:34	20:25	19:48	18:57	18:09	16:35	16:33		
23	07:17	06:43	05:58	06:08	05:34	05:55-06:15/20	05:26	05:49-06:34/45	05:45	06:07-06:21/14	06:15	06:45	07:17	06:54	07:20
	17:03	17:41	18:12	19:45	20:16	20:34	20:34	20:24	19:46	18:55	18:07	16:34	16:33		
24	07:16	06:41	05:56	06:07	05:33	05:54-06:16/22	05:26	05:49-06:34/45	05:45	06:08-06:19/11	06:16	06:46	07:18	06:55	07:21
	17:04	17:42	18:13	19:46	20:17	20:34	20:34	20:23	19:45	18:54	18:06	16:34	16:34		
25	07:16	06:40	05:55	06:06	05:33	05:54-06:18/24	05:27	05:49-06:34/45	05:46	06:09-06:16/7	06:17	06:47	06:20	06:56	07:21
	17:05	17:43	18:15	19:47	20:18	20:34	20:34	20:22	19:43	18:52	17:04	16:33	16:35		
26	07:15	06:38	05:53	06:04	05:32	05:53-06:19/26	05:27	05:50-06:35/45	05:47	06:10-06:12/2	06:18	06:49	06:21	06:57	07:21
	17:07	17:45	18:16	19:49	20:18	20:34	20:34	20:21	19:42	18:50	17:03	16:33	16:35		
27	07:14	06:37	05:51	06:03	05:31	05:52-06:20/28	05:27	05:50-06:35/45	05:48	06:19	06:50	06:22	06:58	07:22	
	17:08	17:46	18:17	19:50	20:19	20:34	20:34	20:20	19:40	18:48	17:02	16:32	16:36		
28	07:13	06:35	05:50	06:01	05:31	05:52-06:21/29	05:28	05:50-06:34/44	05:49	06:20	06:51	06:23	06:59	07:22	
	17:09	17:47	18:18	19:51	20:20	20:34	20:34	20:19	19:39	18:47	17:00	16:32	16:36		
29	07:12		06:48	06:00	05:30	05:51-06:22/31	05:28	05:51-06:35/44	05:50	06:21	06:52	06:24	07:00	07:22	
	17:10		19:19	19:52	20:21	20:34	20:34	20:18	19:37	18:45	16:59	16:31	16:37		
30	07:12		06:46	05:59	05:30	05:51-06:23/32	05:29	05:51-06:35/44	05:51	06:22	06:53	06:25	07:02	07:23	
	17:11		19:20	19:53	20:22	20:34	20:34	20:17	19:35	18:43	16:58	16:31	16:38		
31	07:11		06:45		05:29	05:50-06:23/33		05:52	05:52	06:23		06:27		07:23	
	17:13		19:21		20:23			20:16	19:34		16:56		16:39		
Potential sun hours	297	297	369	399	448	452	452	459	428	375	345	298	288	0	
Sum of minutes with flicker	0	0	0	0	0	304	1281	757	0	0	0	0	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: Cumulative WTG: 7 - AG21

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 19:32	06:54 18:42	06:28 16:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:32 17:49	06:42 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:31
3	07:23 16:42	07:08 17:17	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:38	06:30 16:53	07:05 16:30
4	07:23 16:42	07:07 17:18	06:29 17:52	06:38 19:25	05:54 19:57	05:27 20:26	05:31 20:34	05:56 20:12	06:27 19:27	06:57 18:37	06:31 16:52	07:06 16:30
5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 19:26	05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 19:26	06:58 18:35	06:33 16:50	07:07 16:30
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 19:27	05:51 19:59	05:27 20:27	05:32 20:33	05:58 20:10	06:29 19:24	06:59 18:33	06:34 16:49	07:08 16:30
7	07:23 16:45	07:04 17:22	06:25 17:55	06:33 19:28	05:50 20:00	05:26 20:28	05:32 20:33	05:59 20:09	06:30 19:22	07:00 18:32	06:35 16:48	07:09 16:30
8	07:23 16:46	07:02 17:23	06:23 17:56	06:32 19:30	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 19:21	07:01 18:30	06:36 16:47	07:10 16:30
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:31	05:48 20:02	05:26 20:29	05:34 20:32	06:01 20:06	06:32 19:19	07:02 18:29	06:37 16:46	07:11 16:30
10	07:23 16:48	07:00 17:25	06:20 17:58	06:29 19:32	05:47 20:03	05:26 20:29	05:34 20:32	06:02 20:05	06:33 19:17	07:03 18:27	06:39 16:45	07:11 16:30
11	07:23 16:49	06:59 17:26	06:18 17:59	06:27 19:33	05:45 20:04	05:26 20:30	05:35 20:32	06:03 20:03	06:34 19:16	07:04 18:25	06:40 16:44	07:12 16:30
12	07:22 16:50	06:58 17:28	06:16 18:01	06:25 19:34	05:44 20:05	05:25 20:30	05:36 20:31	06:04 20:02	06:35 19:14	07:05 18:24	06:41 16:43	07:13 16:30
13	07:22 16:51	06:56 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 20:31	05:36 20:31	06:05 20:01	06:36 19:12	07:06 18:22	06:42 16:42	07:14 16:30
14	07:22 16:53	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 20:31	05:37 20:30	06:06 19:59	06:37 19:11	07:07 18:21	06:43 16:41	07:15 16:30
15	07:21 16:54	06:54 17:31	06:12 18:04	06:21 19:37	05:41 20:08	05:25 20:32	05:38 20:30	06:07 19:58	06:38 19:09	07:09 18:19	06:45 16:40	07:15 16:30
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:39 19:07	07:10 18:18	06:46 16:39	07:16 16:31
17	07:21 16:56	06:51 17:34	06:08 18:06	06:18 19:39	05:39 20:10	05:25 20:33	05:40 20:28	06:09 19:55	06:40 19:06	07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 19:04	07:12 18:15	06:48 16:38	07:17 16:31
19	07:20 16:58	06:49 17:36	06:05 18:08	06:14 19:41	05:37 20:12	05:25 20:33	05:41 20:27	06:11 19:52	06:42 19:02	07:13 18:13	06:49 16:37	07:18 16:32
20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:33	05:42 20:26	06:12 19:51	06:43 19:00	07:14 18:12	06:50 16:36	07:19 16:32
21	07:18 17:01	06:46 17:39	06:02 18:10	06:11 19:43	05:36 20:14	05:26 20:34	05:43 20:26	06:13 19:49	06:44 18:59	07:15 18:10	06:52 16:36	07:19 16:32
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	07:16 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 18:13	06:09 19:45	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:46	06:46 18:55	07:17 18:07	06:54 16:34	07:20 16:33
24	07:17 17:04	06:41 17:42	05:57 18:14	06:07 19:47	05:33 20:17	05:26 20:34	05:46 20:23	06:16 19:45	06:47 18:54	07:19 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:34	05:46 20:22	06:17 19:43	06:48 18:52	07:20 17:04	06:56 16:33	07:21 16:35
26	07:15 17:07	06:38 17:45	05:53 18:16	06:04 19:49	05:32 20:19	05:27 20:34	05:47 20:21	06:18 19:42	06:49 18:50	07:21 17:03	06:57 16:33	07:22 16:35
27	07:14 17:08	06:37 17:46	05:52 18:17	06:03 19:50	05:31 20:19	05:27 20:34	05:48 20:20	06:19 19:40	06:50 18:49	07:22 17:02	06:58 16:32	07:22 16:36
28	07:13 17:09	06:35 17:47	05:50 18:18	06:01 19:51	05:31 20:20	05:28 20:34	05:49 20:19	06:20 19:39	06:51 18:47	07:23 17:00	07:00 16:32	07:22 16:37
29	07:13 17:10		06:48 19:19	06:00 19:52	05:30 20:21	05:28 20:34	05:50 20:19	06:21 19:37	06:52 18:45	07:24 16:59	07:01 16:31	07:22 16:37
30	07:12 17:12		06:47 19:20	05:59 19:53	05:30 20:22	05:29 20:34	05:51 20:17	06:22 19:36	06:53 18:43	07:25 16:58	07:02 16:31	07:23 16:38
31	07:11 17:13		06:45 19:21		05:29 20:23		05:52 20:16	06:23 19:34		06:27 16:56		07:23 16:39
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 8 - AG22

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03
	16:40	17:14	17:48	19:22	19:54	20:23	20:34	20:15	19:32	18:42	16:55	16:31
2	07:23	07:09	06:32	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31
3	07:23	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05
	16:41	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:38	16:53	16:30
4	07:23	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:31	07:06
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:27	18:37	16:52	16:30
5	07:23	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30
6	07:23	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08
	16:44	17:20	17:54	19:27	19:59	20:27	20:33	20:10	19:24	18:33	16:49	16:30
7	07:23	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09
	16:45	17:22	17:55	19:28	20:00	20:28	20:33	20:09	19:22	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:37	07:11
	16:47	17:24	17:57	19:31	20:02	20:29	20:32	20:06	19:19	18:29	16:46	16:30
10	07:23	07:00	06:20	06:29	05:46	05:26	05:34	06:02	06:33	07:03	06:39	07:11
	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:17	18:27	16:45	16:30
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12
	16:49	17:26	17:59	19:33	20:04	20:30	20:32	20:03	19:16	18:25	16:44	16:30
12	07:22	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13
	16:50	17:28	18:01	19:34	20:05	20:30	20:31	20:02	19:14	18:24	16:43	16:30
13	07:22	06:57	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:07	06:43	07:15
	16:52	17:30	18:03	19:36	20:07	20:31	20:30	19:59	19:11	18:21	16:41	16:30
15	07:21	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:15
	16:54	17:31	18:04	19:37	20:08	20:32	20:30	19:58	19:09	18:19	16:40	16:30
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31
17	07:21	06:51	06:08	06:17	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17
	16:56	17:34	18:06	19:39	20:10	20:33	20:28	19:55	19:06	18:16	16:39	16:31
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:17
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31
19	07:20	06:49	06:05	06:14	05:37	05:25	05:41	06:11	06:42	07:13	06:49	07:18
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:50	07:19
	16:59	17:37	18:09	19:42	20:13	20:33	20:26	19:51	19:00	18:12	16:36	16:32
21	07:18	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:49	18:59	18:10	16:36	16:32
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20
	17:02	17:40	18:11	19:44	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:17	06:54	07:20
	17:03	17:41	18:13	19:45	20:16	20:34	20:24	19:46	18:55	18:07	16:34	16:33
24	07:17	06:41	05:57	06:07	05:33	05:26	05:46	06:16	06:47	07:19	06:55	07:21
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21
	17:05	17:43	18:15	19:48	20:18	20:34	20:22	19:43	18:52	17:04	16:33	16:35
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:57	07:22
	17:07	17:45	18:16	19:49	20:19	20:34	20:21	19:42	18:50	17:03	16:33	16:35
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:58	07:22
	17:08	17:46	18:17	19:50	20:19	20:34	20:20	19:40	18:49	17:02	16:32	16:36
28	07:13	06:35	05:50	06:01	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:37
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:24	07:01	07:22
	17:10		19:19	19:52	20:21	20:34	20:19	19:37	18:45	16:59	16:31	16:37
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23
	17:12		19:20	19:53	20:22	20:34	20:18	19:36	18:43	16:58	16:31	16:38
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23
	17:13		19:21		20:23		20:16	19:34		16:56		16:39
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 9 - AG25

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 08:05-08:44/39 19:22	05:57 19:54	05:29 20:24	05:29 20:34	05:53 20:15	06:24 19:32	06:54 07:58-08:25/27 18:42	06:28 16:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:32 17:49	06:42 08:06-08:42/36 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 08:00-08:22/22 18:40	06:29 16:54	07:04 16:31
3	07:24 16:42	07:08 17:17	06:31 17:50	06:40 08:06-08:40/34 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 08:03-08:18/15 18:39	06:30 16:53	07:05 16:30
4	07:24 16:42	07:07 17:18	06:29 17:52	06:38 08:08-08:39/31 19:25	05:54 19:57	05:27 20:26	05:31 20:34	05:56 20:12	06:27 08:14-08:23/9 19:28	06:57 18:37	06:32 16:52	07:06 16:30
5	07:24 16:43	07:06 17:19	06:28 17:53	06:37 08:09-08:37/28 19:26	05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 08:09-08:27/18 19:26	06:58 18:35	06:33 16:50	07:07 16:30
6	07:24 16:44	07:05 17:20	06:26 17:54	06:35 08:11-08:35/24 19:27	05:51 19:59	05:27 20:27	05:32 20:34	05:58 20:10	06:29 08:06-08:30/24 19:24	06:59 18:34	06:34 16:49	07:08 16:30
7	07:23 16:45	07:04 17:22	06:25 17:55	06:33 08:13-08:31/18 19:29	05:50 20:00	05:26 20:28	05:32 20:33	05:59 20:09	06:30 08:04-08:32/28 19:23	07:00 18:32	06:35 16:48	07:09 16:30
8	07:23 16:46	07:03 17:23	06:23 17:56	06:32 08:17-08:26/9 19:30	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 08:02-08:33/31 19:21	07:01 18:30	06:36 16:47	07:10 16:30
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:31	05:48 20:02	05:26 20:29	05:34 20:33	06:01 20:06	06:32 08:00-08:34/34 19:19	07:02 18:29	06:37 16:46	07:11 16:30
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12	07:23 16:50	06:58 17:28	06:17 07:19-07:44/25 18:01	06:25 19:34	05:44 20:05	05:25 20:30	05:36 20:31	06:04 20:02	06:35 07:57-08:37/40 19:14	07:05 18:24	06:41 16:43	07:13 16:30
13	07:22 16:51	06:57 17:29	06:15 07:17-07:47/30 18:02	06:24 19:35	05:43 20:06	05:25 20:31	05:37 20:31	06:05 20:01	06:36 07:56-08:37/41 19:12	07:06 18:22	06:42 16:42	07:14 16:30
14	07:22 16:53	06:55 17:30	06:13 07:15-07:48/33 18:03	06:22 19:36	05:42 20:07	05:25 20:31	05:37 20:30	06:06 20:00	06:37 07:55-08:38/43 19:11	07:08 18:21	06:43 16:41	07:15 16:30
15	07:22 16:54	06:54 17:31	06:12 07:13-07:49/36 18:04	06:21 19:37	05:41 20:08	05:25 20:32	05:38 20:30	06:07 19:58	06:38 07:54-08:38/44 19:09	07:09 18:19	06:45 16:40	07:15 16:30
16	07:21 16:55	06:53 17:33	06:10 07:12-07:50/38 18:05	06:19 19:38	05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:39 07:53-08:38/45 19:07	07:10 18:18	06:46 16:39	07:16 16:31
17	07:21 16:56	06:51 17:34	06:08 07:10-07:51/41 18:06	06:18 19:39	05:39 20:10	05:25 20:33	05:40 20:28	06:09 19:55	06:40 07:53-08:38/45 19:06	07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 07:09-07:51/42 18:07	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 07:52-08:38/46 19:04	07:12 18:15	06:48 16:38	07:18 16:31
19	07:20 16:58	06:49 17:36	06:05 07:08-07:52/44 18:08	06:15 19:41	05:38 20:12	05:25 20:33	05:41 20:27	06:11 19:52	06:42 07:52-08:38/46 19:02	07:13 18:13	06:49 16:37	07:18 16:32
20	07:19 16:59	06:47 17:38	06:03 07:07-07:52/45 18:09	06:13 19:42	05:37 20:13	05:26 20:34	05:42 20:26	06:12 19:51	06:43 07:52-08:38/46 19:01	07:14 18:12	06:51 16:36	07:19 16:32
21	07:19 17:01	06:46 17:39	06:02 07:06-07:51/45 18:10	06:12 19:43	05:36 20:14	05:26 20:34	05:43 20:26	06:13 19:50	06:44 07:51-08:37/46 18:59	07:15 18:10	06:52 16:36	07:19 16:32
22	07:18 17:02	06:44 17:40	06:00 07:06-07:52/46 18:11	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 07:51-08:37/46 18:57	07:16 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 07:05-07:51/46 18:13	06:09 19:46	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:47	06:46 07:51-08:36/45 18:55	07:18 18:07	06:54 16:34	07:20 16:33
24	07:17 17:04	06:42 17:42	05:57 07:05-07:51/46 18:14	06:07 19:47	05:33 20:17	05:26 20:34	05:46 20:23	06:16 19:45	06:47 07:52-08:35/43 18:54	07:19 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 07:04-07:50/46 18:15	06:06 19:48	05:33 20:18	05:27 20:34	05:46 20:22	06:17 19:43	06:48 07:52-08:34/42 18:52	07:20 17:04	06:56 16:33	07:21 16:35
26	07:15 17:07	06:39 17:45	05:53 07:04-07:50/46 18:16	06:04 19:49	05:32 20:19	05:27 20:35	05:47 20:21	06:18 19:42	06:49 07:52-08:33/41 18:50	07:21 17:03	06:57 16:33	07:22 16:35
27	07:14 17:08	06:37 17:46	05:52 07:04-07:49/45 18:17	06:03 19:50	05:31 20:19	05:27 20:35	05:48 20:21	06:19 19:40	06:50 07:53-08:32/39 18:49	07:22 17:02	06:59 16:32	07:22 16:36
28	07:14 17:09	06:36 17:47	05:50 07:04-07:48/44 18:18	06:02 19:51	05:31 20:20	05:28 20:35	05:49 20:20	06:20 19:39	06:51 07:54-08:31/37 18:47	07:23 17:00	07:00 16:32	07:22 16:37
29	07:13 17:10	06:35 19:19	05:48 08:04-08:48/44 19:19	06:00 19:52	05:30 20:21	05:28 20:35	05:50 20:19	06:21 19:37	06:52 07:55-08:29/34 18:45	07:24 16:59	07:01 16:32	07:23 16:37
30	07:12 17:12	06:34 19:20	05:47 08:04-08:46/42 19:20	05:59 19:53	05:30 20:22	05:29 20:35	05:51 20:18	06:22 19:36	06:53 07:56-08:27/31 18:44	07:25 16:58	07:02 16:31	07:23 16:38
31	07:11 17:13	06:33 19:21	05:45 08:04-08:45/41 19:21	05:58 19:54	05:29 20:23	05:28 20:35	05:52 20:17	06:23 19:34	06:54 07:56-08:26/30 18:43	07:26 16:56	07:03 16:30	07:23 16:39
Potential sun hours	297	297	369	399	448	452	459	428	375	1018	345	298
Sum of minutes with flicker	0	0	855	219	0	0	0	0	1018	64	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: Cumulative WTG: 10 - AG27

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:40	07:10 17:14	06:34 07:24-08:19/55 17:48	06:43 19:22	05:57 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 19:32	06:54 08:05-09:01/56 18:42	06:28 07:08-07:24/16 18:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:32 07:23-08:20/57 17:49	06:42 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 08:04-09:02/58 18:40	06:29 07:11-07:23/12 18:54	07:04 16:30
3	07:23 16:41	07:08 17:16	06:31 07:23-08:22/59 17:50	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 08:03-09:02/59 18:38	06:30 07:14-07:22/8 18:53	07:05 16:30
4	07:23 16:42	07:07 17:18	06:29 07:23-08:22/59 17:51	06:38 19:25	05:54 19:57	05:27 20:26	05:31 20:34	05:56 20:12	06:27 19:27	06:57 08:02-09:03/61 18:37	06:31 07:16-07:20/4 18:51	07:06 16:30
5	07:23 16:43	07:06 17:19	06:28 07:24-08:24/60 17:53	06:37 19:26	05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 19:26	06:58 08:01-09:03/62 18:35	06:33 18:50	07:07 16:30
6	07:23 16:44	07:05 17:20	06:26 07:23-08:25/62 17:54	06:35 19:27	05:51 19:59	05:27 20:27	05:32 20:33	05:58 20:10	06:29 19:24	06:59 08:00-09:03/63 18:33	06:34 18:49	07:08 16:30
7	07:23 16:45	07:04 07:46-07:51/5 17:21	06:25 07:23-08:26/63 17:55	06:33 19:28	05:50 20:00	05:26 20:28	05:32 20:33	05:59 20:08	06:30 19:22	07:00 07:59-09:01/62 18:32	06:35 18:48	07:09 16:30
8	07:23 16:46	07:02 07:43-07:52/9 17:23	06:23 07:24-08:27/63 17:56	06:32 19:29	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 19:21	07:01 07:58-09:00/62 18:30	06:36 18:47	07:10 16:30
9	07:23 16:47	07:01 07:41-07:54/13 17:24	06:21 07:24-08:26/62 17:57	06:30 19:31	05:48 20:02	05:26 20:29	05:34 20:32	06:01 20:06	06:32 19:19	07:02 07:58-08:58/60 18:29	06:37 18:46	07:10 16:30
10	07:23 16:48	07:00 07:39-07:55/16 17:25	06:20 07:24-08:24/60 17:58	06:28 19:32	05:46 20:03	05:26 20:29	05:34 20:32	06:02 20:05	06:33 19:17	07:03 07:57-08:56/59 18:27	06:39 18:45	07:11 16:30
11	07:23 16:49	06:59 07:37-07:56/19 17:26	06:18 07:25-08:24/59 17:59	06:27 19:33	05:45 20:04	05:25 20:30	05:35 20:32	06:03 20:03	06:34 19:16	07:04 07:57-08:54/57 18:25	06:40 18:44	07:12 16:30
12	07:22 16:50	06:58 07:36-07:57/21 17:28	06:16 07:25-08:22/57 18:00	06:25 19:34	05:44 20:05	05:25 20:30	05:36 20:31	06:04 20:02	06:35 19:14	07:05 07:57-08:54/57 18:24	06:41 18:43	07:13 16:30
13	07:22 16:51	06:56 07:34-07:59/25 17:29	06:15 07:26-08:21/55 18:02	06:24 19:35	05:43 20:06	05:25 20:31	05:36 20:31	06:05 20:01	06:36 19:12	07:06 07:57-08:52/55 18:22	06:42 18:42	07:14 16:30
14	07:22 16:52	06:55 07:33-08:00/27 17:30	06:13 07:27-08:19/52 18:03	06:22 19:36	05:42 20:07	05:25 20:31	05:37 20:30	06:06 19:59	06:37 19:11	07:07 07:57-08:50/53 18:21	06:43 18:41	07:15 16:30
15	07:21 16:54	06:54 07:32-08:01/29 17:31	06:12 07:27-08:17/50 18:04	06:21 19:37	05:41 20:08	05:25 20:32	05:38 20:30	06:07 19:58	06:38 19:09	07:08 07:56-08:49/53 18:19	06:45 18:40	07:15 16:30
16	07:21 16:55	06:53 07:31-08:03/32 17:33	06:10 07:28-08:15/47 18:05	06:19 19:38	05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:39 19:07	07:10 07:56-08:47/51 18:18	06:46 18:39	07:16 16:31
17	07:21 16:56	06:51 07:30-08:04/34 17:34	06:08 07:30-08:14/44 18:06	06:17 19:39	05:39 20:10	05:25 20:32	05:40 20:28	06:09 19:55	06:40 19:06	07:11 07:56-08:45/49 18:16	06:47 18:39	07:17 16:31
18	07:20 16:57	06:50 07:29-08:05/36 17:35	06:07 07:31-08:11/40 18:07	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 19:04	07:12 07:56-08:43/47 18:14	06:48 18:38	07:17 16:31
19	07:20 16:58	06:49 07:28-08:07/39 17:36	06:05 07:33-08:08/35 18:08	06:14 19:41	05:37 20:12	05:25 20:33	05:41 20:27	06:11 19:52	06:42 19:02	07:13 07:57-08:43/46 18:13	06:49 18:37	07:18 16:32
20	07:19 16:59	06:47 07:27-08:07/40 17:37	06:03 07:35-08:06/31 18:09	06:13 19:42	05:37 20:13	05:26 20:33	05:42 20:26	06:12 19:51	06:43 19:00	07:14 07:57-08:41/44 18:11	06:50 18:36	07:19 16:32
21	07:18 17:00	06:46 07:27-08:09/42 17:39	06:02 07:38-08:02/24 18:10	06:11 19:43	05:36 20:14	05:26 20:34	05:43 20:26	06:13 19:49	06:44 18:59	08:30-08:41/11 18:10	07:15 07:58-08:39/41 18:10	07:19 16:32
22	07:18 17:02	06:44 07:26-08:10/44 17:40	06:00 07:42-07:56/14 18:11	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	08:24-08:46/22 18:09	07:16 07:58-08:38/40 18:09	07:20 16:33
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25	07:16 17:05	06:40 07:25-08:14/49 17:43	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:34	05:46 20:22	06:17 19:43	06:48 18:52	08:15-08:54/39 17:04	06:20 07:00-07:34/34 18:04	07:21 16:35
26	07:15 17:07	06:38 07:25-08:16/51 17:45	05:53 18:16	06:04 19:49	05:32 20:18	05:27 20:34	05:47 20:21	06:18 19:42	06:49 18:50	08:13-08:56/43 17:03	06:21 07:01-07:32/31 18:03	07:21 16:35
27	07:14 17:08	06:37 07:24-08:17/53 17:46	05:51 18:17	06:03 19:50	05:31 20:19	05:27 20:34	05:48 20:20	06:19 19:40	06:50 18:48	08:11-08:57/46 17:02	06:22 07:02-07:30/28 18:02	07:22 16:36
28	07:13 17:09	06:35 07:23-08:17/54 17:47	05:50 18:18	06:01 19:51	05:31 20:20	05:28 20:34	05:49 20:19	06:20 19:39	06:51 18:47	08:09-08:58/49 17:03	06:23 07:02-07:29/27 18:00	07:22 16:36
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31	07:11 17:13	07:11 17:13	06:45 19:21	05:59 20:23	05:29 20:23	05:29 20:23	05:52 20:16	06:23 19:34	06:53 19:34	08:06-09:00/54 16:56	06:27 07:07-07:25/18 16:56	07:03 16:39
Potential sun hours	297	297	369	399	448	452	459	428	375	345	298	288
Sum of minutes with flicker	0	731	1108	0	0	0	0	0	378	1451	40	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: Cumulative WTG: 11 - AG28

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:23	19:48-19:58/10 20:34	05:29 20:34	19:56-20:09/13 20:15	05:53 20:15	06:24 18:42	06:54 16:55	06:28 16:31	07:03
2	07:23 16:41	07:09 17:15	06:32 17:49	06:42 19:23	05:56 19:55	05:28 20:24	19:49-19:59/10 20:34	05:30 20:34	19:56-20:09/13 20:14	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:30
3	07:23 16:41	07:08 17:16	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	19:48-20:00/12 20:34	05:30 20:34	19:56-20:09/13 20:13	05:55 20:13	06:26 19:29	06:56 18:38	06:30 16:53	07:05 16:30
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7	07:23 16:45	07:04 17:21	06:25 17:55	06:33 19:28	05:50 20:00	05:26 20:27	19:50-20:02/12 20:33	05:32 20:33	19:56-20:08/12 20:08	05:59 20:08	06:30 19:22	07:00 18:32	06:35 16:48	07:09 16:30
8	07:23 16:46	07:02 17:23	06:23 17:56	06:32 19:29	05:49 20:01	05:26 20:28	19:51-20:03/12 20:33	05:33 20:33	19:56-20:08/12 20:07	06:00 20:07	06:31 19:21	07:01 18:30	06:36 16:47	07:10 16:30
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:31	05:48 20:02	05:26 20:29	19:51-20:04/13 20:32	05:34 20:32	19:56-20:07/11 20:06	06:01 20:06	06:32 19:19	07:02 18:29	06:37 16:46	07:10 16:30
10	07:23 16:48	07:00 17:25	06:20 17:58	06:28 19:32	05:46 20:03	05:26 20:29	19:52-20:04/12 20:32	05:34 20:32	19:56-20:07/11 20:05	06:02 20:05	06:33 19:17	07:03 18:27	06:39 16:45	07:11 16:30
11	07:23 16:49	06:59 17:26	06:18 17:59	06:27 19:33	05:45 20:04	05:26 20:30	19:51-20:04/13 20:32	05:35 20:32	19:56-20:07/11 20:03	06:03 20:03	06:34 19:16	07:04 18:25	06:40 16:44	07:12 16:30
12	07:22 16:50	06:58 17:28	06:16 18:00	06:25 19:34	05:44 20:05	05:25 20:30	19:52-20:04/12 20:31	05:36 20:31	19:56-20:06/10 20:02	06:04 20:02	06:35 19:14	07:05 18:24	06:41 16:43	07:13 16:30
13	07:22 16:51	06:56 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 20:31	19:52-20:05/13 20:31	05:36 20:31	19:56-20:06/10 20:01	06:05 20:01	06:36 19:12	07:06 18:22	06:42 16:42	07:14 16:30
14	07:22 16:52	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 20:31	19:53-20:05/12 20:30	05:37 20:30	19:56-20:05/9 19:59	06:06 19:11	06:37 18:21	07:07 18:21	06:43 16:41	07:15 16:30
15	07:21 16:54	06:54 17:31	06:12 18:04	06:21 19:37	05:41 20:08	05:25 20:32	19:53-20:06/13 20:30	05:38 20:30	19:56-20:04/8 19:58	06:07 19:09	06:38 18:19	07:08 18:20	06:44 16:40	07:15 16:30
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	19:53-20:06/13 20:29	05:39 20:29	19:56-20:04/8 19:57	06:08 19:07	06:39 18:18	07:10 18:18	06:46 16:39	07:16 16:31
17	07:21 16:56	06:51 17:34	06:08 18:06	06:17 19:39	05:39 20:10	05:25 20:32	19:54-20:06/12 20:28	05:40 20:28	19:56-20:04/8 19:55	06:09 19:06	06:40 18:16	07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:25 20:33	19:55-20:08/13 20:28	05:40 20:28	19:57-20:03/6 19:54	06:10 19:04	06:41 18:14	07:12 18:14	06:48 16:38	07:17 16:31
19	07:20 16:58	06:48 17:36	06:05 18:08	06:14 19:41	05:37 20:12	05:25 20:33	19:55-20:08/13 20:27	05:41 20:27	19:57-20:03/6 19:52	06:11 19:02	06:42 18:13	07:13 18:13	06:49 16:37	07:18 16:32
20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:33	19:55-20:08/13 20:26	05:42 20:26	19:57-20:01/4 19:51	06:12 19:00	06:43 18:11	07:14 18:11	06:50 16:36	07:19 16:32
21	07:18 17:01	06:46 17:39	06:02 18:10	06:11 19:43	05:36 20:14	05:26 20:34	19:55-20:08/13 20:25	05:43 20:25	19:57-20:01/4 19:49	06:13 18:59	06:44 18:10	07:15 18:10	06:52 16:36	07:19 16:32
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	19:55-20:08/13 20:25	05:44 20:25	19:58-20:00/2 19:48	06:14 18:57	06:45 18:09	07:16 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 18:12	06:08 19:45	05:34 20:16	05:26 20:34	19:56-20:09/13 20:24	05:45 20:24	19:58-20:00/2 19:46	06:15 18:55	06:46 18:07	07:17 18:07	06:54 16:34	07:20 16:33
24	07:16 17:04	06:41 17:42	05:57 18:14	06:07 19:46	05:33 20:17	05:26 20:34	19:56-20:09/13 20:23	05:45 20:23	06:16 19:45	06:16 18:54	06:47 18:06	07:19 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:34	19:56-20:08/12 20:22	05:46 20:22	06:17 19:43	06:18 18:52	06:48 17:04	07:20 18:04	06:56 16:33	07:21 16:35
26	07:15 17:07	06:38 17:45	05:53 18:16	06:04 19:49	05:32 20:18	05:27 20:34	19:56-20:09/13 20:21	05:47 20:21	06:18 19:42	06:19 18:50	06:49 17:03	07:21 18:03	06:57 16:33	07:21 16:35
27	07:14 17:08	06:37 17:46	05:51 18:17	06:03 19:50	05:31 20:19	05:27 20:34	19:56-20:09/13 20:20	05:48 20:20	06:19 19:40	06:50 18:48	06:50 17:02	07:22 18:02	06:58 16:32	07:22 16:36
28	07:13 17:09	06:35 17:47	05:50 18:18	06:01 19:51	05:31 20:20	05:28 20:34	19:56-20:09/13 20:19	05:49 20:19	06:20 19:39	06:51 18:47	06:51 17:00	07:23 18:02	06:59 16:32	07:22 16:36
29	07:13 17:10		06:48 19:19	06:00 19:52	05:30 20:21	05:28 20:34	19:56-20:09/13 20:18	05:50 20:18	06:21 19:37	06:52 18:45	06:52 16:59	07:01 18:01	07:01 16:31	07:22 16:37
30	07:12 17:11		06:46 19:20	05:59 19:53	05:30 20:22	05:29 20:34	19:48-19:57/9 20:34	05:51 20:17	06:22 19:35	06:53 18:43	06:53 16:58	07:02 18:01	07:02 16:31	07:23 16:38
31	07:11 17:13		06:45 19:21		05:29 20:23		19:47-19:57/10	05:52 20:16	06:23 19:34		06:27 16:56		07:23 16:39	
Potential sun hours	297	297	369	399	448	452	371	459	428	375	345	298	288	0
Sum of minutes with flicker	0	0	0	0	71	371	209	0	0	0	0	0	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: Cumulative WTG: 12 - AG29

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
 - 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23 16:40	07:10 17:14	06:34 17:48	16:58-17:27/29 19:22	06:43 18:03-18:26/23	05:58 19:54	05:29 20:24	05:29 20:34	05:53 20:16	06:24 19:32	17:28-18:19/51	06:28 16:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:33 17:49	16:56-17:27/31 19:23	06:42 18:07-18:21/14	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	17:28-18:18/50	06:29 16:54	07:04 16:31
3	07:24 16:42	07:08 17:17	06:31 17:50	16:55-17:29/34 19:24	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	17:27-18:16/49	06:56 16:53	07:05 16:30
4	07:24 16:42	07:07 17:18	06:29 17:52	16:54-17:30/36 19:25	06:38 19:25	05:54 19:57	05:27 20:26	05:31 20:34	05:56 20:12	06:27 19:28	17:27-18:14/47	06:57 16:52	07:06 16:30
5	07:24 16:43	07:06 17:19	06:28 17:53	16:53-17:32/39 19:26	06:37 19:26	05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 19:26	17:27-18:12/45	06:58 16:50	07:07 16:30
6	07:24 16:44	07:05 17:20	06:26 17:54	16:52-17:33/41 19:28	06:35 19:28	05:51 19:59	05:27 20:27	05:32 20:34	05:58 20:10	06:29 19:24	17:27-18:11/44	06:59 16:49	07:08 16:30
7	07:24 16:45	07:04 17:22	06:25 17:55	16:51-17:33/42 19:29	06:33 19:29	05:50 20:00	05:26 20:28	05:32 20:33	05:59 20:09	06:30 19:23	17:27-18:09/42	07:00 16:48	07:09 16:30
8	07:23 16:46	07:03 17:23	06:23 17:56	16:51-17:35/44 19:30	06:32 19:30	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 19:21	17:28-18:07/39	07:01 16:47	07:10 16:30
9	07:23 16:47	07:01 17:24	06:21 17:57	16:50-17:36/46 19:31	06:30 19:31	05:48 20:02	05:26 20:29	05:34 20:33	06:01 20:06	06:32 19:19	17:28-18:05/37	07:02 16:46	07:11 16:30
10	07:23 16:48	07:00 17:25	06:20 17:58	16:50-17:38/48 19:32	06:29 19:32	05:47 20:03	05:26 20:29	05:34 20:32	06:02 20:05	06:33 19:18	18:01-18:13/12	07:03 18:27	07:12 16:45
11	07:23 16:49	06:59 17:27	06:18 18:00	16:49-17:38/49 19:33	06:27 19:33	05:45 20:04	05:26 20:30	05:35 20:32	06:03 20:04	06:34 19:16	17:55-18:18/23	07:04 18:25	07:12 16:44
12	07:23 16:50	06:58 17:28	06:17 18:01	16:48-17:39/51 19:34	06:25 19:34	05:44 20:05	05:25 20:31	05:36 20:31	06:04 20:02	06:35 19:14	17:52-18:21/29	07:05 18:24	07:13 16:43
13	07:22 16:51	06:57 17:29	06:15 18:02	16:49-17:41/52 19:35	06:24 19:35	05:43 20:06	05:25 20:31	05:37 20:31	06:05 20:01	06:36 19:12	17:49-18:23/34	07:06 18:22	07:14 16:42
14	07:22 16:53	06:55 17:30	06:13 18:03	16:48-17:42/54 19:36	06:22 19:36	05:42 20:07	05:25 20:31	05:37 20:30	06:06 20:00	06:37 19:11	17:47-18:24/37	07:08 18:21	07:15 16:41
15	07:22 16:54	06:54 17:32	06:12 18:04	16:48-17:43/55 19:37	06:21 19:37	05:41 20:08	05:25 20:32	05:38 20:30	06:07 19:58	06:38 19:09	17:44-18:26/42	07:09 18:19	07:16 16:40
16	07:21 16:55	06:53 17:33	06:10 18:05	16:48-17:44/56 19:38	06:19 19:38	05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:39 19:07	17:42-18:27/45	07:10 18:18	07:16 16:39
17	07:21 16:56	06:51 17:34	06:08 18:06	16:48-17:45/57 19:39	06:18 19:39	05:39 20:10	05:25 20:33	05:40 20:29	06:09 19:55	06:40 19:06	17:41-18:28/47	07:11 18:16	07:17 16:39
18	07:20 16:57	06:50 17:35	06:07 18:07	16:48-17:46/58 19:40	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 19:04	17:39-18:29/50	07:12 18:15	07:18 16:38
19	07:20 16:58	06:49 17:36	06:05 18:08	16:48-17:48/60 19:41	06:15 19:41	05:38 20:12	05:26 20:33	05:41 20:27	06:11 19:53	06:42 19:02	17:38-18:29/51	07:13 18:13	07:18 16:37
20	07:19 16:59	06:47 17:38	06:03 18:09	16:48-17:47/59 19:42	06:13 19:42	05:37 20:13	05:26 20:34	05:42 20:26	06:12 19:51	06:43 19:01	17:36-18:30/54	07:14 18:12	07:19 16:36
21	07:19 17:01	06:46 17:39	06:02 18:10	16:48-17:46/58 19:43	06:12 19:43	05:36 20:14	05:26 20:34	05:43 20:25	06:13 19:50	06:44 18:59	17:35-18:30/55	07:15 18:10	07:19 16:36
22	07:18 17:02	06:44 17:40	06:00 18:12	17:16-17:18/2 19:45	06:10 19:45	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	17:34-18:31/57	07:16 18:09	07:20 16:35
23	07:17 17:03	06:43 17:41	05:58 18:13	17:11-17:19/8 19:46	06:09 19:46	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:47	06:46 18:55	17:33-18:31/58	07:18 18:07	07:20 16:34
24	07:17 17:04	06:42 17:42	05:57 18:14	17:08-17:21/13 19:47	06:07 19:47	05:34 20:17	05:27 20:34	05:46 20:23	06:16 19:45	06:47 18:54	17:32-18:31/59	07:19 18:06	07:21 16:34
25	07:16 17:05	06:40 17:44	05:55 18:15	17:05-17:22/17 19:48	06:06 19:48	05:33 20:18	05:27 20:34	05:47 20:22	06:17 19:44	06:48 18:52	17:31-18:30/59	06:20 17:04	07:21 16:33
26	07:15 17:07	06:39 17:45	05:53 18:16	17:03-17:23/20 19:49	06:04 19:49	05:32 20:19	05:27 20:35	05:47 20:22	06:18 19:42	06:49 18:50	17:30-18:28/58	06:21 17:03	07:22 16:33
27	07:14 17:08	06:37 17:46	05:52 18:17	17:01-17:24/23 19:50	06:03 19:50	05:31 20:20	05:27 20:35	05:48 20:21	06:19 19:40	06:50 18:49	17:30-18:26/56	06:22 17:02	07:22 16:32
28	07:14 17:09	06:36 17:47	05:50 18:18	17:00-17:26/26 19:51	06:02 19:51	05:31 20:20	05:28 20:35	05:49 20:20	06:20 19:39	06:51 18:47	17:29-18:25/56	06:23 17:00	07:22 16:32
29	07:13 17:10	06:35 17:48	05:48 18:19	17:08-17:21/13 19:52	06:00 19:52	05:30 20:21	05:28 20:35	05:50 20:19	06:21 19:37	06:52 18:45	17:29-18:23/54	06:24 16:59	07:23 16:32
30	07:12 17:12	06:34 17:49	05:47 18:20	17:07-18:32/35 19:53	05:59 19:53	05:30 20:22	05:29 20:35	05:51 20:18	06:22 19:36	06:53 18:44	17:28-18:21/53	06:26 16:58	07:23 16:31
31	07:11 17:13	06:33 17:50	05:46 19:21	17:59-18:29/30 19:54	05:58 19:54	05:29 20:23	05:28 20:36	05:52 20:17	06:23 19:34	06:54 18:45	17:28-18:21/53	06:27 16:56	07:23 16:30
Potential sun hours	297	297	369	399	448	452	459	428	375	989	628	298	288
Sum of minutes with flicker	0	109	1450	37	0	0	0	0	0	0	0	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: Cumulative WTG: 13 - A7

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03	
	16:40	17:14	17:48	19:22	19:54	20:24	20:35	20:16	19:32	18:42	16:55	16:31	
2	07:24	07:09	06:33	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04	
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:15	19:31	18:40	16:54	16:30	
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05	
	16:41	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:39	16:53	16:30	
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06	
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:28	18:37	16:52	16:30	
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07	
	16:43	17:19	17:53	19:26	19:58	20:27	20:34	20:11	19:26	18:35	16:50	16:30	
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08	
	16:44	17:20	17:54	19:28	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30	
7	07:24	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09	
	16:45	17:22	17:55	19:29	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10	
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30	
9	07:23	07:02	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:38	07:11	
	16:47	17:24	17:57	19:31	20:02	20:29	20:33	20:06	19:19	18:29	16:46	16:30	
10	07:23	07:00	06:20	06:29	05:46	05:26	05:34	06:02	06:33	07:03	06:39	07:12	
	16:48	17:25	17:58	19:32	20:04	20:30	20:32	20:05	19:18	18:27	16:45	16:30	
11	07:23	06:59	06:18	06:27	05:45	05:25	05:35	06:03	06:34	07:04	06:40	07:12	
	16:49	17:27	18:00	19:33	20:05	20:30	20:32	20:04	19:16	18:25	16:44	16:30	
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13	
	16:50	17:28	18:01	19:34	20:06	20:31	20:31	20:02	19:14	18:24	16:43	16:30	
13	07:22	06:57	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14	
	16:51	17:29	18:02	19:35	20:07	20:31	20:31	20:01	19:12	18:22	16:42	16:30	
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:08	06:44	07:15	
	16:52	17:30	18:03	19:36	20:08	20:32	20:30	20:00	19:11	18:21	16:41	16:30	
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:16	
	16:54	17:31	18:04	19:37	20:09	20:32	20:30	19:58	19:09	18:19	16:40	16:30	
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16	
	16:55	17:33	18:05	19:38	20:10	20:32	20:29	19:57	19:07	18:18	16:39	16:31	
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17	
	16:56	17:34	18:06	19:39	20:10	20:33	20:29	19:55	19:06	18:16	16:39	16:31	
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18	
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31	
19	07:20	06:49	06:05	06:15	05:37	05:25	05:41	06:11	06:42	07:13	06:49	07:18	
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:53	19:02	18:13	16:37	16:32	
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:51	07:19	
	16:59	17:38	18:09	19:42	20:13	20:34	20:27	19:51	19:01	18:12	16:36	16:32	
21	07:19	06:46	06:02	06:12	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19	
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:32	
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20	
	17:02	17:40	18:12	19:45	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33	
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:20	
	17:03	17:41	18:13	19:46	20:16	20:34	20:24	19:47	18:55	18:07	16:34	16:33	
24	07:17	06:42	05:57	06:07	05:33	05:26	05:46	06:16	06:47	07:19	06:55	07:21	
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34	
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21	
	17:05	17:43	18:15	19:48	20:18	20:35	20:22	19:44	18:52	17:04	16:33	16:35	
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:58	07:22	
	17:07	17:45	18:16	19:49	20:19	20:35	20:22	19:42	18:50	17:03	16:33	16:35	
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:59	07:22	
	17:08	17:46	18:17	19:50	20:20	20:35	20:21	19:40	18:49	17:02	16:32	16:36	
28	07:14	06:36	05:50	06:01	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22	
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:36	
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:25	07:01	07:23	
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:31	16:37	
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23	
	17:12		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38	
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23	
	17:13		19:21		20:23		20:17	19:34		16:56		16:39	
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288	
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 14 - A11

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23	07:10	06:34	06:43	05:58	05:29	05:29	05:53	06:24	06:54	06:28	07:03	
	16:40	17:14	17:48	19:22	19:54	20:24	20:35	20:16	19:33	18:42	16:55	16:31	
2	07:24	07:09	06:33	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04	
	16:41	17:15	17:49	19:23	19:55	20:24	20:35	20:15	19:31	18:40	16:54	16:31	
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05	
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:39	16:53	16:30	
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06	
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:28	18:37	16:52	16:30	
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07	
	16:43	17:19	17:53	19:27	19:58	20:27	20:34	20:11	19:26	18:35	16:50	16:30	
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08	
	16:44	17:20	17:54	19:28	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30	
7	07:24	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09	
	16:45	17:22	17:55	19:29	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:24	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10	
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:08	19:21	18:30	16:47	16:30	
9	07:23	07:02	06:22	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:38	07:11	
	16:47	17:24	17:57	19:31	20:03	20:29	20:33	20:06	19:19	18:29	16:46	16:30	
10	07:23	07:00	06:20	06:29	05:47	05:26	05:34	06:02	06:33	07:03	06:39	07:12	
	16:48	17:25	17:58	19:32	20:04	20:30	20:32	20:05	19:18	18:27	16:45	16:30	
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12	
	16:49	17:27	18:00	19:33	20:05	20:30	20:32	20:04	19:16	18:25	16:44	16:30	
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13	
	16:50	17:28	18:01	19:34	20:06	20:31	20:31	20:02	19:14	18:24	16:43	16:30	
13	07:22	06:57	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:07	06:42	07:14	
	16:51	17:29	18:02	19:35	20:07	20:31	20:31	20:01	19:13	18:22	16:42	16:30	
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:08	06:44	07:15	
	16:53	17:30	18:03	19:36	20:08	20:32	20:30	20:00	19:11	18:21	16:41	16:30	
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:16	
	16:54	17:31	18:04	19:37	20:09	20:32	20:30	19:58	19:09	18:19	16:40	16:30	
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16	
	16:55	17:33	18:05	19:38	20:10	20:32	20:29	19:57	19:07	18:18	16:39	16:31	
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17	
	16:56	17:34	18:06	19:39	20:11	20:33	20:29	19:55	19:06	18:16	16:39	16:31	
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18	
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31	
19	07:20	06:49	06:05	06:15	05:38	05:25	05:41	06:11	06:42	07:13	06:50	07:18	
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:53	19:02	18:13	16:37	16:32	
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:51	07:19	
	16:59	17:38	18:09	19:42	20:13	20:34	20:27	19:51	19:01	18:12	16:36	16:32	
21	07:19	06:46	06:02	06:12	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19	
	17:01	17:39	18:10	19:44	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:32	
22	07:18	06:45	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:17	06:53	07:20	
	17:02	17:40	18:12	19:45	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33	
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:21	
	17:03	17:41	18:13	19:46	20:16	20:34	20:24	19:47	18:55	18:07	16:34	16:33	
24	07:17	06:42	05:57	06:07	05:33	05:26	05:46	06:16	06:47	07:19	06:55	07:21	
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34	
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21	
	17:05	17:43	18:15	19:48	20:18	20:35	20:23	19:44	18:52	17:04	16:33	16:35	
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:58	07:22	
	17:07	17:45	18:16	19:49	20:19	20:35	20:22	19:42	18:50	17:03	16:33	16:35	
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:59	07:22	
	17:08	17:46	18:17	19:50	20:20	20:35	20:21	19:40	18:49	17:02	16:32	16:36	
28	07:14	06:36	05:50	06:02	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22	
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:37	
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:25	07:01	07:23	
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:31	16:37	
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23	
	17:12		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38	
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23	
	17:13		19:21		20:23		20:17	19:34		16:56		16:39	
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288	
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 15 - A12

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23	07:10	06:34	06:43	05:58	05:29	05:29	05:53	06:24	06:54	06:28	07:03	
	16:40	17:14	17:48	19:22	19:54	20:24	20:35	20:16	19:32	18:42	16:55	16:31	
2	07:24	07:09	06:33	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04	
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:15	19:31	18:40	16:54	16:31	
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05	
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:39	16:53	16:30	
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06	
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:28	18:37	16:52	16:30	
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07	
	16:43	17:19	17:53	19:27	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30	
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08	
	16:44	17:20	17:54	19:28	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30	
7	07:24	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09	
	16:45	17:22	17:55	19:29	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10	
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30	
9	07:23	07:02	06:22	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:38	07:11	
	16:47	17:24	17:57	19:31	20:02	20:29	20:33	20:06	19:19	18:29	16:46	16:30	
10	07:23	07:00	06:20	06:29	05:47	05:26	05:34	06:02	06:33	07:03	06:39	07:12	
	16:48	17:25	17:58	19:32	20:04	20:30	20:32	20:05	19:18	18:27	16:45	16:30	
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12	
	16:49	17:27	18:00	19:33	20:05	20:30	20:32	20:04	19:16	18:26	16:44	16:30	
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13	
	16:50	17:28	18:01	19:34	20:06	20:31	20:31	20:02	19:14	18:24	16:43	16:30	
13	07:22	06:57	06:15	06:24	05:43	05:25	05:37	06:05	06:36	07:07	06:42	07:14	
	16:51	17:29	18:02	19:35	20:07	20:31	20:31	20:01	19:13	18:22	16:42	16:30	
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:08	06:44	07:15	
	16:53	17:30	18:03	19:36	20:08	20:32	20:30	20:00	19:11	18:21	16:41	16:30	
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:16	
	16:54	17:32	18:04	19:37	20:09	20:32	20:30	19:58	19:09	18:19	16:40	16:30	
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16	
	16:55	17:33	18:05	19:38	20:10	20:32	20:29	19:57	19:07	18:18	16:39	16:31	
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17	
	16:56	17:34	18:06	19:39	20:10	20:33	20:29	19:55	19:06	18:16	16:39	16:31	
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18	
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31	
19	07:20	06:49	06:05	06:15	05:38	05:25	05:41	06:11	06:42	07:13	06:49	07:18	
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:53	19:02	18:13	16:37	16:32	
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:51	07:19	
	16:59	17:38	18:09	19:42	20:13	20:34	20:27	19:51	19:01	18:12	16:36	16:32	
21	07:19	06:46	06:02	06:12	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19	
	17:01	17:39	18:10	19:44	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:33	
22	07:18	06:45	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20	
	17:02	17:40	18:12	19:45	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33	
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:20	
	17:03	17:41	18:13	19:46	20:16	20:34	20:24	19:47	18:55	18:07	16:34	16:34	
24	07:17	06:42	05:57	06:07	05:34	05:26	05:46	06:16	06:47	07:19	06:55	07:21	
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34	
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21	
	17:05	17:44	18:15	19:48	20:18	20:35	20:22	19:44	18:52	17:04	16:33	16:35	
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:58	07:22	
	17:07	17:45	18:16	19:49	20:19	20:35	20:22	19:42	18:50	17:03	16:33	16:35	
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:59	07:22	
	17:08	17:46	18:17	19:50	20:20	20:35	20:21	19:40	18:49	17:02	16:32	16:36	
28	07:14	06:36	05:50	06:02	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22	
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:37	
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:25	07:01	07:23	
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:32	16:37	
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23	
	17:12		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38	
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23	
	17:13		19:21		20:23		20:17	19:34		16:56		16:39	
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288	
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 16 - A10

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:43	05:58	05:29	05:29	05:53	06:24	06:54	06:28	07:03
	16:40	17:14	17:48	19:22	19:54	20:24	20:35	20:16	19:32	18:42	16:55	16:31
2	07:24	07:09	06:33	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:39	16:53	16:30
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:28	18:37	16:52	16:30
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08
	16:44	17:20	17:54	19:28	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30
7	07:24	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09
	16:45	17:22	17:55	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30
9	07:23	07:02	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:38	07:11
	16:47	17:24	17:57	19:31	20:02	20:29	20:33	20:06	19:19	18:29	16:46	16:30
10	07:23	07:00	06:20	06:29	05:47	05:26	05:34	06:02	06:33	07:03	06:39	07:12
	16:48	17:25	17:58	19:32	20:03	20:30	20:32	20:05	19:18	18:27	16:45	16:30
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12
	16:49	17:27	18:00	19:33	20:04	20:30	20:32	20:04	19:16	18:25	16:44	16:30
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13
	16:50	17:28	18:01	19:34	20:06	20:31	20:31	20:02	19:14	18:24	16:43	16:30
13	07:22	06:57	06:15	06:24	05:43	05:25	05:37	06:05	06:36	07:06	06:42	07:14
	16:51	17:29	18:02	19:35	20:07	20:31	20:31	20:01	19:13	18:22	16:42	16:30
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:08	06:44	07:15
	16:53	17:30	18:03	19:36	20:08	20:32	20:30	20:00	19:11	18:21	16:41	16:30
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:16
	16:54	17:31	18:04	19:37	20:09	20:32	20:30	19:58	19:09	18:19	16:40	16:30
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17
	16:56	17:34	18:06	19:39	20:10	20:33	20:29	19:55	19:06	18:16	16:39	16:31
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31
19	07:20	06:49	06:05	06:15	05:38	05:25	05:41	06:11	06:42	07:13	06:49	07:18
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:53	19:02	18:13	16:37	16:32
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:51	07:19
	16:59	17:38	18:09	19:42	20:13	20:34	20:27	19:51	19:01	18:12	16:36	16:32
21	07:19	06:46	06:02	06:12	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:32
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20
	17:02	17:40	18:12	19:45	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:20
	17:03	17:41	18:13	19:46	20:16	20:34	20:24	19:47	18:55	18:07	16:34	16:33
24	07:17	06:42	05:57	06:07	05:34	05:26	05:46	06:16	06:47	07:19	06:55	07:21
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21
	17:05	17:43	18:15	19:48	20:18	20:35	20:22	19:44	18:52	17:04	16:33	16:35
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:58	07:22
	17:07	17:45	18:16	19:49	20:19	20:35	20:22	19:42	18:50	17:03	16:33	16:35
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:59	07:22
	17:08	17:46	18:17	19:50	20:20	20:35	20:21	19:40	18:49	17:02	16:32	16:36
28	07:14	06:36	05:50	06:02	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:37
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:25	07:01	07:23
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:32	16:37
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23
	17:12		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23
	17:13		19:21		20:23		20:17	19:34		16:56		16:39
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 17 - A6

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03	
	16:40	17:14	17:48	19:22	19:54	20:24	20:35	20:16	19:32	18:42	16:55	16:31	
2	07:23	07:09	06:33	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04	
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31	
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05	
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:39	16:53	16:30	
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06	
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:28	18:37	16:52	16:30	
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07	
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30	
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08	
	16:44	17:20	17:54	19:28	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30	
7	07:24	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09	
	16:45	17:22	17:55	19:29	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10	
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30	
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:38	07:11	
	16:47	17:24	17:57	19:31	20:02	20:29	20:33	20:06	19:19	18:29	16:46	16:30	
10	07:23	07:00	06:20	06:29	05:47	05:26	05:34	06:02	06:33	07:03	06:39	07:12	
	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:18	18:27	16:45	16:30	
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12	
	16:49	17:27	17:59	19:33	20:04	20:30	20:32	20:04	19:16	18:25	16:44	16:30	
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13	
	16:50	17:28	18:01	19:34	20:05	20:31	20:31	20:02	19:14	18:24	16:43	16:30	
13	07:22	06:57	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14	
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30	
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:08	06:44	07:15	
	16:53	17:30	18:03	19:36	20:07	20:31	20:30	20:00	19:11	18:21	16:41	16:30	
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:16	
	16:54	17:31	18:04	19:37	20:08	20:32	20:30	19:58	19:09	18:19	16:40	16:30	
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16	
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31	
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17	
	16:56	17:34	18:06	19:39	20:10	20:33	20:29	19:55	19:06	18:16	16:39	16:31	
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18	
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31	
19	07:20	06:49	06:05	06:14	05:37	05:25	05:41	06:11	06:42	07:13	06:49	07:18	
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32	
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:51	07:19	
	16:59	17:38	18:09	19:42	20:13	20:34	20:26	19:51	19:01	18:12	16:36	16:32	
21	07:19	06:46	06:02	06:12	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19	
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:32	
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20	
	17:02	17:40	18:12	19:45	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33	
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:20	
	17:03	17:41	18:13	19:46	20:16	20:34	20:24	19:47	18:55	18:07	16:34	16:33	
24	07:17	06:42	05:57	06:07	05:33	05:26	05:46	06:16	06:47	07:19	06:55	07:21	
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34	
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21	
	17:05	17:43	18:15	19:48	20:18	20:35	20:22	19:44	18:52	17:04	16:33	16:35	
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:57	07:22	
	17:07	17:45	18:16	19:49	20:19	20:35	20:22	19:42	18:50	17:03	16:33	16:35	
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:59	07:22	
	17:08	17:46	18:17	19:50	20:20	20:35	20:21	19:40	18:49	17:02	16:32	16:36	
28	07:14	06:36	05:50	06:02	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22	
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:37	
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:24	07:01	07:23	
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:31	16:37	
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23	
	17:12		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38	
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23	
	17:13		19:21		20:23		20:17	19:34		16:56		16:39	
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288	
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 18 - A1

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03	
	16:40	17:14	17:48	19:22	19:54	20:24	20:35	20:16	19:32	18:42	16:55	16:31	
2	07:23	07:09	06:33	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04	
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31	
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05	
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:39	16:53	16:30	
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06	
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:28	18:37	16:52	16:30	
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07	
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30	
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08	
	16:44	17:20	17:54	19:28	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30	
7	07:24	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09	
	16:45	17:22	17:55	19:29	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10	
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30	
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	16:47	17:24	17:57	19:31	20:02	20:29	20:33	20:06	19:19	18:29	16:46	16:30	
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	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:18	18:27	16:45	16:30	
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12	
	16:49	17:27	17:59	19:33	20:04	20:30	20:32	20:04	19:16	18:25	16:44	16:30	
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	16:50	17:28	18:01	19:34	20:05	20:31	20:31	20:02	19:14	18:24	16:43	16:30	
13	07:22	06:57	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14	
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30	
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	16:54	17:31	18:04	19:37	20:08	20:32	20:30	19:58	19:09	18:19	16:40	16:30	
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18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18	
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31	
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	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32	
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	16:59	17:38	18:09	19:42	20:13	20:34	20:26	19:51	19:01	18:12	16:36	16:32	
21	07:19	06:46	06:02	06:12	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19	
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:32	
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20	
	17:02	17:40	18:12	19:45	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33	
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:20	
	17:03	17:41	18:13	19:46	20:16	20:34	20:24	19:47	18:55	18:07	16:34	16:33	
24	07:17	06:42	05:57	06:07	05:33	05:26	05:46	06:16	06:47	07:19	06:55	07:21	
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34	
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21	
	17:05	17:43	18:15	19:48	20:18	20:34	20:22	19:44	18:52	17:04	16:33	16:35	
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:57	07:22	
	17:07	17:45	18:16	19:49	20:19	20:35	20:22	19:42	18:50	17:03	16:33	16:35	
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:59	07:22	
	17:08	17:46	18:17	19:50	20:20	20:35	20:21	19:40	18:49	17:02	16:32	16:36	
28	07:14	06:36	05:50	06:02	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22	
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:37	
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:24	07:01	07:23	
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:31	16:37	
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	17:12		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38	
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23	
	17:13		19:21		20:23		20:17	19:34		16:56		16:39	
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288	
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 19 - A15

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03	
	16:40	17:14	17:48	19:22	19:54	20:24	20:34	20:16	19:32	18:42	16:55	16:31	
2	07:23	07:09	06:33	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04	
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31	
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05	
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:39	16:53	16:30	
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06	
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:28	18:37	16:52	16:30	
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07	
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30	
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08	
	16:44	17:20	17:54	19:27	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30	
7	07:23	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09	
	16:45	17:22	17:55	19:29	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10	
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30	
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:38	07:11	
	16:47	17:24	17:57	19:31	20:02	20:29	20:33	20:06	19:19	18:29	16:46	16:30	
10	07:23	07:00	06:20	06:29	05:47	05:26	05:34	06:02	06:33	07:03	06:39	07:12	
	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:18	18:27	16:45	16:30	
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12	
	16:49	17:27	17:59	19:33	20:04	20:30	20:32	20:04	19:16	18:25	16:44	16:30	
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13	
	16:50	17:28	18:01	19:34	20:05	20:31	20:31	20:02	19:14	18:24	16:43	16:30	
13	07:22	06:57	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14	
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30	
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:08	06:43	07:15	
	16:52	17:30	18:03	19:36	20:07	20:31	20:30	20:00	19:11	18:21	16:41	16:30	
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:16	
	16:54	17:31	18:04	19:37	20:08	20:32	20:30	19:58	19:09	18:19	16:40	16:30	
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16	
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31	
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17	
	16:56	17:34	18:06	19:39	20:10	20:33	20:29	19:55	19:06	18:16	16:39	16:31	
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18	
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31	
19	07:20	06:49	06:05	06:14	05:37	05:25	05:41	06:11	06:42	07:13	06:49	07:18	
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32	
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:51	07:19	
	16:59	17:37	18:09	19:42	20:13	20:34	20:26	19:51	19:01	18:12	16:36	16:32	
21	07:19	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19	
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:32	
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20	
	17:02	17:40	18:11	19:44	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33	
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:20	
	17:03	17:41	18:13	19:46	20:16	20:34	20:24	19:47	18:55	18:07	16:34	16:33	
24	07:17	06:42	05:57	06:07	05:33	05:26	05:46	06:16	06:47	07:19	06:55	07:21	
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34	
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	17:05	17:43	18:15	19:48	20:18	20:34	20:22	19:43	18:52	17:04	16:33	16:35	
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:57	07:22	
	17:07	17:45	18:16	19:49	20:19	20:35	20:21	19:42	18:50	17:03	16:33	16:35	
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	17:08	17:46	18:17	19:50	20:20	20:35	20:21	19:40	18:49	17:02	16:32	16:36	
28	07:14	06:36	05:50	06:01	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22	
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:37	
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:24	07:01	07:23	
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:31	16:37	
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	17:12		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38	
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23	
	17:13		19:21		20:23		20:17	19:34		16:56		16:39	
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288	
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 20 - A16

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03	
	16:40	17:14	17:48	19:22	19:54	20:24	20:34	20:15	19:32	18:42	16:55	16:31	
2	07:23	07:09	06:32	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04	
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:30	
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05	
	16:41	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:38	16:53	16:30	
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06	
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:27	18:37	16:52	16:30	
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07	
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30	
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08	
	16:44	17:20	17:54	19:27	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30	
7	07:23	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09	
	16:45	17:22	17:55	19:29	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10	
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30	
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:37	07:11	
	16:47	17:24	17:57	19:31	20:02	20:29	20:33	20:06	19:19	18:29	16:46	16:30	
10	07:23	07:00	06:20	06:29	05:46	05:26	05:34	06:02	06:33	07:03	06:39	07:11	
	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:18	18:27	16:45	16:30	
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12	
	16:49	17:26	17:59	19:33	20:04	20:30	20:32	20:04	19:16	18:25	16:44	16:30	
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13	
	16:50	17:28	18:01	19:34	20:05	20:30	20:31	20:02	19:14	18:24	16:43	16:30	
13	07:22	06:57	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14	
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30	
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:08	06:43	07:15	
	16:52	17:30	18:03	19:36	20:07	20:31	20:30	20:00	19:11	18:21	16:41	16:30	
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:15	
	16:54	17:31	18:04	19:37	20:08	20:32	20:30	19:58	19:09	18:19	16:40	16:30	
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16	
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31	
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17	
	16:56	17:34	18:06	19:39	20:10	20:33	20:28	19:55	19:06	18:16	16:39	16:31	
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18	
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31	
19	07:20	06:49	06:05	06:14	05:37	05:25	05:41	06:11	06:42	07:13	06:49	07:18	
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32	
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:51	07:19	
	16:59	17:37	18:09	19:42	20:13	20:34	20:26	19:51	19:00	18:12	16:36	16:32	
21	07:19	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19	
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:32	
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20	
	17:02	17:40	18:11	19:44	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33	
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:20	
	17:03	17:41	18:13	19:46	20:16	20:34	20:24	19:47	18:55	18:07	16:34	16:33	
24	07:17	06:42	05:57	06:07	05:33	05:26	05:46	06:16	06:47	07:19	06:55	07:21	
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34	
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21	
	17:05	17:43	18:15	19:48	20:18	20:34	20:22	19:43	18:52	17:04	16:33	16:35	
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:57	07:22	
	17:07	17:45	18:16	19:49	20:19	20:35	20:21	19:42	18:50	17:03	16:33	16:35	
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:59	07:22	
	17:08	17:46	18:17	19:50	20:20	20:35	20:21	19:40	18:49	17:02	16:32	16:36	
28	07:14	06:36	05:50	06:01	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22	
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:37	
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:24	07:01	07:23	
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:31	16:37	
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23	
	17:12		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38	
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23	
	17:13		19:21		20:23		20:17	19:34		16:56		16:39	
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288	
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 21 - A17

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03	
	16:40	17:14	17:48	19:22	19:54	20:24	20:34	20:15	19:32	18:42	16:55	16:31	
2	07:23	07:09	06:32	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04	
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31	
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05	
	16:41	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:38	16:53	16:30	
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06	
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:27	18:37	16:52	16:30	
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07	
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30	
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08	
	16:44	17:20	17:54	19:27	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30	
7	07:23	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09	
	16:45	17:22	17:55	19:29	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10	
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30	
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:37	07:11	
	16:47	17:24	17:57	19:31	20:02	20:29	20:33	20:06	19:19	18:29	16:46	16:30	
10	07:23	07:00	06:20	06:29	05:46	05:26	05:34	06:02	06:33	07:03	06:39	07:11	
	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:17	18:27	16:45	16:30	
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12	
	16:49	17:26	17:59	19:33	20:04	20:30	20:32	20:04	19:16	18:25	16:44	16:30	
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13	
	16:50	17:28	18:01	19:34	20:05	20:30	20:31	20:02	19:14	18:24	16:43	16:30	
13	07:22	06:57	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14	
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30	
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:07	06:43	07:15	
	16:52	17:30	18:03	19:36	20:07	20:31	20:30	20:00	19:11	18:21	16:41	16:30	
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:15	
	16:54	17:31	18:04	19:37	20:08	20:32	20:30	19:58	19:09	18:19	16:40	16:30	
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16	
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31	
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17	
	16:56	17:34	18:06	19:39	20:10	20:33	20:28	19:55	19:06	18:16	16:39	16:31	
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18	
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31	
19	07:20	06:49	06:05	06:14	05:37	05:25	05:41	06:11	06:42	07:13	06:49	07:18	
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32	
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:51	07:19	
	16:59	17:37	18:09	19:42	20:13	20:34	20:26	19:51	19:00	18:12	16:36	16:32	
21	07:19	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19	
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:32	
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20	
	17:02	17:40	18:11	19:44	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33	
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:20	
	17:03	17:41	18:13	19:46	20:16	20:34	20:24	19:47	18:55	18:07	16:34	16:33	
24	07:17	06:42	05:57	06:07	05:33	05:26	05:46	06:16	06:47	07:19	06:55	07:21	
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34	
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21	
	17:05	17:43	18:15	19:48	20:18	20:34	20:22	19:43	18:52	17:04	16:33	16:35	
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:57	07:22	
	17:07	17:45	18:16	19:49	20:19	20:35	20:21	19:42	18:50	17:03	16:33	16:35	
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:59	07:22	
	17:08	17:46	18:17	19:50	20:19	20:35	20:21	19:40	18:49	17:02	16:32	16:36	
28	07:14	06:36	05:50	06:01	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22	
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:37	
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:24	07:01	07:23	
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:31	16:37	
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23	
	17:12		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38	
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23	
	17:13		19:21		20:23		20:17	19:34		16:56		16:39	
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288	
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 22 - A18

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 07:33-07:47/14 19:22	05:57 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 19:32	06:54 18:42	06:28 16:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:32 17:49	06:42 07:33-07:45/12 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:30
3	07:23 16:41	07:08 17:17	06:31 17:50	06:40 07:34-07:43/9 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:38	06:30 16:53	07:05 16:30
4	07:24 16:42	07:07 17:18	06:29 17:52	06:38 19:25	05:54 19:57	05:27 20:26	05:31 20:34	05:56 20:12	06:27 19:27	06:57 18:37	06:31 16:52	07:06 16:30
5	07:24 16:43	07:06 17:19	06:28 17:53	06:37 19:26	05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 19:26	06:58 18:35	06:33 16:50	07:07 16:30
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 19:27	05:51 19:59	05:27 20:27	05:32 20:33	05:58 20:10	06:29 19:24	06:59 18:34	06:34 16:49	07:08 16:30
7	07:23 16:45	07:04 17:22	06:25 17:55	06:33 19:29	05:50 20:00	05:26 20:28	05:32 20:33	05:59 20:09	06:30 19:22	07:00 18:32	06:35 16:48	07:09 16:30
8	07:23 16:46	07:03 17:23	06:23 17:56	06:32 19:30	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 19:21	07:01 18:30	06:36 16:47	07:10 16:30
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:31	05:48 20:02	05:26 20:29	05:34 20:33	06:01 20:06	06:32 07:29-07:36/7 19:19	07:02 18:29	06:37 16:46	07:11 16:30
10	07:23 16:48	07:00 17:25	06:20 17:58	06:29 19:32	05:46 20:03	05:26 20:29	05:34 20:32	06:02 20:05	06:33 07:26-07:38/12 19:17	07:03 18:27	06:39 16:45	07:11 16:30
11	07:23 16:49	06:59 17:26	06:18 17:59	06:27 19:33	05:45 20:04	05:26 20:30	05:35 20:32	06:03 20:03	06:34 07:25-07:39/14 19:16	07:04 18:25	06:40 16:44	07:12 16:30
12	07:23 16:50	06:58 17:28	06:17 18:01	06:25 19:34	05:44 20:05	05:25 20:30	05:36 20:31	06:04 20:02	06:35 07:24-07:39/15 19:14	07:05 18:24	06:41 16:43	07:13 16:30
13	07:22 16:51	06:57 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 20:31	05:36 20:31	06:05 20:01	06:36 07:23-07:39/16 19:12	07:06 18:22	06:42 16:42	07:14 16:30
14	07:22 16:52	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 20:31	05:37 20:30	06:06 19:59	06:37 07:23-07:39/16 19:11	07:07 18:21	06:43 16:41	07:15 16:30
15	07:22 16:54	06:54 17:31	06:12 18:04	06:21 19:37	05:41 20:08	05:25 20:32	05:38 20:30	06:07 19:58	06:38 07:23-07:38/15 19:09	07:09 18:19	06:45 16:40	07:15 16:30
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:39 07:23-07:38/15 19:07	07:10 18:18	06:46 16:39	07:16 16:31
17	07:21 16:56	06:51 17:34	06:08 18:06	06:18 19:39	05:39 20:10	05:25 20:33	05:40 20:28	06:09 19:55	06:40 07:24-07:36/12 19:06	07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 07:25-07:34/9 19:04	07:12 18:15	06:48 16:38	07:17 16:31
19	07:20 16:58	06:49 17:36	06:05 18:08	06:14 19:41	05:37 20:12	05:25 20:33	05:41 20:27	06:11 19:52	06:42 19:02	07:13 18:13	06:49 16:37	07:18 16:32
20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:33	05:42 20:26	06:12 19:51	06:43 19:00	07:14 18:12	06:51 16:36	07:19 16:32
21	07:19 17:01	06:46 17:39	06:02 18:10	06:11 19:43	05:36 20:14	05:26 20:34	05:43 20:26	06:13 19:49	06:44 18:59	07:15 18:10	06:52 16:36	07:19 16:32
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	07:16 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 18:13	06:09 19:45	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:46	06:46 18:55	07:17 18:07	06:54 16:34	07:20 16:33
24	07:17 17:04	06:41 17:42	05:57 18:14	06:07 19:47	05:33 20:17	05:26 20:34	05:46 20:23	06:16 19:45	06:47 18:54	07:19 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:34	05:46 20:22	06:17 19:43	06:48 18:52	07:20 17:04	06:56 16:33	07:21 16:35
26	07:15 17:07	06:39 17:45	05:53 18:16	06:04 19:49	05:32 20:19	05:27 20:34	05:47 20:21	06:18 19:42	06:49 18:50	07:21 17:03	06:57 16:33	07:22 16:35
27	07:14 17:08	06:37 17:46	05:52 18:17	06:03 19:50	05:31 20:19	05:27 20:35	05:48 20:20	06:19 19:40	06:50 18:49	07:22 17:02	06:58 16:32	07:22 16:36
28	07:13 17:09	06:36 17:47	05:50 18:18	06:01 19:51	05:31 20:20	05:28 20:35	05:49 20:20	06:20 19:39	06:51 18:47	07:23 17:00	07:00 16:32	07:22 16:37
29	07:13 17:10		06:48 19:19	07:33-07:49/16 19:52	06:00 19:52	05:30 20:21	05:50 20:19	06:21 19:37	06:52 18:45	07:24 16:59	07:01 16:31	07:23 16:37
30	07:12 17:12		06:47 19:20	07:32-07:48/16 19:53	05:59 19:53	05:30 20:22	05:51 20:34	06:22 19:36	06:53 18:43	07:25 16:58	07:02 16:31	07:23 16:38
31	07:11 17:13		06:45 19:21	07:32-07:47/15 19:54	05:58 20:23	05:29 20:34	05:52 20:17	06:23 19:34		07:26 16:56		07:23 16:39
Potential sun hours	297	297	369	399	448	452	459	428	375	345	298	288
Sum of minutes with flicker	0	0	95	35	0	0	0	0	131	0	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: Cumulative WTG: 23 - A19

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 19:32	06:54 18:42	06:28 16:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:32 17:49	06:42 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:30
3	07:23 16:41	07:08 17:16	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:38	06:30 16:53	07:05 16:30
4	07:23 16:42	07:07 17:18	06:29 17:52	06:38 19:25	05:54 19:57	05:27 20:26	05:31 20:34	05:56 20:12	06:27 19:27	06:57 18:37	06:31 16:51	07:06 16:30
5	07:24 16:43	07:06 17:19	06:28 17:53	06:37 19:26	05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 19:26	06:58 18:35	06:33 16:50	07:07 16:30
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 19:27	05:51 19:59	05:27 20:27	05:32 20:33	05:58 20:10	06:29 19:24	06:59 18:33	06:34 16:49	07:08 16:30
7	07:23 16:45	07:04 17:21	06:25 17:55	06:33 19:28	05:50 20:00	05:26 20:28	05:32 20:33	05:59 20:09	06:30 19:22	07:00 18:32	06:35 16:48	07:09 16:30
8	07:23 16:46	07:03 17:23	06:23 17:56	06:32 19:30	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 19:21	07:01 18:30	06:36 16:47	07:10 16:30
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:31	05:48 20:02	05:26 20:29	05:34 20:33	06:01 20:06	06:32 19:19	07:02 18:29	06:37 16:46	07:11 16:30
10	07:23 16:48	07:00 17:25	06:20 17:58	06:28 19:32	05:46 20:03	05:26 20:29	05:34 20:32	06:02 20:05	06:33 19:17	07:03 18:27	06:39 16:45	07:11 16:30
11	07:23 16:49	06:59 17:26	06:18 17:59	06:27 19:33	05:45 20:04	05:25 20:30	05:35 20:32	06:03 20:03	06:34 19:16	07:04 18:25	06:40 16:44	07:12 16:30
12	07:23 16:50	06:58 17:28	06:17 18:01	06:25 19:34	05:44 20:05	05:25 20:30	05:36 20:31	06:04 20:02	06:35 19:14	07:05 18:24	06:41 16:43	07:13 16:30
13	07:22 16:51	06:57 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 20:31	05:36 20:31	06:05 20:01	06:36 19:12	07:06 18:22	06:42 16:42	07:14 16:30
14	07:22 16:52	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 20:31	05:37 20:30	06:06 19:59	06:37 19:11	07:07 18:21	06:43 16:41	07:15 16:30
15	07:22 16:54	06:54 17:31	06:12 18:04	06:21 19:37	05:41 20:08	05:25 20:32	05:38 20:30	06:07 19:58	06:38 19:09	07:09 18:19	06:45 16:40	07:15 16:30
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:39 19:07	07:10 18:18	06:46 16:39	07:16 16:31
17	07:21 16:56	06:51 17:34	06:08 18:06	06:17 19:39	05:39 20:10	05:25 20:33	05:40 20:28	06:09 19:55	06:40 19:06	07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 19:04	07:12 18:15	06:48 16:38	07:17 16:31
19	07:20 16:58	06:49 17:36	06:05 18:08	06:14 19:41	05:37 20:12	05:25 20:33	05:41 20:27	06:11 19:52	06:42 19:02	07:13 18:13	06:49 16:37	07:18 16:32
20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:33	05:42 20:26	06:12 19:51	06:43 19:00	07:14 18:12	06:50 16:36	07:19 16:32
21	07:19 17:01	06:46 17:39	06:02 18:10	06:11 19:43	05:36 20:14	05:26 20:34	05:43 20:26	06:13 19:49	06:44 18:59	07:15 18:10	06:52 16:36	07:19 16:32
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	07:16 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 18:13	06:09 19:45	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:46	06:46 18:55	07:17 18:07	06:54 16:34	07:20 16:33
24	07:17 17:04	06:41 17:42	05:57 18:14	06:07 19:47	05:33 20:17	05:26 20:34	05:45 20:23	06:16 19:45	06:47 18:54	07:19 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:34	05:46 20:22	06:17 19:43	06:48 18:52	07:20 17:04	06:56 16:33	07:21 16:35
26	07:15 17:07	06:39 17:45	05:53 18:16	06:04 19:49	05:32 20:19	05:27 20:34	05:47 20:21	06:18 19:42	06:49 18:50	07:21 17:03	06:57 16:33	07:22 16:35
27	07:14 17:08	06:37 17:46	05:52 18:17	06:03 19:50	05:31 20:19	05:27 20:35	05:48 20:20	06:19 19:40	06:50 18:49	07:22 17:02	06:58 16:32	07:22 16:36
28	07:13 17:09	06:35 17:47	05:50 18:18	06:01 19:51	05:31 20:20	05:28 20:35	05:49 20:20	06:20 19:39	06:51 18:47	07:23 17:00	07:00 16:32	07:22 16:36
29	07:13 17:10		06:48 19:19	06:00 19:52	05:30 20:21	05:28 20:35	05:50 20:19	06:21 19:37	06:52 18:45	07:24 16:59	07:01 16:31	07:23 16:37
30	07:12 17:11		06:47 19:20	05:59 19:53	05:30 20:22	05:29 20:34	05:51 20:18	06:22 19:36	06:53 18:43	07:25 16:58	07:02 16:31	07:23 16:38
31	07:11 17:13		06:45 19:21		05:29 20:23		05:52 20:16	06:23 19:34		06:27 16:56		07:23 16:39
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 24 - A3

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:23	05:29 20:34	05:53 20:15	06:24 19:32	06:54 18:42	06:28 16:55	07:03 16:31
2	07:23 16:41	07:09 17:15	06:32 17:49	06:42 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:30
3	07:23 16:41	07:08 17:16	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:38	06:30 16:53	07:05 16:30
4	07:23 16:42	07:07 17:18	06:29 17:51	06:38 19:25	05:54 19:57	05:27 20:26	05:27 20:34	05:56 20:12	06:27 19:27	06:57 18:37	06:31 16:51	07:06 16:30
5	07:23 16:43	07:06 17:19	06:28 17:53	06:37 19:26	05:52 19:58	05:27 20:26	05:27 20:34	05:57 20:11	06:28 19:26	06:58 18:35	06:33 16:50	07:07 16:30
6	07:23 16:44	07:05 17:20	06:26 17:54	06:35 19:27	05:51 19:59	05:27 20:27	05:27 20:33	05:58 20:10	06:29 19:24	06:59 18:33	06:34 16:49	07:08 16:30
7	07:23 16:45	07:04 17:21	06:25 17:55	06:33 19:28	05:50 20:00	05:26 20:28	05:32 20:33	05:59 20:09	06:30 19:22	07:00 18:32	06:35 16:48	07:09 16:30
8	07:23 16:46	07:03 17:23	06:23 17:56	06:32 19:30	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 19:21	07:01 18:30	06:36 16:47	07:10 16:30
9	07:23 16:47	07:01 17:24	06:21 17:57	06:30 19:31	05:48 20:02	05:26 20:29	05:34 20:32	06:01 20:06	06:32 19:19	07:02 18:29	06:37 16:46	07:11 16:30
10	07:23 16:48	07:00 17:25	06:20 17:58	06:28 19:32	05:46 20:03	05:26 20:29	05:34 20:32	06:02 20:05	06:33 19:17	07:03 18:27	06:39 16:45	07:11 16:30
11	07:23 16:49	06:59 17:26	06:18 17:59	06:27 19:33	05:45 20:04	05:25 20:30	05:35 20:32	06:03 20:03	06:34 19:16	07:04 18:25	06:40 16:44	07:12 16:30
12	07:22 16:50	06:58 17:28	06:16 18:01	06:25 19:34	05:44 20:05	05:25 20:30	05:36 20:31	06:04 20:02	06:35 19:14	07:05 18:24	06:41 16:43	07:13 16:30
13	07:22 16:51	06:57 17:29	06:15 18:02	06:24 19:35	05:43 20:06	05:25 20:31	05:36 20:31	06:05 20:01	06:36 19:12	07:06 18:22	06:42 16:42	07:14 16:30
14	07:22 16:52	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:07	05:25 20:31	05:37 20:30	06:06 19:59	06:37 19:11	07:07 18:21	06:43 16:41	07:15 16:30
15	07:21 16:54	06:54 17:31	06:12 18:04	06:21 19:37	05:41 20:08	05:25 20:32	05:38 20:30	06:07 19:58	06:38 19:09	07:09 18:19	06:45 16:40	07:15 16:30
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:09	05:25 20:32	05:39 20:29	06:08 19:57	06:39 19:07	07:10 18:18	06:46 16:39	07:16 16:31
17	07:21 16:56	06:51 17:34	06:08 18:06	06:17 19:39	05:39 20:10	05:25 20:33	05:40 20:28	06:09 19:55	06:40 19:06	07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 19:04	07:12 18:14	06:48 16:38	07:17 16:31
19	07:20 16:58	06:49 17:36	06:05 18:08	06:14 19:41	05:37 20:12	05:25 20:33	05:41 20:27	06:11 19:52	06:42 19:02	07:13 18:13	06:49 16:37	07:18 16:32
20	07:19 16:59	06:47 17:37	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:33	05:42 20:26	06:12 19:51	06:43 19:00	07:14 18:11	06:50 16:36	07:19 16:32
21	07:19 17:00	06:46 17:39	06:02 18:10	06:11 19:43	05:36 20:14	05:26 20:34	05:43 20:26	06:13 19:49	06:44 18:59	07:15 18:10	06:52 16:36	07:19 16:32
22	07:18 17:02	06:44 17:40	06:00 18:11	06:10 19:44	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	07:16 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 18:12	06:08 19:45	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:46	06:46 18:55	07:17 18:07	06:54 16:34	07:20 16:33
24	07:17 17:04	06:41 17:42	05:57 18:14	06:07 19:47	05:33 20:17	05:26 20:34	05:45 20:23	06:16 19:45	06:47 18:54	07:19 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:34	05:46 20:22	06:17 19:43	06:48 18:52	07:20 17:04	06:56 16:33	07:21 16:35
26	07:15 17:07	06:38 17:45	05:53 18:16	06:04 19:49	05:32 20:19	05:27 20:34	05:47 20:21	06:18 19:42	06:49 18:50	07:21 17:03	06:57 16:33	07:22 16:35
27	07:14 17:08	06:37 17:46	05:52 18:17	06:03 19:50	05:31 20:19	05:27 20:35	05:48 20:20	06:19 19:40	06:50 18:49	07:22 17:02	06:58 16:32	07:22 16:36
28	07:13 17:09	06:35 17:47	05:50 18:18	06:01 19:51	05:31 20:20	05:28 20:35	05:49 20:20	06:20 19:39	06:51 18:47	07:23 17:00	07:00 16:32	07:22 16:36
29	07:13 17:10		06:48 19:19	06:00 19:52	05:30 20:21	05:28 20:35	05:50 20:19	06:21 19:37	06:52 18:45	07:24 16:59	07:01 16:31	07:23 16:37
30	07:12 17:11		06:47 19:20	05:59 19:53	05:30 20:22	05:29 20:34	05:51 20:18	06:22 19:36	06:53 18:43	07:25 16:58	07:02 16:31	07:23 16:38
31	07:11 17:13		06:45 19:21		05:29 20:23		05:52 20:16	06:23 19:34		06:27 16:56		07:23 16:39
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 25 - A21

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 07:55-08:13/18	07:10 06:34	06:43	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03
	16:40	17:14	17:48	19:22	19:54	20:23	20:34	20:15	19:32	18:42	16:55	16:31
2	07:23 07:56-08:13/17	07:09 06:32	06:42	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31
3	07:23 07:57-08:13/16	07:08 06:31	06:40	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05 07:50-07:53/3
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:38	16:53	16:30
4	07:23 07:58-08:13/15	07:07 06:29	06:38	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:31	07:06 07:48-07:55/7
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:27	18:37	16:52	16:30
5	07:24 07:59-08:13/14	07:06 06:28	06:37	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07 07:47-07:57/10
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30
6	07:23 08:00-08:13/13	07:05 06:26	06:35	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08 07:46-07:59/13
	16:44	17:20	17:54	19:27	19:59	20:27	20:33	20:10	19:24	18:34	16:49	16:30
7	07:23 08:01-08:11/10	07:04 06:25	06:33	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09 07:46-08:00/14
	16:45	17:22	17:55	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:23 08:03-08:11/8	07:03 06:23	06:32	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10 07:45-08:00/15
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30
9	07:23 08:06-08:09/3	07:01 06:21	06:30	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:37	07:11 07:45-08:01/16
	16:47	17:24	17:57	19:31	20:02	20:29	20:33	20:06	19:19	18:29	16:46	16:30
10	07:23	07:00 06:20	06:29	06:29	05:47	05:26	05:34	06:02	06:33	07:03	06:39	07:11 07:45-08:02/17
	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:17	18:27	16:45	16:30
11	07:23	06:59 06:18	06:27	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12 07:45-08:03/18
	16:49	17:27	17:59	19:33	20:04	20:30	20:32	20:03	19:16	18:25	16:44	16:30
12	07:23	06:58 06:17	06:25	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13 07:46-08:04/18
	16:50	17:28	18:01	19:34	20:05	20:30	20:31	20:02	19:14	18:24	16:43	16:30
13	07:22	06:57 06:15	06:24	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14 07:46-08:04/18
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30
14	07:22	06:55 06:13	06:22	06:22	05:42	05:25	05:37	06:06	06:37	07:07	06:43	07:15 07:46-08:04/18
	16:53	17:30	18:03	19:36	20:07	20:31	20:30	19:59	19:11	18:21	16:41	16:30
15	07:22	06:54 06:12	06:21	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:15 07:46-08:05/19
	16:54	17:31	18:04	19:37	20:08	20:32	20:30	19:58	19:09	18:19	16:40	16:30
16	07:21	06:53 06:10	06:19	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16 07:47-08:06/19
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31
17	07:21	06:51 06:08	06:18	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17 07:47-08:06/19
	16:56	17:34	18:06	19:39	20:10	20:33	20:28	19:55	19:06	18:16	16:39	16:31
18	07:20	06:50 06:07	06:16	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:17 07:47-08:07/20
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31
19	07:20	06:49 06:05	06:14	06:14	05:38	05:25	05:41	06:11	06:42	07:13	06:49	07:18 07:48-08:08/20
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32
20	07:19	06:47 06:03	06:13	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:50	07:19 07:48-08:08/20
	16:59	17:37	18:09	19:42	20:13	20:33	20:26	19:51	19:00	18:12	16:36	16:32
21	07:19	06:46 06:02	06:11	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19 07:49-08:09/20
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:49	18:59	18:10	16:36	16:32
22	07:18	06:44 06:00	06:10	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20 07:49-08:09/20
	17:02	17:40	18:11	19:44	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33
23	07:17	06:43 05:58	06:09	06:09	05:34	05:26	05:45	06:15	06:46	07:17	06:54	07:20 07:50-08:10/20
	17:03	17:41	18:13	19:45	20:16	20:34	20:24	19:46	18:55	18:07	16:34	16:33
24	07:17	06:41 05:57	06:07	06:07	05:33	05:26	05:46	06:16	06:47	07:19	06:55	07:21 07:50-08:10/20
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34
25	07:16	06:40 05:55	06:06	06:06	05:33	05:27	05:46	06:17	06:48	07:20	06:56	07:21 07:50-08:10/20
	17:05	17:43	18:15	19:48	20:18	20:34	20:22	19:43	18:52	17:04	16:33	16:35
26	07:15	06:39 05:53	06:04	06:04	05:32	05:27	05:47	06:18	06:49	07:21	06:57	07:22 07:52-08:11/19
	17:07	17:45	18:16	19:49	20:19	20:34	20:21	19:42	18:50	17:03	16:33	16:35
27	07:14	06:37 05:52	06:03	06:03	05:31	05:27	05:48	06:19	06:50	07:22	06:58	07:22 07:52-08:11/19
	17:08	17:46	18:17	19:50	20:19	20:35	20:20	19:40	18:49	17:02	16:32	16:36
28	07:13	06:36 05:50	06:02	06:02	05:31	05:28	05:49	06:20	06:51	07:23	07:00	07:22 07:52-08:11/19
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:37
29	07:13	06:48 06:00	06:00	06:00	05:30	05:28	05:50	06:21	06:52	07:24	07:01	07:23 07:53-08:11/18
	17:10	17:49	19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:31	16:37
30	07:12	06:47 05:59	06:00	06:00	05:29	05:29	05:51	06:22	06:53	07:25	07:02	07:23 07:54-08:12/18
	17:12	19:20	19:53	20:22	20:34	20:18	20:18	19:36	18:43	16:58	16:31	16:38
31	07:11	06:45 05:52	06:00	06:00	05:29	05:29	05:52	06:23	06:54	07:26	07:02	07:23 07:55-08:13/18
	17:13	19:21	20:23	20:23	20:17	20:17	20:17	19:34	18:41	16:56	16:39	16:39
Potential sun hours	1297	297	369	399	448	452	459	428	375	345	298	288
Sum of minutes with flicker	114	0	0	0	0	0	0	0	0	0	0	495

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: Cumulative WTG: 26 - A22

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03
	16:40	17:14	17:48	19:22	19:54	20:23	20:34	20:15	19:32	18:42	16:55	16:31
2	07:23	07:09	06:32	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31
3	07:23	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:38	16:53	16:30
4	07:23	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:31	07:06
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:27	18:37	16:52	16:30
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30
6	07:23	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08
	16:44	17:20	17:54	19:27	19:59	20:27	20:33	20:10	19:24	18:34	16:49	16:30
7	07:23	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09
	16:45	17:22	17:55	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:37	07:11
	16:47	17:24	17:57	19:31	20:02	20:29	20:32	20:06	19:19	18:29	16:46	16:30
10	07:23	07:00	06:20	06:29	05:47	05:26	05:34	06:02	06:33	07:03	06:39	07:11
	16:48	17:25	17:58	19:32	20:03	20:29	20:32	20:05	19:17	18:27	16:45	16:30
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12
	16:49	17:27	17:59	19:33	20:04	20:30	20:32	20:03	19:16	18:25	16:44	16:30
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13
	16:50	17:28	18:01	19:34	20:05	20:30	20:31	20:02	19:14	18:24	16:43	16:30
13	07:22	06:57	06:15	06:24	05:43	05:25	05:37	06:05	06:36	07:06	06:42	07:14
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:07	06:43	07:15
	16:53	17:30	18:03	19:36	20:07	20:31	20:30	19:59	19:11	18:21	16:41	16:30
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:15
	16:54	17:31	18:04	19:37	20:08	20:32	20:30	19:58	19:09	18:19	16:40	16:30
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17
	16:56	17:34	18:06	19:39	20:10	20:33	20:28	19:55	19:06	18:16	16:39	16:31
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:17
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31
19	07:20	06:49	06:05	06:15	05:38	05:25	05:41	06:11	06:42	07:13	06:49	07:18
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:52	19:02	18:13	16:37	16:32
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:50	07:19
	16:59	17:38	18:09	19:42	20:13	20:33	20:26	19:51	19:00	18:12	16:36	16:32
21	07:19	06:46	06:02	06:12	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:49	18:59	18:10	16:36	16:32
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20
	17:02	17:40	18:11	19:44	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:17	06:54	07:20
	17:03	17:41	18:13	19:45	20:16	20:34	20:24	19:46	18:55	18:07	16:34	16:33
24	07:17	06:41	05:57	06:07	05:34	05:26	05:46	06:16	06:47	07:19	06:55	07:21
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21
	17:05	17:43	18:15	19:48	20:18	20:34	20:22	19:43	18:52	17:04	16:33	16:35
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:57	07:22
	17:07	17:45	18:16	19:49	20:19	20:34	20:21	19:42	18:50	17:03	16:33	16:35
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:58	07:22
	17:08	17:46	18:17	19:50	20:19	20:35	20:20	19:40	18:49	17:02	16:32	16:36
28	07:13	06:36	05:50	06:02	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:37
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:24	07:01	07:23
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:32	16:37
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23
	17:12		19:20	19:53	20:22	20:34	20:18	19:36	18:44	16:58	16:31	16:38
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23
	17:13		19:21		20:23		20:17	19:34		16:56		16:39
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 27 - AW01

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:43	05:58	05:29	05:29	05:53	06:24	06:54	06:28	07:03
	16:40	17:14	17:48	19:22	19:54	20:24	20:35	20:16	19:33	18:42	16:55	16:31
2	07:24	07:09	06:33	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04
	16:41	17:15	17:49	19:23	19:55	20:24	20:35	20:15	19:31	18:40	16:54	16:31
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05
	16:42	17:17	17:51	19:24	19:56	20:25	20:34	20:13	19:29	18:39	16:53	16:30
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:28	18:37	16:52	16:30
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07
	16:43	17:19	17:53	19:27	19:58	20:27	20:34	20:11	19:26	18:35	16:50	16:30
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08
	16:44	17:20	17:54	19:28	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30
7	07:24	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09
	16:45	17:22	17:55	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:24	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:08	19:21	18:30	16:47	16:30
9	07:23	07:02	06:22	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:38	07:11
	16:47	17:24	17:57	19:31	20:03	20:29	20:33	20:06	19:19	18:29	16:46	16:30
10	07:23	07:00	06:20	06:29	05:47	05:26	05:34	06:02	06:33	07:03	06:39	07:12
	16:48	17:25	17:58	19:32	20:04	20:30	20:32	20:05	19:18	18:27	16:45	16:30
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12
	16:49	17:27	18:00	19:33	20:05	20:30	20:32	20:04	19:16	18:26	16:44	16:30
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13
	16:50	17:28	18:01	19:34	20:06	20:31	20:31	20:02	19:14	18:24	16:43	16:30
13	07:22	06:57	06:15	06:24	05:43	05:25	05:37	06:05	06:36	07:07	06:42	07:14
	16:51	17:29	18:02	19:35	20:07	20:31	20:31	20:01	19:13	18:22	16:42	16:30
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:08	06:44	07:15
	16:53	17:30	18:03	19:36	20:08	20:32	20:30	20:00	19:11	18:21	16:41	16:30
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:16
	16:54	17:32	18:04	19:37	20:09	20:32	20:30	19:58	19:09	18:19	16:40	16:30
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16
	16:55	17:33	18:05	19:38	20:10	20:32	20:29	19:57	19:07	18:18	16:39	16:31
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17
	16:56	17:34	18:06	19:39	20:11	20:33	20:29	19:55	19:06	18:16	16:39	16:31
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31
19	07:20	06:49	06:05	06:15	05:38	05:25	05:41	06:11	06:42	07:13	06:50	07:18
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:53	19:02	18:13	16:37	16:32
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:51	07:19
	16:59	17:38	18:09	19:42	20:13	20:34	20:27	19:51	19:01	18:12	16:36	16:32
21	07:19	06:46	06:02	06:12	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19
	17:01	17:39	18:11	19:44	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:32
22	07:18	06:45	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:17	06:53	07:20
	17:02	17:40	18:12	19:45	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:21
	17:03	17:41	18:13	19:46	20:16	20:34	20:24	19:47	18:55	18:07	16:34	16:33
24	07:17	06:42	05:57	06:07	05:34	05:26	05:46	06:16	06:47	07:19	06:55	07:21
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21
	17:05	17:44	18:15	19:48	20:18	20:35	20:23	19:44	18:52	17:04	16:33	16:35
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:58	07:22
	17:07	17:45	18:16	19:49	20:19	20:35	20:22	19:42	18:50	17:03	16:33	16:35
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:59	07:22
	17:08	17:46	18:17	19:50	20:20	20:35	20:21	19:40	18:49	17:02	16:32	16:36
28	07:14	06:36	05:50	06:02	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:37
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:25	07:01	07:23
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:32	16:37
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23
	17:12		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23
	17:13		19:21		20:23		20:17	19:34		16:56		16:39
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 28 - AW02

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23	07:10	06:34	06:43	05:58	05:29	05:29	05:53	06:24	06:54	06:28	07:03	
	16:40	17:14	17:48	19:22	19:54	20:24	20:35	20:16	19:32	18:42	16:55	16:31	
2	07:24	07:09	06:33	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04	
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:15	19:31	18:40	16:54	16:31	
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05	
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:39	16:53	16:30	
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06	
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:28	18:37	16:52	16:30	
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07	
	16:43	17:19	17:53	19:27	19:58	20:27	20:34	20:11	19:26	18:35	16:50	16:30	
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08	
	16:44	17:20	17:54	19:28	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30	
7	07:24	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09	
	16:45	17:22	17:55	19:29	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10	
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30	
9	07:23	07:02	06:22	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:38	07:11	
	16:47	17:24	17:57	19:31	20:02	20:29	20:33	20:06	19:19	18:29	16:46	16:30	
10	07:23	07:00	06:20	06:29	05:47	05:26	05:34	06:02	06:33	07:03	06:39	07:12	
	16:48	17:25	17:58	19:32	20:04	20:30	20:32	20:05	19:18	18:27	16:45	16:30	
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12	
	16:49	17:27	18:00	19:33	20:05	20:30	20:32	20:04	19:16	18:25	16:44	16:30	
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13	
	16:50	17:28	18:01	19:34	20:06	20:31	20:31	20:02	19:14	18:24	16:43	16:30	
13	07:22	06:57	06:15	06:24	05:43	05:25	05:37	06:05	06:36	07:07	06:42	07:14	
	16:51	17:29	18:02	19:35	20:07	20:31	20:31	20:01	19:13	18:22	16:42	16:30	
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:08	06:44	07:15	
	16:53	17:30	18:03	19:36	20:08	20:32	20:30	20:00	19:11	18:21	16:41	16:30	
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:16	
	16:54	17:31	18:04	19:37	20:09	20:32	20:30	19:58	19:09	18:19	16:40	16:30	
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16	
	16:55	17:33	18:05	19:38	20:10	20:32	20:29	19:57	19:07	18:18	16:39	16:31	
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17	
	16:56	17:34	18:06	19:39	20:10	20:33	20:29	19:55	19:06	18:16	16:39	16:31	
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18	
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31	
19	07:20	06:49	06:05	06:15	05:38	05:25	05:41	06:11	06:42	07:13	06:50	07:18	
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:53	19:02	18:13	16:37	16:32	
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:51	07:19	
	16:59	17:38	18:09	19:42	20:13	20:34	20:27	19:51	19:01	18:12	16:36	16:32	
21	07:19	06:46	06:02	06:12	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19	
	17:01	17:39	18:10	19:44	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:32	
22	07:18	06:45	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20	
	17:02	17:40	18:12	19:45	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33	
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:20	
	17:03	17:41	18:13	19:46	20:16	20:34	20:24	19:47	18:55	18:07	16:34	16:33	
24	07:17	06:42	05:57	06:07	05:33	05:26	05:46	06:16	06:47	07:19	06:55	07:21	
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34	
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21	
	17:05	17:44	18:15	19:48	20:18	20:35	20:22	19:44	18:52	17:04	16:33	16:35	
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:58	07:22	
	17:07	17:45	18:16	19:49	20:19	20:35	20:22	19:42	18:50	17:03	16:33	16:35	
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:59	07:22	
	17:08	17:46	18:17	19:50	20:20	20:35	20:21	19:40	18:49	17:02	16:32	16:36	
28	07:14	06:36	05:50	06:02	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22	
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:37	
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:25	07:01	07:23	
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:32	16:37	
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23	
	17:12		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38	
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23	
	17:13		19:21		20:23		20:17	19:34		16:56		16:39	
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288	
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 29 - AW03

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23 16:40	07:10 17:14	06:34 17:48	06:43 19:22	05:57 19:54	05:29 20:24	05:29 20:35	05:53 20:16	06:24 19:32	06:54 18:42	06:28 16:55	07:03 16:31
2	07:24 16:41	07:09 17:15	06:33 17:49	06:42 19:23	05:56 19:55	05:28 20:24	05:30 20:34	05:54 20:14	06:25 19:31	06:55 18:40	06:29 16:54	07:04 16:31
3	07:24 16:42	07:08 17:17	06:31 17:50	06:40 19:24	05:55 19:56	05:28 20:25	05:30 20:34	05:55 20:13	06:26 19:29	06:56 18:39	06:30 16:53	07:05 16:30
4	07:24 16:42	07:07 17:18	06:29 17:52	06:38 19:25	05:54 19:57	05:27 20:26	05:31 20:34	05:56 20:12	06:27 19:28	06:57 18:37	06:32 16:52	07:06 16:30
5	07:24 16:43	07:06 17:19	06:28 17:53	06:37 19:26	05:52 19:58	05:27 20:26	05:31 20:34	05:57 20:11	06:28 19:26	06:58 18:35	06:33 16:50	07:07 16:30
6	07:24 16:44	07:05 17:20	06:26 17:54	06:35 19:28	05:51 19:59	05:27 20:27	05:32 20:34	05:58 20:10	06:29 19:24	06:59 18:34	06:34 16:49	07:08 16:30
7	07:24 16:45	07:04 17:22	06:25 17:55	06:33 19:29	05:50 20:00	05:26 20:28	05:32 20:33	05:59 20:09	06:30 19:23	07:00 18:32	06:35 16:48	07:09 16:30
8	07:23 16:46	07:03 17:23	06:23 17:56	06:32 19:30	05:49 20:01	05:26 20:28	05:33 20:33	06:00 20:07	06:31 19:21	07:01 18:30	06:36 16:47	07:10 16:30
9	07:23 16:47	07:02 17:24	06:21 17:57	06:30 19:31	05:48 20:02	05:26 20:29	05:34 20:33	06:01 20:06	06:32 19:19	07:02 18:29	06:38 16:46	07:11 16:30
10	07:23 16:48	07:00 17:25	06:20 17:58	06:29 19:32	05:47 20:03	05:26 20:30	05:34 20:32	06:02 20:05	06:33 19:18	07:03 18:27	06:39 16:45	07:12 16:30
11	07:23 16:49	06:59 17:27	06:18 18:00	06:27 19:33	05:45 20:05	05:26 20:30	05:35 20:32	06:03 20:04	06:34 19:16	07:04 18:25	06:40 16:44	07:12 16:30
12	07:23 16:50	06:58 17:28	06:17 18:01	06:25 19:34	05:44 20:06	05:25 20:31	05:36 20:31	06:04 20:02	06:35 19:14	07:05 18:24	06:41 16:43	07:13 16:30
13	07:22 16:51	06:57 17:29	06:15 18:02	06:24 19:35	05:43 20:07	05:25 20:31	05:36 20:31	06:05 20:01	06:36 19:12	07:06 18:22	06:42 16:42	07:14 16:30
14	07:22 16:53	06:55 17:30	06:13 18:03	06:22 19:36	05:42 20:08	05:25 20:32	05:37 20:30	06:06 20:00	06:37 19:11	07:08 18:21	06:44 16:41	07:15 16:30
15	07:22 16:54	06:54 17:31	06:12 18:04	06:21 19:37	05:41 20:09	05:25 20:32	05:38 20:30	06:07 19:58	06:38 19:09	07:09 18:19	06:45 16:40	07:16 16:30
16	07:21 16:55	06:53 17:33	06:10 18:05	06:19 19:38	05:40 20:10	05:25 20:32	05:39 20:29	06:08 19:57	06:39 19:07	07:10 18:18	06:46 16:39	07:16 16:31
17	07:21 16:56	06:51 17:34	06:08 18:06	06:18 19:39	05:39 20:10	05:25 20:33	05:40 20:29	06:09 19:55	06:40 19:06	07:11 18:16	06:47 16:39	07:17 16:31
18	07:20 16:57	06:50 17:35	06:07 18:07	06:16 19:40	05:38 20:11	05:25 20:33	05:40 20:28	06:10 19:54	06:41 19:04	07:12 18:15	06:48 16:38	07:18 16:31
19	07:20 16:58	06:49 17:36	06:05 18:08	06:15 19:41	05:38 20:12	05:25 20:33	05:41 20:27	06:11 19:53	06:42 19:02	07:13 18:13	06:49 16:37	07:18 16:32
20	07:19 16:59	06:47 17:38	06:03 18:09	06:13 19:42	05:37 20:13	05:26 20:34	05:42 20:27	06:12 19:51	06:43 19:01	07:14 18:12	06:51 16:36	07:19 16:32
21	07:19 17:01	06:46 17:39	06:02 18:10	06:12 19:43	05:36 20:14	05:26 20:34	05:43 20:26	06:13 19:50	06:44 18:59	07:15 18:10	06:52 16:36	07:19 16:32
22	07:18 17:02	06:44 17:40	06:00 18:12	06:10 19:45	05:35 20:15	05:26 20:34	05:44 20:25	06:14 19:48	06:45 18:57	07:16 18:09	06:53 16:35	07:20 16:33
23	07:17 17:03	06:43 17:41	05:58 18:13	06:09 19:46	05:34 20:16	05:26 20:34	05:45 20:24	06:15 19:47	06:46 18:55	07:18 18:07	06:54 16:34	07:20 16:33
24	07:17 17:04	06:42 17:42	05:57 18:14	06:07 19:47	05:33 20:17	05:26 20:34	05:46 20:23	06:16 19:45	06:47 18:54	07:19 18:06	06:55 16:34	07:21 16:34
25	07:16 17:05	06:40 17:43	05:55 18:15	06:06 19:48	05:33 20:18	05:27 20:35	05:46 20:22	06:17 19:44	06:48 18:52	07:20 17:04	06:56 16:33	07:21 16:35
26	07:15 17:07	06:39 17:45	05:53 18:16	06:04 19:49	05:32 20:19	05:27 20:35	05:47 20:22	06:18 19:42	06:49 18:50	07:21 17:03	06:58 16:33	07:22 16:35
27	07:14 17:08	06:37 17:46	05:52 18:17	06:03 19:50	05:31 20:20	05:27 20:35	05:48 20:21	06:19 19:40	06:50 18:49	07:22 17:02	06:59 16:32	07:22 16:36
28	07:14 17:09	06:36 17:47	05:50 18:18	06:02 19:51	05:31 20:20	05:28 20:35	05:49 20:20	06:20 19:39	06:51 18:47	07:23 17:00	07:00 16:32	07:22 16:37
29	07:13 17:10		06:48 19:19	06:00 19:52	05:30 20:21	05:28 20:35	05:50 20:19	06:21 19:37	06:52 18:45	07:24 16:59	07:01 16:31	07:23 16:37
30	07:12 17:12		06:47 19:20	05:59 19:53	05:30 20:22	05:29 20:35	05:51 20:18	06:22 19:36	06:53 18:44	07:25 16:58	07:02 16:31	07:23 16:38
31	07:11 17:13		06:45 19:21		05:29 20:23		05:52 20:17	06:23 19:34		06:27 16:56		07:23 16:39
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 30 - AW04

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03	
	16:40	17:14	17:48	19:22	19:54	20:24	20:35	20:16	19:32	18:42	16:55	16:31	
2	07:23	07:09	06:33	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04	
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:31	
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05	
	16:42	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:39	16:53	16:30	
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06	
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:28	18:37	16:52	16:30	
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07	
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30	
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08	
	16:44	17:20	17:54	19:28	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30	
7	07:24	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09	
	16:45	17:22	17:55	19:29	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10	
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30	
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:38	07:11	
	16:47	17:24	17:57	19:31	20:02	20:29	20:33	20:06	19:19	18:29	16:46	16:30	
10	07:23	07:00	06:20	06:29	05:47	05:26	05:34	06:02	06:33	07:03	06:39	07:12	
	16:48	17:25	17:58	19:32	20:03	20:30	20:32	20:05	19:18	18:27	16:45	16:30	
11	07:23	06:59	06:18	06:27	05:45	05:26	05:35	06:03	06:34	07:04	06:40	07:12	
	16:49	17:27	17:59	19:33	20:04	20:30	20:32	20:04	19:16	18:25	16:44	16:30	
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13	
	16:50	17:28	18:01	19:34	20:05	20:31	20:31	20:02	19:14	18:24	16:43	16:30	
13	07:22	06:57	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14	
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30	
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:08	06:44	07:15	
	16:53	17:30	18:03	19:36	20:07	20:32	20:30	20:00	19:11	18:21	16:41	16:30	
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:16	
	16:54	17:31	18:04	19:37	20:08	20:32	20:30	19:58	19:09	18:19	16:40	16:30	
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16	
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31	
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17	
	16:56	17:34	18:06	19:39	20:10	20:33	20:29	19:55	19:06	18:16	16:39	16:31	
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18	
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31	
19	07:20	06:49	06:05	06:15	05:38	05:25	05:41	06:11	06:42	07:13	06:49	07:18	
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:53	19:02	18:13	16:37	16:32	
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:51	07:19	
	16:59	17:38	18:09	19:42	20:13	20:34	20:26	19:51	19:01	18:12	16:36	16:32	
21	07:19	06:46	06:02	06:12	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19	
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:32	
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20	
	17:02	17:40	18:12	19:45	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33	
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:20	
	17:03	17:41	18:13	19:46	20:16	20:34	20:24	19:47	18:55	18:07	16:34	16:33	
24	07:17	06:42	05:57	06:07	05:33	05:26	05:46	06:16	06:47	07:19	06:55	07:21	
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34	
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21	
	17:05	17:43	18:15	19:48	20:18	20:35	20:22	19:44	18:52	17:04	16:33	16:35	
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:57	07:22	
	17:07	17:45	18:16	19:49	20:19	20:35	20:22	19:42	18:50	17:03	16:33	16:35	
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:59	07:22	
	17:08	17:46	18:17	19:50	20:20	20:35	20:21	19:40	18:49	17:02	16:32	16:36	
28	07:14	06:36	05:50	06:02	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22	
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:37	
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:25	07:01	07:23	
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:31	16:37	
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23	
	17:12		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38	
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23	
	17:13		19:21		20:23		20:17	19:34		16:56		16:39	
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288	
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 31 - AW05

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03	
	16:40	17:14	17:48	19:22	19:54	20:24	20:35	20:16	19:32	18:42	16:55	16:31	
2	07:23	07:09	06:33	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04	
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:30	
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05	
	16:41	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:39	16:53	16:30	
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06	
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:28	18:37	16:52	16:30	
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07	
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30	
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08	
	16:44	17:20	17:54	19:28	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30	
7	07:24	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09	
	16:45	17:22	17:55	19:29	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10	
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30	
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:38	07:11	
	16:47	17:24	17:57	19:31	20:02	20:29	20:33	20:06	19:19	18:29	16:46	16:30	
10	07:23	07:00	06:20	06:29	05:46	05:26	05:34	06:02	06:33	07:03	06:39	07:12	
	16:48	17:25	17:58	19:32	20:03	20:30	20:32	20:05	19:18	18:27	16:45	16:30	
11	07:23	06:59	06:18	06:27	05:45	05:25	05:35	06:03	06:34	07:04	06:40	07:12	
	16:49	17:27	17:59	19:33	20:04	20:30	20:32	20:04	19:16	18:25	16:44	16:30	
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13	
	16:50	17:28	18:01	19:34	20:05	20:31	20:31	20:02	19:14	18:24	16:43	16:30	
13	07:22	06:57	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14	
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30	
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:08	06:44	07:15	
	16:52	17:30	18:03	19:36	20:07	20:32	20:30	20:00	19:11	18:21	16:41	16:30	
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:16	
	16:54	17:31	18:04	19:37	20:08	20:32	20:30	19:58	19:09	18:19	16:40	16:30	
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16	
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31	
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17	
	16:56	17:34	18:06	19:39	20:10	20:33	20:29	19:55	19:06	18:16	16:39	16:31	
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18	
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31	
19	07:20	06:49	06:05	06:14	05:37	05:25	05:41	06:11	06:42	07:13	06:49	07:18	
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:53	19:02	18:13	16:37	16:32	
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:51	07:19	
	16:59	17:37	18:09	19:42	20:13	20:34	20:26	19:51	19:01	18:12	16:36	16:32	
21	07:19	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19	
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:32	
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20	
	17:02	17:40	18:12	19:45	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33	
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:20	
	17:03	17:41	18:13	19:46	20:16	20:34	20:24	19:47	18:55	18:07	16:34	16:33	
24	07:17	06:42	05:57	06:07	05:33	05:26	05:46	06:16	06:47	07:19	06:55	07:21	
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34	
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21	
	17:05	17:43	18:15	19:48	20:18	20:35	20:22	19:44	18:52	17:04	16:33	16:35	
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:57	07:22	
	17:07	17:45	18:16	19:49	20:19	20:35	20:22	19:42	18:50	17:03	16:33	16:35	
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:59	07:22	
	17:08	17:46	18:17	19:50	20:20	20:35	20:21	19:40	18:49	17:02	16:32	16:36	
28	07:14	06:36	05:50	06:01	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22	
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:36	
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:24	07:01	07:23	
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:31	16:37	
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23	
	17:12		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38	
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23	
	17:13		19:21		20:23		20:17	19:34		16:56		16:39	
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288	
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 32 - AW06

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03	
	16:40	17:14	17:48	19:22	19:54	20:24	20:35	20:16	19:32	18:42	16:55	16:31	
2	07:24	07:09	06:33	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04	
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:30	
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05	
	16:41	17:16	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:39	16:53	16:30	
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06	
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:28	18:37	16:52	16:30	
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07	
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30	
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08	
	16:44	17:20	17:54	19:28	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30	
7	07:24	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09	
	16:45	17:22	17:55	19:29	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10	
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30	
9	07:23	07:01	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:38	07:11	
	16:47	17:24	17:57	19:31	20:02	20:29	20:33	20:06	19:19	18:29	16:46	16:30	
10	07:23	07:00	06:20	06:29	05:46	05:26	05:34	06:02	06:33	07:03	06:39	07:12	
	16:48	17:25	17:58	19:32	20:03	20:30	20:32	20:05	19:18	18:27	16:45	16:30	
11	07:23	06:59	06:18	06:27	05:45	05:25	05:35	06:03	06:34	07:04	06:40	07:12	
	16:49	17:26	17:59	19:33	20:04	20:30	20:32	20:04	19:16	18:25	16:44	16:30	
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13	
	16:50	17:28	18:01	19:34	20:05	20:31	20:31	20:02	19:14	18:24	16:43	16:30	
13	07:22	06:57	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14	
	16:51	17:29	18:02	19:35	20:06	20:31	20:31	20:01	19:12	18:22	16:42	16:30	
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:08	06:44	07:15	
	16:52	17:30	18:03	19:36	20:07	20:32	20:30	20:00	19:11	18:21	16:41	16:30	
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:16	
	16:54	17:31	18:04	19:37	20:08	20:32	20:30	19:58	19:09	18:19	16:40	16:30	
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16	
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31	
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17	
	16:56	17:34	18:06	19:39	20:10	20:33	20:29	19:55	19:06	18:16	16:39	16:31	
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18	
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31	
19	07:20	06:49	06:05	06:14	05:37	05:25	05:41	06:11	06:42	07:13	06:49	07:18	
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:53	19:02	18:13	16:37	16:32	
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:51	07:19	
	16:59	17:37	18:09	19:42	20:13	20:34	20:26	19:51	19:01	18:12	16:36	16:32	
21	07:19	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19	
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:32	
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20	
	17:02	17:40	18:11	19:45	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33	
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:20	
	17:03	17:41	18:13	19:46	20:16	20:34	20:24	19:47	18:55	18:07	16:34	16:33	
24	07:17	06:42	05:57	06:07	05:33	05:26	05:45	06:16	06:47	07:19	06:55	07:21	
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34	
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21	
	17:05	17:43	18:15	19:48	20:18	20:35	20:22	19:44	18:52	17:04	16:33	16:35	
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:57	07:22	
	17:07	17:45	18:16	19:49	20:19	20:35	20:22	19:42	18:50	17:03	16:33	16:35	
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:59	07:22	
	17:08	17:46	18:17	19:50	20:20	20:35	20:21	19:40	18:49	17:02	16:32	16:36	
28	07:14	06:36	05:50	06:01	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22	
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:36	
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:24	07:01	07:23	
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:31	16:37	
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23	
	17:12		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38	
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23	
	17:13		19:21		20:23		20:17	19:34		16:56		16:39	
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288	
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 33 - AW07

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03	
	16:40	17:14	17:48	19:22	19:54	20:24	20:35	20:16	19:32	18:42	16:55	16:31	
2	07:24	07:09	06:33	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04	
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:30	
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05	
	16:41	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:39	16:53	16:30	
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06	
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:28	18:37	16:52	16:30	
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07	
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30	
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08	
	16:44	17:20	17:54	19:28	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30	
7	07:24	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09	
	16:45	17:22	17:55	19:29	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10	
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30	
9	07:23	07:02	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:38	07:11	
	16:47	17:24	17:57	19:31	20:02	20:29	20:33	20:06	19:19	18:29	16:46	16:30	
10	07:23	07:00	06:20	06:29	05:46	05:26	05:34	06:02	06:33	07:03	06:39	07:12	
	16:48	17:25	17:58	19:32	20:03	20:30	20:32	20:05	19:18	18:27	16:45	16:30	
11	07:23	06:59	06:18	06:27	05:45	05:25	05:35	06:03	06:34	07:04	06:40	07:12	
	16:49	17:27	17:59	19:33	20:05	20:30	20:32	20:04	19:16	18:25	16:44	16:30	
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13	
	16:50	17:28	18:01	19:34	20:06	20:31	20:31	20:02	19:14	18:24	16:43	16:30	
13	07:22	06:57	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14	
	16:51	17:29	18:02	19:35	20:07	20:31	20:31	20:01	19:12	18:22	16:42	16:30	
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:08	06:44	07:15	
	16:52	17:30	18:03	19:36	20:08	20:32	20:30	20:00	19:11	18:21	16:41	16:30	
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:16	
	16:54	17:31	18:04	19:37	20:09	20:32	20:30	19:58	19:09	18:19	16:40	16:30	
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16	
	16:55	17:33	18:05	19:38	20:10	20:32	20:29	19:57	19:07	18:18	16:39	16:31	
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17	
	16:56	17:34	18:06	19:39	20:10	20:33	20:29	19:55	19:06	18:16	16:39	16:31	
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18	
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31	
19	07:20	06:49	06:05	06:14	05:37	05:25	05:41	06:11	06:42	07:13	06:49	07:18	
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:53	19:02	18:13	16:37	16:32	
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:51	07:19	
	16:59	17:37	18:09	19:42	20:13	20:34	20:27	19:51	19:01	18:12	16:36	16:32	
21	07:19	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19	
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:32	
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20	
	17:02	17:40	18:12	19:45	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33	
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:20	
	17:03	17:41	18:13	19:46	20:16	20:34	20:24	19:47	18:55	18:07	16:34	16:33	
24	07:17	06:42	05:57	06:07	05:33	05:26	05:46	06:16	06:47	07:19	06:55	07:21	
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34	
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21	
	17:05	17:43	18:15	19:48	20:18	20:35	20:22	19:44	18:52	17:04	16:33	16:35	
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:58	07:22	
	17:07	17:45	18:16	19:49	20:19	20:35	20:22	19:42	18:50	17:03	16:33	16:35	
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	17:08	17:46	18:17	19:50	20:20	20:35	20:21	19:40	18:49	17:02	16:32	16:36	
28	07:14	06:36	05:50	06:01	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22	
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:36	
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:25	07:01	07:23	
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:31	16:37	
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23	
	17:12		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38	
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23	
	17:13		19:21		20:23		20:17	19:34		16:56		16:39	
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288	
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 34 - AW08

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03
	16:40	17:14	17:48	19:22	19:54	20:24	20:35	20:16	19:32	18:42	16:55	16:31
2	07:24	07:09	06:33	06:42	05:56	05:28	05:29	05:54	06:25	06:55	06:29	07:04
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:14	19:31	18:40	16:54	16:30
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05
	16:41	17:16	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:39	16:53	16:30
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:28	18:37	16:52	16:30
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07
	16:43	17:19	17:53	19:26	19:58	20:26	20:34	20:11	19:26	18:35	16:50	16:30
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08
	16:44	17:20	17:54	19:28	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30
7	07:24	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09
	16:45	17:21	17:55	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30
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	16:47	17:24	17:57	19:31	20:02	20:29	20:33	20:06	19:19	18:29	16:46	16:30
10	07:23	07:00	06:20	06:29	05:46	05:26	05:34	06:02	06:33	07:03	06:39	07:12
	16:48	17:25	17:58	19:32	20:03	20:30	20:32	20:05	19:18	18:27	16:45	16:30
11	07:23	06:59	06:18	06:27	05:45	05:25	05:35	06:03	06:34	07:04	06:40	07:12
	16:49	17:26	17:59	19:33	20:04	20:30	20:32	20:04	19:16	18:25	16:44	16:30
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13
	16:50	17:28	18:01	19:34	20:06	20:31	20:31	20:02	19:14	18:24	16:43	16:30
13	07:22	06:57	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14
	16:51	17:29	18:02	19:35	20:07	20:31	20:31	20:01	19:12	18:22	16:42	16:30
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:08	06:44	07:15
	16:52	17:30	18:03	19:36	20:08	20:32	20:30	20:00	19:11	18:21	16:41	16:30
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:16
	16:54	17:31	18:04	19:37	20:09	20:32	20:30	19:58	19:09	18:19	16:40	16:30
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16
	16:55	17:33	18:05	19:38	20:09	20:32	20:29	19:57	19:07	18:18	16:39	16:31
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17
	16:56	17:34	18:06	19:39	20:10	20:33	20:29	19:55	19:06	18:16	16:39	16:31
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31
19	07:20	06:49	06:05	06:14	05:37	05:25	05:41	06:11	06:42	07:13	06:49	07:18
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:53	19:02	18:13	16:37	16:32
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:51	07:19
	16:59	17:37	18:09	19:42	20:13	20:34	20:27	19:51	19:01	18:12	16:36	16:32
21	07:19	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19
	17:00	17:39	18:10	19:43	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:32
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20
	17:02	17:40	18:12	19:45	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:20
	17:03	17:41	18:13	19:46	20:16	20:34	20:24	19:47	18:55	18:07	16:34	16:33
24	07:17	06:42	05:57	06:07	05:33	05:26	05:45	06:16	06:47	07:19	06:55	07:21
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21
	17:05	17:43	18:15	19:48	20:18	20:35	20:22	19:44	18:52	17:04	16:33	16:35
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:58	07:22
	17:07	17:45	18:16	19:49	20:19	20:35	20:22	19:42	18:50	17:03	16:33	16:35
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:59	07:22
	17:08	17:46	18:17	19:50	20:20	20:35	20:21	19:40	18:49	17:02	16:32	16:36
28	07:14	06:36	05:50	06:01	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:36
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:25	07:01	07:23
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:31	16:37
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23
	17:11		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23
	17:13		19:21		20:23		20:17	19:34		16:56		16:39
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 35 - AW09

Assumptions for shadow calculations

Maximum distance for influence 2.000 m
 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03	
	16:40	17:14	17:48	19:22	19:54	20:24	20:35	20:16	19:32	18:42	16:55	16:31	
2	07:24	07:09	06:33	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04	
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:15	19:31	18:40	16:54	16:30	
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05	
	16:41	17:16	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:39	16:53	16:30	
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06	
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:28	18:37	16:52	16:30	
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07	
	16:43	17:19	17:53	19:26	19:58	20:27	20:34	20:11	19:26	18:35	16:50	16:30	
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08	
	16:44	17:20	17:54	19:28	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30	
7	07:24	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09	
	16:45	17:22	17:55	19:29	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:23	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10	
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30	
9	07:23	07:02	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:38	07:11	
	16:47	17:24	17:57	19:31	20:02	20:29	20:33	20:06	19:19	18:29	16:46	16:30	
10	07:23	07:00	06:20	06:29	05:46	05:26	05:34	06:02	06:33	07:03	06:39	07:12	
	16:48	17:25	17:58	19:32	20:03	20:30	20:32	20:05	19:18	18:27	16:45	16:30	
11	07:23	06:59	06:18	06:27	05:45	05:25	05:35	06:03	06:34	07:04	06:40	07:12	
	16:49	17:26	17:59	19:33	20:05	20:30	20:32	20:04	19:16	18:25	16:44	16:30	
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13	
	16:50	17:28	18:01	19:34	20:06	20:31	20:31	20:02	19:14	18:24	16:43	16:30	
13	07:22	06:57	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14	
	16:51	17:29	18:02	19:35	20:07	20:31	20:31	20:01	19:12	18:22	16:42	16:30	
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:08	06:44	07:15	
	16:52	17:30	18:03	19:36	20:08	20:32	20:30	20:00	19:11	18:21	16:41	16:30	
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:16	
	16:54	17:31	18:04	19:37	20:09	20:32	20:30	19:58	19:09	18:19	16:40	16:30	
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16	
	16:55	17:33	18:05	19:38	20:10	20:32	20:29	19:57	19:07	18:18	16:39	16:31	
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17	
	16:56	17:34	18:06	19:39	20:10	20:33	20:29	19:55	19:06	18:16	16:39	16:31	
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18	
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31	
19	07:20	06:49	06:05	06:14	05:37	05:25	05:41	06:11	06:42	07:13	06:49	07:18	
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:53	19:02	18:13	16:37	16:32	
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:51	07:19	
	16:59	17:37	18:09	19:42	20:13	20:34	20:27	19:51	19:01	18:12	16:36	16:32	
21	07:19	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19	
	17:01	17:39	18:10	19:43	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:32	
22	07:18	06:44	06:00	06:10	05:35	05:26	05:44	06:14	06:45	07:16	06:53	07:20	
	17:02	17:40	18:12	19:45	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33	
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:20	
	17:03	17:41	18:13	19:46	20:16	20:34	20:24	19:47	18:55	18:07	16:34	16:33	
24	07:17	06:42	05:57	06:07	05:33	05:26	05:45	06:16	06:47	07:19	06:55	07:21	
	17:04	17:42	18:14	19:47	20:17	20:34	20:23	19:45	18:54	18:06	16:34	16:34	
25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21	
	17:05	17:43	18:15	19:48	20:18	20:35	20:22	19:44	18:52	17:04	16:33	16:35	
26	07:15	06:39	05:53	06:04	05:32	05:27	05:47	06:18	06:49	06:21	06:58	07:22	
	17:07	17:45	18:16	19:49	20:19	20:35	20:22	19:42	18:50	17:03	16:33	16:35	
27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:59	07:22	
	17:08	17:46	18:17	19:50	20:20	20:35	20:21	19:40	18:49	17:02	16:32	16:36	
28	07:14	06:36	05:50	06:01	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22	
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:36	
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:25	07:01	07:23	
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:31	16:37	
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23	
	17:11		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38	
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23	
	17:13		19:21		20:23		20:17	19:34		16:56		16:39	
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288	
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	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: Cumulative WTG: 36 - AW10

Assumptions for shadow calculations

- Maximum distance for influence 2.000 m
- 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

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:23	07:10	06:34	06:43	05:57	05:29	05:29	05:53	06:24	06:54	06:28	07:03	
	16:40	17:14	17:48	19:22	19:54	20:24	20:35	20:16	19:32	18:42	16:55	16:31	
2	07:24	07:09	06:33	06:42	05:56	05:28	05:30	05:54	06:25	06:55	06:29	07:04	
	16:41	17:15	17:49	19:23	19:55	20:24	20:34	20:15	19:31	18:40	16:54	16:30	
3	07:24	07:08	06:31	06:40	05:55	05:28	05:30	05:55	06:26	06:56	06:30	07:05	
	16:41	17:17	17:50	19:24	19:56	20:25	20:34	20:13	19:29	18:39	16:53	16:30	
4	07:24	07:07	06:29	06:38	05:54	05:27	05:31	05:56	06:27	06:57	06:32	07:06	
	16:42	17:18	17:52	19:25	19:57	20:26	20:34	20:12	19:28	18:37	16:52	16:30	
5	07:24	07:06	06:28	06:37	05:52	05:27	05:31	05:57	06:28	06:58	06:33	07:07	
	16:43	17:19	17:53	19:26	19:58	20:27	20:34	20:11	19:26	18:35	16:50	16:30	
6	07:24	07:05	06:26	06:35	05:51	05:27	05:32	05:58	06:29	06:59	06:34	07:08	
	16:44	17:20	17:54	19:28	19:59	20:27	20:34	20:10	19:24	18:34	16:49	16:30	
7	07:24	07:04	06:25	06:33	05:50	05:26	05:32	05:59	06:30	07:00	06:35	07:09	
	16:45	17:22	17:55	19:29	19:29	20:00	20:28	20:33	20:09	19:23	18:32	16:48	16:30
8	07:24	07:03	06:23	06:32	05:49	05:26	05:33	06:00	06:31	07:01	06:36	07:10	
	16:46	17:23	17:56	19:30	20:01	20:28	20:33	20:07	19:21	18:30	16:47	16:30	
9	07:23	07:02	06:21	06:30	05:48	05:26	05:34	06:01	06:32	07:02	06:38	07:11	
	16:47	17:24	17:57	19:31	20:02	20:29	20:33	20:06	19:19	18:29	16:46	16:30	
10	07:23	07:00	06:20	06:29	05:46	05:26	05:34	06:02	06:33	07:03	06:39	07:12	
	16:48	17:25	17:58	19:32	20:04	20:30	20:32	20:05	19:18	18:27	16:45	16:30	
11	07:23	06:59	06:18	06:27	05:45	05:25	05:35	06:03	06:34	07:04	06:40	07:12	
	16:49	17:26	18:00	19:33	20:05	20:30	20:32	20:04	19:16	18:25	16:44	16:30	
12	07:23	06:58	06:17	06:25	05:44	05:25	05:36	06:04	06:35	07:05	06:41	07:13	
	16:50	17:28	18:01	19:34	20:06	20:31	20:31	20:02	19:14	18:24	16:43	16:30	
13	07:22	06:57	06:15	06:24	05:43	05:25	05:36	06:05	06:36	07:06	06:42	07:14	
	16:51	17:29	18:02	19:35	20:07	20:31	20:31	20:01	19:12	18:22	16:42	16:30	
14	07:22	06:55	06:13	06:22	05:42	05:25	05:37	06:06	06:37	07:08	06:44	07:15	
	16:52	17:30	18:03	19:36	20:08	20:32	20:30	20:00	19:11	18:21	16:41	16:30	
15	07:22	06:54	06:12	06:21	05:41	05:25	05:38	06:07	06:38	07:09	06:45	07:16	
	16:54	17:31	18:04	19:37	20:09	20:32	20:30	19:58	19:09	18:19	16:40	16:30	
16	07:21	06:53	06:10	06:19	05:40	05:25	05:39	06:08	06:39	07:10	06:46	07:16	
	16:55	17:33	18:05	19:38	20:10	20:32	20:29	19:57	19:07	18:18	16:39	16:31	
17	07:21	06:51	06:08	06:18	05:39	05:25	05:40	06:09	06:40	07:11	06:47	07:17	
	16:56	17:34	18:06	19:39	20:11	20:33	20:29	19:55	19:06	18:16	16:39	16:31	
18	07:20	06:50	06:07	06:16	05:38	05:25	05:40	06:10	06:41	07:12	06:48	07:18	
	16:57	17:35	18:07	19:40	20:11	20:33	20:28	19:54	19:04	18:15	16:38	16:31	
19	07:20	06:49	06:05	06:14	05:37	05:25	05:41	06:11	06:42	07:13	06:50	07:18	
	16:58	17:36	18:08	19:41	20:12	20:33	20:27	19:53	19:02	18:13	16:37	16:32	
20	07:19	06:47	06:03	06:13	05:37	05:26	05:42	06:12	06:43	07:14	06:51	07:19	
	16:59	17:37	18:09	19:42	20:13	20:34	20:27	19:51	19:01	18:12	16:36	16:32	
21	07:19	06:46	06:02	06:11	05:36	05:26	05:43	06:13	06:44	07:15	06:52	07:19	
	17:01	17:39	18:10	19:44	20:14	20:34	20:26	19:50	18:59	18:10	16:36	16:32	
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	17:02	17:40	18:12	19:45	20:15	20:34	20:25	19:48	18:57	18:09	16:35	16:33	
23	07:17	06:43	05:58	06:09	05:34	05:26	05:45	06:15	06:46	07:18	06:54	07:20	
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24	07:17	06:42	05:57	06:07	05:33	05:26	05:45	06:16	06:47	07:19	06:55	07:21	
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25	07:16	06:40	05:55	06:06	05:33	05:27	05:46	06:17	06:48	06:20	06:56	07:21	
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27	07:14	06:37	05:52	06:03	05:31	05:27	05:48	06:19	06:50	06:22	06:59	07:22	
	17:08	17:46	18:17	19:50	20:20	20:35	20:21	19:40	18:49	17:02	16:32	16:36	
28	07:14	06:36	05:50	06:01	05:31	05:28	05:49	06:20	06:51	06:23	07:00	07:22	
	17:09	17:47	18:18	19:51	20:20	20:35	20:20	19:39	18:47	17:00	16:32	16:36	
29	07:13		06:48	06:00	05:30	05:28	05:50	06:21	06:52	06:25	07:01	07:23	
	17:10		19:19	19:52	20:21	20:35	20:19	19:37	18:45	16:59	16:31	16:37	
30	07:12		06:47	05:59	05:30	05:29	05:51	06:22	06:53	06:26	07:02	07:23	
	17:12		19:20	19:53	20:22	20:35	20:18	19:36	18:44	16:58	16:31	16:38	
31	07:11		06:45		05:29		05:52	06:23		06:27		07:23	
	17:13		19:21		20:23		20:17	19:34		16:56		16:39	
Potential sun hours	1297	1297	1369	1399	1448	1452	1459	1428	1375	1345	1298	1288	
Sum of minutes with flicker	0	0	0	0	0	0	0	0	0	0	0	0	

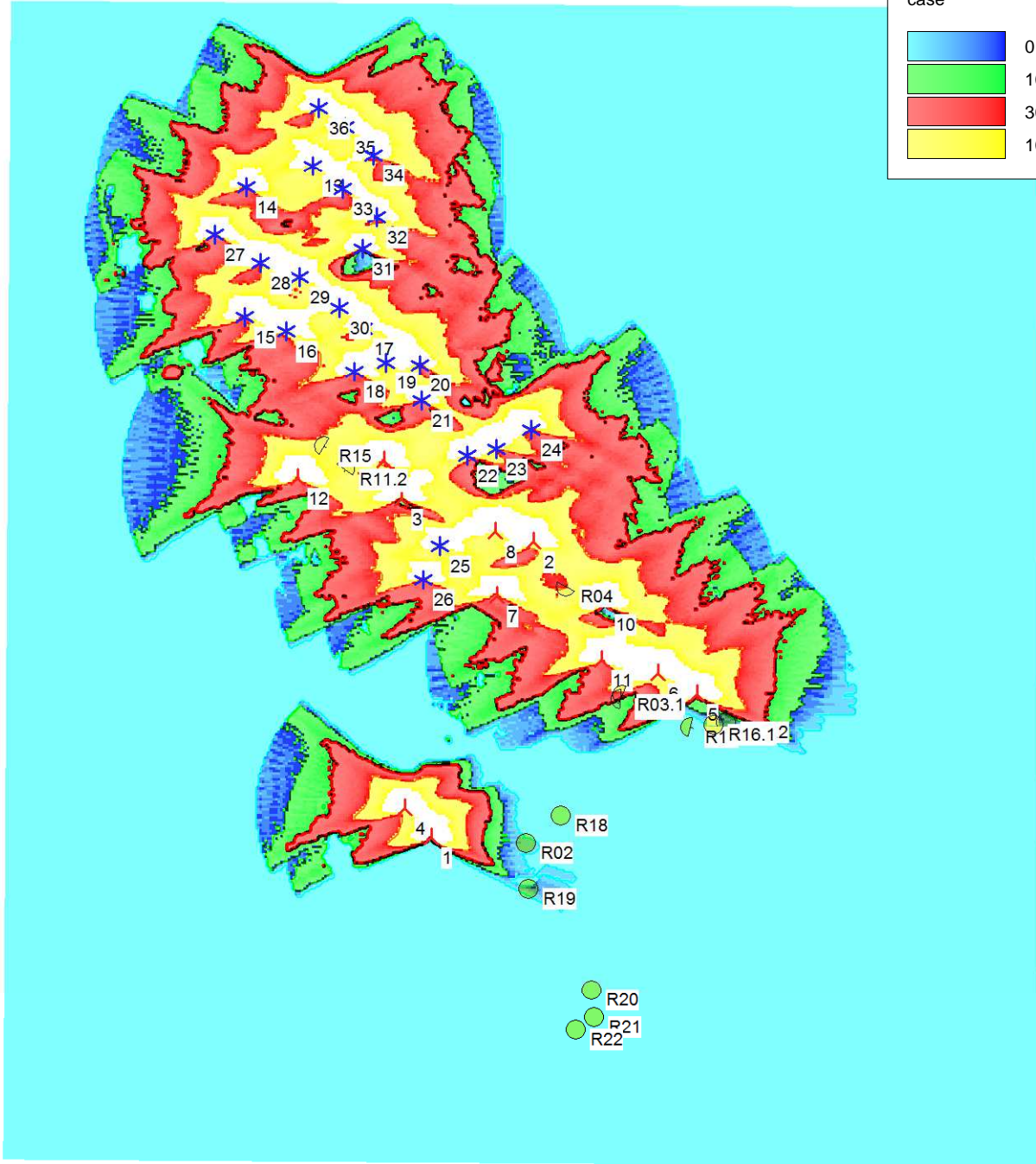
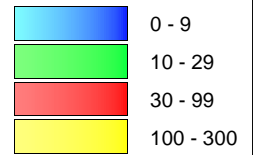
Table layout: For each day in each month the following matrix apply

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 - Map


Calculation: Cumulative


Hours per year, worst case



Map: Blank map , Print scale 1:75.000, Map center UTM WGS 84 Zone: 33 East: 550.320 North: 4.542.390

 New WTG

 Existing WTG

 Shadow receptor

Isolines showing shadow in Hours per year, worst case

 0
  10
  30
  100