

COMUNI DI BELCASTRO E CUTRO
Provincia di Catanzaro e Crotona



Progetto parco eolico "Cantorato"

Elaborato: CA_R0_Shadow Flickering V172	RELAZIONE SHADOW FLICKERING VESTA V172
Scala: Documento	
Data: 01.08.2024	

Committente:
Energia Levante S.r.l.

Il Progettista
Ferraro architetto Francesco



Società del gruppo:

N°REVISIONE	Data revisione	Elaborato	Controllato	Approvato	Note
1			F.F.	G.M.	

E' vietata la copia anche parziale del presente elaborato

ENERGIA LEVANTE S.r.l.
Via Luca Gaurico n°9/11 - Regus Eur 4° piano - Cap. 00143 ROMA (Italia)
P.IVA 10240591007- REA RM1219825 - PEC: energialevantesrl@legalmail.it
Indirizzo email: www.sserenewables.com - Telefono (+39) 0654832107

Sommario

1. PREMESSA	3
2. DESCRIZIONE DEL PROGETTO	3
2.1 Caratteristiche tecniche dell'aerogeneratore	3
3. CARATTERISTICHE PRINCIPALI DEL PARCO EOLICO	5
4. FENOMENO DI SHADOW FLIKERING	6
5. RIFERIMENTI NORMATIVI	9
6. IPOTESI E METODO DI CALCOLO	10
7. CONCLUSIONI	15
8. ALLEGATO 1	18
9. ALLEGATO 2	19

1. PREMESSA

Nella presente trattazione si descrive l'evoluzione giornaliera delle ombre generate dalle pale eoliche facenti parte dell'impianto eolico denominato "Cantorato" al fine di verificare che l'alternanza ciclica dell'ombra non arrechi danni alla salute su un possibile ricettore.

2. DESCRIZIONE DEL PROGETTO

L'impianto eolico presenta una potenza nominale totale in immissione pari a 124 MWp ed è costituito da n. 20 aerogeneratori di potenza nominale pari a 6.2 MWp, per un totale di 124 MWp, con altezza al tip pari a 200 m.

L'impianto interessa il Comune di Belcastro dove ricadono 11 aerogeneratori e il Comune di Cutro ove ricadano 9 aerogeneratori.

2.1 Caratteristiche tecniche dell'aerogeneratore

L'aerogeneratore è una macchina rotante che trasforma l'energia cinetica del vento in energia elettrica ed è essenzialmente costituito da una torre (suddivisa in più parti), dalla navicella, dal Drive Train, dall'Hub e tre pale che costituiscono il rotore.

Per il presente progetto una delle possibili macchine che potrebbe essere installata è il modello Vestas V172, di potenza nominale pari a 6.2 MW, altezza torre all'hub pari a 114 m e diametro del rotore 172 m (Figura 2.1.1).

Oltre ai componenti su elencati, vi è un sistema di controllo che esegue il controllo della potenza ruotando le pale intorno al loro asse principale, ed il controllo dell'orientamento della navicella, detto controllo dell'imbardata, che permette l'allineamento della macchina rispetto alla direzione del vento.

Il rotore è a passo variabile in resina epossidica rinforzata con fibra di vetro di diametro pari a 172 m, posto sopravvento al sostegno, con mozzo rigido in acciaio. Altre caratteristiche principali sono riassunte nella Tabella 2.1.1.

Le caratteristiche dell'aerogeneratore su descritto sono quelle ritenute idonee in base a quanto disponibile oggi sul mercato, in futuro potrà essere possibile cambiare il modello dell'aerogeneratore senza modificare in maniera sostanziale l'impatto ambientale e i limiti di sicurezza previsti.

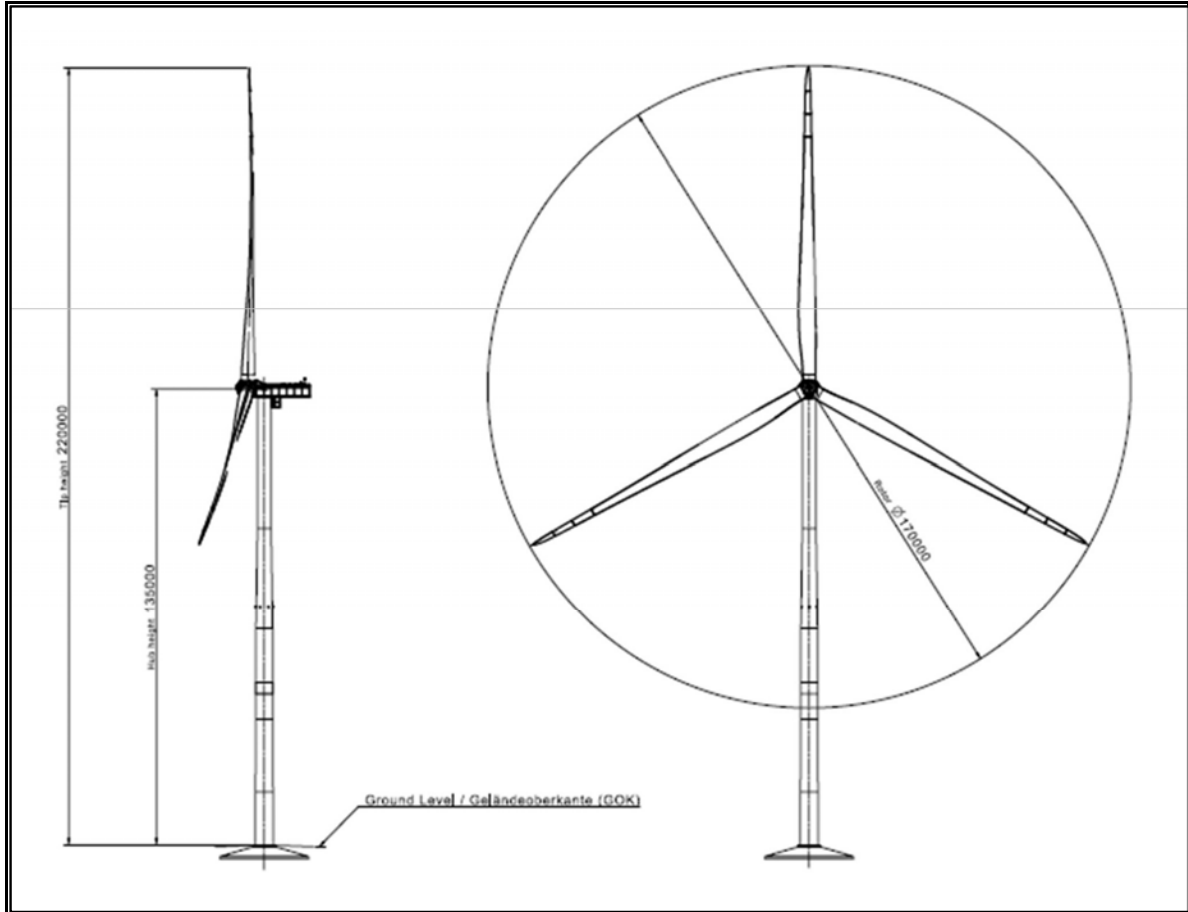


Figura 2.1.1: Profilo aerogeneratore SG170 HH115 – 6.2 MW

V172-7.2 MW™ IEC S

Power regulation	Pitch regulated with variable speed	
Operating data		
Standard rated power	7,200kW	
Cut-in wind speed	3m/s	
Cut-out wind speed*	25m/s	
Wind class	IEC S	
Standard operating temperature range from	-20°C to +45°C	
<small>*High Wind Operation available as standard</small>		
Sound power		
Maximum	106.9dB(A)*	
<small>**Sound Output Metrics available dependent on site and country</small>		
Rotor		
Rotor diameter	172m	
Swept area	23,235m ²	
Aerodynamic brake	full blade feathering with 3 pitch cylinders	
Electrical		
Frequency	50/60Hz	
Converter	full scale	
Gearbox		
Type	two planetary stages	
Tower		
Hub heights*	114m (IEC S)**	
	150m (IEC S)**	
	164m (DIBt)	
	166m (IEC S)	
	175m (DIBt)	
	199m (DIBt)	
<small>**Site specific tower available on request</small>		
<small>**Optional</small>		
Turbine options		
- 6.5 MW Operational Mode		
- 6.8 MW Operational Mode		
- Oil Debris Monitoring System		
- High Temperature Cooler Top		
- Service Personnel Lift		
- Low Temperature Operation to -30°C		
- Vestas Ice Detection™		
- Vestas Anti-Icing System™		
- Vestas Shadow Flicker Control System		
- Aviation Lights		
- Aviation Markings		
- Fire Suppression System		
- Vestas Bat Protection System		
- Lightning Detection System		
Sustainability		
Carbon Footprint	6.4gCO ₂ e/kWh	
Return on energy break-even	6.9 months	
Lifetime return on energy	34 times	
Recyclability rate	86.6%	
<small>Configuration: 165m hub height, Vowp-7.4m, In-248. Depending on site specific conditions, Metrics are based on an internal GHG footprint assessment. An external verified Life Cycle Assessment will be made available on vestas.com once finalised.</small>		
Annual energy production		
GWh		■ V172-7.2MW™ IEC S
390		
360		
330		
300		
270		
240		
210		
180		
150		
120		
900		
60	70	80
90	100	
Yearly average wind speed m/s		
Assumptions		
One wind turbine, 100% availability, 0% losses, a factor +2		
Standard air density = 1.225, wind speed at hub height		

Tabella 2.1.1: Specifiche tecniche aerogeneratore

3. CARATTERISTICHE PRINCIPALI DEL PARCO EOLICO

L'impianto eolico sarà costituito da 20 aerogeneratori la cui posizione è stata stabilita a seguito di valutazioni che riguardano diversi aspetti quali l'esposizione a tutti i settori della rosa dei venti, la morfologia del territorio, la distanza da fabbricati e strade esistenti ed utilizzate da un elevato numero di veicoli, distanza dal centro abitato e da beni monumentali presenti nell'area oltre agli aspetti legati alla sicurezza e volti a minimizzare l'impatto sull'ambiente:

- ottemperare alle previsioni della normativa vigente e delle linee guida sia nazionali che regionali;
- minimizzare l'impatto visivo;
- migliorare in sistema viario esistente al fine di migliorare l'accessibilità ai terreni per lo sviluppo dell'agricoltura e dell'allevamento di animali;
- disposizione delle macchine ad una distanza reciproca minima pari ad almeno 450 m, atta a minimizzare l'effetto scia, l'effetto selva e l'impatto sull'avifauna;
- condizioni di massima sicurezza, sia in fase di installazione che di esercizio.

La disposizione finale del parco è stata verificata e confermata a seguito di uno studio di fattibilità condotto sulla base delle informazioni sugli aspetti vincolistici dal punto di vista ambientale e paesaggistico e sulla base dei sopralluoghi svolti sul posto per verificare le interferenze presenti in sito e la fattibilità di realizzazione delle opere.

Si riportano di seguito le coordinate delle posizioni scelte per l'installazione degli aerogeneratori:

WTG	Comune	D rotore	H tot	Hhub	Coordinate UTM-WGS84 T33	
		m	m	m	E[m]	N[m]
CA1	Belcastro	172	200	114	664006	4313697
CA2	Belcastro	172	200	114	663481	4313528
CA3	Belcastro	172	200	114	662183	4313215
CA4	Belcastro	172	200	114	662232	4314284
CA5	Belcastro	172	200	114	661739	4314189
CA6	Belcastro	172	200	114	661083	4315322
CA7	Belcastro	172	200	114	662067	4315296
CA8	Belcastro	172	200	114	662918	4315134
CA9	Belcastro	172	200	114	662256	4316035
CA10	Belcastro	172	200	114	660762	4316208
CA11	Belcastro	172	200	114	659920	4316121
CU1	Cutro	172	200	114	670825	4318817
CU2	Cutro	172	200	114	669204	4318864
CU3	Cutro	172	200	114	669144	4317997
CU4	Cutro	172	200	114	669766	4317463
CU5	Cutro	172	200	114	669611	4316577
CU6	Cutro	172	200	114	670671	4316197
CU7	Cutro	172	200	114	671250	4316649
CU8	Cutro	172	200	114	668403	4316968
CU9	Cutro	172	200	114	670472	4317143

Tabella 3.1: Localizzazione planimetrica degli aerogeneratori di progetto

4. FENOMENO DI SHADOW FLICKERING

Le turbine eoliche, come altre strutture fortemente sviluppate in altezza, proiettano un'ombra sulle aree adiacenti in presenza della luce solare diretta. Il cosiddetto fenomeno del "flickering" indica l'effetto di lampeggiamento che si verifica quando le pale del rotore in movimento "tagliano" la luce solare in maniera intermittente. Tale variazione alternata di intensità luminosa, a lungo andare, può provocare fastidio agli occupanti delle abitazioni le cui finestre risultano esposte al fenomeno stesso.

Lo "shadow flickering" descrive appunto l'effetto stroboscopico delle ombre proiettate dalle pale rotanti degli aerogeneratori allorché il sole si trova alle loro spalle, come si evince dalla Figura 4.1.



Figura 4.1: Ombre proiettate dalle pale in rotazione di una turbina

Il conseguente effetto sugli individui è simile a quello che si sperimenterebbe in seguito alle variazioni di intensità luminosa di una lampada ad incandescenza a causa di continui sbalzi della tensione della rete di alimentazione elettrica.

Lo shadow flickering risulta assente nei casi di presenza di nuvole e nebbia che oscurano il sole e nei casi in cui le pale dell'aerogeneratore sono a riposo (per esempio in assenza del vento).

Per effettuare l'analisi del fenomeno vengono considerati alcuni parametri che ne influenzano la rilevanza.

Il primo di essi da tenere in conto è la frequenza di rotazione delle pale; in particolare, le frequenze che possono provocare un senso di fastidio sono comprese tra i 2,5 ed i 20 Hz.

Solitamente gli aerogeneratori tripala operano ad una velocità di rotazione inferiore ai 35 giri al

minuto, corrispondente ad una frequenza di passaggio delle pale sulla verticale inferiore a 1,75 Hz, minore, quindi, della frequenza critica di 2,5 Hz.

Inoltre, i generatori di grande potenza (dal MW in su) raramente superano la velocità di rotazione di 20 giri al minuto, corrispondente a frequenze di passaggio delle pale ampiamente minori di quelle ritenute fastidiose per la maggioranza degli individui.

Un ulteriore aspetto da considerare per l'analisi della durata del fenomeno è la relazione spaziale tra un aerogeneratore ed un ricettore (abitazione), così come la direzione del vento.

Per distanze dell'ordine dei 300 m il fenomeno è più rilevante all'alba oppure al tramonto, ovvero in quelle ore in cui le ombre risultano molto lunghe per effetto della piccola elevazione solare. Al di là di una certa distanza l'effetto delle ombre è meno consistente perché il diametro del sole risulta essere di gran lunga superiore rispetto allo spessore della singola pala.

In questo scenario la condizione più penalizzante corrisponde al caso in cui il piano del rotore risulta essere ortogonale alla congiungente tra sole e ricettore; infatti, in tali condizioni, l'ombra proiettata darà origine ad un cerchio di diametro pari al rotore dell'aerogeneratore.

L'effetto dello shadow flickering risulta evidente e fastidioso in quegli ambienti con finestrate rivolte verso le ombre.

In linea di massima, si può ritenere che l'area soggetta al fenomeno in questione non si estenda oltre i 500/1000 m dall'aerogeneratore e le zone a maggiore impatto ricadono entro i 300 m di distanza dalle turbine.

Al fine di analizzare qualitativamente e quantitativamente il fenomeno, risulta necessario individuare la posizione occupata dal sole in maniera univoca tramite due coordinate angolari, azimut ed altezza.

L'azimut per convenzione è l'angolo valutato sul piano orizzontale ed in senso orario, a partire dal nord geografico fino alla proiezione della congiungente (origine del sistema) - sole sul piano orizzontale stesso, ovvero il punto direttamente sotto al sole.

L'altezza o elevazione è misurata sul piano verticale, partendo da tale punto sino ad arrivare in corrispondenza del sole.

Tali coordinate variano con continuità grazie al moto della Terra intorno al sole e la traiettoria descritta nel cielo dal sole è assimilabile ad un arco; ogni giorno si caratterizza per un proprio arco, il quale si discosta, se pur di poco, da quello del giorno immediatamente precedente e successivo.

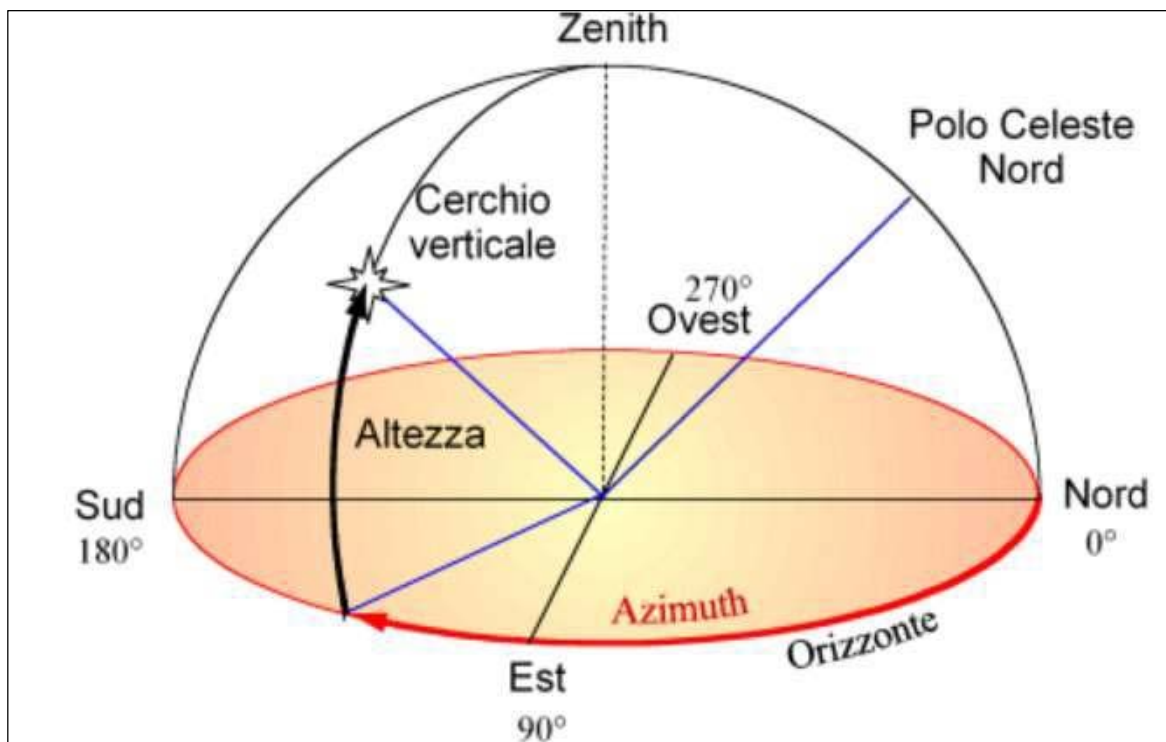


Figura 4.2: Coordinate azimuth ed altezza per identificare la posizione del sole

La durata del giorno non coincide con la durata della luce naturale in quanto prima dell'alba e dopo il tramonto sono individuabili due periodi, detti crepuscolo (rispettivamente crepuscolo mattutino e crepuscolo serale o serotino), durante i quali giunge a terra una luce diffusa naturale fornita dai livelli più esterni dell'atmosfera, i quali, trovandosi a quote più elevate, ricevono luce solare diretta per un tempo più lungo riflettendola in parte verso la terra.

Pertanto, la durata dell'illuminazione del sole è pari alla somma della durata del giorno e della durata del crepuscolo mattutino e serale.

5. RIFERIMENTI NORMATIVI

L'effetto Shadow – Flickering è più pronunciato alle latitudini settentrionali durante i mesi invernali; infatti, soprattutto nel Nord Europa, l'effetto della minore altezza del sole all'orizzonte è più rilevante.

Pertanto, alcuni paesi hanno adottato dei limiti di legge relativi all'esposizione all'effetto in questione.

In Italia non esistono specifiche norme o linee guida che regolamentino il fenomeno e definiscano i limiti di esposizione in termini di ore o giorni all'anno.

Tuttavia, al fine di fornire una valutazione dell'impatto del fenomeno anche in termini quantitativi, si è cercato di mantenere l'esposizione allo shadow – flickering di ogni ricettore al di sotto delle 30 ore

annue, parametro considerato di qualità a livello internazionale.

In particolare, la seguente trattazione fa riferimento alle norme e linee guida tedesche, in base alle quali il fenomeno in questione deve essere valutato nei casi seguenti:

- Fino alle distanze in corrispondenza delle quali il rotore dell'aerogeneratore copre il 20 % del disco solare (per distanze superiori a quella menzionata lo shadow-flickering arreca danni considerati trascurabili);
- per angoli del sole sull'orizzonte superiori a 3°;
- ad un'altezza di 2 m dal suolo.

Inoltre, come anticipato, le linee guida tedesche stabiliscono i limiti di esposizione al fenomeno di:

- 30 ore all'anno;
- 30 minuti al giorno.

6. IPOTESI E METODO DI CALCOLO

L'obiettivo della trattazione è la stima quantitativa dell'effetto shadow flickering prodotto dall'impianto eolico, fenomeno per cui si genera una intermittenza dell'ombra a seguito del movimento del rotore dell'aerogeneratore quando in esercizio (in particolare quando il piano del rotore risulta perpendicolare alla congiungente tra l'osservatore e il sole) e che potrebbe risultare fastidioso per un osservatore.

Nell'analisi condotta sono stati considerati 20 aerogeneratori di nuova realizzazione e relativi al progetto del Parco Eolico Cantorato.

Gli aerogeneratori di progetto hanno un'altezza al mozzo di 114 m, diametro del rotore di 172 m, potenza nominale di 6,2 MWp e 8,8 giri al minuto (RPM).

La verifica è stata effettuata in corrispondenza di 8 ricettori, rappresentativi di fabbricati di "civile abitazione", riportati nella Tabella 6.1, sui quali l'effetto trattato potrebbe avere una certa rilevanza:

Ricettore	Coordinate UTM WGS 84, 33°		Comune	WTG più vicina	Distanza WTG più vicina	Foglio	Particella	Stato accatastamento
	<u>E</u>	<u>N</u>						
R11 CA03	661536.60	4313522.34	<u>Belcastro</u>	<u>CA03</u>	706	<u>22</u>	<u>178</u>	<u>F03</u>
R13 CA03	661739.02	4313253.05	<u>Belcastro</u>	<u>CA03</u>	439	<u>23</u>	<u>589</u>	<u>ENTE URB</u>
R14 CA03	661748.01	4313229.56	<u>Belcastro</u>	CA03	428	<u>23</u>	<u>590</u>	<u>ENTE URB</u>

Ricettore	Coordinate UTM WGS 84, 33°		Comune	WTG più vicina	Distanza WTG più vicina	Foglio	Particella	Stato accatastamento
	E	N						
R15 CA03	661768.45	4313244.17	Belcastro	CA03	407	23	857	ENTE URB
R24 CA03	661768.02	4313046.97	Belcastro	CA03	439	23	788	A03
R37 CA03	662025.75	4312692.58	Belcastro	CA03	534	23	807	A03
R32 CU5	668906.27	4316568.14	Cutro	CU8	641	28	495	F02
R37 CU5	670202.63	4316245.62	Cutro	CU6	465	36	268	A03

Tabella 6.1: Ricettori oggetto di verifica

La distribuzione dei suddetti ricettori rispetto agli aerogeneratori è riportata nelle figure seguenti:

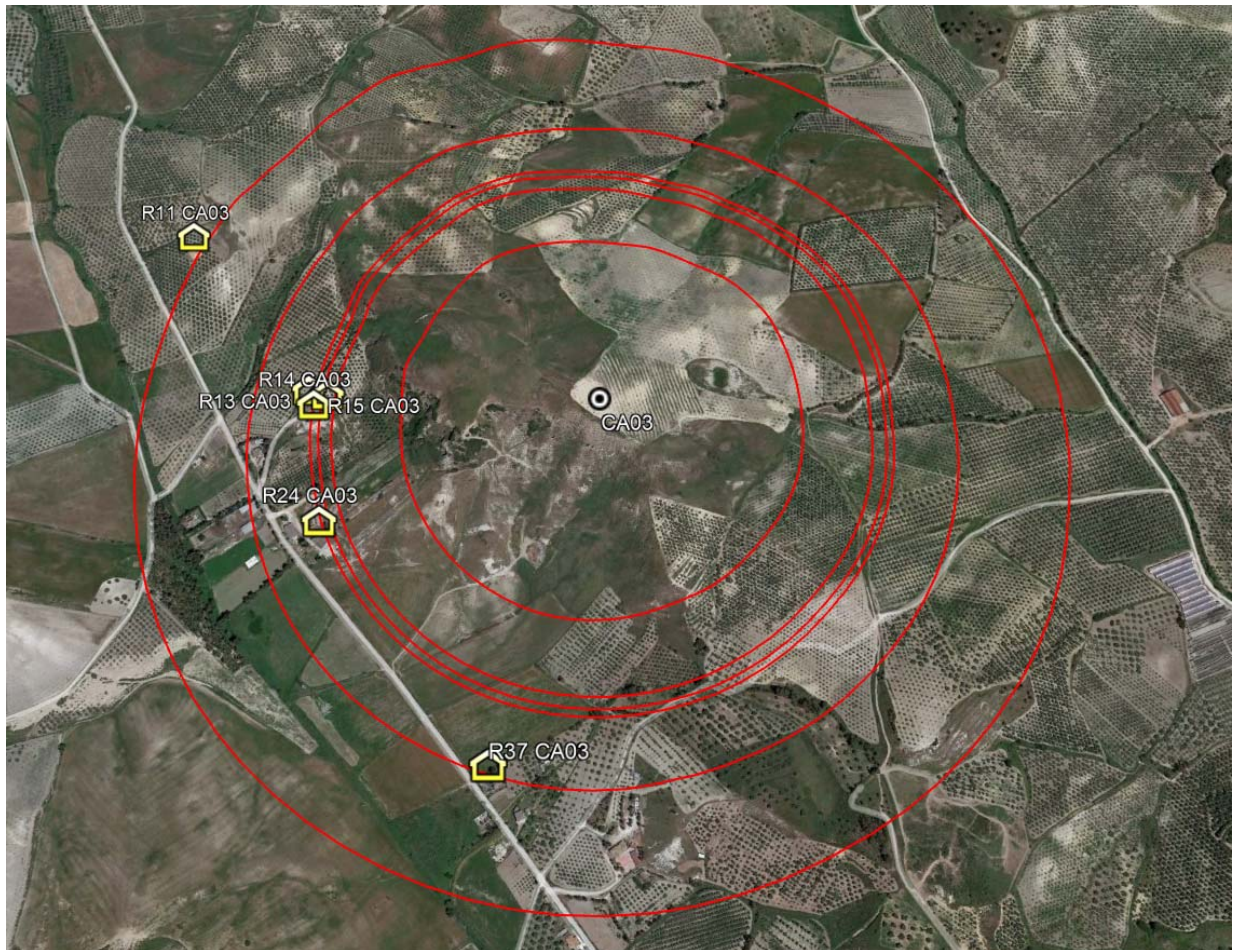


Figura 6.1.1.: Localizzazione dei ricettori rispetto all'aerogeneratore CA03 Comune di Belcastro

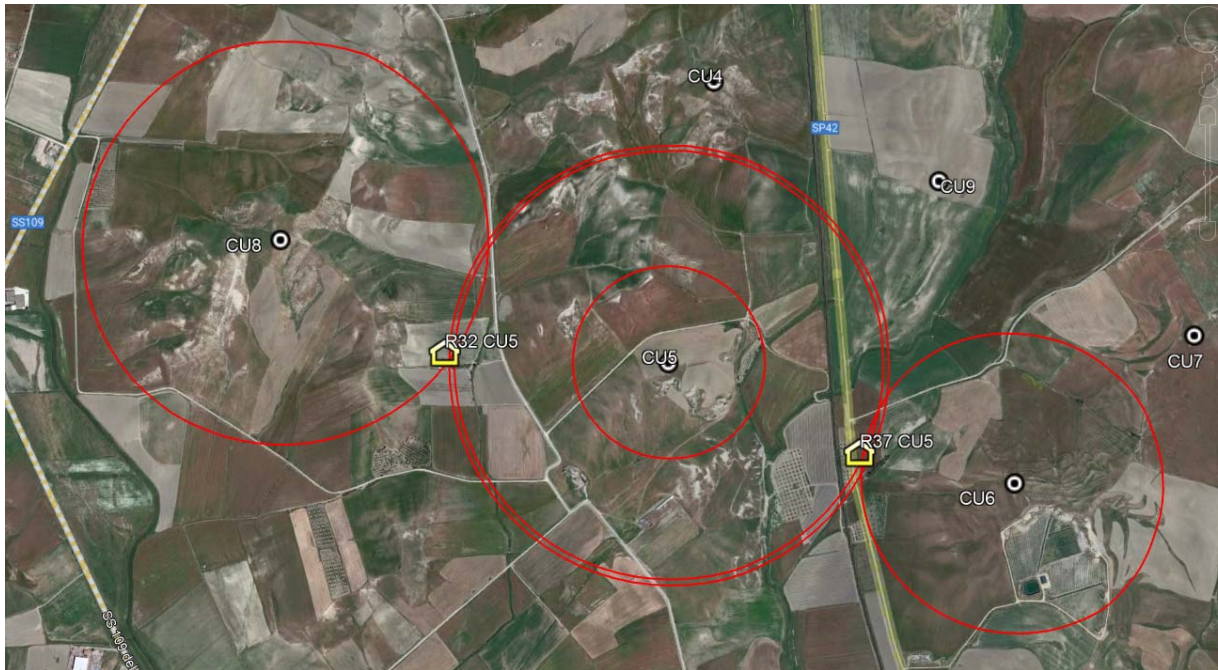


Figura 6.1.2.: Localizzazione dei ricettori rispetto agli aerogeneratori CU5, CU6, CU8 Comune di Cutro

Il software impiegato per effettuare la verifica di sicurezza all'effetto shadow flickering è il WindPRO versione 4.0.

Tale software esegue la valutazione di zone di influenza degli aerogeneratori (ZVI), considerando l'orografia del terreno e altezza dell'osservatore (nel caso specifico altezza della finestra di un'abitazione) pari a 2 m, prima di effettuare il calcolo flicker in modo da escludere il contributo di quegli aerogeneratori che non sono visibili dal ricettore.

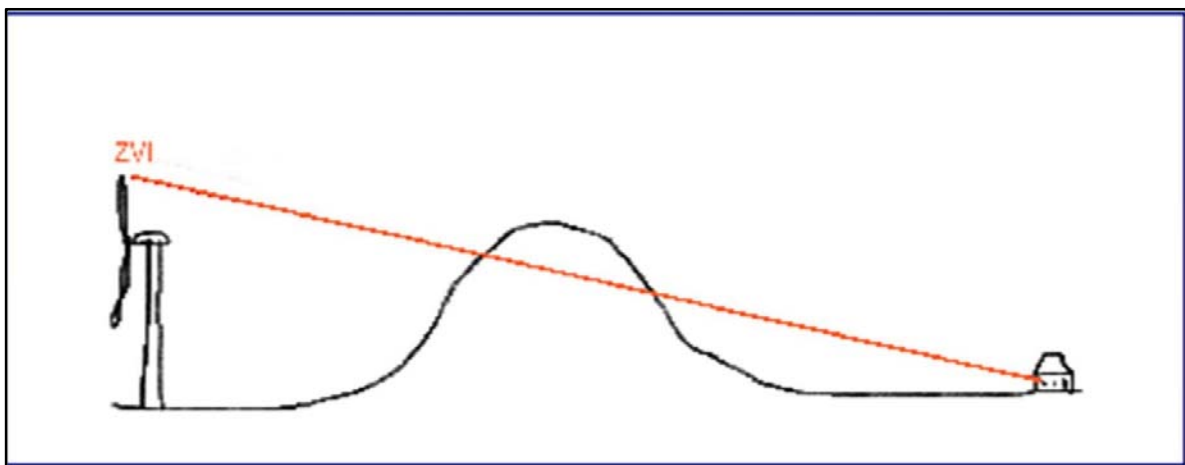


Figura 6.2: Impatto della ZVI, l'orografica del territorio può rendere non visibile l'aerogeneratore al ricettore

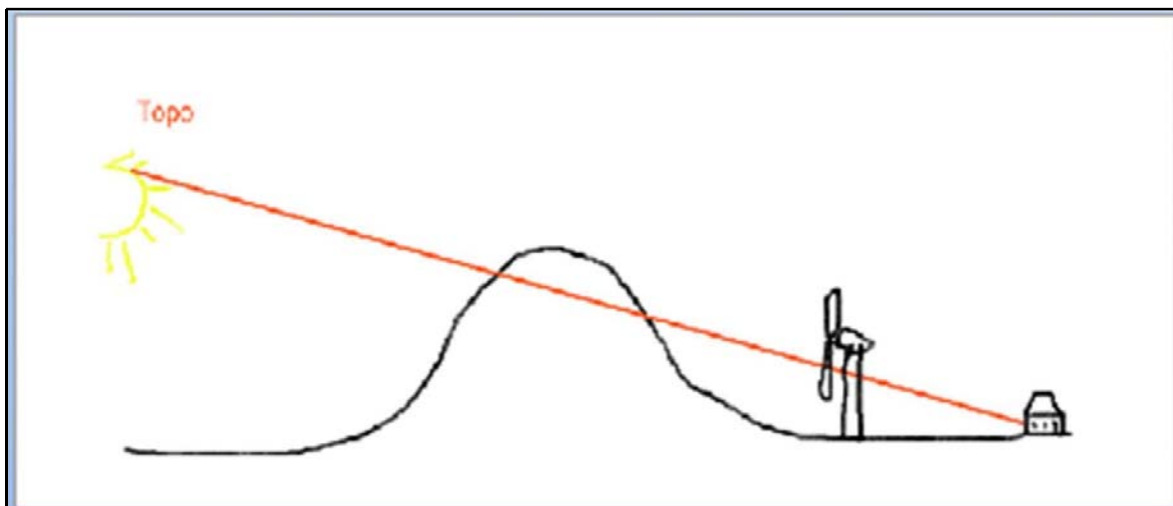


Figura 6.3: Impatto dell'orografia del territorio sull'ombreggiamento

Nella prima stima effettuata (worst case) si assumono le seguenti ipotesi restrittive:

- l'impianto eolico sempre in funzione durante le ore di sole;
- altezza minima del sole sull'orizzonte pari a 3°;
- piano del rotore sempre ortogonale alla congiungente tra l'osservatore e il sole;
- totale assenza di ostacoli o schermi vegetazionali presenti negli spazi circostanti i possibili ricettori e che potrebbero inficiare il fenomeno;
- ricettori in modalità "green house", ovvero le finestre delle abitazioni attenzionate non orientate in una particolare direzione ma omnidirezionali.

Inoltre, in una seconda stima, allo scopo di pervenire a valori più realistici di impatto (expected values), si è impiegato il valore di eliofania, che tiene in conto del numero medio di ore di cielo libero da nubi durante il giorno, e le ore di funzionamento degli aerogeneratori in presenza del sole.

Per l'area in esame, è stato considerato il valore, come da fonte della stazione meteorologica di Crotone-Isola di Capo Rizzuto, come riportato nella tabella seguente:

MESE	gen	feb	mar	apr	mag	giu	lug	ago	set	ott	nov	dic
GIORNI	31	28	31	30	31	30	31	31	30	31	30	31
<u>PROB. MEDIA ELIOFANIA</u>	<u>4.16</u>	<u>4.62</u>	<u>5.58</u>	<u>6.71</u>	<u>8.1</u>	<u>9.27</u>	<u>10</u>	<u>9.47</u>	<u>7.89</u>	<u>5.95</u>	<u>5.05</u>	<u>4.11</u>

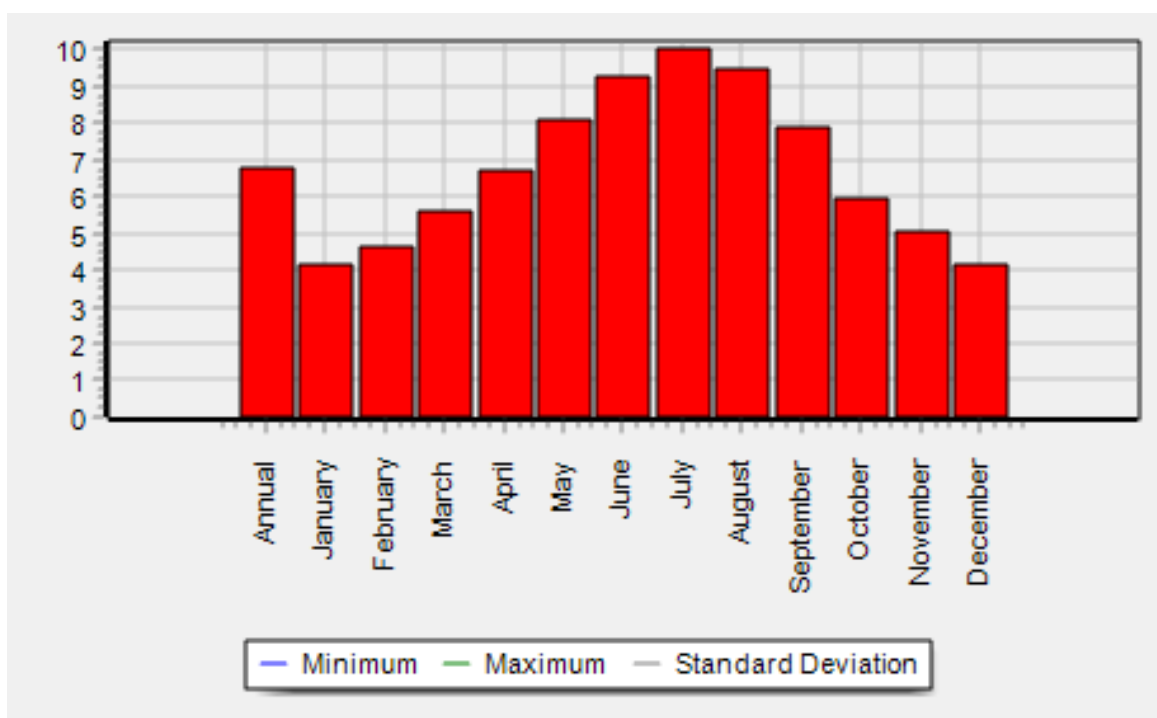
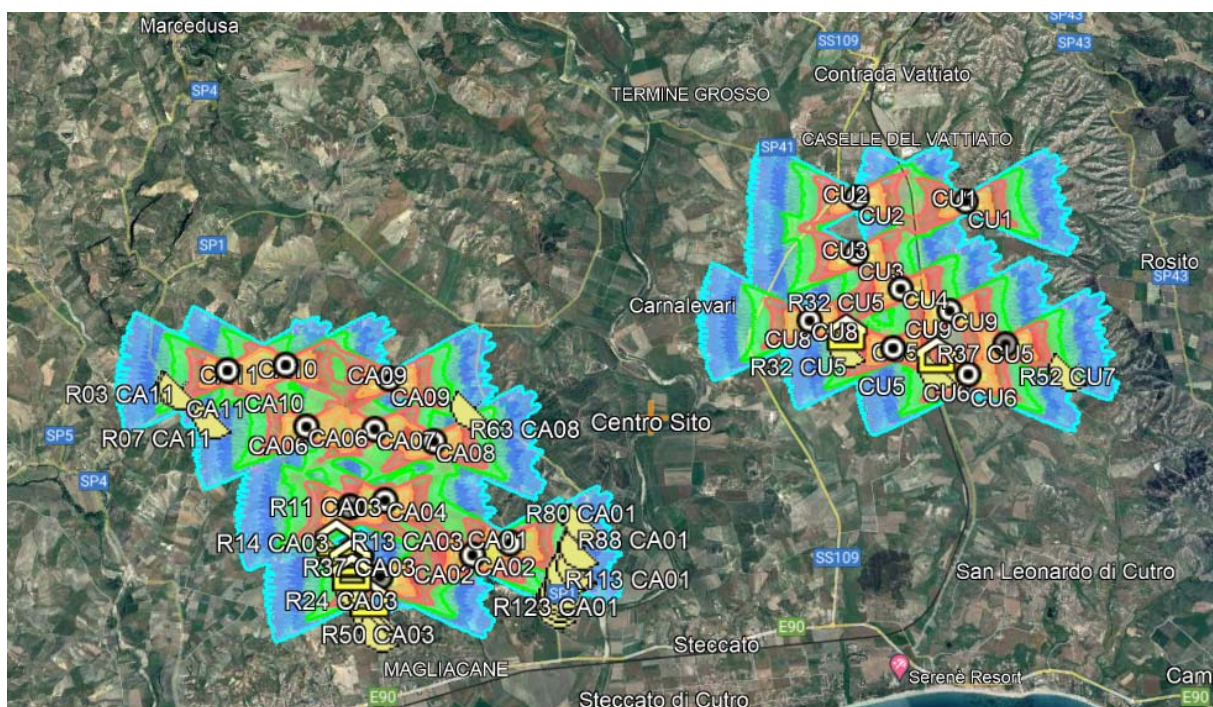


Tabella 6.2: Probabilità medie di eliofania e tabella

Il modello numerico utilizzato, al pari degli altri presenti sul mercato, produce statisticamente un output relativo al valore atteso delle ore d'ombra per anno relativo ai ricettori.

7. CONCLUSIONI

Nella Figura 7.1 sono rappresentati i ricettori attenzionati rispetto alle posizioni degli aerogeneratori di progetto e quelli già esistenti.



Nella Tabella 7.1 si riportano i valori attesi delle ore d'ombra intermittente per anno relativamente ai ricettori considerati nelle ipotesi precedentemente indicate:

Ricettore	ORE/ANNO – WORST CASE	ORE/ANNO – REAL CASE (EXPECTED VALUES)
R11 CA03	42:33	6:43
R13 CA03	144:12	30:29
R14 CA03	150:04	32:03
R15 CA03	155:21	33:03
R24 CA03	12:35	02:36
R37 CA03	00:00	00:00
R32 CA05	89:46	18:19
R37 CA05	140:59	29:21

Tabella 7.1: Ore d'ombra intermittente per anno sui ricettori nel worst case e real case

A seguito di quanto descritto nei paragrafi precedenti si può concludere che, pur considerando una stima cautelativa in quanto non si è tenuto conto degli effetti mitigativi dovuti al piano di rotazione delle pale non sempre ortogonale alla direttrice sole-finestra e all'eventuale presenza di ostacoli e/o vegetazione interposti tra il sole e la finestra, il fenomeno dello shadow flickering superiore alle 24 ore si verifica

esclusivamente su quattro abitazioni (vedi tabella 7.1), incidendo in maniera molto limitata, in quanto il valore atteso è per tutti i recettori inferiore a 34 ore l'anno.

In particolare, per 4 ricettori esaminati la stima delle ore d'ombra intermittente per anno è largamente inferiore a 24 ore/anno, per una addirittura zero. Per i restanti recettori, benchè i valori siano maggiori alle 29 ore/anno, possiamo affermare che l'impatto dello shadow flickering sia trascurabile in quanto si è ipotizzato in questo caso anche un funzionamento continuo dell'impianto.

Le immagini seguenti riportano i ricettori impattati.



Figura 7.2: Vista del ricettore R32 CU5



Figura 7.3: Vista del ricettore R37 CU5



Figura 7.4: Vista del ricettori R13CA03-R14 CA03-R15 CA03



Figura 7.5: Vista del ricevitore R11 CA03

Come detto, nell'analisi condotta sono state adottate ipotesi molto restrittive, tra le quali quella secondo cui l'impianto sia sempre in funzione durante le ore di sole, il piano del rotore sempre ortogonale alla congiungente tra l'osservatore e il sole e ci sia totale assenza di ostacoli o schermi vegetazionali presenti negli spazi circostanti i possibili ricevitori e che potrebbero attenuare il fenomeno.

Nella stima effettuata è stata considerata l'ulteriore ipotesi conservativa secondo la quale i ricevitori siano in modalità "green house", ovvero le finestre delle abitazioni attenzionate siano omnidirezionali, situazione non sempre verificata nella realtà.

Nello scenario reale ci si aspetta che il fenomeno, quindi, risulti ulteriormente meno rilevante di quello a cui ha condotto la stima effettuata.

Pertanto, si può ragionevolmente affermare che l'effetto shadow flickering non abbia un impatto negativo sul territorio circostante, in particolare sui fabbricati adibiti a "civile abitazione".

8. ALLEGATI:

- ALL. 1 SHADOW – MAIN RESULT WORST CONDITION – ELABORAZIONE MEDIANTE IL SOFTWARE WINDPRO 4.4;
- ALL.2 SHADOW – MAIN RESULT REAL CONDITION – ELABORAZIONE MEDIANTE IL SOFTWARE WINDPRO 4.4.

Allegato 1

Project:
Cantorato V172

Licensed user:
ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 02:51/4.0.547

SHADOW - Main Result

Calculation: Bufalo worst case

Assumptions for shadow calculations

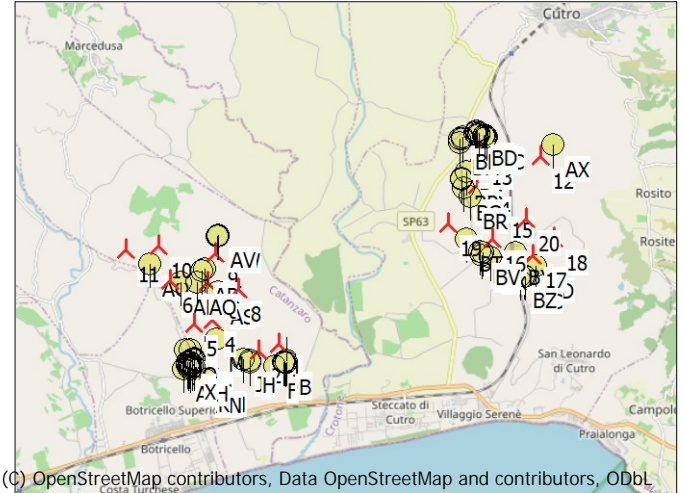
Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

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

All coordinates are in
UTM (north)-WGS84 Zone: 33



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL
Scale 1:200.000
New WTG Shadow receptor

WTGs

	Easting	Northing	Z	Row data/Description	WTG type			Shadow data				
					Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Calculation distance [m]	RPM [RPM]
1	664.006	4.313.697	185,0	CA01	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
2	663.481	4.313.528	185,0	CA02	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
3	662.183	4.313.215	185,0	CA03	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
4	662.232	4.314.284	185,0	CA04	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
5	661.739	4.314.189	185,0	CA05	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
6	661.083	4.315.322	185,0	CA06	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
7	662.067	4.315.296	185,0	CA07	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
8	662.918	4.315.134	185,0	CA08	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
9	662.256	4.318.864	185,0	CA09	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
10	660.762	4.316.208	185,0	CA10	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
11	659.920	4.316.121	185,0	CA11	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
12	670.825	4.318.817	185,0	CU1	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
13	669.204	4.318.864	185,0	CU2	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
14	669.144	4.317.997	185,0	CU3	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
15	669.766	4.317.463	185,0	CU4	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
16	669.611	4.316.577	185,0	CU5	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
17	670.671	4.316.197	185,0	CU6	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
18	671.250	4.316.649	185,0	CU7	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
19	668.403	4.316.968	185,0	CU8	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
20	670.472	4.317.143	185,0	CU9	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-

Shadow receptor-Input

No.	Name	Easting	Northing	Z	Width [m]	Height [m]	Elevation a.g.l. [m]	Slope of window [°]	Direction mode	Eye height (ZVI) a.g.l. [m]
A	R127 CA01	664.215	4.313.271	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
B	R128 CA01	664.217	4.313.232	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
C	R129 CA01	664.184	4.313.245	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
D	R130 CA01	664.194	4.313.209	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
E	R131 CA01	664.142	4.313.237	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
F	R132 CA01	663.904	4.313.119	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
G	R133 CA01	663.234	4.313.257	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
H	R134 CA01	663.254	4.313.241	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
I	R135 CA01	663.240	4.313.231	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
J	R56 CA03	663.056	4.313.264	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
K	R36 CA03	662.103	4.312.720	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
L	R37 CA03	662.025	4.312.692	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
M	R57 CA04	662.355	4.313.790	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0

To be continued on next page...

SHADOW - Main Result

Calculation: Bufalo worst case

...continued from previous page

No.	Name	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
				[m]	[m]	[m]	[m]	[°]		[m]
N R11	CA03	661.536	4.313.522	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
O R12	CA03	661.660	4.313.519	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
P R13	CA03	661.739	4.313.253	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
Q R14	CA03	661.748	4.313.229	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
R R15	CA03	661.768	4.313.244	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
S R16	CA03	661.755	4.313.281	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
T R17	CA 03	661.664	4.313.184	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
U R18	CA03	661.648	4.313.198	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
V R19	CA03	661.662	4.313.201	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
W R20	CA03	661.724	4.313.060	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
X R21	CA03	661.742	4.313.030	9,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
Y R22	CA03	661.756	4.313.032	8,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
Z R23	CA03	661.799	4.313.027	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AA R24	CA03	661.768	4.313.046	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AB R25	CA03	661.766	4.313.082	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AC R26	CA03	661.754	4.313.071	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AD R27	CA03	661.631	4.313.085	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AE R28	CA03	661.659	4.313.099	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AF R29	CA03	661.660	4.313.071	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AG R30	CA03	661.611	4.313.035	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AH R31	CA03	661.670	4.313.017	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AI R32	CA03	661.569	4.313.083	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AJ R33	CA03	661.586	4.313.168	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AK R34	CA03	661.569	4.313.174	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AL R35	CA03	661.498	4.313.014	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AM R36	CA03	662.103	4.312.720	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AN R37	CA03	662.025	4.312.692	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AO R61	CA06	660.537	4.315.740	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AP R62	CA07	661.363	4.315.282	5,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AQ R59	CA06	661.814	4.315.298	4,0	1,0	2,0	2,0	90,0	"Green house mode"	4,0
AR R60	CA06	661.921	4.315.585	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AS R74	CA10	662.362	4.315.050	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AT R75	CA10	662.007	4.315.655	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AU R71	CA10	662.348	4.316.510	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AV R72	CA10	662.360	4.316.541	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AW R73	CA10	662.326	4.316.518	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AX R07	CU1	671.160	4.319.093	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AY R08	CU2	669.370	4.319.239	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AZ R09	CU2	669.359	4.319.298	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BA R10	CU2	669.311	4.319.296	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BB R11	CU2	669.348	4.319.334	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BC R12	CU2	669.383	4.319.273	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BD R13	CU2	669.173	4.319.374	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BE R14	CU2	669.118	4.319.417	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BF R15	CU2	669.117	4.319.329	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BG R16	CU2	669.200	4.319.333	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BH R17	CU2	669.079	4.319.367	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BI R18	CU2	669.108	4.319.413	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BJ R21	CU2	668.740	4.319.209	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BK R22	CU2	668.694	4.319.192	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BL R23	CU2	668.736	4.319.253	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BM R24	CU2	668.677	4.319.099	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BN R26	CU2	668.733	4.318.138	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BO R27	CU2	668.734	4.318.162	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BP R28	CU2	668.731	4.318.179	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BQ R29	CU3	668.807	4.317.915	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BR R30	CU3	669.000	4.317.693	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BS R31	CU3	668.892	4.318.336	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BT R32	CU5	668.906	4.316.568	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BU R33	CU5	669.287	4.316.242	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BV R34	CU5	669.341	4.316.223	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BW R35	CU5	669.319	4.316.173	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BX R36	CU5	669.566	4.316.102	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BY R37	CU5	670.202	4.316.245	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0

To be continued on next page...

SHADOW - Main Result

Calculation: Bufalo worst case

...continued from previous page

No.	Name	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
				[m]	[m]	[m]	[m]	[°]		[m]
BZ	R38 CU6	670.370	4.315.662	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
CA	R39 CU6	670.380	4.315.614	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
CB	R40 CU6	670.448	4.315.652	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
CC	R41 CU6	670.494	4.315.631	9,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
CD	R42 CU6	670.757	4.315.897	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0

Calculation Results

Shadow receptor

No.	Name	Shadow, worst case		
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
A	R127 CA01	12:20	33	0:28
B	R128 CA01	0:00	0	0:00
C	R129 CA01	0:00	0	0:00
D	R130 CA01	0:00	0	0:00
E	R131 CA01	0:00	0	0:00
F	R132 CA01	9:39	32	0:23
G	R133 CA01	23:58	50	0:37
H	R134 CA01	23:20	51	0:36
I	R135 CA01	24:14	52	0:36
J	R56 CA03	36:31	77	0:43
K	R36 CA03	0:00	0	0:00
L	R37 CA03	0:00	0	0:00
M	R57 CA04	110:23	148	1:05
N	R11 CA03	42:33	65	0:50
O	R12 CA03	63:41	103	0:58
P	R13 CA03	144:12	150	1:29
Q	R14 CA03	150:04	138	1:24
R	R15 CA03	155:21	142	1:30
S	R16 CA03	127:26	140	1:33
T	R17 CA 03	127:30	132	1:11
U	R18 CA03	125:55	134	1:15
V	R19 CA03	129:31	134	1:17
W	R20 CA03	19:35	63	0:26
X	R21 CA03	12:10	41	0:23
Y	R22 CA03	12:28	42	0:23
Z	R23 CA03	13:46	45	0:24
AA	R24 CA03	12:35	42	0:23
AB	R25 CA03	18:16	60	0:23
AC	R26 CA03	11:56	40	0:23
AD	R27 CA03	71:45	82	1:02
AE	R28 CA03	85:54	119	1:05
AF	R29 CA03	60:16	101	0:57
AG	R30 CA03	38:34	57	0:50
AH	R31 CA03	11:05	39	0:22
AI	R32 CA03	79:19	93	0:59
AJ	R33 CA03	104:23	128	0:59
AK	R34 CA03	98:50	132	0:58
AL	R35 CA03	54:03	74	0:53
AM	R36 CA03	0:00	0	0:00
AN	R37 CA03	0:00	0	0:00
AO	R61 CA06	72:50	119	1:05
AP	R62 CA07	113:39	194	1:00
AQ	R59 CA06	196:16	180	1:51
AR	R60 CA06	164:18	109	2:02
AS	R74 CA10	146:42	157	1:29
AT	R75 CA10	172:07	137	2:04
AU	R71 CA10	153:10	147	1:28
AV	R72 CA10	137:13	137	1:29
AW	R73 CA10	148:34	145	1:29
AX	R07 CU1	84:33	92	1:13
AY	R08 CU2	118:49	111	1:30

To be continued on next page...

SHADOW - Main Result

Calculation: Bufalo worst case

...continued from previous page

No.	Name	Shadow, worst case		
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]
AZ	R09 CU2	141:42	156	1:16
BA	R10 CU2	146:36	157	1:18
BB	R11 CU2	137:59	150	1:14
BC	R12 CU2	122:28	131	1:18
BD	R13 CU2	121:38	134	1:13
BE	R14 CU2	99:10	119	1:09
BF	R15 CU2	139:13	146	1:17
BG	R16 CU2	140:14	148	1:16
BH	R17 CU2	122:09	136	1:12
BI	R18 CU2	99:23	119	1:10
BJ	R21 CU2	62:22	81	1:01
BK	R22 CU2	56:18	75	0:58
BL	R23 CU2	60:59	81	0:59
BM	R24 CU2	57:43	76	0:59
BN	R26 CU2	112:33	155	1:10
BO	R27 CU2	109:18	154	1:10
BP	R28 CU2	105:43	150	1:09
BQ	R29 CU3	60:40	108	0:49
BR	R30 CU3	99:49	176	0:46
BS	R31 CU3	125:46	162	1:16
BT	R32 CU5	89:46	178	0:52
BU	R33 CU5	13:27	36	0:28
BV	R34 CU5	14:45	38	0:29
BW	R35 CU5	14:38	38	0:29
BX	R36 CU5	38:46	100	0:35
BY	R37 CU5	140:59	156	1:07
BZ	R38 CU6	0:00	0	0:00
CA	R39 CU6	0:00	0	0:00
CB	R40 CU6	0:00	0	0:00
CC	R41 CU6	0:00	0	0:00
CD	R42 CU6	0:00	0	0:00

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

No.	Name	Worst case [h/year]
1	CA01	12:05
2	CA02	72:24
3	CA03	512:09
4	CA04	4:29
5	CA05	23:14
6	CA06	233:07
7	CA07	390:09
8	CA08	166:06
9	CA09	160:16
10	CA10	11:43
11	CA11	0:00
12	CU1	105:49
13	CU2	537:53
14	CU3	234:20
15	CU4	117:26
16	CU5	55:30
17	CU6	157:29
18	CU7	44:35
19	CU8	53:47
20	CU9	45:41

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

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: A - R127 CA01
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	18:25 (2) 20:03	05:50 19:23	06:18 18:35	06:45 16:51	06:17 16:29
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	18:26 (2) 20:02	05:51 19:21	06:19 18:33	06:46 16:50	06:18 16:29
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:51 19:44	05:27 20:11	05:29 20:20	18:27 (2) 20:01	05:52 19:19	06:20 18:32	06:47 16:49	06:19 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	18:28 (2) 20:00	05:53 19:18	06:21 18:30	06:48 16:48	06:20 16:28
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	18:28 (2) 20:20	05:54 19:59	06:22 18:29	06:49 16:47	06:21 16:28
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	18:26 (2) 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46
7	07:10 16:43	06:53 17:17	06:16 17:48	06:28 19:19	05:47 19:48	05:25 20:13	05:31 20:19	18:25 (2) 20:19	05:56 19:56	06:24 19:13	06:51 18:26	06:23 16:45
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	18:39 (2) 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:24 16:44
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:18	18:41 (2) 20:18	05:58 19:54	06:26 19:10	06:53 18:22	06:26 16:43
10	07:10 16:45	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	18:22 (2) 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42
11	07:09 16:46	06:49 17:21	06:10 17:53	06:21 19:23	05:43 19:52	05:25 20:16	05:34 20:18	18:21 (2) 20:18	05:59 19:52	06:27 19:07	06:55 18:19	06:28 16:41
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:17	18:21 (2) 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40
13	07:09 16:48	06:47 17:23	06:07 17:55	06:19 19:25	05:41 19:54	05:24 20:17	05:35 20:17	18:21 (2) 20:17	06:01 19:49	06:29 19:04	06:57 18:16	06:30 16:39
14	07:09 16:49	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:24 20:17	05:36 20:16	18:20 (2) 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38
15	07:08 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:55	05:24 20:17	05:37 20:16	18:20 (2) 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:37
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:56	05:24 20:18	05:37 20:15	18:20 (2) 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:37
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	18:20 (2) 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:34 16:36
18	07:07 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:18	05:39 20:14	18:21 (2) 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	05:35 19:59	05:25 20:19	05:40 20:14	18:21 (2) 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	05:35 20:00	05:25 20:19	05:40 20:13	18:21 (2) 20:13	06:08 19:40	06:35 18:52	07:04 18:06	06:38 16:34
21	07:06 16:57	06:37 17:32	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	18:21 (2) 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:19	05:42 20:12	18:21 (2) 20:12	06:09 19:37	06:37 18:49	07:06 18:04	06:40 16:33
23	07:05 16:59	06:34 17:35	05:51 18:04	06:04 19:34	05:32 20:03	05:25 20:20	05:43 20:11	18:22 (2) 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32
24	07:04 17:00	06:33 17:36	05:49 18:05	06:03 19:35	05:32 20:03	05:26 20:20	05:44 20:10	18:22 (2) 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:32
25	07:04 17:01	06:32 17:37	05:48 18:06	06:02 19:36	05:31 20:04	05:26 20:20	05:44 20:09	18:22 (2) 20:09	06:12 19:33	06:40 18:44	07:09 18:00	06:43 16:31
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	18:22 (2) 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:31
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20	05:46 20:08	18:23 (2) 20:08	06:14 19:30	06:42 18:41	06:11 16:57	06:45 16:30
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	05:47 20:07	18:23 (2) 20:07	06:15 19:29	06:43 18:40	06:12 16:56	06:46 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	05:29 20:07	05:27 20:20	05:48 20:06	18:24 (2) 20:06	06:16 19:27	06:44 18:38	06:13 16:55	06:30 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	18:25 (2) 20:05	06:17 19:26	06:45 18:36	06:15 16:53	06:48 16:29
31	07:00 17:08		06:38 19:12		05:28 20:09		05:50 20:04	06:18 19:24		06:16 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case						618	122					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: B - R128 CA01
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:23	06:45 18:35	06:17 16:51	06:49 16:29
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:29
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:51 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:28
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:48	06:28 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:56 19:56	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:24 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:18	05:58 19:54	06:26 19:10	06:53 18:22	06:26 16:43	06:57 16:28
10	07:10 16:45	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:46	06:49 17:21	06:10 17:53	06:21 19:23	05:43 19:52	05:25 20:16	05:34 20:18	05:59 19:52	06:27 19:07	06:55 18:19	06:28 16:41	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:47 17:23	06:07 17:55	06:19 19:25	05:41 19:54	05:24 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	06:30 16:39	07:00 16:29
14	07:09 16:49	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:08 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:55	05:24 20:17	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:37	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:34 16:36	07:03 16:30
18	07:07 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:18	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	05:35 19:59	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:35 18:52	07:04 18:06	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:32	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:19	05:42 20:12	06:09 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:04	06:04 19:34	05:32 20:03	05:25 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:36	05:49 18:05	06:03 19:35	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:01	06:32 17:37	05:48 18:06	06:02 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:31	07:07 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	07:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	05:29 20:07	05:27 20:20	05:48 20:06	06:16 19:27	06:44 18:38	07:13 16:55	06:47 16:30	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:36	07:14 16:53	06:48 16:29	07:09 16:37
31	07:00 17:08		06:38 19:12		05:28 20:09		05:50 20:04	06:18 19:24		06:16 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case												

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Buffalo worst case Shadow receptor: C - R129 CA01

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:23	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:29
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:51 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:28
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:48	06:28 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:56 19:56	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:24 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:18	05:58 19:54	06:26 19:10	06:53 18:22	06:26 16:43	06:57 16:28
10	07:10 16:45	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:46	06:49 17:21	06:10 17:53	06:21 19:23	05:43 19:52	05:25 20:16	05:34 20:18	05:59 19:52	06:27 19:07	06:55 18:19	06:28 16:41	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:47 17:23	06:07 17:55	06:19 19:25	05:41 19:54	05:24 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	06:30 16:39	07:00 16:29
14	07:09 16:49	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:08 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:55	05:24 20:17	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:37	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:34 16:36	07:03 16:30
18	07:07 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:18	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	05:35 19:59	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:35 18:52	07:04 18:06	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:32	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:19	05:42 20:12	06:09 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:34	05:32 20:03	05:25 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:36	05:49 18:05	06:03 19:35	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:03	06:32 17:37	05:48 18:06	06:02 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:31	07:07 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	07:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	05:29 20:07	05:27 20:20	05:48 20:06	06:16 19:27	06:44 18:38	07:13 16:55	06:47 16:30	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:36	07:14 16:53	06:48 16:29	07:09 16:37
31	07:00 17:08		06:38 19:12		05:28 20:09		05:50 20:04	06:18 19:24		06:16 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case												

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: D - R130 CA01
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:23	06:45 18:35	06:17 16:51	06:49 16:29
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:29
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:28
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:48	06:28 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:56 19:56	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:24 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:18	05:58 19:54	06:26 19:10	06:53 18:22	06:26 16:43	06:57 16:28
10	07:10 16:45	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:46	06:49 17:21	06:10 17:53	06:21 19:23	05:43 19:52	05:25 20:16	05:34 20:18	05:59 19:52	06:27 19:07	06:55 18:19	06:28 16:41	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:47 17:23	06:07 17:55	06:19 19:25	05:41 19:54	05:24 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	06:30 16:39	07:00 16:29
14	07:09 16:49	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:08 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:55	05:24 20:17	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:37	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:34 16:36	07:03 16:30
18	07:07 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:18	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	05:35 19:59	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:35 18:52	07:04 18:06	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:32	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:19	05:42 20:12	06:09 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:04	06:04 19:34	05:32 20:03	05:25 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:36	05:49 18:05	06:03 19:35	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:03	06:32 17:37	05:48 18:06	06:02 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:31	07:07 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	07:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	05:29 20:07	05:27 20:20	05:48 20:06	06:16 19:27	06:44 18:38	07:13 16:55	06:47 16:30	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:36	07:14 16:53	06:48 16:29	07:09 16:37
31	07:00 17:08		06:38 19:12		05:28 20:09		05:50 20:04	06:18 19:24		06:16 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case												

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: E - R131 CA01

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:23	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:29
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:28
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:48	06:28 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:56 19:56	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:24 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:18	05:58 19:54	06:26 19:10	06:53 18:22	06:26 16:43	06:57 16:28
10	07:10 16:45	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:46	06:49 17:21	06:10 17:53	06:21 19:23	05:43 19:52	05:25 20:16	05:34 20:18	05:59 19:52	06:27 19:07	06:55 18:19	06:28 16:41	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:47 17:23	06:07 17:55	06:19 19:25	05:41 19:54	05:24 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	06:30 16:39	07:00 16:29
14	07:09 16:49	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:08 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:55	05:24 20:17	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:37	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:34 16:36	07:03 16:30
18	07:07 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:18	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	05:35 19:59	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:35 18:52	07:04 18:06	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:32	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:19	05:42 20:12	06:09 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:34	05:32 20:03	05:25 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:36	05:49 18:05	06:03 19:35	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:03	06:32 17:37	05:48 18:06	06:02 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:31	07:07 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	07:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	05:29 20:07	05:27 20:20	05:48 20:06	06:16 19:27	06:44 18:38	07:13 16:55	06:47 16:30	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:36	07:14 16:53	06:48 16:29	07:09 16:37
31	07:00 17:08		06:38 19:12		05:28 20:09		05:50 20:04	06:18 19:24		06:16 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case												

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: F - R132 CA01

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:50 20:03	06:18 19:23	18:23 (3) 18:44 (3)	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	18:22 (3) 18:42 (3)	06:46 18:33	06:18 16:50	06:50 16:29
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:19	18:23 (3) 18:40 (3)	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	18:24 (3) 18:39 (3)	06:48 18:30	06:20 16:48	06:52 16:28
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	18:27 (3) 18:36 (3)	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	18:36 (3) 18:27	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:48	06:28 19:19	18:31 (3) 18:40 (3)	05:47 19:48	05:25 20:13	05:31 20:19	05:56 19:56	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	18:27 (3) 18:41 (3)	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:24 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	18:26 (3) 18:43 (3)	05:45 19:50	05:25 20:15	05:33 20:18	05:58 19:54	06:26 19:10	06:53 18:22	06:26 16:43	06:57 16:28
10	07:10 16:45	06:50 17:20	06:11 17:52	06:23 19:22	18:24 (3) 18:44 (3)	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:46	06:49 17:21	06:10 17:53	06:22 19:23	18:24 (3) 18:45 (3)	05:43 19:52	05:25 20:16	05:34 20:18	05:59 19:52	06:27 19:07	06:55 18:19	06:28 16:41	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	18:22 (3) 18:44 (3)	05:42 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:47 17:23	06:07 17:55	06:19 19:25	18:22 (3) 18:45 (3)	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	06:30 16:39	07:00 16:29
14	07:09 16:49	06:46 17:25	06:05 17:56	06:17 19:26	18:21 (3) 18:44 (3)	05:40 19:55	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	18:22 (3) 18:44 (3)	05:39 19:56	05:24 20:17	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:37	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	18:21 (3) 18:43 (3)	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	18:22 (3) 18:43 (3)	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:34 16:36	07:03 16:30
18	07:07 16:54	06:41 17:29	05:59 18:00	06:11 19:30	18:22 (3) 18:43 (3)	05:36 19:58	05:25 20:18	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	18:23 (3) 18:41 (3)	05:35 19:59	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	18:24 (3) 18:40 (3)	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:35 18:52	07:04 18:06	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:32	05:54 18:03	06:07 19:33	18:25 (3) 18:37 (3)	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	8 18:32 (3) 18:40 (3)	06:36 18:51	07:05 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	18:28 (3) 18:34 (3)	05:33 20:02	05:25 20:20	05:42 20:12	06:09 19:37	12 18:42 (3) 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:32 20:03	05:25 20:20	05:43 20:11	06:10 19:36	06:10 19:36	12 18:28 (3) 18:44	06:38 18:48	07:07 16:32	07:06 16:32
24	07:04 17:00	06:33 17:36	05:49 18:05	06:03 19:35	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:34	06:11 19:34	16 18:44 (3) 18:45	06:39 18:46	07:08 16:31	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:06	06:02 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:12 19:33	19 18:25 (3) 18:46	06:40 18:44	07:09 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:13 19:31	21 18:24 (3) 18:45	06:41 18:43	07:10 16:31	07:07 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:14 19:30	21 18:23 (3) 18:45	06:42 18:41	07:08 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:15 19:29	22 18:22 (3) 18:45	06:43 18:40	07:09 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	05:29 20:07	05:27 20:20	05:48 20:06	06:16 19:27	06:16 19:27	23 18:25 (3) 18:38	06:44 18:38	07:08 16:30	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:17 19:26	23 18:22 (3) 18:45	06:45 18:36	07:09 16:29	07:09 16:37
31	07:00 17:08		06:38 19:12		05:28 20:09	05:50 20:04	06:18 20:04	06:18 19:24	06:18 19:24	22 18:44 (3)	06:16 16:52	07:09 16:29	07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	82	347	303	294
Total, worst case				287				210					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: G - R133 CA01

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	17:59 (3) 19:42	05:54 20:10	05:27 20:20	05:28 20:03	05:50 20:20	06:18 19:23	17:43 (3) 18:35	06:46 16:51	06:17 16:29
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	17:55 (3) 19:43	05:53 20:10	05:27 20:20	05:29 20:02	05:51 20:20	06:19 19:21	17:42 (3) 18:33	06:46 16:50	06:18 16:29
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	17:53 (3) 19:44	05:52 20:11	05:27 20:20	05:29 20:01	05:52 20:01	06:20 19:20	17:42 (3) 18:32	06:47 16:49	06:19 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	17:50 (3) 19:45	05:50 20:12	05:26 20:20	05:30 20:00	05:53 20:00	06:21 19:18	17:42 (3) 18:30	06:48 16:48	06:20 16:28
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	17:49 (3) 19:46	05:49 20:12	05:26 20:20	05:30 20:00	05:54 19:59	06:22 19:16	17:43 (3) 18:29	06:49 16:47	06:21 16:28
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	17:47 (3) 19:47	05:48 20:13	05:26 20:19	05:31 19:58	05:55 19:15	06:23 19:15	17:43 (3) 18:14 (3)	06:50 16:46	06:22 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	17:47 (3) 19:48	05:47 20:13	05:25 20:19	05:31 19:56	05:56 19:13	06:24 19:13	17:44 (3) 18:26	06:51 16:45	06:23 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	17:45 (3) 19:49	05:46 20:14	05:25 20:19	05:32 19:55	05:57 19:12	06:25 19:12	17:45 (3) 18:24	06:52 16:44	06:24 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	17:45 (3) 19:50	05:45 20:15	05:25 20:18	05:33 19:54	05:58 19:10	06:26 19:10	17:46 (3) 18:22	06:53 16:43	06:26 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	17:44 (3) 19:51	05:44 20:15	05:25 20:18	05:33 19:53	05:59 19:09	06:27 19:09	17:47 (3) 18:06 (3)	06:54 16:42	06:27 16:28
11	07:09 16:46	06:49 17:21	06:10 17:53	06:22 19:23	17:44 (3) 19:52	05:43 20:16	05:25 20:18	05:34 19:52	05:59 19:07	06:27 19:07	17:50 (3) 18:03 (3)	06:55 18:19	06:28 16:41
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	17:43 (3) 19:53	05:42 20:16	05:25 20:17	05:35 19:51	06:00 19:05	06:28 19:05	18:03 (3)	06:56 18:18	06:29 16:40
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	17:43 (3) 19:54	05:41 20:17	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	18:03 (3)	06:57 18:16	07:00 16:39
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	17:43 (3) 19:55	05:40 20:17	05:24 20:16	05:36 19:48	06:02 19:02	06:30 19:02	18:03 (3)	06:58 18:15	07:01 16:38
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	17:43 (3) 19:56	05:39 20:17	05:24 20:16	05:37 19:47	06:03 19:01	06:31 19:01	18:03 (3)	06:59 18:14	07:01 16:37
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	17:43 (3) 19:56	05:38 20:18	05:25 20:15	05:37 19:45	06:04 18:59	06:32 18:59	18:03 (3)	07:00 18:12	07:02 16:37
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	17:44 (3) 19:57	05:37 20:18	05:25 20:15	05:38 19:44	06:05 18:57	06:33 18:57	18:03 (3)	07:01 18:11	07:03 16:36
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	17:44 (3) 19:58	05:36 20:19	05:25 20:14	05:39 19:43	06:06 18:00 (3)	06:34 18:12 (3)	18:03 (3)	07:02 18:09	07:03 16:35
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	17:44 (3) 19:59	05:35 20:19	05:25 20:14	05:40 19:41	06:07 17:57 (3)	06:35 18:14 (3)	18:03 (3)	07:03 18:08	07:04 16:35
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	17:46 (3) 20:00	05:35 20:19	05:25 20:13	05:40 19:40	06:08 18:15 (3)	06:35 18:53	18:03 (3)	07:04 18:06	07:05 16:34
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	17:46 (3) 20:01	05:34 20:19	05:25 20:12	05:41 19:39	06:09 18:17 (3)	06:36 18:51	18:03 (3)	07:05 18:05	07:05 16:33
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	17:47 (3) 20:02	05:33 20:20	05:25 20:12	05:42 19:37	06:09 18:18 (3)	06:37 18:49	18:03 (3)	07:06 18:04	07:06 16:33
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	17:49 (3) 20:03	05:32 20:20	05:26 20:11	05:43 19:36	06:10 18:19 (3)	06:38 18:48	18:03 (3)	07:07 18:02	07:06 16:32
24	07:05 17:00	06:33 17:36	05:49 18:06	06:03 19:36	17:50 (3) 20:03	05:32 20:20	05:26 20:10	05:44 19:34	06:11 18:19 (3)	06:39 18:46	18:03 (3)	07:08 18:01	07:07 16:32
25	07:04 17:02	06:32 17:37	05:48 18:06	06:02 19:36	17:54 (3) 20:04	05:31 20:20	05:26 20:09	05:44 19:33	06:12 18:20 (3)	06:40 18:44	18:03 (3)	07:09 18:00	07:07 16:31
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	18:04 (3) 20:05	05:30 20:20	05:26 20:08	05:45 19:32	06:13 18:20 (3)	06:41 18:43	18:03 (3)	07:10 17:58	07:08 16:31
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	18:04 (3) 20:06	05:30 20:20	05:27 20:07	05:46 19:30	06:14 18:20 (3)	06:42 18:41	18:03 (3)	07:11 16:57	07:08 16:30
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	18:04 (3) 20:07	05:29 20:20	05:27 20:07	05:47 19:29	06:15 18:20 (3)	06:43 18:40	18:03 (3)	07:12 16:56	07:08 16:30
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	18:04 (3) 20:08	05:29 20:20	05:27 20:06	05:48 19:27	06:16 18:20 (3)	06:44 18:38	18:03 (3)	07:13 16:55	07:09 16:30
30	07:00 17:07		05:40 18:11	05:55 19:41	18:04 (3) 20:09	05:28 20:20	05:28 20:05	05:49 19:26	06:17 18:20 (3)	06:45 18:36	18:03 (3)	07:14 16:54	07:09 16:29
31	07:00 17:08		06:38 19:12		18:04 (3) 20:09	05:28 20:09	05:50 20:04	06:18 19:24	06:18 18:19 (3)	06:45 18:36	18:03 (3)	07:15 16:52	07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	313	347	303	294
Total, worst case				715				410					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: H - R134 CA01

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:50 20:03	06:18 19:23	17:47 (3) 18:22 (3)	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	18:05 (3) 18:08 (3)	05:53 19:43	05:29 20:10	05:51 20:20	06:19 19:21	35 34	17:46 (3) 18:20 (3)	06:46 18:33	06:50 16:50
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	18:00 (3) 18:14 (3)	05:52 19:44	05:27 20:11	05:52 20:20	06:20 19:20	34 33	17:46 (3) 18:19 (3)	06:47 18:32	06:51 16:49
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	17:56 (3) 18:16 (3)	05:50 19:45	05:26 20:12	05:30 20:20	06:21 19:18	33 31	17:47 (3) 18:18 (3)	06:48 18:30	06:52 16:48
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	17:54 (3) 18:19 (3)	05:49 19:46	05:26 20:12	05:30 20:20	06:22 19:16	31 30	17:47 (3) 18:17 (3)	06:49 18:29	06:53 16:47
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	17:52 (3) 18:19 (3)	05:48 19:47	05:26 20:13	05:31 20:19	06:23 19:15	30 28	17:48 (3) 18:16 (3)	06:50 18:27	06:54 16:46
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	17:51 (3) 18:21 (3)	05:47 19:48	05:25 20:13	05:31 20:19	06:24 19:13	28 25	17:49 (3) 18:14 (3)	06:51 18:26	06:55 16:45
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	17:50 (3) 18:21 (3)	05:46 19:49	05:25 20:14	05:32 20:19	06:25 19:12	25 21	17:51 (3) 18:12 (3)	06:52 18:24	06:56 16:44
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	17:49 (3) 18:22 (3)	05:45 19:50	05:25 20:15	05:33 20:18	06:26 19:10	21 16	17:52 (3) 18:08 (3)	06:53 18:22	06:57 16:43
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	17:48 (3) 18:22 (3)	05:44 19:51	05:25 20:15	05:33 20:18	06:27 19:09	16 6	17:57 (3) 18:03 (3)	06:54 18:21	06:58 16:42
11	07:09 16:46	06:49 17:21	06:10 17:53	06:22 19:23	17:48 (3) 18:22 (3)	05:43 19:52	05:25 20:16	05:34 20:18	06:27 19:07	6 5	18:03 (3) 18:11 (3)	06:55 18:19	06:58 16:41
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	17:47 (3) 18:22 (3)	05:42 19:53	05:25 20:16	05:35 20:17	06:28 19:51	5 4	18:11 (3) 18:19 (3)	06:56 18:18	06:59 16:40
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	17:47 (3) 18:22 (3)	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	4 3	18:20 (3) 18:28 (3)	06:57 18:16	07:00 16:39
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	17:46 (3) 18:22 (3)	05:40 19:55	05:24 20:17	05:36 20:16	06:02 19:48	3 2	18:29 (3) 18:37 (3)	06:58 18:15	07:01 16:38
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	17:46 (3) 18:22 (3)	05:39 19:56	05:24 20:17	05:37 20:16	06:03 19:47	2 1	18:46 (3) 18:54 (3)	06:59 18:14	07:01 16:37
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	17:46 (3) 18:21 (3)	05:38 19:56	05:25 20:18	05:37 20:15	06:04 19:45	1 0	18:07 (3) 18:15 (3)	06:32 18:59	07:02 16:37
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	17:46 (3) 18:21 (3)	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	0 -1	18:02 (3) 18:10 (3)	06:33 18:57	07:03 16:36
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	17:47 (3) 18:21 (3)	05:36 19:58	05:25 20:19	05:39 20:14	06:06 19:43	-1 -2	18:00 (3) 18:08 (3)	06:34 18:56	07:03 16:35
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	17:47 (3) 18:19 (3)	05:35 19:59	05:25 20:19	05:40 20:14	06:07 19:41	-2 -3	18:03 (3) 18:11 (3)	06:35 18:54	07:04 16:34
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	17:48 (3) 18:19 (3)	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	-3 -4	18:04 (3) 18:12 (3)	06:35 18:53	07:05 16:33
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	17:48 (3) 18:17 (3)	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	-4 -5	18:05 (3) 18:13 (3)	06:36 18:51	07:05 16:32
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	17:49 (3) 18:16 (3)	05:33 20:02	05:25 20:20	05:42 20:12	06:09 19:37	-5 -6	18:14 (3) 18:22 (3)	06:37 18:49	07:06 16:31
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	17:50 (3) 18:15 (3)	05:32 20:03	05:26 20:20	05:43 20:11	06:10 19:36	-6 -7	18:23 (3) 18:31 (3)	06:38 18:48	07:06 16:30
24	07:05 17:00	06:33 17:36	05:49 18:06	06:03 19:36	17:51 (3) 18:13 (3)	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:34	-7 -8	18:32 (3) 18:40 (3)	06:39 18:46	07:07 16:29
25	07:04 17:02	06:32 17:37	05:48 18:06	06:02 19:36	17:53 (3) 18:11 (3)	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	-8 -9	18:41 (3) 18:49 (3)	06:40 18:44	07:07 16:28
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	17:56 (3) 18:08 (3)	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:32	-9 -10	18:50 (3) 18:58 (3)	06:41 18:43	07:08 16:27
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	17:48 (3) 18:06 (3)	05:29 20:06	05:27 20:20	05:46 20:08	06:14 19:30	-10 -11	19:07 (3) 19:15 (3)	06:42 18:41	07:08 16:26
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	17:47 (3) 18:05 (3)	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	-11 -12	19:24 (3) 19:32 (3)	06:43 18:40	07:08 16:25
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	17:47 (3) 18:04 (3)	05:29 20:07	05:27 20:20	05:48 20:06	06:16 19:27	-12 -13	19:41 (3) 19:49 (3)	06:44 18:38	07:09 16:24
30	07:00 17:07		05:40 18:11	05:55 19:41	17:48 (3) 18:03 (3)	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	-13 -14	19:56 (3) 20:04 (3)	06:45 18:36	07:09 16:23
31	07:00 17:08		06:38 19:12		17:49 (3) 18:04 (3)	05:28 20:09	05:50 20:09	06:18 19:24	06:18 19:24	-14 -15	20:12 (3) 20:20 (3)	06:46 18:34	07:09 16:22
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294	
Total, worst case				693				448	259				

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: I - R135 CA01

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:50 20:03	06:18 19:23	17:48 (3) 18:22 (3)	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	34 18:20 (3)	06:46 18:33	06:18 16:50	06:50 16:29
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	18:07 (3) 18:09 (3)	05:52 19:44	05:27 20:11	05:52 20:01	06:20 19:20	33 17:48 (3)	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	18:00 (3) 18:15 (3)	05:50 19:45	05:26 20:12	05:30 20:00	06:21 19:18	31 17:48 (3)	06:48 18:30	06:20 16:48	06:52 16:28
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	17:57 (3) 18:18 (3)	05:49 19:46	05:26 20:12	05:30 19:59	06:22 19:16	30 17:49 (3)	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	17:55 (3) 18:19 (3)	05:48 19:47	05:26 20:13	05:31 19:58	06:23 19:15	28 18:17 (3)	06:20 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	17:53 (3) 18:21 (3)	05:47 19:48	05:25 20:13	05:31 19:56	06:24 19:13	24 17:52 (3)	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	17:51 (3) 18:21 (3)	05:46 19:49	05:25 20:14	05:32 19:55	06:25 19:12	21 18:13 (3)	06:52 18:24	06:24 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	17:51 (3) 18:22 (3)	05:45 19:50	05:25 20:15	05:33 19:54	06:26 19:10	15 18:10 (3)	06:53 18:24	06:26 16:44	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	17:49 (3) 18:22 (3)	05:44 19:51	05:25 20:15	05:33 19:53	06:27 19:09	6 18:04 (3)	06:54 18:22	06:27 16:43	06:58 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	17:49 (3) 18:23 (3)	05:43 19:52	05:25 20:16	05:34 19:52	06:27 19:07		06:55 18:19	06:28 16:41	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	17:48 (3) 18:23 (3)	05:42 19:53	05:25 20:16	06:00 19:51	06:28 19:05		06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	17:48 (3) 18:23 (3)	05:41 19:54	05:25 20:17	06:01 19:49	06:29 19:04		06:57 18:16	07:00 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	17:47 (3) 18:23 (3)	05:40 19:55	05:24 20:17	06:02 19:48	06:30 19:02		06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	17:47 (3) 18:23 (3)	05:39 19:56	05:24 20:17	06:03 19:47	06:31 19:01	12 18:04 (3)	06:59 18:14	06:32 16:37	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	17:46 (3) 18:22 (3)	05:38 19:56	05:25 20:18	06:04 19:45	06:32 18:59	17 18:18 (3)	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	17:47 (3) 18:22 (3)	05:37 19:57	05:25 20:18	06:05 19:44	06:33 18:57	21 18:20 (3)	07:01 18:11	06:34 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	17:47 (3) 18:22 (3)	05:36 19:58	05:25 20:19	06:06 19:43	06:34 18:56	24 18:22 (3)	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	17:47 (3) 18:21 (3)	05:35 19:59	05:25 20:19	06:07 19:41	06:35 18:54	27 18:23 (3)	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	17:47 (3) 18:21 (3)	05:35 20:00	05:25 20:19	06:08 19:40	06:35 18:53	29 18:23 (3)	07:04 18:06	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	17:47 (3) 18:19 (3)	05:34 20:01	05:25 20:19	06:09 19:39	06:36 18:51	31 18:24 (3)	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	17:48 (3) 18:19 (3)	05:33 20:02	05:25 20:20	06:09 19:37	06:37 18:49	32 18:24 (3)	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	17:49 (3) 18:18 (3)	05:32 20:03	05:26 20:20	06:10 19:36	06:38 18:48	34 18:25 (3)	07:07 18:02	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:49 18:06	06:03 19:36	17:50 (3) 18:16 (3)	05:32 20:03	05:26 20:20	06:11 19:34	06:39 18:46	34 18:25 (3)	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:06	06:02 19:36	17:51 (3) 18:15 (3)	05:31 20:04	05:26 20:20	06:12 19:33	06:40 18:44	35 18:25 (3)	07:09 17:58	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	17:53 (3) 18:13 (3)	05:30 20:05	05:26 20:20	06:13 19:32	06:41 18:43	36 18:25 (3)	07:10 17:58	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	17:55 (3) 18:11 (3)	05:30 20:06	05:27 20:20	06:14 19:30	06:42 18:41	36 18:24 (3)	07:11 17:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	17:57 (3) 18:07 (3)	05:29 20:07	05:27 20:20	06:15 19:29	06:43 18:40	36 18:24 (3)	07:12 17:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	18:07 (3)	05:29 20:07	05:27 20:20	06:16 19:27	06:44 18:38	36 18:24 (3)	07:13 17:55	06:47 16:30	07:09 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41		05:28 20:08	05:28 20:20	06:17 19:26	06:45 18:36	35 18:23 (3)	07:14 17:54	06:48 16:29	07:09 16:37
31	07:00 17:08		06:38 19:12			05:28 20:09	05:50 20:04	06:18 19:24	06:45 18:35	35 18:23 (3)	07:15 17:52	06:49 16:29	07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	222	347	303	294
Total, worst case				722				510					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: J - R56 CA03
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	17:41 (3) 17:54 (3)	05:27 20:10	05:50 20:03	06:18 19:23	17:29 (3) 18:10 (3)	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	17:45 (3) 19:43	05:53 19:43	05:27 20:10	05:51 20:02	06:19 19:21	17:28 (3) 18:08 (3)	06:46 18:33	06:18 16:50	06:50 16:29
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	17:42 (3) 18:02 (3)	05:52 19:44	05:27 20:11	05:52 20:01	06:20 19:20	17:28 (3) 18:07 (3)	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	17:39 (3) 18:04 (3)	05:50 19:45	05:26 20:12	05:53 20:00	06:21 19:18	17:29 (3) 18:06 (3)	06:48 18:30	06:20 16:48	06:52 16:28
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	17:37 (3) 18:06 (3)	05:49 19:46	05:26 20:12	05:54 19:59	06:22 19:16	17:30 (3) 18:04 (3)	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	17:35 (3) 18:07 (3)	05:48 19:47	05:26 20:13	05:55 19:58	06:23 19:15	17:31 (3) 18:03 (3)	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	17:34 (3) 18:08 (3)	05:47 19:48	05:25 20:13	05:56 19:57	06:24 19:13	17:32 (3) 18:01 (3)	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	17:32 (3) 18:09 (3)	05:46 19:49	05:25 20:14	05:57 19:55	06:25 19:12	17:33 (3) 17:59 (3)	06:52 18:24	06:24 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	17:31 (3) 18:10 (3)	05:45 19:50	05:25 20:15	05:58 19:54	06:26 19:10	17:31 (3) 17:56 (3)	06:53 18:22	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	17:30 (3) 18:10 (3)	05:44 19:51	05:25 20:15	05:59 19:53	06:27 19:09	17:37 (3) 17:52 (3)	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	17:30 (3) 18:11 (3)	05:43 19:52	05:25 20:16	05:59 19:52	06:28 19:07	17:54 (3) 17:58 (3)	06:55 18:19	06:28 16:41	06:58 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	17:29 (3) 18:10 (3)	05:42 19:53	05:25 20:16	06:00 19:51	06:28 19:05	17:48 (3) 18:02 (3)	06:56 18:18	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	17:29 (3) 18:11 (3)	05:41 19:54	05:25 20:17	06:01 19:49	06:29 19:04	17:45 (3) 18:05 (3)	06:57 18:17	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	17:28 (3) 18:10 (3)	05:40 19:55	05:24 20:17	06:02 19:48	06:30 19:02	17:43 (3) 18:06 (3)	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	17:28 (3) 18:11 (3)	05:39 19:56	05:24 20:17	06:03 19:47	06:31 19:01	17:41 (3) 18:08 (3)	06:59 18:14	06:32 16:37	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	17:27 (3) 18:10 (3)	05:38 19:56	05:25 20:18	06:04 19:45	06:32 18:59	17:40 (3) 18:09 (3)	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	17:28 (3) 18:10 (3)	05:37 19:57	05:25 20:18	06:05 19:44	06:33 18:57	17:39 (3) 18:10 (3)	07:01 18:11	06:34 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	17:28 (3) 18:10 (3)	05:36 19:58	05:25 20:19	06:06 19:43	06:34 18:56	17:37 (3) 18:11 (3)	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	17:28 (3) 18:09 (3)	05:35 19:59	05:25 20:19	06:07 19:41	06:35 18:54	17:36 (3) 18:12 (3)	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	17:28 (3) 18:09 (3)	05:35 20:00	05:25 20:19	06:08 19:40	06:36 18:53	17:34 (3) 18:12 (3)	07:04 18:06	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	17:28 (3) 18:07 (3)	05:34 20:01	05:25 20:19	06:09 19:39	06:36 18:51	17:33 (3) 18:12 (3)	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	17:29 (3) 18:07 (3)	05:33 20:02	05:25 20:20	06:09 19:37	06:37 18:49	17:33 (3) 18:12 (3)	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	17:30 (3) 18:07 (3)	05:32 20:03	05:26 20:20	06:10 19:36	06:38 18:48	17:32 (3) 18:13 (3)	07:07 18:02	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:49 18:06	06:03 19:36	17:30 (3) 18:05 (3)	05:32 20:03	05:26 20:20	06:11 19:34	06:39 18:46	17:31 (3) 18:13 (3)	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:06	06:02 19:36	17:31 (3) 18:04 (3)	05:31 20:04	05:26 20:20	06:12 19:33	06:40 18:44	17:30 (3) 18:13 (3)	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	17:32 (3) 18:03 (3)	05:31 20:05	05:26 20:20	06:13 19:32	06:41 18:43	17:30 (3) 18:13 (3)	07:10 17:58	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	17:33 (3) 18:02 (3)	05:30 20:06	05:27 20:20	06:14 19:30	06:42 18:41	17:29 (3) 18:12 (3)	07:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	17:34 (3) 18:00 (3)	05:29 20:07	05:27 20:20	06:15 19:29	06:43 18:40	17:29 (3) 18:12 (3)	07:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	17:36 (3) 17:58 (3)	05:29 20:07	05:27 20:20	06:16 19:27	06:44 18:38	18:11 (3) 17:29 (3)	07:13 16:55	06:47 16:30	07:09 16:36
30	07:00 17:07	06:25 18:11	05:40 19:41	05:55 19:41	17:38 (3) 17:56 (3)	05:28 20:08	05:28 20:20	06:17 19:26	06:45 18:36	17:29 (3) 18:11 (3)	07:14 16:54	06:48 16:29	07:09 16:37
31	07:00 17:08	06:24 19:12	05:38 19:12	05:54 20:09	17:39 (3) 20:09	05:28 20:09	05:28 20:04	06:18 19:24	06:46 18:10 (3)	17:29 (3) 18:10 (3)	07:15 16:52	06:49 16:29	07:09 16:37
Potential sun hours	302	310	370	396	443	466	453	424	374	315	347	303	294
Total, worst case				995	13	155		713					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: K - R36 CA03

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:51 20:03	06:19 19:23	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	06:18 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16	05:34 20:18	06:00 19:52	06:28 19:07	06:55 18:20	06:28 16:41	06:58 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	06:08 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	06:05 19:55	05:25 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	06:04 19:56	05:25 20:17	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:38	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	06:03 19:56	05:25 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	06:02 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:34 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	06:01 19:58	05:25 20:19	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	06:00 19:59	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	06:00 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:36 18:53	07:04 18:07	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	06:00 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	06:00 20:02	05:25 20:20	05:42 20:12	06:10 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	06:00 20:03	05:26 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	06:00 20:03	05:26 20:20	05:44 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:01	06:32 17:37	05:48 18:07	06:02 19:37	06:00 20:04	05:26 20:20	05:45 20:09	06:12 19:33	06:40 18:45	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:37	06:00 20:05	05:26 20:20	05:45 20:08	06:13 19:32	06:41 18:43	07:10 17:59	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	06:00 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	06:00 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	07:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	06:00 20:07	05:28 20:20	05:48 20:06	06:16 19:27	06:44 18:38	07:13 16:55	06:47 16:30	07:09 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	06:00 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:37	07:14 16:54	06:48 16:29	07:09 16:37
31	07:00 17:09		06:39 19:12		05:28 20:09		05:50 20:04	06:18 19:24		06:16 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	445	453	424	374	347	303	294
Total, worst case												

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: L - R37 CA03

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:51 20:03	06:19 19:23	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	06:18 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16	05:34 20:18	06:00 19:52	06:28 19:07	06:55 18:20	06:28 16:41	06:58 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	06:08 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:25 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	05:25 20:17	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:38	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:56	05:25 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:35 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:19	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:36 18:53	07:04 18:07	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:20	05:42 20:12	06:10 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	05:26 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:01	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	05:26 20:20	05:45 20:09	06:12 19:33	06:40 18:45	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:37	05:31 20:05	05:26 20:20	05:45 20:08	06:13 19:32	06:41 18:43	07:10 17:59	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	06:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07	05:28 20:20	05:48 20:06	06:16 19:27	06:44 18:38	06:14 16:55	06:47 16:30	07:09 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:37	06:15 16:54	06:48 16:29	07:09 16:37
31	07:00 17:09		06:39 19:12		05:28 20:09		05:50 20:04	06:18 19:24		06:16 16:52		07:09 16:38
Potential sun hours	302	310	370	396	443	445	453	424	374	347	303	294
Total, worst case												

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: M - R57 CA04

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38 65	12:32 (3) 13:37 (3) 17:10 30	06:59 13:03 (3) 06:25	17:42 13:33 (3) 17:42	06:37 19:13 20	07:28 (1) 07:48 (1) 19:42	05:54 20:10
2	07:09 16:38 65	12:33 (3) 13:38 (3) 17:11 24	06:58 13:31 (3) 17:43	06:23 13:31 (3) 17:43	06:35 19:14 17	07:29 (1) 07:46 (1) 19:43	05:53 20:10
3	07:10 16:39 65	12:33 (3) 13:38 (3) 17:12 15	06:57 13:12 (3) 17:44	06:22 13:27 (3) 17:44	06:34 19:15 13	07:31 (1) 07:44 (1) 19:44	05:52 20:11
4	07:10 16:40 65	12:34 (3) 13:39 (3) 17:13	06:56 17:45	06:20 17:45	06:32 19:16 7	07:33 (1) 07:40 (1) 19:45	05:50 20:12
5	07:10 16:41 65	12:34 (3) 13:39 (3) 17:14	06:55 17:46	06:19 17:46	06:31 19:17	05:49 19:46	05:26 20:12
6	07:10 16:42 64	12:35 (3) 13:39 (3) 17:15	06:54 17:48	06:17 17:48 13	07:17 (2) 07:30 (2) 19:18	06:29 19:18	05:48 20:13
7	07:10 16:43 65	12:35 (3) 13:40 (3) 17:17	06:53 17:49 19	06:16 17:49 19	07:13 (2) 07:32 (2) 19:19	06:28 19:19	05:47 20:14
8	07:10 16:44 64	12:36 (3) 13:40 (3) 17:18	06:52 06:14 23	06:14 17:50 23	07:12 (2) 07:35 (2) 19:20	06:26 19:20	05:46 20:14
9	07:10 16:45 64	12:37 (3) 13:41 (3) 17:19	06:51 17:51 25	06:13 17:51 25	07:10 (2) 07:35 (2) 19:21	06:25 19:21	05:45 20:15
10	07:10 16:46 64	12:36 (3) 13:40 (3) 17:20	06:50 17:52 28	06:11 17:52 28	07:09 (2) 07:37 (2) 19:22	06:23 19:22	05:44 20:15
11	07:09 16:47 64	12:37 (3) 13:41 (3) 17:21	06:49 17:53 30	06:10 17:53 30	07:07 (2) 07:37 (2) 19:23	06:22 19:23	05:43 20:16
12	07:09 16:48 63	12:38 (3) 13:41 (3) 17:22	06:48 17:54 31	06:08 17:54 31	07:07 (2) 07:38 (2) 19:24	06:20 19:24	05:42 20:16
13	07:09 16:49 63	12:39 (3) 13:42 (3) 17:24	06:47 17:55 32	06:07 17:55 32	07:05 (2) 07:37 (2) 19:25	06:19 19:25	05:41 20:17
14	07:09 16:50 62	12:39 (3) 13:41 (3) 17:25	06:46 17:56 33	06:05 17:56 33	07:04 (2) 07:37 (2) 19:26	06:17 19:26	05:40 20:17
15	07:09 16:51 62	12:40 (3) 13:42 (3) 17:26	06:44 17:57 33	06:04 17:57 33	07:04 (2) 07:37 (2) 19:27	06:16 19:27	05:39 20:17
16	07:08 16:52 62	12:40 (3) 13:42 (3) 17:27	06:43 17:58 33	06:02 17:58 33	07:04 (2) 07:37 (2) 19:28	06:14 19:28	05:38 20:18
17	07:08 16:53 61	12:41 (3) 13:42 (3) 17:28	06:42 17:59 33	06:00 17:59 33	07:04 (2) 07:37 (2) 19:29	06:13 19:29	05:37 20:18
18	07:08 16:54 61	12:42 (3) 13:43 (3) 17:29	06:41 18:00 32	05:59 18:00 32	07:04 (2) 07:36 (2) 19:30	06:11 19:30	05:36 20:19
19	07:07 16:55 59	12:43 (3) 13:42 (3) 17:30	06:40 18:01 31	05:57 18:01 31	07:04 (2) 07:35 (2) 19:31	06:10 19:31	05:35 20:19
20	07:07 16:56 59	12:44 (3) 13:43 (3) 17:31	06:38 18:02 30	05:56 18:02 30	07:04 (2) 07:34 (2) 19:32	06:08 19:32	05:35 20:19
21	07:06 16:57 57	12:45 (3) 13:42 (3) 17:33	06:37 18:03 39	05:54 18:03 39	06:36 (1) 07:32 (2) 19:33	06:07 19:33	05:34 20:19
22	07:06 16:58 56	12:45 (3) 13:41 (3) 17:34	06:36 18:04 40	05:53 18:04 40	06:34 (1) 07:31 (2) 19:34	06:06 19:34	05:33 20:20
23	07:05 16:59 55	12:47 (3) 13:42 (3) 17:35	06:34 18:05 41	05:51 18:05 41	06:32 (1) 07:29 (2) 19:35	06:04 19:35	05:32 20:20
24	07:05 17:00 53	12:48 (3) 13:41 (3) 17:36	06:33 18:06 40	05:49 18:06 40	06:31 (1) 07:28 (2) 19:36	06:03 19:36	05:32 20:20
25	07:04 17:02 51	12:49 (3) 13:40 (3) 17:37	06:32 18:07 36	05:48 18:07 36	06:29 (1) 07:24 (2) 19:37	06:02 19:37	05:31 20:20
26	07:03 17:03 50	12:51 (3) 13:41 (3) 17:38	06:30 18:08 28	05:46 18:08 28	06:28 (1) 07:19 (2) 19:37	06:00 19:37	05:31 20:20
27	07:03 17:04 48	12:52 (3) 13:40 (3) 17:39	06:29 18:08 24	05:45 18:08 24	06:28 (1) 06:52 (1) 19:38	05:59 19:38	05:30 20:20
28	07:02 17:05 46	12:53 (3) 13:39 (3) 17:40	06:27 18:09 24	05:43 18:09 24	06:27 (1) 06:51 (1) 19:39	05:58 19:39	05:29 20:20
29	07:01 17:06 42	12:55 (3) 13:37 (3) 17:41	06:26 18:10 23	05:42 18:10 23	06:28 (1) 06:51 (1) 19:40	05:56 19:40	05:27 20:20
30	07:00 17:07 39	12:58 (3) 13:37 (3)	06:25 18:11 23	05:40 18:11 23	06:27 (1) 06:50 (1) 19:41	05:55 19:41	05:28 20:20
31	07:00 17:08 35	13:00 (3) 13:35 (3)	06:24 19:12 21	06:38 19:12 21	07:27 (1) 07:48 (1)	05:28 20:09	05:28 20:09
Potential sun hours	302	310	370	645	743	846	
Total, worst case	1794	69	765	57	443	446	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: M - R57 CA04

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:51 20:03	06:19 19:23	06:46 18:35	07:45 (2) 08:17 (2)	06:17 16:51
2	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	07:45 (2) 08:16 (2)	06:18 16:50
3	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	07:46 (2) 08:15 (2)	06:19 16:49
4	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	07:47 (2) 08:14 (2)	06:20 16:48
5	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	07:48 (2) 08:12 (2)	06:21 16:47
6	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	07:49 (2) 08:10 (2)	06:22 16:46
7	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	07:51 (2) 08:08 (2)	06:23 16:45
8	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	07:52 (2) 08:04 (2)	06:25 16:44
9	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	07:53 (1) 07:37 (1)	06:26 16:43
10	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	07:35 (1) 07:22 (1)	06:27 16:42
11	05:34 20:18	06:00 19:52	06:27 19:07	06:55 18:20	07:21 (1) 07:40 (1)	06:28 16:41
12	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	07:19 (1) 07:40 (1)	06:29 16:40
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	07:19 (1) 07:41 (1)	06:30 16:39
14	05:36 20:17	06:02 19:48	06:30 19:02	06:58 18:15	07:18 (1) 07:41 (1)	06:31 16:38
15	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	07:18 (1) 07:41 (1)	06:32 16:37
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	07:16 (1) 07:40 (1)	06:33 16:36
17	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	07:16 (1) 07:40 (1)	06:35 16:36
18	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	07:16 (1) 08:11 (2)	06:36 16:35
19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	07:17 (1) 08:13 (2)	06:37 16:35
20	05:40 20:13	06:08 19:40	06:36 18:53	07:04 18:06	07:18 (1) 08:15 (2)	06:38 16:34
21	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	07:19 (1) 08:16 (2)	06:39 16:33
22	05:42 20:12	06:10 19:37	06:37 18:49	07:06 18:04	07:20 (1) 08:17 (2)	06:40 16:33
23	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	07:24 (1) 08:18 (2)	06:41 16:32
24	05:44 20:10	06:11 19:34	06:39 18:46	07:08 18:01	07:48 (2) 08:19 (2)	06:42 16:32
25	05:45 20:09	06:12 19:33	06:40 18:45	07:09 18:00	07:46 (2) 08:18 (2)	06:43 16:31
26	05:45 20:08	06:13 19:32	06:41 18:43	07:10 17:59	07:46 (2) 08:18 (2)	06:44 16:31
27	05:46 20:08	06:14 19:30	06:42 18:41	07:11 16:57	07:45 (2) 08:18 (2)	06:45 16:30
28	05:47 20:07	06:15 19:29	06:43 18:40	07:12 16:56	07:45 (2) 08:18 (2)	06:46 16:30
29	05:48 20:06	06:16 19:27	06:44 18:38	07:13 16:55	07:45 (2) 08:18 (2)	06:47 16:30
30	05:49 20:05	06:17 19:26	06:45 18:37	07:14 16:54	07:45 (2) 08:17 (2)	06:48 16:29
31	05:50 20:04	06:18 19:24		07:15 16:52		
Potential sun hours	453	424	374	347	303	294
Total, worst case			649	191	1091	2007

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: N - R11 CA03
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38 17:10	06:59 17:10	06:25 17:42	07:57 (3) 08:43 (3)	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:51 20:03	06:19 19:23	06:46 18:35	08:32 (3) 09:19 (3)	06:17 16:51	06:49 16:29	
2	07:09 16:39 17:11	06:58 17:11	06:23 17:43	07:57 (3) 08:44 (3)	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	08:31 (3) 09:19 (3)	06:18 16:50	06:50 16:29	
3	07:10 16:39 17:12	06:57 17:12	06:22 17:44	07:55 (3) 08:43 (3)	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	08:31 (3) 09:20 (3)	06:19 16:49	06:51 16:29	
4	07:10 16:40 17:13	06:56 17:13	06:20 17:45	07:55 (3) 08:44 (3)	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	08:30 (3) 09:20 (3)	06:20 16:48	06:52 16:29	
5	07:10 16:41 17:14	06:55 17:14	06:19 17:47	07:54 (3) 08:44 (3)	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	08:30 (3) 09:20 (3)	06:21 16:47	06:53 16:28	
6	07:10 16:42 17:15	06:54 17:15	06:17 17:48	07:54 (3) 08:44 (3)	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	08:30 (3) 09:20 (3)	06:22 16:46	06:54 16:28	
7	07:10 16:43 17:17	06:53 17:17	06:16 17:49	07:53 (3) 08:43 (3)	06:28 19:19	05:47 19:48	05:25 20:14	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	08:30 (3) 09:20 (3)	06:23 16:45	06:55 16:28	
8	07:10 16:44 17:18	06:52 17:18	06:14 17:50	07:53 (3) 08:43 (3)	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	08:29 (3) 09:19 (3)	06:25 16:44	06:56 16:28	
9	07:10 16:45 17:19	06:51 17:19	06:13 17:51	07:52 (3) 08:42 (3)	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	08:30 (3) 09:19 (3)	06:26 16:43	06:57 16:28	
10	07:10 16:46 17:20	06:50 17:20	06:11 17:52	07:53 (3) 08:42 (3)	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	08:30 (3) 09:18 (3)	06:27 16:42	06:58 16:28	
11	07:10 16:47 17:21	06:49 17:21	06:10 17:53	07:52 (3) 08:41 (3)	06:22 19:23	05:43 19:52	05:25 20:16	05:34 20:18	06:00 19:52	06:28 19:07	06:55 18:20	08:30 (3) 09:18 (3)	06:28 16:41	06:58 16:28	
12	07:09 16:48 17:22	06:48 17:22	06:08 17:54	07:53 (3) 08:41 (3)	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	08:30 (3) 09:17 (3)	06:29 16:40	06:59 16:29	
13	07:09 16:49 17:24	06:47 17:24	06:07 17:55	07:53 (3) 08:39 (3)	06:19 19:25	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	08:31 (3) 09:16 (3)	06:30 16:39	07:00 16:29	
14	07:09 16:50 17:25	06:46 17:25	06:05 17:56	07:52 (3) 08:38 (3)	06:17 19:26	05:40 19:55	05:25 20:17	05:36 20:17	06:02 19:48	06:30 19:02	06:58 18:15	08:31 (3) 09:15 (3)	06:31 16:38	07:01 16:29	
15	07:09 16:51 17:26	06:44 17:26	06:04 17:57	07:53 (3) 08:37 (3)	06:16 19:27	05:39 19:56	05:25 20:18	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	08:32 (3) 09:14 (3)	06:32 16:38	07:02 16:29	
16	07:08 16:52 17:27	06:43 17:27	06:02 17:58	07:53 (3) 08:35 (3)	06:14 19:28	05:38 19:57	05:25 20:18	05:37 20:15	06:04 19:46	06:32 18:59	07:00 18:12	08:33 (3) 09:13 (3)	06:33 16:37	07:02 16:29	
17	07:08 16:53 17:28	06:42 17:28	06:01 17:59	07:54 (3) 08:34 (3)	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	08:34 (3) 09:11 (3)	06:35 16:36	07:03 16:30	
18	07:08 16:54 17:29	06:41 17:29	05:59 18:00	07:55 (3) 08:32 (3)	06:11 19:30	05:36 19:58	05:25 20:19	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	08:36 (3) 09:09 (3)	06:36 16:35	07:04 16:30	
19	07:07 16:55 17:30	06:40 17:30	05:57 18:01	07:56 (3) 08:31 (3)	06:10 19:31	05:36 19:59	05:25 20:19	05:40 20:14	06:07 19:42	06:35 18:54	07:03 18:08	08:37 (3) 09:07 (3)	06:37 16:35	07:04 16:30	
20	07:07 16:56 17:31	06:38 17:31	05:56 18:02	07:57 (3) 08:28 (3)	06:09 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:36 18:53	07:04 18:07	08:51 (3) 09:03 (3)	06:38 16:34	07:05 16:31	
21	07:06 16:57 17:33	06:37 17:33	05:54 18:03	07:58 (3) 08:25 (3)	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	08:47 (3) 09:07 (3)	06:39 16:33	07:05 16:31	
22	07:06 16:58 17:34	06:36 17:34	05:53 18:04	08:11 (3) 08:23 (3)	06:06 19:34	05:33 20:02	05:25 20:20	05:42 20:12	06:10 19:37	06:37 18:49	07:06 18:04	08:44 (3) 09:10 (3)	06:40 16:33	07:06 16:32	
23	07:05 16:59 17:35	06:34 17:35	05:51 18:05	08:03 (3) 08:19 (3)	06:04 19:35	05:33 20:03	05:26 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	08:42 (3) 09:12 (3)	06:41 16:32	07:06 16:32	
24	07:05 17:00 17:36	06:33 17:36	05:50 18:06	08:06 (3) 08:37 (3)	06:03 19:36	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:35	06:39 18:46	07:08 18:01	08:40 (3) 09:14 (3)	06:42 16:32	07:07 16:33	
25	07:04 17:02 17:37	06:32 17:37	05:48 18:07	08:03 (3) 08:38 (3)	06:02 19:37	05:31 20:04	05:26 20:20	05:45 20:09	06:12 19:33	06:40 18:45	07:09 18:00	08:38 (3) 09:14 (3)	06:43 16:31	07:07 16:33	
26	07:03 17:03 17:38	06:30 17:38	05:46 18:08	08:02 (3) 08:40 (3)	06:00 19:38	05:31 20:05	05:26 20:20	05:45 20:08	06:13 19:32	06:41 18:43	07:10 17:59	08:36 (3) 09:15 (3)	06:44 16:31	07:08 16:34	
27	07:03 17:04 17:39	06:29 17:39	05:45 18:09	08:01 (3) 08:41 (3)	06:05 19:38	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	07:11 17:59	08:35 (3) 09:16 (3)	06:45 16:30	07:08 16:35	
28	07:02 17:05 17:40	06:28 17:40	05:43 18:09	07:59 (3) 08:42 (3)	06:04 19:39	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:44	07:12 17:56	08:34 (3) 09:17 (3)	06:13 16:56	07:08 16:35	
29	07:01 17:06 17:41	06:26 17:41	05:42 18:10	07:59 (3) 08:43 (3)	06:03 19:40	05:29 20:07	05:28 20:20	05:48 20:06	06:16 19:27	06:44 18:38	07:13 17:55	08:33 (3) 09:18 (3)	06:14 16:55	07:09 16:36	
30	07:00 17:07 17:42	06:25 17:42	05:41 18:11	08:43 (3)	06:02 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:37	07:14 17:54	08:32 (3) 09:19 (3)	06:15 16:54	07:09 16:37	
31	07:00 17:09	06:24	05:40 18:11		06:39 19:12	05:28 20:09	05:28 20:20	05:50 20:04	06:18 19:24	18:37	47	09:19 (3)	06:16 16:52	16:37 16:38	
Potential sun hours	302	310	294	370	396	443	446	453	424	374	373	347	914	303	294
Total, worst case															

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: O - R12 CA03
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	08:15 (3) 09:10 (3)	06:37 19:13	07:16 (2) 19:42	05:54 20:10	05:27 20:20	05:19 20:03	06:19 19:23	08:50 (3) 09:44 (3)	06:17 16:51
2	07:09 16:39	06:58 17:11	06:23 17:43	08:14 (3) 09:10 (3)	06:35 19:14	07:15 (2) 19:43	05:53 20:10	05:27 20:20	05:51 20:02	06:19 19:21	08:50 (3) 09:44 (3)	06:50 16:50
3	07:10 16:39	06:57 17:12	06:22 17:44	08:13 (3) 09:10 (3)	06:34 19:15	07:15 (2) 19:44	05:52 20:11	05:27 20:20	05:52 20:01	06:20 19:20	07:18 (2) 07:24 (2)	06:19 16:51
4	07:10 16:40	06:56 17:13	06:20 17:45	08:13 (3) 09:10 (3)	06:32 19:16	07:15 (2) 19:45	05:50 20:12	05:26 20:20	05:53 20:00	06:21 19:18	07:15 (2) 07:27 (2)	06:20 16:52
5	07:10 16:41	06:55 17:14	06:19 17:47	08:12 (3) 09:10 (3)	06:31 19:17	07:16 (2) 19:46	05:49 20:12	05:30 20:20	05:54 19:59	06:22 19:16	07:13 (2) 07:29 (2)	06:49 16:47
6	07:10 16:42	06:54 17:15	06:17 17:48	08:12 (3) 09:10 (3)	06:29 19:18	07:16 (2) 19:47	05:48 20:13	05:26 20:19	05:55 19:58	06:23 19:15	07:12 (2) 07:30 (2)	06:50 16:46
7	07:10 16:43	06:53 17:17	06:16 17:49	08:11 (3) 09:09 (3)	06:28 19:19	07:17 (2) 19:48	05:47 20:14	05:31 20:19	05:56 19:57	06:24 19:13	07:11 (2) 07:30 (2)	06:51 16:45
8	07:10 16:44	06:52 17:18	06:14 17:50	08:12 (3) 09:09 (3)	06:26 19:20	07:18 (2) 19:49	05:46 20:14	05:32 20:19	05:57 19:57	06:25 19:13	07:10 (2) 07:31 (2)	06:52 16:44
9	07:10 16:45	06:51 17:19	06:13 17:51	08:11 (3) 09:08 (3)	06:25 19:21	07:20 (2) 19:50	05:45 20:15	05:33 20:19	05:58 19:54	06:26 19:10	07:09 (2) 07:31 (2)	06:53 16:43
10	07:10 16:46	06:50 17:20	06:11 17:52	08:11 (3) 09:07 (3)	06:23 19:22	07:21 (2) 19:51	05:44 20:15	05:33 20:18	05:59 19:53	06:27 19:09	07:08 (2) 07:30 (2)	06:54 16:42
11	07:09 16:47	06:49 17:21	06:10 17:53	08:11 (3) 09:06 (3)	06:22 19:23	07:22 (2) 19:52	05:43 20:16	05:34 20:18	06:00 19:52	06:28 19:07	07:08 (2) 07:29 (2)	06:55 16:41
12	07:09 16:48	06:48 17:22	06:08 17:54	08:12 (3) 09:05 (3)	06:20 19:24	07:23 (2) 19:53	05:42 20:16	05:35 20:17	06:00 19:51	06:28 19:05	07:08 (2) 07:29 (2)	06:56 16:40
13	07:09 16:49	06:47 17:24	06:07 17:55	08:11 (3) 09:04 (3)	06:19 19:25	07:24 (2) 19:54	05:41 20:17	05:35 20:17	06:01 19:49	06:29 19:04	07:09 (2) 07:28 (2)	06:57 16:39
14	07:09 16:50	06:46 17:25	06:05 17:56	08:11 (3) 09:02 (3)	06:17 19:26	07:25 (2) 19:55	05:40 20:17	05:36 20:17	06:02 19:48	06:30 19:02	07:07 (2) 07:27 (2)	06:58 16:38
15	07:09 16:51	06:44 17:26	06:04 17:57	08:12 (3) 09:01 (3)	06:16 19:27	07:26 (2) 19:56	05:39 20:18	05:37 20:16	06:03 19:47	06:31 19:01	07:10 (2) 07:25 (2)	06:59 16:38
16	07:08 16:52	06:43 17:27	06:02 17:58	08:12 (3) 08:59 (3)	06:14 19:28	07:27 (2) 19:57	05:38 20:18	05:37 20:15	06:04 19:46	06:32 18:59	07:12 (2) 07:23 (2)	07:00 16:37
17	07:08 16:53	06:42 17:28	06:01 17:59	08:13 (3) 08:58 (3)	06:13 19:29	07:28 (2) 19:57	05:38 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 07:11	07:03 16:36
18	07:08 16:54	06:41 17:29	06:00 18:00	08:14 (3) 08:56 (3)	06:11 19:30	07:29 (2) 19:58	05:36 20:19	05:39 20:14	06:06 19:43	06:34 18:56	07:02 07:09	07:04 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	08:15 (3) 08:55 (3)	06:10 19:31	07:30 (2) 19:59	05:35 20:19	05:40 20:14	06:07 19:42	06:35 18:54	07:03 07:24	07:05 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	08:16 (3) 08:52 (3)	06:09 19:32	07:31 (2) 20:00	05:35 20:19	05:40 20:13	06:08 19:40	06:36 18:53	07:04 07:25	07:06 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	08:17 (3) 08:49 (3)	06:07 19:33	07:32 (2) 20:01	05:34 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 07:26	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	08:19 (3) 08:47 (3)	06:06 19:34	07:33 (2) 20:02	05:33 20:20	05:42 20:13	06:10 19:37	06:37 18:49	07:06 07:27	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	08:21 (3) 08:43 (3)	06:04 19:35	07:34 (2) 20:03	05:33 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 07:28	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	08:22 (3) 08:39 (3)	06:03 19:36	07:35 (2) 20:04	05:32 20:20	05:44 20:10	06:11 19:35	06:39 18:46	07:08 07:29	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:07	08:19 (3) 09:07 (3)	06:02 19:37	07:36 (2) 20:04	05:26 20:20	05:45 20:09	06:12 19:33	06:40 18:45	07:09 07:30	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	08:18 (3) 09:09 (3)	06:00 19:38	07:37 (2) 20:05	05:26 20:20	05:45 20:08	06:13 19:32	06:41 18:43	07:10 07:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:09	08:18 (3) 09:10 (3)	05:59 19:38	07:38 (2) 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	07:11 07:32	07:08 16:35
28	07:02 17:05	06:28 17:40	05:43 18:09	08:16 (3) 09:09 (3)	05:58 19:39	07:39 (2) 20:07	05:29 20:20	05:47 20:07	06:15 19:29	06:43 18:40	07:12 07:33	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	08:16 (3) 09:10 (3)	05:57 19:40	07:40 (2) 20:07	05:29 20:20	05:48 20:06	06:16 19:27	06:44 18:38	07:13 07:34	07:09 16:36
30	07:00 17:07	06:25 17:42	05:41 18:11	08:17 (3) 09:10 (3)	05:56 19:41	07:41 (2) 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:37	07:14 07:35	07:09 16:37
31	07:00 17:09	06:24 17:43	05:40 18:12	08:18 (3) 09:10 (3)	05:55 19:42	07:42 (2) 20:09	05:28 20:20	05:50 20:04	06:18 19:24	06:46 19:24	07:15 07:36	07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	684	347	294
Total, worst case		522	1217	158						1240	303	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: P - R13 CA03
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13		05:54 19:42		08:13 (3) 20:10	48 09:08 (3)
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14		05:53 19:43	70	08:13 (3) 20:10	47 09:07 (3)
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15		05:52 19:44	70	08:13 (3) 20:11	46 09:07 (3)
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16		05:50 19:45	69	08:13 (3) 20:12	45 09:07 (3)
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17		05:49 19:46	69	08:12 (3) 20:12	44 09:06 (3)
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18		05:48 19:47	69	08:12 (3) 20:13	43 09:06 (3)
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19		05:47 19:48	68	08:12 (3) 20:14	42 09:06 (3)
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	13	08:51 (3) 09:04 (3)	68	08:12 (3) 20:14	42 09:06 (3)
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	25	08:45 (3) 09:10 (3)	67	08:12 (3) 20:15	41 09:06 (3)
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	32	08:41 (3) 09:13 (3)	67	08:12 (3) 20:15	40 09:06 (3)
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	38	08:38 (3) 09:16 (3)	66	08:12 (3) 20:16	40 09:05 (3)
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	42	08:35 (3) 09:17 (3)	66	08:12 (3) 20:16	38 09:04 (3)
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	46	08:33 (3) 09:19 (3)	65	08:13 (3) 20:17	38 09:04 (3)
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	60	06:57 (2) 09:20 (3)	64	08:13 (3) 20:17	37 09:04 (3)
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	66	06:55 (2) 09:21 (3)	64	08:13 (3) 20:18	37 09:04 (3)
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	72	06:53 (2) 09:21 (3)	63	08:13 (3) 20:18	37 09:04 (3)
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	77	06:52 (2) 09:23 (3)	62	08:13 (3) 20:18	36 09:05 (3)
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	81	06:51 (2) 09:24 (3)	61	08:13 (3) 20:19	36 09:05 (3)
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	83	06:50 (2) 09:23 (3)	61	08:14 (3) 20:19	36 09:05 (3)
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	85	06:50 (2) 09:24 (3)	60	08:14 (3) 20:19	36 09:05 (3)
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	86	06:49 (2) 09:24 (3)	59	08:14 (3) 20:19	36 09:05 (3)
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	88	06:49 (2) 09:24 (3)	58	08:15 (3) 20:20	36 09:05 (3)
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	89	06:49 (2) 09:25 (3)	57	08:15 (3) 20:20	36 09:06 (3)
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	88	06:50 (2) 09:25 (3)	56	08:15 (3) 20:20	36 09:06 (3)
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	89	06:49 (2) 09:24 (3)	54	08:17 (3) 20:20	36 09:06 (3)
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	87	06:50 (2) 09:24 (3)	53	08:17 (3) 20:20	36 09:07 (3)
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	85	06:51 (2) 09:24 (3)	52	08:18 (3) 20:20	37 09:07 (3)
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	83	06:52 (2) 09:23 (3)	51	08:18 (3) 20:20	37 09:07 (3)
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	79	06:54 (2) 09:23 (3)	50	08:19 (3) 20:20	38 09:08 (3)
30	07:00 17:07		05:40 18:11	05:55 19:41	69	08:14 (3) 09:23 (3)	49	08:19 (3) 20:20	38 09:08 (3)
31	07:00 17:09		06:39 19:12			05:28 20:09	48	08:20 (3) 09:08 (3)	
Potential sun hours	302	310	370	396		443		446	
Total, worst case				1563		1906		1175	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: P - R13 CA03

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20 40	08:30 (3) 09:10 (3) 20:03 66	05:51 08:22 (3) 06:19 38	08:37 (3) 09:15 (3) 18:35	06:46 16:51 16:29	06:49 16:29 06:50
2	05:29 20:20 40	08:30 (3) 09:10 (3) 20:02 67	05:51 08:22 (3) 06:19 33	08:39 (3) 09:12 (3) 18:33	06:47 16:50 16:29	06:50 16:29 06:51
3	05:29 20:20 41	08:30 (3) 09:11 (3) 20:01 68	05:52 08:22 (3) 06:20 25	08:42 (3) 09:07 (3) 18:32	06:47 16:49 16:29	06:51 16:29 06:52
4	05:30 20:20 41	08:30 (3) 09:11 (3) 20:00 68	05:53 08:22 (3) 06:21 15	08:47 (3) 09:02 (3) 18:30	06:48 16:48 16:29	06:52 16:29 06:53
5	05:30 20:20 42	08:30 (3) 09:12 (3) 19:59 69	05:54 08:22 (3) 06:22 19:16	08:49 (3) 09:31 (3) 19:16	06:49 18:29 16:47	06:53 16:28 06:54
6	05:31 20:19 43	08:29 (3) 09:12 (3) 19:58 69	05:55 08:21 (3) 06:23 19:15	08:50 (3) 09:30 (3) 19:15	06:50 18:27 16:46	06:54 16:28 06:55
7	05:31 20:19 44	08:29 (3) 09:13 (3) 19:57 69	05:56 08:22 (3) 06:24 19:13	08:51 (3) 09:31 (3) 19:13	06:51 18:26 16:45	06:55 16:28 06:56
8	05:32 20:19 44	08:29 (3) 09:13 (3) 19:55 69	05:57 08:22 (3) 06:25 19:12	08:52 (3) 09:31 (3) 19:12	06:52 18:24 16:44	06:56 16:28 06:57
9	05:33 20:19 45	08:29 (3) 09:14 (3) 19:54 69	05:58 08:22 (3) 06:26 19:10	08:53 (3) 09:31 (3) 19:10	06:53 18:23 16:43	06:57 16:28 06:58
10	05:33 20:18 46	08:28 (3) 09:14 (3) 19:53 70	05:59 08:22 (3) 06:27 19:09	08:54 (3) 09:32 (3) 19:09	06:54 18:21 16:42	06:58 16:28 06:59
11	05:34 20:18 47	08:28 (3) 09:15 (3) 19:52 70	06:00 08:22 (3) 06:28 19:07	08:55 (3) 09:32 (3) 19:07	06:55 18:20 16:41	06:58 16:28 06:59
12	05:35 20:17 48	08:28 (3) 09:16 (3) 19:51 70	06:00 08:22 (3) 06:28 19:05	08:56 (3) 09:32 (3) 19:05	06:56 18:18 16:40	06:59 16:29 07:00
13	05:35 20:17 49	08:27 (3) 09:16 (3) 19:49 73	06:01 07:05 (2) 06:29 19:04	08:57 (3) 09:31 (3) 19:04	06:57 18:17 16:39	07:00 16:29 07:01
14	05:36 20:17 50	08:27 (3) 09:17 (3) 19:48 80	06:02 07:01 (2) 06:30 19:02	08:58 (3) 09:31 (3) 19:02	06:58 18:15 16:38	07:01 16:29 07:01
15	05:37 20:15 52	08:27 (3) 09:19 (3) 19:46 86	06:03 06:59 (2) 06:31 18:59	08:59 (3) 09:31 (3) 19:01	06:59 18:12 16:37	07:01 16:29 07:02
16	05:37 20:15 53	08:27 (3) 09:19 (3) 19:44 87	06:04 06:57 (2) 06:33 18:57	09:00 (3) 09:31 (3) 18:57	07:00 18:11 16:36	07:02 16:30 07:03
17	05:38 20:15 54	08:26 (3) 09:19 (3) 19:43 89	06:05 06:56 (2) 06:34 18:56	09:01 (3) 09:31 (3) 18:56	07:01 18:09 16:35	07:03 16:30 07:04
18	05:39 20:14 55	08:26 (3) 09:20 (3) 19:43 89	06:06 06:55 (2) 06:35 18:54	09:02 (3) 09:31 (3) 18:54	07:02 18:08 16:35	07:04 16:30 07:05
19	05:40 20:14 56	08:26 (3) 09:21 (3) 19:40 88	06:07 06:54 (2) 06:36 18:53	09:03 (3) 09:29 (3) 18:53	07:03 18:07 16:34	07:04 16:31 07:05
20	05:40 20:13 57	08:25 (3) 09:21 (3) 19:39 87	06:08 06:54 (2) 06:36 18:51	09:04 (3) 09:29 (3) 18:51	07:04 18:05 16:33	07:05 16:31 07:06
21	05:41 20:12 58	08:25 (3) 09:22 (3) 19:39 86	06:09 06:54 (2) 06:36 18:49	09:05 (3) 09:29 (3) 18:49	07:05 18:04 16:33	07:05 16:32 07:06
22	05:42 20:12 59	08:25 (3) 09:23 (3) 19:37 85	06:10 06:54 (2) 06:38 18:48	09:06 (3) 09:28 (3) 18:48	07:06 18:02 16:32	07:06 16:32 07:07
23	05:43 20:11 60	08:25 (3) 09:24 (3) 19:36 83	06:11 06:54 (2) 06:39 18:46	09:07 (3) 09:27 (3) 18:46	07:07 18:01 16:32	07:07 16:33 07:08
24	05:44 20:10 61	08:25 (3) 09:25 (3) 19:34 80	06:12 06:55 (2) 06:41 18:43	09:08 (3) 09:27 (3) 18:43	07:08 17:59 16:31	07:08 16:34 07:09
25	05:45 20:09 62	08:24 (3) 09:24 (3) 19:33 80	06:13 06:55 (2) 06:41 18:41	09:09 (3) 09:26 (3) 18:41	07:09 18:00 16:31	07:07 16:33 07:08
26	05:45 20:08 63	08:24 (3) 09:24 (3) 19:32 76	06:14 06:55 (2) 06:41 18:39	09:10 (3) 09:25 (3) 18:39	07:10 17:59 16:31	07:08 16:34 07:09
27	05:46 20:08 64	08:24 (3) 09:25 (3) 19:32 72	06:15 06:55 (2) 06:42 18:37	09:11 (3) 09:23 (3) 18:37	07:11 16:57 16:30	07:09 16:35 07:10
28	05:47 20:07 65	08:24 (3) 09:26 (3) 19:30 72	06:16 06:56 (2) 06:43 18:35	09:12 (3) 09:22 (3) 18:35	07:12 16:56 16:30	07:10 16:35 07:11
29	05:48 20:06 66	08:24 (3) 09:27 (3) 19:29 66	06:17 06:59 (2) 06:44 18:33	09:13 (3) 09:22 (3) 18:33	07:13 16:55 16:30	07:11 16:36 07:12
30	05:49 20:05 67	08:22 (3) 09:27 (3) 19:27 65	06:18 08:33 (3) 06:45 18:31	09:14 (3) 09:19 (3) 18:31	07:14 16:54 16:29	07:12 16:37 07:13
31	05:50 20:04 68	08:22 (3) 09:28 (3) 19:24 62	06:18 08:35 (3) 06:45 18:29	09:15 (3) 09:17 (3) 18:29	07:15 16:52 16:29	07:13 16:38 07:14
Potential sun hours	453	424	374	347	303	294
Total, worst case	1615	2282	111			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: Q - R14 CA03
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	06:52 (2) 09:20 (3)	05:27 20:10	08:10 (3) 63 09:13 (3)
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	06:55 (2) 09:20 (3)	05:27 20:10	08:10 (3) 62 09:12 (3)
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	08:11 (3) 09:20 (3)	05:27 20:11	08:11 (3) 61 09:12 (3)
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	08:10 (3) 09:20 (3)	05:26 20:12	08:11 (3) 61 09:12 (3)
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	08:09 (3) 09:19 (3)	05:26 20:12	08:11 (3) 60 09:11 (3)
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	08:08 (3) 09:19 (3)	05:26 20:13	08:11 (3) 60 09:11 (3)
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	08:08 (3) 09:19 (3)	05:25 20:14	08:12 (3) 60 09:12 (3)
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	08:08 (3) 09:19 (3)	05:25 20:14	08:13 (3) 59 09:12 (3)
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	08:08 (3) 09:19 (3)	05:25 20:15	08:13 (3) 59 09:12 (3)
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	08:07 (3) 09:18 (3)	05:25 20:15	08:13 (3) 59 09:12 (3)
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	08:07 (3) 09:18 (3)	05:25 20:16	08:13 (3) 58 09:11 (3)
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	08:07 (3) 09:18 (3)	05:25 20:16	08:13 (3) 58 09:11 (3)
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	08:07 (3) 09:18 (3)	05:25 20:17	08:14 (3) 57 09:11 (3)
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	08:07 (3) 09:18 (3)	05:25 20:17	08:14 (3) 57 09:11 (3)
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	08:07 (3) 09:17 (3)	05:25 20:18	08:14 (3) 57 09:11 (3)
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	08:07 (3) 09:17 (3)	05:25 20:18	08:14 (3) 57 09:11 (3)
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	08:07 (3) 09:16 (3)	05:25 20:18	08:16 (3) 56 09:12 (3)
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	08:06 (3) 09:16 (3)	05:25 20:19	08:16 (3) 56 09:12 (3)
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	08:07 (3) 09:16 (3)	05:25 20:19	08:16 (3) 56 09:12 (3)
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	08:07 (3) 09:16 (3)	05:25 20:19	08:16 (3) 56 09:12 (3)
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	08:07 (3) 09:15 (3)	05:25 20:19	08:16 (3) 56 09:12 (3)
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	08:08 (3) 09:15 (3)	05:25 20:20	08:16 (3) 56 09:12 (3)
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	08:08 (3) 09:15 (3)	05:26 20:20	08:17 (3) 56 09:13 (3)
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	08:07 (3) 09:14 (3)	05:26 20:20	08:17 (3) 56 09:13 (3)
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	08:08 (3) 09:14 (3)	05:26 20:20	08:17 (3) 56 09:13 (3)
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	08:08 (3) 09:14 (3)	05:26 20:20	08:18 (3) 56 09:14 (3)
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	08:09 (3) 09:14 (3)	05:27 20:20	08:17 (3) 57 09:14 (3)
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	08:08 (3) 09:13 (3)	05:27 20:20	08:17 (3) 57 09:14 (3)
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07	08:09 (3) 09:13 (3)	05:28 20:20	08:18 (3) 57 09:15 (3)
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	08:09 (3) 09:13 (3)	05:28 20:20	08:17 (3) 58 09:15 (3)
31	07:00 17:09		06:39 19:12		05:28 20:09	08:10 (3) 09:13 (3)		
Potential sun hours	302	310	370	396	443		446	
Total, worst case				1135	2137		1737	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: Q - R14 CA03

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28	08:18 (3) 05:51	08:17 (3) 06:19	06:46	06:17	06:49
	20:20	58 09:16 (3) 20:03	71 09:28 (3) 19:23	18:35	16:51	16:29
2	05:29	08:18 (3) 05:51	08:18 (3) 06:19	06:47	06:18	06:50
	20:20	58 09:16 (3) 20:02	71 09:29 (3) 19:21	18:33	16:50	16:29
3	05:29	08:18 (3) 05:52	08:18 (3) 06:20	06:47	06:19	06:51
	20:20	59 09:17 (3) 20:01	71 09:29 (3) 19:20	18:32	16:49	16:29
4	05:30	08:18 (3) 05:53	08:18 (3) 06:21	06:48	06:20	06:52
	20:20	59 09:17 (3) 20:00	71 09:29 (3) 19:18	18:30	16:48	16:29
5	05:30	08:18 (3) 05:54	08:19 (3) 06:22	06:49	06:21	06:53
	20:20	60 09:18 (3) 19:59	71 09:30 (3) 19:16	18:29	16:47	16:28
6	05:31	08:18 (3) 05:55	08:18 (3) 06:23	06:50	06:22	06:54
	20:19	60 09:18 (3) 19:58	71 09:29 (3) 19:15	18:27	16:46	16:28
7	05:31	08:18 (3) 05:56	08:18 (3) 06:24	06:51	06:23	06:55
	20:19	60 09:18 (3) 19:57	71 09:29 (3) 19:13	18:26	16:45	16:28
8	05:32	08:18 (3) 05:57	08:19 (3) 06:25	06:52	06:25	06:56
	20:19	60 09:18 (3) 19:55	70 09:29 (3) 19:12	18:24	16:44	16:28
9	05:33	08:18 (3) 05:58	08:19 (3) 06:26	06:53	06:26	06:57
	20:19	61 09:19 (3) 19:54	70 09:29 (3) 19:10	18:23	16:43	16:28
10	05:33	08:17 (3) 05:59	08:20 (3) 06:27	06:54	06:27	06:58
	20:18	62 09:19 (3) 19:53	69 09:29 (3) 19:09	18:21	16:42	16:28
11	05:34	08:18 (3) 06:00	07:03 (2) 06:28	06:55	06:28	06:58
	20:18	62 09:20 (3) 19:52	75 09:29 (3) 19:07	18:20	16:41	16:28
12	05:35	08:18 (3) 06:00	07:00 (2) 06:28	06:56	06:29	06:59
	20:17	63 09:21 (3) 19:51	79 09:29 (3) 19:05	18:18	16:40	16:29
13	05:35	08:17 (3) 06:01	06:57 (2) 06:29	06:57	06:30	07:00
	20:17	64 09:21 (3) 19:49	82 09:27 (3) 19:04	18:17	16:39	16:29
14	05:36	08:18 (3) 06:02	06:56 (2) 06:30	06:58	06:31	07:01
	20:17	63 09:21 (3) 19:48	83 09:27 (3) 19:02	18:15	16:38	16:29
15	05:37	08:18 (3) 06:03	06:55 (2) 06:31	06:59	06:32	07:01
	20:16	64 09:22 (3) 19:47	84 09:27 (3) 19:01	18:14	16:38	16:29
16	05:37	08:18 (3) 06:04	06:54 (2) 06:32	07:00	06:33	07:02
	20:15	65 09:23 (3) 19:46	84 09:26 (3) 18:59	18:12	16:37	16:29
17	05:38	08:17 (3) 06:05	06:54 (2) 06:33	07:01	06:35	07:03
	20:15	66 09:23 (3) 19:44	84 09:26 (3) 18:57	18:11	16:36	16:30
18	05:39	08:18 (3) 06:06	06:53 (2) 06:34	07:02	06:36	07:04
	20:14	66 09:24 (3) 19:43	84 09:25 (3) 18:56	18:09	16:35	16:30
19	05:40	08:18 (3) 06:07	06:53 (2) 06:35	07:03	06:37	07:04
	20:14	66 09:24 (3) 19:41	82 09:24 (3) 18:54	18:08	16:35	16:30
20	05:40	08:17 (3) 06:08	06:52 (2) 06:36	07:04	06:38	07:05
	20:13	67 09:24 (3) 19:40	80 09:22 (3) 18:53	18:07	16:34	16:31
21	05:41	08:17 (3) 06:09	06:52 (2) 06:36	07:05	06:39	07:05
	20:12	68 09:25 (3) 19:39	76 09:21 (3) 18:51	18:05	16:33	16:31
22	05:42	08:17 (3) 06:10	06:52 (2) 06:37	07:06	06:40	07:06
	20:12	68 09:25 (3) 19:37	74 09:20 (3) 18:49	18:04	16:33	16:32
23	05:43	08:18 (3) 06:10	06:53 (2) 06:38	07:07	06:41	07:06
	20:11	68 09:26 (3) 19:36	68 09:18 (3) 18:48	18:02	16:32	16:32
24	05:44	08:18 (3) 06:11	06:53 (2) 06:39	07:08	06:42	07:07
	20:10	69 09:27 (3) 19:34	65 09:16 (3) 18:46	18:01	16:32	16:33
25	05:45	08:17 (3) 06:12	06:54 (2) 06:40	07:09	06:43	07:07
	20:09	69 09:26 (3) 19:33	58 09:14 (3) 18:45	18:00	16:31	16:33
26	05:45	08:17 (3) 06:13	06:55 (2) 06:41	07:10	06:44	07:08
	20:08	70 09:27 (3) 19:32	51 09:12 (3) 18:43	17:59	16:31	16:34
27	05:46	08:17 (3) 06:14	06:56 (2) 06:42	06:11	06:45	07:08
	20:08	70 09:27 (3) 19:30	41 09:08 (3) 18:41	16:57	16:30	16:35
28	05:47	08:18 (3) 06:15	08:41 (3) 06:43	06:13	06:46	07:08
	20:07	70 09:28 (3) 19:29	23 09:04 (3) 18:40	16:56	16:30	16:35
29	05:48	08:18 (3) 06:16	08:48 (3) 06:44	06:14	06:47	07:09
	20:06	70 09:28 (3) 19:27	9 08:57 (3) 18:38	16:55	16:30	16:36
30	05:49	08:17 (3) 06:17		06:15	06:48	07:09
	20:05	71 09:28 (3) 19:26		18:37	16:54	16:37
31	05:50	08:17 (3) 06:18			06:16	07:09
	20:04	71 09:28 (3) 19:24			16:52	16:38
Potential sun hours	453	424	374	347	303	294
Total, worst case	2007	1988				

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: R - R15 CA03
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13		05:54 19:42		06:55 (2) 09:30 (3)	05:27 20:10		08:19 (3) 09:20 (3)
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14		05:53 19:43	78	08:18 (3) 09:30 (3)	05:27 20:10	61	08:19 (3) 09:19 (3)
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15		05:52 19:44	72	08:18 (3) 09:30 (3)	05:27 20:11	59	08:20 (3) 09:19 (3)
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16		05:50 19:45	73	08:17 (3) 09:30 (3)	05:26 20:12	59	08:20 (3) 09:19 (3)
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17		05:49 19:46	72	08:16 (3) 09:28 (3)	05:26 20:12	58	08:20 (3) 09:18 (3)
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18		05:48 19:47	72	08:16 (3) 09:28 (3)	05:26 20:13	58	08:20 (3) 09:18 (3)
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19		05:47 19:48	72	08:16 (3) 09:28 (3)	05:25 20:14	57	08:21 (3) 09:18 (3)
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20		05:46 19:49	73	08:15 (3) 09:28 (3)	05:25 20:14	56	08:22 (3) 09:18 (3)
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21		05:45 19:50	72	08:15 (3) 09:27 (3)	05:25 20:15	57	08:22 (3) 09:19 (3)
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22		05:44 19:51	72	08:15 (3) 09:27 (3)	05:25 20:15	56	08:23 (3) 09:19 (3)
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23		05:43 19:52	72	08:15 (3) 09:27 (3)	05:25 20:16	56	08:22 (3) 09:18 (3)
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	19	08:52 (3) 09:11 (3)	05:42 19:53	08:15 (3) 09:26 (3)	05:25 20:16	56	08:22 (3) 09:18 (3)
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	28	08:48 (3) 09:16 (3)	05:41 19:54	08:15 (3) 09:27 (3)	05:25 20:17	55	08:23 (3) 09:18 (3)
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	35	08:43 (3) 09:18 (3)	05:40 19:55	08:15 (3) 09:26 (3)	05:25 20:17	55	08:23 (3) 09:18 (3)
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	48	06:58 (2) 09:21 (3)	05:39 19:56	08:15 (3) 09:26 (3)	05:25 20:18	55	08:23 (3) 09:18 (3)
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	59	06:54 (2) 09:22 (3)	05:38 19:57	08:15 (3) 09:25 (3)	05:25 20:18	54	08:24 (3) 09:18 (3)
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	64	06:53 (2) 09:24 (3)	05:37 19:57	08:15 (3) 09:24 (3)	05:25 20:18	54	08:25 (3) 09:19 (3)
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	70	06:52 (2) 09:25 (3)	05:36 19:58	08:15 (3) 09:24 (3)	05:25 20:19	54	08:25 (3) 09:19 (3)
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	76	06:50 (2) 09:26 (3)	05:36 19:59	08:16 (3) 09:24 (3)	05:25 20:19	54	08:25 (3) 09:19 (3)
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	78	06:50 (2) 09:27 (3)	05:35 20:00	08:15 (3) 09:23 (3)	05:25 20:19	54	08:25 (3) 09:19 (3)
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	82	06:48 (2) 09:27 (3)	05:34 20:01	08:15 (3) 09:23 (3)	05:25 20:19	54	08:25 (3) 09:19 (3)
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	84	06:48 (2) 09:28 (3)	05:33 20:02	08:16 (3) 09:23 (3)	05:25 20:20	54	08:25 (3) 09:19 (3)
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	86	06:48 (2) 09:29 (3)	05:33 20:03	08:16 (3) 09:22 (3)	05:26 20:20	54	08:26 (3) 09:20 (3)
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	87	06:49 (2) 09:30 (3)	05:32 20:03	08:16 (3) 09:22 (3)	05:26 20:20	54	08:26 (3) 09:20 (3)
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	88	06:48 (2) 09:29 (3)	05:31 20:04	08:17 (3) 09:22 (3)	05:26 20:20	54	08:26 (3) 09:20 (3)
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	90	06:48 (2) 09:30 (3)	05:31 20:05	08:17 (3) 09:21 (3)	05:26 20:20	54	08:27 (3) 09:21 (3)
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	88	06:49 (2) 09:30 (3)	05:30 20:06	08:17 (3) 09:21 (3)	05:27 20:20	54	08:27 (3) 09:21 (3)
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	87	06:49 (2) 09:29 (3)	05:29 20:07	08:17 (3) 09:20 (3)	05:27 20:20	55	08:26 (3) 09:21 (3)
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	85	06:50 (2) 09:29 (3)	05:29 20:07	08:18 (3) 09:20 (3)	05:28 20:20	55	08:27 (3) 09:22 (3)
30	07:00 17:07		05:40 18:11	05:55 19:41	84	06:52 (2) 09:30 (3)	05:28 20:08	08:18 (3) 09:20 (3)	05:28 20:20	55	08:27 (3) 09:22 (3)
31	07:00 17:09		06:39 19:12				05:28 20:09	08:18 (3) 09:20 (3)			
Potential sun hours	302	310	370	396		443			446		1671
Total, worst case				1338		2138					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: R - R15 CA03

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28	08:27 (3)	05:51	08:25 (3)	06:19	06:46	06:17	06:49	
	20:20	56 09:23 (3)	20:03	72 09:37 (3)	19:23	18:35	16:51	16:29	
2	05:29	08:27 (3)	05:51	08:25 (3)	06:19	06:47	06:18	06:50	
	20:20	56 09:23 (3)	20:02	72 09:37 (3)	19:21	18:33	16:50	16:29	
3	05:29	08:27 (3)	05:52	08:26 (3)	06:20	06:47	06:19	06:51	
	20:20	57 09:24 (3)	20:01	72 09:38 (3)	19:20	18:32	16:49	16:29	
4	05:30	08:27 (3)	05:53	08:26 (3)	06:21	06:48	06:20	06:52	
	20:20	56 09:23 (3)	20:00	72 09:38 (3)	19:18	18:30	16:48	16:29	
5	05:30	08:27 (3)	05:54	08:26 (3)	06:22	06:49	06:21	06:53	
	20:20	57 09:24 (3)	19:59	72 09:38 (3)	19:16	18:29	16:47	16:28	
6	05:31	08:27 (3)	05:55	08:25 (3)	06:23	06:50	06:22	06:54	
	20:19	57 09:24 (3)	19:58	73 09:38 (3)	19:15	18:27	16:46	16:28	
7	05:31	08:27 (3)	05:56	08:26 (3)	06:24	06:51	06:23	06:55	
	20:19	58 09:25 (3)	19:57	72 09:38 (3)	19:13	18:26	16:45	16:28	
8	05:32	08:27 (3)	05:57	08:26 (3)	06:25	06:52	06:25	06:56	
	20:19	58 09:25 (3)	19:55	72 09:38 (3)	19:12	18:24	16:44	16:28	
9	05:33	08:27 (3)	05:58	08:26 (3)	06:26	06:53	06:26	06:57	
	20:19	59 09:26 (3)	19:54	72 09:38 (3)	19:10	18:23	16:43	16:28	
10	05:33	08:26 (3)	05:59	08:27 (3)	06:27	06:54	06:27	06:58	
	20:18	60 09:26 (3)	19:53	71 09:38 (3)	19:09	18:21	16:42	16:28	
11	05:34	08:27 (3)	06:00	08:27 (3)	06:28	06:55	06:28	06:58	
	20:18	60 09:27 (3)	19:52	71 09:38 (3)	19:07	18:20	16:41	16:28	
12	05:35	08:27 (3)	06:00	07:03 (2)	06:28	06:56	06:29	06:59	
	20:17	61 09:28 (3)	19:51	79 09:38 (3)	19:05	18:18	16:40	16:29	
13	05:35	08:26 (3)	06:01	06:59 (2)	06:29	06:57	06:30	07:00	
	20:17	62 09:28 (3)	19:49	84 09:37 (3)	19:04	18:17	16:39	16:29	
14	05:36	08:26 (3)	06:02	06:58 (2)	06:30	06:58	06:31	07:01	
	20:17	63 09:29 (3)	19:48	85 09:37 (3)	19:02	18:15	16:38	16:29	
15	05:37	08:27 (3)	06:03	06:57 (2)	06:31	06:59	06:32	07:01	
	20:16	62 09:29 (3)	19:47	87 09:37 (3)	19:01	18:14	16:38	16:29	
16	05:37	08:27 (3)	06:04	06:56 (2)	06:32	07:00	06:33	07:02	
	20:15	63 09:30 (3)	19:46	88 09:37 (3)	18:59	18:12	16:37	16:29	
17	05:38	08:26 (3)	06:05	06:55 (2)	06:33	07:01	06:35	07:03	
	20:15	64 09:30 (3)	19:44	89 09:36 (3)	18:57	18:11	16:36	16:30	
18	05:39	08:26 (3)	06:06	06:55 (2)	06:34	07:02	06:36	07:04	
	20:14	65 09:31 (3)	19:43	88 09:36 (3)	18:56	18:09	16:35	16:30	
19	05:40	08:26 (3)	06:07	06:54 (2)	06:35	07:03	06:37	07:04	
	20:14	66 09:32 (3)	19:41	87 09:35 (3)	18:54	18:08	16:35	16:30	
20	05:40	08:25 (3)	06:08	06:53 (2)	06:36	07:04	06:38	07:05	
	20:13	66 09:31 (3)	19:40	86 09:34 (3)	18:53	18:07	16:34	16:31	
21	05:41	08:26 (3)	06:09	06:53 (2)	06:36	07:05	06:39	07:05	
	20:12	66 09:32 (3)	19:39	84 09:33 (3)	18:51	18:05	16:33	16:31	
22	05:42	08:26 (3)	06:10	06:53 (2)	06:37	07:06	06:40	07:06	
	20:12	67 09:33 (3)	19:37	82 09:32 (3)	18:49	18:04	16:33	16:32	
23	05:43	08:26 (3)	06:10	06:53 (2)	06:38	07:07	06:41	07:06	
	20:11	68 09:34 (3)	19:36	79 09:31 (3)	18:48	18:02	16:32	16:32	
24	05:44	08:26 (3)	06:11	06:54 (2)	06:39	07:08	06:42	07:07	
	20:10	68 09:34 (3)	19:34	76 09:30 (3)	18:46	18:01	16:32	16:33	
25	05:45	08:25 (3)	06:12	06:55 (2)	06:40	07:09	06:43	07:07	
	20:09	69 09:34 (3)	19:33	70 09:28 (3)	18:45	18:00	16:31	16:33	
26	05:45	08:25 (3)	06:13	06:56 (2)	06:41	07:10	06:44	07:08	
	20:08	70 09:35 (3)	19:32	64 09:27 (3)	18:43	17:59	16:31	16:34	
27	05:46	08:25 (3)	06:14	06:56 (2)	06:42	06:11	06:45	07:08	
	20:08	70 09:35 (3)	19:30	59 09:24 (3)	18:41	16:57	16:30	16:35	
28	05:47	08:26 (3)	06:15	06:59 (2)	06:43	06:13	06:46	07:08	
	20:07	70 09:36 (3)	19:29	48 09:22 (3)	18:40	16:56	16:30	16:35	
29	05:48	08:26 (3)	06:16	08:44 (3)	06:44	06:14	06:47	07:09	
	20:06	70 09:36 (3)	19:27	35 09:19 (3)	18:38	16:55	16:30	16:36	
30	05:49	08:25 (3)	06:17	08:48 (3)	06:45	06:15	06:48	07:09	
	20:05	71 09:36 (3)	19:26	28 09:16 (3)	18:37	16:54	16:29	16:37	
31	05:50	08:25 (3)	06:18	08:52 (3)		06:16		07:09	
	20:04	71 09:36 (3)	19:24	19 09:11 (3)		16:52		16:38	
Potential sun hours	453		424		374		303		294
Total, worst case	1966		2208						

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: S - R16 CA03

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	08:23 (3) 20:10
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	09:07 (3) 05:53	08:23 (3) 20:10
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	09:14 (3) 05:53	08:23 (3) 20:10
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	08:59 (3) 05:52	08:24 (3) 20:10
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	09:22 (3) 19:44	09:31 (3) 20:11
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	09:28 (3) 19:46	09:29 (3) 20:12
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	08:54 (3) 05:50	08:24 (3) 20:11
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	09:25 (3) 19:45	09:30 (3) 20:12
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	08:51 (3) 05:49	08:23 (3) 20:12
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	09:28 (3) 19:46	09:29 (3) 20:12
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	08:48 (3) 05:48	08:23 (3) 20:13
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	09:30 (3) 19:47	09:28 (3) 20:13
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	08:46 (3) 05:47	08:23 (3) 20:13
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	09:32 (3) 19:48	09:27 (3) 20:14
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	08:43 (3) 05:46	08:23 (3) 20:14
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	09:33 (3) 19:49	09:26 (3) 20:14
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	08:41 (3) 05:45	08:24 (3) 20:15
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	09:34 (3) 19:50	09:26 (3) 20:15
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	08:39 (3) 05:44	08:24 (3) 20:15
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	09:35 (3) 19:51	09:25 (3) 20:15
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	08:38 (3) 05:43	08:24 (3) 20:15
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	09:36 (3) 19:52	09:24 (3) 20:16
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	07:02 (2) 05:42	08:24 (3) 20:16
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	09:36 (3) 19:53	09:23 (3) 20:16
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	06:59 (2) 05:41	08:26 (3) 20:16
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	09:37 (3) 19:54	09:23 (3) 20:17
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	06:57 (2) 05:40	08:26 (3) 20:17
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	09:37 (3) 19:55	09:22 (3) 20:17
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	06:55 (2) 05:39	08:26 (3) 20:18
30	07:00 17:07		05:40 18:11	05:55 19:41	09:37 (3) 19:56	09:22 (3) 20:18
31	07:00 17:09		06:39 19:12		06:54 (2) 05:38	08:27 (3) 20:18
Potential sun hours	302	310	370	396	443	446
Total, worst case				1993	1625	186

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: S - R16 CA03

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:51 20:03	08:35 (3) 09:34 (3)	06:19 19:23	08:37 (3) 09:35 (3)	06:46 18:35	06:17 16:51	06:49 16:29	
2	05:29 20:20	05:51 20:02	08:35 (3) 09:35 (3)	06:19 19:21	08:38 (3) 09:34 (3)	06:47 18:33	06:18 16:50	06:50 16:29	
3	05:29 20:20	08:56 (3) 09:04 (3)	05:52 20:01	08:34 (3) 09:36 (3)	06:20 19:20	08:38 (3) 09:31 (3)	06:47 18:32	06:19 16:49	06:51 16:29
4	05:30 20:20	08:54 (3) 09:05 (3)	05:53 20:00	08:34 (3) 09:37 (3)	06:21 19:18	08:40 (3) 09:30 (3)	06:48 18:30	06:20 16:48	06:52 16:29
5	05:30 20:20	08:53 (3) 09:08 (3)	05:54 19:59	08:34 (3) 09:37 (3)	06:22 19:16	08:41 (3) 09:28 (3)	06:49 18:29	06:21 16:47	06:53 16:28
6	05:31 20:19	08:51 (3) 09:09 (3)	05:55 19:58	08:33 (3) 09:37 (3)	06:23 19:15	08:43 (3) 09:26 (3)	06:50 18:27	06:22 16:46	06:54 16:28
7	05:31 20:19	08:51 (3) 09:10 (3)	05:56 19:57	08:33 (3) 09:38 (3)	06:24 19:13	08:46 (3) 09:23 (3)	06:51 18:26	06:23 16:45	06:55 16:28
8	05:32 20:19	08:50 (3) 09:11 (3)	05:57 19:55	08:33 (3) 09:38 (3)	06:25 19:12	08:49 (3) 09:20 (3)	06:52 18:24	06:25 16:44	06:56 16:28
9	05:33 20:19	08:49 (3) 09:13 (3)	05:58 19:54	08:32 (3) 09:39 (3)	06:26 19:10	08:51 (3) 09:15 (3)	06:53 18:23	06:26 16:43	06:57 16:28
10	05:33 20:18	08:48 (3) 09:13 (3)	05:59 19:53	08:32 (3) 09:40 (3)	06:27 19:09	08:58 (3) 09:09 (3)	06:54 18:21	06:27 16:42	06:58 16:28
11	05:34 20:18	08:47 (3) 09:15 (3)	06:00 19:52	08:32 (3) 09:40 (3)	06:28 19:07	06:55 18:20	06:28 16:41	06:58 16:28	06:59 16:28
12	05:35 20:17	08:47 (3) 09:16 (3)	06:00 19:51	08:32 (3) 09:41 (3)	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:29	07:00 16:29
13	05:35 20:17	08:45 (3) 09:17 (3)	06:01 19:49	08:31 (3) 09:40 (3)	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29	07:01 16:29
14	05:36 20:17	08:45 (3) 09:18 (3)	06:02 19:48	08:31 (3) 09:41 (3)	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29	07:02 16:29
15	05:37 20:16	08:45 (3) 09:20 (3)	06:03 19:47	07:06 (2) 09:41 (3)	06:31 19:01	06:59 18:14	06:32 16:38	07:01 16:29	07:02 16:29
16	05:37 20:15	08:44 (3) 09:21 (3)	06:04 19:46	07:03 (2) 09:41 (3)	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29	07:03 16:29
17	05:38 20:15	08:43 (3) 09:21 (3)	06:05 19:44	07:01 (2) 09:41 (3)	06:33 18:57	07:01 18:11	06:35 16:36	07:03 16:30	07:04 16:30
18	05:39 20:14	08:43 (3) 09:23 (3)	06:06 19:43	07:00 (2) 09:42 (3)	06:34 18:56	07:02 18:09	06:36 16:35	07:04 16:30	07:05 16:30
19	05:40 20:14	08:42 (3) 09:24 (3)	06:07 19:41	06:59 (2) 09:42 (3)	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30	07:06 16:30
20	05:40 20:13	08:41 (3) 09:24 (3)	06:08 19:40	06:57 (2) 09:41 (3)	06:36 18:53	07:04 18:07	06:38 16:34	07:05 16:31	07:07 16:31
21	05:41 20:12	08:40 (3) 09:25 (3)	06:09 19:39	06:57 (2) 09:41 (3)	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31	07:08 16:31
22	05:42 20:12	08:40 (3) 09:26 (3)	06:10 19:37	06:56 (2) 09:41 (3)	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32	07:09 16:32
23	05:43 20:11	08:40 (3) 09:27 (3)	06:10 19:36	06:56 (2) 09:41 (3)	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32	07:09 16:32
24	05:44 20:10	08:39 (3) 09:29 (3)	06:11 19:34	06:56 (2) 09:41 (3)	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33	07:10 16:33
25	05:45 20:09	08:38 (3) 09:29 (3)	06:12 19:33	06:56 (2) 09:40 (3)	06:40 18:45	07:09 18:00	06:43 16:31	07:07 16:33	07:10 16:33
26	05:45 20:08	08:38 (3) 09:30 (3)	06:13 19:32	06:56 (2) 09:40 (3)	06:41 18:43	07:10 17:59	06:44 16:31	07:08 16:34	07:11 16:34
27	05:46 20:08	08:37 (3) 09:31 (3)	06:14 19:30	06:56 (2) 09:39 (3)	06:42 18:41	06:11 16:57	06:45 16:30	07:08 16:35	07:11 16:35
28	05:47 20:07	08:37 (3) 09:32 (3)	06:15 19:29	06:56 (2) 09:38 (3)	06:43 18:40	06:13 16:56	06:46 16:30	07:08 16:35	07:11 16:35
29	05:48 20:06	08:37 (3) 09:33 (3)	06:16 19:27	06:58 (2) 09:38 (3)	06:44 18:38	06:14 16:55	06:47 16:30	07:09 16:36	07:12 16:36
30	05:49 20:05	08:36 (3) 09:32 (3)	06:17 19:26	06:59 (2) 09:37 (3)	06:45 18:37	06:15 16:54	06:48 16:29	07:09 16:37	07:12 16:37
31	05:50 20:04	08:35 (3) 09:33 (3)	06:18 19:24	07:02 (2) 09:36 (3)		06:16 16:52		07:09 16:38	07:13 16:38
Potential sun hours	453	424	374	410	347	303	294		
Total, worst case	1068	2364	410						

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: T - R17 CA 03
Assumptions for shadow calculations

Reference year for calendar 2024
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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	06:46 (2) 20:10	07:47 (3) 60 08:47 (3)
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	06:48 (2) 20:10	07:47 (3) 60 08:47 (3)
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	06:51 (2) 20:11	07:47 (3) 60 08:47 (3)
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	07:50 (3) 20:12	07:48 (3) 59 08:47 (3)
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	07:48 (3) 20:12	07:47 (3) 59 08:46 (3)
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	07:48 (3) 20:13	07:48 (3) 58 08:46 (3)
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	07:47 (3) 20:14	07:48 (3) 58 08:46 (3)
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	07:47 (3) 20:14	07:49 (3) 57 08:46 (3)
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	07:46 (3) 20:15	07:49 (3) 58 08:47 (3)
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	07:46 (3) 20:15	07:50 (3) 57 08:47 (3)
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	07:45 (3) 20:16	07:49 (3) 57 08:46 (3)
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	07:45 (3) 20:16	07:50 (3) 56 08:46 (3)
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	07:46 (3) 20:17	07:50 (3) 56 08:46 (3)
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	07:45 (3) 20:17	07:50 (3) 56 08:46 (3)
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	07:45 (3) 20:18	07:50 (3) 56 08:46 (3)
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	07:45 (3) 20:18	07:51 (3) 55 08:46 (3)
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	07:44 (3) 20:18	07:52 (3) 55 08:47 (3)
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	07:44 (3) 20:19	07:52 (3) 55 08:47 (3)
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	07:45 (3) 20:19	07:52 (3) 55 08:47 (3)
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	07:44 (3) 20:19	07:52 (3) 55 08:47 (3)
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	07:44 (3) 20:19	07:52 (3) 55 08:47 (3)
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	07:45 (3) 20:20	07:52 (3) 55 08:47 (3)
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	07:45 (3) 20:20	07:53 (3) 55 08:48 (3)
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	07:44 (3) 20:20	07:53 (3) 55 08:48 (3)
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	07:45 (3) 20:20	07:53 (3) 55 08:48 (3)
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	07:45 (3) 20:20	07:54 (3) 55 08:49 (3)
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:38	05:30 20:06	07:46 (3) 20:20	07:54 (3) 55 08:49 (3)
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	07:45 (3) 20:20	07:53 (3) 56 08:49 (3)
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07	07:46 (3) 20:20	07:54 (3) 56 08:50 (3)
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	07:46 (3) 20:20	07:54 (3) 56 08:50 (3)
31	07:00 17:09		06:39 19:12		05:28 20:09	07:46 (3) 20:20	
Potential sun hours	302	310	370	396	443	446	1695
Total, worst case				665	1964		

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: T - R17 CA 03

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28	07:54 (3)	05:51	07:56 (3)	06:19	06:46	06:17	06:49
	20:20	57 08:51 (3)	20:03	64 09:00 (3)	19:23	18:35	16:51	16:29
2	05:29	07:54 (3)	05:51	07:56 (3)	06:19	06:47	06:18	06:50
	20:20	57 08:51 (3)	20:02	64 09:00 (3)	19:21	18:33	16:50	16:29
3	05:29	07:55 (3)	05:52	07:57 (3)	06:20	06:47	06:19	06:51
	20:20	57 08:52 (3)	20:01	63 09:00 (3)	19:20	18:32	16:49	16:29
4	05:30	07:54 (3)	05:53	07:57 (3)	06:21	06:48	06:20	06:52
	20:20	58 08:52 (3)	20:00	63 09:00 (3)	19:18	18:30	16:48	16:29
5	05:30	07:55 (3)	05:54	07:57 (3)	06:22	06:49	06:21	06:53
	20:20	57 08:52 (3)	19:59	63 09:00 (3)	19:16	18:29	16:47	16:28
6	05:31	07:54 (3)	05:55	07:57 (3)	06:23	06:50	06:22	06:54
	20:19	58 08:52 (3)	19:58	62 08:59 (3)	19:15	18:27	16:46	16:28
7	05:31	07:55 (3)	05:56	07:58 (3)	06:24	06:51	06:23	06:55
	20:19	58 08:53 (3)	19:57	61 08:59 (3)	19:13	18:26	16:45	16:28
8	05:32	07:54 (3)	05:57	07:58 (3)	06:25	06:52	06:25	06:56
	20:19	59 08:53 (3)	19:55	60 08:58 (3)	19:12	18:24	16:44	16:28
9	05:33	07:55 (3)	05:58	07:59 (3)	06:26	06:53	06:26	06:57
	20:19	59 08:54 (3)	19:54	59 08:58 (3)	19:10	18:23	16:43	16:28
10	05:33	07:54 (3)	05:59	06:59 (2)	06:27	06:54	06:27	06:58
	20:18	60 08:54 (3)	19:53	64 08:58 (3)	19:09	18:21	16:42	16:28
11	05:34	07:54 (3)	06:00	06:56 (2)	06:28	06:55	06:28	06:58
	20:18	60 08:54 (3)	19:52	69 08:57 (3)	19:07	18:20	16:41	16:28
12	05:35	07:55 (3)	06:00	06:55 (2)	06:28	06:56	06:29	06:59
	20:17	60 08:55 (3)	19:51	69 08:56 (3)	19:05	18:18	16:40	16:29
13	05:35	07:54 (3)	06:01	06:52 (2)	06:29	06:57	06:30	07:00
	20:17	61 08:55 (3)	19:49	71 08:55 (3)	19:04	18:17	16:39	16:29
14	05:36	07:54 (3)	06:02	06:52 (2)	06:30	06:58	06:31	07:01
	20:17	62 08:56 (3)	19:48	70 08:54 (3)	19:02	18:15	16:38	16:29
15	05:37	07:55 (3)	06:03	06:51 (2)	06:31	06:59	06:32	07:02
	20:16	61 08:56 (3)	19:47	70 08:53 (3)	19:01	18:14	16:38	16:29
16	05:37	07:55 (3)	06:04	06:50 (2)	06:32	07:00	06:33	07:02
	20:15	62 08:57 (3)	19:46	68 08:52 (3)	18:59	18:12	16:37	16:29
17	05:38	07:54 (3)	06:05	06:50 (2)	06:33	07:01	06:35	07:03
	20:15	63 08:57 (3)	19:44	66 08:50 (3)	18:57	18:11	16:36	16:30
18	05:39	07:55 (3)	06:06	06:50 (2)	06:34	07:02	06:36	07:04
	20:14	62 08:57 (3)	19:43	63 08:49 (3)	18:56	18:09	16:35	16:30
19	05:40	07:55 (3)	06:07	06:50 (2)	06:35	07:03	06:37	07:04
	20:14	63 08:58 (3)	19:41	59 08:47 (3)	18:54	18:08	16:35	16:30
20	05:40	07:54 (3)	06:08	06:49 (2)	06:36	07:04	06:38	07:05
	20:13	64 08:58 (3)	19:40	53 08:43 (3)	18:53	18:07	16:34	16:31
21	05:41	07:54 (3)	06:09	06:49 (2)	06:36	07:05	06:39	07:05
	20:12	64 08:58 (3)	19:39	48 08:41 (3)	18:51	18:05	16:33	16:31
22	05:42	07:55 (3)	06:10	06:50 (2)	06:37	07:06	06:40	07:06
	20:12	64 08:59 (3)	19:37	39 08:37 (3)	18:49	18:04	16:33	16:32
23	05:43	07:55 (3)	06:10	06:51 (2)	06:38	07:07	06:41	07:06
	20:11	64 08:59 (3)	19:36	19 08:28 (3)	18:48	18:02	16:32	16:32
24	05:44	07:55 (3)	06:11	06:52 (2)	06:39	07:08	06:42	07:07
	20:10	65 09:00 (3)	19:34	15 07:07 (2)	18:46	18:01	16:32	16:33
25	05:45	07:54 (3)	06:12	06:53 (2)	06:40	07:09	06:43	07:07
	20:09	65 08:59 (3)	19:33	12 07:05 (2)	18:45	18:00	16:31	16:33
26	05:45	07:55 (3)	06:13	06:57 (2)	06:41	07:10	06:44	07:08
	20:08	64 08:59 (3)	19:32	4 07:01 (2)	18:43	17:59	16:31	16:34
27	05:46	07:55 (3)	06:14		06:42	06:11	06:45	07:08
	20:08	65 09:00 (3)	19:30		18:41	16:57	16:30	16:35
28	05:47	07:55 (3)	06:15		06:43	06:13	06:46	07:08
	20:07	65 09:00 (3)	19:29		18:40	16:56	16:30	16:35
29	05:48	07:56 (3)	06:16		06:44	06:14	06:47	07:09
	20:06	64 09:00 (3)	19:27		18:38	16:55	16:30	16:36
30	05:49	07:55 (3)	06:17		06:45	06:15	06:48	07:09
	20:05	65 09:00 (3)	19:26		18:37	16:54	16:29	16:37
31	05:50	07:55 (3)	06:18			06:16		07:09
	20:04	65 09:00 (3)	19:24			16:52		16:38
Potential sun hours	453		424		374	347	303	294
Total, worst case	1908		1418					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: U - R18 CA03
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	06:50 (2) 20:10	07:51 (3) 08:43 (3)		
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	07:49 (3) 08:50 (3)	05:27 20:10	07:51 (3) 08:42 (3)	
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	07:49 (3) 08:50 (3)	05:27 20:11	07:51 (3) 08:42 (3)	
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	07:48 (3) 08:50 (3)	05:26 20:12	07:52 (3) 08:43 (3)	
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	07:47 (3) 08:50 (3)	05:26 20:12	07:52 (3) 08:42 (3)	
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	07:47 (3) 08:50 (3)	05:26 20:13	07:53 (3) 08:42 (3)	
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	07:46 (3) 08:49 (3)	05:25 20:14	07:53 (3) 08:42 (3)	
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	07:46 (3) 08:49 (3)	05:25 20:14	07:54 (3) 08:42 (3)	
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	07:46 (3) 08:49 (3)	05:25 20:15	07:54 (3) 08:42 (3)	
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	07:46 (3) 08:49 (3)	05:25 20:15	07:55 (3) 08:42 (3)	
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	07:46 (3) 08:49 (3)	05:25 20:16	07:54 (3) 08:41 (3)	
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	07:45 (3) 08:48 (3)	05:25 20:16	07:55 (3) 08:41 (3)	
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	07:46 (3) 08:49 (3)	05:25 20:17	07:55 (3) 08:41 (3)	
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	07:46 (3) 08:49 (3)	05:25 20:17	07:56 (3) 08:41 (3)	
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	07:46 (3) 08:48 (3)	05:25 20:18	07:56 (3) 08:41 (3)	
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	06:53 (2) 08:29 (3)	05:38 19:57	07:46 (3) 08:48 (3)	05:25 20:18	07:56 (3) 08:41 (3)
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	06:51 (2) 08:35 (3)	05:37 19:57	07:46 (3) 08:47 (3)	05:25 20:18	07:58 (3) 08:42 (3)
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	06:49 (2) 08:38 (3)	05:36 19:58	07:46 (3) 08:47 (3)	05:25 20:19	07:58 (3) 08:42 (3)
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	06:47 (2) 08:40 (3)	05:36 19:59	07:47 (3) 08:47 (3)	05:25 20:19	07:58 (3) 08:42 (3)
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	06:47 (2) 08:42 (3)	05:35 20:00	07:46 (3) 08:47 (3)	05:25 20:19	07:58 (3) 08:42 (3)
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	06:46 (2) 08:44 (3)	05:34 20:01	07:46 (3) 08:46 (3)	05:25 20:19	07:58 (3) 08:42 (3)
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	06:45 (2) 08:45 (3)	05:33 20:02	07:47 (3) 08:46 (3)	05:25 20:20	07:58 (3) 08:42 (3)
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	06:45 (2) 08:46 (3)	05:33 20:03	07:47 (3) 08:46 (3)	05:26 20:20	07:59 (3) 08:43 (3)
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	06:45 (2) 08:47 (3)	05:32 20:03	07:47 (3) 08:45 (3)	05:26 20:20	07:59 (3) 08:43 (3)
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	06:44 (2) 08:47 (3)	05:31 20:04	07:48 (3) 08:45 (3)	05:26 20:20	07:59 (3) 08:43 (3)
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	06:45 (2) 08:48 (3)	05:31 20:05	07:48 (3) 08:44 (3)	05:26 20:20	07:59 (3) 08:44 (3)
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:38	06:45 (2) 08:49 (3)	05:30 20:06	07:49 (3) 08:45 (3)	05:27 20:20	07:59 (3) 08:44 (3)
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	06:45 (2) 08:49 (3)	05:29 20:07	07:49 (3) 08:44 (3)	05:27 20:20	07:59 (3) 08:44 (3)
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	06:46 (2) 08:49 (3)	05:29 20:07	07:49 (3) 08:44 (3)	05:28 20:20	07:59 (3) 08:45 (3)
30	07:00 17:07		05:40 18:11	05:55 19:41	06:48 (2) 08:50 (3)	05:28 20:08	07:49 (3) 08:43 (3)	05:28 20:20	07:59 (3) 08:45 (3)
31	07:00 17:09		06:39 19:12			05:28 20:09	07:50 (3) 08:43 (3)		
Potential sun hours	302	310	370	396	443	446			
Total, worst case				917	1871		1393		

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: U - R18 CA03
Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20 46	08:00 (3) 20:03 63	05:51 08:59 (3)	07:56 (3) 19:23	06:19 18:35	06:46 16:51	06:49 16:29
2	05:29 20:20 47	08:46 (3) 20:02 63	05:51 08:59 (3)	07:56 (3) 19:21	06:19 18:33	06:47 16:50	06:18 16:29
3	05:29 20:20 47	08:00 (3) 20:01 64	05:52 09:00 (3)	07:56 (3) 19:20	06:20 18:32	06:47 16:49	06:19 16:29
4	05:30 20:20 48	07:59 (3) 20:00 63	05:53 09:00 (3)	07:57 (3) 19:18	06:21 18:30	06:48 16:48	06:20 16:29
5	05:30 20:20 48	08:00 (3) 19:59 63	05:54 09:00 (3)	07:57 (3) 19:16	06:22 18:29	06:49 16:47	06:21 16:28
6	05:31 20:19 49	08:48 (3) 19:58 63	05:55 08:59 (3)	07:56 (3) 19:15	06:23 18:27	06:50 16:46	06:22 16:28
7	05:31 20:19 50	07:59 (3) 19:57 62	05:56 08:59 (3)	07:57 (3) 19:13	06:24 18:26	06:51 16:45	06:23 16:28
8	05:32 20:19 50	07:59 (3) 19:55 62	05:57 08:59 (3)	07:57 (3) 19:12	06:25 18:24	06:52 16:44	06:25 16:28
9	05:33 20:19 51	08:49 (3) 19:54 62	05:58 08:59 (3)	07:57 (3) 19:10	06:26 18:23	06:53 16:43	06:26 16:28
10	05:33 20:18 51	07:58 (3) 19:53 61	05:59 08:59 (3)	07:58 (3) 19:09	06:27 18:21	06:54 16:42	06:27 16:28
11	05:34 20:18 52	08:49 (3) 19:52 61	06:00 08:59 (3)	07:58 (3) 19:07	06:28 18:20	06:55 16:41	06:28 16:28
12	05:35 20:17 52	07:59 (3) 19:51 70	06:00 08:59 (3)	06:58 (2) 19:05	06:28 18:18	06:56 16:40	06:29 16:29
13	05:35 20:17 53	07:58 (3) 19:49 72	06:01 08:57 (3)	06:55 (2) 19:04	06:29 18:17	06:57 16:39	07:00 16:29
14	05:36 20:17 54	08:51 (3) 19:48 74	06:02 08:57 (3)	06:54 (2) 19:02	06:30 18:15	06:58 16:38	06:31 16:29
15	05:37 20:15 55	07:58 (3) 19:47 74	06:03 08:56 (3)	06:53 (2) 19:01	06:31 18:14	06:59 16:38	06:32 16:29
16	05:37 20:15 56	07:58 (3) 19:46 74	06:04 08:56 (3)	06:52 (2) 18:59	06:32 18:12	07:00 16:37	06:33 16:29
17	05:38 20:15 56	07:57 (3) 19:44 74	06:05 08:55 (3)	06:52 (2) 18:57	06:33 18:11	07:01 16:36	06:35 16:30
18	05:39 20:14 57	08:53 (3) 19:43 73	06:06 08:54 (3)	06:51 (2) 18:56	06:34 18:09	07:02 16:35	06:36 16:30
19	05:40 20:14 57	07:58 (3) 19:42 71	06:07 08:53 (3)	06:51 (2) 18:54	06:35 18:08	07:03 16:35	06:37 16:30
20	05:40 20:13 58	07:57 (3) 19:40 68	06:08 08:51 (3)	06:50 (2) 18:53	06:36 18:07	07:04 16:34	06:38 16:31
21	05:41 20:12 58	07:57 (3) 19:39 65	06:09 08:49 (3)	06:50 (2) 18:51	06:36 18:05	06:39 16:33	07:05 16:31
22	05:42 20:12 59	07:57 (3) 19:37 62	06:10 08:48 (3)	06:50 (2) 18:49	06:37 18:04	07:06 16:33	07:06 16:32
23	05:43 20:11 60	08:56 (3) 19:36 57	06:10 08:46 (3)	06:51 (2) 18:48	06:38 18:02	07:07 16:32	06:41 16:32
24	05:44 20:10 60	07:57 (3) 19:35 52	06:11 08:44 (3)	06:51 (2) 18:46	06:39 18:01	07:08 16:32	06:42 16:33
25	05:45 20:09 61	08:57 (3) 19:33 44	06:12 08:41 (3)	06:52 (2) 18:45	06:40 18:00	07:09 16:31	06:43 16:33
26	05:45 20:08 62	07:56 (3) 19:32 33	06:13 08:38 (3)	06:54 (2) 18:43	06:41 17:59	07:10 16:31	06:44 16:34
27	05:46 20:08 62	08:58 (3) 19:30 15	06:14 08:30 (3)	06:55 (2) 18:41	06:42 16:57	06:45 16:30	07:08 16:35
28	05:47 20:07 63	07:56 (3) 19:29	06:15 08:40 (3)	06:43 18:40	06:13 16:56	06:46 16:30	07:08 16:35
29	05:48 20:06 62	07:57 (3) 19:27	06:16 08:59 (3)	06:44 18:38	06:14 16:55	06:47 16:30	07:09 16:36
30	05:49 20:05 62	07:56 (3) 19:26	06:17 08:58 (3)	06:45 18:37	06:15 16:54	06:48 16:29	07:09 16:37
31	05:50 20:04 63	07:56 (3) 19:24	06:18 08:59 (3)		06:16 16:52	06:49 16:38	07:09 16:38
Potential sun hours	453	424	374	347	303	294	
Total, worst case	1709	1665					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: V - R19 CA03

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	06:50 (2) 20:10	07:52 (3) 08:46 (3)		
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	07:51 (3) 08:53 (3)	05:27 20:10	07:52 (3) 08:45 (3)	
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	07:51 (3) 08:53 (3)	05:27 20:11	07:53 (3) 08:45 (3)	
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	07:50 (3) 08:53 (3)	05:26 20:12	07:53 (3) 08:46 (3)	
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	07:49 (3) 08:52 (3)	05:26 20:12	07:53 (3) 08:45 (3)	
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	07:48 (3) 08:52 (3)	05:26 20:13	07:54 (3) 08:45 (3)	
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	07:48 (3) 08:52 (3)	05:25 20:14	07:54 (3) 08:45 (3)	
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	07:48 (3) 08:52 (3)	05:25 20:14	07:55 (3) 08:45 (3)	
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	07:48 (3) 08:52 (3)	05:25 20:15	07:56 (3) 08:45 (3)	
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	07:47 (3) 08:52 (3)	05:25 20:15	07:56 (3) 08:45 (3)	
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	07:47 (3) 08:52 (3)	05:25 20:16	07:56 (3) 08:44 (3)	
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	07:47 (3) 08:51 (3)	05:25 20:16	07:56 (3) 08:44 (3)	
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	07:48 (3) 08:52 (3)	05:25 20:17	07:56 (3) 08:44 (3)	
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	07:48 (3) 08:52 (3)	05:25 20:17	07:57 (3) 08:44 (3)	
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	07:47 (3) 08:51 (3)	05:25 20:18	07:57 (3) 08:44 (3)	
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	06:53 (2) 08:33 (3)	05:38 19:57	07:47 (3) 08:51 (3)	05:25 20:18	07:57 (3) 08:44 (3)
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	06:50 (2) 08:38 (3)	05:37 19:57	07:47 (3) 08:50 (3)	05:25 20:18	07:59 (3) 08:45 (3)
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	06:49 (2) 08:42 (3)	05:36 19:58	07:47 (3) 08:50 (3)	05:25 20:19	07:59 (3) 08:45 (3)
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	06:47 (2) 08:43 (3)	05:36 19:59	07:48 (3) 08:50 (3)	05:25 20:19	07:59 (3) 08:45 (3)
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	06:47 (2) 08:45 (3)	05:35 20:00	07:48 (3) 08:49 (3)	05:25 20:19	07:59 (3) 08:45 (3)
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	06:46 (2) 08:47 (3)	05:34 20:01	07:48 (3) 08:49 (3)	05:25 20:19	07:59 (3) 08:45 (3)
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	06:45 (2) 08:48 (3)	05:33 20:02	07:49 (3) 08:49 (3)	05:25 20:20	07:59 (3) 08:45 (3)
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	06:45 (2) 08:49 (3)	05:33 20:03	07:49 (3) 08:48 (3)	05:26 20:20	08:00 (3) 08:46 (3)
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	06:45 (2) 08:50 (3)	05:32 20:03	07:49 (3) 08:48 (3)	05:26 20:20	08:00 (3) 08:46 (3)
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	06:44 (2) 08:50 (3)	05:31 20:04	07:49 (3) 08:48 (3)	05:26 20:20	08:00 (3) 08:46 (3)
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	06:45 (2) 08:51 (3)	05:31 20:05	07:49 (3) 08:47 (3)	05:26 20:20	08:00 (3) 08:47 (3)
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:38	06:45 (2) 08:52 (3)	05:30 20:06	07:50 (3) 08:47 (3)	05:27 20:20	08:00 (3) 08:47 (3)
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	06:45 (2) 08:51 (3)	05:29 20:07	07:50 (3) 08:47 (3)	05:27 20:20	08:00 (3) 08:47 (3)
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	06:46 (2) 08:52 (3)	05:29 20:07	07:51 (3) 08:47 (3)	05:28 20:20	08:01 (3) 08:48 (3)
30	07:00 17:07		05:40 18:11	05:55 19:41	06:48 (2) 08:52 (3)	05:28 20:08	07:51 (3) 08:46 (3)	05:28 20:20	08:00 (3) 08:48 (3)
31	07:00 17:09		06:39 19:12			05:28 20:09	07:51 (3) 08:46 (3)		
Potential sun hours	302	310	370	396	443	446			
Total, worst case				942	1910		1449		

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: V - R19 CA03

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28	08:01 (3)	05:51	07:58 (3)	06:19	06:46	06:17	06:49	
	20:20	48 08:49 (3)	20:03	64 09:02 (3)	19:23	18:35	16:51	16:29	
2	05:29	08:00 (3)	05:51	07:58 (3)	06:19	06:47	06:18	06:50	
	20:20	49 08:49 (3)	20:02	64 09:02 (3)	19:21	18:33	16:50	16:29	
3	05:29	08:01 (3)	05:52	07:58 (3)	06:20	06:47	06:19	06:51	
	20:20	49 08:50 (3)	20:01	65 09:03 (3)	19:20	18:32	16:49	16:29	
4	05:30	08:00 (3)	05:53	07:58 (3)	06:21	06:48	06:20	06:52	
	20:20	50 08:50 (3)	20:00	65 09:03 (3)	19:18	18:30	16:48	16:29	
5	05:30	08:01 (3)	05:54	07:59 (3)	06:22	06:49	06:21	06:53	
	20:20	50 08:51 (3)	19:59	64 09:03 (3)	19:16	18:29	16:47	16:28	
6	05:31	08:00 (3)	05:55	07:58 (3)	06:23	06:50	06:22	06:54	
	20:19	51 08:51 (3)	19:58	64 09:02 (3)	19:15	18:27	16:46	16:28	
7	05:31	08:00 (3)	05:56	07:58 (3)	06:24	06:51	06:23	06:55	
	20:19	52 08:52 (3)	19:57	64 09:02 (3)	19:13	18:26	16:45	16:28	
8	05:32	08:00 (3)	05:57	07:59 (3)	06:25	06:52	06:25	06:56	
	20:19	52 08:52 (3)	19:55	63 09:02 (3)	19:12	18:24	16:44	16:28	
9	05:33	08:00 (3)	05:58	07:59 (3)	06:26	06:53	06:26	06:57	
	20:19	53 08:53 (3)	19:54	63 09:02 (3)	19:10	18:23	16:43	16:28	
10	05:33	07:59 (3)	05:59	07:59 (3)	06:27	06:54	06:27	06:58	
	20:18	53 08:52 (3)	19:53	63 09:02 (3)	19:09	18:21	16:42	16:28	
11	05:34	08:00 (3)	06:00	08:00 (3)	06:28	06:55	06:28	06:58	
	20:18	53 08:53 (3)	19:52	62 09:02 (3)	19:07	18:20	16:41	16:28	
12	05:35	08:00 (3)	06:00	06:58 (2)	06:28	06:56	06:29	06:59	
	20:17	54 08:54 (3)	19:51	71 09:01 (3)	19:05	18:18	16:40	16:29	
13	05:35	07:59 (3)	06:01	06:55 (2)	06:29	06:57	06:30	07:00	
	20:17	55 08:54 (3)	19:49	74 09:00 (3)	19:04	18:17	16:39	16:29	
14	05:36	07:59 (3)	06:02	06:54 (2)	06:30	06:58	06:31	07:01	
	20:17	56 08:55 (3)	19:48	75 09:00 (3)	19:02	18:15	16:38	16:29	
15	05:37	07:59 (3)	06:03	06:53 (2)	06:31	06:59	06:32	07:02	
	20:16	57 08:56 (3)	19:47	76 08:59 (3)	19:01	18:14	16:38	16:29	
16	05:37	08:00 (3)	06:04	06:52 (2)	06:32	07:00	06:33	07:02	
	20:15	57 08:57 (3)	19:46	77 08:59 (3)	18:59	18:12	16:37	16:29	
17	05:38	07:59 (3)	06:05	06:52 (2)	06:33	07:01	06:35	07:03	
	20:15	57 08:56 (3)	19:44	75 08:58 (3)	18:57	18:11	16:36	16:30	
18	05:39	07:59 (3)	06:06	06:51 (2)	06:34	07:02	06:36	07:04	
	20:14	58 08:57 (3)	19:43	74 08:57 (3)	18:56	18:09	16:35	16:30	
19	05:40	07:59 (3)	06:07	06:51 (2)	06:35	07:03	06:37	07:04	
	20:14	59 08:58 (3)	19:41	73 08:56 (3)	18:54	18:08	16:35	16:30	
20	05:40	07:58 (3)	06:08	06:50 (2)	06:36	07:04	06:38	07:05	
	20:13	60 08:58 (3)	19:40	70 08:54 (3)	18:53	18:07	16:34	16:31	
21	05:41	07:58 (3)	06:09	06:50 (2)	06:36	07:05	06:39	07:05	
	20:12	60 08:58 (3)	19:39	66 08:52 (3)	18:51	18:05	16:33	16:31	
22	05:42	07:58 (3)	06:10	06:50 (2)	06:37	07:06	06:40	07:06	
	20:12	61 08:59 (3)	19:37	64 08:51 (3)	18:49	18:04	16:33	16:32	
23	05:43	07:58 (3)	06:10	06:50 (2)	06:38	07:07	06:41	07:06	
	20:11	62 09:00 (3)	19:36	59 08:49 (3)	18:48	18:02	16:32	16:32	
24	05:44	07:59 (3)	06:11	06:51 (2)	06:39	07:08	06:42	07:07	
	20:10	61 09:00 (3)	19:34	53 08:47 (3)	18:46	18:01	16:32	16:33	
25	05:45	07:58 (3)	06:12	06:52 (2)	06:40	07:09	06:43	07:07	
	20:09	62 09:00 (3)	19:33	46 08:44 (3)	18:45	18:00	16:31	16:33	
26	05:45	07:58 (3)	06:13	06:54 (2)	06:41	07:10	06:44	07:08	
	20:08	62 09:00 (3)	19:32	35 08:41 (3)	18:43	17:59	16:31	16:34	
27	05:46	07:58 (3)	06:14	06:55 (2)	06:42	06:11	06:45	07:08	
	20:08	63 09:01 (3)	19:30	21 08:35 (3)	18:41	16:57	16:30	16:35	
28	05:47	07:58 (3)	06:15		06:43	06:13	06:46	07:08	
	20:07	63 09:01 (3)	19:29		18:40	16:56	16:30	16:35	
29	05:48	07:58 (3)	06:16		06:44	06:14	06:47	07:09	
	20:06	64 09:02 (3)	19:27		18:38	16:55	16:30	16:36	
30	05:49	07:57 (3)	06:17		06:45	06:15	06:48	07:09	
	20:05	64 09:01 (3)	19:26		18:37	16:54	16:29	16:37	
31	05:50	07:57 (3)	06:18			06:16		07:09	
	20:04	65 09:02 (3)	19:24			16:52		16:38	
Potential sun hours	453		424		374		303		294
Total, worst case	1760		1710						

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Buffalo worst case Shadow receptor: W - R20 CA03
Assumptions for shadow calculations

Reference year for calendar

2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	06:33 (2) 20 06:53 (2)	05:27 20 20:10	05:28 15 07:56 (3)	05:51 18 08:11 (3)	06:43 (2) 20:03	06:19 18:35	06:17 16:51
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	06:33 (2) 21 06:54 (2)	05:27 20 20:10	05:29 11 08:09 (3)	05:51 19 07:02 (2)	06:43 (2) 19:21	06:47 18:33	06:18 16:50
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	06:32 (2) 22 06:54 (2)	05:27 20 20:11	05:29 5 08:07 (3)	05:52 21 07:03 (2)	06:42 (2) 19:20	06:47 18:32	06:19 16:49
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	06:32 (2) 22 06:54 (2)	05:26 20 20:12	05:30 20 20:20	05:53 21 07:03 (2)	06:42 (2) 19:18	06:48 18:30	06:20 16:48
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	06:31 (2) 22 06:53 (2)	05:26 20 20:12	05:30 19:59	05:54 22 07:04 (2)	06:42 (2) 19:16	06:49 18:29	06:21 16:47
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	06:31 (2) 22 06:53 (2)	05:26 20 20:13	05:31 19:58	05:55 22 07:03 (2)	06:41 (2) 19:15	06:50 18:27	06:22 16:46
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	06:31 (2) 22 06:53 (2)	05:25 20 20:14	05:31 19:57	05:56 23 07:03 (2)	06:40 (2) 19:13	06:51 18:26	06:23 16:45
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	06:31 (2) 22 06:53 (2)	05:25 20 20:14	05:32 19:55	05:57 22 07:03 (2)	06:41 (2) 19:12	06:52 18:24	06:25 16:44
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	06:31 (2) 21 06:52 (2)	05:25 20 20:15	05:33 20 20:19	05:58 19:54	06:41 (2) 22 07:03 (2)	06:26 18:23	06:26 16:43
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	06:32 (2) 20 06:52 (2)	05:25 20 20:15	05:33 9 08:04 (3)	05:59 19:53	06:41 (2) 22 07:03 (2)	06:54 18:21	06:27 16:42
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	06:32 (2) 19 06:51 (2)	05:25 20 20:16	06:00 13 08:05 (3)	06:08 19:52	06:41 (2) 21 07:02 (2)	06:28 18:20	06:55 16:41
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	06:33 (2) 17 06:50 (2)	05:25 20 20:16	06:28 16 08:07 (3)	06:28 19:51	06:42 (2) 20 07:02 (2)	06:28 18:18	06:56 16:40
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	06:35 (2) 15 06:50 (2)	05:25 20 20:17	06:35 18 07:50 (3)	06:01 19:49	06:42 (2) 18 07:00 (2)	06:29 18:17	06:30 16:39
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	06:36 (2) 12 06:48 (2)	05:25 20 20:17	06:36 21 08:10 (3)	06:02 19:48	06:43 (2) 15 06:58 (2)	06:30 18:15	06:58 16:38
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	06:38 (2) 8 06:46 (2)	05:25 20 20:17	06:37 22 08:10 (3)	06:03 19:47	06:45 (2) 12 06:57 (2)	06:31 18:14	06:59 16:38
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	06:40 (2) 20:18	05:25 23 08:11 (3)	06:37 20 20:15	06:04 19:46	06:47 (2) 7 06:54 (2)	07:00 18:12	06:33 16:37
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	06:41 (3) 20:18	05:25 24 08:13 (3)	06:38 20 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:35 16:36
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	06:42 (3) 20:19	05:25 25 08:13 (3)	06:39 20 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	06:43 (3) 20:19	05:25 25 08:13 (3)	06:40 20 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	06:44 (3) 20:19	05:25 26 08:14 (3)	06:40 20 20:13	06:08 19:40	06:36 18:53	07:04 18:07	06:38 16:34
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	06:45 (3) 20:19	05:25 26 08:14 (3)	06:41 20 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	06:46 (3) 20:20	05:25 26 08:14 (3)	06:42 20 20:12	06:10 19:37	06:37 18:49	07:06 18:04	06:40 16:33
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	06:47 (3) 20:20	05:26 26 08:15 (3)	06:43 20 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	06:48 (3) 20:20	05:26 25 08:14 (3)	06:44 20 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:32
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	06:49 (3) 20:20	05:26 24 08:14 (3)	06:45 20 20:09	06:12 19:33	06:40 18:45	07:09 18:00	06:43 16:31
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	06:50 (2) 20:20	05:26 23 08:14 (3)	06:45 20 20:08	06:13 19:32	06:41 18:43	07:10 17:59	06:44 16:31
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	06:51 (2) 20:20	05:27 23 08:14 (3)	06:46 20 20:08	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	06:52 (2) 13 06:49 (2)	05:27 20 20:07	06:47 21 08:13 (3)	06:15 5 06:50 (2)	06:43 18:40	07:12 16:55	06:46 16:30
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07	06:53 (2) 16 06:51 (2)	05:28 20 20:07	06:48 20 08:13 (3)	06:16 10 06:58 (2)	06:44 19:27	07:09 18:38	06:47 16:55
30	07:00 17:07	06:25 18:11	05:40 18:11	05:55 19:41	05:28 20:08	06:54 (2) 18 06:52 (2)	05:28 20 20:08	06:49 14 06:59 (2)	06:17 19:26	06:45 (2) 18:37	07:10 16:54	06:48 16:29
31	07:00 17:09	06:24 19:12	05:39 18:07	05:54 19:37	05:28 20:09	06:55 (2) 20:09	05:28 20 20:09	06:50 16 07:00 (2)	06:18 19:24	06:44 (2) 16:52	07:11 16:52	06:49 16:38
Potential sun hours	302	310	370	396	443	443	446	453	424	374	347	294
Total, worst case				55	285		454	76	305		303	

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)
--------------	-------------------------------------	----------------------	---	---

SHADOW - Calendar

Calculation: Buffalo worst case Shadow receptor: X - R21 CA03
Assumptions for shadow calculations

Reference year for calendar 2024

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

Table with columns for months (January to December) and rows for days (1 to 31). Each cell contains start and end times for shadow calculations. Summary row at the bottom shows potential sun hours and total worst case for each month.

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

Matrix with 4 columns: 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)

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 02:51/4.0.547

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: Y - R22 CA03
Assumptions for shadow calculations

Reference year for calendar 2024

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

Table with 12 columns (January to December) and 31 rows (Day 1 to 31). Each cell contains start and end times for shadow calculations, with some cells including a number in parentheses. Summary rows at the bottom show 'Potential sun hours' and 'Total, worst case' for each month.

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

Matrix with 4 columns: 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).



SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: Z - R23 CA03
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42		05:27 20:10	05:28 20:20	05:51 23 07:01 (2)	06:19 19:23	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	10 06:35 (2)	05:27 20:10	05:29 20:20	05:51 23 07:01 (2)	06:19 19:21	06:47 18:33	06:18 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	14 06:47 (2)	05:27 20:11	05:29 20:20	05:52 23 07:01 (2)	06:20 19:20	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	17 06:49 (2)	05:26 20:12	05:30 20:20	05:53 23 07:01 (2)	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	19 06:49 (2)	05:26 20:12	05:30 20:20	05:54 22 07:01 (2)	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	20 06:49 (2)	05:26 20:13	05:31 20:19	05:55 21 06:59 (2)	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	22 06:49 (2)	05:25 20:14	05:31 20:19	05:56 20 06:59 (2)	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	22 06:50 (2)	05:25 20:14	05:32 20:19	05:57 18 06:58 (2)	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	23 06:51 (2)	05:25 20:15	05:33 20:19	05:58 16 06:57 (2)	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	24 06:51 (2)	05:25 20:15	05:33 20:18	05:59 13 06:55 (2)	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	24 06:51 (2)	05:25 20:16	05:34 20:18	06:00 8 06:53 (2)	06:28 19:07	06:55 18:20	06:28 16:41	06:58 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	23 06:50 (2)	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	23 06:51 (2)	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	23 06:51 (2)	05:25 20:17	05:36 20:17	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	22 06:50 (2)	05:25 20:17	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:38	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	21 06:50 (2)	05:25 20:18	05:37 20:15	06:04 19:46	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	20 06:49 (2)	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:35 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	19 06:48 (2)	05:25 20:19	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	17 06:48 (2)	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	16 06:47 (2)	05:25 20:13	05:40 20:13	06:08 4 06:51 (2)	06:36 18:53	07:04 18:07	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	14 06:46 (2)	05:25 20:19	05:41 20:12	06:09 9 06:54 (2)	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	11 06:45 (2)	05:25 20:20	05:42 20:12	06:10 13 06:56 (2)	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:32 20:03	7 06:43 (2)	05:26 20:20	05:43 20:11	06:10 15 06:57 (2)	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03		05:26 20:20	05:44 20:10	06:11 16 06:58 (2)	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04		05:26 20:20	05:45 20:09	06:12 18 06:58 (2)	06:40 18:45	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05		05:26 20:20	05:45 20:08	06:13 19 06:59 (2)	06:41 18:43	07:10 17:59	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06		05:27 20:20	05:46 20:08	06:14 21 07:00 (2)	06:42 18:41	06:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07		05:27 20:20	05:47 20:07	06:15 22 07:01 (2)	06:43 18:40	06:13 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07		05:28 20:20	05:48 20:06	06:16 22 07:01 (2)	06:44 18:38	06:14 16:55	06:47 16:30	07:09 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08		05:28 20:20	05:49 20:05	06:17 23 07:01 (2)	06:45 18:37	06:15 16:54	06:48 16:29	07:09 16:37
31	07:00 17:09		06:39 19:12		05:28 20:09		05:28 20:20	05:50 20:04	06:18 23 07:01 (2)	06:18 19:24	06:16 16:52	07:09 16:38	
Potential sun hours	302	310	370	396	443	411	446	453	424	374	347	303	294
Total, worst case							205		210				

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AA - R24 CA03
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	06:34 (2) 20:10	05:27 20:20	05:51 20:03	06:40 (2) 19:23	06:19 18:35	06:46 16:51	06:17 16:29
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	06:33 (2) 20:10	05:29 20:20	05:51 20:02	06:40 (2) 19:21	06:19 18:33	06:47 16:50	06:18 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	06:32 (2) 20:11	05:29 20:20	05:52 20:01	06:40 (2) 19:20	06:20 18:32	06:47 16:49	06:19 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	06:32 (2) 20:12	05:30 20:20	05:53 20:00	06:40 (2) 19:18	06:21 18:30	06:48 16:48	06:20 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	06:30 (2) 20:12	05:30 20:20	05:54 19:59	06:40 (2) 19:16	06:22 18:29	06:49 16:47	06:21 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	06:30 (2) 20:13	05:31 20:19	05:55 19:58	06:39 (2) 19:15	06:23 18:27	06:50 16:46	06:22 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	06:29 (2) 20:14	05:31 20:19	05:56 19:57	06:40 (2) 19:13	06:24 18:26	06:51 16:45	06:23 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	06:29 (2) 20:14	05:32 20:19	05:57 19:55	06:40 (2) 19:12	06:25 18:24	06:52 16:44	06:25 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	06:29 (2) 20:15	05:33 20:19	05:58 19:54	06:41 (2) 19:10	06:26 18:23	06:53 16:43	06:26 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	06:29 (2) 20:15	05:33 20:18	05:59 19:53	06:41 (2) 19:09	06:27 18:21	06:54 16:42	06:27 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	06:29 (2) 20:16	05:34 20:18	06:00 19:52	06:42 (2) 19:07	06:28 18:20	06:55 16:41	06:28 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	06:30 (2) 20:16	05:35 20:17	06:00 19:51	06:44 (2) 19:05	06:28 18:18	06:56 16:39	06:29 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	06:31 (2) 20:17	05:35 20:17	06:01 19:49	06:45 (2) 19:04	06:29 18:17	06:57 16:39	06:30 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	06:31 (2) 20:17	05:36 20:17	06:02 19:48	06:55 (2) 19:02	06:29 18:15	06:58 16:38	06:31 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	06:32 (2) 20:17	05:37 20:16	06:03 19:47	06:41 (2) 19:01	06:26 18:14	06:59 16:38	06:32 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	06:33 (2) 20:18	05:37 20:15	06:04 19:46	06:32 (2) 18:59	07:00 18:12	06:33 16:37	06:33 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	06:34 (2) 20:18	05:38 20:15	06:05 19:44	06:33 (2) 18:57	07:01 18:11	06:35 16:36	06:35 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	06:35 (2) 20:19	05:39 20:14	06:06 19:43	06:34 (2) 18:56	07:02 18:09	06:36 16:35	06:36 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	06:38 (2) 20:19	05:40 20:14	06:07 19:41	06:35 (2) 18:54	07:03 18:08	06:37 16:35	06:37 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	06:45 (2) 20:19	05:40 20:13	06:08 19:40	06:36 (2) 18:53	07:04 18:07	06:38 16:34	06:38 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	06:46 (2) 20:19	05:41 20:12	06:09 19:39	06:36 (2) 18:51	07:05 18:05	06:39 16:33	06:39 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	06:47 (2) 20:20	05:42 20:12	06:10 19:37	06:37 (2) 18:49	07:06 18:04	06:40 16:33	06:40 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	06:48 (2) 20:20	05:43 20:11	06:10 19:36	06:38 (2) 18:48	07:07 18:02	06:41 16:32	06:41 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	06:49 (2) 20:20	05:44 20:10	06:11 19:34	06:39 (2) 18:46	07:08 18:01	06:42 16:32	06:42 16:33
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	06:50 (2) 20:20	05:45 20:09	06:12 19:33	06:40 (2) 18:45	07:09 18:00	06:43 16:31	06:43 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	06:51 (2) 20:20	05:45 20:08	06:13 19:32	06:41 (2) 18:43	07:10 17:59	06:44 16:31	06:44 16:34
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:38	05:30 20:06	06:52 (2) 20:20	05:46 20:08	06:14 19:33	06:42 (2) 18:41	06:11 16:57	06:45 16:30	06:45 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	06:53 (2) 20:20	05:47 20:07	06:15 19:29	06:43 (2) 18:40	06:13 16:56	06:46 16:30	06:46 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07	06:54 (2) 20:20	05:48 20:06	06:16 19:27	06:42 (2) 18:38	06:14 16:55	06:47 16:30	06:47 16:36
30	07:00 17:07	06:25 17:42	05:41 18:11	05:56 19:41	05:28 20:08	06:55 (2) 20:20	05:49 20:05	06:17 19:26	06:41 (2) 18:37	06:15 16:54	06:48 16:29	06:48 16:37
31	07:00 17:09	06:24 17:43	05:40 18:12	05:55 19:42	05:28 20:09	06:56 (2) 20:20	05:50 20:04	06:18 19:24	06:42 (2) 18:36	06:16 16:52	06:48 16:29	06:49 16:38
Potential sun hours	302	310	370	396	443	446	453	424	374	303	294	294
Total, worst case				17	360		118	260				

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AB - R25 CA03
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	06:35 (2) 20:10	05:27 20:20	08:14 (3) 20:03	05:51 20:03	06:45 (2) 19:23	06:19 18:35	06:17 16:51	06:49 16:29
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	06:34 (2) 20:10	05:27 20:20	08:23 (3) 20:02	05:51 20:02	06:45 (2) 19:21	06:19 18:33	06:18 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	06:34 (2) 20:11	05:27 20:20	08:23 (3) 20:01	05:52 20:01	06:44 (2) 19:20	06:19 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	06:34 (2) 20:12	05:26 20:20	08:23 (3) 20:00	05:53 20:00	06:44 (2) 19:18	06:18 18:30	06:20 16:48	06:52 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	06:32 (2) 20:12	05:26 20:20	08:23 (3) 20:00	05:54 20:01	06:43 (2) 19:16	06:19 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	06:32 (2) 20:13	05:26 20:19	08:23 (3) 20:00	05:55 19:58	06:42 (2) 19:15	06:23 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	06:33 (2) 20:14	05:25 20:19	08:23 (3) 20:00	05:56 19:57	06:42 (2) 19:13	06:24 18:26	06:51 16:45	06:23 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	06:33 (2) 20:14	05:25 20:19	08:23 (3) 20:00	05:57 19:55	06:42 (2) 19:12	06:25 18:24	06:52 16:44	06:25 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	06:33 (2) 20:15	05:25 20:19	08:23 (3) 20:00	05:58 19:54	06:42 (2) 19:10	06:26 18:23	06:54 16:43	06:26 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	06:34 (2) 20:15	05:25 20:18	08:23 (3) 20:00	05:59 19:53	06:43 (2) 19:09	06:27 18:21	06:54 16:42	06:27 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	06:34 (2) 20:16	05:25 20:18	08:11 (3) 20:18	06:00 19:52	06:43 (2) 19:07	06:28 18:20	06:55 16:41	06:28 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	06:35 (2) 20:16	05:25 20:17	08:16 (3) 20:18	06:00 19:51	06:44 (2) 19:05	06:28 18:18	06:56 16:40	06:29 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	06:37 (2) 20:17	05:25 20:17	08:19 (3) 20:17	06:01 19:49	06:43 (2) 19:04	06:29 18:17	06:57 16:39	06:30 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	06:38 (2) 20:17	05:25 20:17	08:06 (3) 20:17	06:02 19:48	06:44 (2) 19:02	06:30 18:15	06:58 16:38	06:31 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	06:40 (2) 20:17	05:25 20:17	08:05 (3) 20:16	06:03 19:47	06:46 (2) 19:01	06:31 18:14	06:59 16:38	06:32 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	06:41 (2) 20:18	05:25 20:18	08:04 (3) 20:15	06:04 19:46	06:48 (2) 18:59	06:32 18:12	07:00 16:37	06:33 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	06:42 (2) 20:18	05:25 20:18	08:05 (3) 20:15	06:05 19:44	06:48 (2) 18:57	06:33 18:11	07:01 16:36	06:35 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	06:43 (2) 20:19	05:25 20:19	08:04 (3) 20:14	06:06 19:43	06:48 (2) 18:56	06:34 18:09	07:02 16:35	06:36 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	06:44 (2) 20:19	05:25 20:19	08:04 (3) 20:14	06:07 19:41	06:49 (2) 18:54	06:35 18:08	07:03 16:35	06:37 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	06:45 (2) 20:19	05:25 20:19	08:04 (3) 20:13	06:08 19:40	06:50 (2) 18:53	06:36 18:07	07:04 16:34	06:38 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	06:46 (2) 20:19	05:25 20:19	08:04 (3) 20:12	06:09 19:39	06:51 (2) 18:51	06:36 18:05	07:05 16:33	06:39 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	06:47 (2) 20:20	05:25 20:20	08:04 (3) 20:12	06:10 19:37	06:52 (2) 18:49	06:37 18:04	07:06 16:33	06:40 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	06:48 (2) 20:20	05:26 20:20	08:05 (3) 20:11	06:10 19:36	06:53 (2) 18:48	06:38 18:02	07:07 16:32	06:41 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	06:49 (2) 20:20	05:26 20:20	08:05 (3) 20:10	06:11 19:34	06:54 (2) 18:46	06:39 18:01	07:08 16:32	06:42 16:33
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	06:50 (2) 20:20	05:26 20:20	08:06 (3) 20:09	06:12 19:33	06:55 (2) 18:45	06:40 18:00	07:09 16:31	06:43 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	06:51 (2) 20:20	05:26 20:20	08:07 (3) 20:08	06:13 19:32	06:56 (2) 18:43	06:41 17:59	07:10 16:31	06:44 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	06:52 (2) 20:20	05:27 20:20	08:07 (3) 20:08	06:14 19:30	06:57 (2) 18:41	06:42 16:57	07:11 16:30	06:45 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	06:53 (2) 20:20	05:27 20:20	08:08 (3) 20:07	06:15 19:29	06:58 (2) 18:40	06:43 16:56	07:12 16:30	06:46 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07	06:54 (2) 20:20	05:28 20:20	08:10 (3) 20:06	06:16 19:27	06:59 (2) 18:38	06:44 16:55	07:13 16:30	06:47 16:36
30	07:00 17:07	06:25 18:11	05:41 19:41	05:56 20:08	05:28 20:08	06:55 (2) 20:20	05:28 20:13	08:11 (3) 20:05	06:17 19:26	06:47 (2) 18:37	06:45 16:54	07:14 16:29	06:48 16:37
31	07:00 17:09	06:24 19:12	05:40 19:42	05:55 20:09	05:28 20:09	06:56 (2) 20:20	05:28 20:04	08:12 (3) 16:07:02 (2)	06:18 19:24	06:48 (2) 18:24	06:46 16:52	07:15 16:29	06:49 16:38
Potential sun hours	302	310	370	396	443	446	453	424	315	374	347	303	294
Total, worst case				61	288	378	54						

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 02:51/4.0.547

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AC - R26 CA03
Assumptions for shadow calculations

Reference year for calendar 2024

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

Table with 12 columns for months (January to December) and rows for each day of the year, showing sun rise and set times, and potential sun hours.

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

Matrix with 4 columns: 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)



SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AD - R27 CA03
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	07:22 (3) 20:20	05:28 20:03	07:54 (3) 08:08 (3)	06:19 19:23	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	07:22 (3) 20:20	05:29 20:02	07:26 (3) 20:02	06:19 19:21	06:47 18:33	06:18 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	07:22 (3) 20:20	05:29 20:01	07:27 (3) 20:01	06:20 19:20	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	07:22 (3) 20:20	05:30 20:00	07:27 (3) 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	05:26 20:12	07:21 (3) 20:20	05:30 20:00	07:28 (3) 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13	07:21 (3) 20:19	05:31 20:00	07:27 (3) 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:14	07:21 (3) 20:19	05:31 20:00	07:28 (3) 19:57	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	07:22 (3) 20:19	05:32 20:00	07:28 (3) 19:55	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	07:22 (3) 20:19	05:33 20:00	07:29 (3) 19:54	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	07:22 (3) 20:18	05:33 20:00	07:30 (3) 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16	07:21 (3) 20:18	05:34 20:00	07:29 (3) 19:52	06:28 19:07	06:55 18:20	06:28 16:41	06:58 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	07:21 (3) 20:17	05:35 20:00	07:30 (3) 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:25 20:17	07:21 (3) 20:17	05:35 20:00	07:30 (3) 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:25 20:17	07:21 (3) 20:17	05:36 20:00	07:31 (3) 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	05:25 20:18	07:22 (3) 20:16	05:37 20:00	07:32 (3) 19:47	06:31 19:01	06:59 18:14	06:32 16:38	07:02 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	05:25 20:18	07:22 (3) 20:15	05:37 20:00	07:33 (3) 19:46	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	05:25 20:18	07:23 (3) 20:15	05:38 20:00	07:33 (3) 19:44	06:33 18:57	07:01 18:11	06:35 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:19	07:23 (3) 20:14	05:39 20:00	07:34 (3) 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:04 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	05:25 20:19	07:23 (3) 20:14	05:40 20:00	07:35 (3) 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	05:25 20:19	07:23 (3) 20:13	05:41 20:00	07:35 (3) 19:40	06:36 18:53	07:04 18:07	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	07:27 (3) 20:12	05:41 20:00	07:36 (3) 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:20	07:27 (3) 20:12	05:42 20:00	07:37 (3) 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	05:26 20:20	07:26 (3) 20:11	05:43 20:00	07:38 (3) 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	05:26 20:20	07:25 (3) 20:10	05:44 20:00	07:39 (3) 19:34	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	05:26 20:20	07:25 (3) 20:09	05:45 20:00	07:39 (3) 19:33	06:40 18:45	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	05:26 20:20	07:24 (3) 20:08	05:45 20:00	07:41 (3) 19:32	06:41 18:43	07:10 17:59	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:38	05:30 20:06	05:27 20:20	07:24 (3) 20:08	05:46 20:00	07:42 (3) 19:30	06:42 18:41	06:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	07:23 (3) 20:07	05:47 20:00	07:44 (3) 19:29	06:43 18:40	06:13 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07	05:28 20:20	07:23 (3) 20:06	05:48 20:00	07:46 (3) 19:27	06:44 18:38	06:14 16:55	06:47 16:30	07:09 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	07:22 (3) 20:05	05:49 20:00	07:47 (3) 19:26	06:45 18:37	06:15 16:54	06:48 16:29	07:09 16:37
31	07:00 17:09		06:39 19:12		05:28 20:09	05:28 20:20	07:22 (3) 20:04	06:18 20:00	07:50 (3) 19:24	06:16 18:37	06:16 16:52	06:48 16:29	07:09 16:38
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294	
Total, worst case					883	1835	1573	14					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 02:51/4.0.547

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AE - R28 CA03
Assumptions for shadow calculations

Reference year for calendar 2024

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

Table with 13 columns for months (January-December) and multiple rows for days (1-31) showing sun rise and set times and shadow calculations.

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

Matrix with 4 columns: 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)



SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AF - R29 CA03
Assumptions for shadow calculations

Reference year for calendar 2024

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

Table with 12 columns for months (January to December) and rows for each day of the year, showing sun rise/set times and shadow calculation parameters.

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

Matrix with 4 columns: 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)

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AG - R30 CA03
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	07:20 (3) 20:20	05:28 20:03	07:20 (3) 20:03	06:19 19:23	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	07:18 (3) 20:20	05:29 20:02	07:20 (3) 20:02	06:19 19:21	06:47 18:33	06:18 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	07:18 (3) 20:20	05:29 20:01	07:21 (3) 20:01	06:20 19:20	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	07:18 (3) 20:20	05:30 20:00	07:21 (3) 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	05:26 20:12	07:17 (3) 20:20	05:30 20:00	07:22 (3) 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13	07:17 (3) 20:19	05:31 20:00	07:23 (3) 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:14	07:17 (3) 20:19	05:31 20:00	07:24 (3) 19:57	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	07:16 (3) 20:19	05:33 20:00	07:24 (3) 19:55	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	07:16 (3) 20:19	05:33 20:00	07:25 (3) 19:54	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	07:16 (3) 20:18	05:33 20:00	07:26 (3) 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16	07:15 (3) 20:18	05:34 20:00	07:27 (3) 19:52	06:28 19:07	06:55 18:20	06:28 16:41	06:58 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	07:15 (3) 20:17	05:35 20:00	07:28 (3) 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:25 20:17	07:15 (3) 20:17	05:35 20:00	07:28 (3) 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:25 20:17	07:15 (3) 20:17	05:36 20:00	07:30 (3) 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	05:25 20:18	07:15 (3) 20:16	05:37 20:00	07:32 (3) 19:47	06:31 19:01	06:59 18:14	06:32 16:38	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	05:25 20:18	07:15 (3) 20:15	05:37 20:00	07:33 (3) 19:46	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	05:25 20:18	07:16 (3) 20:15	05:38 20:00	07:35 (3) 19:44	06:33 18:57	07:01 18:11	06:35 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:19	07:16 (3) 20:14	05:39 20:00	07:37 (3) 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:04 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	05:25 20:19	07:16 (3) 20:14	05:40 20:00	07:40 (3) 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	05:25 20:19	07:16 (3) 20:13	05:41 20:00	07:54 (3) 19:40	06:36 18:53	07:04 18:07	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	07:16 (3) 20:12	05:41 20:00	07:54 (3) 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:20	07:16 (3) 20:12	05:42 20:00	07:54 (3) 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	05:26 20:20	07:17 (3) 20:11	05:43 20:00	07:54 (3) 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	05:26 20:20	07:17 (3) 20:10	05:44 20:00	07:54 (3) 19:35	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	05:26 20:20	07:17 (3) 20:09	05:45 20:00	07:54 (3) 19:33	06:40 18:45	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	05:26 20:20	07:18 (3) 20:08	05:45 20:00	07:54 (3) 19:32	06:41 18:43	07:10 17:59	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:38	05:30 20:06	05:27 20:20	07:18 (3) 20:08	05:46 20:00	07:54 (3) 19:30	06:42 18:41	07:11 17:57	06:45 16:31	07:08 16:35
28	07:02 17:05	06:28 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	07:18 (3) 20:07	05:47 20:00	07:54 (3) 19:29	06:43 18:40	07:12 17:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07	05:28 20:20	07:19 (3) 20:06	05:48 20:00	07:54 (3) 19:27	06:44 18:38	07:13 17:55	06:47 16:30	07:09 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	07:19 (3) 20:05	05:49 20:00	07:54 (3) 19:26	06:45 18:37	07:14 17:54	06:48 16:29	07:09 16:37
31	07:00 17:09		06:39 19:12		05:28 20:09	05:28 20:20	07:20 (3) 20:04	05:50 20:00	07:54 (3) 19:24	06:46 18:37	07:15 17:52	06:49 16:29	07:09 16:38
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294	
Total, worst case					201	1414	699						

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 02:51/4.0.547

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AH - R31 CA03
Assumptions for shadow calculations

Reference year for calendar 2024

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

Table with 12 columns for months (January to December) and rows for each day of the year, showing sun rise and set times, and potential sun hours.

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

Matrix with 4 columns: 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)



SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AI - R32 CA03
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	07:16 (3) 20:20	05:28 20:03	07:22 (3) 20:03	06:19 18:35	06:46 16:51	06:17 16:29
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	07:16 (3) 20:20	05:29 20:02	07:21 (3) 20:02	06:19 18:33	06:47 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	07:16 (3) 20:20	05:29 20:01	07:22 (3) 20:01	06:20 18:32	06:47 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	07:16 (3) 20:20	05:30 20:00	07:22 (3) 20:00	06:21 18:09	06:48 16:48	06:52 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	05:26 20:12	07:16 (3) 20:20	05:30 20:00	07:23 (3) 19:59	06:22 18:29	06:49 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	07:43 (3) 20:13	07:16 (3) 20:19	05:31 20:19	07:22 (3) 19:58	06:23 18:27	06:50 16:46	06:22 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	07:36 (3) 20:14	07:16 (3) 20:19	05:31 20:19	07:23 (3) 19:57	06:24 18:26	06:51 16:45	06:23 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	07:33 (3) 20:14	07:17 (3) 20:19	05:32 20:19	07:23 (3) 19:55	06:25 18:12	06:52 16:44	06:25 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	07:31 (3) 20:15	07:17 (3) 20:19	05:33 20:19	07:23 (3) 19:54	06:26 18:23	06:53 16:43	06:26 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	07:29 (3) 20:15	07:17 (3) 20:18	05:33 20:18	07:24 (3) 19:53	06:27 18:09	06:54 16:42	06:27 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	07:27 (3) 20:16	07:16 (3) 20:18	05:34 20:18	07:24 (3) 19:52	06:28 18:20	06:55 16:41	06:28 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	07:25 (3) 20:16	07:17 (3) 20:17	05:35 20:17	07:24 (3) 19:51	06:28 18:18	06:56 16:40	06:29 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	07:25 (3) 20:17	07:17 (3) 20:17	05:35 20:17	07:24 (3) 19:49	06:29 18:17	06:57 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	07:24 (3) 20:17	07:17 (3) 20:17	05:36 20:17	07:25 (3) 19:48	06:30 18:15	06:58 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	07:23 (3) 20:18	07:17 (3) 20:16	05:37 20:16	07:25 (3) 19:47	06:31 18:14	06:59 16:38	07:02 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	07:21 (3) 20:18	07:17 (3) 20:15	05:37 20:15	07:26 (3) 19:46	06:32 18:59	07:00 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	07:21 (3) 20:18	07:18 (3) 20:15	05:38 20:15	07:26 (3) 19:44	06:33 18:57	07:01 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	07:20 (3) 20:19	07:19 (3) 20:14	05:39 20:14	07:26 (3) 19:43	06:34 18:56	07:02 16:35	07:04 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	07:20 (3) 20:19	07:19 (3) 20:14	05:40 20:14	07:27 (3) 19:42	06:35 18:54	07:03 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	07:19 (3) 20:19	07:19 (3) 20:13	05:41 20:13	07:27 (3) 19:40	06:36 18:53	07:05 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	07:18 (3) 20:19	07:19 (3) 20:12	05:41 20:12	07:27 (3) 19:39	06:36 18:51	07:05 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	07:18 (3) 20:20	07:19 (3) 20:12	05:42 20:12	07:28 (3) 19:37	06:37 18:49	07:06 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	07:18 (3) 20:20	07:20 (3) 20:11	05:43 20:11	07:29 (3) 19:36	06:38 18:48	07:07 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	07:17 (3) 20:20	07:20 (3) 20:10	05:44 20:10	07:30 (3) 19:35	06:39 18:46	07:08 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	07:17 (3) 20:20	07:20 (3) 20:09	05:45 20:09	07:30 (3) 19:33	06:40 18:45	07:09 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	07:16 (3) 20:20	07:20 (3) 20:08	05:45 20:08	07:31 (3) 19:32	06:41 18:43	07:10 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:38	05:30 20:06	07:17 (3) 20:20	07:20 (3) 20:08	05:46 20:08	07:31 (3) 19:30	06:42 18:41	06:11 16:57	07:08 16:35
28	07:02 17:05	06:28 17:40	05:43 18:09	05:58 19:39	05:29 20:07	07:16 (3) 20:20	07:20 (3) 20:07	05:47 20:07	07:32 (3) 19:29	06:43 18:40	06:13 16:56	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07	07:16 (3) 20:20	07:21 (3) 20:06	05:48 20:06	07:34 (3) 19:27	06:44 18:38	06:14 16:55	07:09 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	07:16 (3) 20:20	07:21 (3) 20:05	05:49 20:05	07:34 (3) 19:26	06:45 18:37	06:15 16:54	07:09 16:37
31	07:00 17:09		06:39 19:12		05:28 20:09	07:16 (3) 20:20	07:21 (3) 20:05	05:50 20:04	07:35 (3) 19:24	06:16 16:52	06:48 16:29	07:09 16:38
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case					1160	1756	1676	167				

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: Bufalo worst case Shadow receptor: AJ - R33 CA03

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	07:38 (3) 20:10
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	07:37 (3) 20:10
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	07:37 (3) 20:11
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	07:36 (3) 20:12
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	07:35 (3) 20:12
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	07:34 (3) 20:13
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	07:34 (3) 20:14
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	07:34 (3) 20:14
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	07:33 (3) 20:15
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	07:33 (3) 20:15
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	07:33 (3) 20:16
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	07:33 (3) 20:16
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	07:33 (3) 20:17
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	07:33 (3) 20:17
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	07:33 (3) 20:18
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	07:33 (3) 20:18
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	07:33 (3) 20:18
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	07:33 (3) 20:19
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	08:01 (3) 08:14 (3)	05:36 19:59
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	07:57 (3) 08:19 (3)	05:35 20:00
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	07:54 (3) 08:22 (3)	05:34 20:01
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	07:50 (3) 08:23 (3)	05:33 20:02
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	07:48 (3) 08:25 (3)	05:33 20:03
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	07:47 (3) 08:27 (3)	05:32 20:03
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	07:44 (3) 08:27 (3)	05:31 20:04
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	07:43 (3) 08:29 (3)	05:31 20:05
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:38	07:42 (3) 08:30 (3)	05:30 20:06
28	07:02 17:05	06:28 17:40	05:43 18:09	05:58 19:39	07:40 (3) 08:30 (3)	05:29 20:07
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	07:39 (3) 08:30 (3)	05:29 20:07
30	07:00 17:07		05:40 18:11	05:55 19:41	07:39 (3) 08:31 (3)	05:28 20:08
31	07:00 17:09		06:39 19:12		05:28 20:09	07:37 (3) 08:27 (3)
Potential sun hours	302	310	370	396	443	446
Total, worst case				463	1739	1303

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AJ - R33 CA03
 Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	43 07:47 (3) 08:30 (3)	05:51 20:03	59 07:43 (3) 08:42 (3)	06:19 19:23	06:46 18:35	06:17 16:51	06:49 16:29			
2	05:29 20:20	44 07:46 (3) 08:30 (3)	05:51 20:02	59 07:43 (3) 08:42 (3)	06:19 19:21	06:47 18:33	06:18 16:50	06:50 16:29			
3	05:29 20:20	44 07:47 (3) 08:31 (3)	05:52 20:01	59 07:44 (3) 08:43 (3)	06:20 19:20	06:47 18:32	06:19 16:49	06:51 16:29			
4	05:30 20:20	45 07:46 (3) 08:31 (3)	05:53 20:00	59 07:44 (3) 08:43 (3)	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:29			
5	05:30 20:20	45 07:47 (3) 08:32 (3)	05:54 19:59	59 07:44 (3) 08:43 (3)	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28			
6	05:31 20:19	46 07:46 (3) 08:32 (3)	05:55 19:58	58 07:44 (3) 08:42 (3)	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28			
7	05:31 20:19	47 07:46 (3) 08:33 (3)	05:56 19:57	58 07:44 (3) 08:42 (3)	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28			
8	05:32 20:19	47 07:46 (3) 08:33 (3)	05:57 19:55	58 07:44 (3) 08:42 (3)	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28			
9	05:33 20:19	48 07:46 (3) 08:34 (3)	05:58 19:54	56 07:45 (3) 08:41 (3)	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28			
10	05:33 20:18	48 07:46 (3) 08:34 (3)	05:59 19:53	56 07:45 (3) 08:41 (3)	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28			
11	05:34 20:18	49 07:45 (3) 08:34 (3)	06:00 19:52	55 07:46 (3) 08:41 (3)	06:28 19:07	06:55 18:20	06:28 16:41	06:58 16:28			
12	05:35 20:17	50 07:45 (3) 08:35 (3)	06:00 19:51	53 07:47 (3) 08:40 (3)	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:29			
13	05:35 20:17	50 07:45 (3) 08:35 (3)	06:01 19:49	53 07:46 (3) 08:39 (3)	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29			
14	05:36 20:17	51 07:45 (3) 08:36 (3)	06:02 19:48	51 07:47 (3) 08:38 (3)	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29			
15	05:37 20:16	52 07:45 (3) 08:37 (3)	06:03 19:47	49 07:48 (3) 08:37 (3)	06:31 19:01	06:59 18:14	06:32 16:38	07:02 16:29			
16	05:37 20:15	53 07:45 (3) 08:38 (3)	06:04 19:46	47 07:49 (3) 08:36 (3)	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29			
17	05:38 20:15	53 07:44 (3) 08:37 (3)	06:05 19:44	45 07:50 (3) 08:35 (3)	06:33 18:57	07:01 18:11	06:35 16:36	07:03 16:30			
18	05:39 20:14	54 07:44 (3) 08:38 (3)	06:06 19:43	43 07:51 (3) 08:34 (3)	06:34 18:56	07:02 18:09	06:36 16:35	07:04 16:30			
19	05:40 20:14	55 07:44 (3) 08:39 (3)	06:07 19:42	40 07:53 (3) 08:33 (3)	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30			
20	05:41 20:13	55 07:44 (3) 08:39 (3)	06:08 19:40	37 07:53 (3) 08:30 (3)	06:36 18:53	07:04 18:07	06:38 16:34	07:05 16:31			
21	05:41 20:12	55 07:44 (3) 08:39 (3)	06:09 19:39	33 07:55 (3) 08:28 (3)	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31			
22	05:42 20:12	56 07:44 (3) 08:40 (3)	06:10 19:37	27 07:58 (3) 08:25 (3)	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32			
23	05:43 20:11	56 07:44 (3) 08:40 (3)	06:10 19:36	21 08:01 (3) 08:22 (3)	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32			
24	05:44 20:10	57 07:44 (3) 08:41 (3)	06:11 19:35	11 08:06 (3) 08:17 (3)	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33			
25	05:45 20:09	58 07:43 (3) 08:41 (3)	06:12 19:33		06:40 18:45	07:09 18:00	06:43 16:31	07:07 16:33			
26	05:45 20:08	58 07:43 (3) 08:41 (3)	06:13 19:32		06:41 18:43	07:10 17:59	06:44 16:31	07:08 16:34			
27	05:46 20:08	59 07:43 (3) 08:42 (3)	06:14 19:30		06:42 18:41	06:11 16:57	06:45 16:30	07:08 16:35			
28	05:47 20:07	58 07:44 (3) 08:42 (3)	06:15 19:29		06:43 18:40	06:13 16:56	06:46 16:30	07:08 16:35			
29	05:48 20:06	58 07:44 (3) 08:42 (3)	06:16 19:27		06:44 18:38	06:14 16:55	06:47 16:30	07:09 16:36			
30	05:49 20:05	59 07:43 (3) 08:42 (3)	06:17 19:26		06:45 18:37	06:15 16:54	06:48 16:29	07:09 16:37			
31	05:50 20:04	59 07:43 (3) 08:42 (3)	06:18 19:24			06:16 16:52	07:09 16:38				
Potential sun hours	453		424		374		347		303		294
Total, worst case	1612		1146								

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AK - R34 CA03
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	07:37 (3) 20:10	07:41 (3) 08:24 (3)
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	07:37 (3) 08:32 (3)	07:41 (3) 08:23 (3)
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	07:36 (3) 08:32 (3)	07:41 (3) 08:23 (3)
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	07:36 (3) 08:32 (3)	07:42 (3) 08:23 (3)
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	07:34 (3) 08:31 (3)	07:42 (3) 08:22 (3)
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	07:34 (3) 08:31 (3)	07:43 (3) 08:22 (3)
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	07:34 (3) 08:31 (3)	07:44 (3) 08:22 (3)
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	07:34 (3) 08:31 (3)	07:44 (3) 08:22 (3)
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	07:33 (3) 08:31 (3)	07:45 (3) 08:22 (3)
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	07:33 (3) 08:31 (3)	07:46 (3) 08:22 (3)
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	07:33 (3) 08:31 (3)	07:45 (3) 08:21 (3)
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	07:33 (3) 08:30 (3)	07:46 (3) 08:20 (3)
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	07:34 (3) 08:31 (3)	07:47 (3) 08:20 (3)
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	07:34 (3) 08:30 (3)	07:47 (3) 08:20 (3)
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	07:34 (3) 08:30 (3)	07:47 (3) 08:20 (3)
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	07:34 (3) 08:30 (3)	07:48 (3) 08:20 (3)
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	07:34 (3) 08:29 (3)	07:49 (3) 08:21 (3)
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	8 08:04 (3) 07:58 (3)	05:36 07:34 (3)	07:49 (3) 08:21 (3)
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	20 08:12 (3) 07:46 (3)	05:36 05:35	07:49 (3) 08:21 (3)
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	27 08:21 (3) 08:23 (3)	05:35 20:00	07:50 (3) 08:21 (3)
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	31 08:22 (3) 07:50 (3)	05:34 05:34	07:50 (3) 08:21 (3)
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	35 08:25 (3) 07:47 (3)	05:33 20:02	07:50 (3) 08:21 (3)
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	39 08:26 (3) 07:46 (3)	05:33 20:03	07:51 (3) 08:22 (3)
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	41 08:27 (3) 07:44 (3)	05:32 20:03	07:50 (3) 08:22 (3)
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	45 08:29 (3) 07:41 (3)	05:31 20:04	07:50 (3) 08:22 (3)
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	47 08:29 (3) 08:30 (3)	05:31 20:05	08:22 (3) 08:23 (3)
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:38	49 08:30 (3) 07:41 (3)	05:30 20:06	07:51 (3) 08:23 (3)
28	07:02 17:05	06:28 17:40	05:43 18:09	05:58 19:39	50 08:31 (3) 07:39 (3)	05:29 20:07	07:50 (3) 08:23 (3)
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	51 08:30 (3) 07:38 (3)	05:29 20:07	07:51 (3) 08:24 (3)
30	07:00 17:07		05:40 18:11	05:55 19:41	53 08:31 (3) 07:38 (3)	05:28 20:08	07:50 (3) 08:24 (3)
31	07:00 17:09		06:39 19:12		53 08:31 (3) 05:28	05:28 20:09	
Potential sun hours	302	310	370	396	443	446	1045
Total, worst case				549	1655		

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AK - R34 CA03
Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20 34	07:51 (3) 08:25 (3)	05:51 20:03 57	07:44 (3) 08:41 (3)	06:19 19:23	06:46 18:35	06:17 16:51
2	05:29 20:20 36	07:50 (3) 08:26 (3)	05:51 20:02 57	07:44 (3) 08:41 (3)	06:19 19:21	06:47 18:33	06:18 16:50
3	05:29 20:20 37	07:50 (3) 08:27 (3)	05:52 20:01 58	07:44 (3) 08:42 (3)	06:20 19:20	06:47 18:32	06:19 16:49
4	05:30 20:20 37	07:50 (3) 08:27 (3)	05:53 20:00 58	07:44 (3) 08:42 (3)	06:21 19:18	06:48 18:30	06:20 16:48
5	05:30 20:20 38	07:50 (3) 08:28 (3)	05:54 19:59 58	07:44 (3) 08:42 (3)	06:22 19:16	06:49 18:29	06:21 16:47
6	05:31 20:19 39	07:49 (3) 08:28 (3)	05:55 19:58 57	07:44 (3) 08:41 (3)	06:23 19:15	06:50 18:27	06:22 16:46
7	05:31 20:19 39	07:49 (3) 08:29 (3)	05:56 19:57 57	07:44 (3) 08:41 (3)	06:24 19:13	06:51 18:26	06:23 16:45
8	05:32 20:19 40	07:49 (3) 08:29 (3)	05:57 19:55 57	07:44 (3) 08:41 (3)	06:25 19:12	06:52 18:24	06:25 16:44
9	05:33 20:19 41	07:49 (3) 08:30 (3)	05:58 19:54 56	07:45 (3) 08:41 (3)	06:26 19:10	06:53 18:23	06:26 16:43
10	05:33 20:18 42	07:49 (3) 08:31 (3)	05:59 19:53 56	07:45 (3) 08:41 (3)	06:27 19:09	06:54 18:21	06:27 16:42
11	05:34 20:18 43	07:48 (3) 08:31 (3)	06:00 19:52 56	07:45 (3) 08:41 (3)	06:28 19:07	06:55 18:20	06:28 16:41
12	05:35 20:17 44	07:48 (3) 08:32 (3)	06:00 19:51 54	07:46 (3) 08:40 (3)	06:28 19:05	06:56 18:18	06:29 16:40
13	05:35 20:17 45	07:47 (3) 08:32 (3)	06:01 19:49 54	07:45 (3) 08:39 (3)	06:29 19:04	06:57 18:17	06:30 16:39
14	05:36 20:17 46	07:47 (3) 08:33 (3)	06:02 19:48 53	07:46 (3) 08:39 (3)	06:30 19:02	06:58 18:15	06:31 16:38
15	05:37 20:16 47	07:47 (3) 08:34 (3)	06:03 19:47 51	07:47 (3) 08:38 (3)	06:31 19:01	06:59 18:14	06:32 16:38
16	05:37 20:15 48	07:47 (3) 08:35 (3)	06:04 19:46 49	07:48 (3) 08:37 (3)	06:32 18:59	07:00 18:12	06:33 16:37
17	05:38 20:15 49	07:46 (3) 08:35 (3)	06:05 19:44 48	07:48 (3) 08:36 (3)	06:33 18:57	07:01 18:11	06:35 16:36
18	05:39 20:14 49	07:46 (3) 08:35 (3)	06:06 19:43 47	07:49 (3) 08:36 (3)	06:34 18:56	07:02 18:09	06:36 16:35
19	05:40 20:14 50	07:46 (3) 08:36 (3)	06:07 19:42 44	07:50 (3) 08:34 (3)	06:35 18:54	07:03 18:08	06:37 16:35
20	05:41 20:13 51	07:45 (3) 08:36 (3)	06:08 19:40 41	07:51 (3) 08:32 (3)	06:36 18:53	07:04 18:07	06:38 16:34
21	05:41 20:12 52	07:45 (3) 08:37 (3)	06:09 19:39 39	07:52 (3) 08:31 (3)	06:36 18:51	07:05 18:05	06:39 16:33
22	05:42 20:12 53	07:45 (3) 08:38 (3)	06:10 19:37 35	07:54 (3) 08:29 (3)	06:37 18:49	07:06 18:04	06:40 16:33
23	05:43 20:11 53	07:45 (3) 08:38 (3)	06:10 19:36 31	07:56 (3) 08:27 (3)	06:38 18:48	07:07 18:02	06:41 16:32
24	05:44 20:10 54	07:45 (3) 08:39 (3)	06:11 19:35 26	07:58 (3) 08:24 (3)	06:39 18:46	07:08 18:01	06:42 16:32
25	05:45 20:09 55	07:44 (3) 08:39 (3)	06:12 19:33 19	08:02 (3) 08:21 (3)	06:40 18:45	07:09 18:00	06:43 16:31
26	05:45 20:08 55	07:44 (3) 08:39 (3)	06:13 19:32 6	08:08 (3) 08:14 (3)	06:41 18:43	07:10 17:59	06:44 16:31
27	05:46 20:08 56	07:44 (3) 08:40 (3)	06:14 19:30		06:42 18:41	06:11 16:57	06:45 16:30
28	05:47 20:07 55	07:45 (3) 08:40 (3)	06:15 19:29		06:43 18:40	06:13 16:56	06:46 16:30
29	05:48 20:06 56	07:45 (3) 08:41 (3)	06:16 19:27		06:44 18:38	06:14 16:55	06:47 16:30
30	05:49 20:05 56	07:44 (3) 08:40 (3)	06:17 19:26		06:45 18:37	06:15 16:54	06:48 16:29
31	05:50 20:04 57	07:44 (3) 08:41 (3)	06:18 19:24			06:16 16:52	07:09 16:38
Potential sun hours	453		424		374		347
Total, worst case	1457		1224			303	294

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AL - R35 CA03

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	07:03 (3) 07:50 (3)	05:28 20:20	07:07 (3) 07:58 (3)	05:51 20:03	06:19 19:23	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	07:02 (3) 07:50 (3)	05:29 20:20	07:07 (3) 07:58 (3)	05:51 20:02	06:19 19:21	06:47 18:33	06:50 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	07:02 (3) 07:51 (3)	05:29 20:20	07:08 (3) 07:58 (3)	05:52 20:01	06:20 19:20	06:47 18:32	06:51 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	07:03 (3) 07:52 (3)	05:30 20:20	07:07 (3) 07:58 (3)	05:53 20:00	06:21 19:18	06:48 18:30	06:52 16:48	06:52 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	05:26 20:12	07:02 (3) 07:51 (3)	05:30 20:20	07:08 (3) 07:59 (3)	05:54 19:59	06:22 19:16	06:49 18:29	06:53 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13	07:02 (3) 07:52 (3)	05:31 20:19	07:08 (3) 07:58 (3)	05:55 19:58	06:23 19:15	06:50 18:27	06:54 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:14	07:02 (3) 07:52 (3)	05:31 20:19	07:09 (3) 07:59 (3)	05:56 19:57	06:24 19:13	06:51 18:26	06:55 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	07:02 (3) 07:53 (3)	05:32 20:19	07:09 (3) 07:58 (3)	05:57 19:55	06:25 19:12	06:52 18:24	06:56 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	07:03 (3) 07:53 (3)	05:33 20:19	07:10 (3) 07:58 (3)	05:58 19:54	06:26 19:10	06:53 18:23	06:57 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	07:03 (3) 07:54 (3)	05:33 20:18	07:10 (3) 07:59 (3)	05:59 19:53	06:27 19:09	06:54 18:21	06:58 16:42	06:58 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16	07:02 (3) 07:53 (3)	05:34 20:18	07:10 (3) 07:58 (3)	06:00 19:52	06:28 19:07	06:55 18:20	06:58 16:41	06:58 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	07:02 (3) 07:53 (3)	05:35 20:17	07:11 (3) 07:58 (3)	06:00 19:51	06:28 19:05	06:56 18:18	06:59 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:25 20:17	07:02 (3) 07:54 (3)	05:35 20:17	07:11 (3) 07:57 (3)	06:01 19:49	06:29 19:04	06:57 18:17	07:00 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:25 20:17	07:02 (3) 07:54 (3)	05:36 20:17	07:12 (3) 07:57 (3)	06:02 19:48	06:30 19:02	06:58 18:15	07:01 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	05:25 20:18	07:02 (3) 07:54 (3)	05:37 20:16	07:13 (3) 07:57 (3)	06:03 19:47	06:31 19:01	06:59 18:14	07:02 16:38	07:02 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	05:25 20:18	07:02 (3) 07:54 (3)	05:37 20:15	07:14 (3) 07:57 (3)	06:04 19:46	06:32 18:59	07:00 18:12	07:03 16:37	07:03 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	05:25 20:18	07:03 (3) 07:56 (3)	05:38 20:15	07:14 (3) 07:56 (3)	06:05 19:44	06:33 18:57	07:01 18:11	07:03 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:19	07:03 (3) 07:56 (3)	05:39 20:14	07:15 (3) 07:56 (3)	06:06 19:43	06:34 18:56	07:02 18:09	07:04 16:35	07:04 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	05:25 20:19	07:03 (3) 07:56 (3)	05:40 20:14	07:16 (3) 07:55 (3)	06:07 19:42	06:35 18:54	07:03 18:08	07:04 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	05:25 20:19	07:03 (3) 07:56 (3)	05:41 20:13	07:16 (3) 07:54 (3)	06:08 19:40	06:36 18:53	07:04 18:07	07:05 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	07:04 (3) 07:56 (3)	05:41 20:12	07:17 (3) 07:53 (3)	06:09 19:39	06:36 18:51	07:05 18:05	07:06 16:33	07:06 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:20	07:04 (3) 07:56 (3)	05:42 20:12	07:19 (3) 07:53 (3)	06:10 19:37	06:37 18:49	07:06 18:04	07:06 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	05:26 20:20	07:04 (3) 07:57 (3)	05:43 20:11	07:20 (3) 07:52 (3)	06:10 19:36	06:38 18:48	07:07 18:02	07:06 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	05:26 20:20	07:04 (3) 07:57 (3)	05:44 20:10	07:22 (3) 07:51 (3)	06:11 19:35	06:39 18:46	07:08 18:01	07:07 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	05:26 20:20	07:04 (3) 07:57 (3)	05:45 20:09	07:23 (3) 07:49 (3)	06:12 19:33	06:40 18:45	07:09 18:00	07:07 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	05:26 20:20	07:05 (3) 07:57 (3)	05:45 20:08	07:25 (3) 07:47 (3)	06:13 19:32	06:41 18:43	07:10 17:59	07:08 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:38	05:30 20:06	05:27 20:20	07:05 (3) 07:57 (3)	05:46 20:08	07:27 (3) 07:45 (3)	06:14 19:30	06:42 18:41	07:11 16:57	07:08 16:30	07:08 16:35
28	07:02 17:05	06:28 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	07:04 (3) 07:57 (3)	05:47 20:07	07:32 (3) 07:41 (3)	06:15 19:29	06:43 18:40	07:11 16:56	07:08 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07	05:28 20:20	07:04 (3) 07:58 (3)	05:48 20:06	07:41 (3) 07:58 (3)	06:16 19:27	06:44 18:38	07:11 16:55	07:09 16:30	07:09 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	07:03 (3) 07:58 (3)	05:49 20:05		06:17 19:26	06:45 18:37	07:11 16:54	07:09 16:29	07:09 16:37
31	07:00 17:09		06:39 19:12		05:28 20:09	05:28 20:20	07:03 (3) 07:50 (3)	05:50 20:04		06:18 19:24		07:11 16:52	07:09 16:28	07:09 16:38
Potential sun hours	302	310	370	396	443	564	446	453	424	374	347	303	294	294
Total, worst case						1540		1139						

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AM - R36 CA03
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:51 20:03	06:19 19:23	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	06:18 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16	05:34 20:18	06:00 19:52	06:28 19:07	06:55 18:20	06:28 16:41	06:58 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	06:08 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	06:05 19:55	05:25 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	06:04 19:56	05:25 20:17	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:38	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	06:03 19:56	05:25 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	06:02 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:34 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	06:01 19:58	05:25 20:19	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	06:00 19:59	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	06:00 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:36 18:53	07:04 18:07	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	06:00 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	06:00 20:02	05:25 20:20	05:42 20:12	06:10 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	06:00 20:03	05:26 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	06:00 20:03	05:26 20:20	05:44 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:01	06:32 17:37	05:48 18:07	06:02 19:37	06:00 20:04	05:26 20:20	05:45 20:09	06:12 19:33	06:40 18:45	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:37	06:00 20:05	05:26 20:20	05:45 20:08	06:13 19:32	06:41 18:43	07:10 17:59	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	06:00 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	06:00 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	07:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	06:00 20:07	05:28 20:20	05:48 20:06	06:16 19:27	06:44 18:38	07:13 16:55	06:47 16:30	07:09 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	06:00 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:37	07:14 16:54	06:48 16:29	07:09 16:37
31	07:00 17:09		06:39 19:12		05:28 20:09		05:50 20:04	06:18 19:24		06:16 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	445	453	424	374	347	303	294
Total, worst case												

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AN - R37 CA03
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:51 20:03	06:19 19:23	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	06:18 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16	05:34 20:18	06:00 19:52	06:28 19:07	06:55 18:20	06:28 16:41	06:58 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:25 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	05:25 20:17	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:38	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:56	05:25 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:35 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:19	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:36 18:53	07:04 18:07	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:20	05:42 20:12	06:10 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	05:26 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:03	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	05:26 20:20	05:45 20:09	06:12 19:33	06:40 18:45	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:37	05:31 20:05	05:26 20:20	05:45 20:08	06:13 19:32	06:41 18:43	07:10 17:59	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	06:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07	05:28 20:20	05:48 20:06	06:16 19:27	06:44 18:38	06:14 16:55	06:47 16:30	07:09 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:37	06:15 16:54	06:48 16:29	07:09 16:37
31	07:00 17:09		06:39 19:12		05:28 20:09		05:50 20:04	06:18 19:24		06:16 16:52		07:09 16:38
Potential sun hours Total, worst case	302	310	370	396	443	445	453	424	374	347	303	294

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AO - R61 CA06

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	08:44 (6) 09:10 (6)	06:25 17:42	07:09 (7) 09:12 (6)	06:37 19:13
2	07:10 16:39	06:58 17:11	08:42 (6) 09:12 (6)	06:23 17:43	07:09 (7) 09:11 (6)	06:35 19:14
3	07:10 16:39	06:57 17:12	08:40 (6) 09:14 (6)	06:22 17:44	07:08 (7) 09:08 (6)	06:34 19:15
4	07:10 16:40	06:56 17:13	08:39 (6) 09:15 (6)	06:20 17:46	07:08 (7) 09:06 (6)	06:32 19:16
5	07:10 16:41	06:55 17:14	08:38 (6) 09:17 (6)	06:19 17:47	07:07 (7) 09:03 (6)	06:31 19:17
6	07:10 16:42	06:54 17:15	08:37 (6) 09:18 (6)	06:17 17:48	07:08 (7) 08:59 (6)	06:29 19:18
7	07:10 16:43	06:53 17:17	08:36 (6) 09:19 (6)	06:16 17:49	07:08 (7) 07:30 (7)	06:28 19:19
8	07:10 16:44	06:52 17:18	08:35 (6) 09:20 (6)	06:14 17:50	07:09 (7) 07:29 (7)	06:26 19:20
9	07:10 16:45	06:51 17:19	08:34 (6) 09:21 (6)	06:13 17:51	07:10 (7) 07:27 (7)	06:25 19:21
10	07:10 16:46	06:50 17:20	08:34 (6) 09:22 (6)	06:11 17:52	07:12 (7) 07:26 (7)	06:23 19:22
11	07:10 16:47	06:49 17:21	08:33 (6) 09:23 (6)	06:10 17:53	07:14 (7) 07:22 (7)	06:22 19:23
12	07:09 16:48	06:48 17:22	08:32 (6) 09:22 (6)	06:08 17:54	06:20 19:24	05:42 19:53
13	07:09 16:49	06:47 17:24	08:31 (6) 09:23 (6)	06:07 17:55	06:19 19:25	05:41 19:54
14	07:09 16:50	06:46 17:25	08:31 (6) 09:23 (6)	06:05 17:56	06:17 19:26	05:40 19:55
15	07:09 16:51	06:45 17:26	08:31 (6) 09:24 (6)	06:04 17:57	06:16 19:27	07:00 (9) 07:01 (9)
16	07:08 16:52	06:43 17:27	08:31 (6) 09:24 (6)	06:02 17:58	06:14 19:28	05:39 07:05 (9)
17	07:08 16:53	06:42 17:28	08:30 (6) 09:23 (6)	06:01 17:59	06:13 19:29	05:37 07:07 (9)
18	07:08 16:54	06:41 17:29	08:30 (6) 09:23 (6)	05:59 18:00	06:11 19:30	05:36 07:09 (9)
19	07:07 16:55	06:40 17:30	08:30 (6) 09:24 (6)	05:57 18:01	06:10 19:31	05:36 07:09 (9)
20	07:07 16:56	06:38 17:31	08:30 (6) 09:22 (6)	05:56 18:02	06:09 19:32	05:35 07:10 (9)
21	07:06 16:57	06:37 17:33	08:30 (6) 09:22 (6)	05:54 18:03	06:07 19:33	05:34 07:10 (9)
22	07:06 16:58	06:36 17:34	08:30 (6) 09:22 (6)	05:53 18:04	06:06 19:34	05:33 07:10 (9)
23	07:05 16:59	06:34 17:35	08:30 (6) 09:21 (6)	05:51 18:05	06:04 19:35	05:33 07:10 (9)
24	07:05 17:00	06:33 17:36	08:30 (6) 09:21 (6)	05:50 18:06	06:03 19:36	05:32 07:10 (9)
25	07:04 17:02	06:32 17:37	08:30 (6) 09:20 (6)	05:48 18:07	06:02 19:37	05:31 07:09 (9)
26	07:03 17:03	06:30 17:38	07:14 (7) 09:18 (6)	05:46 18:08	06:00 19:38	05:31 07:09 (9)
27	07:03 17:04	06:29 17:39	07:13 (7) 09:18 (6)	05:45 18:09	05:59 19:39	05:30 07:08 (9)
28	07:02 17:05	06:28 17:40	07:11 (7) 09:16 (6)	05:43 18:10	05:58 19:40	05:29 07:07 (9)
29	07:01 17:06	06:26 17:41	07:10 (7) 09:15 (6)	05:42 18:10	05:57 19:41	05:29 07:05 (9)
30	07:01 17:07	08:49 (6) 09:04 (6)		05:40 18:11	05:55 19:41	05:28 07:04 (9)
31	07:00 17:09	08:46 (6) 09:08 (6)		06:39 19:12		05:28 20:09
Potential sun hours	302	310	370	396	291	446
Total, worst case	37	1429	399	291	12	446

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AO - R61 CA06
 Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:51 20:03	06:19 19:23	06:46 18:35	06:17 16:51	08:02 (6) 16:29
2	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	06:18 16:50	08:03 (6) 16:29
3	05:29 20:20	05:52 20:01	06:20 19:20	06:48 18:32	07:51 (7) 08:02 (7)	06:19 16:49
4	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	07:48 (7) 08:04 (7)	06:20 16:48
5	05:30 20:20	05:54 19:59	06:22 19:17	06:49 18:29	07:47 (7) 08:05 (7)	06:21 16:47
6	05:31 20:20	05:55 19:58	06:23 19:15	06:50 18:27	07:45 (7) 08:06 (7)	06:22 16:46
7	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	07:44 (7) 09:31 (6)	06:24 16:45
8	05:32 20:19	05:57 19:56	06:25 19:12	06:52 18:24	07:43 (7) 09:36 (6)	06:25 16:44
9	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	07:43 (7) 09:39 (6)	06:26 16:43
10	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	07:42 (7) 09:42 (6)	06:27 16:42
11	05:34 20:18	06:00 19:52	07:03 (9) 07:09 (9)	06:28 19:07	06:55 18:20	06:28 16:41
12	05:35 20:18	06:00 19:51	07:00 (9) 07:12 (9)	06:28 19:05	06:56 18:18	06:29 16:40
13	05:35 20:17	06:01 19:49	06:57 (9) 07:12 (9)	06:29 19:04	06:57 18:17	06:30 16:39
14	05:36 20:17	06:02 19:48	06:56 (9) 07:13 (9)	06:30 19:02	06:58 18:15	06:31 16:38
15	05:37 20:16	06:03 19:47	06:55 (9) 07:14 (9)	06:31 19:01	06:59 18:14	06:32 16:38
16	05:37 20:16	06:04 19:46	06:54 (9) 07:15 (9)	06:32 18:59	07:00 18:12	06:34 16:37
17	05:38 20:15	06:05 19:44	06:54 (9) 07:16 (9)	06:33 18:57	07:01 18:11	06:35 16:36
18	05:39 20:14	06:06 19:43	06:53 (9) 07:16 (9)	06:34 18:56	07:02 18:09	06:36 16:35
19	05:40 20:14	06:07 19:42	06:53 (9) 07:16 (9)	06:35 18:54	07:03 18:08	06:37 16:35
20	05:40 20:13	06:08 19:40	06:52 (9) 07:15 (9)	06:36 18:53	07:04 18:07	06:38 16:34
21	05:41 20:12	06:09 19:39	06:52 (9) 07:15 (9)	06:37 18:51	07:05 18:05	06:39 16:33
22	05:42 20:12	06:10 19:37	06:52 (9) 07:14 (9)	06:37 18:49	07:06 18:04	06:40 16:33
23	05:43 20:11	06:10 19:36	06:53 (9) 07:14 (9)	06:38 18:48	07:07 18:02	06:41 16:32
24	05:44 20:10	06:11 19:35	06:53 (9) 07:13 (9)	06:39 18:46	07:08 18:01	06:42 16:32
25	05:45 20:09	06:12 19:33	06:54 (9) 07:12 (9)	06:40 18:45	07:09 18:00	06:43 16:31
26	05:45 20:09	06:13 19:32	06:55 (9) 07:10 (9)	06:41 18:43	07:10 17:59	06:44 16:31
27	05:46 20:08	06:14 19:30	06:56 (9) 07:07 (9)	06:42 18:41	06:12 16:57	06:45 16:30
28	05:47 20:07	06:15 19:29	06:43 18:40	06:13 16:56	08:00 (6) 08:52 (6)	06:46 16:30
29	05:48 20:06	06:16 19:27	06:44 18:38	06:14 16:55	08:01 (6) 08:53 (6)	06:47 16:30
30	05:49 20:05	06:17 19:26	06:45 18:37	06:15 16:54	08:01 (6) 08:53 (6)	06:48 16:29
31	05:50 20:04	06:18 19:24		06:16 16:52	08:02 (6) 08:52 (6)	07:09 16:37
Potential sun hours	453	424	374	347	303	294
Total, worst case		311		1416	475	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Buffalo worst case Shadow receptor: AP - R62 CA07
Assumptions for shadow calculations

Reference year for calendar 2024
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	07:09 16:38	08:53 (4) 09:00 (4)	06:59 17:10	06:25 17:42	06:37 19:13	07:41 (8) 07:49 (8)	05:54 19:42	07:34 (7) 08:24 (7)	05:27 20:10	16:00 (6) 16:40 (6)
2	07:09 16:38	08:55 (4) 08:59 (4)	06:58 17:11	06:23 17:43	06:35 19:14	07:41 (8) 07:49 (8)	05:53 19:43	07:34 (7) 08:24 (7)	05:27 20:10	15:58 (6) 16:41 (6)
3	07:10 16:39		06:57 17:12	06:22 17:44	06:34 19:15		05:52 19:44	07:35 (7) 08:24 (7)	05:27 20:11	15:58 (6) 16:42 (6)
4	07:10 16:40		06:56 17:13	06:20 17:45	06:32 19:16		05:50 19:45	07:34 (7) 08:22 (7)	05:26 20:12	15:57 (6) 16:44 (6)
5	07:10 16:41		06:55 17:14	06:19 17:47	06:31 19:17		05:49 19:46	07:34 (7) 08:21 (7)	05:26 20:12	15:56 (6) 16:44 (6)
6	07:10 16:42		06:54 17:15	06:17 17:48	06:29 19:18		05:48 19:47	07:35 (7) 08:21 (7)	05:26 20:13	15:56 (6) 16:46 (6)
7	07:10 16:43		06:53 17:17	06:16 17:49	06:28 19:19		05:47 19:48	07:35 (7) 08:20 (7)	05:25 20:14	15:56 (6) 16:47 (6)
8	07:10 16:44		06:52 17:18	06:14 17:50	06:26 19:20		05:46 19:49	07:36 (7) 08:19 (7)	05:25 20:14	15:56 (6) 16:48 (6)
9	07:10 16:45		06:51 17:19	06:13 17:51	06:25 19:21	08:01 (7)	05:45 19:50	07:36 (7) 08:18 (7)	05:25 20:15	15:55 (6) 16:49 (6)
10	07:10 16:46		06:50 17:20	06:11 17:52	06:23 19:22	11 08:12 (7)	05:44 19:51	07:37 (7) 08:18 (7)	05:25 20:15	15:54 (6) 16:49 (6)
11	07:10 16:47		06:49 17:21	06:10 17:53	06:22 19:23	21 08:16 (7)	05:43 19:52	07:38 (7) 08:17 (7)	05:25 20:16	15:54 (6) 16:50 (6)
12	07:09 16:48		06:48 17:22	06:08 17:54	06:20 19:24	27 08:19 (7)	05:42 19:53	07:38 (7) 08:16 (7)	05:25 20:16	15:54 (6) 16:51 (6)
13	07:09 16:49		06:47 17:24	06:07 17:55	06:19 19:25	31 08:20 (7)	05:41 19:54	07:40 (7) 08:15 (7)	05:25 20:17	15:54 (6) 16:51 (6)
14	07:09 16:50		06:46 17:25	06:05 17:56	06:17 19:26	34 08:22 (7)	05:40 19:55	07:41 (7) 08:14 (7)	05:25 20:17	15:54 (6) 16:52 (6)
15	07:09 16:51		06:45 17:26	06:04 17:57	06:16 19:27	38 08:23 (7)	05:39 19:56	07:42 (7) 08:13 (7)	05:25 20:18	15:54 (6) 16:52 (6)
16	07:08 16:52		06:43 17:27	06:02 17:58	06:14 19:28	40 08:24 (7)	05:38 19:57	07:42 (7) 08:11 (7)	05:25 20:18	15:54 (6) 16:53 (6)
17	07:08 16:53		06:42 17:28	06:01 17:59	06:13 19:29	42 08:24 (7)	05:37 19:57	07:41 (7) 08:10 (7)	05:25 20:18	15:55 (6) 16:54 (6)
18	07:08 16:54		06:41 17:29	05:59 18:00	06:11 19:30	44 08:25 (7)	05:36 19:58	07:45 (7) 08:08 (7)	05:25 20:19	15:55 (6) 16:54 (6)
19	07:07 16:55		06:40 17:30	05:57 18:01	06:10 19:31	46 08:26 (7)	05:35 19:59	07:39 (7) 08:07 (7)	05:25 20:19	15:55 (6) 16:55 (6)
20	07:07 16:56		06:38 17:31	05:56 18:02	06:09 19:32	47 08:26 (7)	05:35 20:00	07:38 (7) 08:04 (7)	05:25 20:19	15:55 (6) 16:55 (6)
21	07:06 16:57		06:37 17:33	05:54 18:03	06:07 19:33	49 08:27 (7)	05:34 20:01	07:37 (7) 08:01 (7)	05:25 20:19	15:55 (6) 16:55 (6)
22	07:06 16:58		06:36 17:34	05:53 18:04	06:06 19:34	50 08:27 (7)	05:33 20:02	07:37 (7) 20:02	05:25 20:20	15:55 (6) 16:55 (6)
23	07:05 16:59		06:34 17:35	05:51 18:05	06:04 19:35	51 08:27 (7)	05:32 20:03	07:36 (7) 20:03	05:26 20:20	15:56 (6) 16:56 (6)
24	07:05 17:00		06:33 17:36	05:50 18:06	06:03 19:36	51 08:27 (7)	05:32 20:04	07:36 (7) 08:27 (7)	05:26 20:20	15:56 (6) 16:55 (6)
25	07:04 17:02		06:32 17:37	05:48 18:07	06:02 19:37	51 08:26 (7)	05:31 20:04	07:35 (7) 08:26 (7)	05:26 20:20	15:56 (6) 16:55 (6)
26	07:03 17:03		06:30 17:38	05:46 18:08	06:00 19:38	51 08:26 (7)	05:31 20:05	07:35 (7) 20:05	16:16 (6) 16:19 (6)	15:57 (6) 16:56 (6)
27	07:03 17:04		06:29 17:39	05:45 18:09	05:59 19:39	51 08:26 (7)	05:30 20:06	07:35 (7) 08:26 (7)	05:27 20:20	15:57 (6) 16:56 (6)
28	07:02 17:05		06:28 17:40	05:43 18:09	05:58 19:39	51 08:25 (7)	05:29 20:07	07:34 (7) 16:05 (6)	05:27 05:27	15:57 (6) 16:55 (6)
29	07:01 17:06		06:26 17:41	05:42 18:10	05:56 19:40	51 08:25 (7)	05:29 20:07	07:34 (7) 20:07	16:04 (6) 16:33 (6)	15:58 (6) 16:56 (6)
30	07:00 17:07			05:40 18:11	05:55 19:41	51 08:25 (7)	05:28 20:08	07:34 (7) 08:25 (7)	16:02 (6) 16:35 (6)	15:58 (6) 16:55 (6)
31	07:00 17:08			06:39 19:12	07:39 (8) 07:53 (8)		05:28 20:09	16:01 (6) 16:38 (6)		
Potential sun hours	302	310	370	396	443	446				
Total, worst case	11		307	945	900	1656				

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AP - R62 CA07
Assumptions for shadow calculations

Reference year for calendar 2024
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	05:28 20:20	15:59 (6) 20:03	05:51 07:49 (7)	06:19 08:27 (7)	07:51 (7) 08:18 (7)	06:46 18:35	06:17 16:51	06:49 16:29		
2	05:29 20:20	15:59 (6) 16:54 (6)	05:51 20:02	07:48 (7) 08:28 (7)	06:19 19:21	07:54 (7) 08:15 (7)	06:47 18:33	06:18 16:50	06:50 16:29	
3	05:29 20:20	16:00 (6) 16:55 (6)	05:52 20:01	07:47 (7) 08:29 (7)	06:20 19:20	07:58 (7) 08:09 (7)	06:48 18:32	06:19 16:49	06:51 16:29	
4	05:30 20:20	16:00 (6) 16:54 (6)	05:53 20:00	07:47 (7) 08:29 (7)	06:21 19:18	07:47 (7) 18:30	06:48 16:48	06:20 16:28	06:52 16:28	
5	05:30 20:20	16:02 (6) 16:54 (6)	05:54 19:59	07:46 (7) 08:30 (7)	06:22 19:17	06:49 18:29	06:21 16:47	06:53 16:28	06:53 16:28	
6	05:31 20:19	16:02 (6) 16:52 (6)	05:55 19:58	07:45 (7) 08:30 (7)	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28	06:54 16:28	
7	05:31 20:19	16:03 (6) 16:52 (6)	05:56 19:57	07:44 (7) 08:31 (7)	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28	06:55 16:28	
8	05:32 20:19	16:03 (6) 16:51 (6)	05:57 19:55	07:44 (7) 08:31 (7)	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28	06:56 16:28	
9	05:33 20:19	16:05 (6) 16:50 (6)	05:58 19:54	07:44 (7) 08:32 (7)	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28	06:57 16:28	
10	05:33 20:18	16:05 (6) 16:49 (6)	05:59 19:53	07:43 (7) 08:32 (7)	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28	06:58 16:28	
11	05:34 20:18	16:07 (6) 16:48 (6)	06:00 19:52	07:43 (7) 08:33 (7)	06:28 19:07	07:34 (8) 07:41 (8)	06:55 18:20	06:28 16:41	06:59 16:28	08:46 (4) 2 08:48 (4)
12	05:35 20:17	16:08 (6) 16:47 (6)	06:00 19:51	07:43 (7) 08:33 (7)	06:28 19:05	07:31 (8) 07:44 (8)	06:56 18:18	06:29 16:40	06:59 16:29	08:44 (4) 7 08:51 (4)
13	05:35 20:17	16:09 (6) 16:44 (6)	06:01 19:49	07:42 (7) 08:33 (7)	06:29 19:04	07:28 (8) 07:46 (8)	06:57 18:17	06:30 16:39	07:00 16:29	08:44 (4) 9 08:53 (4)
14	05:36 20:17	16:11 (6) 16:43 (6)	06:02 19:48	07:42 (7) 08:33 (7)	06:30 19:02	07:27 (8) 07:47 (8)	06:58 18:15	06:31 16:38	07:01 16:29	08:43 (4) 11 08:54 (4)
15	05:37 20:16	16:14 (6) 16:41 (6)	06:03 19:47	07:42 (7) 08:33 (7)	06:31 19:01	07:26 (8) 07:47 (8)	06:59 18:14	06:32 16:38	07:02 16:29	08:43 (4) 12 08:55 (4)
16	05:37 20:16	16:16 (6) 16:37 (6)	06:04 19:46	07:42 (7) 08:33 (7)	06:32 18:59	07:25 (8) 07:48 (8)	07:00 18:12	06:33 16:37	07:02 16:29	08:43 (4) 13 08:56 (4)
17	05:38 20:15	16:20 (6) 16:33 (6)	06:05 19:44	07:42 (7) 08:33 (7)	06:33 18:57	07:23 (8) 07:47 (8)	07:01 18:11	06:35 16:36	07:03 16:30	08:43 (4) 14 08:57 (4)
18	05:39 20:14	06:06 19:43	06:06 19:43	07:42 (7) 08:33 (7)	06:34 18:56	07:23 (8) 07:47 (8)	07:02 18:09	06:36 16:35	07:04 16:30	08:43 (4) 15 08:58 (4)
19	05:40 20:14	06:07 19:42	06:07 19:42	07:42 (7) 08:33 (7)	06:35 18:54	07:22 (8) 07:47 (8)	07:03 18:08	06:37 16:35	07:04 16:30	08:44 (4) 15 08:59 (4)
20	05:40 20:13	06:08 19:40	06:08 19:40	07:41 (7) 08:32 (7)	06:36 18:53	07:22 (8) 07:47 (8)	07:04 18:07	06:38 16:34	07:05 16:31	08:44 (4) 15 08:59 (4)
21	05:41 20:12	06:09 19:39	06:09 19:39	07:41 (7) 08:31 (7)	06:36 18:51	07:22 (8) 07:46 (8)	07:05 18:05	06:39 16:33	07:05 16:31	08:45 (4) 15 09:00 (4)
22	05:42 20:12	06:10 19:37	06:10 19:37	07:42 (7) 08:31 (7)	06:37 18:49	07:23 (8) 07:46 (8)	07:06 18:04	06:40 16:33	07:06 16:32	08:45 (4) 15 09:00 (4)
23	05:43 20:11	08:02 (7) 08:13 (7)	06:10 19:36	07:42 (7) 08:31 (7)	06:38 18:48	07:23 (8) 07:45 (8)	07:07 18:02	06:41 16:32	07:06 16:32	08:45 (4) 15 09:00 (4)
24	05:44 20:10	07:59 (7) 08:16 (7)	06:11 19:35	07:43 (7) 08:30 (7)	06:39 18:46	07:24 (8) 07:43 (8)	07:08 18:01	06:42 16:32	07:07 16:33	08:46 (4) 15 09:01 (4)
25	05:45 20:09	07:57 (7) 08:17 (7)	06:12 19:33	07:43 (7) 08:29 (7)	06:40 18:45	07:25 (8) 07:41 (8)	07:09 18:00	06:43 16:31	07:07 16:33	08:46 (4) 15 09:01 (4)
26	05:45 20:09	07:55 (7) 08:19 (7)	06:13 19:32	07:44 (7) 08:28 (7)	06:41 18:43	07:26 (8) 07:38 (8)	07:10 17:59	06:44 16:31	07:08 16:34	08:47 (4) 15 09:02 (4)
27	05:46 20:08	07:54 (7) 08:21 (7)	06:14 19:30	07:44 (7) 08:26 (7)	06:42 18:41	06:11 16:57	06:59 16:30	06:45 16:35	07:08 16:35	08:48 (4) 13 09:01 (4)
28	05:47 20:07	07:53 (7) 08:23 (7)	06:15 19:29	07:45 (7) 08:25 (7)	06:43 18:40	06:13 16:56	06:46 16:30	06:46 16:35	07:08 16:35	08:49 (4) 12 09:01 (4)
29	05:48 20:06	07:52 (7) 08:24 (7)	06:16 19:27	07:46 (7) 08:24 (7)	06:44 18:38	06:14 16:55	06:47 16:30	06:47 16:36	07:09 16:36	08:49 (4) 12 09:01 (4)
30	05:49 20:05	07:50 (7) 08:24 (7)	06:17 19:26	07:48 (7) 08:22 (7)	06:45 18:37	06:15 16:54	06:48 16:29	06:48 16:37	07:09 16:37	08:51 (4) 10 09:01 (4)
31	05:50 20:04	07:49 (7) 08:25 (7)	06:18 19:24	07:49 (7) 08:20 (7)	06:46 18:36	06:16 16:52	07:09 16:29	06:49 16:37	07:09 16:37	08:53 (4) 8 09:01 (4)
Potential sun hours	453	424	374	375	347	303	294	258		
Total, worst case	947	1420	375	347	303	294	258			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Buffalo worst case Shadow receptor: AQ - R59 CA06
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	07:52 (8) 08:18 (8)	05:54 17:22 (6)	05:27 20:10	09:02 (7) 10:24 (7)	
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	07:52 (8) 08:16 (8)	05:53 19:43	17:22 (6) 20:10	09:02 (7) 10:24 (7)	
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	07:54 (8) 08:15 (8)	05:52 19:44	17:23 (6) 20:11	09:02 (7) 10:24 (7)	
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	07:56 (8) 08:12 (8)	05:50 19:45	09:45 (7) 18:12 (6)	05:26 20:12	09:02 (7) 10:24 (7)
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	08:00 (8) 08:08 (8)	05:49 19:46	09:37 (7) 18:12 (6)	05:26 20:12	09:01 (7) 10:24 (7)
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	08:08 (8)	05:48 19:47	09:32 (7) 18:12 (6)	05:26 20:13	09:01 (7) 10:24 (7)
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	08:08 (8)	05:47 19:48	09:29 (7) 18:12 (6)	05:25 20:14	09:01 (7) 10:24 (7)
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	08:08 (8)	05:46 19:49	09:26 (7) 18:11 (6)	05:25 20:14	09:01 (7) 10:25 (7)
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	08:08 (8)	05:45 19:50	09:23 (7) 18:11 (6)	05:25 20:15	09:01 (7) 10:25 (7)
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	08:08 (8)	05:44 19:51	09:21 (7) 18:11 (6)	05:25 20:15	09:01 (7) 10:24 (7)
11	07:10 16:47	06:49 17:21	06:10 17:53	06:22 19:23	08:08 (8)	05:43 19:52	09:19 (7) 18:10 (6)	05:25 20:16	09:01 (7) 10:24 (7)
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	08:08 (8)	05:42 19:53	09:17 (7) 18:10 (6)	05:25 20:16	09:01 (7) 10:25 (7)
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	08:08 (8)	05:41 19:54	09:16 (7) 18:09 (6)	05:25 20:17	09:01 (7) 10:25 (7)
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	08:08 (8)	05:40 19:55	09:15 (7) 18:10 (6)	05:24 20:17	09:01 (7) 10:25 (7)
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	07:06 (8) 07:16 (8)	05:39 19:56	09:13 (7) 18:09 (6)	05:24 20:18	09:01 (7) 10:25 (7)
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	07:02 (8) 07:19 (8)	05:38 19:57	09:12 (7) 18:08 (6)	05:25 20:18	09:01 (7) 10:25 (7)
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	07:00 (8) 07:22 (8)	05:37 19:57	09:11 (7) 18:08 (6)	05:25 20:18	09:02 (7) 10:26 (7)
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	06:57 (8) 07:23 (8)	05:36 19:58	09:09 (7) 18:07 (6)	05:25 20:19	09:02 (7) 10:26 (7)
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	06:56 (8) 07:24 (8)	05:35 19:59	09:09 (7) 18:07 (6)	05:25 20:19	09:02 (7) 10:26 (7)
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	06:55 (8) 07:24 (8)	05:35 20:00	09:08 (7) 18:06 (6)	05:25 20:19	09:02 (7) 10:26 (7)
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	06:53 (8) 07:24 (8)	05:34 20:01	09:07 (7) 18:05 (6)	05:25 20:19	09:02 (7) 10:26 (7)
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	06:53 (8) 07:25 (8)	05:33 20:02	09:07 (7) 18:05 (6)	05:25 20:20	09:02 (7) 10:26 (7)
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	06:52 (8) 07:25 (8)	05:32 20:03	09:06 (7) 18:04 (6)	05:26 20:20	09:03 (7) 10:27 (7)
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	06:52 (8) 07:25 (8)	05:32 20:03	09:05 (7) 18:03 (6)	05:26 20:20	09:03 (7) 10:27 (7)
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	06:51 (8) 07:25 (8)	05:31 20:04	09:05 (7) 18:02 (6)	05:26 20:20	09:03 (7) 10:27 (7)
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	06:50 (8) 07:24 (8)	05:31 20:05	09:04 (7) 18:01 (6)	05:26 20:20	09:04 (7) 10:28 (7)
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:39	06:50 (8) 07:24 (8)	05:30 20:06	09:04 (7) 18:00 (6)	05:27 20:20	09:04 (7) 10:28 (7)
28	07:02 17:05	06:28 17:40	05:43 18:09	05:58 19:39	06:50 (8) 07:23 (8)	05:29 20:07	09:03 (7) 17:58 (6)	05:27 20:20	09:04 (7) 10:28 (7)
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	06:51 (8) 07:22 (8)	05:29 20:07	09:03 (7) 17:57 (6)	05:27 20:20	09:05 (7) 10:29 (7)
30	07:00 17:07		05:40 18:11	05:55 19:41	06:51 (8) 07:21 (8)	05:28 20:08	09:02 (7) 17:55 (6)	05:28 20:20	09:05 (7) 10:29 (7)
31	07:00 17:08		06:39 19:12	07:52 (8) 08:20 (8)		05:28 20:09	09:02 (7) 17:52 (6)		
Potential sun hours	302	310	370	396	443	446			
Total, worst case			485	715	2943	2507			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AQ - R59 CA06

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20 83	09:06 (7) 10:29 (7) 20:03 104	05:51 18:21 (6) 19:23	09:29 (7) 18:21 (6) 19:21	06:19 18:35	06:17 16:51 16:29
2	05:29 20:20 83	09:06 (7) 10:29 (7) 20:02 103	05:51 18:21 (6) 19:21	09:30 (7) 18:21 (6) 19:21	06:19 18:33	06:50 16:50 16:29
3	05:29 20:20 84	09:05 (7) 10:29 (7) 20:01 98	05:52 18:21 (6) 19:20	09:33 (7) 18:21 (6) 19:20	06:20 18:32	06:51 16:49 16:29
4	05:30 20:20 84	09:06 (7) 10:30 (7) 20:00 96	05:53 18:22 (6) 19:18	09:35 (7) 18:21 (6) 19:18	06:21 18:30	06:52 16:48 16:28
5	05:30 20:20 84	09:07 (7) 10:31 (7) 19:59 92	05:54 18:21 (6) 19:16	09:37 (7) 18:21 (6) 19:16	06:22 18:29	06:53 16:47 16:28
6	05:31 20:19 83	09:07 (7) 10:30 (7) 19:58 86	05:55 18:21 (6) 19:15	09:40 (7) 18:21 (6) 19:15	06:23 18:27	06:54 16:46 16:28
7	05:31 20:19 83	09:08 (7) 10:31 (7) 19:57 80	05:56 18:21 (6) 19:13	09:43 (7) 18:21 (6) 19:13	06:24 6 08:02 (8)	06:55 18:26
8	05:32 20:19 83	09:08 (7) 10:31 (7) 19:55 71	05:57 18:21 (6) 19:12	09:48 (7) 18:21 (6) 19:12	06:25 15 08:06 (8)	06:56 18:24
9	05:33 20:19 82	09:09 (7) 10:31 (7) 19:54 50	05:58 17:31 (6) 06:26	17:31 (6) 19:10	06:26 20 08:08 (8)	06:57 18:23
10	05:33 20:18 82	09:09 (7) 10:31 (7) 19:53 50	05:59 18:21 (6) 19:09	17:31 (6) 06:27	06:27 23 08:09 (8)	06:58 18:21
11	05:34 20:18 81	09:10 (7) 10:31 (7) 19:52 50	06:00 17:31 (6) 06:28	17:31 (6) 19:07	06:28 26 08:10 (8)	06:59 18:20
12	05:35 20:17 82	09:10 (7) 10:32 (7) 19:51 50	06:00 18:21 (6) 19:05	17:31 (6) 06:28	06:29 28 08:11 (8)	06:59 18:18
13	05:35 20:17 90	09:10 (7) 18:02 (6) 19:49 50	06:01 17:30 (6) 06:29	17:30 (6) 19:04	06:29 30 08:12 (8)	07:00 18:17
14	05:36 20:17 95	09:11 (7) 18:05 (6) 19:48 49	06:02 17:30 (6) 06:30	17:30 (6) 19:02	06:30 32 08:13 (8)	07:01 18:15
15	05:37 20:16 98	09:12 (7) 18:07 (6) 19:47 49	06:03 17:30 (6) 06:31	17:30 (6) 19:01	06:31 33 08:13 (8)	07:02 18:14
16	05:37 20:16 100	09:12 (7) 18:08 (6) 19:46 48	06:04 17:31 (6) 06:32	17:31 (6) 18:59	06:32 33 08:13 (8)	07:02 18:12
17	05:38 20:15 101	09:13 (7) 18:09 (6) 19:44 47	06:05 17:31 (6) 06:33	17:31 (6) 18:57	06:33 34 08:12 (8)	07:03 18:11
18	05:39 20:14 104	09:14 (7) 18:11 (6) 19:43 46	06:06 17:31 (6) 06:34	17:31 (6) 18:56	06:34 34 08:12 (8)	07:04 18:09
19	05:40 20:14 105	09:15 (7) 18:12 (6) 19:42 44	06:07 18:16 (6) 06:35	17:32 (6) 18:54	06:35 34 08:12 (8)	07:04 18:08
20	05:40 20:13 107	09:15 (7) 18:13 (6) 19:40 43	06:08 17:31 (6) 06:36	17:31 (6) 18:53	06:36 33 08:11 (8)	07:05 18:07
21	05:41 20:12 107	09:16 (7) 18:14 (6) 19:39 41	06:09 17:32 (6) 06:36	17:32 (6) 18:51	06:36 33 08:11 (8)	07:05 18:05
22	05:42 20:12 109	09:17 (7) 18:15 (6) 19:37 39	06:10 17:33 (6) 06:37	17:33 (6) 18:49	06:37 32 08:10 (8)	07:06 18:04
23	05:43 20:11 110	09:18 (7) 18:16 (6) 19:36 37	06:10 17:34 (6) 06:38	17:34 (6) 18:48	06:38 30 08:09 (8)	07:06 18:02
24	05:44 20:10 110	09:19 (7) 18:17 (6) 19:35 34	06:11 17:35 (6) 06:39	17:35 (6) 18:46	06:39 29 08:08 (8)	07:07 18:01
25	05:44 20:09 110	09:19 (7) 18:17 (6) 19:33 30	06:12 17:37 (6) 06:40	17:37 (6) 18:45	06:40 27 07:39 (8)	07:07 18:00
26	05:45 20:09 109	09:21 (7) 18:18 (6) 19:32 26	06:13 17:39 (6) 06:41	17:39 (6) 18:43	06:41 23 08:04 (8)	07:08 17:59
27	05:46 20:08 110	09:22 (7) 18:19 (6) 19:30 21	06:14 17:40 (6) 06:42	17:40 (6) 18:41	06:42 20 08:02 (8)	07:08 16:57
28	05:47 20:07 109	09:23 (7) 18:19 (6) 19:29 13	06:15 17:44 (6) 06:43	17:44 (6) 18:40	06:43 14 07:59 (8)	07:08 16:56
29	05:48 20:06 108	09:25 (7) 18:20 (6) 19:27	06:16 18:38	06:44 18:38	06:44 16:55	07:09 16:30
30	05:49 20:05 108	09:25 (7) 18:20 (6) 19:26	06:17 18:37	06:45 18:37	06:45 16:54	07:09 16:29
31	05:50 20:04 106	09:27 (7) 18:20 (6) 19:24	06:18 16:52	06:46 16:52	06:46 16:52	07:09 16:37
Potential sun hours	453	424	374	347	303	294
Total, worst case	2990	1547	589			

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: Bufalo worst case Shadow receptor: AR - R60 CA06
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	07:40 (8) 11:35 (7)	06:37 19:13	17:13 (6) 20:10
2	07:09 16:38	06:58 17:11	06:23 17:43	07:41 (8) 11:35 (7)	06:35 19:14	17:27 (6) 20:10
3	07:10 16:39	06:57 17:12	06:22 17:44	07:41 (8) 11:35 (7)	06:34 19:15	19:43 20:11
4	07:10 16:40	06:56 17:13	06:20 17:45	07:42 (8) 11:35 (7)	06:32 19:16	19:44 20:12
5	07:10 16:41	06:55 17:14	06:19 17:46	07:43 (8) 11:34 (7)	06:31 19:17	19:45 20:12
6	07:10 16:42	06:54 17:15	06:17 17:48	07:45 (8) 16:29 (6)	06:29 19:18	19:46 20:13
7	07:10 16:43	06:53 17:17	06:16 17:49	07:47 (8) 16:34 (6)	06:28 19:19	19:47 20:14
8	07:10 16:44	06:52 17:18	10:48 (7) 11:00 (7)	06:14 17:50	10:04 (7) 16:37 (6)	19:19 20:14
9	07:10 16:45	06:51 17:19	10:42 (7) 11:06 (7)	06:13 17:51	10:04 (7) 16:38 (6)	19:20 20:15
10	07:10 16:46	06:50 17:20	10:38 (7) 11:10 (7)	06:11 17:52	10:04 (7) 16:40 (6)	19:21 20:15
11	07:10 16:46	06:49 17:21	10:34 (7) 11:13 (7)	06:10 17:53	10:03 (7) 16:41 (6)	19:22 20:16
12	07:09 16:47	06:48 17:22	10:31 (7) 11:16 (7)	06:08 17:54	10:04 (7) 16:43 (6)	19:23 20:16
13	07:09 16:49	06:47 17:24	10:29 (7) 11:18 (7)	06:07 17:55	10:03 (7) 16:43 (6)	19:24 20:17
14	07:09 16:50	06:46 17:25	07:52 (8) 11:21 (7)	06:05 17:56	10:02 (7) 16:43 (6)	19:25 20:17
15	07:09 16:51	06:44 17:26	07:50 (8) 11:23 (7)	06:04 17:57	10:03 (7) 16:44 (6)	19:26 20:18
16	07:08 16:52	06:43 17:27	07:47 (8) 11:24 (7)	06:02 17:58	10:03 (7) 16:44 (6)	19:27 20:18
17	07:08 16:53	06:42 17:28	07:46 (8) 11:25 (7)	06:01 17:59	10:03 (7) 16:44 (6)	19:28 20:18
18	07:08 16:54	06:41 17:29	07:44 (8) 11:27 (7)	05:59 18:00	10:03 (7) 16:44 (6)	19:29 20:19
19	07:07 16:55	06:40 17:30	07:44 (8) 11:29 (7)	05:57 18:01	10:04 (7) 16:44 (6)	19:30 20:19
20	07:07 16:56	06:38 17:31	07:42 (8) 11:29 (7)	05:56 18:02	10:04 (7) 16:44 (6)	19:31 20:19
21	07:06 16:57	06:37 17:33	07:42 (8) 11:30 (7)	05:54 18:03	10:04 (7) 16:43 (6)	19:32 20:19
22	07:06 16:58	06:36 17:34	07:41 (8) 11:32 (7)	05:53 18:04	10:06 (7) 16:43 (6)	19:33 20:20
23	07:05 16:59	06:34 17:35	07:40 (8) 11:32 (7)	05:51 18:05	10:06 (7) 16:42 (6)	19:34 20:20
24	07:05 17:00	06:33 17:36	07:40 (8) 11:33 (7)	05:50 18:06	10:08 (7) 16:42 (6)	19:35 20:20
25	07:04 17:02	06:32 17:37	07:39 (8) 11:33 (7)	05:48 18:07	10:09 (7) 16:40 (6)	19:36 20:20
26	07:03 17:03	06:30 17:38	07:39 (8) 11:34 (7)	05:46 18:08	10:10 (7) 16:39 (6)	19:37 20:20
27	07:03 17:04	06:29 17:39	07:40 (8) 11:35 (7)	05:45 18:08	10:14 (7) 16:38 (6)	19:38 20:20
28	07:02 17:05	06:28 17:40	07:39 (8) 11:35 (7)	05:43 18:09	10:21 (7) 16:36 (6)	19:39 20:20
29	07:01 17:06	06:26 17:41	07:40 (8) 11:35 (7)	05:42 18:10	16:07 (6) 16:35 (6)	19:40 20:20
30	07:00 17:07			05:40 18:11	16:08 (6) 16:33 (6)	19:41 20:20
31	07:00 17:08			06:38 19:12	17:11 (6) 17:31 (6)	19:42 20:20
Potential sun hours	302	310	370	396	443	446
Total, worst case		1849	3029	14		

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AR - R60 CA06
Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:19 19:23	06:46 18:35	10:42 (7) 17:22 (6)	06:17 16:51
2	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	10:42 (7) 17:20 (6)	06:18 16:50
3	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	10:41 (7) 17:19 (6)	06:19 16:49
4	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	10:41 (7) 17:17 (6)	06:20 16:48
5	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	10:41 (7) 17:15 (6)	06:21 16:47
6	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	08:26 (8) 17:12 (6)	06:22 16:46
7	05:31 20:19	05:56 19:57	06:24 19:12	06:51 18:26	08:22 (8) 17:08 (6)	06:23 16:45
8	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	08:20 (8) 12:10 (7)	06:25 16:44
9	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	08:18 (8) 12:10 (7)	06:26 16:43
10	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	08:16 (8) 12:10 (7)	06:27 16:42
11	05:34 20:18	05:59 19:52	06:27 19:07	17:06 (6) 17:19 (6)	06:55 18:20	08:15 (8) 12:09 (7)
12	05:35 20:17	06:00 19:51	06:28 19:05	17:02 (6) 17:22 (6)	06:56 18:18	08:14 (8) 12:09 (7)
13	05:35 20:17	06:01 19:49	06:29 19:04	17:00 (6) 17:24 (6)	06:57 18:17	08:13 (8) 12:08 (7)
14	05:36 20:17	06:02 19:48	06:30 19:02	16:58 (6) 17:25 (6)	06:58 18:15	08:12 (8) 12:08 (7)
15	05:37 20:16	06:03 19:47	06:31 19:01	16:56 (6) 17:26 (6)	06:59 18:14	08:12 (8) 12:07 (7)
16	05:37 20:16	06:04 19:46	06:32 18:59	11:04 (7) 17:27 (6)	07:00 18:12	08:11 (8) 12:06 (7)
17	05:38 20:15	06:05 19:44	06:33 18:57	10:59 (7) 17:27 (6)	07:01 18:11	08:11 (8) 12:05 (7)
18	05:39 20:14	06:06 19:43	06:34 18:56	10:57 (7) 17:28 (6)	07:02 18:09	08:11 (8) 12:04 (7)
19	05:40 20:14	06:07 19:42	06:35 18:54	10:55 (7) 17:28 (6)	07:03 18:08	08:11 (8) 12:03 (7)
20	05:40 20:13	06:08 19:40	06:36 18:53	10:53 (7) 17:28 (6)	07:04 18:06	08:11 (8) 12:02 (7)
21	05:41 20:12	06:09 19:39	06:36 18:51	10:51 (7) 17:28 (6)	07:05 18:05	08:11 (8) 12:01 (7)
22	05:42 20:12	06:09 19:37	06:37 18:49	10:50 (7) 17:28 (6)	07:06 18:04	08:12 (8) 12:01 (7)
23	05:43 20:11	06:10 19:36	06:38 18:48	10:49 (7) 17:28 (6)	07:07 18:02	08:13 (8) 11:59 (7)
24	05:44 20:10	06:11 19:35	06:39 18:46	10:48 (7) 17:28 (6)	07:08 18:01	08:14 (8) 11:58 (7)
25	05:44 20:09	06:12 19:33	06:40 18:45	10:46 (7) 17:26 (6)	07:09 18:00	08:14 (8) 11:56 (7)
26	05:45 20:09	06:13 19:32	06:41 18:43	10:45 (7) 17:26 (6)	07:10 17:59	08:16 (8) 11:55 (7)
27	05:46 20:08	06:14 19:30	06:42 18:41	10:44 (7) 17:25 (6)	06:11 16:57	07:17 (8) 10:53 (7)
28	05:47 20:07	06:15 19:29	06:43 18:40	10:44 (7) 17:25 (6)	06:13 16:56	07:19 (8) 10:51 (7)
29	05:48 20:06	06:16 19:27	06:44 18:38	10:43 (7) 17:24 (6)	06:14 16:55	07:23 (8) 10:50 (7)
30	05:49 20:05	06:17 19:26	06:45 18:37	10:43 (7) 17:23 (6)	06:15 16:54	09:59 (7) 10:48 (7)
31	05:50 20:04	06:18 19:24		06:16 16:52	10:01 (7) 10:45 (7)	
Potential sun hours	453	424	374	347	303	294
Total, worst case			1609	3252	105	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AS - R74 CA10
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	14:20 (5) 14:52 (5)	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42
2	07:09 16:38	14:20 (5) 14:52 (5)	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43
3	07:10 16:39	14:21 (5) 14:52 (5)	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44
4	07:10 16:40	14:22 (5) 14:53 (5)	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45
5	07:10 16:41	14:23 (5) 14:53 (5)	06:55 17:14	06:19 17:46	06:31 19:17	05:49 19:46
6	07:10 16:42	14:24 (5) 14:53 (5)	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47
7	07:10 16:43	14:25 (5) 14:53 (5)	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48
8	07:10 16:44	14:26 (5) 14:53 (5)	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49
9	07:10 16:45	14:27 (5) 14:53 (5)	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50
10	07:10 16:46	14:28 (5) 14:52 (5)	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51
11	07:10 16:46	14:29 (5) 14:51 (5)	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52
12	07:09 16:47	14:31 (5) 14:51 (5)	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53
13	07:09 16:48	14:33 (5) 14:51 (5)	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54
14	07:09 16:50	14:34 (5) 14:49 (5)	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55
15	07:09 16:51	14:37 (5) 14:47 (5)	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56
16	07:08 16:52		06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57
17	07:08 16:53		06:42 17:28	06:00 17:59	06:13 19:29	05:37 19:57
18	07:08 16:54		06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58
19	07:07 16:55		06:40 17:30	05:57 18:01	06:10 19:31	05:35 19:59
20	07:07 16:56		06:38 17:31	05:56 18:02	06:08 19:32	05:35 20:00
21	07:06 16:57		06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01
22	07:06 16:58		06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02
23	07:05 16:59		06:34 17:35	05:51 18:05	06:04 19:35	05:32 20:03
24	07:05 17:00		06:33 17:36	05:49 18:06	06:03 19:36	05:32 20:03
25	07:04 17:02		06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04
26	07:03 17:03		06:30 17:38	05:46 18:08	06:00 19:38	05:30 20:05
27	07:03 17:04		06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06
28	07:02 17:05		06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07
29	07:01 17:06		06:26 17:41	05:42 18:10	05:56 19:40	05:29 20:07
30	07:00 17:07			05:40 18:11	05:55 19:41	05:28 20:08
31	07:00 17:08			06:38 19:12		05:28 20:09
Potential sun hours	302	310	370	396	443	446
Total, worst case	375			30	2375	1859

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AS - R74 CA10
 Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20 62	07:36 (8) 08:38 (8) 20:03 84	05:50 19:07 (6) 19:23	07:45 (8) 19:07 (6) 19:21	06:19 18:35 16:51	06:49 16:29 20 14:33 (5)
2	05:29 20:20 62	07:36 (8) 08:38 (8) 20:02 83	05:51 19:07 (6) 19:21	07:46 (8) 19:07 (6) 19:21	06:19 18:33 16:50	06:50 16:29 22 14:34 (5)
3	05:29 20:20 62	07:35 (8) 08:37 (8) 20:01 81	05:52 19:07 (6) 19:20	07:47 (8) 19:07 (6) 19:20	06:20 18:32 16:49	06:51 16:29 24 14:36 (5)
4	05:30 20:20 62	07:36 (8) 08:38 (8) 20:00 79	05:53 19:07 (6) 19:18	07:48 (8) 19:07 (6) 19:18	06:21 18:30 16:48	06:52 16:28 26 14:37 (5)
5	05:30 20:20 62	07:37 (8) 08:39 (8) 19:59 76	05:54 19:05 (6) 19:16	07:48 (8) 19:05 (6) 19:16	06:22 18:29 16:47	06:53 16:28 27 14:38 (5)
6	05:31 20:19 63	07:36 (8) 08:39 (8) 19:58 74	05:55 19:05 (6) 19:15	07:49 (8) 19:05 (6) 19:15	06:23 18:27 16:46	06:54 16:28 28 14:39 (5)
7	05:31 20:19 62	07:37 (8) 08:39 (8) 19:57 68	05:56 19:04 (6) 19:13	07:51 (8) 19:04 (6) 19:13	06:24 18:26 16:45	06:55 16:28 29 14:40 (5)
8	05:32 20:19 63	07:36 (8) 08:39 (8) 19:55 66	05:57 19:04 (6) 19:12	07:52 (8) 19:04 (6) 19:12	06:25 18:24 16:44	06:56 16:28 30 14:41 (5)
9	05:33 20:19 63	07:37 (8) 08:40 (8) 19:54 60	05:58 19:03 (6) 19:10	07:54 (8) 19:03 (6) 19:10	06:26 18:23 16:43	06:57 16:28 31 14:41 (5)
10	05:33 20:18 62	07:37 (8) 08:40 (8) 19:53 55	05:59 19:02 (6) 19:09	07:56 (8) 19:02 (6) 19:09	06:27 18:21 16:42	06:58 16:28 31 14:41 (5)
11	05:34 20:18 63	07:37 (8) 08:40 (8) 19:52 47	05:59 19:01 (6) 19:07	07:59 (8) 19:01 (6) 19:07	06:27 18:19 16:41	06:58 16:28 31 14:42 (5)
12	05:35 20:17 62	07:38 (8) 08:40 (8) 19:51 37	06:00 18:58 (6) 19:05	08:01 (8) 18:58 (6) 19:05	06:28 18:18 16:40	06:59 16:28 32 14:43 (5)
13	05:35 20:17 63	07:37 (8) 08:40 (8) 19:49 21	06:01 18:56 (6) 19:04	08:07 (8) 18:56 (6) 19:04	06:29 18:17 16:39	07:00 16:29 33 14:44 (5)
14	05:36 20:17 70	07:38 (8) 18:55 (6) 19:48 1	06:02 18:50 (6) 19:02	06:30 18:50 (6) 19:02	06:58 18:15 16:38	07:01 16:29 33 14:44 (5)
15	05:37 20:16 74	07:38 (8) 18:57 (6) 19:47	06:03 19:01 19:01	06:31 19:01 18:14	06:59 16:37 16:32	07:02 16:29 34 14:45 (5)
16	05:37 20:15 76	07:38 (8) 18:58 (6) 19:46	06:04 19:01 19:01	06:32 18:59 18:12	07:00 16:37 16:37	07:02 16:29 34 14:46 (5)
17	05:38 20:15 79	07:38 (8) 18:59 (6) 19:44	06:05 19:01 19:01	06:33 18:57 18:11	07:01 16:36 16:36	07:03 16:30 34 14:46 (5)
18	05:39 20:14 81	07:39 (8) 19:01 (6) 19:43	06:06 19:01 (6) 19:43	06:34 18:56 18:09	07:02 16:35 16:35	07:04 16:30 34 14:47 (5)
19	05:40 20:14 83	07:39 (8) 19:02 (6) 19:41	06:07 19:02 (6) 19:41	06:35 18:54 18:08	07:03 16:35 16:35	07:04 16:30 35 14:47 (5)
20	05:40 20:13 84	07:39 (8) 19:02 (6) 19:40	06:08 19:03 (6) 19:39	06:36 18:51 18:05	07:04 16:33 16:33	07:05 16:31 35 14:49 (5)
21	05:41 20:12 84	07:40 (8) 19:03 (6) 19:39	06:09 19:03 (6) 19:39	06:37 18:51 18:05	07:06 16:33 16:33	07:06 16:31 35 14:49 (5)
22	05:42 20:12 86	07:40 (8) 19:04 (6) 19:37	06:09 19:04 (6) 19:37	06:37 18:49 18:04	07:06 16:33 16:33	07:06 16:32 35 14:49 (5)
23	05:43 20:11 86	07:41 (8) 19:05 (6) 19:36	06:10 19:05 (6) 19:36	06:38 18:48 18:02	07:07 16:32 16:32	07:06 16:32 35 14:49 (5)
24	05:44 20:10 88	07:41 (8) 19:06 (6) 19:34	06:11 19:06 (6) 19:34	06:39 18:46 18:01	07:08 16:32 16:32	07:07 16:33 35 14:50 (5)
25	05:44 20:09 88	07:41 (8) 19:05 (6) 19:33	06:12 19:05 (6) 19:33	06:40 18:45 18:00	07:09 16:31 16:31	07:07 16:33 35 14:50 (5)
26	05:45 20:08 89	07:41 (8) 19:06 (6) 19:32	06:13 19:06 (6) 19:32	06:41 18:43 17:58	07:10 16:31 16:31	07:08 16:34 34 14:51 (5)
27	05:46 20:08 88	07:42 (8) 19:06 (6) 19:30	06:14 19:06 (6) 19:30	06:42 18:41 16:57	07:11 16:30 16:30	07:08 16:35 34 14:51 (5)
28	05:47 20:07 87	07:43 (8) 19:07 (6) 19:29	06:15 19:07 (6) 19:29	06:43 18:40 16:56	07:12 16:30 16:30	07:08 14:18 (5) 07:08
29	05:48 20:06 86	07:44 (8) 19:07 (6) 19:27	06:16 19:07 (6) 19:27	06:44 18:38 16:55	07:13 16:30 16:30	07:09 14:16 (5) 07:09
30	05:49 20:05 86	07:43 (8) 19:06 (6) 19:26	06:17 19:06 (6) 19:26	06:45 18:37 16:54	07:14 16:29 16:29	07:09 14:14 (5) 07:09
31	05:50 20:04 86	07:44 (8) 19:07 (6) 19:24	06:18 19:07 (6) 19:24	06:46 16:52 16:52	07:15 16:29 16:29	07:09 16:37 32 14:52 (5)
Potential sun hours	453	424	374	347	303	294
Total, worst case	2312	832			41	978

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AT - R75 CA10
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	11:05 (7) 12:14 (7)	06:25 17:42	10:58 (7) 16:35 (6)	05:54 19:13
2	07:09 16:38	06:58 17:11	11:04 (7) 12:15 (7)	06:23 17:43	11:00 (7) 16:38 (6)	05:53 19:14
3	07:10 16:39	06:57 17:12	08:09 (8) 12:16 (7)	06:22 17:44	11:00 (7) 16:39 (6)	05:52 19:15
4	07:10 16:40	06:56 17:13	08:06 (8) 12:17 (7)	06:20 17:45	11:02 (7) 16:41 (6)	05:50 19:16
5	07:10 16:41	06:55 17:14	08:04 (8) 12:18 (7)	06:19 17:46	11:03 (7) 16:41 (6)	05:49 19:17
6	07:10 16:42	06:54 17:15	08:03 (8) 12:19 (7)	06:17 17:48	11:05 (7) 16:43 (6)	05:48 19:18
7	07:10 16:43	06:53 17:17	08:01 (8) 12:20 (7)	06:16 17:49	11:07 (7) 16:43 (6)	05:47 19:19
8	07:10 16:44	06:52 17:18	08:00 (8) 12:20 (7)	06:14 17:50	11:11 (7) 16:44 (6)	05:46 19:20
9	07:10 16:45	06:51 17:19	08:00 (8) 12:21 (7)	06:13 17:51	11:18 (7) 16:43 (6)	05:45 19:21
10	07:10 16:46	06:50 17:20	07:59 (8) 12:22 (7)	06:11 17:52	16:06 (6) 16:44 (6)	05:44 19:22
11	07:10 16:46	06:49 17:21	07:58 (8) 12:21 (7)	06:10 17:53	16:05 (6) 16:44 (6)	05:43 19:23
12	07:09 16:47	06:48 17:22	07:57 (8) 12:22 (7)	06:08 17:54	16:06 (6) 16:44 (6)	05:42 19:24
13	07:09 16:48	06:47 17:24	07:57 (8) 12:23 (7)	06:07 17:55	16:05 (6) 16:43 (6)	05:41 19:25
14	07:09 16:50	06:46 17:25	07:57 (8) 12:23 (7)	06:05 17:56	16:05 (6) 16:42 (6)	05:40 19:26
15	07:09 16:51	06:44 17:26	07:57 (8) 12:24 (7)	06:04 17:57	16:06 (6) 16:42 (6)	05:39 19:27
16	07:08 16:52	11:28 (7) 11:44 (7)	06:43 17:27	07:56 (8) 12:23 (7)	06:02 17:58	05:38 19:28
17	07:08 16:53	11:24 (7) 11:47 (7)	06:42 17:28	07:56 (8) 12:23 (7)	06:01 17:59	05:37 19:29
18	07:08 16:54	11:22 (7) 11:50 (7)	06:41 17:29	07:56 (8) 12:24 (7)	05:59 18:00	05:36 19:30
19	07:07 16:55	11:20 (7) 11:53 (7)	06:40 17:30	07:57 (8) 12:24 (7)	05:57 18:01	05:35 19:31
20	07:07 16:56	11:18 (7) 11:56 (7)	06:38 17:31	07:56 (8) 12:23 (7)	05:56 18:02	05:35 20:00
21	07:06 16:57	11:16 (7) 11:57 (7)	06:37 17:33	07:57 (8) 12:23 (7)	05:54 18:03	05:34 19:33
22	07:06 16:58	11:15 (7) 11:59 (7)	06:36 17:34	07:58 (8) 12:23 (7)	05:53 18:04	05:33 19:34
23	07:05 16:59	11:14 (7) 12:01 (7)	06:34 17:35	07:58 (8) 12:22 (7)	05:51 18:05	05:32 19:35
24	07:05 17:00	11:12 (7) 12:03 (7)	06:33 17:36	07:59 (8) 12:22 (7)	05:50 18:06	05:32 19:36
25	07:04 17:02	11:11 (7) 12:04 (7)	06:32 17:37	08:00 (8) 12:21 (7)	05:48 18:07	05:31 19:37
26	07:03 17:03	11:11 (7) 12:06 (7)	06:30 17:38	08:01 (8) 12:20 (7)	05:46 18:08	05:30 19:38
27	07:03 17:04	11:09 (7) 12:08 (7)	06:29 17:39	08:04 (8) 12:20 (7)	05:45 18:08	05:30 19:39
28	07:02 17:05	11:08 (7) 12:09 (7)	06:28 17:40	08:06 (8) 12:18 (7)	05:43 18:09	05:29 19:39
29	07:01 17:06	11:07 (7) 12:10 (7)	06:26 17:41	10:58 (7) 16:33 (6)	05:42 18:10	05:29 19:40
30	07:00 17:07	11:07 (7) 12:12 (7)		05:40 18:11	05:55 19:41	05:28 20:08
31	07:00 17:08	11:06 (7) 12:13 (7)		06:38 19:12		05:28 20:09
Potential sun hours	302	310	370	396	443	446
Total, worst case	744	3151	1237			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AT - R75 CA10

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:19 19:23	06:46 18:35	16:44 (6) 17:22 (6)	06:17 16:51	07:27 (8) 11:51 (7)	06:49 16:29
2	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	16:44 (6) 17:22 (6)	06:18 16:50	07:28 (8) 11:51 (7)	06:50 16:29
3	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	16:44 (6) 17:22 (6)	06:19 16:49	07:29 (8) 11:50 (7)	06:51 16:29
4	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	16:43 (6) 17:21 (6)	06:20 16:48	07:30 (8) 11:50 (7)	06:52 16:28
5	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	11:51 (7) 17:21 (6)	06:21 16:47	07:31 (8) 11:49 (7)	06:53 16:28
6	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	11:46 (7) 17:20 (6)	06:22 16:46	07:33 (8) 11:49 (7)	06:54 16:28
7	05:31 20:19	05:56 19:57	06:24 19:12	06:51 18:26	11:42 (7) 17:19 (6)	06:23 16:45	07:34 (8) 11:48 (7)	06:55 16:28
8	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	11:40 (7) 17:18 (6)	06:25 16:44	07:36 (8) 11:47 (7)	06:56 16:28
9	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	11:37 (7) 17:16 (6)	06:26 16:43	07:40 (8) 11:47 (7)	06:57 16:28
10	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	11:36 (7) 17:15 (6)	06:27 16:42	10:35 (7) 11:46 (7)	06:58 16:28
11	05:34 20:18	05:59 19:52	06:27 19:07	06:55 18:20	11:34 (7) 17:13 (6)	06:28 16:41	10:36 (7) 11:45 (7)	06:59 16:28
12	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	11:33 (7) 17:11 (6)	06:29 16:40	10:37 (7) 11:44 (7)	06:59 16:28
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	11:31 (7) 17:08 (6)	06:30 16:39	10:38 (7) 11:43 (7)	07:00 16:29
14	05:36 20:17	06:02 19:48	06:30 19:02	06:58 18:15	08:42 (8) 17:03 (6)	06:31 16:38	10:40 (7) 11:43 (7)	07:01 16:29
15	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	08:37 (8) 12:51 (7)	06:32 16:37	10:41 (7) 11:42 (7)	07:02 16:29
16	05:37 20:16	06:04 19:46	06:32 18:59	07:00 18:12	08:35 (8) 12:52 (7)	06:33 16:37	10:42 (7) 11:41 (7)	07:02 16:29
17	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	08:33 (8) 12:52 (7)	06:35 16:36	10:44 (7) 11:39 (7)	07:03 16:30
18	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	08:31 (8) 12:53 (7)	06:36 16:35	10:45 (7) 11:38 (7)	07:04 16:30
19	05:40 20:14	06:07 19:42	06:35 18:54	07:03 18:08	08:30 (8) 12:53 (7)	06:37 16:35	10:47 (7) 11:38 (7)	07:04 16:30
20	05:40 20:13	06:08 19:40	06:36 18:53	17:02 (6) 17:14 (6)	07:04 18:06	08:28 (8) 12:53 (7)	10:49 (7) 11:36 (7)	07:05 16:31
21	05:41 20:12	06:09 19:39	06:36 18:51	16:59 (6) 17:17 (6)	07:05 18:05	08:28 (8) 12:53 (7)	10:51 (7) 11:35 (7)	07:05 16:31
22	05:42 20:12	06:09 19:37	06:37 18:49	16:56 (6) 17:19 (6)	07:06 18:04	08:28 (8) 12:54 (7)	10:52 (7) 11:33 (7)	07:06 16:32
23	05:43 20:11	06:10 19:36	06:38 18:48	16:54 (6) 17:21 (6)	07:07 18:02	08:27 (8) 12:54 (7)	10:54 (7) 11:32 (7)	07:06 16:32
24	05:44 20:10	06:11 19:35	06:39 18:46	16:52 (6) 17:22 (6)	07:08 18:01	08:27 (8) 12:54 (7)	10:57 (7) 11:30 (7)	07:07 16:33
25	05:44 20:09	06:12 19:33	06:40 18:45	16:50 (6) 17:21 (6)	07:09 18:00	08:26 (8) 12:53 (7)	10:59 (7) 11:28 (7)	07:07 16:33
26	05:45 20:09	06:13 19:32	06:41 18:43	16:48 (6) 17:22 (6)	07:10 17:58	08:26 (8) 12:53 (7)	11:03 (7) 11:26 (7)	07:08 16:34
27	05:46 20:08	06:14 19:30	06:42 18:41	16:47 (6) 17:22 (6)	06:11 16:57	07:26 (8) 11:53 (7)	11:07 (7) 11:23 (7)	07:08 16:35
28	05:47 20:07	06:15 19:29	06:43 18:40	16:46 (6) 17:23 (6)	06:13 16:56	07:26 (8) 11:52 (7)	06:46 16:30	07:08 16:35
29	05:48 20:06	06:16 19:27	06:44 18:38	16:46 (6) 17:23 (6)	06:14 16:55	07:27 (8) 11:53 (7)	06:47 16:30	07:09 16:36
30	05:49 20:05	06:17 19:26	06:45 18:37	16:45 (6) 17:23 (6)	06:15 16:54	07:27 (8) 11:52 (7)	06:48 16:29	07:09 16:37
31	05:50 20:04	06:18 19:24		06:16 16:52	07:27 (8) 11:52 (7)			07:09 16:37
Potential sun hours	453	424	374	322	3055	303	1818	294
Total, worst case								

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AU - R71 CA10

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38 87	12:06 (9) 06:59 15:40 (6) 17:10 73	12:13 (9) 06:25 13:26 (9) 17:42	06:37 19:13	05:54 19:42	05:27 20:10
2	07:09 16:38 86	12:07 (9) 06:58 15:40 (6) 17:11 73	12:13 (9) 06:23 13:26 (9) 17:43	06:35 19:14	05:53 19:43	05:27 20:10
3	07:10 16:39 88	12:07 (9) 06:57 15:41 (6) 17:12 72	12:14 (9) 06:22 13:26 (9) 17:44	06:34 19:15	05:52 19:44	05:27 20:11
4	07:10 16:40 87	12:07 (9) 06:56 15:41 (6) 17:13 70	12:15 (9) 06:20 13:25 (9) 17:45	06:32 19:16	05:50 19:45	05:26 20:12
5	07:10 16:41 87	12:07 (9) 06:55 15:41 (6) 17:14 70	12:15 (9) 06:19 13:25 (9) 17:46	06:31 19:17	05:49 19:46	05:26 20:12
6	07:10 16:42 88	12:07 (9) 06:54 15:41 (6) 17:15 69	12:16 (9) 06:17 13:25 (9) 17:48	06:29 19:18	05:48 19:47	05:26 20:13
7	07:10 16:43 87	12:07 (9) 06:53 15:41 (6) 17:17 67	12:17 (9) 06:16 13:24 (9) 17:49	06:28 19:19	05:47 19:48	05:25 20:14
8	07:10 16:44 86	12:08 (9) 06:52 15:41 (6) 17:18 66	12:18 (9) 06:14 13:24 (9) 17:50	06:26 19:20	05:46 19:49	05:25 20:14
9	07:10 16:45 87	12:08 (9) 06:51 15:42 (6) 17:19 63	12:20 (9) 06:13 13:23 (9) 17:51	06:25 19:21	05:45 19:50	05:25 20:15
10	07:10 16:45 87	12:07 (9) 06:50 15:41 (6) 17:20 62	12:21 (9) 06:11 13:23 (9) 17:52	06:23 19:22	05:44 19:51	05:25 20:15
11	07:10 16:46 84	12:08 (9) 06:49 15:40 (6) 17:21 59	12:22 (9) 06:10 13:21 (9) 17:53	17:02 (10) 06:22 17:10 (10) 19:23	05:43 19:52	05:25 20:16
12	07:09 16:47 84	12:08 (9) 06:48 15:40 (6) 17:22 56	12:24 (9) 06:08 13:20 (9) 17:54	16:59 (10) 06:20 17:14 (10) 19:24	05:42 19:53	05:25 20:16
13	07:09 16:48 83	12:08 (9) 06:47 15:40 (6) 17:23 53	12:26 (9) 06:07 13:19 (9) 17:55	16:57 (10) 06:19 17:15 (10) 19:25	05:41 19:54	05:24 20:17
14	07:09 16:49 80	12:08 (9) 06:46 15:38 (6) 17:25 48	12:29 (9) 06:05 13:17 (9) 17:56	16:55 (10) 06:17 17:15 (10) 19:26	05:40 19:55	05:24 20:17
15	07:09 16:51 75	12:08 (9) 06:44 15:36 (6) 17:26 43	12:32 (9) 06:04 13:15 (9) 17:57	16:54 (10) 06:16 17:16 (10) 19:27	05:39 19:56	05:24 20:18
16	07:08 16:52 72	12:09 (9) 06:43 13:21 (9) 17:27 37	12:35 (9) 06:02 13:12 (9) 17:58	16:53 (10) 06:14 17:16 (10) 19:28	05:38 19:57	05:24 20:18
17	07:08 16:53 72	12:09 (9) 06:42 13:21 (9) 17:28 30	12:39 (9) 06:00 13:09 (9) 17:59	16:53 (10) 06:13 17:17 (10) 19:29	05:37 19:57	05:25 20:18
18	07:08 16:54 73	12:09 (9) 06:41 13:22 (9) 17:29 16	12:47 (9) 05:59 13:03 (9) 18:00	16:52 (10) 06:11 17:16 (10) 19:30	05:36 19:58	05:25 20:19
19	07:07 16:55 73	12:09 (9) 06:40 13:22 (9) 17:30	05:57 18:01	16:53 (10) 06:10 17:17 (10) 19:31	05:35 19:59	05:25 20:19
20	07:07 16:56 74	12:09 (9) 06:38 13:23 (9) 17:31	05:56 18:02	16:52 (10) 06:08 17:16 (10) 19:32	05:35 20:00	05:25 20:19
21	07:06 16:57 74	12:09 (9) 06:37 13:23 (9) 17:33	05:54 18:03	16:52 (10) 06:07 17:15 (10) 19:33	05:34 20:01	05:25 20:19
22	07:06 16:58 74	12:09 (9) 06:36 13:23 (9) 17:34	05:53 18:04	16:53 (10) 06:06 17:14 (10) 19:34	05:33 20:02	05:25 20:20
23	07:05 16:59 74	12:10 (9) 06:34 13:24 (9) 17:35	05:51 18:05	16:54 (10) 06:04 17:12 (10) 19:35	05:32 20:03	05:25 20:20
24	07:05 17:00 74	12:10 (9) 06:33 13:24 (9) 17:36	05:49 18:06	16:55 (10) 06:03 17:11 (10) 19:36	05:32 20:03	05:26 20:20
25	07:04 17:02 74	12:10 (9) 06:32 13:24 (9) 17:37	05:48 18:07	16:57 (10) 06:02 17:08 (10) 19:37	05:31 20:04	05:26 20:20
26	07:03 17:03 74	12:11 (9) 06:30 13:25 (9) 17:38	05:46 18:08	06:00 19:38	05:30 20:05	05:26 20:20
27	07:03 17:04 74	12:11 (9) 06:29 13:25 (9) 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20
28	07:02 17:05 74	12:11 (9) 06:27 13:25 (9) 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20
29	07:01 17:06 74	12:11 (9) 06:26 13:25 (9) 17:41	05:42 18:10	05:56 19:40	05:29 20:07	05:27 20:20
30	07:00 17:07 74	12:12 (9) 13:26 (9)	05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20
31	07:00 17:08 74	12:12 (9) 13:26 (9)	06:38 19:12	 	05:28 20:09	
Potential sun hours	302	310	370	396	443	446
Total, worst case	2454	1027	291			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AU - R71 CA10
 Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:23	06:46 18:35	17:37 (10) 16:17	11:52 (9) 06:49
2	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	17:39 (10) 16:50	11:51 (9) 06:50
3	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	17:51 (10) 16:19	11:51 (9) 06:51
4	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	16:49 16:48	11:48 (9) 11:48 (9)
5	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	16:20 16:47	11:48 (9) 11:47 (9)
6	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	16:50 16:46	11:46 (9) 11:46 (9)
7	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	16:23 16:45	11:45 (9) 11:45 (9)
8	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	16:47 16:44	11:45 (9) 11:44 (9)
9	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	16:22 16:43	11:46 (9) 11:45 (9)
10	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	16:20 16:42	11:46 (9) 11:44 (9)
11	05:34 20:18	05:59 19:52	06:27 19:07	06:55 18:19	16:19 16:41	11:44 (9) 11:44 (9)
12	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	16:19 16:40	11:43 (9) 11:43 (9)
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	16:18 16:39	11:43 (9) 11:43 (9)
14	05:36 20:17	06:02 19:48	06:30 19:02	06:58 18:15	16:17 16:38	11:43 (9) 11:42 (9)
15	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	16:17 16:37	11:42 (9) 11:42 (9)
16	05:37 20:16	06:04 19:46	06:32 18:59	07:00 18:12	16:33 16:37	11:42 (9) 11:42 (9)
17	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	16:35 16:36	11:42 (9) 11:42 (9)
18	05:39 20:14	06:06 19:43	06:34 18:56	17:45 (10) 18:09	07:02 18:09	11:42 (9) 11:42 (9)
19	05:40 20:14	06:07 19:42	06:35 18:54	17:42 (10) 17:57 (10)	07:03 18:08	11:42 (9) 11:42 (9)
20	05:40 20:13	06:08 19:40	06:36 18:53	17:40 (10) 17:58 (10)	07:04 18:06	11:42 (9) 11:42 (9)
21	05:41 20:12	06:09 19:39	06:36 18:51	17:39 (10) 17:59 (10)	07:05 18:05	11:42 (9) 11:42 (9)
22	05:42 20:12	06:09 19:37	06:37 18:49	17:38 (10) 18:00 (10)	07:06 18:04	11:42 (9) 11:42 (9)
23	05:43 20:11	06:10 19:36	06:38 18:48	17:37 (10) 18:00 (10)	07:07 18:02	11:42 (9) 11:42 (9)
24	05:44 20:10	06:11 19:35	06:39 18:46	17:36 (10) 18:00 (10)	07:08 18:01	11:42 (9) 11:42 (9)
25	05:44 20:09	06:12 19:33	06:40 18:45	17:35 (10) 17:59 (10)	07:09 18:00	11:42 (9) 11:42 (9)
26	05:45 20:09	06:13 19:32	06:41 18:43	17:35 (10) 17:59 (10)	07:10 17:58	11:42 (9) 11:42 (9)
27	05:46 20:08	06:14 19:30	06:42 18:41	17:35 (10) 17:58 (10)	06:11 16:57	11:42 (9) 11:42 (9)
28	05:47 20:07	06:15 19:29	06:43 18:40	17:35 (10) 17:57 (10)	06:13 16:56	11:42 (9) 11:42 (9)
29	05:48 20:06	06:16 19:27	06:44 18:38	17:35 (10) 17:56 (10)	06:14 16:55	11:42 (9) 11:42 (9)
30	05:49 20:05	06:17 19:26	06:45 18:37	17:36 (10) 17:55 (10)	06:15 16:54	11:42 (9) 11:42 (9)
31	05:50 20:04	06:18 19:24		06:16 16:52	11:53 (9) 12:50 (9)	11:42 (9) 11:42 (9)
Potential sun hours	453	424	374	347	303	294
Total, worst case			265	320	2155	2678

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AV - R72 CA10
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38 89	12:08 (9) 06:59 15:38 (6) 17:10 65	12:21 (9) 06:25 13:26 (9) 17:42	06:37 19:13	05:54 19:42	05:27 20:10
2	07:09 16:38 87	12:09 (9) 06:58 15:38 (6) 17:11 64	12:22 (9) 06:23 13:26 (9) 17:43	06:35 19:14	05:53 19:43	05:27 20:10
3	07:10 16:39 87	12:09 (9) 06:57 15:38 (6) 17:12 62	12:23 (9) 06:22 13:25 (9) 17:44	06:34 19:15	05:52 19:44	05:27 20:11
4	07:10 16:40 87	12:09 (9) 06:56 15:38 (6) 17:13 60	12:24 (9) 06:20 13:24 (9) 17:45	06:32 19:16	05:50 19:45	05:26 20:12
5	07:10 16:41 87	12:09 (9) 06:55 15:38 (6) 17:14 58	12:26 (9) 06:19 13:24 (9) 17:46	06:31 19:17	05:49 19:46	05:26 20:12
6	07:10 16:42 86	12:10 (9) 06:54 15:38 (6) 17:15 56	12:27 (9) 06:17 13:23 (9) 17:48	06:29 19:18	05:48 19:47	05:26 20:13
7	07:10 16:43 85	12:10 (9) 06:53 15:38 (6) 17:17 53	12:29 (9) 06:16 13:22 (9) 17:49	06:28 19:19	05:47 19:48	05:25 20:14
8	07:10 16:44 85	12:10 (9) 06:52 15:38 (6) 17:18 50	12:31 (9) 06:14 13:21 (9) 17:50	06:26 19:20	05:46 19:49	05:25 20:14
9	07:10 16:45 83	12:11 (9) 06:51 15:38 (6) 17:19 46	12:33 (9) 06:13 13:19 (9) 17:51	17:00 (10) 06:25 17:09 (10) 19:21	05:45 19:50	05:25 20:15
10	07:10 16:45 82	12:10 (9) 06:50 15:37 (6) 17:20 41	12:36 (9) 06:11 13:17 (9) 17:52	16:58 (10) 06:23 17:12 (10) 19:22	05:44 19:51	05:25 20:15
11	07:10 16:46 79	12:11 (9) 06:49 15:36 (6) 17:21 35	12:39 (9) 06:10 13:14 (9) 17:53	16:55 (10) 06:22 17:13 (10) 19:23	05:43 19:52	05:25 20:16
12	07:09 16:47 76	12:11 (9) 06:48 15:35 (6) 17:22 28	12:43 (9) 06:08 13:11 (9) 17:54	16:54 (10) 06:20 17:14 (10) 19:24	05:42 19:53	05:25 20:16
13	07:09 16:48 71	12:12 (9) 06:47 13:23 (9) 17:23 16	12:50 (9) 06:07 13:06 (9) 17:55	16:53 (10) 06:19 17:15 (10) 19:25	05:41 19:54	05:24 20:17
14	07:09 16:49 71	12:12 (9) 06:46 13:23 (9) 17:25	06:05 17:56	16:52 (10) 06:17 17:15 (10) 19:26	05:40 19:55	05:24 20:17
15	07:09 16:51 71	12:12 (9) 06:44 13:23 (9) 17:26	06:04 17:57	16:51 (10) 06:16 17:15 (10) 19:27	05:39 19:56	05:24 20:18
16	07:08 16:52 71	12:13 (9) 06:43 13:24 (9) 17:27	06:02 17:58	16:51 (10) 06:14 17:15 (10) 19:28	05:38 19:57	05:24 20:18
17	07:08 16:53 71	12:13 (9) 06:42 13:24 (9) 17:28	06:00 17:59	16:51 (10) 06:13 17:15 (10) 19:29	05:37 19:57	05:25 20:18
18	07:08 16:54 72	12:13 (9) 06:41 13:25 (9) 17:29	05:59 18:00	16:51 (10) 06:11 17:14 (10) 19:30	05:36 19:58	05:25 20:19
19	07:07 16:55 72	12:13 (9) 06:40 13:25 (9) 17:30	05:57 18:01	16:52 (10) 06:10 17:14 (10) 19:31	05:35 19:59	05:25 20:19
20	07:07 16:56 72	12:14 (9) 06:38 13:26 (9) 17:31	05:56 18:02	16:52 (10) 06:08 17:12 (10) 19:32	05:35 20:00	05:25 20:19
21	07:06 16:57 72	12:14 (9) 06:37 13:26 (9) 17:33	05:54 18:03	16:52 (10) 06:07 17:10 (10) 19:33	05:34 20:01	05:25 20:19
22	07:06 16:58 72	12:14 (9) 06:36 13:26 (9) 17:34	05:53 18:04	16:54 (10) 06:06 17:09 (10) 19:34	05:33 20:02	05:25 20:20
23	07:05 16:59 71	12:15 (9) 06:34 13:26 (9) 17:35	05:51 18:05	16:56 (10) 06:04 17:06 (10) 19:35	05:32 20:03	05:25 20:20
24	07:05 17:00 71	12:15 (9) 06:33 13:26 (9) 17:36	05:49 18:06	06:03 19:36	05:32 20:03	05:26 20:20
25	07:04 17:02 71	12:15 (9) 06:32 13:26 (9) 17:37	05:48 18:07	06:02 19:37	05:31 20:04	05:26 20:20
26	07:03 17:03 70	12:17 (9) 06:30 13:27 (9) 17:38	05:46 18:08	06:00 19:38	05:30 20:05	05:26 20:20
27	07:03 17:04 70	12:17 (9) 06:29 13:27 (9) 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20
28	07:02 17:05 69	12:17 (9) 06:27 13:26 (9) 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20
29	07:01 17:06 68	12:18 (9) 06:26 13:26 (9) 17:41	05:42 18:10	05:56 19:40	05:29 20:07	05:27 20:20
30	07:00 17:07 67	12:20 (9) 13:27 (9)	05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20
31	07:00 17:08 66	12:20 (9) 13:26 (9)	06:38 19:12	 	05:28 20:09	
Potential sun hours	302	310	370	396	443	446
Total, worst case	2351	634	286			

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	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AV - R72 CA10

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:23	06:46 18:35	17:33 (10) 16:17	12:08 (9) 06:49
2	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	17:33 (10) 16:18	12:05 (9) 06:50
3	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	17:34 (10) 16:19	12:02 (9) 06:51
4	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	17:36 (10) 16:20	12:01 (9) 06:52
5	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	17:48 (10) 16:21	12:51 (9) 06:53
6	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	16:47 16:46	11:59 (9) 12:52 (9)
7	05:31 20:19	05:56 19:57	06:24 19:14	06:51 18:26	16:45 16:44	11:57 (9) 12:52 (9)
8	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	16:44 16:43	11:57 (9) 12:54 (9)
9	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	16:43 16:42	11:56 (9) 12:54 (9)
10	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	16:43 16:42	11:56 (9) 12:56 (9)
11	05:34 20:18	05:59 19:52	06:27 19:07	06:55 18:19	16:42 16:41	11:56 (9) 12:57 (9)
12	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	16:41 16:40	11:55 (9) 12:57 (9)
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	16:40 16:39	11:55 (9) 12:58 (9)
14	05:36 20:17	06:02 19:48	06:30 19:02	06:58 18:15	16:39 16:38	11:54 (9) 12:58 (9)
15	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	16:38 16:37	11:54 (9) 12:59 (9)
16	05:37 20:16	06:04 19:46	06:32 18:59	07:00 18:12	16:37 16:36	11:53 (9) 13:00 (9)
17	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	16:36 16:35	11:53 (9) 13:00 (9)
18	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	16:35 16:34	11:52 (9) 13:00 (9)
19	05:40 20:14	06:07 19:42	06:35 18:54	07:03 18:08	16:34 16:33	11:51 (9) 13:01 (9)
20	05:40 20:13	06:08 19:40	06:36 18:53	07:04 18:06	16:33 16:32	11:50 (9) 13:01 (9)
21	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	16:32 16:31	11:50 (9) 13:02 (9)
22	05:42 20:12	06:09 19:37	06:37 18:49	07:06 18:04	16:31 16:30	11:50 (9) 13:02 (9)
23	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	16:30 16:29	11:50 (9) 13:02 (9)
24	05:44 20:10	06:11 19:35	06:39 18:46	07:08 18:01	16:29 16:28	11:50 (9) 13:02 (9)
25	05:44 20:09	06:12 19:33	06:40 18:45	07:09 18:00	16:28 16:27	11:50 (9) 13:02 (9)
26	05:45 20:09	06:13 19:32	06:41 18:43	07:10 17:58	16:27 16:26	11:50 (9) 13:02 (9)
27	05:46 20:08	06:14 19:30	06:42 18:41	07:11 16:57	16:26 16:25	11:50 (9) 13:02 (9)
28	05:47 20:07	06:15 19:29	06:43 18:40	07:12 16:56	16:25 16:24	11:50 (9) 13:02 (9)
29	05:48 20:06	06:16 19:27	06:44 18:38	07:13 16:55	16:24 16:23	11:50 (9) 13:02 (9)
30	05:49 20:05	06:17 19:26	06:45 18:37	07:14 16:54	16:23 16:22	11:50 (9) 13:02 (9)
31	05:50 20:04	06:18 19:24		06:16 16:52	12:18 (9) 12:12 (9) 12:42 (9)	07:09 07:09 16:37
Potential sun hours	453	424	374	347	303	294
Total, worst case			220	116	1930	2696

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AW - R73 CA10

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38 87	11:56 (9) 06:59 15:37 (6) 17:10 72	12:04 (9) 06:25 13:16 (9) 17:42	06:37 19:13	05:54 19:42	05:27 20:10
2	07:09 16:38 88	11:56 (9) 06:58 15:37 (6) 17:11 70	12:05 (9) 06:23 13:15 (9) 17:43	06:35 19:14	05:53 19:43	05:27 20:10
3	07:10 16:39 87	11:56 (9) 06:57 15:37 (6) 17:12 70	12:05 (9) 06:22 13:15 (9) 17:44	06:34 19:15	05:52 19:44	05:27 20:11
4	07:10 16:40 88	11:56 (9) 06:56 15:37 (6) 17:13 69	12:06 (9) 06:20 13:15 (9) 17:45	06:32 19:16	05:50 19:45	05:26 20:12
5	07:10 16:41 88	11:56 (9) 06:55 15:37 (6) 17:14 67	12:07 (9) 06:19 13:14 (9) 17:46	06:31 19:17	05:49 19:46	05:26 20:12
6	07:10 16:42 86	11:57 (9) 06:54 15:37 (6) 17:15 66	12:08 (9) 06:17 13:14 (9) 17:48	06:29 19:18	05:48 19:47	05:26 20:13
7	07:10 16:43 87	11:57 (9) 06:53 15:38 (6) 17:17 64	12:09 (9) 06:16 13:13 (9) 17:49	06:28 19:19	05:47 19:48	05:25 20:14
8	07:10 16:44 87	11:57 (9) 06:52 15:38 (6) 17:18 61	12:11 (9) 06:14 13:12 (9) 17:50	06:26 19:20	05:46 19:49	05:25 20:14
9	07:10 16:45 84	11:58 (9) 06:51 15:37 (6) 17:19 60	12:12 (9) 06:13 13:12 (9) 17:51	06:25 19:21	05:45 19:50	05:25 20:15
10	07:10 16:45 83	11:57 (9) 06:50 15:36 (6) 17:20 57	12:14 (9) 06:11 13:11 (9) 17:52 5	17:03 (10) 06:23 17:08 (10) 19:22	05:44 19:51	05:25 20:15
11	07:10 16:46 82	11:57 (9) 06:49 15:36 (6) 17:21 53	12:15 (9) 06:10 13:08 (9) 17:53 13	16:58 (10) 06:22 17:11 (10) 19:23	05:43 19:52	05:25 20:16
12	07:09 16:47 79	11:58 (9) 06:48 15:35 (6) 17:22 49	12:18 (9) 06:08 13:07 (9) 17:54 17	16:57 (10) 06:20 17:14 (10) 19:24	05:42 19:53	05:25 20:16
13	07:09 16:48 72	11:58 (9) 06:47 13:10 (9) 17:23 45	12:20 (9) 06:07 13:05 (9) 17:55 19	16:55 (10) 06:19 17:14 (10) 19:25	05:41 19:54	05:24 20:17
14	07:09 16:49 72	11:58 (9) 06:46 13:10 (9) 17:25 39	12:24 (9) 06:05 13:03 (9) 17:56 22	16:53 (10) 06:17 17:15 (10) 19:26	05:40 19:55	05:24 20:17
15	07:09 16:51 73	11:58 (9) 06:44 13:11 (9) 17:26 31	12:29 (9) 06:04 13:00 (9) 17:57 24	16:52 (10) 06:16 17:16 (10) 19:27	05:39 19:56	05:24 20:18
16	07:08 16:52 73	11:59 (9) 06:43 13:12 (9) 17:27 20	12:34 (9) 06:02 12:54 (9) 17:58 24	16:51 (10) 06:14 17:15 (10) 19:28	05:38 19:57	05:24 20:18
17	07:08 16:53 73	11:59 (9) 06:42 13:12 (9) 17:28	06:00 17:59 25	16:51 (10) 06:13 17:16 (10) 19:29	05:37 19:57	05:25 20:18
18	07:08 16:54 74	11:59 (9) 06:41 13:13 (9) 17:29	05:59 18:00 24	16:51 (10) 06:11 17:15 (10) 19:30	05:36 19:58	05:25 20:19
19	07:07 16:55 74	11:59 (9) 06:40 13:13 (9) 17:30	05:57 18:01 24	16:51 (10) 06:10 17:15 (10) 19:31	05:35 19:59	05:25 20:19
20	07:07 16:56 74	12:00 (9) 06:38 13:14 (9) 17:31	05:56 18:02 23	16:51 (10) 06:08 17:14 (10) 19:32	05:35 20:00	05:25 20:19
21	07:06 16:57 74	12:00 (9) 06:37 13:14 (9) 17:33	05:54 18:03 22	16:51 (10) 06:07 17:13 (10) 19:33	05:34 20:01	05:25 20:19
22	07:06 16:58 75	11:59 (9) 06:36 13:14 (9) 17:34	05:53 18:04 20	16:52 (10) 06:06 17:12 (10) 19:34	05:33 20:02	05:25 20:20
23	07:05 16:59 75	12:00 (9) 06:34 13:15 (9) 17:35	05:51 18:05 17	16:53 (10) 06:04 17:10 (10) 19:35	05:32 20:03	05:25 20:20
24	07:05 17:00 75	12:00 (9) 06:33 13:15 (9) 17:36	05:49 18:06 14	16:55 (10) 06:03 17:09 (10) 19:36	05:32 20:04	05:26 20:20
25	07:04 17:02 75	12:00 (9) 06:32 13:15 (9) 17:37	05:48 18:07 8	16:57 (10) 06:02 17:05 (10) 19:37	05:31 20:04	05:26 20:20
26	07:03 17:03 74	12:01 (9) 06:30 13:15 (9) 17:38	05:46 18:08	06:00 19:38	05:30 20:05	05:26 20:20
27	07:03 17:04 74	12:01 (9) 06:29 13:15 (9) 17:39	05:45 18:08	05:59 19:39	05:30 20:06	05:27 20:20
28	07:02 17:05 73	12:02 (9) 06:27 13:15 (9) 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20
29	07:01 17:06 73	12:02 (9) 06:26 13:15 (9) 17:41	05:42 18:10	05:56 19:40	05:29 20:07	05:27 20:20
30	07:00 17:07 73	12:03 (9) 13:16 (9)	05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20
31	07:00 17:08 72	12:04 (9) 13:16 (9)	06:38 19:12	 	05:28 20:09	
Potential sun hours	302	310	370	396	443	446
Total, worst case	2424	893	301			

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: Bufalo worst case Shadow receptor: AW - R73 CA10

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:23	06:46 18:35	17:34 (9) 17:53 (10)	06:17 16:51	11:45 (9) 12:38 (9)	06:49 16:29	79 15:17 (6)
2	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	17:36 (10) 17:51 (10)	06:18 16:50	11:43 (9) 12:40 (9)	06:50 16:29	82 15:19 (6)
3	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	17:38 (10) 17:48 (10)	06:19 16:49	11:41 (9) 12:41 (9)	06:51 16:29	84 15:20 (6)
4	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	17:50 (10) 18:29	06:20 16:48	11:41 (9) 12:42 (9)	06:52 16:28	84 15:21 (6)
5	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	18:27 18:29	06:21 16:47	11:39 (9) 12:43 (9)	06:53 16:28	86 15:22 (6)
6	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	18:27 18:27	06:22 16:46	11:38 (9) 12:44 (9)	06:54 16:28	87 15:24 (6)
7	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	18:26 18:26	06:23 16:45	11:37 (9) 12:44 (9)	06:55 16:28	87 15:25 (6)
8	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	18:24 18:24	06:25 16:44	11:36 (9) 12:45 (9)	06:56 16:28	88 15:25 (6)
9	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	18:23 18:23	06:26 16:43	11:36 (9) 12:46 (9)	06:57 16:28	87 15:25 (6)
10	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	18:21 18:21	06:27 16:42	11:36 (9) 12:46 (9)	06:58 16:28	87 15:26 (6)
11	05:34 20:18	05:59 19:52	06:27 19:07	06:55 18:19	18:19 18:19	06:28 16:41	11:35 (9) 12:47 (9)	06:59 16:28	88 15:27 (6)
12	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	18:18 18:18	06:29 16:40	11:35 (9) 12:47 (9)	06:59 16:28	87 15:28 (6)
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	18:17 18:17	06:30 16:39	11:34 (9) 12:47 (9)	07:00 16:29	88 15:29 (6)
14	05:36 20:17	06:02 19:48	06:30 19:02	06:58 18:15	18:15 18:15	06:31 16:38	11:35 (9) 12:48 (9)	07:01 16:29	88 15:29 (6)
15	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	18:14 18:14	06:32 16:37	11:35 (9) 12:48 (9)	07:02 16:29	89 15:30 (6)
16	05:37 20:16	06:04 19:46	06:32 18:59	07:00 18:12	18:12 18:12	06:33 16:37	11:34 (9) 12:48 (9)	07:02 16:29	88 15:30 (6)
17	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	18:11 18:11	06:35 16:36	11:34 (9) 12:49 (9)	07:03 16:30	87 15:30 (6)
18	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	18:09 18:09	06:36 16:35	11:34 (9) 12:49 (9)	07:04 16:30	87 15:31 (6)
19	05:40 20:14	06:07 19:42	06:35 18:54	07:03 18:08	18:08 18:08	06:37 16:35	11:35 (9) 12:50 (9)	07:04 16:30	88 15:32 (6)
20	05:40 20:13	06:08 19:40	06:36 18:53	07:04 18:06	18:06 18:06	06:38 16:34	11:35 (9) 12:50 (9)	07:05 16:31	88 15:32 (6)
21	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	18:05 18:05	06:39 16:33	11:35 (9) 12:50 (9)	07:05 16:31	88 15:33 (6)
22	05:42 20:12	06:09 19:37	06:37 18:49	07:06 18:04	18:04 18:04	06:40 16:33	11:36 (9) 12:50 (9)	07:06 16:32	88 15:33 (6)
23	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	18:02 18:02	06:41 16:32	11:36 (9) 12:50 (9)	07:06 16:32	88 15:33 (6)
24	05:44 20:10	06:11 19:35	06:39 18:46	07:08 18:01	18:01 18:01	06:42 16:32	11:36 (9) 12:50 (9)	07:07 16:33	88 15:34 (6)
25	05:44 20:09	06:12 19:33	06:40 18:45	07:09 18:00	18:00 18:00	06:43 16:31	11:36 (9) 12:50 (9)	07:07 16:33	88 15:34 (6)
26	05:45 20:09	06:13 19:32	06:41 18:43	07:10 17:58	17:58 17:58	06:44 16:31	11:38 (9) 12:51 (9)	07:08 16:34	87 15:35 (6)
27	05:46 20:08	06:14 19:30	06:42 18:41	07:11 16:57	16:57 16:57	06:45 16:30	11:38 (9) 12:51 (9)	07:08 16:35	88 15:35 (6)
28	05:47 20:07	06:15 19:29	06:43 18:40	07:12 16:56	16:56 16:56	06:46 16:30	11:38 (9) 12:51 (9)	07:08 16:35	89 15:36 (6)
29	05:48 20:06	06:16 19:27	06:44 18:38	07:13 16:55	16:55 16:55	06:47 16:30	11:39 (9) 12:51 (9)	07:09 16:36	88 15:36 (6)
30	05:49 20:05	06:17 19:26	06:45 18:37	07:14 16:54	16:54 16:54	06:48 16:29	11:39 (9) 12:51 (9)	07:09 16:37	89 15:37 (6)
31	05:50 20:04	06:18 19:24		06:16 16:52	16:52 16:52	11:47 (9) 12:37 (9)		07:09 16:37	88 15:37 (6)
Potential sun hours	453	424	374	347	303	294			
Total, worst case			257	233	2108	2698			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AX - R07 CU1

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:58 17:09	06:24 17:42	14:14 (12) 15:17 (12)	06:36 19:13	15:31 (12) 19:42
2	07:09 16:38	06:58 17:10	06:23 17:43	14:13 (12) 15:18 (12)	06:35 19:14	15:35 (12) 19:43
3	07:09 16:39	06:57 17:11	06:21 17:44	14:12 (12) 15:19 (12)	06:33 19:15	15:38 (12) 19:44
4	07:09 16:40	06:56 17:13	06:20 17:45	14:11 (12) 15:19 (12)	06:32 19:16	15:48 (12) 19:45
5	07:09 16:40	06:55 17:14	06:18 17:46	14:11 (12) 15:20 (12)	06:30 19:17	05:49 19:46
6	07:09 16:41	06:54 17:15	06:17 17:47	14:10 (12) 15:20 (12)	06:29 19:18	05:48 19:47
7	07:10 16:42	06:53 17:16	06:15 17:48	14:10 (12) 15:21 (12)	06:27 19:19	05:46 19:48
8	07:09 16:43	06:52 17:17	06:14 17:49	14:09 (12) 15:21 (12)	06:26 19:20	05:45 19:49
9	07:09 16:44	06:51 17:18	06:12 17:50	14:10 (12) 15:21 (12)	06:24 19:21	05:44 19:50
10	07:09 16:45	06:50 17:20	06:11 17:51	14:09 (12) 15:21 (12)	06:23 19:22	05:43 19:51
11	07:09 16:46	06:49 17:21	06:09 17:52	14:09 (12) 15:22 (12)	06:21 19:23	05:42 19:52
12	07:09 16:47	06:48 17:22	06:08 17:53	14:09 (12) 15:21 (12)	06:20 19:24	05:41 19:53
13	07:09 16:48	06:46 17:23	06:06 17:54	14:10 (12) 15:22 (12)	06:18 19:25	05:40 19:53
14	07:09 16:49	06:45 17:24	06:05 17:55	14:10 (12) 15:21 (12)	06:17 19:26	05:39 19:54
15	07:08 16:50	06:44 17:25	06:03 17:56	14:09 (12) 15:20 (12)	06:15 19:26	05:38 19:55
16	07:08 16:51	06:43 17:26	06:02 17:57	14:10 (12) 15:21 (12)	06:14 19:27	05:38 19:56
17	07:08 16:52	06:42 17:28	06:00 17:58	14:11 (12) 15:20 (12)	06:12 19:28	05:37 19:57
18	07:07 16:53	06:40 17:29	05:59 17:59	14:12 (12) 15:20 (12)	06:11 19:29	05:36 19:58
19	07:07 16:54	06:39 17:30	05:57 18:00	14:12 (12) 15:19 (12)	06:09 19:30	05:35 19:59
20	07:06 16:55	06:38 17:31	05:55 18:01	14:13 (12) 15:19 (12)	06:08 19:31	05:34 20:00
21	07:06 16:57	06:37 17:32	05:54 18:02	14:14 (12) 15:18 (12)	06:07 19:32	05:33 20:01
22	07:05 16:58	06:35 17:33	05:52 18:03	14:15 (12) 15:17 (12)	06:05 19:33	05:33 20:01
23	07:05 16:59	06:34 17:34	05:51 18:04	14:16 (12) 15:17 (12)	06:04 19:34	05:32 20:02
24	07:04 17:00	06:33 17:35	05:49 18:05	14:17 (12) 15:15 (12)	06:03 19:35	05:31 20:03
25	07:04 17:01	06:31 17:36	05:47 18:06	14:19 (12) 15:15 (12)	06:01 19:36	05:31 20:04
26	07:03 17:02	06:30 17:38	05:46 18:07	14:20 (12) 15:13 (12)	06:00 19:37	05:30 20:05
27	07:02 17:03	06:29 17:39	05:44 18:08	14:21 (12) 15:12 (12)	05:59 19:38	05:29 20:06
28	07:02 17:04	06:27 17:40	05:43 18:09	14:23 (12) 15:11 (12)	05:57 19:39	05:29 20:06
29	07:01 17:06	06:26 17:41	05:41 18:10	14:25 (12) 15:09 (12)	05:56 19:40	05:28 20:07
30	07:00 17:07		05:40 18:11	14:27 (12) 15:08 (12)	05:55 19:41	05:28 20:08
31	06:59 17:08		06:38 19:12	15:29 (12) 16:05 (12)		05:27 20:09
Potential sun hours	302	310	370	396	443	446
Total, worst case		480	1962	78		

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AX - R07 CU1

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	14:49 (12) 16:01 (12)	06:16 16:29	
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	14:48 (12) 16:00 (12)	06:18 16:28	
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	14:48 (12) 16:00 (12)	06:19 16:28	
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	14:46 (12) 15:58 (12)	06:20 16:28	
5	05:30 20:19	05:54 19:58	06:22 19:16	06:49 18:28	14:46 (12) 15:58 (12)	06:21 16:28	
6	05:30 20:19	05:54 19:57	06:23 19:15	06:50 18:27	14:46 (12) 15:57 (12)	06:22 16:28	
7	05:31 20:19	05:55 19:56	06:23 19:13	06:51 18:25	14:46 (12) 15:56 (12)	06:23 16:28	
8	05:31 20:19	05:56 19:55	06:24 19:11	06:52 18:24	14:45 (12) 15:55 (12)	06:24 16:28	
9	05:32 20:18	05:57 19:54	06:25 19:10	15:33 (12) 15:50 (12)	06:53 18:22	14:46 (12) 15:54 (12)	06:25 16:28
10	05:33 20:18	05:58 19:53	06:26 19:08	15:29 (12) 15:53 (12)	06:54 18:21	14:46 (12) 15:53 (12)	06:26 16:28
11	05:33 20:18	05:59 19:52	06:27 19:07	15:25 (12) 15:56 (12)	06:55 18:19	14:46 (12) 15:52 (12)	06:28 16:28
12	05:34 20:17	06:00 19:50	06:28 19:05	15:22 (12) 15:57 (12)	06:56 18:18	14:47 (12) 15:51 (12)	06:29 16:28
13	05:35 20:17	06:01 19:49	06:29 19:03	15:18 (12) 15:58 (12)	06:57 18:16	14:47 (12) 15:50 (12)	06:30 16:28
14	05:35 20:16	06:02 19:48	06:30 19:02	15:16 (12) 15:59 (12)	06:58 18:15	14:49 (12) 15:49 (12)	06:31 16:28
15	05:36 20:16	06:03 19:46	06:31 19:00	15:13 (12) 16:00 (12)	06:59 18:13	14:49 (12) 15:48 (12)	06:32 16:29
16	05:37 20:15	06:04 19:45	06:32 18:59	15:11 (12) 16:01 (12)	07:00 18:12	14:50 (12) 15:46 (12)	06:33 16:29
17	05:38 20:15	06:04 19:44	06:32 18:57	15:09 (12) 16:01 (12)	07:01 18:10	14:51 (12) 15:44 (12)	06:34 16:29
18	05:38 20:14	06:05 19:42	06:33 18:55	15:07 (12) 16:02 (12)	07:02 18:09	14:53 (12) 15:42 (12)	06:35 16:30
19	05:39 20:13	06:06 19:41	06:34 18:54	15:05 (12) 16:02 (12)	07:03 18:07	14:54 (12) 15:40 (12)	06:36 16:30
20	05:40 20:13	06:07 19:40	06:35 18:52	15:03 (12) 16:03 (12)	07:04 18:06	14:56 (12) 15:38 (12)	06:37 16:30
21	05:41 20:12	06:08 19:38	06:36 18:51	15:00 (12) 16:02 (12)	07:05 18:05	14:58 (12) 15:35 (12)	06:39 16:31
22	05:42 20:11	06:09 19:37	06:37 18:49	14:59 (12) 16:02 (12)	07:06 18:03	15:01 (12) 15:32 (12)	06:40 16:31
23	05:42 20:11	06:10 19:36	06:38 18:47	14:57 (12) 16:02 (12)	07:07 18:02	15:04 (12) 15:28 (12)	06:41 16:32
24	05:43 20:10	06:11 19:34	06:39 18:46	14:56 (12) 16:02 (12)	07:08 18:01	15:11 (12) 15:21 (12)	06:42 16:32
25	05:44 20:09	06:12 19:33	06:40 18:44	14:55 (12) 16:02 (12)	07:09 17:59	06:43 16:31	07:07 16:33
26	05:45 20:08	06:13 19:31	06:41 18:42	14:53 (12) 16:02 (12)	07:10 17:58	06:44 16:30	07:07 16:33
27	05:46 20:07	06:14 19:30	06:41 18:41	14:52 (12) 16:02 (12)	06:11 16:57	06:45 16:30	07:08 16:34
28	05:47 20:06	06:14 19:28	06:42 18:39	14:51 (12) 16:02 (12)	06:12 16:56	06:46 16:29	07:08 16:35
29	05:47 20:06	06:15 19:27	06:43 18:38	14:50 (12) 16:02 (12)	06:13 16:54	06:47 16:29	07:08 16:35
30	05:48 20:05	06:16 19:25	06:44 18:36	14:50 (12) 16:01 (12)	06:14 16:53	06:48 16:29	07:09 16:36
31	05:49 20:04	06:17 19:24		06:15 16:52			07:09 16:37
Potential sun hours	453	424	374	347	303	294	
Total, worst case			1187	1366			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AY - R08 CU2
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:59 17:09	12:55 (13) 13:58 (13)	06:24 17:42	07:11 (12) 14:03 (13)	06:37 19:13	05:54 19:42	05:27 20:09
2	07:09 16:38	06:58 17:10	12:54 (13) 13:59 (13)	06:23 17:43	07:11 (12) 14:03 (13)	06:35 19:14	05:52 19:43	05:27 20:10
3	07:09 16:39	06:57 17:12	12:53 (13) 14:00 (13)	06:21 17:44	07:09 (12) 14:01 (13)	06:33 19:15	05:51 19:44	05:26 20:11
4	07:09 16:40	06:56 17:13	12:52 (13) 14:01 (13)	06:20 17:45	07:09 (12) 14:00 (13)	06:32 19:16	05:50 19:45	05:26 20:11
5	07:10 16:41	06:55 17:14	12:52 (13) 14:02 (13)	06:19 17:46	07:09 (12) 13:59 (13)	06:30 19:17	05:49 19:46	05:25 20:12
6	07:10 16:41	06:54 17:15	12:51 (13) 14:03 (13)	06:17 17:47	07:09 (12) 13:57 (13)	06:29 19:18	05:48 19:47	05:25 20:13
7	07:10 16:42	06:53 17:16	12:51 (13) 14:03 (13)	06:16 17:48	07:09 (12) 13:55 (13)	06:27 19:19	05:47 19:48	05:25 20:13
8	07:10 16:43	06:52 17:17	12:50 (13) 14:04 (13)	06:14 17:49	07:09 (12) 13:52 (13)	06:26 19:20	05:45 19:49	05:25 20:14
9	07:10 16:44	06:51 17:19	12:49 (13) 14:04 (13)	06:13 17:50	07:10 (12) 13:49 (13)	06:24 19:21	05:44 19:50	05:25 20:14
10	07:09 16:45	06:50 17:20	12:49 (13) 14:05 (13)	06:11 17:51	07:10 (12) 13:42 (13)	06:23 19:22	05:43 19:51	05:24 20:15
11	07:09 16:46	06:49 17:21	12:49 (13) 14:05 (13)	06:09 17:52	07:12 (12) 07:28 (12)	06:21 19:23	05:42 19:52	05:24 20:16
12	07:09 16:47	06:48 17:22	12:49 (13) 14:06 (13)	06:08 17:53	07:14 (12) 07:25 (12)	06:20 19:24	05:41 19:53	05:24 20:16
13	07:09 16:48	06:47 17:23	12:49 (13) 14:07 (13)	06:06 17:54		06:18 19:25	05:40 19:54	05:24 20:16
14	07:09 16:49	06:45 17:24	12:49 (13) 14:07 (13)	06:05 17:55		06:17 19:26	05:39 19:54	05:24 20:17
15	07:08 16:50	06:44 17:25	12:48 (13) 14:07 (13)	06:03 17:56		06:15 19:27	05:38 19:55	05:24 20:17
16	07:08 16:51	06:43 17:27	12:48 (13) 14:07 (13)	06:02 17:57		06:14 19:28	05:38 19:56	05:24 20:18
17	07:08 16:52	06:42 17:28	12:48 (13) 14:08 (13)	06:00 17:58		06:12 19:29	05:37 19:57	05:24 20:18
18	07:07 16:53	13:15 (13) 13:29 (13)	06:41 17:29	12:49 (13) 14:08 (13)	05:59 17:59	06:11 19:29	05:36 19:58	05:24 20:18
19	07:07 16:54	13:12 (13) 13:33 (13)	06:39 17:30	12:48 (13) 14:08 (13)	05:57 18:00	06:10 19:30	05:35 19:59	05:24 20:19
20	07:06 16:56	13:09 (13) 13:36 (13)	06:38 17:31	12:49 (13) 14:08 (13)	05:55 18:01	06:08 19:31	05:34 20:00	05:24 20:19
21	07:06 16:57	13:07 (13) 13:39 (13)	06:37 17:32	12:49 (13) 14:08 (13)	05:54 18:02	06:07 19:32	05:33 20:01	05:25 20:19
22	07:05 16:58	13:05 (13) 13:41 (13)	06:35 17:33	12:49 (13) 14:07 (13)	05:52 18:03	06:05 19:33	05:33 20:02	05:25 20:19
23	07:05 16:59	13:04 (13) 13:44 (13)	06:34 17:34	12:50 (13) 14:07 (13)	05:51 18:04	06:04 19:34	05:32 20:02	05:25 20:20
24	07:04 17:00	13:03 (13) 13:46 (13)	06:33 17:35	12:51 (13) 14:08 (13)	05:49 18:05	06:03 19:35	05:31 20:03	05:25 20:20
25	07:04 17:01	13:01 (13) 13:47 (13)	06:31 17:37	12:51 (13) 14:07 (13)	05:48 18:06	06:01 19:36	05:31 20:04	05:26 20:20
26	07:03 17:02	12:59 (13) 13:49 (13)	06:30 17:38	07:18 (12) 14:06 (13)	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20
27	07:02 17:03	12:59 (13) 13:51 (13)	06:29 17:39	07:15 (12) 14:05 (13)	05:44 18:08	05:59 19:38	05:29 20:06	05:26 20:20
28	07:02 17:05	12:58 (13) 13:52 (13)	06:27 17:40	07:13 (12) 14:05 (13)	05:43 18:09	05:57 19:39	05:29 20:06	05:27 20:20
29	07:01 17:06	12:57 (13) 13:54 (13)	06:26 17:41	07:11 (12) 14:04 (13)	05:41 18:10	05:56 19:40	05:28 20:07	05:27 20:20
30	07:00 17:07	12:56 (13) 13:55 (13)		05:40 18:11		05:55 19:41	05:28 20:08	05:27 20:20
31	06:59 17:08	12:55 (13) 13:56 (13)		06:38 19:12			05:27 20:09	
Potential sun hours	302	310	370	396	443	446		
Total, worst case	592	2227	721					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AY - R08 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	8	07:55 (12) 08:03 (12)	06:17 16:51	12:19 (13) 13:35 (13)	06:49 16:29
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	14	07:52 (12) 08:06 (12)	06:18 16:50	12:19 (13) 13:35 (13)	06:50 16:28
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	17	07:50 (12) 08:07 (12)	06:19 16:49	12:19 (13) 13:34 (13)	06:51 16:28
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	41	07:48 (12) 14:24 (13)	06:20 16:47	12:19 (13) 13:33 (13)	06:52 16:28
5	05:30 20:19	05:54 19:59	06:22 19:16	06:49 18:28	53	07:47 (12) 14:28 (13)	06:21 16:46	12:21 (13) 13:33 (13)	06:53 16:28
6	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	62	07:46 (12) 14:30 (13)	06:22 16:45	12:21 (13) 13:33 (13)	06:54 16:28
7	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	69	07:44 (12) 14:31 (13)	06:23 16:44	12:22 (13) 13:32 (13)	06:55 16:28
8	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	74	07:44 (12) 14:32 (13)	06:24 16:43	12:22 (13) 13:31 (13)	06:56 16:28
9	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	80	07:43 (12) 14:34 (13)	06:25 16:42	12:23 (13) 13:30 (13)	06:57 16:28
10	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	83	07:44 (12) 14:35 (13)	06:27 16:41	12:25 (13) 13:30 (13)	06:57 16:28
11	05:33 20:18	05:59 19:52	06:27 19:07	06:55 18:19	86	07:44 (12) 14:36 (13)	06:28 16:40	12:26 (13) 13:29 (13)	06:58 16:28
12	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	89	07:44 (12) 14:37 (13)	06:29 16:40	12:27 (13) 13:28 (13)	06:59 16:28
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	89	07:45 (12) 14:37 (13)	06:30 16:39	12:28 (13) 13:27 (13)	07:00 16:28
14	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	90	07:45 (12) 14:38 (13)	06:31 16:38	12:29 (13) 13:26 (13)	07:01 16:28
15	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	90	07:46 (12) 14:38 (13)	06:32 16:37	12:31 (13) 13:25 (13)	07:01 16:29
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	88	07:48 (12) 14:38 (13)	06:33 16:36	12:32 (13) 13:24 (13)	07:02 16:29
17	05:38 20:15	06:05 19:44	06:32 18:57	07:01 18:10	84	07:50 (12) 14:38 (13)	06:34 16:36	12:33 (13) 13:23 (13)	07:03 16:29
18	05:38 20:14	06:05 19:43	06:33 18:55	07:02 18:09	75	13:23 (13) 14:38 (13)	06:35 16:35	12:35 (13) 13:21 (13)	07:03 16:30
19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	76	13:22 (13) 14:38 (13)	06:36 16:34	12:36 (13) 13:20 (13)	07:04 16:30
20	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	77	13:21 (13) 14:38 (13)	06:38 16:34	12:38 (13) 13:18 (13)	07:05 16:30
21	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	78	13:20 (13) 14:38 (13)	06:39 16:33	12:41 (13) 13:18 (13)	07:05 16:31
22	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	79	13:19 (13) 14:38 (13)	06:40 16:32	12:43 (13) 13:16 (13)	07:06 16:31
23	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	80	13:18 (13) 14:38 (13)	06:41 16:32	12:46 (13) 13:13 (13)	07:06 16:32
24	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	79	13:18 (13) 14:37 (13)	06:42 16:31	12:49 (13) 13:11 (13)	07:07 16:32
25	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	80	13:18 (13) 14:38 (13)	06:43 16:31	12:52 (13) 13:07 (13)	07:07 16:33
26	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	79	13:18 (13) 14:37 (13)	06:44 16:30		07:07 16:34
27	05:46 20:07	06:14 19:30	06:42 18:41	06:11 16:57	79	12:18 (13) 13:37 (13)	06:45 16:30		07:08 16:34
28	05:47 20:07	06:15 19:28	06:43 18:39	06:12 16:56	79	12:18 (13) 13:37 (13)	06:46 16:30		07:08 16:35
29	05:47 20:06	06:15 19:27	06:43 18:38	06:13 16:54	79	12:17 (13) 13:36 (13)	06:47 16:29		07:08 16:36
30	05:48 20:05	06:16 19:25	06:44 18:36	06:14 16:53	79	12:17 (13) 13:36 (13)	06:48 16:29		07:09 16:36
31	05:49 20:04	06:17 19:24		06:15 16:52	77	12:19 (13) 13:36 (13)			07:09 16:37
Potential sun hours	453	424	374	347		303			294
Total, worst case				2213		1376			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AZ - R09 CU2
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	12:46 (13) 13:28 (13)	06:59 17:09	12:40 (13) 13:55 (13)	06:24 17:42	26 07:14 (12)	06:37 19:13	05:54 19:42	05:27 20:09
2	07:09 16:38	12:46 (13) 13:29 (13)	06:58 17:10	12:40 (13) 13:55 (13)	06:23 17:43	25 07:40 (12)	06:35 19:14	05:52 19:43	05:27 20:10
3	07:09 16:39	12:46 (13) 13:30 (13)	06:57 17:12	12:40 (13) 13:56 (13)	06:21 17:44	24 07:39 (12)	06:33 19:15	05:51 19:44	05:26 20:11
4	07:09 16:40	12:46 (13) 13:31 (13)	06:56 17:13	12:41 (13) 13:56 (13)	06:20 17:45	23 07:38 (12)	06:32 19:16	05:50 19:45	05:26 20:11
5	07:10 16:41	12:45 (13) 13:32 (13)	06:55 17:14	12:41 (13) 13:56 (13)	06:19 17:46	21 07:37 (12)	06:30 19:17	05:49 19:46	05:25 20:12
6	07:10 16:41	12:45 (13) 13:33 (13)	06:54 17:15	12:41 (13) 13:56 (13)	06:17 17:47	18 07:35 (12)	06:29 19:18	05:48 19:47	05:25 20:13
7	07:10 16:42	12:45 (13) 13:34 (13)	06:53 17:16	12:41 (13) 13:57 (13)	06:16 17:48	15 07:33 (12)	06:27 19:19	05:47 19:48	05:25 20:13
8	07:10 16:43	12:44 (13) 13:34 (13)	06:52 17:17	12:42 (13) 13:57 (13)	06:14 17:49	9 07:20 (12)	06:26 19:20	05:45 19:49	05:25 20:14
9	07:10 16:44	12:44 (13) 13:35 (13)	06:51 17:19	12:41 (13) 13:56 (13)	06:13 17:50		06:24 19:21	05:44 19:50	05:25 20:14
10	07:09 16:45	12:44 (13) 13:37 (13)	06:50 17:20	12:42 (13) 13:56 (13)	06:11 17:51		06:23 19:22	05:43 19:51	05:24 20:15
11	07:09 16:46	12:44 (13) 13:38 (13)	06:49 17:21	12:42 (13) 13:56 (13)	06:09 17:52		06:21 19:23	05:42 19:52	05:24 20:16
12	07:09 16:47	12:44 (13) 13:39 (13)	06:48 17:22	12:43 (13) 13:56 (13)	06:08 17:53		06:20 19:24	05:41 19:53	05:24 20:16
13	07:09 16:48	12:43 (13) 13:39 (13)	06:47 17:23	12:44 (13) 13:56 (13)	06:06 17:54		06:18 19:25	05:40 19:54	05:24 20:16
14	07:09 16:49	12:43 (13) 13:41 (13)	06:45 17:24	12:45 (13) 13:56 (13)	06:05 17:55		06:17 19:26	05:39 19:54	05:24 20:17
15	07:08 16:50	12:43 (13) 13:42 (13)	06:44 17:25	12:45 (13) 13:54 (13)	06:03 17:56		06:15 19:27	05:38 19:55	05:24 20:17
16	07:08 16:51	12:42 (13) 13:43 (13)	06:43 17:27	12:47 (13) 13:54 (13)	06:02 17:57		06:14 19:28	05:38 19:56	05:24 20:18
17	07:08 16:52	12:42 (13) 13:44 (13)	06:42 17:28	12:48 (13) 13:54 (13)	06:00 17:58		06:12 19:29	05:37 19:57	05:24 20:18
18	07:07 16:53	12:41 (13) 13:44 (13)	06:41 17:29	12:50 (13) 13:53 (13)	05:59 17:59		06:11 19:29	05:36 19:58	05:24 20:18
19	07:07 16:54	12:42 (13) 13:46 (13)	06:39 17:30	12:51 (13) 13:52 (13)	05:57 18:00		06:10 19:30	05:35 19:59	05:24 20:19
20	07:06 16:56	12:41 (13) 13:46 (13)	06:38 17:31	12:53 (13) 13:51 (13)	05:55 18:01		06:08 19:31	05:34 20:00	05:24 20:19
21	07:06 16:57	12:41 (13) 13:48 (13)	06:37 17:32	07:26 (12) 13:50 (13)	05:54 18:02		06:07 19:32	05:33 20:01	05:25 20:19
22	07:05 16:58	12:41 (13) 13:48 (13)	06:35 17:33	07:22 (12) 13:48 (13)	05:52 18:03		06:05 19:33	05:33 20:02	05:25 20:19
23	07:05 16:59	12:41 (13) 13:49 (13)	06:34 17:34	07:20 (12) 13:47 (13)	05:51 18:04		06:04 19:34	05:32 20:02	05:25 20:20
24	07:04 17:00	12:41 (13) 13:50 (13)	06:33 17:35	07:19 (12) 13:45 (13)	05:49 18:05		06:03 19:35	05:31 20:03	05:25 20:20
25	07:04 17:01	12:40 (13) 13:50 (13)	06:31 17:37	07:17 (12) 13:42 (13)	05:48 18:06		06:01 19:36	05:31 20:04	05:26 20:20
26	07:03 17:02	12:40 (13) 13:51 (13)	06:30 17:38	07:16 (12) 13:39 (13)	05:46 18:07		06:00 19:37	05:30 20:05	05:26 20:20
27	07:02 17:03	12:40 (13) 13:52 (13)	06:29 17:39	07:15 (12) 13:32 (13)	05:44 18:08		05:59 19:38	05:29 20:06	05:26 20:20
28	07:02 17:05	12:40 (13) 13:53 (13)	06:27 17:40	07:15 (12) 07:40 (12)	05:43 18:09		05:57 19:39	05:29 20:06	05:27 20:20
29	07:01 17:06	12:40 (13) 13:53 (13)	06:26 17:41	07:14 (12) 07:40 (12)	05:41 18:10		05:56 19:40	05:28 20:07	05:27 20:20
30	07:00 17:07	12:40 (13) 13:53 (13)			05:40 18:11		05:55 19:41	05:28 20:08	05:27 20:20
31	06:59 17:08	12:40 (13) 13:54 (13)			06:38 19:12			05:27 20:09	
Potential sun hours	302	310	370	396	443	446			
Total, worst case	1846	1871	161						

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: AZ - R09 CU2
 Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28	05:50	06:18	06:45		06:17	12:12 (13)	06:49	12:26 (13)
	20:20	20:03	19:22	18:35		16:51	74 13:26 (13)	16:29	55 13:21 (13)
2	05:28	05:51	06:19	06:46		06:18	12:12 (13)	06:50	12:27 (13)
	20:20	20:02	19:21	18:33		16:50	74 13:26 (13)	16:28	54 13:21 (13)
3	05:29	05:52	06:20	06:47		06:19	12:11 (13)	06:51	12:28 (13)
	20:20	20:01	19:19	18:31		16:49	75 13:26 (13)	16:28	53 13:21 (13)
4	05:29	05:53	06:21	06:48		06:20	12:11 (13)	06:52	12:29 (13)
	20:20	20:00	19:18	18:30		16:47	75 13:26 (13)	16:28	51 13:20 (13)
5	05:30	05:54	06:22	06:49	08:01 (12)	06:21	12:11 (13)	06:53	12:30 (13)
	20:19	19:59	19:16	18:28	3 08:04 (12)	16:46	75 13:26 (13)	16:28	50 13:20 (13)
6	05:30	05:55	06:23	06:50	07:56 (12)	06:22	12:11 (13)	06:54	12:31 (13)
	20:19	19:57	19:15	18:27	12 08:08 (12)	16:45	75 13:26 (13)	16:28	49 13:20 (13)
7	05:31	05:55	06:24	06:51	07:53 (12)	06:23	12:11 (13)	06:55	12:31 (13)
	20:19	19:56	19:13	18:25	16 08:09 (12)	16:44	75 13:26 (13)	16:28	48 13:19 (13)
8	05:32	05:56	06:24	06:52	07:51 (12)	06:24	12:10 (13)	06:56	12:32 (13)
	20:19	19:55	19:11	18:24	20 08:11 (12)	16:43	76 13:26 (13)	16:28	47 13:19 (13)
9	05:32	05:57	06:25	06:53	07:50 (12)	06:25	12:10 (13)	06:57	12:33 (13)
	20:18	19:54	19:10	18:22	21 08:11 (12)	16:42	76 13:26 (13)	16:28	46 13:19 (13)
10	05:33	05:58	06:26	06:54	07:50 (12)	06:27	12:11 (13)	06:57	12:35 (13)
	20:18	19:53	19:08	18:21	23 08:13 (12)	16:41	75 13:26 (13)	16:28	44 13:19 (13)
11	05:33	05:59	06:27	06:55	07:49 (12)	06:28	12:11 (13)	06:58	12:36 (13)
	20:18	19:52	19:07	18:19	24 08:13 (12)	16:40	75 13:26 (13)	16:28	43 13:19 (13)
12	05:34	06:00	06:28	06:56	07:48 (12)	06:29	12:12 (13)	06:59	12:37 (13)
	20:17	19:50	19:05	18:18	25 08:13 (12)	16:40	74 13:26 (13)	16:28	42 13:19 (13)
13	05:35	06:01	06:29	06:57	07:48 (12)	06:30	12:12 (13)	07:00	12:37 (13)
	20:17	19:49	19:04	18:16	25 08:13 (12)	16:39	73 13:25 (13)	16:28	41 13:18 (13)
14	05:36	06:02	06:30	06:58	07:48 (12)	06:31	12:12 (13)	07:01	12:38 (13)
	20:16	19:48	19:02	18:15	25 08:13 (12)	16:38	73 13:25 (13)	16:28	40 13:18 (13)
15	05:36	06:03	06:31	06:59	07:48 (12)	06:32	12:13 (13)	07:01	12:40 (13)
	20:16	19:47	19:00	18:13	25 08:13 (12)	16:37	73 13:26 (13)	16:29	39 13:19 (13)
16	05:37	06:04	06:32	07:00	07:48 (12)	06:33	12:13 (13)	07:02	12:40 (13)
	20:15	19:45	18:59	18:12	42 14:07 (13)	16:36	72 13:25 (13)	16:29	38 13:18 (13)
17	05:38	06:05	06:32	07:01	07:48 (12)	06:34	12:14 (13)	07:03	12:41 (13)
	20:15	19:44	18:57	18:10	53 14:12 (13)	16:36	71 13:25 (13)	16:29	38 13:19 (13)
18	05:38	06:05	06:33	07:02	07:49 (12)	06:35	12:14 (13)	07:03	12:42 (13)
	20:14	19:43	18:55	18:09	58 14:14 (13)	16:35	70 13:24 (13)	16:30	37 13:19 (13)
19	05:39	06:06	06:34	07:03	07:50 (12)	06:36	12:15 (13)	07:04	12:42 (13)
	20:13	19:41	18:54	18:08	62 14:16 (13)	16:34	69 13:24 (13)	16:30	37 13:19 (13)
20	05:40	06:07	06:35	07:04	07:51 (12)	06:38	12:15 (13)	07:05	12:43 (13)
	20:13	19:40	18:52	18:06	64 14:18 (13)	16:33	69 13:24 (13)	16:30	37 13:20 (13)
21	05:41	06:08	06:36	07:05	07:53 (12)	06:39	12:17 (13)	07:05	12:43 (13)
	20:12	19:38	18:51	18:05	64 14:19 (13)	16:33	67 13:24 (13)	16:31	37 13:20 (13)
22	05:42	06:09	06:37	07:06	13:24 (13)	06:40	12:17 (13)	07:06	12:44 (13)
	20:11	19:37	18:49	18:03	56 14:20 (13)	16:32	67 13:24 (13)	16:31	37 13:21 (13)
23	05:42	06:10	06:38	07:07	13:22 (13)	06:41	12:18 (13)	07:06	12:44 (13)
	20:11	19:36	18:47	18:02	59 14:21 (13)	16:32	65 13:23 (13)	16:32	37 13:21 (13)
24	05:43	06:11	06:39	07:08	13:20 (13)	06:42	12:19 (13)	07:07	12:45 (13)
	20:10	19:34	18:46	18:01	62 14:22 (13)	16:31	64 13:23 (13)	16:32	37 13:22 (13)
25	05:44	06:12	06:40	07:09	13:19 (13)	06:43	12:20 (13)	07:07	12:45 (13)
	20:09	19:33	18:44	17:59	64 14:23 (13)	16:31	62 13:22 (13)	16:33	37 13:22 (13)
26	05:45	06:13	06:41	07:10	13:18 (13)	06:44	12:20 (13)	07:07	12:45 (13)
	20:08	19:31	18:43	17:58	66 14:24 (13)	16:30	62 13:22 (13)	16:34	38 13:23 (13)
27	05:46	06:14	06:42	06:11	12:16 (13)	06:45	12:21 (13)	07:08	12:46 (13)
	20:07	19:30	18:41	16:57	68 13:24 (13)	16:30	61 13:22 (13)	16:34	38 13:24 (13)
28	05:47	06:15	06:42	06:12	12:15 (13)	06:46	12:22 (13)	07:08	12:46 (13)
	20:07	19:28	18:39	16:56	69 13:24 (13)	16:30	59 13:21 (13)	16:35	39 13:25 (13)
29	05:47	06:15	06:43	06:13	12:14 (13)	06:47	12:24 (13)	07:08	12:45 (13)
	20:06	19:27	18:38	16:54	70 13:24 (13)	16:29	58 13:22 (13)	16:36	40 13:25 (13)
30	05:48	06:16	06:44	06:14	12:13 (13)	06:48	12:25 (13)	07:09	12:45 (13)
	20:05	19:25	18:36	16:53	72 13:25 (13)	16:29	57 13:22 (13)	16:36	41 13:26 (13)
31	05:49	06:17		06:15	12:13 (13)			07:09	12:45 (13)
	20:04	19:24		16:52	73 13:26 (13)			16:37	42 13:27 (13)
Potential sun hours	453	424	374	347		303		294	1312
Total, worst case				1221		2091			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BA - R10 CU2
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37 47	12:23 (13) 13:10 (13)	06:59 17:09 77	12:19 (13) 13:36 (13)	06:24 17:42 25	07:12 (12) 07:37 (12)	06:37 19:13	05:54 19:42	05:27 20:09
2	07:09 16:38 48	12:23 (13) 13:11 (13)	06:58 17:10 77	12:19 (13) 13:36 (13)	06:23 17:43 24	07:13 (12) 07:37 (12)	06:35 19:14	05:52 19:43	05:27 20:10
3	07:09 16:39 49	12:23 (13) 13:12 (13)	06:57 17:12 77	12:19 (13) 13:36 (13)	06:21 17:44 24	07:12 (12) 07:36 (12)	06:33 19:15	05:51 19:44	05:26 20:11
4	07:09 16:40 50	12:23 (13) 13:13 (13)	06:56 17:13 78	12:19 (13) 13:37 (13)	06:20 17:45 23	07:13 (12) 07:36 (12)	06:32 19:16	05:50 19:45	05:26 20:11
5	07:10 16:41 51	12:23 (13) 13:14 (13)	06:55 17:14 78	12:19 (13) 13:37 (13)	06:19 17:46 21	07:13 (12) 07:34 (12)	06:30 19:17	05:49 19:46	05:25 20:12
6	07:10 16:41 52	12:23 (13) 13:15 (13)	06:54 17:15 78	12:19 (13) 13:37 (13)	06:17 17:47 20	07:14 (12) 07:34 (12)	06:29 19:18	05:48 19:47	05:25 20:13
7	07:10 16:42 53	12:23 (13) 13:16 (13)	06:53 17:16 77	12:20 (13) 13:37 (13)	06:16 17:48 16	07:15 (12) 07:31 (12)	06:27 19:19	05:47 19:48	05:25 20:13
8	07:10 16:43 54	12:22 (13) 13:16 (13)	06:52 17:17 77	12:20 (13) 13:37 (13)	06:14 17:49 13	07:16 (12) 07:29 (12)	06:26 19:20	05:45 19:49	05:25 20:14
9	07:10 16:44 55	12:22 (13) 13:17 (13)	06:51 17:19 76	12:20 (13) 13:36 (13)	06:13 17:50 2	07:22 (12) 07:24 (12)	06:24 19:21	05:44 19:50	05:25 20:14
10	07:09 16:45 56	12:22 (13) 13:18 (13)	06:50 17:20 76	12:20 (13) 13:36 (13)	06:11 17:51		06:23 19:22	05:43 19:51	05:24 20:15
11	07:09 16:46 58	12:22 (13) 13:20 (13)	06:49 17:21 75	12:21 (13) 13:36 (13)	06:09 17:52		06:21 19:23	05:42 19:52	05:24 20:16
12	07:09 16:47 59	12:22 (13) 13:21 (13)	06:48 17:22 74	12:22 (13) 13:36 (13)	06:08 17:53		06:20 19:24	05:41 19:53	05:24 20:16
13	07:09 16:48 60	12:21 (13) 13:21 (13)	06:47 17:23 73	12:23 (13) 13:36 (13)	06:06 17:54		06:18 19:25	05:40 19:54	05:24 20:16
14	07:09 16:49 61	12:21 (13) 13:22 (13)	06:45 17:24 72	12:24 (13) 13:36 (13)	06:05 17:55		06:17 19:26	05:39 19:54	05:24 20:17
15	07:08 16:50 63	12:21 (13) 13:24 (13)	06:44 17:25 71	12:24 (13) 13:35 (13)	06:03 17:56		06:15 19:27	05:38 19:55	05:24 20:17
16	07:08 16:51 64	12:20 (13) 13:24 (13)	06:43 17:27 69	12:25 (13) 13:34 (13)	06:02 17:57		06:14 19:28	05:38 19:56	05:24 20:18
17	07:08 16:52 65	12:20 (13) 13:25 (13)	06:42 17:28 67	12:27 (13) 13:34 (13)	06:00 17:58		06:12 19:29	05:37 19:57	05:24 20:18
18	07:07 16:53 66	12:20 (13) 13:26 (13)	06:41 17:29 65	12:28 (13) 13:33 (13)	05:59 17:59		06:11 19:29	05:36 19:58	05:24 20:18
19	07:07 16:54 67	12:20 (13) 13:27 (13)	06:39 17:30 62	12:29 (13) 13:31 (13)	05:57 18:00		06:10 19:30	05:35 19:59	05:24 20:19
20	07:06 16:56 68	12:19 (13) 13:27 (13)	06:38 17:31 59	12:32 (13) 13:31 (13)	05:55 18:01		06:08 19:31	05:34 20:00	05:24 20:19
21	07:06 16:57 69	12:20 (13) 13:29 (13)	06:37 17:32 55	12:34 (13) 13:29 (13)	05:54 18:02		06:07 19:32	05:33 20:01	05:25 20:19
22	07:05 16:58 70	12:19 (13) 13:29 (13)	06:35 17:33 57	07:23 (12) 13:27 (13)	05:52 18:03		06:05 19:33	05:33 20:02	05:25 20:19
23	07:05 16:59 72	12:19 (13) 13:31 (13)	06:34 17:34 58	07:19 (12) 13:25 (13)	05:51 18:04		06:04 19:34	05:32 20:02	05:25 20:20
24	07:04 17:00 72	12:19 (13) 13:31 (13)	06:33 17:35 56	07:18 (12) 13:23 (13)	05:49 18:05		06:03 19:35	05:31 20:03	05:25 20:20
25	07:04 17:01 73	12:18 (13) 13:31 (13)	06:31 17:37 50	07:16 (12) 13:19 (13)	05:48 18:06		06:01 19:36	05:31 20:04	05:26 20:20
26	07:03 17:02 74	12:18 (13) 13:32 (13)	06:30 17:38 39	07:15 (12) 13:14 (13)	05:46 18:07		06:00 19:37	05:30 20:05	05:26 20:20
27	07:02 17:03 74	12:19 (13) 13:33 (13)	06:29 17:39 23	07:13 (12) 13:13 (12)	05:44 18:08		05:59 19:38	05:29 20:06	05:26 20:20
28	07:02 17:05 76	12:18 (13) 13:34 (13)	06:27 17:40 24	07:13 (12) 07:37 (12)	05:43 18:09		05:57 19:39	05:29 20:06	05:27 20:20
29	07:01 17:06 76	12:18 (13) 13:34 (13)	06:26 17:41 25	07:12 (12) 07:37 (12)	05:41 18:10		05:56 19:40	05:28 20:07	05:27 20:20
30	07:00 17:07 76	12:18 (13) 13:34 (13)		05:40 18:11			05:55 19:41	05:28 20:08	05:27 20:20
31	06:59 17:08 77	12:18 (13) 13:35 (13)		06:38 19:12				05:27 20:09	
Potential sun hours	302		310	370			396	443	446
Total, worst case	1955		1845	168					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BA - R10 CU2
Assumptions for shadow calculations

Reference year for calendar 2024
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	05:28	05:50	06:18	06:45		06:17	11:51 (13)	06:49	12:04 (13)
	20:20	20:03	19:22	18:35		16:51	75 13:06 (13)	16:29	59 13:03 (13)
2	05:28	05:51	06:19	06:46		06:18	11:50 (13)	06:50	12:05 (13)
	20:20	20:02	19:21	18:33		16:50	76 13:06 (13)	16:28	58 13:03 (13)
3	05:29	05:52	06:20	06:47		06:19	11:49 (13)	06:51	12:06 (13)
	20:20	20:01	19:19	18:31		16:49	77 13:06 (13)	16:28	56 13:02 (13)
4	05:29	05:53	06:21	06:48		06:20	11:49 (13)	06:52	12:07 (13)
	20:20	20:00	19:18	18:30		16:47	77 13:06 (13)	16:28	55 13:02 (13)
5	05:30	05:54	06:22	06:49	07:56 (12)	06:21	11:50 (13)	06:53	12:08 (13)
	20:19	19:59	19:16	18:28	8 08:04 (12)	16:46	77 13:07 (13)	16:28	54 13:02 (13)
6	05:30	05:55	06:23	06:50	07:53 (12)	06:22	11:49 (13)	06:54	12:09 (13)
	20:19	19:57	19:15	18:27	14 08:07 (12)	16:45	78 13:07 (13)	16:28	53 13:02 (13)
7	05:31	05:55	06:24	06:51	07:51 (12)	06:23	11:49 (13)	06:55	12:09 (13)
	20:19	19:56	19:13	18:25	18 08:09 (12)	16:44	78 13:07 (13)	16:28	52 13:01 (13)
8	05:32	05:56	06:24	06:52	07:48 (12)	06:24	11:49 (13)	06:56	12:10 (13)
	20:19	19:55	19:11	18:24	21 08:09 (12)	16:43	78 13:07 (13)	16:28	51 13:01 (13)
9	05:32	05:57	06:25	06:53	07:47 (12)	06:25	11:49 (13)	06:57	12:11 (13)
	20:18	19:54	19:10	18:22	22 08:09 (12)	16:42	77 13:06 (13)	16:28	50 13:01 (13)
10	05:33	05:58	06:26	06:54	07:47 (12)	06:27	11:50 (13)	06:57	12:12 (13)
	20:18	19:53	19:08	18:21	24 08:11 (12)	16:41	77 13:07 (13)	16:28	49 13:01 (13)
11	05:33	05:59	06:27	06:55	07:47 (12)	06:28	11:50 (13)	06:58	12:13 (13)
	20:18	19:52	19:07	18:19	24 08:11 (12)	16:40	77 13:07 (13)	16:28	48 13:01 (13)
12	05:34	06:00	06:28	06:56	07:46 (12)	06:29	11:50 (13)	06:59	12:14 (13)
	20:17	19:50	19:05	18:18	25 08:11 (12)	16:40	77 13:07 (13)	16:28	47 13:01 (13)
13	05:35	06:01	06:29	06:57	07:46 (12)	06:30	11:50 (13)	07:00	12:14 (13)
	20:17	19:49	19:04	18:16	25 08:11 (12)	16:39	76 13:06 (13)	16:28	47 13:01 (13)
14	05:36	06:02	06:30	06:58	07:46 (12)	06:31	11:50 (13)	07:01	12:15 (13)
	20:16	19:48	19:02	18:15	24 08:10 (12)	16:38	76 13:06 (13)	16:28	46 13:01 (13)
15	05:36	06:03	06:31	06:59	07:46 (12)	06:32	11:51 (13)	07:01	12:16 (13)
	20:16	19:47	19:00	18:13	24 08:10 (12)	16:37	76 13:07 (13)	16:29	45 13:01 (13)
16	05:37	06:04	06:32	07:00	07:46 (12)	06:33	11:52 (13)	07:02	12:17 (13)
	20:15	19:45	18:59	18:12	23 08:09 (12)	16:36	74 13:06 (13)	16:29	44 13:01 (13)
17	05:38	06:05	06:32	07:01	07:47 (12)	06:34	11:52 (13)	07:03	12:18 (13)
	20:15	19:44	18:57	18:10	44 13:48 (13)	16:36	74 13:06 (13)	16:29	43 13:01 (13)
18	05:38	06:05	06:33	07:02	07:48 (12)	06:35	11:53 (13)	07:03	12:19 (13)
	20:14	19:43	18:55	18:09	52 13:52 (13)	16:35	72 13:05 (13)	16:30	43 13:02 (13)
19	05:39	06:06	06:34	07:03	07:49 (12)	06:36	11:53 (13)	07:04	12:19 (13)
	20:13	19:41	18:54	18:08	58 13:55 (13)	16:34	72 13:05 (13)	16:30	43 13:02 (13)
20	05:40	06:07	06:35	07:04	07:51 (12)	06:38	11:53 (13)	07:05	12:20 (13)
	20:13	19:40	18:52	18:06	58 13:57 (13)	16:34	72 13:05 (13)	16:30	43 13:03 (13)
21	05:41	06:08	06:36	07:05	13:06 (13)	06:39	11:55 (13)	07:05	12:20 (13)
	20:12	19:38	18:51	18:05	52 13:58 (13)	16:33	70 13:05 (13)	16:31	42 13:02 (13)
22	05:42	06:09	06:37	07:06	13:03 (13)	06:40	11:56 (13)	07:06	12:21 (13)
	20:11	19:37	18:49	18:03	56 13:59 (13)	16:32	69 13:05 (13)	16:31	42 13:03 (13)
23	05:42	06:10	06:38	07:07	13:01 (13)	06:41	11:56 (13)	07:06	12:21 (13)
	20:11	19:36	18:47	18:02	60 14:01 (13)	16:32	69 13:05 (13)	16:32	42 13:03 (13)
24	05:43	06:11	06:39	07:08	12:59 (13)	06:42	11:57 (13)	07:07	12:22 (13)
	20:10	19:34	18:46	18:01	62 14:01 (13)	16:31	67 13:04 (13)	16:32	43 13:05 (13)
25	05:44	06:12	06:40	07:09	12:58 (13)	06:43	11:58 (13)	07:07	12:22 (13)
	20:09	19:33	18:44	17:59	65 14:03 (13)	16:31	66 13:04 (13)	16:33	43 13:05 (13)
26	05:45	06:13	06:41	07:10	12:56 (13)	06:44	11:58 (13)	07:07	12:22 (13)
	20:08	19:31	18:43	17:58	68 14:04 (13)	16:30	65 13:03 (13)	16:34	43 13:05 (13)
27	05:46	06:14	06:42	06:11	11:55 (13)	06:45	11:59 (13)	07:08	12:23 (13)
	20:07	19:30	18:41	16:57	69 13:04 (13)	16:30	64 13:03 (13)	16:34	44 13:07 (13)
28	05:47	06:15	06:42	06:12	11:53 (13)	06:46	12:00 (13)	07:08	12:22 (13)
	20:07	19:28	18:39	16:56	71 13:04 (13)	16:30	63 13:03 (13)	16:35	45 13:07 (13)
29	05:47	06:15	06:43	06:13	11:52 (13)	06:47	12:02 (13)	07:08	12:22 (13)
	20:06	19:27	18:38	16:54	73 13:05 (13)	16:29	61 13:03 (13)	16:36	46 13:08 (13)
30	05:48	06:16	06:44	06:14	11:51 (13)	06:48	12:03 (13)	07:09	12:22 (13)
	20:05	19:25	18:36	16:53	74 13:05 (13)	16:29	60 13:03 (13)	16:36	46 13:08 (13)
31	05:49	06:17		06:15	11:51 (13)			07:09	12:22 (13)
	20:04	19:24		16:52	75 13:06 (13)			16:37	47 13:09 (13)
Potential sun hours	453	424	374	347		303		294	1469
Total, worst case				1189		2170			

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

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BB - R11 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37 61	12:30 (13) 06:59 73	12:35 (13) 13:48 (13)	06:24 17:42 23	07:18 (12) 06:37	05:54 19:42
2	07:09 16:38 61	12:30 (13) 06:58 72	12:36 (13) 13:48 (13)	06:23 17:43 21	07:19 (12) 06:35	05:52 19:43
3	07:09 16:39 62	12:30 (13) 06:57 72	12:36 (13) 13:48 (13)	06:21 17:44 19	07:19 (12) 06:33	05:51 19:44
4	07:09 16:40 61	12:31 (13) 06:56 71	12:37 (13) 13:48 (13)	06:20 17:45 16	07:21 (12) 06:32	05:50 19:45
5	07:10 16:41 62	12:31 (13) 06:55 70	12:37 (13) 13:47 (13)	06:19 17:46 12	07:22 (12) 06:30	05:49 19:46
6	07:10 16:41 63	12:31 (13) 06:54 69	12:38 (13) 13:47 (13)	06:17 17:47	06:29 19:18	05:48 19:47
7	07:10 16:42 64	12:31 (13) 06:53 68	12:39 (13) 13:47 (13)	06:16 17:48	06:27 19:19	05:47 19:48
8	07:10 16:43 65	12:30 (13) 06:52 67	12:40 (13) 13:47 (13)	06:14 17:49	06:26 19:20	05:45 19:49
9	07:10 16:44 64	12:31 (13) 06:51 65	12:40 (13) 13:45 (13)	06:13 17:50	06:24 19:21	05:44 19:50
10	07:09 16:45 65	12:31 (13) 06:50 63	12:42 (13) 13:45 (13)	06:11 17:51	06:23 19:22	05:43 19:51
11	07:09 16:46 66	12:31 (13) 06:49 61	12:43 (13) 13:44 (13)	06:09 17:52	06:21 19:23	05:42 19:52
12	07:09 16:47 67	12:31 (13) 06:48 59	12:45 (13) 13:44 (13)	06:08 17:53	06:20 19:24	05:41 19:53
13	07:09 16:48 67	12:31 (13) 06:47 56	12:47 (13) 13:43 (13)	06:06 17:54	06:18 19:25	05:40 19:54
14	07:09 16:49 68	12:31 (13) 06:45 53	12:49 (13) 13:42 (13)	06:05 17:55	06:17 19:26	05:39 19:54
15	07:08 16:50 68	12:32 (13) 06:44 50	12:50 (13) 13:40 (13)	06:03 17:56	06:15 19:27	05:38 19:55
16	07:08 16:51 69	12:31 (13) 06:43 45	12:53 (13) 13:38 (13)	06:02 17:57	06:14 19:28	05:38 19:56
17	07:08 16:52 70	12:32 (13) 06:42 39	12:57 (13) 13:36 (13)	06:00 17:58	06:12 19:29	05:37 19:57
18	07:07 16:53 71	12:31 (13) 06:41 33	13:01 (13) 13:34 (13)	05:59 17:59	06:11 19:29	05:36 19:58
19	07:07 16:54 71	12:32 (13) 06:39 36	07:25 (12) 13:30 (13)	05:57 18:00	06:10 19:30	05:35 19:59
20	07:06 16:56 72	12:31 (13) 06:38 26	07:23 (12) 13:23 (13)	05:55 18:01	06:08 19:31	05:34 20:00
21	07:06 16:57 72	12:32 (13) 06:37 18	07:22 (12) 07:40 (12)	05:54 18:02	06:07 19:32	05:33 20:01
22	07:05 16:58 72	12:32 (13) 06:35 21	07:20 (12) 07:41 (12)	05:52 18:03	06:05 19:33	05:33 20:02
23	07:05 16:59 72	12:33 (13) 06:34 23	07:19 (12) 07:42 (12)	05:51 18:04	06:04 19:34	05:32 20:02
24	07:04 17:00 73	12:32 (13) 06:33 24	07:19 (12) 07:43 (12)	05:49 18:05	06:03 19:35	05:31 20:03
25	07:04 17:01 73	12:32 (13) 06:31 24	07:18 (12) 07:42 (12)	05:48 18:06	06:01 19:36	05:31 20:04
26	07:03 17:02 74	12:32 (13) 06:30 25	07:18 (12) 07:43 (12)	05:46 18:07	06:00 19:37	05:30 20:05
27	07:02 17:03 74	12:33 (13) 06:29 25	07:17 (12) 07:42 (12)	05:44 18:08	05:59 19:38	05:29 20:06
28	07:02 17:05 74	12:33 (13) 06:27 25	07:17 (12) 07:42 (12)	05:43 18:09	05:57 19:39	05:29 20:06
29	07:01 17:06 74	12:33 (13) 06:26 24	07:17 (12) 07:41 (12)	05:41 18:10	05:56 19:40	05:28 20:07
30	07:00 17:07 73	12:34 (13) 06:25 24	05:40 18:11	05:40 18:11	05:55 19:41	05:27 20:08
31	06:59 17:08 73	12:34 (13) 06:24 24	06:38 19:12	06:38 19:12	05:27 20:09	05:27 20:09
Potential sun hours	302	310	370	91	396	446
Total, worst case	2121	1357				

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BB - R11 CU2
 Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35		06:17 16:51	12:13 (13) 61 13:14 (13)	06:49 16:29	12:13 (13) 67 13:20 (13)
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33		06:18 16:50	12:11 (13) 64 13:15 (13)	06:50 16:28	12:14 (13) 66 13:20 (13)
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31		06:19 16:49	12:10 (13) 65 13:15 (13)	06:51 16:28	12:15 (13) 66 13:21 (13)
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30		06:20 16:47	12:09 (13) 67 13:16 (13)	06:52 16:28	12:16 (13) 65 13:21 (13)
5	05:30 20:19	05:54 19:59	06:22 19:16	06:49 18:28		06:21 16:46	12:09 (13) 68 13:17 (13)	06:53 16:28	12:16 (13) 65 13:21 (13)
6	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27		06:22 16:45	12:08 (13) 69 13:17 (13)	06:54 16:28	12:17 (13) 64 13:21 (13)
7	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25		06:23 16:44	12:07 (13) 70 13:17 (13)	06:55 16:28	12:17 (13) 63 13:20 (13)
8	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	8 07:59 (12)	06:24 16:43	12:07 (13) 71 13:18 (13)	06:56 16:28	12:18 (13) 62 13:20 (13)
9	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	14 08:10 (12)	06:25 16:42	12:06 (13) 72 13:18 (13)	06:57 16:28	12:19 (13) 62 13:21 (13)
10	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	17 08:12 (12)	06:27 16:41	12:07 (13) 72 13:19 (13)	06:57 16:28	12:19 (13) 62 13:21 (13)
11	05:33 20:18	05:59 19:52	06:27 19:07	06:55 18:19	20 08:13 (12)	06:28 16:40	12:06 (13) 73 13:19 (13)	06:58 16:28	12:20 (13) 61 13:21 (13)
12	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	22 08:14 (12)	06:29 16:40	12:06 (13) 73 13:19 (13)	06:59 16:28	12:21 (13) 61 13:22 (13)
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	24 08:15 (12)	06:30 16:39	12:06 (13) 73 13:19 (13)	07:00 16:28	12:21 (13) 60 13:21 (13)
14	05:35 20:16	06:02 19:48	06:30 19:02	06:58 18:15	25 08:15 (12)	06:31 16:38	12:05 (13) 74 13:19 (13)	07:01 16:28	12:22 (13) 60 13:22 (13)
15	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	25 08:15 (12)	06:32 16:37	12:06 (13) 74 13:20 (13)	07:01 16:29	12:23 (13) 59 13:22 (13)
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	25 08:15 (12)	06:33 16:36	12:06 (13) 74 13:20 (13)	07:02 16:29	12:23 (13) 59 13:22 (13)
17	05:38 20:15	06:05 19:44	06:32 18:57	07:01 18:10	26 08:15 (12)	06:34 16:36	12:06 (13) 74 13:20 (13)	07:03 16:29	12:24 (13) 58 13:22 (13)
18	05:38 20:14	06:05 19:43	06:33 18:55	07:02 18:09	25 08:14 (12)	06:35 16:35	12:06 (13) 73 13:19 (13)	07:03 16:30	12:25 (13) 58 13:23 (13)
19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	23 08:13 (12)	06:36 16:34	12:07 (13) 72 13:19 (13)	07:04 16:30	12:25 (13) 58 13:23 (13)
20	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	22 08:12 (12)	06:38 16:33	12:07 (13) 72 13:19 (13)	07:05 16:30	12:26 (13) 58 13:24 (13)
21	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	20 08:11 (12)	06:39 16:33	12:08 (13) 72 13:20 (13)	07:05 16:31	12:26 (13) 58 13:24 (13)
22	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	18 08:10 (12)	06:40 16:32	12:08 (13) 72 13:20 (13)	07:06 16:31	12:27 (13) 58 13:25 (13)
23	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	30 13:55 (13)	06:41 16:32	12:09 (13) 71 13:20 (13)	07:07 16:32	12:27 (13) 58 13:25 (13)
24	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	36 14:00 (13)	06:42 16:31	12:09 (13) 71 13:20 (13)	07:07 16:32	12:28 (13) 58 13:26 (13)
25	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	34 14:04 (13)	06:43 16:31	12:09 (13) 71 13:20 (13)	07:07 16:33	12:28 (13) 58 13:26 (13)
26	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	41 14:07 (13)	06:44 16:30	12:10 (13) 70 13:20 (13)	07:07 16:34	12:28 (13) 58 13:26 (13)
27	05:46 20:07	06:14 19:30	06:42 18:41	07:11 16:57	45 13:23 (13)	06:45 16:30	12:10 (13) 70 13:20 (13)	07:08 16:34	12:29 (13) 59 13:28 (13)
28	05:47 20:07	06:15 19:28	06:43 18:39	07:12 16:56	50 13:10 (13)	06:47 16:30	12:11 (13) 69 13:20 (13)	07:08 16:35	12:29 (13) 59 13:28 (13)
29	05:47 20:06	06:15 19:27	06:43 18:38	07:13 16:54	54 13:11 (13)	06:47 16:29	12:12 (13) 68 13:20 (13)	07:08 16:36	12:29 (13) 59 13:28 (13)
30	05:48 20:05	06:16 19:25	06:44 18:36	07:14 16:53	57 13:12 (13)	06:48 16:29	12:13 (13) 67 13:20 (13)	07:09 16:36	12:29 (13) 60 13:29 (13)
31	05:49 20:04	06:17 19:24		07:15 16:52	58 13:13 (13)			07:09 16:37	12:29 (13) 60 13:29 (13)
Potential sun hours	453	424	374	347		303		294	
Total, worst case				719		2112		1879	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BC - R12 CU2
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:59 17:09	12:54 (13) 14:04 (13)	06:24 17:42	07:13 (12) 13:55 (13)	06:37 19:13	05:54 19:42	05:27 20:09	
2	07:09 16:38	06:58 17:10	12:54 (13) 14:05 (13)	06:23 17:43	07:13 (12) 13:53 (13)	06:35 19:14	05:52 19:43	05:27 20:10	
3	07:09 16:39	06:57 17:12	12:53 (13) 14:06 (13)	06:21 17:44	07:13 (12) 13:48 (13)	06:33 19:15	05:51 19:44	05:26 20:11	
4	07:09 16:40	06:56 17:13	12:53 (13) 14:06 (13)	06:20 17:45	07:13 (12) 07:39 (12)	06:32 19:16	05:50 19:45	05:26 20:11	
5	07:10 16:41	06:55 17:14	12:53 (13) 14:07 (13)	06:19 17:46	07:13 (12) 07:37 (12)	06:30 19:17	05:49 19:46	05:25 20:12	
6	07:10 16:41	13:15 (13) 13:26 (13)	06:54 17:15	12:53 (13) 14:07 (13)	06:17 17:47	07:14 (12) 07:37 (12)	06:29 19:18	05:48 19:47	05:25 20:13
7	07:10 16:42	13:13 (13) 13:30 (13)	06:53 17:16	12:53 (13) 14:08 (13)	06:16 17:48	07:14 (12) 07:35 (12)	06:27 19:19	05:47 19:48	05:25 20:13
8	07:10 16:43	13:10 (13) 13:08 (13)	06:52 17:17	12:53 (13) 14:08 (13)	06:14 17:49	07:15 (12) 07:33 (12)	06:26 19:20	05:45 19:49	05:25 20:14
9	07:10 16:44	13:09 (13) 13:34 (13)	06:51 17:19	12:52 (13) 14:08 (13)	06:13 17:50	07:17 (12) 07:31 (12)	06:24 19:21	05:44 19:50	05:25 20:14
10	07:09 16:45	13:08 (13) 13:36 (13)	06:50 17:20	12:52 (13) 14:08 (13)	06:11 17:51	07:20 (12) 07:27 (12)	06:23 19:22	05:43 19:51	05:24 20:15
11	07:09 16:46	13:07 (13) 13:38 (13)	06:49 17:21	12:52 (13) 14:08 (13)	06:09 17:52	06:21 19:23	05:42 19:52	05:24 20:16	
12	07:09 16:47	13:06 (13) 13:40 (13)	06:48 17:22	12:53 (13) 14:09 (13)	06:08 17:53	06:20 19:24	05:41 19:53	05:24 20:16	
13	07:09 16:48	13:04 (13) 13:41 (13)	06:47 17:23	12:53 (13) 14:09 (13)	06:06 17:54	06:18 19:25	05:40 19:54	05:24 20:16	
14	07:09 16:49	13:04 (13) 13:43 (13)	06:45 17:24	12:54 (13) 14:09 (13)	06:05 17:55	06:17 19:26	05:39 19:54	05:24 20:17	
15	07:08 16:50	13:03 (13) 13:45 (13)	06:44 17:25	12:53 (13) 14:08 (13)	06:03 17:56	06:15 19:27	05:38 19:55	05:24 20:17	
16	07:08 16:51	13:02 (13) 13:46 (13)	06:43 17:27	12:54 (13) 14:08 (13)	06:02 17:57	06:14 19:28	05:38 19:56	05:24 20:18	
17	07:08 16:52	13:01 (13) 13:48 (13)	06:42 17:28	12:55 (13) 14:08 (13)	06:00 17:58	06:12 19:29	05:37 19:57	05:24 20:18	
18	07:07 16:53	13:00 (13) 13:49 (13)	06:41 17:29	12:56 (13) 14:08 (13)	05:59 17:59	06:11 19:29	05:36 19:58	05:24 20:18	
19	07:07 16:54	13:00 (13) 13:51 (13)	06:39 17:30	12:56 (13) 14:07 (13)	05:57 18:00	06:10 19:30	05:35 19:59	05:24 20:19	
20	07:06 16:56	12:59 (13) 13:52 (13)	06:38 17:31	12:57 (13) 14:07 (13)	05:55 18:01	06:08 19:31	05:34 20:00	05:24 20:19	
21	07:06 16:57	12:59 (13) 13:53 (13)	06:37 17:32	12:59 (13) 14:07 (13)	05:54 18:02	06:07 19:32	05:33 20:01	05:25 20:19	
22	07:05 16:58	12:58 (13) 13:54 (13)	06:35 17:33	12:59 (13) 14:06 (13)	05:52 18:03	06:05 19:33	05:33 20:02	05:25 20:19	
23	07:05 16:59	12:58 (13) 13:56 (13)	06:34 17:34	07:22 (12) 14:05 (13)	05:51 18:04	06:04 19:34	05:32 20:02	05:25 20:20	
24	07:04 17:00	12:57 (13) 13:57 (13)	06:33 17:35	07:20 (12) 14:05 (13)	05:49 18:05	06:03 19:35	05:31 20:03	05:25 20:20	
25	07:04 17:01	12:56 (13) 13:58 (13)	06:31 17:37	07:18 (12) 14:03 (13)	05:48 18:06	06:01 19:36	05:31 20:04	05:26 20:20	
26	07:03 17:02	12:55 (13) 13:58 (13)	06:30 17:38	07:17 (12) 14:03 (13)	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	
27	07:02 17:03	12:56 (13) 14:00 (13)	06:29 17:39	07:15 (12) 14:01 (13)	05:44 18:08	05:59 19:38	05:29 20:06	05:26 20:20	
28	07:02 17:05	12:55 (13) 14:01 (13)	06:27 17:40	07:15 (12) 14:00 (13)	05:43 18:09	05:57 19:39	05:29 20:06	05:27 20:20	
29	07:01 17:06	12:54 (13) 14:01 (13)	06:26 17:41	07:13 (12) 13:57 (13)	05:41 18:10	05:56 19:40	05:28 20:07	05:27 20:20	
30	07:00 17:07	12:54 (13) 14:02 (13)		05:40 18:11		05:55 19:41	05:28 20:08	05:27 20:20	
31	06:59 17:08	12:53 (13) 14:03 (13)		06:38 19:12			05:27 20:09		
Potential sun hours	302	310	370	396	443	446			
Total, worst case	1217	2134	300						

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BC - R12 CU2
 Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	06:17 16:51	12:22 (13) 16:29
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	12:22 (13) 16:28
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	06:19 16:49	12:22 (13) 16:28
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	07:56 (12) 08:07 (12)	12:22 (13) 16:28
5	05:30 20:19	05:54 19:59	06:22 19:16	06:49 18:28	07:54 (12) 08:10 (12)	12:23 (13) 16:28
6	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	07:52 (12) 08:11 (12)	12:23 (13) 16:28
7	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	07:49 (12) 08:11 (12)	12:23 (13) 16:28
8	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	07:48 (12) 08:12 (12)	12:23 (13) 16:28
9	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	07:47 (12) 08:12 (12)	12:23 (13) 16:28
10	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	07:48 (12) 14:19 (13)	12:25 (13) 16:28
11	05:33 20:18	05:59 19:52	06:27 19:07	06:55 18:19	07:47 (12) 14:25 (13)	12:25 (13) 16:28
12	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	07:47 (12) 14:28 (13)	12:25 (13) 16:28
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	07:47 (12) 14:30 (13)	12:26 (13) 16:28
14	05:35 20:16	06:02 19:48	06:30 19:02	06:58 18:15	07:47 (12) 14:31 (13)	12:26 (13) 16:28
15	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	07:47 (12) 14:33 (13)	12:28 (13) 16:29
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	07:48 (12) 14:34 (13)	12:29 (13) 16:29
17	05:38 20:15	06:05 19:44	06:32 18:57	07:01 18:10	07:49 (12) 14:35 (13)	12:29 (13) 16:29
18	05:38 20:14	06:05 19:43	06:33 18:55	07:02 18:09	07:50 (12) 14:35 (13)	12:30 (13) 16:30
19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	07:51 (12) 14:36 (13)	12:31 (13) 16:30
20	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	07:54 (12) 14:36 (13)	12:32 (13) 16:30
21	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	13:30 (13) 14:37 (13)	12:34 (13) 16:31
22	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	13:28 (13) 14:37 (13)	12:35 (13) 16:31
23	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	13:27 (13) 14:37 (13)	12:36 (13) 16:32
24	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	13:25 (13) 14:37 (13)	12:37 (13) 16:32
25	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	13:25 (13) 14:38 (13)	12:38 (13) 16:33
26	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	13:25 (13) 14:38 (13)	12:39 (13) 16:34
27	05:46 20:07	06:14 19:30	06:42 18:41	06:11 16:57	12:24 (13) 13:38 (13)	12:41 (13) 16:34
28	05:47 20:07	06:15 19:28	06:43 18:39	06:12 16:56	12:23 (13) 13:38 (13)	12:42 (13) 16:35
29	05:47 20:06	06:15 19:27	06:43 18:38	06:13 16:54	12:22 (13) 13:38 (13)	12:45 (13) 16:36
30	05:48 20:05	06:16 19:25	06:44 18:36	06:14 16:53	12:22 (13) 13:38 (13)	12:46 (13) 16:36
31	05:49 20:04	06:17 19:24		06:15 16:52	12:22 (13) 13:38 (13)	07:09 16:37
Potential sun hours	453	424	374	347	303	294
Total, worst case				1658	1864	175

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BD - R13 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37 71	11:11 (13) 12:22 (13) 17:09 63	06:59 12:28 (13) 17:42 20	11:25 (13) 12:27 (13) 17:43	06:24 07:15 (12) 06:37	07:15 (12) 19:13 19:42
2	07:09 16:38 70	11:12 (13) 12:22 (13) 17:10 61	06:58 12:27 (13) 17:43	11:26 (13) 12:27 (13) 17:43	06:23 07:16 (12) 06:35	07:16 (12) 19:14 19:43
3	07:09 16:39 71	11:12 (13) 12:23 (13) 17:12 59	06:57 12:26 (13) 17:44	11:27 (13) 12:26 (13) 17:44	06:21 07:32 (12) 19:15	07:17 (12) 19:15 19:44
4	07:09 16:40 71	11:12 (13) 12:23 (13) 17:13 56	06:56 12:25 (13) 17:45	11:29 (13) 12:25 (13) 17:45	06:20 07:20 (12) 19:16	07:20 (12) 19:16 19:45
5	07:10 16:41 71	11:13 (13) 12:24 (13) 17:14 54	06:55 12:24 (13) 17:46	11:30 (13) 12:24 (13) 17:46	06:19 12:24 (13) 17:46	06:19 19:17 19:46
6	07:10 16:41 72	11:13 (13) 12:25 (13) 17:15 50	06:54 12:22 (13) 17:47	11:32 (13) 12:22 (13) 17:47	06:17 12:22 (13) 17:47	06:17 19:18 19:47
7	07:10 16:42 72	11:13 (13) 12:25 (13) 17:16 46	06:53 12:20 (13) 17:48	11:34 (13) 12:20 (13) 17:48	06:16 12:20 (13) 17:48	06:16 19:19 19:48
8	07:10 16:43 72	11:13 (13) 12:25 (13) 17:17 41	06:52 12:18 (13) 17:49	11:37 (13) 12:18 (13) 17:49	06:14 12:18 (13) 17:49	06:14 19:20 19:49
9	07:10 16:44 72	11:13 (13) 12:25 (13) 17:19 35	06:51 12:14 (13) 17:50	11:39 (13) 12:14 (13) 17:50	06:13 11:43 (13) 06:11	06:13 19:21 19:50
10	07:09 16:45 72	11:14 (13) 12:26 (13) 17:20 27	06:50 12:10 (13) 17:51	11:43 (13) 12:10 (13) 17:51	06:11 12:10 (13) 17:51	06:11 19:22 19:51
11	07:09 16:46 73	11:14 (13) 12:27 (13) 17:21 10	06:49 12:01 (13) 17:52	11:51 (13) 12:01 (13) 17:52	06:09 12:01 (13) 17:52	06:09 19:23 19:52
12	07:09 16:47 72	11:15 (13) 12:27 (13) 17:22	06:48 12:27 (13) 17:22	06:08 12:27 (13) 17:22	06:08 12:27 (13) 17:22	06:08 19:24 19:53
13	07:09 16:48 72	11:15 (13) 12:27 (13) 17:23	06:47 12:27 (13) 17:23	06:06 12:27 (13) 17:23	06:06 12:27 (13) 17:23	06:06 19:25 19:54
14	07:09 16:49 73	11:15 (13) 12:28 (13) 17:24	06:45 12:28 (13) 17:24	06:05 12:28 (13) 17:24	06:05 12:28 (13) 17:24	06:05 19:26 19:54
15	07:08 16:50 73	11:16 (13) 12:29 (13) 17:25	06:44 12:29 (13) 17:25	06:03 12:29 (13) 17:25	06:03 12:29 (13) 17:25	06:03 19:27 19:55
16	07:08 16:51 72	11:16 (13) 12:28 (13) 17:27	06:43 12:28 (13) 17:27	06:02 12:28 (13) 17:27	06:02 12:28 (13) 17:27	06:02 19:28 19:56
17	07:08 16:52 73	11:16 (13) 12:29 (13) 17:28	06:42 12:29 (13) 17:28	06:00 12:29 (13) 17:28	06:00 12:29 (13) 17:28	06:00 19:29 19:57
18	07:07 16:53 73	11:16 (13) 12:29 (13) 17:29	06:41 12:29 (13) 17:29	05:59 12:29 (13) 17:29	05:59 12:29 (13) 17:29	05:59 19:29 19:58
19	07:07 16:54 73	11:17 (13) 12:30 (13) 17:30	06:39 12:30 (13) 17:30	07:22 (12) 07:30 (12) 18:00	05:57 07:30 (12) 18:00	05:57 19:30 19:59
20	07:06 16:56 72	11:17 (13) 12:29 (13) 17:31	06:38 12:29 (13) 17:31	07:20 (12) 07:33 (12) 18:01	05:55 07:33 (12) 18:01	05:55 19:31 20:00
21	07:06 16:57 72	11:18 (13) 12:30 (13) 17:32	06:37 12:30 (13) 17:32	07:18 (12) 07:35 (12) 18:02	05:54 07:35 (12) 18:02	05:54 19:32 20:01
22	07:05 16:58 72	11:18 (13) 12:30 (13) 17:33	06:35 12:30 (13) 17:33	07:16 (12) 07:35 (12) 18:03	05:52 07:35 (12) 18:03	05:52 19:33 20:02
23	07:05 16:59 72	11:19 (13) 12:31 (13) 17:34	06:34 12:31 (13) 17:34	07:16 (12) 07:36 (12) 18:04	05:51 07:36 (12) 18:04	05:51 19:34 20:02
24	07:04 17:00 71	11:19 (13) 12:30 (13) 17:35	06:33 12:30 (13) 17:35	07:15 (12) 07:37 (12) 18:05	05:49 07:37 (12) 18:05	05:49 19:35 20:03
25	07:04 17:01 70	11:20 (13) 12:30 (13) 17:37	06:31 12:30 (13) 17:37	07:14 (12) 07:37 (12) 18:06	05:48 07:37 (12) 18:06	05:48 19:36 20:04
26	07:03 17:02 70	11:21 (13) 12:31 (13) 17:38	06:30 12:31 (13) 17:38	07:14 (12) 07:37 (12) 18:07	05:46 07:37 (12) 18:07	05:46 19:37 20:05
27	07:02 17:03 69	11:21 (13) 12:30 (13) 17:39	06:29 12:30 (13) 17:39	07:14 (12) 07:36 (12) 18:08	05:44 07:36 (12) 18:08	05:44 19:38 20:06
28	07:02 17:05 68	11:22 (13) 12:30 (13) 17:40	06:27 12:30 (13) 17:40	07:14 (12) 07:36 (12) 18:09	05:43 07:36 (12) 18:09	05:43 19:39 20:06
29	07:01 17:06 67	11:22 (13) 12:29 (13) 17:41	06:26 12:29 (13) 17:41	07:14 (12) 07:35 (12) 18:10	05:41 07:35 (12) 18:10	05:41 19:40 20:07
30	07:00 17:07 66	11:23 (13) 12:29 (13) 17:41	06:25 12:29 (13) 17:41	07:14 (12) 07:35 (12) 18:10	05:40 07:35 (12) 18:10	05:40 19:41 20:08
31	06:59 17:08 65	11:23 (13) 12:28 (13) 17:41	06:24 12:28 (13) 17:41	06:38 12:28 (13) 17:41	06:38 12:28 (13) 17:41	06:38 19:41 20:09
Potential sun hours	302	310	370	396	443	446
Total, worst case	2202	712	62	396	443	446

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BD - R13 CU2
Assumptions for shadow calculations

Reference year for calendar 2024
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	05:28	05:50	06:18	06:45		06:17	11:20 (13)	06:49 10:57 (13)
	20:20	20:03	19:22	18:35		16:51	13 11:33 (13)	16:29 73 12:10 (13)
2	05:28	05:51	06:19	06:46		06:18	11:12 (13)	06:50 10:57 (13)
	20:20	20:02	19:21	18:33		16:50	28 11:40 (13)	16:28 73 12:10 (13)
3	05:29	05:52	06:20	06:47		06:19	11:08 (13)	06:51 10:58 (13)
	20:20	20:01	19:19	18:31		16:49	36 11:44 (13)	16:28 72 12:10 (13)
4	05:29	05:53	06:21	06:48		06:20	11:05 (13)	06:52 10:58 (13)
	20:20	20:00	19:18	18:30		16:47	42 11:47 (13)	16:28 73 12:11 (13)
5	05:30	05:54	06:22	06:49		06:21	11:04 (13)	06:53 10:59 (13)
	20:19	19:59	19:16	18:28		16:46	46 11:50 (13)	16:28 72 12:11 (13)
6	05:30	05:55	06:23	06:50		06:22	11:02 (13)	06:54 10:59 (13)
	20:19	19:57	19:15	18:27		16:45	50 11:52 (13)	16:28 72 12:11 (13)
7	05:31	05:55	06:24	06:51		06:23	11:00 (13)	06:55 10:59 (13)
	20:19	19:56	19:13	18:25		16:44	54 11:54 (13)	16:28 72 12:11 (13)
8	05:32	05:56	06:24	06:52		06:24	10:59 (13)	06:56 11:00 (13)
	20:19	19:55	19:11	18:24		16:43	56 11:55 (13)	16:28 71 12:11 (13)
9	05:32	05:57	06:25	06:53		07:57 (12)	06:25 10:57 (13)	06:57 11:00 (13)
	20:18	19:54	19:10	18:22	5	08:02 (12)	16:42 59 11:56 (13)	16:28 72 12:12 (13)
10	05:33	05:58	06:26	06:54		07:53 (12)	06:27 10:57 (13)	06:57 11:01 (13)
	20:18	19:53	19:08	18:21	12	08:05 (12)	16:41 61 11:58 (13)	16:28 71 12:12 (13)
11	05:33	05:59	06:27	06:55		07:51 (12)	06:28 10:56 (13)	06:58 11:02 (13)
	20:18	19:52	19:07	18:19	16	08:07 (12)	16:40 63 11:59 (13)	16:28 71 12:13 (13)
12	05:34	06:00	06:28	06:56		07:49 (12)	06:29 10:55 (13)	06:59 11:03 (13)
	20:17	19:50	19:05	18:18	19	08:08 (12)	16:40 65 12:00 (13)	16:28 70 12:13 (13)
13	05:35	06:01	06:29	06:57		07:48 (12)	06:30 10:55 (13)	07:00 11:02 (13)
	20:17	19:49	19:04	18:16	20	08:08 (12)	16:39 66 12:01 (13)	16:28 71 12:13 (13)
14	05:36	06:02	06:30	06:58		07:47 (12)	06:31 10:54 (13)	07:01 11:03 (13)
	20:16	19:48	19:02	18:15	22	08:09 (12)	16:38 67 12:01 (13)	16:28 70 12:13 (13)
15	05:36	06:03	06:31	06:59		07:47 (12)	06:32 10:55 (13)	07:01 11:04 (13)
	20:16	19:47	19:00	18:13	22	08:09 (12)	16:37 68 12:03 (13)	16:29 70 12:14 (13)
16	05:37	06:04	06:32	07:00		07:46 (12)	06:33 10:54 (13)	07:02 11:04 (13)
	20:15	19:45	18:59	18:12	23	08:09 (12)	16:36 69 12:03 (13)	16:29 70 12:14 (13)
17	05:38	06:05	06:33	07:01		07:46 (12)	06:34 10:54 (13)	07:03 11:05 (13)
	20:15	19:44	18:57	18:10	23	08:09 (12)	16:36 70 12:04 (13)	16:29 70 12:15 (13)
18	05:38	06:05	06:33	07:02		07:46 (12)	06:35 10:54 (13)	07:03 11:06 (13)
	20:14	19:43	18:55	18:09	22	08:08 (12)	16:35 70 12:04 (13)	16:30 69 12:15 (13)
19	05:39	06:06	06:34	07:03		07:46 (12)	06:37 10:53 (13)	07:04 11:05 (13)
	20:13	19:41	18:54	18:08	22	08:08 (12)	16:34 71 12:04 (13)	16:30 70 12:15 (13)
20	05:40	06:07	06:35	07:04		07:47 (12)	06:38 10:53 (13)	07:05 11:06 (13)
	20:13	19:40	18:52	18:06	20	08:07 (12)	16:34 72 12:05 (13)	16:30 70 12:16 (13)
21	05:41	06:08	06:36	07:05		07:47 (12)	06:39 10:54 (13)	07:05 11:06 (13)
	20:12	19:38	18:51	18:05	19	08:06 (12)	16:33 72 12:06 (13)	16:31 70 12:16 (13)
22	05:42	06:09	06:37	07:06		07:48 (12)	06:40 10:54 (13)	07:06 11:07 (13)
	20:11	19:37	18:49	18:03	16	08:04 (12)	16:32 72 12:06 (13)	16:31 70 12:17 (13)
23	05:42	06:10	06:38	07:07		07:50 (12)	06:41 10:54 (13)	07:06 11:07 (13)
	20:11	19:36	18:47	18:02	12	08:02 (12)	16:32 72 12:06 (13)	16:32 70 12:17 (13)
24	05:43	06:11	06:39	07:08		07:54 (12)	06:42 10:54 (13)	07:07 11:08 (13)
	20:10	19:34	18:46	18:01	5	07:59 (12)	16:31 73 12:07 (13)	16:32 70 12:18 (13)
25	05:44	06:12	06:40	07:09		06:43 16:31	73 12:07 (13)	16:33 69 12:18 (13)
	20:09	19:33	18:44	17:59		06:44 16:30	73 12:07 (13)	16:34 69 12:18 (13)
26	05:45	06:13	06:41	07:10		06:45 16:30	73 12:07 (13)	16:34 69 12:18 (13)
	20:08	19:31	18:43	17:58		06:46 16:30	73 12:07 (13)	16:34 69 12:18 (13)
27	05:46	06:14	06:42	06:11		06:45 16:30	73 12:08 (13)	16:34 70 12:20 (13)
	20:07	19:30	18:41	16:57		06:46 16:30	73 12:08 (13)	16:34 70 12:20 (13)
28	05:47	06:15	06:42	06:12		06:46 16:30	73 12:08 (13)	16:34 70 12:20 (13)
	20:07	19:28	18:39	16:56		06:47 16:29	73 12:09 (13)	16:36 70 12:20 (13)
29	05:47	06:15	06:43	06:13		06:47 16:29	73 12:09 (13)	16:36 70 12:20 (13)
	20:06	19:27	18:38	16:54		06:48 16:29	72 12:09 (13)	16:36 71 12:21 (13)
30	05:48	06:16	06:44	06:14		06:48 16:29	72 12:09 (13)	16:36 71 12:21 (13)
	20:05	19:25	18:36	16:53		06:49 16:29	72 12:09 (13)	16:36 71 12:21 (13)
31	05:49	06:17		06:15				07:09 11:10 (13)
	20:04	19:24		16:52				16:37 71 12:21 (13)
Potential sun hours	453	424	374	347		303		294
Total, worst case				278		1852		2192

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: Bufalo worst case Shadow receptor: BE - R14 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37 69	10:51 (13) 12:00 (13)	06:59 17:09 39	11:15 (13) 11:54 (13) 13	06:24 07:19 (12)	05:54 19:13
2	07:09 16:38 69	10:52 (13) 12:01 (13)	06:58 17:10 33	11:18 (13) 11:51 (13) 8	06:23 07:22 (12)	05:52 19:14
3	07:09 16:39 69	10:52 (13) 12:01 (13)	06:57 17:12 26	11:21 (13) 11:47 (13)	06:21 17:44	05:26 19:15
4	07:09 16:40 68	10:53 (13) 12:01 (13)	06:56 17:13 14	11:27 (13) 11:41 (13)	06:20 17:45	05:26 19:16
5	07:10 16:41 69	10:53 (13) 12:02 (13)	06:55 17:14	06:19 17:46	06:30 19:17	05:25 19:46
6	07:10 16:41 68	10:54 (13) 12:02 (13)	06:54 17:15	06:17 17:47	06:29 19:18	05:25 19:47
7	07:10 16:42 69	10:54 (13) 12:03 (13)	06:53 17:16	06:16 17:48	06:27 19:19	05:25 19:48
8	07:10 16:43 68	10:55 (13) 12:03 (13)	06:52 17:17	06:14 17:49	06:26 19:20	05:25 19:49
9	07:10 16:44 69	10:54 (13) 12:03 (13)	06:51 17:19	06:13 17:50	06:24 19:21	05:25 19:50
10	07:09 16:45 68	10:55 (13) 12:03 (13)	06:50 17:20	06:11 17:51	06:23 19:22	05:24 19:51
11	07:09 16:46 68	10:56 (13) 12:04 (13)	06:49 17:21	06:09 17:52	06:21 19:23	05:24 19:52
12	07:09 16:47 68	10:56 (13) 12:04 (13)	06:48 17:22	06:08 17:53	06:20 19:24	05:24 19:53
13	07:09 16:48 68	10:56 (13) 12:04 (13)	06:47 17:23	06:06 17:54	06:18 19:25	05:24 19:54
14	07:09 16:49 67	10:57 (13) 12:04 (13)	06:45 17:24	06:05 17:55	06:17 19:26	05:24 19:54
15	07:08 16:50 67	10:58 (13) 12:05 (13)	06:44 17:25	06:03 17:56	06:15 19:27	05:24 19:55
16	07:08 16:51 66	10:58 (13) 12:04 (13)	06:43 17:27	06:02 17:57	06:14 19:28	05:24 19:56
17	07:08 16:52 65	10:59 (13) 12:04 (13)	06:42 17:28 7	07:24 (12) 07:31 (12)	06:00 19:29	05:24 19:57
18	07:07 16:53 65	10:59 (13) 12:04 (13)	06:41 17:29 12	07:22 (12) 07:34 (12)	05:59 17:59	05:24 19:58
19	07:07 16:54 64	11:00 (13) 12:04 (13)	06:39 17:30 16	07:19 (12) 07:35 (12)	05:57 18:00	05:24 19:30
20	07:06 16:56 64	11:00 (13) 12:04 (13)	06:38 17:31 18	07:18 (12) 07:36 (12)	05:55 18:01	05:24 19:31
21	07:06 16:57 63	11:01 (13) 12:04 (13)	06:37 17:32 20	07:17 (12) 07:37 (12)	05:54 18:02	05:25 19:32
22	07:05 16:58 61	11:02 (13) 12:03 (13)	06:35 17:33 21	07:16 (12) 07:37 (12)	05:52 18:03	05:25 19:33
23	07:05 16:59 61	11:03 (13) 12:04 (13)	06:34 17:34 22	07:16 (12) 07:38 (12)	05:51 18:04	05:25 19:34
24	07:04 17:00 59	11:04 (13) 12:03 (13)	06:33 17:35 22	07:16 (12) 07:38 (12)	05:49 18:05	05:25 19:35
25	07:04 17:01 58	11:04 (13) 12:02 (13)	06:31 17:37 22	07:15 (12) 07:37 (12)	05:48 18:06	05:26 19:36
26	07:03 17:02 56	11:06 (13) 12:02 (13)	06:30 17:38 21	07:16 (12) 07:37 (12)	05:46 18:07	05:26 19:37
27	07:02 17:03 54	11:07 (13) 12:01 (13)	06:29 17:39 20	07:16 (12) 07:36 (12)	05:44 18:08	05:26 19:38
28	07:02 17:05 52	11:08 (13) 12:00 (13)	06:27 17:40 19	07:17 (12) 07:36 (12)	05:43 18:09	05:27 19:39
29	07:01 17:06 49	11:09 (13) 11:58 (13)	06:26 17:41 17	07:17 (12) 07:34 (12)	05:41 18:10	05:27 19:40
30	07:00 17:07 46	11:11 (13) 11:57 (13)	06:25 17:42	05:40 18:11	05:55 19:41	05:27 20:08
31	06:59 17:08 43	11:12 (13) 11:55 (13)	06:24 17:43	05:39 18:12	05:54 19:42	05:27 20:09
Potential sun hours	302	310	370	396	443	446
Total, worst case	1950	349	21			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BE - R14 CU2
 Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	06:17 16:51	06:49 16:29 68
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:28 68
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	06:19 16:49	06:51 16:28 68
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:47	06:52 16:28 69
5	05:30 20:19	05:54 19:59	06:22 19:16	06:49 18:28	06:21 16:46	06:53 16:28 68
6	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	06:22 16:45	06:54 16:28 69
7	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	06:23 16:44	06:55 16:28 68
8	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	06:24 16:43	10:56 (13) 06:56 69
9	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	06:25 16:42	10:51 (13) 06:57 68
10	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	06:27 16:41	10:49 (13) 06:57 69
11	05:33 20:18	05:59 19:52	06:27 19:07	06:55 18:19	06:28 16:40	10:46 (13) 06:58 69
12	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	07:54 (12) 06:29	10:44 (13) 06:59 68
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	07:52 (12) 06:30	10:43 (13) 07:00 69
14	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	07:50 (12) 06:31	10:41 (13) 07:01 69
15	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	07:49 (12) 06:32	10:41 (13) 07:01 68
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	07:48 (12) 06:33	10:40 (13) 07:02 68
17	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:10	07:47 (12) 06:34	10:39 (13) 07:03 69
18	05:38 20:14	06:05 19:43	06:33 18:55	07:02 18:09	07:47 (12) 06:35	10:39 (13) 07:03 69
19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	07:47 (12) 06:37	10:38 (13) 07:04 69
20	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	07:47 (12) 06:38	10:37 (13) 07:05 69
21	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	07:47 (12) 06:39	10:38 (13) 07:05 69
22	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	07:47 (12) 06:40	10:38 (13) 07:06 69
23	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	07:48 (12) 06:41	10:37 (13) 07:06 69
24	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	07:50 (12) 06:42	10:37 (13) 07:07 69
25	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	07:52 (12) 06:43	10:37 (13) 07:07 69
26	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	07:55 (12) 06:44	10:37 (13) 07:07 69
27	05:46 20:07	06:14 19:30	06:42 18:41	06:11 16:57	07:59 (12) 06:30	11:43 (13) 16:34 69
28	05:47 20:07	06:15 19:28	06:43 18:39	06:12 16:56	06:45 16:30	10:37 (13) 07:08 69
29	05:47 20:06	06:15 19:27	06:43 18:38	06:13 16:54	06:47 16:29	11:44 (13) 16:35 68
30	05:48 20:05	06:16 19:25	06:44 18:36	06:14 16:53	06:48 16:29	10:38 (13) 07:09 69
31	05:49 20:04	06:17 19:24		06:15 16:52		07:09 16:37 69
Potential sun hours	453	424	374	347	303	294
Total, worst case				260	1241	2129

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: Bufalo worst case Shadow receptor: BF - R15 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37 66	10:49 (13) 11:55 (13)	06:59 17:09 75	10:54 (13) 12:09 (13)	06:24 17:42 22	07:08 (12) 07:30 (12)	06:37 19:13	05:54 19:42	05:27 20:09
2	07:09 16:38 66	10:49 (13) 11:55 (13)	06:58 17:10 74	10:54 (13) 12:08 (13)	06:23 17:43 22	07:08 (12) 07:30 (12)	06:35 19:14	05:52 19:43	05:27 20:10
3	07:09 16:39 67	10:49 (13) 11:56 (13)	06:57 17:12 73	10:55 (13) 12:08 (13)	06:21 17:44 21	07:08 (12) 07:29 (12)	06:33 19:15	05:51 19:44	05:26 20:11
4	07:09 16:40 67	10:49 (13) 11:56 (13)	06:56 17:13 73	10:55 (13) 12:08 (13)	06:20 17:45 19	07:09 (12) 07:28 (12)	06:32 19:16	05:50 19:45	05:26 20:11
5	07:10 16:41 68	10:49 (13) 11:57 (13)	06:55 17:14 71	10:56 (13) 12:07 (13)	06:19 17:46 17	07:09 (12) 07:26 (12)	06:30 19:17	05:49 19:46	05:25 20:12
6	07:10 16:41 68	10:50 (13) 11:58 (13)	06:54 17:15 71	10:56 (13) 12:07 (13)	06:17 17:47 14	07:11 (12) 07:25 (12)	06:29 19:18	05:48 19:47	05:25 20:13
7	07:10 16:42 69	10:50 (13) 11:59 (13)	06:53 17:16 69	10:57 (13) 12:06 (13)	06:16 17:48 10	07:12 (12) 07:22 (12)	06:27 19:19	05:47 19:48	05:25 20:13
8	07:10 16:43 69	10:49 (13) 11:58 (13)	06:52 17:17 67	10:58 (13) 12:05 (13)	06:14 17:49		06:26 19:20	05:45 19:49	05:25 20:14
9	07:10 16:44 70	10:49 (13) 11:59 (13)	06:51 17:19 65	10:58 (13) 12:03 (13)	06:13 17:50		06:24 19:21	05:44 19:50	05:25 20:14
10	07:09 16:45 70	10:50 (13) 12:00 (13)	06:50 17:20 63	10:59 (13) 12:02 (13)	06:11 17:51		06:23 19:22	05:43 19:51	05:24 20:15
11	07:09 16:46 71	10:50 (13) 12:01 (13)	06:49 17:21 61	11:00 (13) 12:01 (13)	06:09 17:52		06:21 19:23	05:42 19:52	05:24 20:16
12	07:09 16:47 71	10:51 (13) 12:02 (13)	06:48 17:22 57	11:02 (13) 11:59 (13)	06:08 17:53		06:20 19:24	05:41 19:53	05:24 20:16
13	07:09 16:48 72	10:50 (13) 12:02 (13)	06:47 17:23 55	11:03 (13) 11:58 (13)	06:06 17:54		06:18 19:25	05:40 19:54	05:24 20:16
14	07:09 16:49 73	10:50 (13) 12:03 (13)	06:45 17:24 50	11:05 (13) 11:55 (13)	06:05 17:55		06:17 19:26	05:39 19:54	05:24 20:17
15	07:08 16:50 73	10:51 (13) 12:04 (13)	06:44 17:25 46	11:06 (13) 11:52 (13)	06:03 17:56		06:15 19:27	05:38 19:55	05:24 20:17
16	07:08 16:51 74	10:50 (13) 12:04 (13)	06:43 17:27 40	11:09 (13) 11:49 (13)	06:02 17:57		06:14 19:28	05:38 19:56	05:24 20:18
17	07:08 16:52 74	10:51 (13) 12:05 (13)	06:42 17:28 31	11:13 (13) 11:44 (13)	06:00 17:58		06:12 19:29	05:37 19:57	05:24 20:18
18	07:07 16:53 75	10:50 (13) 12:05 (13)	06:41 17:29 18	11:19 (13) 11:37 (13)	05:59 17:59		06:11 19:29	05:36 19:58	05:24 20:18
19	07:07 16:54 75	10:51 (13) 12:06 (13)	06:39 17:30		05:57 18:00		06:10 19:30	05:35 19:59	05:24 20:19
20	07:06 16:56 75	10:51 (13) 12:06 (13)	06:38 17:31		05:55 18:01		06:08 19:31	05:34 20:00	05:24 20:19
21	07:06 16:57 76	10:51 (13) 12:07 (13)	06:37 17:32		05:54 18:02		06:07 19:32	05:33 20:01	05:25 20:19
22	07:05 16:58 76	10:51 (13) 12:07 (13)	06:35 17:33		05:52 18:03		06:05 19:33	05:33 20:02	05:25 20:19
23	07:05 16:59 76	10:52 (13) 12:08 (13)	06:34 17:34 10	07:15 (12) 07:25 (12)	05:51 18:04		06:04 19:34	05:32 20:02	05:25 20:20
24	07:04 17:00 76	10:52 (13) 12:08 (13)	06:33 17:35 14	07:13 (12) 07:27 (12)	05:49 18:05		06:03 19:35	05:31 20:03	05:25 20:20
25	07:04 17:01 76	10:52 (13) 12:08 (13)	06:31 17:37 17	07:11 (12) 07:28 (12)	05:48 18:06		06:01 19:36	05:31 20:04	05:26 20:20
26	07:03 17:02 77	10:52 (13) 12:09 (13)	06:30 17:38 19	07:10 (12) 07:29 (12)	05:46 18:07		06:00 19:37	05:30 20:05	05:26 20:20
27	07:02 17:03 76	10:52 (13) 12:08 (13)	06:29 17:39 20	07:09 (12) 07:29 (12)	05:44 18:08		05:59 19:38	05:29 20:06	05:26 20:20
28	07:02 17:05 76	10:52 (13) 12:08 (13)	06:27 17:40 22	07:08 (12) 07:30 (12)	05:43 18:09		05:57 19:39	05:29 20:06	05:27 20:20
29	07:01 17:06 75	10:53 (13) 12:08 (13)	06:26 17:41 23	07:07 (12) 07:30 (12)	05:41 18:10		05:56 19:40	05:28 20:07	05:27 20:20
30	07:00 17:07 75	10:53 (13) 12:08 (13)			05:40 18:11		05:55 19:41	05:28 20:08	05:27 20:20
31	06:59 17:08 75	10:53 (13) 12:08 (13)			06:38 19:12			05:27 20:09	
Potential sun hours	302	310	370	396	443	446			
Total, worst case	2247	1184	125						

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BF - R15 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	06:17 16:51	10:30 (13) 16:29
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	10:29 (13) 16:28
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	06:19 16:49	10:28 (13) 16:28
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:47	10:27 (13) 16:28
5	05:30 20:19	05:54 19:59	06:22 19:16	06:49 18:28	06:21 16:46	10:27 (13) 16:28
6	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	07:51 (12) 07:57 (12)	10:26 (13) 16:28
7	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	06:23 16:44	10:26 (13) 16:28
8	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	07:46 (12) 08:01 (12)	10:25 (13) 16:28
9	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	06:25 08:02 (12)	10:25 (13) 16:28
10	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	06:27 08:03 (12)	10:25 (13) 16:28
11	05:33 20:18	05:59 19:52	06:27 19:07	06:55 18:19	06:28 08:03 (12)	10:25 (13) 16:28
12	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	06:29 08:03 (12)	10:25 (13) 16:28
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	06:30 08:03 (12)	10:25 (13) 16:28
14	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 08:03 (12)	10:25 (13) 16:28
15	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	06:32 08:03 (12)	10:26 (13) 16:29
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 08:02 (12)	10:25 (13) 16:29
17	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:10	06:34 08:01 (12)	10:26 (13) 16:29
18	05:38 20:14	06:05 19:43	06:33 18:55	07:02 18:09	06:35 07:59 (12)	10:26 (13) 16:30
19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	06:37 07:57 (12)	10:26 (13) 16:30
20	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	06:38 07:55 (12)	10:26 (13) 16:30
21	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	06:39 16:33	10:27 (13) 16:31
22	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	06:40 16:32	10:27 (13) 16:31
23	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	06:41 16:32	10:28 (13) 16:32
24	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:31	10:28 (13) 16:32
25	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	11:47 (13) 12:09 (13)	10:28 (13) 16:33
26	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	11:42 (13) 12:15 (13)	10:29 (13) 16:34
27	05:46 20:07	06:14 19:30	06:42 18:41	07:11 16:57	10:39 (13) 11:19 (13)	10:29 (13) 16:34
28	05:47 20:07	06:15 19:28	06:42 18:39	07:12 16:56	10:36 (13) 11:22 (13)	10:30 (13) 16:35
29	05:47 20:06	06:15 19:27	06:43 18:38	07:13 16:54	10:34 (13) 11:25 (13)	10:31 (13) 16:36
30	05:48 20:05	06:16 19:25	06:44 18:36	07:14 16:53	10:32 (13) 11:27 (13)	10:32 (13) 16:36
31	05:49 20:04	06:17 19:24		07:15 16:52	10:31 (13) 11:29 (13)	07:09 16:37
Potential sun hours	453	424	374	347	303	294
Total, worst case				562	2186	2049

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BG - R16 CU2
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37 66	11:25 (13) 12:31 (13)	06:59 17:09 75	11:30 (13) 12:45 (13)	06:24 17:42 23	07:11 (12) 07:34 (12)	06:37 19:13	05:54 19:42	05:27 20:09
2	07:09 16:38 66	11:25 (13) 12:31 (13)	06:58 17:10 74	11:31 (13) 12:45 (13)	06:23 17:43 22	07:12 (12) 07:34 (12)	06:35 19:14	05:52 19:43	05:27 20:10
3	07:09 16:39 67	11:25 (13) 12:32 (13)	06:57 17:12 74	11:31 (13) 12:45 (13)	06:21 17:44 21	07:12 (12) 07:33 (12)	06:33 19:15	05:51 19:44	05:26 20:11
4	07:09 16:40 68	11:25 (13) 12:33 (13)	06:56 17:13 73	11:32 (13) 12:45 (13)	06:20 17:45 19	07:13 (12) 07:32 (12)	06:32 19:16	05:50 19:45	05:26 20:11
5	07:10 16:41 68	11:25 (13) 12:33 (13)	06:55 17:14 72	11:32 (13) 12:44 (13)	06:19 17:46 16	07:14 (12) 07:30 (12)	06:30 19:17	05:49 19:46	05:25 20:12
6	07:10 16:41 69	11:25 (13) 12:34 (13)	06:54 17:15 71	11:33 (13) 12:44 (13)	06:17 17:47 12	07:16 (12) 07:28 (12)	06:29 19:18	05:48 19:47	05:25 20:13
7	07:10 16:42 69	11:26 (13) 12:35 (13)	06:53 17:16 69	11:34 (13) 12:43 (13)	06:16 17:48 5	07:19 (12) 07:24 (12)	06:27 19:19	05:47 19:48	05:25 20:13
8	07:10 16:43 70	11:25 (13) 12:35 (13)	06:52 17:17 68	11:35 (13) 12:43 (13)	06:14 17:49		06:26 19:20	05:45 19:49	05:25 20:14
9	07:10 16:44 70	11:25 (13) 12:35 (13)	06:51 17:19 66	11:35 (13) 12:41 (13)	06:13 17:50		06:24 19:21	05:44 19:50	05:25 20:14
10	07:09 16:45 70	11:26 (13) 12:36 (13)	06:50 17:20 64	11:36 (13) 12:40 (13)	06:11 17:51		06:23 19:22	05:43 19:51	05:24 20:15
11	07:09 16:46 71	11:26 (13) 12:37 (13)	06:49 17:21 61	11:38 (13) 12:39 (13)	06:09 17:52		06:21 19:23	05:42 19:52	05:24 20:16
12	07:09 16:47 72	11:26 (13) 12:38 (13)	06:48 17:22 58	11:40 (13) 12:38 (13)	06:08 17:53		06:20 19:24	05:41 19:53	05:24 20:16
13	07:09 16:48 72	11:26 (13) 12:38 (13)	06:47 17:23 54	11:42 (13) 12:36 (13)	06:06 17:54		06:18 19:25	05:40 19:54	05:24 20:16
14	07:09 16:49 73	11:26 (13) 12:39 (13)	06:45 17:24 50	11:44 (13) 12:34 (13)	06:05 17:55		06:17 19:26	05:39 19:54	05:24 20:17
15	07:08 16:50 73	11:27 (13) 12:40 (13)	06:44 17:25 45	11:46 (13) 12:31 (13)	06:03 17:56		06:15 19:27	05:38 19:55	05:24 20:17
16	07:08 16:51 74	11:26 (13) 12:40 (13)	06:43 17:27 38	11:50 (13) 12:28 (13)	06:02 17:57		06:14 19:28	05:38 19:56	05:24 20:18
17	07:08 16:52 74	11:27 (13) 12:41 (13)	06:42 17:28 28	11:55 (13) 12:23 (13)	06:00 17:58		06:12 19:29	05:37 19:57	05:24 20:18
18	07:07 16:53 75	11:26 (13) 12:41 (13)	06:41 17:29 8	12:05 (13) 12:13 (13)	05:59 17:59		06:11 19:29	05:36 19:58	05:24 20:18
19	07:07 16:54 75	11:27 (13) 12:42 (13)	06:39 17:30		05:57 18:00		06:10 19:30	05:35 19:59	05:24 20:19
20	07:06 16:56 75	11:27 (13) 12:42 (13)	06:38 17:31		05:55 18:01		06:08 19:31	05:34 20:00	05:24 20:19
21	07:06 16:57 76	11:27 (13) 12:43 (13)	06:37 17:32 3	07:23 (12) 07:26 (12)	05:54 18:02		06:07 19:32	05:33 20:01	05:25 20:19
22	07:05 16:58 76	11:27 (13) 12:43 (13)	06:35 17:33 12	07:18 (12) 07:30 (12)	05:52 18:03		06:05 19:33	05:33 20:02	05:25 20:19
23	07:05 16:59 76	11:28 (13) 12:44 (13)	06:34 17:34 16	07:16 (12) 07:32 (12)	05:51 18:04		06:04 19:34	05:32 20:02	05:25 20:20
24	07:04 17:00 76	11:28 (13) 12:44 (13)	06:33 17:35 18	07:15 (12) 07:33 (12)	05:49 18:05		06:03 19:35	05:31 20:03	05:25 20:20
25	07:04 17:01 76	11:28 (13) 12:44 (13)	06:31 17:37 21	07:13 (12) 07:34 (12)	05:48 18:06		06:01 19:36	05:31 20:04	05:26 20:20
26	07:03 17:02 76	11:28 (13) 12:44 (13)	06:30 17:38 22	07:13 (12) 07:35 (12)	05:46 18:07		06:00 19:37	05:30 20:05	05:26 20:20
27	07:02 17:03 76	11:29 (13) 12:45 (13)	06:29 17:39 22	07:12 (12) 07:34 (12)	05:44 18:08		05:59 19:38	05:29 20:06	05:26 20:20
28	07:02 17:05 76	11:29 (13) 12:45 (13)	06:27 17:40 23	07:12 (12) 07:35 (12)	05:43 18:09		05:57 19:39	05:29 20:06	05:27 20:20
29	07:01 17:06 76	11:29 (13) 12:45 (13)	06:26 17:41 23	07:11 (12) 07:34 (12)	05:41 18:10		05:56 19:40	05:28 20:07	05:27 20:20
30	07:00 17:07 76	11:29 (13) 12:45 (13)			05:40 18:11		05:55 19:41	05:28 20:08	05:27 20:20
31	06:59 17:08 76	11:29 (13) 12:45 (13)			06:38 19:12			05:27 20:09	
Potential sun hours	302	310	370	396	443	446			
Total, worst case	2253	1208	118						

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BG - R16 CU2
 Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	06:17 16:51	11:08 (13) 16:29
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	11:06 (13) 16:28
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	06:19 16:49	11:05 (13) 16:28
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:47	11:04 (13) 16:28
5	05:30 20:19	05:54 19:59	06:22 19:16	06:49 18:28	06:21 16:46	11:04 (13) 16:28
6	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	06:22 16:45	11:03 (13) 16:28
7	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	06:23 16:44	11:02 (13) 16:28
8	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	06:24 16:43	11:02 (13) 16:28
9	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	06:25 16:42	11:01 (13) 16:28
10	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	06:27 16:41	11:02 (13) 16:28
11	05:33 20:18	05:59 19:52	06:27 19:07	06:55 18:19	06:28 16:40	11:01 (13) 16:28
12	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	06:29 16:40	11:01 (13) 16:28
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	06:30 16:39	11:01 (13) 16:28
14	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	11:01 (13) 16:28
15	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	06:32 16:37	11:02 (13) 16:29
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:36	11:02 (13) 16:29
17	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:10	06:34 16:36	11:02 (13) 16:29
18	05:38 20:14	06:05 19:43	06:33 18:55	07:02 18:09	06:35 16:35	11:02 (13) 16:30
19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	06:36 16:34	11:02 (13) 16:30
20	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	06:38 16:34	11:02 (13) 16:30
21	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	06:39 16:33	11:03 (13) 16:31
22	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	06:40 16:32	11:03 (13) 16:31
23	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	06:41 16:32	11:04 (13) 16:32
24	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:31	11:04 (13) 16:32
25	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	06:43 16:31	11:04 (13) 16:33
26	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:30	11:05 (13) 16:34
27	05:46 20:07	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30	11:05 (13) 16:34
28	05:47 20:07	06:15 19:28	06:43 18:39	07:12 16:56	06:46 16:30	11:06 (13) 16:35
29	05:47 20:06	06:15 19:27	06:43 18:38	07:13 16:54	06:47 16:29	11:07 (13) 16:36
30	05:48 20:05	06:16 19:25	06:44 18:36	07:14 16:53	06:48 16:29	11:08 (13) 16:36
31	05:49 20:04	06:17 19:24		07:15 16:52	06:49 16:28	11:09 (13) 16:37
Potential sun hours	453	424	374	347	303	294
Total, worst case				580	2194	2061

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BH - R17 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37 68	10:34 (13) 11:42 (13)	06:59 17:09 65	10:45 (13) 11:50 (13)	06:24 17:42 21	07:10 (12) 07:31 (12)	06:37 19:13	05:54 19:42	05:27 20:09
2	07:09 16:38 68	10:35 (13) 11:43 (13)	06:58 17:10 63	10:46 (13) 11:49 (13)	06:23 17:43 19	07:11 (12) 07:30 (12)	06:35 19:14	05:52 19:43	05:27 20:10
3	07:09 16:39 68	10:35 (13) 11:43 (13)	06:57 17:12 62	10:46 (13) 11:48 (13)	06:21 17:44 18	07:11 (12) 07:29 (12)	06:33 19:15	05:51 19:44	05:26 20:11
4	07:09 16:40 69	10:35 (13) 11:44 (13)	06:56 17:13 60	10:47 (13) 11:47 (13)	06:20 17:45 14	07:13 (12) 07:27 (12)	06:32 19:16	05:50 19:45	05:26 20:11
5	07:10 16:41 69	10:35 (13) 11:44 (13)	06:55 17:14 58	10:48 (13) 11:46 (13)	06:19 17:46 10	07:14 (12) 07:24 (12)	06:30 19:17	05:49 19:46	05:25 20:12
6	07:10 16:41 69	10:36 (13) 11:45 (13)	06:54 17:15 55	10:49 (13) 11:44 (13)	06:17 17:47		06:29 19:18	05:48 19:47	05:25 20:13
7	07:10 16:42 69	10:36 (13) 11:45 (13)	06:53 17:16 52	10:51 (13) 11:43 (13)	06:16 17:48		06:27 19:19	05:47 19:48	05:25 20:13
8	07:10 16:43 70	10:36 (13) 11:46 (13)	06:52 17:17 49	10:52 (13) 11:41 (13)	06:14 17:49		06:26 19:20	05:45 19:49	05:25 20:14
9	07:10 16:44 70	10:36 (13) 11:46 (13)	06:51 17:19 45	10:53 (13) 11:38 (13)	06:13 17:50		06:24 19:21	05:44 19:50	05:25 20:14
10	07:09 16:45 70	10:36 (13) 11:46 (13)	06:50 17:20 40	10:55 (13) 11:35 (13)	06:11 17:51		06:23 19:22	05:43 19:51	05:24 20:15
11	07:09 16:46 70	10:37 (13) 11:47 (13)	06:49 17:21 34	10:58 (13) 11:32 (13)	06:09 17:52		06:21 19:23	05:42 19:52	05:24 20:16
12	07:09 16:47 71	10:37 (13) 11:48 (13)	06:48 17:22 26	11:02 (13) 11:28 (13)	06:08 17:53		06:20 19:24	05:41 19:53	05:24 20:16
13	07:09 16:48 71	10:37 (13) 11:48 (13)	06:47 17:23 13	11:08 (13) 11:21 (13)	06:06 17:54		06:18 19:25	05:40 19:54	05:24 20:16
14	07:09 16:49 71	10:37 (13) 11:48 (13)	06:45 17:24	06:05 17:55			06:17 19:26	05:39 19:54	05:24 20:17
15	07:08 16:50 71	10:38 (13) 11:49 (13)	06:44 17:25	06:03 17:56			06:15 19:27	05:38 19:55	05:24 20:17
16	07:08 16:51 71	10:38 (13) 11:49 (13)	06:43 17:27	06:02 17:57			06:14 19:28	05:38 19:56	05:24 20:18
17	07:08 16:52 72	10:38 (13) 11:50 (13)	06:42 17:28	06:00 17:58			06:12 19:29	05:37 19:57	05:24 20:18
18	07:07 16:53 72	10:38 (13) 11:50 (13)	06:41 17:29	05:59 17:59			06:11 19:29	05:36 19:58	05:24 20:18
19	07:07 16:54 71	10:39 (13) 11:50 (13)	06:39 17:30	05:57 18:00			06:10 19:30	05:35 19:59	05:24 20:19
20	07:06 16:56 71	10:39 (13) 11:50 (13)	06:38 17:31	05:55 18:01			06:08 19:31	05:34 20:00	05:24 20:19
21	07:06 16:57 71	10:40 (13) 11:51 (13)	06:37 17:32 8	05:54 07:18 (12)	18:02		06:07 19:32	05:33 20:01	05:25 20:19
22	07:05 16:58 71	10:40 (13) 11:51 (13)	06:35 17:33 13	05:52 07:15 (12)	18:03		06:05 19:33	05:33 20:02	05:25 20:19
23	07:05 16:59 72	10:40 (13) 11:52 (13)	06:34 17:34 17	05:51 07:13 (12)	18:04		06:04 19:34	05:32 20:02	05:25 20:20
24	07:04 17:00 70	10:41 (13) 11:51 (13)	06:33 17:35 18	05:49 07:13 (12)	18:05		06:03 19:35	05:31 20:03	05:25 20:20
25	07:04 17:01 70	10:41 (13) 11:51 (13)	06:31 17:37 20	05:48 07:11 (12)	18:06		06:01 19:36	05:31 20:04	05:26 20:20
26	07:03 17:02 70	10:42 (13) 11:52 (13)	06:30 17:38 21	05:46 07:11 (12)	18:07		06:00 19:37	05:30 20:05	05:26 20:20
27	07:02 17:03 69	10:42 (13) 11:51 (13)	06:29 17:39 21	05:44 07:10 (12)	18:08		05:59 19:38	05:29 20:06	05:26 20:20
28	07:02 17:05 69	10:42 (13) 11:51 (13)	06:27 17:40 22	05:43 07:10 (12)	18:09		05:57 19:39	05:29 20:06	05:27 20:20
29	07:01 17:06 67	10:43 (13) 11:50 (13)	06:26 17:41 22	05:41 07:09 (12)	18:10		05:56 19:40	05:28 20:07	05:27 20:20
30	07:00 17:07 67	10:43 (13) 11:50 (13)		05:40 18:11			05:55 19:41	05:28 20:08	05:27 20:20
31	06:59 17:08 66	10:43 (13) 11:49 (13)		06:38 19:12				05:27 20:09	
Potential sun hours	302		310	370			396	443	446
Total, worst case	2163		784	82					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BH - R17 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28	05:50	06:18	06:45		06:17	10:28 (13)	06:49 10:19 (13)
	20:20	20:03	19:22	18:35		16:51	34 11:02 (13)	16:29 71 11:30 (13)
2	05:28	05:51	06:19	06:46		06:18	10:25 (13)	06:50 10:20 (13)
	20:20	20:02	19:21	18:33		16:50	40 11:05 (13)	16:28 70 11:30 (13)
3	05:29	05:52	06:20	06:47		06:19	10:23 (13)	06:51 10:20 (13)
	20:20	20:01	19:19	18:31		16:49	45 11:08 (13)	16:28 70 11:30 (13)
4	05:29	05:53	06:21	06:48		06:20	10:21 (13)	06:52 10:21 (13)
	20:20	20:00	19:18	18:30		16:47	49 11:10 (13)	16:28 70 11:31 (13)
5	05:30	05:54	06:22	06:49		06:21	10:21 (13)	06:53 10:22 (13)
	20:19	19:59	19:16	18:28		16:46	52 11:13 (13)	16:28 69 11:31 (13)
6	05:30	05:55	06:23	06:50		06:22	10:19 (13)	06:54 10:22 (13)
	20:19	19:57	19:15	18:27		16:45	55 11:14 (13)	16:28 69 11:31 (13)
7	05:31	05:55	06:24	06:51		06:23	10:18 (13)	06:55 10:22 (13)
	20:19	19:56	19:13	18:25		16:44	58 11:16 (13)	16:28 69 11:31 (13)
8	05:32	05:56	06:24	06:52		06:24	10:17 (13)	06:56 10:22 (13)
	20:19	19:55	19:11	18:24	6	07:52 (12)	16:43 60 11:17 (13)	16:28 69 11:31 (13)
9	05:32	05:57	06:25	06:53		07:49 (12)	06:25 62 10:16 (13)	06:57 10:23 (13)
	20:18	19:54	19:10	18:22	12	08:01 (12)	16:42 62 11:18 (13)	16:28 69 11:32 (13)
10	05:33	05:58	06:26	06:54		07:47 (12)	06:27 63 10:17 (13)	06:57 10:24 (13)
	20:18	19:53	19:08	18:21	15	08:02 (12)	16:41 63 11:20 (13)	16:28 68 11:32 (13)
11	05:33	05:59	06:27	06:55		07:45 (12)	06:28 65 10:16 (13)	06:58 10:25 (13)
	20:18	19:52	19:07	18:19	18	08:03 (12)	16:40 65 11:21 (13)	16:28 68 11:33 (13)
12	05:34	06:00	06:28	06:56		07:44 (12)	06:29 66 10:15 (13)	06:59 10:25 (13)
	20:17	19:50	19:05	18:18	20	08:04 (12)	16:40 66 11:21 (13)	16:28 68 11:33 (13)
13	05:35	06:01	06:29	06:57		07:43 (12)	06:30 67 10:15 (13)	07:00 10:25 (13)
	20:17	19:49	19:04	18:16	21	08:04 (12)	16:39 67 11:22 (13)	16:28 68 11:33 (13)
14	05:36	06:02	06:30	06:58		07:43 (12)	06:31 69 10:15 (13)	07:01 10:26 (13)
	20:16	19:48	19:02	18:15	21	08:04 (12)	16:38 67 11:22 (13)	16:28 67 11:33 (13)
15	05:36	06:03	06:31	06:59		07:43 (12)	06:32 69 10:15 (13)	07:01 10:27 (13)
	20:16	19:47	19:00	18:13	21	08:04 (12)	16:37 69 11:24 (13)	16:29 67 11:34 (13)
16	05:37	06:04	06:32	07:00		07:42 (12)	06:33 69 10:15 (13)	07:02 10:27 (13)
	20:15	19:45	18:59	18:12	22	08:04 (12)	16:36 69 11:24 (13)	16:29 67 11:34 (13)
17	05:38	06:05	06:33	07:01		07:43 (12)	06:34 70 10:15 (13)	07:03 10:28 (13)
	20:15	19:44	18:57	18:10	20	08:03 (12)	16:36 70 11:25 (13)	16:29 66 11:34 (13)
18	05:38	06:05	06:33	07:02		07:43 (12)	06:35 70 10:15 (13)	07:03 10:29 (13)
	20:14	19:43	18:55	18:09	20	08:03 (12)	16:35 70 11:25 (13)	16:30 66 11:35 (13)
19	05:39	06:06	06:34	07:03		07:43 (12)	06:37 70 10:15 (13)	07:04 10:29 (13)
	20:13	19:41	18:54	18:08	18	08:01 (12)	16:34 70 11:25 (13)	16:30 66 11:35 (13)
20	05:40	06:07	06:35	07:04		07:44 (12)	06:38 71 10:15 (13)	07:05 10:30 (13)
	20:13	19:40	18:52	18:06	16	08:00 (12)	16:34 71 11:26 (13)	16:30 66 11:36 (13)
21	05:41	06:08	06:36	07:05		07:46 (12)	06:39 71 10:16 (13)	07:05 10:30 (13)
	20:12	19:38	18:51	18:05	12	07:58 (12)	16:33 71 11:27 (13)	16:31 66 11:36 (13)
22	05:42	06:09	06:37	07:06		07:49 (12)	06:40 71 10:16 (13)	07:06 10:31 (13)
	20:11	19:37	18:49	18:03	6	07:55 (12)	16:32 71 11:27 (13)	16:31 66 11:37 (13)
23	05:42	06:10	06:38	07:07		06:41	71 10:16 (13)	07:06 10:31 (13)
	20:11	19:36	18:47	18:02		16:32	71 11:27 (13)	16:32 66 11:37 (13)
24	05:43	06:11	06:39	07:08		06:42	71 10:16 (13)	07:07 10:32 (13)
	20:10	19:34	18:46	18:01		16:31	71 11:27 (13)	16:32 66 11:38 (13)
25	05:44	06:12	06:40	07:09		06:43	72 10:16 (13)	07:07 10:32 (13)
	20:09	19:33	18:44	17:59		16:31	72 11:28 (13)	16:33 66 11:38 (13)
26	05:45	06:13	06:41	07:10		06:44	72 10:16 (13)	07:07 10:32 (13)
	20:08	19:31	18:43	17:58		16:30	72 11:28 (13)	16:34 66 11:38 (13)
27	05:46	06:14	06:42	06:11		06:45	71 10:17 (13)	07:08 10:33 (13)
	20:07	19:30	18:41	16:57		16:30	71 11:28 (13)	16:34 67 11:40 (13)
28	05:47	06:15	06:42	06:12		06:46	71 10:17 (13)	07:08 10:33 (13)
	20:07	19:28	18:39	16:56		16:30	71 11:28 (13)	16:35 67 11:40 (13)
29	05:47	06:15	06:43	06:13		06:47	71 10:18 (13)	07:08 10:33 (13)
	20:06	19:27	18:38	16:54		16:29	71 11:29 (13)	16:36 67 11:40 (13)
30	05:48	06:16	06:44	06:14		10:36 (13)	06:48 71 10:19 (13)	07:09 10:33 (13)
	20:05	19:25	18:36	16:53	15	10:51 (13)	16:29 71 11:30 (13)	16:36 68 11:41 (13)
31	05:49	06:17		06:15		10:31 (13)		07:09 10:33 (13)
	20:04	19:24		16:52	27	10:58 (13)		16:37 68 11:41 (13)
Potential sun hours	453	424	374	347		303		294 2096
Total, worst case				290		1914		

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BI - R18 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37 69	10:47 (13) 11:56 (13)	06:59 17:09 38	11:11 (13) 11:49 (13)	06:24 17:42 14	07:18 (12) 07:32 (12)	06:37 19:13	05:54 19:42	05:27 20:09
2	07:09 16:38 70	10:47 (13) 11:57 (13)	06:58 17:10 34	11:13 (13) 11:47 (13)	06:23 17:43 10	07:20 (12) 07:30 (12)	06:35 19:14	05:52 19:43	05:27 20:10
3	07:09 16:39 69	10:48 (13) 11:57 (13)	06:57 17:12 27	11:16 (13) 11:43 (13)	06:21 17:44		06:33 19:15	05:51 19:44	05:26 20:11
4	07:09 16:40 69	10:48 (13) 11:57 (13)	06:56 17:13 16	11:21 (13) 11:37 (13)	06:20 17:45		06:32 19:16	05:50 19:45	05:26 20:11
5	07:10 16:41 69	10:49 (13) 11:58 (13)	06:55 17:14		06:19 17:46		06:30 19:17	05:49 19:46	05:25 20:12
6	07:10 16:41 69	10:49 (13) 11:58 (13)	06:54 17:15		06:17 17:47		06:29 19:18	05:48 19:47	05:25 20:13
7	07:10 16:42 69	10:50 (13) 11:59 (13)	06:53 17:16		06:16 17:48		06:27 19:19	05:47 19:48	05:25 20:13
8	07:10 16:43 69	10:50 (13) 11:59 (13)	06:52 17:17		06:14 17:49		06:26 19:20	05:45 19:49	05:25 20:14
9	07:10 16:44 68	10:50 (13) 11:58 (13)	06:51 17:19		06:13 17:50		06:24 19:21	05:44 19:50	05:25 20:14
10	07:09 16:45 68	10:51 (13) 11:59 (13)	06:50 17:20		06:11 17:51		06:23 19:22	05:43 19:51	05:24 20:15
11	07:09 16:46 68	10:51 (13) 11:59 (13)	06:49 17:21		06:09 17:52		06:21 19:23	05:42 19:52	05:24 20:16
12	07:09 16:47 68	10:52 (13) 12:00 (13)	06:48 17:22		06:08 17:53		06:20 19:24	05:41 19:53	05:24 20:16
13	07:09 16:48 67	10:52 (13) 11:59 (13)	06:47 17:23		06:06 17:54		06:18 19:25	05:40 19:54	05:24 20:16
14	07:09 16:49 67	10:53 (13) 12:00 (13)	06:45 17:24		06:05 17:55		06:17 19:26	05:39 19:54	05:24 20:17
15	07:08 16:50 66	10:54 (13) 12:00 (13)	06:44 17:25		06:03 17:56		06:15 19:27	05:38 19:55	05:24 20:17
16	07:08 16:51 67	10:53 (13) 12:00 (13)	06:43 17:27		06:02 17:57		06:14 19:28	05:38 19:56	05:24 20:18
17	07:08 16:52 66	10:54 (13) 12:00 (13)	06:42 17:28 3	07:25 (12) 07:28 (12)	06:00 17:58		06:12 19:29	05:37 19:57	05:24 20:18
18	07:07 16:53 65	10:55 (13) 12:00 (13)	06:41 17:29 11	07:21 (12) 07:32 (12)	05:59 17:59		06:11 19:29	05:36 19:58	05:24 20:18
19	07:07 16:54 64	10:56 (13) 12:00 (13)	06:39 17:30 15	07:18 (12) 07:33 (12)	05:57 18:00		06:10 19:30	05:35 19:59	05:24 20:19
20	07:06 16:56 64	10:56 (13) 12:00 (13)	06:38 17:31 18	07:17 (12) 07:35 (12)	05:55 18:01		06:08 19:31	05:34 20:00	05:24 20:19
21	07:06 16:57 63	10:57 (13) 12:00 (13)	06:37 17:32 19	07:17 (12) 07:36 (12)	05:54 18:02		06:07 19:32	05:33 20:01	05:25 20:19
22	07:05 16:58 62	10:57 (13) 11:59 (13)	06:35 17:33 21	07:15 (12) 07:36 (12)	05:52 18:03		06:05 19:33	05:33 20:02	05:25 20:19
23	07:05 16:59 61	10:59 (13) 12:00 (13)	06:34 17:34 22	07:15 (12) 07:37 (12)	05:51 18:04		06:04 19:34	05:32 20:02	05:25 20:20
24	07:04 17:00 60	10:59 (13) 11:59 (13)	06:33 17:35 22	07:15 (12) 07:37 (12)	05:49 18:05		06:03 19:35	05:31 20:03	05:25 20:20
25	07:04 17:01 58	11:00 (13) 11:58 (13)	06:31 17:37 22	07:14 (12) 07:36 (12)	05:48 18:06		06:01 19:36	05:31 20:04	05:26 20:20
26	07:03 17:02 56	11:02 (13) 11:58 (13)	06:30 17:38 21	07:15 (12) 07:36 (12)	05:46 18:07		06:00 19:37	05:30 20:05	05:26 20:20
27	07:02 17:03 54	11:03 (13) 11:57 (13)	06:29 17:39 20	07:15 (12) 07:35 (12)	05:44 18:08		05:59 19:38	05:29 20:06	05:26 20:20
28	07:02 17:05 51	11:04 (13) 11:55 (13)	06:27 17:40 19	07:16 (12) 07:35 (12)	05:43 18:09		05:57 19:39	05:29 20:06	05:27 20:20
29	07:01 17:06 49	11:05 (13) 11:54 (13)	06:26 17:41 17	07:16 (12) 07:33 (12)	05:41 18:10		05:56 19:40	05:28 20:07	05:27 20:20
30	07:00 17:07 46	11:06 (13) 11:52 (13)			05:40 18:11		05:55 19:41	05:28 20:08	05:27 20:20
31	06:59 17:08 43	11:08 (13) 11:51 (13)			06:38 19:12			05:27 20:09	
Potential sun hours	302	310	370	396	443	446			
Total, worst case	1954	345	24						

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BI - R18 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	06:17 16:51	06:49 16:29 68
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:28 69
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	06:19 16:49	06:51 16:28 68
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:47	06:52 16:28 69
5	05:30 20:19	05:54 19:59	06:22 19:16	06:49 18:28	06:21 16:46	06:53 16:28 69
6	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	06:22 16:45	06:54 16:28 69
7	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	06:23 16:44	06:55 16:28 69
8	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	06:24 16:43	10:51 (13) 11:08 (13) 69
9	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	06:25 16:42	10:46 (13) 11:13 (13) 69
10	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	06:27 16:41	10:44 (13) 11:18 (13) 69
11	05:33 20:18	05:59 19:52	06:27 19:07	06:55 18:19	07:57 (12) 08:00 (12) 3	10:42 (13) 11:20 (13) 70
12	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	07:53 (12) 08:04 (12) 11	10:40 (13) 11:23 (13) 69
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	07:51 (12) 08:06 (12) 15	10:38 (13) 11:24 (13) 69
14	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	07:49 (12) 08:07 (12) 18	10:37 (13) 11:26 (13) 69
15	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	07:48 (12) 08:08 (12) 20	10:37 (13) 11:28 (13) 69
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	07:47 (12) 08:08 (12) 21	10:36 (13) 11:30 (13) 69
17	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:10	07:46 (12) 08:08 (12) 22	10:35 (13) 11:31 (13) 69
18	05:38 20:14	06:05 19:43	06:33 18:55	07:02 18:09	07:46 (12) 08:08 (12) 22	10:34 (13) 11:32 (13) 69
19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	07:46 (12) 08:08 (12) 22	10:33 (13) 11:33 (13) 69
20	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	07:46 (12) 08:07 (12) 21	10:33 (13) 11:34 (13) 69
21	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	07:46 (12) 08:07 (12) 21	10:34 (13) 11:35 (13) 69
22	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	07:47 (12) 08:06 (12) 19	10:33 (13) 11:36 (13) 69
23	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	07:47 (12) 08:04 (12) 17	10:33 (13) 11:37 (13) 69
24	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	07:49 (12) 08:04 (12) 15	10:33 (13) 11:37 (13) 69
25	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	07:51 (12) 08:01 (12) 10	10:33 (13) 11:38 (13) 69
26	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:30 65	10:33 (13) 11:38 (13) 69
27	05:46 20:07	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30 66	10:33 (13) 11:39 (13) 69
28	05:47 20:07	06:15 19:28	06:43 18:39	07:13 16:56	06:47 16:30 67	10:34 (13) 11:40 (13) 69
29	05:47 20:06	06:15 19:27	06:43 18:38	07:13 16:54	06:47 16:29 67	10:34 (13) 11:41 (13) 70
30	05:48 20:05	06:16 19:25	06:44 18:36	07:14 16:53	06:48 16:29 68	10:34 (13) 11:42 (13) 69
31	05:49 20:04	06:17 19:24		07:15 16:52		07:09 16:37 69
Potential sun hours	453	424	374	347	303	294
Total, worst case				257	1244	2139

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BJ - R21 CU2
Assumptions for shadow calculations

Reference year for calendar 2024
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	07:09 16:37	06:59 17:09	06:24 17:42	08:32 (13) 09:31 (13)	06:37 19:13	05:54 20:09
2	07:09 16:38	06:58 17:10	06:23 17:43	08:32 (13) 09:31 (13)	06:35 19:14	05:52 20:10
3	07:09 16:39	06:57 17:12	06:21 17:44	08:32 (13) 09:30 (13)	06:33 19:15	05:51 20:11
4	07:09 16:40	06:56 17:13	06:20 17:45	08:33 (13) 09:29 (13)	06:32 19:16	05:50 20:11
5	07:10 16:41	06:55 17:14	06:19 17:46	08:32 (13) 09:28 (13)	06:30 19:17	05:49 20:12
6	07:10 16:41	06:54 17:15	06:17 17:47	08:33 (13) 09:27 (13)	06:29 19:18	05:48 20:13
7	07:10 16:42	06:53 17:16	09:01 (13) 09:10 (13)	06:16 17:48	08:33 (13) 09:26 (13)	06:27 19:19
8	07:10 16:43	06:52 17:17	08:56 (13) 09:16 (13)	06:14 17:49	08:33 (13) 09:24 (13)	06:26 19:20
9	07:10 16:44	06:51 17:19	08:51 (13) 09:18 (13)	06:13 17:50	08:34 (13) 09:23 (13)	06:24 19:21
10	07:09 16:45	06:50 17:20	08:49 (13) 09:21 (13)	06:11 17:51	08:34 (13) 09:20 (13)	06:23 19:22
11	07:09 16:46	06:49 17:21	08:47 (13) 09:23 (13)	06:09 17:52	08:35 (13) 09:19 (13)	06:21 19:23
12	07:09 16:47	06:48 17:22	08:46 (13) 09:25 (13)	06:08 17:53	08:36 (13) 09:16 (13)	06:20 19:24
13	07:09 16:48	06:47 17:23	08:44 (13) 09:26 (13)	06:06 17:54	08:37 (13) 09:15 (13)	06:18 19:25
14	07:09 16:49	06:45 17:24	08:43 (13) 09:28 (13)	06:05 17:55	08:38 (13) 09:12 (13)	06:17 19:26
15	07:08 16:50	06:44 17:25	08:41 (13) 09:28 (13)	06:03 17:56	08:41 (13) 09:09 (13)	06:15 19:27
16	07:08 16:51	06:43 17:27	08:40 (13) 09:30 (13)	06:02 17:57	08:43 (13) 09:05 (13)	06:14 19:28
17	07:08 16:52	06:42 17:28	08:39 (13) 09:31 (13)	06:00 17:58	08:46 (13) 09:00 (13)	06:12 19:29
18	07:07 16:53	06:41 17:29	08:38 (13) 09:32 (13)	05:59 17:59	06:11 19:30	05:36 19:58
19	07:07 16:54	06:39 17:30	08:37 (13) 09:32 (13)	05:57 18:00	06:10 19:30	05:35 19:59
20	07:07 16:56	06:38 17:31	08:36 (13) 09:33 (13)	05:55 18:01	06:08 19:31	05:34 20:00
21	07:06 16:57	06:37 17:32	08:36 (13) 09:33 (13)	05:54 18:02	06:07 19:32	05:34 20:01
22	07:06 16:58	06:35 17:33	08:35 (13) 09:33 (13)	05:52 18:03	06:05 19:33	05:33 20:02
23	07:05 16:59	06:34 17:34	08:34 (13) 09:33 (13)	05:51 18:04	06:04 19:34	05:32 20:02
24	07:04 17:00	06:33 17:35	08:34 (13) 09:34 (13)	05:49 18:05	06:03 19:35	05:31 20:03
25	07:04 17:01	06:31 17:37	08:33 (13) 09:33 (13)	05:48 18:06	06:01 19:36	05:31 20:04
26	07:03 17:02	06:30 17:38	08:33 (13) 09:33 (13)	05:46 18:07	06:00 19:37	05:30 20:05
27	07:02 17:03	06:29 17:39	08:32 (13) 09:33 (13)	05:44 18:08	05:59 19:38	05:29 20:06
28	07:02 17:05	06:27 17:40	08:33 (13) 09:33 (13)	05:43 18:09	05:57 19:39	05:29 20:06
29	07:01 17:06	06:26 17:41	08:32 (13) 09:32 (13)	05:41 18:10	05:56 19:40	05:28 20:07
30	07:00 17:07		05:40 18:11		05:55 19:41	05:28 20:08
31	06:59 17:08		06:38 19:12		05:27 20:09	
Potential sun hours	302	310	370	396	443	446
Total, worst case		1100	761			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BJ - R21 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	09:16 (13) 06:17	08:17 (13) 06:49
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	09:14 (13) 06:18	08:19 (13) 06:50
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	09:13 (13) 06:19	08:22 (13) 06:51
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	09:12 (13) 06:20	08:25 (13) 06:52
5	05:30 20:19	05:54 19:59	06:22 19:16	06:49 18:28	09:11 (13) 06:21	08:31 (13) 06:53
6	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	09:10 (13) 06:22	08:39 (13) 06:54
7	05:31 20:19	05:55 19:56	06:24 19:14	06:51 18:25	09:09 (13) 06:23	06:55 16:28
8	05:32 20:19	05:56 19:55	06:24 19:13	06:52 18:24	09:08 (13) 06:24	06:56 16:28
9	05:32 20:18	05:57 19:54	06:25 19:12	06:53 18:22	09:07 (13) 06:25	06:57 16:28
10	05:33 20:18	05:58 19:53	06:26 19:10	06:54 18:21	09:07 (13) 06:27	06:57 16:28
11	05:33 20:18	05:59 19:52	06:27 19:09	06:55 18:19	09:06 (13) 06:28	06:58 16:28
12	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	09:06 (13) 06:29	06:59 16:28
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	09:06 (13) 06:30	07:00 16:28
14	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	09:05 (13) 06:31	07:01 16:28
15	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	09:05 (13) 06:32	07:01 16:29
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	09:05 (13) 06:33	07:02 16:29
17	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:10	09:05 (13) 06:34	07:03 16:29
18	05:38 20:14	06:05 19:43	06:33 18:55	07:02 18:09	09:05 (13) 06:35	07:03 16:30
19	05:39 20:14	06:06 19:41	06:34 18:54	07:03 18:08	09:05 (13) 06:37	07:04 16:30
20	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	09:05 (13) 06:38	07:05 16:30
21	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	09:06 (13) 06:39	07:05 16:31
22	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	09:06 (13) 06:40	07:06 16:31
23	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	09:06 (13) 06:41	07:06 16:32
24	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	09:08 (13) 06:42	07:07 16:32
25	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	09:08 (13) 06:43	07:07 16:33
26	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	09:09 (13) 06:44	07:07 16:34
27	05:46 20:07	06:14 19:30	06:42 18:41	07:11 16:57	08:10 (13) 06:45	07:08 16:34
28	05:47 20:07	06:15 19:28	06:43 18:39	07:12 16:56	08:11 (13) 06:46	07:08 16:35
29	05:47 20:06	06:15 19:27	06:43 18:38	07:13 16:54	08:12 (13) 06:47	07:08 16:36
30	05:48 20:05	06:16 19:25	06:44 18:36	07:14 16:53	08:13 (13) 06:48	07:09 16:36
31	05:49 20:04	06:17 19:24		06:16 16:52	08:16 (13) 08:54 (13)	07:09 16:37
Potential sun hours	453	424	374	347	303	294
Total, worst case			120	1642	119	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Buffalo worst case Shadow receptor: BK - R22 CU2
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37 17:09	06:59 17:09	06:24 17:42	08:20 (13) 09:18 (13)	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	09:00 (13) 09:47 (13)	06:17 16:51	06:49 16:29
2	07:09 16:38 17:10	06:58 17:10	06:23 17:43	08:21 (13) 09:18 (13)	06:35 19:14	05:52 19:43	05:27 20:10	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	08:59 (13) 09:48 (13)	06:18 16:50	06:50 16:28
3	07:09 16:39 17:12	06:57 17:12	06:21 17:44	08:20 (13) 09:17 (13)	06:33 19:15	05:51 19:44	05:26 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	08:58 (13) 09:49 (13)	06:19 16:49	06:51 16:28
4	07:09 16:40 17:13	06:56 17:13	06:20 17:45	08:20 (13) 09:17 (13)	06:32 19:16	05:50 19:45	05:26 20:11	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	08:57 (13) 09:50 (13)	06:20 16:47	06:52 16:28
5	07:10 16:41 17:14	06:55 17:14	06:19 17:46	08:19 (13) 09:16 (13)	06:30 19:17	05:49 19:46	05:26 20:12	05:30 20:19	05:54 19:59	06:22 19:16	06:49 18:28	08:57 (13) 09:50 (13)	06:21 16:46	06:53 16:28
6	07:10 16:41 17:15	06:54 17:15	06:17 17:47	08:20 (13) 09:16 (13)	06:29 19:18	05:48 19:47	05:25 20:13	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	08:56 (13) 09:51 (13)	06:22 16:45	06:54 16:28
7	07:10 16:42 17:16	06:53 17:16	06:16 17:48	08:19 (13) 09:14 (13)	06:27 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	08:56 (13) 09:51 (13)	06:23 16:44	06:55 16:28
8	07:10 16:43 17:17	06:52 17:17	06:14 17:49	08:19 (13) 09:13 (13)	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	08:55 (13) 09:51 (13)	06:24 16:43	06:56 16:28
9	07:10 16:44 17:19	06:51 17:19	06:13 17:50	08:19 (13) 09:13 (13)	06:24 19:21	05:44 19:50	05:25 20:14	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	08:55 (13) 09:52 (13)	06:25 16:42	06:57 16:28
10	07:09 16:45 17:20	06:50 17:20	06:11 17:51	08:19 (13) 09:11 (13)	06:23 19:22	05:43 19:51	05:24 20:15	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	08:54 (13) 09:52 (13)	06:27 16:41	06:57 16:28
11	07:09 16:46 17:21	06:49 17:21	06:09 17:52	08:20 (13) 09:10 (13)	06:21 19:23	05:42 19:52	05:24 20:16	05:33 20:18	05:59 19:52	06:27 19:07	06:55 18:19	08:54 (13) 09:52 (13)	06:28 16:40	06:58 16:29
12	07:09 16:47 17:22	06:48 17:22	06:08 17:53	08:20 (13) 09:08 (13)	06:20 19:24	05:41 19:53	05:24 20:16	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	08:54 (13) 09:52 (13)	06:29 16:40	06:59 16:28
13	07:09 16:48 17:23	06:47 17:23	06:06 17:54	08:21 (13) 09:07 (13)	06:18 19:25	05:40 19:54	05:24 20:16	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	08:54 (13) 09:51 (13)	06:30 16:39	07:00 16:28
14	07:09 16:49 17:24	06:45 17:24	06:05 17:55	08:41 (13) 09:04 (13)	06:05 19:26	06:17 19:54	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	08:54 (13) 09:51 (13)	06:31 16:38	07:01 16:28
15	07:08 16:49 17:24	06:44 17:25	06:03 17:56	08:37 (13) 09:06 (13)	06:03 19:27	06:15 19:55	05:24 20:17	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	08:54 (13) 09:51 (13)	06:32 16:37	07:01 16:29
16	07:08 16:50 17:25	06:43 17:25	06:02 17:56	08:35 (13) 09:03 (13)	06:02 19:27	06:14 19:55	05:24 20:17	05:37 20:16	06:04 19:47	06:32 19:00	07:00 18:13	08:54 (13) 09:51 (13)	06:33 16:37	07:02 16:29
17	07:08 16:51 17:27	06:42 17:27	06:00 17:57	08:33 (13) 09:09 (13)	06:00 19:28	06:12 19:56	05:24 20:18	05:38 20:15	06:05 19:45	06:33 18:59	07:01 18:12	08:55 (13) 09:50 (13)	06:34 16:36	07:03 16:29
18	07:07 16:52 17:28	06:41 17:28	05:59 17:58	08:32 (13) 09:11 (13)	06:11 19:29	06:11 19:57	05:24 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:02 18:10	08:55 (13) 09:50 (13)	06:35 16:36	07:03 16:29
19	07:07 16:53 17:29	06:39 17:29	05:57 17:59	08:32 (13) 09:12 (13)	06:10 19:30	06:10 19:58	05:24 20:18	05:39 20:14	06:06 19:43	06:34 18:55	07:03 18:09	08:56 (13) 09:49 (13)	06:36 16:35	07:04 16:30
20	07:07 16:54 17:30	06:38 17:30	05:55 18:00	08:30 (13) 09:13 (13)	06:09 19:31	06:08 19:59	05:24 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:04 18:08	08:56 (13) 09:48 (13)	06:37 16:34	07:05 16:30
21	07:06 16:55 17:31	06:37 17:31	05:54 18:01	08:28 (13) 09:14 (13)	06:08 19:32	06:07 19:59	05:25 20:20	05:41 20:13	06:08 19:40	06:36 18:52	07:05 18:06	08:57 (13) 09:47 (13)	06:39 16:34	07:05 16:30
22	07:06 16:57 17:32	06:35 17:32	05:52 18:02	08:26 (13) 09:16 (13)	06:05 19:32	06:05 20:01	05:25 20:19	05:42 20:12	06:09 19:38	06:37 18:51	07:06 18:05	08:58 (13) 09:46 (13)	06:40 16:33	07:06 16:31
23	07:06 16:58 17:33	06:34 17:33	05:51 18:03	08:25 (13) 09:16 (13)	06:04 19:33	06:04 20:02	05:25 20:19	05:42 20:11	06:10 19:37	06:38 18:49	07:07 18:03	09:17 (13) 09:45 (13)	06:41 16:32	07:06 16:31
24	07:04 16:59 17:34	06:33 17:34	05:49 18:04	08:25 (13) 09:17 (13)	06:03 19:34	06:03 20:02	05:25 20:20	05:43 20:11	06:11 19:36	06:39 18:47	07:08 18:02	09:13 (13) 09:34 (13)	06:42 16:31	07:07 16:32
25	07:04 17:01 17:37	06:31 17:37	05:48 18:06	08:23 (13) 09:18 (13)	06:01 19:36	06:01 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	09:13 (13) 09:37 (13)	06:43 16:31	07:07 16:33
26	07:03 17:01 17:38	06:30 17:38	05:46 18:07	08:23 (13) 09:18 (13)	06:00 19:37	06:00 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	09:08 (13) 09:40 (13)	06:44 16:30	07:07 16:34
27	07:02 17:02 17:39	06:29 17:39	05:44 18:08	08:22 (13) 09:18 (13)	05:59 19:38	05:29 20:06	05:26 20:20	05:46 20:07	06:14 19:30	06:42 18:41	07:11 16:57	09:06 (13) 09:42 (13)	06:45 16:30	07:08 16:34
28	07:02 17:05 17:40	06:27 17:40	05:43 18:09	08:21 (13) 09:18 (13)	05:57 19:39	05:29 20:06	05:27 20:20	05:47 20:07	06:15 19:28	06:43 18:39	07:12 16:56	09:04 (13) 09:43 (13)	06:46 16:30	07:08 16:35
29	07:01 17:06 17:41	06:26 17:41	05:41 18:10	08:20 (13) 09:18 (13)	05:56 19:40	05:28 20:07	05:27 20:20	05:47 20:06	06:15 19:27	06:43 18:38	07:13 16:54	09:03 (13) 09:45 (13)	06:47 16:29	07:08 16:36
30	07:00 17:07 17:46	06:25 17:46	05:40 18:11	08:19 (13) 09:17 (13)	05:55 19:41	05:28 20:08	05:27 20:20	05:48 20:05	06:16 19:25	06:44 18:36	07:14 16:53	09:01 (13) 09:46 (13)	06:48 16:29	07:09 16:36
31	06:59 17:08	06:24 17:47	05:39 19:12	08:18 (13)	05:54 19:42	05:27 20:09	05:26 20:20	05:49 20:04	06:17 19:24	06:45 18:37	07:15 16:52	09:00 (13) 09:46 (13)	06:49 16:29	07:10 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	255	347	303	294	
Total, worst case		752	924								1447			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BL - R23 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:59 17:09	09:01 (13) 09:22 (13)	06:24 17:42	08:42 (13) 09:32 (13)	06:37 19:13	05:54 19:42	05:27 20:09
2	07:09 16:38	06:58 17:10	08:58 (13) 09:25 (13)	06:23 17:43	08:43 (13) 09:31 (13)	06:35 19:14	05:52 19:43	05:27 20:10
3	07:09 16:39	06:57 17:12	08:56 (13) 09:27 (13)	06:21 17:44	08:43 (13) 09:29 (13)	06:33 19:15	05:51 19:44	05:26 20:11
4	07:09 16:40	06:56 17:13	08:54 (13) 09:29 (13)	06:20 17:45	08:44 (13) 09:28 (13)	06:32 19:16	05:50 19:45	05:26 20:11
5	07:10 16:41	06:55 17:14	08:53 (13) 09:30 (13)	06:19 17:46	08:45 (13) 09:25 (13)	06:30 19:17	05:49 19:46	05:26 20:12
6	07:10 16:41	06:54 17:15	08:51 (13) 09:32 (13)	06:17 17:47	08:47 (13) 09:24 (13)	06:29 19:18	05:48 19:47	05:25 20:13
7	07:10 16:42	06:53 17:16	08:50 (13) 09:33 (13)	06:16 17:48	08:47 (13) 09:21 (13)	06:27 19:19	05:47 19:48	05:25 20:13
8	07:10 16:43	06:52 17:17	08:49 (13) 09:35 (13)	06:14 17:49	08:49 (13) 09:17 (13)	06:26 19:20	05:46 19:49	05:25 20:14
9	07:10 16:44	06:51 17:19	08:47 (13) 09:35 (13)	06:13 17:50	08:52 (13) 09:14 (13)	06:24 19:21	05:44 19:50	05:25 20:14
10	07:09 16:45	06:50 17:20	08:46 (13) 09:36 (13)	06:11 17:51	08:55 (13) 09:09 (13)	06:23 19:22	05:43 19:51	05:24 20:15
11	07:09 16:46	06:49 17:21	08:46 (13) 09:37 (13)	06:09 17:52		06:21 19:23	05:42 19:52	05:24 20:16
12	07:09 16:47	06:48 17:22	08:45 (13) 09:38 (13)	06:08 17:53		06:20 19:24	05:41 19:53	05:24 20:16
13	07:09 16:48	06:47 17:23	08:44 (13) 09:38 (13)	06:06 17:54		06:18 19:25	05:40 19:54	05:24 20:16
14	07:09 16:49	06:45 17:24	08:44 (13) 09:39 (13)	06:05 17:55		06:17 19:26	05:39 19:54	05:24 20:17
15	07:08 16:50	06:44 17:25	08:43 (13) 09:39 (13)	06:03 17:56		06:15 19:27	05:39 19:55	05:24 20:17
16	07:08 16:51	06:43 17:27	08:42 (13) 09:39 (13)	06:02 17:57		06:14 19:28	05:38 19:56	05:24 20:18
17	07:08 16:52	06:42 17:28	08:42 (13) 09:40 (13)	06:00 17:58		06:12 19:29	05:37 19:57	05:24 20:18
18	07:07 16:53	06:41 17:29	08:42 (13) 09:40 (13)	05:59 17:59		06:11 19:30	05:36 19:58	05:24 20:18
19	07:07 16:54	06:39 17:30	08:41 (13) 09:39 (13)	05:57 18:00		06:10 19:30	05:35 19:59	05:24 20:19
20	07:07 16:55	06:38 17:31	08:41 (13) 09:40 (13)	05:55 18:01		06:08 19:31	05:34 20:00	05:24 20:19
21	07:06 16:57	06:37 17:32	08:41 (13) 09:40 (13)	05:54 18:02		06:07 19:32	05:34 20:01	05:25 20:19
22	07:06 16:58	06:35 17:33	08:41 (13) 09:39 (13)	05:52 18:03		06:05 19:33	05:33 20:02	05:25 20:19
23	07:05 16:59	06:34 17:34	08:41 (13) 09:39 (13)	05:51 18:04		06:04 19:34	05:32 20:02	05:25 20:20
24	07:04 17:00	06:33 17:35	08:41 (13) 09:38 (13)	05:49 18:05		06:03 19:35	05:31 20:03	05:25 20:20
25	07:04 17:01	06:31 17:37	08:41 (13) 09:37 (13)	05:48 18:06		06:01 19:36	05:31 20:04	05:26 20:20
26	07:03 17:02	06:30 17:38	08:41 (13) 09:37 (13)	05:46 18:07		06:00 19:37	05:30 20:05	05:26 20:20
27	07:02 17:03	06:29 17:39	08:41 (13) 09:35 (13)	05:44 18:08		05:59 19:38	05:29 20:06	05:26 20:20
28	07:02 17:05	06:27 17:40	08:41 (13) 09:35 (13)	05:43 18:09		05:57 19:39	05:29 20:06	05:27 20:20
29	07:01 17:06	06:26 17:41	08:41 (13) 09:33 (13)	05:41 18:10		05:56 19:40	05:28 20:07	05:27 20:20
30	07:00 17:07			05:40 18:11		05:55 19:41	05:28 20:08	05:27 20:20
31	06:59 17:08	09:04 (13) 09:17 (13)		06:38 19:12			05:27 20:09	
Potential sun hours	302	310	370	396	443	446		
Total, worst case	13	1442	363					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BL - R23 CU2
Assumptions for shadow calculations

Reference year for calendar 2024
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	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	06:17 16:51	08:16 (13) 06:49 09:07 (13) 16:29
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	08:16 (13) 06:50 09:06 (13) 16:28
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	09:37 (13) 09:44 (13) 06:19 16:49	08:17 (13) 06:51 09:05 (13) 16:28
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	09:31 (13) 09:50 (13) 06:20 16:47	08:18 (13) 06:52 09:03 (13) 16:28
5	05:30 20:19	05:54 19:59	06:22 19:16	06:49 18:28	09:28 (13) 09:54 (13) 06:21 16:46	08:20 (13) 06:53 09:03 (13) 16:28
6	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	09:25 (13) 09:56 (13) 06:22 16:45	08:21 (13) 06:54 09:02 (13) 16:28
7	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	09:23 (13) 09:58 (13) 06:23 16:44	08:23 (13) 06:55 09:00 (13) 16:28
8	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	09:21 (13) 10:00 (13) 06:24 16:43	08:24 (13) 06:56 08:59 (13) 16:28
9	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	09:20 (13) 10:02 (13) 06:25 16:42	08:26 (13) 06:57 08:57 (13) 16:28
10	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	09:19 (13) 10:03 (13) 06:27 16:41	08:29 (13) 06:57 08:55 (13) 16:28
11	05:33 20:18	05:59 19:52	06:27 19:07	06:55 18:19	09:17 (13) 10:04 (13) 06:28 16:40	08:32 (13) 06:58 08:53 (13) 16:28
12	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	09:16 (13) 10:05 (13) 06:29 16:40	08:36 (13) 06:59 08:49 (13) 16:28
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	09:15 (13) 10:06 (13) 06:30 16:39	07:00 16:28 07:01 16:28
14	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	09:14 (13) 10:07 (13) 06:31 16:38	07:01 16:28 07:01 16:29
15	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	09:14 (13) 10:08 (13) 06:32 16:37	07:01 16:29 07:02 16:29
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	09:13 (13) 10:08 (13) 06:33 16:36	07:02 16:29 07:03 16:29
17	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:10	09:13 (13) 10:09 (13) 06:34 16:36	07:03 16:29 07:03 16:30
18	05:38 20:14	06:05 19:43	06:33 18:55	07:02 18:09	09:12 (13) 10:09 (13) 06:35 16:35	07:03 16:30 07:04 16:30
19	05:39 20:14	06:06 19:41	06:34 18:54	07:03 18:08	09:12 (13) 10:09 (13) 06:37 16:34	07:04 16:30 07:05 16:30
20	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	09:11 (13) 10:09 (13) 06:38 16:34	07:05 16:30 07:05 16:31
21	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	09:11 (13) 10:09 (13) 06:39 16:33	07:05 16:31 07:06 16:32
22	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	09:11 (13) 10:09 (13) 06:40 16:32	07:06 16:31 07:06 16:32
23	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	09:11 (13) 10:09 (13) 06:41 16:32	07:06 16:32 07:07 16:32
24	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	09:12 (13) 10:10 (13) 06:42 16:31	07:07 16:32 07:07 16:33
25	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	09:12 (13) 10:10 (13) 06:43 16:31	07:07 16:33 07:07 16:33
26	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	09:12 (13) 10:09 (13) 06:44 16:30	07:07 16:34 07:08 16:34
27	05:46 20:07	06:14 19:30	06:42 18:41	07:11 16:57	08:12 (13) 09:09 (13) 06:45 16:30	07:08 16:34 07:08 16:35
28	05:47 20:07	06:15 19:28	06:43 18:39	07:12 16:56	08:13 (13) 09:08 (13) 06:46 16:30	07:08 16:35 07:08 16:35
29	05:47 20:06	06:15 19:27	06:43 18:38	07:13 16:54	08:13 (13) 09:08 (13) 06:47 16:29	07:08 16:36 07:09 16:36
30	05:48 20:05	06:16 19:25	06:44 18:36	07:14 16:53	08:13 (13) 09:07 (13) 06:48 16:29	07:09 16:36 07:09 16:37
31	05:49 20:04	06:17 19:24		07:15 16:52	08:15 (13) 09:07 (13)	07:09 16:37
Potential sun hours	453	424	374	347	303	294
Total, worst case				1400	441	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BM - R24 CU2
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:59 17:09	06:24 17:42	08:20 (13) 08:42 (13)	06:37 19:13	08:58 (13) 09:37 (13)	05:54 19:42	05:27 20:09
2	07:09 16:38	06:58 17:10	06:23 17:43	08:17 (13) 08:45 (13)	06:35 19:14	08:59 (13) 09:34 (13)	05:52 19:43	05:27 20:10
3	07:09 16:39	06:57 17:12	06:21 17:44	08:14 (13) 08:47 (13)	06:33 19:15	09:00 (13) 09:31 (13)	05:51 19:44	05:26 20:11
4	07:09 16:40	06:56 17:13	06:20 17:45	08:12 (13) 08:49 (13)	06:32 19:16	09:02 (13) 09:29 (13)	05:50 19:45	05:26 20:11
5	07:10 16:41	06:55 17:14	06:19 17:46	08:09 (13) 08:50 (13)	06:30 19:17	09:04 (13) 09:25 (13)	05:49 19:46	05:26 20:12
6	07:10 16:41	06:54 17:15	06:17 17:47	08:08 (13) 08:52 (13)	06:29 19:18	09:08 (13) 09:21 (13)	05:48 19:47	05:25 20:13
7	07:10 16:42	06:53 17:16	06:16 17:48	08:06 (13) 08:53 (13)	06:27 19:19		05:47 19:48	05:25 20:13
8	07:10 16:43	06:52 17:17	06:14 17:49	08:04 (13) 08:53 (13)	06:26 19:20		05:46 19:49	05:25 20:14
9	07:10 16:44	06:51 17:19	06:13 17:50	08:03 (13) 08:54 (13)	06:24 19:21		05:44 19:50	05:25 20:14
10	07:09 16:45	06:50 17:20	06:11 17:51	08:01 (13) 08:54 (13)	06:23 19:22		05:43 19:51	05:24 20:15
11	07:09 16:46	06:49 17:21	06:09 17:52	08:01 (13) 08:55 (13)	06:21 19:23		05:42 19:52	05:24 20:16
12	07:09 16:47	06:48 17:22	06:08 17:53	07:59 (13) 08:55 (13)	06:20 19:24		05:41 19:53	05:24 20:16
13	07:09 16:48	06:47 17:23	06:06 17:54	07:59 (13) 08:56 (13)	06:18 19:25		05:40 19:54	05:24 20:16
14	07:09 16:49	06:45 17:24	06:05 17:55	07:58 (13) 08:55 (13)	06:17 19:26		05:39 19:54	05:24 20:17
15	07:08 16:50	06:44 17:25	06:03 17:56	07:58 (13) 08:56 (13)	06:15 19:27		05:39 19:55	05:24 20:17
16	07:08 16:51	06:43 17:27	06:02 17:57	07:57 (13) 08:55 (13)	06:14 19:28		05:38 19:56	05:24 20:18
17	07:08 16:52	06:42 17:28	06:00 17:58	07:56 (13) 08:54 (13)	06:12 19:29		05:37 19:57	05:24 20:18
18	07:07 16:53	06:41 17:29	05:59 17:59	07:56 (13) 08:54 (13)	06:11 19:30		05:36 19:58	05:24 20:18
19	07:07 16:54	06:39 17:30	05:57 18:00	07:55 (13) 08:53 (13)	06:10 19:30		05:35 19:59	05:24 20:19
20	07:07 16:56	06:38 17:31	05:55 18:01	07:55 (13) 08:53 (13)	06:08 19:31		05:34 20:00	05:24 20:19
21	07:06 16:57	06:37 17:32	05:54 18:02	07:54 (13) 08:52 (13)	06:07 19:32		05:34 20:01	05:25 20:19
22	07:06 16:58	06:35 17:33	05:52 18:03	07:54 (13) 08:51 (13)	06:05 19:33		05:33 20:02	05:25 20:19
23	07:05 16:59	06:34 17:34	05:51 18:04	07:54 (13) 08:50 (13)	06:04 19:34		05:32 20:02	05:25 20:20
24	07:04 17:00	06:33 17:35	05:49 18:05	07:54 (13) 08:49 (13)	06:03 19:35		05:31 20:03	05:25 20:20
25	07:04 17:01	06:31 17:37	05:48 18:06	07:55 (13) 08:48 (13)	06:01 19:36		05:31 20:04	05:26 20:20
26	07:03 17:02	06:30 17:38	05:46 18:07	07:54 (13) 08:47 (13)	06:00 19:37		05:30 20:05	05:26 20:20
27	07:02 17:03	06:29 17:39	05:44 18:08	07:54 (13) 08:45 (13)	05:59 19:38		05:30 20:06	05:26 20:20
28	07:02 17:05	06:27 17:40	05:43 18:09	07:55 (13) 08:44 (13)	05:57 19:39		05:29 20:06	05:27 20:20
29	07:01 17:06	06:26 17:41	08:26 (13) 08:35 (13)	05:41 18:10	07:55 (13) 08:42 (13)	05:56 19:40	05:28 20:07	05:27 20:20
30	07:00 17:07		05:40 18:11	07:56 (13) 08:41 (13)	05:55 19:41		05:28 20:08	05:27 20:20
31	06:59 17:08		06:38 19:12	08:57 (13) 09:38 (13)			05:27 20:09	
Potential sun hours	302	310	370	396	443	446		
Total, worst case		9	1542	166				

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BM - R24 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	08:39 (13) 09:35 (13)	06:17 16:51	06:49 16:29	
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	08:39 (13) 09:34 (13)	06:18 16:50	06:50 16:28	
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	08:40 (13) 09:33 (13)	06:19 16:49	06:51 16:28	
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	08:40 (13) 09:32 (13)	06:20 16:47	06:52 16:28	
5	05:30 20:19	05:54 19:59	06:22 19:16	06:49 18:28	08:41 (13) 09:31 (13)	06:21 16:46	06:53 16:28	
6	05:30 20:19	05:55 19:57	06:23 19:15	09:04 (13) 09:17 (13)	06:50 18:27	08:42 (13) 09:30 (13)	06:22 16:45	06:54 16:28
7	05:31 20:19	05:55 19:56	06:24 19:13	08:59 (13) 09:20 (13)	06:51 18:25	08:43 (13) 09:29 (13)	06:23 16:44	06:55 16:28
8	05:32 20:19	05:56 19:55	06:24 19:11	08:56 (13) 09:23 (13)	06:52 18:24	08:44 (13) 09:27 (13)	06:24 16:43	06:56 16:28
9	05:32 20:18	05:57 19:54	06:25 19:10	08:54 (13) 09:25 (13)	06:53 18:22	08:45 (13) 09:25 (13)	06:25 16:42	06:57 16:28
10	05:33 20:18	05:58 19:53	06:26 19:08	08:52 (13) 09:27 (13)	06:54 18:21	08:47 (13) 09:23 (13)	06:27 16:41	06:57 16:28
11	05:33 20:18	05:59 19:52	06:27 19:07	08:50 (13) 09:29 (13)	06:55 18:19	08:49 (13) 09:21 (13)	06:28 16:40	06:58 16:28
12	05:34 20:17	06:00 19:50	06:28 19:05	08:49 (13) 09:30 (13)	06:56 18:18	08:52 (13) 09:18 (13)	06:29 16:40	06:59 16:28
13	05:35 20:17	06:01 19:49	06:29 19:04	08:48 (13) 09:32 (13)	06:57 18:16	08:56 (13) 09:13 (13)	06:30 16:39	07:00 16:28
14	05:36 20:16	06:02 19:48	06:30 19:02	08:46 (13) 09:32 (13)	06:58 18:15	06:31 16:38	07:01 16:28	
15	05:36 20:16	06:03 19:47	06:31 19:00	08:44 (13) 09:33 (13)	06:59 18:13	06:32 16:37	07:01 16:29	
16	05:37 20:15	06:04 19:45	06:32 18:59	08:44 (13) 09:34 (13)	07:00 18:12	06:33 16:36	07:02 16:29	
17	05:38 20:15	06:05 19:44	06:33 18:57	08:43 (13) 09:35 (13)	07:01 18:10	06:34 16:36	07:03 16:29	
18	05:38 20:14	06:05 19:43	06:33 18:55	08:42 (13) 09:35 (13)	07:02 18:09	06:35 16:35	07:03 16:30	
19	05:39 20:14	06:06 19:41	06:34 18:54	08:41 (13) 09:36 (13)	07:03 18:08	06:37 16:34	07:04 16:30	
20	05:40 20:13	06:07 19:40	06:35 18:52	08:41 (13) 09:37 (13)	07:04 18:06	06:38 16:34	07:05 16:30	
21	05:41 20:12	06:08 19:38	06:36 18:51	08:40 (13) 09:37 (13)	07:05 18:05	06:39 16:33	07:05 16:31	
22	05:42 20:11	06:09 19:37	06:37 18:49	08:39 (13) 09:36 (13)	07:06 18:03	06:40 16:32	07:06 16:31	
23	05:42 20:11	06:10 19:36	06:38 18:47	08:39 (13) 09:37 (13)	07:07 18:02	06:41 16:32	07:06 16:32	
24	05:43 20:10	06:11 19:34	06:39 18:46	08:38 (13) 09:37 (13)	07:08 18:01	06:42 16:31	07:07 16:32	
25	05:44 20:09	06:12 19:33	06:40 18:44	08:38 (13) 09:37 (13)	07:09 17:59	06:43 16:31	07:07 16:33	
26	05:45 20:08	06:13 19:31	06:41 18:43	08:38 (13) 09:37 (13)	07:10 17:58	06:44 16:30	07:07 16:34	
27	05:46 20:07	06:14 19:30	06:42 18:41	08:38 (13) 09:36 (13)	06:11 16:57	06:45 16:30	07:08 16:34	
28	05:47 20:07	06:15 19:28	06:43 18:39	08:38 (13) 09:36 (13)	06:12 16:56	06:46 16:30	07:08 16:35	
29	05:47 20:06	06:15 19:27	06:43 18:38	08:38 (13) 09:36 (13)	06:13 16:54	06:47 16:29	07:08 16:36	
30	05:48 20:05	06:16 19:25	06:44 18:36	08:38 (13) 09:35 (13)	06:14 16:53	06:48 16:29	07:09 16:36	
31	05:49 20:04	06:17 19:24			06:16 16:52		07:09 16:37	
Potential sun hours	453	424	374	347	303	294		
Total, worst case			1192	554				

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: Bufalo worst case Shadow receptor: BN - R26 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:59 17:09	08:02 (15) 08:34 (15)	06:24 17:42	06:37 19:13	08:56 (14) 10:04 (14)
2	07:09 16:38	06:58 17:10	08:02 (15) 08:34 (15)	06:23 17:43	06:35 19:14	08:54 (14) 10:03 (14)
3	07:09 16:39	06:57 17:12	08:02 (15) 08:34 (15)	06:21 17:44	06:33 19:15	08:53 (14) 10:03 (14)
4	07:09 16:40	06:56 17:13	08:02 (15) 08:34 (15)	06:20 17:45	06:32 19:16	08:53 (14) 10:03 (14)
5	07:10 16:41	06:55 17:14	08:02 (15) 08:35 (15)	06:19 17:46	06:30 19:17	08:52 (14) 10:02 (14)
6	07:10 16:41	06:54 17:15	08:02 (15) 08:35 (15)	06:17 17:47	06:29 19:18	08:52 (14) 10:02 (14)
7	07:10 16:42	06:53 17:16	08:03 (15) 08:34 (15)	06:16 17:48	06:27 19:19	08:51 (14) 10:01 (14)
8	07:10 16:43	06:52 17:17	08:03 (15) 08:34 (15)	06:14 17:49	06:26 19:20	08:51 (14) 10:00 (14)
9	07:10 16:44	06:51 17:19	08:03 (15) 08:33 (15)	06:13 17:50	06:24 19:21	08:50 (14) 09:59 (14)
10	07:09 16:45	06:50 17:20	08:03 (15) 08:32 (15)	06:11 17:51	06:23 19:22	08:50 (14) 09:59 (14)
11	07:09 16:46	06:49 17:21	08:04 (15) 08:32 (15)	06:09 17:52	06:21 19:23	08:49 (14) 09:57 (14)
12	07:09 16:47	06:48 17:22	08:05 (15) 08:31 (15)	06:08 17:53	06:20 19:24	08:49 (14) 09:57 (14)
13	07:09 16:48	06:47 17:23	08:07 (15) 08:30 (15)	06:06 17:54	06:18 19:25	08:49 (14) 09:55 (14)
14	07:09 16:49	06:45 17:24	08:09 (15) 08:28 (15)	06:05 17:55	06:17 19:26	08:49 (14) 09:55 (14)
15	07:08 16:50	06:44 17:25	08:10 (15) 08:25 (15)	06:03 17:56	06:15 19:27	08:48 (14) 09:53 (14)
16	07:08 16:51	06:43 17:27	08:13 (15) 08:22 (15)	06:02 17:57	06:14 19:28	08:49 (14) 09:53 (14)
17	07:08 16:52	06:42 17:28	06:00 17:58	08:27 (14) 08:45 (14)	06:12 19:29	08:49 (14) 09:52 (14)
18	07:07 16:53	06:41 17:29	05:59 17:59	18 08:45 (14)	06:11 19:29	08:49 (14) 09:50 (14)
19	07:07 16:54	06:39 17:30	05:57 18:00	28 08:50 (14)	06:10 19:30	08:49 (14) 09:49 (14)
20	07:06 16:56	06:38 17:31	05:55 18:01	35 08:53 (14)	06:08 19:31	08:49 (14) 09:47 (14)
21	07:06 16:57	08:10 (15) 06:37 17:32	18:01 05:54 18:02	40 08:56 (14)	06:07 19:32	08:50 (14) 09:46 (14)
22	07:05 16:58	08:08 (15) 06:35 17:33	18:02 05:52 18:03	44 08:57 (14)	06:05 19:33	08:50 (14) 09:45 (14)
23	07:05 16:59	08:07 (15) 06:34 17:34	18:03 05:51 18:04	48 08:58 (14)	06:04 19:34	08:50 (14) 09:43 (14)
24	07:04 17:00	08:06 (15) 06:33 17:35	18:04 05:49 18:05	52 09:00 (14)	06:03 19:35	08:51 (14) 09:42 (14)
25	07:04 17:01	08:05 (15) 06:31 17:37	18:05 05:48 18:06	55 09:01 (14)	06:01 19:36	08:52 (14) 09:40 (14)
26	07:03 17:02	08:04 (15) 06:30 17:38	18:06 05:46 18:07	57 09:02 (14)	06:00 19:37	08:53 (14) 09:39 (14)
27	07:02 17:03	08:03 (15) 06:29 17:39	18:07 05:44 18:08	60 09:03 (14)	05:59 19:38	08:53 (14) 09:37 (14)
28	07:02 17:05	08:04 (15) 06:27 17:40	18:08 05:43 18:09	62 09:03 (14)	05:57 19:39	08:54 (14) 09:35 (14)
29	07:01 17:06	08:03 (15) 06:26 17:41	18:09 05:41 18:10	64 09:04 (14)	05:56 19:40	08:56 (14) 09:34 (14)
30	07:00 17:07	08:02 (15) 06:25 17:42	18:10 05:40 18:11	65 09:03 (14)	05:55 19:41	08:57 (14) 09:32 (14)
31	06:59 17:08	08:01 (15) 06:24 17:43	18:11 06:38 19:12	66 09:04 (14)	05:54 19:42	08:58 (14) 09:31 (14)
Potential sun hours	302	310	370	762	396	443
Total, worst case	252	435	762	1800	106	446

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BN - R26 CU2
Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:22	08:48 (14) 09:57 (14)	06:45 18:35	06:17 16:51
2	05:28 20:20	05:51 20:02	06:19 19:21	08:48 (14) 09:57 (14)	06:46 18:33	06:18 16:50
3	05:29 20:20	05:52 20:01	06:20 19:19	08:48 (14) 09:57 (14)	06:47 18:31	06:19 16:49
4	05:29 20:20	05:53 20:00	06:21 19:18	08:48 (14) 09:58 (14)	06:48 18:30	06:20 16:47
5	05:30 20:19	05:54 19:59	06:22 19:16	08:48 (14) 09:58 (14)	06:49 18:28	06:21 16:46
6	05:30 20:19	05:55 19:57	06:23 19:15	08:48 (14) 09:58 (14)	06:50 18:27	06:22 16:45
7	05:31 20:19	05:56 19:56	06:24 19:13	08:47 (14) 09:57 (14)	06:51 18:25	06:23 16:44
8	05:32 20:19	05:56 19:55	09:17 (14) 09:28 (14)	06:24 19:11	08:47 (14) 09:57 (14)	06:52 18:24
9	05:32 20:18	05:57 19:54	09:13 (14) 09:32 (14)	06:25 19:10	08:47 (14) 09:57 (14)	06:53 18:22
10	05:33 20:18	05:58 19:53	09:10 (14) 09:34 (14)	06:26 19:08	08:48 (14) 09:57 (14)	06:54 18:21
11	05:34 20:18	05:59 19:52	09:08 (14) 09:36 (14)	06:27 19:07	08:48 (14) 09:56 (14)	06:55 18:19
12	05:34 20:17	06:00 19:50	09:06 (14) 09:38 (14)	06:28 19:05	08:48 (14) 09:56 (14)	06:56 18:18
13	05:35 20:17	06:01 19:49	09:04 (14) 09:40 (14)	06:29 19:04	08:49 (14) 09:55 (14)	06:57 18:16
14	05:36 20:16	06:02 19:48	09:03 (14) 09:42 (14)	06:30 19:02	08:48 (14) 09:54 (14)	06:58 18:15
15	05:36 20:16	06:03 19:47	09:02 (14) 09:43 (14)	06:31 19:00	08:49 (14) 09:53 (14)	06:59 18:13
16	05:37 20:15	06:04 19:45	09:01 (14) 09:45 (14)	06:32 18:59	08:50 (14) 09:52 (14)	07:00 18:12
17	05:38 20:15	06:05 19:44	08:59 (14) 09:45 (14)	06:33 18:57	08:51 (14) 09:51 (14)	07:01 18:10
18	05:39 20:14	06:06 19:43	08:58 (14) 09:47 (14)	06:33 18:55	08:52 (14) 09:50 (14)	07:02 18:09
19	05:39 20:13	06:06 19:41	08:57 (14) 09:48 (14)	06:34 18:54	08:53 (14) 09:49 (14)	07:03 18:08
20	05:40 20:13	06:07 19:40	08:56 (14) 09:49 (14)	06:35 18:52	08:54 (14) 09:47 (14)	07:04 18:06
21	05:41 20:12	06:08 19:38	08:55 (14) 09:50 (14)	06:36 18:51	08:56 (14) 09:45 (14)	07:05 18:05
22	05:42 20:11	06:09 19:37	08:54 (14) 09:51 (14)	06:37 18:49	08:56 (14) 09:42 (14)	07:06 18:03
23	05:42 20:11	06:10 19:36	08:54 (14) 09:52 (14)	06:38 18:47	08:58 (14) 09:40 (14)	07:07 18:02
24	05:43 20:10	06:11 19:34	08:52 (14) 09:52 (14)	06:39 18:46	09:01 (14) 09:37 (14)	07:08 18:01
25	05:44 20:09	06:12 19:33	08:52 (14) 09:53 (14)	06:40 18:44	09:03 (14) 09:34 (14)	07:09 17:59
26	05:45 20:08	06:13 19:31	08:51 (14) 09:54 (14)	06:41 18:43	09:07 (14) 09:30 (14)	07:10 17:58
27	05:46 20:07	06:14 19:30	08:51 (14) 09:55 (14)	06:42 18:41	09:16 (14) 09:21 (14)	06:11 16:57
28	05:47 20:07	06:15 19:28	08:50 (14) 09:55 (14)	06:43 18:39	06:12 16:56	11 07:42 (15) 07:53 (15)
29	05:48 20:06	06:15 19:27	08:50 (14) 09:56 (14)	06:43 18:38	06:13 16:54	17 07:39 (15) 07:57 (15)
30	05:48 20:05	06:16 19:25	08:50 (14) 09:56 (14)	06:44 18:36	06:14 16:53	20 07:35 (15) 07:59 (15)
31	05:49 20:04	06:17 19:24	08:48 (14) 09:56 (14)	06:45 18:35	06:15 16:52	24 07:35 (15) 08:01 (15)
Potential sun hours	453	424	374	347	303	294
Total, worst case		1156	1549	98	595	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Buffalo worst case Shadow receptor: BO - R27 CU2
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:59 17:09	08:04 (15) 08:36 (15)	06:24 17:42	06:37 19:13	08:59 (14) 10:08 (14)	05:54 19:42	05:27 20:09
2	07:09 16:38	06:58 17:10	08:04 (15) 08:36 (15)	06:23 17:43	06:35 19:14	08:58 (14) 10:07 (14)	05:52 19:43	05:27 20:10
3	07:09 16:39	06:57 17:12	08:04 (15) 08:36 (15)	06:21 17:44	06:33 19:15	08:57 (14) 10:06 (14)	05:51 19:44	05:26 20:11
4	07:09 16:40	06:56 17:13	08:04 (15) 08:36 (15)	06:20 17:45	06:32 19:16	08:57 (14) 10:06 (14)	05:50 19:45	05:26 20:11
5	07:10 16:41	06:55 17:14	08:05 (15) 08:36 (15)	06:19 17:46	06:30 19:17	08:56 (14) 10:04 (14)	05:49 19:46	05:26 20:12
6	07:10 16:41	06:54 17:15	08:05 (15) 08:36 (15)	06:17 17:47	06:29 19:18	08:56 (14) 10:04 (14)	05:48 19:47	05:25 20:13
7	07:10 16:42	06:53 17:16	08:06 (15) 08:35 (15)	06:16 17:48	06:27 19:19	08:56 (14) 10:02 (14)	05:47 19:48	05:25 20:13
8	07:10 16:43	06:52 17:17	08:07 (15) 08:35 (15)	06:14 17:49	06:26 19:20	08:56 (14) 10:02 (14)	05:46 19:49	05:25 20:14
9	07:10 16:44	06:51 17:19	08:07 (15) 08:33 (15)	06:13 17:50	06:24 19:21	08:56 (14) 10:00 (14)	05:44 19:50	05:25 20:14
10	07:09 16:45	06:50 17:20	08:08 (15) 08:32 (15)	06:11 17:51	06:23 19:22	08:56 (14) 09:59 (14)	05:43 19:51	05:24 20:15
11	07:09 16:46	06:49 17:21	08:09 (15) 08:31 (15)	06:09 17:52	08:39 (14) 08:47 (14)	08:56 (14) 09:57 (14)	05:42 19:52	05:24 20:16
12	07:09 16:47	06:48 17:22	08:11 (15) 08:29 (15)	06:08 17:53	08:31 (14) 08:54 (14)	08:56 (14) 09:57 (14)	05:41 19:53	05:24 20:16
13	07:09 16:48	06:47 17:23	08:14 (15) 08:27 (15)	06:06 17:54	08:27 (14) 08:58 (14)	08:56 (14) 09:55 (14)	05:40 19:54	05:24 20:16
14	07:09 16:49	06:45 17:24	08:18 (15) 08:23 (15)	06:05 17:55	08:23 (14) 09:01 (14)	08:57 (14) 09:54 (14)	05:39 19:54	05:24 20:17
15	07:08 16:50	06:44 17:25	06:03 17:56	06:03 17:56	08:21 (14) 09:03 (14)	08:56 (14) 09:52 (14)	05:39 19:55	05:24 20:17
16	07:08 16:51	06:43 17:27	06:02 17:57	06:02 17:57	08:18 (14) 09:05 (14)	08:57 (14) 09:50 (14)	05:38 19:56	05:24 20:18
17	07:08 16:52	08:12 (15) 08:20 (15)	06:42 17:28	06:00 17:58	08:15 (14) 09:05 (14)	08:58 (14) 09:49 (14)	05:37 19:57	05:24 20:18
18	07:07 16:53	08:10 (15) 08:22 (15)	06:41 17:29	05:59 17:59	08:14 (14) 09:07 (14)	08:58 (14) 09:47 (14)	05:36 19:58	05:24 20:18
19	07:07 16:54	08:09 (15) 08:25 (15)	06:39 17:30	05:57 18:00	08:12 (14) 09:08 (14)	08:59 (14) 09:45 (14)	05:35 19:59	05:24 20:19
20	07:06 16:56	08:07 (15) 08:26 (15)	06:38 17:31	05:55 18:01	08:11 (14) 09:09 (14)	09:00 (14) 09:43 (14)	05:34 20:00	05:25 20:19
21	07:06 16:57	08:07 (15) 08:28 (15)	06:37 17:32	05:54 18:02	08:09 (14) 09:09 (14)	09:01 (14) 09:41 (14)	05:34 20:01	05:25 20:19
22	07:05 16:58	08:06 (15) 08:29 (15)	06:35 17:33	05:52 18:03	08:07 (14) 09:09 (14)	09:02 (14) 09:40 (14)	05:33 20:02	05:25 20:19
23	07:05 16:59	08:06 (15) 08:31 (15)	06:34 17:34	05:51 18:04	08:06 (14) 09:10 (14)	09:03 (14) 09:37 (14)	05:32 20:02	05:25 20:20
24	07:04 17:00	08:05 (15) 08:31 (15)	06:33 17:35	05:49 18:05	08:05 (14) 09:10 (14)	09:05 (14) 09:35 (14)	05:31 20:03	05:25 20:20
25	07:04 17:01	08:04 (15) 08:32 (15)	06:31 17:37	05:48 18:06	08:04 (14) 09:11 (14)	09:07 (14) 09:32 (14)	05:31 20:04	05:26 20:20
26	07:03 17:02	08:04 (15) 08:33 (15)	06:30 17:38	05:46 18:07	08:03 (14) 09:10 (14)	09:10 (14) 09:29 (14)	05:30 20:05	05:26 20:20
27	07:02 17:03	08:04 (15) 08:34 (15)	06:29 17:39	05:44 18:08	08:01 (14) 09:10 (14)	09:13 (14) 09:23 (14)	05:30 20:06	05:26 20:20
28	07:02 17:05	08:04 (15) 08:35 (15)	06:27 17:40	05:43 18:09	08:01 (14) 09:10 (14)	05:29 20:06	05:29 20:06	05:27 20:20
29	07:01 17:06	08:03 (15) 08:35 (15)	06:26 17:41	05:41 18:10	08:00 (14) 09:09 (14)	05:56 20:07	05:28 20:07	05:27 20:20
30	07:00 17:07	08:03 (15) 08:35 (15)	06:25 17:41	05:40 18:11	08:00 (14) 09:09 (14)	05:55 20:08	05:28 20:08	05:27 20:20
31	06:59 17:08	08:03 (15) 08:35 (15)	06:24 17:41	06:38 19:12	08:59 (14) 10:08 (14)	05:27 20:09	05:27 20:09	05:27 20:20
Potential sun hours	302	310	370	396	443	446		
Total, worst case	364	355	1136	1403	443	446		

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BO - R27 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:22	08:55 (14) 09:56 (14)	06:45 18:35	09:08 (14) 09:36 (14)
2	05:28 20:20	05:51 20:02	06:19 19:21	08:54 (14) 09:57 (14)	06:46 18:33	09:13 (14) 09:30 (14)
3	05:29 20:20	05:52 20:01	06:20 19:19	08:54 (14) 09:58 (14)	06:47 18:31	
4	05:29 20:20	05:53 20:00	06:21 19:18	08:53 (14) 09:59 (14)	06:48 18:30	
5	05:30 20:19	05:54 19:59	06:22 19:16	08:53 (14) 09:59 (14)	06:49 18:28	
6	05:30 20:19	05:55 19:57	06:23 19:15	08:53 (14) 10:00 (14)	06:50 18:27	
7	05:31 20:19	05:56 19:56	06:24 19:13	08:51 (14) 09:59 (14)	06:51 18:25	
8	05:32 20:19	05:56 19:55	06:24 19:11	08:51 (14) 10:00 (14)	06:52 18:24	
9	05:32 20:18	05:57 19:54	06:25 19:10	08:51 (14) 10:00 (14)	06:53 18:22	
10	05:33 20:18	05:58 19:53	06:26 19:08	08:51 (14) 10:00 (14)	06:54 18:21	
11	05:34 20:18	05:59 19:52	06:27 19:07	08:51 (14) 10:00 (14)	06:55 18:19	
12	05:34 20:17	06:00 19:50	06:28 19:05	08:51 (14) 10:01 (14)	06:56 18:18	
13	05:35 20:17	06:01 19:49	06:29 19:04	08:51 (14) 10:01 (14)	06:57 18:16	
14	05:36 20:16	06:02 19:48	06:30 19:02	08:50 (14) 09:59 (14)	06:58 18:15	
15	05:36 20:16	06:03 19:47	06:31 19:00	08:50 (14) 09:59 (14)	06:59 18:13	
16	05:37 20:15	06:04 19:45	09:20 (14) 09:32 (14)	06:32 18:59	07:00 18:12	
17	05:38 20:15	06:05 19:44	09:15 (14) 09:35 (14)	06:33 18:57	07:01 18:10	
18	05:39 20:14	06:06 19:43	09:13 (14) 09:38 (14)	06:33 18:55	07:02 18:09	
19	05:39 20:13	06:06 19:41	09:11 (14) 09:41 (14)	06:34 18:54	07:03 18:08	
20	05:40 20:13	06:07 19:40	09:09 (14) 09:43 (14)	06:35 18:52	07:04 18:06	
21	05:41 20:12	06:08 19:38	09:07 (14) 09:45 (14)	06:36 18:51	07:05 18:05	
22	05:42 20:11	06:09 19:37	09:06 (14) 09:46 (14)	06:37 18:49	07:06 18:03	
23	05:42 20:11	06:10 19:36	09:04 (14) 09:48 (14)	06:38 18:47	07:07 18:02	
24	05:43 20:10	06:11 19:34	09:02 (14) 09:49 (14)	06:39 18:46	07:08 18:01	
25	05:44 20:09	06:12 19:33	09:01 (14) 09:50 (14)	06:40 18:44	07:09 17:59	
26	05:45 20:08	06:13 19:31	09:00 (14) 09:51 (14)	06:41 18:43	07:10 17:58	
27	05:46 20:07	06:14 19:30	08:59 (14) 09:52 (14)	06:42 18:41	07:11 16:57	
28	05:47 20:07	06:15 19:28	08:58 (14) 09:54 (14)	06:43 18:39	07:12 16:56	
29	05:48 20:06	06:15 19:27	08:58 (14) 09:55 (14)	06:43 18:38	06:13 16:54	07:46 (15) 07:53 (15)
30	05:48 20:05	06:16 19:25	08:57 (14) 09:56 (14)	06:44 18:36	06:14 16:53	07:42 (15) 07:56 (15)
31	05:49 20:04	06:17 19:24	08:55 (14) 09:56 (14)		06:15 16:52	07:41 (15) 07:59 (15)
Potential sun hours	453	424	374	347	303	294
Total, worst case		676	1854	84	686	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BP - R28 CU2
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:59 17:09	08:06 (15) 08:38 (15)	06:24 17:42	06:37 19:13	09:02 (14) 10:10 (14)	05:54 19:42	05:27 20:09
2	07:09 16:38	06:58 17:10	08:06 (15) 08:38 (15)	06:23 17:43	06:35 19:14	09:01 (14) 10:08 (14)	05:52 19:43	05:27 20:10
3	07:09 16:39	06:57 17:12	08:06 (15) 08:38 (15)	06:21 17:44	06:33 19:15	09:01 (14) 10:07 (14)	05:51 19:44	05:26 20:11
4	07:09 16:40	06:56 17:13	08:07 (15) 08:37 (15)	06:20 17:45	06:32 19:16	09:01 (14) 10:06 (14)	05:50 19:45	05:26 20:11
5	07:10 16:41	06:55 17:14	08:07 (15) 08:37 (15)	06:19 17:46	06:30 19:17	09:01 (14) 10:04 (14)	05:49 19:46	05:26 20:12
6	07:10 16:41	06:54 17:15	08:08 (15) 08:37 (15)	06:17 17:47	06:29 19:18	09:01 (14) 10:04 (14)	05:48 19:47	05:25 20:13
7	07:10 16:42	06:53 17:16	08:09 (15) 08:36 (15)	06:16 17:48	06:27 19:19	09:01 (14) 10:02 (14)	05:47 19:48	05:25 20:13
8	07:10 16:43	06:52 17:17	08:10 (15) 08:35 (15)	06:14 17:49	08:41 (14) 08:52 (14)	09:01 (14) 10:01 (14)	05:46 19:49	05:25 20:14
9	07:10 16:44	06:51 17:19	08:10 (15) 08:33 (15)	06:13 17:50	08:35 (14) 08:59 (14)	09:01 (14) 09:59 (14)	05:44 19:50	05:25 20:14
10	07:09 16:45	06:50 17:20	08:11 (15) 08:32 (15)	06:11 17:51	08:30 (14) 09:02 (14)	09:02 (14) 09:58 (14)	05:43 19:51	05:24 20:15
11	07:09 16:46	06:49 17:21	08:13 (15) 08:30 (15)	06:09 17:52	08:27 (14) 09:05 (14)	09:02 (14) 09:56 (14)	05:42 19:52	05:24 20:16
12	07:09 16:47	06:48 17:22	08:16 (15) 08:28 (15)	06:08 17:53	08:24 (14) 09:07 (14)	09:03 (14) 09:55 (14)	05:41 19:53	05:24 20:16
13	07:09 16:48	06:47 17:23	06:06 17:54	06:06 17:54	08:22 (14) 09:09 (14)	09:03 (14) 09:53 (14)	05:40 19:54	05:24 20:16
14	07:09 16:49	06:45 17:24	06:05 17:55	06:05 17:55	08:20 (14) 09:10 (14)	09:04 (14) 09:51 (14)	05:39 19:54	05:24 20:17
15	07:08 16:50	08:14 (15) 08:21 (15)	06:44 17:25	06:03 17:56	08:19 (14) 09:11 (14)	09:04 (14) 09:49 (14)	05:39 19:55	05:24 20:17
16	07:08 16:51	08:11 (15) 08:23 (15)	06:43 17:27	06:02 17:57	08:16 (14) 09:12 (14)	09:05 (14) 09:47 (14)	05:38 19:56	05:24 20:18
17	07:08 16:52	08:10 (15) 08:26 (15)	06:42 17:28	06:00 17:58	08:14 (14) 09:12 (14)	09:07 (14) 09:45 (14)	05:37 19:57	05:24 20:18
18	07:07 16:53	08:09 (15) 08:27 (15)	06:41 17:29	05:59 17:59	08:13 (14) 09:14 (14)	09:07 (14) 09:43 (14)	05:36 19:58	05:24 20:18
19	07:07 16:54	08:08 (15) 08:29 (15)	06:39 17:30	05:57 18:00	08:12 (14) 09:14 (14)	09:09 (14) 09:40 (14)	05:35 19:59	05:24 20:19
20	07:06 16:56	08:07 (15) 08:30 (15)	06:38 17:31	05:55 18:01	08:11 (14) 09:14 (14)	09:10 (14) 09:37 (14)	05:34 20:00	05:25 20:19
21	07:06 16:57	08:07 (15) 08:31 (15)	06:37 17:32	05:54 18:02	08:09 (14) 09:14 (14)	09:13 (14) 09:34 (14)	05:34 20:01	05:25 20:19
22	07:05 16:58	08:06 (15) 08:32 (15)	06:35 17:33	05:52 18:03	08:08 (14) 09:14 (14)	09:17 (14) 09:30 (14)	05:33 20:02	05:25 20:19
23	07:05 16:59	08:06 (15) 08:33 (15)	06:34 17:34	05:51 18:04	08:07 (14) 09:14 (14)	06:04 19:34	05:32 20:02	05:25 20:20
24	07:04 17:00	08:06 (15) 08:34 (15)	06:33 17:35	05:49 18:05	08:06 (14) 09:14 (14)	06:03 19:35	05:31 20:03	05:25 20:20
25	07:04 17:01	08:05 (15) 08:34 (15)	06:31 17:37	05:48 18:06	08:06 (14) 09:14 (14)	06:01 19:36	05:31 20:04	05:26 20:20
26	07:03 17:02	08:05 (15) 08:35 (15)	06:30 17:38	05:46 18:07	08:05 (14) 09:13 (14)	06:00 19:37	05:30 20:05	05:26 20:20
27	07:02 17:03	08:05 (15) 08:36 (15)	06:29 17:39	05:44 18:08	08:04 (14) 09:12 (14)	05:59 19:38	05:30 20:06	05:26 20:20
28	07:02 17:05	08:05 (15) 08:36 (15)	06:27 17:40	05:43 18:09	08:04 (14) 09:12 (14)	05:57 19:39	05:29 20:06	05:27 20:20
29	07:01 17:06	08:05 (15) 08:37 (15)	06:26 17:41	05:41 18:10	08:03 (14) 09:11 (14)	05:56 19:40	05:28 20:07	05:27 20:20
30	07:00 17:07	08:05 (15) 08:37 (15)	06:25 17:41	05:40 18:11	08:03 (14) 09:11 (14)	05:55 19:41	05:28 20:08	05:27 20:20
31	06:59 17:08	08:05 (15) 08:37 (15)	06:24 17:41	06:38 19:12	09:02 (14) 10:10 (14)	05:27 20:09	05:27 20:09	05:27 20:20
Potential sun hours	302	310	370	396	443	446		
Total, worst case	419	310	1339	1083	443	446		

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BP - R28 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:22	09:01 (14) 09:55 (14)	06:45 18:35	09:03 (14) 09:47 (14)	06:17 16:51	07:43 (15) 08:00 (15)	06:49 16:29	
2	05:28 20:20	05:51 20:02	06:19 19:21	09:00 (14) 09:56 (14)	18:33 18:33	40 40	09:05 (14) 09:45 (14)	06:18 16:50	07:41 (15) 08:02 (15)	06:50 16:28
3	05:29 20:20	05:52 20:01	06:20 19:19	08:59 (14) 09:57 (14)	06:47 18:31	35	09:07 (14) 09:42 (14)	06:19 16:49	07:40 (15) 08:03 (15)	06:51 16:28
4	05:29 20:20	05:53 20:00	06:21 19:18	08:58 (14) 09:58 (14)	06:48 18:30	28	09:10 (14) 09:38 (14)	06:20 16:47	07:38 (15) 08:04 (15)	06:52 16:28
5	05:30 20:19	05:54 19:59	06:22 19:16	08:58 (14) 09:59 (14)	06:49 18:28	19	09:15 (14) 09:34 (14)	06:21 16:46	07:38 (15) 08:06 (15)	06:53 16:28
6	05:30 20:19	05:55 19:57	06:23 19:15	08:57 (14) 10:00 (14)	06:50 18:27			06:22 16:45	07:38 (15) 08:06 (15)	06:54 16:28
7	05:31 20:19	05:56 19:56	06:24 19:13	08:56 (14) 10:00 (14)	06:51 18:25			06:23 16:44	07:37 (15) 08:07 (15)	06:55 16:28
8	05:32 20:19	05:56 19:55	06:24 19:11	08:55 (14) 10:00 (14)	06:52 18:24			06:24 16:43	07:37 (15) 08:07 (15)	06:56 16:28
9	05:32 20:18	05:57 19:54	06:25 19:10	08:55 (14) 10:01 (14)	06:53 18:22			06:25 16:42	07:36 (15) 08:08 (15)	06:57 16:28
10	05:33 20:18	05:58 19:53	06:26 19:08	08:55 (14) 10:01 (14)	06:54 18:21			06:27 16:41	07:37 (15) 08:09 (15)	06:57 16:28
11	05:34 20:18	05:59 19:52	06:27 19:07	08:54 (14) 10:02 (14)	06:55 18:19			06:28 16:40	07:37 (15) 08:09 (15)	06:58 16:28
12	05:34 20:17	06:00 19:50	06:28 19:05	08:54 (14) 10:02 (14)	06:56 18:18			06:29 16:39	07:37 (15) 08:09 (15)	06:59 16:28
13	05:35 20:17	06:01 19:49	06:29 19:04	08:54 (14) 10:02 (14)	06:57 18:16			06:30 16:39	07:37 (15) 08:09 (15)	07:00 16:28
14	05:36 20:16	06:02 19:48	06:30 19:02	08:53 (14) 10:02 (14)	06:58 18:15			06:31 16:38	07:37 (15) 08:09 (15)	07:01 16:28
15	05:36 20:16	06:03 19:47	06:31 19:00	08:53 (14) 10:02 (14)	06:59 18:13			06:32 16:37	07:38 (15) 08:09 (15)	07:01 16:29
16	05:37 20:15	06:04 19:45	06:32 18:59	08:53 (14) 10:02 (14)	07:00 18:12			06:33 16:36	07:38 (15) 08:09 (15)	07:02 16:29
17	05:38 20:15	06:05 19:44	06:33 18:57	08:53 (14) 10:02 (14)	07:01 18:10			06:34 16:36	07:39 (15) 08:09 (15)	07:03 16:29
18	05:39 20:14	06:06 19:43	06:33 18:55	08:53 (14) 10:01 (14)	07:02 18:09			06:35 16:35	07:39 (15) 08:09 (15)	07:03 16:30
19	05:39 20:13	06:06 19:41	06:34 18:54	08:53 (14) 10:01 (14)	07:03 18:08			06:36 16:34	07:40 (15) 08:08 (15)	07:04 16:30
20	05:40 20:13	06:07 19:40	06:35 18:52	08:54 (14) 10:01 (14)	07:04 18:06			06:38 16:34	07:40 (15) 08:08 (15)	07:05 16:30
21	05:41 20:12	06:08 19:38	06:36 18:51	08:54 (14) 10:00 (14)	07:05 18:05			06:39 16:33	07:42 (15) 08:08 (15)	07:05 16:31
22	05:42 20:11	06:09 19:37	06:37 18:49	08:54 (14) 09:59 (14)	07:06 18:03			06:40 16:32	07:43 (15) 08:07 (15)	07:06 16:31
23	05:42 20:11	06:10 19:36	06:38 18:47	08:54 (14) 09:58 (14)	07:07 18:02			06:41 16:32	07:44 (15) 08:07 (15)	07:06 16:32
24	05:43 20:10	06:11 19:34	06:39 18:46	08:55 (14) 09:57 (14)	07:08 18:01			06:42 16:31	07:45 (15) 08:06 (15)	07:07 16:32
25	05:44 20:09	06:12 19:33	06:40 18:44	08:55 (14) 09:56 (14)	07:09 17:59			06:43 16:31	07:47 (15) 08:05 (15)	07:07 16:33
26	05:45 20:08	06:13 19:31	06:41 18:43	08:56 (14) 09:55 (14)	07:10 17:58			06:44 16:30	07:48 (15) 08:04 (15)	07:07 16:34
27	05:46 20:07	06:14 19:30	06:42 18:41	08:57 (14) 09:54 (14)	07:11 16:57			06:45 16:30	07:50 (15) 08:02 (15)	07:08 16:34
28	05:47 20:07	06:15 19:28	06:43 18:39	08:58 (14) 09:53 (14)	07:12 16:56			06:46 16:30	07:53 (15) 08:00 (15)	07:08 16:35
29	05:48 20:06	06:15 19:27	06:43 18:38	09:00 (14) 09:51 (14)	06:13 16:54			06:47 16:29	07:54 (15) 08:01 (15)	07:08 16:36
30	05:48 20:05	06:16 19:25	06:44 18:36	09:01 (14) 09:49 (14)	06:14 16:53			06:48 16:29	07:55 (15) 08:02 (15)	07:09 16:36
31	05:49 20:04	06:17 19:24	06:44 18:36	09:01 (14) 09:49 (14)	06:15 16:52		07:45 (15) 07:58 (15)		08:03 (15) 08:03 (15)	07:09 16:37
Potential sun hours	453	424	374	347	303	294				
Total, worst case		409	1884	179	720					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BQ - R29 CU3
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:59 17:09	06:24 17:42	07:44 (15) 08:16 (15)	06:37 19:13	05:54 19:42	05:27 20:09
2	07:09 16:38	06:58 17:10	06:23 17:43	07:45 (15) 08:15 (15)	06:35 19:14	05:52 19:43	05:27 20:10
3	07:09 16:39	06:57 17:12	06:21 17:44	07:45 (15) 08:13 (15)	06:33 19:15	05:51 19:44	05:26 20:11
4	07:09 16:40	06:56 17:13	06:20 17:45	07:47 (15) 08:12 (15)	06:32 19:16	05:50 19:45	05:26 20:11
5	07:10 16:41	06:55 17:14	07:37 (20) 07:47 (20)	06:19 17:46	07:48 (15) 08:09 (15)	06:30 19:17	05:49 19:46
6	07:10 16:41	06:54 17:15	07:36 (20) 07:49 (20)	06:17 17:47	07:50 (15) 08:07 (15)	06:29 19:18	05:48 19:47
7	07:10 16:42	06:53 17:16	07:34 (20) 07:50 (20)	06:16 17:48	07:53 (15) 08:03 (15)	06:27 19:19	05:47 19:48
8	07:10 16:43	06:52 17:17	07:33 (20) 07:52 (20)	06:14 17:49	06:26 19:20	05:46 19:49	05:25 20:14
9	07:09 16:44	06:51 17:19	07:32 (20) 07:51 (20)	06:13 17:50	06:24 19:21	05:44 19:50	05:25 20:14
10	07:09 16:45	06:50 17:20	07:31 (20) 07:52 (20)	06:11 17:51	06:23 19:22	05:43 19:51	05:24 20:15
11	07:09 16:46	06:49 17:21	07:31 (20) 07:53 (20)	06:09 17:52	06:21 19:23	05:42 19:52	05:24 20:16
12	07:09 16:47	06:48 17:22	07:31 (20) 08:04 (15)	06:08 17:53	06:20 19:24	05:41 19:53	05:24 20:16
13	07:09 16:48	06:47 17:23	07:31 (20) 08:09 (15)	06:06 17:54	06:18 19:25	05:40 19:54	05:24 20:16
14	07:09 16:49	06:45 17:24	07:32 (20) 08:12 (15)	06:05 17:55	06:17 19:26	05:39 19:54	05:24 20:17
15	07:08 16:50	06:44 17:25	07:31 (20) 08:13 (15)	06:03 17:56	06:15 19:27	05:39 19:55	05:24 20:17
16	07:08 16:51	06:43 17:27	07:32 (20) 08:15 (15)	06:02 17:57	06:14 19:28	05:38 19:56	05:24 20:18
17	07:08 16:52	06:42 17:28	07:33 (20) 08:16 (15)	06:00 17:58	06:12 19:29	05:37 19:57	05:24 20:18
18	07:07 16:53	06:41 17:29	07:34 (20) 08:18 (15)	05:59 17:59	06:11 19:29	05:36 19:58	05:24 20:18
19	07:07 16:54	06:39 17:30	07:35 (20) 08:18 (15)	05:57 18:00	06:10 19:30	05:35 19:59	05:24 20:19
20	07:06 16:56	06:38 17:31	07:38 (20) 08:19 (15)	05:55 18:01	06:08 19:31	05:34 20:00	05:25 20:19
21	07:06 16:57	06:37 17:32	07:44 (15) 08:19 (15)	05:54 18:02	06:07 19:32	05:34 20:01	05:25 20:19
22	07:05 16:58	06:35 17:33	07:43 (15) 08:19 (15)	05:52 18:03	06:05 19:33	05:33 20:02	05:25 20:19
23	07:05 16:59	06:34 17:34	07:43 (15) 08:19 (15)	05:51 18:04	06:04 19:34	05:32 20:02	05:25 20:20
24	07:04 17:00	06:33 17:35	07:43 (15) 08:20 (15)	05:49 18:05	06:03 19:35	05:31 20:03	05:25 20:20
25	07:04 17:01	06:31 17:37	07:43 (15) 08:19 (15)	05:48 18:06	06:01 19:36	05:31 20:04	05:26 20:20
26	07:03 17:02	06:30 17:38	07:43 (15) 08:19 (15)	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20
27	07:02 17:03	06:29 17:39	07:42 (15) 08:18 (15)	05:44 18:08	05:59 19:38	05:30 20:06	05:26 20:20
28	07:02 17:05	06:27 17:40	07:43 (15) 08:18 (15)	05:43 18:09	05:57 19:39	05:29 20:06	05:27 20:20
29	07:01 17:06	06:26 17:41	07:43 (15) 08:16 (15)	05:41 18:10	05:56 19:40	05:28 20:07	05:27 20:20
30	07:00 17:07		05:40 18:11		05:55 19:41	05:28 20:08	05:27 20:20
31	06:59 17:08		06:38 19:12			08:42 (14) 08:55 (14)	
Potential sun hours	302	310	370	396	443	13	446
Total, worst case		798	163			13	1283

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BQ - R29 CU3

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20 44	08:31 (14) 09:15 (14)	05:50 20:03	06:18 19:22	06:45 18:35	06:17 07:01 (20)
2	05:28 20:20 44	08:32 (14) 09:16 (14)	05:51 20:02	06:19 19:21	06:46 18:33	06:18 07:01 (20)
3	05:29 20:20 42	08:33 (14) 09:15 (14)	05:52 20:01	06:20 19:19	06:47 18:31	06:19 07:02 (20)
4	05:29 20:20 41	08:34 (14) 09:15 (14)	05:53 20:00	06:21 19:18	06:48 18:30	06:20 07:02 (20)
5	05:30 20:19 39	08:35 (14) 09:14 (14)	05:54 19:59	06:22 19:16	06:49 18:28	06:21 07:04 (20)
6	05:30 20:19 38	08:36 (14) 09:14 (14)	05:55 19:57	06:23 19:15	06:50 18:27	06:22 07:06 (20)
7	05:31 20:19 35	08:37 (14) 09:12 (14)	05:56 19:56	06:24 19:13	06:51 18:25	06:23 07:19 (20)
8	05:32 20:19 33	08:39 (14) 09:12 (14)	05:56 19:55	06:24 19:11	06:52 18:24	06:24 07:08 (20)
9	05:32 20:18 30	08:40 (14) 09:10 (14)	05:57 19:54	06:25 19:10	06:53 18:22	06:25 07:16 (20)
10	05:33 20:18 27	08:42 (14) 09:09 (14)	05:58 19:53	06:26 19:08	06:54 18:21	06:27 07:19 (20)
11	05:34 20:18 22	08:45 (14) 09:07 (14)	05:59 19:52	06:27 19:07	06:55 18:19	06:28 07:19 (20)
12	05:34 20:17 16	08:48 (14) 09:04 (14)	06:00 19:50	06:28 19:05	06:56 18:18	06:29 07:19 (20)
13	05:35 20:17 7	08:53 (14) 09:00 (14)	06:01 19:49	06:29 19:04	06:57 18:16	06:30 07:19 (20)
14	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 08:16 (15)	06:31 16:38
15	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	06:32 08:15 (15)	06:32 16:37
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 08:15 (15)	06:33 16:36
17	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:10	06:34 08:14 (15)	06:34 16:36
18	05:39 20:14	06:06 19:43	06:33 18:55	07:02 18:09	06:35 08:14 (15)	06:35 16:35
19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	06:36 08:14 (15)	06:36 16:34
20	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	06:38 08:14 (15)	06:38 16:34
21	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	06:39 08:14 (15)	06:39 16:33
22	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	06:40 08:14 (15)	06:40 16:32
23	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	06:41 08:07 (20)	06:41 16:32
24	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 08:05 (20)	06:42 16:31
25	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	06:43 08:04 (20)	06:43 16:31
26	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 08:03 (20)	06:44 16:30
27	05:46 20:07	06:14 19:30	06:42 18:41	07:11 16:57	06:45 07:02 (20)	06:45 16:30
28	05:47 20:07	06:15 19:28	06:43 18:39	07:12 16:56	06:46 07:01 (20)	06:46 16:30
29	05:48 20:06	06:15 19:27	06:43 18:38	07:13 16:54	06:47 07:00 (20)	06:47 16:29
30	05:48 20:05	06:16 19:25	06:44 18:36	07:14 16:53	06:48 07:00 (20)	06:48 16:29
31	05:49 20:04	06:17 19:24	06:45 16:52	07:15 16:52	06:49 07:01 (20)	06:49 16:29
Potential sun hours	453	424	374	347	303	294
Total, worst case	418			848	117	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BR - R30 CU3

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37 43	14:21 (19) 15:04 (19)	06:59 17:09 13	14:49 (19) 15:02 (19)	06:24 17:42 19	07:23 (20) 07:42 (20) 19:13 20	08:31 (15) 08:51 (15) 19:42	05:54 19:42 20:09	
2	07:09 16:38 43	14:23 (19) 15:06 (19)	06:58 17:10	06:23 17:43 16	07:25 (20) 07:41 (20) 19:14	06:35 08:33 (15) 19:43	08:33 (15) 08:47 (15) 19:43	05:52 19:43 20:10	
3	07:09 16:39 43	14:23 (19) 15:06 (19)	06:57 17:12	06:21 17:44 11	07:27 (20) 07:38 (20) 19:15	06:33 19:15	05:51 19:44	05:26 20:11	
4	07:09 16:40 43	14:23 (19) 15:06 (19)	06:56 17:13	06:20 17:45	06:20 19:16	06:32 19:16	05:50 19:45	05:26 20:11	
5	07:10 16:41 43	14:24 (19) 15:07 (19)	06:55 17:14	06:19 17:46 12	07:45 (15) 07:57 (15) 19:17	06:30 19:17	05:49 19:46	05:26 20:12	
6	07:10 16:41 43	14:24 (19) 15:07 (19)	06:54 17:15	06:17 17:47 20	07:41 (15) 08:01 (15) 19:18	06:29 19:18	05:48 19:47	05:25 20:13	
7	07:10 16:42 43	14:25 (19) 15:08 (19)	06:53 17:16	06:16 17:48 25	07:38 (15) 08:03 (15) 19:19	06:27 19:19	05:47 19:48	05:25 20:13	
8	07:10 16:43 44	14:24 (19) 15:08 (19)	06:52 17:17	06:14 17:49 30	07:35 (15) 08:05 (15) 19:20	06:26 19:20	05:46 19:49	05:25 20:14	
9	07:09 16:44 43	14:25 (19) 15:08 (19)	06:51 17:19	06:13 17:50 33	07:34 (15) 08:07 (15) 19:21	06:24 19:21	05:44 19:50	05:25 20:14	
10	07:09 16:45 44	14:25 (19) 15:09 (19)	06:50 17:20	06:11 17:51 36	07:31 (15) 08:07 (15) 19:22	06:23 19:22	05:43 19:51	05:24 20:15	
11	07:09 16:46 43	14:26 (19) 15:09 (19)	06:49 17:21	06:09 17:52 38	07:31 (15) 08:09 (15) 19:23	06:21 19:23	05:42 19:52	05:24 20:15	
12	07:09 16:47 43	14:27 (19) 15:10 (19)	06:48 17:22	06:08 17:53 40	07:29 (15) 08:09 (15) 19:24	06:20 19:24	05:41 19:53	05:24 20:16	
13	07:09 16:48 43	14:27 (19) 15:10 (19)	06:47 17:23	06:06 17:54 42	07:28 (15) 08:10 (15) 19:25	06:18 19:25	05:40 19:54	05:24 20:16	
14	07:09 16:49 43	14:27 (19) 15:10 (19)	06:45 17:24	06:05 17:55 43	07:27 (15) 08:10 (15) 19:26	06:17 19:26	05:39 19:54	05:24 20:17	
15	07:08 16:50 43	14:28 (19) 15:11 (19)	06:44 17:25	06:03 17:56 44	07:26 (15) 08:10 (15) 19:27	06:15 19:27	05:39 19:55	05:24 20:17	
16	07:08 16:51 43	14:28 (19) 15:11 (19)	06:43 17:27 5	07:32 (20) 07:37 (20) 17:57 45	06:02 17:57 45	07:25 (15) 08:10 (15) 19:28	06:14 19:28	05:38 19:56	05:24 20:18
17	07:08 16:52 42	14:29 (19) 15:11 (19)	06:42 17:28 13	07:28 (20) 07:41 (20) 17:58 45	06:00 17:58 45	07:24 (15) 08:09 (15) 19:29	06:12 19:29	05:37 19:57	05:24 20:18
18	07:07 16:53 42	14:29 (19) 15:11 (19)	06:41 17:29 16	07:27 (20) 07:43 (20) 17:59 46	05:59 17:59 46	07:24 (15) 08:10 (15) 19:29	06:11 19:29	05:36 19:58	05:24 20:18
19	07:07 16:54 40	14:31 (19) 15:11 (19)	06:39 17:30 20	07:24 (20) 07:44 (20) 18:00 46	05:57 18:00 46	07:23 (15) 08:09 (15) 19:30	06:10 19:30	05:35 19:59	05:24 20:19
20	07:06 16:56 40	14:31 (19) 15:11 (19)	06:38 17:31 21	07:24 (20) 07:45 (20) 18:01 45	05:55 18:01 45	07:24 (15) 08:09 (15) 19:31	06:08 19:31	05:34 20:00	05:25 20:19
21	07:06 16:57 39	14:32 (19) 15:11 (19)	06:37 17:32 23	07:23 (20) 07:46 (20) 18:02 45	05:54 18:02 45	07:23 (15) 08:08 (15) 19:32	06:07 19:32	05:34 20:01	05:25 20:19
22	07:05 16:58 38	14:33 (19) 15:11 (19)	06:35 17:33 24	07:22 (20) 07:46 (20) 18:03 44	05:52 18:03 44	07:23 (15) 08:07 (15) 19:33	06:05 19:33	05:33 20:02	05:25 20:19
23	07:05 16:59 37	14:34 (19) 15:11 (19)	06:34 17:34 24	07:22 (20) 07:46 (20) 18:04 44	05:51 18:04 44	07:23 (15) 08:07 (15) 19:34	06:04 19:34	05:32 20:02	05:25 20:20
24	07:04 17:00 36	14:35 (19) 15:11 (19)	06:33 17:35 25	07:22 (20) 07:47 (20) 18:05 42	05:49 18:05 42	07:23 (15) 08:05 (15) 19:35	06:03 19:35	05:31 20:03	05:25 20:20
25	07:04 17:01 35	14:35 (19) 15:10 (19)	06:31 17:37 25	07:21 (20) 07:46 (20) 18:06 41	05:48 18:06 41	07:24 (15) 08:05 (15) 19:36	06:01 19:36	05:31 20:04	05:26 20:20
26	07:03 17:02 33	14:36 (19) 15:09 (19)	06:30 17:38 25	07:21 (20) 07:46 (20) 18:07 39	05:46 18:07 39	07:24 (15) 08:03 (15) 19:37	06:00 19:37	05:30 20:05	05:26 20:20
27	07:02 17:03 31	14:38 (19) 15:09 (19)	06:29 17:39 24	07:21 (20) 07:45 (20) 18:08 37	05:44 18:08 37	07:24 (15) 08:01 (15) 19:38	05:59 19:38	05:30 20:06	05:26 20:20
28	07:02 17:05 28	14:40 (19) 15:08 (19)	06:27 17:40 23	07:22 (20) 07:45 (20) 18:09 35	05:43 18:09 35	07:25 (15) 08:00 (15) 19:39	05:57 19:39	05:29 20:06	05:27 20:20
29	07:01 17:06 26	14:41 (19) 15:07 (19)	06:26 17:41 21	07:22 (20) 07:43 (20) 18:10 33	05:41 18:10 33	07:25 (15) 07:58 (15) 19:40	05:56 19:40	05:28 20:07	05:27 20:20
30	07:00 17:07 23	14:43 (19) 15:06 (19)	06:25 17:42 20	07:21 (20) 18:11 29	05:40 18:11 29	07:27 (15) 07:56 (15) 19:41	05:55 19:41	05:28 20:08	05:27 20:20
31	06:59 17:08 19	14:45 (19) 15:04 (19)	06:24 17:43 20	06:38 19:12 26	06:38 19:12 26	08:28 (15) 08:54 (15) 19:42	05:54 19:42	05:27 20:09	05:26 20:20
Potential sun hours	302	310	370	396	443	446			
Total, worst case	1199	302	1051	34	443	446			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BR - R30 CU3

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	08:08 (15) 08:49 (15)	06:17 16:51	06:49 16:29	14:09 (19) 14:52 (19)	
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	08:09 (15) 08:48 (15)	06:18 16:50	06:50 16:28	14:09 (19) 14:52 (19)	
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	08:09 (15) 08:46 (15)	06:19 16:49	06:51 16:28	14:09 (19) 14:53 (19)	
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	08:11 (15) 08:45 (15)	06:20 16:47	06:52 16:28	14:10 (19) 14:53 (19)	
5	05:30 20:19	05:54 19:59	06:22 19:16	06:49 18:28	08:12 (15) 08:43 (15)	06:21 16:46	06:53 16:28	14:10 (19) 14:54 (19)	
6	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	08:13 (15) 08:41 (15)	06:22 16:45	06:54 16:28	14:10 (19) 14:53 (19)	
7	05:31 20:19	05:56 19:56	06:24 19:13	06:51 18:25	08:15 (15) 08:39 (15)	06:23 16:44	06:55 16:28	14:10 (19) 14:54 (19)	
8	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	08:17 (15) 08:34 (15)	06:24 16:43	06:56 16:28	14:11 (19) 14:54 (19)	
9	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	08:24 (15) 08:27 (15)	06:25 16:42	06:57 16:28	14:11 (19) 14:55 (19)	
10	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	08:04 (20) 08:10 (20)	06:26 16:41	06:57 16:28	14:12 (19) 14:55 (19)	
11	05:34 20:18	05:59 19:52	06:27 19:07	06:55 18:19	08:00 (20) 08:13 (20)	06:28 16:40	14:20 (19) 14:33 (19)	06:58 16:28	14:13 (19) 14:56 (19)
12	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	07:58 (20) 08:15 (20)	06:29 16:40	14:17 (19) 14:36 (19)	06:59 16:28	14:13 (19) 14:56 (19)
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	07:56 (20) 08:16 (20)	06:30 16:39	14:15 (19) 14:38 (19)	07:00 16:28	14:13 (19) 14:56 (19)
14	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	07:55 (20) 08:17 (20)	06:31 16:38	14:13 (19) 14:39 (19)	07:01 16:28	14:14 (19) 14:56 (19)
15	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	07:54 (20) 08:17 (20)	06:32 16:37	14:13 (19) 14:41 (19)	07:01 16:29	14:15 (19) 14:57 (19)
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	07:53 (20) 08:18 (20)	06:33 16:36	14:12 (19) 14:42 (19)	07:02 16:29	14:15 (19) 14:57 (19)
17	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:10	07:53 (20) 08:18 (20)	06:34 16:36	14:10 (19) 14:43 (19)	07:03 16:29	14:15 (19) 14:58 (19)
18	05:39 20:14	06:06 19:43	06:33 18:55	07:02 18:09	07:53 (20) 08:18 (20)	06:35 16:35	14:10 (19) 14:44 (19)	07:03 16:30	14:16 (19) 14:58 (19)
19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	07:52 (20) 08:17 (20)	06:36 16:34	14:09 (19) 14:45 (19)	07:04 16:30	14:16 (19) 14:58 (19)
20	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	07:52 (20) 08:17 (20)	06:38 16:34	14:08 (19) 14:45 (19)	07:04 16:30	14:17 (19) 14:59 (19)
21	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	07:53 (20) 08:16 (20)	06:39 16:33	14:09 (19) 14:47 (19)	07:05 16:31	14:17 (19) 14:59 (19)
22	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	07:53 (20) 08:16 (20)	06:40 16:32	14:08 (19) 14:47 (19)	07:06 16:31	14:18 (19) 15:00 (19)
23	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	07:54 (20) 08:14 (20)	06:41 16:32	14:08 (19) 14:48 (19)	07:06 16:32	14:18 (19) 15:00 (19)
24	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	07:54 (20) 08:13 (20)	06:42 16:31	14:08 (19) 14:48 (19)	07:07 16:32	14:19 (19) 15:01 (19)
25	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	07:57 (20) 08:12 (20)	06:43 16:31	14:07 (19) 14:49 (19)	07:07 16:33	14:19 (19) 15:01 (19)
26	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	07:59 (20) 08:10 (20)	06:44 16:30	14:07 (19) 14:49 (19)	07:07 16:34	14:19 (19) 15:02 (19)
27	05:46 20:07	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30	06:45 16:30	14:07 (19) 14:50 (19)	07:08 16:34	14:21 (19) 15:03 (19)
28	05:47 20:07	06:15 19:28	06:43 18:39	07:12 16:56	06:46 16:30	06:46 16:30	14:07 (19) 14:50 (19)	07:08 16:35	14:21 (19) 15:03 (19)
29	05:48 20:06	06:15 19:27	06:43 18:38	07:13 16:54	06:47 16:29	06:47 16:29	14:08 (19) 14:51 (19)	07:08 16:36	14:21 (19) 15:03 (19)
30	05:48 20:05	06:16 19:25	06:44 18:36	07:14 16:53	06:48 16:29	06:48 16:29	14:09 (19) 14:52 (19)	07:09 16:36	14:21 (19) 15:04 (19)
31	05:49 20:04	06:17 19:24		06:15 16:52			07:09 16:37	14:21 (19) 15:04 (19)	
Potential sun hours	453	424	374	347	303	294			
Total, worst case			797	591	692	1323			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BS - R31 CU3

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37 34	08:29 (15) 09:03 (15) 17:09	06:59 06:58 32	09:56 (14) 10:28 (14) 17:42	06:24 06:23 74	09:31 (14) 10:45 (14) 19:13	05:54 19:42 20:09
2	07:09 16:38 34	08:29 (15) 09:03 (15) 17:10	06:58 06:57 37	09:54 (14) 10:31 (14) 17:43	06:23 06:21 72	09:32 (14) 10:44 (14) 19:14	05:52 19:43 20:10
3	07:09 16:39 33	08:30 (15) 09:03 (15) 17:12	06:57 06:56 41	09:52 (14) 10:33 (14) 17:44	06:21 06:20 71	09:31 (14) 10:42 (14) 19:15	05:51 19:44 20:11
4	07:09 16:40 33	08:30 (15) 09:03 (15) 17:13	06:56 06:55 45	09:50 (14) 10:35 (14) 17:45	06:20 06:19 69	09:32 (14) 10:41 (14) 19:16	05:50 19:45 20:11
5	07:10 16:41 33	08:31 (15) 09:04 (15) 17:14	06:55 06:54 49	09:48 (14) 10:37 (14) 17:46	06:19 06:17 67	09:32 (14) 10:39 (14) 19:17	05:49 19:46 20:12
6	07:10 16:41 33	08:31 (15) 09:04 (15) 17:15	06:54 06:53 51	09:47 (14) 10:38 (14) 17:47	06:17 06:16 66	09:32 (14) 10:38 (14) 19:18	05:48 19:47 20:13
7	07:10 16:42 32	08:32 (15) 09:04 (15) 17:16	06:53 06:52 55	09:45 (14) 10:40 (14) 17:48	06:16 06:14 64	09:32 (14) 10:36 (14) 19:19	05:47 19:48 20:13
8	07:10 16:43 32	08:32 (15) 09:04 (15) 17:17	06:52 06:51 57	09:44 (14) 10:41 (14) 17:49	06:14 06:13 61	09:32 (14) 10:33 (14) 19:20	05:46 19:49 20:14
9	07:10 16:44 32	08:32 (15) 09:04 (15) 17:19	06:51 06:50 60	09:42 (14) 10:42 (14) 17:50	06:13 06:11 58	09:33 (14) 10:31 (14) 19:21	05:44 19:50 20:14
10	07:09 16:45 31	08:33 (15) 09:04 (15) 17:20	06:50 06:49 62	09:41 (14) 10:43 (14) 17:51	06:11 06:09 55	09:33 (14) 10:28 (14) 19:22	05:43 19:51 20:15
11	07:09 16:46 31	08:34 (15) 09:05 (15) 17:21	06:49 06:48 64	09:40 (14) 10:44 (14) 17:52	06:09 06:08 51	09:35 (14) 10:26 (14) 19:23	05:42 19:52 20:16
12	07:09 16:47 30	08:35 (15) 09:05 (15) 17:22	06:48 06:47 65	09:40 (14) 10:45 (14) 17:53	06:08 06:06 48	09:35 (14) 10:23 (14) 19:24	05:41 19:53 20:16
13	07:09 16:48 29	08:35 (15) 09:04 (15) 17:23	06:47 06:45 67	09:39 (14) 10:46 (14) 17:54	06:06 06:05 43	09:37 (14) 10:20 (14) 19:25	05:40 19:54 20:16
14	07:09 16:49 28	08:36 (15) 09:04 (15) 17:24	06:45 06:44 69	09:38 (14) 10:47 (14) 17:55	06:05 06:03 38	09:38 (14) 10:16 (14) 19:26	05:39 19:54 20:17
15	07:08 16:50 26	08:38 (15) 09:04 (15) 17:25	06:44 06:43 70	09:37 (14) 10:47 (14) 17:56	06:03 06:02 33	09:40 (14) 10:13 (14) 19:27	05:39 19:55 20:17
16	07:08 16:51 25	08:38 (15) 09:03 (15) 17:27	06:43 06:42 72	09:36 (14) 10:48 (14) 17:57	06:02 06:00 25	09:43 (14) 10:08 (14) 19:28	05:38 19:56 20:18
17	07:08 16:52 24	08:39 (15) 09:03 (15) 17:28	06:42 06:41 72	09:36 (14) 10:48 (14) 17:58	06:00 05:59 15	09:46 (14) 10:01 (14) 19:29	05:37 19:57 20:18
18	07:07 16:53 22	08:40 (15) 09:02 (15) 17:29	06:41 06:39 73	09:36 (14) 10:49 (14) 17:59	05:59 05:57 33	06:11 06:10 19:29	05:36 19:58 20:18
19	07:07 16:54 20	08:42 (15) 09:02 (15) 17:30	06:39 06:38 75	09:34 (14) 10:49 (14) 18:00	05:57 05:55 75	06:10 06:08 19:30	05:35 19:59 20:19
20	07:06 16:56 17	08:43 (15) 09:00 (15) 17:31	06:38 06:37 75	09:34 (14) 10:49 (14) 18:01	05:55 05:54 75	06:08 06:07 19:31	05:34 20:00 20:19
21	07:06 16:57 15	08:45 (15) 09:00 (15) 17:32	06:37 06:35 75	09:34 (14) 10:49 (14) 18:02	05:54 05:52 15	06:07 06:05 19:32	05:34 20:01 20:19
22	07:05 16:58 9	08:48 (15) 08:57 (15) 17:33	06:35 06:34 76	09:33 (14) 10:49 (14) 18:03	05:52 05:51 76	06:05 06:04 19:33	05:33 20:02 20:19
23	07:05 16:59	08:57 (15) 09:04 (15) 17:34	06:34 06:33 76	09:33 (14) 10:49 (14) 18:04	05:51 05:49 76	06:04 06:03 19:34	05:32 20:02 20:20
24	07:04 17:00	09:04 (15) 17:35	06:33 06:32 76	09:33 (14) 10:49 (14) 18:05	05:49 05:48 76	06:03 06:01 19:35	05:31 20:03 20:20
25	07:04 17:01	09:02 (15) 17:37	06:31 06:30 76	09:32 (14) 10:48 (14) 18:06	05:48 05:46 76	06:01 06:00 19:36	05:31 20:04 20:20
26	07:03 17:02	09:02 (15) 17:38	06:30 06:29 76	09:32 (14) 10:48 (14) 18:07	05:46 05:44 76	06:00 05:59 19:37	05:30 20:05 20:20
27	07:02 17:03	09:02 (15) 17:39	06:29 06:28 76	09:31 (14) 10:47 (14) 18:08	05:44 05:43 76	05:59 05:58 19:38	05:29 20:06 20:20
28	07:02 17:05	09:02 (15) 17:40	06:27 06:26 74	09:32 (14) 10:46 (14) 18:09	05:43 05:41 74	05:57 05:56 19:39	05:29 20:06 20:20
29	07:01 17:06 4	10:09 (14) 10:13 (14) 17:41	06:26 06:25 74	09:31 (14) 10:45 (14) 18:10	05:41 05:40 74	05:56 05:55 19:40	05:28 20:07 20:20
30	07:00 17:07 19	10:02 (14) 10:21 (14) 17:41	06:25 06:24 74	09:31 (14) 10:45 (14) 18:11	05:40 05:39 74	05:55 05:54 19:41	05:27 20:08 20:20
31	06:59 17:08 26	09:58 (14) 10:24 (14) 17:41	06:24 06:23 74	09:31 (14) 10:45 (14) 18:12	05:39 05:38 74	05:54 05:53 19:42	05:26 20:09 20:20
Potential sun hours	302	310	370	396	443	446	
Total, worst case	652	1870	910				

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BS - R31 CU3
 Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	10:16 (14) 16:51	06:17 09:10 (14) 06:49 08:17 (15)	
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	10:14 (14) 16:50	06:18 09:11 (14) 06:50 08:17 (15)	
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	10:13 (14) 16:49	06:19 09:12 (14) 06:51 08:17 (15)	
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	10:11 (14) 16:47	06:20 09:13 (14) 06:52 08:18 (15)	
5	05:30 20:19	05:54 19:59	06:22 19:16	06:49 18:28	10:10 (14) 16:46	06:21 09:15 (14) 06:53 08:18 (15)	
6	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	10:08 (14) 16:45	06:23 09:18 (14) 06:55 08:17 (15)	
7	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	10:08 (14) 16:44	06:23 09:18 (14) 06:55 08:17 (15)	
8	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	10:08 (14) 16:43	06:24 09:20 (14) 06:56 08:18 (15)	
9	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	10:07 (14) 16:42	06:25 09:22 (14) 06:57 08:18 (15)	
10	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	10:06 (14) 16:41	06:27 09:25 (14) 06:57 08:19 (15)	
11	05:33 20:18	05:59 19:52	06:27 19:07	06:55 18:19	10:06 (14) 16:40	06:28 09:27 (14) 06:58 08:19 (15)	
12	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	10:05 (14) 16:40	06:29 09:30 (14) 06:59 08:20 (15)	
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	10:05 (14) 16:39	06:30 09:34 (14) 07:00 08:20 (15)	
14	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	10:04 (14) 16:38	06:31 09:41 (14) 07:01 08:20 (15)	
15	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	10:04 (14) 16:37	06:32 09:45 (14) 07:01 08:21 (15)	
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	10:04 (14) 16:36	06:33 09:41 (14) 07:02 08:21 (15)	
17	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:10	10:04 (14) 16:36	06:34 09:41 (14) 07:03 08:22 (15)	
18	05:38 20:14	06:06 19:43	06:33 18:55	07:02 18:09	10:04 (14) 16:35	06:35 09:41 (14) 07:03 08:22 (15)	
19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	10:04 (14) 16:34	06:36 09:41 (14) 07:04 08:22 (15)	
20	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	10:04 (14) 16:34	06:38 09:41 (14) 07:05 08:23 (15)	
21	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	10:04 (14) 16:33	06:39 08:24 (15) 07:05 08:23 (15)	
22	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	10:04 (14) 16:32	06:40 08:22 (15) 07:06 08:24 (15)	
23	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	10:04 (14) 16:32	06:41 08:20 (15) 07:06 08:24 (15)	
24	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	10:05 (14) 16:31	06:42 08:19 (15) 07:07 08:25 (15)	
25	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	10:05 (14) 16:31	06:43 08:18 (15) 07:07 08:25 (15)	
26	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	10:06 (14) 16:30	06:44 08:18 (15) 07:07 08:26 (15)	
27	05:46 20:07	06:14 19:30	06:42 18:41	10:32 (14) 10:40 (14) 17:58	07:11 11:18 (14) 16:30	06:45 08:17 (15) 07:08 09:00 (15)	
28	05:47 20:07	06:15 19:28	06:43 18:39	10:26 (14) 10:47 (14) 16:57	06:11 09:06 (14) 16:30	06:45 08:17 (15) 07:08 09:01 (15)	
29	05:47 20:06	06:15 19:27	06:43 18:38	10:19 (14) 10:56 (14) 16:54	06:13 16:54 69	06:47 10:16 (14) 16:29	07:08 08:17 (15) 07:08 08:27 (15)
30	05:48 20:05	06:16 19:25	06:44 18:36	10:17 (14) 10:59 (14) 16:53	06:14 16:53 67	06:48 09:08 (14) 16:29	07:09 08:17 (15) 07:09 08:27 (15)
31	05:49 20:04	06:17 19:24		06:15 16:52 65	09:10 (14) 10:15 (14)	07:09 16:37 34	08:28 (15) 09:02 (15)
Potential sun hours	453	424	374	347	303	294	
Total, worst case			138	2130	814	1032	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BT - R32 CU5
 Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:59 17:09	06:24 17:42	06:37 19:13	05:54 19:42	07:35 (16) 20:09
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	05:52 19:43	07:35 (16) 20:10
3	07:09 16:39	06:57 17:12	06:21 17:44	07:02 (17) 06:33 19:15	05:51 19:44	07:35 (16) 20:11
4	07:09 16:40	06:56 17:13	06:20 17:45	06:59 (17) 06:32 19:16	05:50 19:45	07:35 (16) 20:11
5	07:09 16:41	06:55 17:14	06:19 17:46	06:57 (17) 06:30 19:17	05:49 19:46	07:36 (16) 20:12
6	07:10 16:41	06:54 17:15	06:17 17:47	06:56 (17) 06:29 19:18	05:48 19:47	07:37 (16) 20:13
7	07:10 16:42	06:53 17:16	06:16 17:48	06:55 (17) 06:27 19:19	05:47 19:48	07:37 (16) 20:13
8	07:10 16:43	06:52 17:17	06:14 17:49	06:53 (17) 06:26 19:20	08:01 (16) 05:46 19:49	07:38 (16) 20:14
9	07:09 16:44	06:51 17:19	06:13 17:50	06:53 (17) 06:24 19:21	07:56 (16) 05:44 19:50	07:38 (16) 20:14
10	07:09 16:45	06:50 17:20	06:11 17:51	06:53 (17) 06:23 19:22	07:53 (16) 05:43 19:51	07:39 (16) 20:15
11	07:09 16:46	06:49 17:21	06:09 17:52	06:53 (17) 06:21 19:23	07:50 (16) 05:42 19:52	07:40 (16) 20:15
12	07:09 16:47	06:48 17:22	06:08 17:53	06:53 (17) 06:20 19:24	07:48 (16) 05:41 19:53	07:40 (16) 20:16
13	07:09 16:48	06:47 17:23	06:06 17:54	06:54 (17) 06:18 19:25	07:46 (16) 05:40 19:53	06:24 (20) 20:16
14	07:09 16:49	06:45 17:24	06:05 17:55	06:54 (17) 06:17 19:26	08:23 (16) 05:39 19:54	06:23 (20) 20:17
15	07:08 16:50	06:44 17:25	06:03 17:56	06:56 (17) 06:15 19:27	07:43 (16) 05:39 19:55	06:22 (20) 20:17
16	07:08 16:51	06:43 17:27	06:02 17:57	06:58 (17) 06:14 19:28	07:42 (16) 05:38 19:56	06:22 (20) 20:18
17	07:08 16:52	06:42 17:28	06:00 17:58	07:06 (17) 06:12 19:28	07:41 (16) 05:37 19:57	06:21 (20) 20:18
18	07:07 16:53	06:41 17:29	05:59 17:59	06:11 19:29	07:39 (16) 05:36 19:58	06:20 (20) 20:18
19	07:07 16:55	06:39 17:30	05:57 18:00	06:10 19:30	07:39 (16) 05:35 19:59	06:19 (20) 20:19
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	07:37 (16) 05:34 20:00	06:20 (20) 20:19
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	07:37 (16) 05:34 20:01	06:19 (20) 20:19
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	07:37 (16) 05:33 20:02	06:19 (20) 20:19
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	07:36 (16) 05:32 20:02	06:19 (20) 20:20
24	07:04 17:00	06:33 17:36	05:49 18:05	06:03 19:35	07:36 (16) 05:31 20:03	06:19 (20) 20:20
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	07:35 (16) 05:31 20:04	06:19 (20) 20:20
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	07:35 (16) 05:30 20:05	06:19 (20) 20:20
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	07:35 (16) 05:30 20:06	06:19 (20) 20:20
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	07:35 (16) 05:29 20:06	06:20 (20) 20:20
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	07:35 (16) 05:28 20:07	06:19 (20) 20:20
30	07:00 17:07		05:40 18:11	05:55 19:41	08:25 (16) 05:28 20:08	06:20 (20) 20:20
31	06:59 17:08		06:38 19:12		05:27 20:09	06:21 (20) 20:20
Potential sun hours	302	310	370	396	443	446
Total, worst case			239	986	1106	475

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BT - R32 CU5
 Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	06:30 (20) 06:46 (20)	05:50 20:03	06:39 (20) 08:26 (16)	06:18 19:22	07:49 (16) 08:20 (16)	06:45 18:35	07:33 (17) 07:53 (17)	06:17 16:51	06:49 16:29
2	05:28 20:20	06:31 (20) 06:47 (20)	05:51 20:02	07:50 (16) 08:27 (16)	06:19 19:21	07:51 (16) 08:18 (16)	06:46 18:33	07:32 (17) 07:53 (17)	06:18 16:50	06:50 16:28
3	05:29 20:20	06:30 (20) 06:47 (20)	05:52 20:01	07:48 (16) 08:27 (16)	06:20 19:19	07:54 (16) 08:15 (16)	06:47 18:31	07:31 (17) 07:53 (17)	06:19 16:49	06:51 16:28
4	05:29 20:20	06:30 (20) 06:48 (20)	05:53 20:00	07:48 (16) 08:28 (16)	06:21 19:18	07:58 (16) 08:10 (16)	06:48 18:30	07:31 (17) 07:53 (17)	06:20 16:47	06:52 16:28
5	05:30 20:19	06:30 (20) 06:48 (20)	05:54 19:59	07:47 (16) 08:29 (16)	06:22 19:16		06:49 18:28	07:31 (17) 07:52 (17)	06:21 16:46	06:53 16:28
6	05:30 20:19	06:30 (20) 06:49 (20)	05:55 19:57	07:46 (16) 08:30 (16)	06:23 19:15		06:50 18:27	07:31 (17) 07:52 (17)	06:22 16:45	06:54 16:28
7	05:31 20:19	06:29 (20) 06:49 (20)	05:56 19:56	07:46 (16) 08:30 (16)	06:24 19:13		06:51 18:25	07:31 (17) 07:51 (17)	06:23 16:44	06:55 16:28
8	05:32 20:19	06:29 (20) 06:50 (20)	05:56 19:55	07:45 (16) 08:31 (16)	06:24 19:11		06:52 18:24	07:31 (17) 07:49 (17)	06:24 16:43	06:56 16:28
9	05:32 20:18	06:29 (20) 06:50 (20)	05:57 19:54	07:45 (16) 08:32 (16)	06:25 19:10		06:53 18:22	07:32 (17) 07:47 (17)	06:25 16:42	06:57 16:28
10	05:33 20:18	06:29 (20) 06:51 (20)	05:58 19:53	07:44 (16) 08:31 (16)	06:26 19:08		06:54 18:21	07:35 (17) 07:46 (17)	06:26 16:41	06:57 16:28
11	05:34 20:18	06:29 (20) 06:52 (20)	05:59 19:52	07:43 (16) 08:32 (16)	06:27 19:07		06:55 18:19		06:28 16:41	06:58 16:28
12	05:34 20:17	06:28 (20) 06:52 (20)	06:00 19:50	07:43 (16) 08:32 (16)	06:28 19:05		06:56 18:18		06:29 16:40	06:59 16:28
13	05:35 20:17	06:29 (20) 06:52 (20)	06:01 19:49	07:43 (16) 08:33 (16)	06:29 19:04		06:57 18:16		06:30 16:39	07:00 16:28
14	05:36 20:16	06:29 (20) 06:53 (20)	06:02 19:48	07:43 (16) 08:33 (16)	06:30 19:02		06:58 18:15		06:31 16:38	07:01 16:29
15	05:36 20:16	06:28 (20) 06:53 (20)	06:03 19:47	07:42 (16) 08:33 (16)	06:31 19:00		06:59 18:13		06:32 16:37	07:01 16:29
16	05:37 20:15	06:28 (20) 06:53 (20)	06:04 19:45	07:42 (16) 08:34 (16)	06:32 18:59		07:00 18:12		06:33 16:36	07:02 16:29
17	05:38 20:15	06:29 (20) 06:54 (20)	06:05 19:44	07:41 (16) 08:33 (16)	06:33 18:57		07:01 18:10		06:34 16:36	07:03 16:29
18	05:39 20:14	06:29 (20) 06:54 (20)	06:06 19:43	07:41 (16) 08:33 (16)	06:33 18:55		07:02 18:09		06:35 16:35	07:03 16:30
19	05:39 20:13	06:28 (20) 06:53 (20)	06:06 19:41	07:41 (16) 08:33 (16)	06:34 18:54		07:03 18:08		06:36 16:34	07:04 16:30
20	05:40 20:13	06:29 (20) 06:54 (20)	06:07 19:40	07:42 (16) 08:33 (16)	06:35 18:52		07:04 18:06		06:38 16:34	07:04 16:30
21	05:41 20:12	06:29 (20) 06:54 (20)	06:08 19:38	07:42 (16) 08:32 (16)	06:36 18:51		07:05 18:05		06:39 16:33	07:05 16:31
22	05:42 20:11	06:30 (20) 06:53 (20)	06:09 19:36	07:42 (16) 08:32 (16)	06:37 18:47		07:06 18:02		06:40 16:32	07:06 16:32
23	05:42 20:11	06:29 (20) 06:53 (20)	06:10 19:36	07:42 (16) 08:32 (16)	06:38 18:47		07:07 18:02		06:41 16:32	07:06 16:32
24	05:43 20:10	06:30 (20) 06:53 (20)	06:11 19:34	07:43 (16) 08:31 (16)	06:39 18:46		07:08 18:01		06:42 16:31	07:07 16:32
25	05:44 20:09	06:30 (20) 08:14 (16)	06:12 19:33	07:42 (16) 08:30 (16)	06:40 18:44		07:09 17:59		06:43 16:31	07:07 16:33
26	05:45 20:08	06:31 (20) 08:17 (16)	06:13 19:31	07:43 (16) 08:29 (16)	06:41 18:43		07:10 17:58		06:44 16:30	07:07 16:34
27	05:46 20:07	06:32 (20) 08:19 (16)	06:14 19:30	07:44 (16) 08:28 (16)	06:42 18:41	5	07:41 (17) 07:46 (17)	06:11 16:57	06:45 16:30	07:08 16:34
28	05:47 20:06	06:32 (20) 08:20 (16)	06:15 19:28	07:45 (16) 08:27 (16)	06:43 18:39	12	07:37 (17) 07:49 (17)	06:12 16:56	06:46 16:30	07:08 16:35
29	05:48 20:06	06:33 (20) 08:22 (16)	06:15 19:27	07:46 (16) 08:26 (16)	06:43 18:38	16	07:35 (17) 07:51 (17)	06:13 16:54	06:47 16:29	07:08 16:36
30	05:48 20:05	06:34 (20) 08:23 (16)	06:16 19:25	07:47 (16) 08:24 (16)	06:44 18:36	18	07:34 (17) 07:52 (17)	06:14 16:53	06:48 16:29	07:09 16:36
31	05:49 20:04	06:36 (20) 08:24 (16)	06:17 19:24	07:47 (16) 08:22 (16)			06:15 16:52		06:49 16:37	07:09 16:37
Potential sun hours	453		424		374		347		303	294
Total, worst case	822		1425		142		191			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 02:51/4.0.547

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BU - R33 CU5
Assumptions for shadow calculations

Reference year for calendar 2024

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

Table with 12 columns for months (January to December) and rows for days (1 to 31). Each cell contains sun rise and set times, and minutes with flicker. Summary row at the bottom shows total sun hours for each month.

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)

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 02:51/4.0.547

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BV - R34 CU5
Assumptions for shadow calculations

Reference year for calendar 2024

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

Table with 12 columns (January to December) and 31 rows (Day 1 to Day 31). Each cell contains a time range (e.g., 07:09 - 17:09) and a numerical value. Summary rows at the bottom show 'Potential sun hours' and 'Total, worst case' for each month.

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

Matrix with 4 columns: 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)



Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 02:51/4.0.547

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BW - R35 CU5
Assumptions for shadow calculations

Reference year for calendar 2024

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

Table with 12 columns for months (January to December) and rows for days (1 to 31). Each cell contains a 2x2 matrix of times (sunrise, sunset, shadow start, shadow end) and a 'Potential sun hours' row at the bottom.

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)



SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BX - R36 CU5
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:58 17:09	06:24 17:42	06:37 19:13	05:54 19:42	07:14 (17) 24 07:38 (17) 20:09
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	05:52 19:43	07:14 (17) 22 07:36 (17) 20:10
3	07:09 16:39	06:57 17:12	06:21 17:44	06:33 19:15	05:51 19:44	07:16 (17) 18 07:34 (17) 20:11
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	07:18 (17) 14 07:32 (17) 20:11
5	07:09 16:41	06:55 17:14	06:18 17:46	06:30 19:17	05:49 19:46	06:32 (18) 15 07:29 (17) 20:12
6	07:09 16:41	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	06:30 (18) 11 06:41 (18) 20:13
7	07:10 16:42	06:53 17:16	06:16 17:48	06:27 19:19	05:47 19:48	06:28 (18) 15 06:43 (18) 20:13
8	07:09 16:43	06:52 17:17	06:14 17:49	06:26 19:20	05:46 19:49	06:27 (18) 17 06:44 (18) 20:14
9	07:09 16:44	06:51 17:19	06:12 17:50	06:24 19:21	05:44 19:50	06:26 (18) 19 06:45 (18) 20:14
10	07:09 16:45	06:50 17:20	06:11 17:51	06:23 19:22	05:43 10 07:26 (17) 19:51	06:25 (18) 21 06:46 (18) 20:15
11	07:09 16:46	06:49 17:21	06:09 17:52	06:21 19:23	05:42 17 07:39 (17) 19:52	06:24 (18) 22 06:46 (18) 20:15
12	07:09 16:47	06:48 17:22	06:08 17:53	06:20 19:24	05:41 21 07:41 (17) 19:53	06:24 (18) 22 06:46 (18) 20:16
13	07:09 16:48	06:46 17:23	06:06 17:54	06:18 19:25	05:40 25 07:42 (17) 19:53	06:23 (18) 23 06:46 (18) 20:16
14	07:09 16:49	06:45 17:24	06:05 17:55	06:17 19:26	05:39 28 07:44 (17) 19:54	06:23 (18) 23 06:46 (18) 20:17
15	07:08 16:50	06:44 17:25	06:03 17:56	06:15 19:27	05:39 30 07:44 (17) 19:55	06:23 (18) 23 06:46 (18) 20:17
16	07:08 16:51	06:43 17:27	06:02 17:57	06:14 19:27	05:38 32 07:45 (17) 19:56	06:24 (18) 23 06:47 (18) 20:18
17	07:08 16:52	06:42 17:28	06:00 17:58	06:12 19:28	05:37 32 07:45 (17) 19:57	06:24 (18) 23 06:47 (18) 20:18
18	07:07 16:53	06:40 17:29	05:59 17:59	06:11 19:29	05:36 34 07:45 (17) 19:58	06:24 (18) 22 06:46 (18) 20:18
19	07:07 16:54	06:39 17:30	05:57 18:00	06:10 19:30	05:35 34 07:45 (17) 19:59	06:24 (18) 22 06:46 (18) 20:19
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	05:34 35 07:45 (17) 20:00	06:25 (18) 21 06:46 (18) 20:19
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	05:34 35 07:45 (17) 20:01	06:25 (18) 21 06:46 (18) 20:19
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	05:33 35 07:45 (17) 20:01	06:25 (18) 20 06:45 (18) 20:19
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	05:32 35 07:44 (17) 20:02	06:26 (18) 19 06:45 (18) 20:20
24	07:04 17:00	06:33 17:35	05:49 18:05	06:03 19:35	05:31 34 07:44 (17) 20:03	06:27 (18) 17 06:44 (18) 20:20
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	05:31 34 07:44 (17) 20:04	06:27 (18) 16 06:43 (18) 20:20
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	05:30 33 07:43 (17) 20:05	06:29 (18) 14 06:43 (18) 20:20
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	05:30 32 07:42 (17) 20:06	06:29 (18) 12 06:41 (18) 20:20
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	05:29 30 07:41 (17) 20:06	06:31 (18) 10 06:41 (18) 20:20
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	05:28 28 07:40 (17) 20:07	06:33 (18) 5 06:38 (18) 20:20
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 27 07:39 (17) 20:08	
31	06:59 17:08		06:38 19:12		05:27 20:09	
Potential sun hours	302	310	370	396	443	446
Total, worst case				621	534	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BX - R36 CU5

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:35 (18) 06:57 (18)	06:18 19:22	07:21 (17) 07:38 (17)	06:45 18:35	06:17 16:51	06:49 16:29
2	05:28 20:20	05:51 20:02	06:35 (18) 06:57 (18)	06:19 19:21	07:24 (17) 07:34 (17)	06:46 18:33	06:18 16:50	06:50 16:28
3	05:29 20:20	05:52 20:01	06:35 (18) 06:55 (18)	06:20 19:19		06:47 18:31	06:19 16:49	06:51 16:28
4	05:29 20:20	05:53 20:00	06:36 (18) 06:54 (18)	06:21 19:18		06:48 18:30	06:20 16:47	06:52 16:28
5	05:30 20:19	05:54 19:58	06:37 (18) 06:54 (18)	06:22 19:16		06:49 18:28	06:21 16:46	06:53 16:28
6	05:30 20:19	05:55 19:57	06:38 (18) 06:52 (18)	06:23 19:15		06:50 18:27	06:22 16:45	06:54 16:28
7	05:31 20:19	05:56 19:56	06:40 (18) 06:51 (18)	06:24 19:13		06:51 18:25	06:23 16:44	06:55 16:28
8	05:32 20:19	05:56 19:55	06:43 (18) 07:40 (17)	06:24 19:11		06:52 18:24	06:24 16:43	06:56 16:28
9	05:32 20:18	05:57 19:54	07:27 (17) 07:43 (17)	06:25 19:10		06:53 18:22	06:25 16:42	06:57 16:28
10	05:33 20:18	05:58 19:53	07:24 (17) 07:44 (17)	06:26 19:08		06:54 18:21	06:26 16:41	06:57 16:28
11	05:34 20:18	05:59 19:52	07:22 (17) 07:45 (17)	06:27 19:07		06:55 18:19	06:28 16:40	06:58 16:28
12	05:34 20:17	06:00 19:50	07:21 (17) 07:46 (17)	06:28 19:05		06:56 18:18	06:29 16:40	06:59 16:28
13	05:35 20:17	06:01 19:49	07:20 (17) 07:47 (17)	06:29 19:03		06:57 18:16	06:30 16:39	07:00 16:28
14	05:36 20:16	06:02 19:48	07:19 (17) 07:48 (17)	06:30 19:02		06:58 18:15	06:31 16:38	07:00 16:29
15	05:36 20:16	06:41 (18) 06:48 (18)	06:03 19:46	07:18 (17) 07:49 (17)	06:31 19:00	06:59 18:13	06:32 16:37	07:01 16:29
16	05:37 20:15	06:39 (18) 06:50 (18)	06:04 19:45	07:18 (17) 07:50 (17)	06:32 18:59	07:00 18:12	06:33 16:36	07:02 16:29
17	05:38 20:15	06:39 (18) 06:52 (18)	06:05 19:44	07:16 (17) 07:49 (17)	06:33 18:57	07:01 18:10	06:34 16:36	07:03 16:29
18	05:39 20:14	06:38 (18) 06:53 (18)	06:06 19:43	07:16 (17) 07:49 (17)	06:33 18:55	07:02 18:09	06:35 16:35	07:03 16:30
19	05:39 20:13	06:37 (18) 06:53 (18)	06:06 19:41	07:15 (17) 07:50 (17)	06:34 18:54	07:03 18:08	06:36 16:34	07:04 16:30
20	05:40 20:13	06:36 (18) 06:54 (18)	06:07 19:40	07:15 (17) 07:50 (17)	06:35 18:52	07:04 18:06	06:38 16:34	07:04 16:30
21	05:41 20:12	06:36 (18) 06:55 (18)	06:08 19:38	07:15 (17) 07:50 (17)	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	05:42 20:11	06:36 (18) 06:56 (18)	06:09 19:37	07:15 (17) 07:50 (17)	06:37 18:49	07:06 18:03	06:40 16:32	07:05 16:31
23	05:42 20:11	06:34 (18) 06:56 (18)	06:10 19:36	07:15 (17) 07:50 (17)	06:38 18:47	07:07 18:02	06:41 16:32	07:06 16:32
24	05:43 20:10	06:34 (18) 06:56 (18)	06:11 19:34	07:14 (17) 07:48 (17)	06:39 18:46	07:08 18:01	06:42 16:31	07:06 16:32
25	05:44 20:09	06:34 (18) 06:57 (18)	06:12 19:33	07:14 (17) 07:48 (17)	06:40 18:44	07:09 17:59	06:43 16:31	07:07 16:33
26	05:45 20:08	06:34 (18) 06:57 (18)	06:13 19:31	07:15 (17) 07:47 (17)	06:41 18:43	07:10 17:58	06:44 16:30	07:07 16:34
27	05:46 20:07	06:34 (18) 06:58 (18)	06:14 19:30	07:15 (17) 07:47 (17)	06:42 18:41	07:11 16:57	06:45 16:30	07:08 16:34
28	05:47 20:06	06:33 (18) 06:57 (18)	06:15 19:28	07:16 (17) 07:46 (17)	06:42 18:39	07:12 16:56	06:46 16:30	07:08 16:35
29	05:48 20:06	06:34 (18) 06:57 (18)	06:15 19:27	07:17 (17) 07:44 (17)	06:43 18:38	07:13 16:54	06:47 16:29	07:08 16:36
30	05:48 20:05	06:34 (18) 06:57 (18)	06:16 19:25	07:18 (17) 07:43 (17)	06:44 18:36	07:14 16:53	06:48 16:29	07:09 16:36
31	05:49 20:04	06:34 (18) 06:57 (18)	06:17 19:24	07:19 (17) 07:40 (17)		07:15 16:52		07:09 16:37
Potential sun hours	453	424	374	347	303	294		
Total, worst case	326	818	27					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BY - R37 CU5
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:58 17:09	06:24 17:42	06:37 19:13	05:54 19:42	08:11 (17) 20:09	06:31 (18) 08:56 (17)
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	05:52 19:43	08:11 (17) 20:10	06:31 (18) 08:55 (17)
3	07:09 16:39	06:57 17:12	06:21 17:44	06:33 19:15	05:51 19:44	08:11 (17) 20:11	06:31 (18) 08:54 (17)
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	08:11 (17) 20:11	06:31 (18) 08:53 (17)
5	07:09 16:41	06:55 17:14	06:18 17:46	06:30 19:17	08:48 (17) 09:02 (17) 19:46	05:49 08:11 (17) 20:12	06:31 (18) 08:53 (17)
6	07:09 16:41	06:54 17:15	06:17 17:47	06:29 19:18	08:42 (17) 09:08 (17) 19:47	05:48 08:11 (17) 20:13	06:31 (18) 08:52 (17)
7	07:09 16:42	06:53 17:16	06:15 17:48	06:27 19:19	08:38 (17) 09:10 (17) 19:48	05:47 08:11 (17) 20:13	06:30 (18) 08:50 (17)
8	07:09 16:43	06:52 17:17	06:14 17:49	06:26 19:20	08:35 (17) 09:13 (17) 19:49	05:45 08:12 (17) 20:14	06:30 (18) 08:49 (17)
9	07:09 16:44	06:51 17:19	06:12 17:50	06:24 19:21	08:32 (17) 09:14 (17) 19:50	05:44 08:12 (17) 20:14	06:31 (18) 08:48 (17)
10	07:09 16:45	06:50 17:20	06:11 17:51	06:23 19:22	08:31 (17) 09:16 (17) 19:51	05:43 08:12 (17) 20:15	06:31 (18) 08:47 (17)
11	07:09 16:46	06:49 17:21	06:09 17:52	06:21 19:23	08:28 (17) 09:17 (17) 19:52	05:42 08:12 (17) 20:15	06:31 (18) 08:45 (17)
12	07:09 16:47	06:48 17:22	06:08 17:53	06:20 19:24	08:27 (17) 09:18 (17) 19:53	05:41 08:12 (17) 20:16	06:31 (18) 07:06 (18)
13	07:09 16:48	06:46 17:23	06:06 17:54	06:18 19:25	08:24 (17) 09:19 (17) 19:53	05:40 08:13 (17) 20:16	06:31 (18) 07:07 (18)
14	07:09 16:49	06:45 17:24	06:05 17:55	06:17 19:26	08:23 (17) 09:20 (17) 19:54	05:39 08:13 (17) 20:17	06:31 (18) 07:07 (18)
15	07:08 16:50	06:44 17:25	06:03 17:56	06:15 19:26	08:21 (17) 09:20 (17) 19:55	05:39 08:13 (17) 20:17	06:31 (18) 07:07 (18)
16	07:08 16:51	06:43 17:27	06:02 17:57	06:14 19:27	08:21 (17) 09:21 (17) 19:56	05:38 08:14 (17) 20:18	06:32 (18) 07:07 (18)
17	07:08 16:52	06:42 17:28	06:00 17:58	06:12 19:28	08:20 (17) 09:21 (17) 19:57	05:37 08:15 (17) 20:18	06:32 (18) 07:07 (18)
18	07:07 16:53	06:40 17:29	05:59 17:59	06:11 19:29	08:18 (17) 09:21 (17) 19:58	05:36 08:15 (17) 20:18	06:32 (18) 07:08 (18)
19	07:07 16:54	06:39 17:30	05:57 18:00	06:10 19:30	08:18 (17) 09:21 (17) 19:59	05:35 08:15 (17) 20:19	06:32 (18) 07:08 (18)
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	08:16 (17) 09:21 (17) 20:00	05:34 08:17 (17) 20:19	06:33 (18) 07:09 (18)
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	08:16 (17) 09:21 (17) 20:01	05:34 08:17 (17) 20:19	06:33 (18) 07:09 (18)
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	08:15 (17) 09:21 (17) 20:01	05:33 06:40 (18) 20:19	06:33 (18) 07:09 (18)
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	08:14 (17) 09:20 (17) 20:02	05:32 06:39 (18) 20:19	06:33 (18) 07:09 (18)
24	07:04 17:00	06:33 17:35	05:49 18:05	06:03 19:35	08:14 (17) 09:20 (17) 20:03	05:31 06:37 (18) 20:20	06:33 (18) 07:09 (18)
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	08:13 (17) 09:20 (17) 20:04	05:31 06:35 (18) 20:20	06:34 (18) 07:10 (18)
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	08:13 (17) 09:20 (17) 20:05	05:30 06:35 (18) 20:20	06:34 (18) 07:09 (18)
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	08:12 (17) 09:19 (17) 20:06	05:30 06:33 (18) 20:20	06:33 (18) 07:09 (18)
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	08:12 (17) 09:19 (17) 20:06	05:29 06:33 (18) 20:20	06:34 (18) 07:10 (18)
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	08:12 (17) 09:19 (17) 20:07	05:28 06:32 (18) 20:20	06:34 (18) 07:10 (18)
30	07:00 17:07		05:40 18:11	05:55 19:41	08:12 (17) 09:19 (17) 20:08	05:28 06:32 (18) 20:20	06:35 (18) 07:10 (18)
31	06:59 17:08		06:38 19:12		05:27 20:09	06:31 (18) 08:56 (17)	
Potential sun hours	302	310	370	396	443	446	1259
Total, worst case				1445	1841		

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BY - R37 CU5

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20 38	06:35 (18) 08:48 (17)	05:50 20:03 59	08:23 (17) 09:22 (17)	06:18 19:22 49	08:27 (17) 09:16 (17)	06:45 18:35	06:16 16:51	06:49 16:29	
2	05:28 20:20 43	06:36 (18) 08:51 (17)	05:51 20:02 59	08:23 (17) 09:22 (17)	06:19 19:21 46	08:28 (17) 09:14 (17)	06:46 18:33	06:18 16:50	06:50 16:28	
3	05:29 20:20 46	06:36 (18) 08:53 (17)	05:52 20:01 60	08:22 (17) 09:22 (17)	06:20 19:19 42	08:30 (17) 09:12 (17)	06:47 18:31	06:19 16:49	06:51 16:28	
4	05:29 20:19 50	06:36 (18) 08:55 (17)	05:53 20:00 62	08:21 (17) 09:23 (17)	06:21 19:18 38	08:32 (17) 09:10 (17)	06:48 18:30	06:20 16:47	06:52 16:28	
5	05:30 20:19 51	06:36 (18) 08:56 (17)	05:54 19:58 63	08:21 (17) 09:24 (17)	06:22 19:16 32	08:35 (17) 09:07 (17)	06:49 18:28	06:21 16:46	06:53 16:28	
6	05:30 20:19 52	06:37 (18) 08:57 (17)	05:55 19:57 63	08:21 (17) 09:24 (17)	06:23 19:15 26	08:38 (17) 09:04 (17)	06:50 18:27	06:22 16:45	06:54 16:28	
7	05:31 20:19 54	06:37 (18) 08:58 (17)	05:55 19:56 64	08:21 (17) 09:25 (17)	06:24 19:13 16	08:42 (17) 08:58 (17)	06:51 18:25	06:23 16:44	06:55 16:28	
8	05:32 20:19 56	06:38 (18) 09:00 (17)	05:56 19:55 64	08:21 (17) 09:25 (17)	06:24 19:11		06:52 18:24	06:24 16:43	06:56 16:28	
9	05:32 20:18 57	06:38 (18) 09:00 (17)	05:57 19:54 65	08:21 (17) 09:26 (17)	06:25 19:10		06:53 18:22	06:25 16:42	06:56 16:28	
10	05:33 20:18 58	06:39 (18) 09:02 (17)	05:58 19:53 65	08:20 (17) 09:25 (17)	06:26 19:08		06:54 18:21	06:26 16:41	06:57 16:28	
11	05:33 20:18 59	06:39 (18) 09:03 (17)	05:59 19:52 66	08:20 (17) 09:26 (17)	06:27 19:07		06:55 18:19	06:28 16:40	06:58 16:28	
12	05:34 20:17 61	06:39 (18) 09:04 (17)	06:00 19:50 66	08:20 (17) 09:26 (17)	06:28 19:05		06:56 18:18	06:29 16:40	06:59 16:28	
13	05:35 20:17 61	06:40 (18) 09:05 (17)	06:01 19:49 66	08:20 (17) 09:26 (17)	06:29 19:03		06:57 18:16	06:30 16:39	07:00 16:28	
14	05:36 20:16 62	06:41 (18) 09:07 (17)	06:02 19:48 67	08:20 (17) 09:27 (17)	06:30 19:02		06:58 18:15	06:31 16:38	07:00 16:28	
15	05:36 20:16 63	06:41 (18) 09:07 (17)	06:03 19:46 67	08:20 (17) 09:27 (17)	06:31 19:00		06:59 18:13	06:32 16:37	07:01 16:29	
16	05:37 20:15 63	06:42 (18) 09:08 (17)	06:04 19:45 67	08:20 (17) 09:27 (17)	06:32 18:59		07:00 18:12	06:33 16:36	07:02 16:29	
17	05:38 20:15 63	06:44 (18) 09:10 (17)	06:05 19:44 67	08:19 (17) 09:26 (17)	06:32 18:57		07:01 18:10	06:34 16:36	07:03 16:29	
18	05:38 20:14 63	06:45 (18) 09:11 (17)	06:05 19:43 67	08:19 (17) 09:26 (17)	06:33 18:55		07:02 18:09	06:35 16:35	07:03 16:30	
19	05:39 20:13 62	06:45 (18) 09:11 (17)	06:06 19:41 67	08:19 (17) 09:26 (17)	06:34 18:54		07:03 18:08	06:36 16:34	07:04 16:30	
20	05:40 20:13 61	06:47 (18) 09:12 (17)	06:07 19:40 66	08:20 (17) 09:26 (17)	06:35 18:52		07:04 18:06	06:37 16:34	07:04 16:30	
21	05:41 20:12 59	06:49 (18) 09:13 (17)	06:08 19:38 66	08:20 (17) 09:26 (17)	06:36 18:51		07:05 18:05	06:39 16:33	07:05 16:31	
22	05:42 20:11 54	06:52 (18) 09:14 (17)	06:09 19:37 65	08:21 (17) 09:26 (17)	06:37 18:49		07:06 18:03	06:40 16:32	07:05 16:31	
23	05:42 20:11 48	08:26 (17) 09:14 (17)	06:10 19:36 65	08:21 (17) 09:26 (17)	06:38 18:47		07:07 18:02	06:41 16:32	07:06 16:32	
24	05:43 20:10 49	08:26 (17) 09:15 (17)	06:11 19:34 63	08:21 (17) 09:24 (17)	06:39 18:46		07:08 18:01	06:42 16:31	07:06 16:32	
25	05:44 20:09 50	08:26 (17) 09:16 (17)	06:12 19:33 63	08:21 (17) 09:24 (17)	06:40 18:44		07:09 17:59	06:43 16:31	07:07 16:33	
26	05:45 20:08 51	08:26 (17) 09:17 (17)	06:13 19:31 61	08:22 (17) 09:23 (17)	06:41 18:43		07:10 17:58	06:44 16:30	07:07 16:34	
27	05:46 20:07 53	08:25 (17) 09:18 (17)	06:14 19:30 59	08:23 (17) 09:22 (17)	06:42 18:41		06:11 16:57	06:45 16:30	07:08 16:34	
28	05:47 20:06 54	08:24 (17) 09:18 (17)	06:15 19:28 59	08:23 (17) 09:22 (17)	06:42 18:39		06:12 16:56	06:46 16:30	07:08 16:35	
29	05:47 20:06 55	08:24 (17) 09:19 (17)	06:15 19:27 57	08:24 (17) 09:21 (17)	06:43 18:38		06:13 16:54	06:47 16:29	07:08 16:36	
30	05:48 20:05 57	08:23 (17) 09:20 (17)	06:16 19:25 55	08:25 (17) 09:20 (17)	06:44 18:36		06:14 16:53	06:48 16:29	07:09 16:36	
31	05:49 20:04 58	08:23 (17) 09:21 (17)	06:17 19:24 51	08:26 (17) 09:17 (17)			06:15 16:52		07:09 16:37	
Potential sun hours	453		424		374		347		303	294
Total, worst case	1711		1954		249					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: BZ - R38 CU6
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:58 17:09	06:24 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	06:16 16:51	06:49 16:29
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	05:52 19:43	05:27 20:10	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:28
3	07:09 16:39	06:57 17:12	06:21 17:44	06:33 19:15	05:51 19:44	05:26 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	06:19 16:49	06:51 16:28
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:11	05:29 20:19	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:47	06:52 16:28
5	07:09 16:41	06:55 17:14	06:18 17:46	06:30 19:17	05:49 19:46	05:26 20:12	05:30 20:19	05:54 19:58	06:22 19:16	06:49 18:28	06:21 16:46	06:53 16:28
6	07:09 16:41	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:25 20:13	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	06:22 16:45	06:54 16:28
7	07:09 16:42	06:53 17:16	06:15 17:48	06:27 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	06:23 16:44	06:55 16:28
8	07:09 16:43	06:52 17:17	06:14 17:49	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	06:24 16:43	06:56 16:28
9	07:09 16:44	06:51 17:19	06:12 17:50	06:24 19:21	05:44 19:50	05:25 20:14	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	06:25 16:42	06:56 16:28
10	07:09 16:45	06:50 17:20	06:11 17:51	06:23 19:22	05:43 19:51	05:24 20:15	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	06:26 16:41	06:57 16:28
11	07:09 16:46	06:49 17:21	06:09 17:52	06:21 19:23	05:42 19:52	05:24 20:15	05:34 20:17	05:59 19:51	06:27 19:07	06:55 18:19	06:28 16:40	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:53	06:20 19:24	05:41 19:52	05:24 20:16	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:46 17:23	06:06 17:54	06:18 19:25	05:40 19:53	05:24 20:16	05:35 20:17	06:01 19:49	06:29 19:03	06:57 18:16	06:30 16:39	07:00 16:28
14	07:09 16:49	06:45 17:24	06:05 17:55	06:17 19:26	05:39 19:54	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:00 16:28
15	07:08 16:50	06:44 17:25	06:03 17:56	06:15 19:26	05:39 19:55	05:24 20:17	05:36 20:16	06:03 19:46	06:31 19:00	06:59 18:13	06:32 16:37	07:01 16:29
16	07:08 16:51	06:43 17:27	06:02 17:57	06:14 19:27	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:36	07:02 16:29
17	07:08 16:52	06:42 17:28	06:00 17:58	06:12 19:28	05:37 19:57	05:24 20:18	05:38 20:15	06:05 19:44	06:32 18:57	07:01 18:10	06:34 16:36	07:03 16:29
18	07:07 16:53	06:40 17:29	05:59 17:59	06:11 19:29	05:36 19:58	05:24 20:18	05:38 20:14	06:05 19:42	06:33 18:55	07:02 18:09	06:35 16:35	07:03 16:30
19	07:07 16:54	06:39 17:30	05:57 18:00	06:10 19:30	05:35 19:59	05:24 20:19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	06:36 16:34	07:04 16:30
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	05:34 20:00	05:25 20:19	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	06:37 16:34	07:04 16:30
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	05:34 20:01	05:25 20:19	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	05:33 20:01	05:25 20:19	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	06:40 16:32	07:05 16:31
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	05:32 20:02	05:25 20:19	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:35	05:49 18:05	06:03 19:35	05:31 20:03	05:25 20:20	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:31	07:06 16:32
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	06:43 16:31	07:07 16:33
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:30	07:07 16:34
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	05:30 20:06	05:26 20:20	05:46 20:07	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30	07:08 16:34
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	05:29 20:06	05:27 20:20	05:47 20:06	06:15 19:28	06:42 18:39	07:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	05:28 20:07	05:27 20:20	05:47 20:05	06:15 19:27	06:43 18:38	07:13 16:54	06:47 16:29	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:27 20:20	05:48 20:05	06:16 19:25	06:44 18:36	07:14 16:53	06:48 16:29	07:09 16:36
31	06:59 17:08		06:38 19:12		05:27 20:09		05:49 20:04	06:17 19:24		06:15 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case												

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: CA - R39 CU6
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:58 17:09	06:24 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	06:16 16:51	06:49 16:29
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	05:52 19:43	05:27 20:10	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:28
3	07:09 16:39	06:57 17:12	06:21 17:44	06:33 19:15	05:51 19:44	05:26 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	06:19 16:49	06:51 16:28
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:11	05:29 20:19	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:47	06:52 16:28
5	07:09 16:41	06:55 17:14	06:18 17:46	06:30 19:17	05:49 19:46	05:26 20:12	05:30 20:19	05:54 19:58	06:22 19:16	06:49 18:28	06:21 16:46	06:53 16:28
6	07:09 16:41	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:25 20:13	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	06:22 16:45	06:54 16:28
7	07:09 16:42	06:53 17:16	06:15 17:48	06:27 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	06:23 16:44	06:55 16:28
8	07:09 16:43	06:52 17:17	06:14 17:49	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	06:24 16:43	06:56 16:28
9	07:09 16:44	06:51 17:19	06:12 17:50	06:24 19:21	05:44 19:50	05:25 20:14	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	06:25 16:42	06:56 16:28
10	07:09 16:45	06:50 17:20	06:11 17:51	06:23 19:22	05:43 19:51	05:24 20:15	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	06:26 16:41	06:57 16:28
11	07:09 16:46	06:49 17:21	06:09 17:52	06:21 19:23	05:42 19:52	05:24 20:15	05:34 20:17	05:59 19:51	06:27 19:07	06:55 18:19	06:28 16:40	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:53	06:20 19:24	05:41 19:52	05:24 20:16	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:46 17:23	06:06 17:54	06:18 19:25	05:40 19:53	05:24 20:16	05:35 20:17	06:01 19:49	06:29 19:03	06:57 18:16	06:30 16:39	07:00 16:28
14	07:09 16:49	06:45 17:24	06:05 17:55	06:17 19:26	05:39 19:54	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:00 16:28
15	07:08 16:50	06:44 17:25	06:03 17:56	06:15 19:26	05:39 19:55	05:24 20:17	05:36 20:16	06:03 19:46	06:31 19:00	06:59 18:13	06:32 16:37	07:01 16:29
16	07:08 16:51	06:43 17:27	06:02 17:57	06:14 19:27	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:36	07:02 16:29
17	07:08 16:52	06:42 17:28	06:00 17:58	06:12 19:28	05:37 19:57	05:24 20:18	05:38 20:15	06:05 19:44	06:32 18:57	07:01 18:10	06:34 16:36	07:03 16:29
18	07:07 16:53	06:40 17:29	05:59 17:59	06:11 19:29	05:36 19:58	05:24 20:18	05:38 20:14	06:05 19:42	06:33 18:55	07:02 18:09	06:35 16:35	07:03 16:30
19	07:07 16:54	06:39 17:30	05:57 18:00	06:10 19:30	05:35 19:59	05:24 20:19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	06:36 16:34	07:04 16:30
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	05:34 20:00	05:25 20:19	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	06:37 16:34	07:04 16:30
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	05:34 20:01	05:25 20:19	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	05:33 20:01	05:25 20:19	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	06:40 16:32	07:05 16:31
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	05:32 20:02	05:25 20:19	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:35	05:49 18:05	06:03 19:35	05:31 20:03	05:25 20:20	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:31	07:06 16:32
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	06:43 16:31	07:07 16:33
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:30	07:07 16:34
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	05:30 20:06	05:26 20:20	05:46 20:07	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30	07:08 16:34
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	05:29 20:06	05:27 20:20	05:47 20:06	06:15 19:28	06:42 18:39	07:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	05:28 20:07	05:27 20:20	05:47 20:05	06:15 19:27	06:43 18:38	07:13 16:54	06:47 16:29	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:27 20:20	05:48 20:05	06:16 19:25	06:44 18:36	07:14 16:53	06:48 16:29	07:09 16:36
31	06:59 17:08		06:38 19:12		05:27 20:09		05:49 20:04	06:17 19:24		06:15 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case												

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: CB - R40 CU6
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:58 17:09	06:24 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	06:16 16:51	06:49 16:29
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	05:52 19:43	05:27 20:10	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:28
3	07:09 16:39	06:57 17:12	06:21 17:44	06:33 19:15	05:51 19:44	05:26 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	06:19 16:49	06:51 16:28
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:11	05:29 20:19	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:47	06:52 16:28
5	07:09 16:41	06:55 17:14	06:18 17:46	06:30 19:17	05:49 19:46	05:26 20:12	05:30 20:19	05:54 19:58	06:22 19:16	06:49 18:28	06:21 16:46	06:53 16:28
6	07:09 16:41	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:25 20:13	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	06:22 16:45	06:54 16:28
7	07:09 16:42	06:53 17:16	06:15 17:48	06:27 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	06:23 16:44	06:55 16:28
8	07:09 16:43	06:52 17:17	06:14 17:49	06:26 19:20	05:45 19:49	05:25 20:14	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	06:24 16:43	06:56 16:28
9	07:09 16:44	06:51 17:19	06:12 17:50	06:24 19:21	05:44 19:50	05:25 20:14	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	06:25 16:42	06:56 16:28
10	07:09 16:45	06:50 17:20	06:11 17:51	06:23 19:22	05:43 19:51	05:24 20:15	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	06:26 16:41	06:57 16:28
11	07:09 16:46	06:49 17:21	06:09 17:52	06:21 19:23	05:42 19:52	05:24 20:15	05:34 20:17	05:59 19:51	06:27 19:07	06:55 18:19	06:28 16:40	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:53	06:20 19:24	05:41 19:52	05:24 20:16	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:46 17:23	06:06 17:54	06:18 19:25	05:40 19:53	05:24 20:16	05:35 20:17	06:01 19:49	06:29 19:03	06:57 18:16	06:30 16:39	07:00 16:28
14	07:09 16:49	06:45 17:24	06:05 17:55	06:17 19:26	05:39 19:54	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:00 16:28
15	07:08 16:50	06:44 17:25	06:03 17:56	06:15 19:26	05:39 19:55	05:24 20:17	05:36 20:16	06:03 19:46	06:31 19:00	06:59 18:13	06:32 16:37	07:01 16:29
16	07:08 16:51	06:43 17:27	06:02 17:57	06:14 19:27	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:36	07:02 16:29
17	07:08 16:52	06:42 17:28	06:00 17:58	06:12 19:28	05:37 19:57	05:24 20:18	05:38 20:15	06:05 19:44	06:32 18:57	07:01 18:10	06:34 16:36	07:03 16:29
18	07:07 16:53	06:40 17:29	05:59 17:59	06:11 19:29	05:36 19:58	05:24 20:18	05:38 20:14	06:05 19:42	06:33 18:55	07:02 18:09	06:35 16:35	07:03 16:30
19	07:07 16:54	06:39 17:30	05:57 18:00	06:10 19:30	05:35 19:59	05:24 20:19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:07	06:36 16:34	07:04 16:30
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	05:34 20:00	05:25 20:19	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	06:37 16:34	07:04 16:30
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	05:34 20:01	05:25 20:19	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	05:33 20:01	05:25 20:19	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	06:40 16:32	07:05 16:31
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	05:32 20:02	05:25 20:19	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:35	05:49 18:05	06:03 19:35	05:31 20:03	05:25 20:20	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:31	07:06 16:32
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	06:43 16:31	07:07 16:33
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:30	07:07 16:34
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	05:30 20:06	05:26 20:20	05:46 20:07	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30	07:08 16:34
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	05:29 20:06	05:27 20:20	05:47 20:06	06:15 19:28	06:42 18:39	07:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	05:28 20:07	05:27 20:20	05:47 20:05	06:15 19:27	06:43 18:38	07:13 16:54	06:47 16:29	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:27 20:20	05:48 20:05	06:16 19:25	06:44 18:36	07:14 16:53	06:48 16:29	07:09 16:36
31	06:59 17:08		06:38 19:12		05:27 20:09		05:49 20:04	06:17 19:24		06:15 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case												

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: CC - R41 CU6
Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:58 17:09	06:24 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	06:16 16:51	06:49 16:29
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	05:52 19:43	05:27 20:10	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:28
3	07:09 16:39	06:57 17:12	06:21 17:44	06:33 19:15	05:51 19:44	05:26 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	06:19 16:49	06:51 16:28
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:11	05:29 20:19	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:47	06:52 16:28
5	07:09 16:41	06:55 17:14	06:18 17:46	06:30 19:17	05:49 19:46	05:26 20:12	05:30 20:19	05:54 19:58	06:22 19:16	06:49 18:28	06:21 16:46	06:53 16:28
6	07:09 16:41	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:25 20:13	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	06:22 16:45	06:54 16:28
7	07:09 16:42	06:53 17:16	06:15 17:48	06:27 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	06:23 16:44	06:55 16:28
8	07:09 16:43	06:52 17:17	06:14 17:49	06:26 19:20	05:45 19:49	05:25 20:14	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	06:24 16:43	06:56 16:28
9	07:09 16:44	06:51 17:19	06:12 17:50	06:24 19:21	05:44 19:50	05:25 20:14	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	06:25 16:42	06:56 16:28
10	07:09 16:45	06:50 17:20	06:11 17:51	06:23 19:22	05:43 19:51	05:24 20:15	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	06:26 16:41	06:57 16:28
11	07:09 16:46	06:49 17:21	06:09 17:52	06:21 19:23	05:42 19:52	05:24 20:15	05:33 20:17	05:59 19:51	06:27 19:07	06:55 18:19	06:28 16:40	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:53	06:20 19:24	05:41 19:52	05:24 20:16	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:46 17:23	06:06 17:54	06:18 19:25	05:40 19:53	05:24 20:16	05:35 20:17	06:01 19:49	06:29 19:03	06:57 18:16	06:30 16:39	07:00 16:28
14	07:09 16:49	06:45 17:24	06:05 17:55	06:17 19:26	05:39 19:54	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:00 16:28
15	07:08 16:50	06:44 17:25	06:03 17:56	06:15 19:26	05:39 19:55	05:24 20:17	05:36 20:16	06:03 19:46	06:31 19:00	06:59 18:13	06:32 16:37	07:01 16:29
16	07:08 16:51	06:43 17:27	06:02 17:57	06:14 19:27	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:36	07:02 16:29
17	07:08 16:52	06:42 17:28	06:00 17:58	06:12 19:28	05:37 19:57	05:24 20:18	05:38 20:15	06:05 19:44	06:32 18:57	07:01 18:10	06:34 16:36	07:03 16:29
18	07:07 16:53	06:40 17:29	05:59 17:59	06:11 19:29	05:36 19:58	05:24 20:18	05:38 20:14	06:05 19:42	06:33 18:55	07:02 18:09	06:35 16:35	07:03 16:30
19	07:07 16:54	06:39 17:30	05:57 18:00	06:09 19:30	05:35 19:59	05:24 20:19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:07	06:36 16:34	07:04 16:30
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	05:34 20:00	05:25 20:19	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	06:37 16:34	07:04 16:30
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	05:34 20:01	05:25 20:19	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	05:33 20:01	05:25 20:19	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	06:40 16:32	07:05 16:31
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	05:32 20:02	05:25 20:19	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:35	05:49 18:05	06:03 19:35	05:31 20:03	05:25 20:20	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:31	07:06 16:32
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	06:43 16:31	07:07 16:33
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:30	07:07 16:34
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	05:30 20:06	05:26 20:20	05:46 20:07	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30	07:08 16:34
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	05:29 20:06	05:27 20:20	05:47 20:06	06:15 19:28	06:42 18:39	07:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	05:28 20:07	05:27 20:20	05:47 20:05	06:15 19:27	06:43 18:38	07:13 16:54	06:47 16:29	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:27 20:20	05:48 20:05	06:16 19:25	06:44 18:36	07:14 16:53	06:48 16:29	07:09 16:36
31	06:59 17:08		06:38 19:12		05:27 20:09		05:49 20:04	06:17 19:24		06:15 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case												

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo worst case Shadow receptor: CD - R42 CU6
Assumptions for shadow calculations

Reference year for calendar 2024

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

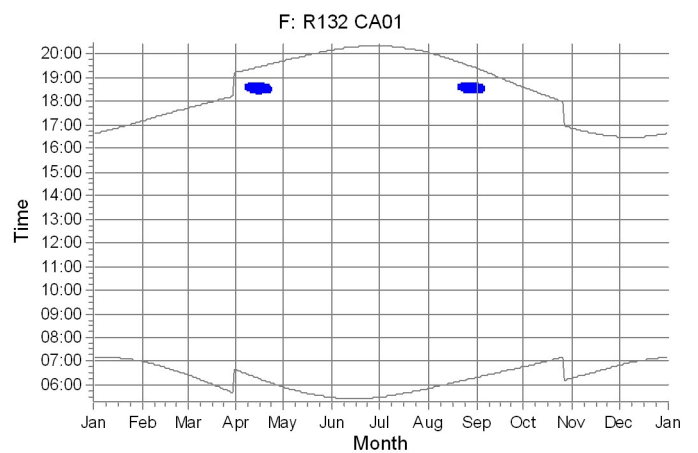
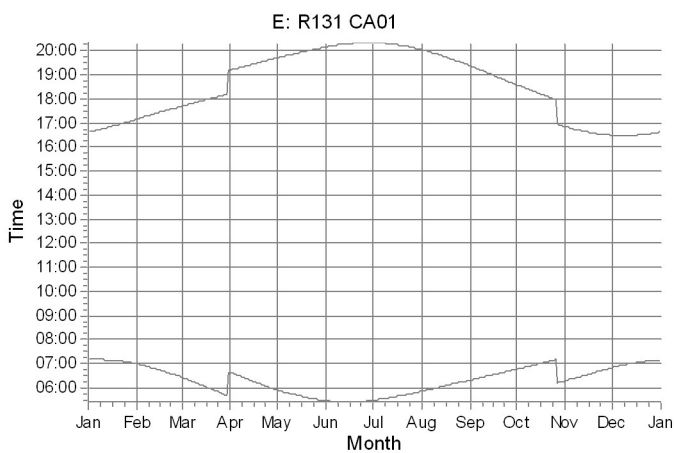
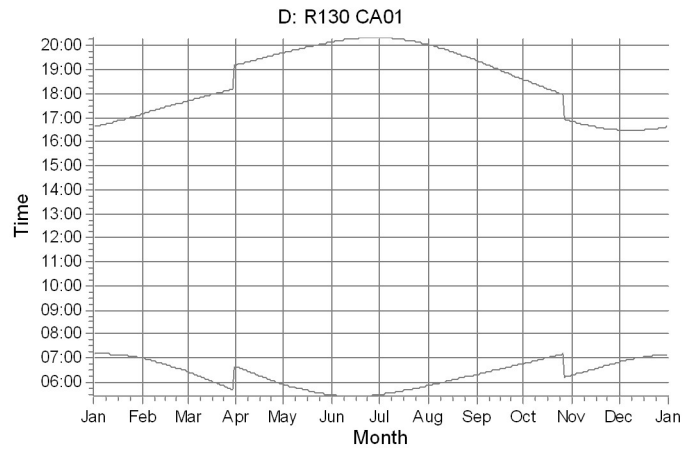
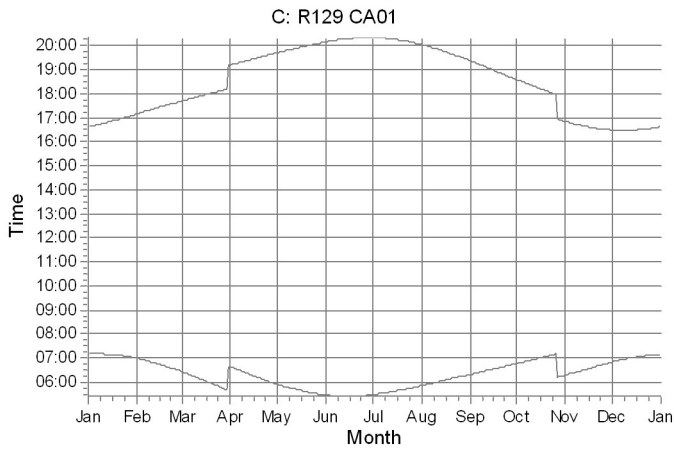
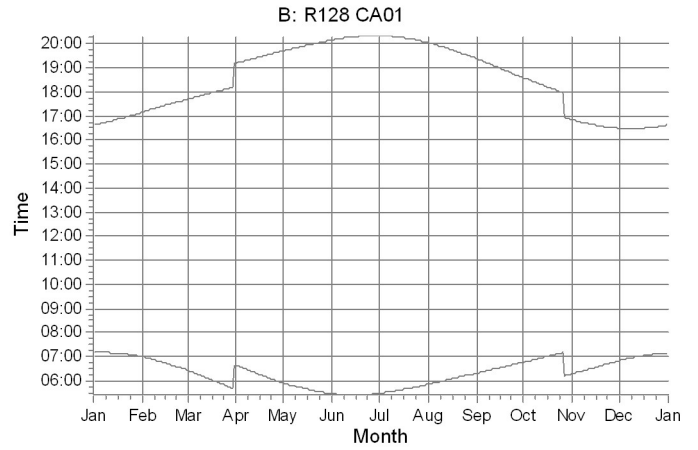
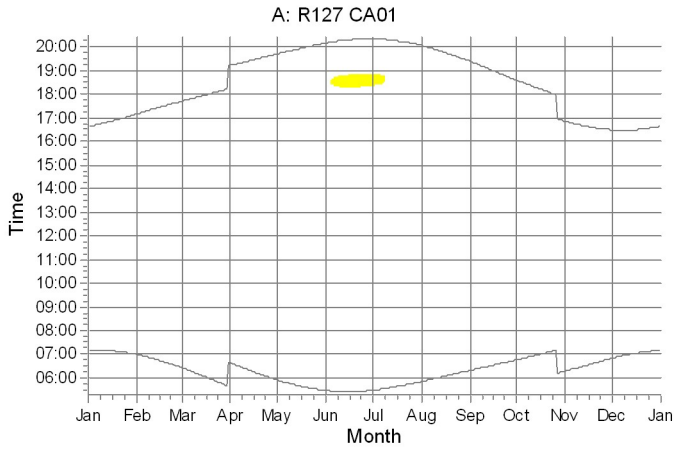
	January	February	March	April	May	June	July	August	September	October	November	December
1	07:09 16:37	06:58 17:09	06:24 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	06:16 16:51	06:49 16:29
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	05:52 19:43	05:27 20:10	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:28
3	07:09 16:39	06:57 17:12	06:21 17:44	06:33 19:15	05:51 19:44	05:26 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	06:19 16:49	06:51 16:28
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:11	05:29 20:19	05:53 19:59	06:21 19:18	06:48 18:30	06:20 16:47	06:52 16:28
5	07:09 16:41	06:55 17:14	06:18 17:46	06:30 19:17	05:49 19:46	05:26 20:12	05:30 20:19	05:54 19:58	06:22 19:16	06:49 18:28	06:21 16:46	06:53 16:28
6	07:09 16:41	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:25 20:13	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	06:22 16:45	06:54 16:28
7	07:09 16:42	06:53 17:16	06:15 17:48	06:27 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	06:23 16:44	06:55 16:28
8	07:09 16:43	06:52 17:17	06:14 17:49	06:26 19:20	05:45 19:49	05:25 20:14	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	06:24 16:43	06:56 16:28
9	07:09 16:44	06:51 17:19	06:12 17:50	06:24 19:21	05:44 19:50	05:25 20:14	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	06:25 16:42	06:56 16:28
10	07:09 16:45	06:50 17:20	06:11 17:51	06:23 19:22	05:43 19:51	05:24 20:15	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	06:26 16:41	06:57 16:28
11	07:09 16:46	06:49 17:21	06:09 17:52	06:21 19:23	05:42 19:52	05:24 20:15	05:33 20:17	05:59 19:51	06:27 19:07	06:55 18:19	06:27 16:40	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:53	06:20 19:24	05:41 19:52	05:24 20:16	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:46 17:23	06:06 17:54	06:18 19:25	05:40 19:53	05:24 20:16	05:35 20:17	06:01 19:49	06:29 19:03	06:57 18:16	06:30 16:39	07:00 16:28
14	07:09 16:49	06:45 17:24	06:05 17:55	06:17 19:25	05:39 19:54	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:00 16:28
15	07:08 16:50	06:44 17:25	06:03 17:56	06:15 19:26	05:38 19:55	05:24 20:17	05:36 20:16	06:03 19:46	06:31 19:00	06:59 18:13	06:32 16:37	07:01 16:29
16	07:08 16:51	06:43 17:27	06:02 17:57	06:14 19:27	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:36	07:02 16:29
17	07:08 16:52	06:42 17:28	06:00 17:58	06:12 19:28	05:37 19:57	05:24 20:18	05:38 20:15	06:05 19:44	06:32 18:57	07:01 18:10	06:34 16:36	07:03 16:29
18	07:07 16:53	06:40 17:29	05:59 17:59	06:11 19:29	05:36 19:58	05:24 20:18	05:38 20:14	06:05 19:42	06:33 18:55	07:02 18:09	06:35 16:35	07:03 16:30
19	07:07 16:54	06:39 17:30	05:57 18:00	06:09 19:30	05:35 19:59	05:24 20:19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:07	06:36 16:34	07:04 16:30
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	05:34 20:00	05:24 20:19	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	06:37 16:34	07:04 16:30
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	05:33 20:01	05:25 20:19	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	05:33 20:01	05:25 20:19	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	06:40 16:32	07:05 16:31
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	05:32 20:02	05:25 20:19	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:35	05:49 18:05	06:03 19:35	05:31 20:03	05:25 20:20	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:31	07:06 16:32
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	06:43 16:31	07:07 16:33
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:30	07:07 16:34
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	05:29 20:06	05:26 20:20	05:46 20:07	06:14 19:30	06:41 18:41	07:11 16:57	06:45 16:30	07:08 16:34
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	05:29 20:06	05:27 20:20	05:47 20:06	06:15 19:28	06:42 18:39	07:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	05:28 20:07	05:27 20:20	05:47 20:05	06:15 19:27	06:43 18:38	07:13 16:54	06:47 16:29	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:27 20:20	05:48 20:05	06:16 19:25	06:44 18:36	07:14 16:53	06:48 16:29	07:09 16:36
31	06:59 17:08		06:38 19:12		05:27 20:09		05:49 20:04	06:17 19:24		06:15 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case												

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar, graphical

Calculation: Bufalo worst case

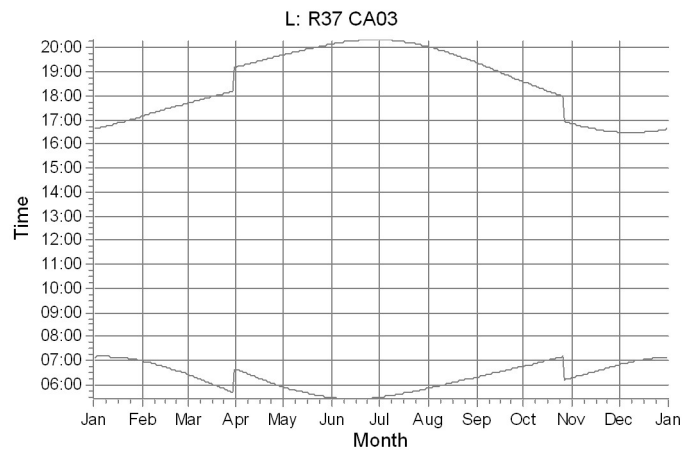
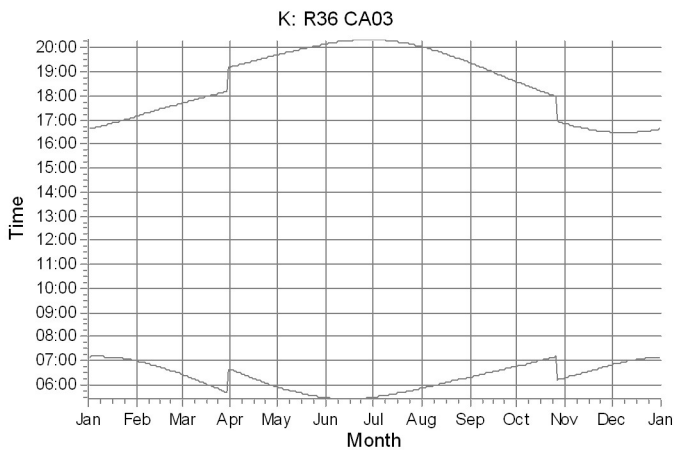
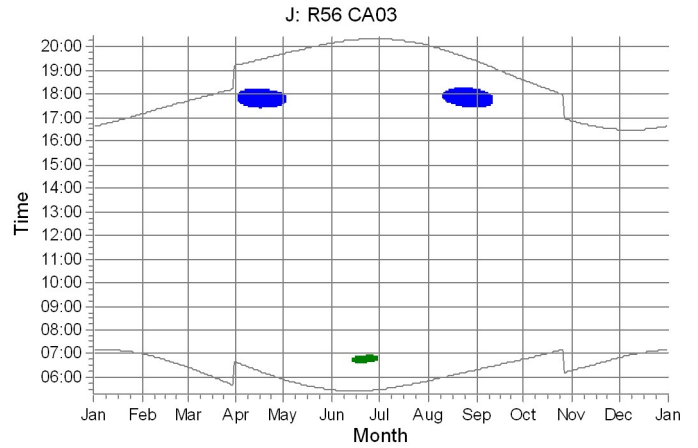
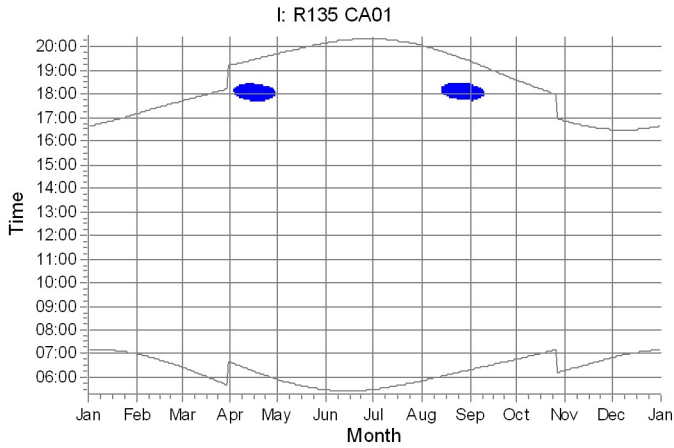
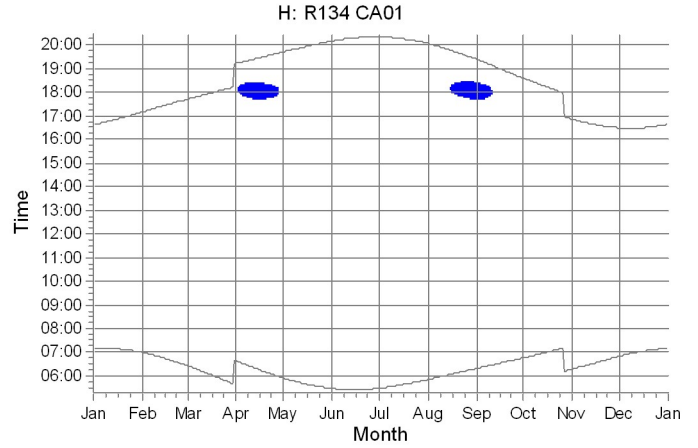
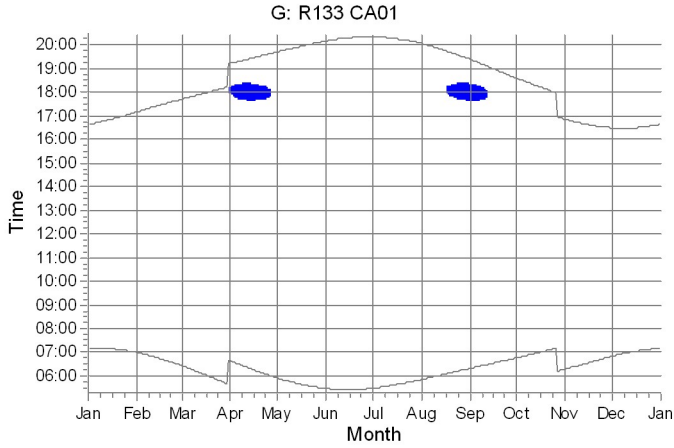


WTGs

2: CA02 3: CA03

SHADOW - Calendar, graphical

Calculation: Bufalo worst case

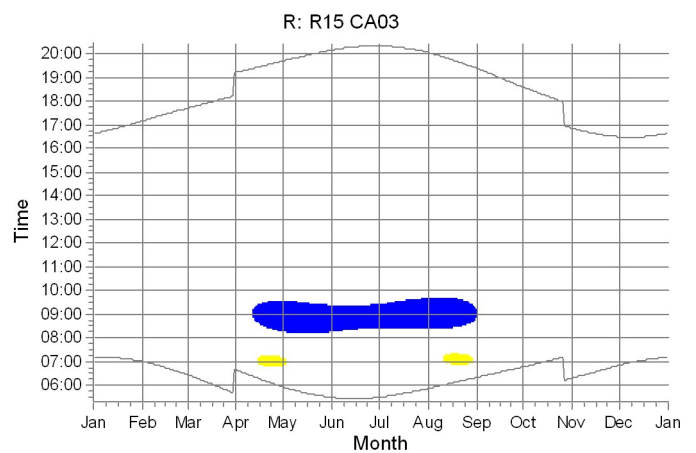
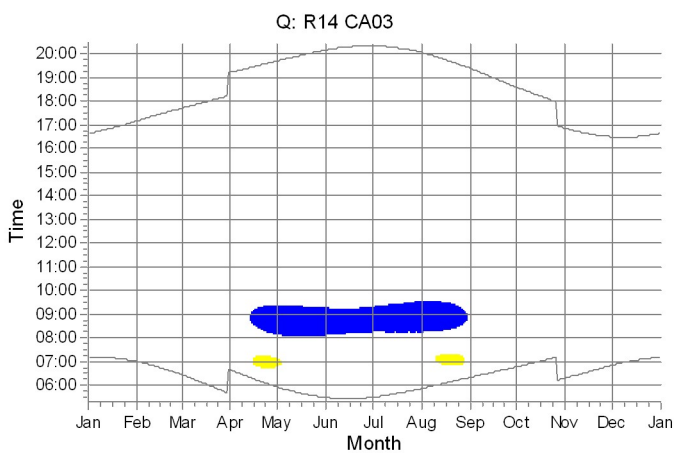
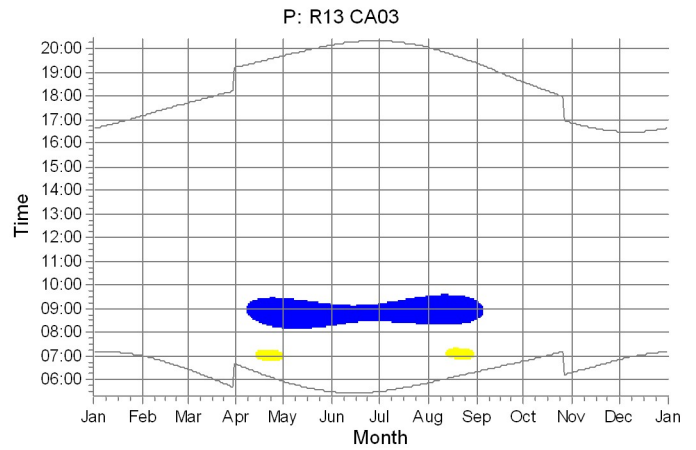
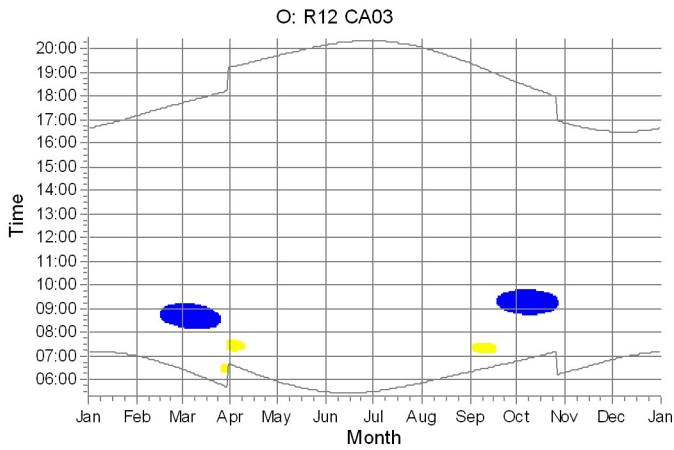
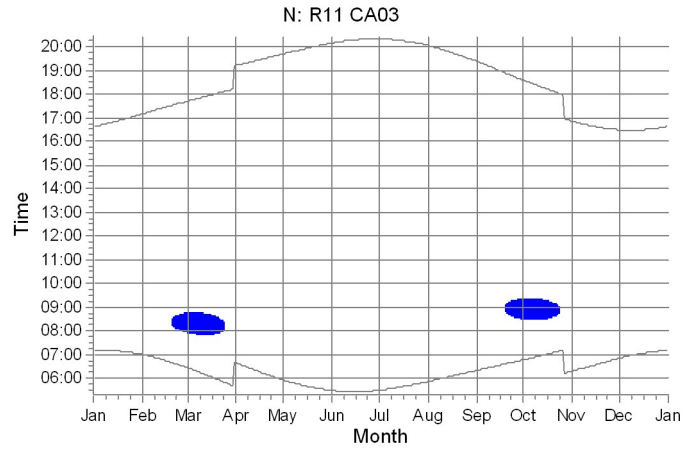
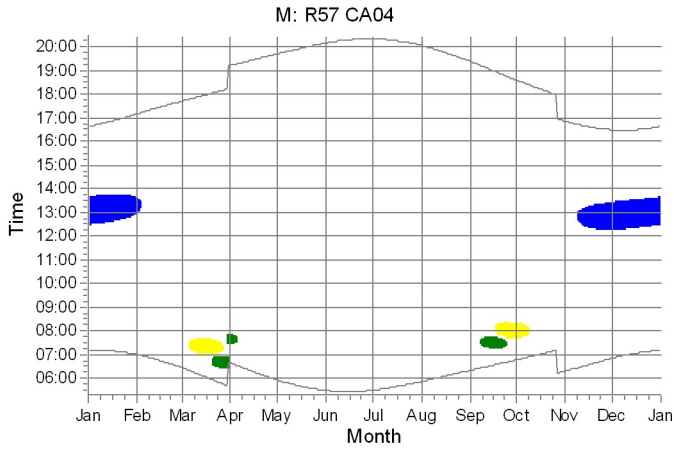


WTGs



SHADOW - Calendar, graphical

Calculation: Buffalo worst case

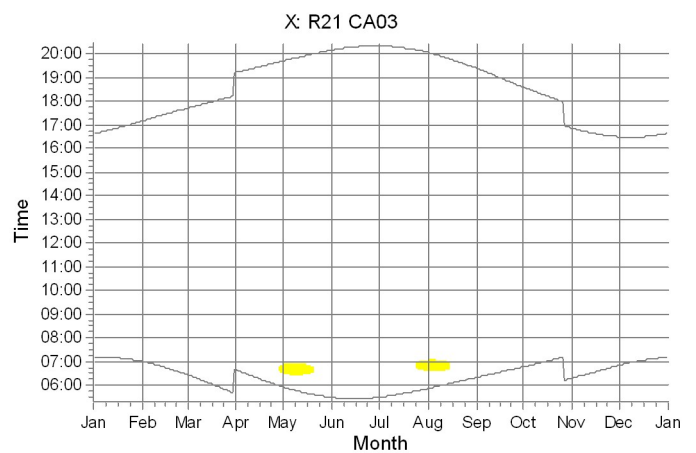
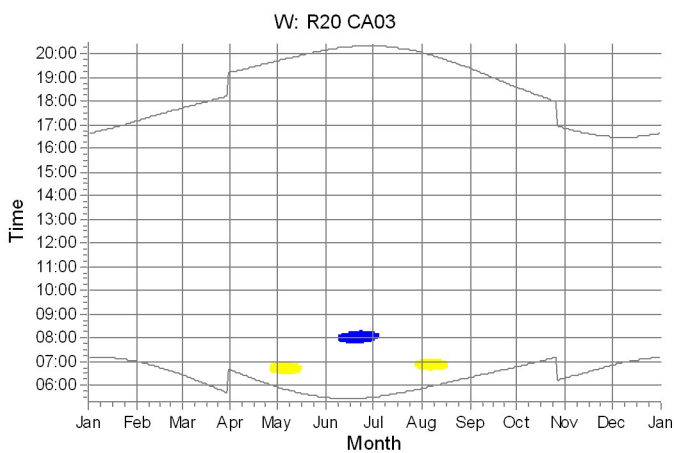
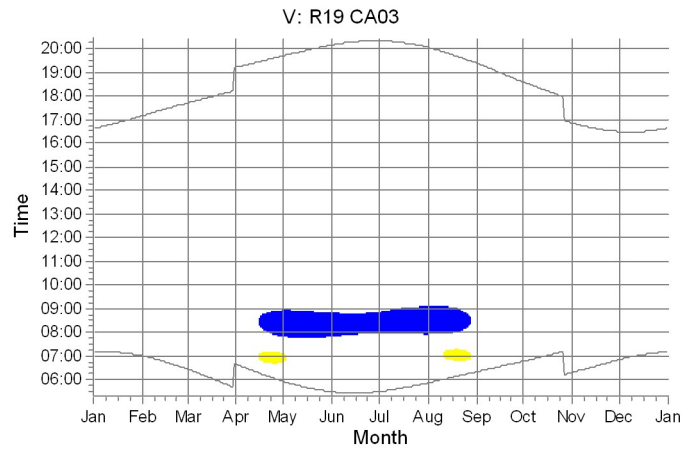
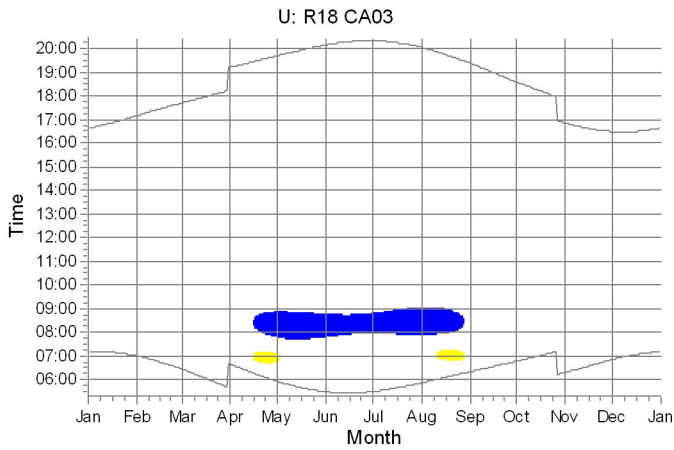
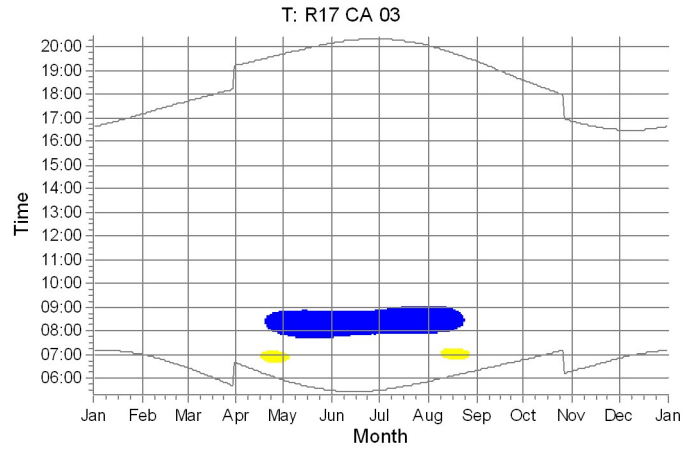
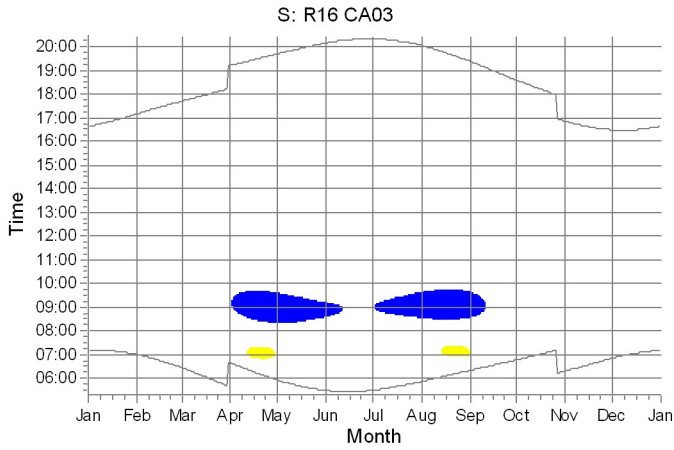


WTGs

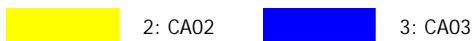


SHADOW - Calendar, graphical

Calculation: Bufalo worst case

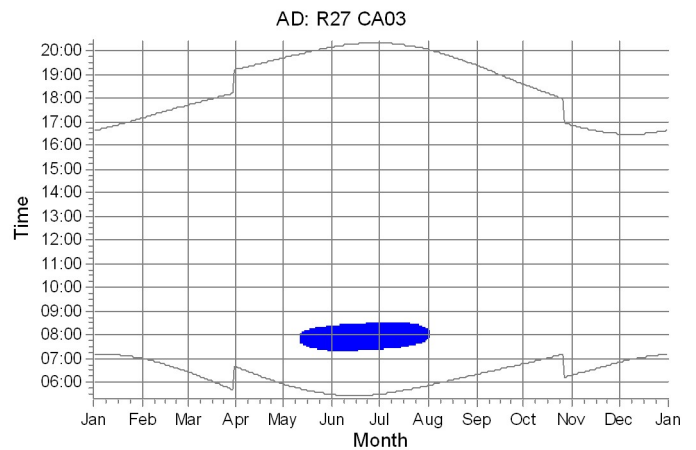
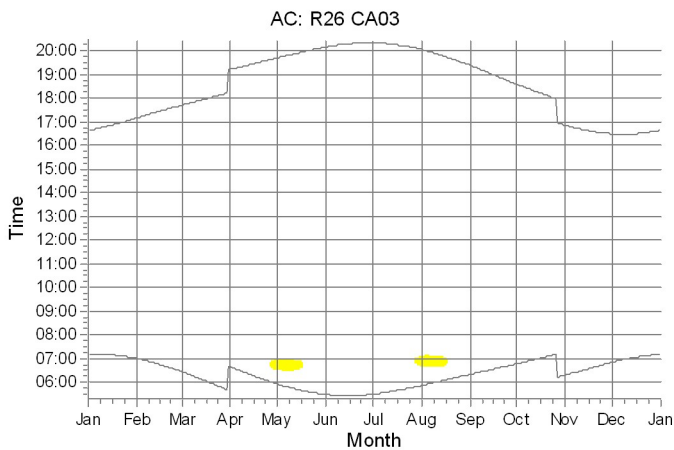
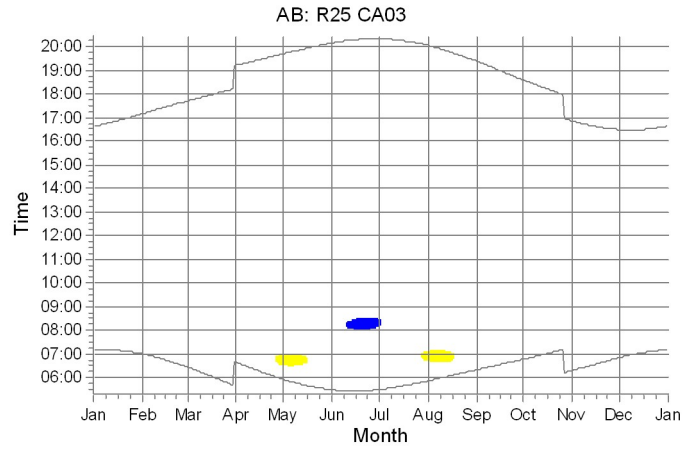
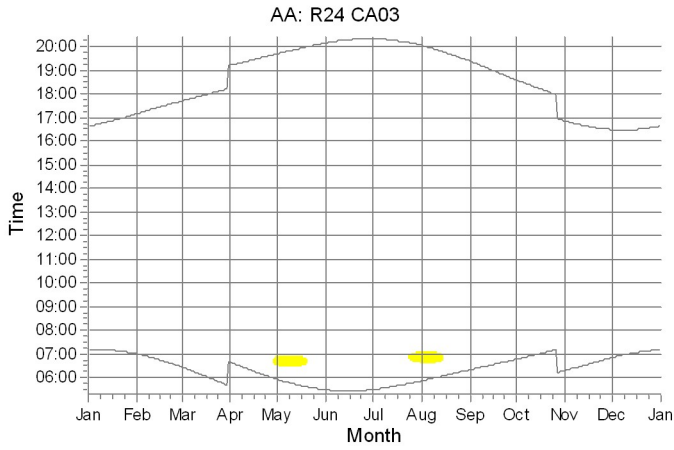
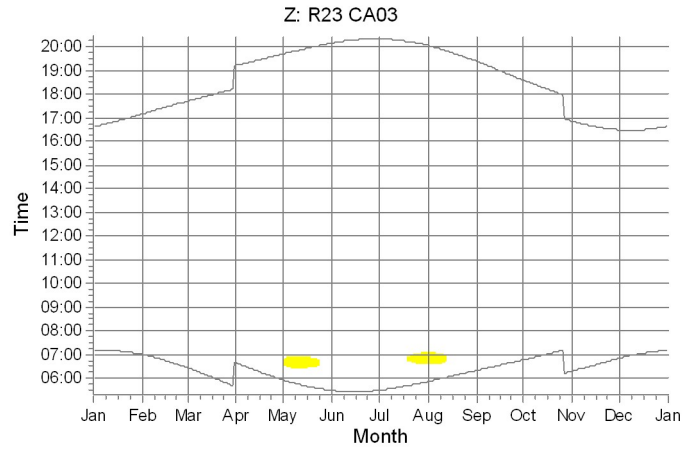
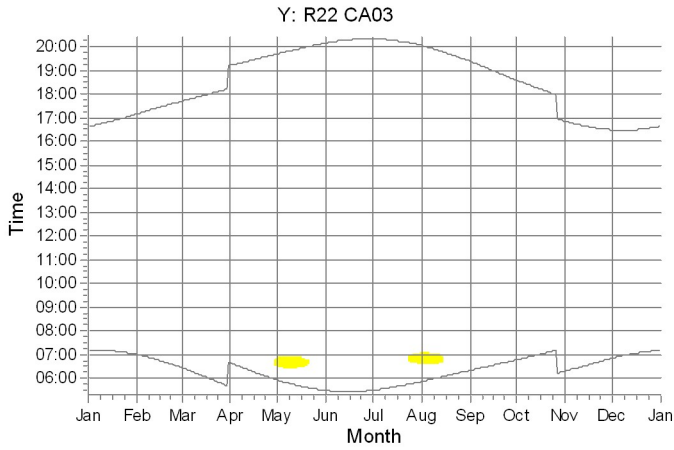


WTGs



SHADOW - Calendar, graphical

Calculation: Bufalo worst case

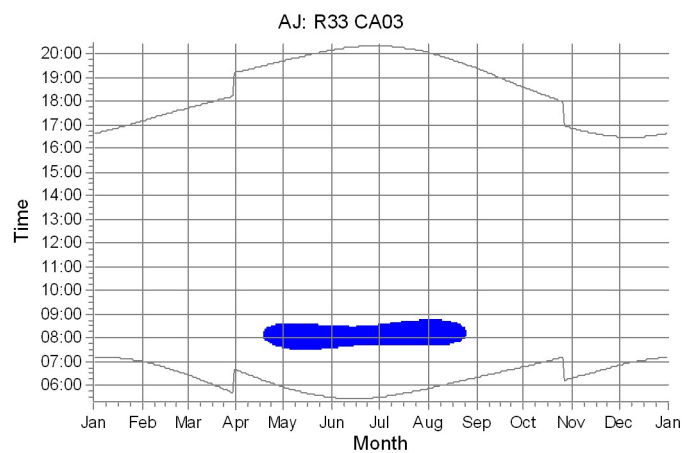
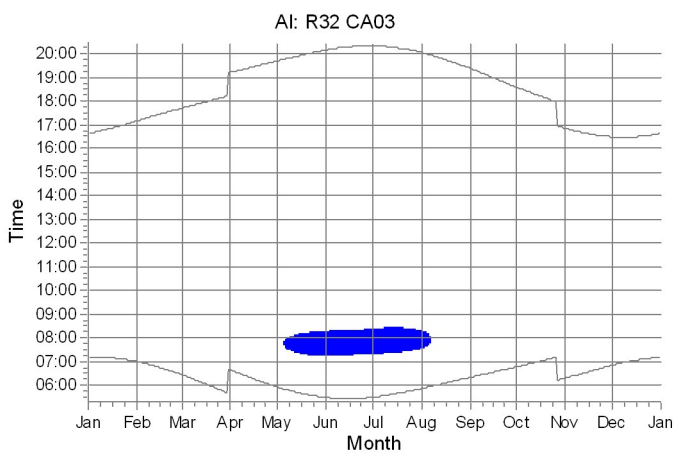
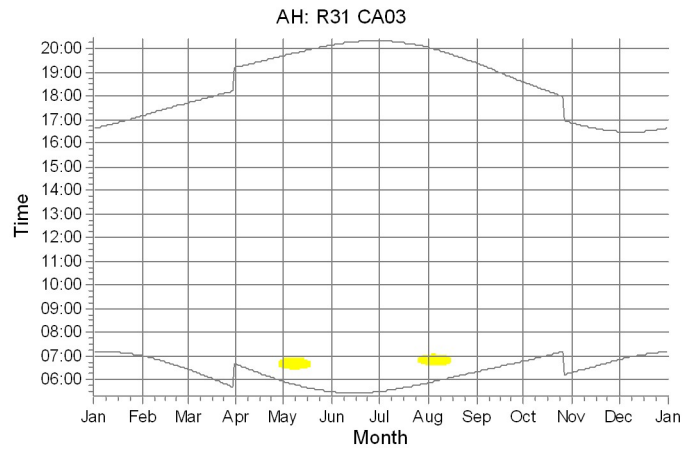
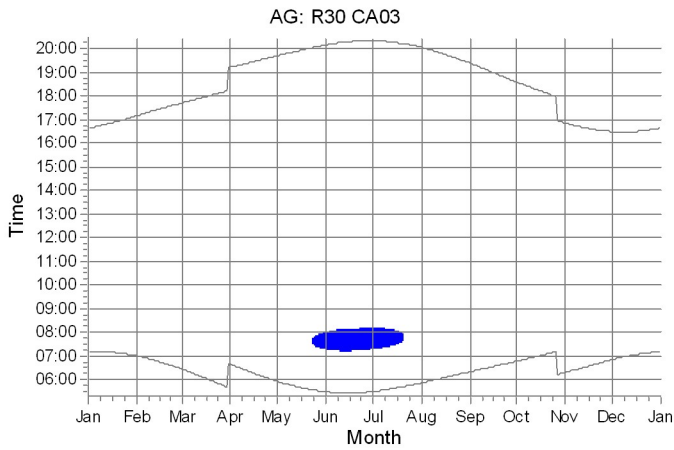
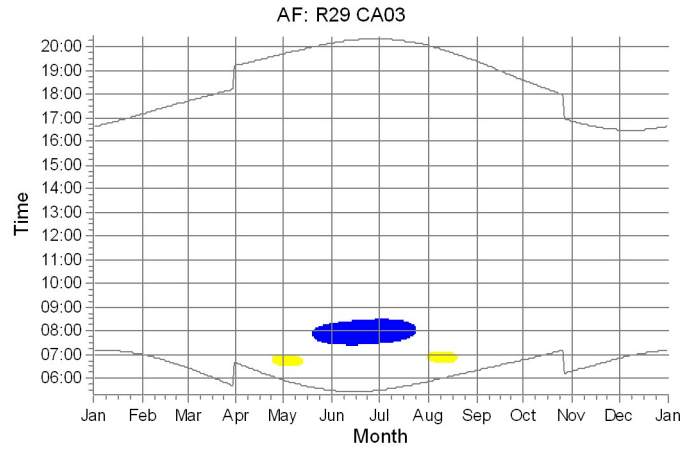
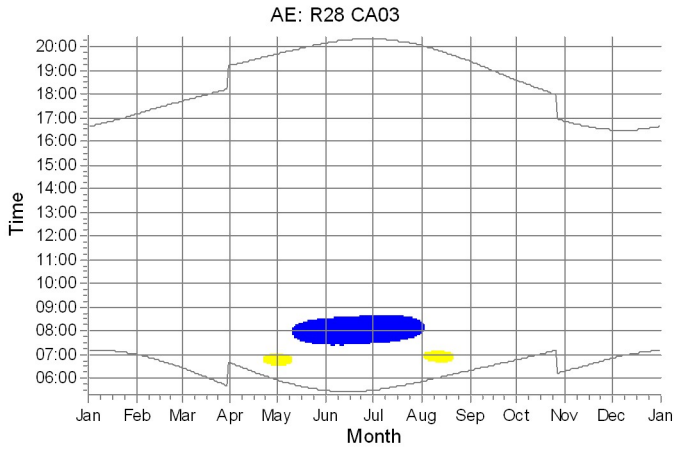


WTGs



SHADOW - Calendar, graphical

Calculation: Bufalo worst case

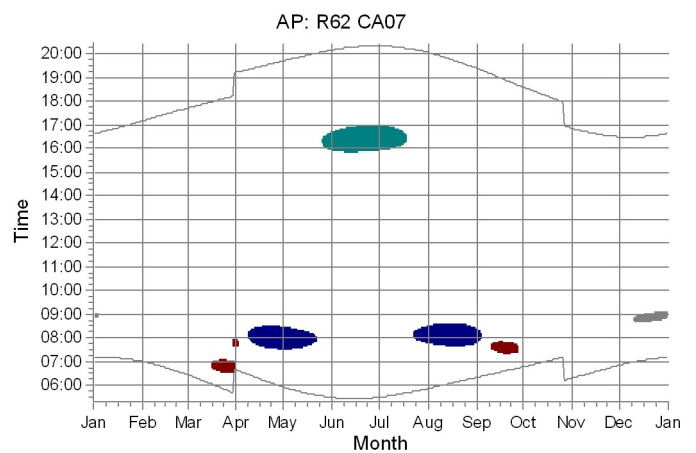
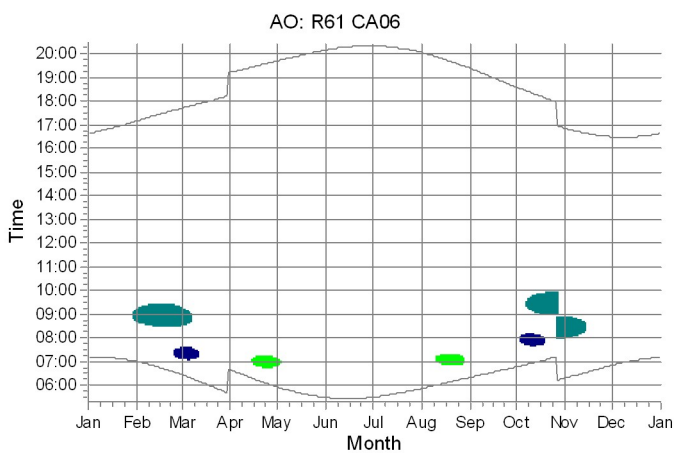
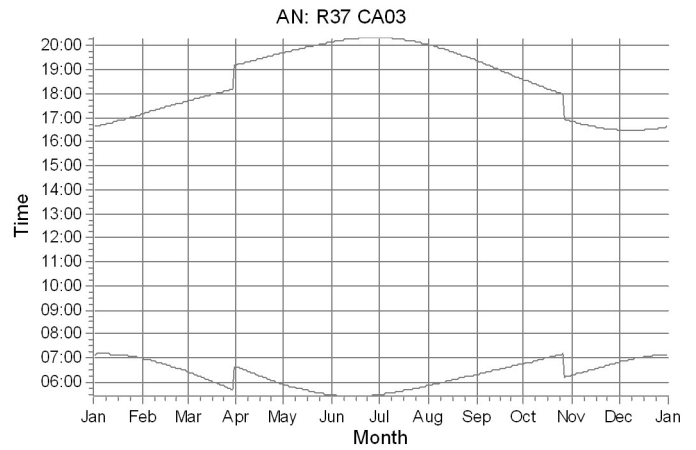
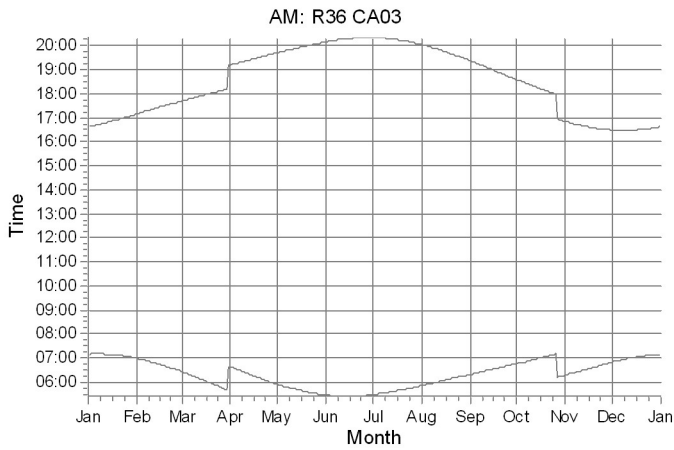
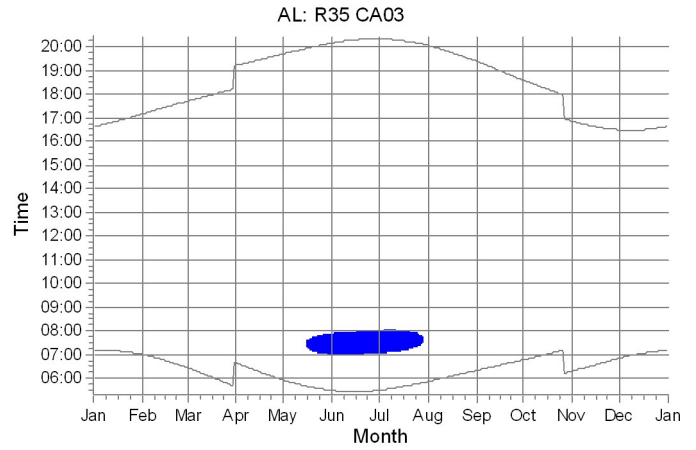
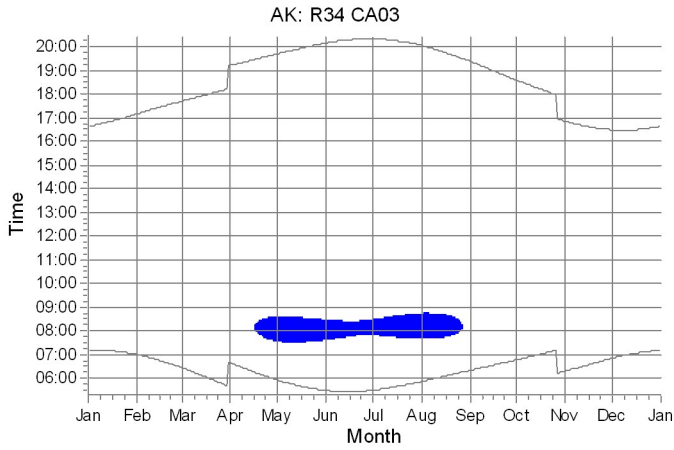


WTGs

 2: CA02  3: CA03

SHADOW - Calendar, graphical

Calculation: Buffalo worst case

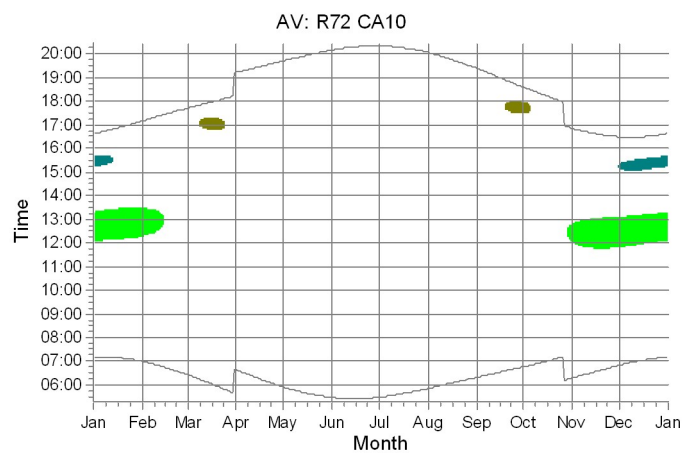
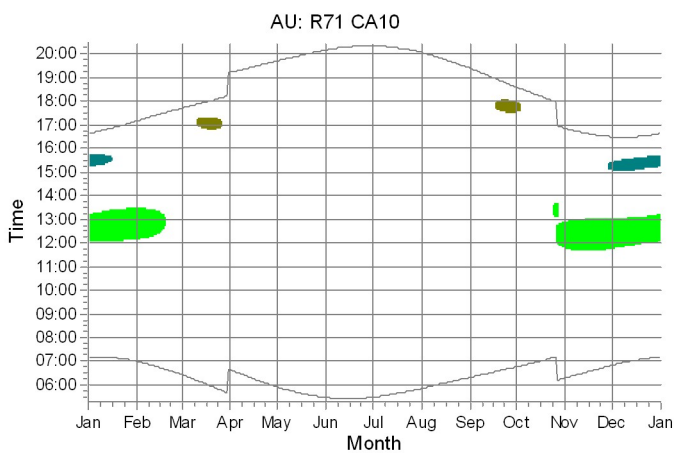
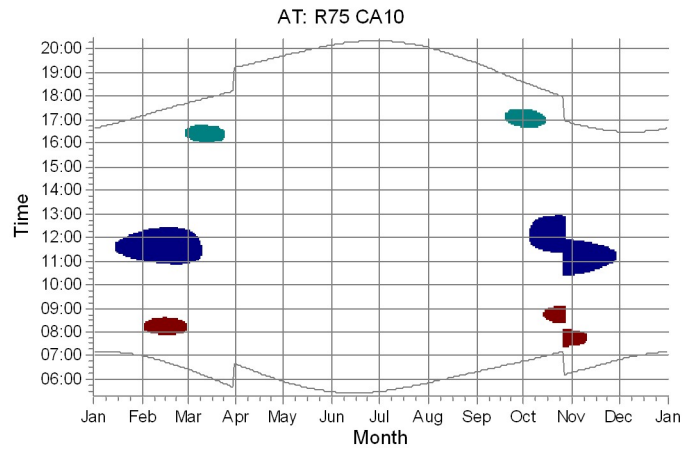
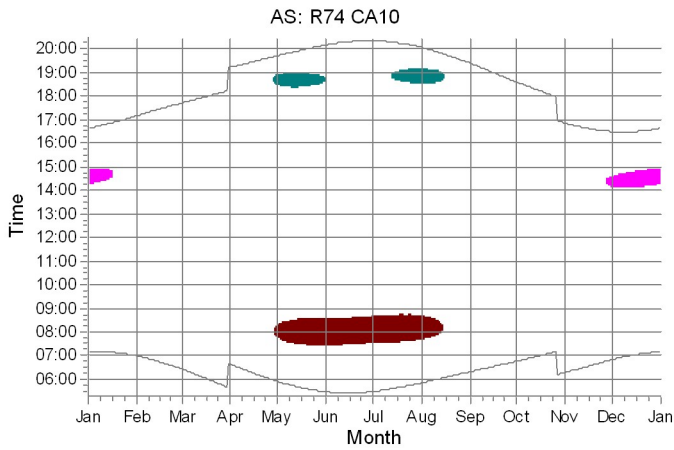
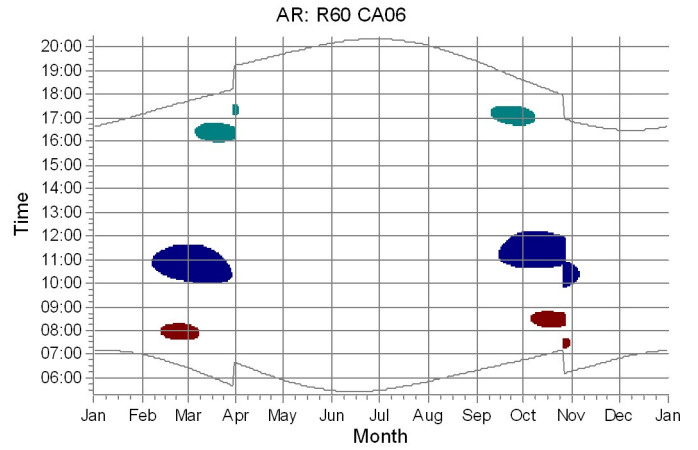
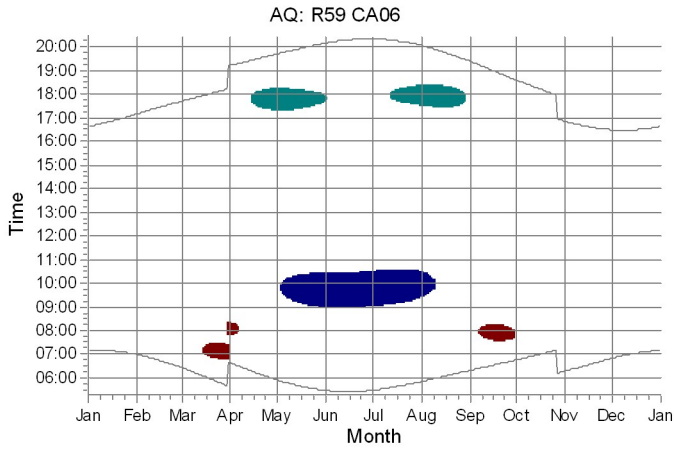


WTGs

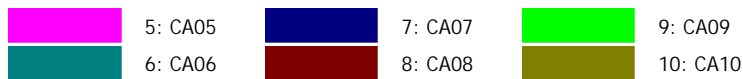
	3: CA03		6: CA06		8: CA08
	4: CA04		7: CA07		9: CA09

SHADOW - Calendar, graphical

Calculation: Bufalo worst case

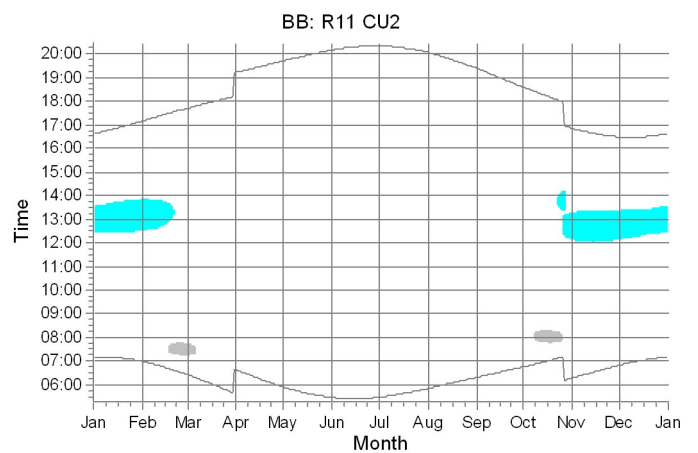
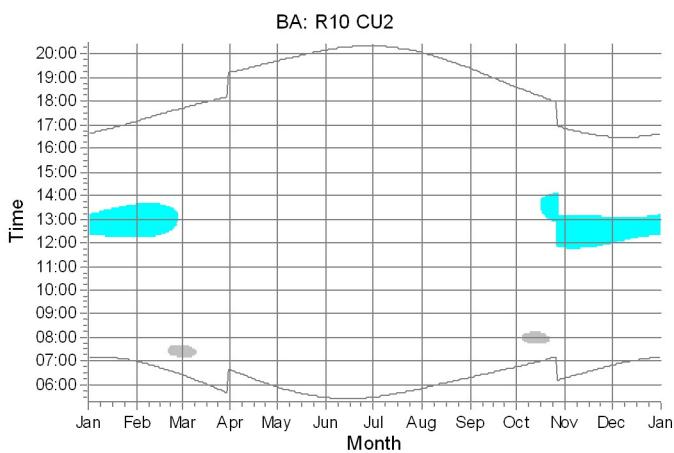
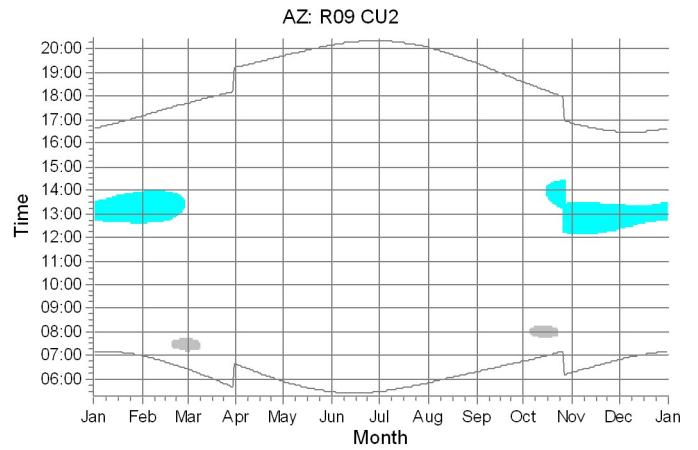
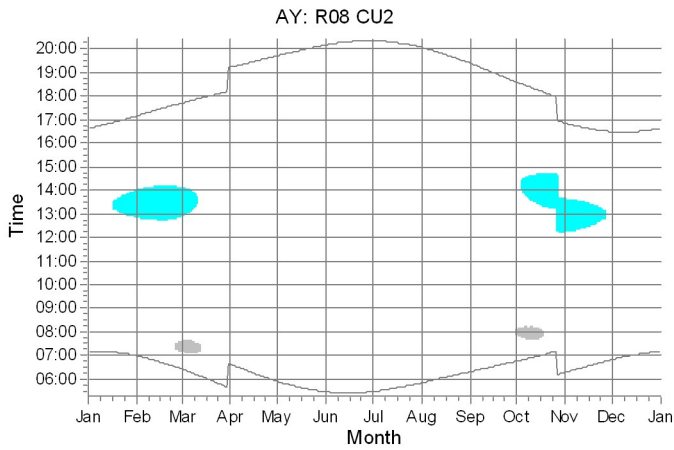
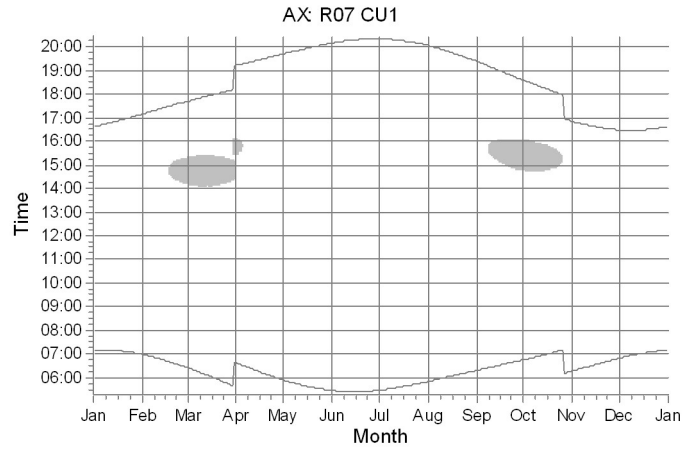
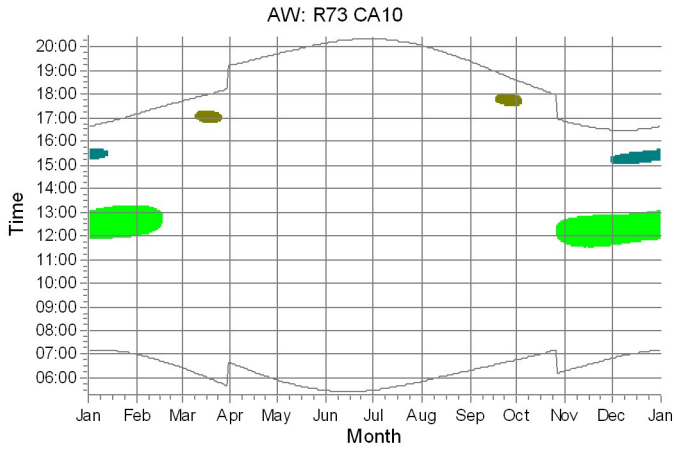


WTGs



SHADOW - Calendar, graphical

Calculation: Buffalo worst case

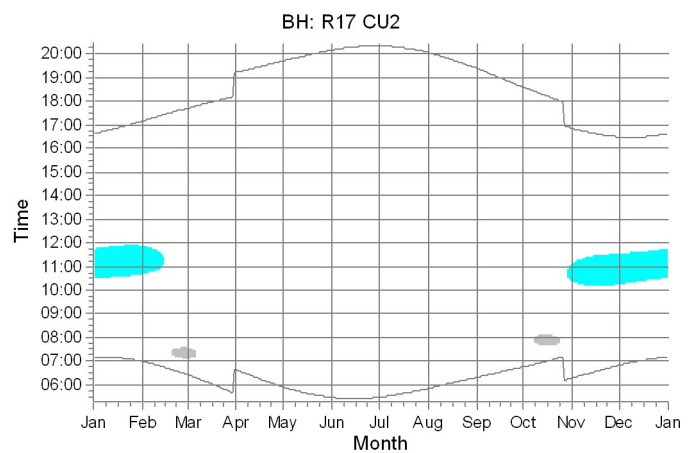
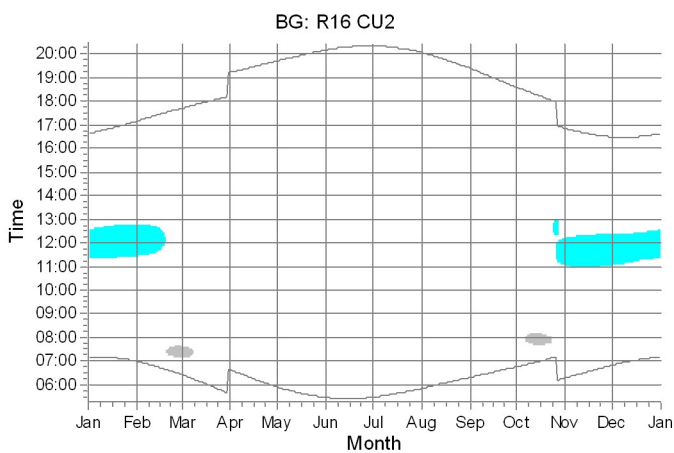
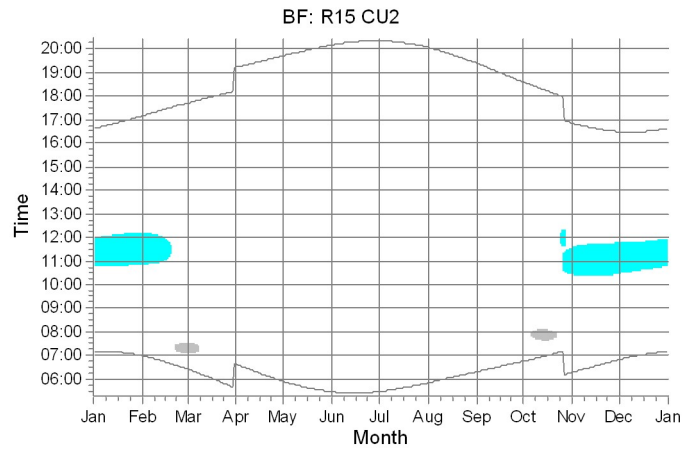
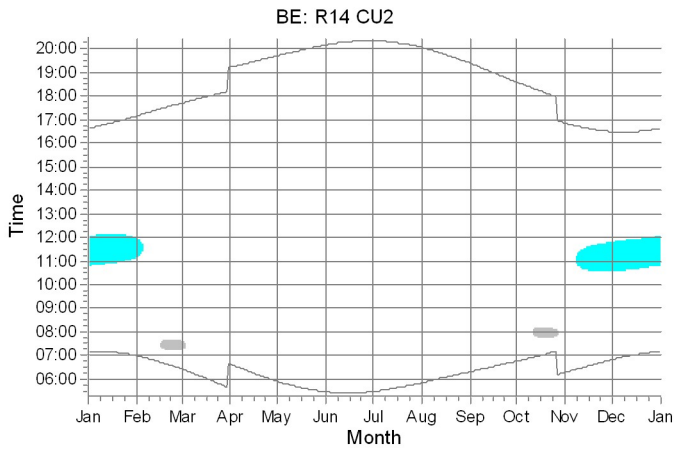
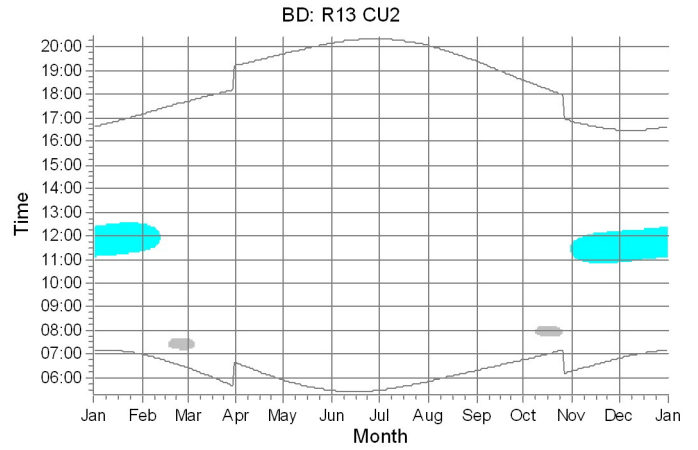
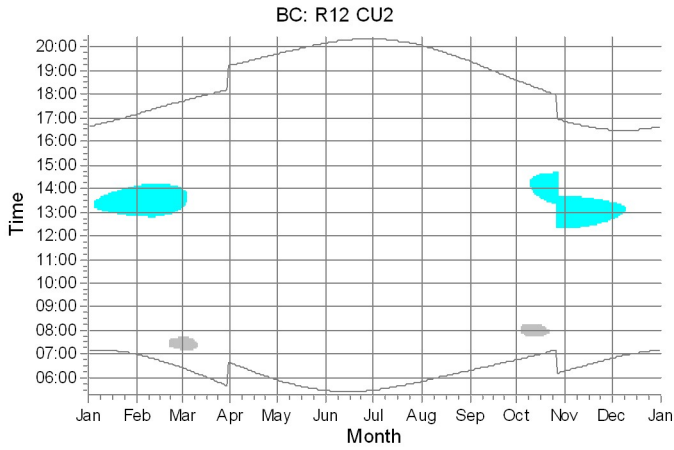


WTGs



SHADOW - Calendar, graphical

Calculation: Bufalo worst case

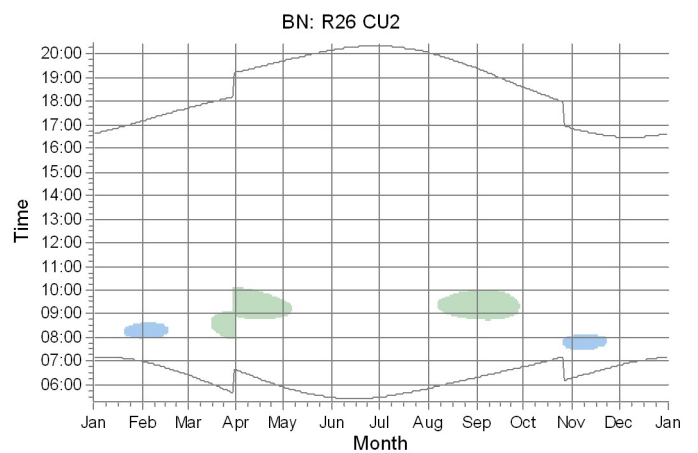
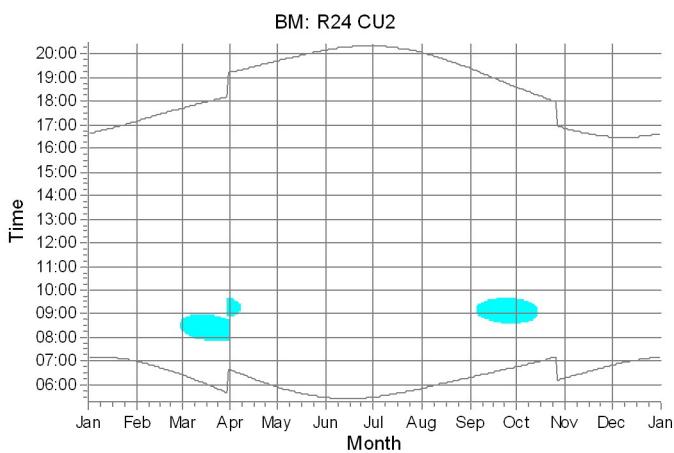
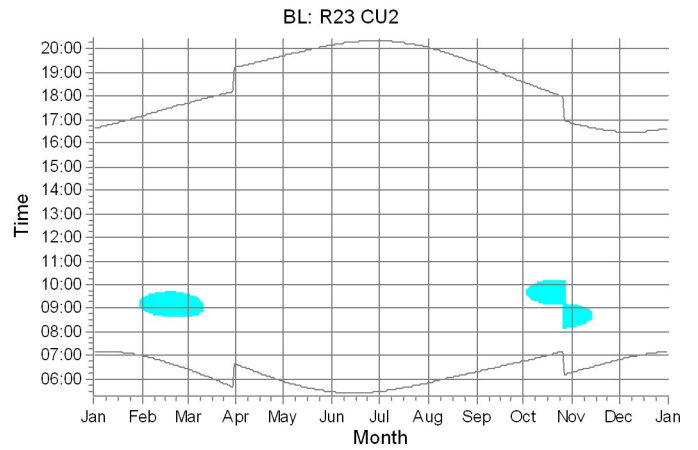
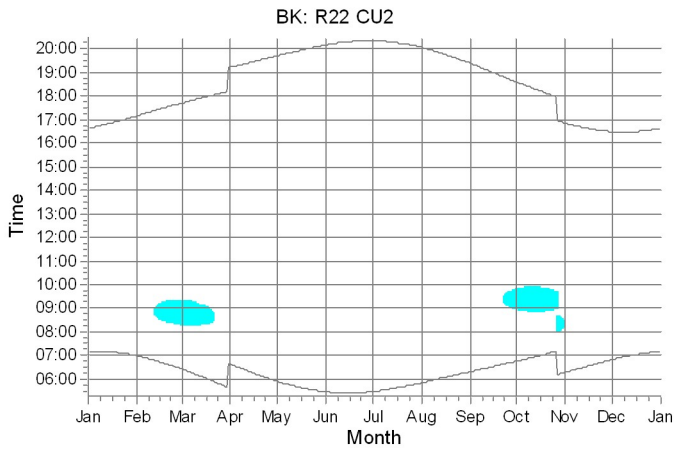
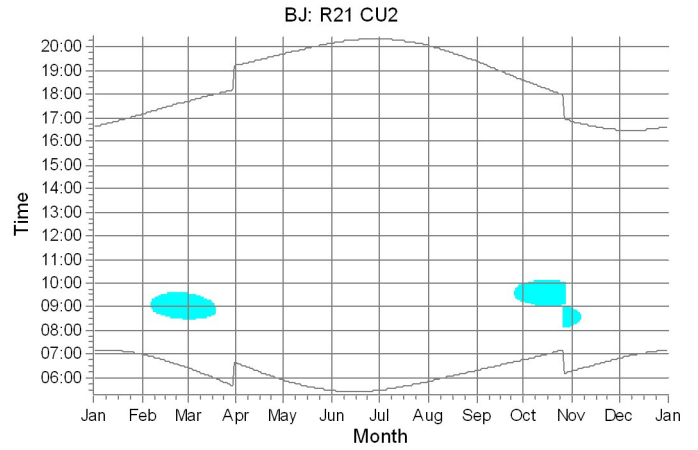
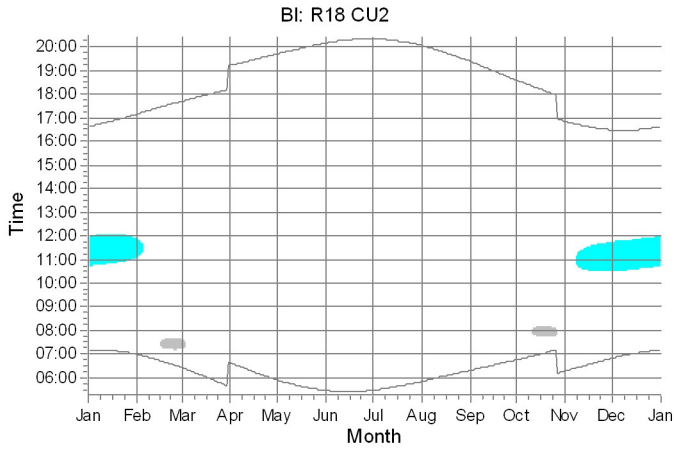


WTGs



SHADOW - Calendar, graphical

Calculation: Bufalo worst case

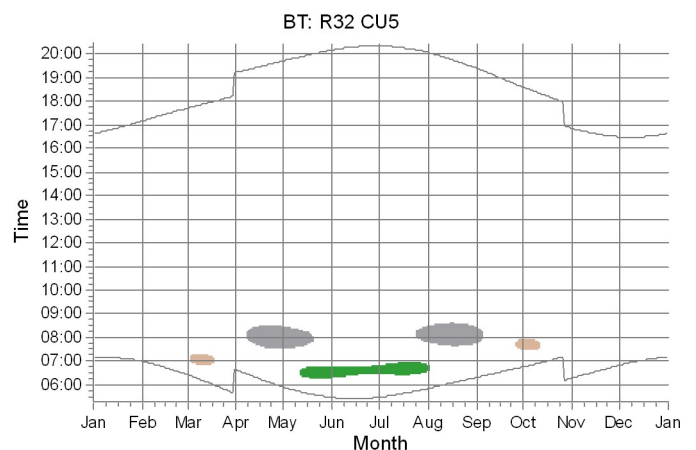
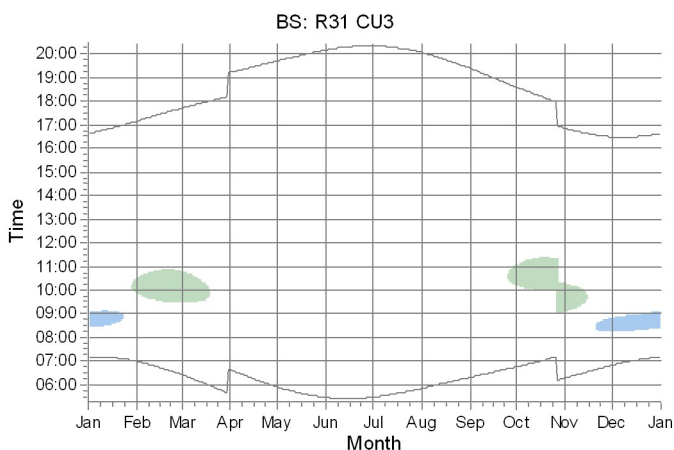
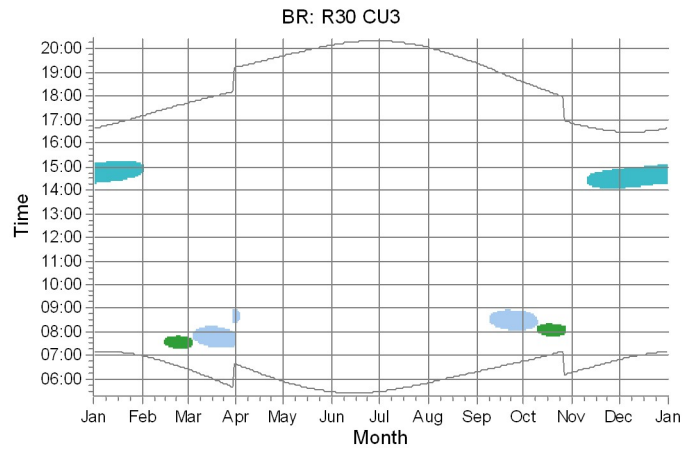
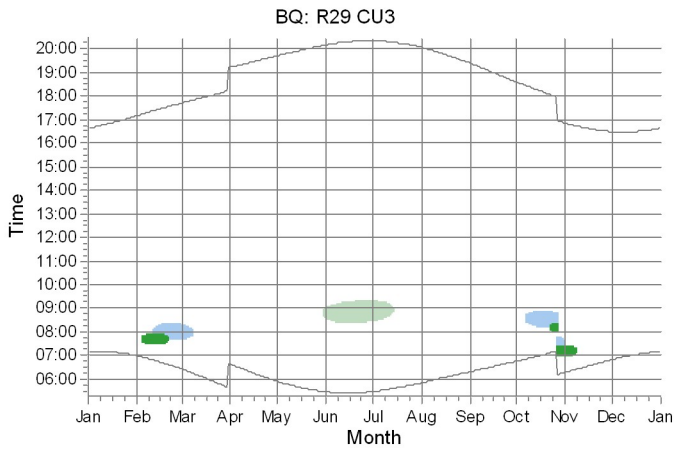
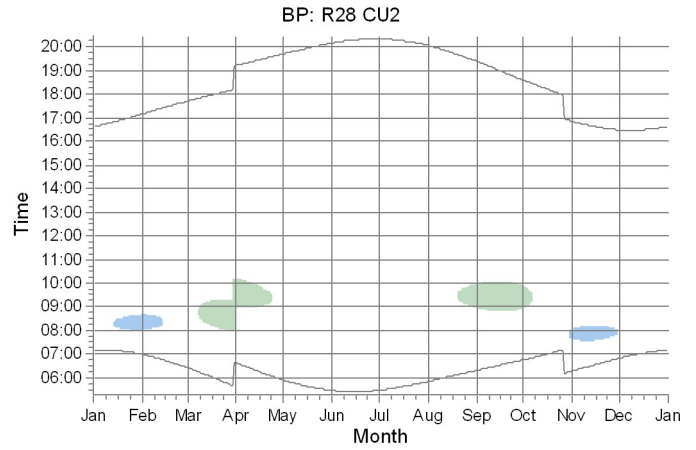
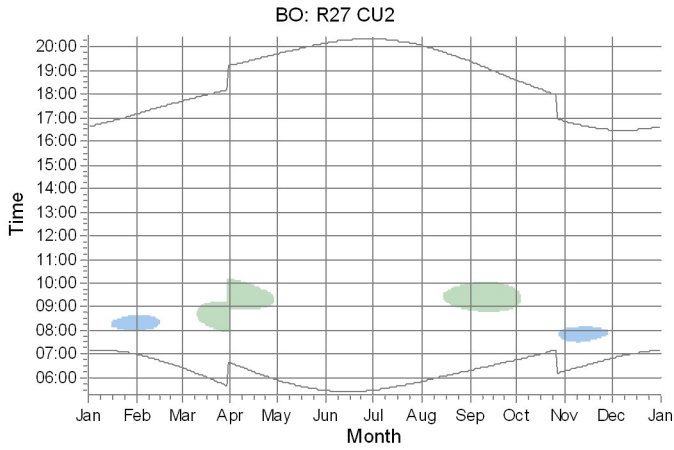


WTGs









SHADOW - Calendar, graphical

Calculation: Bufalo worst case

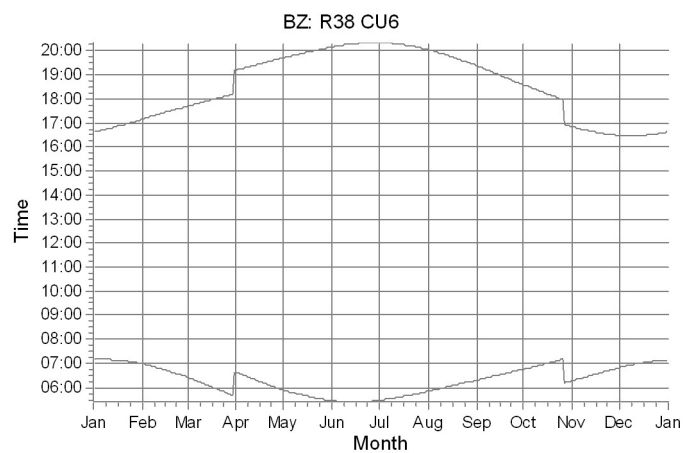
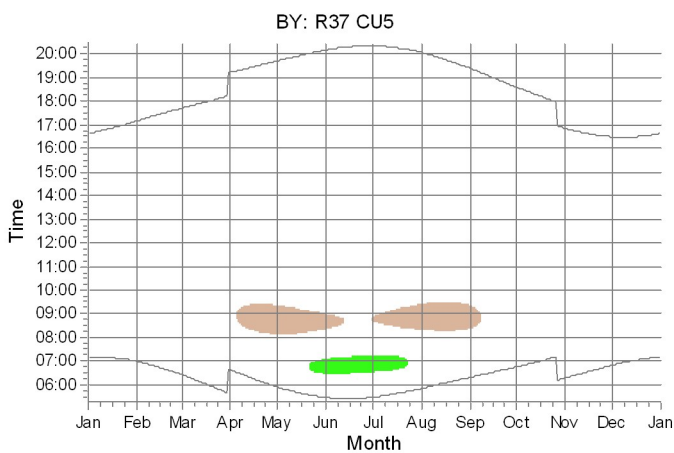
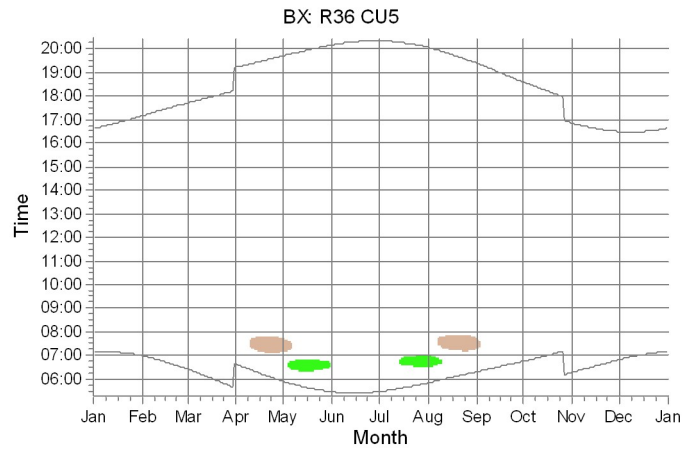
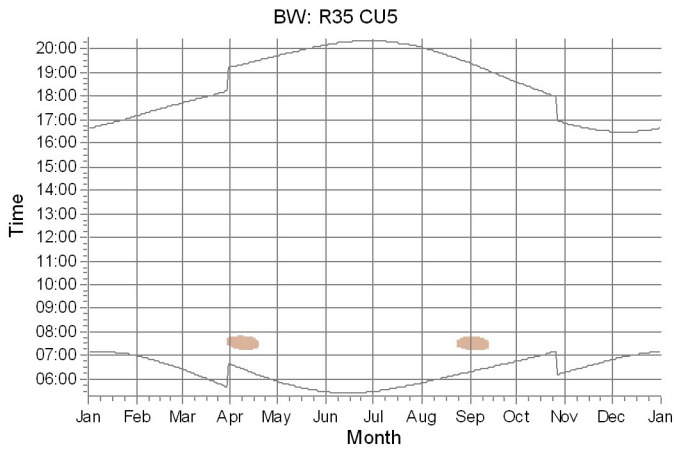
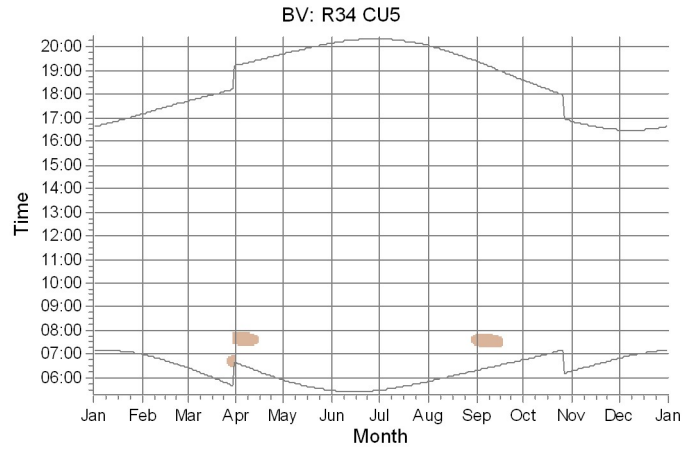
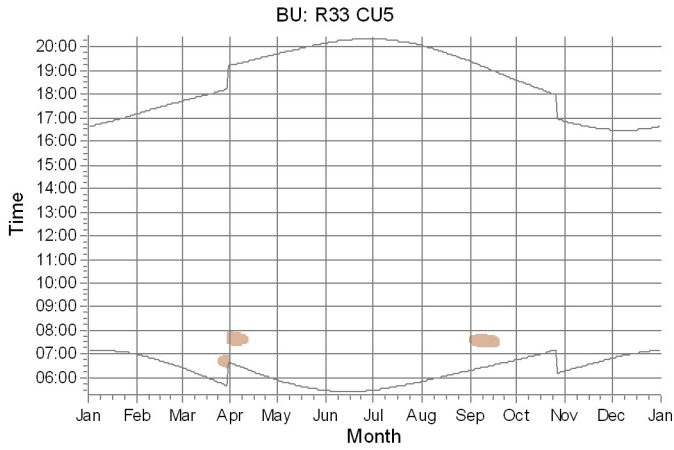


WTGs

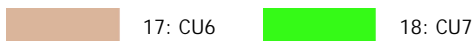
	14: CU3		16: CU5		19: CU8
	15: CU4		17: CU6		20: CU9

SHADOW - Calendar, graphical

Calculation: Bufalo worst case

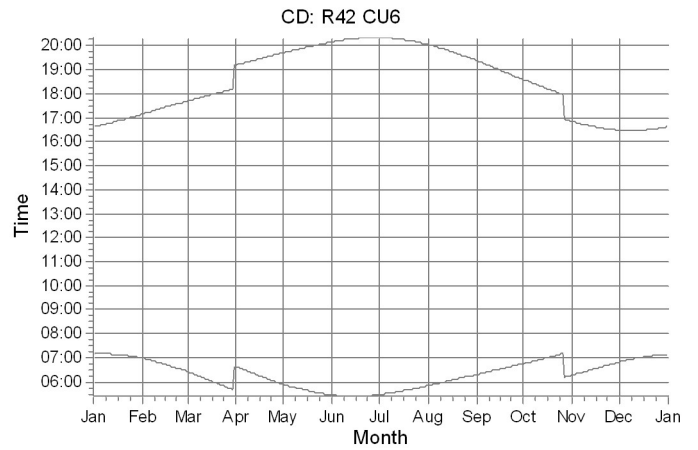
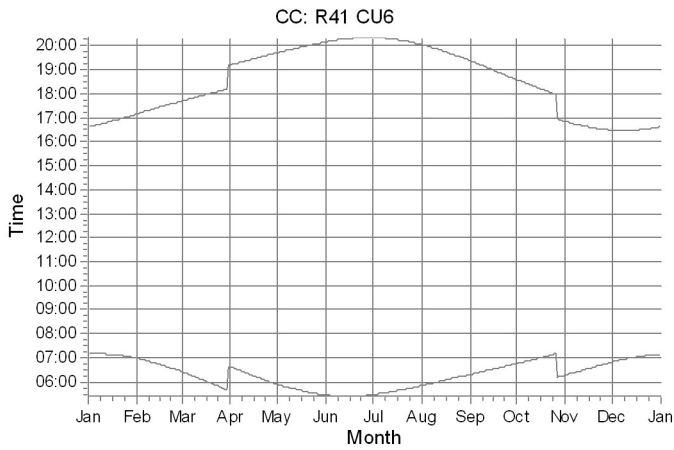
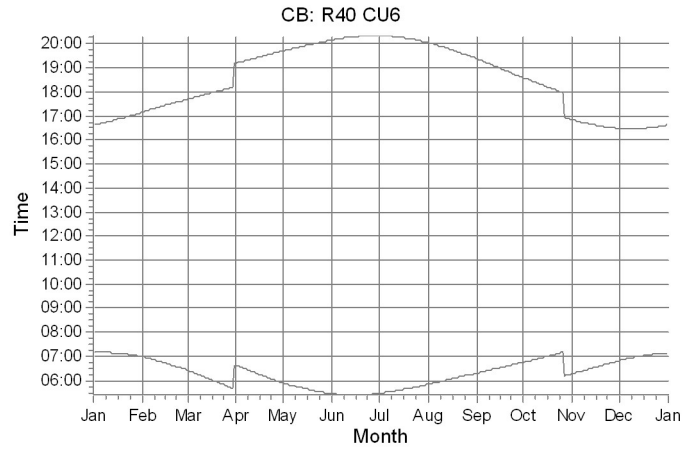
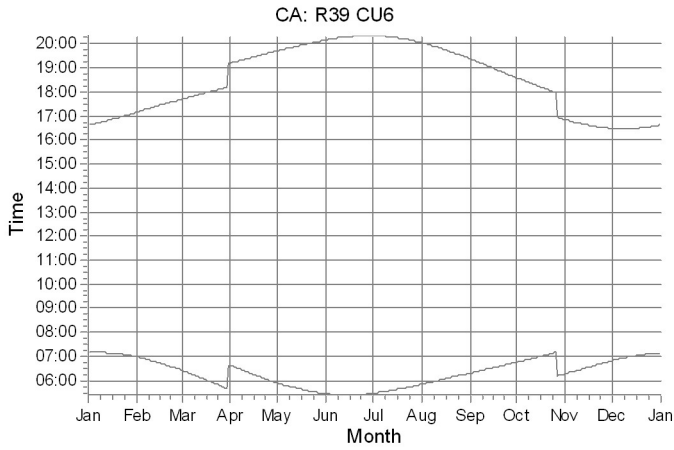


WTGs



SHADOW - Calendar, graphical

Calculation: Bufalo worst case



WTGs

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 02:51/4.0.547

SHADOW - Calendar per WTG

Calculation: Bufalo worst case WTG: 1 - CA01

Assumptions for shadow calculations

Reference year for calendar 2024

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

Table with 12 columns for months (January to December) and 31 rows for days. Each cell contains time ranges for sunrise, sunset, and shadow flicker. Summary row at the bottom shows 'Potential sun hours' and 'Sum of minutes with flicker' for each month.

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

Matrix with 2 rows and 4 columns: Day in month, Sun rise (hh:mm), Sun set (hh:mm), First time (hh:mm) with flicker, Last time (hh:mm) with flicker, Minutes with flicker.

SHADOW - Calendar per WTG

Calculation: Bufalo worst case WTG: 2 - CA02
Assumptions for shadow calculations

Reference year for calendar 2024
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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	07:16-07:37/21 19:14	05:54 19:42	06:32-07:02/30 20:10
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	07:15-07:37/22 19:14	05:53 19:43	06:31-06:59/28 20:10
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	07:15-07:37/22 19:15	05:52 19:44	06:31-06:57/26 20:11
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	07:15-07:36/21 19:16	05:50 19:45	06:30-06:56/26 20:12
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	07:16-07:35/19 19:17	05:49 19:46	06:29-06:55/26 20:12
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	07:16-07:34/18 19:18	05:48 19:47	06:28-06:55/27 20:13
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	07:17-07:33/16 19:19	05:47 19:48	06:28-06:55/27 20:13
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	07:18-07:30/12 19:20	05:46 19:49	06:28-06:55/27 20:14
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	07:21-07:28/7 19:21	05:45 19:50	06:28-06:54/26 20:15
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	07:09-07:37/28 19:22	05:44 19:51	06:27-06:54/27 20:15
11	07:09 16:46	06:49 17:21	06:10 17:53	06:22 19:23	07:07-07:37/30 19:23	05:43 19:52	06:27-06:53/26 20:16
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	07:07-07:38/31 19:24	05:42 19:53	06:27-06:52/25 20:16
13	07:09 16:48	06:47 17:23	06:07 17:55	06:19 19:25	07:05-07:37/32 19:25	05:41 19:54	06:28-06:52/24 20:17
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	07:04-07:37/33 19:26	05:40 19:55	06:28-06:51/23 20:17
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	07:04-07:37/33 19:27	05:39 19:56	06:28-06:50/22 20:17
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	06:53-07:14/21 19:28	05:38 19:56	06:29-06:50/21 20:18
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	06:50-07:15/25 19:29	05:37 19:57	06:29-06:49/20 20:18
18	07:07 16:54	06:41 17:29	05:59 18:00	06:11 19:30	06:49-07:15/26 19:30	05:36 19:58	06:29-06:48/19 20:18
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	06:47-07:15/28 19:31	05:35 19:59	06:31-06:48/17 20:19
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	06:47-07:15/28 19:32	05:35 20:00	06:31-06:47/16 20:19
21	07:06 16:57	06:37 17:32	05:54 18:03	06:07 19:33	06:46-07:14/28 19:33	05:34 20:01	06:32-06:46/14 20:19
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	06:44-07:14/30 19:34	05:33 20:02	06:34-06:45/11 20:20
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	06:43-07:13/30 19:35	05:32 20:03	06:36-06:43/7 20:20
24	07:05 17:00	06:33 17:36	05:49 18:06	06:03 19:35	06:41-07:13/32 19:35	05:32 20:03	18:22-18:50/28 20:20
25	07:04 17:02	06:32 17:37	05:48 18:06	06:02 19:36	06:39-07:11/32 19:36	05:31 20:04	18:22-18:49/27 20:20
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	06:38-07:10/32 19:37	05:30 20:05	18:22-18:49/27 20:20
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	06:37-07:09/32 19:38	05:30 20:06	18:23-18:50/27 20:20
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	06:35-07:07/32 19:39	05:29 20:07	18:23-18:49/26 20:20
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	06:35-07:06/31 19:40	05:29 20:07	18:24-18:50/26 20:20
30	07:00 17:07		05:40 18:11	05:55 19:41	06:34-07:05/31 19:41	05:28 20:08	18:25-18:49/24 20:20
31	07:00 17:08		06:38 19:12			05:28 20:09	
Potential sun hours	302	310	370	396	443	446	618
Sum of minutes with flicker	0	0	622	650	515	618	

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: Bufalo worst case WTG: 2 - CA02

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 18:25-18:48/23 20:20	05:50 06:38-07:03/25 20:03	06:18 19:23	06:46 07:45-08:17/32 18:35	06:17 16:51	06:49 16:29
2	05:29 18:26-18:48/22 20:20	05:51 06:38-07:04/26 20:02	06:19 19:21	06:46 07:45-08:16/31 18:33	06:18 16:50	06:50 16:29
3	05:29 18:27-18:47/20 20:20	05:52 06:38-07:05/27 20:01	06:20 07:18-07:24/6 19:20	06:47 07:46-08:15/29 18:32	06:19 16:49	06:51 16:29
4	05:30 18:28-18:47/19 20:20	05:53 06:38-07:05/27 20:00	06:21 07:15-07:27/12 19:18	06:48 07:47-08:14/27 18:30	06:20 16:48	06:52 16:28
5	05:30 18:29-18:45/16 20:20	05:54 06:38-07:06/28 19:59	06:22 07:13-07:29/16 19:16	06:49 07:48-08:12/24 18:29	06:21 16:47	06:53 16:28
6	05:31 18:31-18:44/13 20:19	05:55 06:38-07:05/27 19:58	06:23 07:12-07:30/18 19:15	06:50 07:49-08:10/21 18:27	06:22 16:46	06:54 16:28
7	05:31 18:34-18:43/9 20:19	05:56 06:38-07:05/27 19:56	06:24 07:11-07:30/19 19:13	06:51 07:51-08:08/17 18:26	06:23 16:45	06:55 16:28
8	05:32 20:19	05:57 06:38-07:05/27 19:55	06:25 07:10-07:31/21 19:12	06:52 07:54-08:04/10 18:24	06:24 16:44	06:56 16:28
9	05:33 20:18	05:58 06:39-07:05/26 19:54	06:26 07:09-07:31/22 19:10	06:53 18:22	06:26 16:43	06:57 16:28
10	05:33 20:18	05:59 06:40-07:06/26 19:53	06:27 07:08-07:30/22 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	05:34 20:18	05:59 06:40-07:09/29 19:52	06:27 07:08-07:29/21 19:07	06:55 18:19	06:28 16:41	06:58 16:28
12	05:35 20:17	06:00 06:41-07:12/31 19:51	06:28 07:08-07:29/21 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	05:35 20:17	06:01 06:42-07:13/31 19:49	06:29 07:09-07:28/19 19:04	06:57 18:16	06:30 16:39	07:00 16:29
14	05:36 20:16	06:02 06:43-07:14/31 19:48	06:30 07:09-07:27/18 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	05:37 20:16	06:03 06:43-07:15/32 19:47	06:31 07:10-07:25/15 19:01	06:59 18:14	06:32 16:37	07:01 16:29
16	05:37 20:15	06:04 06:44-07:16/32 19:45	06:32 07:12-07:23/11 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	05:38 20:15	06:05 06:45-07:17/32 19:44	06:33 18:57	07:01 18:11	06:34 16:36	07:03 16:30
18	05:39 20:14	06:06 06:46-07:18/32 19:43	06:34 07:58-08:11/13 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	05:40 20:14	06:07 06:47-07:19/32 19:41	06:35 07:55-08:13/18 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	05:40 06:47-06:51/4 20:13	06:08 06:48-07:18/30 19:40	06:35 07:53-08:15/22 18:53	07:04 18:06	06:38 16:34	07:05 16:31
21	05:41 06:45-06:54/9 20:12	06:09 06:49-07:19/30 19:39	06:36 07:51-08:16/25 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	05:42 06:43-06:56/13 20:12	06:09 06:50-07:19/29 19:37	06:37 07:50-08:17/27 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	05:43 06:42-06:57/15 20:11	06:10 06:50-07:19/29 19:36	06:38 07:49-08:18/29 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	05:44 06:42-06:58/16 20:10	06:11 06:51-07:19/28 19:34	06:39 07:48-08:19/31 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	05:44 06:40-06:58/18 20:09	06:12 06:52-07:18/26 19:33	06:40 07:46-08:18/32 18:44	07:09 18:00	06:43 16:31	07:07 16:33
26	05:45 06:40-06:59/19 20:08	06:13 06:54-07:18/24 19:32	06:41 07:46-08:18/32 18:43	07:10 17:58	06:44 16:31	07:08 16:34
27	05:46 06:39-07:00/21 20:08	06:14 06:55-07:16/21 19:30	06:42 07:45-08:18/33 18:41	06:11 16:57	06:45 16:30	07:08 16:35
28	05:47 06:39-07:01/22 20:07	06:15 06:56-07:15/19 19:29	06:43 07:45-08:18/33 18:40	06:12 16:56	06:46 16:30	07:08 16:35
29	05:48 06:39-07:01/22 20:06	06:16 06:58-07:14/16 19:27	06:44 07:45-08:18/33 18:38	06:14 16:55	06:47 16:30	07:09 16:36
30	05:49 06:38-07:01/23 20:05	06:17 06:59-07:12/13 19:26	06:45 07:45-08:17/32 18:36	06:15 16:54	06:48 16:29	07:09 16:37
31	05:50 06:38-07:02/24 20:04	06:18 07:02-07:08/6 19:24		06:16 16:52		07:09 16:37
Potential sun hours	453	424	374	347	303	294
Sum of minutes with flicker	328	819	601	191	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: Bufalo worst case WTG: 3 - CA03

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 12:32-13:37/65 16:38	06:59 13:03-13:33/30 17:10	06:25 07:57-09:10/73 17:42	06:37 17:59-18:10/11 19:13	05:54 07:37-09:32/115 19:42 17:41-17:54/13	05:27 07:03-09:20/137 20:10
2	07:09 12:33-13:38/65 16:39	06:58 13:07-13:31/24 17:11	06:23 07:57-09:10/73 17:43	06:35 09:07-09:14/7 19:14 17:45-18:12/27	05:53 07:37-09:31/114 19:43	05:27 07:02-09:19/137 20:10
3	07:10 12:33-13:38/65 16:39	06:57 13:12-13:27/15 17:12	06:22 07:55-09:10/75 17:44	06:34 08:59-09:22/23 19:15 17:42-18:15/33	05:52 07:36-09:31/115 19:44	05:27 07:02-09:19/137 20:11
4	07:10 12:34-13:39/65 16:40	06:56 17:13 17:13	06:20 07:55-09:10/75 17:45	06:32 08:54-09:25/31 19:16 17:39-18:16/37	05:50 07:36-09:30/114 19:45	05:26 07:03-09:19/136 20:12
5	07:10 12:34-13:39/65 16:41	06:55 17:14 17:14	06:19 07:54-09:10/76 17:46	06:31 08:51-09:28/37 19:17 17:37-18:19/42	05:49 07:34-09:29/115 19:46	05:26 07:02-09:18/136 20:12
6	07:10 12:35-13:39/64 16:42	06:54 17:15 17:15	06:17 07:54-09:10/76 17:48	06:29 08:48-09:30/42 19:18 17:35-18:19/44	05:48 07:34-09:28/114 19:47	05:26 07:02-09:18/136 20:13
7	07:10 12:35-13:40/65 16:43	06:53 17:17 17:17	06:16 07:53-09:09/76 17:49	06:28 08:46-09:32/46 18:31-18:40/9 19:19 17:34-18:21/47	05:47 07:34-09:28/114 19:48	05:25 07:02-09:18/136 20:13
8	07:10 12:36-13:40/64 16:44	06:52 17:18 17:18	06:14 07:53-09:09/76 17:50	06:26 08:43-09:33/50 18:27-18:41/14 19:20 17:32-18:21/49	05:46 07:33-09:28/115 19:49	05:25 07:02-09:18/136 20:14
9	07:10 12:37-13:41/64 16:45	06:51 17:19 17:19	06:13 07:52-09:08/76 17:51	06:25 08:41-09:34/53 18:26-18:43/17 19:21 17:31-18:22/51	05:45 07:31-09:27/116 19:50	05:25 07:02-09:19/137 20:15
10	07:10 12:36-13:40/64 16:46	06:50 17:20 17:20	06:11 07:53-09:07/74 17:52	06:23 08:39-09:35/56 18:24-18:44/20 19:22 17:30-18:22/52	05:44 07:29-09:27/118 19:51	05:25 07:03-09:19/136 20:15
11	07:09 12:37-13:41/64 16:47	06:49 17:21 17:21	06:10 07:52-09:06/74 17:53	06:22 08:38-09:36/58 18:24-18:45/21 19:23 17:30-18:23/53	05:43 07:27-09:27/120 19:52	05:25 07:02-09:18/136 20:16
12	07:09 12:38-13:41/63 16:48	06:48 17:22 17:22	06:08 07:53-09:05/72 17:54	06:20 08:35-09:36/61 19:24 17:29-18:44/75	05:42 07:25-09:26/121 19:53	05:25 07:02-09:18/136 20:16
13	07:09 12:39-13:42/63 16:49	06:47 17:24 17:24	06:07 07:53-09:04/71 17:55	06:19 08:33-09:37/64 19:25 17:29-18:45/76	05:41 07:25-09:27/122 19:54	05:25 07:02-09:18/136 20:17
14	07:09 12:39-13:41/62 16:50	06:46 17:25 17:25	06:05 07:52-09:02/70 17:56	06:17 08:30-09:37/67 19:26 17:28-18:44/76	05:40 07:24-09:26/122 19:55	05:25 07:02-09:18/136 20:17
15	07:09 12:40-13:42/62 16:51	06:44 17:26 17:26	06:04 07:53-09:01/68 17:57	06:16 08:29-09:37/68 19:27 17:28-18:44/76	05:39 07:23-09:26/123 19:56	05:25 07:02-09:18/136 20:17
16	07:08 12:40-13:42/62 16:52	06:43 17:27 17:27	06:02 07:53-08:59/66 17:58	06:14 08:19-09:37/78 19:28 17:27-18:43/76	05:38 07:19-09:25/126 19:56	05:25 07:02-09:18/136 20:18
17	07:08 12:41-13:42/61 16:53	06:42 08:38-08:52/14 17:28	06:01 07:54-08:58/64 17:59	06:13 08:04-08:12/8 17:28-18:43/75 19:29 08:13-09:37/84	05:37 07:16-09:24/128 19:57	05:25 07:03-09:19/136 20:18
18	07:08 12:42-13:43/61 16:54	06:41 08:34-08:56/22 17:29	05:59 07:55-08:56/61 18:00	06:11 07:58-09:38/100 19:30 17:28-18:43/75	05:36 07:13-09:24/131 19:58	05:25 07:03-09:19/136 20:19
19	07:07 12:43-13:42/59 16:55	06:40 08:31-08:59/28 17:30	05:57 07:56-08:55/59 18:01	06:10 07:54-09:37/103 18:23-18:41/18 19:31 17:28-18:21/53	05:36 07:12-09:24/132 19:59	05:25 07:03-09:19/136 20:19
20	07:07 12:44-13:43/59 16:56	06:38 08:28-09:01/33 17:31	05:56 07:57-08:52/55 18:02	06:09 07:52-09:37/105 18:24-18:40/16 19:32 17:28-18:21/53	05:35 07:10-09:23/133 20:00	05:25 07:03-09:19/136 20:19
21	07:06 12:45-13:42/57 16:57	06:37 08:15-09:03/48 17:33	05:54 07:58-08:49/51 18:03	06:07 07:50-09:36/106 18:25-18:37/12 19:33 17:28-18:19/51	05:34 07:09-09:23/134 20:01	05:25 07:04-09:19/135 20:19
22	07:06 12:45-13:41/56 16:58	06:36 08:11-09:05/54 17:34	05:53 08:01-08:47/46 18:04	06:06 07:47-09:36/109 18:28-18:34/6 19:34 17:29-18:19/50	05:33 07:08-09:23/135 20:02	05:25 07:04-09:19/135 20:20
23	07:05 12:47-13:42/55 16:59	06:34 08:08-09:06/58 17:35	05:51 08:21-08:43/22 18:05 08:03-08:19/16	06:04 07:46-09:36/110 19:35 17:30-18:18/48	05:33 07:07-09:22/135 20:03	05:26 07:04-09:20/136 20:20
24	07:05 12:48-13:41/53 17:00	06:33 08:06-09:07/61 17:36	05:50 08:25-08:39/14 18:06	06:03 07:44-09:36/112 19:36 17:30-18:16/46	05:32 07:06-09:22/136 20:03	05:26 07:04-09:20/136 20:20
25	07:04 12:49-13:40/51 17:02	06:32 08:03-09:07/64 17:37	05:48 18:07 18:07	06:02 07:42-09:35/113 19:37 17:31-18:15/44	05:31 07:06-09:22/136 20:04	05:26 07:04-09:20/136 20:20
26	07:03 12:51-13:41/50 17:03	06:30 08:02-09:09/67 17:38	05:46 18:08 18:08	06:00 07:41-09:35/114 19:37 17:32-18:13/41	05:31 07:05-09:21/136 20:05	05:26 07:05-09:21/136 20:20
27	07:03 12:52-13:40/48 17:04	06:29 08:01-09:10/69 17:39	05:45 18:08 18:08	05:59 07:41-09:34/113 19:38 17:33-18:11/38	05:30 07:05-09:21/136 20:06	05:27 07:05-09:21/136 20:20
28	07:02 12:53-13:39/46 17:05	06:27 07:59-09:09/70 17:40	05:43 18:09 18:09	05:58 07:39-09:33/114 19:39 17:34-18:07/33	05:29 07:04-09:20/136 20:07	05:27 07:05-09:21/136 20:20
29	07:01 12:55-13:37/42 17:06	06:26 07:59-09:10/71 17:41	05:42 18:10 18:10	05:56 07:38-09:33/115 19:40 17:36-17:58/22	05:29 07:04-09:20/136 20:07	05:27 07:06-09:22/136 20:20
30	07:00 12:58-13:37/39 17:07		05:40 18:11 18:11	05:55 07:38-09:32/114 19:41 17:38-17:56/18	05:28 07:03-09:20/137 20:08	05:28 07:06-09:22/136 20:20
31	07:00 13:00-13:35/35 17:08		06:38 19:12 19:12		05:28 07:03-09:20/137 20:09	
	Potential sun hours 302	310	370	396	443	446
	Sum of minutes with flicker 1794	728	1559	3866	3915	4082

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: Bufalo worst case WTG: 3 - CA03
 Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 07:07-09:23/136 20:20	05:51 07:36-09:37/121 20:03	06:19 08:37-09:35/58 18:23-18:44/21 19:23 17:29-18:22/53	06:46 08:32-09:44/72 18:35	06:17 16:51	06:49 12:20-13:23/63 16:29	
2	05:29 07:07-09:23/136 20:20	05:51 07:38-09:37/119 20:02	06:19 08:38-09:34/56 18:22-18:42/20 19:21 17:28-18:20/52	06:47 08:31-09:44/73 18:33	06:18 16:50	06:50 12:20-13:24/64 16:29	
3	05:29 07:08-09:24/136 20:20	05:52 07:40-09:38/118 20:01	06:20 08:38-09:31/53 18:23-18:40/17 19:20 17:28-18:19/51	06:47 08:31-09:45/74 18:32	06:19 16:49	06:51 12:20-13:24/64 16:29	
4	05:30 07:07-09:23/136 20:20	05:53 07:42-09:38/116 20:00	06:21 08:40-09:30/50 18:24-18:39/15 19:18 17:29-18:18/49	06:48 08:30-09:45/75 18:30	06:20 16:48	06:52 12:21-13:25/64 16:29	
5	05:30 07:08-09:24/136 20:20	05:54 07:44-09:38/114 19:59	06:22 08:41-09:28/47 18:27-18:36/9 19:16 17:31-18:17/47	06:49 08:30-09:45/75 18:29	06:21 16:47	06:53 12:21-13:25/64 16:28	
6	05:31 07:08-09:24/136 20:19	05:55 07:44-09:38/114 19:58	06:23 08:43-09:26/43 19:15 17:31-18:16/45	06:50 08:30-09:45/75 18:27	06:22 16:46	06:54 12:21-13:26/65 16:28	
7	05:31 07:09-09:25/136 20:19	05:56 07:44-09:38/114 19:57	06:24 08:46-09:23/37 19:13 17:32-18:14/42	06:51 08:30-09:45/75 18:26	06:23 16:45	06:55 12:22-13:26/64 16:28	
8	05:32 07:09-09:25/136 20:19	05:57 07:44-09:38/114 19:55	06:25 08:49-09:20/31 19:12 17:33-18:12/39	06:52 08:29-09:45/76 18:24	06:25 16:44	06:56 12:21-13:26/65 16:28	
9	05:33 07:10-09:26/136 20:19	05:58 07:45-09:39/114 19:54	06:26 08:51-09:15/24 19:10 17:34-18:08/34	06:53 08:30-09:45/75 18:23	06:26 12:43-12:58/15 16:43	06:57 12:22-13:27/65 16:28	
10	05:33 07:10-09:26/136 20:18	05:59 07:45-09:40/115 19:53	06:27 08:58-09:09/11 19:09 17:37-18:06/29	06:54 08:30-09:45/75 18:21	06:27 12:38-13:02/24 16:42	06:58 12:22-13:27/65 16:28	
11	05:34 07:10-09:27/137 20:18	06:00 07:45-09:40/115 19:52 17:54-17:58/4	06:27 17:50-18:03/13 19:07	06:55 08:30-09:44/74 18:20	06:28 12:34-13:04/30 16:41	06:58 12:23-13:28/65 16:28	
12	05:35 07:11-09:28/137 20:17	06:00 07:46-09:41/115 19:51 17:48-18:02/14	06:28 19:05	06:56 08:30-09:44/74 18:18	06:29 12:31-13:06/35 16:40	06:59 12:24-13:28/64 16:29	
13	05:35 07:11-09:28/137 20:17	06:01 07:45-09:40/115 19:49 17:45-18:05/20	06:29 19:04	06:57 08:31-09:43/72 18:17	06:30 12:29-13:08/39 16:39	07:00 12:24-13:29/65 16:29	
14	05:36 07:12-09:29/137 20:16	06:02 07:46-09:41/115 19:48 17:43-18:06/23	06:30 19:02	06:58 08:31-09:43/72 18:15	06:31 12:28-13:10/42 16:38	07:01 12:24-13:29/65 16:29	
15	05:37 07:13-09:29/136 20:16	06:03 07:47-09:41/114 19:47 17:41-18:16/35	06:31 19:01	06:59 08:32-09:42/70 18:14	06:32 12:26-13:12/46 16:38	07:01 12:25-13:30/65 16:29	
16	05:37 07:14-09:30/136 20:15	06:04 07:48-09:41/113 19:45 17:40-18:18/38	06:32 18:59	07:00 08:33-09:41/68 18:12	06:33 12:25-13:13/48 16:37	07:02 12:25-13:30/65 16:29	
17	05:38 07:14-09:30/136 20:15	06:05 07:48-09:41/113 19:44 17:39-18:20/41	06:33 18:57	07:01 08:34-09:40/66 18:11	06:35 12:24-13:14/50 16:36	07:03 12:25-13:30/65 16:30	
18	05:39 07:15-09:31/136 20:14	06:06 07:49-09:42/113 19:43 17:37-18:22/45	06:34 18:56	07:02 08:36-09:39/63 18:09	06:36 12:23-13:14/51 16:35	07:03 12:26-13:31/65 16:30	
19	05:40 07:16-09:32/136 20:14	06:07 07:50-09:42/112 19:41 17:36-18:23/47	06:35 09:13-09:24/11 18:54	07:03 08:37-09:37/60 18:08	06:37 12:22-13:15/53 16:35	07:04 12:26-13:31/65 16:30	
20	05:40 07:16-09:31/135 20:13	06:08 07:51-09:41/110 19:40 17:34-18:23/49	06:36 09:08-09:28/20 18:53 08:51-09:03/12	07:04 08:39-09:36/57 18:07	06:38 12:22-13:17/55 16:34	07:05 12:27-13:32/65 16:31	
21	05:41 07:17-09:32/135 20:12	06:09 07:52-09:41/109 18:32-18:40/8 19:39 17:33-18:24/51	06:36 08:47-09:31/44 18:51	07:05 08:42-09:34/52 18:05	06:39 12:21-13:17/56 16:33	07:05 12:27-13:32/65 16:31	
22	05:42 07:19-09:33/134 20:12	06:10 07:54-09:41/107 18:30-18:42/12 19:37 17:33-18:24/51	06:37 08:44-09:34/50 18:49	07:06 08:47-09:33/46 18:04	06:40 12:21-13:18/57 16:33	07:06 12:28-13:33/65 16:32	
23	05:43 07:20-09:34/134 20:11	06:10 07:56-09:41/105 18:28-18:44/16 19:36 17:32-18:25/53	06:38 08:42-09:36/54 18:48	07:07 08:59-09:31/32 18:02	06:41 12:20-13:19/59 16:32	07:06 12:28-13:33/65 16:32	
24	05:44 07:22-09:34/132 20:10	06:11 07:58-09:41/103 18:26-18:45/19 19:34 17:31-18:25/54	06:39 08:40-09:37/57 18:46	07:08 09:01-09:29/28 18:01	06:42 12:20-13:19/59 16:32	07:07 12:29-13:34/65 16:33	
25	05:45 07:23-09:34/131 20:09	06:12 08:02-09:40/98 19:33 17:31-18:46/75	06:40 08:38-09:38/60 18:45	07:09 09:04-09:25/21 18:00	06:43 12:19-13:20/61 16:31	07:07 12:29-13:34/65 16:33	
26	05:45 07:25-09:35/130 20:08	06:13 08:08-08:14/6 17:30-18:45/75 19:32 08:17-09:40/83	06:41 08:36-09:39/63 18:43	07:10 09:09-09:20/11 17:59	06:44 12:19-13:20/61 16:31	07:08 12:30-13:35/65 16:34	
27	05:46 07:27-09:35/128 20:08	06:14 08:22-09:39/77 19:30 17:29-18:45/76	06:42 08:35-09:40/65 18:41	06:11 16:57	06:45 12:20-13:22/62 16:30	07:08 12:30-13:35/65 16:35	
28	05:47 07:32-09:36/124 20:07	06:15 08:30-09:38/68 19:29 17:29-18:45/76	06:43 08:34-09:41/67 18:40	06:12 16:56	06:46 12:20-13:22/62 16:30	07:08 12:31-13:36/65 16:35	
29	05:48 07:34-09:36/122 20:06	06:16 08:31-09:38/67 19:27 17:29-18:45/76	06:44 08:33-09:42/69 18:38	06:14 16:55	06:47 12:20-13:23/63 16:30	07:09 12:31-13:36/65 16:36	
30	05:49 07:34-09:36/122 20:05	06:17 08:33-09:37/64 19:26 17:29-18:45/76	06:45 08:32-09:43/71 18:37	06:15 16:54	06:48 12:20-13:23/63 16:29	07:09 12:31-13:36/65 16:37	
31	05:50 07:35-09:36/121 20:04	06:18 08:35-09:36/61 19:24 17:29-18:44/75	 	06:16 16:52	 	07:09 12:32-13:37/65 16:37	
	Potential sun hours Sum of minutes with flicker	453 4136	424 4351	374 1589	347 1611	303 1091	294 2007

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: Bufalo worst case WTG: 4 - CA04
Assumptions for shadow calculations

Reference year for calendar 2024
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	07:09 08:53-09:00/7 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:51 20:03	06:19 19:23	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 08:55-08:59/4 16:38	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	06:18 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:28
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:14	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16	05:34 20:18	06:00 19:52	06:27 19:07	06:55 18:20	06:28 16:41	06:58 08:46-08:48/2 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 08:44-08:51/7 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 08:44-08:53/9 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:25 20:17	05:36 20:17	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 08:43-08:54/11 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	05:25 20:18	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:37	07:02 08:43-08:55/12 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	05:25 20:18	05:37 20:15	06:04 19:46	06:32 18:59	07:00 18:12	06:33 16:37	07:02 08:43-08:56/13 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:35 16:36	07:03 08:43-08:57/14 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:19	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:04 08:43-08:58/15 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:35 19:59	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 08:44-08:59/15 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:36 18:53	07:04 18:06	06:38 16:34	07:05 08:44-08:59/15 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 08:45-09:00/15 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:20	05:42 20:12	06:10 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 08:45-09:00/15 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:32 20:03	05:26 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 08:45-09:00/15 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:32	07:07 08:46-09:01/15 16:33
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:45	07:09 18:00	06:43 16:31	07:07 08:46-09:01/15 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	05:26 20:20	05:45 20:08	06:13 19:32	06:41 18:43	07:10 17:59	06:44 16:31	07:08 08:47-09:02/15 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	06:11 16:57	06:45 16:30	07:08 08:48-09:01/13 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	06:13 16:56	06:46 16:30	07:08 08:49-09:01/12 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	05:29 20:07	05:27 20:20	05:48 20:06	06:16 19:27	06:44 18:38	06:14 16:55	06:47 16:30	07:09 08:49-09:01/12 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:37	06:15 16:54	06:48 16:29	07:09 08:51-09:01/10 16:37
31	07:00 17:08		06:38 19:12		05:28 20:09		05:50 20:04	06:18 19:24		06:16 16:52		07:09 08:53-09:01/8 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Sum of minutes with flicker	11	0	0	0	0	0	0	0	0	0	0	258

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: Bufalo worst case WTG: 5 - CA05

Assumptions for shadow calculations

Reference year for calendar 2024

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

Table with 12 columns for months (January to December) and multiple rows of shadow calculation data including start/end times and minutes with flicker.

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

Matrix defining columns: Day in month, Sun rise (hh:mm), Sun set (hh:mm), First time (hh:mm) with flicker, Last time (hh:mm) with flicker, Minutes with flicker.

SHADOW - Calendar per WTG

Calculation: Bufalo worst case WTG: 6 - CA06
Assumptions for shadow calculations

Reference year for calendar 2024
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	07:09 15:16-15:40/24 16:38	06:59 08:44-09:10/26 17:10	06:25 16:17-16:35/18 17:42 08:34-09:12/38	06:37 17:13-17:27/14 19:13	05:54 18:33-18:51/18 19:42 17:22-18:12/50	05:27 16:00-16:40/40 20:10
2	07:09 15:16-15:40/24 16:39	06:58 08:42-09:12/30 17:11	06:23 16:15-16:38/23 17:43 08:35-09:11/36	06:35 19:14	05:53 18:31-18:52/21 19:43 17:22-18:13/51	05:27 15:58-16:41/43 20:10
3	07:10 15:17-15:41/24 16:39	06:57 08:40-09:14/34 17:12	06:22 16:12-16:39/27 17:44 08:36-09:08/32	06:34 19:15	05:52 18:30-18:53/23 19:44 17:23-18:13/50	05:27 15:58-16:42/44 20:11
4	07:10 15:17-15:41/24 16:40	06:56 08:39-09:15/36 17:13	06:20 16:11-16:41/30 17:45 08:38-09:06/28	06:32 19:16	05:50 18:28-18:53/25 19:45 17:22-18:12/50	05:26 15:57-16:44/47 20:12
5	07:10 15:18-15:41/23 16:41	06:55 08:38-09:17/39 17:14	06:19 16:09-16:41/32 17:47 08:40-09:03/23	06:31 19:17	05:49 18:27-18:54/27 19:46 17:22-18:12/50	05:26 15:56-16:44/48 20:12
6	07:10 15:19-15:41/22 16:42	06:54 08:37-09:18/41 17:15	06:17 16:09-16:43/34 17:48 08:43-08:59/16	06:29 19:18	05:48 18:27-18:55/28 19:47 17:22-18:12/50	05:26 15:56-16:46/50 20:13
7	07:10 15:20-15:41/21 16:43	06:53 08:36-09:19/43 17:17	06:16 16:07-16:43/36 17:49	06:28 19:19	05:47 18:26-18:55/29 19:48 17:22-18:12/50	05:25 15:56-16:47/51 20:14
8	07:10 15:21-15:41/20 16:44	06:52 08:35-09:20/45 17:18	06:14 16:07-16:44/37 17:50	06:26 19:20	05:46 18:26-18:56/30 19:49 17:23-18:11/48	05:25 15:56-16:48/52 20:14
9	07:10 15:23-15:42/19 16:45	06:51 08:34-09:21/47 17:19	06:13 16:06-16:43/37 17:51	06:25 19:21	05:45 18:26-18:56/30 19:50 17:23-18:11/48	05:25 15:55-16:49/54 20:15
10	07:10 15:23-15:41/18 16:46	06:50 08:34-09:22/48 17:20	06:11 16:06-16:44/38 17:52	06:23 19:22	05:44 18:25-18:56/31 19:51 17:23-18:11/48	05:25 15:54-16:49/55 20:15
11	07:10 15:25-15:40/15 16:47	06:49 08:33-09:23/50 17:21	06:10 16:05-16:44/39 17:53	06:22 19:23	05:43 18:25-18:56/31 19:52 17:24-18:10/46	05:25 15:54-16:50/56 20:16
12	07:09 15:26-15:40/14 16:48	06:48 08:32-09:22/50 17:22	06:08 16:06-16:44/38 17:54	06:20 19:24	05:42 18:25-18:56/31 19:53 17:24-18:10/46	05:25 15:54-16:51/57 20:16
13	07:09 15:28-15:40/12 16:49	06:47 08:31-09:23/52 17:24	06:07 16:05-16:43/38 17:55	06:19 19:25	05:41 18:25-18:56/31 19:54 17:25-18:09/44	05:25 15:54-16:51/57 20:17
14	07:09 15:29-15:38/9 16:50	06:46 08:31-09:23/52 17:25	06:05 16:04-16:43/39 17:56	06:17 19:26	05:40 18:26-18:57/31 19:55 17:26-18:10/44	05:25 15:54-16:52/58 20:17
15	07:09 15:33-15:36/3 16:51	06:45 08:31-09:24/53 17:26	06:04 16:04-16:44/40 17:57	06:16 17:43-17:56/13 19:27	05:39 18:26-18:56/30 19:56 17:27-18:09/42	05:25 15:54-16:52/58 20:18
16	07:08 16:52	06:43 08:31-09:24/53 17:27	06:02 16:03-16:44/41 17:58	06:14 17:38-17:59/21 19:28	05:38 18:26-18:56/30 19:57 17:27-18:08/41	05:25 15:54-16:53/59 20:18
17	07:08 16:53	06:42 08:30-09:23/53 17:28	06:01 16:03-16:44/41 17:59	06:13 17:36-18:02/26 19:29	05:37 18:26-18:56/30 19:57 17:28-18:08/40	05:25 15:55-16:54/59 20:18
18	07:08 16:54	06:41 08:30-09:23/53 17:29	05:59 16:02-16:44/42 18:00	06:11 17:34-18:04/30 19:30	05:36 18:27-18:55/28 19:58 17:28-18:07/39	05:25 15:55-16:54/59 20:19
19	07:07 16:55	06:40 08:30-09:24/54 17:30	05:57 16:02-16:44/42 18:01	06:10 17:31-18:05/34 19:31	05:36 18:28-18:55/27 19:59 17:30-18:07/37	05:25 15:55-16:55/60 20:19
20	07:07 16:56	06:38 08:30-09:22/52 17:31	05:56 16:02-16:44/42 18:02	06:09 17:30-18:07/37 19:32	05:35 18:28-18:55/27 20:00 17:30-18:06/36	05:25 15:55-16:55/60 20:19
21	07:06 16:57	06:37 08:30-09:22/52 17:33	05:54 16:01-16:43/42 18:03	06:07 17:28-18:07/39 19:33	05:34 18:29-18:54/25 20:01 17:31-18:05/34	05:25 15:55-16:55/60 20:19
22	07:06 16:58	06:36 08:30-09:22/52 17:34	05:53 16:02-16:43/41 18:04	06:06 17:27-18:09/42 19:34	05:33 18:30-18:54/24 20:02 17:33-18:05/32	05:25 15:55-16:55/60 20:20
23	07:05 16:59	06:34 08:30-09:21/51 17:35	05:51 16:02-16:42/40 18:05	06:04 17:26-18:10/44 19:35	05:33 18:30-18:53/23 20:03 17:33-18:04/31	05:26 15:56-16:56/60 20:20
24	07:05 17:00	06:33 08:30-09:21/51 17:36	05:50 16:03-16:42/39 18:06	06:03 17:26-18:11/45 19:36	05:32 18:31-18:52/21 20:04 17:34-18:03/29	05:26 15:56-16:55/59 20:20
25	07:04 17:02	06:32 08:31-09:20/49 17:37	05:48 16:03-16:40/37 18:07	06:02 17:24-18:10/46 19:37	05:31 18:32-18:52/20 20:04 17:36-18:02/26	05:26 15:56-16:55/59 20:20
26	07:03 17:03	06:30 08:31-09:18/47 17:38	05:46 16:03-16:39/36 18:08	06:00 17:24-18:11/47 19:38	05:31 18:33-18:51/18 16:16-16:19/3 20:05 17:37-18:01/24	05:26 15:57-16:56/59 20:20
27	07:03 17:04	06:29 08:32-09:18/46 17:39	05:45 16:05-16:38/33 18:09	05:59 17:24-18:12/48 19:39	05:30 18:35-18:50/15 16:09-16:27/18 20:06 17:39-18:00/21	05:27 15:57-16:56/59 20:20
28	07:02 17:05	06:28 08:32-09:16/44 17:40	05:43 16:05-16:36/31 18:10	05:58 17:23-18:11/48 19:40	05:29 18:36-18:48/12 16:05-16:30/25 20:07 17:40-17:58/18	05:27 15:57-16:55/58 20:20
29	07:01 17:06	06:26 16:21-16:33/12 17:41 08:33-09:15/42	05:42 16:07-16:35/28 18:10	05:57 18:39-18:44/5 19:40	05:29 18:38-18:47/9 16:04-16:33/29 20:07 17:42-17:57/15	05:27 15:58-16:56/58 20:20
30	07:00 17:07	06:25 16:21-16:33/12 17:41 08:33-09:15/42	05:40 16:08-16:33/25 18:11	05:55 18:35-18:48/13 19:41	05:28 18:40-18:44/4 16:02-16:35/33 20:08 17:44-17:55/11	05:28 15:58-16:55/57 20:20
31	07:00 17:09	08:46-09:08/22	06:39 17:11-17:31/20 19:12		05:28 17:48-17:52/4 20:09 16:01-16:38/37	
Potential sun hours	302	310	370	396	443	446
Sum of minutes with flicker	309	1357	1259	652	2029	1656

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: Buffalo worst case WTG: 6 - CA06

Assumptions for shadow calculations

Reference year for calendar 2024

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

Table with 6 columns for months (July to December) and rows for days, showing sun rise/set times, shadow start/end times, and potential sun hours with minutes with flicker.

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

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

SHADOW - Calendar per WTG

Calculation: Bufalo worst case WTG: 7 - CA07
Assumptions for shadow calculations

Reference year for calendar 2024
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	07:09 16:38	06:59 11:05-12:14/69 17:10	06:25 10:08-12:15/127 17:42 07:09-07:32/23	06:37 19:13	05:54 07:34-08:24/50 19:42	05:27 09:02-10:24/82 20:10
2	07:09 16:38	06:58 11:04-12:15/71 17:11	06:23 10:07-12:14/127 17:43 07:09-07:33/24	06:35 19:14	05:53 07:34-08:24/50 19:43	05:27 09:02-10:24/82 20:10
3	07:10 16:39	06:57 11:03-12:16/73 17:12	06:22 10:06-12:11/125 17:44 07:08-07:32/24	06:34 19:15	05:52 07:35-08:24/49 19:44	05:27 09:02-10:24/82 20:11
4	07:10 16:40	06:56 11:03-12:17/74 17:13	06:20 10:06-12:09/123 17:45 07:08-07:33/25	06:32 19:16	05:50 09:45-09:54/9 19:45 07:34-08:22/48	05:26 09:02-10:24/82 20:12
5	07:10 16:41	06:55 11:02-12:18/76 17:14	06:19 10:05-12:05/120 17:46 07:07-07:32/25	06:31 19:17	05:49 09:37-10:02/25 19:46 07:34-08:21/47	05:26 09:01-10:24/83 20:12
6	07:10 16:42	06:54 11:02-12:19/77 17:15	06:17 10:05-12:02/117 17:48 07:08-07:32/24	06:29 19:18	05:48 09:32-10:06/34 19:47 07:35-08:21/46	05:26 09:01-10:24/83 20:13
7	07:10 16:43	06:53 11:01-12:20/79 17:17	06:16 10:04-11:56/112 17:49 07:08-07:30/22	06:28 19:19	05:47 09:29-10:09/40 19:48 07:35-08:20/45	05:25 09:01-10:24/83 20:14
8	07:10 16:44	06:52 10:48-12:20/92 17:18	06:14 10:04-11:50/106 17:50 07:09-07:29/20	06:26 19:20	05:46 09:26-10:11/45 19:49 07:36-08:19/43	05:25 09:01-10:25/84 20:14
9	07:10 16:45	06:51 10:42-12:21/99 17:19	06:13 10:04-11:39/95 17:51 07:10-07:27/17	06:25 08:01-08:12/11 19:21	05:45 09:23-10:13/50 19:50 07:36-08:18/42	05:25 09:01-10:25/84 20:15
10	07:10 16:46	06:50 10:38-12:22/104 17:20	06:11 10:04-11:32/88 17:52 07:12-07:26/14	06:23 07:55-08:16/21 19:22	05:44 09:21-10:14/53 19:51 07:37-08:18/41	05:25 09:01-10:24/83 20:15
11	07:10 16:47	06:49 10:34-12:21/107 17:21	06:10 10:03-11:30/87 17:53 07:14-07:22/8	06:22 07:52-08:19/27 19:23	05:43 09:19-10:15/56 19:52 07:38-08:17/39	05:25 09:01-10:24/83 20:16
12	07:09 16:47	06:48 10:31-12:22/111 17:22	06:08 10:04-11:29/85 17:54	06:20 07:49-08:20/31 19:24	05:42 09:17-10:17/60 19:53 07:38-08:16/38	05:25 09:01-10:25/84 20:16
13	07:09 16:49	06:47 10:29-12:23/114 17:24	06:07 10:03-11:27/84 17:55	06:19 07:48-08:22/34 19:25	05:41 09:16-10:17/61 19:54 07:40-08:15/35	05:25 09:01-10:25/84 20:17
14	07:09 16:50	06:46 10:27-12:23/116 17:25	06:05 10:02-11:25/83 17:56	06:17 07:45-08:23/38 19:26	05:40 09:15-10:19/64 19:55 07:41-08:14/33	05:24 09:01-10:25/84 20:17
15	07:09 16:51	06:44 10:25-12:24/119 17:26	06:04 10:03-11:24/81 17:57	06:16 07:44-08:24/40 19:27	05:39 09:13-10:20/67 19:56 07:42-08:13/31	05:24 09:01-10:25/84 20:18
16	07:08 11:28-11:44/16 16:52	06:43 10:23-12:23/120 17:27	06:02 10:03-11:21/78 17:58	06:14 07:42-08:24/42 19:28	05:38 09:12-10:20/68 19:57 07:43-08:11/28	05:25 09:01-10:25/84 20:18
17	07:08 11:24-11:47/23 16:53	06:42 10:22-12:23/121 17:28	06:01 10:03-11:19/76 17:59	06:13 07:41-08:25/44 19:29	05:37 09:11-10:21/70 19:57 07:44-08:10/26	05:25 09:02-10:26/84 20:18
18	07:08 11:22-11:50/28 16:54	06:41 10:20-12:24/124 17:29	05:59 10:03-11:16/73 18:00	06:11 07:40-08:26/46 19:30	05:36 09:09-10:21/72 19:58 07:45-08:08/23	05:25 09:02-10:26/84 20:19
19	07:07 11:20-11:53/33 16:55	06:40 10:19-12:24/125 17:30	05:57 10:04-11:14/70 18:01	06:10 07:39-08:26/47 19:31	05:35 09:09-10:22/73 19:59 07:48-08:07/19	05:25 09:02-10:26/84 20:19
20	07:07 11:18-11:56/38 16:56	06:38 10:17-12:23/126 17:31	05:56 10:04-11:10/66 18:02	06:08 07:38-08:27/49 19:32	05:35 09:08-10:22/74 20:00 07:50-08:04/14	05:25 09:02-10:26/84 20:19
21	07:06 11:16-11:57/41 16:57	06:37 10:16-12:23/127 17:33	05:54 10:04-11:06/62 18:03	06:07 07:37-08:26/49 19:33	05:34 09:07-10:22/75 20:01 07:53-08:01/8	05:25 09:02-10:26/84 20:19
22	07:06 11:15-11:59/44 16:58	06:36 10:16-12:23/127 17:34	05:53 10:06-11:02/56 18:04	06:06 07:37-08:27/50 19:34	05:33 09:07-10:23/76 20:02	05:25 09:02-10:26/84 20:20
23	07:05 11:14-12:01/47 16:59	06:34 10:14-12:22/128 17:35	05:51 10:06-10:58/52 18:05	06:04 07:36-08:27/51 19:35	05:32 09:06-10:23/77 20:03	05:25 09:03-10:27/84 20:20
24	07:05 11:12-12:03/51 17:00	06:33 10:13-12:22/129 17:36	05:50 10:08-10:54/46 18:06	06:03 07:36-08:27/51 19:36	05:32 09:05-10:23/78 20:03	05:26 09:03-10:27/84 20:20
25	07:04 11:11-12:04/53 17:02	06:32 10:12-12:21/129 17:37 07:18-07:27/9	05:48 10:09-10:48/39 18:07	06:02 07:35-08:26/51 19:37	05:31 09:05-10:23/78 20:04	05:26 09:03-10:27/84 20:20
26	07:03 11:11-12:06/55 17:03	06:30 10:11-12:20/129 17:38 07:14-07:29/15	05:46 10:10-10:43/33 18:08	06:00 07:35-08:26/51 19:38	05:30 09:04-10:23/79 20:05	05:26 09:04-10:28/84 20:20
27	07:03 11:09-12:08/59 17:04	06:29 10:11-12:20/129 17:39 07:13-07:31/18	05:45 10:14-10:37/23 18:08	05:59 07:35-08:26/51 19:38	05:30 09:04-10:24/80 20:06	05:27 09:04-10:28/84 20:20
28	07:02 11:08-12:09/61 17:05	06:27 10:09-12:18/129 17:40 07:11-07:31/20	05:43 10:21-10:25/4 18:09	05:58 07:34-08:25/51 19:39	05:29 09:03-10:23/80 20:07	05:27 09:04-10:28/84 20:20
29	07:01 11:07-12:10/63 17:06	06:26 10:09-12:17/128 17:41 07:10-07:32/22	05:42 18:10	05:56 07:34-08:25/51 19:40	05:29 09:03-10:24/81 20:07	05:27 09:05-10:29/84 20:20
30	07:00 11:07-12:12/65 17:07		05:40 18:11	05:55 07:34-08:25/51 19:41	05:28 09:02-10:23/81 20:08	05:28 09:05-10:29/84 20:20
31	07:00 11:06-12:13/67 17:08		06:38 19:12		05:28 09:02-10:24/82 20:09	
Potential sun hours	302	310	370	396	443	446
Sum of minutes with flicker	744	3236	2464	937	2543	2507

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: Bufalo worst case WTG: 7 - CA07

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 09:06-10:29/83 20:20	05:50 09:29-10:27/58 20:03 07:49-08:27/38	06:19 07:51-08:18/27 19:23	06:46 10:42-12:07/85 18:35	06:17 10:04-11:51/107 16:51	06:49 16:29
2	05:29 09:06-10:29/83 20:20	05:51 09:30-10:26/56 20:02 07:48-08:28/40	06:19 07:54-08:15/21 19:21	06:47 10:42-12:08/86 18:33	06:18 10:07-11:51/104 16:50	06:50 16:29
3	05:29 09:05-10:29/84 20:20	05:52 09:33-10:24/51 20:01 07:47-08:29/42	06:20 07:58-08:09/11 19:20	06:47 10:41-12:09/88 18:32 07:51-08:02/11	06:19 10:11-11:50/99 16:49	06:51 16:29
4	05:30 09:06-10:30/84 20:20	05:53 09:35-10:23/48 20:00 07:47-08:29/42	06:21 06:21 19:18	06:48 10:41-12:09/88 18:30 07:48-08:04/16	06:20 10:30-11:50/80 16:48 10:18-10:29/11	06:52 16:28
5	05:30 09:07-10:31/84 20:20	05:54 09:37-10:20/43 19:59 07:46-08:30/44	06:22 06:22 19:16	06:49 10:41-12:22/101 18:29 07:47-08:05/18	06:21 10:31-11:49/78 16:47	06:53 16:28
6	05:31 09:07-10:30/83 20:19	05:55 09:40-10:17/37 19:58 07:45-08:30/45	06:23 19:15	06:50 10:41-12:30/109 18:27 07:45-08:06/21	06:22 10:31-11:49/78 16:46	06:54 16:28
7	05:31 09:08-10:31/83 20:19	05:56 09:43-10:14/31 19:57 07:44-08:31/47	06:24 19:12	06:51 10:41-12:35/114 18:26 07:44-08:07/23	06:23 10:32-11:48/76 16:45	06:55 16:28
8	05:32 09:08-10:31/83 20:19	05:57 09:48-10:10/22 19:55 07:44-08:31/47	06:25 19:12	06:52 10:41-12:39/118 18:24 07:43-08:07/24	06:25 10:33-11:47/74 16:44	06:56 16:28
9	05:33 09:09-10:31/82 20:19	05:58 07:44-08:32/48 19:54	06:26 19:10	06:53 10:41-12:42/121 18:23 07:43-08:07/24	06:26 10:34-11:47/73 16:43	06:57 16:28
10	05:33 09:09-10:31/82 20:18	05:59 07:43-08:32/49 19:53	06:27 19:09	06:54 10:41-12:44/123 18:21 07:42-08:07/25	06:27 10:35-11:46/71 16:42	06:58 16:28
11	05:34 09:10-10:31/81 20:18	05:59 07:43-08:33/50 19:52	06:27 19:07	06:55 10:41-12:46/125 18:20 07:42-08:07/25	06:28 10:36-11:45/69 16:41	06:58 16:28
12	05:35 09:10-10:32/82 20:17	06:00 07:43-08:33/50 19:51	06:28 19:05	06:56 10:41-12:48/127 18:18 07:42-08:06/24	06:29 10:37-11:44/67 16:40	06:59 16:28
13	05:35 09:10-10:32/82 20:17	06:01 07:42-08:33/51 19:49	06:29 19:04	06:57 10:41-12:49/128 18:17 07:43-08:06/23	06:30 10:38-11:43/65 16:39	07:00 16:29
14	05:36 09:11-10:32/81 20:17	06:02 07:42-08:33/51 19:48	06:30 19:02	06:58 10:42-12:50/128 18:15 07:43-08:05/22	06:31 10:40-11:43/63 16:38	07:01 16:29
15	05:37 09:12-10:33/81 20:16	06:03 07:42-08:33/51 19:47	06:31 19:01	06:59 10:42-12:51/129 18:14 07:44-08:03/19	06:32 10:41-11:42/61 16:37	07:02 16:29
16	05:37 09:12-10:32/80 20:16	06:04 07:42-08:33/51 19:46	06:32 11:04-11:24/20 18:59	07:00 10:42-12:52/130 18:12 07:45-08:02/17	06:33 10:42-11:41/59 16:37	07:02 16:29
17	05:38 09:13-10:32/79 20:15	06:05 07:42-08:33/51 19:44	06:33 10:59-11:30/31 18:57	07:01 10:43-12:52/129 18:11 07:46-08:00/14	06:35 10:44-11:39/55 16:36	07:03 16:30
18	05:39 09:14-10:33/79 20:14	06:06 07:42-08:33/51 19:43	06:34 10:57-11:35/38 18:56	07:02 10:43-12:53/130 18:09 07:49-07:56/7	06:36 10:45-11:38/53 16:35	07:04 16:30
19	05:40 09:15-10:33/78 20:14	06:07 07:42-08:33/51 19:42	06:35 10:55-11:39/44 18:54	07:03 10:44-12:53/129 18:08	06:37 10:47-11:38/51 16:35	07:04 16:30
20	05:40 09:15-10:32/77 20:13	06:08 07:41-08:32/51 19:40	06:36 10:53-11:43/50 18:53	07:04 10:45-12:53/128 18:06	06:38 10:49-11:36/47 16:34	07:05 16:31
21	05:41 09:16-10:32/76 20:12	06:09 07:41-08:31/50 19:39	06:36 10:51-11:47/56 18:51	07:05 10:46-12:53/127 18:05	06:39 10:51-11:35/44 16:33	07:05 16:31
22	05:42 09:17-10:33/76 20:12	06:09 07:42-08:31/49 19:37	06:37 10:50-11:50/60 18:49	07:06 10:47-12:54/127 18:04	06:40 10:52-11:33/41 16:33	07:06 16:32
23	05:43 09:18-10:33/75 20:11	06:10 07:42-08:31/49 19:36	06:38 10:49-11:53/64 18:48	07:07 10:48-12:54/126 18:02	06:41 10:54-11:32/38 16:32	07:06 16:32
24	05:44 09:19-10:33/74 20:10	06:11 07:43-08:30/47 19:35	06:39 10:48-11:56/68 18:46	07:08 10:49-12:54/125 18:01	06:42 10:57-11:30/33 16:32	07:07 16:33
25	05:44 09:19-10:31/72 20:09	06:12 07:43-08:29/46 19:33	06:40 10:46-11:58/72 18:45	07:09 10:50-12:53/123 18:00	06:43 10:59-11:28/29 16:31	07:07 16:33
26	05:45 09:21-10:31/70 20:09	06:13 07:44-08:28/44 19:32	06:41 10:45-12:00/75 18:43	07:10 10:52-12:53/121 17:58	06:44 11:03-11:26/23 16:31	07:08 16:34
27	05:46 09:22-10:31/69 20:08	06:14 07:44-08:26/42 19:30	06:42 10:44-12:02/78 18:41	06:11 09:53-11:53/120 16:57	06:45 11:07-11:23/16 16:30	07:08 16:35
28	05:47 09:23-10:31/68 20:07	06:15 07:45-08:25/40 19:29	06:43 10:44-12:04/80 18:40	06:13 09:55-11:52/117 16:56	06:46 16:30	07:08 16:35
29	05:48 09:25-10:30/65 20:06	06:16 07:46-08:24/38 19:27	06:44 10:43-12:05/82 18:38	06:14 09:57-11:53/116 16:55	06:47 16:30	07:09 16:36
30	05:49 09:25-10:29/64 20:05	06:17 07:48-08:22/34 19:26	06:45 10:43-12:06/83 18:37	06:15 09:59-11:52/113 16:54	06:48 16:29	07:09 16:37
31	05:50 09:27-10:28/61 20:04	06:18 07:49-08:20/31 19:24		06:16 10:01-11:52/111 16:52		07:09 16:37
Potential sun hours	453	424	374	347	303	294
Sum of minutes with flicker	2632	1766	960	3955	1665	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: Bufalo worst case WTG: 8 - CA08

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 07:40-08:12/32 17:42	06:37 07:52-08:18/26 19:13 07:41-07:49/8	05:54 07:52-08:14/22 19:42	05:27 07:29-08:32/63 20:10
2	07:09 16:38	06:58 17:11	06:23 07:41-08:11/30 17:43	06:35 07:52-08:16/24 19:14	05:53 07:49-08:17/28 19:43	05:27 07:29-08:32/63 20:10
3	07:10 16:39	06:57 08:09-08:20/11 17:12	06:22 07:41-08:10/29 17:44	06:34 07:54-08:15/21 19:15	05:52 07:47-08:19/32 19:44	05:27 07:30-08:32/62 20:11
4	07:10 16:40	06:56 08:06-08:23/17 17:13	06:20 07:42-08:09/27 17:45	06:32 07:56-08:12/16 19:16	05:50 07:44-08:20/36 19:45	05:26 07:30-08:33/63 20:12
5	07:10 16:41	06:55 08:04-08:25/21 17:14	06:19 07:43-08:06/23 17:46	06:31 08:00-08:08/8 19:17	05:49 07:42-08:22/40 19:46	05:26 07:30-08:32/62 20:12
6	07:10 16:42	06:54 08:03-08:27/24 17:15	06:17 07:45-08:05/20 17:47	06:29 19:18	05:48 07:41-08:23/42 19:47	05:26 07:30-08:32/62 20:13
7	07:10 16:43	06:53 08:01-08:29/28 17:17	06:16 07:47-08:01/14 17:49	06:28 19:19	05:47 07:39-08:24/45 19:48	05:25 07:30-08:33/63 20:14
8	07:10 16:44	06:52 08:00-08:30/30 17:18	06:14 17:50	06:26 19:20	05:46 07:38-08:25/47 19:49	05:25 07:31-08:33/62 20:14
9	07:10 16:45	06:51 08:00-08:31/31 17:19	06:13 17:51	06:25 19:21	05:45 07:37-08:26/49 19:50	05:25 07:31-08:33/62 20:15
10	07:10 16:45	06:50 07:59-08:32/33 17:20	06:11 17:52	06:23 19:22	05:44 07:36-08:27/51 19:51	05:25 07:30-08:33/63 20:15
11	07:09 16:46	06:49 07:58-08:32/34 17:21	06:10 17:53	06:22 19:23	05:43 07:35-08:27/52 19:52	05:25 07:31-08:33/62 20:16
12	07:09 16:47	06:48 07:57-08:32/35 17:22	06:08 17:54	06:20 19:24	05:42 07:34-08:28/54 19:53	05:25 07:31-08:33/62 20:16
13	07:09 16:48	06:47 07:57-08:33/36 17:23	06:07 17:55	06:19 19:25	05:41 07:33-08:28/55 19:54	05:24 07:31-08:33/62 20:17
14	07:09 16:49	06:46 07:52-08:33/41 17:25	06:05 17:56	06:17 19:26	05:40 07:33-08:30/57 19:55	05:24 07:31-08:33/62 20:17
15	07:09 16:51	06:44 07:50-08:34/44 17:26	06:04 07:06-07:16/10 17:57	06:16 19:27	05:39 07:33-08:30/57 19:56	05:24 07:32-08:33/61 20:17
16	07:08 16:52	06:43 07:47-08:33/46 17:27	06:02 07:02-07:19/17 17:58	06:14 19:28	05:38 07:32-08:30/58 19:56	05:24 07:32-08:33/61 20:18
17	07:08 16:53	06:42 07:46-08:33/47 17:28	06:00 07:00-07:22/22 17:59 06:46-06:55/9	06:13 19:29	05:37 07:31-08:30/59 19:57	05:25 07:32-08:33/61 20:18
18	07:08 16:54	06:41 07:44-08:33/49 17:29	05:59 06:42-07:23/41 18:00	06:11 19:30	05:36 07:31-08:30/59 19:58	05:25 07:33-08:35/62 20:19
19	07:07 16:55	06:40 07:44-08:33/49 17:30	05:57 06:41-07:24/43 18:01	06:10 19:31	05:35 07:31-08:31/60 19:59	05:25 07:33-08:35/62 20:19
20	07:07 16:56	06:38 07:42-08:32/50 17:31	05:56 06:39-07:24/45 18:02	06:08 19:32	05:35 07:30-08:31/61 20:00	05:25 07:33-08:35/62 20:19
21	07:06 16:57	06:37 07:42-08:31/49 17:33	05:54 06:37-07:24/47 18:03	06:07 19:33	05:34 07:30-08:31/61 20:01	05:25 07:33-08:35/62 20:19
22	07:06 16:58	06:36 07:41-08:31/50 17:34	05:53 06:37-07:25/48 18:04	06:06 19:34	05:33 07:30-08:32/62 20:02	05:25 07:33-08:35/62 20:20
23	07:05 16:59	06:34 07:40-08:29/49 17:35	05:51 06:36-07:25/49 18:05	06:04 19:35	05:32 07:30-08:31/61 20:03	05:25 07:34-08:36/62 20:20
24	07:05 17:00	06:33 07:40-08:28/48 17:36	05:49 06:36-07:25/49 18:06	06:03 19:36	05:32 07:29-08:31/62 20:03	05:26 07:34-08:36/62 20:20
25	07:04 17:02	06:32 07:39-08:26/47 17:37	05:48 06:35-07:25/50 18:07	06:02 19:37	05:31 07:30-08:32/62 20:04	05:26 07:34-08:36/62 20:20
26	07:03 17:03	06:30 07:39-08:25/46 17:38	05:46 06:35-07:24/49 18:07	06:00 19:37	05:30 07:29-08:31/62 20:05	05:26 07:35-08:36/61 20:20
27	07:03 17:04	06:29 07:40-08:23/43 17:39	05:45 06:35-07:24/49 18:08	05:59 19:38	05:30 07:30-08:32/62 20:06	05:27 07:35-08:36/61 20:20
28	07:02 17:05	06:27 07:39-08:19/40 17:40	05:43 06:35-07:23/48 18:09	05:58 19:39	05:29 07:29-08:32/63 20:07	05:27 07:35-08:36/61 20:20
29	07:01 17:06	06:26 07:40-08:13/33 17:41	05:42 06:36-07:22/46 18:10	05:56 19:40	05:29 07:30-08:32/62 20:07	05:27 07:35-08:37/62 20:20
30	07:00 17:07		05:40 06:37-07:21/44 18:11	05:55 07:57-08:09/12 19:41	05:28 07:29-08:32/63 20:08	05:28 07:35-08:37/62 20:20
31	07:00 17:08		06:38 07:39-08:20/41 19:12		05:28 07:30-08:32/62 20:09	
Potential sun hours	302	310	370	396	443	446
Sum of minutes with flicker	0	1031	882	115	1646	1859

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

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

SHADOW - Calendar per WTG

Calculation: Bufalo worst case WTG: 8 - CA08
Assumptions for shadow calculations

Reference year for calendar 2024
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	05:28 07:36-08:38/62 20:20	05:50 07:45-08:38/53 20:03	06:18 19:23	06:46 18:35	06:17 07:27-08:01/34 16:51	06:49 16:29
2	05:29 07:36-08:38/62 20:20	05:51 07:46-08:38/52 20:02	06:19 19:21	06:46 18:33	06:18 07:28-08:01/33 16:50	06:50 16:29
3	05:29 07:35-08:37/62 20:20	05:52 07:47-08:37/50 20:01	06:20 19:20	06:47 18:32	06:19 07:29-08:00/31 16:49	06:51 16:29
4	05:30 07:36-08:38/62 20:20	05:53 07:48-08:36/48 20:00	06:21 19:18	06:48 18:30	06:20 07:30-08:00/30 16:48	06:52 16:28
5	05:30 07:37-08:39/62 20:20	05:54 07:48-08:35/47 19:59	06:22 19:16	06:49 18:29	06:21 07:31-07:58/27 16:47	06:53 16:28
6	05:31 07:36-08:39/63 20:19	05:55 07:49-08:34/45 19:58	06:23 19:15	06:50 08:26-08:35/9 18:27	06:22 07:33-07:57/24 16:46	06:54 16:28
7	05:31 07:37-08:39/62 20:19	05:56 07:51-08:32/41 19:57	06:24 07:56-08:02/6 19:13	06:51 08:22-08:39/17 18:26	06:23 07:34-07:55/21 16:45	06:55 16:28
8	05:32 07:36-08:39/63 20:19	05:57 07:52-08:31/39 19:55	06:25 07:51-08:06/15 19:12	06:52 08:20-08:41/21 18:24	06:25 07:36-07:53/17 16:44	06:56 16:28
9	05:33 07:37-08:40/63 20:19	05:58 07:54-08:29/35 19:54	06:26 07:48-08:08/20 19:10	06:53 08:18-08:42/24 18:22	06:26 07:40-07:51/11 16:43	06:57 16:28
10	05:33 07:37-08:39/62 20:18	05:59 07:56-08:28/32 19:53	06:27 07:46-08:09/23 19:09	06:54 08:16-08:44/28 18:21	06:27 07:42-07:53/10 16:42	06:58 16:28
11	05:34 07:37-08:40/63 20:18	05:59 07:59-08:25/26 19:52	06:27 07:44-08:10/26 19:07	06:55 08:15-08:45/30 18:19	06:28 07:43-07:54/9 16:41	06:58 16:28
12	05:35 07:38-08:40/62 20:17	06:00 08:01-08:21/20 19:51	06:28 07:31-08:11/40 19:05	06:56 08:14-08:45/31 18:18	06:29 07:44-07:55/8 16:40	06:59 16:28
13	05:35 07:37-08:40/63 20:17	06:01 08:07-08:15/8 19:49	06:29 07:28-08:12/44 19:04	06:57 08:13-08:46/33 18:16	06:30 07:45-07:56/7 16:39	07:00 16:29
14	05:36 07:38-08:40/62 20:17	06:02 08:08-08:16/8 19:48	06:30 07:27-08:13/46 19:02	06:58 08:12-08:49/37 18:15	06:31 07:46-07:57/6 16:38	07:01 16:29
15	05:37 07:38-08:41/63 20:16	06:03 08:09-08:17/7 19:47	06:31 07:26-08:13/47 19:01	06:59 08:12-08:53/41 18:14	06:32 07:47-07:58/5 16:37	07:01 16:29
16	05:37 07:38-08:40/62 20:15	06:04 08:10-08:18/6 19:45	06:32 07:25-08:13/48 18:59	07:00 08:11-08:55/44 18:12	06:33 07:48-07:59/4 16:37	07:02 16:29
17	05:38 07:38-08:41/63 20:15	06:05 08:11-08:19/5 19:44	06:33 07:23-08:12/49 18:57	07:01 08:11-08:57/46 18:11	06:35 07:49-08:00/3 16:36	07:03 16:30
18	05:39 07:39-08:41/62 20:14	06:06 08:12-08:20/4 19:43	06:34 07:23-08:12/49 18:56	07:02 08:11-08:58/47 18:09	06:36 07:50-08:01/2 16:35	07:04 16:30
19	05:40 07:39-08:42/63 20:14	06:07 08:13-08:21/3 19:41	06:35 07:22-08:12/50 18:54	07:03 08:11-08:59/48 18:08	06:37 07:51-08:02/1 16:35	07:04 16:30
20	05:40 07:39-08:41/62 20:13	06:08 08:14-08:22/2 19:40	06:36 07:22-08:11/49 18:53	07:04 08:11-09:00/49 18:06	06:38 07:52-08:03/0 16:34	07:05 16:31
21	05:41 07:40-08:41/61 20:12	06:09 08:15-08:23/1 19:39	06:36 07:22-08:11/49 18:51	07:05 08:11-09:01/50 18:05	06:39 07:53-08:04/1 16:33	07:05 16:31
22	05:42 07:40-08:41/61 20:12	06:09 08:16-08:24/0 19:37	06:37 07:23-08:10/47 18:49	07:06 08:12-09:02/50 18:04	06:40 07:54-08:05/0 16:33	07:06 16:32
23	05:43 07:41-08:41/60 20:11	06:10 08:17-08:25/0 19:36	06:38 07:23-08:09/46 18:48	07:07 08:13-09:03/50 18:02	06:41 07:55-08:06/0 16:32	07:06 16:32
24	05:44 07:41-08:42/61 20:10	06:11 08:18-08:26/0 19:34	06:39 07:24-08:08/44 18:46	07:08 08:14-09:03/49 18:01	06:42 07:56-08:07/0 16:32	07:07 16:33
25	05:44 07:41-08:41/60 20:09	06:12 08:19-08:27/0 19:33	06:40 07:25-08:06/41 18:44	07:09 08:14-09:03/49 18:00	06:43 07:57-08:08/0 16:31	07:07 16:33
26	05:45 07:41-08:41/60 20:08	06:13 08:20-08:28/0 19:32	06:41 07:41-08:04/23 18:43	07:10 08:16-09:03/47 17:58	06:44 07:58-08:09/0 16:31	07:08 16:34
27	05:46 07:42-08:41/59 20:08	06:14 08:21-08:29/0 19:30	06:42 07:42-08:02/20 18:41	06:11 07:17-08:03/46 16:57	06:45 07:59-08:10/0 16:30	07:08 16:35
28	05:47 07:43-08:40/57 20:07	06:15 08:22-08:30/0 19:29	06:43 07:45-07:59/14 18:40	06:12 07:19-08:02/43 16:56	06:46 08:00-08:11/0 16:30	07:08 16:35
29	05:48 07:44-08:40/56 20:06	06:16 08:23-08:31/0 19:27	06:44 07:46-07:59/13 18:38	06:14 07:23-08:03/40 16:55	06:47 08:01-08:12/0 16:30	07:09 16:36
30	05:49 07:43-08:39/56 20:05	06:17 08:24-08:32/0 19:26	06:45 07:47-07:59/12 18:36	06:15 07:27-08:03/36 16:54	06:48 08:02-08:13/0 16:29	07:09 16:37
31	05:50 07:44-08:39/55 20:04	06:18 08:25-08:33/0 19:24		06:16 07:27-08:02/35 16:52		07:09 16:37
Potential sun hours	453	424	374	347	303	294
Sum of minutes with flicker	1894	496	815	1000	228	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: Bufalo worst case WTG: 9 - CA09

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 11:56-13:16/80 16:38	06:59 12:04-13:26/82 17:10	06:25 06:37 17:42	06:37 19:13	05:54 06:52-07:02/10 19:42	05:27 20:10
2	07:09 11:56-13:16/80 16:38	06:58 12:05-13:26/81 17:11	06:23 17:43	06:35 19:14	05:53 06:56-06:58/2 19:43	05:27 20:10
3	07:10 11:56-13:17/81 16:39	06:57 12:05-13:26/81 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11
4	07:10 11:56-13:17/81 16:40	06:56 12:06-13:25/79 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12
5	07:10 11:56-13:18/82 16:41	06:55 12:07-13:25/78 17:14	06:19 17:46	06:31 19:17	05:49 19:46	05:26 20:12
6	07:10 11:57-13:19/82 16:42	06:54 12:08-13:25/77 17:15	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13
7	07:10 11:57-13:19/82 16:43	06:53 12:09-13:24/75 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:14
8	07:10 11:57-13:20/83 16:44	06:52 12:11-13:24/73 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14
9	07:10 11:58-13:21/83 16:45	06:51 12:12-13:23/71 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15
10	07:10 11:57-13:20/83 16:45	06:50 12:14-13:23/69 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15
11	07:10 11:57-13:21/84 16:46	06:49 12:15-13:21/66 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16
12	07:09 11:58-13:22/84 16:47	06:48 12:18-13:20/62 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16
13	07:09 11:58-13:23/85 16:48	06:47 12:20-13:19/59 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:24 20:17
14	07:09 11:58-13:23/85 16:50	06:46 12:24-13:17/53 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:24 20:17
15	07:09 11:58-13:23/85 16:51	06:44 12:29-13:15/46 17:26	06:04 17:57	06:16 19:27	07:00-07:01/1 05:39 19:56	05:24 20:18
16	07:08 11:59-13:24/85 16:52	06:43 12:34-13:12/38 17:27	06:02 17:58	06:14 19:28	06:54-07:05/11 05:38 19:57	05:24 20:18
17	07:08 11:59-13:24/85 16:53	06:42 12:39-13:09/30 17:28	06:00 17:59	06:13 19:29	06:52-07:07/15 05:37 19:57	05:25 20:18
18	07:08 11:59-13:25/86 16:54	06:41 12:47-13:03/16 17:29	05:59 18:00	06:11 19:30	06:51-07:09/18 05:36 19:58	05:25 20:19
19	07:07 11:59-13:25/86 16:55	06:40 17:30	05:57 18:01	06:10 19:31	06:49-07:09/20 05:35 19:59	05:25 20:19
20	07:07 12:00-13:26/86 16:56	06:38 17:31	05:56 18:02	06:08 19:32	06:49-07:10/21 05:35 20:00	05:25 20:19
21	07:06 12:00-13:26/86 16:57	06:37 17:33	05:54 18:03	06:07 19:33	06:48-07:10/22 05:34 20:01	05:25 20:19
22	07:06 11:59-13:26/87 16:58	06:36 17:34	05:53 18:04	06:06 19:34	06:47-07:10/23 05:33 20:02	05:25 20:20
23	07:05 12:00-13:26/86 16:59	06:34 17:35	05:51 18:05	06:04 19:35	06:47-07:10/23 05:32 20:03	05:25 20:20
24	07:05 12:00-13:26/86 17:00	06:33 17:36	05:49 18:06	06:03 19:36	06:47-07:10/23 05:32 20:03	05:26 20:20
25	07:04 12:00-13:26/86 17:02	06:32 17:37	05:48 18:07	06:02 19:37	06:47-07:09/22 05:31 20:04	05:26 20:20
26	07:03 12:01-13:27/86 17:03	06:30 17:38	05:46 18:08	06:00 19:38	06:47-07:09/22 05:30 20:05	05:26 20:20
27	07:03 12:01-13:27/86 17:04	06:29 17:39	05:45 18:08	05:59 19:38	06:48-07:08/20 05:30 20:06	05:27 20:20
28	07:02 12:02-13:26/84 17:05	06:27 17:40	05:43 18:09	05:58 19:39	06:48-07:07/19 05:29 20:07	05:27 20:20
29	07:01 12:02-13:26/84 17:06	06:26 17:41	05:42 18:10	05:56 19:40	06:48-07:05/17 05:29 20:07	05:27 20:20
30	07:00 12:03-13:27/84 17:07		05:40 18:11	05:55 19:41	06:50-07:04/14 05:28 20:08	05:28 20:20
31	07:00 12:04-13:26/82 17:08		06:38 19:12			
Potential sun hours	302	310	370	396	443	446
Sum of minutes with flicker	2605	1136	0	291	12	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: Bufalo worst case WTG: 9 - CA09
Assumptions for shadow calculations

Reference year for calendar 2024
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	05:28 20:20	05:50 20:03	06:19 19:23	06:46 18:35	06:17 11:45-12:51/66 16:51	06:49 11:40-13:04/84 16:29
2	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	06:18 11:43-12:52/69 16:50	06:50 11:40-13:04/84 16:29
3	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	06:19 11:41-12:52/71 16:49	06:51 11:41-13:05/84 16:29
4	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 11:41-12:54/73 16:48	06:52 11:42-13:05/83 16:28
5	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	06:21 11:39-12:54/75 16:47	06:53 11:42-13:05/83 16:28
6	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 11:38-12:55/77 16:46	06:54 11:43-13:05/82 16:28
7	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	06:23 11:37-12:55/78 16:45	06:55 11:44-13:06/82 16:28
8	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:25 11:36-12:55/79 16:44	06:56 11:44-13:06/82 16:28
9	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	06:26 11:36-12:56/80 16:43	06:57 11:44-13:06/82 16:28
10	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 11:36-12:57/81 16:42	06:58 11:45-13:06/81 16:28
11	05:34 20:18	05:59 07:03-07:09/6 19:52	06:27 19:07	06:55 18:19	06:28 11:35-12:57/82 16:41	06:59 11:46-13:06/80 16:28
12	05:35 20:17	06:00 07:00-07:12/12 19:51	06:28 19:05	06:56 18:18	06:29 11:35-12:57/82 16:40	06:59 11:47-13:07/80 16:28
13	05:35 20:17	06:01 06:57-07:12/15 19:49	06:29 19:04	06:57 18:17	06:30 11:34-12:58/84 16:39	07:00 11:48-13:08/80 16:29
14	05:36 20:17	06:02 06:56-07:13/17 19:48	06:30 19:02	06:58 18:15	06:31 11:35-12:59/84 16:38	07:01 11:47-13:07/80 16:29
15	05:37 20:16	06:03 06:55-07:14/19 19:47	06:31 19:01	06:59 18:14	06:32 11:35-12:59/84 16:37	07:02 11:48-13:08/80 16:29
16	05:37 20:16	06:04 06:54-07:15/21 19:46	06:32 18:59	07:00 18:12	06:33 11:34-13:00/86 16:37	07:02 11:49-13:09/80 16:29
17	05:38 20:15	06:05 06:54-07:16/22 19:44	06:33 18:57	07:01 18:11	06:35 11:34-13:00/86 16:36	07:03 11:49-13:08/79 16:30
18	05:39 20:14	06:06 06:53-07:16/23 19:43	06:34 18:56	07:02 18:09	06:36 11:34-13:00/86 16:35	07:04 11:50-13:09/79 16:30
19	05:40 20:14	06:07 06:53-07:16/23 19:42	06:35 18:54	07:03 18:08	06:37 11:35-13:01/86 16:35	07:04 11:51-13:10/79 16:30
20	05:40 20:13	06:08 06:52-07:15/23 19:40	06:36 18:53	07:04 18:06	06:38 11:35-13:01/86 16:34	07:05 11:51-13:10/79 16:31
21	05:41 20:12	06:09 06:52-07:15/23 19:39	06:36 18:51	07:05 18:05	06:39 11:35-13:02/87 16:33	07:05 11:52-13:11/79 16:31
22	05:42 20:12	06:09 06:52-07:14/22 19:37	06:37 18:49	07:06 18:04	06:40 11:36-13:02/86 16:33	07:06 11:52-13:11/79 16:32
23	05:43 20:11	06:10 06:53-07:14/21 19:36	06:38 18:48	07:07 18:02	06:41 11:36-13:02/86 16:32	07:06 11:52-13:11/79 16:32
24	05:44 20:10	06:11 06:53-07:13/20 19:35	06:39 18:46	07:08 18:01	06:42 11:36-13:02/86 16:32	07:07 11:53-13:12/79 16:33
25	05:44 20:09	06:12 06:54-07:12/18 19:33	06:40 18:45	07:09 13:15-13:35/20 18:00	06:43 11:36-13:02/86 16:31	07:07 11:53-13:12/79 16:33
26	05:45 20:09	06:13 06:55-07:10/15 19:32	06:41 18:43	07:10 13:08-13:39/31 17:58	06:44 11:38-13:03/85 16:31	07:08 11:54-13:13/79 16:34
27	05:46 20:08	06:14 06:56-07:07/11 19:30	06:42 18:41	07:11 12:03-12:42/39 16:57	06:45 11:38-13:03/85 16:30	07:08 11:54-13:13/79 16:35
28	05:47 20:07	06:15 19:29	06:43 18:40	06:13 11:57-12:44/47 16:56	06:46 11:38-13:04/86 16:30	07:08 11:54-13:14/80 16:35
29	05:48 20:06	06:16 19:27	06:44 18:38	06:14 11:53-12:47/54 16:55	06:47 11:39-13:04/85 16:30	07:09 11:54-13:14/80 16:36
30	05:49 20:05	06:17 19:26	06:45 18:37	06:15 11:50-12:49/59 16:54	06:48 11:39-13:04/85 16:29	07:09 11:55-13:15/80 16:37
31	05:50 20:04	06:18 19:24		06:16 11:47-12:50/63 16:52		07:09 11:56-13:16/80 16:37
Potential sun hours	453	424	374	347	303	294
Sum of minutes with flicker	0	311	0	313	2452	2496

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: Bufalo worst case WTG: 10 - CA10
Assumptions for shadow calculations

Reference year for calendar 2024
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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:51 20:03	06:19 19:23	06:46 17:33-17:53/20 18:35	06:17 16:51	06:49 16:29
2	07:10 16:38	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:47 17:33-17:52/19 18:33	06:18 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:20	06:48 17:34-17:50/16 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 17:36-17:48/12 18:30	06:20 16:48	06:52 16:28
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:17	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:20	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:14	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	06:24 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:56	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:00-17:09/9	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 16:58-17:12/14	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:10 16:47	06:49 17:21	06:10 16:55-17:13/18	06:22 19:23	05:43 19:52	05:25 20:16	05:34 20:18	06:00 19:52	06:28 19:07	06:55 18:20	06:28 16:41	06:59 16:28
12	07:09 16:48	06:48 17:22	06:08 16:54-17:14/20	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:18	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 16:53-17:15/22	06:19 19:25	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 16:52-17:15/23	06:17 19:26	05:40 19:55	05:25 20:17	05:36 20:17	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:45 17:26	06:04 16:51-17:16/25	06:16 19:27	05:39 19:56	05:25 20:18	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:38	07:02 16:29
16	07:08 16:52	06:43 17:27	06:02 16:51-17:16/25	06:14 19:28	05:38 19:57	05:25 20:18	05:37 20:16	06:04 19:46	06:32 18:59	07:00 18:12	06:34 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 16:51-17:17/26	06:13 19:29	05:37 19:58	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:35 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 16:51-17:16/25	06:11 19:30	05:36 19:58	05:25 20:19	05:39 20:14	06:06 19:43	17:45-17:55/10 18:56	07:02 18:09	06:36 16:35	07:04 16:30
19	07:07 16:55	06:40 17:30	05:57 16:51-17:17/26	06:10 19:31	05:36 19:59	05:25 20:19	05:40 20:14	06:07 19:42	17:42-17:57/15 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 16:51-17:16/25	06:09 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	17:40-17:58/18 18:53	07:04 18:07	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 16:51-17:15/24	06:07 19:33	05:34 20:01	05:25 20:20	05:41 20:12	06:09 19:39	17:38-17:59/21 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 16:52-17:14/22	06:06 19:34	05:33 20:02	05:25 20:20	05:42 20:12	06:10 19:37	17:37-18:00/23 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 16:53-17:12/19	06:04 19:35	05:32 20:03	05:26 20:20	05:43 20:11	06:10 19:36	17:36-18:00/24 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 16:55-17:11/16	06:03 19:36	05:32 20:04	05:26 20:20	05:44 20:10	06:11 19:35	17:35-18:00/25 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 16:57-17:08/11	06:02 19:37	05:31 20:04	05:26 20:20	05:45 20:09	06:12 19:33	17:33-17:59/26 18:45	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	05:26 20:20	05:45 20:09	06:13 19:32	17:33-17:59/26 18:43	07:10 17:59	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:39	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	17:32-17:58/26 18:41	06:12 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:28 17:40	05:43 18:10	05:58 19:40	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	17:32-17:57/25 18:40	06:13 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:41	05:29 20:08	05:27 20:20	05:48 20:06	06:16 19:27	17:32-17:56/24 18:38	06:14 16:55	06:47 16:30	07:09 16:36
30	07:01 17:07	06:25 17:42	05:40 18:10	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	17:32-17:55/23 18:37	06:15 16:54	06:48 16:29	07:09 16:37
31	07:00 17:08	06:39 17:43	06:39 19:12	06:39 19:41	05:28 20:09	05:28 20:20	05:50 20:04	06:18 19:24	18:37	06:16 16:52	07:09 16:37	07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Sum of minutes with flicker	0	0	350	0	0	0	0	0	286	67	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: Bufalo worst case WTG: 11 - CA11

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:51 20:03	06:19 19:23	06:46 18:35	06:17 16:51	06:50 16:29
2	07:10 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:20 19:21	06:47 18:33	06:18 16:50	06:51 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:20	06:48 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:46	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:49 18:30	06:20 16:48	06:52 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:17	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:16	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:20	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:14	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	06:24 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:56	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:10 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16	05:34 20:18	06:00 19:52	06:28 19:07	06:55 18:20	06:28 16:41	06:59 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:18	06:00 19:51	06:28 19:06	06:56 18:18	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:25 20:17	05:36 20:17	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:45 17:26	06:04 17:57	06:16 19:27	05:39 19:56	05:25 20:18	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:38	07:02 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	05:25 20:18	05:37 20:16	06:04 19:46	06:32 18:59	07:00 18:12	06:34 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:58	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:58	07:01 18:11	06:35 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:19	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:04 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	05:25 20:19	05:40 20:14	06:07 19:42	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:32	05:56 18:02	06:09 19:32	05:35 20:00	05:25 20:19	05:41 20:13	06:08 19:40	06:36 18:53	07:04 18:07	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 19:33	05:25 20:20	05:41 20:12	06:09 19:39	06:37 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:20	05:42 20:12	06:10 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	05:26 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:03	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:04	05:26 20:20	05:44 20:10	06:11 19:35	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	05:26 20:20	05:45 20:09	06:12 19:33	06:40 18:45	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:30 20:05	05:26 20:20	05:45 20:09	06:13 19:32	06:41 18:43	07:11 17:59	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:39	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	07:12 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:28 17:40	05:43 18:10	05:58 19:40	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	07:13 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:11	05:57 19:41	05:29 20:08	05:28 20:20	05:48 20:06	06:16 19:27	06:44 18:38	07:14 16:55	06:48 16:30	07:09 16:36
30	07:01 17:07		05:40 18:11	05:55 19:42	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:37	07:15 16:54	06:49 16:29	07:09 16:37
31	07:00 17:09		06:39 19:12		05:28 20:09		05:50 20:04	06:18 19:24		06:16 16:52		07:09 16:38
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
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: Bufalo worst case WTG: 13 - CU2
Assumptions for shadow calculations

Reference year for calendar 2024
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	07:09 10:34-13:31/177 16:37	06:59 09:01-09:22/21 17:09 10:45-14:04/199	06:24 08:20-09:32/72 17:42 12:58-14:03/65	06:37 08:58-09:37/39 19:13	05:54 19:42	05:27 20:09
2	07:09 10:35-13:31/176 16:38	06:58 08:58-09:25/27 17:10 10:46-14:05/199	06:23 08:17-09:31/74 17:43 13:00-14:03/63	06:35 08:59-09:34/35 19:14	05:52 19:43	05:27 20:10
3	07:09 10:35-13:32/177 16:39	06:57 08:56-09:27/31 17:12 10:46-14:06/200	06:21 08:14-09:30/76 17:44 13:02-14:01/59	06:33 09:00-09:31/31 19:15	05:51 19:44	05:26 20:11
4	07:09 10:35-13:32/177 16:40	06:56 08:54-09:29/35 17:13 10:47-14:06/199	06:20 08:12-09:29/77 17:45 13:05-14:00/55	06:32 09:02-09:29/27 19:16	05:50 19:45	05:26 20:11
5	07:10 10:35-13:33/178 16:41	06:55 08:53-09:30/37 17:14 10:48-14:07/199	06:19 08:09-09:28/79 17:46 13:07-13:59/52	06:30 09:04-09:25/21 19:17	05:49 19:46	05:26 20:12
6	07:10 10:36-13:34/178 16:41	06:54 08:51-09:32/41 17:15 10:49-14:07/198	06:17 08:08-09:27/79 17:47 13:10-13:57/47	06:29 09:08-09:21/13 19:18	05:48 19:47	05:25 20:13
7	07:10 10:36-13:35/179 16:42	06:53 08:50-09:33/43 17:16 10:51-14:08/197	06:16 08:06-09:26/80 17:48 13:13-13:55/42	06:27 19:19	05:47 19:48	05:25 20:13
8	07:10 10:36-13:35/179 16:43	06:52 08:49-09:35/46 17:17 10:52-14:08/196	06:14 08:04-09:24/80 17:49 13:17-13:52/35	06:26 19:20	05:45 19:49	05:25 20:14
9	07:10 10:36-13:35/179 16:44	06:51 08:47-09:35/48 17:19 10:53-14:08/195	06:13 08:03-09:23/80 17:50 13:23-13:49/26	06:24 19:21	05:44 19:50	05:25 20:14
10	07:09 10:36-13:37/181 16:45	06:50 08:46-09:36/50 17:20 10:55-14:08/193	06:11 08:01-09:20/79 17:51 13:30-13:42/12	06:23 19:22	05:43 19:51	05:24 20:15
11	07:09 10:37-13:38/181 16:46	06:49 08:46-09:37/51 17:21 10:58-14:08/190	06:09 08:01-09:19/78 17:52	06:21 19:23	05:42 19:52	05:24 20:16
12	07:09 10:37-13:40/183 16:47	06:48 08:45-09:38/53 17:22 11:02-14:09/187	06:08 07:59-09:16/77 17:53	06:20 19:24	05:41 19:53	05:24 20:16
13	07:09 10:37-13:41/184 16:48	06:47 08:44-09:38/54 17:23 11:03-14:09/186	06:06 07:59-09:15/76 17:54	06:18 19:25	05:40 19:54	05:24 20:16
14	07:09 10:37-13:43/186 16:49	06:45 08:41-09:39/58 17:24 11:05-14:09/184	06:05 07:58-09:12/74 17:55	06:17 19:26	05:39 19:54	05:24 20:17
15	07:08 10:38-13:45/187 16:50	06:44 08:37-09:39/62 17:25 11:06-14:08/182	06:03 07:58-09:09/71 17:56	06:15 19:27	05:39 19:55	05:24 20:17
16	07:08 10:38-13:46/188 16:51	06:43 08:35-09:39/64 11:09-11:49/40 17:27 11:50-14:08/138	06:02 07:57-09:05/68 17:57	06:14 19:28	05:38 19:56	05:24 20:18
17	07:08 10:38-13:48/190 16:52	06:42 08:33-09:40/67 11:13-11:44/31 17:28 11:55-12:23/28 12:27-14:08/101	06:00 07:56-09:00/64 17:58	06:12 19:29	05:37 19:57	05:24 20:18
18	07:07 10:38-13:49/191 16:53	06:41 08:32-09:40/68 11:19-11:37/18 17:29 12:05-12:13/8 12:28-14:08/100	05:59 07:56-08:56/60 17:59	06:11 19:29	05:36 19:58	05:24 20:18
19	07:07 10:39-13:51/192 16:54	06:39 08:30-09:39/69 17:30 12:29-14:08/99	05:57 07:55-08:53/58 18:00	06:10 19:30	05:35 19:59	05:24 20:19
20	07:06 10:39-13:52/193 16:56	06:38 08:29-09:40/71 17:31 12:32-14:08/96	05:55 07:55-08:53/58 18:01	06:08 19:31	05:34 20:00	05:24 20:19
21	07:06 10:40-13:53/193 16:57	06:37 08:28-09:40/72 17:32 12:34-14:08/94	05:54 07:54-08:52/58 18:02	06:07 19:32	05:33 20:01	05:25 20:19
22	07:05 10:40-13:54/194 16:58	06:35 08:26-09:39/73 17:33 12:36-14:07/91	05:52 07:54-08:51/57 18:03	06:05 19:33	05:33 20:02	05:25 20:19
23	07:05 10:40-13:56/196 16:59	06:34 08:25-09:39/74 17:34 12:40-14:07/87	05:51 07:54-08:50/56 18:04	06:04 19:34	05:32 20:02	05:25 20:20
24	07:04 10:41-13:57/196 17:00	06:33 08:25-09:38/73 17:35 12:44-14:08/84	05:49 07:54-08:49/55 18:05	06:03 19:35	05:31 20:03	05:25 20:20
25	07:04 10:41-13:58/197 17:01	06:31 08:23-09:37/74 17:37 12:48-14:07/79	05:48 07:55-08:48/53 18:06	06:01 19:36	05:31 20:04	05:26 20:20
26	07:03 10:42-13:58/196 17:02	06:30 08:23-09:37/74 17:38 12:53-14:06/73	05:46 07:54-08:47/53 18:07	06:00 19:37	05:30 20:05	05:26 20:20
27	07:02 10:42-14:00/198 17:03	06:29 08:22-09:35/73 17:39 12:53-14:05/72	05:44 07:54-08:45/51 18:08	05:59 19:38	05:29 20:06	05:26 20:20
28	07:02 10:42-14:01/199 17:05	06:27 08:21-09:35/74 17:40 12:55-14:05/70	05:43 07:55-08:44/49 18:09	05:57 19:39	05:29 20:06	05:27 20:20
29	07:01 10:43-14:01/198 17:06	06:26 08:20-09:33/73 17:41 12:56-14:04/68	05:41 07:55-08:42/47 18:10	05:56 19:40	05:28 20:07	05:27 20:20
30	07:00 10:43-14:02/199 17:07		05:40 07:56-08:41/45 18:11	05:55 19:41	05:28 20:08	05:27 20:20
31	06:59 09:04-09:17/13 17:08 10:43-14:03/200		06:38 08:57-09:38/41		05:27 20:09	
Potential sun hours	302	310	370	396	443	446
Sum of minutes with flicker	5835	5937	2481	166	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: Bufalo worst case WTG: 13 - CU2
Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	08:39-09:55/76	06:17 16:51	08:16-09:07/51 10:28-13:38/190	06:49 16:29	10:19-13:22/183
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	08:39-09:57/78	06:18 16:50	08:16-09:06/50 10:25-13:38/193	06:50 16:28	10:20-13:21/181
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	08:40-09:58/78	06:19 16:49	08:17-09:05/48 10:23-13:37/194	06:51 16:28	10:20-13:21/181
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	08:40-09:59/79 14:04-14:24/20	06:20 16:47	08:18-09:03/45 10:21-13:37/196	06:52 16:28	10:21-13:21/180
5	05:30 20:19	05:54 19:59	06:22 19:16	06:49 18:28	08:41-10:01/80 13:57-14:28/31	06:21 16:46	08:20-09:03/43 10:21-13:38/197	06:53 16:28	10:22-13:21/179
6	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	08:42-10:02/80 13:52-14:30/38	06:22 16:45	08:21-09:02/41 10:19-13:37/198	06:54 16:28	10:22-13:21/179
7	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	08:43-10:02/79 13:47-14:31/44	06:23 16:44	08:23-09:00/37 10:18-13:37/199	06:55 16:28	10:22-13:20/178
8	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	08:44-10:03/79 13:43-14:32/49	06:24 16:43	08:24-08:59/35 10:17-13:36/199	06:56 16:28	10:22-13:20/178
9	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	08:45-10:04/79 13:40-14:34/54	06:25 16:42	08:26-08:57/31 10:16-13:36/200	06:57 16:28	10:23-13:21/178
10	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	08:47-10:04/77 13:38-14:35/57	06:27 16:41	08:29-08:55/26 10:17-13:36/199	06:57 16:28	10:24-13:21/177
11	05:33 20:18	05:59 19:52	06:27 19:07	06:55 18:19	08:49-10:05/76 13:35-14:36/61	06:28 16:40	08:32-08:53/21 10:16-13:35/199	06:58 16:28	10:25-13:21/176
12	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	08:52-10:05/73 13:33-14:37/64	06:29 16:40	08:36-08:49/13 10:15-13:35/200	06:59 16:28	10:25-13:22/177
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	08:54-10:06/72 13:31-14:37/66	06:30 16:39	10:15-13:34/199	07:00 16:28	10:25-13:21/176
14	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	08:54-10:07/73 13:29-14:38/69	06:31 16:38	10:15-13:34/199	07:01 16:28	10:26-13:22/176
15	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	08:54-10:08/74 13:27-14:38/71	06:32 16:37	10:15-13:34/199	07:01 16:29	10:27-13:22/175
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	08:54-10:08/74 13:25-14:38/73	06:33 16:36	10:15-13:33/198	07:02 16:29	10:27-13:22/175
17	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:10	08:55-10:09/74 13:24-14:38/74	06:34 16:36	10:15-13:32/197	07:03 16:29	10:28-13:22/174
18	05:38 20:14	06:05 19:43	06:33 18:55	07:02 18:09	08:55-10:09/74 13:18-14:38/80	06:35 16:35	10:15-13:32/197	07:03 16:30	10:29-13:23/174
19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	08:56-10:09/73 13:13-14:38/85	06:36 16:34	10:15-13:31/196	07:04 16:30	10:29-13:23/174
20	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	08:56-10:09/73 13:10-14:38/88	06:38 16:34	10:15-13:30/195	07:05 16:30	10:30-13:24/174
21	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	08:57-10:09/72 13:06-14:38/92	06:39 16:33	10:16-13:30/194	07:05 16:31	10:30-13:24/174
22	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	08:58-10:09/71 13:03-14:38/95	06:40 16:32	10:16-13:30/194	07:06 16:31	10:31-13:25/174
23	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	08:59-10:09/70 13:01-14:38/97	06:41 16:32	10:16-13:29/193	07:06 16:32	10:31-13:25/174
24	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	09:01-10:10/69 12:59-14:37/98	06:42 16:31	10:16-13:28/192	07:07 16:32	10:32-13:26/174
25	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	09:02-10:10/68 12:58-14:38/100	06:43 16:31	10:16-13:27/191	07:07 16:33	10:32-13:26/174
26	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	09:03-10:09/66 12:42-12:15/33	06:44 16:30	10:16-13:26/190	07:07 16:34	10:32-13:26/174
27	05:46 20:07	06:14 19:30	06:42 18:41	07:11 17:57	08:05-09:09/64 10:39-13:38/179	06:45 16:30	10:17-13:25/188	07:08 16:34	10:33-13:28/175
28	05:47 20:07	06:15 19:28	06:42 18:39	07:12 17:56	08:07-09:08/61 10:36-13:38/182	06:46 16:30	10:17-13:24/187	07:08 16:35	10:33-13:28/175
29	05:47 20:06	06:15 19:27	06:43 18:38	07:13 17:55	08:38-09:51/73 10:34-13:38/184	06:47 16:29	10:18-13:24/186	07:08 16:36	10:33-13:28/175
30	05:48 20:05	06:16 19:25	06:44 18:36	07:14 17:53	08:13-09:07/54 10:32-13:38/186	06:48 16:29	10:19-13:23/184	07:09 16:36	10:33-13:29/176
31	05:49 20:04	06:17 19:24		07:15 17:52	08:15-09:07/52 10:31-13:38/187			07:09 16:37	10:33-13:29/176
Potential sun hours	453	424	374	347	303	294			
Sum of minutes with flicker	0	0	1250	4854	6284	5466			

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: Bufalo worst case WTG: 14 - CU3

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:59 09:56-10:28/32 17:09	06:24 09:31-10:45/74 17:42	06:37 08:56-10:10/74 19:13	05:54 08:59-09:30/31 19:42	05:27 08:38-08:58/20 20:09
2	07:09 16:38	06:58 09:54-10:31/37 17:10	06:23 09:32-10:44/72 17:43	06:35 08:54-10:08/74 19:14	05:52 08:59-09:27/28 19:43	05:27 08:36-09:01/25 20:10
3	07:09 16:39	06:57 09:52-10:33/41 17:12	06:21 09:31-10:42/71 17:44	06:33 08:53-10:07/74 19:15	05:51 09:01-09:24/23 19:44	05:26 08:34-09:02/28 20:11
4	07:09 16:40	06:56 09:50-10:35/45 17:13	06:20 09:32-10:41/69 17:45	06:32 08:53-10:06/73 19:16	05:50 09:04-09:21/17 19:45	05:26 08:33-09:04/31 20:11
5	07:10 16:41	06:55 09:48-10:37/49 17:14	06:19 09:32-10:39/67 17:46	06:30 08:52-10:04/72 19:17	05:49 09:09-09:16/7 19:46	05:26 08:32-09:06/34 20:12
6	07:10 16:41	06:54 09:47-10:38/51 17:15	06:17 09:32-10:38/66 17:47	06:29 08:52-10:04/72 19:18	05:48 19:47	05:25 08:31-09:07/36 20:13
7	07:10 16:42	06:53 09:45-10:40/55 17:16	06:16 09:32-10:36/64 17:48	06:27 08:51-10:02/71 19:19	05:47 19:48	05:25 08:30-09:08/38 20:13
8	07:10 16:43	06:52 09:44-10:41/57 17:17	06:14 09:32-10:33/61 17:49	06:26 08:51-10:02/71 19:20	05:46 19:49	05:25 08:28-09:08/40 20:14
9	07:09 16:44	06:51 09:42-10:42/60 17:19	06:13 09:33-10:31/58 17:50	06:24 08:50-10:00/70 19:21	05:44 19:50	05:25 08:28-09:09/41 20:14
10	07:09 16:45	06:50 09:41-10:43/62 17:20	06:11 09:33-10:28/55 17:51	06:23 08:50-09:59/69 19:22	05:43 19:51	05:24 08:28-09:10/42 20:15
11	07:09 16:46	06:49 09:40-10:44/64 17:21	06:09 09:35-10:26/51 17:52	06:21 08:49-09:57/68 19:23	05:42 19:52	05:24 08:27-09:11/44 20:15
12	07:09 16:47	06:48 09:40-10:45/65 17:22	06:08 09:35-10:23/48 17:53	06:20 08:49-09:57/68 19:24	05:41 19:53	05:24 08:27-09:12/45 20:16
13	07:09 16:48	06:47 09:39-10:46/67 17:23	06:06 09:37-10:20/43 17:54	06:18 08:49-09:55/66 19:25	05:40 19:54	05:24 08:27-09:12/45 20:16
14	07:09 16:49	06:45 09:38-10:47/69 17:24	06:05 09:38-10:16/38 17:55	06:17 08:49-09:55/66 19:26	05:39 19:54	05:24 08:26-09:13/47 20:17
15	07:08 16:50	06:44 09:37-10:47/70 17:25	06:03 09:40-10:13/33 17:56	06:15 08:48-09:53/65 19:27	05:39 19:55	05:24 08:26-09:13/47 20:17
16	07:08 16:51	06:43 09:36-10:48/72 17:27	06:02 09:43-10:08/25 17:57	06:14 08:49-09:53/64 19:28	05:38 19:56	05:24 08:26-09:14/48 20:18
17	07:08 16:52	06:42 09:36-10:48/72 17:28	06:00 09:46-10:01/15 17:58	06:12 08:49-09:52/63 19:29	05:37 19:57	05:24 08:26-09:14/48 20:18
18	07:07 16:53	06:41 09:36-10:49/73 17:29	05:59 08:13-09:14/61 17:59	06:11 08:49-09:50/61 19:29	05:36 19:58	05:24 08:26-09:14/48 20:18
19	07:07 16:54	06:39 09:34-10:49/75 17:30	05:57 08:12-09:14/62 18:00	06:10 08:49-09:49/60 19:30	05:35 19:59	05:24 08:26-09:15/49 20:19
20	07:06 16:56	06:38 09:34-10:49/75 17:31	05:55 08:11-09:14/63 18:01	06:08 08:49-09:47/58 19:31	05:34 20:00	05:24 08:27-09:16/49 20:19
21	07:06 16:57	06:37 09:34-10:49/75 17:32	05:54 08:09-09:14/65 18:02	06:07 08:50-09:46/56 19:32	05:34 20:01	05:25 08:27-09:16/49 20:19
22	07:05 16:58	06:35 09:33-10:49/76 17:33	05:52 08:07-09:14/67 18:03	06:05 08:50-09:45/55 19:33	05:33 20:02	05:25 08:27-09:16/49 20:19
23	07:05 16:59	06:34 09:33-10:49/76 17:34	05:51 08:06-09:14/68 18:04	06:04 08:50-09:43/53 19:34	05:32 20:02	05:25 08:27-09:16/49 20:20
24	07:04 17:00	06:33 09:33-10:49/76 17:35	05:49 08:05-09:14/69 18:05	06:03 08:51-09:42/51 19:35	05:31 20:03	05:25 08:28-09:16/48 20:20
25	07:04 17:01	06:31 09:32-10:48/76 17:37	05:48 08:04-09:14/70 18:06	06:01 08:52-09:40/48 19:36	05:31 20:04	05:26 08:28-09:16/48 20:20
26	07:03 17:02	06:30 09:32-10:48/76 17:38	05:46 08:03-09:13/70 18:07	06:00 08:53-09:39/46 19:37	05:30 20:05	05:26 08:28-09:16/48 20:20
27	07:02 17:03	06:29 09:31-10:47/76 17:39	05:44 08:01-09:12/71 18:08	05:59 08:53-09:37/44 19:38	05:30 20:06	05:26 08:29-09:17/48 20:20
28	07:02 17:05	06:27 09:32-10:46/74 17:40	05:43 08:00-09:12/72 18:09	05:57 08:54-09:35/41 19:39	05:29 20:06	05:27 08:29-09:16/47 20:20
29	07:01 17:06	06:26 09:31-10:45/74 17:41	05:41 07:58-09:11/73 18:10	05:56 08:56-09:34/38 19:40	05:28 20:07	05:27 08:29-09:16/47 20:20
30	07:00 17:07	10:02-10:21/19	05:40 07:58-09:11/73 18:11	05:55 08:57-09:32/35 19:41	05:28 20:08	05:27 08:31-09:16/45 20:20
31	06:59 17:08	09:58-10:24/26	06:38 08:56-10:10/74 19:12		05:27 20:09	
Potential sun hours	302	310	370	396	443	446
Sum of minutes with flicker	49	1870	2279	1826	119	1283

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: Bufalo worst case WTG: 14 - CU3

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 08:31-09:15/44 20:20	05:50 20:03	06:18 08:48-09:57/69 19:22	06:45 10:16-11:01/45 18:35 09:03-09:47/44	06:17 09:10-10:14/64 16:51	06:49 16:29
2	05:28 08:32-09:16/44 20:20	05:51 20:02	06:19 08:48-09:57/69 19:21	06:46 10:14-11:04/50 18:33 09:05-09:45/40	06:18 09:11-10:13/62 16:50	06:50 16:28
3	05:29 08:33-09:15/42 20:20	05:52 20:01	06:20 08:48-09:58/70 19:19	06:47 10:13-11:06/53 18:31 09:07-09:42/35	06:19 09:12-10:12/60 16:49	06:51 16:28
4	05:29 08:34-09:15/41 20:20	05:53 20:00	06:21 08:48-09:59/71 19:18	06:48 10:11-11:08/57 18:30 09:10-09:38/28	06:20 09:13-10:10/57 16:47	06:52 16:28
5	05:30 08:35-09:14/39 20:19	05:54 19:59	06:22 08:48-09:59/71 19:16	06:49 10:10-11:10/60 18:28 09:15-09:34/19	06:21 09:15-10:10/55 16:46	06:53 16:28
6	05:30 08:36-09:14/38 20:19	05:55 19:57	06:23 08:48-10:00/72 19:15	06:50 10:09-11:11/62 18:27	06:22 09:17-10:08/51 16:45	06:54 16:28
7	05:31 08:37-09:12/35 20:19	05:55 19:56	06:24 08:47-10:00/73 19:13	06:51 10:08-11:13/65 18:25	06:23 09:18-10:07/49 16:44	06:55 16:28
8	05:32 08:39-09:12/33 20:19	05:56 09:17-09:28/11 19:55	06:24 08:47-10:00/73 19:11	06:52 10:08-11:14/66 18:24	06:24 09:20-10:05/45 16:43	06:56 16:28
9	05:32 08:40-09:10/30 20:18	05:57 09:13-09:32/19 19:54	06:25 08:47-10:01/74 19:10	06:53 10:07-11:15/68 18:22	06:25 09:22-10:03/41 16:42	06:57 16:28
10	05:33 08:42-09:09/27 20:18	05:58 09:10-09:34/24 19:53	06:26 08:48-10:01/73 19:08	06:54 10:06-11:16/70 18:21	06:26 09:25-10:02/37 16:41	06:57 16:28
11	05:33 08:45-09:07/22 20:18	05:59 09:08-09:36/28 19:52	06:27 08:48-10:02/74 19:07	06:55 10:06-11:17/71 18:19	06:28 09:27-09:59/32 16:40	06:58 16:28
12	05:34 08:48-09:04/16 20:17	06:00 09:06-09:38/32 19:50	06:28 08:48-10:02/74 19:05	06:56 10:05-11:18/73 18:18	06:29 09:30-09:56/26 16:40	06:59 16:28
13	05:35 08:53-09:00/7 20:17	06:01 09:04-09:40/36 19:49	06:29 08:49-10:02/73 19:04	06:57 10:05-11:18/73 18:16	06:30 09:34-09:53/19 16:39	07:00 16:28
14	05:36 20:16	06:02 09:03-09:42/39 19:48	06:30 08:48-10:02/74 19:02	06:58 10:04-11:19/75 18:15	06:31 09:41-09:45/4 16:38	07:01 16:28
15	05:36 20:16	06:03 09:02-09:43/41 19:47	06:31 08:49-10:02/73 19:00	06:59 10:04-11:19/75 18:13	06:32 16:37	07:01 16:29
16	05:37 20:15	06:04 09:01-09:45/44 19:45	06:32 08:50-10:02/72 18:59	07:00 10:04-11:20/76 18:12	06:33 16:36	07:02 16:29
17	05:38 20:15	06:05 08:59-09:45/46 19:44	06:33 08:51-10:02/71 18:57	07:01 10:04-11:20/76 18:10	06:34 16:36	07:03 16:29
18	05:38 20:14	06:05 08:58-09:47/49 19:43	06:33 08:51-10:01/70 18:55	07:02 10:04-11:20/76 18:09	06:35 16:35	07:03 16:30
19	05:39 20:13	06:06 08:57-09:48/51 19:41	06:34 08:52-10:01/69 18:54	07:03 10:04-11:20/76 18:08	06:36 16:34	07:04 16:30
20	05:40 20:13	06:07 08:56-09:49/53 19:40	06:35 08:52-10:01/69 18:52	07:04 10:04-11:20/76 18:06	06:38 16:34	07:04 16:30
21	05:41 20:12	06:08 08:55-09:50/55 19:38	06:36 08:53-10:00/67 18:51	07:05 10:04-11:19/75 18:05	06:39 16:33	07:05 16:31
22	05:42 20:11	06:09 08:54-09:51/57 19:37	06:37 08:53-09:59/66 18:49	07:06 10:04-11:19/75 18:03	06:40 16:32	07:06 16:31
23	05:42 20:11	06:10 08:54-09:52/58 19:36	06:38 08:54-09:58/64 18:47	07:07 10:04-11:19/75 18:02	06:41 16:32	07:06 16:32
24	05:43 20:10	06:11 08:52-09:52/60 19:34	06:39 08:55-09:57/62 18:46	07:08 10:05-11:19/74 18:01	06:42 16:31	07:07 16:32
25	05:44 20:09	06:12 08:52-09:53/61 19:33	06:40 08:55-09:56/61 18:44	07:09 10:05-11:19/74 17:59	06:43 16:31	07:07 16:33
26	05:45 20:08	06:13 08:51-09:54/63 19:31	06:41 10:32-10:40/8 18:43 08:56-09:55/59	07:10 10:06-11:18/72 17:58	06:44 16:30	07:07 16:34
27	05:46 20:07	06:14 08:51-09:55/64 19:30	06:42 10:26-10:47/21 18:41 08:57-09:54/57	06:11 09:06-10:17/71 16:57	06:45 16:30	07:08 16:34
28	05:47 20:07	06:15 08:50-09:55/65 19:28	06:42 10:22-10:52/30 18:39 08:58-09:53/55	06:12 09:07-10:17/70 16:56	06:46 16:30	07:08 16:35
29	05:47 20:06	06:15 08:50-09:56/66 19:27	06:43 10:19-10:56/37 18:38 09:00-09:51/51	06:13 09:07-10:16/69 16:54	06:47 16:29	07:08 16:36
30	05:48 20:05	06:16 08:50-09:56/66 19:25	06:44 10:17-10:59/42 18:36 09:01-09:49/48	06:14 09:08-10:15/67 16:53	06:48 16:29	07:09 16:36
31	05:49 20:04	06:17 08:48-09:56/68 19:24		06:15 09:10-10:15/65 16:52		07:09 16:37
Potential sun hours	453	424	374	347	303	294
Sum of minutes with flicker	418	1156	2162	2296	602	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: Bufalo worst case WTG: 15 - CU4
Assumptions for shadow calculations

Reference year for calendar 2024
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	07:09 08:29-09:03/34 16:37	06:58 08:02-08:38/36 17:09	06:24 07:44-08:16/32 17:42	06:37 08:31-08:51/20 19:13	05:54 19:42	05:27 20:09
2	07:09 08:29-09:03/34 16:38	06:58 08:02-08:38/36 17:10	06:23 07:45-08:15/30 17:43	06:35 08:33-08:47/14 19:14	05:52 19:43	05:27 20:10
3	07:09 08:30-09:03/33 16:39	06:57 08:02-08:38/36 17:12	06:21 07:45-08:13/28 17:44	06:33 19:15	05:51 19:44	05:26 20:11
4	07:09 08:30-09:03/33 16:40	06:56 08:02-08:37/35 17:13	06:20 07:47-08:12/25 17:45	06:32 19:16	05:50 19:45	05:26 20:11
5	07:09 08:31-09:04/33 16:41	06:55 08:02-08:37/35 17:14	06:18 07:45-08:09/24 17:46	06:30 19:17	05:49 19:46	05:26 20:12
6	07:10 08:31-09:04/33 16:41	06:54 08:02-08:37/35 17:15	06:17 07:41-08:07/26 17:47	06:29 19:18	05:48 19:47	05:25 20:13
7	07:10 08:32-09:04/32 16:42	06:53 08:03-08:36/33 17:16	06:15 07:38-08:03/25 17:48	06:27 19:19	05:47 19:48	05:25 20:13
8	07:10 08:32-09:04/32 16:43	06:52 08:03-08:35/32 17:17	06:14 07:35-08:05/30 17:49	06:26 19:20	05:45 19:49	05:25 20:14
9	07:09 08:32-09:04/32 16:44	06:51 08:03-08:33/30 17:19	06:12 07:34-08:07/33 17:50	06:24 19:21	05:44 19:50	05:25 20:14
10	07:09 08:33-09:04/31 16:45	06:50 08:03-08:32/29 17:20	06:11 07:31-08:07/36 17:51	06:23 19:22	05:43 19:51	05:24 20:15
11	07:09 08:34-09:05/31 16:46	06:49 08:04-08:32/28 17:21	06:09 07:31-08:09/38 17:52	06:21 19:23	05:42 19:52	05:24 20:15
12	07:09 08:35-09:05/30 16:47	06:48 08:00-08:04/4 17:22	06:08 07:29-08:09/40 17:53	06:20 19:24	05:41 19:53	05:24 20:16
13	07:09 08:35-09:04/29 16:48	06:46 07:55-08:30/35 17:23	06:06 07:28-08:10/42 17:54	06:18 19:25	05:40 19:53	05:24 20:16
14	07:09 08:36-09:04/28 16:49	06:45 07:53-08:28/35 17:24	06:05 07:27-08:10/43 17:55	06:17 19:26	05:39 19:54	05:24 20:17
15	07:08 08:38-09:04/26 16:50	06:44 07:50-08:25/35 17:25	06:03 07:26-08:10/44 17:56	06:15 19:27	05:39 19:55	05:24 20:17
16	07:08 08:38-09:03/25 16:51	06:43 07:49-08:22/33 17:27	06:02 07:25-08:10/45 17:57	06:14 19:27	05:38 19:56	05:24 20:18
17	07:08 08:39-09:03/24 16:52	06:42 07:48-08:16/28 17:28	06:00 07:24-08:09/45 17:58	06:12 19:28	05:37 19:57	05:24 20:18
18	07:07 08:40-09:02/22 16:53	06:40 07:47-08:18/31 17:29	05:59 07:24-08:10/46 17:59	06:11 19:29	05:36 19:58	05:24 20:18
19	07:07 08:42-09:02/20 16:54	06:39 07:45-08:18/33 17:30	05:57 07:23-08:09/46 18:00	06:10 19:30	05:35 19:59	05:24 20:19
20	07:06 08:43-09:00/17 16:56	06:38 07:45-08:19/34 17:31	05:55 07:24-08:09/45 18:01	06:08 19:31	05:34 20:00	05:24 20:19
21	07:06 08:45-09:00/15 16:57	06:37 07:44-08:19/35 17:32	05:54 07:23-08:08/45 18:02	06:07 19:32	05:34 20:01	05:25 20:19
22	07:05 08:48-08:57/9 16:58	06:35 07:43-08:19/36 17:33	05:52 07:23-08:07/44 18:03	06:05 19:33	05:33 20:02	05:25 20:19
23	07:05 08:06-08:33/27 16:59	06:34 07:43-08:19/36 17:34	05:51 07:23-08:07/44 18:04	06:04 19:34	05:32 20:02	05:25 20:20
24	07:04 08:05-08:34/29 17:00	06:33 07:43-08:20/37 17:35	05:49 07:23-08:05/42 18:05	06:03 19:35	05:31 20:03	05:25 20:20
25	07:04 08:04-08:34/30 17:01	06:31 07:43-08:19/36 17:37	05:48 07:24-08:05/41 18:06	06:01 19:36	05:31 20:04	05:26 20:20
26	07:03 08:04-08:35/31 17:02	06:30 07:43-08:19/36 17:38	05:46 07:24-08:03/39 18:07	06:00 19:37	05:30 20:05	05:26 20:20
27	07:02 08:04-08:36/32 17:03	06:29 07:42-08:18/36 17:39	05:44 07:24-08:01/37 18:08	05:59 19:38	05:29 20:06	05:26 20:20
28	07:02 08:03-08:36/33 17:05	06:27 07:43-08:18/35 17:40	05:43 07:25-08:00/35 18:09	05:57 19:39	05:29 20:06	05:27 20:20
29	07:01 08:02-08:37/35 17:06	06:26 07:43-08:16/33 17:41	05:41 07:25-07:58/33 18:10	05:56 19:40	05:28 20:07	05:27 20:20
30	07:00 08:02-08:37/35 17:07		05:40 07:27-07:56/29 18:11	05:55 19:41	05:28 20:08	05:27 20:20
31	06:59 08:01-08:37/36 17:08		06:38 08:28-08:54/26 19:12		05:27 20:09	
Potential sun hours	302	310	370	396	443	446
Sum of minutes with flicker	1038	979	1138	34	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: Bufalo worst case WTG: 15 - CU4
Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	08:08-08:49/41 16:51	06:17 16:29
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	08:09-08:48/39 16:50	06:18 16:28
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	08:09-08:46/37 16:49	06:19 16:28
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	08:11-08:45/34 16:47	06:20 16:28
5	05:30 20:19	05:54 19:58	06:22 19:16	06:49 18:28	08:12-08:43/31 16:46	06:21 16:28
6	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	08:13-08:41/28 16:45	06:22 16:28
7	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	08:15-08:41/26 16:44	06:23 16:28
8	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	08:17-08:44/27 16:43	06:24 16:28
9	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	08:22-08:46/24 16:42	06:25 16:28
10	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	08:21-08:47/26 16:41	06:26 16:28
11	05:33 20:18	05:59 19:52	06:27 19:07	06:55 18:19	08:19-08:48/29 16:40	06:28 16:28
12	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	08:18-08:49/31 16:40	06:29 16:28
13	05:35 20:17	06:01 19:49	06:29 19:03	06:57 18:16	08:17-08:50/33 16:39	07:00 16:28
14	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	08:16-08:50/34 16:38	07:01 16:28
15	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	08:15-08:50/35 16:37	07:01 16:29
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	08:15-08:51/36 16:36	07:02 16:29
17	05:38 20:15	06:05 19:44	06:32 18:57	07:01 18:10	08:14-08:51/37 16:36	07:03 16:29
18	05:38 20:14	06:05 19:43	06:33 18:55	07:02 18:09	08:14-08:50/36 16:35	07:03 16:30
19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	08:14-08:50/36 16:34	07:04 16:30
20	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	08:14-08:50/36 16:34	07:04 16:30
21	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	08:14-08:49/35 16:33	07:05 16:31
22	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	08:14-08:49/35 16:32	07:06 16:31
23	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	08:15-08:48/33 16:32	07:06 16:32
24	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	08:16-08:48/32 16:31	07:06 16:32
25	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	08:17-08:47/30 16:31	07:07 16:33
26	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	08:18-08:46/28 16:30	07:07 16:34
27	05:46 20:07	06:14 19:30	06:42 18:41	07:11 16:57	07:19-07:53/34 16:30	07:08 16:34
28	05:47 20:06	06:15 19:28	06:42 18:39	07:12 16:56	07:20-07:56/36 16:30	07:08 16:35
29	05:47 20:06	06:15 19:27	06:43 18:38	07:13 16:54	07:22-07:57/35 16:29	07:08 16:36
30	05:48 20:05	06:16 19:25	06:44 18:36	07:14 16:53	07:24-07:59/35 16:29	07:09 16:36
31	05:49 20:04	06:17 19:24		06:15 16:52	07:35-08:01/26	07:09 16:37
Potential sun hours	453	424	374	347	303	294
Sum of minutes with flicker	0	0	797	1015	1013	1032

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: Bufalo worst case WTG: 16 - CU5
Assumptions for shadow calculations

Reference year for calendar 2024
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

Table with 13 columns for months (January-December) and 31 rows for days. Each cell contains time ranges (e.g., 07:09-17:09) and some include date suffixes (e.g., 07:35-08:25/50). Summary rows at the bottom show 'Potential sun hours' and 'Sum of minutes with flicker' for each month and total.

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

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



SHADOW - Calendar per WTG

Calculation: Bufalo worst case WTG: 17 - CU6

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:58 17:09	06:24 17:42	06:37 19:13	07:27-07:55/28 19:14	05:54 20:09
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	07:24-07:54/30 19:14	05:52 20:10
3	07:09 16:39	06:57 17:12	06:21 17:44	06:33 19:15	07:22-07:53/31 19:15	05:51 20:11
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	07:21-07:54/33 19:16	05:50 20:11
5	07:09 16:41	06:55 17:14	06:18 17:46	06:30 19:17	08:48-09:02/14 07:20-07:53/33	05:49 20:12
6	07:09 16:41	06:54 17:15	06:17 17:47	06:29 19:18	08:42-09:08/26 07:19-07:53/34	05:48 20:13
7	07:09 16:42	06:53 17:16	06:15 17:48	06:27 19:19	08:38-09:10/32 07:18-07:52/34	05:47 20:13
8	07:09 16:43	06:52 17:17	06:14 17:49	06:26 19:20	08:35-09:13/38 07:18-07:52/34	05:45 20:14
9	07:09 16:44	06:51 17:19	06:12 17:50	06:24 19:21	08:32-09:14/42 07:17-07:50/33	05:44 20:14
10	07:09 16:45	06:50 17:20	06:11 17:51	06:23 19:22	08:31-09:16/45 07:18-07:50/32	05:43 20:15
11	07:09 16:46	06:49 17:21	06:09 17:52	06:21 19:23	08:28-09:17/49 07:17-07:48/31	05:42 20:15
12	07:09 16:47	06:48 17:22	06:08 17:53	06:20 19:24	08:27-09:18/51 07:18-07:46/28	05:41 20:16
13	07:09 16:48	06:46 17:23	06:06 17:54	06:18 19:25	08:24-09:19/55 07:17-07:44/27	05:40 20:16
14	07:09 16:49	06:45 17:24	06:05 17:55	06:17 19:26	08:23-09:20/57 07:16-07:44/28	05:39 20:17
15	07:08 16:50	06:44 17:25	06:03 17:56	06:15 19:26	08:21-09:20/59 07:14-07:44/30	05:38 20:17
16	07:08 16:51	06:43 17:27	06:02 17:57	06:14 19:27	08:21-09:21/60 07:13-07:45/32	05:38 20:18
17	07:08 16:52	06:42 17:28	06:00 17:58	06:12 19:28	08:20-09:21/61 07:13-07:45/32	05:37 20:18
18	07:07 16:53	06:40 17:29	05:59 17:59	06:11 19:29	08:18-09:21/63 07:11-07:45/34	05:36 20:18
19	07:07 16:54	06:39 17:30	05:57 18:00	06:09 19:30	08:18-09:21/63 07:11-07:45/34	05:35 20:19
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	08:16-09:21/65 07:10-07:45/35	05:34 20:19
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	08:16-09:21/65 07:10-07:45/35	05:33 20:19
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	08:15-09:21/66 07:10-07:45/35	05:33 20:19
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	08:14-09:20/66 07:09-07:44/35	05:32 20:19
24	07:04 17:00	06:33 17:35	05:49 18:05	06:03 19:35	08:14-09:20/66 07:10-07:44/34	05:31 20:20
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	08:13-09:20/67 07:10-07:44/34	05:31 20:20
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	08:13-09:20/67 07:10-07:43/33	05:30 20:20
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	08:12-09:19/67 07:10-07:42/32	05:29 20:20
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	08:12-09:19/67 07:11-07:41/30	05:29 20:20
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	08:12-09:19/67 07:12-07:40/28	05:28 20:20
30	07:00 17:07		05:40 18:11	05:55 19:41	08:12-09:19/67 07:12-07:39/27	05:28 20:20
31	06:59 17:08		06:38 19:12			05:27 20:09
Potential sun hours	302	310	370	396	443	446
Sum of minutes with flicker	0	0	385	2401	1700	213

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

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

SHADOW - Calendar per WTG

Calculation: Bufalo worst case WTG: 17 - CU6

Assumptions for shadow calculations

Reference year for calendar 2024

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	05:28 08:45-08:48/3 20:20	05:50 08:23-09:22/59 20:03	06:18 08:27-09:16/49 19:22 07:16-07:47/31	06:45 07:33-07:53/20 18:35	06:16 16:51	06:49 16:29
2	05:28 08:43-08:51/8 20:20	05:51 08:23-09:22/59 20:02	06:19 08:28-09:14/46 19:21 07:16-07:48/32	06:46 07:32-07:53/21 18:33	06:18 16:50	06:50 16:28
3	05:29 08:41-08:53/12 20:20	05:52 08:22-09:22/60 20:01	06:20 08:30-09:12/42 19:19 07:15-07:48/33	06:47 07:31-07:53/22 18:31	06:19 16:49	06:51 16:28
4	05:29 08:40-08:55/15 20:19	05:53 08:21-09:23/62 20:00	06:21 08:32-09:10/38 19:16 07:15-07:49/34	06:48 07:31-07:53/22 18:30	06:20 16:47	06:52 16:28
5	05:30 08:39-08:56/17 20:19	05:54 08:21-09:24/63 19:58	06:22 08:35-09:07/32 19:16 07:15-07:49/34	06:49 07:31-07:52/21 18:28	06:21 16:46	06:53 16:28
6	05:30 08:39-08:57/18 20:19	05:55 08:21-09:24/63 19:57	06:23 08:38-09:04/26 19:15 07:15-07:49/34	06:50 07:31-07:52/21 18:27	06:22 16:45	06:54 16:28
7	05:31 08:37-08:58/21 20:19	05:55 08:21-09:25/64 19:56	06:24 08:42-08:58/16 19:13 07:15-07:48/33	06:51 07:31-07:51/20 18:25	06:23 16:44	06:55 16:28
8	05:32 08:37-09:00/23 20:19	05:56 08:21-09:25/64 19:55 07:29-07:40/11	06:24 07:15-07:48/33 19:11	06:52 07:31-07:49/18 18:24	06:24 16:43	06:56 16:28
9	05:32 08:35-09:00/25 20:18	05:57 08:21-09:26/65 19:54 07:27-07:43/16	06:25 07:16-07:48/32 19:10	06:53 07:32-07:47/15 18:22	06:25 16:42	06:56 16:28
10	05:33 08:35-09:02/27 20:18	05:58 08:20-09:25/65 19:53 07:24-07:44/20	06:26 07:17-07:47/30 19:08	06:54 07:35-07:46/11 18:21	06:26 16:41	06:57 16:28
11	05:33 08:35-09:03/28 20:17	05:59 08:20-09:26/66 19:51 07:22-07:45/23	06:27 07:19-07:47/28 19:07	06:55 18:19	06:28 16:40	06:58 16:28
12	05:34 08:33-09:04/31 20:17	06:00 08:20-09:26/66 19:50 07:21-07:46/25	06:28 07:19-07:46/27 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	05:35 08:33-09:05/32 20:17	06:01 08:20-09:26/66 19:49 07:20-07:47/27	06:29 07:19-07:46/27 19:03	06:57 18:16	06:30 16:39	07:00 16:28
14	05:36 08:33-09:07/34 20:16	06:02 08:20-09:27/67 19:48 07:19-07:48/29	06:30 07:19-07:44/25 19:02	06:58 18:15	06:31 16:38	07:00 16:28
15	05:36 08:31-09:07/36 20:16	06:03 08:20-09:27/67 19:46 07:18-07:49/31	06:31 07:20-07:43/23 19:00	06:59 18:13	06:32 16:37	07:01 16:29
16	05:37 08:31-09:08/37 20:15	06:04 08:20-09:27/67 19:45 07:18-07:50/32	06:32 07:21-07:41/20 18:59	07:00 18:12	06:33 16:36	07:02 16:29
17	05:38 08:30-09:10/40 20:15	06:05 08:19-09:26/67 19:44 07:16-07:49/33	06:32 07:22-07:39/17 18:57	07:01 18:10	06:34 16:36	07:03 16:29
18	05:38 08:30-09:11/41 20:14	06:05 08:19-09:26/67 19:42 07:16-07:49/33	06:33 07:24-07:37/13 18:55	07:02 18:09	06:35 16:35	07:03 16:30
19	05:39 08:29-09:11/42 20:13	06:06 08:19-09:26/67 19:41 07:15-07:50/35	06:34 18:54	07:03 18:07	06:36 16:34	07:04 16:30
20	05:40 08:28-09:12/44 20:13	06:07 08:20-09:26/66 19:40 07:15-07:50/35	06:35 18:52	07:04 18:06	06:37 16:34	07:04 16:30
21	05:41 08:28-09:13/45 20:12	06:08 08:20-09:26/66 19:38 07:15-07:50/35	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	05:42 08:28-09:14/46 20:11	06:09 08:21-09:26/65 19:37 07:15-07:50/35	06:37 18:49	07:06 18:03	06:40 16:32	07:05 16:31
23	05:42 08:26-09:14/48 20:11	06:10 08:21-09:26/65 19:36 07:15-07:50/35	06:38 18:47	07:07 18:02	06:41 16:32	07:06 16:32
24	05:43 08:26-09:15/49 20:10	06:11 08:21-09:24/63 19:34 07:14-07:48/34	06:39 18:46	07:08 18:01	06:42 16:31	07:06 16:32
25	05:44 08:26-09:16/50 20:09	06:12 08:21-09:24/63 19:33 07:14-07:48/34	06:40 18:44	07:09 17:59	06:43 16:31	07:07 16:33
26	05:45 08:26-09:17/51 20:08	06:13 08:22-09:23/61 19:31 07:15-07:47/32	06:41 18:43	07:10 17:58	06:44 16:30	07:07 16:34
27	05:46 08:25-09:18/53 20:07	06:14 08:23-09:22/59 19:30 07:15-07:47/32	06:42 07:41-07:46/5 18:41	06:11 16:57	06:45 16:30	07:08 16:34
28	05:47 08:24-09:18/54 20:06	06:15 08:23-09:22/59 19:28 07:16-07:46/30	06:42 07:37-07:49/12 18:39	06:12 16:56	06:46 16:30	07:08 16:35
29	05:47 08:24-09:19/55 20:05	06:15 08:24-09:21/57 19:27 07:17-07:44/27	06:43 07:35-07:51/16 18:38	06:13 16:54	06:47 16:29	07:08 16:36
30	05:48 08:23-09:20/57 20:05	06:16 08:25-09:20/55 19:25 07:18-07:45/27	06:44 07:34-07:52/18 18:36	06:14 16:53	06:48 16:29	07:09 16:36
31	05:49 08:23-09:21/58 20:04	06:17 08:26-09:17/51 19:24 07:17-07:45/28		06:15 16:52		07:09 16:37
Potential sun hours	453	424	374	347	303	294
Sum of minutes with flicker	1100	2653	806	191	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: Bufalo worst case WTG: 18 - CU7

Assumptions for shadow calculations

Reference year for calendar 2024

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

Table with 12 columns for months (January to December) and 31 rows for days. Each cell contains a time range (e.g., 07:09 - 16:37) or a date range (e.g., 06:32-06:39/7). Summary row at the bottom shows 'Potential sun hours' and 'Sum of minutes with flicker' for each month.

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

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

SHADOW - Calendar per WTG

Calculation: Bufalo worst case WTG: 19 - CU8
Assumptions for shadow calculations

Reference year for calendar 2024
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

Table with 12 columns for months (January-December) and rows for days (1-31). Columns contain time ranges (hh:mm) and shadow calculation data. Summary rows at the bottom show 'Potential sun hours' and 'Sum of minutes with flicker' for each month.

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

Matrix with 2 rows and 3 columns: Day in month, Sun rise (hh:mm) / Sun set (hh:mm), First time (hh:mm) with flicker - Last time (hh:mm) with flicker / Minutes with flicker.



SHADOW - Calendar per WTG

Calculation: Bufalo worst case WTG: 20 - CU9

Assumptions for shadow calculations

Reference year for calendar 2024

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	07:09 16:37	06:58 17:09	06:24 07:23-07:42/19 17:42	06:37 19:13	05:54 19:42	05:27 06:21-06:44/23 20:09
2	07:09 16:38	06:58 17:10	06:23 07:25-07:41/16 17:43	06:35 19:14	05:52 19:43	05:27 06:22-06:44/22 20:10
3	07:09 16:39	06:57 17:12	06:21 07:27-07:38/11 17:44	06:33 19:15	05:51 19:44	05:26 06:21-06:43/22 20:11
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 06:22-06:43/21 20:11
5	07:09 16:41	06:55 07:37-07:47/10 17:14	06:18 17:46	06:30 19:17	05:49 19:46	05:25 06:23-06:43/20 20:12
6	07:09 16:41	06:54 07:36-07:49/13 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:25 06:24-06:43/19 20:13
7	07:09 16:42	06:53 07:34-07:50/16 17:16	06:15 17:48	06:27 19:19	05:47 19:48	05:25 06:24-06:43/19 20:13
8	07:09 16:43	06:52 07:33-07:52/19 17:17	06:14 17:49	06:26 19:20	05:45 19:49	05:25 06:24-06:42/18 20:14
9	07:09 16:44	06:51 07:32-07:51/19 17:18	06:12 17:50	06:24 19:21	05:44 19:50	05:25 06:25-06:42/17 20:14
10	07:09 16:45	06:50 07:31-07:52/21 17:20	06:11 17:51	06:23 19:22	05:43 19:51	05:24 06:25-06:42/17 20:15
11	07:09 16:46	06:49 07:31-07:53/22 17:21	06:09 17:52	06:21 19:23	05:42 19:52	05:24 06:26-06:42/16 20:15
12	07:09 16:47	06:48 07:31-07:53/22 17:22	06:08 17:53	06:20 19:24	05:41 06:27-06:36/9 19:53	05:24 06:26-06:42/16 20:16
13	07:09 16:48	06:46 07:31-07:53/22 17:23	06:06 17:54	06:18 19:25	05:40 06:24-06:38/14 19:53	05:24 06:27-06:42/15 20:16
14	07:09 16:49	06:45 07:32-07:53/21 17:24	06:05 17:55	06:17 19:26	05:39 06:23-06:39/16 19:54	05:24 06:28-06:42/14 20:17
15	07:08 16:50	06:44 07:31-07:52/21 17:25	06:03 17:56	06:15 19:26	05:38 06:22-06:40/18 19:55	05:24 06:28-06:42/14 20:17
16	07:08 16:51	06:43 07:32-07:52/20 17:27	06:02 17:57	06:14 19:27	05:38 06:22-06:41/19 19:56	05:24 06:28-06:42/14 20:18
17	07:08 16:52	06:42 07:28-07:51/23 17:28	06:00 17:58	06:12 19:28	05:37 06:21-06:42/21 19:57	05:24 06:29-06:42/13 20:18
18	07:07 16:53	06:40 07:27-07:50/23 17:29	05:59 17:59	06:11 19:29	05:36 06:20-06:42/22 19:58	05:24 06:29-06:42/13 20:18
19	07:07 16:54	06:39 07:24-07:48/24 17:30	05:57 18:00	06:09 19:30	05:35 06:19-06:43/24 19:59	05:24 06:29-06:42/13 20:19
20	07:06 16:56	06:38 07:24-07:46/22 17:31	05:55 18:01	06:08 19:31	05:34 06:20-06:44/24 20:00	05:24 06:30-06:43/13 20:19
21	07:06 16:57	06:37 07:23-07:46/23 17:32	05:54 18:02	06:07 19:32	05:33 06:19-06:44/25 20:01	05:25 06:30-06:43/13 20:19
22	07:05 16:58	06:35 07:22-07:46/24 17:33	05:52 18:03	06:05 19:33	05:33 06:19-06:44/25 20:01	05:25 06:30-06:43/13 20:19
23	07:05 16:59	06:34 07:22-07:46/24 17:34	05:51 18:04	06:04 19:34	05:32 06:19-06:44/25 20:02	05:25 06:30-06:43/13 20:19
24	07:04 17:00	06:33 07:22-07:47/25 17:35	05:49 18:05	06:03 19:35	05:31 06:19-06:44/25 20:03	05:25 06:31-06:44/13 20:20
25	07:04 17:01	06:31 07:21-07:46/25 17:37	05:48 18:06	06:01 19:36	05:31 06:19-06:44/25 20:04	05:26 06:31-06:44/13 20:20
26	07:03 17:02	06:30 07:21-07:46/25 17:38	05:46 18:07	06:00 19:37	05:30 06:19-06:44/25 20:05	05:26 06:31-06:44/13 20:20
27	07:02 17:03	06:29 07:21-07:45/24 17:39	05:44 18:08	05:59 19:38	05:29 06:19-06:44/25 20:06	05:26 06:31-06:45/14 20:20
28	07:02 17:05	06:27 07:22-07:45/23 17:40	05:43 18:09	05:57 19:39	05:29 06:20-06:44/24 20:06	05:27 06:31-06:45/14 20:20
29	07:01 17:06	06:26 07:22-07:43/21 17:41	05:41 18:10	05:56 19:40	05:28 06:19-06:44/25 20:07	05:27 06:30-06:45/15 20:20
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 06:20-06:44/24 20:08	05:27 06:31-06:46/15 20:20
31	06:59 17:08		06:38 19:12		05:27 06:21-06:44/23 20:09	
Potential sun hours	302	310	370	396	443	446
Sum of minutes with flicker	0	532	46	0	438	475

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

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

SHADOW - Calendar per WTG

Calculation: Bufalo worst case WTG: 20 - CU9
Assumptions for shadow calculations

Reference year for calendar 2024

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

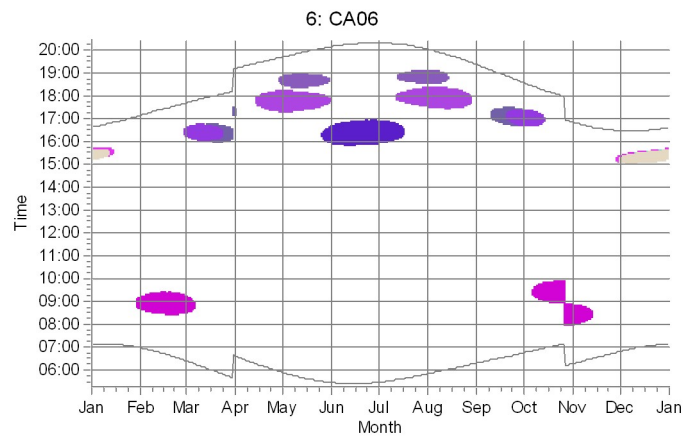
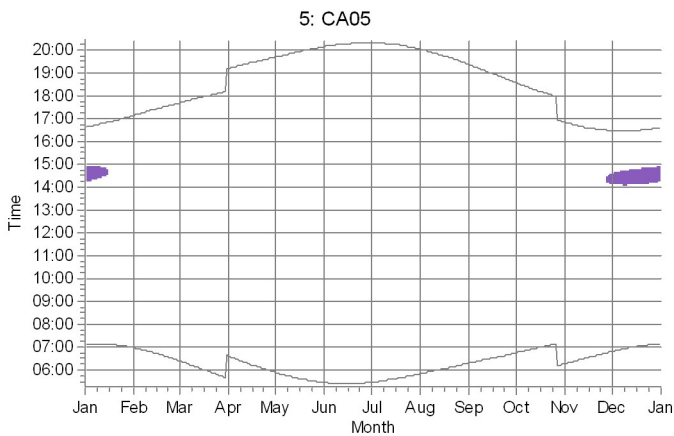
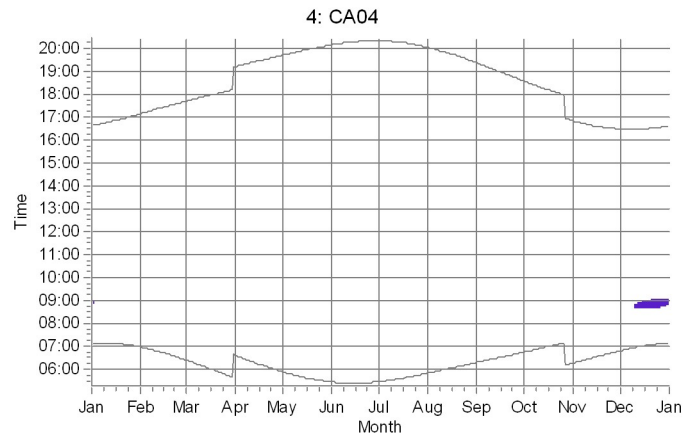
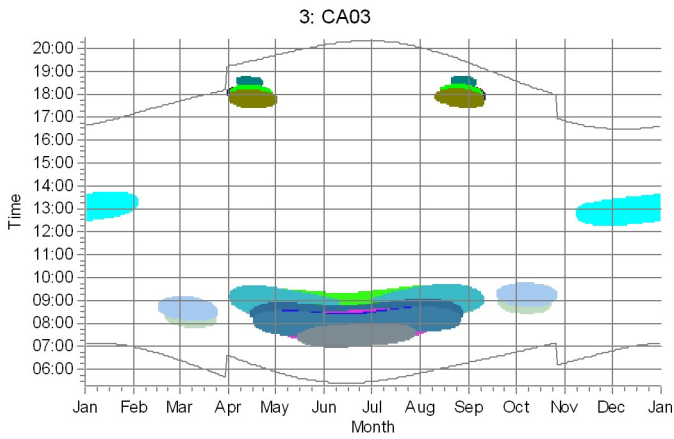
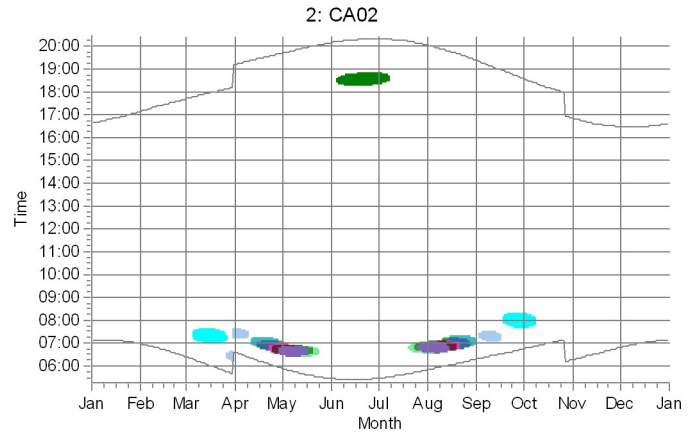
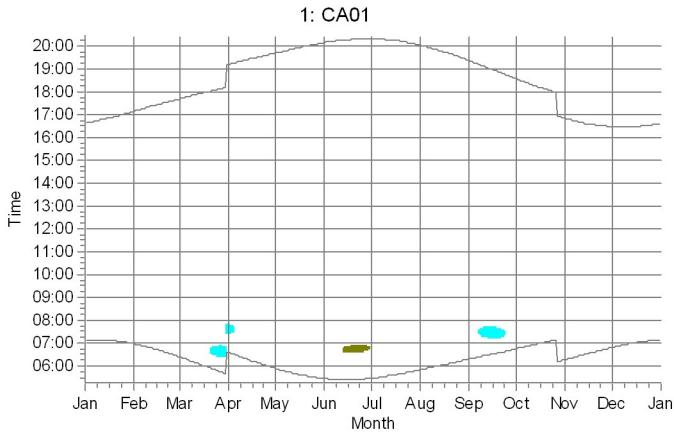
	July	August	September	October	November	December
1	05:28 06:30-06:46/16 20:20	05:50 06:39-06:45/6 20:03	06:18 19:22	06:45 18:35	06:16 07:01-07:23/22 16:51	06:49 16:29
2	05:28 06:31-06:47/16 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 07:01-07:22/21 16:50	06:50 16:28
3	05:29 06:30-06:47/17 20:20	05:52 20:01	06:20 19:19	06:47 18:31	06:19 07:02-07:21/19 16:49	06:51 16:28
4	05:29 06:30-06:48/18 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 07:02-07:20/18 16:47	06:52 16:28
5	05:30 06:30-06:48/18 20:19	05:54 19:58	06:22 19:16	06:49 18:28	06:21 07:04-07:20/16 16:46	06:53 16:28
6	05:30 06:30-06:49/19 20:19	05:55 19:57	06:23 19:15	06:50 18:27	06:22 07:06-07:19/13 16:45	06:54 16:28
7	05:31 06:29-06:49/20 20:19	05:55 19:56	06:24 19:13	06:51 18:25	06:23 07:08-07:16/8 16:44	06:55 16:28
8	05:32 06:29-06:50/21 20:19	05:56 19:55	06:24 19:11	06:52 18:24	06:24 16:43	06:56 16:28
9	05:32 06:29-06:50/21 20:18	05:57 19:54	06:25 19:10	06:53 18:22	06:25 16:42	06:56 16:28
10	05:33 06:29-06:51/22 20:18	05:58 19:53	06:26 19:08	06:54 08:04-08:10/6 18:21	06:26 16:41	06:57 16:28
11	05:33 06:29-06:52/23 20:18	05:59 19:52	06:27 19:07	06:55 08:00-08:13/13 18:19	06:28 16:40	06:58 16:28
12	05:34 06:28-06:52/24 20:17	06:00 19:50	06:28 19:05	06:56 07:58-08:15/17 18:18	06:29 16:40	06:59 16:28
13	05:35 06:29-06:52/23 20:17	06:01 19:49	06:29 19:03	06:57 07:56-08:16/20 18:16	06:30 16:39	07:00 16:28
14	05:36 06:29-06:53/24 20:16	06:02 19:48	06:30 19:02	06:58 07:55-08:17/22 18:15	06:31 16:38	07:00 16:28
15	05:36 06:28-06:53/25 20:16	06:03 19:46	06:31 19:00	06:59 07:54-08:17/23 18:13	06:32 16:37	07:01 16:29
16	05:37 06:28-06:53/25 20:15	06:04 19:45	06:32 18:59	07:00 07:53-08:18/25 18:12	06:33 16:36	07:02 16:29
17	05:38 06:29-06:54/25 20:15	06:05 19:44	06:32 18:57	07:01 07:53-08:18/25 18:10	06:34 16:36	07:03 16:29
18	05:38 06:29-06:54/25 20:14	06:05 19:43	06:33 18:55	07:02 07:53-08:18/25 18:09	06:35 16:35	07:03 16:30
19	05:39 06:28-06:53/25 20:13	06:06 19:41	06:34 18:54	07:03 07:52-08:17/25 18:07	06:36 16:34	07:04 16:30
20	05:40 06:29-06:54/25 20:13	06:07 19:40	06:35 18:52	07:04 07:52-08:17/25 18:06	06:37 16:33	07:04 16:30
21	05:41 06:29-06:54/25 20:12	06:08 19:38	06:36 18:51	07:05 07:53-08:16/23 18:05	06:39 16:33	07:05 16:31
22	05:42 06:30-06:54/24 20:11	06:09 19:37	06:37 18:49	07:06 07:53-08:16/23 18:03	06:40 16:32	07:05 16:31
23	05:42 06:29-06:53/24 20:11	06:10 19:36	06:38 18:47	07:07 07:54-08:16/22 18:02	06:41 16:32	07:06 16:32
24	05:43 06:30-06:53/23 20:10	06:11 19:34	06:39 18:46	07:08 07:54-08:19/25 18:01	06:42 16:31	07:06 16:32
25	05:44 06:30-06:53/23 20:09	06:12 19:33	06:40 18:44	07:09 07:57-08:20/23 17:59	06:43 16:31	07:07 16:33
26	05:45 06:31-06:53/22 20:08	06:13 19:31	06:41 18:43	07:10 07:59-08:21/22 17:58	06:44 16:30	07:07 16:34
27	05:46 06:32-06:52/20 20:07	06:14 19:30	06:42 18:41	06:11 07:02-07:22/20 16:57	06:45 16:30	07:08 16:34
28	05:47 06:32-06:51/19 20:06	06:15 19:28	06:42 18:39	06:12 07:01-07:22/21 16:56	06:46 16:30	07:08 16:35
29	05:47 06:33-06:50/17 20:06	06:15 19:27	06:43 18:38	06:13 07:00-07:22/22 16:54	06:47 16:29	07:08 16:36
30	05:48 06:34-06:49/15 20:05	06:16 19:25	06:44 18:36	06:14 07:00-07:22/22 16:53	06:48 16:29	07:09 16:36
31	05:49 06:36-06:48/12 20:04	06:17 19:24		06:15 07:01-07:23/22 16:52		07:09 16:37
Potential sun hours	453	424	374	347	303	294
Sum of minutes with flicker	656	6	0	471	117	0

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

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

SHADOW - Calendar per WTG, graphical

Calculation: Bufalo worst case

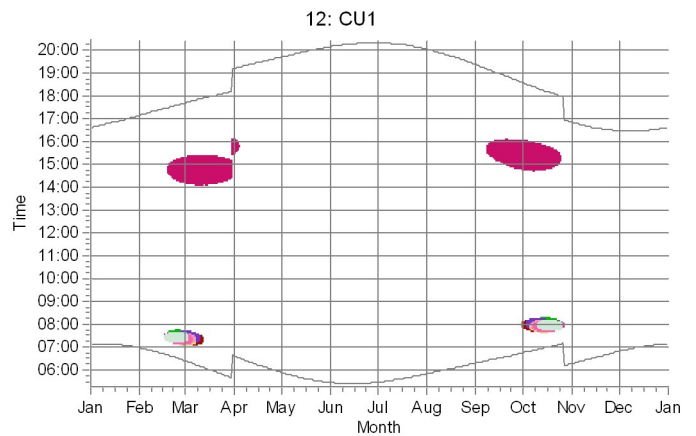
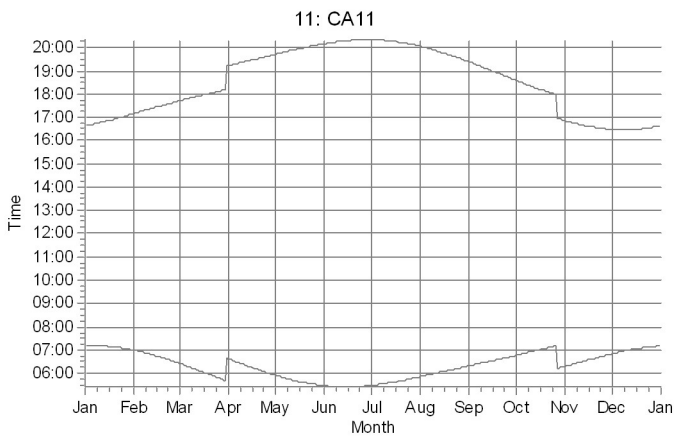
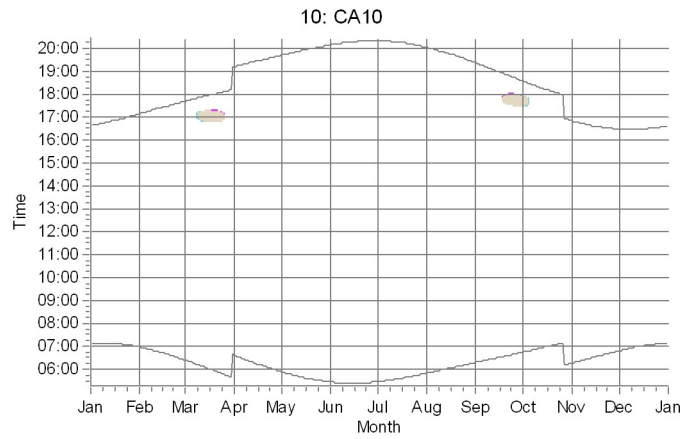
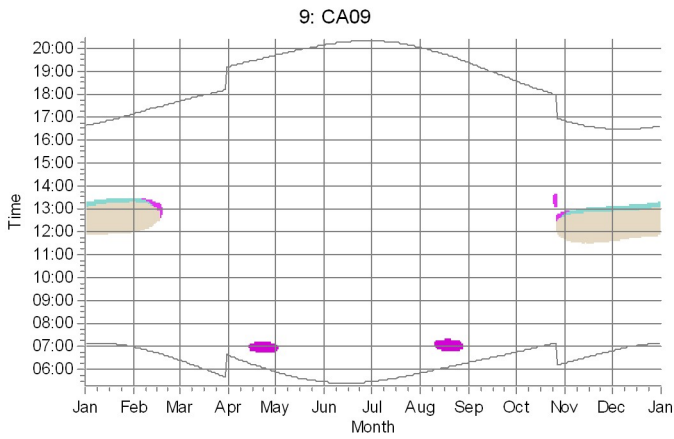
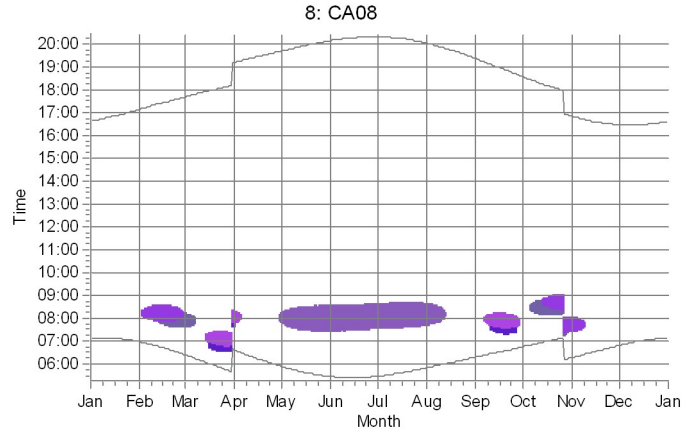
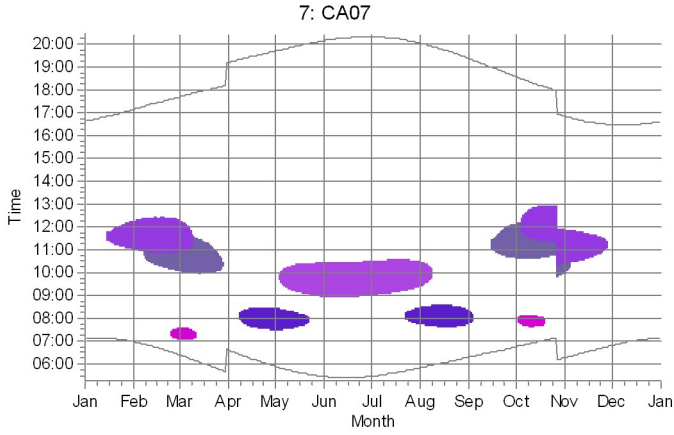


Shadow receptors

A: R127 CA01	M: R57 CA04	S: R16 CA03	Y: R22 CA03	AE: R28 CA03	AK: R34 CA03	AS: R74 CA10
F: R132 CA01	N: R11 CA03	T: R17 CA 03	Z: R23 CA03	AF: R29 CA03	AL: R35 CA03	AT: R75 CA10
G: R133 CA01	O: R12 CA03	U: R18 CA03	AA: R24 CA03	AG: R30 CA03	AO: R61 CA06	AU: R71 CA10
H: R134 CA01	P: R13 CA03	V: R19 CA03	AB: R25 CA03	AH: R31 CA03	AP: R62 CA07	AV: R72 CA10
I: R135 CA01	Q: R14 CA03	W: R20 CA03	AC: R26 CA03	AI: R32 CA03	AQ: R59 CA06	AW: R73 CA10
J: R56 CA03	R: R15 CA03	X: R21 CA03	AD: R27 CA03	AJ: R33 CA03	AR: R60 CA06	

SHADOW - Calendar per WTG, graphical

Calculation: Bufalo worst case

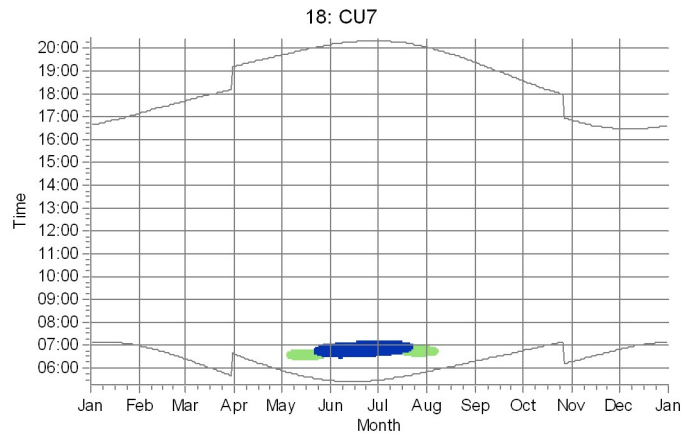
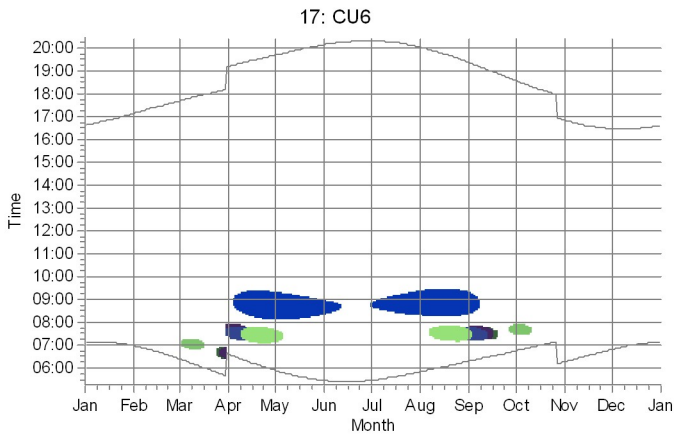
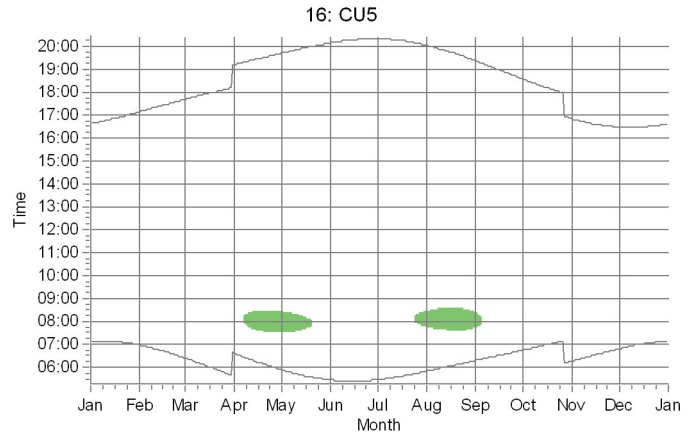
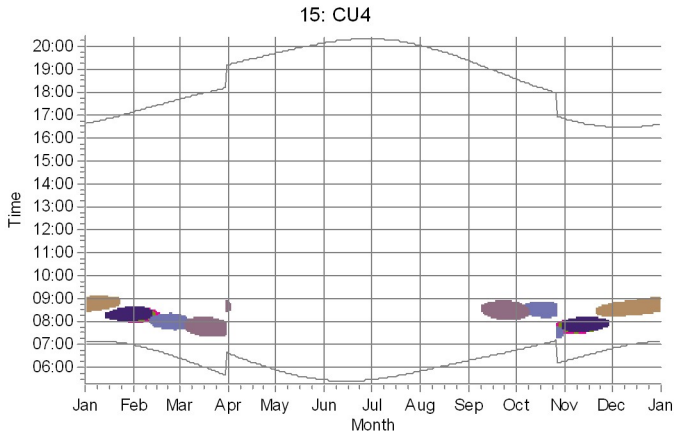
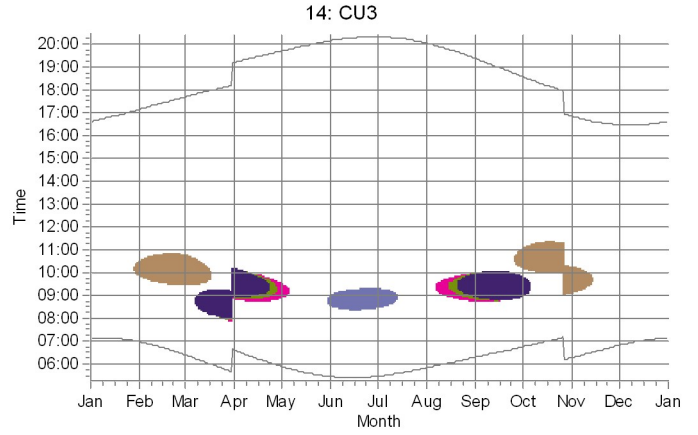
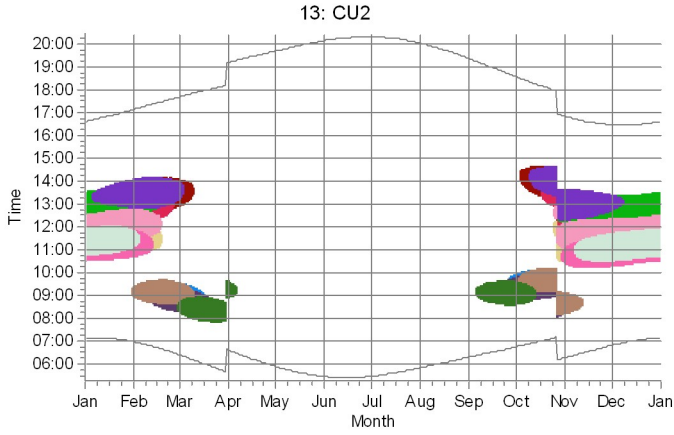


Shadow receptors

AO: R61 CA06	AR: R60 CA06	AU: R71 CA10	AX: R07 CU1	BA: R10 CU2	BD: R13 CU2	BG: R16 CU2
AP: R62 CA07	AS: R74 CA10	AV: R72 CA10	AY: R08 CU2	BB: R11 CU2	BE: R14 CU2	BH: R17 CU2
AQ: R59 CA06	AT: R75 CA10	AW: R73 CA10	AZ: R09 CU2	BC: R12 CU2	BF: R15 CU2	BI: R18 CU2

SHADOW - Calendar per WTG, graphical

Calculation: Bufalo worst case

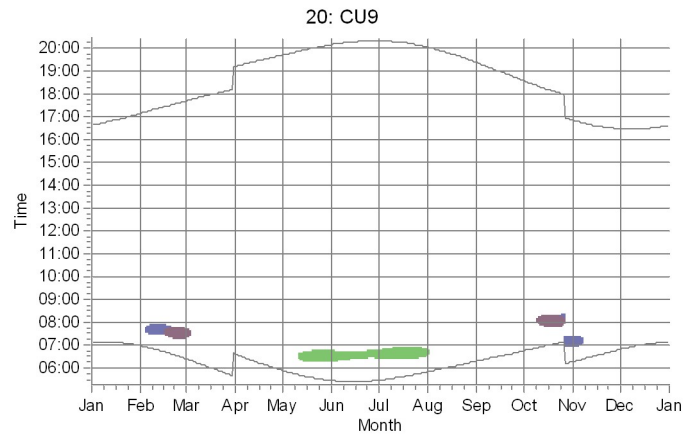
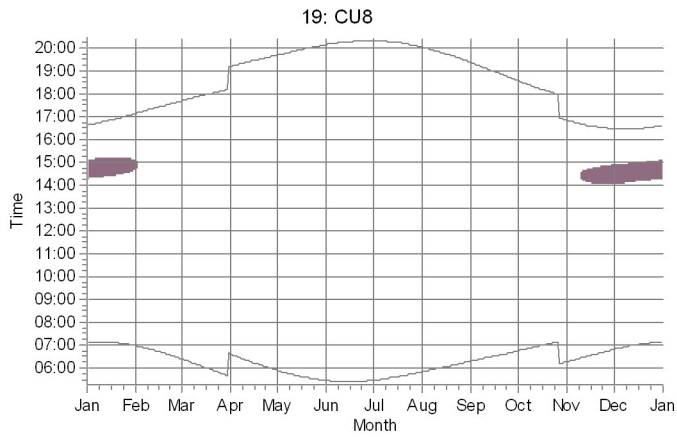


Shadow receptors

AY: R08 CU2	BC: R12 CU2	BG: R16 CU2	BK: R22 CU2	BO: R27 CU2	BS: R31 CU3	BW: R35 CU5
AZ: R09 CU2	BD: R13 CU2	BH: R17 CU2	BL: R23 CU2	BP: R28 CU2	BT: R32 CU5	BX: R36 CU5
BA: R10 CU2	BE: R14 CU2	BI: R18 CU2	BM: R24 CU2	BQ: R29 CU3	BU: R33 CU5	BY: R37 CU5
BB: R11 CU2	BF: R15 CU2	BJ: R21 CU2	BN: R26 CU2	BR: R30 CU3	BV: R34 CU5	

SHADOW - Calendar per WTG, graphical

Calculation: Bufalo worst case

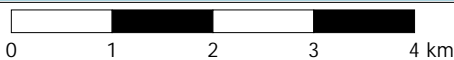
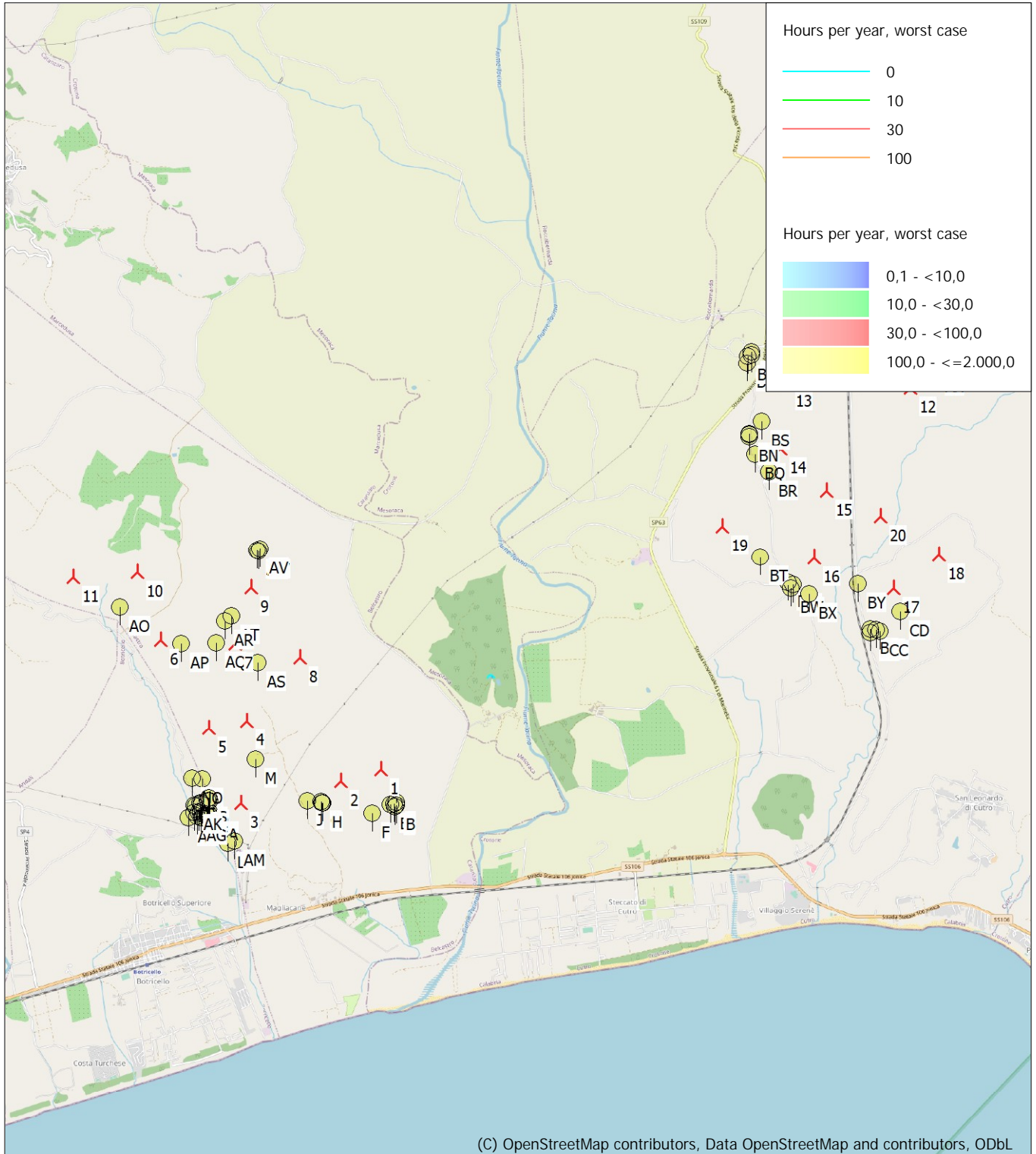


Shadow receptors

BQ: R29 CU3 BR: R30 CU3 BT: R32 CU5

SHADOW - Map

Calculation: Bufalo worst case



Map: EMD OpenStreetMap , Print scale 1:75.000, Map center UTM (north)-WGS84 Zone: 33 East: 665.585 North: 4.316.055

New WTG Shadow receptor

Flicker map level: 100 m above sea level

Time step: 4 minutes, Day step: 14 days, Map resolution: 30 m, Visibility resolution: 15 m, Eye height: 4,0 m

Allegato 2

Project:
Cantorato V172

Licensed user:
ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Main Result

Calculation: Bufalo real case
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

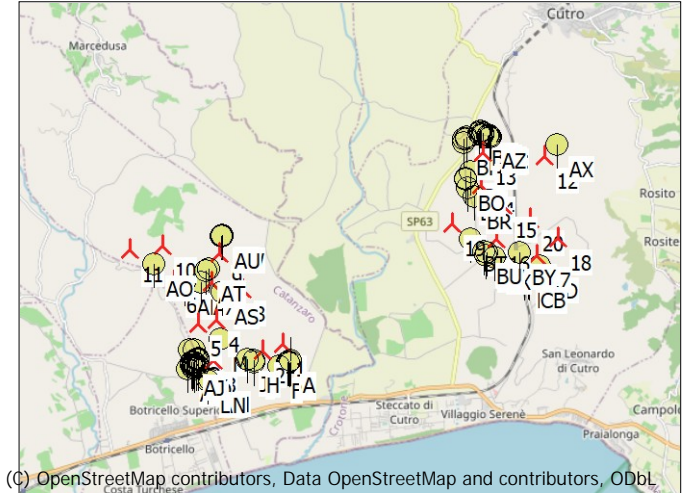
Minimum sun height over horizon for influence 3 °
Day step for calculation 1 days
Time step for calculation 1 minutes

Sunshine probability S (Average daily sunshine hours) [CROTONE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

Monthly aggregation of real case reduction
Topographic shadow included in calculation

All coordinates are in
UTM (north)-WGS84 Zone: 33



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL
Scale 1:200.000
New WTG Shadow receptor

WTGs

Row data/Description	Easting	Northing	Z [m]	WTG type	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
											Calculation [m]	RPM [RPM]
1 CA01	664.006	4.313.697	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
2 CA02	663.481	4.313.528	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
3 CA03	662.183	4.313.215	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
4 CA04	662.232	4.314.284	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
5 CA05	661.739	4.314.189	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
6 CA06	661.083	4.315.322	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
7 CA07	662.067	4.315.296	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
8 CA08	662.918	4.315.134	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
9 CA09	662.256	4.318.864	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
10 CA10	660.762	4.316.208	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
11 CA11	659.920	4.316.121	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
12 CU1	670.825	4.318.817	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
13 CU2	669.204	4.318.864	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
14 CU3	669.144	4.317.997	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
15 CU4	669.766	4.317.463	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
16 CU5	669.611	4.316.577	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
17 CU6	670.671	4.316.197	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
18 CU7	671.250	4.316.649	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
19 CU8	668.403	4.316.968	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-
20 CU9	670.472	4.317.143	185,0	VESTAS	Yes	VESTAS	V172-7.2-7.200	7.200	172,0	114,0	1.908	-

Shadow receptor-Input

No.	Name	Easting	Northing	Z [m]	Width [m]	Height [m]	Elevation [m] a.g.l.	Slope of window [°]	Direction mode	Eye height (ZVI) [m] a.g.l.
A	R127 CA01	664.215	4.313.271	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
B	R128 CA01	664.217	4.313.232	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
C	R129 CA01	664.184	4.313.245	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
D	R130 CA01	664.194	4.313.209	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
E	R131 CA01	664.142	4.313.237	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
F	R132 CA01	663.904	4.313.119	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
G	R133 CA01	663.234	4.313.257	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
H	R134 CA01	663.254	4.313.241	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
I	R135 CA01	663.240	4.313.231	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
J	R56 CA03	663.056	4.313.264	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
K	R36 CA03	662.103	4.312.720	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
L	R37 CA03	662.025	4.312.692	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
M	R57 CA04	662.355	4.313.790	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0

To be continued on next page...

SHADOW - Main Result

Calculation: Bufalo real case

...continued from previous page

No.	Name	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
				[m]	[m]	[m]	[m]	[°]		[m]
N R11	CA03	661.536	4.313.522	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
O R12	CA03	661.660	4.313.519	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
P R13	CA03	661.739	4.313.253	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
Q R14	CA03	661.748	4.313.229	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
R R15	CA03	661.768	4.313.244	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
S R16	CA03	661.755	4.313.281	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
T R17	CA 03	661.664	4.313.184	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
U R18	CA03	661.648	4.313.198	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
V R19	CA03	661.662	4.313.201	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
W R20	CA03	661.724	4.313.060	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
X R21	CA03	661.742	4.313.030	9,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
Y R22	CA03	661.756	4.313.032	8,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
Z R23	CA03	661.799	4.313.027	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AA R24	CA03	661.768	4.313.046	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AB R25	CA03	661.766	4.313.082	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AC R26	CA03	661.754	4.313.071	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AD R27	CA03	661.631	4.313.085	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AE R28	CA03	661.659	4.313.099	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AF R29	CA03	661.660	4.313.071	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AG R30	CA03	661.611	4.313.035	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AH R31	CA03	661.670	4.313.017	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AI R32	CA03	661.569	4.313.083	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AJ R33	CA03	661.586	4.313.168	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AK R34	CA03	661.569	4.313.174	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AL R35	CA03	661.498	4.313.014	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AM R36	CA03	662.103	4.312.720	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AN R37	CA03	662.025	4.312.692	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AO R61	CA06	660.537	4.315.740	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AP R62	CA07	661.363	4.315.282	5,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AQ R59	CA06	661.814	4.315.298	4,0	1,0	2,0	2,0	90,0	"Green house mode"	4,0
AR R60	CA06	661.921	4.315.585	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AS R74	CA10	662.362	4.315.050	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AT R75	CA10	662.007	4.315.655	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AU R71	CA10	662.348	4.316.510	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AV R72	CA10	662.360	4.316.541	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AW R73	CA10	662.326	4.316.518	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AX R07	CU1	671.160	4.319.093	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AY R08	CU2	669.370	4.319.239	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
AZ R09	CU2	669.359	4.319.298	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BA R10	CU2	669.311	4.319.296	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BB R11	CU2	669.348	4.319.334	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BC R12	CU2	669.383	4.319.273	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BD R13	CU2	669.173	4.319.374	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BE R14	CU2	669.118	4.319.417	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BF R15	CU2	669.117	4.319.329	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BG R16	CU2	669.200	4.319.333	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BH R17	CU2	669.079	4.319.367	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BI R18	CU2	669.108	4.319.413	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BJ R21	CU2	668.740	4.319.209	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BK R22	CU2	668.694	4.319.192	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BL R23	CU2	668.736	4.319.253	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BM R24	CU2	668.677	4.319.099	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BN R26	CU2	668.733	4.318.138	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BO R27	CU2	668.734	4.318.162	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BP R28	CU2	668.731	4.318.179	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BQ R29	CU3	668.807	4.317.915	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BR R30	CU3	669.000	4.317.693	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BS R31	CU3	668.892	4.318.336	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BT R32	CU5	668.906	4.316.568	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BU R33	CU5	669.287	4.316.242	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BV R34	CU5	669.341	4.316.223	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BW R35	CU5	669.319	4.316.173	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BX R36	CU5	669.566	4.316.102	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
BY R37	CU5	670.202	4.316.245	3,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0

To be continued on next page...

Project:

Cantorato V172

Licensed user:

ISE SRL

VIA G. CABOTO,23

IT-88100 Catanzaro

+393498519351

Camillo / camillocrivaro@hotmail.com

Calculated:

01/08/2024 03:04/4.0.547

SHADOW - Main Result

Calculation: Bufalo real case

...continued from previous page

No.	Name	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
				[m]	[m]	[m]	[m]	[°]		[m]
BZ	R38 CU6	670.370	4.315.662	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
CA	R39 CU6	670.380	4.315.614	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
CB	R40 CU6	670.448	4.315.652	4,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
CC	R41 CU6	670.494	4.315.631	9,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0
CD	R42 CU6	670.757	4.315.897	6,0	2,0	2,0	2,0	90,0	"Green house mode"	4,0

Calculation Results

Shadow receptor

Shadow, expected values

No. Name Shadow hours

per year

[h/year]

A	R127 CA01	2:31
B	R128 CA01	0:00
C	R129 CA01	0:00
D	R130 CA01	0:00
E	R131 CA01	0:00
F	R132 CA01	1:57
G	R133 CA01	4:49
H	R134 CA01	4:42
I	R135 CA01	4:54
J	R56 CA03	7:22
K	R36 CA03	0:00
L	R37 CA03	0:00
M	R57 CA04	8:39
N	R11 CA03	6:43
O	R12 CA03	9:54
P	R13 CA03	30:29
Q	R14 CA03	32:03
R	R15 CA03	33:03
S	R16 CA03	26:23
T	R17 CA 03	27:18
U	R18 CA03	26:53
V	R19 CA03	27:40
W	R20 CA03	4:01
X	R21 CA03	2:30
Y	R22 CA03	2:34
Z	R23 CA03	2:50
AA	R24 CA03	2:36
AB	R25 CA03	3:45
AC	R26 CA03	2:28
AD	R27 CA03	15:10
AE	R28 CA03	18:09
AF	R29 CA03	12:37
AG	R30 CA03	8:01
AH	R31 CA03	2:17
AI	R32 CA03	16:50
AJ	R33 CA03	22:22
AK	R34 CA03	21:09
AL	R35 CA03	11:17
AM	R36 CA03	0:00
AN	R37 CA03	0:00
AO	R61 CA06	10:34
AP	R62 CA07	23:22
AQ	R59 CA06	41:41
AR	R60 CA06	17:21
AS	R74 CA10	28:22
AT	R75 CA10	11:04
AU	R71 CA10	7:16
AV	R72 CA10	6:40
AW	R73 CA10	6:03
AX	R07 CU1	11:38
AY	R08 CU2	8:57

To be continued on next page...

SHADOW - Main Result

Calculation: Bufalo real case

...continued from previous page

No.	Name	Shadow, expected values Shadow hours per year [h/year]
AZ	R09 CU2	8:41
BA	R10 CU2	6:50
BB	R11 CU2	7:31
BC	R12 CU2	9:01
BD	R13 CU2	2:29
BE	R14 CU2	3:28
BF	R15 CU2	5:05
BG	R16 CU2	1:40
BH	R17 CU2	5:32
BI	R18 CU2	3:43
BJ	R21 CU2	8:25
BK	R22 CU2	8:05
BL	R23 CU2	7:43
BM	R24 CU2	9:41
BN	R26 CU2	19:52
BO	R27 CU2	18:34
BP	R28 CU2	17:30
BQ	R29 CU3	10:52
BR	R30 CU3	13:06
BS	R31 CU3	12:42
BT	R32 CU5	18:19
BU	R33 CU5	2:35
BV	R34 CU5	2:52
BW	R35 CU5	2:54
BX	R36 CU5	7:57
BY	R37 CU5	29:21
BZ	R38 CU6	0:00
CA	R39 CU6	0:00
CB	R40 CU6	0:00
CC	R41 CU6	0:00
CD	R42 CU6	0:00

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

No.	Name	Expected [h/year]
1	CA01	2:18
2	CA02	14:13
3	CA03	88:27
4	CA04	0:26
5	CA05	2:01
6	CA06	41:57
7	CA07	46:53
8	CA08	32:01
9	CA09	5:25
10	CA10	2:07
11	CA11	0:00
12	CU1	15:01
13	CU2	32:28
14	CU3	35:24
15	CU4	16:41
16	CU5	11:36
17	CU6	32:21
18	CU7	9:04
19	CU8	5:12
20	CU9	8:18

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

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: A - R127 CA01

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	18:25 (2) 23 18:48 (2)	05:50 20:03	06:18 19:23	06:45 18:35	06:17 16:51	
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	18:26 (2) 22 18:48 (2)	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:51 19:44	05:27 20:11	05:29 20:20	18:27 (2) 20 18:47 (2)	05:52 20:01	06:20 19:19	06:47 18:32	06:19 16:49	
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	18:28 (2) 19 18:47 (2)	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:48	
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	18:28 (2) 6 18:34 (2)	05:54 20:00	06:22 19:16	06:49 18:29	06:21 16:47	
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	18:26 (2) 11 18:37 (2)	05:55 20:01	06:23 19:15	06:50 18:27	06:22 16:46	
7	07:10 16:43	06:53 17:17	06:16 17:48	06:28 19:19	05:47 19:48	05:25 20:13	05:31 20:19	18:25 (2) 14 18:39 (2)	05:56 20:02	06:24 19:13	06:51 18:26	06:23 16:45	
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	18:24 (2) 17 18:41 (2)	05:57 20:03	06:25 19:12	06:52 18:24	06:24 16:44	
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:18	18:23 (2) 19 18:42 (2)	05:58 20:04	06:26 19:10	06:53 18:22	06:26 16:43	
10	07:10 16:45	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	18:22 (2) 21 18:43 (2)	05:59 20:05	06:27 19:09	06:54 18:21	06:27 16:42	
11	07:09 16:46	06:49 17:21	06:10 17:53	06:21 19:23	05:43 19:52	05:25 20:16	05:34 20:18	18:21 (2) 23 18:44 (2)	06:00 20:06	06:27 19:17	06:55 18:19	06:28 16:41	
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:17	18:21 (2) 24 18:45 (2)	06:00 20:07	06:28 19:05	06:56 18:18	06:29 16:40	
13	07:09 16:48	06:47 17:23	06:07 17:55	06:19 19:25	05:41 19:54	05:24 20:17	05:35 20:17	18:21 (2) 24 18:45 (2)	06:01 20:08	06:29 19:04	06:57 18:16	06:30 16:39	
14	07:09 16:49	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:24 20:17	05:36 20:16	18:20 (2) 26 18:46 (2)	06:02 20:09	06:30 19:02	06:58 18:15	06:31 16:38	
15	07:08 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:55	05:24 20:17	05:37 20:16	18:20 (2) 26 18:46 (2)	06:03 20:10	06:31 19:01	06:59 18:14	06:32 16:37	
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:56	05:24 20:18	05:37 20:15	18:20 (2) 27 18:47 (2)	06:04 20:11	06:32 19:45	07:00 18:59	06:33 18:12	
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	18:20 (2) 27 18:47 (2)	06:05 20:02	06:33 18:57	07:01 18:11	06:34 16:36	
18	07:07 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:18	05:39 20:14	18:21 (2) 28 18:49 (2)	06:06 20:03	06:34 18:56	07:02 18:09	06:36 16:35	
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	05:35 19:59	05:25 20:19	05:40 20:14	18:21 (2) 28 18:49 (2)	06:07 20:04	06:35 18:54	07:03 18:08	06:37 16:35	
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	05:35 20:00	05:25 20:19	05:40 20:13	18:21 (2) 28 18:49 (2)	06:08 20:05	06:35 18:52	07:04 18:06	06:38 16:34	
21	07:06 16:57	06:37 17:32	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	18:21 (2) 28 18:49 (2)	06:09 20:06	06:36 18:51	07:05 18:05	06:39 16:33	
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:19	05:42 20:12	18:21 (2) 28 18:49 (2)	06:09 20:07	06:37 18:49	07:06 18:04	06:40 16:33	
23	07:05 16:59	06:34 17:35	05:51 18:04	06:04 19:34	05:32 20:03	05:25 20:20	05:43 20:11	18:22 (2) 28 18:50 (2)	06:10 20:08	06:38 18:48	07:07 18:02	06:41 16:32	
24	07:04 17:00	06:33 17:36	05:49 18:05	06:03 19:35	05:32 20:03	05:26 20:20	05:44 20:10	18:22 (2) 28 18:50 (2)	06:11 20:09	06:39 18:46	07:08 18:01	06:42 16:32	
25	07:04 17:01	06:32 17:37	05:48 18:06	06:02 19:36	05:31 20:04	05:26 20:20	05:44 20:09	18:22 (2) 27 18:49 (2)	06:12 20:03	06:40 18:44	07:09 18:00	06:43 16:31	
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	18:22 (2) 27 18:49 (2)	06:13 20:01	06:41 18:43	07:10 17:58	06:44 16:31	
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20	05:46 20:08	18:23 (2) 27 18:50 (2)	06:14 20:02	06:42 18:41	06:11 16:57	06:45 16:30	
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	05:47 20:07	18:23 (2) 26 18:49 (2)	06:15 20:09	06:43 18:40	06:12 16:56	06:46 16:30	
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	05:29 20:07	05:27 20:20	05:48 20:06	18:24 (2) 26 18:50 (2)	06:16 20:06	06:44 18:38	06:13 16:55	06:47 16:30	
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	18:25 (2) 24 18:49 (2)	06:17 20:06	06:45 18:36	06:15 16:53	06:48 16:29	
31	07:00 17:08		06:38 19:12	05:28 20:09	05:28 20:09		05:50 20:04	05:50 20:04	06:18 19:24	06:16 18:36	06:16 16:52	07:09 16:37	
Potential sun hours	302	310	370	396	443	446	453	424		374	347	303	294
Total, worst case						618		122					
Sun reduction						0,62		0,68					
Oper. time red.						0,34		0,34					
Wind dir. red.						0,94		0,94					
Total reduction						0,20		0,22					
Total, real						125		27					

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: Bufalo real case Shadow receptor: B - R128 CA01

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:23	06:45 18:35	06:17 16:51	06:49 16:29
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:29
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:51 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:28
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:48	06:28 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:56 19:56	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:24 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:18	05:58 19:54	06:26 19:10	06:53 18:22	06:26 16:43	06:57 16:28
10	07:10 16:45	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:46	06:49 17:21	06:10 17:53	06:21 19:23	05:43 19:52	05:25 20:16	05:34 20:18	05:59 19:52	06:27 19:07	06:55 18:19	06:28 16:41	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:47 17:23	06:07 17:55	06:19 19:25	05:41 19:54	05:24 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	06:30 16:39	07:00 16:29
14	07:09 16:49	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:08 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:55	05:24 20:17	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:37	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:34 16:36	07:03 16:30
18	07:07 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:18	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	05:35 19:59	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:35 18:52	07:04 18:06	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:32	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:19	05:42 20:12	06:09 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:04	06:04 19:34	05:32 20:03	05:25 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:36	05:49 18:05	06:03 19:35	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:01	06:32 17:37	05:48 18:06	06:02 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:31	07:07 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	06:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	06:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	05:29 20:07	05:27 20:20	05:48 20:06	06:16 19:27	06:44 18:38	06:13 16:55	06:47 16:30	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:36	06:15 16:53	06:48 16:29	07:09 16:37
31	07:00 17:08		06:38 19:12		05:28 20:09		05:50 20:04	06:18 19:24		06:16 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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)

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: C - R129 CA01

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

Table with 13 columns (January to December) and 31 rows of data. Each cell contains a time range (e.g., 07:09 - 06:59) and a numerical value. Summary rows at the bottom include 'Potential sun hours', 'Total, worst case', and 'Total, real'.

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)

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: D - R130 CA01

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:23	06:45 18:35	06:17 16:51	06:49 16:29
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:29
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:28
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:48	06:28 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:56 19:56	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:24 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:18	05:58 19:54	06:26 19:10	06:53 18:22	06:26 16:43	06:57 16:28
10	07:10 16:45	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:46	06:49 17:21	06:10 17:53	06:21 19:23	05:43 19:52	05:25 20:16	05:34 20:18	05:59 19:52	06:27 19:07	06:55 18:19	06:28 16:41	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:47 17:23	06:07 17:55	06:19 19:25	05:41 19:54	05:24 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	06:30 16:39	07:00 16:29
14	07:09 16:49	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:08 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:55	05:24 20:17	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:37	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:34 16:36	07:03 16:30
18	07:07 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:18	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	05:35 19:59	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:35 18:52	07:04 18:06	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:32	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:19	05:42 20:12	06:09 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:04	06:04 19:34	05:32 20:03	05:25 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:36	05:49 18:05	06:03 19:35	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:06	06:02 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:31	07:07 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	06:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	06:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	05:29 20:07	05:27 20:20	05:48 20:06	06:16 19:27	06:44 18:38	06:13 16:55	06:47 16:30	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:36	06:15 16:53	06:48 16:29	07:09 16:37
31	07:00 17:08		06:38 19:12		05:28 20:09		05:50 20:04	06:18 19:24		06:16 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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: Bufalo real case Shadow receptor: E - R131 CA01

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:23	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:29
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:28
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:48	06:28 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:56 19:56	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:24 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:18	05:58 19:54	06:26 19:10	06:53 18:22	06:26 16:43	06:57 16:28
10	07:10 16:45	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:46	06:49 17:21	06:10 17:53	06:21 19:23	05:43 19:52	05:25 20:16	05:34 20:18	05:59 19:52	06:27 19:07	06:55 18:19	06:28 16:41	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:47 17:23	06:07 17:55	06:19 19:25	05:41 19:54	05:24 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	06:30 16:39	07:00 16:29
14	07:09 16:49	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:08 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:55	05:24 20:17	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:37	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:34 16:36	07:03 16:30
18	07:07 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:18	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	05:35 19:59	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:35 18:52	07:04 18:06	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:32	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:19	05:42 20:12	06:09 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:34	05:32 20:03	05:25 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:36	05:49 18:05	06:03 19:35	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:06	06:02 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:31	07:07 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	06:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	06:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	05:29 20:07	05:27 20:20	05:48 20:06	06:16 19:27	06:44 18:38	06:13 16:55	06:47 16:30	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:36	06:15 16:53	06:48 16:29	07:09 16:37
31	07:00 17:08		06:38 19:12		05:28 20:09		05:50 20:04	06:18 19:24		06:16 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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: Bufalo real case Shadow receptor: F - R132 CA01

Assumptions for shadow calculations

Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:50 20:03	06:18 19:23	18:23 (3) 18:44 (3)	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	18:22 (3) 18:42 (3)	06:46 18:33	06:18 16:50	06:50 16:29
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:19	18:23 (3) 18:40 (3)	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	18:24 (3) 18:39 (3)	06:48 18:30	06:20 16:48	06:52 16:28
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	18:27 (3) 18:36 (3)	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	18:28 (3) 18:27	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:48	06:28 19:19	18:31 (3) 18:40 (3)	05:47 19:48	05:25 20:13	05:56 20:19	06:24 19:13	18:26 18:26	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	18:27 (3) 18:41 (3)	05:46 19:49	05:25 20:14	05:57 20:19	06:25 19:12	18:25 18:24	06:52 18:24	06:24 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	18:26 (3) 18:43 (3)	05:45 19:50	05:25 20:15	05:58 20:18	06:26 19:10	18:23 (3) 18:22	06:53 18:22	06:26 16:43	06:57 16:28
10	07:10 16:45	06:50 17:20	06:11 17:52	06:23 19:22	18:24 (3) 18:44 (3)	05:44 19:51	05:25 20:15	05:59 19:53	06:27 19:09	18:21 18:21	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:46	06:49 17:21	06:10 17:53	06:22 19:23	18:24 (3) 18:45 (3)	05:43 19:52	05:25 20:16	05:59 19:52	06:27 19:07	18:20 18:19	06:55 18:19	06:28 16:41	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	18:22 (3) 18:44 (3)	05:42 19:53	05:25 20:16	06:00 19:51	06:28 19:05	18:19 18:18	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:47 17:23	06:07 17:55	06:19 19:25	18:22 (3) 18:45 (3)	05:41 19:54	05:25 20:17	06:01 19:49	06:29 19:04	18:18 18:16	06:57 18:16	06:30 16:39	07:00 16:29
14	07:09 16:49	06:46 17:25	06:05 17:56	06:17 19:26	18:21 (3) 18:44 (3)	05:40 19:55	05:24 20:17	06:02 19:48	06:30 19:02	18:16 18:15	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	18:22 (3) 18:44 (3)	05:39 19:56	05:24 20:17	06:03 19:47	06:31 19:01	18:15 18:14	06:59 18:14	06:32 16:37	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	18:21 (3) 18:43 (3)	05:38 19:56	05:24 20:18	06:04 19:45	06:32 18:59	18:14 18:12	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	18:22 (3) 18:43 (3)	05:37 19:57	05:25 20:18	06:05 19:44	06:33 18:57	18:13 18:11	07:01 18:11	06:34 16:36	07:03 16:30
18	07:07 16:54	06:41 17:29	05:59 18:00	06:11 19:30	18:22 (3) 18:43 (3)	05:36 19:58	05:25 20:18	06:06 19:43	06:34 18:56	18:12 18:09	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	18:23 (3) 18:41 (3)	05:35 19:59	05:25 20:19	06:07 19:41	06:35 18:54	18:11 18:08	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	18:24 (3) 18:40 (3)	05:35 20:00	05:25 20:19	06:08 19:40	06:35 18:52	18:07 18:06	07:04 18:06	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:32	05:54 18:03	06:07 19:33	18:25 (3) 18:37 (3)	05:34 20:01	05:25 20:19	06:09 19:39	06:36 18:51	18:32 (3) 18:40 (3)	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	18:28 (3) 18:34 (3)	05:33 20:02	05:25 20:20	06:09 19:37	06:37 18:49	18:30 (3) 18:42 (3)	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	18:34 (3) 20:03	05:32 20:20	05:25 20:11	06:10 19:36	06:38 18:48	18:28 (3) 18:44 (3)	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:36	05:49 18:05	06:03 19:35	20:03 20:03	05:32 20:20	05:26 20:10	06:11 19:34	06:39 18:46	18:26 (3) 18:45 (3)	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:06	06:02 19:36	20:04 20:04	05:31 20:20	05:26 20:09	06:12 19:33	06:40 18:44	18:25 (3) 18:46 (3)	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	20:05 20:05	05:30 20:20	05:26 20:08	06:13 19:31	06:41 18:43	18:24 (3) 18:45 (3)	07:10 17:58	06:44 16:31	07:07 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	20:06 20:06	05:30 20:20	05:27 20:08	06:14 19:30	06:42 18:41	18:23 (3) 18:45 (3)	07:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	20:07 20:07	05:29 20:20	05:27 20:07	06:15 19:29	06:43 18:40	18:22 (3) 18:45 (3)	07:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	20:08 20:07	05:29 20:20	05:27 20:06	06:16 19:27	06:44 18:38	18:22 (3) 18:45 (3)	07:13 16:55	06:47 16:30	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	20:09 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:36	18:22 (3) 18:45 (3)	07:14 16:53	06:48 16:29	07:09 16:37
31	07:00 17:08		06:38 19:12		20:08 20:09	05:28 443	20:50 453	06:18 424	06:46 374	18:22 (3) 18:44 (3)	07:15 347	06:16 303	07:09 294
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294	
Total, worst case				287				210		82			
Sun reduction				0,51				0,69		0,63			
Oper. time red.				0,34				0,34		0,34			
Wind dir. red.				1,00				1,00		1,00			
Total reduction				0,17				0,24		0,22			
Total, real				50				50		18			

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: Bufalo real case Shadow receptor: G - R133 CA01

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	17:59 (3) 18:10 (3)	05:54 19:42	05:27 20:10	05:28 20:20	05:50 20:03	06:18 19:23	17:43 (3) 18:19 (3)	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	17:55 (3) 18:12 (3)	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	17:42 (3) 18:18 (3)	06:46 18:33	06:18 16:50	06:50 16:29
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	17:53 (3) 18:15 (3)	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:20	17:42 (3) 18:17 (3)	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	17:50 (3) 18:16 (3)	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	17:42 (3) 18:16 (3)	06:48 18:30	06:20 16:48	06:52 16:28
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	17:49 (3) 18:18 (3)	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	17:43 (3) 18:15 (3)	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	17:47 (3) 18:18 (3)	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	17:43 (3) 18:14 (3)	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	17:47 (3) 18:19 (3)	05:47 19:48	05:25 20:13	05:31 20:19	05:56 19:56	06:24 19:13	17:44 (3) 18:13 (3)	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	17:45 (3) 18:19 (3)	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	17:45 (3) 18:11 (3)	06:52 18:24	06:24 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	17:45 (3) 18:20 (3)	05:45 19:50	05:25 20:15	05:33 20:18	05:58 19:54	06:26 19:10	17:46 (3) 18:08 (3)	06:53 18:22	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	17:44 (3) 18:20 (3)	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	17:47 (3) 18:06 (3)	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:46	06:49 17:21	06:10 17:53	06:22 19:23	17:44 (3) 18:20 (3)	05:43 19:52	05:25 20:16	05:34 20:18	05:59 19:52	06:27 19:07	17:50 (3) 18:03 (3)	06:55 18:19	06:28 16:41	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	17:43 (3) 18:19 (3)	05:42 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	18:03 (3) 18:19	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	17:43 (3) 18:20 (3)	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	18:18 (3) 18:16	06:57 16:58	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	17:43 (3) 18:19 (3)	05:40 19:55	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	18:15 (3) 18:15	06:58 16:38	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	17:43 (3) 18:19 (3)	05:39 19:56	05:24 20:17	05:37 20:16	06:03 19:47	06:31 19:01	18:14 (3) 18:14	06:59 17:00	06:32 16:37	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	17:43 (3) 18:18 (3)	05:38 19:56	05:25 20:18	05:37 20:15	06:04 19:45	06:32 18:59	18:12 (3) 18:12	07:00 16:37	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	17:44 (3) 18:17 (3)	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	18:13 (3) 18:11	07:01 16:36	06:34 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	17:44 (3) 18:17 (3)	05:36 19:58	05:25 20:19	05:39 20:14	06:06 19:43	06:34 18:12 (3)	18:00 (3) 18:56	07:02 16:35	06:36 16:30	07:03 16:30
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	17:44 (3) 18:15 (3)	05:35 19:59	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:14 (3)	17:57 (3) 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	17:46 (3) 18:15 (3)	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:35 18:15 (3)	17:54 (3) 18:53	07:04 18:06	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	17:46 (3) 18:13 (3)	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:17 (3)	17:52 (3) 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	17:47 (3) 18:12 (3)	05:33 20:02	05:25 20:20	05:42 20:12	06:09 19:37	06:37 18:18 (3)	17:51 (3) 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	17:49 (3) 18:10 (3)	05:32 20:03	05:26 20:20	05:43 20:11	06:10 19:36	06:38 18:19 (3)	17:49 (3) 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:49 18:06	06:03 19:36	17:50 (3) 18:07 (3)	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:34	06:39 18:19 (3)	17:48 (3) 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:06	06:02 19:36	17:54 (3) 18:04 (3)	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:20 (3)	17:47 (3) 18:44	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	18:04 (3) 20:05	05:30 20:20	05:26 20:20	05:45 20:08	06:13 19:32	06:41 18:20 (3)	17:46 (3) 18:43	07:10 17:58	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	18:07 (3) 20:06	05:30 20:20	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:20 (3)	17:45 (3) 18:41	07:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	18:08 (3) 20:07	05:29 20:20	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:20 (3)	17:44 (3) 18:40	07:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	18:09 (3) 20:07	05:29 20:20	05:27 20:20	05:48 20:06	06:16 19:27	06:44 18:20 (3)	17:44 (3) 18:38	07:13 16:55	06:47 16:30	07:09 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	18:10 (3) 20:08	05:28 20:20	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:20 (3)	17:43 (3) 18:36	07:14 16:54	06:48 16:29	07:09 16:37
31	07:00 17:08		06:38 19:12		18:11 (3) 20:09	05:28 20:09	20:20	05:50 20:04	06:18 19:24	06:46 18:19 (3)	17:43 (3) 18:36	07:15 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	313	347	294		
Total, worst case				715				410	313					
Sun reduction				0,51				0,69	0,63					
Oper. time red.				0,34				0,34	0,34					
Wind dir. red.				1,00				1,00	1,00					
Total reduction				0,17				0,24	0,22					
Total, real				124				97	68					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: H - R134 CA01

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

Table with columns for months (January to December) and rows for days (1-31) and summary rows. Contains sunrise/sunset times and shadow reduction data.

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)

Project:
Cantorato V172

Licensed user:
ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar

Calculation: Buffalo real case Shadow receptor: I - R135 CA01

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:50 20:03	06:18 19:23	17:48 (3) 18:22 (3)	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	17:47 (3) 18:20 (3)	06:46 18:33	06:18 16:50	06:50 16:29
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	18:07 (3) 18:09 (3)	05:27 19:44	05:29 20:11	05:52 20:20	06:20 19:20	17:48 (3) 18:19 (3)	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	18:00 (3) 18:15 (3)	05:26 19:45	05:30 20:12	05:53 20:20	06:21 19:18	17:48 (3) 18:18 (3)	06:48 18:30	06:20 16:48	06:52 16:28
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	17:57 (3) 18:18 (3)	05:49 19:46	05:26 20:12	05:30 20:20	06:22 19:19	17:49 (3) 18:17 (3)	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	17:55 (3) 18:19 (3)	05:48 19:47	05:26 20:13	05:31 20:19	06:23 19:18	17:51 (3) 18:15 (3)	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	17:53 (3) 18:21 (3)	05:47 19:48	05:25 20:13	05:31 20:19	06:24 19:13	17:52 (3) 18:13 (3)	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	17:51 (3) 18:21 (3)	05:46 19:49	05:25 20:14	05:32 20:19	06:25 19:12	17:55 (3) 18:10 (3)	06:52 18:24	06:24 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	17:51 (3) 18:22 (3)	05:45 19:50	05:25 20:15	05:33 20:18	06:26 19:10	17:58 (3) 18:04 (3)	06:53 18:22	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	17:49 (3) 18:22 (3)	05:44 19:51	05:25 20:15	05:33 20:18	06:27 19:09	18:04 (3) 18:16 (3)	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	17:49 (3) 18:23 (3)	05:43 19:52	05:25 20:16	05:34 20:18	06:27 19:07	18:01 (3) 18:19 (3)	06:55 18:19	06:28 16:41	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	17:48 (3) 18:23 (3)	05:42 19:53	05:25 20:16	05:35 20:17	06:28 19:05	18:00 (3) 18:18 (3)	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	17:48 (3) 18:23 (3)	05:41 19:54	05:25 20:17	05:35 20:17	06:29 19:04	18:01 (3) 18:16 (3)	06:57 18:16	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	17:47 (3) 18:23 (3)	05:40 19:55	05:24 20:17	06:02 20:16	06:30 19:02	18:04 (3) 18:15 (3)	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	17:47 (3) 18:23 (3)	05:39 19:56	05:24 20:17	06:03 20:16	06:31 19:47	18:01 (3) 18:16 (3)	06:59 18:14	06:32 16:37	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	17:46 (3) 18:22 (3)	05:38 19:56	05:25 20:18	06:04 20:15	06:32 19:45	18:01 (3) 18:18 (3)	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	17:47 (3) 18:22 (3)	05:37 19:57	05:25 20:18	06:05 20:15	06:33 19:44	17:59 (3) 18:20 (3)	06:33 18:57	07:01 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	17:47 (3) 18:22 (3)	05:36 19:58	05:25 20:19	06:06 20:14	06:34 19:43	17:58 (3) 18:22 (3)	06:34 18:56	07:02 16:35	07:03 16:30
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	17:47 (3) 18:21 (3)	05:35 19:59	05:25 20:19	06:07 20:14	06:35 19:41	17:56 (3) 18:23 (3)	06:35 18:54	07:03 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	17:47 (3) 18:21 (3)	05:35 20:00	05:25 20:19	06:08 20:13	06:36 19:40	17:54 (3) 18:23 (3)	06:35 18:53	07:04 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	17:47 (3) 18:19 (3)	05:34 20:01	05:25 20:19	06:09 20:12	06:36 19:39	17:53 (3) 18:24 (3)	06:36 18:51	07:05 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	17:48 (3) 18:19 (3)	05:33 20:02	05:25 20:20	06:09 20:12	06:37 19:37	17:52 (3) 18:24 (3)	06:37 18:49	07:06 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	17:49 (3) 18:18 (3)	05:32 20:03	05:26 20:20	06:10 20:11	06:37 19:36	17:51 (3) 18:25 (3)	06:38 18:48	07:07 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:49 18:06	06:03 19:36	18:16 (3) 17:50 (3)	05:32 20:03	05:26 20:20	06:11 20:10	06:38 19:34	17:51 (3) 18:25 (3)	06:39 18:46	07:08 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:06	06:02 19:36	17:51 (3) 18:15 (3)	05:31 20:04	05:26 20:20	06:12 20:09	06:39 19:33	17:50 (3) 18:25 (3)	06:40 18:44	07:09 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	18:13 (3) 17:53 (3)	05:30 20:05	05:26 20:20	06:13 19:32	06:40 19:32	18:25 (3) 17:49 (3)	06:41 18:43	07:10 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	17:55 (3) 18:11 (3)	05:30 20:06	05:27 20:20	06:14 20:08	06:41 19:30	17:48 (3) 18:24 (3)	06:42 18:41	07:11 16:57	07:08 16:30
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	17:57 (3) 18:07 (3)	05:29 20:07	05:27 20:20	06:15 20:07	06:42 19:29	17:48 (3) 18:24 (3)	06:43 18:40	07:12 16:56	07:08 16:30
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	05:29 20:07	05:27 20:20	05:48 20:06	06:16 19:27	06:43 18:24 (3)	17:48 (3) 18:38	06:44 16:55	07:09 16:30	07:09 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:23 (3)	17:48 (3) 18:36	06:45 16:54	07:09 16:29	07:09 16:37
31	07:00 17:08		06:38 19:12		05:28 20:09	05:28 20:09	05:50 20:04	06:18 19:24	06:46 18:23 (3)	17:48 (3) 18:23 (3)	06:46 16:52	07:09 16:37	07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	222	347	303	294
Total, worst case				722				510	222				
Sun reduction				0,51				0,69	0,63				
Oper. time red.				0,34				0,34	0,34				
Wind dir. red.				1,00				1,00	1,00				
Total reduction				0,17				0,24	0,22				
Total, real				126				121	48				

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		

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: J - R56 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

Table with 12 columns for months (January to December) and rows for each day of the year (1-31), showing sunrise, sunset, and shadow data. Includes summary rows for 'Potential sun hours', 'Sun reduction', 'Oper. time red.', 'Wind dir. red.', 'Total reduction', and 'Total, real'.

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)

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: K - R36 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

Table with 13 columns (January to December) and 31 rows of data. Each cell contains a time range (e.g., 07:09 - 06:59) and a numerical value. Summary rows at the bottom include 'Potential sun hours', 'Total, worst case', 'Sun reduction', 'Oper. time red.', 'Wind dir. red.', 'Total reduction', and 'Total, real'.

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)

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: L - R37 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:51 20:03	06:19 19:23	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	06:18 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16	05:34 20:18	06:00 19:52	06:28 19:07	06:55 18:20	06:28 16:41	06:58 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:25 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	05:25 20:17	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:38	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:56	05:25 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:35 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:19	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:36 18:53	07:04 18:07	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:20	05:42 20:12	06:10 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	05:26 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	05:26 20:20	05:45 20:09	06:12 19:33	06:40 18:45	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:37	05:31 20:05	05:26 20:20	05:45 20:08	06:13 19:32	06:41 18:43	07:10 17:59	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	06:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	06:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07	05:28 20:20	05:48 20:06	06:16 19:27	06:44 18:38	06:14 16:55	06:47 16:30	07:09 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:37	06:15 16:54	06:48 16:29	07:09 16:37
31	07:00 17:09		06:39 19:12		05:28 20:09		05:50 20:04	06:18 19:24		06:16 16:52		07:09 16:38
Potential sun hours	302	310	370	396	443	445	453	424	374	347	303	294
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: M - R57 CA04

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:38 65	12:32 (3) 06:59 30	13:03 (3) 06:25 30	06:37 19:13 20	07:28 (1) 05:54 19:42	05:27 20:10 20:10
2	07:09 16:38 65	12:33 (3) 06:58 24	13:07 (3) 06:23 24	06:35 19:14 17	07:29 (1) 05:53 19:43	05:27 20:10 20:10
3	07:10 16:39 65	12:33 (3) 06:57 15	13:12 (3) 06:22 15	06:22 06:34 19:15	07:31 (1) 05:52 07:44 (1)	05:27 20:11 20:11
4	07:10 16:40 65	12:34 (3) 06:56 15	13:27 (3) 06:20 15	06:32 06:20 19:16	07:33 (1) 05:50 07:40 (1)	05:26 20:12 20:12
5	07:10 16:41 65	12:34 (3) 06:55 15	13:39 (3) 17:14 15	06:19 17:46 19:17	06:31 19:17 19:17	05:26 20:12 20:12
6	07:10 16:42 64	12:35 (3) 06:54 15	13:39 (3) 17:15 15	06:17 17:48 13	07:17 (2) 06:29 07:30 (2)	05:26 20:13 19:47
7	07:10 16:43 65	12:35 (3) 06:53 15	13:39 (3) 17:17 19	06:16 17:49 19	07:13 (2) 06:28 07:32 (2)	05:25 20:14 19:48
8	07:10 16:44 64	12:36 (3) 06:52 15	13:40 (3) 17:18 23	06:14 17:50 23	07:12 (2) 06:26 07:35 (2)	05:25 20:14 19:49
9	07:10 16:45 64	12:37 (3) 06:51 15	13:41 (3) 17:19 25	06:13 17:51 25	07:10 (2) 06:25 07:35 (2)	05:25 20:15 19:50
10	07:10 16:46 64	12:36 (3) 06:50 15	13:40 (3) 17:20 28	06:11 17:52 28	07:09 (2) 06:23 07:37 (2)	05:25 20:15 19:51
11	07:09 16:47 64	12:37 (3) 06:49 15	13:41 (3) 17:21 30	06:10 17:53 30	07:07 (2) 06:22 07:37 (2)	05:25 20:16 19:52
12	07:09 16:48 63	12:38 (3) 06:48 15	13:41 (3) 17:22 31	06:08 17:54 31	07:07 (2) 06:20 07:38 (2)	05:25 20:16 19:53
13	07:09 16:49 63	12:39 (3) 06:47 15	12:39 (3) 06:47 15	06:07 17:55 32	07:05 (2) 06:19 07:37 (2)	05:25 20:17 19:54
14	07:09 16:50 62	12:39 (3) 06:46 15	13:41 (3) 17:25 33	06:05 17:56 33	07:04 (2) 06:17 07:37 (2)	05:25 20:17 19:55
15	07:09 16:51 62	12:40 (3) 06:44 15	13:42 (3) 17:26 33	06:04 17:57 33	07:04 (2) 06:16 07:37 (2)	05:25 20:17 19:56
16	07:08 16:52 62	12:40 (3) 06:43 15	13:42 (3) 17:27 33	06:02 17:58 33	07:04 (2) 06:14 07:37 (2)	05:25 20:18 19:56
17	07:08 16:53 61	12:41 (3) 06:42 15	12:41 (3) 06:42 15	06:00 17:59 33	07:04 (2) 06:13 07:37 (2)	05:25 20:18 19:57
18	07:08 16:54 61	12:42 (3) 06:41 15	12:42 (3) 06:41 15	05:59 18:00 32	07:04 (2) 06:11 07:36 (2)	05:25 20:19 19:58
19	07:07 16:55 59	12:43 (3) 06:40 15	12:43 (3) 06:40 15	05:57 18:01 31	07:04 (2) 06:10 07:35 (2)	05:25 20:19 19:59
20	07:07 16:56 59	12:44 (3) 06:38 15	12:44 (3) 06:38 15	05:56 18:02 30	07:04 (2) 06:08 07:34 (2)	05:25 20:19 20:00
21	07:06 16:57 57	12:45 (3) 06:37 15	12:45 (3) 06:37 15	05:54 18:03 39	06:36 (1) 06:07 07:32 (2)	05:25 20:19 20:01
22	07:06 16:58 56	12:45 (3) 06:36 15	12:45 (3) 06:36 15	05:53 18:04 40	06:34 (1) 06:06 07:31 (2)	05:25 20:20 20:02
23	07:05 16:59 55	12:47 (3) 06:34 15	12:47 (3) 06:34 15	05:51 18:05 41	06:32 (1) 06:04 07:29 (2)	05:26 20:20 20:03
24	07:05 17:00 53	12:48 (3) 06:33 15	12:48 (3) 06:33 15	05:49 18:06 40	06:31 (1) 06:03 07:28 (2)	05:26 20:20 20:03
25	07:04 17:02 51	12:49 (3) 06:32 15	12:49 (3) 06:32 15	05:48 18:07 36	06:29 (1) 06:02 07:24 (2)	05:26 20:20 20:04
26	07:03 17:03 50	12:51 (3) 06:30 15	12:51 (3) 06:30 15	05:46 18:08 28	06:28 (1) 06:00 07:19 (2)	05:26 20:20 20:05
27	07:03 17:04 48	12:52 (3) 06:29 15	12:52 (3) 06:29 15	05:45 18:08 24	06:28 (1) 05:59 06:52 (1)	05:27 20:20 20:06
28	07:02 17:05 46	12:53 (3) 06:27 15	12:53 (3) 06:27 15	05:43 18:09 24	06:27 (1) 05:58 06:51 (1)	05:27 20:20 20:07
29	07:01 17:06 42	12:55 (3) 06:26 15	12:55 (3) 06:26 15	05:42 18:10 23	06:28 (1) 05:56 06:51 (1)	05:27 20:20 20:07
30	07:00 17:07 39	12:58 (3) 06:23 15	12:58 (3) 06:23 15	05:40 18:11 23	06:27 (1) 05:55 06:50 (1)	05:28 20:20 20:08
31	07:00 17:08 35	13:00 (3) 06:20 15	13:00 (3) 06:20 15	06:38 19:12 21	07:27 (1) 07:48 (1)	05:28 20:20 20:09
Potential sun hours	302	310	370	396	443	446
Total, worst case	1794	69	765	57		
Sun reduction	0,43	0,43	0,47	0,51		
Oper. time red.	0,34	0,34	0,34	0,34		
Wind dir. red.	0,29	0,29	0,98	1,00		
Total reduction	0,04	0,04	0,16	0,17		
Total, real	75	3	120	10		

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: M - R57 CA04

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December			
1	05:28	05:51	06:19	06:46	07:45 (2)	06:17	06:49	12:20 (3)	
	20:20	20:03	19:23	18:35	08:17 (2)	16:51	16:29	63 13:23 (3)	
2	05:29	05:51	06:19	06:47	07:45 (2)	06:18	06:50	12:20 (3)	
	20:20	20:02	19:21	18:33	08:16 (2)	16:50	16:29	64 13:24 (3)	
3	05:29	05:52	06:20	06:47	07:46 (2)	06:19	06:51	12:20 (3)	
	20:20	20:01	19:20	18:32	08:15 (2)	16:49	16:29	64 13:24 (3)	
4	05:30	05:53	06:21	06:48	07:47 (2)	06:20	06:52	12:21 (3)	
	20:20	20:00	19:18	18:30	08:14 (2)	16:48	16:28	64 13:25 (3)	
5	05:30	05:54	06:22	06:49	07:48 (2)	06:21	06:53	12:21 (3)	
	20:20	19:59	19:16	18:29	08:12 (2)	16:47	16:28	64 13:25 (3)	
6	05:31	05:55	06:23	06:50	07:49 (2)	06:22	06:54	12:21 (3)	
	20:19	19:58	19:15	18:27	08:10 (2)	16:46	16:28	65 13:26 (3)	
7	05:31	05:56	06:24	06:51	07:51 (2)	06:23	06:55	12:22 (3)	
	20:19	19:57	19:13	18:26	08:08 (2)	16:45	16:28	64 13:26 (3)	
8	05:32	05:57	06:25	07:29 (1)	06:52	07:54 (2)	06:25	06:56	12:21 (3)
	20:19	19:55	19:12	6 07:35 (1)	18:24	10 08:04 (2)	16:44	16:28	65 13:26 (3)
9	05:33	05:58	06:26	07:24 (1)	06:53	06:26	12:43 (3)	06:57	12:22 (3)
	20:19	19:54	19:10	13 07:37 (1)	18:23	16:43	15 12:58 (3)	16:28	65 13:27 (3)
10	05:33	05:59	06:27	07:22 (1)	06:54	06:27	12:38 (3)	06:58	12:22 (3)
	20:18	19:53	19:09	17 07:39 (1)	18:21	16:42	24 13:02 (3)	16:28	65 13:27 (3)
11	05:34	06:00	06:27	07:21 (1)	06:55	06:28	12:34 (3)	06:58	12:23 (3)
	20:18	19:52	19:07	19 07:40 (1)	18:20	16:41	30 13:04 (3)	16:28	65 13:28 (3)
12	05:35	06:00	06:28	07:19 (1)	06:56	06:29	12:31 (3)	06:59	12:24 (3)
	20:17	19:51	19:05	21 07:40 (1)	18:18	16:40	35 13:06 (3)	16:29	64 13:28 (3)
13	05:35	06:01	06:29	07:19 (1)	06:57	06:30	12:29 (3)	07:00	12:24 (3)
	20:17	19:49	19:04	22 07:41 (1)	18:17	16:39	39 13:08 (3)	16:29	65 13:29 (3)
14	05:36	06:02	06:30	07:18 (1)	06:58	06:31	12:28 (3)	07:01	12:24 (3)
	20:17	19:48	19:02	23 07:41 (1)	18:15	16:38	42 13:10 (3)	16:29	65 13:29 (3)
15	05:37	06:03	06:31	07:18 (1)	06:59	06:32	12:26 (3)	07:01	12:25 (3)
	20:16	19:47	19:01	23 07:41 (1)	18:14	16:37	46 13:12 (3)	16:29	65 13:30 (3)
16	05:37	06:04	06:32	07:16 (1)	07:00	06:33	12:25 (3)	07:02	12:25 (3)
	20:15	19:45	18:59	24 07:40 (1)	18:12	16:37	48 13:13 (3)	16:29	65 13:30 (3)
17	05:38	06:05	06:33	07:16 (1)	07:01	06:35	12:24 (3)	07:03	12:25 (3)
	20:15	19:44	18:57	24 07:40 (1)	18:11	16:36	50 13:14 (3)	16:30	65 13:30 (3)
18	05:39	06:06	06:34	07:16 (1)	07:02	06:36	12:23 (3)	07:03	12:26 (3)
	20:14	19:43	18:56	36 08:11 (2)	18:09	16:35	51 13:14 (3)	16:30	65 13:31 (3)
19	05:40	06:07	06:35	07:17 (1)	07:03	06:37	12:22 (3)	07:04	12:26 (3)
	20:14	19:41	18:54	39 08:13 (2)	18:08	16:35	53 13:15 (3)	16:30	65 13:31 (3)
20	05:40	06:08	06:36	07:18 (1)	07:04	06:38	12:22 (3)	07:05	12:27 (3)
	20:13	19:40	18:53	41 08:15 (2)	18:06	16:34	55 13:17 (3)	16:31	65 13:32 (3)
21	05:41	06:09	06:36	07:19 (1)	07:05	06:39	12:21 (3)	07:05	12:27 (3)
	20:12	19:39	18:51	41 08:16 (2)	18:05	16:33	56 13:17 (3)	16:31	65 13:32 (3)
22	05:42	06:10	06:37	07:20 (1)	07:06	06:40	12:21 (3)	07:06	12:28 (3)
	20:12	19:37	18:49	40 08:17 (2)	18:04	16:33	57 13:18 (3)	16:32	65 13:33 (3)
23	05:43	06:10	06:38	07:24 (1)	07:07	06:41	12:20 (3)	07:06	12:28 (3)
	20:11	19:36	18:48	34 08:18 (2)	18:02	16:32	59 13:19 (3)	16:32	65 13:33 (3)
24	05:44	06:11	06:39	07:48 (2)	07:08	06:42	12:20 (3)	07:07	12:29 (3)
	20:10	19:34	18:46	31 08:19 (2)	18:01	16:32	59 13:19 (3)	16:33	65 13:34 (3)
25	05:45	06:12	06:40	07:46 (2)	07:09	06:43	12:19 (3)	07:07	12:29 (3)
	20:09	19:33	18:45	32 08:18 (2)	18:00	16:31	61 13:20 (3)	16:33	65 13:34 (3)
26	05:45	06:13	06:41	07:46 (2)	07:10	06:44	12:19 (3)	07:08	12:30 (3)
	20:08	19:32	18:43	32 08:18 (2)	17:59	16:31	61 13:20 (3)	16:34	65 13:35 (3)
27	05:46	06:14	06:42	07:45 (2)	06:11	06:45	12:20 (3)	07:08	12:30 (3)
	20:08	19:30	18:41	33 08:18 (2)	16:57	16:30	62 13:22 (3)	16:35	65 13:35 (3)
28	05:47	06:15	06:43	07:45 (2)	06:12	06:46	12:20 (3)	07:08	12:31 (3)
	20:07	19:29	18:40	33 08:18 (2)	16:56	16:30	62 13:22 (3)	16:35	65 13:36 (3)
29	05:48	06:16	06:44	07:45 (2)	06:14	06:47	12:20 (3)	07:09	12:31 (3)
	20:06	19:27	18:38	33 08:18 (2)	16:55	16:30	63 13:23 (3)	16:36	65 13:36 (3)
30	05:49	06:17	06:45	07:45 (2)	06:15	06:48	12:20 (3)	07:09	12:31 (3)
	20:05	19:26	18:37	32 08:17 (2)	16:54	16:29	63 13:23 (3)	16:37	65 13:36 (3)
31	05:50	06:18	06:46	07:46 (2)	06:16	06:49	12:21 (3)	07:09	12:32 (3)
	20:04	19:24	18:35	32 08:17 (2)	16:52	16:29	63 13:23 (3)	16:37	65 13:37 (3)
Potential sun hours	453	424	374	347	303	294	2007		
Total, worst case			649	191	1091		2007		
Sun reduction			0,63	0,53	0,50		0,43		
Oper. time red.			0,34	0,34	0,34		0,34		
Wind dir. red.			0,98	0,97	0,29		0,29		
Total reduction			0,21	0,18	0,05		0,04		
Total, real			139	34	54		85		

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: N - R11 CA03

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December		
1	07:09 16:38	06:59 17:10	06:25 17:42	07:57 (3) 08:43 (3)	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:51 20:03	06:19 19:23	06:46 18:35	08:32 (3) 09:19 (3)	06:17 16:51	06:49 16:29
2	07:09 16:39	06:58 17:11	06:23 17:43	07:57 (3) 08:44 (3)	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	08:31 (3) 09:19 (3)	06:18 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	07:55 (3) 08:43 (3)	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	08:31 (3) 09:20 (3)	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	07:55 (3) 08:44 (3)	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	08:30 (3) 09:20 (3)	06:20 16:48	06:52 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	07:54 (3) 08:44 (3)	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	08:30 (3) 09:20 (3)	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	07:54 (3) 08:44 (3)	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	08:30 (3) 09:20 (3)	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	07:53 (3) 08:43 (3)	06:28 19:19	05:47 19:48	05:25 20:14	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	08:30 (3) 09:20 (3)	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	07:53 (3) 08:43 (3)	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	08:29 (3) 09:19 (3)	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	07:52 (3) 08:42 (3)	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	08:30 (3) 09:19 (3)	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	07:53 (3) 08:42 (3)	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	08:30 (3) 09:18 (3)	06:27 16:42	06:58 16:28
11	07:10 16:47	06:49 17:21	06:10 17:53	07:52 (3) 08:41 (3)	06:22 19:23	05:43 19:52	05:25 20:16	05:34 20:18	06:00 19:52	06:28 19:07	06:55 18:20	08:30 (3) 09:18 (3)	06:28 16:41	06:58 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	07:53 (3) 08:41 (3)	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	08:30 (3) 09:17 (3)	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	07:53 (3) 08:39 (3)	06:19 19:25	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	08:31 (3) 09:16 (3)	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	07:52 (3) 08:38 (3)	06:17 19:26	05:40 19:55	05:25 20:17	05:36 20:17	06:02 19:48	06:30 19:02	06:58 18:15	08:31 (3) 09:15 (3)	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	07:53 (3) 08:37 (3)	06:16 19:27	05:39 19:56	05:25 20:18	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	08:32 (3) 09:14 (3)	06:32 16:38	07:02 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	07:53 (3) 08:35 (3)	06:14 19:28	05:38 19:57	05:25 20:18	05:37 20:15	06:04 19:46	06:32 18:59	07:00 18:12	08:33 (3) 09:13 (3)	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	07:54 (3) 08:34 (3)	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:42	06:33 18:57	07:01 18:11	08:34 (3) 09:11 (3)	06:35 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	07:55 (3) 08:32 (3)	06:11 19:30	05:36 19:58	05:25 20:19	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	08:36 (3) 09:09 (3)	06:36 16:35	07:04 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	07:56 (3) 08:31 (3)	06:10 19:31	05:36 19:59	05:25 20:19	05:40 20:14	06:07 19:42	06:35 18:54	07:03 18:08	08:37 (3) 09:07 (3)	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	07:57 (3) 08:28 (3)	06:09 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:36 18:53	07:04 09:03 (3)	08:39 (3) 09:03 (3)	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	07:58 (3) 08:29 (3)	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 09:07 (3)	08:42 (3) 09:07 (3)	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	08:01 (3) 08:23 (3)	06:06 19:34	05:33 20:02	05:25 20:20	05:42 20:12	06:10 19:37	06:37 18:49	07:06 09:10 (3)	08:44 (3) 09:10 (3)	06:40 16:32	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	08:03 (3) 08:19 (3)	06:04 19:35	05:33 20:03	05:26 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 09:12 (3)	08:42 (3) 09:12 (3)	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	08:06 (3) 08:37 (3)	06:03 19:36	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:35	06:39 18:46	07:08 09:14 (3)	08:40 (3) 09:14 (3)	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:07	08:03 (3) 08:38 (3)	06:02 19:37	05:31 20:04	05:26 20:20	05:45 20:09	06:12 19:33	06:40 18:45	07:09 09:14 (3)	08:38 (3) 09:14 (3)	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	08:02 (3) 08:40 (3)	06:00 19:38	05:31 20:05	05:26 20:20	05:45 20:08	06:13 19:32	06:41 18:43	07:10 09:15 (3)	08:36 (3) 09:15 (3)	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:09	08:01 (3) 08:41 (3)	06:05 19:39	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	07:11 09:16 (3)	08:35 (3) 09:16 (3)	06:45 16:30	07:08 16:35
28	07:02 17:05	06:28 17:40	05:43 18:09	07:59 (3) 08:42 (3)	06:04 19:39	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	07:12 09:17 (3)	08:34 (3) 09:17 (3)	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	08:42 (3) 08:43 (3)	06:02 19:40	05:28 20:07	05:28 20:20	05:48 20:06	06:16 19:27	06:44 18:38	07:13 09:18 (3)	08:33 (3) 09:18 (3)	06:47 16:30	07:09 16:36
30	07:00 17:07		05:40 18:11		06:00 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:37	07:14 09:19 (3)	08:32 (3) 09:19 (3)	06:48 16:29	07:09 16:37
31	07:00 17:09		06:39 19:12		06:09 19:28	05:28 20:09	05:28 20:20	05:50 20:04	06:18 19:24	06:46 18:37	07:15 09:20 (3)	08:32 (3) 09:20 (3)	06:49 16:28	07:09 16:38
Potential sun hours	302	310	370		396	443	446	453	424	374		347	303	294
Total, worst case		294	972							373		914		
Sun reduction		0,43	0,47							0,63		0,53		
Oper. time red.		0,34	0,34							0,34		0,34		
Wind dir. red.		0,90	0,90							0,90		0,90		
Total reduction		0,13	0,14							0,20		0,16		
Total, real		39	141							73		150		

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)

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: O - R12 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
1.500 1.500 3.000

Table with columns for months (January to December) and rows for time slots (07:00 to 17:09). Includes summary rows for 'Potential sun hours', 'Total, worst case', 'Sun reduction', 'Oper. time red.', 'Wind dir. red.', 'Total reduction', and 'Total, real'.

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)

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: P - R13 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	08:13 (3) 20:10
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	08:13 (3) 20:10
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	08:13 (3) 20:11
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	08:13 (3) 20:12
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	08:12 (3) 20:12
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	08:12 (3) 20:13
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	08:12 (3) 20:14
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	08:51 (3) 09:04 (3)	05:46 19:49
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	08:45 (3) 09:10 (3)	05:45 19:50
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	08:41 (3) 09:13 (3)	05:44 19:51
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	08:38 (3) 09:16 (3)	05:43 19:52
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	08:35 (3) 09:17 (3)	05:42 19:53
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	08:33 (3) 09:19 (3)	05:41 19:54
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	06:57 (2) 09:20 (3)	05:40 19:55
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	06:55 (2) 09:21 (3)	05:39 19:56
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	06:53 (2) 09:21 (3)	05:38 19:57
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	06:52 (2) 09:23 (3)	05:37 19:57
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	06:51 (2) 09:24 (3)	05:36 19:58
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	06:50 (2) 09:23 (3)	05:36 19:59
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	06:50 (2) 09:24 (3)	05:35 20:00
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	06:49 (2) 09:24 (3)	05:34 20:01
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	06:49 (2) 09:24 (3)	05:33 20:02
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	06:49 (2) 09:25 (3)	05:33 20:03
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	06:50 (2) 09:25 (3)	05:32 20:03
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	06:49 (2) 09:24 (3)	05:31 20:04
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	06:50 (2) 09:24 (3)	05:31 20:05
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	06:51 (2) 09:24 (3)	05:30 20:06
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	06:52 (2) 09:23 (3)	05:29 20:07
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	06:54 (2) 09:23 (3)	05:29 20:07
30	07:00 17:07		05:40 18:11	05:55 19:41	08:14 (3) 09:23 (3)	05:28 20:08
31	07:00 17:09		06:39 19:12		05:28 20:09	08:20 (3) 09:08 (3)
Potential sun hours	302	310	370	396	443	446
Total, worst case				1563	1906	1175
Sun reduction				0,51	0,57	0,62
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				0,99	1,00	1,00
Total reduction				0,17	0,19	0,21
Total, real				271	369	250

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: P - R13 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28	08:30 (3) 05:51	08:22 (3) 06:19	08:37 (3) 06:46	06:17	06:49
	20:20	40 09:10 (3) 20:03	66 09:28 (3) 19:23	38 09:15 (3) 18:35	16:51	16:29
2	05:29	08:30 (3) 05:51	08:22 (3) 06:19	08:39 (3) 06:47	06:18	06:50
	20:20	40 09:10 (3) 20:02	67 09:29 (3) 19:21	33 09:12 (3) 18:33	16:50	16:29
3	05:29	08:30 (3) 05:52	08:22 (3) 06:20	08:42 (3) 06:47	06:19	06:51
	20:20	41 09:11 (3) 20:01	68 09:30 (3) 19:20	25 09:07 (3) 18:32	16:49	16:29
4	05:30	08:30 (3) 05:53	08:22 (3) 06:21	08:47 (3) 06:48	06:20	06:52
	20:20	41 09:11 (3) 20:00	68 09:30 (3) 19:18	15 09:02 (3) 18:30	16:48	16:29
5	05:30	08:30 (3) 05:54	08:22 (3) 06:22	06:49	06:21	06:53
	20:20	42 09:12 (3) 19:59	69 09:31 (3) 19:16	18:29	16:47	16:28
6	05:31	08:29 (3) 05:55	08:21 (3) 06:23	06:50	06:22	06:54
	20:19	43 09:12 (3) 19:58	69 09:30 (3) 19:15	18:27	16:46	16:28
7	05:31	08:29 (3) 05:56	08:22 (3) 06:24	06:51	06:23	06:55
	20:19	44 09:13 (3) 19:57	69 09:31 (3) 19:13	18:26	16:45	16:28
8	05:32	08:29 (3) 05:57	08:22 (3) 06:25	06:52	06:25	06:56
	20:19	44 09:13 (3) 19:55	69 09:31 (3) 19:12	18:24	16:44	16:28
9	05:33	08:29 (3) 05:58	08:22 (3) 06:26	06:53	06:26	06:57
	20:19	45 09:14 (3) 19:54	69 09:31 (3) 19:10	18:23	16:43	16:28
10	05:33	08:28 (3) 05:59	08:22 (3) 06:27	06:54	06:27	06:58
	20:18	46 09:14 (3) 19:53	70 09:32 (3) 19:09	18:21	16:42	16:28
11	05:34	08:28 (3) 06:00	08:22 (3) 06:28	06:55	06:28	06:58
	20:18	47 09:15 (3) 19:52	70 09:32 (3) 19:07	18:20	16:41	16:28
12	05:35	08:28 (3) 06:00	08:22 (3) 06:28	06:56	06:29	06:59
	20:17	48 09:16 (3) 19:51	70 09:32 (3) 19:05	18:18	16:40	16:29
13	05:35	08:27 (3) 06:01	07:05 (2) 06:29	06:57	06:30	07:00
	20:17	49 09:16 (3) 19:49	73 09:31 (3) 19:04	18:17	16:39	16:29
14	05:36	08:27 (3) 06:02	07:01 (2) 06:30	06:58	06:31	07:01
	20:17	50 09:17 (3) 19:48	80 09:31 (3) 19:02	18:15	16:38	16:29
15	05:37	08:27 (3) 06:03	06:59 (2) 06:31	06:59	06:32	07:01
	20:16	51 09:18 (3) 19:47	84 09:31 (3) 19:01	18:14	16:38	16:29
16	05:37	08:27 (3) 06:04	06:58 (2) 06:32	07:00	06:33	07:02
	20:15	52 09:19 (3) 19:46	86 09:31 (3) 18:59	18:12	16:37	16:29
17	05:38	08:26 (3) 06:05	06:57 (2) 06:33	07:01	06:35	07:03
	20:15	53 09:19 (3) 19:44	87 09:31 (3) 18:57	18:11	16:36	16:30
18	05:39	08:26 (3) 06:06	06:56 (2) 06:34	07:02	06:36	07:04
	20:14	54 09:20 (3) 19:43	89 09:31 (3) 18:56	18:09	16:35	16:30
19	05:40	08:26 (3) 06:07	06:55 (2) 06:35	07:03	06:37	07:04
	20:14	55 09:21 (3) 19:41	89 09:31 (3) 18:54	18:08	16:35	16:30
20	05:40	08:25 (3) 06:08	06:54 (2) 06:36	07:04	06:38	07:05
	20:13	56 09:21 (3) 19:40	88 09:29 (3) 18:53	18:07	16:34	16:31
21	05:41	08:25 (3) 06:09	06:54 (2) 06:36	07:05	06:39	07:05
	20:12	57 09:22 (3) 19:39	87 09:29 (3) 18:51	18:05	16:33	16:31
22	05:42	08:25 (3) 06:10	06:54 (2) 06:37	07:06	06:40	07:06
	20:12	58 09:23 (3) 19:37	86 09:29 (3) 18:49	18:04	16:33	16:32
23	05:43	08:25 (3) 06:10	06:54 (2) 06:38	07:07	06:41	07:06
	20:11	59 09:24 (3) 19:36	85 09:28 (3) 18:48	18:02	16:32	16:32
24	05:44	08:25 (3) 06:11	06:54 (2) 06:39	07:08	06:42	07:07
	20:10	60 09:25 (3) 19:34	83 09:27 (3) 18:46	18:01	16:32	16:33
25	05:45	08:24 (3) 06:12	06:54 (2) 06:40	07:09	06:43	07:07
	20:09	60 09:24 (3) 19:33	80 09:26 (3) 18:45	18:00	16:31	16:33
26	05:45	08:24 (3) 06:13	06:55 (2) 06:41	07:10	06:44	07:08
	20:08	61 09:25 (3) 19:32	76 09:25 (3) 18:43	17:59	16:31	16:34
27	05:46	08:24 (3) 06:14	06:55 (2) 06:42	06:11	06:45	07:08
	20:08	62 09:26 (3) 19:30	72 09:23 (3) 18:41	16:57	16:30	16:35
28	05:47	08:24 (3) 06:15	06:56 (2) 06:43	06:13	06:46	07:08
	20:07	63 09:27 (3) 19:29	66 09:22 (3) 18:40	16:56	16:30	16:35
29	05:48	08:24 (3) 06:16	06:59 (2) 06:44	06:14	06:47	07:09
	20:06	63 09:27 (3) 19:27	59 09:21 (3) 18:38	16:55	16:30	16:36
30	05:49	08:22 (3) 06:17	08:33 (3) 06:45	06:15	06:48	07:09
	20:05	65 09:27 (3) 19:26	46 09:19 (3) 18:37	16:54	16:29	16:37
31	05:50	08:22 (3) 06:18	08:35 (3) 06:46	06:16	06:49	07:09
	20:04	66 09:28 (3) 19:24	42 09:17 (3) 18:36	16:52	16:28	16:38
Potential sun hours	453	424	374	347	303	294
Total, worst case	1615	2282	111			
Sun reduction	0,68	0,69	0,63			
Oper. time red.	0,34	0,34	0,34			
Wind dir. red.	1,00	1,00	1,00			
Total reduction	0,23	0,24	0,22			
Total, real	377	538	24			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: Q - R14 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	06:52 (2) 09:20 (3)
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	06:55 (2) 09:20 (3)
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	08:11 (3) 09:20 (3)
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	08:10 (3) 09:20 (3)
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	08:09 (3) 09:19 (3)
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	08:08 (3) 09:19 (3)
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	08:08 (3) 09:19 (3)
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	08:08 (3) 09:19 (3)
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	08:08 (3) 09:19 (3)
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	08:07 (3) 09:18 (3)
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	08:07 (3) 09:18 (3)
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	08:07 (3) 09:18 (3)
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	08:07 (3) 09:18 (3)
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	08:47 (3) 08:56 (3)	05:40 19:55
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	08:40 (3) 09:03 (3)	05:39 19:56
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	06:54 (2) 09:06 (3)	05:38 19:57
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	06:52 (2) 09:09 (3)	05:37 19:57
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	06:51 (2) 09:12 (3)	05:36 19:58
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	06:49 (2) 09:13 (3)	05:36 19:59
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	06:49 (2) 09:14 (3)	05:35 20:00
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	06:47 (2) 09:15 (3)	05:34 20:01
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	06:47 (2) 09:16 (3)	05:33 20:02
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	06:47 (2) 09:17 (3)	05:33 20:03
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	06:47 (2) 09:18 (3)	05:32 20:03
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	06:46 (2) 09:18 (3)	05:31 20:04
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	06:47 (2) 09:19 (3)	05:31 20:05
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	06:47 (2) 09:19 (3)	05:30 20:06
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	06:47 (2) 09:19 (3)	05:29 20:07
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	06:48 (2) 09:19 (3)	05:29 20:07
30	07:00 17:07		05:40 18:11	05:55 19:41	06:50 (2) 09:20 (3)	05:28 20:08
31	07:00 17:09		06:39 19:12		05:28 20:09	08:10 (3) 09:13 (3)
Potential sun hours	302	310	370	396	443	446
Total, worst case				1135	2137	1737
Sun reduction				0,51	0,57	0,62
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				1,00	1,00	1,00
Total reduction				0,17	0,19	0,21
Total, real				197	415	371

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: Q - R14 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28	08:18 (3) 05:51	08:17 (3) 06:19	06:46	06:17	06:49
	20:20	58 09:16 (3) 20:03	71 09:28 (3) 19:23	18:35	16:51	16:29
2	05:29	08:18 (3) 05:51	08:18 (3) 06:19	06:47	06:18	06:50
	20:20	58 09:16 (3) 20:02	71 09:29 (3) 19:21	18:33	16:50	16:29
3	05:29	08:18 (3) 05:52	08:18 (3) 06:20	06:47	06:19	06:51
	20:20	59 09:17 (3) 20:01	71 09:29 (3) 19:20	18:32	16:49	16:29
4	05:30	08:18 (3) 05:53	08:18 (3) 06:21	06:48	06:20	06:52
	20:20	59 09:17 (3) 20:00	71 09:29 (3) 19:18	18:30	16:48	16:29
5	05:30	08:18 (3) 05:54	08:19 (3) 06:22	06:49	06:21	06:53
	20:20	60 09:18 (3) 19:59	71 09:30 (3) 19:16	18:29	16:47	16:28
6	05:31	08:18 (3) 05:55	08:18 (3) 06:23	06:50	06:22	06:54
	20:19	60 09:18 (3) 19:58	71 09:29 (3) 19:15	18:27	16:46	16:28
7	05:31	08:18 (3) 05:56	08:18 (3) 06:24	06:51	06:23	06:55
	20:19	60 09:18 (3) 19:57	71 09:29 (3) 19:13	18:26	16:45	16:28
8	05:32	08:18 (3) 05:57	08:19 (3) 06:25	06:52	06:25	06:56
	20:19	60 09:18 (3) 19:55	70 09:29 (3) 19:12	18:24	16:44	16:28
9	05:33	08:18 (3) 05:58	08:19 (3) 06:26	06:53	06:26	06:57
	20:19	61 09:19 (3) 19:54	70 09:29 (3) 19:10	18:23	16:43	16:28
10	05:33	08:17 (3) 05:59	08:20 (3) 06:27	06:54	06:27	06:58
	20:18	62 09:19 (3) 19:53	69 09:29 (3) 19:09	18:21	16:42	16:28
11	05:34	08:18 (3) 06:00	07:03 (2) 06:28	06:55	06:28	06:58
	20:18	62 09:20 (3) 19:52	75 09:29 (3) 19:07	18:20	16:41	16:28
12	05:35	08:18 (3) 06:00	07:00 (2) 06:28	06:56	06:29	06:59
	20:17	63 09:21 (3) 19:51	79 09:29 (3) 19:05	18:18	16:40	16:29
13	05:35	08:17 (3) 06:01	06:57 (2) 06:29	06:57	06:30	07:00
	20:17	64 09:21 (3) 19:49	82 09:27 (3) 19:04	18:17	16:39	16:29
14	05:36	08:18 (3) 06:02	06:56 (2) 06:30	06:58	06:31	07:01
	20:17	63 09:21 (3) 19:48	83 09:27 (3) 19:02	18:15	16:38	16:29
15	05:37	08:18 (3) 06:03	06:55 (2) 06:31	06:59	06:32	07:01
	20:16	64 09:22 (3) 19:47	84 09:27 (3) 19:01	18:14	16:38	16:29
16	05:37	08:18 (3) 06:04	06:54 (2) 06:32	07:00	06:33	07:02
	20:15	65 09:23 (3) 19:46	84 09:26 (3) 18:59	18:12	16:37	16:29
17	05:38	08:17 (3) 06:05	06:54 (2) 06:33	07:01	06:35	07:03
	20:15	66 09:23 (3) 19:44	84 09:26 (3) 18:57	18:11	16:36	16:30
18	05:39	08:18 (3) 06:06	06:53 (2) 06:34	07:02	06:36	07:04
	20:14	66 09:24 (3) 19:43	84 09:25 (3) 18:56	18:09	16:35	16:30
19	05:40	08:18 (3) 06:07	06:53 (2) 06:35	07:03	06:37	07:04
	20:14	66 09:24 (3) 19:41	82 09:24 (3) 18:54	18:08	16:35	16:30
20	05:40	08:17 (3) 06:08	06:52 (2) 06:36	07:04	06:38	07:05
	20:13	67 09:24 (3) 19:40	80 09:22 (3) 18:53	18:07	16:34	16:31
21	05:41	08:17 (3) 06:09	06:52 (2) 06:36	07:05	06:39	07:05
	20:12	68 09:25 (3) 19:39	76 09:21 (3) 18:51	18:05	16:33	16:31
22	05:42	08:17 (3) 06:10	06:52 (2) 06:37	07:06	06:40	07:06
	20:12	68 09:25 (3) 19:37	74 09:20 (3) 18:49	18:04	16:33	16:32
23	05:43	08:18 (3) 06:10	06:53 (2) 06:38	07:07	06:41	07:06
	20:11	68 09:26 (3) 19:36	68 09:18 (3) 18:48	18:02	16:32	16:32
24	05:44	08:18 (3) 06:11	06:53 (2) 06:39	07:08	06:42	07:07
	20:10	69 09:27 (3) 19:34	65 09:16 (3) 18:46	18:01	16:32	16:33
25	05:45	08:17 (3) 06:12	06:54 (2) 06:40	07:09	06:43	07:07
	20:09	69 09:26 (3) 19:33	58 09:14 (3) 18:45	18:00	16:31	16:33
26	05:45	08:17 (3) 06:13	06:55 (2) 06:41	07:10	06:44	07:08
	20:08	70 09:27 (3) 19:32	51 09:12 (3) 18:43	17:59	16:31	16:34
27	05:46	08:17 (3) 06:14	06:56 (2) 06:42	06:11	06:45	07:08
	20:08	70 09:27 (3) 19:30	41 09:08 (3) 18:41	16:57	16:30	16:35
28	05:47	08:18 (3) 06:15	08:41 (3) 06:43	06:13	06:46	07:08
	20:07	70 09:28 (3) 19:29	23 09:04 (3) 18:40	16:56	16:30	16:35
29	05:48	08:18 (3) 06:16	08:48 (3) 06:44	06:14	06:47	07:09
	20:06	70 09:28 (3) 19:27	9 08:57 (3) 18:38	16:55	16:30	16:36
30	05:49	08:17 (3) 06:17		06:45	06:15	06:48
	20:05	71 09:28 (3) 19:26		18:37	16:54	16:29
31	05:50	08:17 (3) 06:18			06:16	06:49
	20:04	71 09:28 (3) 19:24			16:52	16:38
Potential sun hours	453	424	374	347	303	294
Total, worst case	2007	1988				
Sun reduction	0,68	0,69				
Oper. time red.	0,34	0,34				
Wind dir. red.	1,00	1,00				
Total reduction	0,23	0,24				
Total, real	470	470				

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: R - R15 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09	06:59	06:25	06:37	05:54	06:55 (2) 05:27
	16:38	17:10	17:42	19:13	19:42	78 09:30 (3) 20:10 61 09:20 (3)
2	07:09	06:58	06:23	06:35	05:53	08:18 (3) 05:27 08:19 (3)
	16:39	17:11	17:43	19:14	19:43	72 09:30 (3) 20:10 60 09:19 (3)
3	07:10	06:57	06:22	06:34	05:52	08:18 (3) 05:27 08:20 (3)
	16:39	17:12	17:44	19:15	19:44	72 09:30 (3) 20:11 59 09:19 (3)
4	07:10	06:56	06:20	06:32	05:50	08:17 (3) 05:26 08:20 (3)
	16:40	17:13	17:45	19:16	19:45	73 09:30 (3) 20:12 59 09:19 (3)
5	07:10	06:55	06:19	06:31	05:49	08:16 (3) 05:26 08:20 (3)
	16:41	17:14	17:47	19:17	19:46	72 09:28 (3) 20:12 58 09:18 (3)
6	07:10	06:54	06:17	06:29	05:48	08:16 (3) 05:26 08:20 (3)
	16:42	17:15	17:48	19:18	19:47	72 09:28 (3) 20:13 58 09:18 (3)
7	07:10	06:53	06:16	06:28	05:47	08:16 (3) 05:25 08:21 (3)
	16:43	17:17	17:49	19:19	19:48	72 09:28 (3) 20:14 57 09:18 (3)
8	07:10	06:52	06:14	06:26	05:46	08:15 (3) 05:25 08:22 (3)
	16:44	17:18	17:50	19:20	19:49	73 09:28 (3) 20:14 56 09:18 (3)
9	07:10	06:51	06:13	06:25	05:45	08:15 (3) 05:25 08:22 (3)
	16:45	17:19	17:51	19:21	19:50	72 09:27 (3) 20:15 57 09:19 (3)
10	07:10	06:50	06:11	06:23	05:44	08:15 (3) 05:25 08:23 (3)
	16:46	17:20	17:52	19:22	19:51	72 09:27 (3) 20:15 56 09:19 (3)
11	07:09	06:49	06:10	06:22	05:43	08:15 (3) 05:25 08:22 (3)
	16:47	17:21	17:53	19:23	19:52	72 09:27 (3) 20:16 56 09:18 (3)
12	07:09	06:48	06:08	06:20	08:52 (3) 05:42	08:15 (3) 05:25 08:22 (3)
	16:48	17:22	17:54	19:24	19 09:11 (3) 19:53	71 09:26 (3) 20:16 56 09:18 (3)
13	07:09	06:47	06:07	06:19	08:48 (3) 05:41	08:15 (3) 05:25 08:23 (3)
	16:49	17:24	17:55	19:25	28 09:16 (3) 19:54	72 09:27 (3) 20:17 55 09:18 (3)
14	07:09	06:46	06:05	06:17	08:43 (3) 05:40	08:15 (3) 05:25 08:23 (3)
	16:50	17:25	17:56	19:26	35 09:18 (3) 19:55	71 09:26 (3) 20:17 55 09:18 (3)
15	07:09	06:44	06:04	06:16	06:58 (2) 05:39	08:15 (3) 05:25 08:23 (3)
	16:51	17:26	17:57	19:27	48 09:21 (3) 19:56	71 09:26 (3) 20:18 55 09:18 (3)
16	07:08	06:43	06:02	06:14	06:54 (2) 05:38	08:15 (3) 05:25 08:24 (3)
	16:52	17:27	17:58	19:28	59 09:22 (3) 19:57	70 09:25 (3) 20:18 54 09:18 (3)
17	07:08	06:42	06:01	06:13	06:53 (2) 05:37	08:15 (3) 05:25 08:25 (3)
	16:53	17:28	17:59	19:29	64 09:24 (3) 19:57	69 09:24 (3) 20:18 54 09:19 (3)
18	07:08	06:41	05:59	06:11	06:52 (2) 05:36	08:15 (3) 05:25 08:25 (3)
	16:54	17:29	18:00	19:30	70 09:25 (3) 19:58	69 09:24 (3) 20:19 54 09:19 (3)
19	07:07	06:40	05:57	06:10	06:50 (2) 05:36	08:16 (3) 05:25 08:25 (3)
	16:55	17:30	18:01	19:31	76 09:26 (3) 19:59	68 09:24 (3) 20:19 54 09:19 (3)
20	07:07	06:38	05:56	06:09	06:50 (2) 05:35	08:15 (3) 05:25 08:25 (3)
	16:56	17:31	18:02	19:32	78 09:27 (3) 20:00	68 09:23 (3) 20:19 54 09:19 (3)
21	07:06	06:37	05:54	06:07	06:48 (2) 05:34	08:15 (3) 05:25 08:25 (3)
	16:57	17:33	18:03	19:33	82 09:27 (3) 20:01	68 09:23 (3) 20:19 54 09:19 (3)
22	07:06	06:36	05:53	06:06	06:48 (2) 05:33	08:16 (3) 05:25 08:25 (3)
	16:58	17:34	18:04	19:34	84 09:28 (3) 20:02	67 09:23 (3) 20:20 54 09:19 (3)
23	07:05	06:34	05:51	06:04	06:48 (2) 05:33	08:16 (3) 05:26 08:26 (3)
	16:59	17:35	18:05	19:35	86 09:29 (3) 20:03	66 09:22 (3) 20:20 54 09:20 (3)
24	07:05	06:33	05:50	06:03	06:49 (2) 05:32	08:16 (3) 05:26 08:26 (3)
	17:00	17:36	18:06	19:36	87 09:30 (3) 20:03	66 09:22 (3) 20:20 54 09:20 (3)
25	07:04	06:32	05:48	06:02	06:48 (2) 05:31	08:17 (3) 05:26 08:26 (3)
	17:02	17:37	18:07	19:37	88 09:29 (3) 20:04	65 09:22 (3) 20:20 54 09:20 (3)
26	07:03	06:30	05:46	06:00	06:48 (2) 05:31	08:17 (3) 05:26 08:27 (3)
	17:03	17:38	18:08	19:38	90 09:30 (3) 20:05	64 09:21 (3) 20:20 54 09:21 (3)
27	07:03	06:29	05:45	05:59	06:49 (2) 05:30	08:17 (3) 05:27 08:27 (3)
	17:04	17:39	18:08	19:38	88 09:30 (3) 20:06	64 09:21 (3) 20:20 54 09:21 (3)
28	07:02	06:27	05:43	05:58	06:49 (2) 05:29	08:17 (3) 05:27 08:26 (3)
	17:05	17:40	18:09	19:39	87 09:29 (3) 20:07	63 09:20 (3) 20:20 55 09:21 (3)
29	07:01	06:26	05:42	05:57	06:50 (2) 05:29	08:18 (3) 05:28 08:27 (3)
	17:06	17:41	18:10	19:40	85 09:29 (3) 20:07	62 09:20 (3) 20:20 55 09:22 (3)
30	07:00		05:40	05:55	06:52 (2) 05:28	08:18 (3) 05:28 08:27 (3)
	17:07		18:11	19:41	84 09:30 (3) 20:08	62 09:20 (3) 20:20 55 09:22 (3)
31	07:00		06:39			05:28 08:18 (3)
	17:09		19:12			20:09 62 09:20 (3)
Potential sun hours	302	310	370	396	443	446
Total, worst case				1338	2138	1671
Sun reduction				0,51	0,57	0,62
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				1,00	1,00	1,00
Total reduction				0,17	0,19	0,21
Total, real				232	414	356

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: R - R15 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28	08:27 (3) 05:51	08:25 (3) 06:19	06:46	06:17	06:49
	20:20	56 09:23 (3) 20:03	72 09:37 (3) 19:23	18:35	16:51	16:29
2	05:29	08:27 (3) 05:51	08:25 (3) 06:19	06:47	06:18	06:50
	20:20	56 09:23 (3) 20:02	72 09:37 (3) 19:21	18:33	16:50	16:29
3	05:29	08:27 (3) 05:52	08:26 (3) 06:20	06:47	06:19	06:51
	20:20	57 09:24 (3) 20:01	72 09:38 (3) 19:20	18:32	16:49	16:29
4	05:30	08:27 (3) 05:53	08:26 (3) 06:21	06:48	06:20	06:52
	20:20	56 09:23 (3) 20:00	72 09:38 (3) 19:18	18:30	16:48	16:29
5	05:30	08:27 (3) 05:54	08:26 (3) 06:22	06:49	06:21	06:53
	20:20	57 09:24 (3) 19:59	72 09:38 (3) 19:16	18:29	16:47	16:28
6	05:31	08:27 (3) 05:55	08:25 (3) 06:23	06:50	06:22	06:54
	20:19	57 09:24 (3) 19:58	73 09:38 (3) 19:15	18:27	16:46	16:28
7	05:31	08:27 (3) 05:56	08:26 (3) 06:24	06:51	06:23	06:55
	20:19	58 09:25 (3) 19:57	72 09:38 (3) 19:13	18:26	16:45	16:28
8	05:32	08:27 (3) 05:57	08:26 (3) 06:25	06:52	06:25	06:56
	20:19	58 09:25 (3) 19:55	72 09:38 (3) 19:12	18:24	16:44	16:28
9	05:33	08:27 (3) 05:58	08:26 (3) 06:26	06:53	06:26	06:57
	20:19	59 09:26 (3) 19:54	72 09:38 (3) 19:10	18:23	16:43	16:28
10	05:33	08:26 (3) 05:59	08:27 (3) 06:27	06:54	06:27	06:58
	20:18	60 09:26 (3) 19:53	71 09:38 (3) 19:09	18:21	16:42	16:28
11	05:34	08:27 (3) 06:00	08:27 (3) 06:28	06:55	06:28	06:58
	20:18	60 09:27 (3) 19:52	71 09:38 (3) 19:07	18:20	16:41	16:28
12	05:35	08:27 (3) 06:00	07:03 (2) 06:28	06:56	06:29	06:59
	20:17	61 09:28 (3) 19:51	79 09:38 (3) 19:05	18:18	16:40	16:29
13	05:35	08:26 (3) 06:01	06:59 (2) 06:29	06:57	06:30	07:00
	20:17	62 09:28 (3) 19:49	84 09:37 (3) 19:04	18:17	16:39	16:29
14	05:36	08:26 (3) 06:02	06:58 (2) 06:30	06:58	06:31	07:01
	20:17	63 09:29 (3) 19:48	85 09:37 (3) 19:02	18:15	16:38	16:29
15	05:37	08:27 (3) 06:03	06:57 (2) 06:31	06:59	06:32	07:01
	20:16	62 09:29 (3) 19:47	87 09:37 (3) 19:01	18:14	16:38	16:29
16	05:37	08:27 (3) 06:04	06:56 (2) 06:32	07:00	06:33	07:02
	20:15	63 09:30 (3) 19:46	88 09:37 (3) 18:59	18:12	16:37	16:29
17	05:38	08:26 (3) 06:05	06:55 (2) 06:33	07:01	06:35	07:03
	20:15	64 09:30 (3) 19:44	89 09:36 (3) 18:57	18:11	16:36	16:30
18	05:39	08:26 (3) 06:06	06:55 (2) 06:34	07:02	06:36	07:04
	20:14	65 09:31 (3) 19:43	88 09:36 (3) 18:56	18:09	16:35	16:30
19	05:40	08:26 (3) 06:07	06:54 (2) 06:35	07:03	06:37	07:04
	20:14	66 09:32 (3) 19:41	87 09:35 (3) 18:54	18:08	16:35	16:30
20	05:40	08:25 (3) 06:08	06:53 (2) 06:36	07:04	06:38	07:05
	20:13	66 09:31 (3) 19:40	86 09:34 (3) 18:53	18:07	16:34	16:31
21	05:41	08:26 (3) 06:09	06:53 (2) 06:36	07:05	06:39	07:05
	20:12	66 09:32 (3) 19:39	84 09:33 (3) 18:51	18:05	16:33	16:31
22	05:42	08:26 (3) 06:10	06:53 (2) 06:37	07:06	06:40	07:06
	20:12	67 09:33 (3) 19:37	82 09:32 (3) 18:49	18:04	16:33	16:32
23	05:43	08:26 (3) 06:10	06:53 (2) 06:38	07:07	06:41	07:06
	20:11	68 09:34 (3) 19:36	79 09:31 (3) 18:48	18:02	16:32	16:32
24	05:44	08:26 (3) 06:11	06:54 (2) 06:39	07:08	06:42	07:07
	20:10	68 09:34 (3) 19:34	76 09:30 (3) 18:46	18:01	16:32	16:33
25	05:45	08:25 (3) 06:12	06:55 (2) 06:40	07:09	06:43	07:07
	20:09	69 09:34 (3) 19:33	70 09:28 (3) 18:45	18:00	16:31	16:33
26	05:45	08:25 (3) 06:13	06:56 (2) 06:41	07:10	06:44	07:08
	20:08	70 09:35 (3) 19:32	64 09:27 (3) 18:43	17:59	16:31	16:34
27	05:46	08:25 (3) 06:14	06:56 (2) 06:42	06:11	06:45	07:08
	20:08	70 09:35 (3) 19:30	59 09:24 (3) 18:41	16:57	16:30	16:35
28	05:47	08:26 (3) 06:15	06:59 (2) 06:43	06:13	06:46	07:08
	20:07	70 09:36 (3) 19:29	48 09:22 (3) 18:40	16:56	16:30	16:35
29	05:48	08:26 (3) 06:16	08:44 (3) 06:44	06:14	06:47	07:09
	20:06	70 09:36 (3) 19:27	35 09:19 (3) 18:38	16:55	16:30	16:36
30	05:49	08:25 (3) 06:17	08:48 (3) 06:45	06:15	06:48	07:09
	20:05	71 09:36 (3) 19:26	28 09:16 (3) 18:37	16:54	16:29	16:37
31	05:50	08:25 (3) 06:18	08:52 (3) 06:16	06:16	06:49	07:09
	20:04	71 09:36 (3) 19:24	19 09:11 (3) 16:52	16:52	16:38	16:38
Potential sun hours	453	424	374	347	303	294
Total, worst case	1966	2208				
Sun reduction	0,68	0,69				
Oper. time red.	0,34	0,34				
Wind dir. red.	1,00	1,00				
Total reduction	0,23	0,24				
Total, real	460	521				

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: Bufalo real case Shadow receptor: S - R16 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09	06:59	06:25	06:37	05:54	08:23 (3)
	16:38	17:10	17:42	19:13	19:42	09:32 (3)
2	07:09	06:58	06:23	06:35	09:07 (3)	05:53
	16:39	17:11	17:43	19:14	7 09:14 (3)	19:43
3	07:10	06:57	06:22	06:34	08:59 (3)	05:52
	16:39	17:12	17:44	19:15	23 09:22 (3)	19:44
4	07:10	06:56	06:20	06:32	08:54 (3)	05:50
	16:40	17:13	17:45	19:16	31 09:25 (3)	19:45
5	07:10	06:55	06:19	06:31	08:51 (3)	05:49
	16:41	17:14	17:47	19:17	37 09:28 (3)	19:46
6	07:10	06:54	06:17	06:29	08:48 (3)	05:48
	16:42	17:15	17:48	19:18	42 09:30 (3)	19:47
7	07:10	06:53	06:16	06:28	08:46 (3)	05:47
	16:43	17:17	17:49	19:19	46 09:32 (3)	19:48
8	07:10	06:52	06:14	06:26	08:43 (3)	05:46
	16:44	17:18	17:50	19:20	50 09:33 (3)	19:49
9	07:10	06:51	06:13	06:25	08:41 (3)	05:45
	16:45	17:19	17:51	19:21	53 09:34 (3)	19:50
10	07:10	06:50	06:11	06:23	08:39 (3)	05:44
	16:46	17:20	17:52	19:22	56 09:35 (3)	19:51
11	07:09	06:49	06:10	06:22	08:38 (3)	05:43
	16:47	17:21	17:53	19:23	58 09:36 (3)	19:52
12	07:09	06:48	06:08	06:20	07:02 (2)	05:42
	16:48	17:22	17:54	19:24	66 09:36 (3)	19:53
13	07:09	06:47	06:07	06:19	06:59 (2)	05:41
	16:49	17:24	17:55	19:25	75 09:37 (3)	19:54
14	07:09	06:46	06:05	06:17	06:57 (2)	05:40
	16:50	17:25	17:56	19:26	80 09:37 (3)	19:55
15	07:09	06:44	06:04	06:16	06:55 (2)	05:39
	16:51	17:26	17:57	19:27	84 09:37 (3)	19:56
16	07:08	06:43	06:02	06:14	06:54 (2)	05:38
	16:52	17:27	17:58	19:28	86 09:37 (3)	19:57
17	07:08	06:42	06:01	06:13	06:53 (2)	05:37
	16:53	17:28	17:59	19:29	89 09:37 (3)	19:57
18	07:08	06:41	05:59	06:11	06:53 (2)	05:36
	16:54	17:29	18:00	19:30	90 09:38 (3)	19:58
19	07:07	06:40	05:57	06:10	06:52 (2)	05:36
	16:55	17:30	18:01	19:31	92 09:37 (3)	19:59
20	07:07	06:38	05:56	06:09	06:52 (2)	05:35
	16:56	17:31	18:02	19:32	92 09:37 (3)	20:00
21	07:06	06:37	05:54	06:07	06:51 (2)	05:34
	16:57	17:33	18:03	19:33	93 09:36 (3)	20:01
22	07:06	06:36	05:53	06:06	06:52 (2)	05:33
	16:58	17:34	18:04	19:34	92 09:36 (3)	20:02
23	07:05	06:34	05:51	06:04	06:52 (2)	05:33
	16:59	17:35	18:05	19:35	91 09:36 (3)	20:03
24	07:05	06:33	05:50	06:03	06:53 (2)	05:32
	17:00	17:36	18:06	19:36	90 09:36 (3)	20:03
25	07:04	06:32	05:48	06:02	06:53 (2)	05:31
	17:02	17:37	18:07	19:37	88 09:35 (3)	20:04
26	07:03	06:30	05:46	06:00	06:55 (2)	05:31
	17:03	17:38	18:08	19:38	86 09:35 (3)	20:05
27	07:03	06:29	05:45	05:59	06:56 (2)	05:30
	17:04	17:39	18:08	19:38	82 09:34 (3)	20:06
28	07:02	06:27	05:43	05:58	06:59 (2)	05:29
	17:05	17:40	18:09	19:39	75 09:33 (3)	20:07
29	07:01	06:26	05:42	05:57	08:23 (3)	05:29
	17:06	17:41	18:10	19:40	70 09:33 (3)	20:07
30	07:00		05:40	05:55	08:23 (3)	05:28
	17:07		18:11	19:41	69 09:32 (3)	20:08
31	07:00		06:39			05:28
	17:09		19:12			20:09
Potential sun hours	302	310	370	396	443	446
Total, worst case				1993	1625	186
Sun reduction				0,51	0,57	0,62
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				0,99	0,99	0,99
Total reduction				0,17	0,19	0,21
Total, real				343	312	39

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: S - R16 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28	05:51	08:35 (3)	06:19	08:37 (3)	06:46
	20:20	20:03	09:34 (3)	19:23	09:35 (3)	18:35
2	05:29	05:51	08:35 (3)	06:19	08:38 (3)	06:47
	20:20	20:02	09:35 (3)	19:21	09:34 (3)	18:33
3	05:29	08:56 (3)	05:52	08:34 (3)	06:20	08:38 (3)
	20:20	09:04 (3)	20:01	09:36 (3)	19:20	09:31 (3)
4	05:30	08:54 (3)	05:53	08:34 (3)	06:21	08:40 (3)
	20:20	09:05 (3)	20:00	09:37 (3)	19:18	09:30 (3)
5	05:30	08:53 (3)	05:54	08:34 (3)	06:22	08:41 (3)
	20:20	09:08 (3)	19:59	09:37 (3)	19:16	09:28 (3)
6	05:31	08:51 (3)	05:55	08:33 (3)	06:23	08:43 (3)
	20:19	09:09 (3)	19:58	09:37 (3)	19:15	09:26 (3)
7	05:31	08:51 (3)	05:56	08:33 (3)	06:24	08:46 (3)
	20:19	09:10 (3)	19:57	09:38 (3)	19:13	09:23 (3)
8	05:32	08:50 (3)	05:57	08:33 (3)	06:25	08:49 (3)
	20:19	09:11 (3)	19:55	09:38 (3)	19:12	09:20 (3)
9	05:33	08:49 (3)	05:58	08:32 (3)	06:26	08:51 (3)
	20:19	09:13 (3)	19:54	09:39 (3)	19:10	09:15 (3)
10	05:33	08:48 (3)	05:59	08:32 (3)	06:27	08:58 (3)
	20:18	09:13 (3)	19:53	09:40 (3)	19:09	09:09 (3)
11	05:34	08:47 (3)	06:00	08:32 (3)	06:28	06:55
	20:18	09:15 (3)	19:52	09:40 (3)	19:07	18:20
12	05:35	08:47 (3)	06:00	08:32 (3)	06:28	06:56
	20:17	09:16 (3)	19:51	09:41 (3)	19:05	18:18
13	05:35	08:45 (3)	06:01	08:31 (3)	06:29	06:57
	20:17	09:17 (3)	19:49	09:40 (3)	19:04	18:17
14	05:36	08:45 (3)	06:02	08:31 (3)	06:30	06:58
	20:17	09:18 (3)	19:48	09:41 (3)	19:02	18:15
15	05:37	08:45 (3)	06:03	07:06 (2)	06:31	06:59
	20:16	09:20 (3)	19:47	09:41 (3)	19:01	18:14
16	05:37	08:44 (3)	06:04	07:03 (2)	06:32	07:00
	20:15	09:21 (3)	19:46	09:41 (3)	18:59	18:12
17	05:38	08:43 (3)	06:05	07:01 (2)	06:33	07:01
	20:15	09:21 (3)	19:44	09:41 (3)	18:57	18:11
18	05:39	08:43 (3)	06:06	07:00 (2)	06:34	07:02
	20:14	09:23 (3)	19:43	09:42 (3)	18:56	18:09
19	05:40	08:42 (3)	06:07	06:59 (2)	06:35	07:03
	20:14	09:24 (3)	19:41	09:42 (3)	18:54	18:08
20	05:40	08:41 (3)	06:08	06:57 (2)	06:36	07:04
	20:13	09:24 (3)	19:40	09:41 (3)	18:53	18:07
21	05:41	08:40 (3)	06:09	06:57 (2)	06:36	07:05
	20:12	09:25 (3)	19:39	09:41 (3)	18:51	18:05
22	05:42	08:40 (3)	06:10	06:56 (2)	06:37	07:06
	20:12	09:26 (3)	19:37	09:41 (3)	18:49	18:04
23	05:43	08:40 (3)	06:10	06:56 (2)	06:38	07:07
	20:11	09:27 (3)	19:36	09:41 (3)	18:48	18:02
24	05:44	08:39 (3)	06:11	06:56 (2)	06:39	07:08
	20:10	09:29 (3)	19:34	09:41 (3)	18:46	18:01
25	05:45	08:38 (3)	06:12	06:56 (2)	06:40	07:09
	20:09	09:29 (3)	19:33	09:40 (3)	18:45	18:00
26	05:45	08:38 (3)	06:13	06:56 (2)	06:41	07:10
	20:08	09:30 (3)	19:32	09:40 (3)	18:43	17:59
27	05:46	08:37 (3)	06:14	06:56 (2)	06:42	06:11
	20:08	09:31 (3)	19:30	09:39 (3)	18:41	16:57
28	05:47	08:37 (3)	06:15	06:56 (2)	06:43	06:13
	20:07	09:32 (3)	19:29	09:38 (3)	18:40	16:56
29	05:48	08:37 (3)	06:16	06:58 (2)	06:44	06:14
	20:06	09:33 (3)	19:27	09:38 (3)	18:38	16:55
30	05:49	08:36 (3)	06:17	06:59 (2)	06:45	06:15
	20:05	09:32 (3)	19:26	09:37 (3)	18:37	16:54
31	05:50	08:35 (3)	06:18	07:02 (2)	06:46	06:16
	20:04	09:33 (3)	19:24	09:36 (3)	16:52	16:38
Potential sun hours	453	424	374	347	303	294
Total, worst case	1068	2364	410			
Sun reduction	0,68	0,69	0,63			
Oper. time red.	0,34	0,34	0,34			
Wind dir. red.	0,99	0,99	0,99			
Total reduction	0,23	0,23	0,21			
Total, real	248	554	88			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: T - R17 CA 03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	06:46 (2) 08:48 (3)
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	06:48 (2) 08:48 (3)
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	06:51 (2) 08:49 (3)
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	07:50 (3) 08:49 (3)
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	07:48 (3) 08:49 (3)
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	07:48 (3) 08:49 (3)
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	07:47 (3) 08:49 (3)
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	07:47 (3) 08:49 (3)
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	07:46 (3) 08:49 (3)
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	07:46 (3) 08:49 (3)
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	07:45 (3) 08:49 (3)
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	07:45 (3) 08:49 (3)
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	07:46 (3) 08:50 (3)
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	07:45 (3) 08:50 (3)
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	07:45 (3) 08:50 (3)
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	07:45 (3) 08:49 (3)
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	07:44 (3) 08:49 (3)
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	07:44 (3) 08:49 (3)
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	07:45 (3) 08:49 (3)
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	07:44 (3) 08:49 (3)
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	07:44 (3) 08:48 (3)
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	07:45 (3) 08:49 (3)
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	07:45 (3) 08:48 (3)
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	07:44 (3) 08:48 (3)
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	07:45 (3) 08:48 (3)
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	07:45 (3) 08:48 (3)
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:38	05:30 20:06	07:46 (3) 08:48 (3)
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	07:45 (3) 08:47 (3)
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07	07:46 (3) 08:48 (3)
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	07:46 (3) 08:47 (3)
31	07:00 17:09		06:39 19:12		05:28 20:09	07:46 (3) 08:47 (3)
Potential sun hours	302	310	370	396	443	446
Total, worst case				665	1964	1695
Sun reduction				0,51	0,57	0,62
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				0,99	1,00	1,00
Total reduction				0,17	0,19	0,21
Total, real				115	381	362

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: T - R17 CA 03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	July	August	September	October	November	December		
1	05:28	07:54 (3)	05:51	07:56 (3)	06:19	06:46	06:17	06:49
	20:20	57 08:51 (3)	20:03	09:00 (3)	19:23	18:35	16:51	16:29
2	05:29	07:54 (3)	05:51	07:56 (3)	06:19	06:47	06:18	06:50
	20:20	57 08:51 (3)	20:02	09:00 (3)	19:21	18:33	16:50	16:29
3	05:29	07:55 (3)	05:52	07:57 (3)	06:20	06:47	06:19	06:51
	20:20	57 08:52 (3)	20:01	09:00 (3)	19:20	18:32	16:49	16:29
4	05:30	07:54 (3)	05:53	07:57 (3)	06:21	06:48	06:20	06:52
	20:20	58 08:52 (3)	20:00	09:00 (3)	19:18	18:30	16:48	16:29
5	05:30	07:55 (3)	05:54	07:57 (3)	06:22	06:49	06:21	06:53
	20:20	57 08:52 (3)	19:59	09:00 (3)	19:16	18:29	16:47	16:28
6	05:31	07:54 (3)	05:55	07:57 (3)	06:23	06:50	06:22	06:54
	20:19	58 08:52 (3)	19:58	08:59 (3)	19:15	18:27	16:46	16:28
7	05:31	07:55 (3)	05:56	07:58 (3)	06:24	06:51	06:23	06:55
	20:19	58 08:53 (3)	19:57	08:59 (3)	19:13	18:26	16:45	16:28
8	05:32	07:54 (3)	05:57	07:58 (3)	06:25	06:52	06:25	06:56
	20:19	59 08:53 (3)	19:55	08:58 (3)	19:12	18:24	16:44	16:28
9	05:33	07:55 (3)	05:58	07:59 (3)	06:26	06:53	06:26	06:57
	20:19	59 08:54 (3)	19:54	08:58 (3)	19:10	18:23	16:43	16:28
10	05:33	07:54 (3)	05:59	06:59 (2)	06:27	06:54	06:27	06:58
	20:18	60 08:54 (3)	19:53	08:58 (3)	19:09	18:21	16:42	16:28
11	05:34	07:54 (3)	06:00	06:56 (2)	06:28	06:55	06:28	06:58
	20:18	60 08:54 (3)	19:52	08:57 (3)	19:07	18:20	16:41	16:28
12	05:35	07:55 (3)	06:00	06:55 (2)	06:28	06:56	06:29	06:59
	20:17	60 08:55 (3)	19:51	08:56 (3)	19:05	18:18	16:40	16:29
13	05:35	07:54 (3)	06:01	06:52 (2)	06:29	06:57	06:30	07:00
	20:17	61 08:55 (3)	19:49	08:55 (3)	19:04	18:17	16:39	16:29
14	05:36	07:54 (3)	06:02	06:52 (2)	06:30	06:58	06:31	07:01
	20:17	62 08:56 (3)	19:48	08:56 (3)	19:02	18:15	16:38	16:29
15	05:37	07:55 (3)	06:03	06:51 (2)	06:31	06:59	06:32	07:02
	20:16	61 08:56 (3)	19:47	08:53 (3)	19:01	18:14	16:38	16:29
16	05:37	07:55 (3)	06:04	06:50 (2)	06:32	07:00	06:33	07:02
	20:15	62 08:57 (3)	19:46	08:52 (3)	18:59	18:12	16:37	16:29
17	05:38	07:54 (3)	06:05	06:50 (2)	06:33	07:01	06:35	07:03
	20:15	63 08:57 (3)	19:44	08:50 (3)	18:57	18:11	16:36	16:30
18	05:39	07:55 (3)	06:06	06:50 (2)	06:34	07:02	06:36	07:04
	20:14	62 08:57 (3)	19:43	08:49 (3)	18:56	18:09	16:35	16:30
19	05:40	07:55 (3)	06:07	06:50 (2)	06:35	07:03	06:37	07:04
	20:14	63 08:58 (3)	19:41	08:47 (3)	18:54	18:08	16:35	16:30
20	05:40	07:54 (3)	06:08	06:49 (2)	06:36	07:04	06:38	07:05
	20:13	64 08:58 (3)	19:40	08:43 (3)	18:53	18:07	16:34	16:31
21	05:41	07:54 (3)	06:09	06:49 (2)	06:36	07:05	06:39	07:05
	20:12	64 08:58 (3)	19:39	08:41 (3)	18:51	18:05	16:33	16:31
22	05:42	07:55 (3)	06:10	06:50 (2)	06:37	07:06	06:40	07:06
	20:12	64 08:59 (3)	19:37	08:37 (3)	18:49	18:04	16:33	16:32
23	05:43	07:55 (3)	06:10	06:51 (2)	06:38	07:07	06:41	07:06
	20:11	64 08:59 (3)	19:36	08:28 (3)	18:48	18:02	16:32	16:32
24	05:44	07:55 (3)	06:11	06:52 (2)	06:39	07:08	06:42	07:07
	20:10	65 09:00 (3)	19:34	07:07 (2)	18:46	18:01	16:32	16:33
25	05:45	07:54 (3)	06:12	06:53 (2)	06:40	07:09	06:43	07:07
	20:09	65 08:59 (3)	19:33	07:05 (2)	18:45	18:00	16:31	16:33
26	05:45	07:55 (3)	06:13	06:57 (2)	06:41	07:10	06:44	07:08
	20:08	64 08:59 (3)	19:32	07:01 (2)	18:43	17:59	16:31	16:34
27	05:46	07:55 (3)	06:14		06:42	06:11	06:45	07:08
	20:08	65 09:00 (3)	19:30		18:41	16:57	16:30	16:35
28	05:47	07:55 (3)	06:15		06:43	06:13	06:46	07:08
	20:07	65 09:00 (3)	19:29		18:40	16:56	16:30	16:35
29	05:48	07:56 (3)	06:16		06:44	06:14	06:47	07:09
	20:06	64 09:00 (3)	19:27		18:38	16:55	16:30	16:36
30	05:49	07:55 (3)	06:17		06:45	06:15	06:48	07:09
	20:05	65 09:00 (3)	19:26		18:37	16:54	16:29	16:37
31	05:50	07:55 (3)	06:18			06:16		07:09
	20:04	65 09:00 (3)	19:24			16:52		16:38
Potential sun hours	453		424		374	347	303	294
Total, worst case	1908		1418					
Sun reduction	0,68		0,69					
Oper. time red.	0,34		0,34					
Wind dir. red.	1,00		1,00					
Total reduction	0,23		0,24					
Total, real	447		335					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: U - R18 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	06:50 (2) 08:50 (3)
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	07:49 (3) 08:50 (3)
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	07:49 (3) 08:50 (3)
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	07:48 (3) 08:50 (3)
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	07:47 (3) 08:50 (3)
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	07:47 (3) 08:50 (3)
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	07:46 (3) 08:49 (3)
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	07:46 (3) 08:49 (3)
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	07:46 (3) 08:49 (3)
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	07:46 (3) 08:49 (3)
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	07:46 (3) 08:49 (3)
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	07:45 (3) 08:48 (3)
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	07:46 (3) 08:49 (3)
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	07:46 (3) 08:49 (3)
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	07:46 (3) 08:48 (3)
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	07:46 (3) 08:48 (3)
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	07:46 (3) 08:47 (3)
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	07:46 (3) 08:47 (3)
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	07:47 (3) 08:47 (3)
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	07:46 (3) 08:47 (3)
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	07:46 (3) 08:46 (3)
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	07:47 (3) 08:46 (3)
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	07:47 (3) 08:46 (3)
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	07:47 (3) 08:45 (3)
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	07:48 (3) 08:45 (3)
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	07:48 (3) 08:44 (3)
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:38	05:30 20:06	07:49 (3) 08:45 (3)
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	07:49 (3) 08:44 (3)
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07	07:49 (3) 08:44 (3)
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	07:49 (3) 08:43 (3)
31	07:00 17:09		06:39 19:12		05:28 20:09	07:50 (3) 08:43 (3)
Potential sun hours	302	310	370	396	443	446
Total, worst case				917	1871	1393
Sun reduction				0,51	0,57	0,62
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				1,00	1,00	1,00
Total reduction				0,17	0,19	0,21
Total, real				159	363	298

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Buffalo real case Shadow receptor: U - R18 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	July	August	September	October	November	December		
1	05:28	08:00 (3)	05:51	07:56 (3)	06:19	06:46	06:17	06:49
	20:20	46 08:46 (3)	20:03	63 08:59 (3)	19:23	18:35	16:51	16:29
2	05:29	07:59 (3)	05:51	07:56 (3)	06:19	06:47	06:18	06:50
	20:20	47 08:46 (3)	20:02	63 08:59 (3)	19:21	18:33	16:50	16:29
3	05:29	08:00 (3)	05:52	07:56 (3)	06:20	06:47	06:19	06:51
	20:20	47 08:47 (3)	20:01	64 09:00 (3)	19:20	18:32	16:49	16:29
4	05:30	07:59 (3)	05:53	07:57 (3)	06:21	06:48	06:20	06:52
	20:20	48 08:47 (3)	20:00	63 09:00 (3)	19:18	18:30	16:48	16:29
5	05:30	08:00 (3)	05:54	07:57 (3)	06:22	06:49	06:21	06:53
	20:20	48 08:48 (3)	19:59	63 09:00 (3)	19:16	18:29	16:47	16:28
6	05:31	07:59 (3)	05:55	07:56 (3)	06:23	06:50	06:22	06:54
	20:19	49 08:48 (3)	19:58	63 08:59 (3)	19:15	18:27	16:46	16:28
7	05:31	07:59 (3)	05:56	07:57 (3)	06:24	06:51	06:23	06:55
	20:19	50 08:49 (3)	19:57	62 08:59 (3)	19:13	18:26	16:45	16:28
8	05:32	07:59 (3)	05:57	07:57 (3)	06:25	06:52	06:25	06:56
	20:19	50 08:49 (3)	19:55	62 08:59 (3)	19:12	18:24	16:44	16:28
9	05:33	07:59 (3)	05:58	07:57 (3)	06:26	06:53	06:26	06:57
	20:19	51 08:50 (3)	19:54	62 08:59 (3)	19:10	18:23	16:43	16:28
10	05:33	07:58 (3)	05:59	07:58 (3)	06:27	06:54	06:27	06:58
	20:18	51 08:49 (3)	19:53	61 08:59 (3)	19:09	18:21	16:42	16:28
11	05:34	07:58 (3)	06:00	07:58 (3)	06:28	06:55	06:28	06:58
	20:18	52 08:50 (3)	19:52	61 08:59 (3)	19:07	18:20	16:41	16:28
12	05:35	07:59 (3)	06:00	06:58 (2)	06:28	06:56	06:29	06:59
	20:17	52 08:51 (3)	19:51	70 08:59 (3)	19:05	18:18	16:40	16:29
13	05:35	07:58 (3)	06:01	06:55 (2)	06:29	06:57	06:30	07:00
	20:17	53 08:51 (3)	19:49	72 08:57 (3)	19:04	18:17	16:39	16:29
14	05:36	07:58 (3)	06:02	06:54 (2)	06:30	06:58	06:31	07:01
	20:17	54 08:52 (3)	19:48	74 08:57 (3)	19:02	18:15	16:38	16:29
15	05:37	07:58 (3)	06:03	06:53 (2)	06:31	06:59	06:32	07:02
	20:16	55 08:53 (3)	19:47	74 08:56 (3)	19:01	18:14	16:38	16:29
16	05:37	07:58 (3)	06:04	06:52 (2)	06:32	07:00	06:33	07:02
	20:15	56 08:54 (3)	19:46	74 08:56 (3)	18:59	18:12	16:37	16:29
17	05:38	07:57 (3)	06:05	06:52 (2)	06:33	07:01	06:35	07:03
	20:15	56 08:53 (3)	19:44	74 08:55 (3)	18:57	18:11	16:36	16:30
18	05:39	07:57 (3)	06:06	06:51 (2)	06:34	07:02	06:36	07:04
	20:14	57 08:54 (3)	19:43	73 08:54 (3)	18:56	18:09	16:35	16:30
19	05:40	07:58 (3)	06:07	06:51 (2)	06:35	07:03	06:37	07:04
	20:14	57 08:55 (3)	19:42	71 08:53 (3)	18:54	18:08	16:35	16:30
20	05:40	07:57 (3)	06:08	06:50 (2)	06:36	07:04	06:38	07:05
	20:13	58 08:55 (3)	19:40	68 08:51 (3)	18:53	18:07	16:34	16:31
21	05:41	07:57 (3)	06:09	06:50 (2)	06:36	07:05	06:39	07:05
	20:12	58 08:55 (3)	19:39	65 08:49 (3)	18:51	18:05	16:33	16:31
22	05:42	07:57 (3)	06:10	06:50 (2)	06:37	07:06	06:40	07:06
	20:12	59 08:56 (3)	19:37	62 08:48 (3)	18:49	18:04	16:33	16:32
23	05:43	07:57 (3)	06:10	06:51 (2)	06:38	07:07	06:41	07:06
	20:11	60 08:57 (3)	19:36	57 08:46 (3)	18:48	18:02	16:32	16:32
24	05:44	07:57 (3)	06:11	06:51 (2)	06:39	07:08	06:42	07:07
	20:10	60 08:57 (3)	19:35	52 08:44 (3)	18:46	18:01	16:32	16:33
25	05:45	07:56 (3)	06:12	06:52 (2)	06:40	07:09	06:43	07:07
	20:09	61 08:57 (3)	19:33	44 08:41 (3)	18:45	18:00	16:31	16:33
26	05:45	07:56 (3)	06:13	06:54 (2)	06:41	07:10	06:44	07:08
	20:08	62 08:58 (3)	19:32	33 08:38 (3)	18:43	17:59	16:31	16:34
27	05:46	07:56 (3)	06:14	06:55 (2)	06:42	06:11	06:45	07:08
	20:08	62 08:58 (3)	19:30	15 08:30 (3)	18:41	16:57	16:30	16:35
28	05:47	07:56 (3)	06:15		06:43	06:13	06:46	07:08
	20:07	63 08:59 (3)	19:29		18:40	16:56	16:30	16:35
29	05:48	07:57 (3)	06:16		06:44	06:14	06:47	07:09
	20:06	62 08:59 (3)	19:27		18:38	16:55	16:30	16:36
30	05:49	07:56 (3)	06:17		06:45	06:15	06:48	07:09
	20:05	62 08:58 (3)	19:26		18:37	16:54	16:29	16:37
31	05:50	07:56 (3)	06:18			06:16		07:09
	20:04	63 08:59 (3)	19:24			16:52		16:38
Potential sun hours	453		424		374	347	303	294
Total, worst case	1709		1665					
Sun reduction	0,68		0,69					
Oper. time red.	0,34		0,34					
Wind dir. red.	1,00		1,00					
Total reduction	0,23		0,24					
Total, real	401		394					

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: Bufalo real case Shadow receptor: V - R19 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	06:50 (2) 05:27
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	69 08:53 (3) 05:27
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	62 08:53 (3) 05:27
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	62 08:53 (3) 05:26
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	63 08:53 (3) 05:26
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	63 08:52 (3) 05:26
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	64 08:52 (3) 05:25
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	64 08:52 (3) 05:25
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	64 08:52 (3) 05:25
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	65 08:52 (3) 05:25
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	65 08:52 (3) 05:25
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	64 08:51 (3) 05:25
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	64 08:51 (3) 05:25
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	64 08:52 (3) 05:25
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	64 08:51 (3) 05:25
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	06:53 (2) 08:33 (3)	05:38 19:57
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	06:50 (2) 08:38 (3)	05:37 19:57
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	06:49 (2) 08:42 (3)	05:36 19:58
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	06:47 (2) 08:43 (3)	05:36 19:59
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	06:47 (2) 08:45 (3)	05:35 20:00
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	06:46 (2) 08:47 (3)	05:34 20:01
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	06:45 (2) 08:48 (3)	05:33 20:02
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	06:45 (2) 08:49 (3)	05:33 20:03
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	06:45 (2) 08:50 (3)	05:32 20:03
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	06:44 (2) 08:50 (3)	05:31 20:04
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	06:45 (2) 08:51 (3)	05:31 20:05
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:38	06:45 (2) 08:52 (3)	05:30 20:06
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	06:45 (2) 08:51 (3)	05:29 20:07
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	06:46 (2) 08:52 (3)	05:29 20:07
30	07:00 17:07		05:40 18:11	05:55 19:41	06:48 (2) 08:52 (3)	05:28 20:08
31	07:00 17:09		06:39 19:12		05:28 20:09	55 08:46 (3)
Potential sun hours	302	310	370	396	443	446
Total, worst case				942	1910	1449
Sun reduction				0,51	0,57	0,62
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				1,00	1,00	1,00
Total reduction				0,17	0,19	0,21
Total, real				163	371	310

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: V - R19 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	July	August	September	October	November	December				
1	05:28	08:01 (3)	05:51	07:58 (3)	06:19	06:46	06:17	06:49		
	20:20	48	08:49 (3)	20:03	64	09:02 (3)	19:23	18:35	16:51	16:29
2	05:29	08:00 (3)	05:51	07:58 (3)	06:19	06:47	06:18	06:50		
	20:20	49	08:49 (3)	20:02	64	09:02 (3)	19:21	18:33	16:50	16:29
3	05:29	08:01 (3)	05:52	07:58 (3)	06:20	06:47	06:19	06:51		
	20:20	49	08:50 (3)	20:01	65	09:03 (3)	19:20	18:32	16:49	16:29
4	05:30	08:00 (3)	05:53	07:58 (3)	06:21	06:48	06:20	06:52		
	20:20	50	08:50 (3)	20:00	65	09:03 (3)	19:18	18:30	16:48	16:29
5	05:30	08:01 (3)	05:54	07:59 (3)	06:22	06:49	06:21	06:53		
	20:20	50	08:51 (3)	19:59	64	09:03 (3)	19:16	18:29	16:47	16:28
6	05:31	08:00 (3)	05:55	07:58 (3)	06:23	06:50	06:22	06:54		
	20:19	51	08:51 (3)	19:58	64	09:02 (3)	19:15	18:27	16:46	16:28
7	05:31	08:00 (3)	05:56	07:58 (3)	06:24	06:51	06:23	06:55		
	20:19	52	08:52 (3)	19:57	64	09:02 (3)	19:13	18:26	16:45	16:28
8	05:32	08:00 (3)	05:57	07:59 (3)	06:25	06:52	06:25	06:56		
	20:19	52	08:52 (3)	19:55	63	09:02 (3)	19:12	18:24	16:44	16:28
9	05:33	08:00 (3)	05:58	07:59 (3)	06:26	06:53	06:26	06:57		
	20:19	53	08:53 (3)	19:54	63	09:02 (3)	19:10	18:23	16:43	16:28
10	05:33	07:59 (3)	05:59	07:59 (3)	06:27	06:54	06:27	06:58		
	20:18	53	08:52 (3)	19:53	63	09:02 (3)	19:09	18:21	16:42	16:28
11	05:34	08:00 (3)	06:00	08:00 (3)	06:28	06:55	06:28	06:58		
	20:18	53	08:53 (3)	19:52	62	09:02 (3)	19:07	18:20	16:41	16:28
12	05:35	08:00 (3)	06:00	06:58 (2)	06:28	06:56	06:29	06:59		
	20:17	54	08:54 (3)	19:51	71	09:01 (3)	19:05	18:18	16:40	16:29
13	05:35	07:59 (3)	06:01	06:55 (2)	06:29	06:57	06:30	07:00		
	20:17	55	08:54 (3)	19:49	74	09:00 (3)	19:04	18:17	16:39	16:29
14	05:36	07:59 (3)	06:02	06:54 (2)	06:30	06:58	06:31	07:01		
	20:17	56	08:55 (3)	19:48	75	09:00 (3)	19:02	18:15	16:38	16:29
15	05:37	07:59 (3)	06:03	06:53 (2)	06:31	06:59	06:32	07:02		
	20:16	57	08:56 (3)	19:47	76	08:59 (3)	19:01	18:14	16:38	16:29
16	05:37	08:00 (3)	06:04	06:52 (2)	06:32	07:00	06:33	07:02		
	20:15	57	08:57 (3)	19:46	77	08:59 (3)	18:59	18:12	16:37	16:29
17	05:38	07:59 (3)	06:05	06:52 (2)	06:33	07:01	06:35	07:03		
	20:15	57	08:56 (3)	19:44	75	08:58 (3)	18:57	18:11	16:36	16:30
18	05:39	07:59 (3)	06:06	06:51 (2)	06:34	07:02	06:36	07:04		
	20:14	58	08:57 (3)	19:43	74	08:57 (3)	18:56	18:09	16:35	16:30
19	05:40	07:59 (3)	06:07	06:51 (2)	06:35	07:03	06:37	07:04		
	20:14	59	08:58 (3)	19:41	73	08:56 (3)	18:54	18:08	16:35	16:30
20	05:40	07:58 (3)	06:08	06:50 (2)	06:36	07:04	06:38	07:05		
	20:13	60	08:58 (3)	19:40	70	08:54 (3)	18:53	18:07	16:34	16:31
21	05:41	07:58 (3)	06:09	06:50 (2)	06:36	07:05	06:39	07:05		
	20:12	60	08:58 (3)	19:39	66	08:52 (3)	18:51	18:05	16:33	16:31
22	05:42	07:58 (3)	06:10	06:50 (2)	06:37	07:06	06:40	07:06		
	20:12	61	08:59 (3)	19:37	64	08:51 (3)	18:49	18:04	16:33	16:32
23	05:43	07:58 (3)	06:10	06:50 (2)	06:38	07:07	06:41	07:06		
	20:11	62	09:00 (3)	19:36	59	08:49 (3)	18:48	18:02	16:32	16:32
24	05:44	07:59 (3)	06:11	06:51 (2)	06:39	07:08	06:42	07:07		
	20:10	61	09:00 (3)	19:34	53	08:47 (3)	18:46	18:01	16:32	16:33
25	05:45	07:58 (3)	06:12	06:52 (2)	06:40	07:09	06:43	07:07		
	20:09	62	09:00 (3)	19:33	46	08:44 (3)	18:45	18:00	16:31	16:33
26	05:45	07:58 (3)	06:13	06:54 (2)	06:41	07:10	06:44	07:08		
	20:08	62	09:00 (3)	19:32	35	08:41 (3)	18:43	17:59	16:31	16:34
27	05:46	07:58 (3)	06:14	06:55 (2)	06:42	06:11	06:45	07:08		
	20:08	63	09:01 (3)	19:30	21	08:35 (3)	18:41	16:57	16:30	16:35
28	05:47	07:58 (3)	06:15		06:43	06:13	06:46	07:08		
	20:07	63	09:01 (3)	19:29		18:40	16:56	16:30	16:35	
29	05:48	07:58 (3)	06:16		06:44	06:14	06:47	07:09		
	20:06	64	09:02 (3)	19:27		18:38	16:55	16:30	16:36	
30	05:49	07:57 (3)	06:17		06:45	06:15	06:48	07:09		
	20:05	64	09:01 (3)	19:26		18:37	16:54	16:29	16:37	
31	05:50	07:57 (3)	06:18			06:16	06:49	07:09		
	20:04	65	09:02 (3)	19:24			16:52		16:38	
Potential sun hours	453		424		374	347	303	294		
Total, worst case	1760		1710							
Sun reduction	0,68		0,69							
Oper. time red.	0,34		0,34							
Wind dir. red.	1,00		1,00							
Total reduction	0,23		0,24							
Total, real	413		404							

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: W - R20 CA03

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
1.500 1.500 3.000

Table with 12 columns for months (January to December) and multiple rows for time slots (07:00 to 17:09). Includes summary rows for Potential sun hours, Total, worst case, Sun reduction, Oper. time red., Wind dir. red., Total reduction, and Total, real.

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)

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: X - R21 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
1.500 1.500 3.000

Table with 12 columns for months (January to December) and multiple rows for days. Each cell contains a 2x2 matrix of times (Sun rise/set and Sun set/rise) and a value for 'Minutes with flicker'. Summary rows at the bottom show 'Potential sun hours', 'Total, worst case', 'Sun reduction', 'Oper. time red.', 'Wind dir. red.', 'Total reduction', and 'Total, real'.

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)

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: Y - R22 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
1.500 1.500 3.000

Table with 12 columns for months (January to December) and multiple rows for each day, showing sun rise/set times, minutes with flicker, and operational time. Includes summary rows for 'Potential sun hours', 'Total, worst case', 'Sun reduction', 'Oper. time red.', 'Wind dir. red.', 'Total reduction', and 'Total, real'.

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)

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: Z - R23 CA03

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:51 20:03	06:38 (2) 23 07:01 (2)	06:19 19:23	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	06:35 (2) 10 06:45 (2)	05:27 20:10	05:29 20:02	05:51 23 06:38 (2)	06:19 19:21	06:47 18:33	06:18 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	06:33 (2) 14 06:47 (2)	05:27 20:11	05:29 20:01	05:52 23 07:01 (2)	06:20 19:20	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	06:32 (2) 17 06:49 (2)	05:26 20:12	05:30 20:20	05:53 23 06:38 (2)	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	06:30 (2) 19 06:49 (2)	05:26 20:12	05:30 20:20	05:54 22 07:01 (2)	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	06:29 (2) 20 06:49 (2)	05:26 20:13	05:31 20:19	05:55 21 06:59 (2)	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	06:28 (2) 22 06:50 (2)	05:25 20:14	05:31 20:19	05:56 20 06:39 (2)	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	06:28 (2) 22 06:50 (2)	05:25 20:14	05:32 20:19	05:57 18 06:58 (2)	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	06:28 (2) 23 06:51 (2)	05:25 20:15	05:33 20:19	05:58 16 06:41 (2)	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	06:27 (2) 24 06:51 (2)	05:25 20:15	05:33 20:18	05:59 13 06:55 (2)	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	06:27 (2) 24 06:51 (2)	05:25 20:16	05:34 20:18	06:00 8 06:53 (2)	06:28 19:07	06:55 18:20	06:28 16:41	06:58 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	06:27 (2) 23 06:50 (2)	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	06:28 (2) 23 06:51 (2)	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	06:28 (2) 23 06:51 (2)	05:25 20:17	05:36 19:48	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	06:28 (2) 22 06:50 (2)	05:25 20:17	05:37 19:47	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:38	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	06:29 (2) 21 06:50 (2)	05:25 20:18	05:37 20:15	06:04 19:46	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	06:29 (2) 20 06:49 (2)	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:35 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	06:00 18:00	06:11 19:30	05:36 19:58	06:29 (2) 19 06:48 (2)	05:25 20:19	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	06:31 (2) 17 06:48 (2)	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	06:31 (2) 16 06:47 (2)	05:25 20:19	05:40 20:13	06:08 4 06:51 (2)	06:36 18:53	07:04 18:07	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	06:32 (2) 14 06:46 (2)	05:25 20:19	05:41 20:12	06:09 9 06:45 (2)	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	06:34 (2) 11 06:45 (2)	05:25 20:20	05:42 20:12	06:10 13 06:56 (2)	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	06:36 (2) 7 06:43 (2)	05:26 20:20	05:43 20:11	06:10 15 06:57 (2)	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	06:32 (2) 20 06:43 (2)	05:26 20:20	05:44 20:10	06:11 16 06:52 (2)	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	06:32 (2) 20 06:43 (2)	05:26 20:20	05:45 20:09	06:12 18 06:58 (2)	06:40 18:45	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	06:32 (2) 19 06:44 (2)	05:26 20:20	05:45 20:08	06:13 19 06:59 (2)	06:41 18:43	07:10 17:59	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	06:32 (2) 20 06:44 (2)	05:27 20:20	05:46 20:08	06:14 21 07:00 (2)	06:42 18:41	07:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	06:32 (2) 22 07:01 (2)	05:27 20:20	05:47 20:07	06:15 22 07:01 (2)	06:43 18:40	07:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07	06:32 (2) 22 07:01 (2)	05:28 20:20	05:48 20:06	06:16 22 07:01 (2)	06:44 18:38	07:13 16:55	06:47 16:30	07:09 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	06:32 (2) 20 06:44 (2)	05:28 20:20	05:49 20:05	06:17 23 07:01 (2)	06:45 18:37	07:14 16:54	06:48 16:29	07:09 16:37
31	07:00 17:09		06:39 19:12	05:28 20:09	05:28 20:09	06:32 (2) 20 06:44 (2)	05:28 20:20	05:50 20:04	06:18 23 07:01 (2)	06:45 19:24	07:15 16:52	06:49 16:30	07:09 16:38
Potential sun hours	302	310	370	396	443	446	453	424		374	347	303	294
Total, worst case					411		205	210					
Sun reduction					0,57		0,68	0,69					
Oper. time red.					0,34		0,34	0,34					
Wind dir. red.					0,96		0,96	0,96					
Total reduction					0,19		0,22	0,23					
Total, real					76		46	48					

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)

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AA - R24 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
1.500 1.500 3.000

Table with 12 columns for months (January to December) and multiple rows for days (07-09 to 17-09). Includes summary rows for 'Potential sun hours', 'Total, worst case', 'Sun reduction', 'Oper. time red.', 'Wind dir. red.', 'Total reduction', and 'Total, real'.

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)



Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AB - R25 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
1.500 1.500 3.000

Table with 12 columns for months (January to December) and multiple rows for each day, showing sun rise, sun set, and various reduction factors. Includes a summary row at the bottom for 'Potential sun hours' and 'Total, real'.

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)

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AC - R26 CA03

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
1.500 1.500 3.000

Table with columns for months (January to December) and rows for each day of the year (01 to 31). It includes sunrise and sunset times, and a summary section at the bottom for 'Potential sun hours', 'Total, worst case', 'Sun reduction', 'Oper. time red.', 'Wind dir. red.', 'Total reduction', and 'Total, real'.

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)

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AD - R27 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
1.500 1.500 3.000

Table with 13 columns (months) and 31 rows (days). Each cell contains a matrix of sun rise, sun set, and minutes with flicker. Summary rows at the bottom show total sun hours, sun reduction, and total real values for each month.

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)

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AE - R28 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December
1 07:09 06:59 06:25 06:37 05:54 06:36 (2) 05:27 07:28 (3) 05:28 07:32 (3) 05:51 07:58 (3) 06:19 06:46 06:17 06:49												
2 07:09 06:58 06:23 06:35 05:53 06:36 (2) 05:27 07:27 (3) 05:29 07:31 (3) 05:51 08:02 (3) 06:19 06:47 06:18 06:50												
3 07:10 06:57 06:22 06:34 05:52 06:36 (2) 05:27 07:27 (3) 05:29 07:32 (3) 05:52 06:55 (2) 06:20 06:47 06:19 06:51												
4 07:10 06:56 06:20 06:32 05:50 06:36 (2) 05:26 07:27 (3) 05:30 07:32 (3) 05:53 06:51 (2) 06:21 06:48 06:20 06:52												
5 07:10 06:55 06:19 06:31 05:49 06:36 (2) 05:26 07:26 (3) 05:30 07:33 (3) 05:54 06:49 (2) 06:22 06:49 06:21 06:53												
6 07:10 06:54 06:17 06:29 05:48 06:37 (2) 05:26 07:27 (3) 05:31 07:33 (3) 05:55 06:47 (2) 06:23 06:50 06:22 06:54												
7 07:10 06:53 06:16 06:28 05:47 06:38 (2) 05:25 07:27 (3) 05:31 07:34 (3) 05:56 06:46 (2) 06:24 06:51 06:23 06:55												
8 07:10 06:52 06:14 06:26 05:46 06:39 (2) 05:25 07:27 (3) 05:32 07:33 (3) 05:57 06:46 (2) 06:25 06:52 06:25 06:56												
9 07:10 06:51 06:13 06:25 05:45 06:41 (2) 05:25 07:27 (3) 05:33 07:34 (3) 05:58 06:45 (2) 06:26 06:53 06:26 06:57												
10 07:10 06:50 06:11 06:23 05:44 06:49 (2) 05:25 07:27 (3) 05:33 07:34 (3) 05:59 06:45 (2) 06:27 06:54 06:27 06:58												
11 07:09 06:49 06:10 06:22 05:43 07:50 (3) 05:25 07:26 (3) 05:34 07:35 (3) 06:00 06:44 (2) 06:28 06:55 06:28 06:58												
12 07:09 06:48 06:08 06:20 05:42 07:46 (3) 05:25 07:27 (3) 05:35 07:36 (3) 06:00 06:44 (2) 06:28 06:56 06:29 06:59												
13 07:09 06:47 06:07 06:19 05:41 07:44 (3) 05:25 07:27 (3) 05:35 07:36 (3) 06:01 06:43 (2) 06:29 06:57 06:30 07:00												
14 07:09 06:46 06:05 06:17 05:40 07:42 (3) 05:25 07:27 (3) 05:36 07:36 (3) 06:02 06:43 (2) 06:30 06:58 06:31 07:01												
15 07:09 06:45 06:04 06:16 05:39 08:14 (3) 05:25 07:27 (3) 05:37 07:37 (3) 06:03 06:44 (2) 06:31 06:59 06:32 07:01												
16 07:08 06:44 06:02 06:14 05:38 08:15 (3) 05:25 07:27 (3) 05:37 07:38 (3) 06:04 06:44 (2) 06:32 07:00 06:33 07:02												
17 07:08 06:42 06:01 06:13 05:37 08:17 (3) 05:25 07:28 (3) 05:38 07:38 (3) 06:05 06:45 (2) 06:33 07:01 06:35 07:03												
18 07:08 06:41 05:59 06:11 05:36 08:18 (3) 05:25 07:28 (3) 05:39 07:39 (3) 06:06 06:46 (2) 06:34 07:02 06:36 07:04												
19 07:07 06:40 05:57 06:10 05:36 08:19 (3) 05:25 07:28 (3) 05:40 07:40 (3) 06:07 06:47 (2) 06:35 07:03 06:37 07:04												
20 07:07 06:38 05:56 06:09 05:35 08:20 (3) 05:25 07:28 (3) 05:41 07:40 (3) 06:08 06:48 (2) 06:36 07:04 06:38 07:05												
21 07:06 06:37 05:54 06:07 05:34 08:21 (3) 05:25 07:28 (3) 05:41 07:41 (3) 06:09 06:48 (2) 06:36 07:05 06:39 07:05												
22 07:06 06:36 05:53 06:06 05:33 08:22 (3) 05:25 07:28 (3) 05:42 07:42 (3) 06:10 06:49 (2) 06:37 07:06 06:40 07:06												
23 07:05 06:34 05:51 06:04 05:33 08:23 (3) 05:25 07:29 (3) 05:43 07:43 (3) 06:10 06:50 (2) 06:38 07:07 06:41 07:06												
24 07:05 06:33 05:50 06:03 05:32 08:24 (3) 05:25 07:29 (3) 05:44 07:44 (3) 06:11 06:51 (2) 06:39 07:08 06:42 07:07												
25 07:04 06:32 05:48 06:02 05:31 08:25 (3) 05:25 07:29 (3) 05:45 07:45 (3) 06:12 06:52 (2) 06:40 07:09 06:43 07:07												
26 07:03 06:30 05:46 06:00 05:30 08:26 (3) 05:25 07:29 (3) 05:46 07:46 (3) 06:13 06:53 (2) 06:41 07:10 06:44 07:08												
27 07:03 06:29 05:45 05:59 05:29 08:27 (3) 05:25 07:29 (3) 05:46 07:47 (3) 06:14 06:54 (2) 06:42 06:11 06:45 07:08												
28 07:02 06:27 05:43 05:58 05:28 08:28 (3) 05:25 07:30 (3) 05:47 07:49 (3) 06:15 06:55 (2) 06:43 06:13 06:46 07:08												
29 07:01 06:26 05:42 05:57 05:27 08:29 (3) 05:25 07:31 (3) 05:48 07:51 (3) 06:16 06:56 (2) 06:44 06:14 06:47 07:09												
30 07:00 06:25 05:41 05:56 05:26 08:30 (3) 05:25 07:32 (3) 05:49 07:52 (3) 06:17 06:57 (2) 06:45 06:15 06:48 07:09												
31 07:00 06:24 05:40 05:55 05:25 08:31 (3) 05:25 07:33 (3) 05:49 07:53 (3) 06:18 06:58 (2) 06:46 06:16 06:49 07:09												
Potential sun hours 302 310 370 396 443 446 453 424 374 303 294												
Total, worst case 141 1117 1908 1653 335												
Sun reduction 0,51 0,57 0,62 0,68 0,69												
Oper. time red. 0,34 0,34 0,34 0,34 0,34												
Wind dir. red. 0,97 0,98 0,98 0,98 0,97												
Total reduction 0,17 0,19 0,21 0,23 0,23												
Total, real 24 212 398 378 77												

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: Bufalo real case Shadow receptor: AG - R30 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

Table with 12 columns for months (January to December) and 14 rows of data. Each cell contains a time range (hh:mm) and a count in parentheses. Summary rows at the bottom include 'Potential sun hours', 'Total, worst case', 'Sun reduction', 'Oper. time red.', 'Wind dir. red.', 'Total reduction', and 'Total, real'.

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

Matrix with 4 columns: 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, and (WTG causing flicker first time) / (WTG causing flicker last time).

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AH - R31 CA03

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
1.500 1.500 3.000

Table with 12 columns for months (January to December) and 24 rows of daily data. Each cell contains a time range (e.g., 07:09-17:10) and a count in parentheses (e.g., 16). Summary rows at the bottom show 'Potential sun hours', 'Total, worst case', 'Sun reduction', 'Oper. time red.', 'Wind dir. red.', 'Total reduction', and 'Total, real'.

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)



SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AJ - R33 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09	06:59	06:25	06:37	05:54	07:38 (3) 05:27
	16:38	17:10	17:42	19:13	19:42	54 08:32 (3) 20:10 49 08:27 (3)
2	07:09	06:58	06:23	06:35	05:53	07:37 (3) 05:27 07:38 (3)
	16:39	17:11	17:43	19:14	19:43	55 08:32 (3) 20:10 48 08:26 (3)
3	07:10	06:57	06:22	06:34	05:52	07:37 (3) 05:27 07:38 (3)
	16:39	17:12	17:44	19:15	19:44	55 08:32 (3) 20:11 49 08:27 (3)
4	07:10	06:56	06:20	06:32	05:50	07:36 (3) 05:26 07:39 (3)
	16:40	17:13	17:45	19:16	19:45	57 08:33 (3) 20:12 48 08:27 (3)
5	07:10	06:55	06:19	06:31	05:49	07:35 (3) 05:26 07:39 (3)
	16:41	17:14	17:47	19:17	19:46	57 08:32 (3) 20:12 47 08:26 (3)
6	07:10	06:54	06:17	06:29	05:48	07:34 (3) 05:26 07:40 (3)
	16:42	17:15	17:48	19:18	19:47	58 08:32 (3) 20:13 46 08:26 (3)
7	07:10	06:53	06:16	06:28	05:47	07:34 (3) 05:25 07:40 (3)
	16:43	17:17	17:49	19:19	19:48	58 08:32 (3) 20:14 46 08:26 (3)
8	07:10	06:52	06:14	06:26	05:46	07:34 (3) 05:25 07:41 (3)
	16:44	17:18	17:50	19:20	19:49	58 08:32 (3) 20:14 45 08:26 (3)
9	07:10	06:51	06:13	06:25	05:45	07:33 (3) 05:25 07:41 (3)
	16:45	17:19	17:51	19:21	19:50	59 08:32 (3) 20:15 45 08:26 (3)
10	07:10	06:50	06:11	06:23	05:44	07:33 (3) 05:25 07:42 (3)
	16:46	17:20	17:52	19:22	19:51	59 08:32 (3) 20:15 44 08:26 (3)
11	07:09	06:49	06:10	06:22	05:43	07:33 (3) 05:25 07:41 (3)
	16:47	17:21	17:53	19:23	19:52	59 08:32 (3) 20:16 44 08:25 (3)
12	07:09	06:48	06:08	06:20	05:42	07:33 (3) 05:25 07:42 (3)
	16:48	17:22	17:54	19:24	19:53	59 08:32 (3) 20:16 43 08:25 (3)
13	07:09	06:47	06:07	06:19	05:41	07:33 (3) 05:25 07:42 (3)
	16:49	17:24	17:55	19:25	19:54	59 08:32 (3) 20:17 43 08:25 (3)
14	07:09	06:46	06:05	06:17	05:40	07:33 (3) 05:25 07:43 (3)
	16:50	17:25	17:56	19:26	19:55	59 08:32 (3) 20:17 42 08:25 (3)
15	07:09	06:44	06:04	06:16	05:39	07:33 (3) 05:25 07:43 (3)
	16:51	17:26	17:57	19:27	19:56	59 08:32 (3) 20:18 42 08:25 (3)
16	07:08	06:43	06:02	06:14	05:38	07:33 (3) 05:25 07:43 (3)
	16:52	17:27	17:58	19:28	19:57	58 08:31 (3) 20:18 42 08:25 (3)
17	07:08	06:42	06:01	06:13	05:37	07:33 (3) 05:25 07:45 (3)
	16:53	17:28	17:59	19:29	19:57	58 08:31 (3) 20:18 41 08:26 (3)
18	07:08	06:41	05:59	06:11	05:36	07:33 (3) 05:25 07:45 (3)
	16:54	17:29	18:00	19:30	19:58	57 08:30 (3) 20:19 41 08:26 (3)
19	07:07	06:40	05:57	06:10	05:36	07:34 (3) 05:25 07:45 (3)
	16:55	17:30	18:01	19:31	13 08:14 (3) 19:59	57 08:31 (3) 20:19 41 08:26 (3)
20	07:07	06:38	05:56	06:09	07:57 (3) 05:35	07:33 (3) 05:25 07:45 (3)
	16:56	17:31	18:02	19:32	22 08:19 (3) 20:00	57 08:30 (3) 20:19 41 08:26 (3)
21	07:06	06:37	05:54	06:07	07:54 (3) 05:34	07:33 (3) 05:25 07:45 (3)
	16:57	17:33	18:03	19:33	28 08:22 (3) 20:01	57 08:30 (3) 20:19 41 08:26 (3)
22	07:06	06:36	05:53	06:06	07:50 (3) 05:33	07:34 (3) 05:25 07:45 (3)
	16:58	17:34	18:04	19:34	33 08:23 (3) 20:02	56 08:30 (3) 20:20 41 08:26 (3)
23	07:05	06:34	05:51	06:04	07:48 (3) 05:33	07:34 (3) 05:26 07:46 (3)
	16:59	17:35	18:05	19:35	37 08:25 (3) 20:03	55 08:29 (3) 20:20 41 08:27 (3)
24	07:05	06:33	05:50	06:03	07:47 (3) 05:32	07:34 (3) 05:26 07:46 (3)
	17:00	17:36	18:06	19:36	40 08:27 (3) 20:03	55 08:29 (3) 20:20 41 08:27 (3)
25	07:04	06:32	05:48	06:02	07:44 (3) 05:31	07:35 (3) 05:26 07:46 (3)
	17:02	17:37	18:07	19:37	43 08:27 (3) 20:04	54 08:29 (3) 20:20 41 08:27 (3)
26	07:03	06:30	05:46	06:00	07:43 (3) 05:31	07:35 (3) 05:26 07:46 (3)
	17:03	17:38	18:08	19:38	46 08:29 (3) 20:05	53 08:28 (3) 20:20 42 08:28 (3)
27	07:03	06:29	05:45	05:59	07:42 (3) 05:30	07:36 (3) 05:27 07:46 (3)
	17:04	17:39	18:09	19:38	48 08:30 (3) 20:06	52 08:28 (3) 20:20 42 08:28 (3)
28	07:02	06:28	05:43	05:58	07:40 (3) 05:29	07:36 (3) 05:27 07:46 (3)
	17:05	17:40	18:09	19:39	50 08:30 (3) 20:07	52 08:28 (3) 20:20 42 08:28 (3)
29	07:01	06:26	05:42	05:57	07:39 (3) 05:29	07:36 (3) 05:28 07:47 (3)
	17:06	17:41	18:10	19:40	51 08:30 (3) 20:07	52 08:28 (3) 20:20 42 08:29 (3)
30	07:00		05:40	05:55	07:39 (3) 05:28	07:36 (3) 05:28 07:46 (3)
	17:07		18:11	19:41	52 08:31 (3) 20:08	51 08:27 (3) 20:20 43 08:29 (3)
31	07:00		06:39		05:28	07:37 (3)
	17:09		19:12		20:09	50 08:27 (3)
Potential sun hours	302	310	370	396	443	446
Total, worst case				463	1739	1303
Sun reduction				0,51	0,57	0,62
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				1,00	1,00	1,00
Total reduction				0,17	0,19	0,21
Total, real				80	337	278

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AJ - R33 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28	07:47 (3) 05:51	07:43 (3) 06:19	06:46	06:17	06:49
	20:20	43 08:30 (3) 20:03	59 08:42 (3) 19:23	18:35	16:51	16:29
2	05:29	07:46 (3) 05:51	07:43 (3) 06:19	06:47	06:18	06:50
	20:20	44 08:30 (3) 20:02	59 08:42 (3) 19:21	18:33	16:50	16:29
3	05:29	07:47 (3) 05:52	07:44 (3) 06:20	06:47	06:19	06:51
	20:20	44 08:31 (3) 20:01	59 08:43 (3) 19:20	18:32	16:49	16:29
4	05:30	07:46 (3) 05:53	07:44 (3) 06:21	06:48	06:20	06:52
	20:20	45 08:31 (3) 20:00	59 08:43 (3) 19:18	18:30	16:48	16:29
5	05:30	07:47 (3) 05:54	07:44 (3) 06:22	06:49	06:21	06:53
	20:20	45 08:32 (3) 19:59	59 08:43 (3) 19:16	18:29	16:47	16:28
6	05:31	07:46 (3) 05:55	07:44 (3) 06:23	06:50	06:22	06:54
	20:19	46 08:32 (3) 19:58	58 08:42 (3) 19:15	18:27	16:46	16:28
7	05:31	07:46 (3) 05:56	07:44 (3) 06:24	06:51	06:23	06:55
	20:19	47 08:33 (3) 19:57	58 08:42 (3) 19:13	18:26	16:45	16:28
8	05:32	07:46 (3) 05:57	07:44 (3) 06:25	06:52	06:25	06:56
	20:19	47 08:33 (3) 19:55	58 08:42 (3) 19:12	18:24	16:44	16:28
9	05:33	07:46 (3) 05:58	07:45 (3) 06:26	06:53	06:26	06:57
	20:19	48 08:34 (3) 19:54	56 08:41 (3) 19:10	18:23	16:43	16:28
10	05:33	07:46 (3) 05:59	07:45 (3) 06:27	06:54	06:27	06:58
	20:18	48 08:34 (3) 19:53	56 08:41 (3) 19:09	18:21	16:42	16:28
11	05:34	07:45 (3) 06:00	07:46 (3) 06:28	06:55	06:28	06:58
	20:18	49 08:34 (3) 19:52	55 08:41 (3) 19:07	18:20	16:41	16:28
12	05:35	07:45 (3) 06:00	07:47 (3) 06:28	06:56	06:29	06:59
	20:17	50 08:35 (3) 19:51	53 08:40 (3) 19:05	18:18	16:40	16:29
13	05:35	07:45 (3) 06:01	07:46 (3) 06:29	06:57	06:30	07:00
	20:17	50 08:35 (3) 19:49	53 08:39 (3) 19:04	18:17	16:39	16:29
14	05:36	07:45 (3) 06:02	07:47 (3) 06:30	06:58	06:31	07:01
	20:17	51 08:36 (3) 19:48	51 08:38 (3) 19:02	18:15	16:38	16:29
15	05:37	07:45 (3) 06:03	07:48 (3) 06:31	06:59	06:32	07:02
	20:16	52 08:37 (3) 19:47	49 08:37 (3) 19:01	18:14	16:38	16:29
16	05:37	07:45 (3) 06:04	07:49 (3) 06:32	07:00	06:33	07:02
	20:15	53 08:38 (3) 19:46	47 08:36 (3) 18:59	18:12	16:37	16:29
17	05:38	07:44 (3) 06:05	07:50 (3) 06:33	07:01	06:35	07:03
	20:15	53 08:37 (3) 19:44	45 08:35 (3) 18:57	18:11	16:36	16:30
18	05:39	07:44 (3) 06:06	07:51 (3) 06:34	07:02	06:36	07:04
	20:14	54 08:38 (3) 19:43	43 08:34 (3) 18:56	18:09	16:35	16:30
19	05:40	07:44 (3) 06:07	07:53 (3) 06:35	07:03	06:37	07:04
	20:14	55 08:39 (3) 19:42	40 08:33 (3) 18:54	18:08	16:35	16:30
20	05:41	07:44 (3) 06:08	07:53 (3) 06:36	07:04	06:38	07:05
	20:13	55 08:39 (3) 19:40	37 08:30 (3) 18:53	18:07	16:34	16:31
21	05:41	07:44 (3) 06:09	07:55 (3) 06:36	07:05	06:39	07:05
	20:12	55 08:39 (3) 19:39	33 08:28 (3) 18:51	18:05	16:33	16:31
22	05:42	07:44 (3) 06:10	07:58 (3) 06:37	07:06	06:40	07:06
	20:12	56 08:40 (3) 19:37	27 08:25 (3) 18:49	18:04	16:33	16:32
23	05:43	07:44 (3) 06:10	08:01 (3) 06:38	07:07	06:41	07:06
	20:11	56 08:40 (3) 19:36	21 08:22 (3) 18:48	18:02	16:32	16:32
24	05:44	07:44 (3) 06:11	08:06 (3) 06:39	07:08	06:42	07:07
	20:10	57 08:41 (3) 19:35	11 08:17 (3) 18:46	18:01	16:32	16:33
25	05:45	07:43 (3) 06:12	06:40	07:09	06:43	07:07
	20:09	58 08:41 (3) 19:33	18:45	18:00	16:31	16:33
26	05:45	07:43 (3) 06:13	06:41	07:10	06:44	07:08
	20:08	58 08:41 (3) 19:32	18:43	17:59	16:31	16:34
27	05:46	07:43 (3) 06:14	06:42	06:11	06:45	07:08
	20:08	59 08:42 (3) 19:30	18:41	16:57	16:30	16:35
28	05:47	07:44 (3) 06:15	06:43	06:13	06:46	07:08
	20:07	58 08:42 (3) 19:29	18:40	16:56	16:30	16:35
29	05:48	07:44 (3) 06:16	06:44	06:14	06:47	07:09
	20:06	58 08:42 (3) 19:27	18:38	16:55	16:30	16:36
30	05:49	07:43 (3) 06:17	06:45	06:15	06:48	07:09
	20:05	59 08:42 (3) 19:26	18:37	16:54	16:29	16:37
31	05:50	07:43 (3) 06:18	06:46	06:16	06:49	07:09
	20:04	59 08:42 (3) 19:24	16:52		16:38	
Potential sun hours	453	424	374	347	303	294
Total, worst case	1612	1146				
Sun reduction	0,68	0,69				
Oper. time red.	0,34	0,34				
Wind dir. red.	1,00	1,00				
Total reduction	0,23	0,24				
Total, real	377	271				

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: Bufalo real case Shadow receptor: AK - R34 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09	06:59	06:25	06:37	05:54	07:37 (3) 05:27
	16:38	17:10	17:42	19:13	19:42	55 08:32 (3) 20:10 43 08:24 (3)
2	07:09	06:58	06:23	06:35	05:53	07:37 (3) 05:27
	16:39	17:11	17:43	19:14	19:43	55 08:32 (3) 20:10 42 08:23 (3)
3	07:10	06:57	06:22	06:34	05:52	07:36 (3) 05:27
	16:39	17:12	17:44	19:15	19:44	56 08:32 (3) 20:11 42 08:23 (3)
4	07:10	06:56	06:20	06:32	05:50	07:36 (3) 05:26
	16:40	17:13	17:45	19:16	19:45	56 08:32 (3) 20:12 41 08:23 (3)
5	07:10	06:55	06:19	06:31	05:49	07:34 (3) 05:26
	16:41	17:14	17:47	19:17	19:46	57 08:31 (3) 20:12 40 08:22 (3)
6	07:10	06:54	06:17	06:29	05:48	07:34 (3) 05:26
	16:42	17:15	17:48	19:18	19:47	57 08:31 (3) 20:13 39 08:22 (3)
7	07:10	06:53	06:16	06:28	05:47	07:34 (3) 05:25
	16:43	17:17	17:49	19:19	19:48	57 08:31 (3) 20:14 38 08:22 (3)
8	07:10	06:52	06:14	06:26	05:46	07:34 (3) 05:25
	16:44	17:18	17:50	19:20	19:49	57 08:31 (3) 20:14 38 08:22 (3)
9	07:10	06:51	06:13	06:25	05:45	07:33 (3) 05:25
	16:45	17:19	17:51	19:21	19:50	58 08:31 (3) 20:15 37 08:22 (3)
10	07:10	06:50	06:11	06:23	05:44	07:33 (3) 05:25
	16:46	17:20	17:52	19:22	19:51	58 08:31 (3) 20:15 36 08:22 (3)
11	07:09	06:49	06:10	06:22	05:43	07:33 (3) 05:25
	16:47	17:21	17:53	19:23	19:52	58 08:31 (3) 20:16 36 08:21 (3)
12	07:09	06:48	06:08	06:20	05:42	07:33 (3) 05:25
	16:48	17:22	17:54	19:24	19:53	57 08:30 (3) 20:16 34 08:20 (3)
13	07:09	06:47	06:07	06:19	05:41	07:34 (3) 05:25
	16:49	17:24	17:55	19:25	19:54	57 08:31 (3) 20:17 33 08:20 (3)
14	07:09	06:46	06:05	06:17	05:40	07:34 (3) 05:25
	16:50	17:25	17:56	19:26	19:55	56 08:30 (3) 20:17 33 08:20 (3)
15	07:09	06:44	06:04	06:16	05:39	07:34 (3) 05:25
	16:51	17:26	17:57	19:27	19:56	56 08:30 (3) 20:18 33 08:20 (3)
16	07:08	06:43	06:02	06:14	05:38	07:34 (3) 05:25
	16:52	17:27	17:58	19:28	19:57	56 08:30 (3) 20:18 32 08:20 (3)
17	07:08	06:42	06:01	06:13	08:04 (3) 05:37	07:34 (3) 05:25
	16:53	17:28	17:59	19:29	8 08:12 (3) 19:57	55 08:29 (3) 20:18 32 08:21 (3)
18	07:08	06:41	05:59	06:11	07:58 (3) 05:36	07:34 (3) 05:25
	16:54	17:29	18:00	19:30	20 08:18 (3) 19:58	54 08:28 (3) 20:19 32 08:21 (3)
19	07:07	06:40	05:57	06:10	07:54 (3) 05:36	07:35 (3) 05:25
	16:55	17:30	18:01	19:31	27 08:21 (3) 19:59	54 08:29 (3) 20:19 32 08:21 (3)
20	07:07	06:38	05:56	06:09	07:52 (3) 05:35	07:35 (3) 05:25
	16:56	17:31	18:02	19:32	31 08:23 (3) 20:00	53 08:28 (3) 20:19 31 08:21 (3)
21	07:06	06:37	05:54	06:07	07:50 (3) 05:34	07:35 (3) 05:25
	16:57	17:33	18:03	19:33	35 08:25 (3) 20:01	52 08:27 (3) 20:19 31 08:21 (3)
22	07:06	06:36	05:53	06:06	07:47 (3) 05:33	07:36 (3) 05:25
	16:58	17:34	18:04	19:34	39 08:26 (3) 20:02	52 08:28 (3) 20:20 31 08:21 (3)
23	07:05	06:34	05:51	06:04	07:46 (3) 05:33	07:36 (3) 05:26
	16:59	17:35	18:05	19:35	41 08:27 (3) 20:03	51 08:27 (3) 20:20 31 08:22 (3)
24	07:05	06:33	05:50	06:03	07:44 (3) 05:32	07:36 (3) 05:26
	17:00	17:36	18:06	19:36	45 08:29 (3) 20:03	50 08:26 (3) 20:20 32 08:22 (3)
25	07:04	06:32	05:48	06:02	07:42 (3) 05:31	07:37 (3) 05:26
	17:02	17:37	18:07	19:37	47 08:29 (3) 20:04	49 08:26 (3) 20:20 32 08:22 (3)
26	07:03	06:30	05:46	06:00	07:41 (3) 05:31	07:37 (3) 05:26
	17:03	17:38	18:08	19:38	49 08:30 (3) 20:05	49 08:26 (3) 20:20 32 08:23 (3)
27	07:03	06:29	05:45	05:59	07:41 (3) 05:30	07:38 (3) 05:27
	17:04	17:39	18:09	19:38	50 08:31 (3) 20:06	48 08:26 (3) 20:20 32 08:23 (3)
28	07:02	06:28	05:43	05:58	07:39 (3) 05:29	07:38 (3) 05:27
	17:05	17:40	18:09	19:39	51 08:30 (3) 20:07	47 08:25 (3) 20:20 33 08:23 (3)
29	07:01	06:26	05:42	05:57	07:38 (3) 05:29	07:39 (3) 05:28
	17:06	17:41	18:10	19:40	53 08:31 (3) 20:07	46 08:25 (3) 20:20 33 08:24 (3)
30	07:00		05:40	05:55	07:38 (3) 05:28	07:39 (3) 05:28
	17:07		18:11	19:41	53 08:31 (3) 20:08	45 08:24 (3) 20:20 34 08:24 (3)
31	07:00		06:39		05:28	07:40 (3)
	17:09		19:12		20:09	44 08:24 (3)
Potential sun hours	302	310	370	396	443	446
Total, worst case				549	1655	1045
Sun reduction				0,51	0,57	0,62
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				1,00	1,00	1,00
Total reduction				0,17	0,19	0,21
Total, real				95	321	223

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AK - R34 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	July	August	September	October	November	December				
1	05:28	07:51 (3)	05:51	07:44 (3)	06:19	06:46	06:17	06:49		
	20:20	34	08:25 (3)	20:03	57	08:41 (3)	19:23	18:35	16:51	16:29
2	05:29	07:50 (3)	05:51	07:44 (3)	06:19	06:47	06:18	06:50		
	20:20	36	08:26 (3)	20:02	57	08:41 (3)	19:21	18:33	16:50	16:29
3	05:29	07:50 (3)	05:52	07:44 (3)	06:20	06:47	06:19	06:51		
	20:20	37	08:27 (3)	20:01	58	08:42 (3)	19:20	18:32	16:49	16:29
4	05:30	07:50 (3)	05:53	07:44 (3)	06:21	06:48	06:20	06:52		
	20:20	37	08:27 (3)	20:00	58	08:42 (3)	19:18	18:30	16:48	16:29
5	05:30	07:50 (3)	05:54	07:44 (3)	06:22	06:49	06:21	06:53		
	20:20	38	08:28 (3)	19:59	58	08:42 (3)	19:16	18:29	16:47	16:28
6	05:31	07:49 (3)	05:55	07:44 (3)	06:23	06:50	06:22	06:54		
	20:19	39	08:28 (3)	19:58	57	08:41 (3)	19:15	18:27	16:46	16:28
7	05:31	07:50 (3)	05:56	07:44 (3)	06:24	06:51	06:23	06:55		
	20:19	39	08:29 (3)	19:57	57	08:41 (3)	19:13	18:26	16:45	16:28
8	05:32	07:49 (3)	05:57	07:44 (3)	06:25	06:52	06:25	06:56		
	20:19	40	08:29 (3)	19:55	57	08:41 (3)	19:12	18:24	16:44	16:28
9	05:33	07:49 (3)	05:58	07:45 (3)	06:26	06:53	06:26	06:57		
	20:19	41	08:30 (3)	19:54	56	08:41 (3)	19:10	18:23	16:43	16:28
10	05:33	07:49 (3)	05:59	07:45 (3)	06:27	06:54	06:27	06:58		
	20:18	42	08:31 (3)	19:53	56	08:41 (3)	19:09	18:21	16:42	16:28
11	05:34	07:48 (3)	06:00	07:45 (3)	06:28	06:55	06:28	06:58		
	20:18	43	08:31 (3)	19:52	56	08:41 (3)	19:07	18:20	16:41	16:28
12	05:35	07:48 (3)	06:00	07:46 (3)	06:28	06:56	06:29	06:59		
	20:17	44	08:32 (3)	19:51	54	08:40 (3)	19:05	18:18	16:40	16:29
13	05:35	07:47 (3)	06:01	07:45 (3)	06:29	06:57	06:30	07:00		
	20:17	45	08:32 (3)	19:49	54	08:39 (3)	19:04	18:17	16:39	16:29
14	05:36	07:47 (3)	06:02	07:46 (3)	06:30	06:58	06:31	07:01		
	20:17	46	08:33 (3)	19:48	53	08:39 (3)	19:02	18:15	16:38	16:29
15	05:37	07:47 (3)	06:03	07:47 (3)	06:31	06:59	06:32	07:02		
	20:16	47	08:34 (3)	19:47	51	08:38 (3)	19:01	18:14	16:38	16:29
16	05:37	07:47 (3)	06:04	07:48 (3)	06:32	07:00	06:33	07:02		
	20:15	48	08:35 (3)	19:46	49	08:37 (3)	18:59	18:12	16:37	16:29
17	05:38	07:46 (3)	06:05	07:48 (3)	06:33	07:01	06:35	07:03		
	20:15	49	08:35 (3)	19:44	48	08:36 (3)	18:57	18:11	16:36	16:30
18	05:39	07:46 (3)	06:06	07:49 (3)	06:34	07:02	06:36	07:04		
	20:14	49	08:35 (3)	19:43	47	08:36 (3)	18:56	18:09	16:35	16:30
19	05:40	07:46 (3)	06:07	07:50 (3)	06:35	07:03	06:37	07:04		
	20:14	50	08:36 (3)	19:42	44	08:34 (3)	18:54	18:08	16:35	16:30
20	05:41	07:45 (3)	06:08	07:51 (3)	06:36	07:04	06:38	07:05		
	20:13	51	08:36 (3)	19:40	41	08:32 (3)	18:53	18:07	16:34	16:31
21	05:41	07:45 (3)	06:09	07:52 (3)	06:36	07:05	06:39	07:05		
	20:12	52	08:37 (3)	19:39	39	08:31 (3)	18:51	18:05	16:33	16:31
22	05:42	07:45 (3)	06:10	07:54 (3)	06:37	07:06	06:40	07:06		
	20:12	53	08:38 (3)	19:37	35	08:29 (3)	18:49	18:04	16:33	16:32
23	05:43	07:45 (3)	06:10	07:56 (3)	06:38	07:07	06:41	07:06		
	20:11	53	08:38 (3)	19:36	31	08:27 (3)	18:48	18:02	16:32	16:32
24	05:44	07:45 (3)	06:11	07:58 (3)	06:39	07:08	06:42	07:07		
	20:10	54	08:39 (3)	19:35	26	08:24 (3)	18:46	18:01	16:32	16:33
25	05:45	07:44 (3)	06:12	08:02 (3)	06:40	07:09	06:43	07:07		
	20:09	55	08:39 (3)	19:33	19	08:21 (3)	18:45	18:00	16:31	16:33
26	05:45	07:44 (3)	06:13	08:08 (3)	06:41	07:10	06:44	07:08		
	20:08	55	08:39 (3)	19:32	6	08:14 (3)	18:43	17:59	16:31	16:34
27	05:46	07:44 (3)	06:14	06:42	06:11	06:45	07:08			
	20:08	56	08:40 (3)	19:30	18:41	16:57	16:30	16:35		
28	05:47	07:45 (3)	06:15	06:43	06:13	06:46	07:08			
	20:07	55	08:40 (3)	19:29	18:40	16:56	16:30	16:35		
29	05:48	07:45 (3)	06:16	06:44	06:14	06:47	07:09			
	20:06	56	08:41 (3)	19:27	18:38	16:55	16:30	16:36		
30	05:49	07:44 (3)	06:17	06:45	06:15	06:48	07:09			
	20:05	56	08:40 (3)	19:26	18:37	16:54	16:29	16:37		
31	05:50	07:44 (3)	06:18	06:16	06:16	06:49	07:09			
	20:04	57	08:41 (3)	19:24	16:52	16:38				
Potential sun hours	453	424	374	347	303	294				
Total, worst case	1457	1224								
Sun reduction	0,68	0,69								
Oper. time red.	0,34	0,34								
Wind dir. red.	1,00	1,00								
Total reduction	0,23	0,24								
Total, real	341	290								

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: Bufalo real case Shadow receptor: AL - R35 CA03

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December	
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	07:03 (3) 07:50 (3)	05:28 20:20	07:07 (3) 20:03	06:19 19:23	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	07:02 (3) 07:50 (3)	05:29 20:20	07:07 (3) 20:02	06:19 19:21	06:47 18:33	06:18 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	07:02 (3) 07:51 (3)	05:29 20:20	07:08 (3) 20:01	06:20 19:20	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	07:03 (3) 07:52 (3)	05:30 20:20	07:07 (3) 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	05:26 20:12	07:02 (3) 07:51 (3)	05:30 20:20	07:08 (3) 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13	07:02 (3) 07:52 (3)	05:31 20:19	07:08 (3) 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:14	07:02 (3) 07:52 (3)	05:31 20:19	07:09 (3) 19:57	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	07:02 (3) 07:53 (3)	05:32 20:19	07:09 (3) 19:55	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	07:02 (3) 07:53 (3)	05:33 20:19	07:10 (3) 19:54	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	07:03 (3) 07:54 (3)	05:33 20:18	07:10 (3) 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16	07:02 (3) 07:53 (3)	05:34 20:18	07:10 (3) 19:52	06:28 19:07	06:55 18:20	06:28 16:41	06:58 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	07:02 (3) 07:53 (3)	05:35 20:17	07:11 (3) 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:25 20:17	07:02 (3) 07:54 (3)	05:35 20:17	07:11 (3) 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:25 20:17	07:02 (3) 07:54 (3)	05:36 20:17	07:12 (3) 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	05:25 20:18	07:02 (3) 07:54 (3)	05:37 20:16	07:13 (3) 19:47	06:31 19:01	06:59 18:14	06:32 16:38	07:02 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	05:25 20:18	07:02 (3) 07:54 (3)	05:37 20:15	07:14 (3) 19:46	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	05:25 20:18	07:03 (3) 07:56 (3)	05:38 20:15	07:14 (3) 19:44	06:33 18:57	07:01 18:11	06:35 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:19	07:03 (3) 07:56 (3)	05:39 20:14	07:15 (3) 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:04 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	05:25 20:19	07:03 (3) 07:56 (3)	05:40 20:14	07:16 (3) 19:42	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	05:25 20:19	07:03 (3) 07:56 (3)	05:41 20:13	07:16 (3) 19:40	06:36 18:53	07:04 18:07	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	07:04 (3) 07:56 (3)	05:41 20:12	07:17 (3) 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:20	07:04 (3) 07:56 (3)	05:42 20:12	07:19 (3) 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	05:26 20:20	07:04 (3) 07:57 (3)	05:43 20:11	07:20 (3) 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	05:26 20:20	07:04 (3) 07:57 (3)	05:44 20:10	07:22 (3) 19:35	06:11 18:46	06:39 18:01	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	05:26 20:20	07:04 (3) 07:57 (3)	05:45 20:09	07:23 (3) 19:33	06:12 18:45	06:40 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	05:26 20:20	07:05 (3) 07:57 (3)	05:45 20:08	07:25 (3) 19:32	06:13 18:43	06:41 17:59	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:38	05:30 20:06	05:27 20:20	07:05 (3) 07:57 (3)	05:46 20:08	07:27 (3) 19:30	06:14 18:41	06:42 18:11	06:11 16:57	07:08 16:35
28	07:02 17:05	06:28 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	07:05 (3) 07:57 (3)	05:47 20:07	07:32 (3) 19:29	06:15 18:40	06:43 18:16	06:13 16:56	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07	05:28 20:20	07:06 (3) 07:58 (3)	05:48 20:06	07:41 (3) 19:27	06:16 18:38	06:44 16:55	06:14 16:30	07:09 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	07:03 (3) 07:49 (3)	05:49 20:05	06:17 19:26	06:45 18:37	06:15 16:54	06:48 16:29	07:09 16:37
31	07:00 17:09		06:39 19:12		05:28 20:09	05:28 20:20	07:03 (3) 07:50 (3)	05:50 20:04	06:18 19:24	06:16 18:37	06:16 16:52	07:09 16:38	
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294	
Total, worst case					564	1540	1139						
Sun reduction					0.57	0.62	0.68						
Oper. time red.					0.34	0.34	0.34						
Wind dir. red.					0.96	0.96	0.96						
Total reduction					0.19	0.21	0.23						
Total, real					105	316	256						

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: Bufalo real case Shadow receptor: AM - R36 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:51 20:03	06:19 19:23	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	06:18 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 19:16	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16	05:34 20:18	06:00 19:52	06:28 19:07	06:55 18:20	06:28 16:41	06:58 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:25 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	05:25 20:17	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:38	07:01 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:56	05:25 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:34 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:19	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:36 18:53	07:04 18:07	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:20	05:42 20:12	06:10 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	05:26 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	05:26 20:20	05:45 20:09	06:12 19:33	06:40 18:45	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:37	05:31 20:05	05:26 20:20	05:45 20:08	06:13 19:32	06:41 18:43	07:10 17:59	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	06:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	06:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:40	05:29 20:07	05:28 20:20	05:48 20:06	06:16 19:27	06:44 18:38	06:14 16:55	06:47 16:30	07:09 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:37	06:15 16:54	06:48 16:29	07:09 16:37
31	07:00 17:09		06:39 19:12		05:28 20:09		05:50 20:04	06:18 19:24		06:16 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	445	453	424	374	347	303	294
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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)

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AN - R37 CA03

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

Table with 13 columns (January to December) and 31 rows of time intervals (e.g., 07:09-06:59, 06:59-06:25, etc.) and summary rows for sun hours and reductions.

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)



SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AO - R61 CA06

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:38	06:59 17:10	08:44 (6) 09:10 (6)	06:25 17:42	07:09 (7) 09:12 (6)	06:37 19:13
2	07:10 16:39	06:58 17:11	08:42 (6) 09:12 (6)	06:23 17:43	07:09 (7) 09:11 (6)	06:35 19:14
3	07:10 16:39	06:57 17:12	08:40 (6) 09:14 (6)	06:22 17:44	07:08 (7) 09:08 (6)	06:34 19:15
4	07:10 16:40	06:56 17:13	08:39 (6) 09:15 (6)	06:20 17:46	07:08 (7) 09:06 (6)	06:32 19:16
5	07:10 16:41	06:55 17:14	08:38 (6) 09:17 (6)	06:19 17:47	07:07 (7) 09:03 (6)	06:31 19:17
6	07:10 16:42	06:54 17:15	08:37 (6) 09:18 (6)	06:17 17:48	07:08 (7) 08:59 (6)	06:29 19:18
7	07:10 16:43	06:53 17:17	08:36 (6) 09:19 (6)	06:16 17:49	07:08 (7) 07:30 (7)	06:28 19:19
8	07:10 16:44	06:52 17:18	08:35 (6) 09:20 (6)	06:14 17:50	07:09 (7) 07:29 (7)	06:26 19:20
9	07:10 16:45	06:51 17:19	08:34 (6) 09:21 (6)	06:13 17:51	07:10 (7) 07:27 (7)	06:25 19:21
10	07:10 16:46	06:50 17:20	08:34 (6) 09:22 (6)	06:11 17:52	07:12 (7) 07:26 (7)	06:23 19:22
11	07:10 16:47	06:49 17:21	08:33 (6) 09:23 (6)	06:10 17:53	07:14 (7) 07:22 (7)	06:22 19:23
12	07:09 16:48	06:48 17:22	08:32 (6) 09:22 (6)	06:08 17:54	06:20 19:24	06:20 19:53
13	07:09 16:49	06:47 17:24	08:31 (6) 09:23 (6)	06:07 17:55	06:19 19:25	06:19 19:54
14	07:09 16:50	06:46 17:25	08:31 (6) 09:23 (6)	06:05 17:56	06:17 19:26	06:17 19:55
15	07:09 16:51	06:45 17:26	08:31 (6) 09:24 (6)	06:04 17:57	06:16 19:27	07:00 (9) 19:56
16	07:08 16:52	06:43 17:27	08:31 (6) 09:24 (6)	06:02 17:58	06:14 19:28	07:01 (9) 06:54 (9) 19:57
17	07:08 16:53	06:42 17:28	08:30 (6) 09:23 (6)	06:01 17:59	06:13 19:29	07:05 (9) 06:52 (9) 19:58
18	07:08 16:54	06:41 17:29	08:30 (6) 09:23 (6)	05:59 18:00	06:11 19:30	07:07 (9) 06:51 (9) 19:58
19	07:07 16:55	06:40 17:30	08:30 (6) 09:24 (6)	05:57 18:01	06:10 19:31	07:09 (9) 06:49 (9) 19:59
20	07:07 16:56	06:38 17:31	08:30 (6) 09:22 (6)	05:56 18:02	06:09 19:32	06:49 (9) 07:10 (9) 20:00
21	07:06 16:57	06:37 17:33	08:30 (6) 09:22 (6)	05:54 18:03	06:07 19:33	07:09 (9) 06:48 (9) 20:01
22	07:06 16:58	06:36 17:34	08:30 (6) 09:22 (6)	05:53 18:04	06:06 19:34	06:47 (9) 07:10 (9) 20:02
23	07:05 16:59	06:34 17:35	08:30 (6) 09:21 (6)	05:51 18:05	06:04 19:35	06:47 (9) 07:10 (9) 20:03
24	07:05 17:00	06:33 17:36	08:30 (6) 09:21 (6)	05:50 18:06	06:03 19:36	06:47 (9) 07:10 (9) 20:04
25	07:04 17:02	06:32 17:37	07:18 (7) 09:20 (6)	05:48 18:07	06:02 19:37	06:47 (9) 07:09 (9) 20:04
26	07:03 17:03	06:30 17:38	07:14 (7) 09:18 (6)	05:46 18:08	06:00 19:38	06:47 (9) 07:09 (9) 20:05
27	07:03 17:04	06:29 17:39	07:13 (7) 09:18 (6)	05:45 18:09	05:59 19:39	06:48 (9) 07:08 (9) 20:06
28	07:02 17:05	06:28 17:40	07:11 (7) 09:16 (6)	05:43 18:10	05:58 19:40	06:48 (9) 07:07 (9) 20:07
29	07:01 17:06	06:26 17:41	07:10 (7) 09:15 (6)	05:42 18:10	05:57 19:41	06:48 (9) 07:05 (9) 20:08
30	07:01 17:07	08:49 (6) 09:04 (6)	05:40 18:11	05:40 19:41	05:55 19:41	06:50 (9) 07:04 (9) 20:08
31	07:00 17:09	08:46 (6) 09:08 (6)	06:39 19:12	06:39 19:12	06:39 19:12	05:28 20:09 20:09
Potential sun hours	302	310	370	396	443	446
Total, worst case	37	1429	399	291	12	
Sun reduction	0,43	0,43	0,47	0,51	0,57	
Oper. time red.	0,34	0,34	0,34	0,34	0,34	
Wind dir. red.	0,79	0,80	0,89	0,99	0,99	
Total reduction	0,12	0,12	0,14	0,17	0,19	
Total, real	4	170	57	50	2	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AO - R61 CA06

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28 20:20	05:51 20:03	06:19 19:23	06:46 18:35	06:17 16:51	08:02 (6) 16:29
2	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	06:18 16:50	08:03 (6) 16:29
3	05:29 20:20	05:52 20:01	06:20 19:20	06:48 18:32	07:51 (7) 08:02 (7)	06:19 16:49
4	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	07:48 (7) 08:04 (7)	06:20 16:48
5	05:30 20:20	05:54 19:59	06:22 19:17	06:49 18:29	07:47 (7) 08:05 (7)	06:21 16:47
6	05:31 20:20	05:55 19:58	06:23 19:15	06:50 18:27	07:45 (7) 08:06 (7)	06:22 16:46
7	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	07:44 (7) 09:31 (6)	06:24 16:45
8	05:32 20:19	05:57 19:56	06:25 19:12	06:52 18:24	07:43 (7) 09:36 (6)	06:25 16:44
9	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	07:43 (7) 09:39 (6)	06:26 16:43
10	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	07:42 (7) 09:42 (6)	06:27 16:42
11	05:34 20:18	06:00 19:52	07:03 (9) 07:09 (9)	06:28 19:07	06:55 18:20	07:42 (7) 09:44 (6)
12	05:35 20:18	06:00 19:51	07:00 (9) 07:12 (9)	06:28 19:05	06:56 18:18	07:42 (7) 09:45 (6)
13	05:35 20:17	06:01 19:49	06:57 (9) 07:12 (9)	06:29 19:04	06:57 18:17	07:43 (7) 09:47 (6)
14	05:36 20:17	06:02 19:48	06:56 (9) 07:13 (9)	06:30 19:02	06:58 18:15	07:43 (7) 09:48 (6)
15	05:37 20:16	06:03 19:47	06:55 (9) 07:14 (9)	06:31 19:01	06:59 18:14	07:44 (7) 09:49 (6)
16	05:37 20:16	06:04 19:46	06:54 (9) 07:15 (9)	06:32 18:59	07:00 18:12	07:45 (7) 09:50 (6)
17	05:38 20:15	06:05 19:44	06:54 (9) 07:16 (9)	06:33 18:57	07:01 18:11	07:46 (7) 09:50 (6)
18	05:39 20:14	06:06 19:43	06:53 (9) 07:16 (9)	06:34 18:56	07:02 18:09	07:49 (7) 09:51 (6)
19	05:40 20:14	06:07 19:42	06:53 (9) 07:16 (9)	06:35 18:54	07:03 18:08	09:01 (6) 09:51 (6)
20	05:40 20:13	06:08 19:40	06:52 (9) 07:15 (9)	06:36 18:53	07:04 18:07	09:00 (6) 09:52 (6)
21	05:41 20:12	06:09 19:39	06:52 (9) 07:15 (9)	06:37 18:51	07:05 18:05	09:01 (6) 09:53 (6)
22	05:42 20:12	06:10 19:37	06:52 (9) 07:14 (9)	06:37 18:49	07:06 18:04	09:01 (6) 09:53 (6)
23	05:43 20:11	06:10 19:36	06:53 (9) 07:14 (9)	06:38 18:48	07:07 18:02	09:00 (6) 09:53 (6)
24	05:44 20:10	06:11 19:35	06:53 (9) 07:13 (9)	06:39 18:46	07:08 18:01	09:00 (6) 09:53 (6)
25	05:45 20:09	06:12 19:33	06:54 (9) 07:12 (9)	06:40 18:45	07:09 18:00	09:00 (6) 09:53 (6)
26	05:45 20:09	06:13 19:32	06:55 (9) 07:10 (9)	06:41 18:43	07:10 17:59	09:00 (6) 09:53 (6)
27	05:46 20:08	06:14 19:30	06:56 (9) 07:07 (9)	06:42 18:41	06:12 16:57	08:00 (6) 08:53 (6)
28	05:47 20:07	06:15 19:29	06:43 18:40	06:13 16:56	08:00 (6) 08:52 (6)	06:46 16:30
29	05:48 20:06	06:16 19:27	06:44 18:38	06:14 16:55	08:01 (6) 08:53 (6)	06:47 16:30
30	05:49 20:05	06:17 19:26	06:45 18:37	06:15 16:54	08:01 (6) 08:53 (6)	06:48 16:29
31	05:50 20:04	06:18 19:24	06:16 16:52	06:16 16:52	08:02 (6) 08:52 (6)	07:09 16:37
Potential sun hours	453	424	374	347	303	294
Total, worst case		311		1416	475	
Sun reduction		0,69		0,53	0,50	
Oper. time red.		0,34		0,34	0,34	
Wind dir. red.		0,99		0,83	0,79	
Total reduction		0,23		0,15	0,14	
Total, real		73		214	65	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AP - R62 CA07

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:38	08:53 (4) 06:59	06:25 17:10	06:37 17:42	07:41 (8) 05:54	07:34 (7) 05:27
2	07:09 16:38	08:55 (4) 06:58	06:23 17:43	06:35 19:13	07:49 (8) 05:53	07:34 (7) 05:27
3	07:10 16:39	08:59 (4) 06:57	06:22 17:44	06:34 19:14	05:52 19:43	07:35 (7) 05:27
4	07:10 16:40	06:56 17:12	06:20 17:44	06:32 19:15	05:50 19:44	07:34 (7) 05:26
5	07:10 16:41	06:55 17:13	06:19 17:45	06:31 19:16	05:49 19:45	07:34 (7) 05:26
6	07:10 16:42	06:54 17:14	06:17 17:47	06:29 19:17	05:48 19:46	07:35 (7) 05:26
7	07:10 16:43	06:53 17:15	06:16 17:48	06:28 19:18	05:47 19:47	07:35 (7) 05:25
8	07:10 16:44	06:52 17:17	06:14 17:49	06:26 19:19	05:46 19:48	07:36 (7) 05:25
9	07:10 16:45	06:51 17:18	06:13 17:50	06:25 19:20	05:45 19:49	07:36 (7) 05:25
10	07:10 16:46	06:50 17:19	06:11 17:51	06:23 19:21	08:01 (7) 05:45	07:36 (7) 05:25
11	07:10 16:47	06:49 17:20	06:10 17:52	06:22 19:22	08:12 (7) 05:44	07:37 (7) 05:25
12	07:09 16:48	06:48 17:21	06:08 17:53	06:20 19:23	08:16 (7) 05:44	07:38 (7) 05:25
13	07:09 16:49	06:47 17:22	06:07 17:54	06:19 19:24	08:19 (7) 05:43	07:38 (7) 05:25
14	07:09 16:50	06:46 17:23	06:05 17:55	06:17 19:25	08:21 (7) 05:42	07:38 (7) 05:25
15	07:09 16:51	06:45 17:24	06:04 17:56	06:16 19:26	08:22 (7) 05:41	07:38 (7) 05:25
16	07:08 16:52	06:43 17:25	06:02 17:57	06:14 19:27	08:23 (7) 05:40	07:38 (7) 05:25
17	07:08 16:53	06:42 17:26	06:01 17:58	06:13 19:28	08:24 (7) 05:39	07:38 (7) 05:25
18	07:08 16:54	06:41 17:27	05:59 17:59	06:11 19:29	08:25 (7) 05:38	07:38 (7) 05:25
19	07:07 16:55	06:40 17:28	05:57 18:00	06:10 19:30	08:26 (7) 05:37	07:38 (7) 05:25
20	07:07 16:56	06:38 17:29	05:56 18:01	06:09 19:31	08:27 (7) 05:36	07:38 (7) 05:25
21	07:06 16:57	06:37 17:30	05:54 18:02	06:07 19:32	08:28 (7) 05:35	07:38 (7) 05:25
22	07:06 16:58	06:36 17:31	05:53 18:03	06:06 19:33	08:29 (7) 05:34	07:38 (7) 05:25
23	07:05 16:59	06:34 17:32	05:51 18:04	06:04 19:34	08:30 (7) 05:33	07:38 (7) 05:25
24	07:05 17:00	06:33 17:33	05:50 18:05	06:03 19:35	08:31 (7) 05:32	07:38 (7) 05:25
25	07:04 17:02	06:32 17:34	05:48 18:06	06:02 19:36	08:32 (7) 05:31	07:38 (7) 05:25
26	07:03 17:03	06:30 17:35	05:46 18:07	06:00 19:37	08:33 (7) 05:30	07:38 (7) 05:25
27	07:03 17:04	06:29 17:36	05:45 18:08	05:59 19:38	08:34 (7) 05:29	07:38 (7) 05:25
28	07:02 17:05	06:28 17:37	05:43 18:09	05:58 19:39	08:35 (7) 05:28	07:38 (7) 05:25
29	07:01 17:06	06:26 17:38	05:42 18:10	05:56 19:40	08:36 (7) 05:27	07:38 (7) 05:25
30	07:00 17:07	06:25 17:39	05:40 18:11	05:55 19:41	08:37 (7) 05:26	07:38 (7) 05:25
31	07:00 17:08	06:23 17:40	05:39 18:12	05:53 19:42	08:38 (7) 05:25	07:38 (7) 05:25
Potential sun hours	302	310	370	396	443	446
Total, worst case	11		307	945	900	1656
Sun reduction	0,43		0,47	0,51	0,57	0,62
Oper. time red.	0,34		0,34	0,34	0,34	0,34
Wind dir. red.	0,66		1,00	1,00	1,00	0,99
Total reduction	0,10		0,16	0,17	0,19	0,21
Total, real	1		49	164	174	350

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AP - R62 CA07

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28	15:59 (6) 05:51	07:49 (7) 06:19	07:51 (7) 06:46	06:17	06:49
2	05:29	16:00 (6) 05:52	07:47 (7) 06:20	07:58 (7) 06:48	06:19	06:51
3	05:29	16:00 (6) 05:52	07:47 (7) 06:20	07:58 (7) 06:48	06:19	06:51
4	05:30	16:00 (6) 05:53	07:47 (7) 06:21	07:47 (7) 06:21	06:48	06:20
5	05:30	16:02 (6) 05:54	07:46 (7) 06:22	07:46 (7) 06:22	06:49	06:21
6	05:31	16:03 (6) 05:55	07:45 (7) 06:23	07:45 (7) 06:23	06:50	06:22
7	05:31	16:03 (6) 05:56	07:44 (7) 06:24	07:44 (7) 06:24	06:51	06:23
8	05:32	16:03 (6) 05:57	07:44 (7) 06:25	07:44 (7) 06:25	06:52	06:25
9	05:33	16:05 (6) 05:58	07:44 (7) 06:26	07:44 (7) 06:26	06:53	06:26
10	05:33	16:05 (6) 05:59	07:43 (7) 06:27	07:43 (7) 06:27	06:54	06:27
11	05:34	16:07 (6) 06:00	07:43 (7) 06:28	07:43 (7) 06:28	06:55	06:28
12	05:35	16:08 (6) 06:00	07:43 (7) 06:28	07:43 (7) 06:28	06:56	06:29
13	05:35	16:09 (6) 06:01	07:42 (7) 06:29	07:42 (7) 06:29	06:57	06:30
14	05:36	16:11 (6) 06:02	07:42 (7) 06:30	07:42 (7) 06:30	06:58	06:31
15	05:37	16:14 (6) 06:03	07:42 (7) 06:31	07:42 (7) 06:31	06:59	06:32
16	05:37	16:16 (6) 06:04	07:42 (7) 06:32	07:42 (7) 06:32	07:00	06:33
17	05:38	16:20 (6) 06:05	07:42 (7) 06:33	07:42 (7) 06:33	07:01	06:34
18	05:39	16:23 (6) 06:06	07:42 (7) 06:34	07:42 (7) 06:34	07:02	06:35
19	05:40	16:26 (6) 06:07	07:42 (7) 06:35	07:42 (7) 06:35	07:03	06:36
20	05:40	16:28 (6) 06:08	07:41 (7) 06:36	07:41 (7) 06:36	07:04	06:37
21	05:41	16:31 (6) 06:09	07:41 (7) 06:37	07:41 (7) 06:37	07:05	06:38
22	05:42	16:33 (6) 06:10	07:42 (7) 06:38	07:42 (7) 06:38	07:06	06:39
23	05:43	16:36 (6) 06:11	07:42 (7) 06:39	07:42 (7) 06:39	07:07	06:40
24	05:44	16:39 (6) 06:12	07:43 (7) 06:40	07:43 (7) 06:40	07:08	06:41
25	05:45	16:42 (6) 06:13	07:43 (7) 06:41	07:43 (7) 06:41	07:09	06:42
26	05:45	16:44 (6) 06:14	07:44 (7) 06:42	07:44 (7) 06:42	07:10	06:43
27	05:46	16:47 (6) 06:15	07:44 (7) 06:43	07:44 (7) 06:43	07:11	06:44
28	05:47	16:50 (6) 06:16	07:45 (7) 06:44	07:45 (7) 06:44	07:12	06:45
29	05:48	16:53 (6) 06:17	07:45 (7) 06:45	07:45 (7) 06:45	07:13	06:46
30	05:49	16:56 (6) 06:18	07:46 (7) 06:46	07:46 (7) 06:46	07:14	06:47
31	05:50	16:59 (6) 06:19	07:47 (7) 06:47	07:47 (7) 06:47	07:15	06:48
Potential sun hours	453	424	374	347	303	294
Total, worst case	947	1420	375			258
Sun reduction	0,68	0,69	0,63			0,43
Oper. time red.	0,34	0,34	0,34			0,34
Wind dir. red.	0,99	1,00	1,00			0,66
Total reduction	0,23	0,24	0,22			0,10
Total, real	220	337	81			25

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AQ - R59 CA06

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	07:52 (8) 05:54	17:22 (6) 05:27
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	07:52 (8) 05:53	17:22 (6) 05:27
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	07:54 (8) 05:52	17:23 (6) 05:27
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	07:56 (8) 05:50	17:23 (6) 05:26
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	08:00 (8) 05:49	17:23 (6) 05:26
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	08:08 (8) 05:48	17:23 (6) 05:26
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	17:23 (6) 05:25
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	17:23 (6) 05:25
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	17:23 (6) 05:25
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	17:23 (6) 05:25
11	07:10 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	17:23 (6) 05:25
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	17:23 (6) 05:25
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	17:23 (6) 05:25
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	17:23 (6) 05:24
15	07:09 16:51	06:44 17:26	06:04 17:57	07:06 (8) 06:16	17:43 (6) 05:39	17:23 (6) 05:24
16	07:08 16:52	06:43 17:27	06:02 17:58	07:02 (8) 06:14	17:38 (6) 05:38	17:23 (6) 05:24
17	07:08 16:53	06:42 17:28	06:01 17:59	07:00 (8) 06:13	17:36 (6) 05:37	17:23 (6) 05:24
18	07:08 16:54	06:41 17:29	05:59 18:00	06:57 (8) 06:11	18:02 (6) 05:36	17:23 (6) 05:24
19	07:07 16:55	06:40 17:30	05:57 18:01	06:56 (8) 06:10	17:34 (6) 05:35	17:23 (6) 05:24
20	07:07 16:56	06:38 17:31	05:56 18:02	06:55 (8) 06:08	18:05 (6) 05:35	17:23 (6) 05:24
21	07:06 16:57	06:37 17:33	05:54 18:03	07:24 (8) 06:07	17:30 (6) 05:34	17:23 (6) 05:24
22	07:06 16:58	06:36 17:34	05:53 18:04	06:53 (8) 06:06	17:28 (6) 05:33	17:23 (6) 05:24
23	07:05 16:59	06:34 17:35	05:51 18:05	06:52 (8) 06:04	17:27 (6) 05:32	17:23 (6) 05:24
24	07:05 17:00	06:33 17:36	05:50 18:06	06:52 (8) 06:03	17:26 (6) 05:32	17:23 (6) 05:24
25	07:04 17:02	06:32 17:37	05:48 18:07	07:25 (8) 06:02	18:11 (6) 05:31	17:23 (6) 05:24
26	07:03 17:03	06:30 17:38	05:46 18:08	07:25 (8) 06:00	17:24 (6) 05:31	17:23 (6) 05:24
27	07:03 17:04	06:29 17:39	05:45 18:09	07:24 (8) 05:59	18:11 (6) 05:30	17:23 (6) 05:24
28	07:02 17:05	06:28 17:40	05:43 18:09	06:50 (8) 05:58	17:24 (6) 05:29	17:23 (6) 05:24
29	07:01 17:06	06:26 17:41	05:42 18:10	07:23 (8) 05:56	18:11 (6) 05:29	17:23 (6) 05:24
30	07:00 17:07	06:25 17:42	05:40 18:11	06:51 (8) 05:55	17:22 (6) 05:28	17:23 (6) 05:24
31	07:00 17:08	06:24 17:43	05:39 18:12	07:22 (8) 05:54	17:22 (6) 05:28	17:23 (6) 05:24
Potential sun hours	302	310	370	396	443	446
Total, worst case			485	715	2943	2507
Sun reduction			0,47	0,51	0,57	0,62
Oper. time red.			0,34	0,34	0,34	0,34
Wind dir. red.			0,99	1,00	1,00	1,00
Total reduction			0,16	0,17	0,19	0,21
Total, real			77	124	571	536

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AQ - R59 CA06

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December	
1	05:28	09:06 (7) 05:51	09:29 (7) 06:19	06:46	06:17	06:49	
	20:20	83 10:29 (7) 20:03	104 18:21 (6) 19:23	18:35	16:51	16:29	
2	05:29	09:06 (7) 05:51	09:30 (7) 06:19	06:47	06:18	06:50	
	20:20	83 10:29 (7) 20:02	103 18:21 (6) 19:21	18:33	16:50	16:29	
3	05:29	09:05 (7) 05:52	09:33 (7) 06:20	06:47	06:19	06:51	
	20:20	84 10:29 (7) 20:01	98 18:21 (6) 19:20	18:32	16:49	16:29	
4	05:30	09:06 (7) 05:53	09:35 (7) 06:21	06:48	06:20	06:52	
	20:20	84 10:30 (7) 20:00	96 18:22 (6) 19:18	18:30	16:48	16:28	
5	05:30	09:07 (7) 05:54	09:37 (7) 06:22	06:49	06:21	06:53	
	20:20	84 10:31 (7) 19:59	92 18:21 (6) 19:16	18:29	16:47	16:28	
6	05:31	09:07 (7) 05:55	09:40 (7) 06:23	06:50	06:22	06:54	
	20:19	83 10:30 (7) 19:58	86 18:21 (6) 19:15	18:27	16:46	16:28	
7	05:31	09:08 (7) 05:56	09:43 (7) 06:24	07:56 (8)	06:51	06:23	06:55
	20:19	83 10:31 (7) 19:57	80 18:21 (6) 19:13	6 08:02 (8)	18:26	16:45	16:28
8	05:32	09:08 (7) 05:57	09:48 (7) 06:25	07:51 (8)	06:52	06:25	06:56
	20:19	83 10:31 (7) 19:55	71 18:21 (6) 19:12	15 08:06 (8)	18:24	16:44	16:28
9	05:33	09:09 (7) 05:58	17:31 (6) 06:26	07:48 (8)	06:53	06:26	06:57
	20:19	82 10:31 (7) 19:54	50 18:21 (6) 19:10	20 08:08 (8)	18:23	16:43	16:28
10	05:33	09:09 (7) 05:59	17:31 (6) 06:27	07:46 (8)	06:54	06:27	06:58
	20:18	82 10:31 (7) 19:53	50 18:21 (6) 19:09	23 08:09 (8)	18:21	16:42	16:28
11	05:34	09:10 (7) 06:00	17:31 (6) 06:27	07:44 (8)	06:55	06:28	06:59
	20:18	81 10:31 (7) 19:52	50 18:21 (6) 19:07	26 08:10 (8)	18:20	16:41	16:28
12	05:35	09:10 (7) 06:00	17:31 (6) 06:28	07:43 (8)	06:56	06:29	06:59
	20:17	82 10:32 (7) 19:51	50 18:21 (6) 19:05	28 08:11 (8)	18:18	16:40	16:29
13	05:35	09:10 (7) 06:01	17:30 (6) 06:29	07:42 (8)	06:57	06:30	07:00
	20:17	90 18:02 (6) 19:49	50 18:20 (6) 19:04	30 08:12 (8)	18:17	16:39	16:29
14	05:36	09:11 (7) 06:02	17:30 (6) 06:30	07:41 (8)	06:58	06:31	07:01
	20:17	95 18:05 (6) 19:48	49 18:19 (6) 19:02	32 08:13 (8)	18:15	16:38	16:29
15	05:37	09:12 (7) 06:03	17:30 (6) 06:31	07:40 (8)	06:59	06:32	07:02
	20:16	98 18:07 (6) 19:47	49 18:19 (6) 19:01	33 08:13 (8)	18:14	16:37	16:29
16	05:37	09:12 (7) 06:04	17:31 (6) 06:32	07:40 (8)	07:00	06:33	07:02
	20:16	100 18:08 (6) 19:46	48 18:19 (6) 18:59	33 08:13 (8)	18:12	16:37	16:29
17	05:38	09:13 (7) 06:05	17:31 (6) 06:33	07:38 (8)	07:01	06:35	07:03
	20:15	101 18:09 (6) 19:44	47 18:18 (6) 18:57	34 08:12 (8)	18:11	16:36	16:30
18	05:39	09:14 (7) 06:06	17:31 (6) 06:34	07:38 (8)	07:02	06:36	07:04
	20:14	104 18:11 (6) 19:43	46 18:17 (6) 18:56	34 08:12 (8)	18:09	16:35	16:30
19	05:40	09:15 (7) 06:07	17:32 (6) 06:35	07:38 (8)	07:03	06:37	07:04
	20:14	105 18:12 (6) 19:42	44 18:16 (6) 18:54	34 08:12 (8)	18:08	16:35	16:30
20	05:40	09:15 (7) 06:08	17:31 (6) 06:36	07:38 (8)	07:04	06:38	07:05
	20:13	107 18:13 (6) 19:40	43 18:14 (6) 18:53	33 08:11 (8)	18:07	16:34	16:31
21	05:41	09:16 (7) 06:09	17:32 (6) 06:36	07:38 (8)	07:05	06:39	07:05
	20:12	107 18:14 (6) 19:39	41 18:13 (6) 18:51	33 08:11 (8)	18:05	16:33	16:31
22	05:42	09:17 (7) 06:10	17:33 (6) 06:37	07:38 (8)	07:06	06:40	07:06
	20:12	109 18:15 (6) 19:37	39 18:12 (6) 18:49	32 08:10 (8)	18:04	16:33	16:32
23	05:43	09:18 (7) 06:10	17:34 (6) 06:38	07:39 (8)	07:07	06:41	07:06
	20:11	110 18:16 (6) 19:36	37 18:11 (6) 18:48	30 08:09 (8)	18:02	16:32	16:32
24	05:44	09:19 (7) 06:11	17:35 (6) 06:39	07:39 (8)	07:08	06:42	07:07
	20:10	110 18:17 (6) 19:35	34 18:09 (6) 18:46	29 08:08 (8)	18:01	16:32	16:33
25	05:44	09:19 (7) 06:12	17:37 (6) 06:40	07:39 (8)	07:09	06:43	07:07
	20:09	110 18:17 (6) 19:33	30 18:07 (6) 18:45	27 08:06 (8)	18:00	16:31	16:33
26	05:45	09:21 (7) 06:13	17:39 (6) 06:41	07:41 (8)	07:10	06:44	07:08
	20:09	109 18:18 (6) 19:32	26 18:05 (6) 18:43	23 08:04 (8)	17:59	16:31	16:34
27	05:46	09:22 (7) 06:14	17:40 (6) 06:42	07:42 (8)	06:11	06:45	07:08
	20:08	110 18:19 (6) 19:30	21 18:01 (6) 18:41	20 08:02 (8)	16:57	16:30	16:35
28	05:47	09:23 (7) 06:15	17:44 (6) 06:43	07:45 (8)	06:13	06:46	07:08
	20:07	109 18:19 (6) 19:29	13 17:57 (6)	14 07:59 (8)	16:56	16:30	16:35
29	05:48	09:25 (7) 06:16	06:44	06:14	06:47	07:09	
	20:06	108 18:20 (6) 19:27	18:38	16:55	16:30	16:36	
30	05:49	09:25 (7) 06:17	06:45	06:15	06:48	07:09	
	20:05	108 18:20 (6) 19:26	18:37	16:54	16:29	16:37	
31	05:50	09:27 (7) 06:18	06:46	06:16	06:49	07:09	
	20:04	106 18:20 (6) 19:24	06:47	16:52	16:29	16:37	
Potential sun hours	453	424	374	347	303	294	
Total, worst case	2990	1547	589				
Sun reduction	0,68	0,69	0,63				
Oper. time red.	0,34	0,34	0,34				
Wind dir. red.	1,00	1,00	0,99				
Total reduction	0,23	0,24	0,21				
Total, real	701	367	126				

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: Bufalo real case Shadow receptor: AR - R60 CA06

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:38	06:59 17:10	06:25 17:42	07:40 (8) 06:37	17:13 (6)	05:54 05:27
2	07:09 16:38	06:58 17:11	06:23 17:43	119 07:41 (8) 118 11:35 (7)	14 19:13 19:14	05:53 20:10
3	07:10 16:39	06:57 17:12	06:22 17:44	118 07:41 (8) 118 11:35 (7)	06:34 19:15	05:52 20:11
4	07:10 16:40	06:56 17:13	06:20 17:45	116 07:42 (8) 116 11:35 (7)	06:32 19:16	05:50 20:12
5	07:10 16:41	06:55 17:14	06:19 17:46	112 07:43 (8) 112 11:34 (7)	06:31 19:17	05:49 20:12
6	07:10 16:42	06:54 17:15	06:17 17:48	116 07:45 (8) 116 16:29 (6)	06:29 19:18	05:48 20:13
7	07:10 16:43	06:53 17:17	06:16 17:49	121 07:47 (8) 121 16:34 (6)	06:28 19:19	05:47 20:14
8	07:10 16:44	06:52 17:18	10:48 (7) 11:00 (7)	06:14 10:42 (7)	06:26 10:04 (7)	05:46 19:49
9	07:10 16:45	06:51 17:19	10:42 (7) 10:38 (7)	06:13 06:11	06:25 10:04 (7)	05:45 19:50
10	07:10 16:46	06:50 17:20	10:38 (7) 11:10 (7)	06:11 11:10 (7)	06:23 17:52	05:44 19:51
11	07:10 16:46	06:49 17:21	10:34 (7) 11:13 (7)	06:10 17:53	06:22 16:41 (6)	05:43 19:52
12	07:09 16:47	06:48 17:22	10:31 (7) 11:16 (7)	06:08 17:54	06:20 16:43 (6)	05:42 19:53
13	07:09 16:49	06:47 17:24	10:29 (7) 11:18 (7)	06:07 17:55	06:19 16:43 (6)	05:41 19:54
14	07:09 16:50	06:46 17:25	07:52 (8) 11:21 (7)	06:05 17:56	06:17 16:43 (6)	05:40 19:55
15	07:09 16:51	06:44 17:26	07:50 (8) 11:23 (7)	06:04 17:57	06:16 16:44 (6)	05:39 19:56
16	07:08 16:52	06:43 17:27	07:47 (8) 11:24 (7)	06:02 17:58	06:14 16:44 (6)	05:38 19:57
17	07:08 16:53	06:42 17:28	07:46 (8) 11:25 (7)	06:01 17:59	06:13 16:44 (6)	05:37 19:57
18	07:08 16:54	06:41 17:29	07:44 (8) 11:27 (7)	05:59 18:00	06:11 16:44 (6)	05:36 19:58
19	07:07 16:55	06:40 17:30	07:44 (8) 11:29 (7)	05:57 18:01	06:10 16:44 (6)	05:35 19:59
20	07:07 16:56	06:38 17:31	07:42 (8) 11:29 (7)	05:56 18:02	06:08 16:44 (6)	05:35 20:00
21	07:06 16:57	06:37 17:33	07:42 (8) 11:30 (7)	05:54 18:03	06:07 16:43 (6)	05:34 20:01
22	07:06 16:58	06:36 17:34	07:41 (8) 11:32 (7)	05:53 18:04	06:06 16:43 (6)	05:33 20:02
23	07:05 16:59	06:34 17:35	07:40 (8) 11:32 (7)	05:51 18:05	06:04 16:42 (6)	05:32 20:03
24	07:05 17:00	06:33 17:36	07:40 (8) 11:33 (7)	05:50 18:06	06:03 16:42 (6)	05:32 20:03
25	07:04 17:02	06:32 17:37	07:39 (8) 11:33 (7)	05:48 18:07	06:02 16:40 (6)	05:31 20:04
26	07:03 17:03	06:30 17:38	07:39 (8) 11:34 (7)	05:46 18:08	06:00 16:39 (6)	05:30 20:05
27	07:03 17:04	06:29 17:39	07:40 (8) 11:35 (7)	05:45 18:08	05:59 16:38 (6)	05:30 20:06
28	07:02 17:05	06:28 17:40	07:39 (8) 11:35 (7)	05:43 18:09	05:58 16:36 (6)	05:29 20:07
29	07:01 17:06	06:26 17:41	07:40 (8) 11:35 (7)	05:42 18:10	05:56 16:35 (6)	05:29 20:07
30	07:00 17:07		05:40 18:11	25 16:33 (6)	19:41	05:28 20:08
31	07:00 17:08		06:38 19:12	20 17:31 (6)		05:28 20:09
Potential sun hours	302	310	370	396	443	446
Total, worst case		1849		3029	14	
Sun reduction		0,43		0,47	0,51	
Oper. time red.		0,34		0,34	0,34	
Wind dir. red.		0,57		0,62	0,95	
Total reduction		0,08		0,10	0,17	
Total, real		155		302	2	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AR - R60 CA06

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4,16	4,62	5,58	6,71	8,10	9,27	10,00	9,47	7,89	5,95	5,05	4,11

Operational time		
0	1	Sum
1.500	1.500	3.000

	July	August	September	October	November	December
1	05:28	05:50	06:19	06:46	10:42 (7)	06:17
	20:20	20:03	19:23	18:35	17:22 (6)	16:51
2	05:29	05:51	06:19	06:47	10:42 (7)	06:18
	20:20	20:02	19:21	18:33	17:20 (6)	16:50
3	05:29	05:52	06:20	06:47	10:41 (7)	06:19
	20:20	20:01	19:20	18:32	17:19 (6)	16:49
4	05:30	05:53	06:21	06:48	10:41 (7)	06:20
	20:20	20:00	19:18	18:30	17:17 (6)	16:48
5	05:30	05:54	06:22	06:49	10:41 (7)	06:21
	20:20	19:59	19:16	18:29	17:15 (6)	16:47
6	05:31	05:55	06:23	06:50	08:26 (8)	06:22
	20:19	19:58	19:15	18:27	17:12 (6)	16:46
7	05:31	05:56	06:24	06:51	08:22 (8)	06:23
	20:19	19:57	19:13	18:26	17:08 (6)	16:45
8	05:32	05:57	06:25	06:52	08:20 (8)	06:25
	20:19	19:55	19:12	18:24	12:10 (7)	16:44
9	05:33	05:58	06:26	06:53	08:18 (8)	06:26
	20:19	19:54	19:10	18:23	12:10 (7)	16:43
10	05:33	05:59	06:27	06:54	08:16 (8)	06:27
	20:18	19:53	19:09	18:21	12:10 (7)	16:42
11	05:34	05:59	06:27	17:06 (6)	06:55	08:15 (8)
	20:18	19:52	19:07	17:19 (6)	18:20	12:09 (7)
12	05:35	06:00	06:28	17:02 (6)	06:56	08:14 (8)
	20:17	19:51	19:05	17:22 (6)	18:18	12:09 (7)
13	05:35	06:01	06:29	17:00 (6)	06:57	08:13 (8)
	20:17	19:49	19:04	17:24 (6)	18:17	12:08 (7)
14	05:36	06:02	06:30	16:58 (6)	06:58	08:12 (8)
	20:17	19:48	19:02	17:25 (6)	18:15	12:08 (7)
15	05:37	06:03	06:31	16:56 (6)	06:59	08:12 (8)
	20:16	19:47	19:01	17:26 (6)	18:14	12:07 (7)
16	05:37	06:04	06:32	11:04 (7)	07:00	08:11 (8)
	20:16	19:46	18:59	17:27 (6)	18:12	12:06 (7)
17	05:38	06:05	06:33	10:59 (7)	07:01	08:11 (8)
	20:15	19:44	18:57	17:27 (6)	18:11	12:05 (7)
18	05:39	06:06	06:34	10:57 (7)	07:02	08:11 (8)
	20:14	19:43	18:56	17:28 (6)	18:09	12:04 (7)
19	05:40	06:07	06:35	10:55 (7)	07:03	08:11 (8)
	20:14	19:42	18:54	17:28 (6)	18:08	12:03 (7)
20	05:40	06:08	06:36	10:53 (7)	07:04	08:11 (8)
	20:13	19:40	18:53	17:28 (6)	18:06	12:02 (7)
21	05:41	06:09	06:36	10:51 (7)	07:05	08:11 (8)
	20:12	19:39	18:51	17:28 (6)	18:05	12:01 (7)
22	05:42	06:09	06:37	10:50 (7)	07:06	08:12 (8)
	20:12	19:37	18:49	17:28 (6)	18:04	12:01 (7)
23	05:43	06:10	06:38	10:49 (7)	07:07	08:13 (8)
	20:11	19:36	18:48	17:28 (6)	18:02	11:59 (7)
24	05:44	06:11	06:39	10:48 (7)	07:08	08:14 (8)
	20:10	19:35	18:46	17:28 (6)	18:01	11:58 (7)
25	05:44	06:12	06:40	10:46 (7)	07:09	08:14 (8)
	20:09	19:33	18:45	17:26 (6)	18:00	11:56 (7)
26	05:45	06:13	06:41	10:45 (7)	07:10	08:16 (8)
	20:09	19:32	18:43	17:26 (6)	17:59	11:55 (7)
27	05:46	06:14	06:42	10:44 (7)	06:11	07:17 (8)
	20:08	19:30	18:41	17:25 (6)	16:57	10:53 (7)
28	05:47	06:15	06:43	10:44 (7)	06:13	07:19 (8)
	20:07	19:29	18:40	17:25 (6)	16:56	10:51 (7)
29	05:48	06:16	06:44	10:43 (7)	06:14	07:23 (8)
	20:06	19:27	18:38	17:24 (6)	16:55	10:50 (7)
30	05:49	06:17	06:45	10:43 (7)	06:15	09:59 (7)
	20:05	19:26	18:37	17:23 (6)	16:54	10:48 (7)
31	05:50	06:18		06:16	10:01 (7)	
	20:04	19:24		16:52	10:45 (7)	
Potential sun hours	453	424	374	347		294
Total, worst case			1609	3252		105
Sun reduction			0,63	0,53		0,50
Oper. time red.			0,34	0,34		0,34
Wind dir. red.			0,67	0,57		0,45
Total reduction			0,15	0,10		0,08
Total, real			234	340		8

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AS - R74 CA10

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:38	14:20 (5) 06:59	06:25 06:37	06:31 19:13	05:54 19:42	07:52 (8) 05:27
2	07:09 16:38	14:20 (5) 06:58	06:23 06:35	06:31 19:14	05:53 19:43	07:49 (8) 05:27
3	07:10 16:39	14:21 (5) 06:57	06:22 06:34	06:31 19:15	05:52 19:44	07:47 (8) 05:27
4	07:10 16:40	14:22 (5) 06:56	06:20 06:32	06:31 19:16	05:50 19:45	07:44 (8) 05:26
5	07:10 16:41	14:23 (5) 06:55	06:19 06:31	06:31 19:17	05:49 19:46	07:42 (8) 05:26
6	07:10 16:42	14:24 (5) 06:54	06:17 06:29	06:29 19:18	05:48 19:47	07:41 (8) 05:26
7	07:10 16:43	14:25 (5) 06:53	06:16 06:28	06:28 19:19	05:47 19:48	07:39 (8) 05:25
8	07:10 16:44	14:26 (5) 06:52	06:14 06:26	06:26 19:20	05:46 19:49	07:38 (8) 05:25
9	07:10 16:45	14:27 (5) 06:51	06:13 06:25	06:25 19:21	05:45 19:50	07:37 (8) 05:25
10	07:10 16:46	14:28 (5) 06:50	06:11 06:23	06:23 19:22	05:44 19:51	07:36 (8) 05:25
11	07:10 16:46	14:29 (5) 06:49	06:10 06:22	06:22 19:23	05:43 19:52	07:35 (8) 05:25
12	07:09 16:47	14:31 (5) 06:48	06:08 06:20	06:20 19:24	05:42 19:53	07:34 (8) 05:25
13	07:09 16:48	14:33 (5) 06:47	06:07 06:19	06:19 19:25	05:41 19:54	07:33 (8) 05:25
14	07:09 16:50	14:34 (5) 06:46	06:05 06:17	06:17 19:26	05:40 19:55	07:33 (8) 05:24
15	07:09 16:51	14:37 (5) 06:44	06:04 06:16	06:16 19:27	05:39 19:56	07:33 (8) 05:24
16	07:08 16:52	14:47 (5) 06:43	06:02 06:14	06:14 19:28	05:38 19:57	07:32 (8) 05:24
17	07:08 16:53	14:49 (5) 06:42	06:00 06:13	06:13 19:29	05:37 19:58	07:31 (8) 05:25
18	07:08 16:54	14:51 (5) 06:41	05:59 06:11	06:11 19:30	05:36 19:59	07:31 (8) 05:25
19	07:07 16:55	14:53 (5) 06:40	05:57 06:10	06:10 19:31	05:35 19:59	07:31 (8) 05:25
20	07:07 16:56	14:55 (5) 06:38	05:56 06:08	06:08 19:32	05:35 20:00	07:30 (8) 05:25
21	07:06 16:57	14:57 (5) 06:37	05:54 06:07	06:07 19:33	05:34 20:01	07:30 (8) 05:25
22	07:06 16:58	14:59 (5) 06:36	05:53 06:06	06:06 19:34	05:33 20:02	07:30 (8) 05:25
23	07:05 16:59	15:01 (5) 06:34	05:51 06:04	06:04 19:35	05:32 20:03	07:30 (8) 05:25
24	07:05 17:00	15:03 (5) 06:33	05:49 06:03	06:03 19:36	05:32 20:03	07:29 (8) 05:26
25	07:04 17:02	15:05 (5) 06:32	05:48 06:02	06:02 19:37	05:31 20:04	07:29 (8) 05:26
26	07:03 17:03	15:07 (5) 06:30	05:46 06:00	06:00 19:38	05:30 20:05	07:29 (8) 05:26
27	07:03 17:04	15:09 (5) 06:29	05:45 05:59	05:59 19:39	05:30 20:06	07:29 (8) 05:27
28	07:02 17:05	15:11 (5) 06:27	05:43 05:58	05:58 19:40	05:29 20:07	07:29 (8) 05:27
29	07:01 17:06	15:13 (5) 06:26	05:42 05:56	05:56 18:39 (6)	05:29 20:07	07:30 (8) 05:27
30	07:00 17:07	15:15 (5) 06:25	05:40 05:55	05:55 18:44 (6)	05:28 20:08	07:30 (8) 05:28
31	07:00 17:08	15:17 (5) 06:24	05:39 05:54	05:54 18:48 (6)	05:28 20:09	07:30 (8) 05:28
Potential sun hours	302	310	370	396	443	446
Total, worst case	375			30	2375	1859
Sun reduction	0,43			0,51	0,57	0,62
Oper. time red.	0,34			0,34	0,34	0,34
Wind dir. red.	0,59			0,98	0,99	0,99
Total reduction	0,09			0,17	0,19	0,21
Total, real	32			5	454	393

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AS - R74 CA10

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December	
1	05:28	07:36 (8) 05:50	07:45 (8) 06:19	06:46 06:17	06:49	14:13 (5)	
2	20:20 62	08:38 (8) 20:03 84	19:07 (6) 19:23	18:35 16:51	16:29 20	14:33 (5)	
3	05:29	07:36 (8) 05:51	07:46 (8) 06:19	06:47 06:18	06:50	14:12 (5)	
4	20:20 62	08:38 (8) 20:02 83	19:07 (6) 19:21	18:33 16:50	16:29 22	14:34 (5)	
5	05:30	07:36 (8) 05:53	07:47 (8) 06:20	06:47 06:19	06:51	14:12 (5)	
6	20:20 62	08:37 (8) 20:01 81	19:07 (6) 19:20	18:32 16:49	16:29 24	14:36 (5)	
7	05:30	07:36 (8) 05:53	07:48 (8) 06:21	06:48 06:20	06:52	14:11 (5)	
8	20:20 62	08:38 (8) 20:00 79	19:07 (6) 19:18	18:30 16:48	16:28 26	14:37 (5)	
9	05:30	07:37 (8) 05:54	07:48 (8) 06:22	06:49 06:21	06:53	14:11 (5)	
10	20:20 62	08:39 (8) 19:59 76	19:05 (6) 19:16	18:29 16:47	16:28 27	14:38 (5)	
11	05:31	07:36 (8) 05:55	07:49 (8) 06:23	06:50 06:22	06:54	14:11 (5)	
12	20:19 63	08:39 (8) 19:58 74	19:05 (6) 19:15	18:27 16:46	16:28 28	14:39 (5)	
13	05:31	07:37 (8) 05:56	07:51 (8) 06:24	06:51 06:23	06:55	14:11 (5)	
14	20:19 62	08:39 (8) 19:57 68	19:04 (6) 19:13	18:26 16:45	16:28 29	14:40 (5)	
15	05:32	07:36 (8) 05:57	07:52 (8) 06:25	06:52 06:25	06:56	14:11 (5)	
16	20:19 63	08:39 (8) 19:55 66	19:04 (6) 19:12	18:24 16:44	16:28 30	14:41 (5)	
17	05:33	07:37 (8) 05:58	07:54 (8) 06:26	06:53 06:26	06:57	14:10 (5)	
18	20:19 63	08:40 (8) 19:54 60	19:03 (6) 19:10	18:23 16:43	16:28 31	14:41 (5)	
19	05:33	07:37 (8) 05:59	07:56 (8) 06:27	06:54 06:27	06:58	14:10 (5)	
20	20:18 62	08:39 (8) 19:53 55	19:02 (6) 19:09	18:21 16:42	16:28 31	14:41 (5)	
21	05:34	07:37 (8) 05:59	07:59 (8) 06:27	06:55 06:28	06:58	14:11 (5)	
22	20:18 63	08:40 (8) 19:52 47	19:01 (6) 19:07	18:19 16:41	16:28 31	14:42 (5)	
23	05:35	07:38 (8) 06:00	08:01 (8) 06:28	06:56 06:29	06:59	14:11 (5)	
24	20:17 62	08:40 (8) 19:51 37	18:58 (6) 19:05	18:18 16:40	16:28 32	14:43 (5)	
25	05:35	07:37 (8) 06:01	08:07 (8) 06:29	06:57 06:30	07:00	14:11 (5)	
26	20:17 63	08:40 (8) 19:49 21	18:56 (6) 19:04	18:17 16:39	16:29 33	14:44 (5)	
27	05:36	07:38 (8) 06:02	18:49 (6) 06:30	06:58 06:31	07:01	14:11 (5)	
28	20:17 70	18:55 (6) 19:48 1	19:02 19:02	18:15 16:38	16:29 33	14:44 (5)	
29	05:37	07:38 (8) 06:03	06:31 06:59	06:32 06:32	07:02	14:11 (5)	
30	20:16 74	18:57 (6) 19:47	19:01 18:14	16:37 16:37	16:29 34	14:45 (5)	
31	05:37	07:38 (8) 06:04	06:32 07:00	06:33 06:33	07:02	14:12 (5)	
32	20:15 76	18:58 (6) 19:46	18:59 18:12	16:37 16:37	16:29 34	14:46 (5)	
33	05:38	07:38 (8) 06:05	06:33 07:01	06:35 06:35	07:03	14:12 (5)	
34	20:15 79	18:59 (6) 19:44	18:57 18:11	16:36 16:36	16:30 34	14:46 (5)	
35	05:39	07:39 (8) 06:06	06:34 07:02	06:36 06:36	07:04	14:13 (5)	
36	20:14 81	19:01 (6) 19:43	18:56 18:09	16:35 16:35	16:30 34	14:47 (5)	
37	05:40	07:39 (8) 06:07	06:35 07:03	06:37 06:37	07:04	14:12 (5)	
38	20:14 83	19:02 (6) 19:41	18:54 18:08	16:35 16:35	16:30 35	14:47 (5)	
39	05:40	07:39 (8) 06:08	06:36 07:04	06:38 06:38	07:05	14:13 (5)	
40	20:13 84	19:02 (6) 19:40	18:53 18:06	16:34 16:34	16:31 35	14:48 (5)	
41	05:41	07:40 (8) 06:09	06:36 07:05	06:39 06:39	07:05	14:14 (5)	
42	20:12 84	19:03 (6) 19:39	18:51 18:05	16:33 16:33	16:31 35	14:49 (5)	
43	05:42	07:40 (8) 06:09	06:37 07:06	06:40 06:40	07:06	14:14 (5)	
44	20:12 86	19:04 (6) 19:37	18:49 18:04	16:33 16:33	16:32 35	14:49 (5)	
45	05:43	07:41 (8) 06:10	06:38 07:07	06:41 06:41	07:06	14:14 (5)	
46	20:11 86	19:05 (6) 19:36	18:48 18:02	16:32 16:32	16:32 35	14:49 (5)	
47	05:44	07:41 (8) 06:11	06:39 07:08	06:42 06:42	07:07	14:15 (5)	
48	20:10 88	19:06 (6) 19:34	18:46 18:01	16:32 16:32	16:33 35	14:50 (5)	
49	05:44	07:41 (8) 06:12	06:40 07:09	06:43 06:43	07:07	14:15 (5)	
50	20:09 88	19:05 (6) 19:33	18:45 18:00	16:31 16:31	16:33 35	14:50 (5)	
51	05:45	07:41 (8) 06:13	06:41 07:10	06:44 06:44	07:08	14:17 (5)	
52	20:08 89	19:06 (6) 19:32	18:43 17:58	16:31 16:31	16:34 34	14:51 (5)	
53	05:46	07:42 (8) 06:14	06:42 06:11	06:45 06:45	07:08	14:17 (5)	
54	20:08 88	19:06 (6) 19:30	18:41 16:57	16:30 16:30	16:35 34	14:51 (5)	
55	05:47	07:43 (8) 06:15	06:43 06:13	06:46 06:46	07:08	14:17 (5)	
56	20:07 87	19:07 (6) 19:29	18:40 16:56	16:30 16:30	9 14:27 (5)	16:35 34	14:51 (5)
57	05:48	07:44 (8) 06:16	06:44 06:14	06:47 06:47	14:16 (5)	07:09	14:18 (5)
58	20:06 86	19:07 (6) 19:27	18:38 16:55	16:30 16:30	14 14:30 (5)	16:36 33	14:51 (5)
59	05:49	07:43 (8) 06:17	06:45 06:15	06:48 06:48	14:14 (5)	07:09	14:19 (5)
60	20:05 86	19:06 (6) 19:26	18:37 16:54	16:29 16:29	18 14:32 (5)	16:37 33	14:52 (5)
61	05:50	07:44 (8) 06:18	06:46 06:16	06:49 06:49	07:09	14:20 (5)	
62	20:04 86	19:07 (6) 19:24	18:36 16:52	16:29 16:29	16:37 32	14:52 (5)	
Potential sun hours	453	424	374	347	303	294	
Total, worst case	2312	832			41	978	
Sun reduction	0,68	0,69			0,50	0,43	
Oper. time red.	0,34	0,34			0,34	0,34	
Wind dir. red.	0,99	0,98			0,59	0,59	
Total reduction	0,23	0,23			0,10	0,09	
Total, real	535	194			4	85	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AT - R75 CA10

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June		
1	07:09 16:38	06:59 17:10	11:05 (7) 12:14 (7)	06:25 17:42	10:58 (7) 16:35 (6)	06:37 19:13	05:27 19:42	
2	07:09 16:38	06:58 17:11	11:04 (7) 12:15 (7)	06:23 17:43	11:00 (7) 16:38 (6)	06:35 19:14	05:27 19:43	
3	07:10 16:39	06:57 17:12	11:03 (8) 12:16 (7)	06:22 17:44	11:00 (7) 16:39 (6)	06:34 19:15	05:27 19:44	
4	07:10 16:40	06:56 17:13	11:02 (8) 12:17 (7)	06:20 17:45	11:02 (7) 16:41 (6)	06:32 19:16	05:26 19:45	
5	07:10 16:41	06:55 17:14	11:01 (8) 12:18 (7)	06:19 17:46	11:03 (7) 16:41 (6)	06:31 19:17	05:26 19:46	
6	07:10 16:42	06:54 17:15	11:00 (8) 12:19 (7)	06:17 17:48	11:05 (7) 16:43 (6)	06:29 19:18	05:26 19:47	
7	07:10 16:43	06:53 17:17	11:00 (8) 12:20 (7)	06:16 17:49	11:07 (7) 16:43 (6)	06:28 19:19	05:25 19:48	
8	07:10 16:44	06:52 17:18	11:00 (8) 12:20 (7)	06:14 17:50	11:11 (7) 16:44 (6)	06:26 19:20	05:25 19:49	
9	07:10 16:45	06:51 17:19	11:00 (8) 12:21 (7)	06:13 17:51	11:18 (7) 16:43 (6)	06:25 19:21	05:25 19:50	
10	07:10 16:46	06:50 17:20	11:00 (8) 12:22 (7)	06:11 17:52	11:21 (7) 16:44 (6)	06:23 19:22	05:25 19:51	
11	07:10 16:46	06:49 17:21	11:00 (8) 12:21 (7)	06:10 17:53	11:21 (7) 16:44 (6)	06:22 19:23	05:25 19:52	
12	07:09 16:47	06:48 17:22	11:00 (8) 12:22 (7)	06:08 17:54	11:21 (7) 16:44 (6)	06:20 19:24	05:25 19:53	
13	07:09 16:48	06:47 17:24	11:00 (8) 12:23 (7)	06:07 17:55	11:21 (7) 16:43 (6)	06:19 19:25	05:25 19:54	
14	07:09 16:50	06:46 17:25	11:00 (8) 12:23 (7)	06:05 17:56	11:21 (7) 16:42 (6)	06:17 19:26	05:24 19:55	
15	07:09 16:51	06:44 17:26	11:00 (8) 12:24 (7)	06:04 17:57	11:21 (7) 16:42 (6)	06:16 19:27	05:24 19:56	
16	07:08 16:52	11:28 (7) 11:44 (7)	06:43 17:27	12:23 (7) 17:58	16:05 (6) 16:41 (6)	06:14 19:28	05:24 19:57	
17	07:08 16:53	16 11:47 (7)	123 17:28	123 12:23 (7)	17:59 17:59	34 16:41 (6)	19:29 19:57	05:25 20:18
18	07:08 16:54	23 11:22 (7)	123 06:41	123 07:56 (8)	34 05:59	34 16:07 (6)	19:29 06:11	20:18 05:25
19	07:07 16:55	28 11:50 (7)	124 17:29	124 12:24 (7)	32 18:00	32 16:39 (6)	19:30 19:30	05:25 20:19
20	07:07 16:56	33 11:20 (7)	123 06:40	123 07:57 (8)	31 05:57	31 16:08 (6)	19:31 06:10	05:25 20:19
21	07:06 16:57	38 11:53 (7)	123 17:30	123 12:24 (7)	28 18:01	28 16:39 (6)	19:32 19:31	05:25 20:19
22	07:06 16:58	41 11:18 (7)	121 06:38	121 07:56 (8)	24 05:56	24 16:09 (6)	19:33 06:08	05:25 20:20
23	07:05 16:59	44 11:57 (7)	119 17:34	119 12:23 (7)	14 18:04	14 16:33 (6)	19:34 20:02	05:25 20:20
24	07:05 17:00	47 11:14 (7)	117 06:34	117 07:58 (8)	14 05:51	14 16:15 (6)	19:35 06:04	20:20 05:32
25	07:04 17:02	51 12:01 (7)	115 17:35	115 12:22 (7)	18:05 18:05	18:05 16:29 (6)	20:03 19:35	20:20 20:03
26	07:03 17:03	53 11:12 (7)	111 06:33	111 07:59 (8)	05:50 05:50	05:50 06:03	20:03 05:32	20:20 05:26
27	07:03 17:04	55 12:03 (7)	107 17:36	107 12:22 (7)	18:06 18:06	18:06 19:36	20:03 19:36	05:26 20:20
28	07:02 17:05	59 11:11 (7)	102 06:30	102 08:01 (8)	05:46 05:46	05:46 06:00	20:04 05:30	05:27 05:26
29	07:01 17:06	61 12:06 (7)	94 17:38	94 12:20 (7)	18:08 18:08	18:08 19:38	20:05 20:05	05:27 20:20
30	07:00 17:07	63 11:09 (7)	91 06:29	91 08:04 (8)	05:45 05:45	05:45 05:59	20:06 05:30	05:27 05:27
31	07:00 17:08	65 12:08 (7)	157 17:39	157 12:20 (7)	18:08 18:08	18:08 19:39	20:06 20:06	05:28 05:28
Potential sun hours	302		310	370		396	443	446
Total, worst case	744		3151	1237				
Sun reduction	0,43		0,43	0,47				
Oper. time red.	0,34		0,34	0,34				
Wind dir. red.	0,16		0,34	0,62				
Total reduction	0,02		0,05	0,10				
Total, real	18		157	122				

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AT - R75 CA10

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December			
1	05:28	05:50	06:19	06:46	16:44 (6)	06:17	07:27 (8)	06:49	
	20:20	20:03	19:23	18:35	38 17:22 (6)	16:51	11:51 (7)	16:29	
2	05:29	05:51	06:19	06:47	16:44 (6)	06:18	07:28 (8)	06:50	
	20:20	20:02	19:21	18:33	38 17:22 (6)	16:50	11:51 (7)	16:29	
3	05:29	05:52	06:20	06:47	16:44 (6)	06:19	07:29 (8)	06:51	
	20:20	20:01	19:20	18:32	38 17:22 (6)	16:49	11:50 (7)	16:29	
4	05:30	05:53	06:21	06:48	16:43 (6)	06:20	07:30 (8)	06:52	
	20:20	20:00	19:18	18:30	38 17:21 (6)	16:48	11:50 (7)	16:28	
5	05:30	05:54	06:22	06:49	11:51 (7)	06:21	07:31 (8)	06:53	
	20:20	19:59	19:16	18:29	69 17:21 (6)	16:47	11:49 (7)	16:28	
6	05:31	05:55	06:23	06:50	11:46 (7)	06:22	07:33 (8)	06:54	
	20:19	19:58	19:15	18:27	80 17:20 (6)	16:46	11:49 (7)	16:28	
7	05:31	05:56	06:24	06:51	11:42 (7)	06:23	07:34 (8)	06:55	
	20:19	19:57	19:13	18:26	88 17:19 (6)	16:45	11:48 (7)	16:28	
8	05:32	05:57	06:25	06:52	11:40 (7)	06:25	07:36 (8)	06:56	
	20:19	19:55	19:12	18:24	93 17:18 (6)	16:44	11:47 (7)	16:28	
9	05:33	05:58	06:26	06:53	11:37 (7)	06:26	07:40 (8)	06:57	
	20:19	19:54	19:10	18:23	96 17:16 (6)	16:43	11:47 (7)	16:28	
10	05:33	05:59	06:27	06:54	11:36 (7)	06:27	10:35 (7)	06:58	
	20:18	19:53	19:09	18:21	97 17:15 (6)	16:42	11:46 (7)	16:28	
11	05:34	05:59	06:27	06:55	11:34 (7)	06:28	10:36 (7)	06:59	
	20:18	19:52	19:07	18:20	98 17:13 (6)	16:41	11:45 (7)	16:28	
12	05:35	06:00	06:28	06:56	11:33 (7)	06:29	10:37 (7)	06:59	
	20:17	19:51	19:05	18:18	97 17:11 (6)	16:40	11:44 (7)	16:28	
13	05:35	06:01	06:29	06:57	11:31 (7)	06:30	10:38 (7)	07:00	
	20:17	19:49	19:04	18:17	95 17:08 (6)	16:39	11:43 (7)	16:29	
14	05:36	06:02	06:30	06:58	08:42 (8)	06:31	10:40 (7)	07:01	
	20:17	19:48	19:02	18:15	95 17:03 (6)	16:38	11:43 (7)	16:29	
15	05:37	06:03	06:31	06:59	08:37 (8)	06:32	10:41 (7)	07:02	
	20:16	19:47	19:01	18:14	97 12:51 (7)	16:37	11:42 (7)	16:29	
16	05:37	06:04	06:32	07:00	08:35 (8)	06:33	10:42 (7)	07:02	
	20:16	19:46	18:59	18:12	103 12:52 (7)	16:37	11:41 (7)	16:29	
17	05:38	06:05	06:33	07:01	08:33 (8)	06:35	10:44 (7)	07:03	
	20:15	19:44	18:57	18:11	108 12:52 (7)	16:36	11:39 (7)	16:30	
18	05:39	06:06	06:34	07:02	08:31 (8)	06:36	10:45 (7)	07:04	
	20:14	19:43	18:56	18:09	112 12:53 (7)	16:35	11:38 (7)	16:30	
19	05:40	06:07	06:35	07:03	08:30 (8)	06:37	10:47 (7)	07:04	
	20:14	19:42	18:54	18:08	115 12:53 (7)	16:35	11:38 (7)	16:30	
20	05:40	06:08	06:36	17:02 (6)	07:04	08:28 (8)	06:38	10:49 (7)	07:05
	20:13	19:40	18:53	12 17:14 (6)	18:06	118 12:53 (7)	16:34	11:36 (7)	16:31
21	05:41	06:09	06:36	16:59 (6)	07:05	08:28 (8)	06:39	10:51 (7)	07:05
	20:12	19:39	18:51	18 17:17 (6)	18:05	120 12:53 (7)	16:33	11:35 (7)	16:31
22	05:42	06:09	06:37	16:56 (6)	07:06	08:28 (8)	06:40	10:52 (7)	07:06
	20:12	19:37	18:49	23 17:19 (6)	18:04	121 12:54 (7)	16:33	11:33 (7)	16:32
23	05:43	06:10	06:38	16:54 (6)	07:07	08:27 (8)	06:41	10:54 (7)	07:06
	20:11	19:36	18:48	27 17:21 (6)	18:02	123 12:54 (7)	16:32	11:32 (7)	16:32
24	05:44	06:11	06:39	16:52 (6)	07:08	08:27 (8)	06:42	10:57 (7)	07:07
	20:10	19:35	18:46	30 17:22 (6)	18:01	124 12:54 (7)	16:32	11:30 (7)	16:33
25	05:44	06:12	06:40	16:50 (6)	07:09	08:26 (8)	06:43	10:59 (7)	07:07
	20:09	19:33	18:45	31 17:21 (6)	18:00	124 12:53 (7)	16:31	11:28 (7)	16:33
26	05:45	06:13	06:41	16:48 (6)	07:10	08:26 (8)	06:44	11:03 (7)	07:08
	20:09	19:32	18:43	34 17:22 (6)	17:58	124 12:53 (7)	16:31	11:26 (7)	16:34
27	05:46	06:14	06:42	16:47 (6)	06:11	07:26 (8)	06:45	11:07 (7)	07:08
	20:08	19:30	18:41	35 17:22 (6)	16:57	124 11:53 (7)	16:30	11:23 (7)	16:35
28	05:47	06:15	06:43	16:46 (6)	06:13	07:26 (8)	06:46	11:08	07:08
	20:07	19:29	18:40	37 17:23 (6)	16:56	122 11:52 (7)	16:30	11:23	16:35
29	05:48	06:16	06:44	16:46 (6)	06:14	07:27 (8)	06:47	11:09	07:09
	20:06	19:27	18:38	37 17:23 (6)	16:55	121 11:53 (7)	16:30	11:23	16:36
30	05:49	06:17	06:45	16:45 (6)	06:15	07:27 (8)	06:48	11:10	07:09
	20:05	19:26	18:37	38 17:23 (6)	16:54	120 11:52 (7)	16:29	11:23	16:37
31	05:50	06:18	06:46	16:46 (6)	06:16	07:27 (8)	06:49	11:11	07:09
	20:04	19:24	18:36	38 17:23 (6)	16:52	119 11:52 (7)	16:29	11:23	16:37
Potential sun hours	453	424	374	347	303	1818	294		
Total, worst case			322	3055		1818			
Sun reduction			0,63	0,53		0,50			
Oper. time red.			0,34	0,34		0,34			
Wind dir. red.			0,94	0,40		0,25			
Total reduction			0,20	0,07		0,04			
Total, real			66	222		79			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AU - R71 CA10

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:38	12:06 (9) 15:40 (6)	06:59 17:10	12:13 (9) 13:26 (9)	06:25 17:42	06:37 19:13
2	07:09 16:38	12:07 (9) 15:40 (6)	06:58 17:11	12:13 (9) 13:26 (9)	06:23 17:43	06:35 19:14
3	07:10 16:39	12:07 (9) 15:41 (6)	06:57 17:12	12:14 (9) 13:26 (9)	06:22 17:44	06:34 19:15
4	07:10 16:40	12:07 (9) 15:41 (6)	06:56 17:13	12:15 (9) 13:25 (9)	06:20 17:45	06:32 19:16
5	07:10 16:41	12:07 (9) 15:41 (6)	06:55 17:14	12:15 (9) 13:25 (9)	06:19 17:46	06:31 19:17
6	07:10 16:42	12:07 (9) 15:41 (6)	06:54 17:15	12:16 (9) 13:25 (9)	06:17 17:48	06:29 19:18
7	07:10 16:43	12:07 (9) 15:41 (6)	06:53 17:17	12:17 (9) 13:24 (9)	06:16 17:49	06:28 19:19
8	07:10 16:44	12:08 (9) 15:41 (6)	06:52 17:18	12:18 (9) 13:24 (9)	06:14 17:50	06:26 19:20
9	07:10 16:45	12:08 (9) 15:42 (6)	06:51 17:19	12:20 (9) 13:23 (9)	06:13 17:51	06:25 19:21
10	07:10 16:45	12:07 (9) 15:41 (6)	06:50 17:20	12:21 (9) 13:23 (9)	06:11 17:52	06:23 19:22
11	07:10 16:46	12:08 (9) 15:40 (6)	06:49 17:21	12:22 (9) 13:21 (9)	06:10 17:53	17:02 (10) 19:23
12	07:09 16:47	12:08 (9) 15:40 (6)	06:48 17:22	12:24 (9) 13:20 (9)	06:08 17:54	16:59 (10) 19:24
13	07:09 16:48	12:08 (9) 15:40 (6)	06:47 17:23	12:26 (9) 13:19 (9)	06:07 17:55	16:57 (10) 19:25
14	07:09 16:49	12:08 (9) 15:38 (6)	06:46 17:25	12:29 (9) 13:17 (9)	06:05 17:56	16:55 (10) 19:26
15	07:09 16:51	12:08 (9) 15:36 (6)	06:44 17:26	12:32 (9) 13:15 (9)	06:04 17:57	16:54 (10) 19:27
16	07:08 16:52	12:09 (9) 13:21 (9)	06:43 17:27	12:35 (9) 13:12 (9)	06:02 17:58	16:53 (10) 19:28
17	07:08 16:53	12:09 (9) 13:21 (9)	06:42 17:28	12:39 (9) 13:09 (9)	06:00 17:59	16:53 (10) 19:29
18	07:08 16:54	12:09 (9) 13:22 (9)	06:41 17:29	12:47 (9) 13:03 (9)	05:59 18:00	16:52 (10) 19:30
19	07:07 16:55	12:09 (9) 13:22 (9)	06:40 17:30	05:57 18:01	05:57 18:01	16:53 (10) 19:31
20	07:07 16:56	12:09 (9) 13:23 (9)	06:38 17:31	05:56 18:02	05:56 18:02	16:52 (10) 19:32
21	07:06 16:57	12:09 (9) 13:23 (9)	06:37 17:33	05:54 18:03	05:54 18:03	16:52 (10) 19:33
22	07:06 16:58	12:09 (9) 13:23 (9)	06:36 17:34	05:53 18:04	05:53 18:04	16:53 (10) 19:34
23	07:05 16:59	12:10 (9) 13:24 (9)	06:34 17:35	05:51 18:05	05:51 18:05	16:54 (10) 19:35
24	07:05 17:00	12:10 (9) 13:24 (9)	06:33 17:36	05:49 18:06	05:49 18:06	16:55 (10) 19:36
25	07:04 17:02	12:10 (9) 13:24 (9)	06:32 17:37	05:48 18:07	05:48 18:07	16:57 (10) 19:37
26	07:03 17:03	12:11 (9) 13:25 (9)	06:30 17:38	05:46 18:08	05:46 18:08	17:08 (10) 19:37
27	07:03 17:04	12:11 (9) 13:25 (9)	06:29 17:39	05:45 18:08	05:45 18:08	06:00 19:38
28	07:02 17:05	12:11 (9) 13:25 (9)	06:27 17:40	05:43 18:09	05:43 18:09	06:00 19:38
29	07:01 17:06	12:11 (9) 13:25 (9)	06:26 17:41	05:42 18:10	05:42 18:10	06:00 19:40
30	07:00 17:07	12:12 (9) 13:26 (9)	06:25 17:42	05:40 18:11	05:40 18:11	06:00 19:41
31	07:00 17:08	12:12 (9) 13:26 (9)	06:25 17:42	05:40 18:11	05:40 18:11	06:00 19:41
Potential sun hours	302	310	370	396	443	446
Total, worst case	2454	1027	291			
Sun reduction	0,43	0,43	0,47			
Oper. time red.	0,34	0,34	0,34			
Wind dir. red.	0,25	0,19	0,98			
Total reduction	0,04	0,03	0,16			
Total, real	89	29	46			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AU - R71 CA10

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4,16	4,62	5,58	6,71	8,10	9,27	10,00	9,47	7,89	5,95	5,05	4,11

Operational time		
0	1	Sum
1.500	1.500	3.000

	July	August	September	October	November	December								
1	05:28	05:50	06:18	06:46	17:37 (10)	06:17	11:52 (9)	06:49	11:50 (9)					
	20:20	20:03	19:23	18:35	16	17:53 (10)	16:51	12:51 (9)	16:29	83	15:22 (6)			
2	05:29	05:51	06:19	06:47	17:39 (10)	06:18	11:50 (9)	06:50	11:51 (9)					
	20:20	20:02	19:21	18:33	12	17:51 (10)	16:50	62	12:52 (9)	16:29	84	15:23 (6)		
3	05:29	05:52	06:20	06:47	17:39 (10)	06:18	11:50 (9)	06:50	11:51 (9)					
	20:20	20:01	19:20	18:32	16:49	64	12:52 (9)	16:29	86	15:25 (6)				
4	05:30	05:53	06:21	06:48	17:40 (10)	06:19	11:48 (9)	06:51	11:51 (9)					
	20:20	20:00	19:18	18:30	16:48	66	12:54 (9)	16:28	87	15:26 (6)				
5	05:30	05:54	06:22	06:49	17:41 (10)	06:20	11:48 (9)	06:52	11:52 (9)					
	20:20	19:59	19:16	18:29	16:47	67	12:54 (9)	16:28	86	15:26 (6)				
6	05:31	05:55	06:23	06:50	17:42 (10)	06:21	11:47 (9)	06:53	11:53 (9)					
	20:19	19:58	19:15	18:27	16:46	69	12:55 (9)	16:28	87	15:27 (6)				
7	05:31	05:56	06:24	06:51	17:43 (10)	06:22	11:46 (9)	06:54	11:54 (9)					
	20:19	19:57	19:13	18:26	16:45	70	12:55 (9)	16:28	87	15:28 (6)				
8	05:32	05:57	06:25	06:52	17:44 (10)	06:23	11:45 (9)	06:55	11:54 (9)					
	20:19	19:55	19:12	18:24	16:44	71	12:55 (9)	16:28	87	15:29 (6)				
9	05:33	05:58	06:26	06:53	17:45 (10)	06:24	11:44 (9)	06:56	11:55 (9)					
	20:19	19:54	19:10	18:23	16:43	71	12:56 (9)	16:28	87	15:29 (6)				
10	05:33	05:59	06:27	06:54	17:46 (10)	06:25	11:43 (9)	06:57	11:55 (9)					
	20:18	19:53	19:09	18:21	16:42	73	12:57 (9)	16:28	88	15:30 (6)				
11	05:34	05:59	06:27	06:55	17:47 (10)	06:26	11:42 (9)	06:58	11:56 (9)					
	20:18	19:52	19:07	18:19	16:41	73	12:57 (9)	16:28	86	15:30 (6)				
12	05:35	06:00	06:28	06:56	17:48 (10)	06:27	11:41 (9)	06:59	11:57 (9)					
	20:17	19:51	19:05	18:18	16:40	74	12:57 (9)	16:28	88	15:31 (6)				
13	05:35	06:01	06:29	06:57	17:49 (10)	06:28	11:40 (9)	07:00	11:58 (9)					
	20:17	19:49	19:04	18:17	16:39	74	12:57 (9)	16:29	87	15:32 (6)				
14	05:36	06:02	06:30	06:58	17:50 (10)	06:29	11:39 (9)	07:01	11:58 (9)					
	20:17	19:48	19:02	18:15	16:38	74	12:58 (9)	16:29	88	15:32 (6)				
15	05:37	06:03	06:31	06:59	17:51 (10)	06:30	11:38 (9)	07:02	11:59 (9)					
	20:16	19:47	19:01	18:14	16:37	74	12:58 (9)	16:29	87	15:33 (6)				
16	05:37	06:04	06:32	07:00	17:52 (10)	06:31	11:37 (9)	07:03	12:00 (9)					
	20:16	19:46	18:59	18:12	16:37	74	12:58 (9)	16:29	87	15:34 (6)				
17	05:38	06:05	06:33	07:01	17:53 (10)	06:32	11:36 (9)	07:04	12:00 (9)					
	20:15	19:44	18:57	18:11	16:36	74	12:58 (9)	16:30	86	15:33 (6)				
18	05:39	06:06	06:34	17:45 (10)	07:02	06:36	11:44 (9)	07:04	12:01 (9)					
	20:14	19:43	18:56	10	17:55 (10)	18:09	16:35	74	12:58 (9)	16:30	86	15:34 (6)		
19	05:40	06:07	06:35	17:42 (10)	07:03	06:37	11:45 (9)	07:04	12:02 (9)					
	20:14	19:42	18:54	15	17:57 (10)	18:08	16:35	74	12:59 (9)	16:30	86	15:35 (6)		
20	05:40	06:08	06:36	17:40 (10)	07:04	06:38	11:45 (9)	07:05	12:02 (9)					
	20:13	19:40	18:53	18	17:58 (10)	18:06	16:34	74	12:59 (9)	16:31	86	15:35 (6)		
21	05:41	06:09	06:36	17:39 (10)	07:05	06:39	11:45 (9)	07:05	12:03 (9)					
	20:12	19:39	18:51	20	17:59 (10)	18:05	16:33	74	12:59 (9)	16:31	86	15:36 (6)		
22	05:42	06:09	06:37	17:38 (10)	07:06	06:40	11:45 (9)	07:06	12:03 (9)					
	20:12	19:37	18:49	22	18:00 (10)	18:04	16:33	74	12:59 (9)	16:32	86	15:36 (6)		
23	05:43	06:10	06:38	17:37 (10)	07:07	06:41	11:46 (9)	07:06	12:03 (9)					
	20:11	19:36	18:48	23	18:00 (10)	18:02	16:32	73	12:59 (9)	16:32	86	15:36 (6)		
24	05:44	06:11	06:39	17:36 (10)	07:08	06:42	11:46 (9)	07:07	12:04 (9)					
	20:10	19:35	18:46	24	18:00 (10)	18:01	16:32	73	12:59 (9)	16:33	86	15:37 (6)		
25	05:44	06:12	06:40	17:35 (10)	07:09	13:15 (9)	06:43	11:46 (9)	07:07	12:04 (9)				
	20:09	19:33	18:45	24	17:59 (10)	18:00	20	13:35 (9)	16:31	73	12:59 (9)	16:33	86	15:37 (6)
26	05:45	06:13	06:41	17:35 (10)	07:10	13:08 (9)	06:44	11:48 (9)	07:08	12:05 (9)				
	20:09	19:32	18:43	24	17:59 (10)	17:58	31	13:39 (9)	16:31	72	13:00 (9)	16:34	85	15:38 (6)
27	05:46	06:14	06:42	17:35 (10)	06:11	12:04 (9)	06:45	11:48 (9)	07:08	12:05 (9)				
	20:08	19:30	18:41	23	17:58 (10)	16:57	38	12:42 (9)	16:30	72	13:00 (9)	16:35	86	15:38 (6)
28	05:47	06:15	06:43	17:35 (10)	06:13	12:00 (9)	06:46	11:48 (9)	07:08	12:05 (9)				
	20:07	19:29	18:40	22	17:57 (10)	16:56	44	12:44 (9)	16:30	72	13:00 (9)	16:35	87	15:39 (6)
29	05:48	06:16	06:44	17:35 (10)	06:14	11:58 (9)	06:47	11:49 (9)	07:09	12:05 (9)				
	20:06	19:27	18:38	21	17:56 (10)	16:55	49	12:47 (9)	16:30	79	15:19 (6)	16:36	87	15:39 (6)
30	05:49	06:17	06:45	17:36 (10)	06:15	11:56 (9)	06:48	11:50 (9)	07:09	12:06 (9)				
	20:05	19:26	18:37	19	17:55 (10)	16:54	53	12:49 (9)	16:29	82	15:21 (6)	16:37	87	15:40 (6)
31	05:50	06:18		06:16	11:53 (9)				07:09	12:06 (9)				
	20:04	19:24		16:52	57	12:50 (9)			16:37	87	15:40 (6)			
Potential sun hours	453	424	374	347	303	294								
Total, worst case			265	320	2155	2678								
Sun reduction			0,63	0,53	0,50	0,43								
Oper. time red.			0,34	0,34	0,34	0,34								
Wind dir. red.			0,98	0,26	0,20	0,33								
Total reduction			0,21	0,05	0,03	0,05								
Total, real			56	15	72	130								

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AV - R72 CA10

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:38	12:08 (9) 15:38 (6)	06:59 17:10	12:21 (9) 13:26 (9)	06:25 17:42	06:37 19:13
2	07:09 16:38	12:09 (9) 15:38 (6)	06:58 17:11	12:22 (9) 13:26 (9)	06:23 17:43	06:35 19:14
3	07:10 16:39	12:09 (9) 15:38 (6)	06:57 17:12	12:23 (9) 13:25 (9)	06:22 17:44	06:34 19:15
4	07:10 16:40	12:09 (9) 15:38 (6)	06:56 17:13	12:24 (9) 13:24 (9)	06:20 17:45	06:32 19:16
5	07:10 16:41	12:09 (9) 15:38 (6)	06:55 17:14	12:26 (9) 13:24 (9)	06:19 17:46	06:31 19:17
6	07:10 16:42	12:10 (9) 15:38 (6)	06:54 17:15	12:27 (9) 13:23 (9)	06:17 17:48	06:29 19:18
7	07:10 16:43	12:10 (9) 15:38 (6)	06:53 17:17	12:29 (9) 13:22 (9)	06:16 17:49	06:28 19:19
8	07:10 16:44	12:10 (9) 15:38 (6)	06:52 17:18	12:31 (9) 13:21 (9)	06:14 17:50	06:26 19:20
9	07:10 16:45	12:11 (9) 15:38 (6)	06:51 17:19	12:33 (9) 13:19 (9)	06:13 17:51	17:00 (10) 19:21
10	07:10 16:45	12:10 (9) 15:37 (6)	06:50 17:20	12:36 (9) 13:17 (9)	06:11 17:52	16:58 (10) 19:22
11	07:10 16:46	12:11 (9) 15:36 (6)	06:49 17:21	12:39 (9) 13:14 (9)	06:10 17:53	16:55 (10) 19:23
12	07:09 16:47	12:11 (9) 15:35 (6)	06:48 17:22	12:43 (9) 13:11 (9)	06:08 17:54	16:54 (10) 19:24
13	07:09 16:48	12:12 (9) 13:23 (9)	06:47 17:23	12:50 (9) 13:06 (9)	06:07 17:55	16:53 (10) 19:25
14	07:09 16:49	12:12 (9) 13:23 (9)	06:46 17:25	06:05 17:56	16:52 (10) 19:26	06:17 19:26
15	07:09 16:51	12:12 (9) 13:23 (9)	06:44 17:26	06:04 17:57	16:51 (10) 19:27	06:16 19:27
16	07:08 16:52	12:13 (9) 13:24 (9)	06:43 17:27	06:02 17:58	16:51 (10) 19:28	06:14 19:28
17	07:08 16:53	12:13 (9) 13:24 (9)	06:42 17:28	06:00 17:59	16:51 (10) 19:29	06:13 19:29
18	07:08 16:54	12:13 (9) 13:25 (9)	06:41 17:29	05:59 18:00	16:51 (10) 19:30	06:11 19:30
19	07:07 16:55	12:13 (9) 13:25 (9)	06:40 17:30	05:57 18:01	16:52 (10) 19:31	06:10 19:31
20	07:07 16:56	12:14 (9) 13:26 (9)	06:38 17:31	05:56 18:02	16:52 (10) 19:32	06:08 20:00
21	07:06 16:57	12:14 (9) 13:26 (9)	06:37 17:33	05:54 18:03	16:52 (10) 19:33	06:07 20:01
22	07:06 16:58	12:14 (9) 13:26 (9)	06:36 17:34	05:53 18:04	16:54 (10) 19:34	06:06 20:02
23	07:05 16:59	12:15 (9) 13:26 (9)	06:34 17:35	05:51 18:05	16:56 (10) 19:35	06:04 20:03
24	07:05 17:00	12:15 (9) 13:26 (9)	06:33 17:36	05:49 18:06	17:06 (10) 19:36	06:03 20:03
25	07:04 17:02	12:15 (9) 13:26 (9)	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04
26	07:03 17:03	12:17 (9) 13:27 (9)	06:30 17:38	05:46 18:08	06:00 19:38	05:30 20:05
27	07:03 17:04	12:17 (9) 13:27 (9)	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06
28	07:02 17:05	12:17 (9) 13:26 (9)	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07
29	07:01 17:06	12:18 (9) 13:26 (9)	06:26 17:41	05:42 18:10	05:56 19:40	05:29 20:07
30	07:00 17:07	12:20 (9) 13:27 (9)	06:24 17:41	05:40 18:11	05:55 19:41	05:28 20:08
31	07:00 17:08	12:20 (9) 13:26 (9)	06:23 17:41	06:38 19:12	05:28 20:09	05:28 20:09
Potential sun hours	302		310	370	396	443
Total, worst case	2351		634	286		446
Sun reduction	0,43		0,43	0,47		
Oper. time red.	0,34		0,34	0,34		
Wind dir. red.	0,24		0,20	0,98		
Total reduction	0,04		0,03	0,16		
Total, real	83		19	45		

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AV - R72 CA10

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December				
1	05:28	05:50	06:18	06:46	17:33 (10)	06:17	12:08 (9)	06:49	11:53 (9)	
	20:20	20:03	19:23	18:35	20 17:53 (10)	16:51	12:44 (9)	16:29	75 15:16 (6)	
2	05:29	05:51	06:19	06:47	17:33 (10)	06:18	12:05 (9)	06:50	11:54 (9)	
	20:20	20:02	19:21	18:33	19 17:52 (10)	16:50	12:47 (9)	16:29	79 15:19 (6)	
3	05:29	05:52	06:20	06:47	17:34 (10)	06:19	12:02 (9)	06:51	11:54 (9)	
	20:20	20:01	19:20	18:32	16 17:50 (10)	16:49	12:48 (9)	16:29	83 15:21 (6)	
4	05:30	05:53	06:21	06:48	17:36 (10)	06:20	12:01 (9)	06:52	11:55 (9)	
	20:20	20:00	19:18	18:30	12 17:48 (10)	16:48	12:51 (9)	16:28	83 15:22 (6)	
5	05:30	05:54	06:22	06:49		06:21	11:59 (9)	06:53	11:56 (9)	
	20:20	19:59	19:16	18:29		16:47	53 12:52 (9)	16:28	84 15:23 (6)	
6	05:31	05:55	06:23	06:50		06:22	11:57 (9)	06:54	11:56 (9)	
	20:19	19:58	19:15	18:27		16:46	56 12:53 (9)	16:28	85 15:24 (6)	
7	05:31	05:56	06:24	06:51		06:23	11:55 (9)	06:55	11:57 (9)	
	20:19	19:57	19:13	18:26		16:45	59 12:54 (9)	16:28	86 15:25 (6)	
8	05:32	05:57	06:25	06:52		06:25	11:54 (9)	06:56	11:57 (9)	
	20:19	19:55	19:12	18:24		16:44	60 12:54 (9)	16:28	87 15:26 (6)	
9	05:33	05:58	06:26	06:53		06:26	11:54 (9)	06:57	11:57 (9)	
	20:19	19:54	19:10	18:23		16:43	62 12:56 (9)	16:28	88 15:26 (6)	
10	05:33	05:59	06:27	06:54		06:27	11:53 (9)	06:58	11:58 (9)	
	20:18	19:53	19:09	18:21		16:42	64 12:57 (9)	16:28	87 15:27 (6)	
11	05:34	05:59	06:27	06:55		06:28	11:52 (9)	06:59	11:59 (9)	
	20:18	19:52	19:07	18:19		16:41	65 12:57 (9)	16:28	87 15:28 (6)	
12	05:35	06:00	06:28	06:56		06:29	11:51 (9)	06:59	11:59 (9)	
	20:17	19:51	19:05	18:18		16:40	66 12:57 (9)	16:28	89 15:29 (6)	
13	05:35	06:01	06:29	06:57		06:30	11:51 (9)	07:00	12:00 (9)	
	20:17	19:49	19:04	18:17		16:39	67 12:58 (9)	16:29	89 15:30 (6)	
14	05:36	06:02	06:30	06:58		06:31	11:51 (9)	07:01	12:00 (9)	
	20:17	19:48	19:02	18:15		16:38	68 12:59 (9)	16:29	89 15:30 (6)	
15	05:37	06:03	06:31	06:59		06:32	11:50 (9)	07:02	12:01 (9)	
	20:16	19:47	19:01	18:14		16:37	69 12:59 (9)	16:29	89 15:31 (6)	
16	05:37	06:04	06:32	07:00		06:33	11:50 (9)	07:02	12:02 (9)	
	20:16	19:46	18:59	18:12		16:37	70 13:00 (9)	16:29	88 15:31 (6)	
17	05:38	06:05	06:33	07:01		06:35	11:50 (9)	07:03	12:02 (9)	
	20:15	19:44	18:57	18:11		16:36	70 13:00 (9)	16:30	88 15:31 (6)	
18	05:39	06:06	06:34	07:02		06:36	11:50 (9)	07:04	12:03 (9)	
	20:14	19:43	18:56	18:09		16:35	70 13:00 (9)	16:30	88 15:32 (6)	
19	05:40	06:07	06:35	07:03		06:37	11:50 (9)	07:04	12:03 (9)	
	20:14	19:42	18:54	18:08		16:35	71 13:01 (9)	16:30	89 15:33 (6)	
20	05:40	06:08	06:36	17:43 (10)	07:04	06:38	11:50 (9)	07:05	12:03 (9)	
	20:13	19:40	18:53	8 17:51 (10)	18:06	16:34	71 13:01 (9)	16:31	89 15:33 (6)	
21	05:41	06:09	06:36	17:40 (10)	07:05	06:39	11:50 (9)	07:05	12:04 (9)	
	20:12	19:39	18:51	14 17:54 (10)	18:05	16:33	72 13:02 (9)	16:31	89 15:34 (6)	
22	05:42	06:09	06:37	17:38 (10)	07:06	06:40	11:50 (9)	07:06	12:04 (9)	
	20:12	19:37	18:49	17 17:55 (10)	18:04	16:33	72 13:02 (9)	16:32	89 15:34 (6)	
23	05:43	06:10	06:38	17:36 (10)	07:07	06:41	11:50 (9)	07:06	12:04 (9)	
	20:11	19:36	18:48	20 17:56 (10)	18:02	16:32	72 13:02 (9)	16:32	89 15:34 (6)	
24	05:44	06:11	06:39	17:35 (10)	07:08	06:42	11:50 (9)	07:07	12:05 (9)	
	20:10	19:35	18:46	22 17:57 (10)	18:01	16:32	72 13:02 (9)	16:33	89 15:35 (6)	
25	05:44	06:12	06:40	17:33 (10)	07:09	06:43	11:51 (9)	07:07	12:06 (9)	
	20:09	19:33	18:45	23 17:56 (10)	18:00	16:31	71 13:02 (9)	16:33	88 15:35 (6)	
26	05:45	06:13	06:41	17:33 (10)	07:10	06:44	11:52 (9)	07:08	12:07 (9)	
	20:09	19:32	18:43	23 17:56 (10)	17:58	16:31	71 13:03 (9)	16:34	88 15:36 (6)	
27	05:46	06:14	06:42	17:32 (10)	06:11	06:45	11:52 (9)	07:08	12:07 (9)	
	20:08	19:30	18:41	24 17:56 (10)	16:57	16:30	71 13:03 (9)	16:35	87 15:36 (6)	
28	05:47	06:15	06:43	17:32 (10)	06:13	06:46	11:52 (9)	07:08	12:07 (9)	
	20:07	19:29	18:40	24 17:56 (10)	16:56	16:30	72 13:04 (9)	16:35	89 15:37 (6)	
29	05:48	06:16	06:44	17:32 (10)	06:14	06:47	11:53 (9)	07:09	12:07 (9)	
	20:06	19:27	18:38	23 17:55 (10)	16:55	16:30	71 13:04 (9)	16:36	89 15:37 (6)	
30	05:49	06:17	06:45	17:32 (10)	06:15	12:18 (9)	06:48	11:53 (9)	07:09	12:08 (9)
	20:05	19:26	18:37	22 17:54 (10)	16:54	19 12:37 (9)	16:29	71 13:04 (9)	16:37	88 15:38 (6)
31	05:50	06:18		06:16		12:12 (9)		07:09	12:08 (9)	
	20:04	19:24		16:52	30 12:42 (9)			16:37	89 15:38 (6)	
Potential sun hours	453	424	374	347		303		294		
Total, worst case			220	116	1930		2696			
Sun reduction			0,63	0,53	0,50		0,43			
Oper. time red.			0,34	0,34	0,34		0,34			
Wind dir. red.			0,98	0,65	0,20		0,32			
Total reduction			0,21	0,12	0,03		0,05			
Total, real			47	14	67		127			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AW - R73 CA10

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4,16	4,62	5,58	6,71	8,10	9,27	10,00	9,47	7,89	5,95	5,05	4,11

Operational time

0	1	Sum
1.500	1.500	3.000

	January	February	March	April	May	June
1	07:09 16:38	11:56 (9) 15:37 (6)	06:59 17:10	12:04 (9) 13:16 (9)	06:25 17:42	06:37 19:13
2	07:09 16:38	11:56 (9) 15:37 (6)	06:58 17:11	12:05 (9) 13:15 (9)	06:23 17:43	06:35 19:14
3	07:10 16:39	11:56 (9) 15:37 (6)	06:57 17:12	12:05 (9) 13:15 (9)	06:22 17:44	06:34 19:15
4	07:10 16:40	11:56 (9) 15:37 (6)	06:56 17:13	12:06 (9) 13:15 (9)	06:20 17:45	06:32 19:16
5	07:10 16:41	11:56 (9) 15:37 (6)	06:55 17:14	12:07 (9) 13:14 (9)	06:19 17:46	06:31 19:17
6	07:10 16:42	11:57 (9) 15:37 (6)	06:54 17:15	12:08 (9) 13:14 (9)	06:17 17:48	06:29 19:18
7	07:10 16:43	11:57 (9) 15:38 (6)	06:53 17:17	12:09 (9) 13:13 (9)	06:16 17:49	06:28 19:19
8	07:10 16:44	11:57 (9) 15:38 (6)	06:52 17:18	12:11 (9) 13:12 (9)	06:14 17:50	06:26 19:20
9	07:10 16:45	11:58 (9) 15:37 (6)	06:51 17:19	12:12 (9) 13:12 (9)	06:13 17:51	06:25 19:21
10	07:10 16:45	11:57 (9) 15:36 (6)	06:50 17:20	12:14 (9) 13:11 (9)	06:11 17:52	17:03 (10) 19:22
11	07:10 16:46	11:57 (9) 15:36 (6)	06:49 17:21	12:15 (9) 13:08 (9)	06:10 17:53	16:58 (10) 19:23
12	07:09 16:47	11:58 (9) 15:35 (6)	06:48 17:22	12:18 (9) 13:07 (9)	06:08 17:54	16:57 (10) 19:24
13	07:09 16:48	11:58 (9) 15:35 (6)	06:47 17:23	12:20 (9) 13:05 (9)	06:07 17:55	16:55 (10) 19:25
14	07:09 16:49	11:58 (9) 15:35 (6)	06:46 17:24	12:24 (9) 13:03 (9)	06:05 17:56	16:53 (10) 19:26
15	07:09 16:51	11:58 (9) 13:11 (9)	06:44 17:26	12:29 (9) 13:00 (9)	06:04 17:57	16:52 (10) 19:27
16	07:08 16:52	11:59 (9) 13:12 (9)	06:43 17:27	12:34 (9) 12:54 (9)	06:02 17:58	16:51 (10) 19:28
17	07:08 16:53	11:59 (9) 13:12 (9)	06:42 17:28	06:00 17:59	06:00 17:59	16:51 (10) 19:29
18	07:08 16:54	11:59 (9) 13:13 (9)	06:41 17:29	05:59 18:00	06:11 18:00	16:51 (10) 19:30
19	07:07 16:55	11:59 (9) 13:13 (9)	06:40 17:30	05:57 18:01	06:10 18:01	16:51 (10) 19:31
20	07:07 16:56	12:00 (9) 13:14 (9)	06:38 17:31	05:56 18:02	06:08 18:02	16:51 (10) 19:32
21	07:06 16:57	12:00 (9) 13:14 (9)	06:37 17:33	05:54 18:03	06:07 18:03	16:51 (10) 19:33
22	07:06 16:58	11:59 (9) 13:14 (9)	06:36 17:34	05:53 18:04	06:06 18:04	16:52 (10) 19:34
23	07:05 16:59	12:00 (9) 13:15 (9)	06:34 17:35	05:51 18:05	06:04 18:05	16:53 (10) 19:35
24	07:05 17:00	12:00 (9) 13:15 (9)	06:33 17:36	05:49 18:06	06:03 18:06	16:55 (10) 19:36
25	07:04 17:02	12:00 (9) 13:15 (9)	06:32 17:37	05:48 18:07	06:02 18:07	16:57 (10) 19:37
26	07:03 17:03	12:01 (9) 13:15 (9)	06:30 17:38	05:46 18:08	06:00 18:08	17:05 (10) 19:38
27	07:03 17:04	12:01 (9) 13:15 (9)	06:29 17:39	05:45 18:08	05:59 18:08	05:59 19:39
28	07:02 17:05	12:02 (9) 13:15 (9)	06:27 17:40	05:43 18:09	05:58 18:09	05:58 19:39
29	07:01 17:06	12:02 (9) 13:15 (9)	06:26 17:41	05:42 18:10	05:56 18:10	05:56 19:40
30	07:00 17:07	12:03 (9) 13:16 (9)	06:25 17:42	05:40 18:11	05:55 18:11	05:55 19:41
31	07:00 17:08	12:04 (9) 13:16 (9)	06:24 17:43	06:38 19:12	06:38 19:12	05:28 20:09
Potential sun hours	302	310	370	396	443	446
Total, worst case	2424	893	301			
Sun reduction	0,43	0,43	0,47			
Oper. time red.	0,34	0,34	0,34			
Wind dir. red.	0,19	0,14	0,98			
Total reduction	0,03	0,02	0,16			
Total, real	67	19	47			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AW - R73 CA10

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time		
0	1	Sum
1.500	1.500	3.000

	July	August	September	October	November	December							
1	05:28	05:50	06:18	06:46	17:34 (10)	06:17	11:45 (9)	06:49	11:40 (9)				
	20:20	20:03	19:23	18:35	17:53 (10)	16:51	12:38 (9)	16:29	15:17 (6)				
2	05:29	05:51	06:19	06:47	17:36 (10)	06:18	11:43 (9)	06:50	11:40 (9)				
	20:20	20:02	19:21	18:33	17:51 (10)	16:50	12:40 (9)	16:29	15:19 (6)				
3	05:29	05:52	06:20	06:47	17:38 (10)	06:19	11:41 (9)	06:51	11:41 (9)				
	20:20	20:01	19:20	18:32	17:48 (10)	16:49	12:41 (9)	16:29	15:20 (6)				
4	05:30	05:53	06:21	06:48		06:20	11:41 (9)	06:52	11:42 (9)				
	20:20	20:00	19:18	18:30		16:48	12:42 (9)	16:28	15:21 (6)				
5	05:30	05:54	06:22	06:49		06:21	11:39 (9)	06:53	11:42 (9)				
	20:20	19:59	19:16	18:29		16:47	12:43 (9)	16:28	15:22 (6)				
6	05:31	05:55	06:23	06:50		06:22	11:38 (9)	06:54	11:43 (9)				
	20:19	19:58	19:15	18:27		16:46	12:44 (9)	16:28	15:24 (6)				
7	05:31	05:56	06:24	06:51		06:23	11:37 (9)	06:55	11:44 (9)				
	20:19	19:57	19:13	18:26		16:45	12:44 (9)	16:28	15:25 (6)				
8	05:32	05:57	06:25	06:52		06:25	11:36 (9)	06:56	11:44 (9)				
	20:19	19:55	19:12	18:24		16:44	12:45 (9)	16:28	15:25 (6)				
9	05:33	05:58	06:26	06:53		06:26	11:36 (9)	06:57	11:44 (9)				
	20:19	19:54	19:10	18:23		16:43	12:46 (9)	16:28	15:25 (6)				
10	05:33	05:59	06:27	06:54		06:27	11:36 (9)	06:58	11:45 (9)				
	20:18	19:53	19:09	18:21		16:42	12:46 (9)	16:28	15:26 (6)				
11	05:34	05:59	06:27	06:55		06:28	11:35 (9)	06:59	11:46 (9)				
	20:18	19:52	19:07	18:19		16:41	12:47 (9)	16:28	15:27 (6)				
12	05:35	06:00	06:28	06:56		06:29	11:35 (9)	06:59	11:47 (9)				
	20:17	19:51	19:05	18:18		16:40	12:47 (9)	16:28	15:28 (6)				
13	05:35	06:01	06:29	06:57		06:30	11:34 (9)	07:00	11:48 (9)				
	20:17	19:49	19:04	18:17		16:39	12:47 (9)	16:29	15:29 (6)				
14	05:36	06:02	06:30	06:58		06:31	11:35 (9)	07:01	11:47 (9)				
	20:17	19:48	19:02	18:15		16:38	12:48 (9)	16:29	15:29 (6)				
15	05:37	06:03	06:31	06:59		06:32	11:35 (9)	07:02	11:48 (9)				
	20:16	19:47	19:01	18:14		16:37	12:48 (9)	16:29	15:30 (6)				
16	05:37	06:04	06:32	07:00		06:33	11:34 (9)	07:02	11:49 (9)				
	20:16	19:46	18:59	18:12		16:37	12:48 (9)	16:29	15:30 (6)				
17	05:38	06:05	06:33	07:01		06:35	11:34 (9)	07:03	11:49 (9)				
	20:15	19:44	18:57	18:11		16:36	12:49 (9)	16:30	15:30 (6)				
18	05:39	06:06	06:34	17:46 (10)	07:02	06:36	11:34 (9)	07:04	11:50 (9)				
	20:14	19:43	18:56	17:51 (10)	18:09	16:35	12:49 (9)	16:30	15:31 (6)				
19	05:40	06:07	06:35	17:42 (10)	07:03	06:37	11:35 (9)	07:04	11:51 (9)				
	20:14	19:42	18:54	17:54 (10)	18:08	16:35	12:50 (9)	16:30	15:32 (6)				
20	05:40	06:08	06:36	17:40 (10)	07:04	06:38	11:35 (9)	07:05	11:51 (9)				
	20:13	19:40	18:53	17:56 (10)	18:06	16:34	12:50 (9)	16:31	15:32 (6)				
21	05:41	06:09	06:36	17:38 (10)	07:05	06:39	11:35 (9)	07:05	11:52 (9)				
	20:12	19:39	18:51	17:57 (10)	18:05	16:33	12:50 (9)	16:31	15:33 (6)				
22	05:42	06:09	06:37	17:37 (10)	07:06	06:40	11:36 (9)	07:06	11:52 (9)				
	20:12	19:37	18:49	17:58 (10)	18:04	16:33	12:50 (9)	16:32	15:33 (6)				
23	05:43	06:10	06:38	17:36 (10)	07:07	06:41	11:36 (9)	07:06	11:52 (9)				
	20:11	19:36	18:48	17:58 (10)	18:02	16:32	12:50 (9)	16:32	15:33 (6)				
24	05:44	06:11	06:39	17:35 (10)	07:08	06:42	11:36 (9)	07:07	11:53 (9)				
	20:10	19:35	18:46	17:59 (10)	18:01	16:32	12:50 (9)	16:33	15:34 (6)				
25	05:44	06:12	06:40	17:33 (10)	07:09	06:43	11:36 (9)	07:07	11:53 (9)				
	20:09	19:33	18:45	17:58 (10)	18:00	16:31	12:50 (9)	16:33	15:34 (6)				
26	05:45	06:13	06:41	17:33 (10)	07:10	06:44	11:38 (9)	07:08	11:54 (9)				
	20:09	19:32	18:43	17:57 (10)	17:58	16:31	12:51 (9)	16:34	15:35 (6)				
27	05:46	06:14	06:42	17:33 (10)	06:11	12:03 (9)	06:45	11:38 (9)	07:08	11:54 (9)			
	20:08	19:30	18:41	17:57 (10)	16:57	22	12:25 (9)	16:30	73	12:51 (9)	16:35	88	15:35 (6)
28	05:47	06:15	06:43	17:33 (10)	06:13	11:57 (9)	06:46	11:38 (9)	07:08	11:54 (9)			
	20:07	19:29	18:40	17:56 (10)	16:56	32	12:29 (9)	16:30	73	12:51 (9)	16:35	89	15:36 (6)
29	05:48	06:16	06:44	17:33 (10)	06:14	11:53 (9)	06:47	11:39 (9)	07:09	11:54 (9)			
	20:06	19:27	18:38	17:55 (10)	16:55	40	12:33 (9)	16:30	72	12:51 (9)	16:36	88	15:36 (6)
30	05:49	06:17	06:45	17:34 (10)	06:15	11:50 (9)	06:48	11:39 (9)	07:09	11:55 (9)			
	20:05	19:26	18:37	17:54 (10)	16:54	45	12:35 (9)	16:29	72	12:51 (9)	16:37	89	15:37 (6)
31	05:50	06:18		06:16		11:47 (9)		07:09		11:56 (9)			
	20:04	19:24		16:52	50	12:37 (9)		16:37	88	15:37 (6)			
Potential sun hours	453	424	374	347		303		294					
Total, worst case			257	233		2108		2698					
Sun reduction			0,63	0,53		0,50		0,43					
Oper. time red.			0,34	0,34		0,34		0,34					
Wind dir. red.			0,98	0,30		0,14		0,28					
Total reduction			0,21	0,05		0,02		0,04					
Total, real			55	13		52		111					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AX - R07 CU1

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June	
1	07:09 16:37	06:58 17:09	06:24 17:42	14:14 (12) 15:17 (12)	06:36 19:13	15:31 (12) 16:03 (12)	05:53 20:09
2	07:09 16:38	06:58 17:10	06:23 17:43	63 14:13 (12) 65 15:18 (12)	06:35 19:14	26 15:35 (12) 16:01 (12)	05:52 19:43
3	07:09 16:39	06:57 17:11	06:21 17:44	67 14:12 (12) 67 15:19 (12)	06:33 19:15	19 15:38 (12) 15:57 (12)	05:51 19:44
4	07:09 16:40	06:56 17:13	06:20 17:45	68 14:11 (12) 68 15:19 (12)	06:32 19:16	1 15:48 (12) 15:49 (12)	05:50 19:45
5	07:09 16:40	06:55 17:14	06:18 17:46	69 14:11 (12) 69 15:20 (12)	06:30 19:17		05:49 19:46
6	07:09 16:41	06:54 17:15	06:17 17:47	70 14:10 (12) 70 15:20 (12)	06:29 19:18		05:48 19:47
7	07:10 16:42	06:53 17:16	06:15 17:48	71 14:10 (12) 71 15:21 (12)	06:27 19:19		05:46 19:48
8	07:09 16:43	06:52 17:17	06:14 17:49	72 14:09 (12) 72 15:21 (12)	06:26 19:20		05:45 19:49
9	07:09 16:44	06:51 17:18	06:12 17:50	71 14:10 (12) 71 15:21 (12)	06:24 19:21		05:44 19:50
10	07:09 16:45	06:50 17:20	06:11 17:51	72 14:09 (12) 72 15:21 (12)	06:23 19:22		05:43 19:51
11	07:09 16:46	06:49 17:21	06:09 17:52	73 14:09 (12) 73 15:22 (12)	06:21 19:23		05:42 19:52
12	07:09 16:47	06:48 17:22	06:08 17:53	72 14:09 (12) 72 15:21 (12)	06:20 19:24		05:41 19:53
13	07:09 16:48	06:46 17:23	06:06 17:54	72 14:10 (12) 72 15:22 (12)	06:18 19:25		05:40 19:53
14	07:09 16:49	06:45 17:24	06:05 17:55	71 14:10 (12) 71 15:21 (12)	06:17 19:26		05:39 19:54
15	07:08 16:50	06:44 17:25	06:03 17:56	71 14:09 (12) 71 15:20 (12)	06:15 19:26		05:38 19:55
16	07:08 16:51	06:43 17:26	06:02 17:57	71 14:10 (12) 71 15:21 (12)	06:14 19:27		05:38 19:56
17	07:08 16:52	06:42 17:28	06:00 17:58	69 14:11 (12) 69 15:20 (12)	06:12 19:28		05:37 19:57
18	07:07 16:53	06:40 17:29	05:59 17:59	68 14:12 (12) 68 15:20 (12)	06:11 19:29		05:36 19:58
19	07:07 16:54	06:39 17:30	14:39 (12) 14:53 (12)	05:57 18:00	67 14:12 (12) 67 15:19 (12)	06:09 19:30	05:35 19:59
20	07:06 16:55	06:38 17:31	14:34 (12) 14:59 (12)	05:55 18:01	66 14:13 (12) 66 15:19 (12)	06:08 19:31	05:34 20:00
21	07:06 16:57	06:37 17:32	14:30 (12) 15:03 (12)	05:54 18:02	64 14:14 (12) 64 15:18 (12)	06:07 19:32	05:33 20:01
22	07:05 16:58	06:35 17:33	14:27 (12) 15:05 (12)	05:52 18:03	62 14:15 (12) 62 15:17 (12)	06:05 19:33	05:33 20:01
23	07:05 16:59	06:34 17:34	14:25 (12) 15:08 (12)	05:51 18:04	61 14:16 (12) 61 15:17 (12)	06:04 19:34	05:32 20:02
24	07:04 17:00	06:33 17:35	14:22 (12) 15:09 (12)	05:49 18:05	58 14:17 (12) 58 15:15 (12)	06:03 19:35	05:31 20:03
25	07:04 17:01	06:31 17:36	14:21 (12) 15:11 (12)	05:47 18:06	56 14:19 (12) 56 15:15 (12)	06:01 19:36	05:31 20:04
26	07:03 17:02	06:30 17:38	14:19 (12) 15:13 (12)	05:46 18:07	53 14:20 (12) 53 15:13 (12)	06:00 19:37	05:30 20:05
27	07:02 17:03	06:29 17:39	14:17 (12) 15:14 (12)	05:44 18:08	51 14:21 (12) 51 15:12 (12)	05:59 19:38	05:29 20:06
28	07:02 17:04	06:27 17:40	14:17 (12) 15:15 (12)	05:43 18:09	48 14:23 (12) 48 15:11 (12)	05:57 19:39	05:29 20:06
29	07:01 17:06	06:26 17:41	14:15 (12) 15:16 (12)	05:41 18:10	44 14:25 (12) 44 15:09 (12)	05:56 19:40	05:28 20:07
30	07:00 17:07		05:40 18:11	41 14:27 (12) 41 15:08 (12)	05:55 19:41		05:28 20:08
31	06:59 17:08		06:38 19:12	36 15:29 (12) 36 16:05 (12)			05:27 20:09
Potential sun hours	302	310	370	396	443	446	
Total, worst case		480		1962		78	
Sun reduction		0,43		0,47		0,51	
Oper. time red.		0,34		0,34		0,34	
Wind dir. red.		0,77		0,77		0,77	
Total reduction		0,11		0,12		0,13	
Total, real		55		243		10	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AX - R07 CU1

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December				
1	05:28	05:50	06:18	06:45	14:49 (12)	06:16	06:49			
	20:20	20:03	19:22	18:35	16:01 (12)	16:51	16:29			
2	05:28	05:51	06:19	06:46	14:48 (12)	06:18	06:50			
	20:20	20:02	19:21	18:33	16:00 (12)	16:50	16:28			
3	05:29	05:52	06:20	06:47	14:48 (12)	06:19	06:51			
	20:20	20:01	19:19	18:31	16:00 (12)	16:48	16:28			
4	05:29	05:53	06:21	06:48	14:46 (12)	06:20	06:52			
	20:20	20:00	19:18	18:30	15:58 (12)	16:47	16:28			
5	05:30	05:54	06:22	06:49	14:46 (12)	06:21	06:53			
	20:19	19:58	19:16	18:28	15:58 (12)	16:46	16:28			
6	05:30	05:54	06:23	06:50	14:46 (12)	06:22	06:54			
	20:19	19:57	19:15	18:27	15:57 (12)	16:45	16:28			
7	05:31	05:55	06:23	06:51	14:46 (12)	06:23	06:55			
	20:19	19:56	19:13	18:25	15:56 (12)	16:44	16:28			
8	05:31	05:56	06:24	06:52	14:45 (12)	06:24	06:56			
	20:19	19:55	19:11	18:24	15:55 (12)	16:43	16:28			
9	05:32	05:57	06:25	15:33 (12)	06:53	14:46 (12)	06:25	06:57		
	20:18	19:54	19:10	17	15:50 (12)	18:22	68	15:54 (12)	16:42	16:28
10	05:33	05:58	06:26	15:29 (12)	06:54	14:46 (12)	06:26	06:57		
	20:18	19:53	19:08	24	15:53 (12)	18:21	67	15:53 (12)	16:41	16:28
11	05:33	05:59	06:27	15:25 (12)	06:55	14:46 (12)	06:28	06:58		
	20:18	19:52	19:07	31	15:56 (12)	18:19	66	15:52 (12)	16:40	16:28
12	05:34	06:00	06:28	15:22 (12)	06:56	14:47 (12)	06:29	06:59		
	20:17	19:50	19:05	35	15:57 (12)	18:18	64	15:51 (12)	16:39	16:28
13	05:35	06:01	06:29	15:18 (12)	06:57	14:47 (12)	06:30	07:00		
	20:17	19:49	19:03	40	15:58 (12)	18:16	63	15:50 (12)	16:39	16:28
14	05:35	06:02	06:30	15:16 (12)	06:58	14:49 (12)	06:31	07:00		
	20:16	19:48	19:02	43	15:59 (12)	18:15	60	15:49 (12)	16:38	16:28
15	05:36	06:03	06:31	15:13 (12)	06:59	14:49 (12)	06:32	07:01		
	20:16	19:46	19:00	47	16:00 (12)	18:13	59	15:48 (12)	16:37	16:29
16	05:37	06:04	06:32	15:11 (12)	07:00	14:50 (12)	06:33	07:02		
	20:15	19:45	18:59	50	16:01 (12)	18:12	56	15:46 (12)	16:36	16:29
17	05:38	06:04	06:32	15:09 (12)	07:01	14:51 (12)	06:34	07:03		
	20:15	19:44	18:57	52	16:01 (12)	18:10	53	15:44 (12)	16:35	16:29
18	05:38	06:05	06:33	15:07 (12)	07:02	14:53 (12)	06:35	07:03		
	20:14	19:42	18:55	55	16:02 (12)	18:09	49	15:42 (12)	16:35	16:30
19	05:39	06:06	06:34	15:05 (12)	07:03	14:54 (12)	06:36	07:04		
	20:13	19:41	18:54	57	16:02 (12)	18:07	46	15:40 (12)	16:34	16:30
20	05:40	06:07	06:35	15:03 (12)	07:04	14:56 (12)	06:37	07:04		
	20:13	19:40	18:52	60	16:03 (12)	18:06	42	15:38 (12)	16:33	16:30
21	05:41	06:08	06:36	15:00 (12)	07:05	14:58 (12)	06:39	07:05		
	20:12	19:38	18:51	62	16:02 (12)	18:05	37	15:35 (12)	16:33	16:31
22	05:42	06:09	06:37	14:59 (12)	07:06	15:01 (12)	06:40	07:06		
	20:11	19:37	18:49	63	16:02 (12)	18:03	31	15:32 (12)	16:32	16:31
23	05:42	06:10	06:38	14:57 (12)	07:07	15:04 (12)	06:41	07:06		
	20:11	19:36	18:47	65	16:02 (12)	18:02	24	15:28 (12)	16:32	16:32
24	05:43	06:11	06:39	14:56 (12)	07:08	15:11 (12)	06:42	07:06		
	20:10	19:34	18:46	66	16:02 (12)	18:01	10	15:21 (12)	16:31	16:32
25	05:44	06:12	06:40	14:55 (12)	07:09		06:43	07:07		
	20:09	19:33	18:44	67	16:02 (12)	17:59		16:31	16:33	
26	05:45	06:13	06:41	14:53 (12)	07:10		06:44	07:07		
	20:08	19:31	18:42	69	16:02 (12)	17:58		16:30	16:33	
27	05:46	06:14	06:41	14:52 (12)	06:11		06:45	07:08		
	20:07	19:30	18:41	70	16:02 (12)	16:57		16:30	16:34	
28	05:47	06:14	06:42	14:51 (12)	06:12		06:46	07:08		
	20:06	19:28	18:39	71	16:02 (12)	16:56		16:29	16:35	
29	05:47	06:15	06:43	14:50 (12)	06:13		06:47	07:08		
	20:06	19:27	18:38	72	16:02 (12)	16:54		16:29	16:35	
30	05:48	06:16	06:44	14:50 (12)	06:14		06:48	07:09		
	20:05	19:25	18:36	71	16:01 (12)	16:53		16:29	16:36	
31	05:49	06:17			06:15			07:09		
	20:04	19:24			16:52			16:37		
Potential sun hours	453	424	374		347		303	294		
Total, worst case			1187		1366					
Sun reduction			0,63		0,53					
Oper. time red.			0,34		0,34					
Wind dir. red.			0,77		0,77					
Total reduction			0,17		0,14					
Total, real			199		192					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AY - R08 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:37	06:59 17:09	12:55 (13) 13:58 (13)	06:24 17:42	07:11 (12) 14:03 (13)	06:37 19:13
2	07:09 16:38	06:58 17:10	12:54 (13) 13:59 (13)	06:23 17:43	07:11 (12) 14:03 (13)	06:35 19:14
3	07:09 16:39	06:57 17:12	12:53 (13) 14:00 (13)	06:21 17:44	07:09 (12) 14:01 (13)	06:33 19:15
4	07:09 16:40	06:56 17:13	12:52 (13) 14:01 (13)	06:20 17:45	07:09 (12) 14:00 (13)	06:32 19:16
5	07:10 16:41	06:55 17:14	12:52 (13) 14:02 (13)	06:19 17:46	07:09 (12) 13:59 (13)	06:30 19:17
6	07:10 16:41	06:54 17:15	12:51 (13) 14:03 (13)	06:17 17:47	07:09 (12) 13:57 (13)	06:29 19:18
7	07:10 16:42	06:53 17:16	12:51 (13) 14:03 (13)	06:16 17:48	07:09 (12) 13:55 (13)	06:27 19:19
8	07:10 16:43	06:52 17:17	12:50 (13) 14:04 (13)	06:14 17:49	07:09 (12) 13:52 (13)	06:26 19:20
9	07:10 16:44	06:51 17:19	12:49 (13) 14:04 (13)	06:13 17:50	07:10 (12) 13:49 (13)	06:24 19:21
10	07:09 16:45	06:50 17:20	12:49 (13) 14:05 (13)	06:11 17:51	07:10 (12) 13:42 (13)	06:23 19:22
11	07:09 16:46	06:49 17:21	12:49 (13) 14:05 (13)	06:09 17:52	07:12 (12) 07:28 (12)	06:21 19:23
12	07:09 16:47	06:48 17:22	12:49 (13) 14:06 (13)	06:08 17:53	07:14 (12) 07:25 (12)	06:20 19:24
13	07:09 16:48	06:47 17:23	12:49 (13) 14:07 (13)	06:06 17:54		06:18 19:25
14	07:09 16:49	06:45 17:24	12:49 (13) 14:07 (13)	06:05 17:55	06:17 19:26	05:39 19:54
15	07:08 16:50	06:44 17:25	12:48 (13) 14:07 (13)	06:03 17:56	06:15 19:27	05:38 19:55
16	07:08 16:51	06:43 17:27	12:48 (13) 14:07 (13)	06:02 17:57	06:14 19:28	05:38 19:56
17	07:08 16:52	06:42 17:28	12:48 (13) 14:08 (13)	06:00 17:58	06:12 19:29	05:37 19:57
18	07:07 16:53	06:41 13:15 (13) 17:29	12:49 (13) 14:08 (13)	05:59 17:59	06:11 19:29	05:36 19:58
19	07:07 16:54	13:12 (13) 13:33 (13) 17:30	06:39 17:30	12:48 (13) 14:08 (13)	05:57 18:00	06:10 19:30
20	07:06 16:56	13:09 (13) 13:36 (13) 17:31	06:38 17:31	12:49 (13) 14:08 (13)	05:55 18:01	06:08 19:31
21	07:06 16:57	27 13:07 (13) 17:32	17:37 17:32	12:49 (13) 14:08 (13)	05:54 18:02	06:07 19:32
22	07:05 16:58	32 13:05 (13) 17:33	06:35 17:33	12:49 (13) 14:07 (13)	05:52 18:03	06:05 19:33
23	07:05 16:59	36 13:04 (13) 17:34	06:34 17:34	12:50 (13) 14:07 (13)	05:51 18:04	06:04 19:34
24	07:04 17:00	40 13:03 (13) 17:35	06:33 17:35	12:51 (13) 14:08 (13)	05:49 18:05	06:03 19:35
25	07:04 17:01	43 13:01 (13) 17:37	06:31 17:37	12:51 (13) 14:07 (13)	05:48 18:06	06:01 19:36
26	07:03 17:02	46 12:59 (13) 17:38	06:30 17:38	07:18 (12) 14:06 (13)	05:46 18:07	06:00 19:37
27	07:02 17:03	50 12:59 (13) 17:39	06:29 17:39	07:15 (12) 14:05 (13)	05:44 18:08	05:59 19:38
28	07:02 17:05	52 12:58 (13) 17:40	06:27 17:40	07:13 (12) 14:05 (13)	05:43 18:09	05:57 19:39
29	07:01 17:06	54 12:57 (13) 17:41	06:26 17:41	07:11 (12) 14:04 (13)	05:41 18:10	05:56 19:40
30	07:00 17:07	57 12:56 (13) 13:55 (13)		05:40 18:11	05:55 19:41	05:28 20:08
31	06:59 17:08	59 12:55 (13) 13:56 (13)		06:38 19:12		05:27 20:09
Potential sun hours	302	310	370	396	443	446
Total, worst case	592	2227	721			
Sun reduction	0,43	0,43	0,47			
Oper. time red.	0,34	0,34	0,34			
Wind dir. red.	0,40	0,42	0,61			
Total reduction	0,06	0,06	0,10			
Total, real	35	139	70			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AY - R08 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	July	August	September	October		November		December	
1	05:28	05:50	06:18	06:45		07:55 (12)	06:17	12:19 (13)	06:49
	20:20	20:03	19:22	18:35	8	08:03 (12)	16:51	13:35 (13)	16:29
2	05:28	05:51	06:19	06:46		07:52 (12)	06:18	12:19 (13)	06:50
	20:20	20:02	19:21	18:33	14	08:06 (12)	16:50	13:35 (13)	16:28
3	05:29	05:52	06:20	06:47		07:50 (12)	06:19	12:19 (13)	06:51
	20:20	20:01	19:19	18:31	17	08:07 (12)	16:49	13:34 (13)	16:28
4	05:29	05:53	06:21	06:48		07:48 (12)	06:20	12:19 (13)	06:52
	20:20	20:00	19:18	18:30	41	14:24 (13)	16:47	13:33 (13)	16:28
5	05:30	05:54	06:22	06:49		07:47 (12)	06:21	12:21 (13)	06:53
	20:19	19:59	19:16	18:28	53	14:28 (13)	16:46	13:33 (13)	16:28
6	05:30	05:55	06:23	06:50		07:46 (12)	06:22	12:21 (13)	06:54
	20:19	19:57	19:15	18:27	62	14:30 (13)	16:45	13:33 (13)	16:28
7	05:31	05:55	06:24	06:51		07:44 (12)	06:23	12:22 (13)	06:55
	20:19	19:56	19:13	18:25	69	14:31 (13)	16:44	13:32 (13)	16:28
8	05:32	05:56	06:24	06:52		07:44 (12)	06:24	12:22 (13)	06:56
	20:19	19:55	19:11	18:24	74	14:32 (13)	16:43	13:31 (13)	16:28
9	05:32	05:57	06:25	06:53		07:43 (12)	06:25	12:23 (13)	06:57
	20:18	19:54	19:10	18:22	80	14:34 (13)	16:42	13:30 (13)	16:28
10	05:33	05:58	06:26	06:54		07:44 (12)	06:27	12:25 (13)	06:57
	20:18	19:53	19:08	18:21	83	14:35 (13)	16:41	13:30 (13)	16:28
11	05:33	05:59	06:27	06:55		07:44 (12)	06:28	12:26 (13)	06:58
	20:18	19:52	19:07	18:19	86	14:36 (13)	16:40	13:29 (13)	16:28
12	05:34	06:00	06:28	06:56		07:44 (12)	06:29	12:27 (13)	06:59
	20:17	19:50	19:05	18:18	89	14:37 (13)	16:40	13:28 (13)	16:28
13	05:35	06:01	06:29	06:57		07:45 (12)	06:30	12:28 (13)	07:00
	20:17	19:49	19:04	18:16	89	14:37 (13)	16:39	13:27 (13)	16:28
14	05:36	06:02	06:30	06:58		07:45 (12)	06:31	12:29 (13)	07:01
	20:16	19:48	19:02	18:15	90	14:38 (13)	16:38	13:26 (13)	16:28
15	05:36	06:03	06:31	06:59		07:46 (12)	06:32	12:31 (13)	07:01
	20:16	19:47	19:00	18:13	90	14:38 (13)	16:37	13:25 (13)	16:29
16	05:37	06:04	06:32	07:00		07:48 (12)	06:33	12:32 (13)	07:02
	20:15	19:45	18:59	18:12	88	14:38 (13)	16:36	13:24 (13)	16:29
17	05:38	06:05	06:32	07:01		07:50 (12)	06:34	12:33 (13)	07:03
	20:15	19:44	18:57	18:10	84	14:38 (13)	16:36	13:23 (13)	16:29
18	05:38	06:05	06:33	07:02		13:23 (13)	06:35	12:35 (13)	07:03
	20:14	19:43	18:55	18:09	75	14:38 (13)	16:35	13:21 (13)	16:30
19	05:39	06:06	06:34	07:03		13:22 (13)	06:36	12:36 (13)	07:04
	20:13	19:41	18:54	18:08	76	14:38 (13)	16:34	13:20 (13)	16:30
20	05:40	06:07	06:35	07:04		13:21 (13)	06:38	12:38 (13)	07:05
	20:13	19:40	18:52	18:06	77	14:38 (13)	16:34	13:18 (13)	16:30
21	05:41	06:08	06:36	07:05		13:20 (13)	06:39	12:41 (13)	07:05
	20:12	19:38	18:51	18:05	78	14:38 (13)	16:33	13:18 (13)	16:31
22	05:42	06:09	06:37	07:06		13:19 (13)	06:40	12:43 (13)	07:06
	20:11	19:37	18:49	18:03	79	14:38 (13)	16:32	13:16 (13)	16:31
23	05:42	06:10	06:38	07:07		13:18 (13)	06:41	12:46 (13)	07:06
	20:11	19:36	18:47	18:02	80	14:38 (13)	16:32	13:13 (13)	16:32
24	05:43	06:11	06:39	07:08		13:18 (13)	06:42	12:49 (13)	07:07
	20:10	19:34	18:46	18:01	79	14:37 (13)	16:31	13:11 (13)	16:32
25	05:44	06:12	06:40	07:09		13:18 (13)	06:43	12:52 (13)	07:07
	20:09	19:33	18:44	17:59	80	14:38 (13)	16:31	13:07 (13)	16:33
26	05:45	06:13	06:41	07:10		13:18 (13)	06:44		07:07
	20:08	19:31	18:43	17:58	79	14:37 (13)	16:30		16:34
27	05:46	06:14	06:42	06:11		12:18 (13)	06:45		07:08
	20:07	19:30	18:41	16:57	79	13:37 (13)	16:30		16:34
28	05:47	06:15	06:42	06:12		12:18 (13)	06:46		07:08
	20:07	19:28	18:39	16:56	79	13:37 (13)	16:30		16:35
29	05:47	06:15	06:43	06:13		12:17 (13)	06:47		07:08
	20:06	19:27	18:38	16:54	79	13:36 (13)	16:29		16:36
30	05:48	06:16	06:44	06:14		12:17 (13)	06:48		07:09
	20:05	19:25	18:36	16:53	79	13:36 (13)	16:29		16:36
31	05:49	06:17		06:15		12:19 (13)			07:09
	20:04	19:24		16:52	77	13:36 (13)			16:37
Potential sun hours	453	424	374	347		303			294
Total, worst case				2213		1376			
Sun reduction				0,53		0,50			
Oper. time red.				0,34		0,34			
Wind dir. red.				0,49		0,40			
Total reduction				0,09		0,07			
Total, real				198		96			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AZ - R09 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09	12:46 (13) 06:59	12:40 (13) 06:24	07:14 (12) 06:37	05:54	05:27
16:37	42	13:28 (13) 17:09	75 13:55 (13) 17:42	26 07:40 (12) 19:13	19:42	20:09
2	07:09	12:46 (13) 06:58	12:40 (13) 06:23	07:15 (12) 06:35	05:52	05:27
16:38	43	13:29 (13) 17:10	75 13:55 (13) 17:43	25 07:40 (12) 19:14	19:43	20:10
3	07:09	12:46 (13) 06:57	12:40 (13) 06:21	07:15 (12) 06:33	05:51	05:26
16:39	44	13:30 (13) 17:12	76 13:56 (13) 17:44	24 07:39 (12) 19:15	19:44	20:11
4	07:09	12:46 (13) 06:56	12:41 (13) 06:20	07:15 (12) 06:32	05:50	05:26
16:40	45	13:31 (13) 17:13	75 13:56 (13) 17:45	23 07:38 (12) 19:16	19:45	20:11
5	07:10	12:45 (13) 06:55	12:41 (13) 06:19	07:16 (12) 06:30	05:49	05:25
16:41	47	13:32 (13) 17:14	75 13:56 (13) 17:46	21 07:37 (12) 19:17	19:46	20:12
6	07:10	12:45 (13) 06:54	12:41 (13) 06:17	07:17 (12) 06:29	05:48	05:25
16:41	48	13:33 (13) 17:15	75 13:56 (13) 17:47	18 07:35 (12) 19:18	19:47	20:13
7	07:10	12:45 (13) 06:53	12:41 (13) 06:16	07:18 (12) 06:27	05:47	05:25
16:42	49	13:34 (13) 17:16	76 13:57 (13) 17:48	15 07:33 (12) 19:19	19:48	20:13
8	07:10	12:44 (13) 06:52	12:42 (13) 06:14	07:20 (12) 06:26	05:45	05:25
16:43	50	13:34 (13) 17:17	75 13:57 (13) 17:49	9 07:29 (12) 19:20	19:49	20:14
9	07:10	12:44 (13) 06:51	12:41 (13) 06:13	06:24	05:44	05:25
16:44	51	13:35 (13) 17:19	75 13:56 (13) 17:50	19:21	19:50	20:14
10	07:09	12:44 (13) 06:50	12:42 (13) 06:11	06:23	05:43	05:24
16:45	53	13:37 (13) 17:20	74 13:56 (13) 17:51	19:22	19:51	20:15
11	07:09	12:44 (13) 06:49	12:42 (13) 06:09	06:21	05:42	05:24
16:46	54	13:38 (13) 17:21	74 13:56 (13) 17:52	19:23	19:52	20:16
12	07:09	12:44 (13) 06:48	12:43 (13) 06:08	06:20	05:41	05:24
16:47	55	13:39 (13) 17:22	73 13:56 (13) 17:53	19:24	19:53	20:16
13	07:09	12:43 (13) 06:47	12:44 (13) 06:06	06:18	05:40	05:24
16:48	56	13:39 (13) 17:23	72 13:56 (13) 17:54	19:25	19:54	20:16
14	07:09	12:43 (13) 06:45	12:45 (13) 06:05	06:17	05:39	05:24
16:49	58	13:41 (13) 17:24	71 13:56 (13) 17:55	19:26	19:54	20:17
15	07:08	12:43 (13) 06:44	12:45 (13) 06:03	06:15	05:38	05:24
16:50	59	13:42 (13) 17:25	69 13:54 (13) 17:56	19:27	19:55	20:17
16	07:08	12:42 (13) 06:43	12:47 (13) 06:02	06:14	05:38	05:24
16:51	61	13:43 (13) 17:27	67 13:54 (13) 17:57	19:28	19:56	20:18
17	07:08	12:42 (13) 06:42	12:48 (13) 06:00	06:12	05:37	05:24
16:52	62	13:44 (13) 17:28	66 13:54 (13) 17:58	19:29	19:57	20:18
18	07:07	12:41 (13) 06:41	12:50 (13) 05:59	06:11	05:36	05:24
16:53	63	13:44 (13) 17:29	63 13:53 (13) 17:59	19:29	19:58	20:18
19	07:07	12:42 (13) 06:39	12:51 (13) 05:57	06:10	05:35	05:24
16:54	64	13:46 (13) 17:30	61 13:52 (13) 18:00	19:30	19:59	20:19
20	07:06	12:41 (13) 06:38	12:53 (13) 05:55	06:08	05:34	05:24
16:56	65	13:46 (13) 17:31	58 13:51 (13) 18:01	19:31	20:00	20:19
21	07:06	12:41 (13) 06:37	07:26 (12) 05:54	06:07	05:33	05:25
16:57	67	13:48 (13) 17:32	61 13:50 (13) 18:02	19:32	20:01	20:19
22	07:05	12:41 (13) 06:35	07:22 (12) 05:52	06:05	05:33	05:25
16:58	67	13:48 (13) 17:33	64 13:48 (13) 18:03	19:33	20:02	20:19
23	07:05	12:41 (13) 06:34	07:20 (12) 05:51	06:04	05:32	05:25
16:59	68	13:49 (13) 17:34	64 13:47 (13) 18:04	19:34	20:02	20:20
24	07:04	12:41 (13) 06:33	07:19 (12) 05:49	06:03	05:31	05:25
17:00	69	13:50 (13) 17:35	60 13:45 (13) 18:05	19:35	20:03	20:20
25	07:04	12:40 (13) 06:31	07:17 (12) 05:48	06:01	05:31	05:26
17:01	70	13:50 (13) 17:37	57 13:42 (13) 18:06	19:36	20:04	20:20
26	07:03	12:40 (13) 06:30	07:16 (12) 05:46	06:00	05:30	05:26
17:02	71	13:51 (13) 17:38	51 13:39 (13) 18:07	19:37	20:05	20:20
27	07:02	12:40 (13) 06:29	07:15 (12) 05:44	05:59	05:29	05:26
17:03	72	13:52 (13) 17:39	38 13:32 (13) 18:08	19:38	20:06	20:20
28	07:02	12:40 (13) 06:27	07:15 (12) 05:43	05:57	05:29	05:27
17:05	73	13:53 (13) 17:40	25 07:40 (12) 18:09	19:39	20:06	20:20
29	07:01	12:40 (13) 06:26	07:14 (12) 05:41	05:56	05:28	05:27
17:06	73	13:53 (13) 17:41	26 07:40 (12) 18:10	19:40	20:07	20:20
30	07:00	12:40 (13) 06:25	05:40	05:55	05:28	05:27
17:07	73	13:53 (13) 17:41	18:11	19:41	20:08	20:20
31	06:59	12:40 (13) 06:24	06:38	05:54	05:27	05:27
17:08	74	13:54 (13) 17:42	19:12	19:42	20:09	20:20
Potential sun hours	302	310	370	396	443	446
Total, worst case	1846	1871	161			
Sun reduction	0,43	0,43	0,47			
Oper. time red.	0,34	0,34	0,34			
Wind dir. red.	0,34	0,39	0,95			
Total reduction	0,05	0,06	0,15			
Total, real	91	109	25			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: AZ - R09 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28	05:50	06:18	06:45	06:17	12:12 (13) 06:49 12:26 (13)
	20:20	20:03	19:22	18:35	16:51	74 13:26 (13) 16:29 13:21 (13)
2	05:28	05:51	06:19	06:46	06:18	12:12 (13) 06:50 12:27 (13)
	20:20	20:02	19:21	18:33	16:50	74 13:26 (13) 16:28 54 13:21 (13)
3	05:29	05:52	06:20	06:47	06:19	12:11 (13) 06:51 12:28 (13)
	20:20	20:01	19:19	18:31	16:49	75 13:26 (13) 16:28 53 13:21 (13)
4	05:29	05:53	06:21	06:48	06:20	12:11 (13) 06:52 12:29 (13)
	20:20	20:00	19:18	18:30	16:47	75 13:26 (13) 16:28 51 13:20 (13)
5	05:30	05:54	06:22	06:49	08:01 (12) 06:21	12:11 (13) 06:53 12:30 (13)
	20:19	19:59	19:16	18:28	3 08:04 (12) 16:46	75 13:26 (13) 16:28 50 13:20 (13)
6	05:30	05:55	06:23	06:50	07:56 (12) 06:22	12:11 (13) 06:54 12:31 (13)
	20:19	19:57	19:15	18:27	12 08:08 (12) 16:45	75 13:26 (13) 16:28 49 13:20 (13)
7	05:31	05:55	06:24	06:51	07:53 (12) 06:23	12:11 (13) 06:55 12:31 (13)
	20:19	19:56	19:13	18:25	16 08:09 (12) 16:44	75 13:26 (13) 16:28 48 13:19 (13)
8	05:32	05:56	06:24	06:52	07:51 (12) 06:24	12:10 (13) 06:56 12:32 (13)
	20:19	19:55	19:11	18:24	20 08:11 (12) 16:43	76 13:26 (13) 16:28 47 13:19 (13)
9	05:32	05:57	06:25	06:53	07:50 (12) 06:25	12:10 (13) 06:57 12:33 (13)
	20:18	19:54	19:10	18:22	21 08:11 (12) 16:42	76 13:26 (13) 16:28 46 13:19 (13)
10	05:33	05:58	06:26	06:54	07:50 (12) 06:27	12:11 (13) 06:57 12:35 (13)
	20:18	19:53	19:08	18:21	23 08:13 (12) 16:41	75 13:26 (13) 16:28 44 13:19 (13)
11	05:33	05:59	06:27	06:55	07:49 (12) 06:28	12:11 (13) 06:58 12:36 (13)
	20:18	19:52	19:07	18:19	24 08:13 (12) 16:40	75 13:26 (13) 16:28 43 13:19 (13)
12	05:34	06:00	06:28	06:56	07:48 (12) 06:29	12:12 (13) 06:59 12:37 (13)
	20:17	19:50	19:05	18:18	25 08:13 (12) 16:40	74 13:26 (13) 16:28 42 13:19 (13)
13	05:35	06:01	06:29	06:57	07:48 (12) 06:30	12:12 (13) 07:00 12:37 (13)
	20:17	19:49	19:04	18:16	25 08:13 (12) 16:39	73 13:25 (13) 16:28 41 13:18 (13)
14	05:36	06:02	06:30	06:58	07:48 (12) 06:31	12:12 (13) 07:01 12:38 (13)
	20:16	19:48	19:02	18:15	25 08:13 (12) 16:38	73 13:25 (13) 16:28 40 13:18 (13)
15	05:36	06:03	06:31	06:59	07:48 (12) 06:32	12:13 (13) 07:01 12:40 (13)
	20:16	19:47	19:00	18:13	25 08:13 (12) 16:37	73 13:26 (13) 16:29 39 13:19 (13)
16	05:37	06:04	06:32	07:00	07:48 (12) 06:33	12:13 (13) 07:02 12:40 (13)
	20:15	19:45	18:59	18:12	42 14:07 (13) 16:36	72 13:25 (13) 16:29 38 13:18 (13)
17	05:38	06:05	06:32	07:01	07:48 (12) 06:34	12:14 (13) 07:03 12:41 (13)
	20:15	19:44	18:57	18:10	53 14:12 (13) 16:36	71 13:25 (13) 16:29 38 13:19 (13)
18	05:38	06:05	06:33	07:02	07:49 (12) 06:35	12:14 (13) 07:03 12:42 (13)
	20:14	19:43	18:55	18:09	58 14:14 (13) 16:35	70 13:24 (13) 16:30 37 13:19 (13)
19	05:39	06:06	06:34	07:03	07:50 (12) 06:36	12:15 (13) 07:04 12:42 (13)
	20:13	19:41	18:54	18:08	62 14:16 (13) 16:34	69 13:24 (13) 16:30 37 13:19 (13)
20	05:40	06:07	06:35	07:04	07:51 (12) 06:38	12:15 (13) 07:05 12:43 (13)
	20:13	19:40	18:52	18:06	64 14:18 (13) 16:33	69 13:24 (13) 16:30 37 13:20 (13)
21	05:41	06:08	06:36	07:05	07:53 (12) 06:39	12:17 (13) 07:05 12:43 (13)
	20:12	19:38	18:51	18:05	64 14:19 (13) 16:33	67 13:24 (13) 16:31 37 13:20 (13)
22	05:42	06:09	06:37	07:06	13:24 (13) 06:40	12:17 (13) 07:06 12:44 (13)
	20:11	19:37	18:49	18:03	56 14:20 (13) 16:32	67 13:24 (13) 16:31 37 13:21 (13)
23	05:42	06:10	06:38	07:07	13:22 (13) 06:41	12:18 (13) 07:06 12:44 (13)
	20:11	19:36	18:47	18:02	59 14:21 (13) 16:32	65 13:23 (13) 16:32 37 13:21 (13)
24	05:43	06:11	06:39	07:08	13:20 (13) 06:42	12:19 (13) 07:07 12:45 (13)
	20:10	19:34	18:46	18:01	62 14:22 (13) 16:31	64 13:23 (13) 16:32 37 13:22 (13)
25	05:44	06:12	06:40	07:09	13:19 (13) 06:43	12:20 (13) 07:07 12:45 (13)
	20:09	19:33	18:44	17:59	64 14:23 (13) 16:31	62 13:22 (13) 16:33 37 13:22 (13)
26	05:45	06:13	06:41	07:10	13:18 (13) 06:44	12:20 (13) 07:07 12:45 (13)
	20:08	19:31	18:43	17:58	66 14:24 (13) 16:30	62 13:22 (13) 16:34 38 13:23 (13)
27	05:46	06:14	06:42	06:11	12:16 (13) 06:45	12:21 (13) 07:08 12:46 (13)
	20:07	19:30	18:41	16:57	68 13:24 (13) 16:30	61 13:22 (13) 16:34 38 13:24 (13)
28	05:47	06:15	06:42	06:12	12:15 (13) 06:46	12:22 (13) 07:08 12:46 (13)
	20:07	19:28	18:39	16:56	69 13:24 (13) 16:30	59 13:21 (13) 16:35 39 13:25 (13)
29	05:47	06:15	06:43	06:13	12:14 (13) 06:47	12:24 (13) 07:08 12:45 (13)
	20:06	19:27	18:38	16:54	70 13:24 (13) 16:29	58 13:22 (13) 16:36 40 13:25 (13)
30	05:48	06:16	06:44	06:14	12:13 (13) 06:48	12:25 (13) 07:09 12:45 (13)
	20:05	19:25	18:36	16:53	72 13:25 (13) 16:29	57 13:22 (13) 16:36 41 13:26 (13)
31	05:49	06:17	06:15	06:15	12:13 (13)	07:09 12:45 (13)
	20:04	19:24	16:52	73 13:26 (13)	16:37 42 13:27 (13)	
Potential sun hours	453	424	374	347	303	294
Total, worst case				1221	2091	1312
Sun reduction				0,53	0,50	0,43
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				0,50	0,34	0,34
Total reduction				0,09	0,06	0,05
Total, real				112	121	65

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BA - R10 CU2

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4,16	4,62	5,58	6,71	8,10	9,27	10,00	9,47	7,89	5,95	5,05	4,11

Operational time

0	1	Sum
1.500	1.500	3.000

	January	February	March	April	May	June
1	07:09 16:37 47	12:23 (13) 13:10 (13) 17:09	06:59 17:09 77	12:19 (13) 13:36 (13) 17:42	06:37 07:37 (12) 19:13	05:54 19:42 20:09
2	07:09 16:38 48	12:23 (13) 13:11 (13) 17:10	06:58 17:10 77	12:19 (13) 13:36 (13) 17:43	06:35 07:37 (12) 19:14	05:52 19:43 20:10
3	07:09 16:39 49	12:23 (13) 13:12 (13) 17:12	06:57 17:12 77	12:19 (13) 13:36 (13) 17:44	06:33 07:36 (12) 19:15	05:51 19:44 20:11
4	07:09 16:40 50	12:23 (13) 13:13 (13) 17:13	06:56 17:13 78	12:19 (13) 13:37 (13) 17:45	06:32 07:36 (12) 19:16	05:50 19:45 20:11
5	07:10 16:41 51	12:23 (13) 13:14 (13) 17:14	06:55 17:14 78	12:19 (13) 13:37 (13) 17:46	06:30 07:34 (12) 19:17	05:49 19:46 20:12
6	07:10 16:41 52	12:23 (13) 13:15 (13) 17:15	06:54 17:15 78	12:19 (13) 13:37 (13) 17:47	06:29 07:34 (12) 19:18	05:48 19:47 20:13
7	07:10 16:42 53	12:23 (13) 13:16 (13) 17:16	06:53 17:16 77	12:20 (13) 13:37 (13) 17:48	06:27 07:31 (12) 19:19	05:47 19:48 20:13
8	07:10 16:43 54	12:22 (13) 13:16 (13) 17:17	06:52 17:17 77	12:20 (13) 13:37 (13) 17:49	06:26 07:29 (12) 19:20	05:45 19:49 20:14
9	07:10 16:44 55	12:22 (13) 13:17 (13) 17:19	06:51 17:19 76	12:20 (13) 13:36 (13) 17:50	06:24 07:24 (12) 19:21	05:44 19:50 20:14
10	07:09 16:45 56	12:22 (13) 13:18 (13) 17:20	06:50 17:20 76	12:20 (13) 13:36 (13) 17:51	06:23 19:22 19:51	05:43 19:51 20:15
11	07:09 16:46 58	12:22 (13) 13:20 (13) 17:21	06:49 17:21 75	12:21 (13) 13:36 (13) 17:52	06:21 19:23 19:52	05:42 19:52 20:16
12	07:09 16:47 59	12:22 (13) 13:21 (13) 17:22	06:48 17:22 74	12:22 (13) 13:36 (13) 17:53	06:20 19:24 19:53	05:41 19:53 20:16
13	07:09 16:48 60	12:21 (13) 13:21 (13) 17:23	06:47 17:23 73	12:23 (13) 13:36 (13) 17:54	06:18 19:25 19:54	05:40 19:54 20:16
14	07:09 16:49 61	12:21 (13) 13:22 (13) 17:24	06:45 17:24 72	12:24 (13) 13:36 (13) 17:55	06:17 19:26 19:54	05:39 19:54 20:17
15	07:08 16:50 63	12:21 (13) 13:24 (13) 17:25	06:44 17:25 71	12:24 (13) 13:35 (13) 17:56	06:15 19:27 19:55	05:38 19:55 20:17
16	07:08 16:51 64	12:20 (13) 13:24 (13) 17:27	06:43 17:27 69	12:25 (13) 13:34 (13) 17:57	06:14 19:28 19:56	05:38 19:56 20:18
17	07:08 16:52 65	12:20 (13) 13:25 (13) 17:28	06:42 17:28 67	12:27 (13) 13:34 (13) 17:58	06:12 19:29 19:57	05:37 19:57 20:18
18	07:07 16:53 66	12:20 (13) 13:26 (13) 17:29	06:41 17:29 65	12:28 (13) 13:33 (13) 17:59	06:11 19:29 19:58	05:36 19:58 20:18
19	07:07 16:54 67	12:20 (13) 13:27 (13) 17:30	06:39 17:30 62	12:29 (13) 13:31 (13) 18:00	06:10 19:30 19:59	05:35 19:59 20:19
20	07:06 16:56 68	12:19 (13) 13:27 (13) 17:31	06:38 17:31 59	12:32 (13) 13:31 (13) 18:01	06:08 19:31 20:00	05:34 20:00 20:19
21	07:06 16:57 69	12:20 (13) 13:29 (13) 17:32	06:37 17:32 55	12:34 (13) 13:29 (13) 18:02	06:07 19:32 20:01	05:33 20:01 20:19
22	07:05 16:58 70	12:19 (13) 13:29 (13) 17:33	06:35 17:33 57	07:23 (12) 13:27 (13) 18:03	06:05 19:33 20:02	05:33 20:02 20:19
23	07:05 16:59 72	12:19 (13) 13:31 (13) 17:34	06:34 17:34 58	07:19 (12) 13:25 (13) 18:04	06:04 19:34 20:02	05:32 20:02 20:20
24	07:04 17:00 72	12:19 (13) 13:31 (13) 17:35	06:33 17:35 56	07:18 (12) 13:23 (13) 18:05	06:03 19:35 20:03	05:31 20:03 20:20
25	07:04 17:01 73	12:18 (13) 13:31 (13) 17:37	06:31 17:37 50	07:16 (12) 13:19 (13) 18:06	06:01 19:36 20:04	05:31 20:04 20:20
26	07:03 17:02 74	12:18 (13) 13:32 (13) 17:38	06:30 17:38 39	07:15 (12) 13:14 (13) 18:07	06:00 19:37 20:05	05:30 20:05 20:20
27	07:02 17:03 74	12:19 (13) 13:33 (13) 17:39	06:29 17:39 23	07:13 (12) 07:36 (12) 18:08	05:59 19:38 20:06	05:29 20:06 20:20
28	07:02 17:05 76	12:18 (13) 13:34 (13) 17:40	06:27 17:40 24	07:13 (12) 07:37 (12) 18:09	05:57 19:39 20:06	05:29 20:06 20:20
29	07:01 17:06 76	12:18 (13) 13:34 (13) 17:41	06:26 17:41 25	07:12 (12) 07:37 (12) 18:10	05:56 19:40 20:07	05:28 20:07 20:20
30	07:00 17:07 76	12:18 (13) 13:34 (13) 17:41	06:25 17:41 25	07:11 (12) 07:37 (12) 18:11	05:55 19:41 20:08	05:28 20:08 20:20
31	06:59 17:08 77	12:18 (13) 13:35 (13) 17:42	06:24 17:42 25	07:10 (12) 07:37 (12) 18:12	05:54 19:42 20:09	05:27 20:09 20:20
Potential sun hours	302	310	370	396	443	446
Total, worst case	1955	1845	168			
Sun reduction	0,43	0,43	0,47			
Oper. time red.	0,34	0,34	0,34			
Wind dir. red.	0,24	0,30	0,95			
Total reduction	0,04	0,04	0,15			
Total, real	69	81	26			

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: Bufalo real case Shadow receptor: BA - R10 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28	05:50	06:18	06:45	06:17	11:51 (13) 06:49 12:04 (13)
	20:20	20:03	19:22	18:35	16:51	75 13:06 (13) 16:29 59 13:03 (13)
2	05:28	05:51	06:19	06:46	06:18	11:50 (13) 06:50 12:05 (13)
	20:20	20:02	19:21	18:33	16:50	76 13:06 (13) 16:28 58 13:03 (13)
3	05:29	05:52	06:20	06:47	06:19	11:49 (13) 06:51 12:06 (13)
	20:20	20:01	19:19	18:31	16:49	77 13:06 (13) 16:28 56 13:02 (13)
4	05:29	05:53	06:21	06:48	06:20	11:49 (13) 06:52 12:07 (13)
	20:20	20:00	19:18	18:30	16:47	77 13:06 (13) 16:28 55 13:02 (13)
5	05:30	05:54	06:22	06:49	07:56 (12) 06:21	11:50 (13) 06:53 12:08 (13)
	20:19	19:59	19:16	18:28	8 08:04 (12) 16:46	77 13:07 (13) 16:28 54 13:02 (13)
6	05:30	05:55	06:23	06:50	07:53 (12) 06:22	11:49 (13) 06:54 12:09 (13)
	20:19	19:57	19:15	18:27	14 08:07 (12) 16:45	78 13:07 (13) 16:28 53 13:02 (13)
7	05:31	05:55	06:24	06:51	07:51 (12) 06:23	11:49 (13) 06:55 12:09 (13)
	20:19	19:56	19:13	18:25	18 08:09 (12) 16:44	78 13:07 (13) 16:28 52 13:01 (13)
8	05:32	05:56	06:24	06:52	07:48 (12) 06:24	11:49 (13) 06:56 12:10 (13)
	20:19	19:55	19:11	18:24	21 08:09 (12) 16:43	78 13:07 (13) 16:28 51 13:01 (13)
9	05:32	05:57	06:25	06:53	07:47 (12) 06:25	11:49 (13) 06:57 12:11 (13)
	20:18	19:54	19:10	18:22	22 08:09 (12) 16:42	77 13:06 (13) 16:28 50 13:01 (13)
10	05:33	05:58	06:26	06:54	07:47 (12) 06:27	11:50 (13) 06:57 12:12 (13)
	20:18	19:53	19:08	18:21	24 08:11 (12) 16:41	77 13:07 (13) 16:28 49 13:01 (13)
11	05:33	05:59	06:27	06:55	07:47 (12) 06:28	11:50 (13) 06:58 12:13 (13)
	20:18	19:52	19:07	18:19	24 08:11 (12) 16:40	77 13:07 (13) 16:28 48 13:01 (13)
12	05:34	06:00	06:28	06:56	07:46 (12) 06:29	11:50 (13) 06:59 12:14 (13)
	20:17	19:50	19:05	18:18	25 08:11 (12) 16:40	77 13:07 (13) 16:28 47 13:01 (13)
13	05:35	06:01	06:29	06:57	07:46 (12) 06:30	11:50 (13) 07:00 12:14 (13)
	20:17	19:49	19:04	18:16	25 08:11 (12) 16:39	76 13:06 (13) 16:28 47 13:01 (13)
14	05:36	06:02	06:30	06:58	07:46 (12) 06:31	11:50 (13) 07:01 12:15 (13)
	20:16	19:48	19:02	18:15	24 08:10 (12) 16:38	76 13:06 (13) 16:28 46 13:01 (13)
15	05:36	06:03	06:31	06:59	07:46 (12) 06:32	11:51 (13) 07:01 12:16 (13)
	20:16	19:47	19:00	18:13	24 08:10 (12) 16:37	76 13:07 (13) 16:29 45 13:01 (13)
16	05:37	06:04	06:32	07:00	07:46 (12) 06:33	11:52 (13) 07:02 12:17 (13)
	20:15	19:45	18:59	18:12	23 08:09 (12) 16:36	74 13:06 (13) 16:29 44 13:01 (13)
17	05:38	06:05	06:32	07:01	07:47 (12) 06:34	11:52 (13) 07:03 12:18 (13)
	20:15	19:44	18:57	18:10	44 13:48 (13) 16:36	74 13:06 (13) 16:29 43 13:01 (13)
18	05:38	06:05	06:33	07:02	07:48 (12) 06:35	11:53 (13) 07:03 12:19 (13)
	20:14	19:43	18:55	18:09	52 13:52 (13) 16:35	72 13:05 (13) 16:30 43 13:02 (13)
19	05:39	06:06	06:34	07:03	07:49 (12) 06:36	11:53 (13) 07:04 12:19 (13)
	20:13	19:41	18:54	18:08	58 13:55 (13) 16:34	72 13:05 (13) 16:30 43 13:02 (13)
20	05:40	06:07	06:35	07:04	07:51 (12) 06:38	11:53 (13) 07:05 12:20 (13)
	20:13	19:40	18:52	18:06	58 13:57 (13) 16:34	72 13:05 (13) 16:30 43 13:03 (13)
21	05:41	06:08	06:36	07:05	13:06 (13) 06:39	11:55 (13) 07:05 12:20 (13)
	20:12	19:38	18:51	18:05	52 13:58 (13) 16:33	70 13:05 (13) 16:31 42 13:02 (13)
22	05:42	06:09	06:37	07:06	13:03 (13) 06:40	11:56 (13) 07:06 12:21 (13)
	20:11	19:37	18:49	18:03	56 13:59 (13) 16:32	69 13:05 (13) 16:31 42 13:03 (13)
23	05:42	06:10	06:38	07:07	13:01 (13) 06:41	11:56 (13) 07:06 12:21 (13)
	20:11	19:36	18:47	18:02	60 14:01 (13) 16:32	69 13:05 (13) 16:32 42 13:03 (13)
24	05:43	06:11	06:39	07:08	12:59 (13) 06:42	11:57 (13) 07:07 12:22 (13)
	20:10	19:34	18:46	18:01	62 14:01 (13) 16:31	67 13:04 (13) 16:32 43 13:05 (13)
25	05:44	06:12	06:40	07:09	12:58 (13) 06:43	11:58 (13) 07:07 12:22 (13)
	20:09	19:33	18:44	17:59	65 14:03 (13) 16:31	66 13:04 (13) 16:33 43 13:05 (13)
26	05:45	06:13	06:41	07:10	12:56 (13) 06:44	11:58 (13) 07:07 12:22 (13)
	20:08	19:31	18:43	17:58	68 14:04 (13) 16:30	65 13:03 (13) 16:34 43 13:05 (13)
27	05:46	06:14	06:42	06:11	11:55 (13) 06:45	11:59 (13) 07:08 12:23 (13)
	20:07	19:30	18:41	16:57	69 13:04 (13) 16:30	64 13:03 (13) 16:34 44 13:07 (13)
28	05:47	06:15	06:42	06:12	11:53 (13) 06:46	12:00 (13) 07:08 12:22 (13)
	20:07	19:28	18:39	16:56	71 13:04 (13) 16:30	63 13:03 (13) 16:35 45 13:07 (13)
29	05:47	06:15	06:43	06:13	11:52 (13) 06:47	12:02 (13) 07:08 12:22 (13)
	20:06	19:27	18:38	16:54	73 13:05 (13) 16:29	61 13:03 (13) 16:36 46 13:08 (13)
30	05:48	06:16	06:44	06:14	11:51 (13) 06:48	12:03 (13) 07:09 12:22 (13)
	20:05	19:25	18:36	16:53	74 13:05 (13) 16:29	60 13:03 (13) 16:36 46 13:08 (13)
31	05:49	06:17	06:15	06:15	11:51 (13) 06:49	12:03 (13) 07:09 12:22 (13)
	20:04	19:24	16:52	75 13:06 (13) 16:37	47 13:09 (13)	
Potential sun hours	453	424	374	347	303	294
Total, worst case				1189	2170	1469
Sun reduction				0,53	0,50	0,43
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				0,43	0,24	0,24
Total reduction				0,08	0,04	0,04
Total, real				93	89	52

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BB - R11 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09	12:30 (13) 06:59	12:35 (13) 06:24	07:18 (12) 06:37	05:54	05:27
16:37	61	13:31 (13) 17:09	13:48 (13) 17:42	07:41 (12) 19:13	19:42	20:09
2	07:09	12:30 (13) 06:58	12:36 (13) 06:23	07:19 (12) 06:35	05:52	05:27
16:38	61	13:31 (13) 17:10	13:48 (13) 17:43	07:40 (12) 19:14	19:43	20:10
3	07:09	12:30 (13) 06:57	12:36 (13) 06:21	07:19 (12) 06:33	05:51	05:26
16:39	62	13:32 (13) 17:12	13:48 (13) 17:44	07:38 (12) 19:15	19:44	20:11
4	07:09	12:31 (13) 06:56	12:37 (13) 06:20	07:21 (12) 06:32	05:50	05:26
16:40	61	13:32 (13) 17:13	13:48 (13) 17:45	07:37 (12) 19:16	19:45	20:11
5	07:10	12:31 (13) 06:55	12:37 (13) 06:19	07:22 (12) 06:30	05:49	05:25
16:41	62	13:33 (13) 17:14	13:47 (13) 17:46	07:34 (12) 19:17	19:46	20:12
6	07:10	12:31 (13) 06:54	12:38 (13) 06:17	06:29	05:48	05:25
16:41	63	13:34 (13) 17:15	13:47 (13) 17:47	19:18	19:47	20:13
7	07:10	12:31 (13) 06:53	12:39 (13) 06:16	06:27	05:47	05:25
16:42	64	13:35 (13) 17:16	13:47 (13) 17:48	19:19	19:48	20:13
8	07:10	12:30 (13) 06:52	12:40 (13) 06:14	06:26	05:45	05:25
16:43	65	13:35 (13) 17:17	13:47 (13) 17:49	19:20	19:49	20:14
9	07:10	12:31 (13) 06:51	12:40 (13) 06:13	06:24	05:44	05:25
16:44	64	13:35 (13) 17:19	13:45 (13) 17:50	19:21	19:50	20:14
10	07:09	12:31 (13) 06:50	12:42 (13) 06:11	06:23	05:43	05:24
16:45	65	13:36 (13) 17:20	13:45 (13) 17:51	19:22	19:51	20:15
11	07:09	12:31 (13) 06:49	12:43 (13) 06:09	06:21	05:42	05:24
16:46	66	13:37 (13) 17:21	13:44 (13) 17:52	19:23	19:52	20:16
12	07:09	12:31 (13) 06:48	12:45 (13) 06:08	06:20	05:41	05:24
16:47	67	13:38 (13) 17:22	13:44 (13) 17:53	19:24	19:53	20:16
13	07:09	12:31 (13) 06:47	12:47 (13) 06:06	06:18	05:40	05:24
16:48	67	13:38 (13) 17:23	13:43 (13) 17:54	19:25	19:54	20:16
14	07:09	12:31 (13) 06:45	12:49 (13) 06:05	06:17	05:39	05:24
16:49	68	13:39 (13) 17:24	13:42 (13) 17:55	19:26	19:54	20:17
15	07:08	12:32 (13) 06:44	12:50 (13) 06:03	06:15	05:38	05:24
16:50	68	13:40 (13) 17:25	13:40 (13) 17:56	19:27	19:55	20:17
16	07:08	12:31 (13) 06:43	12:53 (13) 06:02	06:14	05:38	05:24
16:51	69	13:40 (13) 17:27	13:38 (13) 17:57	19:28	19:56	20:18
17	07:08	12:32 (13) 06:42	12:57 (13) 06:00	06:12	05:37	05:24
16:52	70	13:42 (13) 17:28	13:36 (13) 17:58	19:29	19:57	20:18
18	07:07	12:31 (13) 06:41	13:01 (13) 05:59	06:11	05:36	05:24
16:53	71	13:42 (13) 17:29	13:34 (13) 17:59	19:29	19:58	20:18
19	07:07	12:32 (13) 06:39	07:25 (12) 05:57	06:10	05:35	05:24
16:54	71	13:43 (13) 17:30	13:30 (13) 18:00	19:30	19:59	20:19
20	07:06	12:31 (13) 06:38	07:23 (12) 05:55	06:08	05:34	05:24
16:56	72	13:43 (13) 17:31	13:23 (13) 18:01	19:31	20:00	20:19
21	07:06	12:32 (13) 06:37	07:22 (12) 05:54	06:07	05:33	05:25
16:57	72	13:44 (13) 17:32	07:40 (12) 18:02	19:32	20:01	20:19
22	07:05	12:32 (13) 06:35	07:20 (12) 05:52	06:05	05:33	05:25
16:58	72	13:44 (13) 17:33	07:41 (12) 18:03	19:33	20:02	20:19
23	07:05	12:33 (13) 06:34	07:19 (12) 05:51	06:04	05:32	05:25
16:59	72	13:45 (13) 17:34	07:42 (12) 18:04	19:34	20:02	20:20
24	07:04	12:32 (13) 06:33	07:19 (12) 05:49	06:03	05:31	05:25
17:00	73	13:45 (13) 17:35	07:43 (12) 18:05	19:35	20:03	20:20
25	07:04	12:32 (13) 06:31	07:18 (12) 05:48	06:01	05:31	05:26
17:01	73	13:45 (13) 17:37	07:42 (12) 18:06	19:36	20:04	20:20
26	07:03	12:32 (13) 06:30	07:18 (12) 05:46	06:00	05:30	05:26
17:02	74	13:46 (13) 17:38	07:43 (12) 18:07	19:37	20:05	20:20
27	07:02	12:33 (13) 06:29	07:17 (12) 05:44	05:59	05:29	05:26
17:03	74	13:47 (13) 17:39	07:42 (12) 18:08	19:38	20:06	20:20
28	07:02	12:33 (13) 06:27	07:17 (12) 05:43	05:57	05:29	05:27
17:05	74	13:47 (13) 17:40	07:42 (12) 18:09	19:39	20:06	20:20
29	07:01	12:33 (13) 06:26	07:17 (12) 05:41	05:56	05:28	05:27
17:06	74	13:47 (13) 17:41	07:41 (12) 18:10	19:40	20:07	20:20
30	07:00	12:34 (13)	05:40	05:55	05:28	05:27
17:07	73	13:47 (13)	18:11	19:41	20:08	20:20
31	06:59	12:34 (13)	06:38		05:27	
17:08	73	13:47 (13)	19:12		20:09	
Potential sun hours	302	310	370	396	443	446
Total, worst case	2121	1357	91			
Sun reduction	0,43	0,43	0,47			
Oper. time red.	0,34	0,34	0,34			
Wind dir. red.	0,29	0,41	0,94			
Total reduction	0,04	0,06	0,15			
Total, real	91	81	14			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Buffalo real case Shadow receptor: BB - R11 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time		
0	1	Sum
1.500	1.500	3.000

	July	August	September	October	November	December
1	05:28	05:50	06:18	06:45	06:17	12:13 (13) 06:49
	20:20	20:03	19:22	18:35	16:51	13:14 (13) 16:29
2	05:28	05:51	06:19	06:46	06:18	12:11 (13) 06:50
	20:20	20:02	19:21	18:33	16:50	64 13:15 (13) 16:28
3	05:29	05:52	06:20	06:47	06:19	12:10 (13) 06:51
	20:20	20:01	19:19	18:31	16:49	65 13:15 (13) 16:28
4	05:29	05:53	06:21	06:48	06:20	12:09 (13) 06:52
	20:20	20:00	19:18	18:30	16:47	67 13:16 (13) 16:28
5	05:30	05:54	06:22	06:49	06:21	12:09 (13) 06:53
	20:19	19:59	19:16	18:28	16:46	68 13:17 (13) 16:28
6	05:30	05:55	06:23	06:50	06:22	12:08 (13) 06:54
	20:19	19:57	19:15	18:27	16:45	69 13:17 (13) 16:28
7	05:31	05:55	06:24	06:51	06:23	12:07 (13) 06:55
	20:19	19:56	19:13	18:25	16:44	70 13:17 (13) 16:28
8	05:32	05:56	06:24	06:52	06:24	12:07 (13) 06:56
	20:19	19:55	19:11	18:24	8 08:07 (12) 16:43	71 13:18 (13) 16:28
9	05:32	05:57	06:25	06:53	06:25	12:06 (13) 06:57
	20:18	19:54	19:10	18:22	14 08:10 (12) 16:42	72 13:18 (13) 16:28
10	05:33	05:58	06:26	06:54	06:27	12:07 (13) 06:57
	20:18	19:53	19:08	18:21	17 08:12 (12) 16:41	72 13:19 (13) 16:28
11	05:33	05:59	06:27	06:55	06:28	12:06 (13) 06:58
	20:18	19:52	19:07	18:19	20 08:13 (12) 16:40	73 13:19 (13) 16:28
12	05:34	06:00	06:28	06:56	06:29	12:06 (13) 06:59
	20:17	19:50	19:05	18:18	22 08:14 (12) 16:40	73 13:19 (13) 16:28
13	05:35	06:01	06:29	06:57	06:30	12:06 (13) 07:00
	20:17	19:49	19:04	18:16	24 08:15 (12) 16:39	73 13:19 (13) 16:28
14	05:35	06:02	06:30	06:58	06:31	12:05 (13) 07:01
	20:16	19:48	19:02	18:15	25 08:15 (12) 16:38	74 13:19 (13) 16:28
15	05:36	06:03	06:31	06:59	06:32	12:06 (13) 07:01
	20:16	19:47	19:00	18:13	25 08:15 (12) 16:37	74 13:20 (13) 16:29
16	05:37	06:04	06:32	07:00	06:33	12:06 (13) 07:02
	20:15	19:45	18:59	18:12	25 08:15 (12) 16:36	74 13:20 (13) 16:29
17	05:38	06:05	06:32	07:01	06:34	12:06 (13) 07:03
	20:15	19:44	18:57	18:10	26 08:15 (12) 16:36	74 13:20 (13) 16:29
18	05:38	06:05	06:33	07:02	06:35	12:06 (13) 07:03
	20:14	19:43	18:55	18:09	25 08:14 (12) 16:35	73 13:19 (13) 16:30
19	05:39	06:06	06:34	07:03	06:36	12:07 (13) 07:04
	20:13	19:41	18:54	18:08	23 08:13 (12) 16:34	72 13:19 (13) 16:30
20	05:40	06:07	06:35	07:04	06:38	12:07 (13) 07:05
	20:13	19:40	18:52	18:06	22 08:12 (12) 16:33	72 13:19 (13) 16:30
21	05:41	06:08	06:36	07:05	06:39	12:08 (13) 07:05
	20:12	19:38	18:51	18:05	20 08:11 (12) 16:33	72 13:20 (13) 16:31
22	05:42	06:09	06:37	07:06	06:40	12:08 (13) 07:06
	20:11	19:37	18:49	18:03	18 08:10 (12) 16:32	72 13:20 (13) 16:31
23	05:42	06:10	06:38	07:07	06:41	12:09 (13) 07:06
	20:11	19:36	18:47	18:02	30 13:55 (13) 16:32	71 13:20 (13) 16:32
24	05:43	06:11	06:39	07:08	06:42	12:09 (13) 07:07
	20:10	19:34	18:46	18:01	36 14:00 (13) 16:31	71 13:20 (13) 16:32
25	05:44	06:12	06:40	07:09	06:43	12:09 (13) 07:07
	20:09	19:33	18:44	17:59	34 14:04 (13) 16:31	71 13:20 (13) 16:33
26	05:45	06:13	06:41	07:10	06:44	12:10 (13) 07:07
	20:08	19:31	18:43	17:58	41 14:07 (13) 16:30	70 13:20 (13) 16:34
27	05:46	06:14	06:42	06:11	12:23 (13) 06:45	12:10 (13) 07:08
	20:07	19:30	18:41	16:57	45 13:08 (13) 16:30	70 13:20 (13) 16:34
28	05:47	06:15	06:42	06:12	12:20 (13) 06:46	12:11 (13) 07:08
	20:07	19:28	18:39	16:56	50 13:10 (13) 16:30	69 13:20 (13) 16:35
29	05:47	06:15	06:43	06:13	12:17 (13) 06:47	12:12 (13) 07:08
	20:06	19:27	18:38	16:54	54 13:11 (13) 16:29	68 13:20 (13) 16:36
30	05:48	06:16	06:44	06:14	12:15 (13) 06:48	12:13 (13) 07:09
	20:05	19:25	18:36	16:53	57 13:12 (13) 16:29	67 13:20 (13) 16:36
31	05:49	06:17	06:15	06:15	12:15 (13) 06:49	12:14 (13) 07:09
	20:04	19:24	16:52	16:52	58 13:13 (13) 16:37	60 13:29 (13) 16:37
Potential sun hours	453	424	374	347	303	294
Total, worst case				719	2112	1879
Sun reduction				0,53	0,50	0,43
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				0,60	0,29	0,29
Total reduction				0,11	0,05	0,04
Total, real				78	106	82

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BC - R12 CU2

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June						
1	07:09	06:59	12:54 (13)	06:24	07:13 (12)	06:37	05:54	05:27				
	16:37	17:09	70	14:04 (13)	17:42	63	13:55 (13)	19:13	19:42	20:09		
2	07:09	06:58	12:54 (13)	06:23	07:13 (12)	06:35	05:52	05:27				
	16:38	17:10	71	14:05 (13)	17:43	57	13:53 (13)	19:14	19:43	20:10		
3	07:09	06:57	12:53 (13)	06:21	07:13 (12)	06:33	05:51	05:26				
	16:39	17:12	73	14:06 (13)	17:44	47	13:48 (13)	19:15	19:44	20:11		
4	07:09	06:56	12:53 (13)	06:20	07:13 (12)	06:32	05:50	05:26				
	16:40	17:13	73	14:06 (13)	17:45	26	07:39 (12)	19:16	19:45	20:11		
5	07:10	06:55	12:53 (13)	06:19	07:13 (12)	06:30	05:49	05:25				
	16:41	17:14	74	14:07 (13)	17:46	24	07:37 (12)	19:17	19:46	20:12		
6	07:10	13:15 (13)	06:54	12:53 (13)	06:17	07:14 (12)	06:29	05:48	05:25			
	16:41	11	13:26 (13)	17:15	74	14:07 (13)	17:47	23	07:37 (12)	19:18	19:47	20:13
7	07:10	13:13 (13)	06:53	12:53 (13)	06:16	07:14 (12)	06:27	05:47	05:25			
	16:42	17	13:30 (13)	17:16	75	14:08 (13)	17:48	21	07:35 (12)	19:19	19:48	20:13
8	07:10	13:10 (13)	06:52	12:53 (13)	06:14	07:15 (12)	06:26	05:45	05:25			
	16:43	21	13:31 (13)	17:17	75	14:08 (13)	17:49	18	07:33 (12)	19:20	19:49	20:14
9	07:10	13:09 (13)	06:51	12:52 (13)	06:13	07:17 (12)	06:24	05:44	05:25			
	16:44	25	13:34 (13)	17:19	76	14:08 (13)	17:50	14	07:31 (12)	19:21	19:50	20:14
10	07:09	13:08 (13)	06:50	12:52 (13)	06:11	07:20 (12)	06:23	05:43	05:24			
	16:45	28	13:36 (13)	17:20	76	14:08 (13)	17:51	7	07:27 (12)	19:22	19:51	20:15
11	07:09	13:07 (13)	06:49	12:52 (13)	06:09	06:21	05:42	05:24				
	16:46	31	13:38 (13)	17:21	76	14:08 (13)	17:52	19:23	19:52	20:16		
12	07:09	13:06 (13)	06:48	12:53 (13)	06:08	06:20	05:41	05:24				
	16:47	34	13:40 (13)	17:22	76	14:09 (13)	17:53	19:24	19:53	20:16		
13	07:09	13:04 (13)	06:47	12:53 (13)	06:06	06:18	05:40	05:24				
	16:48	37	13:41 (13)	17:23	76	14:09 (13)	17:54	19:25	19:54	20:16		
14	07:09	13:04 (13)	06:45	12:54 (13)	06:05	06:17	05:39	05:24				
	16:49	39	13:43 (13)	17:24	75	14:09 (13)	17:55	19:26	19:54	20:17		
15	07:08	13:03 (13)	06:44	12:53 (13)	06:03	06:15	05:38	05:24				
	16:50	42	13:45 (13)	17:25	75	14:08 (13)	17:56	19:27	19:55	20:17		
16	07:08	13:02 (13)	06:43	12:54 (13)	06:02	06:14	05:38	05:24				
	16:51	44	13:46 (13)	17:27	74	14:08 (13)	17:57	19:28	19:56	20:18		
17	07:08	13:01 (13)	06:42	12:55 (13)	06:00	06:12	05:37	05:24				
	16:52	47	13:48 (13)	17:28	73	14:08 (13)	17:58	19:29	19:57	20:18		
18	07:07	13:00 (13)	06:41	12:56 (13)	05:59	06:11	05:36	05:24				
	16:53	49	13:49 (13)	17:29	72	14:08 (13)	17:59	19:29	19:58	20:18		
19	07:07	13:00 (13)	06:39	12:56 (13)	05:57	06:10	05:35	05:24				
	16:54	51	13:51 (13)	17:30	71	14:07 (13)	18:00	19:30	19:59	20:19		
20	07:06	12:59 (13)	06:38	12:57 (13)	05:55	06:08	05:34	05:24				
	16:56	53	13:52 (13)	17:31	70	14:07 (13)	18:01	19:31	20:00	20:19		
21	07:06	12:59 (13)	06:37	12:59 (13)	05:54	06:07	05:33	05:25				
	16:57	54	13:53 (13)	17:32	68	14:07 (13)	18:02	19:32	20:01	20:19		
22	07:05	12:58 (13)	06:35	12:59 (13)	05:52	06:05	05:33	05:25				
	16:58	56	13:54 (13)	17:33	67	14:06 (13)	18:03	19:33	20:02	20:19		
23	07:05	12:58 (13)	06:34	07:22 (12)	05:51	06:04	05:32	05:25				
	16:59	58	13:56 (13)	17:34	74	14:05 (13)	18:04	19:34	20:02	20:20		
24	07:04	12:57 (13)	06:33	07:20 (12)	05:49	06:03	05:31	05:25				
	17:00	60	13:57 (13)	17:35	77	14:05 (13)	18:05	19:35	20:03	20:20		
25	07:04	12:56 (13)	06:31	07:18 (12)	05:48	06:01	05:31	05:26				
	17:01	62	13:58 (13)	17:37	77	14:03 (13)	18:06	19:36	20:04	20:20		
26	07:03	12:55 (13)	06:30	07:17 (12)	05:46	06:00	05:30	05:26				
	17:02	63	13:58 (13)	17:38	78	14:03 (13)	18:07	19:37	20:05	20:20		
27	07:02	12:56 (13)	06:29	07:15 (12)	05:44	05:59	05:29	05:26				
	17:03	64	14:00 (13)	17:39	76	14:01 (13)	18:08	19:38	20:06	20:20		
28	07:02	12:55 (13)	06:27	07:15 (12)	05:43	05:57	05:29	05:27				
	17:05	66	14:01 (13)	17:40	73	14:00 (13)	18:09	19:39	20:06	20:20		
29	07:01	12:54 (13)	06:26	07:13 (12)	05:41	05:56	05:28	05:27				
	17:06	67	14:01 (13)	17:41	69	13:57 (13)	18:10	19:40	20:07	20:20		
30	07:00	12:54 (13)	06:25	05:40	05:55	05:28	05:27					
	17:07	68	14:02 (13)	18:11	19:41	20:08	20:20					
31	06:59	12:53 (13)	06:24	06:38	05:27	05:27						
	17:08	70	14:03 (13)	19:12	20:09	20:20						
Potential sun hours	302	310	370	396	443	446						
Total, worst case	1217	2134	300									
Sun reduction	0,43	0,43	0,47									
Oper. time red.	0,34	0,34	0,34									
Wind dir. red.	0,40	0,44	0,79									
Total reduction	0,06	0,06	0,13									
Total, real	71	138	38									

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BC - R12 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28	05:50	06:18	06:45	06:17	12:22 (13) 06:49 12:48 (13)
	20:20	20:03	19:22	18:35	16:51	76 13:38 (13) 16:29 34 13:22 (13)
2	05:28	05:51	06:19	06:46	06:18	12:22 (13) 06:50 12:50 (13)
	20:20	20:02	19:21	18:33	16:50	76 13:38 (13) 16:28 31 13:21 (13)
3	05:29	05:52	06:20	06:47	06:19	12:22 (13) 06:51 12:52 (13)
	20:20	20:01	19:19	18:31	16:49	75 13:37 (13) 16:28 28 13:20 (13)
4	05:29	05:53	06:21	06:48	07:56 (12) 06:20	12:22 (13) 06:52 12:54 (13)
	20:20	20:00	19:18	18:30	11 08:07 (12) 16:47	75 13:37 (13) 16:28 25 13:19 (13)
5	05:30	05:54	06:22	06:49	07:54 (12) 06:21	12:23 (13) 06:53 12:56 (13)
	20:19	19:59	19:16	18:28	16 08:10 (12) 16:46	75 13:38 (13) 16:28 22 13:18 (13)
6	05:30	05:55	06:23	06:50	07:52 (12) 06:22	12:23 (13) 06:54 12:58 (13)
	20:19	19:57	19:15	18:27	19 08:11 (12) 16:45	74 13:37 (13) 16:28 18 13:16 (13)
7	05:31	05:55	06:24	06:51	07:49 (12) 06:23	12:23 (13) 06:55 13:00 (13)
	20:19	19:56	19:13	18:25	22 08:11 (12) 16:44	74 13:37 (13) 16:28 13 13:13 (13)
8	05:32	05:56	06:24	06:52	07:48 (12) 06:24	12:23 (13) 06:56 13:05 (13)
	20:19	19:55	19:11	18:24	24 08:12 (12) 16:43	73 13:36 (13) 16:28 4 13:09 (13)
9	05:32	05:57	06:25	06:53	07:47 (12) 06:25	12:23 (13) 06:57 13:16 (13)
	20:18	19:54	19:10	18:22	25 08:12 (12) 16:42	73 13:36 (13) 16:28 13:00 (13)
10	05:33	05:58	06:26	06:54	07:48 (12) 06:27	12:25 (13) 06:57 13:18 (13)
	20:18	19:53	19:08	18:21	37 14:19 (13) 16:41	71 13:36 (13) 16:28 13:05 (13)
11	05:33	05:59	06:27	06:55	07:47 (12) 06:28	12:25 (13) 06:58 13:19 (13)
	20:18	19:52	19:07	18:19	52 14:25 (13) 16:40	70 13:35 (13) 16:28 13:06 (13)
12	05:34	06:00	06:28	06:56	07:47 (12) 06:29	12:25 (13) 06:59 13:20 (13)
	20:17	19:50	19:05	18:18	60 14:28 (13) 16:40	70 13:35 (13) 16:28 13:07 (13)
13	05:35	06:01	06:29	06:57	07:47 (12) 06:30	12:26 (13) 07:00 13:21 (13)
	20:17	19:49	19:04	18:16	66 14:30 (13) 16:39	68 13:34 (13) 16:28 13:08 (13)
14	05:35	06:02	06:30	06:58	07:47 (12) 06:31	12:26 (13) 07:01 13:22 (13)
	20:16	19:48	19:02	18:15	70 14:31 (13) 16:38	68 13:34 (13) 16:28 13:09 (13)
15	05:36	06:03	06:31	06:59	07:47 (12) 06:32	12:28 (13) 07:01 13:23 (13)
	20:16	19:47	19:00	18:13	74 14:33 (13) 16:37	66 13:34 (13) 16:29 13:10 (13)
16	05:37	06:04	06:32	07:00	07:48 (12) 06:33	12:29 (13) 07:02 13:24 (13)
	20:15	19:45	18:59	18:12	76 14:34 (13) 16:36	64 13:33 (13) 16:29 13:11 (13)
17	05:38	06:05	06:32	07:01	07:49 (12) 06:34	12:29 (13) 07:03 13:25 (13)
	20:15	19:44	18:57	18:10	78 14:35 (13) 16:36	63 13:32 (13) 16:29 13:12 (13)
18	05:38	06:05	06:33	07:02	07:50 (12) 06:35	12:30 (13) 07:03 13:26 (13)
	20:14	19:43	18:55	18:09	77 14:35 (13) 16:35	62 13:32 (13) 16:30 13:13 (13)
19	05:39	06:06	06:34	07:03	07:51 (12) 06:36	12:31 (13) 07:04 13:27 (13)
	20:13	19:41	18:54	18:08	77 14:36 (13) 16:34	60 13:31 (13) 16:30 13:14 (13)
20	05:40	06:07	06:35	07:04	07:54 (12) 06:38	12:32 (13) 07:05 13:28 (13)
	20:13	19:40	18:52	18:06	73 14:36 (13) 16:33	58 13:30 (13) 16:30 13:15 (13)
21	05:41	06:08	06:36	07:05	13:30 (13) 06:39	12:34 (13) 07:05 13:29 (13)
	20:12	19:38	18:51	18:05	67 14:37 (13) 16:33	56 13:30 (13) 16:31 13:16 (13)
22	05:42	06:09	06:37	07:06	13:28 (13) 06:40	12:35 (13) 07:06 13:30 (13)
	20:11	19:37	18:49	18:03	69 14:37 (13) 16:32	55 13:30 (13) 16:31 13:17 (13)
23	05:42	06:10	06:38	07:07	13:27 (13) 06:41	12:36 (13) 07:06 13:31 (13)
	20:11	19:36	18:47	18:02	70 14:37 (13) 16:32	53 13:29 (13) 16:32 13:18 (13)
24	05:43	06:11	06:39	07:08	13:25 (13) 06:42	12:37 (13) 07:07 13:32 (13)
	20:10	19:34	18:46	18:01	72 14:37 (13) 16:31	51 13:28 (13) 16:32 13:19 (13)
25	05:44	06:12	06:40	07:09	13:25 (13) 06:43	12:38 (13) 07:07 13:33 (13)
	20:09	19:33	18:44	17:59	73 14:38 (13) 16:31	49 13:27 (13) 16:33 13:20 (13)
26	05:45	06:13	06:41	07:10	13:25 (13) 06:44	12:39 (13) 07:07 13:34 (13)
	20:08	19:31	18:43	17:58	73 14:38 (13) 16:30	47 13:26 (13) 16:34 13:21 (13)
27	05:46	06:14	06:42	06:11	12:24 (13) 06:45	12:41 (13) 07:08 13:35 (13)
	20:07	19:30	18:41	16:57	74 13:38 (13) 16:30	44 13:25 (13) 16:34 13:22 (13)
28	05:47	06:15	06:42	06:12	12:23 (13) 06:46	12:42 (13) 07:08 13:36 (13)
	20:07	19:28	18:39	16:56	75 13:38 (13) 16:30	42 13:24 (13) 16:35 13:23 (13)
29	05:47	06:15	06:43	06:13	12:22 (13) 06:47	12:45 (13) 07:08 13:37 (13)
	20:06	19:27	18:38	16:54	76 13:38 (13) 16:29	39 13:24 (13) 16:36 13:24 (13)
30	05:48	06:16	06:44	06:14	12:22 (13) 06:48	12:46 (13) 07:09 13:38 (13)
	20:05	19:25	18:36	16:53	76 13:38 (13) 16:29	37 13:23 (13) 16:36 13:25 (13)
31	05:49	06:17	06:15	06:15	12:22 (13) 06:49	12:47 (13) 07:09 13:39 (13)
	20:04	19:24	16:52	06:15	76 13:38 (13) 16:29	37 13:23 (13) 16:36 13:26 (13)
Potential sun hours	453	424	374	347	303	294
Total, worst case				1658	1864	175
Sun reduction				0,53	0,50	0,43
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				0,52	0,40	0,40
Total reduction				0,09	0,07	0,06
Total, real				156	128	10

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BD - R13 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar 2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:37	11:11 (13) 06:59	11:25 (13) 06:24	07:15 (12) 06:37	05:54	05:27
2	07:09 16:38	11:12 (13) 06:58	11:26 (13) 06:23	07:16 (12) 06:35	05:52	05:27
3	07:09 16:39	11:12 (13) 06:57	11:27 (13) 06:21	07:17 (12) 06:33	05:51	05:26
4	07:09 16:40	11:12 (13) 06:56	11:29 (13) 06:20	07:20 (12) 06:32	05:50	05:26
5	07:10 16:41	11:13 (13) 06:55	11:30 (13) 06:19	06:30	05:49	05:25
6	07:10 16:41	11:13 (13) 06:54	11:32 (13) 06:17	06:29	05:48	05:25
7	07:10 16:42	11:13 (13) 06:53	11:34 (13) 06:16	06:27	05:47	05:25
8	07:10 16:43	11:13 (13) 06:52	11:37 (13) 06:14	06:26	05:45	05:25
9	07:10 16:44	11:13 (13) 06:51	11:39 (13) 06:13	06:24	05:44	05:25
10	07:09 16:45	11:14 (13) 06:50	11:43 (13) 06:11	06:23	05:43	05:24
11	07:09 16:46	11:14 (13) 06:49	11:51 (13) 06:09	06:21	05:42	05:24
12	07:09 16:47	11:15 (13) 06:48	12:01 (13) 06:08	06:20	05:41	05:24
13	07:09 16:48	11:15 (13) 06:47	06:06	06:18	05:40	05:24
14	07:09 16:49	11:15 (13) 06:45	06:05	06:17	05:39	05:24
15	07:08 16:50	11:16 (13) 06:44	06:03	06:15	05:38	05:24
16	07:08 16:51	11:16 (13) 06:43	06:02	06:14	05:38	05:24
17	07:08 16:52	11:16 (13) 06:42	06:00	06:12	05:37	05:24
18	07:07 16:53	11:16 (13) 06:41	05:59	06:11	05:36	05:24
19	07:07 16:54	11:17 (13) 06:39	07:22 (12) 05:57	06:10	05:35	05:24
20	07:06 16:56	11:17 (13) 06:38	07:30 (12) 05:55	06:08	05:34	05:24
21	07:06 16:57	11:18 (13) 06:37	07:33 (12) 05:54	06:07	05:33	05:25
22	07:05 16:58	11:18 (13) 06:35	07:35 (12) 05:52	06:05	05:33	05:25
23	07:05 16:59	11:19 (13) 06:34	07:37 (12) 05:51	06:04	05:32	05:25
24	07:04 17:00	11:19 (13) 06:33	07:36 (12) 05:50	06:03	05:31	05:25
25	07:04 17:01	11:20 (13) 06:31	07:37 (12) 05:48	06:01	05:31	05:26
26	07:03 17:02	11:21 (13) 06:30	07:37 (12) 05:46	06:00	05:30	05:26
27	07:02 17:03	11:21 (13) 06:29	07:37 (12) 05:44	05:59	05:29	05:26
28	07:02 17:05	11:22 (13) 06:27	07:36 (12) 05:43	05:57	05:29	05:27
29	07:01 17:06	11:22 (13) 06:26	07:36 (12) 05:41	05:56	05:28	05:27
30	07:00 17:07	11:23 (13) 06:24	07:35 (12) 05:40	05:55	05:28	05:27
31	06:59 17:08	11:23 (13) 06:22	06:38	05:54	05:27	05:27
Potential sun hours	302	310	370	396	443	446
Total, worst case	2202	712	62			
Sun reduction	0,43	0,43	0,47			
Oper. time red.	0,34	0,34	0,34			
Wind dir. red.	0,06	0,32	0,95			
Total reduction	0,01	0,05	0,15			
Total, real	19	34	9			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BD - R13 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28	05:50	06:18	06:45	06:17	11:20 (13) 06:49 10:57 (13)
	20:20	20:03	19:22	18:35	16:51	13 11:33 (13) 16:29 73 12:10 (13)
2	05:28	05:51	06:19	06:46	06:18	11:12 (13) 06:50 10:57 (13)
	20:20	20:02	19:21	18:33	16:50	28 11:40 (13) 16:28 73 12:10 (13)
3	05:29	05:52	06:20	06:47	06:19	11:08 (13) 06:51 10:58 (13)
	20:20	20:01	19:19	18:31	16:49	36 11:44 (13) 16:28 72 12:10 (13)
4	05:29	05:53	06:21	06:48	06:20	11:05 (13) 06:52 10:58 (13)
	20:20	20:00	19:18	18:30	16:47	42 11:47 (13) 16:28 73 12:11 (13)
5	05:30	05:54	06:22	06:49	06:21	11:04 (13) 06:53 10:59 (13)
	20:19	19:59	19:16	18:28	16:46	46 11:50 (13) 16:28 72 12:11 (13)
6	05:30	05:55	06:23	06:50	06:22	11:02 (13) 06:54 10:59 (13)
	20:19	19:57	19:15	18:27	16:45	50 11:52 (13) 16:28 72 12:11 (13)
7	05:31	05:55	06:24	06:51	06:23	11:00 (13) 06:55 10:59 (13)
	20:19	19:56	19:13	18:25	16:44	54 11:54 (13) 16:28 72 12:11 (13)
8	05:32	05:56	06:24	06:52	06:24	10:59 (13) 06:56 11:00 (13)
	20:19	19:55	19:11	18:24	16:43	56 11:55 (13) 16:28 71 12:11 (13)
9	05:32	05:57	06:25	06:53	07:57 (12) 06:25	10:57 (13) 06:57 11:00 (13)
	20:18	19:54	19:10	18:22	5 08:02 (12) 16:42	59 11:56 (13) 16:28 72 12:12 (13)
10	05:33	05:58	06:26	06:54	07:53 (12) 06:27	10:57 (13) 06:57 11:01 (13)
	20:18	19:53	19:08	18:21	12 08:05 (12) 16:41	61 11:58 (13) 16:28 71 12:12 (13)
11	05:33	05:59	06:27	06:55	07:51 (12) 06:28	10:56 (13) 06:58 11:02 (13)
	20:18	19:52	19:07	18:19	16 08:07 (12) 16:40	63 11:59 (13) 16:28 71 12:13 (13)
12	05:34	06:00	06:28	06:56	07:49 (12) 06:29	10:55 (13) 06:59 11:03 (13)
	20:17	19:50	19:05	18:18	19 08:08 (12) 16:40	65 12:00 (13) 16:28 70 12:13 (13)
13	05:35	06:01	06:29	06:57	07:48 (12) 06:30	10:55 (13) 07:00 11:02 (13)
	20:17	19:49	19:04	18:16	20 08:08 (12) 16:39	66 12:01 (13) 16:28 71 12:13 (13)
14	05:36	06:02	06:30	06:58	07:47 (12) 06:31	10:54 (13) 07:01 11:03 (13)
	20:16	19:48	19:02	18:15	22 08:09 (12) 16:38	67 12:01 (13) 16:28 70 12:13 (13)
15	05:36	06:03	06:31	06:59	07:47 (12) 06:32	10:55 (13) 07:01 11:04 (13)
	20:16	19:47	19:00	18:13	22 08:09 (12) 16:37	68 12:03 (13) 16:29 70 12:14 (13)
16	05:37	06:04	06:32	07:00	07:46 (12) 06:33	10:54 (13) 07:02 11:04 (13)
	20:15	19:45	18:59	18:12	23 08:09 (12) 16:36	69 12:03 (13) 16:29 70 12:14 (13)
17	05:38	06:05	06:33	07:01	07:46 (12) 06:34	10:54 (13) 07:03 11:05 (13)
	20:15	19:44	18:57	18:10	23 08:09 (12) 16:36	70 12:04 (13) 16:29 70 12:15 (13)
18	05:38	06:05	06:33	07:02	07:46 (12) 06:35	10:54 (13) 07:03 11:06 (13)
	20:14	19:43	18:55	18:09	22 08:08 (12) 16:35	70 12:04 (13) 16:30 69 12:15 (13)
19	05:39	06:06	06:34	07:03	07:46 (12) 06:37	10:53 (13) 07:04 11:05 (13)
	20:13	19:41	18:54	18:08	22 08:08 (12) 16:34	71 12:04 (13) 16:30 70 12:15 (13)
20	05:40	06:07	06:35	07:04	07:47 (12) 06:38	10:53 (13) 07:05 11:06 (13)
	20:13	19:40	18:52	18:06	20 08:07 (12) 16:34	72 12:05 (13) 16:30 70 12:16 (13)
21	05:41	06:08	06:36	07:05	07:47 (12) 06:39	10:54 (13) 07:05 11:06 (13)
	20:12	19:38	18:51	18:05	19 08:06 (12) 16:33	72 12:06 (13) 16:31 70 12:16 (13)
22	05:42	06:09	06:37	07:06	07:48 (12) 06:40	10:54 (13) 07:06 11:07 (13)
	20:11	19:37	18:49	18:03	16 08:04 (12) 16:32	72 12:06 (13) 16:31 70 12:17 (13)
23	05:42	06:10	06:38	07:07	07:50 (12) 06:41	10:54 (13) 07:06 11:07 (13)
	20:11	19:36	18:47	18:02	12 08:02 (12) 16:32	72 12:06 (13) 16:32 70 12:17 (13)
24	05:43	06:11	06:39	07:08	07:54 (12) 06:42	10:54 (13) 07:07 11:08 (13)
	20:10	19:34	18:46	18:01	5 07:59 (12) 16:31	73 12:07 (13) 16:32 70 12:18 (13)
25	05:44	06:12	06:40	07:09	06:43	10:54 (13) 07:07 11:09 (13)
	20:09	19:33	18:44	17:59	16:31	73 12:07 (13) 16:33 69 12:18 (13)
26	05:45	06:13	06:41	07:10	06:44	10:54 (13) 07:07 11:09 (13)
	20:08	19:31	18:43	17:58	16:30	73 12:07 (13) 16:34 69 12:18 (13)
27	05:46	06:14	06:42	06:11	06:45	10:55 (13) 07:08 11:10 (13)
	20:07	19:30	18:41	16:57	16:30	73 12:08 (13) 16:34 70 12:20 (13)
28	05:47	06:15	06:42	06:12	06:46	10:55 (13) 07:08 11:10 (13)
	20:07	19:28	18:39	16:56	16:30	73 12:08 (13) 16:35 70 12:20 (13)
29	05:47	06:15	06:43	06:13	06:47	10:56 (13) 07:08 11:10 (13)
	20:06	19:27	18:38	16:54	16:29	73 12:09 (13) 16:36 70 12:20 (13)
30	05:48	06:16	06:44	06:14	06:48	10:57 (13) 07:09 11:10 (13)
	20:05	19:25	18:36	16:53	16:29	72 12:09 (13) 16:36 71 12:21 (13)
31	05:49	06:17	06:15	06:15	06:49	10:57 (13) 07:09 11:10 (13)
	20:04	19:24	16:52	16:52	16:37	71 12:21 (13)
Potential sun hours	453	424	374	347	303	294
Total, worst case				278	1852	2192
Sun reduction				0,53	0,50	0,43
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				0,95	0,06	0,06
Total reduction				0,17	0,01	0,01
Total, real				48	19	20

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BE - R14 CU2

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June				
1	07:09	10:51 (13)	06:59	11:15 (13)	06:24	07:19 (12)	06:37	05:54	05:27	
	16:37	69	12:00 (13)	17:09	39	11:54 (13)	17:42	19:13	19:42	20:09
2	07:09	10:52 (13)	06:58	11:18 (13)	06:23	13	07:32 (12)	06:35	05:52	05:27
	16:38	69	12:01 (13)	17:10	33	11:51 (13)	17:43	19:14	19:43	20:10
3	07:09	10:52 (13)	06:57	11:21 (13)	06:21	8	07:30 (12)	06:33	05:51	05:26
	16:39	69	12:01 (13)	17:12	26	11:47 (13)	17:44	19:15	19:44	20:11
4	07:09	10:53 (13)	06:56	11:27 (13)	06:20			06:32	05:50	05:26
	16:40	68	12:01 (13)	17:13	14	11:41 (13)	17:45	19:16	19:45	20:11
5	07:10	10:53 (13)	06:55		06:19			06:30	05:49	05:25
	16:41	69	12:02 (13)	17:14				19:17	19:46	20:12
6	07:10	10:54 (13)	06:54		06:17			06:29	05:48	05:25
	16:41	68	12:02 (13)	17:15				19:18	19:47	20:13
7	07:10	10:54 (13)	06:53		06:16			06:27	05:47	05:25
	16:42	69	12:03 (13)	17:16				19:19	19:48	20:13
8	07:10	10:55 (13)	06:52		06:14			06:26	05:45	05:25
	16:43	68	12:03 (13)	17:17				19:20	19:49	20:14
9	07:10	10:54 (13)	06:51		06:13			06:24	05:44	05:25
	16:44	69	12:03 (13)	17:19				19:21	19:50	20:14
10	07:09	10:55 (13)	06:50		06:11			06:23	05:43	05:24
	16:45	68	12:03 (13)	17:20				19:22	19:51	20:15
11	07:09	10:56 (13)	06:49		06:09			06:21	05:42	05:24
	16:46	68	12:04 (13)	17:21				19:23	19:52	20:16
12	07:09	10:56 (13)	06:48		06:08			06:20	05:41	05:24
	16:47	68	12:04 (13)	17:22				19:24	19:53	20:16
13	07:09	10:56 (13)	06:47		06:06			06:18	05:40	05:24
	16:48	68	12:04 (13)	17:23				19:25	19:54	20:16
14	07:09	10:57 (13)	06:45		06:05			06:17	05:39	05:24
	16:49	67	12:04 (13)	17:24				19:26	19:54	20:17
15	07:08	10:58 (13)	06:44		06:03			06:15	05:38	05:24
	16:50	67	12:05 (13)	17:25				19:27	19:55	20:17
16	07:08	10:58 (13)	06:43		06:02			06:14	05:38	05:24
	16:51	66	12:04 (13)	17:27				19:28	19:56	20:18
17	07:08	10:59 (13)	06:42	07:24 (12)	06:00			06:12	05:37	05:24
	16:52	65	12:04 (13)	17:28	7	07:31 (12)	17:58	19:29	19:57	20:18
18	07:07	10:59 (13)	06:41	07:22 (12)	05:59			06:11	05:36	05:24
	16:53	65	12:04 (13)	17:29	12	07:34 (12)	17:59	19:29	19:58	20:18
19	07:07	11:00 (13)	06:39	07:19 (12)	05:57			06:10	05:35	05:24
	16:54	64	12:04 (13)	17:30	16	07:35 (12)	18:00	19:30	19:59	20:19
20	07:06	11:00 (13)	06:38	07:18 (12)	05:55			06:08	05:34	05:24
	16:56	64	12:04 (13)	17:31	18	07:36 (12)	18:01	19:31	20:00	20:19
21	07:06	11:01 (13)	06:37	07:17 (12)	05:54			06:07	05:33	05:25
	16:57	63	12:04 (13)	17:32	20	07:37 (12)	18:02	19:32	20:01	20:19
22	07:05	11:02 (13)	06:35	07:16 (12)	05:52			06:05	05:33	05:25
	16:58	61	12:03 (13)	17:33	21	07:37 (12)	18:03	19:33	20:02	20:19
23	07:05	11:03 (13)	06:34	07:16 (12)	05:51			06:04	05:32	05:25
	16:59	61	12:04 (13)	17:34	22	07:38 (12)	18:04	19:34	20:02	20:20
24	07:04	11:04 (13)	06:33	07:16 (12)	05:49			06:03	05:31	05:25
	17:00	59	12:03 (13)	17:35	22	07:38 (12)	18:05	19:35	20:03	20:20
25	07:04	11:04 (13)	06:31	07:15 (12)	05:48			06:01	05:31	05:26
	17:01	58	12:02 (13)	17:37	22	07:37 (12)	18:06	19:36	20:04	20:20
26	07:03	11:06 (13)	06:30	07:16 (12)	05:46			06:00	05:30	05:26
	17:02	56	12:02 (13)	17:38	21	07:37 (12)	18:07	19:37	20:05	20:20
27	07:02	11:07 (13)	06:29	07:16 (12)	05:44			05:59	05:29	05:26
	17:03	54	12:01 (13)	17:39	20	07:36 (12)	18:08	19:38	20:06	20:20
28	07:02	11:08 (13)	06:27	07:17 (12)	05:43			05:57	05:29	05:27
	17:05	52	12:00 (13)	17:40	19	07:36 (12)	18:09	19:39	20:06	20:20
29	07:01	11:09 (13)	06:26	07:17 (12)	05:41			05:56	05:28	05:27
	17:06	49	11:58 (13)	17:41	17	07:34 (12)	18:10	19:40	20:07	20:20
30	07:00	11:11 (13)			05:40			05:55	05:28	05:27
	17:07	46	11:57 (13)		18:11			19:41	20:08	20:20
31	06:59	11:12 (13)			06:38				05:27	
	17:08	43	11:55 (13)		19:12				20:09	
Potential sun hours	302		310		370		396	443	446	
Total, worst case	1950		349		21					
Sun reduction	0,43		0,43		0,47					
Oper. time red.	0,34		0,34		0,34					
Wind dir. red.	0,15		0,69		0,94					
Total reduction	0,02		0,10		0,15					
Total, real	44		36		3					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BE - R14 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October		November		December
1	05:28	05:50	06:18	06:45		06:17		06:49 10:38 (13)
	20:20	20:03	19:22	18:35		16:51		16:29 68 11:46 (13)
2	05:28	05:51	06:19	06:46		06:18		06:50 10:39 (13)
	20:20	20:02	19:21	18:33		16:50		16:28 68 11:47 (13)
3	05:29	05:52	06:20	06:47		06:19		06:51 10:39 (13)
	20:20	20:01	19:19	18:31		16:49		16:28 68 11:47 (13)
4	05:29	05:53	06:21	06:48		06:20		06:52 10:39 (13)
	20:20	20:00	19:18	18:30		16:47		16:28 69 11:48 (13)
5	05:30	05:54	06:22	06:49		06:21		06:53 10:40 (13)
	20:19	19:59	19:16	18:28		16:46		16:28 68 11:48 (13)
6	05:30	05:55	06:23	06:50		06:22		06:54 10:40 (13)
	20:19	19:57	19:15	18:27		16:45		16:28 69 11:49 (13)
7	05:31	05:55	06:24	06:51		06:23		06:55 10:40 (13)
	20:19	19:56	19:13	18:25		16:44		16:28 68 11:48 (13)
8	05:32	05:56	06:24	06:52		06:24		10:56 (13) 06:56 10:40 (13)
	20:19	19:55	19:11	18:24		16:43	16	11:12 (13) 16:28 69 11:49 (13)
9	05:32	05:57	06:25	06:53		06:25		10:51 (13) 06:57 10:41 (13)
	20:18	19:54	19:10	18:22		16:42	26	11:17 (13) 16:28 68 11:49 (13)
10	05:33	05:58	06:26	06:54		06:27		10:49 (13) 06:57 10:41 (13)
	20:18	19:53	19:08	18:21		16:41	33	11:22 (13) 16:28 69 11:50 (13)
11	05:33	05:59	06:27	06:55		06:28		10:46 (13) 06:58 10:42 (13)
	20:18	19:52	19:07	18:19		16:40	39	11:25 (13) 16:28 69 11:51 (13)
12	05:34	06:00	06:28	06:56		07:54 (12) 06:29		10:44 (13) 06:59 10:43 (13)
	20:17	19:50	19:05	18:18	11	08:05 (12) 16:40	43	11:27 (13) 16:28 68 11:51 (13)
13	05:35	06:01	06:29	06:57		07:52 (12) 06:30		10:43 (13) 07:00 10:42 (13)
	20:17	19:49	19:04	18:16	15	08:07 (12) 16:39	46	11:29 (13) 16:28 69 11:51 (13)
14	05:36	06:02	06:30	06:58		07:50 (12) 06:31		10:41 (13) 07:01 10:43 (13)
	20:16	19:48	19:02	18:15	18	08:08 (12) 16:38	49	11:30 (13) 16:28 69 11:52 (13)
15	05:36	06:03	06:31	06:59		07:49 (12) 06:32		10:41 (13) 07:01 10:44 (13)
	20:16	19:47	19:00	18:13	19	08:08 (12) 16:37	52	11:33 (13) 16:29 68 11:52 (13)
16	05:37	06:04	06:32	07:00		07:48 (12) 06:33		10:40 (13) 07:02 10:44 (13)
	20:15	19:45	18:59	18:12	21	08:09 (12) 16:36	54	11:34 (13) 16:29 68 11:52 (13)
17	05:38	06:05	06:33	07:01		07:47 (12) 06:34		10:39 (13) 07:03 10:44 (13)
	20:15	19:44	18:57	18:10	22	08:09 (12) 16:36	56	11:35 (13) 16:29 69 11:53 (13)
18	05:38	06:05	06:33	07:02		07:47 (12) 06:35		10:39 (13) 07:03 10:45 (13)
	20:14	19:43	18:55	18:09	22	08:09 (12) 16:35	57	11:36 (13) 16:30 69 11:54 (13)
19	05:39	06:06	06:34	07:03		07:47 (12) 06:37		10:38 (13) 07:04 10:45 (13)
	20:13	19:41	18:54	18:08	22	08:09 (12) 16:34	59	11:37 (13) 16:30 69 11:54 (13)
20	05:40	06:07	06:35	07:04		07:47 (12) 06:38		10:37 (13) 07:05 10:46 (13)
	20:13	19:40	18:52	18:06	21	08:08 (12) 16:34	61	11:38 (13) 16:30 69 11:55 (13)
21	05:41	06:08	06:36	07:05		07:47 (12) 06:39		10:38 (13) 07:05 10:46 (13)
	20:12	19:38	18:51	18:05	21	08:08 (12) 16:33	61	11:39 (13) 16:31 69 11:55 (13)
22	05:42	06:09	06:37	07:06		07:47 (12) 06:40		10:38 (13) 07:06 10:47 (13)
	20:11	19:37	18:49	18:03	20	08:07 (12) 16:32	62	11:40 (13) 16:31 69 11:56 (13)
23	05:42	06:10	06:38	07:07		07:48 (12) 06:41		10:37 (13) 07:06 10:47 (13)
	20:11	19:36	18:47	18:02	18	08:06 (12) 16:32	64	11:41 (13) 16:32 69 11:56 (13)
24	05:43	06:11	06:39	07:08		07:50 (12) 06:42		10:37 (13) 07:07 10:48 (13)
	20:10	19:34	18:46	18:01	15	08:05 (12) 16:31	64	11:41 (13) 16:32 69 11:57 (13)
25	05:44	06:12	06:40	07:09		07:52 (12) 06:43		10:37 (13) 07:07 10:48 (13)
	20:09	19:33	18:44	17:59	11	08:03 (12) 16:31	65	11:42 (13) 16:33 69 11:57 (13)
26	05:45	06:13	06:41	07:10		07:55 (12) 06:44		10:37 (13) 07:07 10:48 (13)
	20:08	19:31	18:43	17:58	4	07:59 (12) 16:30	66	11:43 (13) 16:34 69 11:57 (13)
27	05:46	06:14	06:42	06:11		06:45		10:37 (13) 07:08 10:49 (13)
	20:07	19:30	18:41	16:57		16:30	66	11:43 (13) 16:34 69 11:58 (13)
28	05:47	06:15	06:42	06:12		06:46		10:37 (13) 07:08 10:50 (13)
	20:07	19:28	18:39	16:56		16:30	67	11:44 (13) 16:35 68 11:58 (13)
29	05:47	06:15	06:43	06:13		06:47		10:38 (13) 07:08 10:50 (13)
	20:06	19:27	18:38	16:54		16:29	67	11:45 (13) 16:36 69 11:59 (13)
30	05:48	06:16	06:44	06:14		06:48		10:38 (13) 07:09 10:50 (13)
	20:05	19:25	18:36	16:53		16:29	68	11:46 (13) 16:36 69 11:59 (13)
31	05:49	06:17	06:15	06:15		06:15		07:09 10:50 (13)
	20:04	19:24	16:52	16:52		16:37	69	11:59 (13)
Potential sun hours	453	424	374	347		303		294
Total, worst case					260	1241		2129
Sun reduction					0,53	0,50		0,43
Oper. time red.					0,34	0,34		0,34
Wind dir. red.					0,94	0,15		0,15
Total reduction					0,17	0,03		0,02
Total, real					45	33		49

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BF - R15 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June		
1	07:09	10:49 (13) 06:59	10:54 (13) 06:24	07:08 (12) 06:37	05:54	05:27		
16:37	66	11:55 (13) 17:09	75	12:09 (13) 17:42	19:13	19:42		
2	07:09	10:49 (13) 06:58	10:54 (13) 06:23	22	07:30 (12) 19:13	20:09		
16:38	66	11:55 (13) 17:10	74	12:08 (13) 17:43	22	07:30 (12) 19:14	19:43	20:10
3	07:09	10:49 (13) 06:57	10:55 (13) 06:21	21	07:08 (12) 06:33	05:51	05:26	
16:39	67	11:56 (13) 17:12	73	12:08 (13) 17:44	21	07:29 (12) 19:15	19:44	20:11
4	07:09	10:49 (13) 06:56	10:55 (13) 06:20	19	07:09 (12) 06:32	05:50	05:26	
16:40	67	11:56 (13) 17:13	73	12:08 (13) 17:45	19	07:28 (12) 19:16	19:45	20:11
5	07:10	10:49 (13) 06:55	10:56 (13) 06:19	17	07:09 (12) 06:30	05:49	05:25	
16:41	68	11:57 (13) 17:14	71	12:07 (13) 17:46	17	07:26 (12) 19:17	19:46	20:12
6	07:10	10:50 (13) 06:54	10:56 (13) 06:17	14	07:11 (12) 06:29	05:48	05:25	
16:41	68	11:58 (13) 17:15	71	12:07 (13) 17:47	14	07:25 (12) 19:18	19:47	20:13
7	07:10	10:50 (13) 06:53	10:57 (13) 06:16	10	07:12 (12) 06:27	05:47	05:25	
16:42	69	11:59 (13) 17:16	69	12:06 (13) 17:48	10	07:22 (12) 19:19	19:48	20:13
8	07:10	10:49 (13) 06:52	10:58 (13) 06:14	19	06:26	05:45	05:25	
16:43	69	11:58 (13) 17:17	67	12:05 (13) 17:49	19	06:26	05:45	05:25
9	07:10	10:49 (13) 06:51	10:58 (13) 06:13	19	06:24	05:44	05:25	
16:44	70	11:59 (13) 17:19	65	12:03 (13) 17:50	19	06:24	05:44	05:25
10	07:09	10:50 (13) 06:50	10:59 (13) 06:11	19	06:23	05:43	05:24	
16:45	70	12:00 (13) 17:20	63	12:02 (13) 17:51	19	06:23	05:43	05:24
11	07:09	10:50 (13) 06:49	11:00 (13) 06:09	19	06:22	05:42	05:24	
16:46	71	12:01 (13) 17:21	61	12:01 (13) 17:52	19	06:22	05:42	05:24
12	07:09	10:51 (13) 06:48	11:02 (13) 06:08	19	06:21	05:41	05:24	
16:47	71	12:02 (13) 17:22	57	11:59 (13) 17:53	19	06:21	05:41	05:24
13	07:09	10:50 (13) 06:47	11:03 (13) 06:06	19	06:20	05:40	05:24	
16:48	72	12:02 (13) 17:23	55	11:58 (13) 17:54	19	06:20	05:40	05:24
14	07:09	10:50 (13) 06:45	11:05 (13) 06:05	19	06:19	05:39	05:24	
16:49	73	12:03 (13) 17:24	50	11:55 (13) 17:55	19	06:19	05:39	05:24
15	07:08	10:51 (13) 06:44	11:06 (13) 06:03	19	06:18	05:38	05:24	
16:50	73	12:04 (13) 17:25	46	11:52 (13) 17:56	19	06:18	05:38	05:24
16	07:08	10:50 (13) 06:43	11:09 (13) 06:02	19	06:17	05:37	05:24	
16:51	74	12:04 (13) 17:27	40	11:49 (13) 17:57	19	06:17	05:37	05:24
17	07:08	10:51 (13) 06:42	11:13 (13) 06:00	19	06:16	05:36	05:24	
16:52	74	12:05 (13) 17:28	31	11:44 (13) 17:58	19	06:16	05:36	05:24
18	07:07	10:50 (13) 06:41	11:19 (13) 05:59	19	06:15	05:35	05:24	
16:53	75	12:05 (13) 17:29	18	11:37 (13) 17:59	19	06:15	05:35	05:24
19	07:07	10:51 (13) 06:39	05:57	19	06:14	05:34	05:24	
16:54	75	12:06 (13) 17:30	18	11:36 (13) 17:58	19	06:14	05:34	05:24
20	07:06	10:51 (13) 06:38	05:55	19	06:13	05:33	05:24	
16:56	75	12:06 (13) 17:31	18	11:35 (13) 17:57	19	06:13	05:33	05:24
21	07:06	10:51 (13) 06:37	05:54	19	06:12	05:32	05:24	
16:57	76	12:07 (13) 17:32	18	11:34 (13) 17:56	19	06:12	05:32	05:24
22	07:05	10:51 (13) 06:35	05:52	19	06:11	05:31	05:24	
16:58	76	12:07 (13) 17:33	18	11:33 (13) 17:55	19	06:11	05:31	05:24
23	07:05	10:52 (13) 06:34	07:15 (12) 05:51	19	06:10	05:30	05:24	
16:59	76	12:08 (13) 17:34	10	07:25 (12) 18:04	19	06:10	05:30	05:24
24	07:04	10:52 (13) 06:33	07:13 (12) 05:49	19	06:09	05:29	05:24	
17:00	76	12:08 (13) 17:35	14	07:27 (12) 18:05	19	06:09	05:29	05:24
25	07:04	10:52 (13) 06:31	07:11 (12) 05:48	19	06:08	05:28	05:24	
17:01	76	12:08 (13) 17:37	17	07:28 (12) 18:06	19	06:08	05:28	05:24
26	07:03	10:52 (13) 06:30	07:10 (12) 05:46	19	06:07	05:27	05:24	
17:02	77	12:09 (13) 17:38	19	07:29 (12) 18:07	19	06:07	05:27	05:24
27	07:02	10:52 (13) 06:29	07:09 (12) 05:44	19	06:06	05:26	05:24	
17:03	76	12:08 (13) 17:39	20	07:29 (12) 18:08	19	06:06	05:26	05:24
28	07:02	10:52 (13) 06:27	07:08 (12) 05:43	19	06:05	05:25	05:24	
17:05	76	12:08 (13) 17:40	22	07:30 (12) 18:09	19	06:05	05:25	05:24
29	07:01	10:53 (13) 06:26	07:07 (12) 05:41	19	06:04	05:24	05:24	
17:06	75	12:08 (13) 17:41	23	07:30 (12) 18:10	19	06:04	05:24	05:24
30	07:00	10:53 (13) 06:25	05:40	19	06:03	05:23	05:24	
17:07	75	12:08 (13) 17:42	18	11:31 (13) 17:54	19	06:03	05:23	05:24
31	06:59	10:53 (13) 06:24	06:38	19	06:02	05:22	05:24	
17:08	75	12:08 (13) 17:43	19	11:30 (13) 17:53	19	06:02	05:22	05:24
Potential sun hours	302	310	370	396	443	446		
Total, worst case	2247	1184	125					
Sun reduction	0,43	0,43	0,47					
Oper. time red.	0,34	0,34	0,34					
Wind dir. red.	0,18	0,27	0,96					
Total reduction	0,03	0,04	0,15					
Total, real	60	46	19					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BF - R15 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time		
0	1	Sum
1.500	1.500	3.000

	July	August	September	October	November	December
1	05:28	05:50	06:18	06:45	06:17	10:30 (13) 06:49
	20:20	20:03	19:22	18:35	16:51	11:31 (13) 16:29
2	05:28	05:51	06:19	06:46	06:18	10:29 (13) 06:50
	20:20	20:02	19:21	18:33	16:50	63 11:32 (13) 16:28
3	05:29	05:52	06:20	06:47	06:19	10:28 (13) 06:51
	20:20	20:01	19:19	18:31	16:49	65 11:33 (13) 16:28
4	05:29	05:53	06:21	06:48	06:20	10:27 (13) 06:52
	20:20	20:00	19:18	18:30	16:47	67 11:34 (13) 16:28
5	05:30	05:54	06:22	06:49	06:21	10:27 (13) 06:53
	20:19	19:59	19:16	18:28	16:46	69 11:36 (13) 16:28
6	05:30	05:55	06:23	06:50	07:51 (12) 06:22	10:26 (13) 06:54
	20:19	19:57	19:15	18:27	6 07:57 (12) 16:45	71 11:37 (13) 16:28
7	05:31	05:55	06:24	06:51	07:48 (12) 06:23	10:26 (13) 06:55
	20:19	19:56	19:13	18:25	12 08:00 (12) 16:44	71 11:37 (13) 16:28
8	05:32	05:56	06:24	06:52	07:46 (12) 06:24	10:25 (13) 06:56
	20:19	19:55	19:11	18:24	15 08:01 (12) 16:43	73 11:38 (13) 16:28
9	05:32	05:57	06:25	06:53	07:44 (12) 06:25	10:25 (13) 06:57
	20:18	19:54	19:10	18:22	18 08:02 (12) 16:42	73 11:38 (13) 16:28
10	05:33	05:58	06:26	06:54	07:43 (12) 06:27	10:25 (13) 06:57
	20:18	19:53	19:08	18:21	20 08:03 (12) 16:41	74 11:39 (13) 16:28
11	05:33	05:59	06:27	06:55	07:42 (12) 06:28	10:25 (13) 06:58
	20:18	19:52	19:07	18:19	21 08:03 (12) 16:40	75 11:40 (13) 16:28
12	05:34	06:00	06:28	06:56	07:42 (12) 06:29	10:25 (13) 06:59
	20:17	19:50	19:05	18:18	21 08:03 (12) 16:40	75 11:40 (13) 16:28
13	05:35	06:01	06:29	06:57	07:41 (12) 06:30	10:25 (13) 07:00
	20:17	19:49	19:04	18:16	22 08:03 (12) 16:39	75 11:40 (13) 16:28
14	05:36	06:02	06:30	06:58	07:41 (12) 06:31	10:25 (13) 07:01
	20:16	19:48	19:02	18:15	22 08:03 (12) 16:38	75 11:40 (13) 16:28
15	05:36	06:03	06:31	06:59	07:41 (12) 06:32	10:26 (13) 07:01
	20:16	19:47	19:00	18:13	22 08:03 (12) 16:37	75 11:41 (13) 16:29
16	05:37	06:04	06:32	07:00	07:41 (12) 06:33	10:25 (13) 07:02
	20:15	19:45	18:59	18:12	21 08:02 (12) 16:36	77 11:42 (13) 16:29
17	05:38	06:05	06:33	07:01	07:42 (12) 06:34	10:26 (13) 07:03
	20:15	19:44	18:57	18:10	19 08:01 (12) 16:36	76 11:42 (13) 16:29
18	05:38	06:05	06:33	07:02	07:43 (12) 06:35	10:26 (13) 07:03
	20:14	19:43	18:55	18:09	16 07:59 (12) 16:35	76 11:42 (13) 16:30
19	05:39	06:06	06:34	07:03	07:44 (12) 06:37	10:26 (13) 07:04
	20:13	19:41	18:54	18:08	13 07:57 (12) 16:34	76 11:42 (13) 16:30
20	05:40	06:07	06:35	07:04	07:46 (12) 06:38	10:26 (13) 07:05
	20:13	19:40	18:52	18:06	9 07:55 (12) 16:34	76 11:42 (13) 16:30
21	05:41	06:08	06:36	07:05	06:39	10:27 (13) 07:05
	20:12	19:38	18:51	18:05	16:33	76 11:43 (13) 16:31
22	05:42	06:09	06:37	07:06	06:40	10:27 (13) 07:06
	20:11	19:37	18:49	18:03	16:32	76 11:43 (13) 16:31
23	05:42	06:10	06:38	07:07	06:41	10:28 (13) 07:06
	20:11	19:36	18:47	18:02	16:32	75 11:43 (13) 16:32
24	05:43	06:11	06:39	07:08	06:42	10:28 (13) 07:07
	20:10	19:34	18:46	18:01	16:31	75 11:43 (13) 16:32
25	05:44	06:12	06:40	07:09	11:47 (13) 06:43	10:28 (13) 07:07
	20:09	19:33	18:44	17:59	22 12:09 (13) 16:31	75 11:43 (13) 16:33
26	05:45	06:13	06:41	07:10	11:42 (13) 06:44	10:29 (13) 07:07
	20:08	19:31	18:43	17:58	33 12:15 (13) 16:30	74 11:43 (13) 16:34
27	05:46	06:14	06:42	06:11	10:39 (13) 06:45	10:29 (13) 07:08
	20:07	19:30	18:41	16:57	40 11:19 (13) 16:30	74 11:43 (13) 16:34
28	05:47	06:15	06:42	06:12	10:36 (13) 06:46	10:30 (13) 07:08
	20:07	19:28	18:39	16:56	46 11:22 (13) 16:30	73 11:43 (13) 16:35
29	05:47	06:15	06:43	06:13	10:34 (13) 06:47	10:31 (13) 07:08
	20:06	19:27	18:38	16:54	51 11:25 (13) 16:29	73 11:44 (13) 16:36
30	05:48	06:16	06:44	06:14	10:32 (13) 06:48	10:32 (13) 07:09
	20:05	19:25	18:36	16:53	55 11:27 (13) 16:29	72 11:44 (13) 16:36
31	05:49	06:17		06:15	10:31 (13)	07:09
	20:04	19:24		16:52	58 11:29 (13)	16:37
Potential sun hours	453	424	374	347	303	294
Total, worst case				562	2186	2049
Sun reduction				0,53	0,50	0,43
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				0,54	0,18	0,18
Total reduction				0,10	0,03	0,03
Total, real				55	69	56

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BG - R16 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4,16	4,62	5,58	6,71	8,10	9,27	10,00	9,47	7,89	5,95	5,05	4,11

Operational time		
0	1	Sum
1.500	1.500	3.000

	January	February	March	April	May	June
1	07:09	11:25 (13) 06:59	11:30 (13) 06:24	07:11 (12) 06:37	05:54	05:27
	16:37	66 12:31 (13) 17:09	75 12:45 (13) 17:42	23 07:34 (12) 19:13	19:42	20:09
2	07:09	11:25 (13) 06:58	11:31 (13) 06:23	07:12 (12) 06:35	05:52	05:27
	16:38	66 12:31 (13) 17:10	74 12:45 (13) 17:43	22 07:34 (12) 19:14	19:43	20:10
3	07:09	11:25 (13) 06:57	11:31 (13) 06:21	07:12 (12) 06:33	05:51	05:26
	16:39	67 12:32 (13) 17:12	74 12:45 (13) 17:44	21 07:33 (12) 19:15	19:44	20:11
4	07:09	11:25 (13) 06:56	11:32 (13) 06:20	07:13 (12) 06:32	05:50	05:26
	16:40	68 12:33 (13) 17:13	73 12:45 (13) 17:45	19 07:32 (12) 19:16	19:45	20:11
5	07:10	11:25 (13) 06:55	11:32 (13) 06:19	07:14 (12) 06:30	05:49	05:25
	16:41	68 12:33 (13) 17:14	72 12:44 (13) 17:46	16 07:30 (12) 19:17	19:46	20:12
6	07:10	11:25 (13) 06:54	11:33 (13) 06:17	07:16 (12) 06:29	05:48	05:25
	16:41	69 12:34 (13) 17:15	71 12:44 (13) 17:47	12 07:28 (12) 19:18	19:47	20:13
7	07:10	11:26 (13) 06:53	11:34 (13) 06:16	07:19 (12) 06:27	05:47	05:25
	16:42	69 12:35 (13) 17:16	69 12:43 (13) 17:48	5 07:24 (12) 19:19	19:48	20:13
8	07:10	11:25 (13) 06:52	11:35 (13) 06:14	06:26	05:45	05:25
	16:43	70 12:35 (13) 17:17	68 12:43 (13) 17:49	19:20	19:49	20:14
9	07:10	11:25 (13) 06:51	11:35 (13) 06:13	06:24	05:44	05:25
	16:44	70 12:35 (13) 17:19	66 12:41 (13) 17:50	19:21	19:50	20:14
10	07:09	11:26 (13) 06:50	11:36 (13) 06:11	06:23	05:43	05:24
	16:45	70 12:36 (13) 17:20	64 12:40 (13) 17:51	19:22	19:51	20:15
11	07:09	11:26 (13) 06:49	11:38 (13) 06:09	06:21	05:42	05:24
	16:46	71 12:37 (13) 17:21	61 12:39 (13) 17:52	19:23	19:52	20:16
12	07:09	11:26 (13) 06:48	11:40 (13) 06:08	06:20	05:41	05:24
	16:47	72 12:38 (13) 17:22	58 12:38 (13) 17:53	19:24	19:53	20:16
13	07:09	11:26 (13) 06:47	11:42 (13) 06:06	06:18	05:40	05:24
	16:48	72 12:38 (13) 17:23	54 12:36 (13) 17:54	19:25	19:54	20:16
14	07:09	11:26 (13) 06:45	11:44 (13) 06:05	06:17	05:39	05:24
	16:49	73 12:39 (13) 17:24	50 12:34 (13) 17:55	19:26	19:54	20:17
15	07:08	11:27 (13) 06:44	11:46 (13) 06:03	06:15	05:38	05:24
	16:50	73 12:40 (13) 17:25	45 12:31 (13) 17:56	19:27	19:55	20:17
16	07:08	11:26 (13) 06:43	11:50 (13) 06:02	06:14	05:38	05:24
	16:51	74 12:40 (13) 17:27	38 12:28 (13) 17:57	19:28	19:56	20:18
17	07:08	11:27 (13) 06:42	11:55 (13) 06:00	06:12	05:37	05:24
	16:52	74 12:41 (13) 17:28	28 12:23 (13) 17:58	19:29	19:57	20:18
18	07:07	11:26 (13) 06:41	12:05 (13) 05:59	06:11	05:36	05:24
	16:53	75 12:41 (13) 17:29	8 12:13 (13) 17:59	19:29	19:58	20:18
19	07:07	11:27 (13) 06:39	05:57	06:10	05:35	05:24
	16:54	75 12:42 (13) 17:30	18:00	19:30	19:59	20:19
20	07:06	11:27 (13) 06:38	05:55	06:08	05:34	05:24
	16:56	75 12:42 (13) 17:31	18:01	19:31	20:00	20:19
21	07:06	11:27 (13) 06:37	07:23 (12) 05:54	06:07	05:33	05:25
	16:57	76 12:43 (13) 17:32	3 07:26 (12) 18:02	19:32	20:01	20:19
22	07:05	11:27 (13) 06:35	07:18 (12) 05:52	06:05	05:33	05:25
	16:58	76 12:43 (13) 17:33	12 07:30 (12) 18:03	19:33	20:02	20:19
23	07:05	11:28 (13) 06:34	07:16 (12) 05:51	06:04	05:32	05:25
	16:59	76 12:44 (13) 17:34	16 07:32 (12) 18:04	19:34	20:02	20:20
24	07:04	11:28 (13) 06:33	07:15 (12) 05:49	06:03	05:31	05:25
	17:00	76 12:44 (13) 17:35	18 07:33 (12) 18:05	19:35	20:03	20:20
25	07:04	11:28 (13) 06:31	07:13 (12) 05:48	06:01	05:31	05:26
	17:01	76 12:44 (13) 17:37	21 07:34 (12) 18:06	19:36	20:04	20:20
26	07:03	11:28 (13) 06:30	07:13 (12) 05:46	06:00	05:30	05:26
	17:02	76 12:44 (13) 17:38	22 07:35 (12) 18:07	19:37	20:05	20:20
27	07:02	11:29 (13) 06:29	07:12 (12) 05:44	05:59	05:29	05:26
	17:03	76 12:45 (13) 17:39	22 07:34 (12) 18:08	19:38	20:06	20:20
28	07:02	11:29 (13) 06:27	07:12 (12) 05:43	05:57	05:29	05:27
	17:05	76 12:45 (13) 17:40	23 07:35 (12) 18:09	19:39	20:06	20:20
29	07:01	11:29 (13) 06:26	07:11 (12) 05:41	05:56	05:28	05:27
	17:06	76 12:45 (13) 17:41	23 07:34 (12) 18:10	19:40	20:07	20:20
30	07:00	11:29 (13) 06:25	05:40	05:55	05:28	05:27
	17:07	76 12:45 (13) 17:42	18:11	19:41	20:08	20:20
31	06:59	11:29 (13) 06:24	06:38	05:54	05:27	05:27
	17:08	76 12:45 (13) 17:43	19:12	19:42	20:09	20:20
Potential sun hours	302	310	370	396	443	446
Total, worst case	2253	1208	118			
Sun reduction	0,43	0,43	0,47			
Oper. time red.	0,34	0,34	0,34			
Wind dir. red.	0,01	0,13	0,95			
Total reduction	0,00	0,02	0,15			
Total, real	3	24	18			

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: Bufalo real case Shadow receptor: BG - R16 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28	05:50	06:18	06:45	06:17	11:08 (13) 06:49
	20:20	20:03	19:22	18:35	16:51	12:09 (13) 16:29
2	05:28	05:51	06:19	06:46	06:18	11:06 (13) 06:50
	20:20	20:02	19:21	18:33	16:50	12:10 (13) 16:28
3	05:29	05:52	06:20	06:47	06:19	11:05 (13) 06:51
	20:20	20:01	19:19	18:31	16:49	12:11 (13) 16:28
4	05:29	05:53	06:21	06:48	06:20	11:04 (13) 06:52
	20:20	20:00	19:18	18:30	16:47	12:12 (13) 16:28
5	05:30	05:54	06:22	06:49	06:21	11:04 (13) 06:53
	20:19	19:59	19:16	18:28	16:46	12:13 (13) 16:28
6	05:30	05:55	06:23	06:50	06:22	11:03 (13) 06:54
	20:19	19:57	19:15	18:27	16:45	12:14 (13) 16:28
7	05:31	05:55	06:24	06:51	07:53 (12) 06:23	11:02 (13) 06:55
	20:19	19:56	19:13	18:25	9 08:02 (12) 16:44	12:14 (13) 16:28
8	05:32	05:56	06:24	06:52	07:50 (12) 06:24	11:02 (13) 06:56
	20:19	19:55	19:11	18:24	15 08:05 (12) 16:43	12:15 (13) 16:28
9	05:32	05:57	06:25	06:53	07:48 (12) 06:25	11:01 (13) 06:57
	20:18	19:54	19:10	18:22	18 08:06 (12) 16:42	12:15 (13) 16:28
10	05:33	05:58	06:26	06:54	07:47 (12) 06:27	11:02 (13) 06:57
	20:18	19:53	19:08	18:21	20 08:07 (12) 16:41	12:16 (13) 16:28
11	05:33	05:59	06:27	06:55	07:46 (12) 06:28	11:01 (13) 06:58
	20:18	19:52	19:07	18:19	21 08:07 (12) 16:40	12:16 (13) 16:28
12	05:34	06:00	06:28	06:56	07:45 (12) 06:29	11:01 (13) 06:59
	20:17	19:50	19:05	18:18	23 08:08 (12) 16:40	12:17 (13) 16:28
13	05:35	06:01	06:29	06:57	07:45 (12) 06:30	11:01 (13) 07:00
	20:17	19:49	19:04	18:16	23 08:08 (12) 16:39	12:17 (13) 16:28
14	05:36	06:02	06:30	06:58	07:44 (12) 06:31	11:01 (13) 07:01
	20:16	19:48	19:02	18:15	24 08:08 (12) 16:38	12:17 (13) 16:28
15	05:36	06:03	06:31	06:59	07:44 (12) 06:32	11:02 (13) 07:01
	20:16	19:47	19:00	18:13	23 08:07 (12) 16:37	12:18 (13) 16:29
16	05:37	06:04	06:32	07:00	07:44 (12) 06:33	11:02 (13) 07:02
	20:15	19:45	18:59	18:12	23 08:07 (12) 16:36	12:18 (13) 16:29
17	05:38	06:05	06:33	07:01	07:45 (12) 06:34	11:02 (13) 07:03
	20:15	19:44	18:57	18:10	21 08:06 (12) 16:36	12:18 (13) 16:29
18	05:38	06:05	06:33	07:02	07:45 (12) 06:35	11:02 (13) 07:03
	20:14	19:43	18:55	18:09	20 08:05 (12) 16:35	12:18 (13) 16:30
19	05:39	06:06	06:34	07:03	07:46 (12) 06:36	11:02 (13) 07:04
	20:13	19:41	18:54	18:08	18 08:04 (12) 16:34	12:18 (13) 16:30
20	05:40	06:07	06:35	07:04	07:47 (12) 06:38	11:02 (13) 07:05
	20:13	19:40	18:52	18:06	15 08:02 (12) 16:34	12:18 (13) 16:30
21	05:41	06:08	06:36	07:05	07:49 (12) 06:39	11:03 (13) 07:05
	20:12	19:38	18:51	18:05	11 08:00 (12) 16:33	12:19 (13) 16:31
22	05:42	06:09	06:37	07:06	06:40	11:03 (13) 07:06
	20:11	19:37	18:49	18:03	16:32	12:19 (13) 16:31
23	05:42	06:10	06:38	07:07	06:41	11:04 (13) 07:06
	20:11	19:36	18:47	18:02	16:32	12:19 (13) 16:32
24	05:43	06:11	06:39	07:08	06:42	11:04 (13) 07:07
	20:10	19:34	18:46	18:01	16:31	12:19 (13) 16:32
25	05:44	06:12	06:40	07:09	12:31 (13) 06:43	11:04 (13) 07:07
	20:09	19:33	18:44	17:59	16 12:47 (13) 16:31	12:19 (13) 16:33
26	05:45	06:13	06:41	07:10	12:23 (13) 06:44	11:05 (13) 07:07
	20:08	19:31	18:43	17:58	31 12:54 (13) 16:30	12:19 (13) 16:34
27	05:46	06:14	06:42	06:11	11:19 (13) 06:45	11:05 (13) 07:08
	20:07	19:30	18:41	16:57	39 11:58 (13) 16:30	12:19 (13) 16:34
28	05:47	06:15	06:42	06:12	11:15 (13) 06:46	11:06 (13) 07:08
	20:07	19:28	18:39	16:56	46 12:01 (13) 16:30	12:19 (13) 16:35
29	05:47	06:15	06:43	06:13	11:13 (13) 06:47	11:07 (13) 07:08
	20:06	19:27	18:38	16:54	50 12:03 (13) 16:29	12:20 (13) 16:36
30	05:48	06:16	06:44	06:14	11:10 (13) 06:48	11:08 (13) 07:09
	20:05	19:25	18:36	16:53	55 12:05 (13) 16:29	12:20 (13) 16:36
31	05:49	06:17	06:45	06:15	11:09 (13) 06:49	11:09 (13) 07:09
	20:04	19:24	18:35	16:52	59 12:08 (13) 16:37	12:20 (13) 16:37
Potential sun hours	453	424	374	347	303	294
Total, worst case				580	2194	2061
Sun reduction				0,53	0,50	0,43
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				0,47	0,01	0,01
Total reduction				0,09	0,00	0,00
Total, real				50	3	3

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BH - R17 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09	10:34 (13) 06:59	10:45 (13) 06:24	07:10 (12) 06:37	05:54	05:27
16:37	68	11:42 (13) 17:09	11:50 (13) 17:42	07:31 (12) 19:13	19:42	20:09
2	07:09	10:35 (13) 06:58	10:46 (13) 06:23	07:11 (12) 06:35	05:52	05:27
16:38	68	11:43 (13) 17:10	11:49 (13) 17:43	07:30 (12) 19:14	19:43	20:10
3	07:09	10:35 (13) 06:57	10:46 (13) 06:21	07:11 (12) 06:33	05:51	05:26
16:39	68	11:43 (13) 17:12	11:48 (13) 17:44	07:29 (12) 19:15	19:44	20:11
4	07:09	10:35 (13) 06:56	10:47 (13) 06:20	07:13 (12) 06:32	05:50	05:26
16:40	69	11:44 (13) 17:13	11:47 (13) 17:45	07:27 (12) 19:16	19:45	20:11
5	07:10	10:35 (13) 06:55	10:48 (13) 06:19	07:14 (12) 06:30	05:49	05:25
16:41	69	11:44 (13) 17:14	11:46 (13) 17:46	07:24 (12) 19:17	19:46	20:12
6	07:10	10:36 (13) 06:54	10:49 (13) 06:17	06:29	05:48	05:25
16:41	69	11:45 (13) 17:15	11:44 (13) 17:47	19:18	19:47	20:13
7	07:10	10:36 (13) 06:53	10:51 (13) 06:16	06:27	05:47	05:25
16:42	69	11:45 (13) 17:16	11:43 (13) 17:48	19:19	19:48	20:13
8	07:10	10:36 (13) 06:52	10:52 (13) 06:14	06:26	05:45	05:25
16:43	70	11:46 (13) 17:17	11:41 (13) 17:49	19:20	19:49	20:14
9	07:10	10:36 (13) 06:51	10:53 (13) 06:13	06:24	05:44	05:25
16:44	70	11:46 (13) 17:19	11:38 (13) 17:50	19:21	19:50	20:14
10	07:09	10:36 (13) 06:50	10:55 (13) 06:11	06:23	05:43	05:24
16:45	70	11:46 (13) 17:20	11:35 (13) 17:51	19:22	19:51	20:15
11	07:09	10:37 (13) 06:49	10:58 (13) 06:09	06:21	05:42	05:24
16:46	70	11:47 (13) 17:21	11:32 (13) 17:52	19:23	19:52	20:16
12	07:09	10:37 (13) 06:48	11:02 (13) 06:08	06:20	05:41	05:24
16:47	71	11:48 (13) 17:22	11:28 (13) 17:53	19:24	19:53	20:16
13	07:09	10:37 (13) 06:47	11:08 (13) 06:06	06:18	05:40	05:24
16:48	71	11:48 (13) 17:23	11:21 (13) 17:54	19:25	19:54	20:16
14	07:09	10:37 (13) 06:45	06:05	06:17	05:39	05:24
16:49	71	11:48 (13) 17:24	17:55	19:26	19:54	20:17
15	07:08	10:38 (13) 06:44	06:03	06:15	05:38	05:24
16:50	71	11:49 (13) 17:25	17:56	19:27	19:55	20:17
16	07:08	10:38 (13) 06:43	06:02	06:14	05:38	05:24
16:51	71	11:49 (13) 17:27	17:57	19:28	19:56	20:18
17	07:08	10:38 (13) 06:42	06:00	06:12	05:37	05:24
16:52	72	11:50 (13) 17:28	17:58	19:29	19:57	20:18
18	07:07	10:38 (13) 06:41	05:59	06:11	05:36	05:24
16:53	72	11:50 (13) 17:29	17:59	19:29	19:58	20:18
19	07:07	10:39 (13) 06:39	05:57	06:10	05:35	05:24
16:54	71	11:50 (13) 17:30	18:00	19:30	19:59	20:19
20	07:06	10:39 (13) 06:38	05:55	06:08	05:34	05:24
16:56	71	11:50 (13) 17:31	18:01	19:31	20:00	20:19
21	07:06	10:40 (13) 06:37	07:18 (12) 05:54	06:07	05:33	05:25
16:57	71	11:51 (13) 17:32	8 07:26 (12) 18:02	19:32	20:01	20:19
22	07:05	10:40 (13) 06:35	07:15 (12) 05:52	06:05	05:33	05:25
16:58	71	11:51 (13) 17:33	13 07:28 (12) 18:03	19:33	20:02	20:19
23	07:05	10:40 (13) 06:34	07:13 (12) 05:51	06:04	05:32	05:25
16:59	72	11:52 (13) 17:34	17 07:30 (12) 18:04	19:34	20:02	20:20
24	07:04	10:41 (13) 06:33	07:13 (12) 05:49	06:03	05:31	05:25
17:00	70	11:51 (13) 17:35	18 07:31 (12) 18:05	19:35	20:03	20:20
25	07:04	10:41 (13) 06:31	07:11 (12) 05:48	06:01	05:31	05:26
17:01	70	11:51 (13) 17:37	20 07:31 (12) 18:06	19:36	20:04	20:20
26	07:03	10:42 (13) 06:30	07:11 (12) 05:46	06:00	05:30	05:26
17:02	70	11:52 (13) 17:38	21 07:32 (12) 18:07	19:37	20:05	20:20
27	07:02	10:42 (13) 06:29	07:10 (12) 05:44	05:59	05:29	05:26
17:03	69	11:51 (13) 17:39	21 07:31 (12) 18:08	19:38	20:06	20:20
28	07:02	10:42 (13) 06:27	07:10 (12) 05:43	05:57	05:29	05:27
17:05	69	11:51 (13) 17:40	22 07:32 (12) 18:09	19:39	20:06	20:20
29	07:01	10:43 (13) 06:26	07:09 (12) 05:41	05:56	05:28	05:27
17:06	67	11:50 (13) 17:41	22 07:31 (12) 18:10	19:40	20:07	20:20
30	07:00	10:43 (13)	05:40	05:55	05:28	05:27
17:07	67	11:50 (13)	18:11	19:41	20:08	20:20
31	06:59	10:43 (13)	06:38		05:27	
17:08	66	11:49 (13)	19:12		20:09	
Potential sun hours	302	310	370	396	443	446
Total, worst case	2163	784	82			
Sun reduction	0,43	0,43	0,47			
Oper. time red.	0,34	0,34	0,34			
Wind dir. red.	0,24	0,39	0,95			
Total reduction	0,04	0,06	0,15			
Total, real	76	45	13			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BH - R17 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28	05:50	06:18	06:45	06:17	10:28 (13) 06:49 10:19 (13)
	20:20	20:03	19:22	18:35	16:51	34 11:02 (13) 16:29 71 11:30 (13)
2	05:28	05:51	06:19	06:46	06:18	10:25 (13) 06:50 10:20 (13)
	20:20	20:02	19:21	18:33	16:50	40 11:05 (13) 16:28 70 11:30 (13)
3	05:29	05:52	06:20	06:47	06:19	10:23 (13) 06:51 10:20 (13)
	20:20	20:01	19:19	18:31	16:49	45 11:08 (13) 16:28 70 11:30 (13)
4	05:29	05:53	06:21	06:48	06:20	10:21 (13) 06:52 10:21 (13)
	20:20	20:00	19:18	18:30	16:47	49 11:10 (13) 16:28 70 11:31 (13)
5	05:30	05:54	06:22	06:49	06:21	10:21 (13) 06:53 10:22 (13)
	20:19	19:59	19:16	18:28	16:46	52 11:13 (13) 16:28 69 11:31 (13)
6	05:30	05:55	06:23	06:50	06:22	10:19 (13) 06:54 10:22 (13)
	20:19	19:57	19:15	18:27	16:45	55 11:14 (13) 16:28 69 11:31 (13)
7	05:31	05:55	06:24	06:51	06:23	10:18 (13) 06:55 10:22 (13)
	20:19	19:56	19:13	18:25	16:44	58 11:16 (13) 16:28 69 11:31 (13)
8	05:32	05:56	06:24	06:52	07:52 (12) 06:24	10:17 (13) 06:56 10:22 (13)
	20:19	19:55	19:11	18:24	6 07:58 (12) 16:43	60 11:17 (13) 16:28 69 11:31 (13)
9	05:32	05:57	06:25	06:53	07:49 (12) 06:25	10:16 (13) 06:57 10:23 (13)
	20:18	19:54	19:10	18:22	12 08:01 (12) 16:42	62 11:18 (13) 16:28 69 11:32 (13)
10	05:33	05:58	06:26	06:54	07:47 (12) 06:27	10:17 (13) 06:57 10:24 (13)
	20:18	19:53	19:08	18:21	15 08:02 (12) 16:41	63 11:20 (13) 16:28 68 11:32 (13)
11	05:33	05:59	06:27	06:55	07:45 (12) 06:28	10:16 (13) 06:58 10:25 (13)
	20:18	19:52	19:07	18:19	18 08:03 (12) 16:40	65 11:21 (13) 16:28 68 11:33 (13)
12	05:34	06:00	06:28	06:56	07:44 (12) 06:29	10:15 (13) 06:59 10:25 (13)
	20:17	19:50	19:05	18:18	20 08:04 (12) 16:40	66 11:21 (13) 16:28 68 11:33 (13)
13	05:35	06:01	06:29	06:57	07:43 (12) 06:30	10:15 (13) 07:00 10:25 (13)
	20:17	19:49	19:04	18:16	21 08:04 (12) 16:39	67 11:22 (13) 16:28 68 11:33 (13)
14	05:36	06:02	06:30	06:58	07:43 (12) 06:31	10:15 (13) 07:01 10:26 (13)
	20:16	19:48	19:02	18:15	21 08:04 (12) 16:38	67 11:22 (13) 16:28 67 11:33 (13)
15	05:36	06:03	06:31	06:59	07:43 (12) 06:32	10:15 (13) 07:01 10:27 (13)
	20:16	19:47	19:00	18:13	21 08:04 (12) 16:37	69 11:24 (13) 16:29 67 11:34 (13)
16	05:37	06:04	06:32	07:00	07:42 (12) 06:33	10:15 (13) 07:02 10:27 (13)
	20:15	19:45	18:59	18:12	22 08:04 (12) 16:36	69 11:24 (13) 16:29 67 11:34 (13)
17	05:38	06:05	06:33	07:01	07:43 (12) 06:34	10:15 (13) 07:03 10:28 (13)
	20:15	19:44	18:57	18:10	20 08:03 (12) 16:36	70 11:25 (13) 16:29 66 11:34 (13)
18	05:38	06:05	06:33	07:02	07:43 (12) 06:35	10:15 (13) 07:03 10:29 (13)
	20:14	19:43	18:55	18:09	20 08:03 (12) 16:35	70 11:25 (13) 16:30 66 11:35 (13)
19	05:39	06:06	06:34	07:03	07:43 (12) 06:37	10:15 (13) 07:04 10:29 (13)
	20:13	19:41	18:54	18:08	18 08:01 (12) 16:34	70 11:25 (13) 16:30 66 11:35 (13)
20	05:40	06:07	06:35	07:04	07:44 (12) 06:38	10:15 (13) 07:05 10:30 (13)
	20:13	19:40	18:52	18:06	16 08:00 (12) 16:34	71 11:26 (13) 16:30 66 11:36 (13)
21	05:41	06:08	06:36	07:05	07:46 (12) 06:39	10:16 (13) 07:05 10:30 (13)
	20:12	19:38	18:51	18:05	12 07:58 (12) 16:33	71 11:27 (13) 16:31 66 11:36 (13)
22	05:42	06:09	06:37	07:06	07:49 (12) 06:40	10:16 (13) 07:06 10:31 (13)
	20:11	19:37	18:49	18:03	6 07:55 (12) 16:32	71 11:27 (13) 16:31 66 11:37 (13)
23	05:42	06:10	06:38	07:07	06:41	10:16 (13) 07:06 10:31 (13)
	20:11	19:36	18:47	18:02	16:32	71 11:27 (13) 16:32 66 11:37 (13)
24	05:43	06:11	06:39	07:08	06:42	10:16 (13) 07:07 10:32 (13)
	20:10	19:34	18:46	18:01	16:31	71 11:27 (13) 16:32 66 11:38 (13)
25	05:44	06:12	06:40	07:09	06:43	10:16 (13) 07:07 10:32 (13)
	20:09	19:33	18:44	17:59	16:31	72 11:28 (13) 16:33 66 11:38 (13)
26	05:45	06:13	06:41	07:10	06:44	10:16 (13) 07:07 10:32 (13)
	20:08	19:31	18:43	17:58	16:30	72 11:28 (13) 16:34 66 11:38 (13)
27	05:46	06:14	06:42	06:11	06:45	10:17 (13) 07:08 10:33 (13)
	20:07	19:30	18:41	16:57	16:30	71 11:28 (13) 16:34 67 11:40 (13)
28	05:47	06:15	06:42	06:12	06:46	10:17 (13) 07:08 10:33 (13)
	20:07	19:28	18:39	16:56	16:30	71 11:28 (13) 16:35 67 11:40 (13)
29	05:47	06:15	06:43	06:13	06:47	10:18 (13) 07:08 10:33 (13)
	20:06	19:27	18:38	16:54	16:29	71 11:29 (13) 16:36 67 11:40 (13)
30	05:48	06:16	06:44	06:14	10:36 (13) 06:48	10:19 (13) 07:09 10:33 (13)
	20:05	19:25	18:36	16:53	15 10:51 (13) 16:29	71 11:30 (13) 16:36 68 11:41 (13)
31	05:49	06:17	06:15	06:15	10:31 (13)	07:09 10:33 (13)
	20:04	19:24	16:52	27 10:58 (13)	16:37	68 11:41 (13)
Potential sun hours	453	424	374	347	303	294
Total, worst case				290	1914	2096
Sun reduction				0,53	0,50	0,43
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				0,85	0,24	0,24
Total reduction				0,15	0,04	0,04
Total, real				45	79	75

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BI - R18 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January		February		March		April		May		June	
1	07:09		10:47 (13)	06:59	11:11 (13)	06:24	07:18 (12)	06:37	05:54	05:27		
	16:37	69	11:56 (13)	17:09	38	11:49 (13)	17:42	14	07:32 (12)	19:13	19:42	20:09
2	07:09		10:47 (13)	06:58	11:13 (13)	06:23	07:20 (12)	06:35	05:52	05:27		
	16:38	70	11:57 (13)	17:10	34	11:47 (13)	17:43	10	07:30 (12)	19:14	19:43	20:10
3	07:09		10:48 (13)	06:57	11:16 (13)	06:21	11:16 (13)	06:21	06:33	05:51	05:26	
	16:39	69	11:57 (13)	17:12	27	11:43 (13)	17:44		19:15	19:44	20:11	
4	07:09		10:48 (13)	06:56	11:21 (13)	06:20	11:21 (13)	06:20	06:32	05:50	05:26	
	16:40	69	11:57 (13)	17:13	16	11:37 (13)	17:45		19:16	19:45	20:11	
5	07:10		10:49 (13)	06:55		06:19		06:30	05:49	05:25		
	16:41	69	11:58 (13)	17:14		17:46		19:17	19:46	20:12		
6	07:10		10:49 (13)	06:54		06:17		06:29	05:48	05:25		
	16:41	69	11:58 (13)	17:15		17:47		19:18	19:47	20:13		
7	07:10		10:50 (13)	06:53		06:16		06:27	05:47	05:25		
	16:42	69	11:59 (13)	17:16		17:48		19:19	19:48	20:13		
8	07:10		10:50 (13)	06:52		06:14		06:26	05:45	05:25		
	16:43	69	11:59 (13)	17:17		17:49		19:20	19:49	20:14		
9	07:10		10:50 (13)	06:51		06:13		06:24	05:44	05:25		
	16:44	68	11:58 (13)	17:19		17:50		19:21	19:50	20:14		
10	07:09		10:51 (13)	06:50		06:11		06:23	05:43	05:24		
	16:45	68	11:59 (13)	17:20		17:51		19:22	19:51	20:15		
11	07:09		10:51 (13)	06:49		06:09		06:21	05:42	05:24		
	16:46	68	11:59 (13)	17:21		17:52		19:23	19:52	20:16		
12	07:09		10:52 (13)	06:48		06:08		06:20	05:41	05:24		
	16:47	68	12:00 (13)	17:22		17:53		19:24	19:53	20:16		
13	07:09		10:52 (13)	06:47		06:06		06:18	05:40	05:24		
	16:48	67	11:59 (13)	17:23		17:54		19:25	19:54	20:16		
14	07:09		10:53 (13)	06:45		06:05		06:17	05:39	05:24		
	16:49	67	12:00 (13)	17:24		17:55		19:26	19:54	20:17		
15	07:08		10:54 (13)	06:44		06:03		06:15	05:38	05:24		
	16:50	66	12:00 (13)	17:25		17:56		19:27	19:55	20:17		
16	07:08		10:53 (13)	06:43		06:02		06:14	05:38	05:24		
	16:51	67	12:00 (13)	17:27		17:57		19:28	19:56	20:18		
17	07:08		10:54 (13)	06:42	07:25 (12)	06:00		06:12	05:37	05:24		
	16:52	66	12:00 (13)	17:28	3	07:28 (12)	17:58	19:29	19:57	20:18		
18	07:07		10:55 (13)	06:41	07:21 (12)	05:59		06:11	05:36	05:24		
	16:53	65	12:00 (13)	17:29	11	07:32 (12)	17:59	19:29	19:58	20:18		
19	07:07		10:56 (13)	06:39	07:18 (12)	05:57		06:10	05:35	05:24		
	16:54	64	12:00 (13)	17:30	15	07:33 (12)	18:00	19:30	19:59	20:19		
20	07:06		10:56 (13)	06:38	07:17 (12)	05:55		06:08	05:34	05:24		
	16:56	64	12:00 (13)	17:31	18	07:35 (12)	18:01	19:31	20:00	20:19		
21	07:06		10:57 (13)	06:37	07:17 (12)	05:54		06:07	05:33	05:25		
	16:57	63	12:00 (13)	17:32	19	07:36 (12)	18:02	19:32	20:01	20:19		
22	07:05		10:57 (13)	06:35	07:15 (12)	05:52		06:05	05:33	05:25		
	16:58	62	11:59 (13)	17:33	21	07:36 (12)	18:03	19:33	20:02	20:19		
23	07:05		10:59 (13)	06:34	07:15 (12)	05:51		06:04	05:32	05:25		
	16:59	61	12:00 (13)	17:34	22	07:37 (12)	18:04	19:34	20:02	20:20		
24	07:04		10:59 (13)	06:33	07:15 (12)	05:49		06:03	05:31	05:25		
	17:00	60	11:59 (13)	17:35	22	07:37 (12)	18:05	19:35	20:03	20:20		
25	07:04		11:00 (13)	06:31	07:14 (12)	05:48		06:01	05:31	05:26		
	17:01	58	11:58 (13)	17:37	22	07:36 (12)	18:06	19:36	20:04	20:20		
26	07:03		11:02 (13)	06:30	07:15 (12)	05:46		06:00	05:30	05:26		
	17:02	56	11:58 (13)	17:38	21	07:36 (12)	18:07	19:37	20:05	20:20		
27	07:02		11:03 (13)	06:29	07:15 (12)	05:44		05:59	05:29	05:26		
	17:03	54	11:57 (13)	17:39	20	07:35 (12)	18:08	19:38	20:06	20:20		
28	07:02		11:04 (13)	06:27	07:16 (12)	05:43		05:57	05:29	05:27		
	17:05	51	11:55 (13)	17:40	19	07:35 (12)	18:09	19:39	20:06	20:20		
29	07:01		11:05 (13)	06:26	07:16 (12)	05:41		05:56	05:28	05:27		
	17:06	49	11:54 (13)	17:41	17	07:33 (12)	18:10	19:40	20:07	20:20		
30	07:00		11:06 (13)			05:40		05:55	05:28	05:27		
	17:07	46	11:52 (13)			18:11		19:41	20:08	20:20		
31	06:59		11:08 (13)			06:38			05:27			
	17:08	43	11:51 (13)			19:12			20:09			
Potential sun hours	302		310		370		396		443		446	
Total, worst case	1954		345		24							
Sun reduction	0,43		0,43		0,47							
Oper. time red.	0,34		0,34		0,34							
Wind dir. red.	0,17		0,69		0,94							
Total reduction	0,03		0,10		0,15							
Total, real	49		35		4							

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BI - R18 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time		
0	1	Sum
1.500	1.500	3.000

	July	August	September	October	November	December
1	05:28	05:50	06:18	06:45	06:17	06:49
	20:20	20:03	19:22	18:35	16:51	16:29
2	05:28	05:51	06:19	06:46	06:18	06:50
	20:20	20:02	19:21	18:33	16:50	16:28
3	05:29	05:52	06:20	06:47	06:19	06:51
	20:20	20:01	19:19	18:31	16:49	16:28
4	05:29	05:53	06:21	06:48	06:20	06:52
	20:20	20:00	19:18	18:30	16:47	16:28
5	05:30	05:54	06:22	06:49	06:21	06:53
	20:19	19:59	19:16	18:28	16:46	16:28
6	05:30	05:55	06:23	06:50	06:22	06:54
	20:19	19:57	19:15	18:27	16:45	16:28
7	05:31	05:55	06:24	06:51	06:23	06:55
	20:19	19:56	19:13	18:25	16:44	16:28
8	05:32	05:56	06:24	06:52	06:24	06:56
	20:19	19:55	19:11	18:24	16:43	16:28
9	05:32	05:57	06:25	06:53	06:25	06:57
	20:18	19:54	19:10	18:22	16:42	16:28
10	05:33	05:58	06:26	06:54	06:27	06:57
	20:18	19:53	19:08	18:21	16:41	16:28
11	05:33	05:59	06:27	06:55	07:57 (12)	06:28
	20:18	19:52	19:07	18:19	3 08:00 (12)	16:40
12	05:34	06:00	06:28	06:56	07:53 (12)	06:29
	20:17	19:50	19:05	18:18	11 08:04 (12)	16:40
13	05:35	06:01	06:29	06:57	07:51 (12)	06:30
	20:17	19:49	19:04	18:16	15 08:06 (12)	16:39
14	05:36	06:02	06:30	06:58	07:49 (12)	06:31
	20:16	19:48	19:02	18:15	18 08:07 (12)	16:38
15	05:36	06:03	06:31	06:59	07:48 (12)	06:32
	20:16	19:47	19:00	18:13	20 08:08 (12)	16:37
16	05:37	06:04	06:32	07:00	07:47 (12)	06:33
	20:15	19:45	18:59	18:12	21 08:08 (12)	16:36
17	05:38	06:05	06:33	07:01	07:46 (12)	06:34
	20:15	19:44	18:57	18:10	22 08:08 (12)	16:36
18	05:38	06:05	06:33	07:02	07:46 (12)	06:35
	20:14	19:43	18:55	18:09	22 08:08 (12)	16:35
19	05:39	06:06	06:34	07:03	07:46 (12)	06:37
	20:13	19:41	18:54	18:08	22 08:08 (12)	16:34
20	05:40	06:07	06:35	07:04	07:46 (12)	06:38
	20:13	19:40	18:52	18:06	21 08:07 (12)	16:34
21	05:41	06:08	06:36	07:05	07:46 (12)	06:39
	20:12	19:38	18:51	18:05	21 08:07 (12)	16:33
22	05:42	06:09	06:37	07:06	07:47 (12)	06:40
	20:11	19:37	18:49	18:03	19 08:06 (12)	16:32
23	05:42	06:10	06:38	07:07	07:47 (12)	06:41
	20:11	19:36	18:47	18:02	17 08:04 (12)	16:32
24	05:43	06:11	06:39	07:08	07:49 (12)	06:42
	20:10	19:34	18:46	18:01	15 08:04 (12)	16:31
25	05:44	06:12	06:40	07:09	07:51 (12)	06:43
	20:09	19:33	18:44	17:59	10 08:01 (12)	16:31
26	05:45	06:13	06:41	07:10	06:44	06:44
	20:08	19:31	18:43	17:58	16:30	65 11:38 (13)
27	05:46	06:14	06:42	06:11	06:45	65 11:38 (13)
	20:07	19:30	18:41	16:57	16:30	66 11:39 (13)
28	05:47	06:15	06:42	06:12	06:46	67 10:33 (13)
	20:07	19:28	18:39	16:56	16:30	67 11:40 (13)
29	05:47	06:15	06:43	06:13	06:47	67 10:34 (13)
	20:06	19:27	18:38	16:54	16:29	67 11:41 (13)
30	05:48	06:16	06:44	06:14	06:48	68 10:34 (13)
	20:05	19:25	18:36	16:53	16:29	68 11:42 (13)
31	05:49	06:17	06:15	06:15	06:49	69 10:35 (13)
	20:04	19:24	16:52	16:52	16:37	69 11:55 (13)
Potential sun hours	453	424	374	347	303	294
Total, worst case				257	1244	2139
Sun reduction				0,53	0,50	0,43
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				0,94	0,17	0,17
Total reduction				0,17	0,03	0,03
Total, real				44	37	55

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BJ - R21 CU2

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4,16	4,62	5,58	6,71	8,10	9,27	10,00	9,47	7,89	5,95	5,05	4,11

Operational time

0	1	Sum
1.500	1.500	3.000

	January	February	March	April	May	June
1	07:09 16:37	06:59 17:09	06:24 17:42	08:32 (13) 19:13	06:37 19:42	05:54 20:09
2	07:09 16:38	06:58 17:10	06:23 17:43	08:32 (13) 19:14	06:35 19:43	05:52 20:10
3	07:09 16:39	06:57 17:12	06:21 17:44	08:32 (13) 19:15	06:33 19:44	05:51 20:11
4	07:09 16:40	06:56 17:13	06:20 17:45	08:33 (13) 19:16	06:32 19:45	05:50 20:11
5	07:10 16:41	06:55 17:14	06:19 17:46	08:32 (13) 19:17	06:30 19:46	05:49 20:12
6	07:10 16:41	06:54 17:15	06:17 17:47	08:33 (13) 19:18	06:29 19:47	05:48 20:13
7	07:10 16:42	06:53 17:16	09:01 (13) 17:48	08:33 (13) 19:19	06:27 19:48	05:47 20:13
8	07:10 16:43	06:52 17:17	09:10 (13) 17:49	08:33 (13) 19:20	06:26 19:49	05:46 20:14
9	07:10 16:44	06:51 17:19	09:16 (13) 17:50	08:34 (13) 19:21	06:24 19:50	05:44 20:14
10	07:09 16:45	06:50 17:20	08:51 (13) 17:51	08:34 (13) 19:22	06:23 19:51	05:43 20:15
11	07:09 16:46	06:49 17:21	09:21 (13) 17:52	08:35 (13) 19:23	06:21 19:52	05:42 20:16
12	07:09 16:47	06:48 17:22	09:23 (13) 17:53	08:36 (13) 19:24	06:20 19:53	05:41 20:16
13	07:09 16:48	06:47 17:23	08:46 (13) 17:54	08:37 (13) 19:25	06:18 19:54	05:40 20:16
14	07:09 16:49	06:45 17:24	09:26 (13) 17:55	08:38 (13) 19:26	06:17 19:54	05:39 20:17
15	07:08 16:50	06:44 17:25	08:43 (13) 17:56	09:12 (13) 19:27	06:15 19:55	05:39 20:17
16	07:08 16:51	06:43 17:27	09:28 (13) 17:57	08:41 (13) 19:28	06:14 19:56	05:38 20:18
17	07:08 16:52	06:42 17:28	09:30 (13) 17:58	08:39 (13) 19:29	06:12 19:57	05:37 20:18
18	07:07 16:53	06:41 17:29	09:31 (13) 17:59	08:46 (13) 19:30	06:11 19:58	05:36 20:18
19	07:07 16:54	06:39 17:30	08:38 (13) 18:00	08:37 (13) 19:31	06:10 19:59	05:35 20:19
20	07:07 16:56	06:38 17:31	09:32 (13) 18:01	08:36 (13) 19:32	06:08 20:00	05:34 20:19
21	07:06 16:57	06:37 17:32	09:33 (13) 18:02	08:35 (13) 19:33	06:07 20:01	05:34 20:19
22	07:06 16:58	06:35 17:33	08:35 (13) 18:03	08:34 (13) 19:34	06:05 20:02	05:33 20:19
23	07:05 16:59	06:34 17:34	09:33 (13) 18:04	08:34 (13) 19:35	06:04 20:03	05:32 20:20
24	07:04 17:00	06:33 17:35	08:34 (13) 18:05	09:34 (13) 19:36	06:03 20:04	05:31 20:20
25	07:04 17:01	06:31 17:37	08:33 (13) 18:06	08:33 (13) 19:37	06:01 20:05	05:31 20:20
26	07:03 17:02	06:30 17:38	08:33 (13) 18:07	08:33 (13) 19:38	06:00 20:06	05:30 20:20
27	07:02 17:03	06:29 17:39	09:33 (13) 18:08	08:32 (13) 19:39	05:59 20:07	05:29 20:20
28	07:02 17:05	06:27 17:40	08:33 (13) 18:09	08:32 (13) 19:40	05:57 20:08	05:29 20:20
29	07:01 17:06	06:26 17:41	08:33 (13) 18:10	08:32 (13) 19:41	05:56 20:09	05:28 20:20
30	07:00 17:07		09:32 (13) 18:11	08:32 (13) 19:42	05:55 20:10	05:28 20:20
31	06:59 17:08		06:38 19:12	06:38 19:13	05:27 20:11	05:27 20:20
Potential sun hours	302	310	370	396	443	446
Total, worst case		1100	761			
Sun reduction		0,43	0,47			
Oper. time red.		0,34	0,34			
Wind dir. red.		0,80	0,80			
Total reduction		0,12	0,13			
Total, real		130	98			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BJ - R21 CU2

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4,16	4,62	5,58	6,71	8,10	9,27	10,00	9,47	7,89	5,95	5,05	4,11

Operational time		
0	1	Sum
1.500	1.500	3.000

	July	August	September	October	November	December
1	05:28	05:50	06:18	06:45	09:16 (13)	06:17
	20:20	20:03	19:22	18:35	09:55 (13)	16:51
2	05:28	05:51	06:19	06:46	09:14 (13)	06:18
	20:20	20:02	19:21	18:33	09:57 (13)	16:50
3	05:29	05:52	06:20	06:47	09:13 (13)	06:19
	20:20	20:01	19:19	18:31	09:58 (13)	16:49
4	05:29	05:53	06:21	06:48	09:12 (13)	06:20
	20:20	20:00	19:18	18:30	09:59 (13)	16:47
5	05:30	05:54	06:22	06:49	09:11 (13)	06:21
	20:19	19:59	19:16	18:28	10:01 (13)	16:46
6	05:30	05:55	06:23	06:50	09:10 (13)	06:22
	20:19	19:57	19:15	18:27	10:02 (13)	16:45
7	05:31	05:55	06:24	06:51	09:09 (13)	06:23
	20:19	19:56	19:13	18:25	10:02 (13)	16:44
8	05:32	05:56	06:24	06:52	09:08 (13)	06:24
	20:19	19:55	19:11	18:24	10:03 (13)	16:43
9	05:32	05:57	06:25	06:53	09:07 (13)	06:25
	20:18	19:54	19:10	18:22	10:04 (13)	16:42
10	05:33	05:58	06:26	06:54	09:07 (13)	06:27
	20:18	19:53	19:08	18:21	10:04 (13)	16:41
11	05:33	05:59	06:27	06:55	09:06 (13)	06:28
	20:18	19:52	19:07	18:19	10:05 (13)	16:40
12	05:34	06:00	06:28	06:56	09:06 (13)	06:29
	20:17	19:50	19:05	18:18	10:05 (13)	16:40
13	05:35	06:01	06:29	06:57	09:06 (13)	06:30
	20:17	19:49	19:04	18:16	10:05 (13)	16:39
14	05:36	06:02	06:30	06:58	09:05 (13)	06:31
	20:16	19:48	19:02	18:15	10:05 (13)	16:38
15	05:36	06:03	06:31	06:59	09:05 (13)	06:32
	20:16	19:47	19:00	18:13	10:05 (13)	16:37
16	05:37	06:04	06:32	07:00	09:05 (13)	06:33
	20:15	19:45	18:59	18:12	10:05 (13)	16:36
17	05:38	06:05	06:33	07:01	09:05 (13)	06:34
	20:15	19:44	18:57	18:10	10:05 (13)	16:36
18	05:38	06:05	06:33	07:02	09:05 (13)	06:35
	20:14	19:43	18:55	18:09	10:05 (13)	16:35
19	05:39	06:06	06:34	07:03	09:05 (13)	06:37
	20:14	19:41	18:54	18:08	10:04 (13)	16:34
20	05:40	06:07	06:35	07:04	09:05 (13)	06:38
	20:13	19:40	18:52	18:06	10:04 (13)	16:34
21	05:41	06:08	06:36	07:05	09:06 (13)	06:39
	20:12	19:38	18:51	18:05	10:03 (13)	16:33
22	05:42	06:09	06:37	07:06	09:06 (13)	06:40
	20:11	19:37	18:49	18:03	10:03 (13)	16:32
23	05:42	06:10	06:38	07:07	09:06 (13)	06:41
	20:11	19:36	18:47	18:02	10:02 (13)	16:32
24	05:43	06:11	06:39	07:08	09:08 (13)	06:42
	20:10	19:34	18:46	18:01	10:02 (13)	16:31
25	05:44	06:12	06:40	07:09	09:08 (13)	06:43
	20:09	19:33	18:44	17:59	10:01 (13)	16:31
26	05:45	06:13	06:41	07:10	09:09 (13)	06:44
	20:08	19:31	18:43	8 09:39 (13)	17:58	51 10:00 (13)
27	05:46	06:14	06:42	07:11	08:10 (13)	06:45
	20:07	19:30	18:41	19 09:45 (13)	16:57	49 08:59 (13)
28	05:47	06:15	06:43	07:12	08:11 (13)	06:46
	20:07	19:28	18:39	27 09:49 (13)	16:56	47 08:58 (13)
29	05:47	06:15	06:43	07:13	08:12 (13)	06:47
	20:06	19:27	18:38	31 09:51 (13)	16:54	45 08:57 (13)
30	05:48	06:16	06:44	07:14	08:13 (13)	06:48
	20:05	19:25	18:36	35 09:53 (13)	16:53	42 08:55 (13)
31	05:49	06:17		06:16	08:16 (13)	
	20:04	19:24		16:52	38 08:54 (13)	
Potential sun hours	453	424	374	347	303	294
Total, worst case			120	1642	119	
Sun reduction			0,63	0,53	0,50	
Oper. time red.			0,34	0,34	0,34	
Wind dir. red.			0,80	0,80	0,80	
Total reduction			0,17	0,15	0,14	
Total, real			21	240	16	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BK - R22 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
1.500 1.500 3.000

Table with columns for months (January to December) and rows for each day of the year, showing sun rise/set times, shadow reduction factors, and potential sun hours.

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)

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BL - R23 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:37	06:59 17:09	09:01 (13) 09:22 (13)	06:24 17:42	08:42 (13) 09:32 (13)	06:37 19:13
2	07:09 16:38	06:58 17:10	08:58 (13) 09:25 (13)	06:23 17:43	08:43 (13) 09:31 (13)	06:35 19:14
3	07:09 16:39	06:57 17:12	08:56 (13) 09:27 (13)	06:21 17:44	08:43 (13) 09:29 (13)	06:33 19:15
4	07:09 16:40	06:56 17:13	08:54 (13) 09:29 (13)	06:20 17:45	08:44 (13) 09:28 (13)	06:32 19:16
5	07:10 16:41	06:55 17:14	08:53 (13) 09:30 (13)	06:19 17:46	08:45 (13) 09:25 (13)	06:30 19:17
6	07:10 16:41	06:54 17:15	08:51 (13) 09:32 (13)	06:17 17:47	08:47 (13) 09:24 (13)	06:29 19:18
7	07:10 16:42	06:53 17:16	08:50 (13) 09:33 (13)	06:16 17:48	08:47 (13) 09:21 (13)	06:27 19:19
8	07:10 16:43	06:52 17:17	08:49 (13) 09:35 (13)	06:14 17:49	08:49 (13) 09:17 (13)	06:26 19:20
9	07:10 16:44	06:51 17:19	08:47 (13) 09:35 (13)	06:13 17:50	08:52 (13) 09:14 (13)	06:24 19:21
10	07:09 16:45	06:50 17:20	08:46 (13) 09:36 (13)	06:11 17:51	08:55 (13) 09:09 (13)	06:23 19:22
11	07:09 16:46	06:49 17:21	08:46 (13) 09:37 (13)	06:09 17:52	06:21 19:23	05:42 19:52
12	07:09 16:47	06:48 17:22	08:45 (13) 09:38 (13)	06:08 17:53	06:20 19:24	05:41 19:53
13	07:09 16:48	06:47 17:23	08:44 (13) 09:38 (13)	06:06 17:54	06:18 19:25	05:40 19:54
14	07:09 16:49	06:45 17:24	08:44 (13) 09:39 (13)	06:05 17:55	06:17 19:26	05:39 19:54
15	07:08 16:50	06:44 17:25	08:43 (13) 09:39 (13)	06:03 17:56	06:15 19:27	05:39 19:55
16	07:08 16:51	06:43 17:27	08:42 (13) 09:39 (13)	06:02 17:57	06:14 19:28	05:38 19:56
17	07:08 16:52	06:42 17:28	08:42 (13) 09:40 (13)	06:00 17:58	06:12 19:29	05:37 19:57
18	07:07 16:53	06:41 17:29	08:42 (13) 09:40 (13)	05:59 17:59	06:11 19:30	05:36 19:58
19	07:07 16:54	06:39 17:30	08:41 (13) 09:39 (13)	05:57 18:00	06:10 19:30	05:35 19:59
20	07:07 16:56	06:38 17:31	08:41 (13) 09:40 (13)	05:55 18:01	06:08 19:31	05:34 20:00
21	07:06 16:57	06:37 17:32	08:41 (13) 09:40 (13)	05:54 18:02	06:07 19:32	05:34 20:01
22	07:06 16:58	06:35 17:33	08:41 (13) 09:39 (13)	05:52 18:03	06:05 19:33	05:33 20:02
23	07:05 16:59	06:34 17:34	08:41 (13) 09:39 (13)	05:51 18:04	06:04 19:34	05:32 20:02
24	07:04 17:00	06:33 17:35	08:41 (13) 09:38 (13)	05:49 18:05	06:03 19:35	05:31 20:03
25	07:04 17:01	06:31 17:37	08:41 (13) 09:37 (13)	05:48 18:06	06:01 19:36	05:31 20:04
26	07:03 17:02	06:30 17:38	08:41 (13) 09:37 (13)	05:46 18:07	06:00 19:37	05:30 20:05
27	07:02 17:03	06:29 17:39	08:41 (13) 09:35 (13)	05:44 18:08	05:59 19:38	05:29 20:06
28	07:02 17:05	06:27 17:40	08:41 (13) 09:35 (13)	05:43 18:09	05:57 19:39	05:29 20:06
29	07:01 17:06	06:26 17:41	08:41 (13) 09:33 (13)	05:41 18:10	05:56 19:40	05:28 20:07
30	07:00 17:07			05:40 18:11	05:55 19:41	05:28 20:08
31	06:59 17:08	09:04 (13) 09:17 (13)		06:38 19:12		05:27 20:09
Potential sun hours	302	310	370	396	443	446
Total, worst case	13	1442	363			
Sun reduction	0,43	0,43	0,47			
Oper. time red.	0,34	0,34	0,34			
Wind dir. red.	0,77	0,77	0,77			
Total reduction	0,11	0,11	0,12			
Total, real	1	164	45			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BL - R23 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28	05:50	06:18	06:45	06:17	08:16 (13) 06:49
	20:20	20:03	19:22	18:35	16:51	51 09:07 (13) 16:29
2	05:28	05:51	06:19	06:46	06:18	08:16 (13) 06:50
	20:20	20:02	19:21	18:33	16:50	50 09:06 (13) 16:28
3	05:29	05:52	06:20	06:47	09:37 (13) 06:19	08:17 (13) 06:51
	20:20	20:01	19:19	18:31	7 09:44 (13) 16:49	48 09:05 (13) 16:28
4	05:29	05:53	06:21	06:48	09:31 (13) 06:20	08:18 (13) 06:52
	20:20	20:00	19:18	18:30	19 09:50 (13) 16:47	45 09:03 (13) 16:28
5	05:30	05:54	06:22	06:49	09:28 (13) 06:21	08:20 (13) 06:53
	20:19	19:59	19:16	18:28	26 09:54 (13) 16:46	43 09:03 (13) 16:28
6	05:30	05:55	06:23	06:50	09:25 (13) 06:22	08:21 (13) 06:54
	20:19	19:57	19:15	18:27	31 09:56 (13) 16:45	41 09:02 (13) 16:28
7	05:31	05:55	06:24	06:51	09:23 (13) 06:23	08:23 (13) 06:55
	20:19	19:56	19:13	18:25	35 09:58 (13) 16:44	37 09:00 (13) 16:28
8	05:32	05:56	06:24	06:52	09:21 (13) 06:24	08:24 (13) 06:56
	20:19	19:55	19:11	18:24	39 10:00 (13) 16:43	35 08:59 (13) 16:28
9	05:32	05:57	06:25	06:53	09:20 (13) 06:25	08:26 (13) 06:57
	20:18	19:54	19:10	18:22	42 10:02 (13) 16:42	31 08:57 (13) 16:28
10	05:33	05:58	06:26	06:54	09:19 (13) 06:27	08:29 (13) 06:57
	20:18	19:53	19:08	18:21	44 10:03 (13) 16:41	26 08:55 (13) 16:28
11	05:33	05:59	06:27	06:55	09:17 (13) 06:28	08:32 (13) 06:58
	20:18	19:52	19:07	18:19	47 10:04 (13) 16:40	21 08:53 (13) 16:28
12	05:34	06:00	06:28	06:56	09:16 (13) 06:29	08:36 (13) 06:59
	20:17	19:50	19:05	18:18	49 10:05 (13) 16:40	13 08:49 (13) 16:28
13	05:35	06:01	06:29	06:57	09:15 (13) 06:30	07:00
	20:17	19:49	19:04	18:16	51 10:06 (13) 16:39	16:28
14	05:36	06:02	06:30	06:58	09:14 (13) 06:31	07:01
	20:16	19:48	19:02	18:15	53 10:07 (13) 16:38	16:28
15	05:36	06:03	06:31	06:59	09:14 (13) 06:32	07:01
	20:16	19:47	19:00	18:13	54 10:08 (13) 16:37	16:29
16	05:37	06:04	06:32	07:00	09:13 (13) 06:33	07:02
	20:15	19:45	18:59	18:12	55 10:08 (13) 16:36	16:29
17	05:38	06:05	06:33	07:01	09:13 (13) 06:34	07:03
	20:15	19:44	18:57	18:10	56 10:09 (13) 16:36	16:29
18	05:38	06:05	06:33	07:02	09:12 (13) 06:35	07:03
	20:14	19:43	18:55	18:09	57 10:09 (13) 16:35	16:30
19	05:39	06:06	06:34	07:03	09:12 (13) 06:37	07:04
	20:14	19:41	18:54	18:08	57 10:09 (13) 16:34	16:30
20	05:40	06:07	06:35	07:04	09:11 (13) 06:38	07:05
	20:13	19:40	18:52	18:06	58 10:09 (13) 16:34	16:30
21	05:41	06:08	06:36	07:05	09:11 (13) 06:39	07:05
	20:12	19:38	18:51	18:05	58 10:09 (13) 16:33	16:31
22	05:42	06:09	06:37	07:06	09:11 (13) 06:40	07:06
	20:11	19:37	18:49	18:03	58 10:09 (13) 16:32	16:31
23	05:42	06:10	06:38	07:07	09:11 (13) 06:41	07:06
	20:11	19:36	18:47	18:02	58 10:09 (13) 16:32	16:32
24	05:43	06:11	06:39	07:08	09:12 (13) 06:42	07:07
	20:10	19:34	18:46	18:01	58 10:10 (13) 16:31	16:32
25	05:44	06:12	06:40	07:09	09:12 (13) 06:43	07:07
	20:09	19:33	18:44	17:59	58 10:10 (13) 16:31	16:33
26	05:45	06:13	06:41	07:10	09:12 (13) 06:44	07:07
	20:08	19:31	18:43	17:58	57 10:09 (13) 16:30	16:34
27	05:46	06:14	06:42	06:11	08:12 (13) 06:45	07:08
	20:07	19:30	18:41	16:57	57 09:09 (13) 16:30	16:34
28	05:47	06:15	06:43	06:12	08:13 (13) 06:46	07:08
	20:07	19:28	18:39	16:56	55 09:08 (13) 16:30	16:35
29	05:47	06:15	06:43	06:13	08:13 (13) 06:47	07:08
	20:06	19:27	18:38	16:54	55 09:08 (13) 16:29	16:36
30	05:48	06:16	06:44	06:14	08:13 (13) 06:48	07:09
	20:05	19:25	18:36	16:53	54 09:07 (13) 16:29	16:36
31	05:49	06:17	06:16	06:15	08:15 (13)	07:09
	20:04	19:24	16:52	52 09:07 (13)	16:37	16:37
Potential sun hours	453	424	374	347	303	294
Total, worst case				1400		441
Sun reduction				0,53		0,50
Oper. time red.				0,34		0,34
Wind dir. red.				0,77		0,77
Total reduction				0,14		0,13
Total, real				196		58

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BM - R24 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:37	06:59 17:09	06:24 17:42	08:20 (13) 06:37	08:58 (13) 05:54	05:27 20:09
2	07:09 16:38	06:58 17:10	06:23 17:43	08:17 (13) 06:35	08:59 (13) 05:52	05:27 20:10
3	07:09 16:39	06:57 17:12	06:21 17:44	08:14 (13) 06:33	09:00 (13) 05:51	05:26 20:11
4	07:09 16:40	06:56 17:13	06:20 17:45	08:12 (13) 06:32	09:02 (13) 05:50	05:26 20:11
5	07:10 16:41	06:55 17:14	06:19 17:46	08:09 (13) 06:30	09:04 (13) 05:49	05:26 20:12
6	07:10 16:41	06:54 17:15	06:17 17:47	08:08 (13) 06:29	09:08 (13) 05:48	05:25 20:13
7	07:10 16:42	06:53 17:16	06:16 17:48	08:06 (13) 06:27	09:11 (13) 05:47	05:25 20:13
8	07:10 16:43	06:52 17:17	06:14 17:49	08:04 (13) 06:26	09:14 (13) 05:46	05:25 20:14
9	07:10 16:44	06:51 17:19	06:13 17:50	08:03 (13) 06:24	09:17 (13) 05:44	05:25 20:14
10	07:09 16:45	06:50 17:20	06:11 17:51	08:01 (13) 06:23	09:20 (13) 05:43	05:24 20:15
11	07:09 16:46	06:49 17:21	06:09 17:52	08:01 (13) 06:21	09:23 (13) 05:42	05:24 20:16
12	07:09 16:47	06:48 17:22	06:08 17:53	07:59 (13) 06:20	09:26 (13) 05:41	05:24 20:16
13	07:09 16:48	06:47 17:23	06:06 17:54	07:59 (13) 06:18	09:29 (13) 05:40	05:24 20:16
14	07:09 16:49	06:45 17:24	06:05 17:55	07:58 (13) 06:17	09:32 (13) 05:39	05:24 20:17
15	07:08 16:50	06:44 17:25	06:03 17:56	07:58 (13) 06:15	09:35 (13) 05:39	05:24 20:17
16	07:08 16:51	06:43 17:27	06:02 17:57	07:57 (13) 06:14	09:38 (13) 05:38	05:24 20:18
17	07:08 16:52	06:42 17:28	06:00 17:58	07:56 (13) 06:12	09:41 (13) 05:37	05:24 20:18
18	07:07 16:53	06:41 17:29	05:59 17:59	07:56 (13) 06:11	09:44 (13) 05:36	05:24 20:18
19	07:07 16:54	06:39 17:30	05:57 18:00	07:55 (13) 06:10	09:47 (13) 05:35	05:24 20:19
20	07:07 16:56	06:38 17:31	05:55 18:01	07:55 (13) 06:08	09:50 (13) 05:34	05:24 20:19
21	07:06 16:57	06:37 17:32	05:54 18:02	07:54 (13) 06:07	09:53 (13) 05:34	05:25 20:19
22	07:06 16:58	06:35 17:33	05:52 18:03	07:54 (13) 06:05	09:56 (13) 05:33	05:25 20:19
23	07:05 16:59	06:34 17:34	05:51 18:04	07:54 (13) 06:04	09:59 (13) 05:32	05:25 20:20
24	07:04 17:00	06:33 17:35	05:49 18:05	07:54 (13) 06:03	10:02 (13) 05:31	05:25 20:20
25	07:04 17:01	06:31 17:37	05:48 18:06	07:55 (13) 06:01	10:05 (13) 05:31	05:26 20:20
26	07:03 17:02	06:30 17:38	05:46 18:07	07:54 (13) 06:00	10:08 (13) 05:30	05:26 20:20
27	07:02 17:03	06:29 17:39	05:44 18:08	07:54 (13) 05:59	10:11 (13) 05:30	05:26 20:20
28	07:02 17:05	06:27 17:40	05:43 18:09	07:55 (13) 05:57	10:14 (13) 05:29	05:27 20:20
29	07:01 17:06	06:26 17:41	05:41 18:10	07:55 (13) 05:56	10:17 (13) 05:28	05:27 20:20
30	07:00 17:07	9 08:35 (13)	05:40 18:11	07:56 (13) 05:55	10:20 (13) 05:28	05:27 20:20
31	06:59 17:08		05:38 18:11	08:41 (13) 19:41		05:27 20:20
Potential sun hours	302	310	370	396	443	446
Total, worst case		9	1542		166	
Sun reduction		0,43	0,47		0,51	
Oper. time red.		0,34	0,34		0,34	
Wind dir. red.		0,91	0,91		0,91	
Total reduction		0,13	0,15		0,16	
Total, real		1	226		26	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BM - R24 CU2

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December		
1	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	08:39 (13) 09:35 (13)	06:17 16:51	06:49 16:29	
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	08:39 (13) 09:34 (13)	06:18 16:50	06:50 16:28	
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	08:40 (13) 09:33 (13)	06:19 16:49	06:51 16:28	
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	08:40 (13) 09:32 (13)	06:20 16:47	06:52 16:28	
5	05:30 20:19	05:54 19:59	06:22 19:16	06:49 18:28	08:41 (13) 09:31 (13)	06:21 16:46	06:53 16:28	
6	05:30 20:19	05:55 19:57	06:23 19:15	09:04 (13) 09:17 (13)	06:50 18:27	08:42 (13) 09:30 (13)	06:22 16:45	06:54 16:28
7	05:31 20:19	05:55 19:56	06:24 19:13	08:59 (13) 09:20 (13)	06:51 18:25	08:43 (13) 09:29 (13)	06:23 16:44	06:55 16:28
8	05:32 20:19	05:56 19:55	06:24 19:11	08:56 (13) 09:23 (13)	06:52 18:24	08:44 (13) 09:27 (13)	06:24 16:43	06:56 16:28
9	05:32 20:18	05:57 19:54	06:25 19:10	08:54 (13) 09:25 (13)	06:53 18:22	08:45 (13) 09:25 (13)	06:25 16:42	06:57 16:28
10	05:33 20:18	05:58 19:53	06:26 19:08	08:52 (13) 09:27 (13)	06:54 18:21	08:47 (13) 09:23 (13)	06:27 16:41	06:57 16:28
11	05:33 20:18	05:59 19:52	06:27 19:07	08:50 (13) 09:29 (13)	06:55 18:19	08:49 (13) 09:21 (13)	06:28 16:40	06:58 16:28
12	05:34 20:17	06:00 19:50	06:28 19:05	08:49 (13) 09:30 (13)	06:56 18:18	08:52 (13) 09:18 (13)	06:29 16:40	06:59 16:28
13	05:35 20:17	06:01 19:49	06:29 19:04	08:48 (13) 09:32 (13)	06:57 18:16	08:56 (13) 09:13 (13)	06:30 16:39	07:00 16:28
14	05:36 20:16	06:02 19:48	06:30 19:02	08:46 (13) 09:32 (13)	06:58 18:15	06:31 16:38	07:01 16:28	
15	05:36 20:16	06:03 19:47	06:31 19:00	08:44 (13) 09:33 (13)	06:59 18:13	06:32 16:37	07:01 16:29	
16	05:37 20:15	06:04 19:45	06:32 18:59	08:44 (13) 09:34 (13)	07:00 18:12	06:33 16:36	07:02 16:29	
17	05:38 20:15	06:05 19:44	06:33 18:57	08:43 (13) 09:35 (13)	07:01 18:10	06:34 16:36	07:03 16:29	
18	05:38 20:14	06:05 19:43	06:33 18:55	08:42 (13) 09:35 (13)	07:02 18:09	06:35 16:35	07:03 16:30	
19	05:39 20:14	06:06 19:41	06:34 18:54	08:41 (13) 09:36 (13)	07:03 18:08	06:37 16:34	07:04 16:30	
20	05:40 20:13	06:07 19:40	06:35 18:52	08:41 (13) 09:37 (13)	07:04 18:06	06:38 16:34	07:05 16:30	
21	05:41 20:12	06:08 19:38	06:36 18:51	08:40 (13) 09:37 (13)	07:05 18:05	06:39 16:33	07:05 16:31	
22	05:42 20:11	06:09 19:37	06:37 18:49	08:39 (13) 09:36 (13)	07:06 18:03	06:40 16:32	07:06 16:31	
23	05:42 20:11	06:10 19:36	06:38 18:47	08:39 (13) 09:37 (13)	07:07 18:02	06:41 16:32	07:06 16:32	
24	05:43 20:10	06:11 19:34	06:39 18:46	08:38 (13) 09:37 (13)	07:08 18:01	06:42 16:31	07:07 16:32	
25	05:44 20:09	06:12 19:33	06:40 18:44	08:38 (13) 09:37 (13)	07:09 17:59	06:43 16:31	07:07 16:33	
26	05:45 20:08	06:13 19:31	06:41 18:43	08:38 (13) 09:37 (13)	07:10 17:58	06:44 16:30	07:07 16:34	
27	05:46 20:07	06:14 19:30	06:42 18:41	08:38 (13) 09:36 (13)	06:11 16:57	06:45 16:30	07:08 16:34	
28	05:47 20:07	06:15 19:28	06:43 18:39	08:38 (13) 09:36 (13)	06:12 16:56	06:46 16:30	07:08 16:35	
29	05:47 20:06	06:15 19:27	06:43 18:38	08:38 (13) 09:36 (13)	06:13 16:54	06:47 16:29	07:08 16:36	
30	05:48 20:05	06:16 19:25	06:44 18:36	08:38 (13) 09:35 (13)	06:14 16:53	06:48 16:29	07:09 16:36	
31	05:49 20:04	06:17 19:24	06:16 16:52	06:16 16:52	06:16 16:52	07:09 16:37	07:09 16:37	
Potential sun hours	453	424	374	347	303	294		
Total, worst case			1192		554			
Sun reduction			0,63		0,53			
Oper. time red.			0,34		0,34			
Wind dir. red.			0,91		0,91			
Total reduction			0,20		0,17			
Total, real			236		92			

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BN - R26 CU2

Assumptions for shadow calculations

Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4,16	4,62	5,58	6,71	8,10	9,27	10,00	9,47	7,89	5,95	5,05	4,11

Operational time		
0	1	Sum
1.500	1.500	3.000

	January	February	March	April	May	June			
1	07:09	06:59	08:02 (15)	06:24	06:37	08:56 (14)	05:54	08:59 (14)	05:27
	16:37	17:09	32 08:34 (15)	17:42	19:13	68 10:04 (14)	19:42	31 09:30 (14)	20:09
2	07:09	06:58	08:02 (15)	06:23	06:35	08:54 (14)	05:52	08:59 (14)	05:27
	16:38	17:10	32 08:34 (15)	17:43	19:14	69 10:03 (14)	19:43	28 09:27 (14)	20:10
3	07:09	06:57	08:02 (15)	06:21	06:33	08:53 (14)	05:51	09:01 (14)	05:26
	16:39	17:12	32 08:34 (15)	17:44	19:15	70 10:03 (14)	19:44	23 09:24 (14)	20:11
4	07:09	06:56	08:02 (15)	06:20	06:32	08:53 (14)	05:50	09:04 (14)	05:26
	16:40	17:13	32 08:34 (15)	17:45	19:16	70 10:03 (14)	19:45	17 09:21 (14)	20:11
5	07:10	06:55	08:02 (15)	06:19	06:30	08:52 (14)	05:49	09:09 (14)	05:26
	16:41	17:14	33 08:35 (15)	17:46	19:17	70 10:02 (14)	19:46	7 09:16 (14)	20:12
6	07:10	06:54	08:02 (15)	06:17	06:29	08:52 (14)	05:48		05:25
	16:41	17:15	33 08:35 (15)	17:47	19:18	70 10:02 (14)	19:47		20:13
7	07:10	06:53	08:03 (15)	06:16	06:27	08:51 (14)	05:47		05:25
	16:42	17:16	31 08:34 (15)	17:48	19:19	70 10:01 (14)	19:48		20:13
8	07:10	06:52	08:03 (15)	06:14	06:26	08:51 (14)	05:46		05:25
	16:43	17:17	31 08:34 (15)	17:49	19:20	69 10:00 (14)	19:49		20:14
9	07:10	06:51	08:03 (15)	06:13	06:24	08:50 (14)	05:44		05:25
	16:44	17:19	30 08:33 (15)	17:50	19:21	69 09:59 (14)	19:50		20:14
10	07:09	06:50	08:03 (15)	06:11	06:23	08:50 (14)	05:43		05:24
	16:45	17:20	29 08:32 (15)	17:51	19:22	69 09:59 (14)	19:51		20:15
11	07:09	06:49	08:04 (15)	06:09	06:21	08:49 (14)	05:42		05:24
	16:46	17:21	28 08:32 (15)	17:52	19:23	68 09:57 (14)	19:52		20:16
12	07:09	06:48	08:05 (15)	06:08	06:20	08:49 (14)	05:41		05:24
	16:47	17:22	26 08:31 (15)	17:53	19:24	68 09:57 (14)	19:53		20:16
13	07:09	06:47	08:07 (15)	06:06	06:18	08:49 (14)	05:40		05:24
	16:48	17:23	23 08:30 (15)	17:54	19:25	66 09:55 (14)	19:54		20:16
14	07:09	06:45	08:09 (15)	06:05	06:17	08:49 (14)	05:39		05:24
	16:49	17:24	19 08:28 (15)	17:55	19:26	66 09:55 (14)	19:54		20:17
15	07:08	06:44	08:10 (15)	06:03	06:15	08:48 (14)	05:39		05:24
	16:50	17:25	15 08:25 (15)	17:56	19:27	65 09:53 (14)	19:55		20:17
16	07:08	06:43	08:13 (15)	06:02	06:14	08:49 (14)	05:38		05:24
	16:51	17:27	9 08:22 (15)	17:57	19:28	64 09:53 (14)	19:56		20:18
17	07:08	06:42		06:00	08:27 (14)	06:12	08:49 (14)	05:37	05:24
	16:52	17:28		17:58	18 08:45 (14)	19:29	63 09:52 (14)	19:57	20:18
18	07:07	06:41		05:59	08:22 (14)	06:11	08:49 (14)	05:36	05:24
	16:53	17:29		17:59	28 08:50 (14)	19:29	61 09:50 (14)	19:58	20:18
19	07:07	06:39		05:57	08:18 (14)	06:10	08:49 (14)	05:35	05:24
	16:54	17:30		18:00	35 08:53 (14)	19:30	60 09:49 (14)	19:59	20:19
20	07:06	06:38		05:55	08:16 (14)	06:08	08:49 (14)	05:34	05:25
	16:56	17:31		18:01	40 08:56 (14)	19:31	58 09:47 (14)	20:00	20:19
21	07:06	08:10 (15)	06:37	05:54	08:13 (14)	06:07	08:50 (14)	05:34	05:25
	16:57	10 08:20 (15)	17:32	18:02	44 08:57 (14)	19:32	56 09:46 (14)	20:01	20:19
22	07:05	08:08 (15)	06:35	05:52	08:10 (14)	06:05	08:50 (14)	05:33	05:25
	16:58	14 08:22 (15)	17:33	18:03	48 08:58 (14)	19:33	55 09:45 (14)	20:02	20:19
23	07:05	08:07 (15)	06:34	05:51	08:08 (14)	06:04	08:50 (14)	05:32	05:25
	16:59	18 08:25 (15)	17:34	18:04	52 09:00 (14)	19:34	53 09:43 (14)	20:02	20:20
24	07:04	08:06 (15)	06:33	05:49	08:06 (14)	06:03	08:51 (14)	05:31	05:25
	17:00	20 08:26 (15)	17:35	18:05	55 09:01 (14)	19:35	51 09:42 (14)	20:03	20:20
25	07:04	08:05 (15)	06:31	05:48	08:05 (14)	06:01	08:52 (14)	05:31	05:26
	17:01	22 08:27 (15)	17:37	18:06	57 09:02 (14)	19:36	48 09:40 (14)	20:04	20:20
26	07:03	08:04 (15)	06:30	05:46	08:03 (14)	06:00	08:53 (14)	05:30	05:26
	17:02	24 08:28 (15)	17:38	18:07	60 09:03 (14)	19:37	46 09:39 (14)	20:05	20:20
27	07:02	08:04 (15)	06:29	05:44	08:01 (14)	05:59	08:53 (14)	05:30	05:26
	17:03	26 08:30 (15)	17:39	18:08	62 09:03 (14)	19:38	44 09:37 (14)	20:06	20:20
28	07:02	08:03 (15)	06:27	05:43	08:00 (14)	05:57	08:54 (14)	05:29	05:27
	17:05	28 08:31 (15)	17:40	18:09	64 09:04 (14)	19:39	41 09:35 (14)	20:06	20:20
29	07:01	08:02 (15)	06:26	05:41	07:58 (14)	05:56	08:56 (14)	05:28	05:27
	17:06	29 08:31 (15)	17:41	18:10	65 09:03 (14)	19:40	38 09:34 (14)	20:07	20:20
30	07:00	08:02 (15)		05:40	07:58 (14)	05:55	08:57 (14)	05:28	05:27
	17:07	30 08:32 (15)		18:11	66 09:04 (14)	19:41	35 09:32 (14)	20:08	20:20
31	06:59	08:01 (15)		06:38	08:56 (14)			05:27	
	17:08	31 08:32 (15)		19:12	68 10:04 (14)			20:09	
Potential sun hours	302	310	370	762	396	1800	443	106	446
Total, worst case	252	435	762	1800	443	106	446		
Sun reduction	0,43	0,43	0,47	0,51	0,57				
Oper. time red.	0,34	0,34	0,34	0,34	0,34				
Wind dir. red.	0,84	0,84	0,95	0,95	0,95				
Total reduction	0,12	0,12	0,15	0,16	0,18				
Total, real	31	54	115	296	19				

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	Last time (hh:mm) with flicker	(WTG causing flicker first time)	(WTG causing flicker last time)
--------------	------------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BN - R26 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28 20:20	05:50 20:03	06:18 19:22	08:48 (14) 09:57 (14) 18:35	06:45 16:51 28	07:34 (15) 08:02 (15) 16:29
2	05:28 20:20	05:51 20:02	06:19 19:21	08:48 (14) 09:57 (14) 18:33	06:46 16:50 29	07:33 (15) 08:02 (15) 16:28
3	05:29 20:20	05:52 20:01	06:20 19:19	08:48 (14) 09:57 (14) 18:31	06:47 16:49 30	07:33 (15) 08:03 (15) 16:28
4	05:29 20:20	05:53 20:00	06:21 19:18	08:48 (14) 09:58 (14) 18:30	06:48 16:47 31	07:32 (15) 08:03 (15) 16:28
5	05:30 20:19	05:54 19:59	06:22 19:16	08:48 (14) 09:58 (14) 18:28	06:49 16:46 31	07:33 (15) 08:04 (15) 16:28
6	05:30 20:19	05:55 19:57	06:23 19:15	08:48 (14) 09:58 (14) 18:27	06:50 16:45 32	07:32 (15) 08:04 (15) 16:28
7	05:31 20:19	05:56 19:56	06:24 19:13	08:47 (14) 09:57 (14) 18:25	06:51 16:44 32	07:32 (15) 08:04 (15) 16:28
8	05:32 20:19	05:56 19:55	09:17 (14) 09:28 (14) 19:11	06:24 09:57 (14) 18:24	06:52 16:43 32	07:32 (15) 08:04 (15) 16:28
9	05:32 20:18	05:57 19:54	09:13 (14) 09:32 (14) 19:10	06:25 09:57 (14) 18:22	06:53 16:42 32	07:32 (15) 08:04 (15) 16:28
10	05:33 20:18	05:58 19:53	09:10 (14) 09:34 (14) 19:08	06:26 09:57 (14) 18:21	06:54 16:41 32	07:33 (15) 08:05 (15) 16:28
11	05:34 20:18	05:59 19:52	09:08 (14) 09:36 (14) 19:07	06:27 09:56 (14) 18:19	06:55 16:40 32	07:33 (15) 08:05 (15) 16:28
12	05:34 20:17	06:00 19:50	09:06 (14) 09:38 (14) 19:05	06:28 09:56 (14) 18:18	06:56 16:40 31	07:33 (15) 08:04 (15) 16:28
13	05:35 20:17	06:01 19:49	09:04 (14) 09:40 (14) 19:04	06:29 09:55 (14) 18:16	06:57 16:39 30	07:34 (15) 08:04 (15) 16:28
14	05:36 20:16	06:02 19:48	09:03 (14) 09:42 (14) 19:02	06:30 09:54 (14) 18:15	06:58 16:38 29	07:34 (15) 08:03 (15) 16:28
15	05:36 20:16	06:03 19:47	09:02 (14) 09:43 (14) 19:00	06:31 09:53 (14) 18:13	06:59 16:37 28	07:36 (15) 08:04 (15) 16:29
16	05:37 20:15	06:04 19:45	09:01 (14) 09:45 (14) 18:59	06:32 09:52 (14) 18:12	07:00 16:36 26	07:37 (15) 08:03 (15) 16:29
17	05:38 20:15	06:05 19:44	08:59 (14) 09:45 (14) 18:57	06:33 09:51 (14) 18:10	07:01 16:36 24	07:38 (15) 08:02 (15) 16:29
18	05:39 20:14	06:06 19:43	08:58 (14) 09:47 (14) 18:55	06:33 09:50 (14) 18:09	07:02 16:35 22	07:39 (15) 08:01 (15) 16:30
19	05:39 20:13	06:06 19:41	08:57 (14) 09:48 (14) 18:54	06:34 09:49 (14) 18:08	07:03 16:34 20	07:40 (15) 08:00 (15) 16:30
20	05:40 20:13	06:07 19:40	08:56 (14) 09:49 (14) 18:52	06:35 09:47 (14) 18:06	07:04 16:34 18	07:41 (15) 07:59 (15) 16:30
21	05:41 20:12	06:08 19:38	08:55 (14) 09:50 (14) 18:51	06:36 09:45 (14) 18:05	07:05 16:33 15	07:44 (15) 07:59 (15) 16:31
22	05:42 20:11	06:09 19:37	08:54 (14) 09:51 (14) 18:49	06:37 09:42 (14) 18:03	07:06 16:32 11	07:46 (15) 07:57 (15) 16:31
23	05:42 20:11	06:10 19:36	08:54 (14) 09:52 (14) 18:47	06:38 09:40 (14) 18:02	07:07 16:32	07:06 16:32
24	05:43 20:10	06:11 19:34	08:52 (14) 09:52 (14) 18:46	06:39 09:37 (14) 18:01	07:08 16:31	07:07 16:32
25	05:44 20:09	06:12 19:33	08:52 (14) 09:53 (14) 18:44	06:40 09:34 (14) 17:59	07:09 16:31	07:07 16:33
26	05:45 20:08	06:13 19:31	08:51 (14) 09:54 (14) 18:43	06:41 09:30 (14) 17:58	07:10 16:30	07:07 16:34
27	05:46 20:07	06:14 19:30	08:51 (14) 09:55 (14) 18:41	06:42 09:21 (14) 16:57	07:11 07:53 (15) 16:30	07:08 16:34
28	05:47 20:07	06:15 19:28	08:50 (14) 09:55 (14) 18:39	06:43 16:56 17	07:39 (15) 07:56 (15) 16:30	07:08 16:35
29	05:48 20:06	06:15 19:27	08:50 (14) 09:56 (14) 18:38	06:43 16:54 20	07:37 (15) 07:57 (15) 16:29	07:08 16:36
30	05:48 20:05	06:16 19:25	08:50 (14) 09:56 (14) 18:36	06:44 16:53 24	07:35 (15) 07:59 (15) 16:29	07:09 16:36
31	05:49 20:04	06:17 19:24	08:48 (14) 09:56 (14)	06:45 16:52 26	07:35 (15) 08:01 (15)	07:09 16:37
Potential sun hours	453	424	374	347	303	294
Total, worst case		1156	1549	98	595	
Sun reduction		0,69	0,63	0,53	0,50	
Oper. time red.		0,34	0,34	0,34	0,34	
Wind dir. red.		0,95	0,95	0,84	0,84	
Total reduction		0,22	0,20	0,15	0,14	
Total, real		259	317	15	85	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BO - R27 CU2

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4,16	4,62	5,58	6,71	8,10	9,27	10,00	9,47	7,89	5,95	5,05	4,11

Operational time

0	1	Sum
1.500	1.500	3.000

	January	February	March	April	May	June				
1	07:09 16:37	06:59 17:09	08:04 (15) 08:36 (15)	06:24 17:42	06:37 19:13	08:59 (14) 10:08 (14)	05:54 19:42	05:27 20:09		
2	07:09 16:38	06:58 17:10	08:04 (15) 08:36 (15)	06:23 17:43	06:35 19:14	08:58 (14) 10:07 (14)	05:52 19:43	05:27 20:10		
3	07:09 16:39	06:57 17:12	08:04 (15) 08:36 (15)	06:21 17:44	06:33 19:15	08:57 (14) 10:06 (14)	05:51 19:44	05:26 20:11		
4	07:09 16:40	06:56 17:13	08:04 (15) 08:36 (15)	06:20 17:45	06:32 19:16	08:57 (14) 10:06 (14)	05:50 19:45	05:26 20:11		
5	07:10 16:41	06:55 17:14	08:05 (15) 08:36 (15)	06:19 17:46	06:30 19:17	08:56 (14) 10:04 (14)	05:49 19:46	05:26 20:12		
6	07:10 16:41	06:54 17:15	08:05 (15) 08:36 (15)	06:17 17:47	06:29 19:18	08:56 (14) 10:04 (14)	05:48 19:47	05:25 20:13		
7	07:10 16:42	06:53 17:16	08:06 (15) 08:35 (15)	06:16 17:48	06:27 19:19	08:56 (14) 10:02 (14)	05:47 19:48	05:25 20:13		
8	07:10 16:43	06:52 17:17	08:07 (15) 08:35 (15)	06:14 17:49	06:26 19:20	08:56 (14) 10:02 (14)	05:46 19:49	05:25 20:14		
9	07:10 16:44	06:51 17:19	08:07 (15) 08:33 (15)	06:13 17:50	06:24 19:21	08:56 (14) 10:00 (14)	05:44 19:50	05:25 20:14		
10	07:09 16:45	06:50 17:20	08:08 (15) 08:32 (15)	06:11 17:51	06:23 19:22	08:56 (14) 09:59 (14)	05:43 19:51	05:24 20:15		
11	07:09 16:46	06:49 17:21	08:09 (15) 08:31 (15)	06:09 17:52	08:39 (14) 08:47 (14)	06:21 19:23	08:56 (14) 09:57 (14)	05:42 19:52	05:24 20:16	
12	07:09 16:47	06:48 17:22	08:11 (15) 08:29 (15)	06:08 17:53	08:31 (14) 08:54 (14)	06:20 19:24	08:56 (14) 09:57 (14)	05:41 19:53	05:24 20:16	
13	07:09 16:48	06:47 17:23	08:14 (15) 08:27 (15)	06:06 17:54	08:27 (14) 08:58 (14)	06:18 19:25	08:56 (14) 09:55 (14)	05:40 19:54	05:24 20:16	
14	07:09 16:49	06:45 17:24	08:18 (15) 08:23 (15)	06:05 17:55	08:23 (14) 09:01 (14)	06:17 19:26	08:57 (14) 09:54 (14)	05:39 19:54	05:24 20:17	
15	07:08 16:50	06:44 17:25	06:03 17:56	06:03 18:00	08:21 (14) 09:03 (14)	06:15 19:27	08:56 (14) 09:52 (14)	05:39 19:55	05:24 20:17	
16	07:08 16:51	06:43 17:27	06:02 17:57	06:02 18:01	08:18 (14) 09:05 (14)	06:14 19:28	08:57 (14) 09:50 (14)	05:38 19:56	05:24 20:18	
17	07:08 16:52	08:12 (15) 08:20 (15)	06:42 17:28	06:00 17:58	08:15 (14) 09:05 (14)	06:12 19:29	08:58 (14) 09:49 (14)	05:37 19:57	05:24 20:18	
18	07:07 16:53	08:10 (15) 08:22 (15)	06:41 17:29	05:59 17:59	08:14 (14) 09:07 (14)	06:11 19:29	08:58 (14) 09:47 (14)	05:36 19:58	05:24 20:18	
19	07:07 16:54	08:09 (15) 08:25 (15)	06:39 17:30	05:57 18:00	08:12 (14) 09:08 (14)	06:10 19:30	08:59 (14) 09:45 (14)	05:35 19:59	05:24 20:19	
20	07:06 16:56	08:07 (15) 08:26 (15)	06:38 17:31	05:55 18:01	08:11 (14) 09:09 (14)	06:08 19:31	09:00 (14) 09:43 (14)	05:34 20:00	05:25 20:19	
21	07:06 16:57	08:25 (15) 08:28 (15)	06:37 17:32	05:54 18:02	08:09 (14) 09:09 (14)	06:07 19:32	09:01 (14) 09:41 (14)	05:34 20:01	05:25 20:19	
22	07:05 16:58	08:06 (15) 08:29 (15)	06:35 17:33	05:52 18:03	08:07 (14) 09:09 (14)	06:05 19:33	09:02 (14) 09:40 (14)	05:33 20:02	05:25 20:19	
23	07:05 16:59	08:06 (15) 08:31 (15)	06:34 17:34	05:51 18:04	08:06 (14) 09:10 (14)	06:04 19:34	09:03 (14) 09:37 (14)	05:32 20:02	05:25 20:20	
24	07:04 17:00	08:05 (15) 08:31 (15)	06:33 17:35	05:49 18:05	08:05 (14) 09:10 (14)	06:03 19:35	09:05 (14) 09:35 (14)	05:31 20:03	05:25 20:20	
25	07:04 17:01	08:04 (15) 08:32 (15)	06:31 17:37	05:48 18:06	08:04 (14) 09:11 (14)	06:01 19:36	09:07 (14) 09:32 (14)	05:31 20:04	05:26 20:20	
26	07:03 17:02	08:04 (15) 08:33 (15)	06:30 17:38	05:46 18:07	08:03 (14) 09:10 (14)	06:00 19:37	09:10 (14) 09:29 (14)	05:30 20:05	05:26 20:20	
27	07:02 17:03	08:04 (15) 08:34 (15)	06:29 17:39	05:44 18:08	08:01 (14) 09:10 (14)	05:59 19:38	09:13 (14) 09:23 (14)	05:30 20:06	05:26 20:20	
28	07:02 17:05	08:04 (15) 08:35 (15)	06:27 17:40	05:43 18:09	08:01 (14) 09:10 (14)	05:57 19:39	05:29 20:06	05:27 20:20	05:27 20:20	
29	07:01 17:06	08:03 (15) 08:35 (15)	06:26 17:41	05:41 18:10	08:00 (14) 09:09 (14)	05:56 19:40	05:28 20:07	05:27 20:20	05:27 20:20	
30	07:00 17:07	08:03 (15) 08:35 (15)	06:25 17:42	05:40 18:11	08:00 (14) 09:09 (14)	05:55 19:41	05:28 20:08	05:27 20:20	05:27 20:20	
31	06:59 17:08	08:03 (15) 08:35 (15)	06:24 17:43	05:39 19:12	08:59 (14) 10:08 (14)	05:54 19:42	05:27 20:09	05:27 20:20	05:27 20:20	
Potential sun hours	302	310	370	396	443	446				
Total, worst case	364	355	1136	1403						
Sun reduction	0,43	0,43	0,47	0,51						
Oper. time red.	0,34	0,34	0,34	0,34						
Wind dir. red.	0,83	0,83	0,93	0,93						
Total reduction	0,12	0,12	0,15	0,16						
Total, real	44	43	169	227						

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BO - R27 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28 20:20	05:50 20:03	06:18 19:22	08:55 (14) 18:35	06:45 18:35	09:08 (14) 16:51
2	05:28 20:20	05:51 20:02	06:19 19:21	08:54 (14) 18:33	06:46 18:33	09:13 (14) 16:50
3	05:29 20:20	05:52 20:01	06:20 19:19	08:54 (14) 18:31	06:47 18:31	09:30 (14) 16:50
4	05:29 20:20	05:53 20:00	06:21 19:18	08:53 (14) 18:30	06:48 18:30	06:20 16:47
5	05:30 20:19	05:54 19:59	06:22 19:16	08:53 (14) 18:28	06:49 18:28	06:21 16:46
6	05:30 20:19	05:55 19:57	06:23 19:15	08:53 (14) 18:27	06:50 18:27	06:22 16:45
7	05:31 20:19	05:56 19:56	06:24 19:13	08:51 (14) 18:25	06:51 18:25	06:23 16:44
8	05:32 20:19	05:56 19:55	06:24 19:11	08:51 (14) 18:24	06:52 18:24	06:24 16:43
9	05:32 20:18	05:57 19:54	06:25 19:10	08:51 (14) 18:22	06:53 18:22	06:25 16:42
10	05:33 20:18	05:58 19:53	06:26 19:08	08:51 (14) 18:21	06:54 18:21	06:27 16:41
11	05:34 20:18	05:59 19:52	06:27 19:07	08:51 (14) 18:19	06:55 18:19	06:28 16:40
12	05:34 20:17	06:00 19:50	06:28 19:05	08:51 (14) 18:18	06:56 18:18	06:29 16:40
13	05:35 20:17	06:01 19:49	06:29 19:04	08:51 (14) 18:16	06:57 18:16	06:30 16:39
14	05:36 20:16	06:02 19:48	06:30 19:02	08:50 (14) 18:15	06:58 18:15	06:31 16:38
15	05:36 20:16	06:03 19:47	06:31 19:00	08:50 (14) 18:13	06:59 18:13	06:32 16:37
16	05:37 20:15	06:04 19:45	09:20 (14) 06:32	08:51 (14) 18:12	07:00 18:12	06:33 16:36
17	05:38 20:15	06:05 19:44	09:15 (14) 06:33	08:51 (14) 18:11	07:01 18:11	06:34 16:36
18	05:39 20:14	06:06 19:43	09:35 (14) 06:33	08:51 (14) 18:10	07:02 18:10	06:35 16:35
19	05:39 20:13	06:06 19:41	09:13 (14) 06:34	08:51 (14) 18:09	07:03 18:09	06:36 16:35
20	05:40 20:13	06:07 19:40	09:41 (14) 06:34	08:52 (14) 18:08	07:03 18:08	06:37 16:34
21	05:41 20:12	06:08 19:38	09:09 (14) 06:35	08:52 (14) 18:07	07:04 18:07	06:38 16:34
22	05:42 20:11	06:09 19:37	09:43 (14) 06:36	08:53 (14) 18:06	07:05 18:06	06:39 16:33
23	05:42 20:11	06:10 19:36	09:15 (14) 06:37	08:53 (14) 18:05	07:06 18:05	06:40 16:33
24	05:43 20:10	06:11 19:34	09:45 (14) 06:38	08:54 (14) 18:04	07:07 18:04	06:41 16:32
25	05:44 20:09	06:12 19:33	09:02 (14) 06:39	08:55 (14) 18:03	07:08 18:03	06:42 16:32
26	05:45 20:08	06:13 19:31	09:49 (14) 06:40	08:55 (14) 18:02	07:09 18:02	06:43 16:31
27	05:46 20:07	06:14 19:30	09:50 (14) 06:41	08:56 (14) 18:01	07:10 18:01	06:44 16:31
28	05:47 20:07	06:15 19:28	09:51 (14) 06:42	08:57 (14) 18:00	07:11 18:00	06:45 16:30
29	05:48 20:06	06:15 19:27	09:52 (14) 06:43	08:58 (14) 17:59	07:12 17:59	06:46 16:30
30	05:48 20:05	06:16 19:25	09:45 (14) 06:44	08:59 (14) 17:58	07:13 17:58	06:47 16:29
31	05:49 20:04	06:17 19:24	09:55 (14) 06:45	09:01 (14) 17:57	07:14 17:57	06:48 16:29
Potential sun hours	453	424	374	347	303	294
Total, worst case		676	1854	84	686	
Sun reduction		0,69	0,63	0,53	0,50	
Oper. time red.		0,34	0,34	0,34	0,34	
Wind dir. red.		0,93	0,93	0,88	0,83	
Total reduction		0,22	0,20	0,16	0,14	
Total, real		149	373	13	97	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BP - R28 CU2

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June		
1	07:09 16:37	06:59 17:09	08:06 (15) 08:38 (15)	06:24 17:42	06:37 19:13	09:02 (14) 10:10 (14)	05:54 19:42	05:27 20:09
2	07:09 16:38	06:58 17:10	08:06 (15) 08:38 (15)	06:23 17:43	06:35 19:14	09:01 (14) 10:08 (14)	05:52 19:43	05:27 20:10
3	07:09 16:39	06:57 17:12	08:06 (15) 08:38 (15)	06:21 17:44	06:33 19:15	09:01 (14) 10:07 (14)	05:51 19:44	05:26 20:11
4	07:09 16:40	06:56 17:13	08:07 (15) 08:37 (15)	06:20 17:45	06:32 19:16	09:01 (14) 10:06 (14)	05:50 19:45	05:26 20:11
5	07:10 16:41	06:55 17:14	08:07 (15) 08:37 (15)	06:19 17:46	06:30 19:17	09:01 (14) 10:04 (14)	05:49 19:46	05:26 20:12
6	07:10 16:41	06:54 17:15	08:08 (15) 08:37 (15)	06:17 17:47	06:29 19:18	09:01 (14) 10:04 (14)	05:48 19:47	05:25 20:13
7	07:10 16:42	06:53 17:16	08:09 (15) 08:36 (15)	06:16 17:48	06:27 19:19	09:01 (14) 10:02 (14)	05:47 19:48	05:25 20:13
8	07:10 16:43	06:52 17:17	08:10 (15) 08:35 (15)	06:14 17:49	06:26 19:20	09:01 (14) 10:01 (14)	05:46 19:49	05:25 20:14
9	07:10 16:44	06:51 17:19	08:10 (15) 08:33 (15)	06:13 17:50	06:24 19:21	09:01 (14) 09:59 (14)	05:44 19:50	05:25 20:14
10	07:09 16:45	06:50 17:20	08:11 (15) 08:32 (15)	06:11 17:51	06:23 19:22	09:02 (14) 09:58 (14)	05:43 19:51	05:24 20:15
11	07:09 16:46	06:49 17:21	08:13 (15) 08:30 (15)	06:09 17:52	06:21 19:23	09:02 (14) 09:56 (14)	05:42 19:52	05:24 20:16
12	07:09 16:47	06:48 17:22	08:16 (15) 08:28 (15)	06:08 17:53	06:20 19:24	09:03 (14) 09:55 (14)	05:41 19:53	05:24 20:16
13	07:09 16:48	06:47 17:23	06:06 17:54	06:18 19:25	06:18 19:25	09:03 (14) 09:53 (14)	05:40 19:54	05:24 20:16
14	07:09 16:49	06:45 17:24	06:05 17:55	06:17 19:26	06:17 19:26	09:04 (14) 09:51 (14)	05:39 19:54	05:24 20:17
15	07:08 16:50	08:14 (15) 08:21 (15)	06:44 17:25	06:03 17:56	06:15 19:27	09:04 (14) 09:49 (14)	05:39 19:55	05:24 20:17
16	07:08 16:51	08:11 (15) 08:23 (15)	06:43 17:27	06:02 17:57	06:14 19:28	09:05 (14) 09:47 (14)	05:38 19:56	05:24 20:18
17	07:08 16:52	08:10 (15) 08:26 (15)	06:42 17:28	06:00 17:58	06:12 19:29	09:07 (14) 09:45 (14)	05:37 19:57	05:24 20:18
18	07:07 16:53	08:09 (15) 08:29 (15)	06:41 17:29	05:59 17:59	06:11 19:30	09:07 (14) 09:43 (14)	05:36 19:58	05:24 20:18
19	07:07 16:54	08:08 (15) 08:29 (15)	06:39 17:30	05:57 18:00	06:10 19:30	09:09 (14) 09:40 (14)	05:35 19:59	05:24 20:19
20	07:06 16:56	08:07 (15) 08:30 (15)	06:38 17:31	05:55 18:01	06:08 19:31	09:10 (14) 09:37 (14)	05:34 20:00	05:25 20:19
21	07:06 16:57	08:07 (15) 08:31 (15)	06:37 17:32	05:54 18:02	06:07 19:32	09:13 (14) 09:34 (14)	05:34 20:01	05:25 20:19
22	07:05 16:58	08:06 (15) 08:32 (15)	06:35 17:33	05:52 18:03	06:05 19:33	09:14 (14) 09:30 (14)	05:33 20:02	05:25 20:19
23	07:05 16:59	08:06 (15) 08:33 (15)	06:34 17:34	05:51 18:04	06:04 19:34	08:07 (14) 09:14 (14)	05:32 20:02	05:25 20:20
24	07:04 17:00	08:06 (15) 08:34 (15)	06:33 17:35	05:49 18:05	06:03 19:35	08:06 (14) 09:14 (14)	05:31 20:03	05:25 20:20
25	07:04 17:01	08:05 (15) 08:34 (15)	06:31 17:37	05:48 18:06	06:01 19:36	08:06 (14) 09:14 (14)	05:31 20:04	05:26 20:20
26	07:03 17:02	08:05 (15) 08:35 (15)	06:30 17:38	05:46 18:07	06:00 19:37	08:05 (14) 09:13 (14)	05:30 20:05	05:26 20:20
27	07:02 17:03	08:05 (15) 08:36 (15)	06:29 17:39	05:44 18:08	05:59 19:38	08:04 (14) 09:12 (14)	05:30 20:06	05:26 20:20
28	07:02 17:05	08:05 (15) 08:36 (15)	06:27 17:40	05:43 18:09	05:57 19:39	08:04 (14) 09:12 (14)	05:29 20:06	05:27 20:20
29	07:01 17:06	08:05 (15) 08:37 (15)	06:26 17:41	05:41 18:10	05:56 19:40	08:03 (14) 09:11 (14)	05:28 20:07	05:27 20:20
30	07:00 17:07	08:05 (15) 08:37 (15)	06:25 17:42	05:40 18:11	05:55 19:41	08:03 (14) 09:11 (14)	05:28 20:08	05:27 20:20
31	06:59 17:08	08:05 (15) 08:37 (15)	06:24 17:43	06:38 19:12	09:02 (14) 10:10 (14)	09:02 (14) 10:10 (14)	05:27 20:09	05:27 20:20
Potential sun hours	302	310	370	396	443	446		
Total, worst case	419	310	1339	1083				
Sun reduction	0,43	0,43	0,47	0,51				
Oper. time red.	0,34	0,34	0,34	0,34				
Wind dir. red.	0,82	0,82	0,92	0,92				
Total reduction	0,12	0,12	0,15	0,16				
Total, real	50	38	196	172				

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BP - R28 CU2

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28	05:50	06:18	09:01 (14) 06:45	09:03 (14) 06:17	07:43 (15) 06:49
	20:20	20:03	19:22	09:55 (14) 18:35	09:47 (14) 16:51	08:00 (15) 16:29
2	05:28	05:51	06:19	09:00 (14) 06:46	09:05 (14) 06:18	07:41 (15) 06:50
	20:20	20:02	19:21	09:56 (14) 18:33	09:45 (14) 16:50	08:02 (15) 16:28
3	05:29	05:52	06:20	08:59 (14) 06:47	09:07 (14) 06:19	07:40 (15) 06:51
	20:20	20:01	19:19	09:57 (14) 18:31	09:42 (14) 16:49	08:03 (15) 16:28
4	05:29	05:53	06:21	08:58 (14) 06:48	09:10 (14) 06:20	07:38 (15) 06:52
	20:20	20:00	19:18	09:58 (14) 18:30	09:38 (14) 16:47	08:04 (15) 16:28
5	05:30	05:54	06:22	08:58 (14) 06:49	09:15 (14) 06:21	07:38 (15) 06:53
	20:19	19:59	19:16	09:59 (14) 18:28	09:34 (14) 16:46	08:06 (15) 16:28
6	05:30	05:55	06:23	08:57 (14) 06:50	06:22	07:38 (15) 06:54
	20:19	19:57	19:15	10:00 (14) 18:27	16:45	08:06 (15) 16:28
7	05:31	05:56	06:24	08:56 (14) 06:51	06:23	07:37 (15) 06:55
	20:19	19:56	19:13	10:00 (14) 18:25	16:44	08:07 (15) 16:28
8	05:32	05:56	06:24	08:55 (14) 06:52	06:24	07:37 (15) 06:56
	20:19	19:55	19:11	10:00 (14) 18:24	16:43	08:07 (15) 16:28
9	05:32	05:57	06:25	08:55 (14) 06:53	06:25	07:36 (15) 06:57
	20:18	19:54	19:10	10:01 (14) 18:22	16:42	08:08 (15) 16:28
10	05:33	05:58	06:26	08:55 (14) 06:54	06:27	07:37 (15) 06:57
	20:18	19:53	19:08	10:01 (14) 18:21	16:41	08:09 (15) 16:28
11	05:34	05:59	06:27	08:54 (14) 06:55	06:28	07:37 (15) 06:58
	20:18	19:52	19:07	10:02 (14) 18:19	16:40	08:09 (15) 16:28
12	05:34	06:00	06:28	08:54 (14) 06:56	06:29	07:37 (15) 06:59
	20:17	19:50	19:05	10:02 (14) 18:18	16:40	08:09 (15) 16:28
13	05:35	06:01	06:29	08:54 (14) 06:57	06:30	07:37 (15) 07:00
	20:17	19:49	19:04	10:02 (14) 18:16	16:39	08:09 (15) 16:28
14	05:36	06:02	06:30	08:53 (14) 06:58	06:31	07:37 (15) 07:01
	20:16	19:48	19:02	10:02 (14) 18:15	16:38	08:09 (15) 16:28
15	05:36	06:03	06:31	08:53 (14) 06:59	06:32	07:38 (15) 07:01
	20:16	19:47	19:00	10:02 (14) 18:13	16:37	08:09 (15) 16:29
16	05:37	06:04	06:32	08:53 (14) 07:00	06:33	07:38 (15) 07:02
	20:15	19:45	18:59	10:02 (14) 18:12	16:36	08:09 (15) 16:29
17	05:38	06:05	06:33	08:53 (14) 07:01	06:34	07:39 (15) 07:03
	20:15	19:44	18:57	10:02 (14) 18:10	16:36	08:09 (15) 16:29
18	05:39	06:06	06:33	08:53 (14) 07:02	06:35	07:39 (15) 07:03
	20:14	19:43	18:55	10:01 (14) 18:09	16:35	08:09 (15) 16:30
19	05:39	06:06	06:34	08:53 (14) 07:03	06:36	07:40 (15) 07:04
	20:13	19:41	18:54	10:01 (14) 18:08	16:34	08:08 (15) 16:30
20	05:40	06:07	06:35	08:54 (14) 07:04	06:38	07:40 (15) 07:05
	20:13	19:40	18:52	10:01 (14) 18:06	16:34	08:08 (15) 16:30
21	05:41	06:08	09:21 (14) 06:36	08:54 (14) 07:05	06:39	07:42 (15) 07:05
	20:12	19:38	18:51	10:00 (14) 18:05	16:33	08:08 (15) 16:31
22	05:42	06:09	09:17 (14) 06:37	08:54 (14) 07:06	06:40	07:43 (15) 07:06
	20:11	19:37	18:49	09:59 (14) 18:03	16:32	08:07 (15) 16:31
23	05:42	06:10	09:15 (14) 06:38	08:54 (14) 07:07	06:41	07:44 (15) 07:06
	20:11	19:36	18:47	09:58 (14) 18:02	16:32	08:07 (15) 16:32
24	05:43	06:11	09:12 (14) 06:39	08:55 (14) 07:08	06:42	07:45 (15) 07:07
	20:10	19:34	18:46	09:57 (14) 18:01	16:31	08:06 (15) 16:32
25	05:44	06:12	09:10 (14) 06:40	08:55 (14) 07:09	06:43	07:47 (15) 07:07
	20:09	19:33	18:44	09:56 (14) 17:59	16:31	08:05 (15) 16:33
26	05:45	06:13	09:08 (14) 06:41	08:56 (14) 07:10	06:44	07:48 (15) 07:07
	20:08	19:31	18:43	09:55 (14) 17:58	16:30	08:04 (15) 16:34
27	05:46	06:14	09:07 (14) 06:42	08:57 (14) 06:11	06:45	07:50 (15) 07:08
	20:07	19:30	18:41	09:54 (14) 16:57	16:30	08:02 (15) 16:34
28	05:47	06:15	09:06 (14) 06:43	08:58 (14) 06:12	06:46	07:53 (15) 07:08
	20:07	19:28	18:39	09:53 (14) 16:56	16:30	08:00 (15) 16:35
29	05:48	06:15	09:05 (14) 06:43	09:00 (14) 06:13	06:47	07:08
	20:06	19:27	18:38	09:51 (14) 16:54	16:29	16:36
30	05:48	06:16	09:03 (14) 06:44	09:01 (14) 06:14	06:48	07:09
	20:05	19:25	18:36	09:49 (14) 16:53	16:29	16:36
31	05:49	06:17	09:02 (14) 06:45	06:15	07:45 (15)	07:09
	20:04	19:24	18:35	16:52	07:58 (15)	16:37
Potential sun hours	453	424	374	347	303	294
Total, worst case		409	1884	179	720	
Sun reduction		0,69	0,63	0,53	0,50	
Oper. time red.		0,34	0,34	0,34	0,34	
Wind dir. red.		0,92	0,92	0,91	0,82	
Total reduction		0,22	0,20	0,17	0,14	
Total, real		89	374	30	102	

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: Bufalo real case Shadow receptor: BQ - R29 CU3

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June			
1	07:09	06:59	06:24	07:44 (15)	06:37	05:54	05:27	08:38 (14)	
	16:37	17:09	17:42	08:16 (15)	19:13	19:42	20:09	20 08:58 (14)	
2	07:09	06:58	06:23	07:45 (15)	06:35	05:52	05:27	08:36 (14)	
	16:38	17:10	17:43	08:15 (15)	19:14	19:43	20:10	25 09:01 (14)	
3	07:09	06:57	06:21	07:45 (15)	06:33	05:51	05:26	08:34 (14)	
	16:39	17:12	17:44	08:13 (15)	19:15	19:44	20:11	28 09:02 (14)	
4	07:09	06:56	06:20	07:47 (15)	06:32	05:50	05:26	08:33 (14)	
	16:40	17:13	17:45	08:12 (15)	19:16	19:45	20:11	31 09:04 (14)	
5	07:10	06:55	07:37 (20)	06:19	07:48 (15)	06:30	05:49	05:26	08:32 (14)
	16:41	17:14	07:47 (20)	17:46	08:09 (15)	19:17	19:46	20:12	34 09:06 (14)
6	07:10	06:54	07:36 (20)	06:17	07:50 (15)	06:29	05:48	05:25	08:31 (14)
	16:41	17:15	07:49 (20)	17:47	08:07 (15)	19:18	19:47	20:13	36 09:07 (14)
7	07:10	06:53	07:34 (20)	06:16	07:53 (15)	06:27	05:47	05:25	08:30 (14)
	16:42	17:16	07:50 (20)	17:48	08:03 (15)	19:19	19:48	20:13	38 09:08 (14)
8	07:10	06:52	07:33 (20)	06:14	06:26	05:46	05:25	08:28 (14)	
	16:43	17:17	07:52 (20)	17:49	19:20	19:49	20:14	40 09:08 (14)	
9	07:09	06:51	07:32 (20)	06:13	06:24	05:44	05:25	08:28 (14)	
	16:44	17:19	07:51 (20)	17:50	19:21	19:50	20:14	41 09:09 (14)	
10	07:09	06:50	07:31 (20)	06:11	06:23	05:43	05:24	08:28 (14)	
	16:45	17:20	07:52 (20)	17:51	19:22	19:51	20:15	42 09:10 (14)	
11	07:09	06:49	07:31 (20)	06:09	06:21	05:42	05:24	08:27 (14)	
	16:46	17:21	07:53 (20)	17:52	19:23	19:52	20:16	44 09:11 (14)	
12	07:09	06:48	07:31 (20)	06:08	06:20	05:41	05:24	08:27 (14)	
	16:47	17:22	08:04 (15)	17:53	19:24	19:53	20:16	45 09:12 (14)	
13	07:09	06:47	07:31 (20)	06:06	06:18	05:40	05:24	08:27 (14)	
	16:48	17:23	08:09 (15)	17:54	19:25	19:54	20:16	45 09:12 (14)	
14	07:09	06:45	07:32 (20)	06:05	06:17	05:39	05:24	08:26 (14)	
	16:49	17:24	08:12 (15)	17:55	19:26	19:54	20:17	47 09:13 (14)	
15	07:08	06:44	07:31 (20)	06:03	06:15	05:39	05:24	08:26 (14)	
	16:50	17:25	08:13 (15)	17:56	19:27	19:55	20:17	47 09:13 (14)	
16	07:08	06:43	07:32 (20)	06:02	06:14	05:38	05:24	08:26 (14)	
	16:51	17:27	08:15 (15)	17:57	19:28	19:56	20:18	48 09:14 (14)	
17	07:08	06:42	07:33 (20)	06:00	06:12	05:37	05:24	08:26 (14)	
	16:52	17:28	08:16 (15)	17:58	19:29	19:57	20:18	48 09:14 (14)	
18	07:07	06:41	07:34 (20)	05:59	06:11	05:36	05:24	08:26 (14)	
	16:53	17:29	08:18 (15)	17:59	19:29	19:58	20:18	48 09:14 (14)	
19	07:07	06:39	07:35 (20)	05:57	06:10	05:35	05:24	08:26 (14)	
	16:54	17:30	08:18 (15)	18:00	19:30	19:59	20:19	49 09:15 (14)	
20	07:06	06:38	07:38 (20)	05:55	06:08	05:34	05:25	08:27 (14)	
	16:56	17:31	08:19 (15)	18:01	19:31	20:00	20:19	49 09:16 (14)	
21	07:06	06:37	07:44 (15)	05:54	06:07	05:34	05:25	08:27 (14)	
	16:57	17:32	08:19 (15)	18:02	19:32	20:01	20:19	49 09:16 (14)	
22	07:05	06:35	07:43 (15)	05:52	06:05	05:33	05:25	08:27 (14)	
	16:58	17:33	08:19 (15)	18:03	19:33	20:02	20:19	49 09:16 (14)	
23	07:05	06:34	07:43 (15)	05:51	06:04	05:32	05:25	08:27 (14)	
	16:59	17:34	08:19 (15)	18:04	19:34	20:02	20:20	49 09:16 (14)	
24	07:04	06:33	07:43 (15)	05:49	06:03	05:31	05:25	08:28 (14)	
	17:00	17:35	08:20 (15)	18:05	19:35	20:03	20:20	48 09:16 (14)	
25	07:04	06:31	07:43 (15)	05:48	06:01	05:31	05:26	08:28 (14)	
	17:01	17:37	08:19 (15)	18:06	19:36	20:04	20:20	48 09:16 (14)	
26	07:03	06:30	07:43 (15)	05:46	06:00	05:30	05:26	08:28 (14)	
	17:02	17:38	08:19 (15)	18:07	19:37	20:05	20:20	48 09:16 (14)	
27	07:02	06:29	07:42 (15)	05:44	05:59	05:30	05:26	08:29 (14)	
	17:03	17:39	08:18 (15)	18:08	19:38	20:06	20:20	48 09:17 (14)	
28	07:02	06:27	07:43 (15)	05:43	05:57	05:29	05:27	08:29 (14)	
	17:05	17:40	08:18 (15)	18:09	19:39	20:06	20:20	47 09:16 (14)	
29	07:01	06:26	07:43 (15)	05:41	05:56	05:28	05:27	08:29 (14)	
	17:06	17:41	08:16 (15)	18:10	19:40	20:07	20:20	47 09:16 (14)	
30	07:00			05:40	05:55	05:28	05:27	08:31 (14)	
	17:07			18:11	19:41	20:08	20:20	45 09:16 (14)	
31	06:59			06:38		05:27		08:42 (14)	
	17:08			19:12		20:09	13	08:55 (14)	
Potential sun hours	302	310	370	396	443		446		
Total, worst case		798		163		13		1283	
Sun reduction		0,43		0,47		0,57		0,62	
Oper. time red.		0,34		0,34		0,34		0,34	
Wind dir. red.		0,91		0,90		0,97		0,97	
Total reduction		0,13		0,14		0,19		0,21	
Total, real		107		24		2		266	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BQ - R29 CU3

Assumptions for shadow calculations

Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28 20:20	08:31 (14) 09:15 (14)	05:50 20:03	06:18 19:22	06:45 18:35	06:17 16:51
2	05:28 20:20	08:32 (14) 09:16 (14)	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50
3	05:29 20:20	08:33 (14) 09:15 (14)	05:52 20:01	06:20 19:19	06:47 18:31	06:19 16:49
4	05:29 20:20	08:34 (14) 09:15 (14)	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:47
5	05:30 20:19	08:35 (14) 09:14 (14)	05:54 19:59	06:22 19:16	06:49 18:28	06:21 16:46
6	05:30 20:19	08:36 (14) 09:14 (14)	05:55 19:57	06:23 19:15	06:50 18:27	06:22 16:45
7	05:31 20:19	08:37 (14) 09:12 (14)	05:56 19:56	06:24 19:13	06:51 18:25	06:23 16:44
8	05:32 20:19	08:39 (14) 09:12 (14)	05:56 19:55	06:24 19:11	06:52 18:24	06:24 16:43
9	05:32 20:18	08:40 (14) 09:10 (14)	05:57 19:54	06:25 19:10	06:53 18:22	06:25 16:42
10	05:33 20:18	08:42 (14) 09:09 (14)	05:58 19:53	06:26 19:08	06:54 18:21	06:27 16:41
11	05:34 20:18	08:45 (14) 09:07 (14)	05:59 19:52	06:27 19:07	06:55 18:19	06:28 16:40
12	05:34 20:17	08:48 (14) 09:04 (14)	06:00 19:50	06:28 19:05	06:56 18:18	06:29 16:40
13	05:35 20:17	08:53 (14) 09:00 (14)	06:01 19:49	06:29 19:04	06:57 18:16	06:30 16:39
14	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:28
15	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	06:32 16:37	07:01 16:29
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:36	07:02 16:29
17	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:10	06:34 16:36	07:03 16:29
18	05:39 20:14	06:06 19:43	06:33 18:55	07:02 18:09	06:35 16:35	07:03 16:30
19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	06:36 16:34	07:04 16:30
20	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	06:38 16:34	07:04 16:30
21	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	06:40 16:32	07:06 16:31
23	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	06:41 16:32	07:06 16:32
24	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:31	07:07 16:32
25	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	06:43 16:31	07:07 16:33
26	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:30	07:07 16:34
27	05:46 20:07	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30	07:08 16:34
28	05:47 20:07	06:15 19:28	06:43 18:39	07:12 16:56	06:46 16:30	07:08 16:35
29	05:48 20:06	06:15 19:27	06:43 18:38	07:13 16:54	06:47 16:29	07:08 16:36
30	05:48 20:05	06:16 19:25	06:44 18:36	07:14 16:53	06:48 16:29	07:09 16:36
31	05:49 20:04	06:17 19:24	06:45 16:52	07:15 16:52	06:49 16:29	07:09 16:37
Potential sun hours	453	424	374	347	303	294
Total, worst case	418			848	117	
Sun reduction	0,68			0,53	0,50	
Oper. time red.	0,34			0,34	0,34	
Wind dir. red.	0,97			0,91	0,91	
Total reduction	0,23			0,16	0,16	
Total, real	95			140	18	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BR - R30 CU3

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09	14:21 (19) 06:59	14:49 (19) 06:24	07:23 (20) 06:37	08:31 (15) 05:54	05:27
2	16:37 43	15:04 (19) 17:09	15:02 (19) 17:42	07:42 (20) 19:13	08:51 (15) 19:42	20:09
3	07:09	14:23 (19) 06:58	06:23	07:25 (20) 06:35	08:33 (15) 05:52	05:27
4	16:38 43	15:06 (19) 17:10	17:43	07:41 (20) 19:14	08:47 (15) 19:43	20:10
5	07:09	14:23 (19) 06:57	06:21	07:27 (20) 06:33	05:51	05:26
6	16:39 43	15:06 (19) 17:12	17:44	07:38 (20) 19:15	19:44	20:11
7	07:09	14:23 (19) 06:56	06:20	06:32	05:50	05:26
8	16:40 43	15:06 (19) 17:13	17:45	19:16	19:45	20:11
9	07:10	14:24 (19) 06:55	06:19	07:45 (15) 06:30	05:49	05:26
10	16:41 43	15:07 (19) 17:14	17:46	07:57 (15) 19:17	19:46	20:12
11	07:10	14:24 (19) 06:54	06:17	07:41 (15) 06:29	05:48	05:25
12	16:41 43	15:07 (19) 17:15	17:47	08:01 (15) 19:18	19:47	20:13
13	07:10	14:25 (19) 06:53	06:16	07:38 (15) 06:27	05:47	05:25
14	16:42 43	15:08 (19) 17:16	17:48	08:03 (15) 19:19	19:48	20:13
15	07:10	14:24 (19) 06:52	06:14	07:35 (15) 06:26	05:46	05:25
16	16:43 44	15:08 (19) 17:17	17:49	08:05 (15) 19:20	19:49	20:14
17	07:09	14:25 (19) 06:51	06:13	07:34 (15) 06:24	05:44	05:25
18	16:44 43	15:08 (19) 17:19	17:50	08:07 (15) 19:21	19:50	20:14
19	07:09	14:25 (19) 06:50	06:11	07:31 (15) 06:23	05:43	05:24
20	16:45 44	15:09 (19) 17:20	17:51	08:07 (15) 19:22	19:51	20:15
21	07:09	14:26 (19) 06:49	06:09	07:31 (15) 06:21	05:42	05:24
22	16:46 43	15:09 (19) 17:21	17:52	08:09 (15) 19:23	19:52	20:15
23	07:09	14:27 (19) 06:48	06:08	07:29 (15) 06:20	05:41	05:24
24	16:47 43	15:10 (19) 17:22	17:53	08:09 (15) 19:24	19:53	20:16
25	07:09	14:27 (19) 06:47	06:06	07:28 (15) 06:18	05:40	05:24
26	16:48 43	15:10 (19) 17:23	17:54	08:10 (15) 19:25	19:54	20:16
27	07:09	14:27 (19) 06:45	06:05	07:27 (15) 06:17	05:39	05:24
28	16:49 43	15:10 (19) 17:24	17:55	08:10 (15) 19:26	19:54	20:17
29	07:08	14:28 (19) 06:44	06:03	07:26 (15) 06:15	05:39	05:24
30	16:50 43	15:11 (19) 17:25	17:56	08:10 (15) 19:27	19:55	20:17
31	07:08	14:28 (19) 06:43	06:02	07:25 (15) 06:14	05:38	05:24
32	16:51 43	15:11 (19) 17:27	07:37 (20) 17:57	08:10 (15) 19:28	19:56	20:18
33	07:08	14:29 (19) 06:42	06:00	07:24 (15) 06:12	05:37	05:24
34	16:52 42	15:11 (19) 17:28	07:41 (20) 17:58	08:09 (15) 19:29	19:57	20:18
35	07:07	14:29 (19) 06:41	06:59	07:24 (15) 06:11	05:36	05:24
36	16:53 42	15:11 (19) 17:29	07:43 (20) 17:59	08:10 (15) 19:29	19:58	20:18
37	07:07	14:31 (19) 06:39	06:57	07:23 (15) 06:10	05:35	05:24
38	16:54 40	15:11 (19) 17:30	07:44 (20) 18:00	08:09 (15) 19:30	19:59	20:19
39	07:06	14:31 (19) 06:38	06:55	07:24 (15) 06:08	05:34	05:25
40	16:56 40	15:11 (19) 17:31	07:45 (20) 18:01	08:09 (15) 19:31	20:00	20:19
41	07:06	14:32 (19) 06:37	06:54	07:23 (15) 06:07	05:34	05:25
42	16:57 39	15:11 (19) 17:32	07:46 (20) 18:02	08:08 (15) 19:32	20:01	20:19
43	07:05	14:33 (19) 06:35	06:52	07:23 (15) 06:05	05:33	05:25
44	16:58 38	15:11 (19) 17:33	07:46 (20) 18:03	08:07 (15) 19:33	20:02	20:19
45	07:05	14:34 (19) 06:34	06:51	07:23 (15) 06:04	05:32	05:25
46	16:59 37	15:11 (19) 17:34	07:46 (20) 18:04	08:07 (15) 19:34	20:02	20:20
47	07:04	14:35 (19) 06:33	06:49	07:23 (15) 06:03	05:31	05:25
48	17:00 36	15:11 (19) 17:35	07:47 (20) 18:05	08:05 (15) 19:35	20:03	20:20
49	07:04	14:35 (19) 06:31	06:48	07:24 (15) 06:01	05:31	05:26
50	17:01 35	15:10 (19) 17:37	07:46 (20) 18:06	08:05 (15) 19:36	20:04	20:20
51	07:03	14:36 (19) 06:30	06:46	07:24 (15) 06:00	05:30	05:26
52	17:02 33	15:09 (19) 17:38	07:46 (20) 18:07	08:03 (15) 19:37	20:05	20:20
53	07:02	14:38 (19) 06:29	06:44	07:24 (15) 05:59	05:30	05:26
54	17:03 31	15:09 (19) 17:39	07:45 (20) 18:08	08:01 (15) 19:38	20:06	20:20
55	07:02	14:40 (19) 06:27	06:43	07:25 (15) 05:57	05:29	05:27
56	17:05 28	15:08 (19) 17:40	07:45 (20) 18:09	08:00 (15) 19:39	20:06	20:20
57	07:01	14:41 (19) 06:26	06:42	07:25 (15) 05:56	05:28	05:27
58	17:06 26	15:07 (19) 17:41	07:43 (20) 18:10	07:58 (15) 19:40	20:07	20:20
59	07:00	14:43 (19) 06:25	06:40	07:27 (15) 05:55	05:28	05:27
60	17:07 23	15:06 (19) 17:42	18:11	07:56 (15) 19:41	20:08	20:20
61	06:59	14:45 (19) 06:24	06:38	08:28 (15) 05:27	05:27	05:27
62	17:08 19	15:04 (19) 17:43	19:12	08:54 (15) 20:09	20:09	20:20
Potential sun hours	302	310	370	396	443	446
Total, worst case	1199	302	1051	34		
Sun reduction	0,43	0,43	0,47	0,51		
Oper. time red.	0,34	0,34	0,34	0,34		
Wind dir. red.	0,64	0,92	0,96	0,96		
Total reduction	0,09	0,14	0,15	0,17		
Total, real	111	41	161	6		

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: Bufalo real case Shadow receptor: BR - R30 CU3

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December				
1	05:28	05:50	06:18	06:45	08:08 (15)	06:17	06:49	14:09 (19)		
	20:20	20:03	19:22	18:35	41 08:49 (15)	16:51	16:29	43 14:52 (19)		
2	05:28	05:51	06:19	06:46	08:09 (15)	06:18	06:50	14:09 (19)		
	20:20	20:02	19:21	18:33	39 08:48 (15)	16:50	16:28	43 14:52 (19)		
3	05:29	05:52	06:20	06:47	08:09 (15)	06:19	06:51	14:09 (19)		
	20:20	20:01	19:19	18:31	37 08:46 (15)	16:49	16:28	44 14:53 (19)		
4	05:29	05:53	06:21	06:48	08:11 (15)	06:20	06:52	14:10 (19)		
	20:20	20:00	19:18	18:30	34 08:45 (15)	16:47	16:28	43 14:53 (19)		
5	05:30	05:54	06:22	06:49	08:12 (15)	06:21	06:53	14:10 (19)		
	20:19	19:59	19:16	18:28	31 08:43 (15)	16:46	16:28	44 14:54 (19)		
6	05:30	05:55	06:23	06:50	08:13 (15)	06:22	06:54	14:10 (19)		
	20:19	19:57	19:15	18:27	28 08:41 (15)	16:45	16:28	43 14:53 (19)		
7	05:31	05:56	06:24	06:51	08:15 (15)	06:23	06:55	14:10 (19)		
	20:19	19:56	19:13	18:25	24 08:39 (15)	16:44	16:28	44 14:54 (19)		
8	05:32	05:56	06:24	06:52	08:17 (15)	06:24	06:56	14:11 (19)		
	20:19	19:55	19:11	18:24	17 08:34 (15)	16:43	16:28	43 14:54 (19)		
9	05:32	05:57	06:25	06:53	08:24 (15)	06:25	06:57	14:11 (19)		
	20:18	19:54	19:10	18:22	3 08:27 (15)	16:42	16:28	44 14:55 (19)		
10	05:33	05:58	06:26	08:27 (15)	06:54	08:04 (20)	06:26	06:57	14:12 (19)	
	20:18	19:53	19:08	13 08:40 (15)	18:21	6 08:10 (20)	16:41	16:28	43 14:55 (19)	
11	05:34	05:59	06:27	08:23 (15)	06:55	08:00 (20)	06:28	14:20 (19)	06:58	14:13 (19)
	20:18	19:52	19:07	20 08:43 (15)	18:19	13 08:13 (20)	16:40	13 14:33 (19)	16:28	43 14:56 (19)
12	05:34	06:00	06:28	08:21 (15)	06:56	07:58 (20)	06:29	14:17 (19)	06:59	14:13 (19)
	20:17	19:50	19:05	25 08:46 (15)	18:18	17 08:15 (20)	16:40	19 14:36 (19)	16:28	43 14:56 (19)
13	05:35	06:01	06:29	08:19 (15)	06:57	07:56 (20)	06:30	14:15 (19)	07:00	14:13 (19)
	20:17	19:49	19:04	28 08:47 (15)	18:16	20 08:16 (20)	16:39	23 14:38 (19)	16:28	43 14:56 (19)
14	05:36	06:02	06:30	08:16 (15)	06:58	07:55 (20)	06:31	14:13 (19)	07:01	14:14 (19)
	20:16	19:48	19:02	32 08:48 (15)	18:15	22 08:17 (20)	16:38	26 14:39 (19)	16:28	42 14:56 (19)
15	05:36	06:03	06:31	08:15 (15)	06:59	07:54 (20)	06:32	14:13 (19)	07:01	14:15 (19)
	20:16	19:47	19:00	34 08:49 (15)	18:13	23 08:17 (20)	16:37	28 14:41 (19)	16:29	42 14:57 (19)
16	05:37	06:04	06:32	08:13 (15)	07:00	07:53 (20)	06:33	14:12 (19)	07:02	14:15 (19)
	20:15	19:45	18:59	37 08:50 (15)	18:12	25 08:18 (20)	16:36	30 14:42 (19)	16:29	42 14:57 (19)
17	05:38	06:05	06:33	08:12 (15)	07:01	07:53 (20)	06:34	14:10 (19)	07:03	14:15 (19)
	20:15	19:44	18:57	39 08:51 (15)	18:10	25 08:18 (20)	16:36	33 14:43 (19)	16:29	43 14:58 (19)
18	05:39	06:06	06:33	08:11 (15)	07:02	07:53 (20)	06:35	14:10 (19)	07:03	14:16 (19)
	20:14	19:43	18:55	41 08:52 (15)	18:09	25 08:18 (20)	16:35	34 14:44 (19)	16:30	42 14:58 (19)
19	05:39	06:06	06:34	08:10 (15)	07:03	07:52 (20)	06:36	14:09 (19)	07:04	14:16 (19)
	20:13	19:41	18:54	42 08:52 (15)	18:08	25 08:17 (20)	16:34	36 14:45 (19)	16:30	42 14:58 (19)
20	05:40	06:07	06:35	08:10 (15)	07:04	07:52 (20)	06:38	14:08 (19)	07:04	14:17 (19)
	20:13	19:40	18:52	43 08:53 (15)	18:06	25 08:17 (20)	16:34	37 14:45 (19)	16:30	42 14:59 (19)
21	05:41	06:08	06:36	08:09 (15)	07:05	07:53 (20)	06:39	14:09 (19)	07:05	14:17 (19)
	20:12	19:38	18:51	44 08:53 (15)	18:05	23 08:16 (20)	16:33	38 14:47 (19)	16:31	42 14:59 (19)
22	05:42	06:09	06:37	08:08 (15)	07:06	07:53 (20)	06:40	14:08 (19)	07:06	14:18 (19)
	20:11	19:37	18:49	44 08:52 (15)	18:03	23 08:16 (20)	16:32	39 14:47 (19)	16:31	42 15:00 (19)
23	05:42	06:10	06:38	08:07 (15)	07:07	07:54 (20)	06:41	14:08 (19)	07:06	14:18 (19)
	20:11	19:36	18:47	45 08:52 (15)	18:02	20 08:14 (20)	16:32	40 14:48 (19)	16:32	42 15:00 (19)
24	05:43	06:11	06:39	08:07 (15)	07:08	07:54 (20)	06:42	14:08 (19)	07:07	14:19 (19)
	20:10	19:34	18:46	45 08:52 (15)	18:01	19 08:13 (20)	16:31	40 14:48 (19)	16:32	42 15:01 (19)
25	05:44	06:12	06:40	08:07 (15)	07:09	07:57 (20)	06:43	14:07 (19)	07:07	14:19 (19)
	20:09	19:33	18:44	45 08:52 (15)	17:59	15 08:12 (20)	16:31	42 14:49 (19)	16:33	42 15:01 (19)
26	05:45	06:13	06:41	08:07 (15)	07:10	07:59 (20)	06:44	14:07 (19)	07:07	14:19 (19)
	20:08	19:31	18:43	45 08:52 (15)	17:58	11 08:10 (20)	16:30	42 14:49 (19)	16:34	43 15:02 (19)
27	05:46	06:14	06:42	08:07 (15)	06:11		06:45	14:07 (19)	07:08	14:21 (19)
	20:07	19:30	18:41	45 08:52 (15)	16:57		16:30	43 14:50 (19)	16:34	42 15:03 (19)
28	05:47	06:15	06:42	08:07 (15)	06:12		06:46	14:07 (19)	07:08	14:21 (19)
	20:07	19:28	18:39	44 08:51 (15)	16:56		16:30	43 14:50 (19)	16:35	42 15:03 (19)
29	05:48	06:15	06:43	08:07 (15)	06:13		06:47	14:08 (19)	07:08	14:21 (19)
	20:06	19:27	18:38	43 08:50 (15)	16:54		16:29	43 14:51 (19)	16:36	42 15:03 (19)
30	05:48	06:16	06:44	08:07 (15)	06:14		06:48	14:09 (19)	07:09	14:21 (19)
	20:05	19:25	18:36	43 08:50 (15)	16:53		16:29	43 14:52 (19)	16:36	43 15:04 (19)
31	05:49	06:17		06:15					07:09	14:21 (19)
	20:04	19:24		16:52					16:37	43 15:04 (19)
Potential sun hours	453	424	374	347		303		294		
Total, worst case			797		591		692		1323	
Sun reduction			0,63		0,53		0,50		0,43	
Oper. time red.			0,34		0,34		0,34		0,34	
Wind dir. red.			0,96		0,95		0,64		0,64	
Total reduction			0,21		0,17		0,11		0,09	
Total, real			165		102		75		125	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BS - R31 CU3

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June			
1	07:09	08:29 (15)	06:59	09:56 (14)	06:24	09:31 (14)	06:37	05:54	05:27
	16:37	34 09:03 (15)	17:09	32 10:28 (14)	17:42	74 10:45 (14)	19:13	19:42	20:09
2	07:09	08:29 (15)	06:58	09:54 (14)	06:23	09:32 (14)	06:35	05:52	05:27
	16:38	34 09:03 (15)	17:10	37 10:31 (14)	17:43	72 10:44 (14)	19:14	19:43	20:10
3	07:09	08:30 (15)	06:57	09:52 (14)	06:21	09:31 (14)	06:33	05:51	05:26
	16:39	33 09:03 (15)	17:12	41 10:33 (14)	17:44	71 10:42 (14)	19:15	19:44	20:11
4	07:09	08:30 (15)	06:56	09:50 (14)	06:20	09:32 (14)	06:32	05:50	05:26
	16:40	33 09:03 (15)	17:13	45 10:35 (14)	17:45	69 10:41 (14)	19:16	19:45	20:11
5	07:10	08:31 (15)	06:55	09:48 (14)	06:19	09:32 (14)	06:30	05:49	05:26
	16:41	33 09:04 (15)	17:14	49 10:37 (14)	17:46	67 10:39 (14)	19:17	19:46	20:12
6	07:10	08:31 (15)	06:54	09:47 (14)	06:17	09:32 (14)	06:29	05:48	05:25
	16:41	33 09:04 (15)	17:15	51 10:38 (14)	17:47	66 10:38 (14)	19:18	19:47	20:13
7	07:10	08:32 (15)	06:53	09:45 (14)	06:16	09:32 (14)	06:27	05:47	05:25
	16:42	32 09:04 (15)	17:16	55 10:40 (14)	17:48	64 10:36 (14)	19:19	19:48	20:13
8	07:10	08:32 (15)	06:52	09:44 (14)	06:14	09:32 (14)	06:26	05:46	05:25
	16:43	32 09:04 (15)	17:17	57 10:41 (14)	17:49	61 10:33 (14)	19:20	19:49	20:14
9	07:10	08:32 (15)	06:51	09:42 (14)	06:13	09:33 (14)	06:24	05:44	05:25
	16:44	32 09:04 (15)	17:19	60 10:42 (14)	17:50	58 10:31 (14)	19:21	19:50	20:14
10	07:09	08:33 (15)	06:50	09:41 (14)	06:11	09:33 (14)	06:23	05:43	05:24
	16:45	31 09:04 (15)	17:20	62 10:43 (14)	17:51	55 10:28 (14)	19:22	19:51	20:15
11	07:09	08:34 (15)	06:49	09:40 (14)	06:09	09:35 (14)	06:21	05:42	05:24
	16:46	31 09:05 (15)	17:21	64 10:44 (14)	17:52	51 10:26 (14)	19:23	19:52	20:16
12	07:09	08:35 (15)	06:48	09:40 (14)	06:08	09:35 (14)	06:20	05:41	05:24
	16:47	30 09:05 (15)	17:22	65 10:45 (14)	17:53	48 10:23 (14)	19:24	19:53	20:16
13	07:09	08:35 (15)	06:47	09:39 (14)	06:06	09:37 (14)	06:18	05:40	05:24
	16:48	29 09:04 (15)	17:23	67 10:46 (14)	17:54	43 10:20 (14)	19:25	19:54	20:16
14	07:09	08:36 (15)	06:45	09:38 (14)	06:05	09:38 (14)	06:17	05:39	05:24
	16:49	28 09:04 (15)	17:24	69 10:47 (14)	17:55	38 10:16 (14)	19:26	19:54	20:17
15	07:08	08:38 (15)	06:44	09:37 (14)	06:03	09:40 (14)	06:15	05:39	05:24
	16:50	26 09:04 (15)	17:25	70 10:47 (14)	17:56	33 10:13 (14)	19:27	19:55	20:17
16	07:08	08:38 (15)	06:43	09:36 (14)	06:02	09:43 (14)	06:14	05:38	05:24
	16:51	25 09:03 (15)	17:27	72 10:48 (14)	17:57	25 10:08 (14)	19:28	19:56	20:18
17	07:08	08:39 (15)	06:42	09:36 (14)	06:00	09:46 (14)	06:12	05:37	05:24
	16:52	24 09:03 (15)	17:28	72 10:48 (14)	17:58	15 10:01 (14)	19:29	19:57	20:18
18	07:07	08:40 (15)	06:41	09:36 (14)	05:59		06:11	05:36	05:24
	16:53	22 09:02 (15)	17:29	73 10:49 (14)	17:59		19:29	19:58	20:18
19	07:07	08:42 (15)	06:39	09:34 (14)	05:57		06:10	05:35	05:24
	16:54	20 09:02 (15)	17:30	75 10:49 (14)	18:00		19:30	19:59	20:19
20	07:06	08:43 (15)	06:38	09:34 (14)	05:55		06:08	05:34	05:24
	16:56	17 09:00 (15)	17:31	75 10:49 (14)	18:01		19:31	20:00	20:19
21	07:06	08:45 (15)	06:37	09:34 (14)	05:54		06:07	05:34	05:25
	16:57	15 09:00 (15)	17:32	75 10:49 (14)	18:02		19:32	20:01	20:19
22	07:05	08:48 (15)	06:35	09:33 (14)	05:52		06:05	05:33	05:25
	16:58	9 08:57 (15)	17:33	76 10:49 (14)	18:03		19:33	20:02	20:19
23	07:05		06:34	09:33 (14)	05:51		06:04	05:32	05:25
	16:59		17:34	76 10:49 (14)	18:04		19:34	20:02	20:20
24	07:04		06:33	09:33 (14)	05:49		06:03	05:31	05:25
	17:00		17:35	76 10:49 (14)	18:05		19:35	20:03	20:20
25	07:04		06:31	09:32 (14)	05:48		06:01	05:31	05:26
	17:01		17:37	76 10:48 (14)	18:06		19:36	20:04	20:20
26	07:03		06:30	09:32 (14)	05:46		06:00	05:30	05:26
	17:02		17:38	76 10:48 (14)	18:07		19:37	20:05	20:20
27	07:02		06:29	09:31 (14)	05:44		05:59	05:30	05:26
	17:03		17:39	76 10:47 (14)	18:08		19:38	20:06	20:20
28	07:02		06:27	09:32 (14)	05:43		05:57	05:29	05:27
	17:05		17:40	74 10:46 (14)	18:09		19:39	20:06	20:20
29	07:01	10:09 (14)	06:26	09:31 (14)	05:41		05:56	05:28	05:27
	17:06	4 10:13 (14)	17:41	74 10:45 (14)	18:10		19:40	20:07	20:20
30	07:00	10:02 (14)			05:40		05:55	05:28	05:27
	17:07	19 10:21 (14)			18:11		19:41	20:08	20:20
31	06:59	09:58 (14)			06:38			05:27	
	17:08	26 10:24 (14)			19:12			20:09	
Potential sun hours	302		310		370		396	443	446
Total, worst case	652		1870		910				
Sun reduction	0,43		0,43		0,47				
Oper. time red.	0,34		0,34		0,34				
Wind dir. red.	0,70		0,60		0,60				
Total reduction	0,10		0,09		0,10				
Total, real	66		165		87				

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BS - R31 CU3

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December			
1	05:28	05:50	06:18	06:45	10:16 (14)	06:17	09:10 (14)	06:49	08:17 (15)
	20:20	20:03	19:22	18:35	11:01 (14)	16:51	10:14 (14)	16:29	08:47 (15)
2	05:28	05:51	06:19	06:46	10:14 (14)	06:18	09:11 (14)	06:50	08:17 (15)
	20:20	20:02	19:21	18:33	11:04 (14)	16:50	10:13 (14)	16:28	08:48 (15)
3	05:29	05:52	06:20	06:47	10:13 (14)	06:19	09:12 (14)	06:51	08:17 (15)
	20:20	20:01	19:19	18:31	11:06 (14)	16:49	10:12 (14)	16:28	08:48 (15)
4	05:29	05:53	06:21	06:48	10:11 (14)	06:20	09:13 (14)	06:52	08:18 (15)
	20:20	20:00	19:18	18:30	11:08 (14)	16:47	10:10 (14)	16:28	08:49 (15)
5	05:30	05:54	06:22	06:49	10:10 (14)	06:21	09:15 (14)	06:53	08:18 (15)
	20:19	19:59	19:16	18:28	11:10 (14)	16:46	10:10 (14)	16:28	08:50 (15)
6	05:30	05:55	06:23	06:50	10:09 (14)	06:22	09:17 (14)	06:54	08:18 (15)
	20:19	19:57	19:15	18:27	11:11 (14)	16:45	10:08 (14)	16:28	08:50 (15)
7	05:31	05:55	06:24	06:51	10:08 (14)	06:23	09:18 (14)	06:55	08:17 (15)
	20:19	19:56	19:13	18:25	11:13 (14)	16:44	10:07 (14)	16:28	08:50 (15)
8	05:32	05:56	06:24	06:52	10:08 (14)	06:24	09:20 (14)	06:56	08:18 (15)
	20:19	19:55	19:11	18:24	11:14 (14)	16:43	10:05 (14)	16:28	08:51 (15)
9	05:32	05:57	06:25	06:53	10:07 (14)	06:25	09:22 (14)	06:57	08:18 (15)
	20:18	19:54	19:10	18:22	11:15 (14)	16:42	10:03 (14)	16:28	08:51 (15)
10	05:33	05:58	06:26	06:54	10:06 (14)	06:27	09:25 (14)	06:57	08:19 (15)
	20:18	19:53	19:08	18:21	11:16 (14)	16:41	10:02 (14)	16:28	08:52 (15)
11	05:33	05:59	06:27	06:55	10:06 (14)	06:28	09:27 (14)	06:58	08:19 (15)
	20:18	19:52	19:07	18:19	11:17 (14)	16:40	09:59 (14)	16:28	08:53 (15)
12	05:34	06:00	06:28	06:56	10:05 (14)	06:29	09:30 (14)	06:59	08:20 (15)
	20:17	19:50	19:05	18:18	11:18 (14)	16:40	09:56 (14)	16:28	08:54 (15)
13	05:35	06:01	06:29	06:57	10:05 (14)	06:30	09:34 (14)	07:00	08:20 (15)
	20:17	19:49	19:04	18:16	11:18 (14)	16:39	09:53 (14)	16:28	08:53 (15)
14	05:36	06:02	06:30	06:58	10:04 (14)	06:31	09:41 (14)	07:01	08:20 (15)
	20:16	19:48	19:02	18:15	11:19 (14)	16:38	09:45 (14)	16:28	08:54 (15)
15	05:36	06:03	06:31	06:59	10:04 (14)	06:32		07:01	08:21 (15)
	20:16	19:47	19:00	18:13	11:19 (14)	16:37		16:29	08:55 (15)
16	05:37	06:04	06:32	07:00	10:04 (14)	06:33		07:02	08:21 (15)
	20:15	19:45	18:59	18:12	11:20 (14)	16:36		16:29	08:55 (15)
17	05:38	06:05	06:33	07:01	10:04 (14)	06:34		07:03	08:22 (15)
	20:15	19:44	18:57	18:10	11:20 (14)	16:36		16:29	08:56 (15)
18	05:38	06:06	06:33	07:02	10:04 (14)	06:35		07:03	08:22 (15)
	20:14	19:43	18:55	18:09	11:20 (14)	16:35		16:30	08:56 (15)
19	05:39	06:06	06:34	07:03	10:04 (14)	06:36		07:04	08:22 (15)
	20:13	19:41	18:54	18:08	11:20 (14)	16:34		16:30	08:56 (15)
20	05:40	06:07	06:35	07:04	10:04 (14)	06:38		07:05	08:23 (15)
	20:13	19:40	18:52	18:06	11:20 (14)	16:34		16:30	08:57 (15)
21	05:41	06:08	06:36	07:05	10:04 (14)	06:39	08:24 (15)	07:05	08:23 (15)
	20:12	19:38	18:51	18:05	11:19 (14)	16:33	08:33 (15)	16:31	08:57 (15)
22	05:42	06:09	06:37	07:06	10:04 (14)	06:40	08:22 (15)	07:06	08:24 (15)
	20:11	19:37	18:49	18:03	11:19 (14)	16:32	08:35 (15)	16:31	08:58 (15)
23	05:42	06:10	06:38	07:07	10:04 (14)	06:41	08:20 (15)	07:06	08:24 (15)
	20:11	19:36	18:47	18:02	11:19 (14)	16:32	08:37 (15)	16:32	08:58 (15)
24	05:43	06:11	06:39	07:08	10:05 (14)	06:42	08:19 (15)	07:07	08:25 (15)
	20:10	19:34	18:46	18:01	11:19 (14)	16:31	08:39 (15)	16:32	08:59 (15)
25	05:44	06:12	06:40	07:09	10:05 (14)	06:43	08:18 (15)	07:07	08:25 (15)
	20:09	19:33	18:44	17:59	11:19 (14)	16:31	08:40 (15)	16:33	08:59 (15)
26	05:45	06:13	06:41	07:10	10:06 (14)	06:44	08:18 (15)	07:07	08:26 (15)
	20:08	19:31	18:43	8 10:40 (14)	17:58	72	11:18 (14)	16:30	08:41 (15)
27	05:46	06:14	06:42	07:11	10:26 (14)	06:45	08:17 (15)	07:08	08:27 (15)
	20:07	19:30	18:41	21 10:47 (14)	16:57	71	10:17 (14)	16:30	08:42 (15)
28	05:47	06:15	06:43	07:12	10:22 (14)	06:46	08:17 (15)	07:08	08:27 (15)
	20:07	19:28	18:39	30 10:52 (14)	16:56	70	10:17 (14)	16:30	08:43 (15)
29	05:47	06:15	06:43	07:13	10:19 (14)	06:47	08:17 (15)	07:08	08:27 (15)
	20:06	19:27	18:38	37 10:56 (14)	16:54	69	10:16 (14)	16:29	08:45 (15)
30	05:48	06:16	06:44	07:14	10:17 (14)	06:48	08:17 (15)	07:09	08:27 (15)
	20:05	19:25	18:36	42 10:59 (14)	16:53	67	10:15 (14)	16:29	08:46 (15)
31	05:49	06:17		06:15	09:10 (14)			07:09	08:28 (15)
	20:04	19:24		16:52	65 10:15 (14)			16:37	09:02 (15)
Potential sun hours	453	424	374	347		303		294	
Total, worst case			138		2130		814		1032
Sun reduction			0,63		0,53		0,50		0,43
Oper. time red.			0,34		0,34		0,34		0,34
Wind dir. red.			0,60		0,60		0,63		0,71
Total reduction			0,13		0,11		0,11		0,10
Total, real			18		231		87		108

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BT - R32 CU5

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June	
1	07:09 16:37	06:59 17:09	06:24 17:42	06:37 19:13	05:54 19:42	07:35 (16) 08:25 (16) 20:09 23	
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	05:52 19:43	07:35 (16) 08:23 (16) 20:10 22	
3	07:09 16:39	06:57 17:12	06:21 17:44	7 07:02 (17) 07:09 (17)	06:33 19:15	05:51 19:44	07:35 (16) 08:23 (16) 20:11 22
4	07:09 16:40	06:56 17:13	06:20 17:45	13 07:12 (17) 07:13 (17)	06:32 19:16	05:50 19:45	07:35 (16) 08:22 (16) 20:11 21
5	07:09 16:41	06:55 17:14	06:19 17:46	16 07:13 (17) 07:14 (17)	06:30 19:17	05:49 19:46	07:36 (16) 08:21 (16) 20:12 20
6	07:10 16:41	06:54 17:15	06:17 17:47	19 07:15 (17) 07:15 (17)	06:29 19:18	05:48 19:47	07:36 (16) 08:21 (16) 20:13 19
7	07:10 16:42	06:53 17:16	06:16 17:48	20 07:15 (17) 07:15 (17)	06:27 19:19	05:47 19:48	07:37 (16) 08:20 (16) 20:13 19
8	07:10 16:43	06:52 17:17	06:14 17:49	22 07:15 (17) 07:15 (17)	06:26 19:20	05:46 19:49	07:38 (16) 08:19 (16) 20:14 18
9	07:09 16:44	06:51 17:19	06:13 17:50	22 07:15 (17) 07:15 (17)	06:24 19:21	05:44 19:50	07:38 (16) 08:18 (16) 20:14 17
10	07:09 16:45	06:50 17:20	06:11 17:51	21 07:14 (17) 07:14 (17)	06:23 19:22	05:43 19:51	07:39 (16) 08:17 (16) 20:15 17
11	07:09 16:46	06:49 17:21	06:09 17:52	21 07:14 (17) 07:14 (17)	06:21 19:23	05:42 19:52	07:40 (16) 08:16 (16) 20:15 16
12	07:09 16:47	06:48 17:22	06:08 17:53	20 07:13 (17) 07:13 (17)	06:20 19:24	05:41 19:53	06:27 (20) 08:15 (16) 20:16 16
13	07:09 16:48	06:47 17:23	06:06 17:54	19 07:13 (17) 07:13 (17)	06:18 19:25	05:40 19:53	06:24 (20) 08:13 (16) 20:16 15
14	07:09 16:49	06:45 17:24	06:05 17:55	17 07:11 (17) 07:11 (17)	06:17 19:26	05:39 19:54	06:23 (20) 08:12 (16) 20:17 14
15	07:08 16:50	06:44 17:25	06:03 17:56	14 07:10 (17) 07:10 (17)	06:15 19:27	05:39 19:55	06:22 (20) 08:10 (16) 20:17 14
16	07:08 16:51	06:43 17:27	06:02 17:57	8 07:06 (17) 07:06 (17)	06:14 19:28	05:38 19:56	06:22 (20) 08:10 (16) 20:18 14
17	07:08 16:52	06:42 17:28	06:00 17:58	06:12 19:28	06:12 19:28	05:37 19:57	06:21 (20) 08:07 (16) 20:18 13
18	07:07 16:53	06:41 17:29	05:59 17:59	06:11 19:29	06:11 19:29	05:36 19:58	06:20 (20) 08:05 (16) 20:18 13
19	07:07 16:55	06:39 17:30	05:57 18:00	06:10 19:30	06:10 19:30	05:35 19:59	06:19 (20) 08:01 (16) 20:19 13
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	06:08 19:31	05:34 20:00	06:20 (20) 06:44 (20) 20:19 13
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	06:07 19:32	05:34 20:01	06:19 (20) 06:44 (20) 20:19 13
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	06:05 19:33	05:33 20:02	06:19 (20) 06:44 (20) 20:19 13
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	06:04 19:34	05:32 20:02	06:19 (20) 06:44 (20) 20:20 13
24	07:04 17:00	06:33 17:36	05:49 18:05	06:03 19:35	06:03 19:35	05:31 20:03	06:19 (20) 06:44 (20) 20:20 13
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	06:01 19:36	05:31 20:04	06:19 (20) 06:44 (20) 20:20 13
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	06:00 19:37	05:30 20:05	06:19 (20) 06:44 (20) 20:20 13
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	05:59 19:38	05:30 20:06	06:19 (20) 06:44 (20) 20:20 14
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	05:57 19:39	05:29 20:06	06:20 (20) 06:44 (20) 20:20 14
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	05:56 19:40	05:28 20:07	06:19 (20) 06:44 (20) 20:20 15
30	07:00 17:07	06:25 18:11	05:40 18:11	05:55 19:41	05:55 19:41	05:28 20:08	06:20 (20) 06:44 (20) 20:20 15
31	07:00 17:08	06:24 19:12	05:39 19:12	05:54 19:42	05:54 19:42	05:27 20:09	06:21 (20) 06:44 (20) 20:20 15
Potential sun hours	302	310	370	396	443	446	475
Total, worst case			239	986	1106	745	
Sun reduction			0,47	0,51	0,57	0,62	
Oper. time red.			0,34	0,34	0,34	0,34	
Wind dir. red.			0,98	1,00	0,98	0,94	
Total reduction			0,16	0,17	0,19	0,20	
Total, real			37	172	209	95	

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BT - R32 CU5

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time		
0	1	Sum
1.500	1.500	3.000

	July	August	September	October	November	December				
1	05:28 20:20	06:30 (20) 20:03	05:50 20:03	06:39 (20) 19:22	06:18 19:22	07:49 (16) 18:35	06:45 18:35	07:33 (17) 16:51	06:17 16:29	06:49 16:29
2	05:28 20:20	06:31 (20) 20:02	05:51 20:02	07:50 (16) 19:21	06:19 19:21	07:51 (16) 18:33	06:46 18:33	07:32 (17) 16:50	06:18 16:28	06:50 16:28
3	05:29 20:20	06:30 (20) 20:01	05:52 20:01	07:48 (16) 19:19	06:20 19:19	07:54 (16) 18:31	06:47 18:31	07:31 (17) 16:49	06:19 16:28	06:51 16:28
4	05:29 20:20	06:30 (20) 20:00	05:53 20:00	07:48 (16) 19:18	06:21 19:18	07:58 (16) 18:30	06:48 18:30	07:31 (17) 16:47	06:20 16:28	06:52 16:28
5	05:30 20:19	06:30 (20) 19:59	05:54 19:59	07:47 (16) 19:16	06:22 19:16	07:45 (16) 18:28	06:49 18:28	07:31 (17) 16:46	06:21 16:28	06:53 16:28
6	05:30 20:19	06:30 (20) 19:57	05:55 19:57	07:46 (16) 19:15	06:23 19:15	07:45 (16) 18:27	06:50 18:27	07:31 (17) 16:45	06:22 16:28	06:54 16:28
7	05:31 20:19	06:29 (20) 19:56	05:56 19:56	07:46 (16) 19:13	06:24 19:13	07:45 (16) 18:25	06:51 18:25	07:31 (17) 16:44	06:23 16:28	06:55 16:28
8	05:32 20:19	06:29 (20) 19:55	05:56 19:55	07:45 (16) 19:11	06:24 19:11	07:45 (16) 18:24	06:52 18:24	07:31 (17) 16:43	06:24 16:28	06:56 16:28
9	05:32 20:18	06:29 (20) 19:54	05:57 19:54	07:45 (16) 19:10	06:25 19:10	07:44 (16) 18:22	06:53 18:22	07:32 (17) 16:42	06:25 16:28	06:57 16:28
10	05:33 20:18	06:29 (20) 19:53	05:58 19:53	07:44 (16) 19:08	06:26 19:08	07:44 (16) 18:21	06:54 18:21	07:35 (17) 16:41	06:26 16:28	06:57 16:28
11	05:34 20:18	06:29 (20) 19:52	05:59 19:52	07:43 (16) 19:07	06:27 19:07	07:43 (16) 18:19	06:55 18:19	07:46 (17) 16:41	06:28 16:28	06:58 16:28
12	05:34 20:17	06:28 (20) 19:50	06:00 19:50	07:43 (16) 19:05	06:28 19:05	07:43 (16) 18:18	06:56 18:18	07:47 (17) 16:40	06:29 16:28	06:59 16:28
13	05:35 20:17	06:29 (20) 19:49	06:01 19:49	07:43 (16) 19:04	06:29 19:04	07:43 (16) 18:16	06:57 18:16	07:47 (17) 16:39	06:30 16:28	07:00 16:28
14	05:36 20:16	06:29 (20) 19:48	06:02 19:48	07:43 (16) 19:02	06:30 19:02	07:43 (16) 18:15	06:58 18:15	07:47 (17) 16:38	06:31 16:29	07:01 16:29
15	05:36 20:16	06:28 (20) 19:47	06:03 19:47	07:42 (16) 19:00	06:31 19:00	07:42 (16) 18:13	06:59 18:13	07:47 (17) 16:37	06:32 16:29	07:01 16:29
16	05:37 20:15	06:28 (20) 19:45	06:04 19:45	07:42 (16) 18:59	06:32 18:59	07:42 (16) 18:12	07:00 18:12	07:47 (17) 16:36	06:33 16:29	07:02 16:29
17	05:38 20:15	06:29 (20) 19:44	06:05 19:44	07:41 (16) 18:57	06:33 18:57	07:41 (16) 18:10	07:01 18:10	07:47 (17) 16:35	06:34 16:29	07:03 16:29
18	05:39 20:14	06:29 (20) 19:43	06:06 19:43	07:41 (16) 18:55	06:33 18:55	07:41 (16) 18:09	07:02 18:09	07:47 (17) 16:34	06:35 16:30	07:03 16:30
19	05:39 20:13	06:28 (20) 19:41	06:06 19:41	07:41 (16) 18:54	06:34 18:54	07:41 (16) 18:08	07:03 18:08	07:47 (17) 16:33	06:36 16:30	07:04 16:30
20	05:40 20:13	06:29 (20) 19:40	06:07 19:40	07:42 (16) 18:52	06:35 18:52	07:42 (16) 18:06	07:04 18:06	07:47 (17) 16:32	06:38 16:30	07:04 16:30
21	05:41 20:12	06:29 (20) 19:38	06:08 19:38	07:42 (16) 18:51	06:36 18:51	07:42 (16) 18:05	07:05 18:05	07:47 (17) 16:31	06:39 16:31	07:05 16:31
22	05:42 20:11	06:30 (20) 19:37	06:09 19:37	07:42 (16) 18:49	06:37 18:49	07:42 (16) 18:03	07:06 18:03	07:47 (17) 16:30	06:40 16:31	07:06 16:31
23	05:42 20:11	06:29 (20) 19:36	06:10 19:36	07:42 (16) 18:47	06:38 18:47	07:42 (16) 18:02	07:07 18:02	07:47 (17) 16:29	06:41 16:32	07:06 16:32
24	05:43 20:10	06:30 (20) 19:34	06:11 19:34	07:43 (16) 18:46	06:39 18:46	07:43 (16) 18:01	07:08 18:01	07:47 (17) 16:28	06:42 16:32	07:07 16:32
25	05:44 20:09	06:30 (20) 19:33	06:12 19:33	07:42 (16) 18:44	06:40 18:44	07:42 (16) 17:59	07:09 17:59	07:47 (17) 16:27	06:43 16:33	07:07 16:33
26	05:45 20:08	06:31 (20) 19:31	06:13 19:31	07:43 (16) 18:43	06:41 18:43	07:43 (16) 17:58	07:10 17:58	07:47 (17) 16:26	06:44 16:34	07:07 16:34
27	05:46 20:07	06:32 (20) 19:30	06:14 19:30	07:44 (16) 18:41	06:42 18:41	07:44 (16) 17:57	07:11 17:57	07:47 (17) 16:25	06:45 16:34	07:08 16:34
28	05:47 20:06	06:32 (20) 19:28	06:15 19:28	07:45 (16) 18:39	06:43 18:39	07:45 (16) 17:56	07:12 17:56	07:47 (17) 16:24	06:46 16:35	07:08 16:35
29	05:48 20:06	06:33 (20) 19:27	06:15 19:27	07:46 (16) 18:38	06:43 18:38	07:46 (16) 17:55	07:13 17:55	07:47 (17) 16:23	06:47 16:36	07:08 16:36
30	05:48 20:05	06:34 (20) 19:25	06:16 19:25	07:47 (16) 18:36	06:44 18:36	07:47 (16) 17:54	07:14 17:54	07:47 (17) 16:22	06:48 16:37	07:09 16:37
31	05:49 20:04	06:36 (20) 19:24	06:17 19:24	07:47 (16) 18:35	06:45 18:35	07:47 (16) 17:53	07:15 17:53	07:47 (17) 16:21	06:49 16:38	07:09 16:38
Potential sun hours	453	424	374	347	303	294				
Total, worst case	822	1425	142	191						
Sun reduction	0,68	0,69	0,63	0,53						
Oper. time red.	0,34	0,34	0,34	0,34						
Wind dir. red.	0,95	1,00	0,99	0,98						
Total reduction	0,22	0,24	0,22	0,18						
Total, real	183	338	31	34						

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BU - R33 CU5

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

Table with columns for months (January to December) and rows for each day of the year (1 to 31), showing sunrise and sunset times and shadow reduction data.

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)



Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BV - R34 CU5

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

Table with 12 columns for months (January to December) and rows for each day of the year (1-31). Columns contain sun rise/set times, minutes with flicker, and first/last times with flicker. Summary rows at the bottom show total sun hours, reduction, and real total for each month.

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

Matrix with 2 rows: 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)

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BW - R35 CU5

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

Table with 12 columns for months (January to December) and 31 rows for days. Each cell contains a time range (e.g., 07:09-06:58) and a number representing shadow duration. Summary rows at the bottom show 'Potential sun hours', 'Total, worst case', 'Sun reduction', 'Oper. time red.', 'Wind dir. red.', 'Total reduction', and 'Total, real'.

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)

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BX - R36 CU5

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:37	06:58 17:09	06:24 17:42	06:37 19:13	05:54 19:42	07:14 (17) 20:09
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	05:52 19:43	07:14 (17) 20:10
3	07:09 16:39	06:57 17:12	06:21 17:44	06:33 19:15	05:51 19:44	07:16 (17) 20:11
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	07:18 (17) 20:11
5	07:09 16:41	06:55 17:14	06:18 17:46	06:30 19:17	05:49 19:46	06:32 (18) 20:12
6	07:09 16:41	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	06:30 (18) 20:13
7	07:10 16:42	06:53 17:16	06:16 17:48	06:27 19:19	05:47 19:48	06:28 (18) 20:13
8	07:09 16:43	06:52 17:17	06:14 17:49	06:26 19:20	05:46 19:49	06:27 (18) 20:14
9	07:09 16:44	06:51 17:19	06:12 17:50	06:24 19:21	05:44 19:50	06:26 (18) 20:14
10	07:09 16:45	06:50 17:20	06:11 17:51	06:23 19:22	07:26 (17) 05:43 19:51	06:25 (18) 20:15
11	07:09 16:46	06:49 17:21	06:09 17:52	06:21 19:23	07:22 (17) 05:42 19:52	06:24 (18) 20:15
12	07:09 16:47	06:48 17:22	06:08 17:53	06:20 19:24	07:20 (17) 05:41 19:53	06:24 (18) 20:16
13	07:09 16:48	06:46 17:23	06:06 17:54	06:18 19:25	07:17 (17) 05:40 19:53	06:23 (18) 20:16
14	07:09 16:49	06:45 17:24	06:05 17:55	06:17 19:26	07:16 (17) 05:39 19:54	06:23 (18) 20:17
15	07:08 16:50	06:44 17:25	06:03 17:56	06:15 19:27	07:14 (17) 05:39 19:55	06:23 (18) 20:17
16	07:08 16:51	06:43 17:27	06:02 17:57	06:14 19:27	07:13 (17) 05:38 19:56	06:24 (18) 20:18
17	07:08 16:52	06:42 17:28	06:00 17:58	06:12 19:28	07:13 (17) 05:37 19:57	06:24 (18) 20:18
18	07:07 16:53	06:40 17:29	05:59 17:59	06:11 19:29	07:11 (17) 05:36 19:58	06:24 (18) 20:18
19	07:07 16:54	06:39 17:30	05:57 18:00	06:10 19:30	07:11 (17) 05:35 19:59	06:24 (18) 20:19
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	07:10 (17) 05:34 20:00	06:25 (18) 20:19
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	07:10 (17) 05:34 20:01	06:25 (18) 20:19
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	07:10 (17) 05:33 20:01	06:25 (18) 20:19
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	07:09 (17) 05:32 20:02	06:26 (18) 20:20
24	07:04 17:00	06:33 17:35	05:49 18:05	06:03 19:35	07:10 (17) 05:31 20:03	06:27 (18) 20:20
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	07:10 (17) 05:31 20:04	06:27 (18) 20:20
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	07:10 (17) 05:30 20:05	06:29 (18) 20:20
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	07:10 (17) 05:30 20:06	06:29 (18) 20:20
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	07:11 (17) 05:29 20:06	06:31 (18) 20:20
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	07:12 (17) 05:28 20:07	06:33 (18) 20:20
30	07:00 17:07		05:40 18:11	05:55 19:41	07:12 (17) 05:28 20:08	05:27 20:20
31	06:59 17:08		06:38 19:12		05:27 20:09	
Potential sun hours	302	310	370	396	443	446
Total, worst case				621		534
Sun reduction				0,51		0,57
Oper. time red.				0,34		0,34
Wind dir. red.				1,00		0,96
Total reduction				0,17		0,19
Total, real				108		99

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BX - R36 CU5

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December		
1	05:28	05:50	06:35 (18)	06:18	07:21 (17)	06:45	06:17	06:49
	20:20	20:03	06:57 (18)	19:22	07:38 (17)	18:35	16:51	16:29
2	05:28	05:51	06:35 (18)	06:19	07:24 (17)	06:46	06:18	06:50
	20:20	20:02	06:57 (18)	19:21	07:34 (17)	18:33	16:50	16:28
3	05:29	05:52	06:35 (18)	06:20		06:47	06:19	06:51
	20:20	20:01	06:55 (18)	19:19		18:31	16:49	16:28
4	05:29	05:53	06:36 (18)	06:21		06:48	06:20	06:52
	20:20	20:00	06:54 (18)	19:18		18:30	16:47	16:28
5	05:30	05:54	06:37 (18)	06:22		06:49	06:21	06:53
	20:19	19:58	06:54 (18)	19:16		18:28	16:46	16:28
6	05:30	05:55	06:38 (18)	06:23		06:50	06:22	06:54
	20:19	19:57	06:52 (18)	19:15		18:27	16:45	16:28
7	05:31	05:56	06:40 (18)	06:24		06:51	06:23	06:55
	20:19	19:56	06:51 (18)	19:13		18:25	16:44	16:28
8	05:32	05:56	06:43 (18)	06:24		06:52	06:24	06:56
	20:19	19:55	07:40 (17)	19:11		18:24	16:43	16:28
9	05:32	05:57	07:27 (17)	06:25		06:53	06:25	06:57
	20:18	19:54	07:43 (17)	19:10		18:22	16:42	16:28
10	05:33	05:58	07:24 (17)	06:26		06:54	06:26	06:57
	20:18	19:53	07:44 (17)	19:08		18:21	16:41	16:28
11	05:34	05:59	07:22 (17)	06:27		06:55	06:28	06:58
	20:18	19:52	07:45 (17)	19:07		18:19	16:40	16:28
12	05:34	06:00	07:21 (17)	06:28		06:56	06:29	06:59
	20:17	19:50	07:46 (17)	19:05		18:18	16:40	16:28
13	05:35	06:01	07:20 (17)	06:29		06:57	06:30	07:00
	20:17	19:49	07:47 (17)	19:03		18:16	16:39	16:28
14	05:36	06:02	07:19 (17)	06:30		06:58	06:31	07:00
	20:16	19:48	07:48 (17)	19:02		18:15	16:38	16:29
15	05:36	06:41 (18)	06:03	07:18 (17)	06:31	06:59	06:32	07:01
	20:16	06:48 (18)	19:46	07:49 (17)	19:00	18:13	16:37	16:29
16	05:37	06:39 (18)	06:04	07:18 (17)	06:32	07:00	06:33	07:02
	20:15	06:50 (18)	19:45	07:50 (17)	18:59	18:12	16:36	16:29
17	05:38	06:39 (18)	06:05	07:16 (17)	06:33	07:01	06:34	07:03
	20:15	06:52 (18)	19:44	07:49 (17)	18:57	18:10	16:36	16:29
18	05:39	06:38 (18)	06:06	07:16 (17)	06:33	07:02	06:35	07:03
	20:14	06:53 (18)	19:43	07:49 (17)	18:55	18:09	16:35	16:30
19	05:39	06:37 (18)	06:06	07:15 (17)	06:34	07:03	06:36	07:04
	20:13	06:53 (18)	19:41	07:50 (17)	18:54	18:08	16:34	16:30
20	05:40	06:36 (18)	06:07	07:15 (17)	06:35	07:04	06:38	07:04
	20:13	06:54 (18)	19:40	07:50 (17)	18:52	18:06	16:34	16:30
21	05:41	06:36 (18)	06:08	07:15 (17)	06:36	07:05	06:39	07:05
	20:12	06:55 (18)	19:38	07:50 (17)	18:51	18:05	16:33	16:31
22	05:42	06:36 (18)	06:09	07:15 (17)	06:37	07:06	06:40	07:05
	20:11	06:56 (18)	19:37	07:50 (17)	18:49	18:03	16:32	16:31
23	05:42	06:34 (18)	06:10	07:15 (17)	06:38	07:07	06:41	07:06
	20:11	06:56 (18)	19:36	07:50 (17)	18:47	18:02	16:32	16:32
24	05:43	06:34 (18)	06:11	07:14 (17)	06:39	07:08	06:42	07:06
	20:10	06:56 (18)	19:34	07:48 (17)	18:46	18:01	16:31	16:32
25	05:44	06:34 (18)	06:12	07:14 (17)	06:40	07:09	06:43	07:07
	20:09	06:57 (18)	19:33	07:48 (17)	18:44	17:59	16:31	16:33
26	05:45	06:34 (18)	06:13	07:15 (17)	06:41	07:10	06:44	07:07
	20:08	06:57 (18)	19:31	07:47 (17)	18:43	17:58	16:30	16:34
27	05:46	06:34 (18)	06:14	07:15 (17)	06:42	06:11	06:45	07:08
	20:07	06:58 (18)	19:30	07:47 (17)	18:41	16:57	16:30	16:34
28	05:47	06:33 (18)	06:15	07:16 (17)	06:42	06:12	06:46	07:08
	20:06	06:57 (18)	19:28	07:46 (17)	18:39	16:56	16:30	16:35
29	05:48	06:34 (18)	06:15	07:17 (17)	06:43	06:13	06:47	07:08
	20:06	06:57 (18)	19:27	07:44 (17)	18:38	16:54	16:29	16:36
30	05:48	06:34 (18)	06:16	07:18 (17)	06:44	06:14	06:48	07:09
	20:05	06:57 (18)	19:25	07:43 (17)	18:36	16:53	16:29	16:36
31	05:49	06:34 (18)	06:17	07:19 (17)		06:15		07:09
	20:04	06:57 (18)	19:24	07:40 (17)		16:52		16:37
Potential sun hours	453	424	374	347	303	294		
Total, worst case	326	818	27					
Sun reduction	0,68	0,69	0,63					
Oper. time red.	0,34	0,34	0,34					
Wind dir. red.	0,95	0,99	1,00					
Total reduction	0,22	0,23	0,22					
Total, real	73	192	6					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BY - R37 CU5

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:37	06:58 17:09	06:24 17:42	06:37 19:13	05:54 19:42	08:11 (17) 20:09
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	05:52 19:43	08:11 (17) 20:10
3	07:09 16:39	06:57 17:12	06:21 17:44	06:33 19:15	05:51 19:44	08:11 (17) 20:11
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	08:11 (17) 20:11
5	07:09 16:41	06:55 17:14	06:18 17:46	06:30 19:17	08:48 (17) 19:46	08:11 (17) 20:12
6	07:09 16:41	06:54 17:15	06:17 17:47	06:29 19:18	08:42 (17) 19:47	08:11 (17) 20:13
7	07:09 16:42	06:53 17:16	06:15 17:48	06:27 19:19	08:38 (17) 19:48	08:11 (17) 20:13
8	07:09 16:43	06:52 17:17	06:14 17:49	06:26 19:20	08:35 (17) 19:49	08:12 (17) 20:14
9	07:09 16:44	06:51 17:19	06:12 17:50	06:24 19:21	08:32 (17) 19:50	08:12 (17) 20:14
10	07:09 16:45	06:50 17:20	06:11 17:51	06:23 19:22	08:31 (17) 19:51	08:12 (17) 20:15
11	07:09 16:46	06:49 17:21	06:09 17:52	06:21 19:23	08:28 (17) 19:52	08:12 (17) 20:15
12	07:09 16:47	06:48 17:22	06:08 17:53	06:20 19:24	08:27 (17) 19:53	08:12 (17) 20:16
13	07:09 16:48	06:46 17:23	06:06 17:54	06:18 19:25	08:24 (17) 19:53	08:13 (17) 20:16
14	07:09 16:49	06:45 17:24	06:05 17:55	06:17 19:26	08:23 (17) 19:54	08:13 (17) 20:17
15	07:08 16:50	06:44 17:25	06:03 17:56	06:15 19:26	08:21 (17) 19:55	08:13 (17) 20:17
16	07:08 16:51	06:43 17:27	06:02 17:57	06:14 19:27	08:21 (17) 19:56	08:14 (17) 20:18
17	07:08 16:52	06:42 17:28	06:00 17:58	06:12 19:28	08:20 (17) 19:57	08:15 (17) 20:18
18	07:07 16:53	06:40 17:29	05:59 17:59	06:11 19:29	08:18 (17) 19:58	08:15 (17) 20:18
19	07:07 16:54	06:39 17:30	05:57 18:00	06:10 19:30	08:18 (17) 19:59	08:15 (17) 20:19
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	08:16 (17) 20:00	08:17 (17) 20:19
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	08:16 (17) 20:01	08:17 (17) 20:19
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	08:15 (17) 20:01	06:40 (18) 20:19
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	08:14 (17) 20:02	06:39 (18) 20:19
24	07:04 17:00	06:33 17:35	05:49 18:05	06:03 19:35	08:14 (17) 20:03	06:37 (18) 20:20
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	08:13 (17) 20:04	06:35 (18) 20:20
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	08:13 (17) 20:05	06:35 (18) 20:20
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	08:12 (17) 20:06	06:33 (18) 20:20
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	08:12 (17) 20:06	06:33 (18) 20:20
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	08:12 (17) 20:07	06:32 (18) 20:20
30	07:00 17:07		05:40 18:11	05:55 19:41	08:12 (17) 20:08	06:32 (18) 20:20
31	06:59 17:08		06:38 19:12		05:27 20:09	06:31 (18) 08:56 (17)
Potential sun hours	302	310	370	396	443	446
Total, worst case				1445	1841	1259
Sun reduction				0,51	0,57	0,62
Oper. time red.				0,34	0,34	0,34
Wind dir. red.				0,99	0,99	0,94
Total reduction				0,17	0,19	0,20
Total, real				250	353	254

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BY - R37 CU5

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
 1.500 1.500 3.000

	July	August	September	October	November	December			
1	05:28	06:35 (18)	05:50	08:23 (17)	06:18	08:27 (17)	06:45	06:16	06:49
	20:20	38 08:48 (17)	20:03	59 09:22 (17)	19:22	49 09:16 (17)	18:35	16:51	16:29
2	05:28	06:36 (18)	05:51	08:23 (17)	06:19	08:28 (17)	06:46	06:18	06:50
	20:20	43 08:51 (17)	20:02	59 09:22 (17)	19:21	46 09:14 (17)	18:33	16:50	16:28
3	05:29	06:36 (18)	05:52	08:22 (17)	06:20	08:30 (17)	06:47	06:19	06:51
	20:20	46 08:53 (17)	20:01	60 09:22 (17)	19:19	42 09:12 (17)	18:31	16:49	16:28
4	05:29	06:36 (18)	05:53	08:21 (17)	06:21	08:32 (17)	06:48	06:20	06:52
	20:19	50 08:55 (17)	20:00	62 09:23 (17)	19:18	38 09:10 (17)	18:30	16:47	16:28
5	05:30	06:36 (18)	05:54	08:21 (17)	06:22	08:35 (17)	06:49	06:21	06:53
	20:19	51 08:56 (17)	19:58	63 09:24 (17)	19:16	32 09:07 (17)	18:28	16:46	16:28
6	05:30	06:37 (18)	05:55	08:21 (17)	06:23	08:38 (17)	06:50	06:22	06:54
	20:19	52 08:57 (17)	19:57	63 09:24 (17)	19:15	26 09:04 (17)	18:27	16:45	16:28
7	05:31	06:37 (18)	05:55	08:21 (17)	06:24	08:42 (17)	06:51	06:23	06:55
	20:19	54 08:58 (17)	19:56	64 09:25 (17)	19:13	16 08:58 (17)	18:25	16:44	16:28
8	05:32	06:38 (18)	05:56	08:21 (17)	06:24		06:52	06:24	06:56
	20:19	56 09:00 (17)	19:55	64 09:25 (17)	19:11		18:24	16:43	16:28
9	05:32	06:38 (18)	05:57	08:21 (17)	06:25		06:53	06:25	06:56
	20:18	57 09:00 (17)	19:54	65 09:26 (17)	19:10		18:22	16:42	16:28
10	05:33	06:39 (18)	05:58	08:20 (17)	06:26		06:54	06:26	06:57
	20:18	58 09:02 (17)	19:53	65 09:25 (17)	19:08		18:21	16:41	16:28
11	05:33	06:39 (18)	05:59	08:20 (17)	06:27		06:55	06:28	06:58
	20:18	59 09:03 (17)	19:52	66 09:26 (17)	19:07		18:19	16:40	16:28
12	05:34	06:39 (18)	06:00	08:20 (17)	06:28		06:56	06:29	06:59
	20:17	61 09:04 (17)	19:50	66 09:26 (17)	19:05		18:18	16:40	16:28
13	05:35	06:40 (18)	06:01	08:20 (17)	06:29		06:57	06:30	07:00
	20:17	61 09:05 (17)	19:49	66 09:26 (17)	19:03		18:16	16:39	16:28
14	05:36	06:41 (18)	06:02	08:20 (17)	06:30		06:58	06:31	07:00
	20:16	62 09:07 (17)	19:48	67 09:27 (17)	19:02		18:15	16:38	16:28
15	05:36	06:41 (18)	06:03	08:20 (17)	06:31		06:59	06:32	07:01
	20:16	63 09:07 (17)	19:46	67 09:27 (17)	19:00		18:13	16:37	16:29
16	05:37	06:42 (18)	06:04	08:20 (17)	06:32		07:00	06:33	07:02
	20:15	63 09:08 (17)	19:45	67 09:27 (17)	18:59		18:12	16:36	16:29
17	05:38	06:44 (18)	06:05	08:19 (17)	06:32		07:01	06:34	07:03
	20:15	63 09:10 (17)	19:44	67 09:26 (17)	18:57		18:10	16:36	16:29
18	05:38	06:45 (18)	06:05	08:19 (17)	06:33		07:02	06:35	07:03
	20:14	63 09:11 (17)	19:43	67 09:26 (17)	18:55		18:09	16:35	16:30
19	05:39	06:45 (18)	06:06	08:19 (17)	06:34		07:03	06:36	07:04
	20:13	62 09:11 (17)	19:41	67 09:26 (17)	18:54		18:08	16:34	16:30
20	05:40	06:47 (18)	06:07	08:20 (17)	06:35		07:04	06:37	07:04
	20:13	61 09:12 (17)	19:40	66 09:26 (17)	18:52		18:06	16:34	16:30
21	05:41	06:49 (18)	06:08	08:20 (17)	06:36		07:05	06:39	07:05
	20:12	59 09:13 (17)	19:38	66 09:26 (17)	18:51		18:05	16:33	16:31
22	05:42	06:52 (18)	06:09	08:21 (17)	06:37		07:06	06:40	07:05
	20:11	54 09:14 (17)	19:37	65 09:26 (17)	18:49		18:03	16:32	16:31
23	05:42	08:26 (17)	06:10	08:21 (17)	06:38		07:07	06:41	07:06
	20:11	48 09:14 (17)	19:36	65 09:26 (17)	18:47		18:02	16:32	16:32
24	05:43	08:26 (17)	06:11	08:21 (17)	06:39		07:08	06:42	07:06
	20:10	49 09:15 (17)	19:34	63 09:24 (17)	18:46		18:01	16:31	16:32
25	05:44	08:26 (17)	06:12	08:21 (17)	06:40		07:09	06:43	07:07
	20:09	50 09:16 (17)	19:33	63 09:24 (17)	18:44		17:59	16:31	16:33
26	05:45	08:26 (17)	06:13	08:22 (17)	06:41		07:10	06:44	07:07
	20:08	51 09:17 (17)	19:31	61 09:23 (17)	18:43		17:58	16:30	16:34
27	05:46	08:25 (17)	06:14	08:23 (17)	06:42		06:11	06:45	07:08
	20:07	53 09:18 (17)	19:30	59 09:22 (17)	18:41		16:57	16:30	16:34
28	05:47	08:24 (17)	06:15	08:23 (17)	06:42		06:12	06:46	07:08
	20:06	54 09:18 (17)	19:28	59 09:22 (17)	18:39		16:56	16:30	16:35
29	05:47	08:24 (17)	06:15	08:24 (17)	06:43		06:13	06:47	07:08
	20:06	55 09:19 (17)	19:27	57 09:21 (17)	18:38		16:54	16:29	16:36
30	05:48	08:23 (17)	06:16	08:25 (17)	06:44		06:14	06:48	07:09
	20:05	57 09:20 (17)	19:25	55 09:20 (17)	18:36		16:53	16:29	16:36
31	05:49	08:23 (17)	06:17	08:26 (17)			06:15		07:09
	20:04	58 09:21 (17)	19:24	51 09:17 (17)			16:52		16:37
Potential sun hours	453	424		374			347	303	294
Total, worst case	1711		1954	249					
Sun reduction	0,68		0,69						
Oper. time red.	0,34		0,34						
Wind dir. red.	0,97		0,99						
Total reduction	0,23		0,24						
Total, real	390		461	54					

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: BZ - R38 CU6

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:09 16:37	06:58 17:09	06:24 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	06:16 16:51	06:49 16:29
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	05:52 19:43	05:27 20:10	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:28
3	07:09 16:39	06:57 17:12	06:21 17:44	06:33 19:15	05:51 19:44	05:26 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	06:19 16:49	06:51 16:28
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:11	05:29 20:19	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:47	06:52 16:28
5	07:09 16:41	06:55 17:14	06:18 17:46	06:30 19:17	05:49 19:46	05:26 20:12	05:30 20:19	05:54 19:58	06:22 19:16	06:49 18:28	06:21 16:46	06:53 16:28
6	07:09 16:41	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:25 20:13	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	06:22 16:45	06:54 16:28
7	07:09 16:42	06:53 17:16	06:15 17:48	06:27 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	06:23 16:44	06:55 16:28
8	07:09 16:43	06:52 17:17	06:14 17:49	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	06:24 16:43	06:56 16:28
9	07:09 16:44	06:51 17:19	06:12 17:50	06:24 19:21	05:44 19:50	05:25 20:14	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	06:25 16:42	06:56 16:28
10	07:09 16:45	06:50 17:20	06:11 17:51	06:23 19:22	05:43 19:51	05:24 20:15	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	06:26 16:41	06:57 16:28
11	07:09 16:46	06:49 17:21	06:09 17:52	06:21 19:23	05:42 19:52	05:24 20:15	05:34 20:17	05:59 19:51	06:27 19:07	06:55 18:19	06:28 16:40	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:53	06:20 19:24	05:41 19:52	05:24 20:16	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:46 17:23	06:06 17:54	06:18 19:25	05:40 19:53	05:24 20:16	05:35 20:17	06:01 19:49	06:29 19:03	06:57 18:16	06:30 16:39	07:00 16:28
14	07:09 16:49	06:45 17:24	06:05 17:55	06:17 19:26	05:39 19:54	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:00 16:28
15	07:08 16:50	06:44 17:25	06:03 17:56	06:15 19:26	05:39 19:55	05:24 20:17	05:36 20:16	06:03 19:46	06:31 19:00	06:59 18:13	06:32 16:37	07:01 16:29
16	07:08 16:51	06:43 17:27	06:02 17:57	06:14 19:27	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:36	07:02 16:29
17	07:08 16:52	06:42 17:28	06:00 17:58	06:12 19:28	05:37 19:57	05:24 20:18	05:38 20:15	06:05 19:44	06:32 18:57	07:01 18:10	06:34 16:36	07:03 16:29
18	07:07 16:53	06:40 17:29	05:59 17:59	06:11 19:29	05:36 19:58	05:24 20:18	05:38 20:14	06:05 19:42	06:33 18:55	07:02 18:09	06:35 16:35	07:03 16:30
19	07:07 16:54	06:39 17:30	05:57 18:00	06:10 19:30	05:35 19:59	05:24 20:19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	06:36 16:34	07:04 16:30
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	05:34 20:00	05:25 20:19	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	06:37 16:34	07:04 16:30
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	05:34 20:01	05:25 20:19	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	05:33 20:01	05:25 20:19	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	06:40 16:32	07:05 16:31
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	05:32 20:02	05:25 20:19	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:35	05:49 18:05	06:03 19:35	05:31 20:03	05:25 20:20	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:31	07:06 16:32
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	06:43 16:31	07:07 16:33
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:30	07:07 16:34
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	05:30 20:06	05:26 20:20	05:46 20:07	06:14 19:30	06:42 18:41	06:11 16:57	06:45 16:30	07:08 16:34
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	05:29 20:06	05:27 20:20	05:47 20:06	06:15 19:28	06:42 18:39	06:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	05:28 20:07	05:27 20:20	05:47 20:05	06:15 19:27	06:43 18:38	06:13 16:54	06:47 16:29	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:27 20:20	05:48 20:05	06:16 19:25	06:44 18:36	06:14 16:53	06:48 16:29	07:09 16:36
31	06:59 17:08		06:38 19:12		05:27 20:09		05:49 20:04	06:17 19:24		06:15 16:52		07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: CA - R39 CU6

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:09 16:37	06:58 17:09	06:24 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	06:16 16:51	06:49 16:29
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	05:52 19:43	05:27 20:10	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:28
3	07:09 16:39	06:57 17:12	06:21 17:44	06:33 19:15	05:51 19:44	05:26 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	06:19 16:49	06:51 16:28
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:11	05:29 20:19	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:47	06:52 16:28
5	07:09 16:41	06:55 17:14	06:18 17:46	06:30 19:17	05:49 19:46	05:26 20:12	05:30 20:19	05:54 19:58	06:22 19:16	06:49 18:28	06:21 16:46	06:53 16:28
6	07:09 16:41	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:25 20:13	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	06:22 16:45	06:54 16:28
7	07:09 16:42	06:53 17:16	06:15 17:48	06:27 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	06:23 16:44	06:55 16:28
8	07:09 16:43	06:52 17:17	06:14 17:49	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	06:24 16:43	06:56 16:28
9	07:09 16:44	06:51 17:19	06:12 17:50	06:24 19:21	05:44 19:50	05:25 20:14	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	06:25 16:42	06:56 16:28
10	07:09 16:45	06:50 17:20	06:11 17:51	06:23 19:22	05:43 19:51	05:24 20:15	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	06:26 16:41	06:57 16:28
11	07:09 16:46	06:49 17:21	06:09 17:52	06:21 19:23	05:42 19:52	05:24 20:15	05:34 20:17	05:59 19:51	06:27 19:07	06:55 18:19	06:28 16:40	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:53	06:20 19:24	05:41 19:52	05:24 20:16	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:46 17:23	06:06 17:54	06:18 19:25	05:40 19:53	05:24 20:16	05:35 20:17	06:01 19:49	06:29 19:03	06:57 18:16	06:30 16:39	07:00 16:28
14	07:09 16:49	06:45 17:24	06:05 17:55	06:17 19:26	05:39 19:54	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:00 16:28
15	07:08 16:50	06:44 17:25	06:03 17:56	06:15 19:26	05:39 19:55	05:24 20:17	05:36 20:16	06:03 19:46	06:31 19:00	06:59 18:13	06:32 16:37	07:01 16:29
16	07:08 16:51	06:43 17:27	06:02 17:57	06:14 19:27	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:36	07:02 16:29
17	07:08 16:52	06:42 17:28	06:00 17:58	06:12 19:28	05:37 19:57	05:24 20:18	05:38 20:15	06:05 19:44	06:32 18:57	07:01 18:10	06:34 16:36	07:03 16:29
18	07:07 16:53	06:40 17:29	05:59 17:59	06:11 19:29	05:36 19:58	05:24 20:18	05:38 20:14	06:05 19:42	06:33 18:55	07:02 18:09	06:35 16:35	07:03 16:30
19	07:07 16:54	06:39 17:30	05:57 18:00	06:10 19:30	05:35 19:59	05:24 20:19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	06:36 16:34	07:04 16:30
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	05:34 20:00	05:25 20:19	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	06:37 16:34	07:04 16:30
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	05:34 20:01	05:25 20:19	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	05:33 20:01	05:25 20:19	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	06:40 16:32	07:05 16:31
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	05:32 20:02	05:25 20:19	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:35	05:49 18:05	06:03 19:35	05:31 20:03	05:25 20:20	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:31	07:06 16:32
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	06:43 16:31	07:07 16:33
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:30	07:07 16:34
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	05:30 20:06	05:26 20:20	05:46 20:07	06:14 19:30	06:42 18:41	06:11 16:57	06:45 16:30	07:08 16:34
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	05:29 20:06	05:27 20:20	05:47 20:06	06:15 19:28	06:42 18:39	06:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	05:28 20:07	05:27 20:20	05:47 20:05	06:15 19:27	06:43 18:38	06:13 16:54	06:47 16:29	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:27 20:20	05:48 20:05	06:16 19:25	06:44 18:36	06:14 16:53	06:48 16:29	07:09 16:36
31	06:59 17:08		06:38 19:12	06:38 20:09	05:27 20:09	05:27 20:04	05:49 20:04	06:17 19:24	06:17 16:52	06:15 16:52	06:15 16:37	07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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: Bufalo real case Shadow receptor: CB - R40 CU6

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:09 16:37	06:58 17:09	06:24 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	06:16 16:51	06:49 16:29
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	05:52 19:43	05:27 20:10	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:28
3	07:09 16:39	06:57 17:12	06:21 17:44	06:33 19:15	05:51 19:44	05:26 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	06:19 16:49	06:51 16:28
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:11	05:29 20:19	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:47	06:52 16:28
5	07:09 16:41	06:55 17:14	06:18 17:46	06:30 19:17	05:49 19:46	05:26 20:12	05:30 20:19	05:54 19:58	06:22 19:16	06:49 18:28	06:21 16:46	06:53 16:28
6	07:09 16:41	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:25 20:13	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	06:22 16:45	06:54 16:28
7	07:09 16:42	06:53 17:16	06:15 17:48	06:27 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	06:23 16:44	06:55 16:28
8	07:09 16:43	06:52 17:17	06:14 17:49	06:26 19:20	05:45 19:49	05:25 20:14	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	06:24 16:43	06:56 16:28
9	07:09 16:44	06:51 17:19	06:12 17:50	06:24 19:21	05:44 19:50	05:25 20:14	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	06:25 16:42	06:56 16:28
10	07:09 16:45	06:50 17:20	06:11 17:51	06:23 19:22	05:43 19:51	05:24 20:15	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	06:26 16:41	06:57 16:28
11	07:09 16:46	06:49 17:21	06:09 17:52	06:21 19:23	05:42 19:52	05:24 20:15	05:34 20:17	05:59 19:51	06:27 19:07	06:55 18:19	06:28 16:40	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:53	06:20 19:24	05:41 19:52	05:24 20:16	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:46 17:23	06:06 17:54	06:18 19:25	05:40 19:53	05:24 20:16	05:35 20:17	06:01 19:49	06:29 19:03	06:57 18:16	06:30 16:39	07:00 16:28
14	07:09 16:49	06:45 17:24	06:05 17:55	06:17 19:26	05:39 19:54	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:00 16:28
15	07:08 16:50	06:44 17:25	06:03 17:56	06:15 19:26	05:39 19:55	05:24 20:17	05:36 20:16	06:03 19:46	06:31 19:00	06:59 18:13	06:32 16:37	07:01 16:29
16	07:08 16:51	06:43 17:27	06:02 17:57	06:14 19:27	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:36	07:02 16:29
17	07:08 16:52	06:42 17:28	06:00 17:58	06:12 19:28	05:37 19:57	05:24 20:18	05:38 20:15	06:05 19:44	06:32 18:57	07:01 18:10	06:34 16:36	07:03 16:29
18	07:07 16:53	06:40 17:29	05:59 17:59	06:11 19:29	05:36 19:58	05:24 20:18	05:38 20:14	06:05 19:42	06:33 18:55	07:02 18:09	06:35 16:35	07:03 16:30
19	07:07 16:54	06:39 17:30	05:57 18:00	06:10 19:30	05:35 19:59	05:24 20:19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:07	06:36 16:34	07:04 16:30
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	05:34 20:00	05:25 20:19	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	06:37 16:34	07:04 16:30
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	05:34 20:01	05:25 20:19	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	05:33 20:01	05:25 20:19	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	06:40 16:32	07:05 16:31
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	05:32 20:02	05:25 20:19	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:35	05:49 18:05	06:03 19:35	05:31 20:03	05:25 20:20	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:31	07:06 16:32
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	06:43 16:31	07:07 16:33
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:30	07:07 16:34
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	05:30 20:06	05:26 20:20	05:46 20:07	06:14 19:30	06:42 18:41	06:11 16:57	06:45 16:30	07:08 16:34
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	05:29 20:06	05:27 20:20	05:47 20:06	06:15 19:28	06:42 18:39	06:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	05:28 20:07	05:27 20:20	05:47 20:05	06:15 19:27	06:43 18:38	06:13 16:54	06:47 16:29	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:27 20:20	05:48 20:05	06:16 19:25	06:44 18:36	06:14 16:53	06:48 16:29	07:09 16:36
31	06:59 17:08		06:38 19:12	06:38 20:09	05:27 20:09	05:27 20:04	05:49 20:04	06:17 19:24	06:15 16:52	06:15 16:52	06:15 16:37	07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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)
--------------	------------------	-----------------	----------------------	---------------------------------	--------------------------------	----------------------------------	---------------------------------

SHADOW - Calendar

Calculation: Bufalo real case Shadow receptor: CC - R41 CU6

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:09 16:37	06:58 17:09	06:24 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	06:16 16:51	06:49 16:29
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	05:52 19:43	05:27 20:10	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:28
3	07:09 16:39	06:57 17:12	06:21 17:44	06:33 19:15	05:51 19:44	05:26 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	06:19 16:49	06:51 16:28
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:11	05:29 20:19	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:47	06:52 16:28
5	07:09 16:41	06:55 17:14	06:18 17:46	06:30 19:17	05:49 19:46	05:26 20:12	05:30 20:19	05:54 19:58	06:22 19:16	06:49 18:28	06:21 16:46	06:53 16:28
6	07:09 16:41	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:25 20:13	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	06:22 16:45	06:54 16:28
7	07:09 16:42	06:53 17:16	06:15 17:48	06:27 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	06:23 16:44	06:55 16:28
8	07:09 16:43	06:52 17:17	06:14 17:49	06:26 19:20	05:45 19:49	05:25 20:14	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	06:24 16:43	06:56 16:28
9	07:09 16:44	06:51 17:19	06:12 17:50	06:24 19:21	05:44 19:50	05:25 20:14	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	06:25 16:42	06:56 16:28
10	07:09 16:45	06:50 17:20	06:11 17:51	06:23 19:22	05:43 19:51	05:24 20:15	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	06:26 16:41	06:57 16:28
11	07:09 16:46	06:49 17:21	06:09 17:52	06:21 19:23	05:42 19:52	05:24 20:15	05:33 20:17	05:59 19:51	06:27 19:07	06:55 18:19	06:28 16:40	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:53	06:20 19:24	05:41 19:52	05:24 20:16	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:46 17:23	06:06 17:54	06:18 19:25	05:40 19:53	05:24 20:16	05:35 20:17	06:01 19:49	06:29 19:03	06:57 18:16	06:30 16:39	07:00 16:28
14	07:09 16:49	06:45 17:24	06:05 17:55	06:17 19:26	05:39 19:54	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:00 16:28
15	07:08 16:50	06:44 17:25	06:03 17:56	06:15 19:26	05:39 19:55	05:24 20:17	05:36 20:16	06:03 19:46	06:31 19:00	06:59 18:13	06:32 16:37	07:01 16:29
16	07:08 16:51	06:43 17:27	06:02 17:57	06:14 19:27	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:36	07:02 16:29
17	07:08 16:52	06:42 17:28	06:00 17:58	06:12 19:28	05:37 19:57	05:24 20:18	05:38 20:15	06:05 19:44	06:32 18:57	07:01 18:10	06:34 16:36	07:03 16:29
18	07:07 16:53	06:40 17:29	05:59 17:59	06:11 19:29	05:36 19:58	05:24 20:18	05:38 20:14	06:05 19:42	06:33 18:55	07:02 18:09	06:35 16:35	07:03 16:30
19	07:07 16:54	06:39 17:30	05:57 18:00	06:09 19:30	05:35 19:59	05:24 20:19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:07	06:36 16:34	07:04 16:30
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	05:34 20:00	05:25 20:19	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	06:37 16:34	07:04 16:30
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	05:34 20:01	05:25 20:19	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	05:33 20:01	05:25 20:19	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	06:40 16:32	07:05 16:31
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	05:32 20:02	05:25 20:19	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:35	05:49 18:05	06:03 19:35	05:31 20:03	05:25 20:20	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:31	07:06 16:32
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	06:43 16:31	07:07 16:33
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:30	07:07 16:34
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	05:30 20:06	05:26 20:20	05:46 20:07	06:14 19:30	06:42 18:41	06:11 16:57	06:45 16:30	07:08 16:34
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	05:29 20:06	05:27 20:20	05:47 20:06	06:15 19:28	06:42 18:39	06:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	05:28 20:07	05:27 20:20	05:47 20:05	06:15 19:27	06:43 18:38	06:13 16:54	06:47 16:29	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:27 20:20	05:48 20:05	06:16 19:25	06:44 18:36	06:14 16:53	06:48 16:29	07:09 16:36
31	06:59 17:08		06:38 19:12	06:38 20:09	05:27 20:09	05:27 20:04	05:49 20:04	06:17 19:24	06:17 16:52	06:15 16:52	06:15 16:37	07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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: Bufalo real case Shadow receptor: CD - R42 CU6

Assumptions for shadow calculations

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Reference year for calendar

2024

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

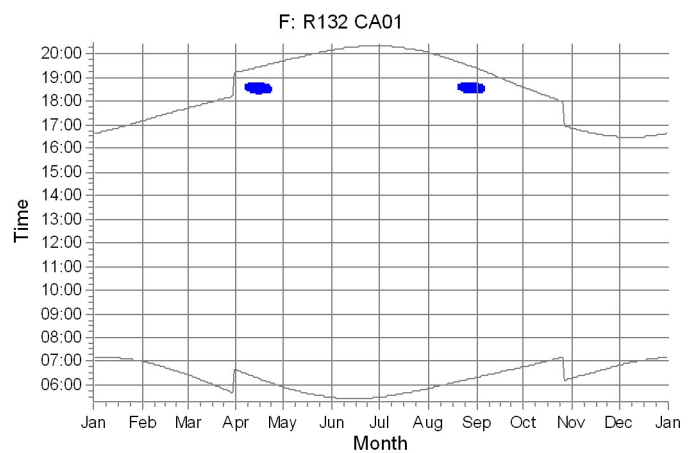
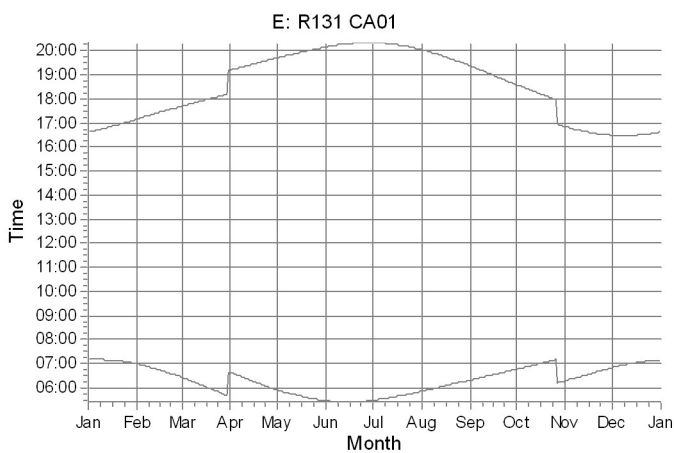
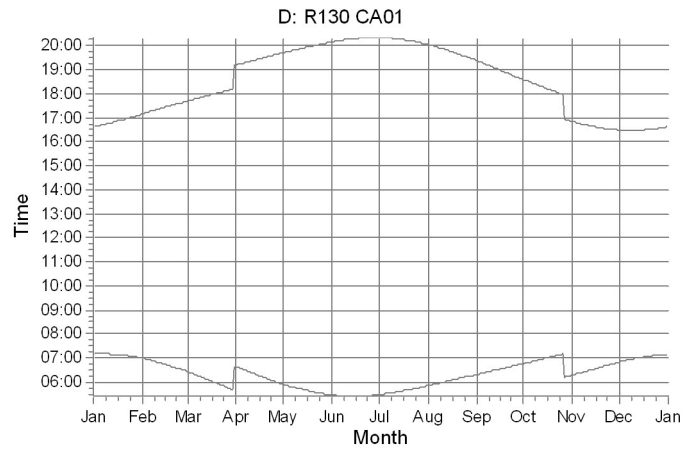
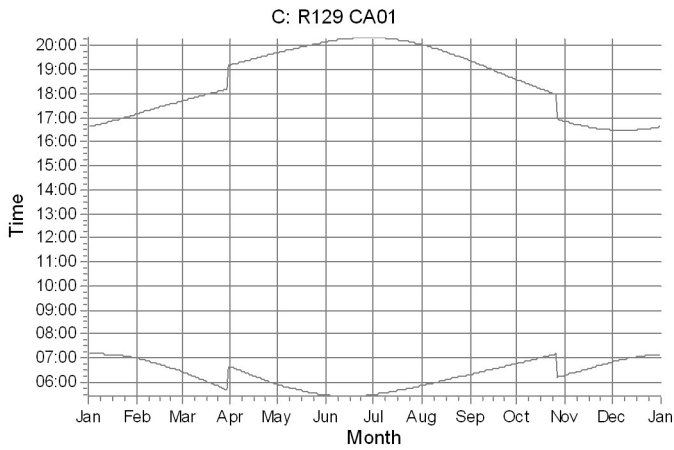
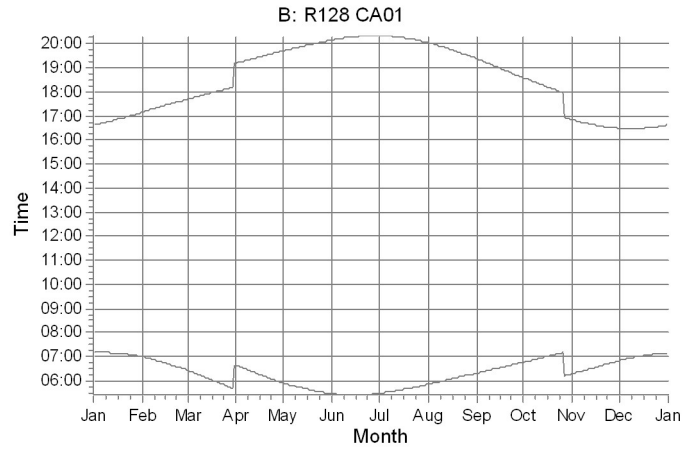
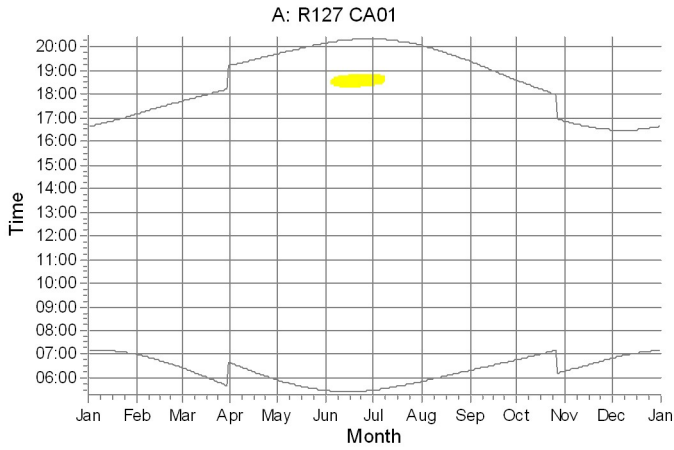
	January	February	March	April	May	June	July	August	September	October	November	December
1	07:09 16:37	06:58 17:09	06:24 17:42	06:37 19:13	05:54 19:42	05:27 20:09	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	06:16 16:51	06:49 16:29
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	05:52 19:43	05:27 20:10	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 16:50	06:50 16:28
3	07:09 16:39	06:57 17:12	06:21 17:44	06:33 19:15	05:51 19:44	05:26 20:11	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	06:19 16:49	06:51 16:28
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:11	05:29 20:19	05:53 19:59	06:21 19:18	06:48 18:30	06:20 16:47	06:52 16:28
5	07:09 16:41	06:55 17:14	06:18 17:46	06:30 19:17	05:49 19:46	05:26 20:12	05:30 20:19	05:54 19:58	06:22 19:16	06:49 18:28	06:21 16:46	06:53 16:28
6	07:09 16:41	06:54 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:25 20:13	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	06:22 16:45	06:54 16:28
7	07:09 16:42	06:53 17:16	06:15 17:48	06:27 19:19	05:47 19:48	05:25 20:13	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	06:23 16:44	06:55 16:28
8	07:09 16:43	06:52 17:17	06:14 17:49	06:26 19:20	05:45 19:49	05:25 20:14	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	06:24 16:43	06:56 16:28
9	07:09 16:44	06:51 17:19	06:12 17:50	06:24 19:21	05:44 19:50	05:25 20:14	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	06:25 16:42	06:56 16:28
10	07:09 16:45	06:50 17:20	06:11 17:51	06:23 19:22	05:43 19:51	05:24 20:15	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	06:26 16:41	06:57 16:28
11	07:09 16:46	06:49 17:21	06:09 17:52	06:21 19:23	05:42 19:52	05:24 20:15	05:33 20:17	05:59 19:51	06:27 19:07	06:55 18:19	06:27 16:40	06:58 16:28
12	07:09 16:47	06:48 17:22	06:08 17:53	06:20 19:24	05:41 19:52	05:24 20:16	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	07:09 16:48	06:46 17:23	06:06 17:54	06:18 19:25	05:40 19:53	05:24 20:16	05:35 20:17	06:01 19:49	06:29 19:03	06:57 18:16	06:30 16:39	07:00 16:28
14	07:09 16:49	06:45 17:24	06:05 17:55	06:17 19:25	05:39 19:54	05:24 20:17	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:00 16:28
15	07:08 16:50	06:44 17:25	06:03 17:56	06:15 19:26	05:38 19:55	05:24 20:17	05:36 20:16	06:03 19:46	06:31 19:00	06:59 18:13	06:32 16:37	07:01 16:29
16	07:08 16:51	06:43 17:27	06:02 17:57	06:14 19:27	05:38 19:56	05:24 20:18	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	06:33 16:36	07:02 16:29
17	07:08 16:52	06:42 17:28	06:00 17:58	06:12 19:28	05:37 19:57	05:24 20:18	05:38 20:15	06:05 19:44	06:32 18:57	07:01 18:10	06:34 16:36	07:03 16:29
18	07:07 16:53	06:40 17:29	05:59 17:59	06:11 19:29	05:36 19:58	05:24 20:18	05:38 20:14	06:05 19:42	06:33 18:55	07:02 18:09	06:35 16:35	07:03 16:30
19	07:07 16:54	06:39 17:30	05:57 18:00	06:09 19:30	05:35 19:59	05:24 20:19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:07	06:36 16:34	07:04 16:30
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	05:34 20:00	05:24 20:19	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	06:37 16:34	07:04 16:30
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	05:33 20:01	05:25 20:19	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	05:33 20:01	05:25 20:19	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	06:40 16:32	07:05 16:31
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	05:32 20:02	05:25 20:19	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	06:41 16:32	07:06 16:32
24	07:04 17:00	06:33 17:35	05:49 18:05	06:03 19:35	05:31 20:03	05:25 20:20	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:31	07:06 16:32
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	06:43 16:31	07:07 16:33
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	05:30 20:05	05:26 20:20	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	06:44 16:30	07:07 16:34
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	05:29 20:06	05:26 20:20	05:46 20:07	06:14 19:30	06:41 18:41	06:11 16:57	06:45 16:30	07:08 16:34
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	05:29 20:06	05:27 20:20	05:47 20:06	06:15 19:28	06:42 18:39	06:12 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	05:28 20:07	05:27 20:20	05:47 20:05	06:15 19:27	06:43 18:38	06:13 16:54	06:47 16:29	07:08 16:36
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:27 20:20	05:48 20:05	06:16 19:25	06:44 18:36	06:14 16:53	06:48 16:29	07:09 16:36
31	06:59 17:08		06:38 19:12	06:38 20:09	05:27 20:09	05:27 20:04	05:49 20:04	06:17 19:24	06:17 16:52	06:15 16:52	06:15 16:37	07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Total, worst case												
Sun reduction												
Oper. time red.												
Wind dir. red.												
Total reduction												
Total, real												

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: Bufalo real case

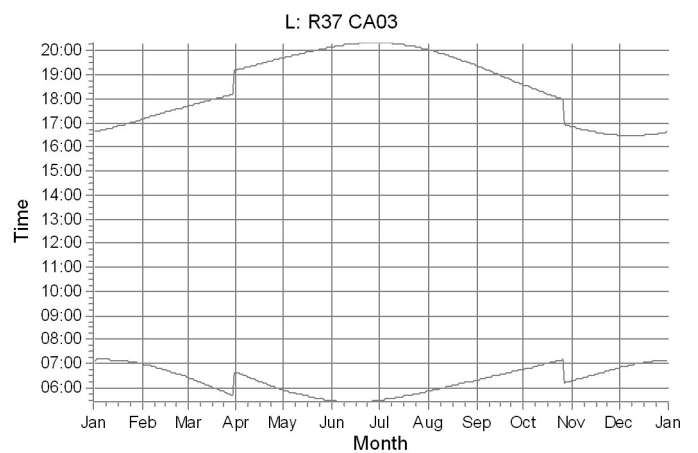
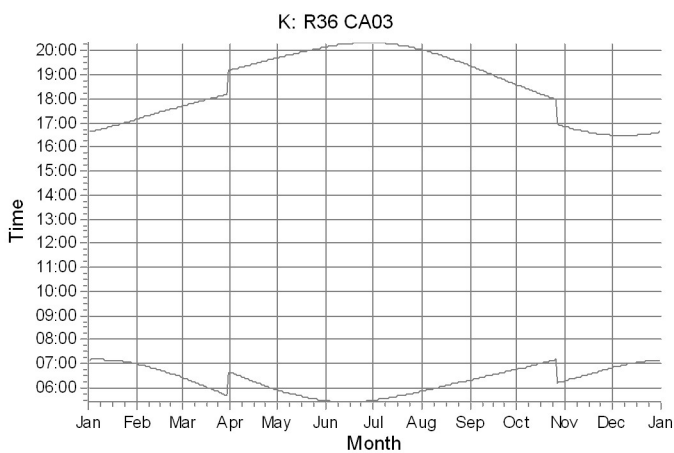
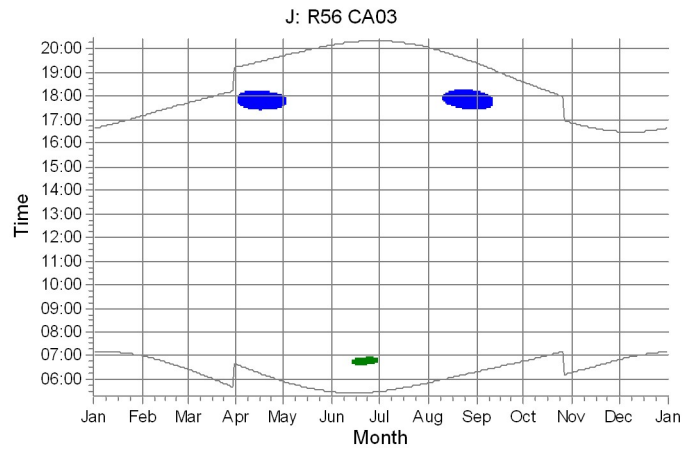
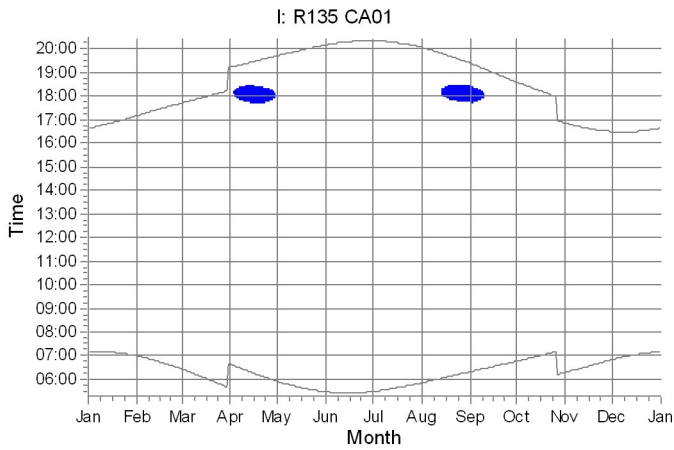
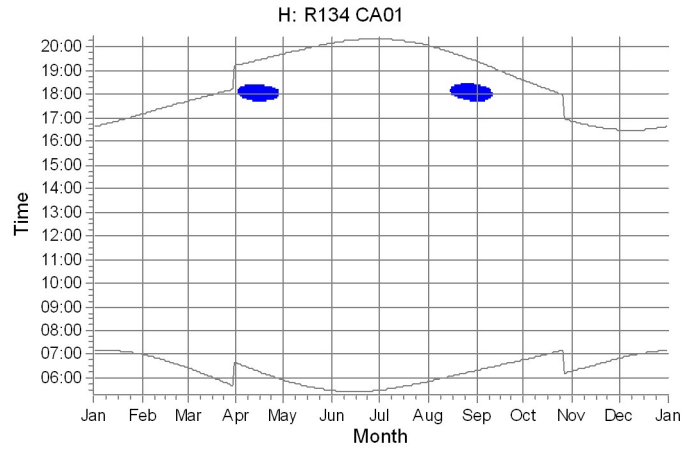
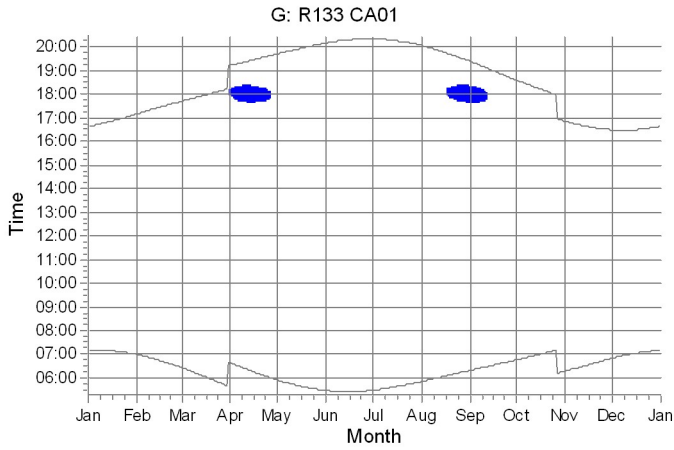


WTGs

2: CA02 3: CA03

SHADOW - Calendar, graphical

Calculation: Bufalo real case

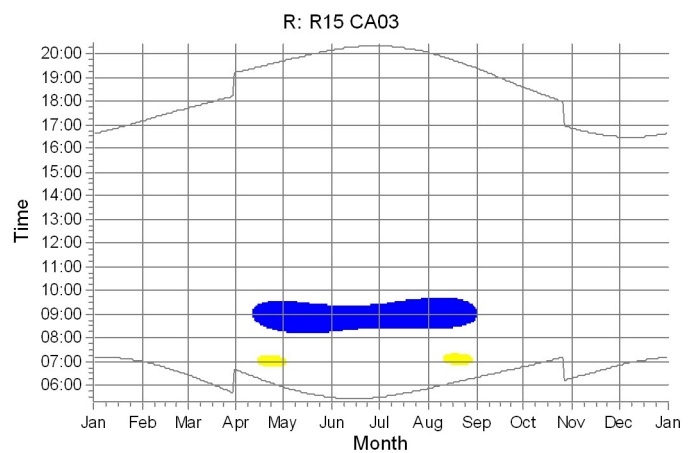
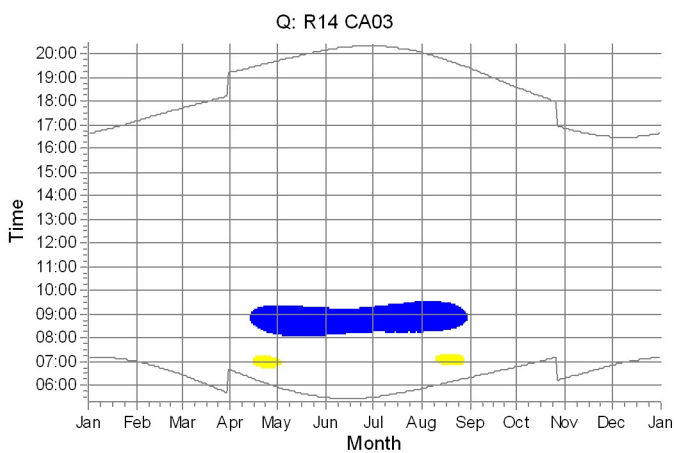
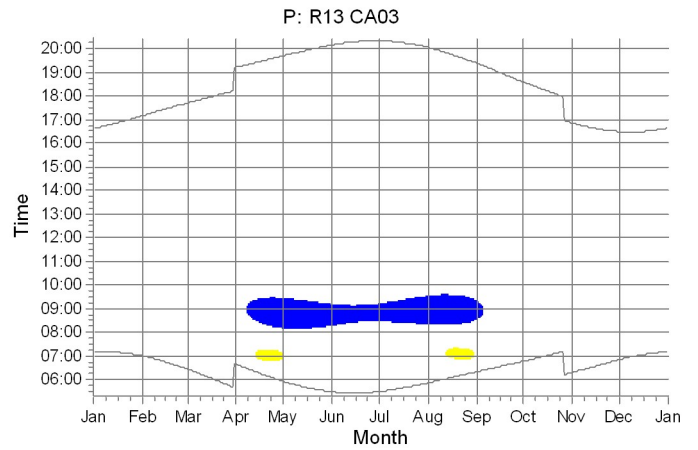
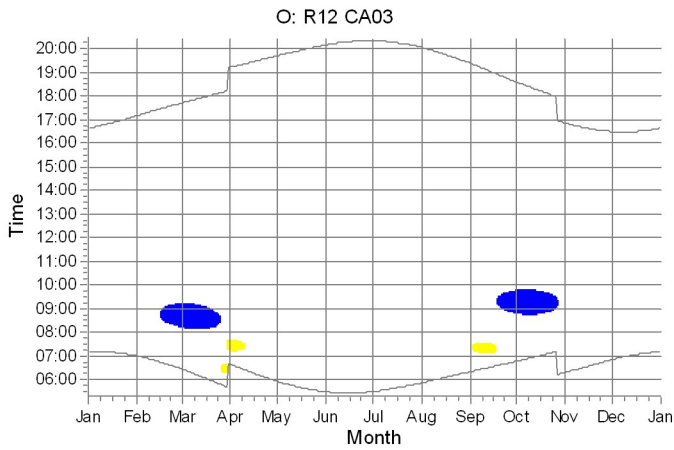
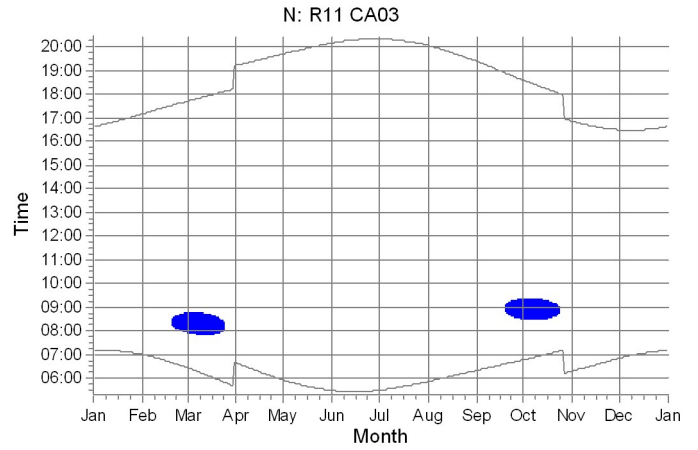
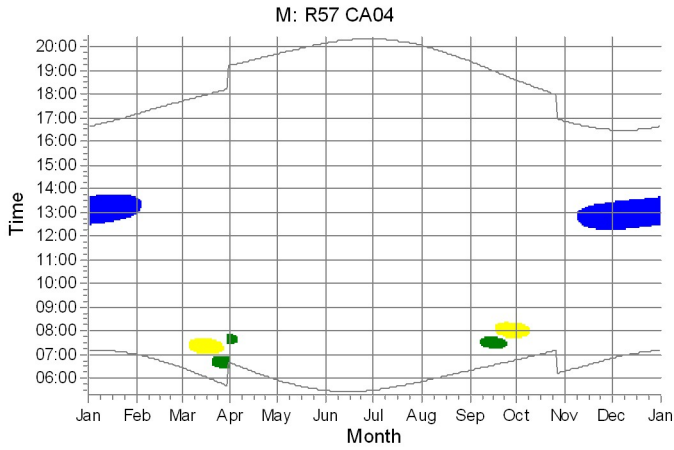


WTGs



SHADOW - Calendar, graphical

Calculation: Bufalo real case

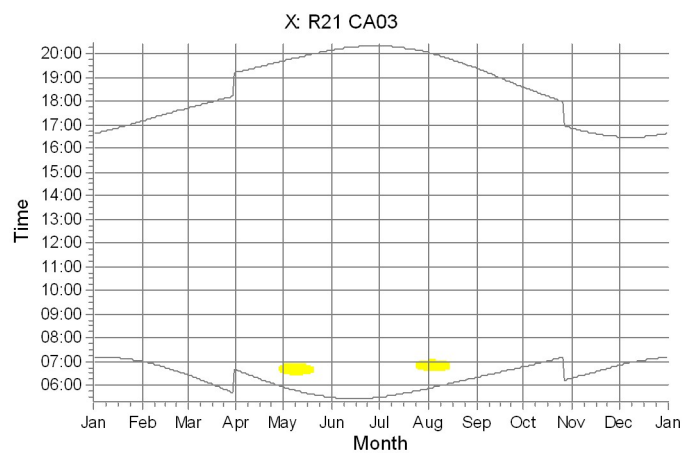
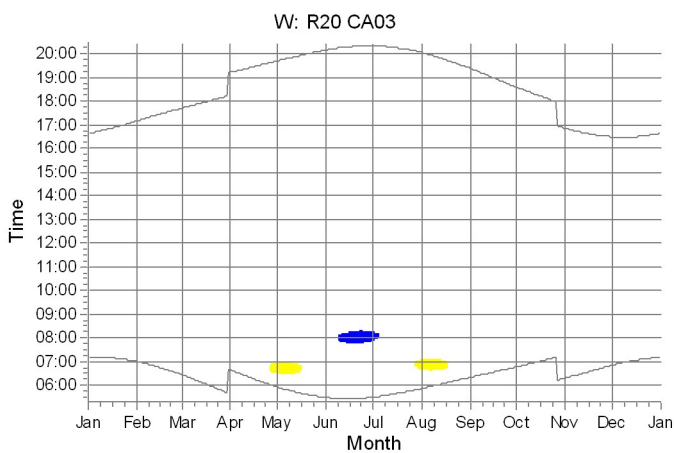
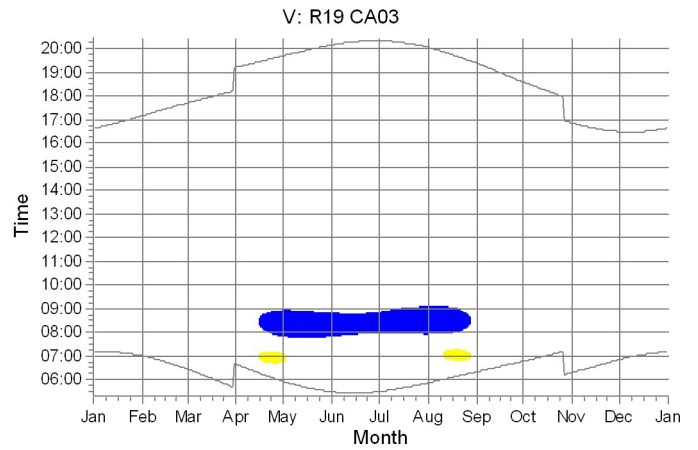
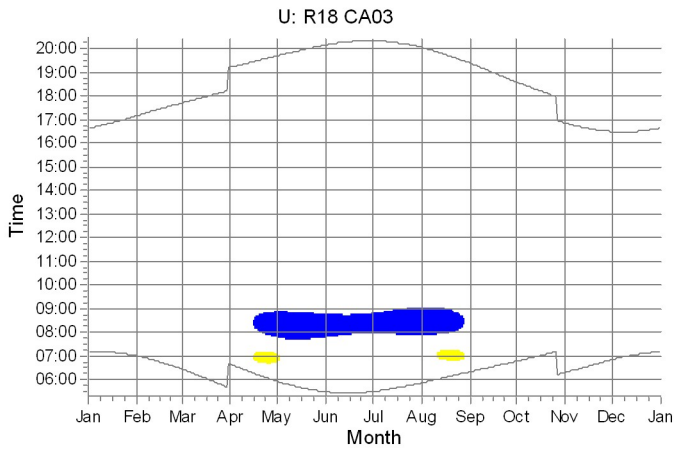
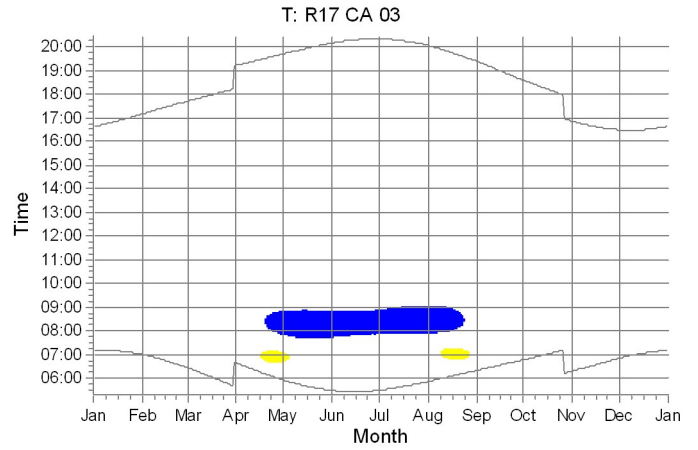
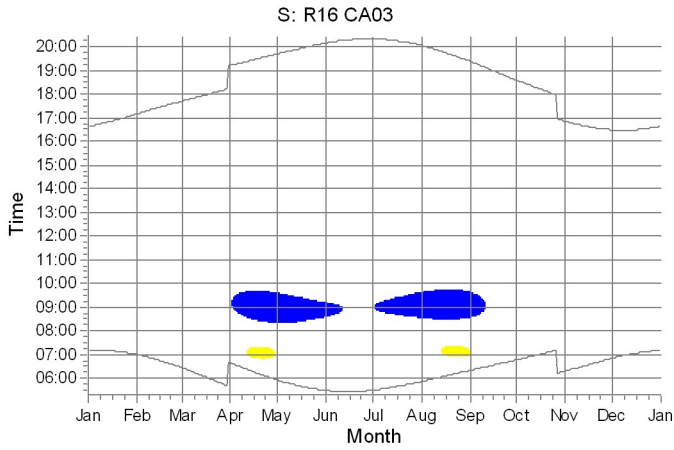


WTGs



SHADOW - Calendar, graphical

Calculation: Bufalo real case

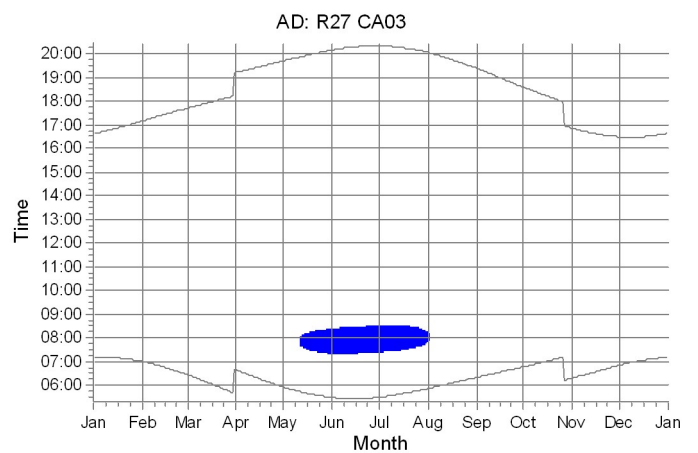
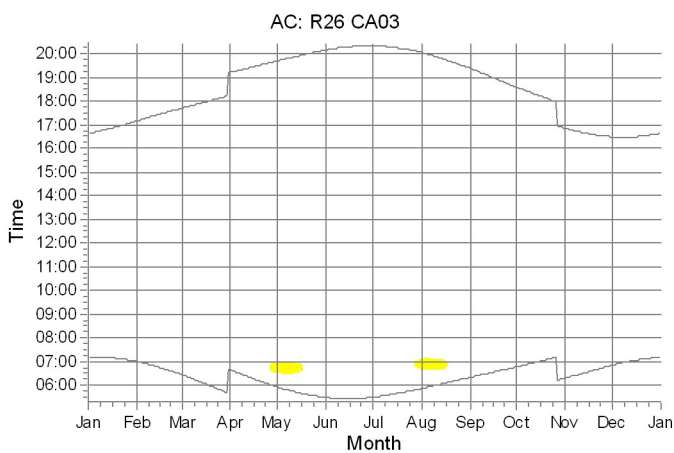
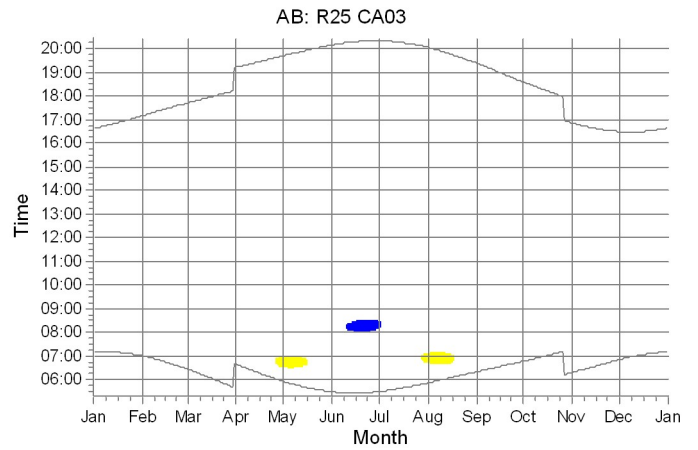
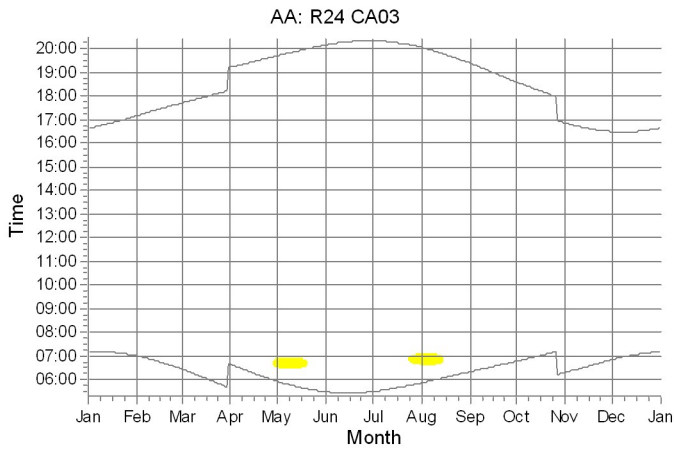
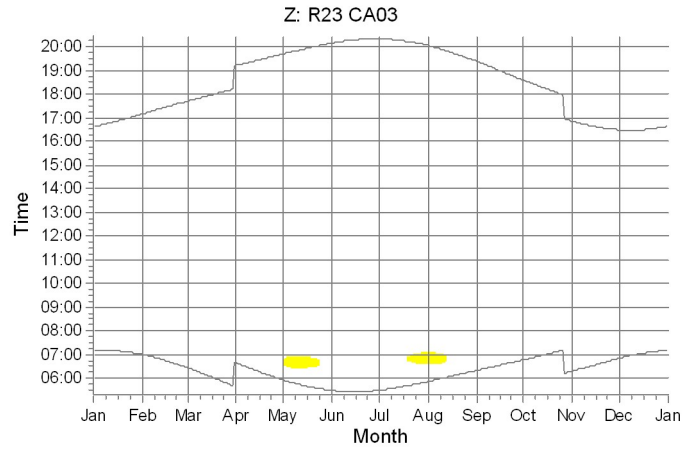
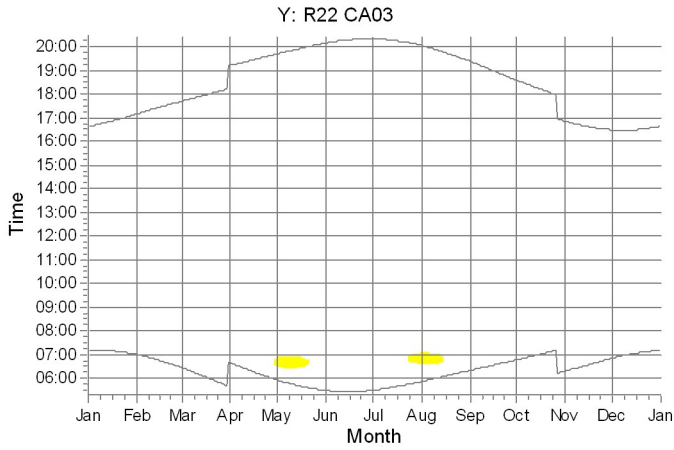


WTGs



SHADOW - Calendar, graphical

Calculation: Bufalo real case

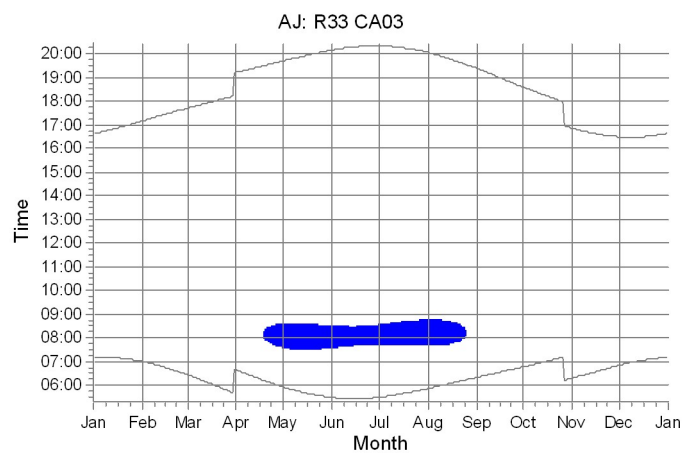
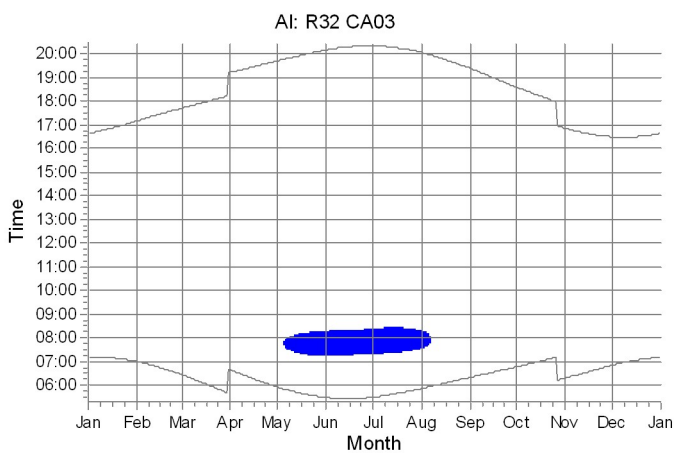
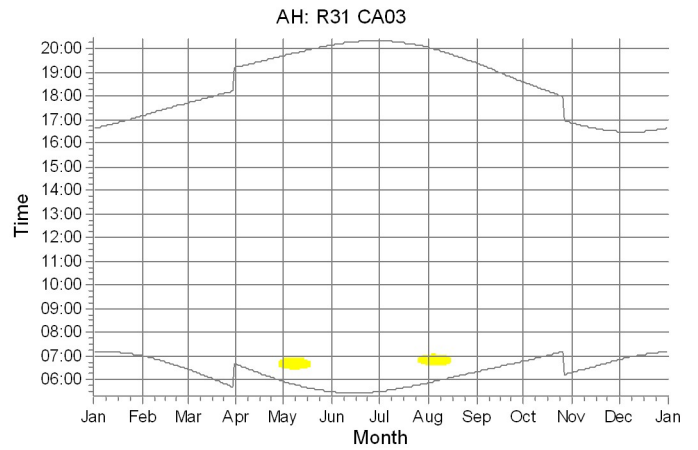
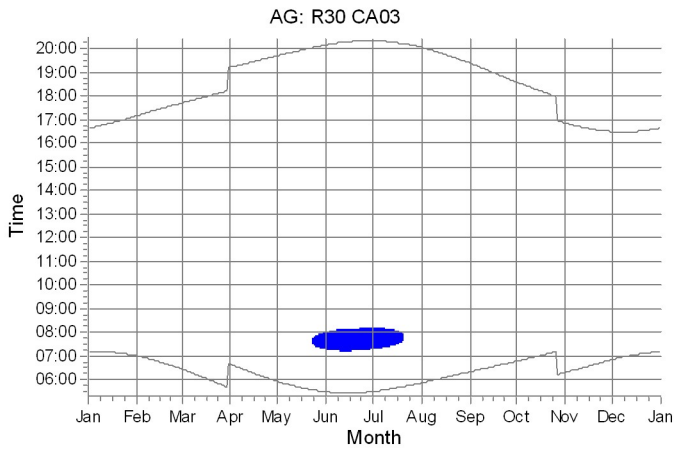
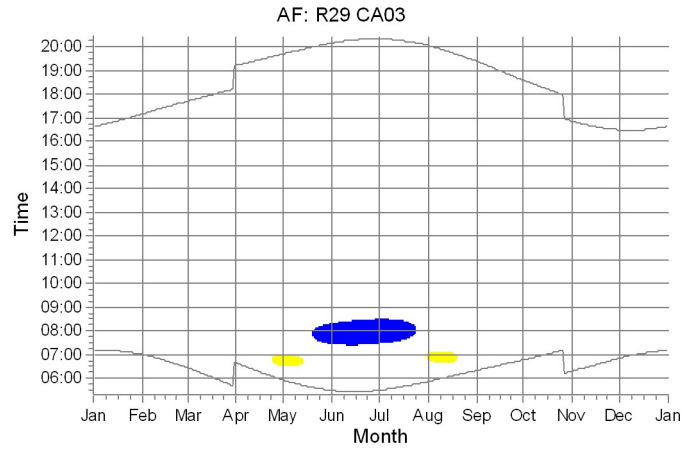
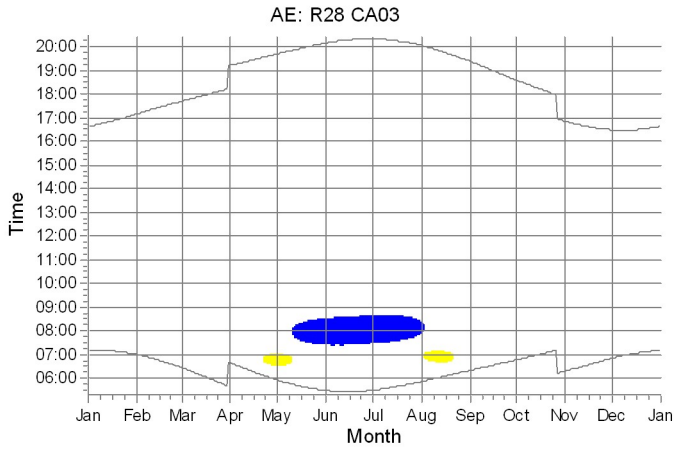


WTGs



SHADOW - Calendar, graphical

Calculation: Bufalo real case

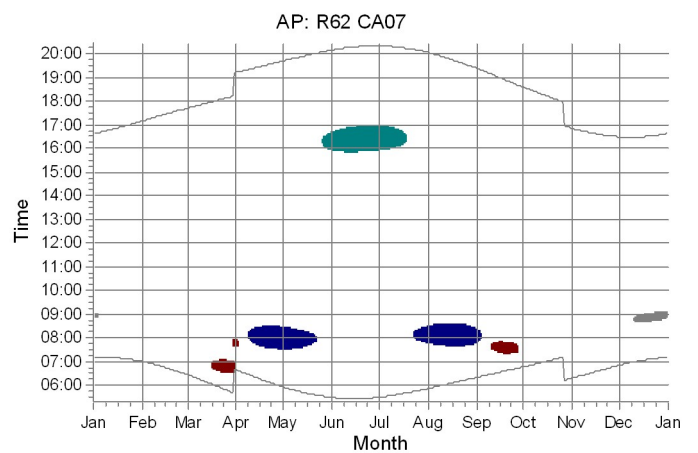
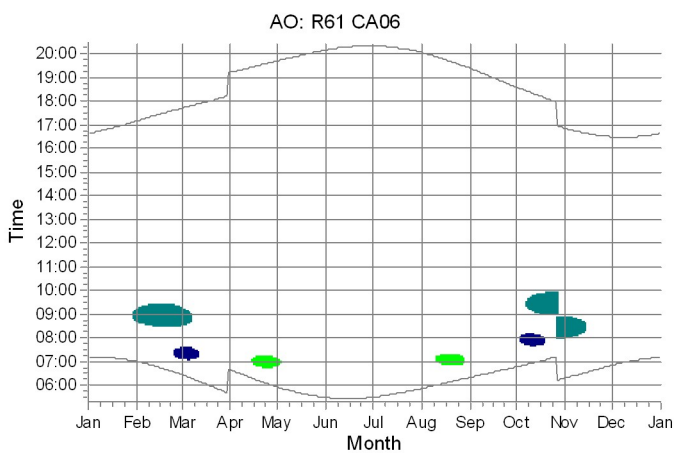
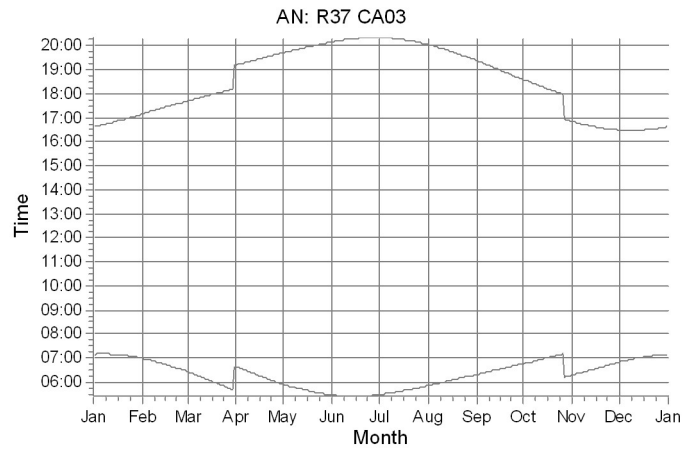
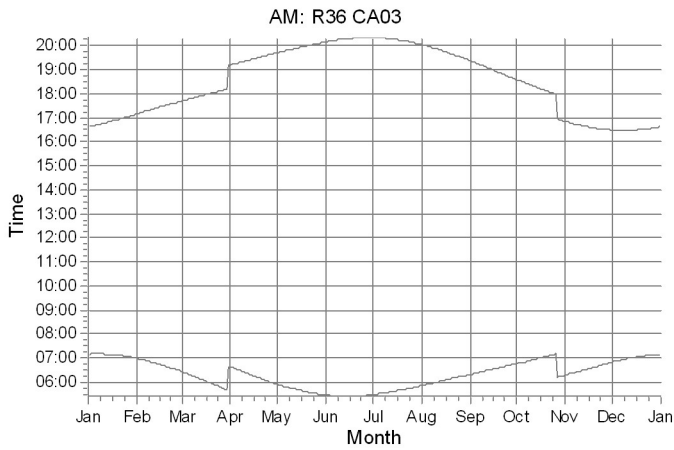
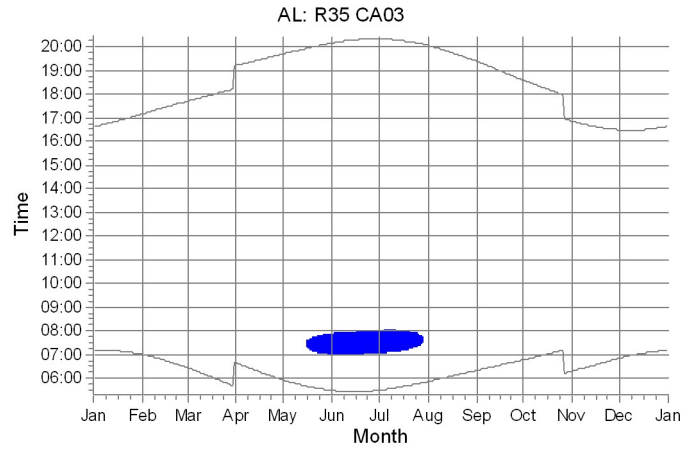
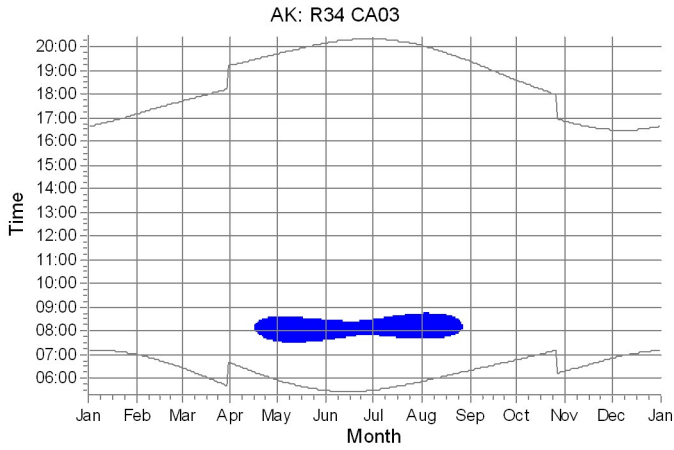


WTGs

2: CA02 3: CA03

SHADOW - Calendar, graphical

Calculation: Bufalo real case

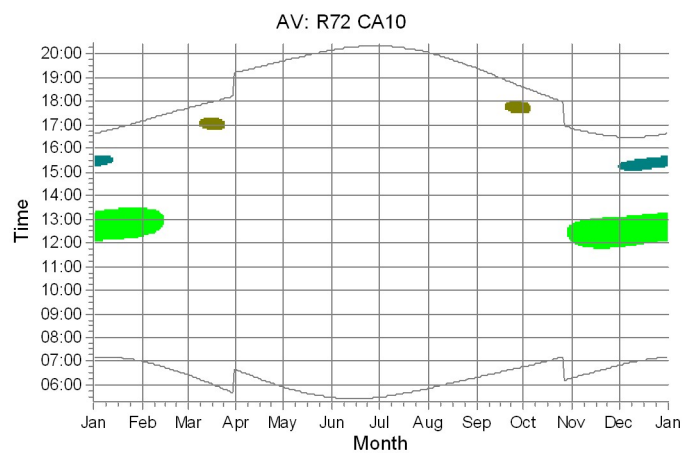
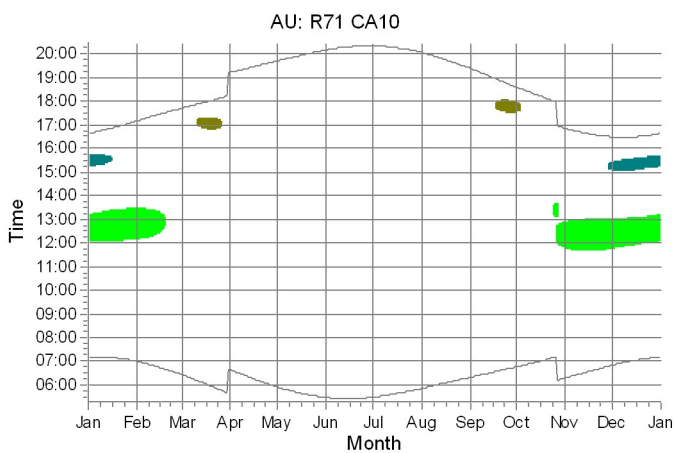
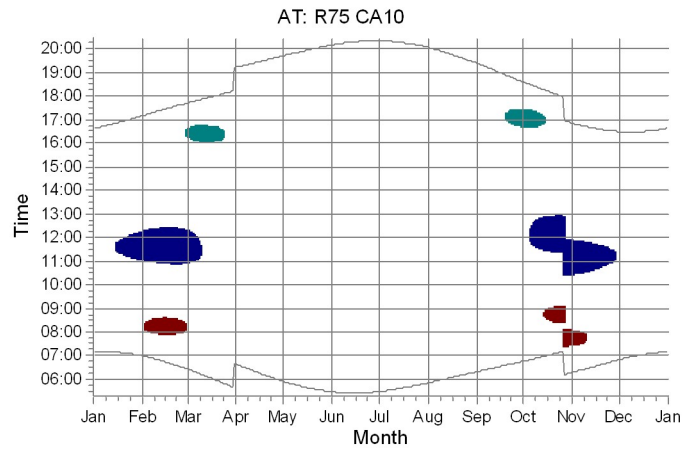
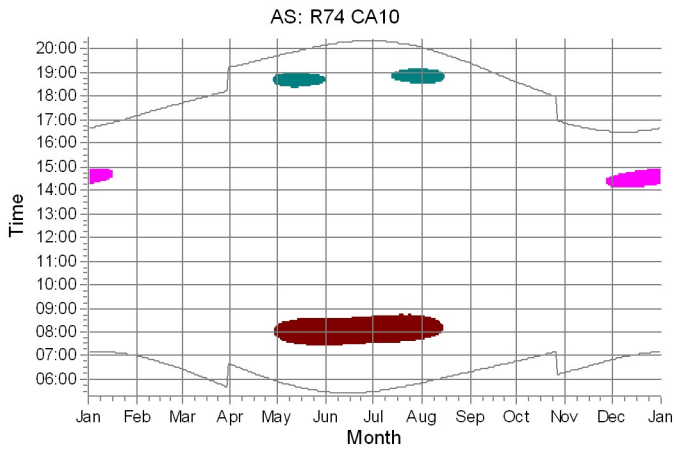
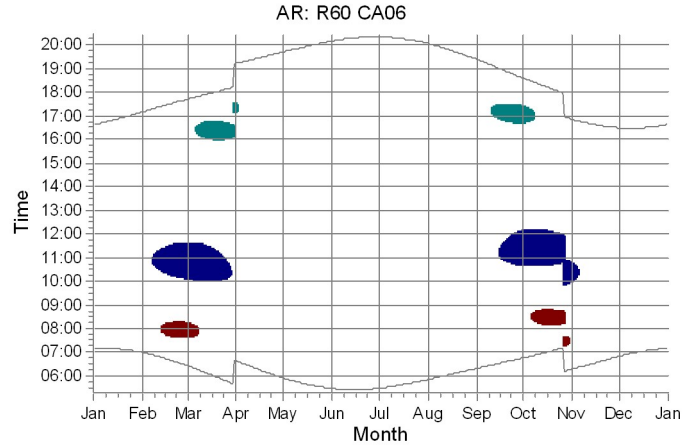
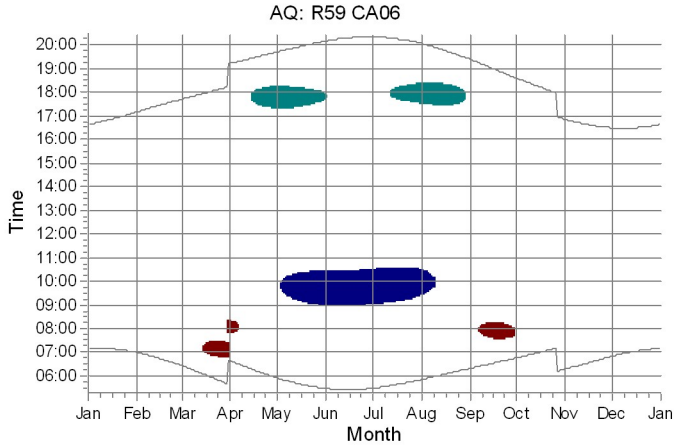


WTGs

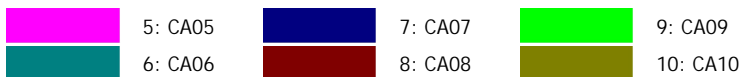
	3: CA03		6: CA06		8: CA08
	4: CA04		7: CA07		9: CA09

SHADOW - Calendar, graphical

Calculation: Bufalo real case

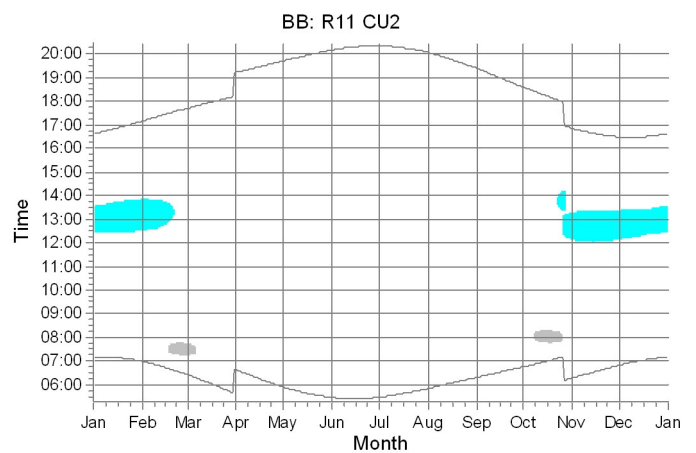
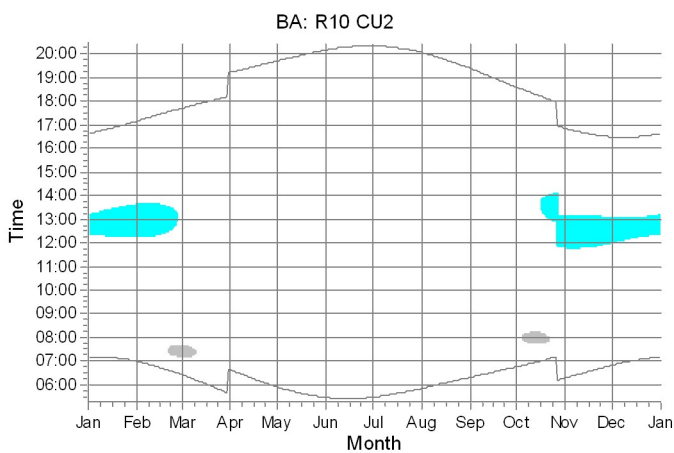
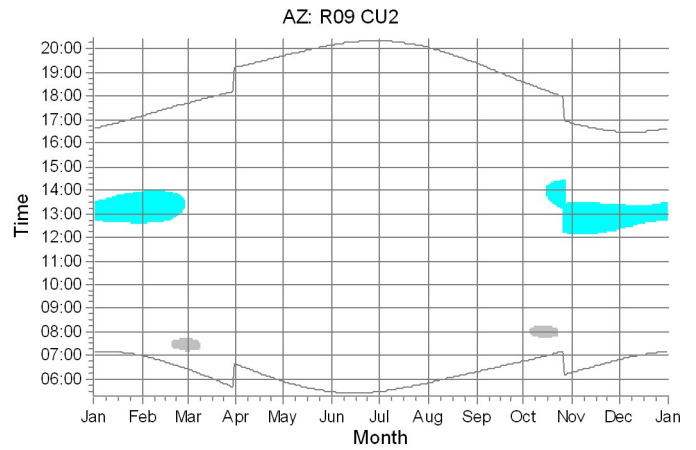
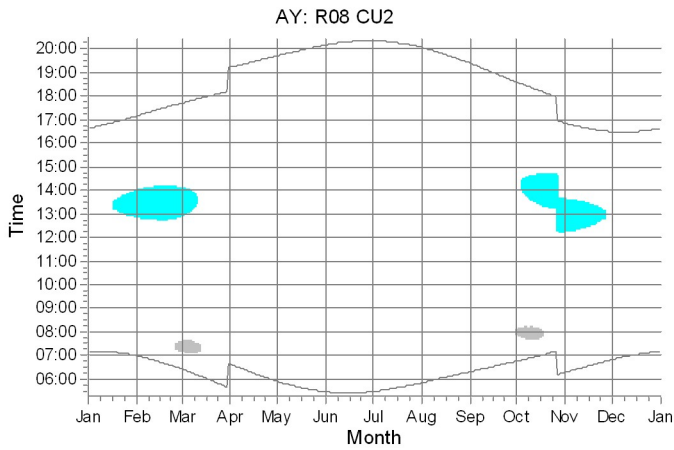
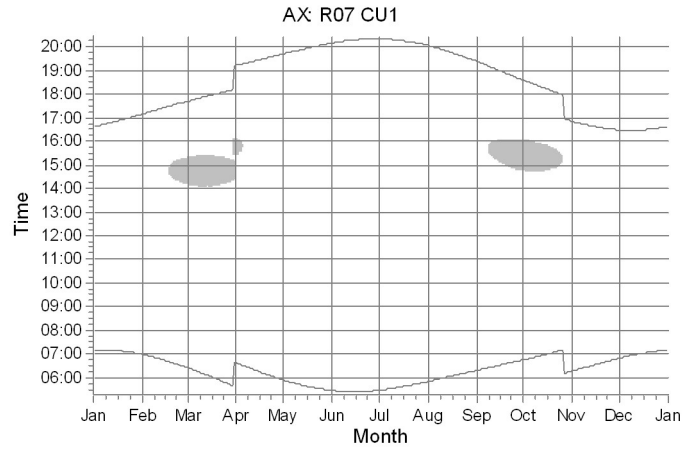
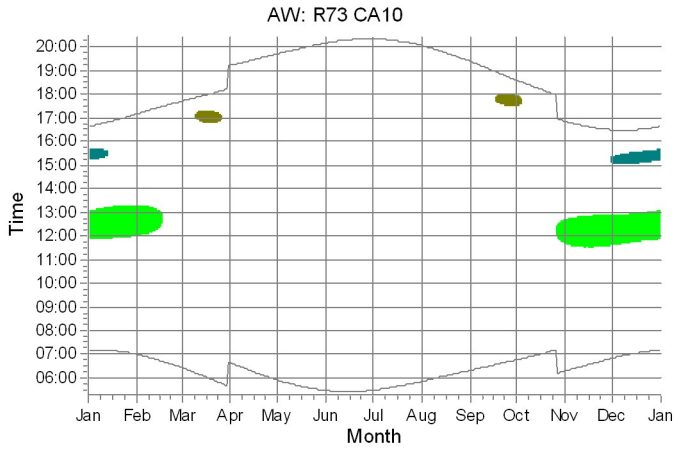


WTGs



SHADOW - Calendar, graphical

Calculation: Buffalo real case

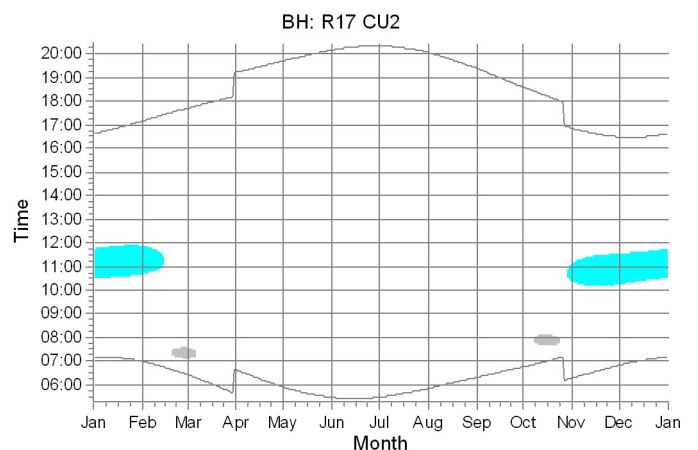
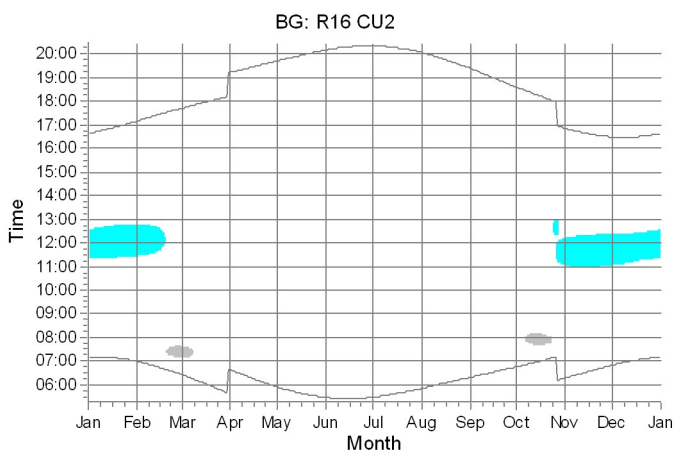
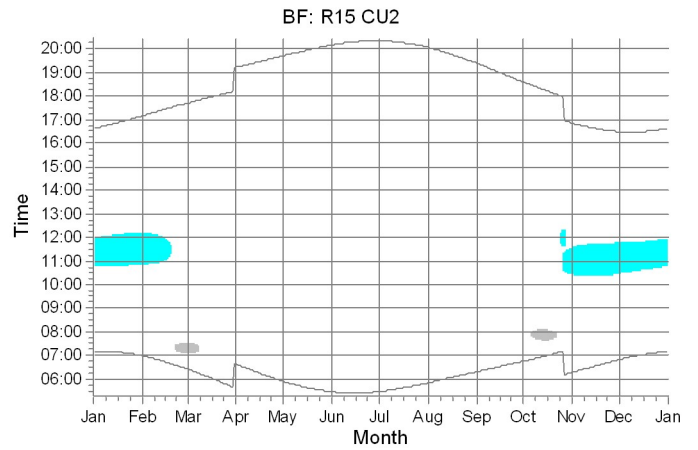
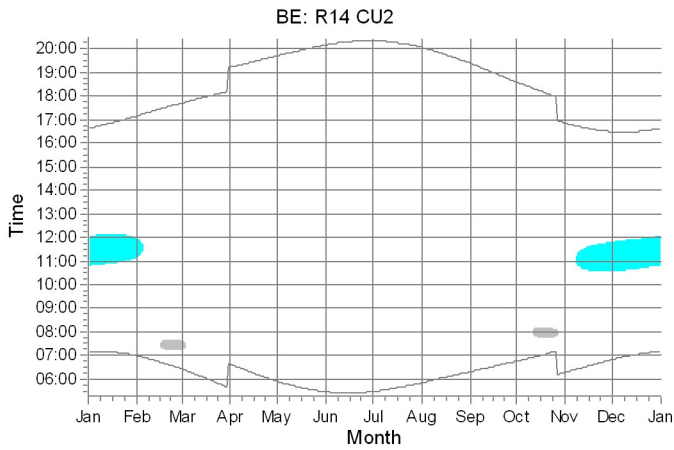
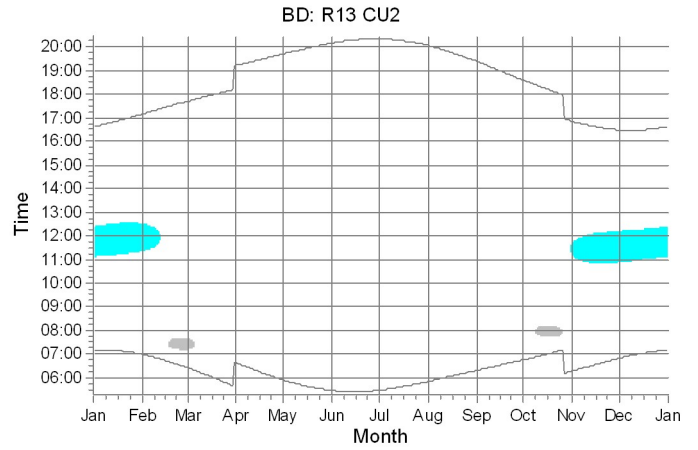
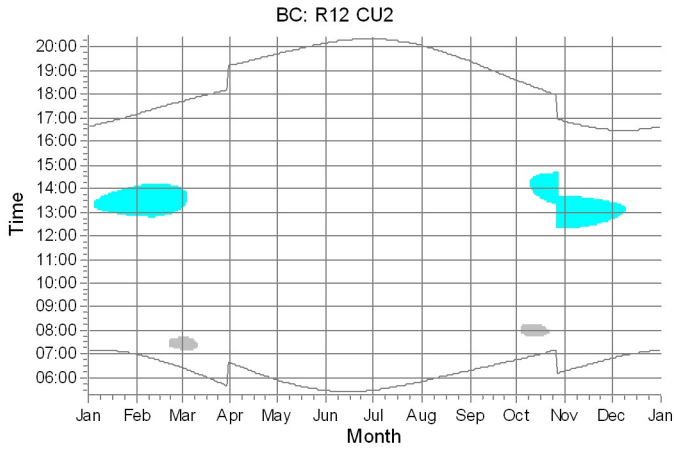


WTGs



SHADOW - Calendar, graphical

Calculation: Bufalo real case

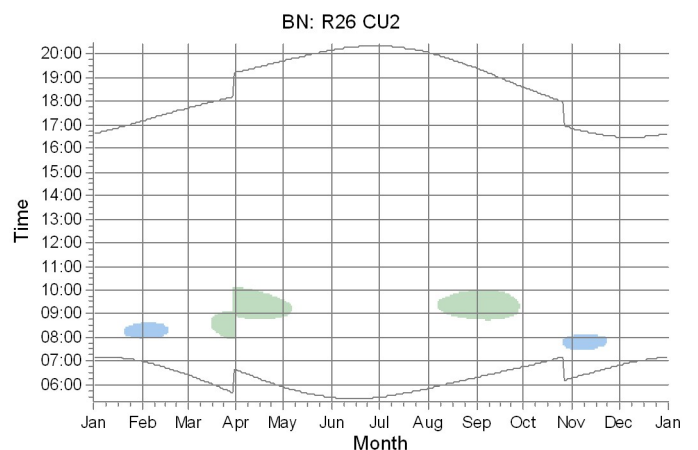
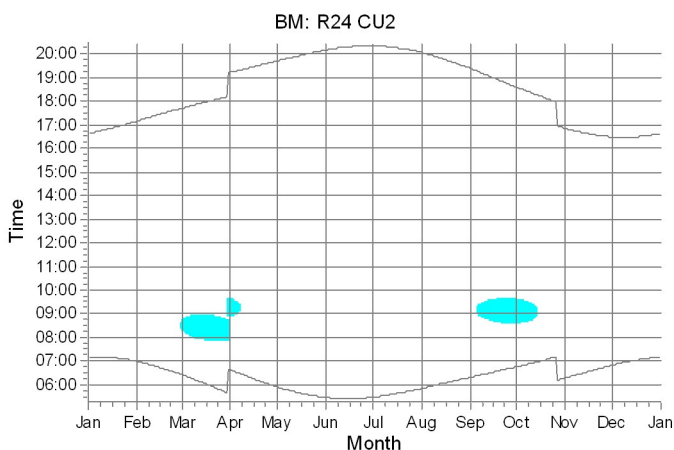
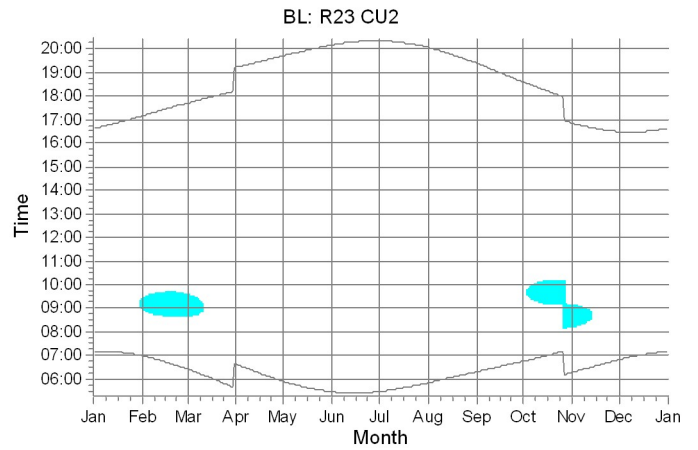
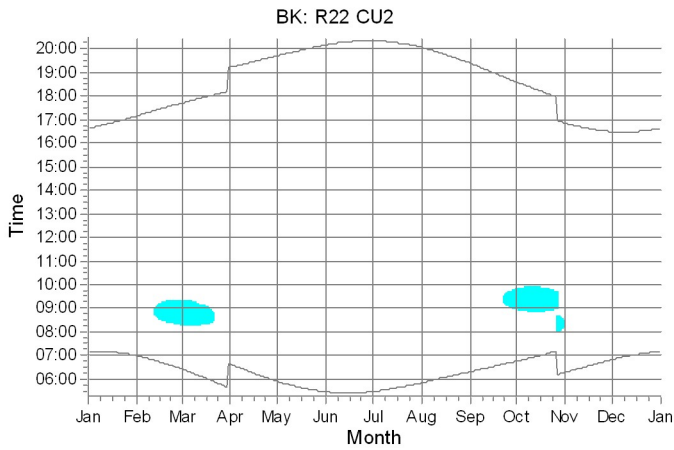
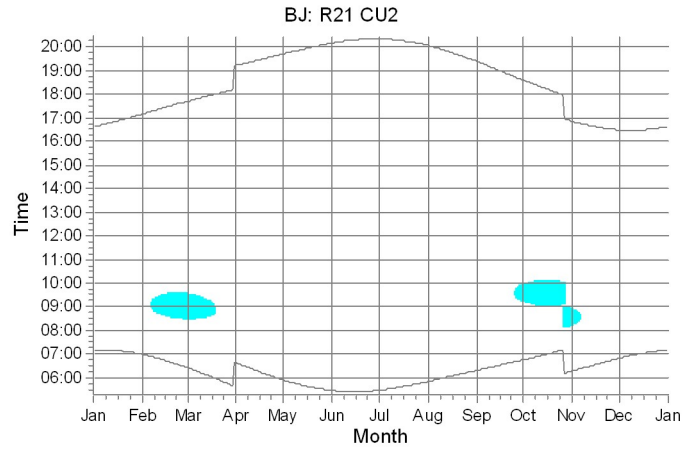
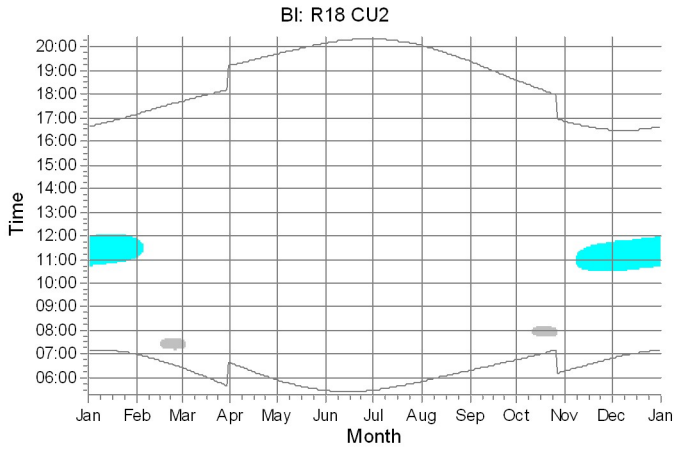


WTGs

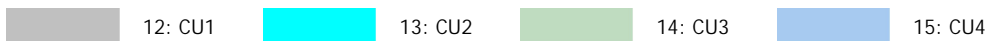
12: CU1 13: CU2

SHADOW - Calendar, graphical

Calculation: Bufalo real case

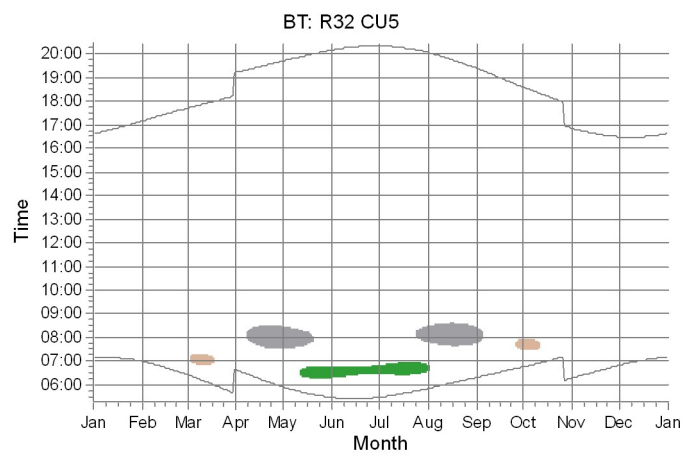
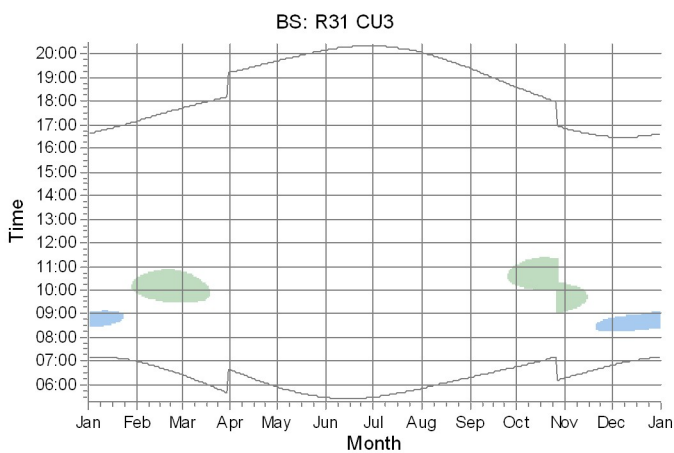
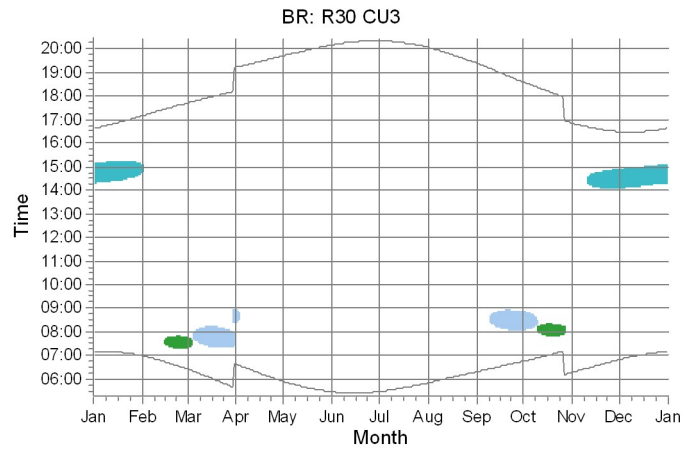
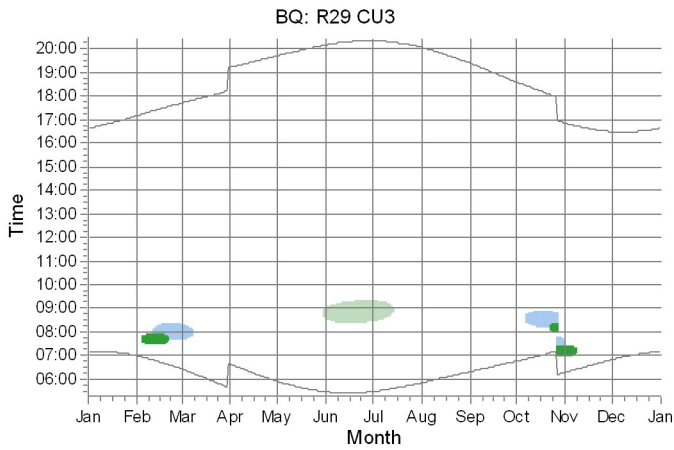
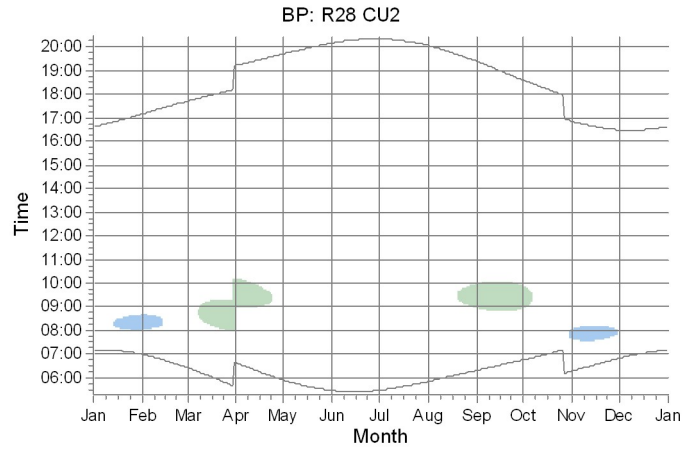
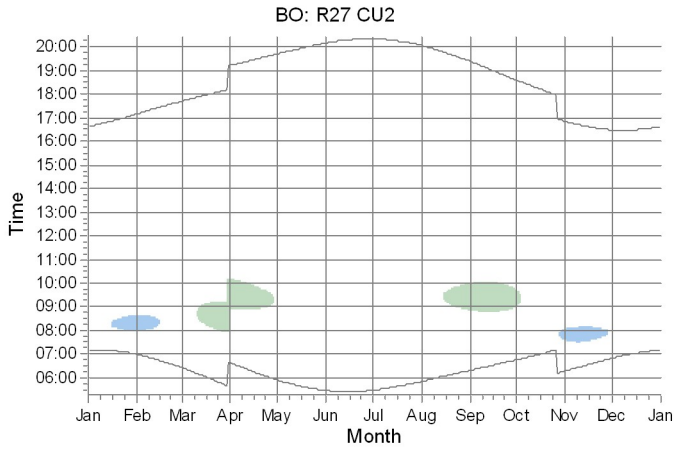


WTGs








SHADOW - Calendar, graphical

Calculation: Bufalo real case

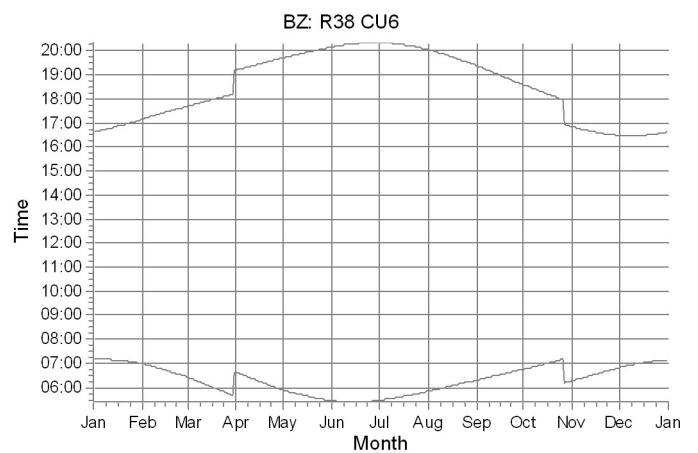
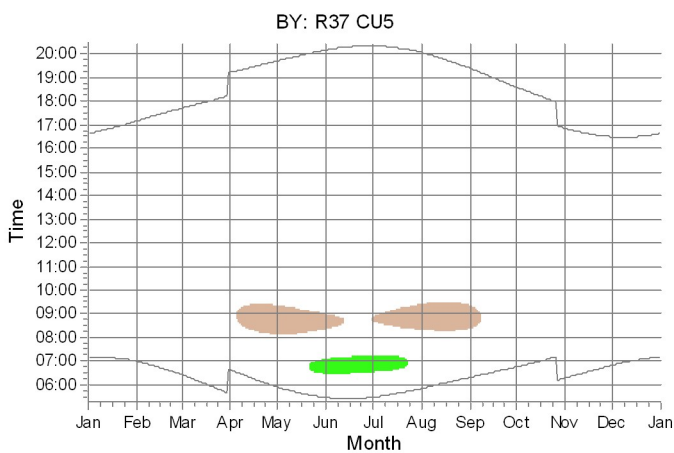
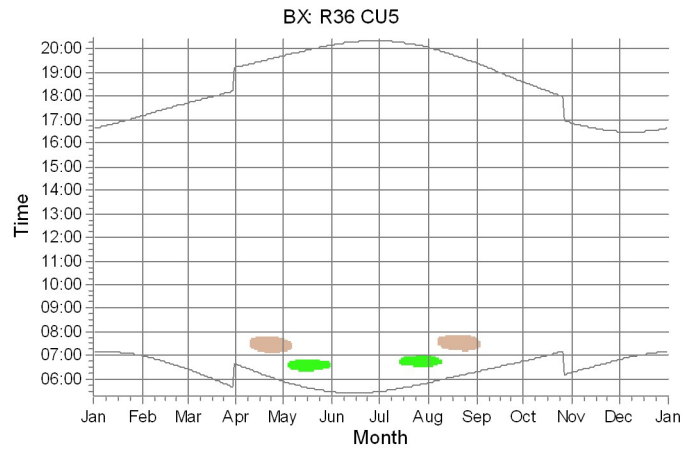
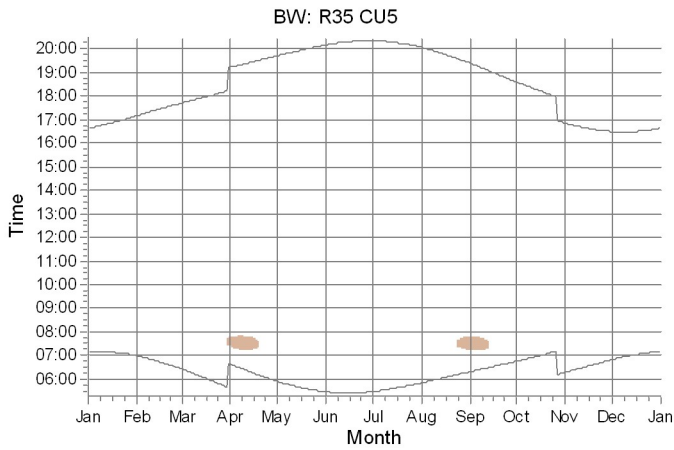
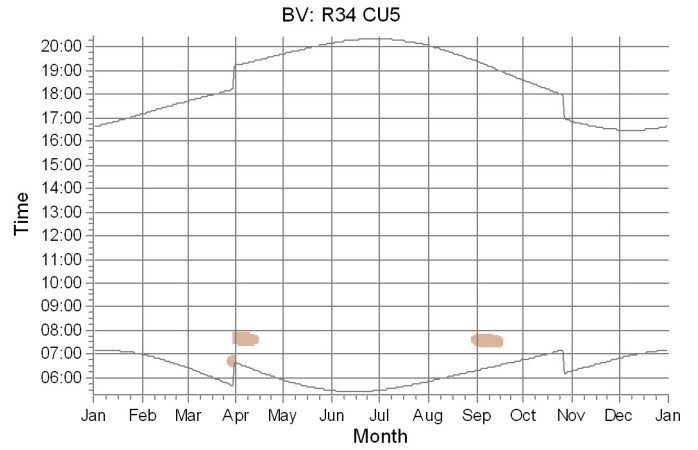
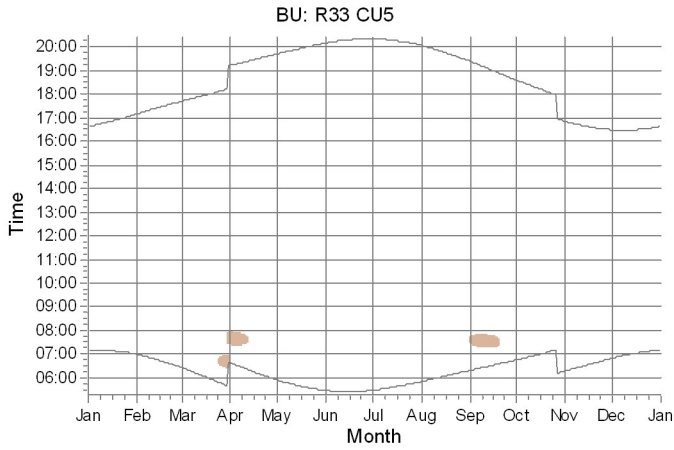


WTGs

	14: CU3		16: CU5		19: CU8
	15: CU4		17: CU6		20: CU9

SHADOW - Calendar, graphical

Calculation: Bufalo real case

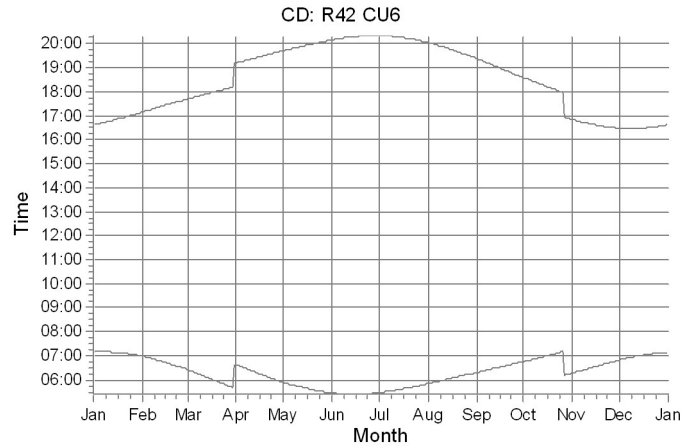
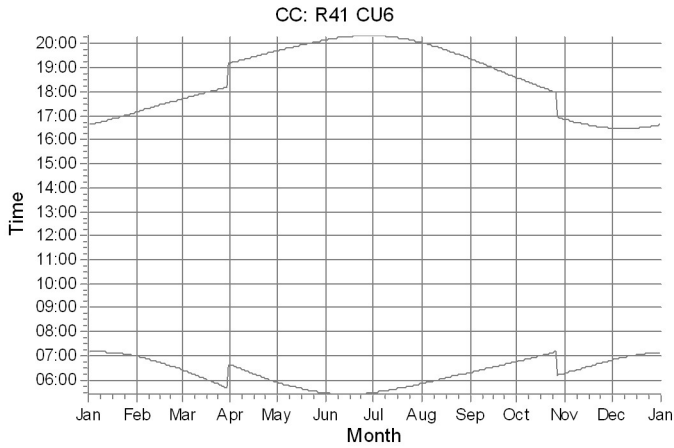
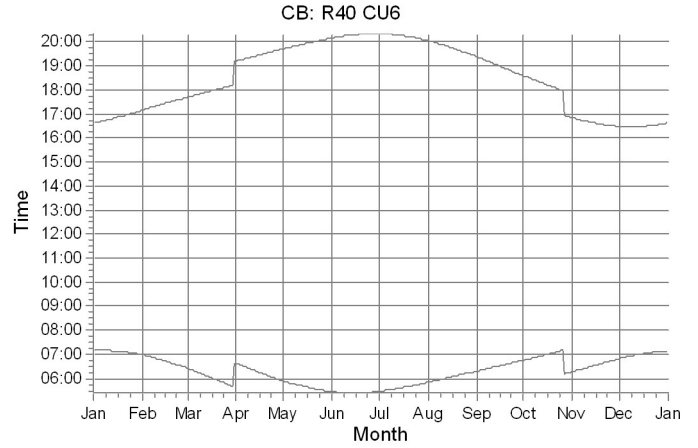
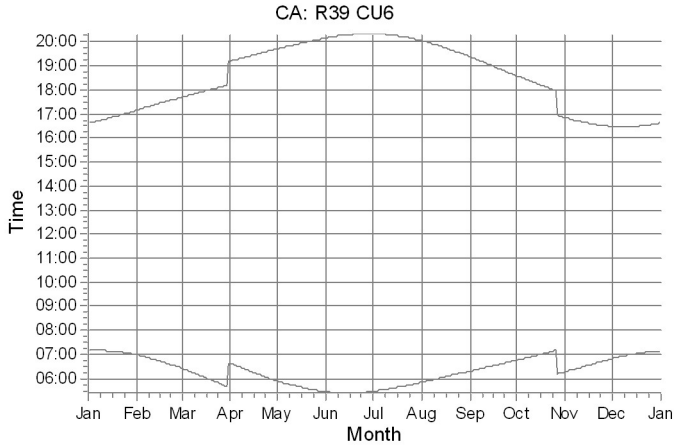


WTGs



SHADOW - Calendar, graphical

Calculation: Bufalo real case



WTGs

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar per WTG

Calculation: Bufalo real case WTG: 1 - CA01

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
1.500 1.500 3.000

Table with 12 columns for months (January to December) and 13 rows of time slots (1-13). Each cell contains start and end times for shadow events. Summary rows at the bottom show 'Potential sun hours' and 'Sum of minutes with flicker' for each month.

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: Bufalo real case WTG: 2 - CA02
Assumptions for shadow calculations
Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June	
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	07:16-07:37/21 06:35 07:15-07:37/22 19:14	05:54 06:32-07:02/30 19:42	05:27 20:10
2	07:09 16:38	06:58 17:11	06:23 17:43	06:35 19:14	07:15-07:37/22 19:43	05:53 06:31-06:59/28 19:44	05:27 20:10
3	07:09 16:39	06:57 17:12	06:22 17:44	06:34 19:15	07:15-07:37/22 19:19	05:52 06:31-06:57/26 19:45	05:27 20:11
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	07:15-07:36/21 19:19	05:50 06:30-06:56/26 19:45	05:26 20:12
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	07:16-07:35/19 19:19	05:49 06:29-06:55/26 19:46	05:26 18:28-18:34/6 20:12
6	07:10 16:42	06:54 17:15	06:17 17:47	06:29 19:18	07:16-07:34/18 19:19	05:48 06:28-06:55/27 19:47	05:26 18:26-18:37/11 20:13
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	07:17-07:33/16 19:19	05:47 06:28-06:55/27 19:48	05:25 18:25-18:39/14 20:13
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	07:18-07:30/12 19:21	05:46 06:28-06:55/27 19:50	05:25 18:24-18:41/17 20:14
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	07:21-07:28/7 19:21	05:45 06:28-06:54/26 19:50	05:25 18:23-18:42/19 20:15
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	07:09-07:37/28 19:22	05:44 06:27-06:54/27 19:51	05:25 18:22-18:43/21 20:15
11	07:09 16:46	06:49 17:21	06:10 17:53	06:22 19:23	07:07-07:37/30 19:23	05:43 06:27-06:53/26 19:52	05:25 18:21-18:44/23 20:16
12	07:09 16:47	06:48 17:22	06:08 17:54	06:20 19:24	07:02-07:08/6 19:24	05:42 06:27-06:52/25 19:53	05:25 18:21-18:45/24 20:16
13	07:09 16:48	06:47 17:23	06:07 17:55	06:19 19:25	06:59-07:12/13 19:25	05:41 06:28-06:52/24 19:54	05:25 18:21-18:45/24 20:17
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	06:57-07:13/16 19:26	05:40 06:28-06:51/23 19:55	05:24 18:20-18:46/26 20:17
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	06:55-07:14/19 19:27	05:39 06:28-06:50/22 19:56	05:24 18:20-18:46/26 20:17
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	06:53-07:14/21 19:28	05:38 06:29-06:50/21 19:56	05:24 18:20-18:47/27 20:18
17	07:08 16:53	06:42 17:28	06:00 17:59	06:13 19:29	06:50-07:15/25 19:29	05:37 06:29-06:49/20 19:57	05:25 18:20-18:47/27 20:18
18	07:07 16:54	06:41 17:29	05:59 18:00	06:11 19:30	06:49-07:15/26 19:30	05:36 06:29-06:48/19 19:58	05:25 18:21-18:49/28 20:18
19	07:07 16:55	06:39 17:30	05:57 18:01	06:10 19:31	06:47-07:15/28 19:31	05:35 06:31-06:48/17 19:59	05:25 18:21-18:49/28 20:19
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	06:47-07:15/28 19:32	05:35 06:31-06:47/16 20:00	05:25 18:21-18:49/28 20:19
21	07:06 16:57	06:37 17:32	05:54 18:03	06:07 19:33	06:46-07:14/28 19:33	05:34 06:32-06:46/14 20:01	05:25 18:21-18:49/28 20:19
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	06:44-07:14/30 19:34	05:33 06:34-06:45/11 20:02	05:25 18:21-18:49/28 20:20
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	06:43-07:13/30 19:35	05:32 06:36-06:43/7 20:03	05:25 18:22-18:50/28 20:20
24	07:05 17:00	06:33 17:36	05:49 18:06	06:03 19:35	06:41-07:13/32 19:35	05:32 06:36-06:43/7 20:03	05:26 18:22-18:50/28 20:20
25	07:04 17:02	06:32 17:37	05:48 18:06	06:02 19:36	06:39-07:11/32 19:36	05:31 06:37-07:09/32 20:04	05:26 18:22-18:49/27 20:20
26	07:03 17:03	06:30 17:38	05:46 18:07	06:00 19:37	06:38-07:10/32 19:37	05:30 06:37-07:09/32 20:05	05:26 18:22-18:49/27 20:20
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	06:37-07:09/32 19:38	05:30 06:37-07:09/32 20:06	05:27 18:23-18:50/27 20:20
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	06:35-07:07/32 19:39	05:29 06:35-07:07/32 20:07	05:27 18:23-18:49/26 20:20
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	06:35-07:06/31 19:40	05:29 06:35-07:06/31 20:07	05:27 18:24-18:50/26 20:20
30	07:00 17:07		05:40 18:11	05:55 19:41	06:34-07:05/31 19:41	05:28 06:34-07:05/31 20:08	05:28 18:25-18:49/24 20:20
31	07:00 17:08		06:38 19:12			05:28 06:38 20:09	
Potential sun hours	302	310	370	396	443	446	
Sum of minutes with flicker	0	0	622	650	515	618	

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: Bufalo real case WTG: 2 - CA02

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28 18:25-18:48/23 20:20	05:50 06:38-07:03/25 20:03	06:18 19:23	06:46 07:45-08:17/32 18:35	06:17 16:51	06:49 16:29
2	05:29 18:26-18:48/22 20:20	05:51 06:38-07:04/26 20:02	06:19 19:21	06:46 07:45-08:16/31 18:33	06:18 16:50	06:50 16:29
3	05:29 18:27-18:47/20 20:20	05:52 06:38-07:05/27 20:01	06:20 07:18-07:24/6 19:20	06:47 07:46-08:15/29 18:32	06:19 16:49	06:51 16:29
4	05:30 18:28-18:47/19 20:20	05:53 06:38-07:05/27 20:00	06:21 07:15-07:27/12 19:18	06:48 07:47-08:14/27 18:30	06:20 16:48	06:52 16:28
5	05:30 18:29-18:45/16 20:20	05:54 06:38-07:06/28 19:59	06:22 07:13-07:29/16 19:16	06:49 07:48-08:12/24 18:29	06:21 16:47	06:53 16:28
6	05:31 18:31-18:44/13 20:19	05:55 06:38-07:05/27 19:58	06:23 07:12-07:30/18 19:15	06:50 07:49-08:10/21 18:27	06:22 16:46	06:54 16:28
7	05:31 18:34-18:43/9 20:19	05:56 06:38-07:05/27 19:56	06:24 07:11-07:30/19 19:13	06:51 07:51-08:08/17 18:26	06:23 16:45	06:55 16:28
8	05:32 20:19	05:57 06:38-07:05/27 19:55	06:25 07:10-07:31/21 19:12	06:52 07:54-08:04/10 18:24	06:24 16:44	06:56 16:28
9	05:33 20:18	05:58 06:39-07:05/26 19:54	06:26 07:09-07:31/22 19:10	06:53 18:22	06:26 16:43	06:57 16:28
10	05:33 20:18	05:59 06:40-07:06/26 19:53	06:27 07:08-07:30/22 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	05:34 20:18	05:59 06:40-07:09/29 19:52	06:27 07:08-07:29/21 19:07	06:55 18:19	06:28 16:41	06:58 16:28
12	05:35 20:17	06:00 06:41-07:12/31 19:51	06:28 07:08-07:29/21 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	05:35 20:17	06:01 06:42-07:13/31 19:49	06:29 07:09-07:28/19 19:04	06:57 18:16	06:30 16:39	07:00 16:29
14	05:36 20:16	06:02 06:43-07:14/31 19:48	06:30 07:09-07:27/18 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	05:37 20:16	06:03 06:43-07:15/32 19:47	06:31 07:10-07:25/15 19:01	06:59 18:14	06:32 16:37	07:01 16:29
16	05:37 20:15	06:04 06:44-07:16/32 19:45	06:32 07:12-07:23/11 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	05:38 20:15	06:05 06:45-07:17/32 19:44	06:33 18:57	07:01 18:11	06:34 16:36	07:03 16:30
18	05:39 20:14	06:06 06:46-07:18/32 19:43	06:34 07:58-08:11/13 18:56	07:02 18:09	06:36 16:35	07:03 16:30
19	05:40 20:14	06:07 06:47-07:19/32 19:41	06:35 07:55-08:13/18 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	05:40 06:47-06:51/4 20:13	06:08 06:48-07:18/30 19:40	06:35 07:53-08:15/22 18:53	07:04 18:06	06:38 16:34	07:05 16:31
21	05:41 06:45-06:54/9 20:12	06:09 06:49-07:19/30 19:39	06:36 07:51-08:16/25 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	05:42 06:43-06:56/13 20:12	06:09 06:50-07:19/29 19:37	06:37 07:50-08:17/27 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	05:43 06:42-06:57/15 20:11	06:10 06:50-07:19/29 19:36	06:38 07:49-08:18/29 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	05:44 06:42-06:58/16 20:10	06:11 06:51-07:19/28 19:34	06:39 07:48-08:19/31 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	05:44 06:40-06:58/18 20:09	06:12 06:52-07:18/26 19:33	06:40 07:46-08:18/32 18:44	07:09 18:00	06:43 16:31	07:07 16:33
26	05:45 06:40-06:59/19 20:08	06:13 06:54-07:18/24 19:32	06:41 07:46-08:18/32 18:43	07:10 17:58	06:44 16:31	07:08 16:34
27	05:46 06:39-07:00/21 20:08	06:14 06:55-07:16/21 19:30	06:42 07:45-08:18/33 18:41	06:11 16:57	06:45 16:30	07:08 16:35
28	05:47 06:39-07:01/22 20:07	06:15 06:56-07:15/19 19:29	06:43 07:45-08:18/33 18:40	06:12 16:56	06:46 16:30	07:08 16:35
29	05:48 06:39-07:01/22 20:06	06:16 06:58-07:14/16 19:27	06:44 07:45-08:18/33 18:38	06:14 16:55	06:47 16:30	07:09 16:36
30	05:49 06:38-07:01/23 20:05	06:17 06:59-07:12/13 19:26	06:45 07:45-08:17/32 18:36	06:15 16:54	06:48 16:29	07:09 16:37
31	05:50 06:38-07:02/24 20:04	06:18 07:02-07:08/6 19:24		06:16 16:52		07:09 16:37
Potential sun hours	453	424	374	347	303	294
Sum of minutes with flicker	328	819	601	191	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: Bufalo real case WTG: 3 - CA03

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
1.500 1.500 3.000

Table with columns for months (January to June) and rows for days (1 to 31). Each cell contains sun rise and set times and minutes with flicker. Summary row at the bottom shows total minutes with flicker for each month.

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

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

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar per WTG

Calculation: Bufalo real case WTG: 3 - CA03
Assumptions for shadow calculations
Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

Table with columns for months (July to December) and rows for each day of the year, showing sunrise and sunset times and shadow calculations.

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: Bufalo real case WTG: 4 - CA04

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:09 08:53-09:00/7 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:51 20:03	06:19 19:23	06:46 18:35	06:17 16:51	06:49 16:29
2	07:09 08:55-08:59/4 16:38	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	06:18 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 16:28
5	07:10 16:41	06:55 17:14	06:19 17:46	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:14	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	06:23 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:09 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16	05:34 20:18	06:00 19:52	06:27 19:07	06:55 18:20	06:28 16:41	06:58 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:25 20:17	05:36 20:17	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	05:25 20:18	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:37	07:02 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	05:25 20:18	05:37 20:15	06:04 19:46	06:32 18:59	07:00 18:12	06:33 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:35 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:19	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:04 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:35 19:59	05:25 20:19	05:40 20:14	06:07 19:41	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:31	05:56 18:02	06:08 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:36 18:53	07:04 18:06	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:20	05:42 20:12	06:10 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:32 20:03	05:26 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:34	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	05:26 20:20	05:44 20:09	06:12 19:33	06:40 18:45	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	05:26 20:20	05:45 20:08	06:13 19:32	06:41 18:43	07:10 17:59	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:08	05:59 19:38	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	06:11 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:27 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	06:13 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:10	05:56 19:40	05:29 20:07	05:27 20:20	05:48 20:06	06:16 19:27	06:44 18:38	06:14 16:55	06:47 16:30	07:09 16:36
30	07:00 17:07	06:25 18:11	05:41 19:41	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:37	06:15 16:54	06:48 16:29	07:09 16:37
31	07:00 17:08	06:24 19:12	05:40 19:42	05:54 19:42	05:28 20:09	05:28 20:20	05:50 19:24	06:18 19:24	06:46 16:52	06:16 16:52	06:48 16:29	07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Sum of minutes with flicker	11	0	0	0	0	0	0	0	0	0	0	258

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: Bufalo real case WTG: 5 - CA05
Assumptions for shadow calculations
Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:09 14:20-14:52/32 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:51 20:03	06:19 19:23	06:46 18:35	06:17 16:51	06:49 14:13-14:33/20 16:29
2	07:09 14:20-14:52/32 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	06:18 16:50	06:50 14:12-14:34/22 16:29
3	07:10 14:21-14:52/31 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	06:19 16:49	06:51 14:12-14:36/24 16:29
4	07:10 14:22-14:53/31 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 16:48	06:52 14:11-14:37/26 16:29
5	07:10 14:23-14:53/30 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	06:21 16:47	06:53 14:11-14:38/27 16:28
6	07:10 14:24-14:53/29 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 14:11-14:39/28 16:28
7	07:10 14:25-14:53/28 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:14	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	06:23 16:45	06:55 14:11-14:40/29 16:28
8	07:10 14:26-14:53/27 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:25 16:44	06:56 14:11-14:41/30 16:28
9	07:10 14:27-14:53/26 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	06:26 16:43	06:57 14:10-14:41/31 16:28
10	07:10 14:28-14:52/24 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 14:10-14:41/31 16:28
11	07:10 14:29-14:51/22 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16	05:34 20:18	06:00 19:52	06:28 19:07	06:55 18:20	06:28 16:41	06:58 14:11-14:42/31 16:28
12	07:09 14:31-14:51/20 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:17	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 14:11-14:43/32 16:29
13	07:09 14:33-14:51/18 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 14:11-14:44/33 16:29
14	07:09 14:34-14:49/15 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:25 20:17	05:36 20:17	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 14:11-14:44/33 16:29
15	07:09 14:37-14:47/10 16:51	06:44 17:26	06:04 17:57	06:16 19:27	05:39 19:56	05:25 20:18	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:38	07:02 14:11-14:45/34 16:29
16	07:08 16:52 16:53	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	05:25 20:18	05:37 20:15	06:04 19:46	06:32 18:59	07:00 18:12	06:33 16:37	07:02 14:12-14:46/34 16:29
17	07:08 16:53 16:54	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:57	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:35 16:36	07:03 14:12-14:46/34 16:30
18	07:08 16:54 16:55	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:19	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:04 14:13-14:47/34 16:30
19	07:07 16:55 16:56	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	05:25 20:19	05:40 20:14	06:07 19:42	06:35 18:54	07:03 18:08	06:37 16:35	07:04 14:12-14:47/35 16:30
20	07:07 16:56 16:57	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:36 18:53	07:04 18:07	06:38 16:34	07:05 14:13-14:48/35 16:31
21	07:06 16:57 16:58	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:19	05:41 20:12	06:09 19:39	06:36 18:51	07:05 18:05	06:39 16:33	07:05 14:14-14:49/35 16:31
22	07:06 16:58 16:59	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:20	05:42 20:12	06:10 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 14:14-14:49/35 16:32
23	07:05 16:59 17:00	06:34 17:35	05:51 18:05	06:04 19:35	05:32 20:03	05:26 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:02	06:41 16:32	07:06 14:14-14:49/35 16:32
24	07:05 17:00 17:01	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:03	05:26 20:20	05:44 20:10	06:11 19:35	06:39 18:46	07:08 18:01	06:42 16:32	07:07 14:15-14:50/35 16:33
25	07:04 17:02 17:03	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	05:26 20:20	05:45 20:09	06:12 19:33	06:40 18:45	07:09 18:00	06:43 16:31	07:07 14:15-14:50/35 16:33
26	07:03 17:03 17:04	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	05:26 20:20	05:45 20:09	06:13 19:32	06:41 18:43	07:10 17:59	06:44 16:31	07:08 14:17-14:51/34 16:34
27	07:03 17:04 17:05	06:29 17:39	05:45 18:09	05:59 19:38	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	07:11 16:57	06:45 16:30	07:08 14:17-14:51/34 16:35
28	07:02 17:05 17:06	06:28 17:40	05:43 18:09	05:58 19:39	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	07:12 16:56	06:46 16:30	07:08 14:17-14:51/34 16:35
29	07:01 17:06 17:07	06:26 17:41	05:42 18:10	05:56 19:40	05:29 20:07	05:27 20:20	05:48 20:06	06:16 19:27	06:44 18:38	07:13 16:55	06:47 16:30	07:09 14:18-14:51/33 16:36
30	07:00 17:07 17:08	06:25 18:11	05:41 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:37	07:14 16:54	06:48 16:29	07:09 14:19-14:52/33 16:37
31	07:00 17:08 17:09	06:24 19:12	05:40 19:12	05:54 20:09	05:27 20:09	05:27 20:20	05:49 20:04	06:18 19:24	06:46 16:52	07:15 16:52	06:49 16:28	07:09 14:20-14:52/33 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Sum of minutes with flicker	375	0	0	0	0	0	0	0	0	0	41	978

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: Bufalo real case WTG: 6 - CA06

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
1.500 1.500 3.000

Table with columns for months (January to June) and rows for days (1 to 31). Each cell contains a time range (e.g., 07:09 15:16-15:40/24) and a shadow status (0 or 1). Summary rows at the bottom show 'Potential sun hours' and 'Sum of minutes with flicker' for each month.

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

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

SHADOW - Calendar per WTG

Calculation: Bufalo real case WTG: 6 - CA06

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Table with 12 columns (Jan-Dec) and 1 row of values: 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time table with 3 columns (0, 1, Sum) and 2 rows of values: 1.500 1.500 3.000

Main shadow calculation table with columns for months (July-December) and rows for days (1-31). Each cell contains time intervals and flicker data.

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

Matrix with 2 rows and 3 columns: Day in month, Sun rise/set times, First/Last time with flicker, Minutes with flicker.

SHADOW - Calendar per WTG

Calculation: Bufalo real case WTG: 7 - CA07

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4,16	4,62	5,58	6,71	8,10	9,27	10,00	9,47	7,89	5,95	5,05	4,11

Operational time		
0	1	Sum
1.500	1.500	3.000

	January	February	March	April	May	June
1	07:09 16:38	06:59 11:05-12:14/69 17:10	06:25 10:08-12:15/127 17:42 07:09-07:32/23	06:37 19:13	05:54 07:34-08:24/50	05:27 09:02-10:24/82 19:10
2	07:09 16:38	06:58 11:04-12:15/71 17:11	06:23 10:07-12:14/127 17:43 07:09-07:33/24	06:35 19:14	05:53 07:34-08:24/50	05:27 09:02-10:24/82 20:10
3	07:10 16:39	06:57 11:03-12:16/73 17:12	06:22 10:06-12:11/125 17:44 07:08-07:32/24	06:34 19:15	05:52 07:35-08:24/49	05:27 09:02-10:24/82 20:11
4	07:10 16:40	06:56 11:03-12:17/74 17:13	06:20 10:06-12:09/123 17:45 07:08-07:33/25	06:32 19:16	05:50 09:45-09:54/9	05:26 09:02-10:24/82 20:12
5	07:10 16:41	06:55 11:02-12:18/76 17:14	06:19 10:05-12:05/120 17:46 07:07-07:32/25	06:31 19:17	05:49 09:37-10:02/25	05:26 09:01-10:24/83 20:12
6	07:10 16:42	06:54 11:02-12:19/77 17:15	06:17 10:05-12:02/117 17:48 07:08-07:32/24	06:29 19:18	05:48 09:32-10:06/34	05:26 09:01-10:24/83 20:13
7	07:10 16:43	06:53 11:01-12:20/79 17:17	06:16 10:04-11:56/112 17:49 07:08-07:30/22	06:28 19:19	05:47 09:29-10:09/40	05:25 09:01-10:24/83 20:14
8	07:10 16:44	06:52 10:48-12:20/92 17:18	06:14 10:04-11:50/106 17:50 07:09-07:29/20	06:26 19:20	05:46 09:26-10:11/45	05:25 09:01-10:25/84 20:14
9	07:10 16:45	06:51 10:42-12:21/99 17:19	06:13 10:04-11:39/95 17:51 07:10-07:27/17	06:25 08:01-08:12/11 19:21	05:45 09:23-10:13/50	05:25 09:01-10:25/84 20:15
10	07:10 16:46	06:50 10:38-12:22/104 17:20	06:11 10:04-11:32/88 17:52 07:12-07:26/14	06:23 07:55-08:16/21 19:22	05:44 09:21-10:14/53	05:25 09:01-10:24/83 20:15
11	07:10 16:47	06:49 10:34-12:21/107 17:21	06:10 10:03-11:30/87 17:53 07:14-07:32/8	06:22 07:52-08:19/27 19:23	05:43 09:19-10:15/56	05:25 09:01-10:24/83 20:16
12	07:09 16:47	06:48 10:31-12:22/111 17:22	06:08 10:04-11:29/85 17:54	06:20 07:49-08:20/31 19:24	05:42 09:17-10:17/60	05:25 09:01-10:25/84 20:16
13	07:09 16:49	06:47 10:29-12:23/114 17:24	06:07 10:03-11:27/84 17:55	06:19 07:48-08:22/34 19:25	05:41 09:16-10:17/61	05:25 09:01-10:25/84 20:17
14	07:09 16:50	06:46 10:27-12:23/116 17:25	06:05 10:02-11:25/83 17:56	06:17 07:45-08:23/38 19:26	05:40 09:15-10:19/64	05:24 09:01-10:25/84 20:17
15	07:09 16:51	06:44 10:25-12:24/119 17:26	06:04 10:03-11:24/81 17:57	06:16 07:44-08:24/40 19:27	05:39 09:13-10:20/67	05:24 09:01-10:25/84 20:18
16	07:08 11:28-11:44/16 16:52	06:43 10:23-12:23/120 17:27	06:02 10:03-11:21/78 17:58	06:14 07:42-08:24/42 19:28	05:38 09:12-10:20/68	05:25 09:01-10:25/84 20:18
17	07:08 11:24-11:47/23 16:53	06:42 10:22-12:23/121 17:28	06:01 10:03-11:19/76 17:59	06:13 07:41-08:25/44 19:29	05:37 09:11-10:21/70	05:25 09:02-10:26/84 20:18
18	07:08 11:22-11:50/28 16:54	06:41 10:20-12:24/124 17:29	05:59 10:03-11:16/73 18:00	06:11 07:40-08:26/46 19:30	05:36 09:09-10:21/72	05:25 09:02-10:26/84 20:19
19	07:07 11:20-11:53/33 16:55	06:40 10:19-12:24/125 17:30	05:57 10:04-11:14/70 18:01	06:10 07:39-08:26/47 19:31	05:35 09:09-10:22/73	05:25 09:02-10:26/84 20:19
20	07:07 11:18-11:56/38 16:56	06:38 10:17-12:23/126 17:31	05:56 10:04-11:10/66 18:02	06:08 07:38-08:27/49 19:32	05:35 09:08-10:22/74	05:25 09:02-10:26/84 20:19
21	07:06 11:16-11:57/41 16:57	06:37 10:16-12:23/127 17:33	05:54 10:04-11:06/62 18:03	06:07 07:37-08:26/49 19:33	05:34 09:07-10:22/75	05:25 09:02-10:26/84 20:19
22	07:06 11:15-11:59/44 16:58	06:36 10:16-12:23/127 17:34	05:53 10:06-11:02/56 18:04	06:06 07:37-08:27/50 19:34	05:33 09:07-10:23/76	05:25 09:02-10:26/84 20:20
23	07:05 11:14-12:01/47 16:59	06:34 10:14-12:22/128 17:35	05:51 10:06-10:58/52 18:05	06:04 07:36-08:27/51 19:35	05:32 09:06-10:23/77	05:25 09:03-10:27/84 20:20
24	07:05 11:12-12:03/51 17:00	06:33 10:13-12:22/129 17:36	05:50 10:08-10:54/46 18:06	06:03 07:36-08:27/51 19:36	05:32 09:05-10:23/78	05:26 09:03-10:27/84 20:20
25	07:04 11:11-12:04/53 17:02	06:32 10:12-12:21/129 17:37	05:48 10:09-10:48/39 18:07	06:02 07:35-08:26/51 19:37	05:31 09:05-10:23/78	05:26 09:03-10:27/84 20:20
26	07:03 11:11-12:06/55 17:03	06:30 10:11-12:20/129 17:38	05:46 10:10-10:43/33 18:08	06:00 07:35-08:26/51 19:38	05:30 09:04-10:23/79	05:26 09:04-10:28/84 20:20
27	07:03 11:09-12:08/59 17:04	06:29 10:11-12:20/129 17:39	05:45 10:14-10:37/23 18:08	05:59 07:35-08:26/51 19:38	05:30 09:04-10:24/80	05:27 09:04-10:28/84 20:20
28	07:02 11:08-12:09/61 17:05	06:27 10:09-12:18/129 17:40	05:43 10:21-10:25/4 18:09	05:58 07:34-08:25/51 19:39	05:29 09:03-10:23/80	05:27 09:04-10:28/84 20:20
29	07:01 11:07-12:10/63 17:06	06:26 10:09-12:17/128 17:41	05:42 18:10	05:56 07:34-08:25/51 19:40	05:29 09:03-10:24/81	05:27 09:05-10:29/84 20:20
30	07:00 11:07-12:12/65 17:07		05:40 18:11	05:55 07:34-08:25/51 19:41	05:28 09:02-10:23/81	05:28 09:05-10:29/84 20:20
31	07:00 11:06-12:13/67 17:08		06:38 19:12		05:28 09:02-10:24/82	
	Potential sun hours 302	310	370	396	443	446
	Sum of minutes with flicker 744	3236	2464	937	2543	2507

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: Bufalo real case WTG: 7 - CA07

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Table with 12 columns (Jan-Dec) and 1 row of values: 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time table with 3 columns (0, 1, Sum) and 2 rows of values: 1.500 1.500 3.000

Main shadow calculation table with columns for months (July-December) and rows for days (1-31). Includes sub-rows for sun rise/set and potential sun hours.

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

Matrix layout table with 2 rows and 3 columns: Day in month, Sun rise (hh:mm), Sun set (hh:mm), First time (hh:mm) with flicker, Last time (hh:mm) with flicker, Minutes with flicker.

SHADOW - Calendar per WTG

Calculation: Bufalo real case WTG: 8 - CA08

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:38	06:59 17:10	06:25 07:40-08:12/32 17:42	06:37 07:52-08:18/26 19:13 07:41-07:49/8	05:54 07:52-08:14/22 19:42	05:27 07:29-08:32/63 20:10
2	07:09 16:38	06:58 17:11	06:23 07:41-08:11/30 17:43	06:35 07:52-08:16/24 19:14	05:53 07:49-08:17/28 19:43	05:27 07:29-08:32/63 20:10
3	07:10 16:39	06:57 08:09-08:20/11 17:12	06:22 07:41-08:10/29 17:44	06:34 07:54-08:15/21 19:15	05:52 07:47-08:19/32 19:44	05:27 07:30-08:32/62 20:11
4	07:10 16:40	06:56 08:06-08:23/17 17:13	06:20 07:42-08:09/27 17:45	06:32 07:56-08:12/16 19:16	05:50 07:44-08:20/36 19:45	05:26 07:30-08:33/63 20:12
5	07:10 16:41	06:55 08:04-08:25/21 17:14	06:19 07:43-08:06/23 17:46	06:31 08:00-08:08/8 19:17	05:49 07:42-08:22/40 19:46	05:26 07:30-08:32/62 20:12
6	07:10 16:42	06:54 08:03-08:27/24 17:15	06:17 07:45-08:05/20 17:47	06:29 19:18	05:48 07:41-08:23/42 19:47	05:26 07:30-08:32/62 20:13
7	07:10 16:43	06:53 08:01-08:29/28 17:17	06:16 07:47-08:01/14 17:49	06:28 19:19	05:47 07:39-08:24/45 19:48	05:25 07:30-08:33/63 20:14
8	07:10 16:44	06:52 08:00-08:30/30 17:18	06:14 17:50	06:26 19:20	05:46 07:38-08:25/47 19:49	05:25 07:31-08:33/62 20:14
9	07:10 16:45	06:51 08:00-08:31/31 17:19	06:13 17:51	06:25 19:21	05:45 07:37-08:26/49 19:50	05:25 07:31-08:33/62 20:15
10	07:10 16:45	06:50 07:59-08:32/33 17:20	06:11 17:52	06:23 19:22	05:44 07:36-08:27/51 19:51	05:25 07:30-08:33/63 20:15
11	07:09 16:46	06:49 07:58-08:32/34 17:21	06:10 17:53	06:22 19:23	05:43 07:35-08:27/52 19:52	05:25 07:31-08:33/62 20:16
12	07:09 16:47	06:48 07:57-08:32/35 17:22	06:08 17:54	06:20 19:24	05:42 07:34-08:28/54 19:53	05:25 07:31-08:33/62 20:16
13	07:09 16:48	06:47 07:57-08:33/36 17:23	06:07 17:55	06:19 19:25	05:41 07:33-08:28/55 19:54	05:24 07:31-08:33/62 20:17
14	07:09 16:49	06:46 07:52-08:33/41 17:25	06:05 17:56	06:17 19:26	05:40 07:33-08:30/57 19:55	05:24 07:31-08:33/62 20:17
15	07:09 16:51	06:44 07:50-08:34/44 17:26	06:04 07:06-07:16/10 17:57	06:16 19:27	05:39 07:33-08:30/57 19:56	05:24 07:32-08:33/61 20:17
16	07:08 16:52	06:43 07:47-08:33/46 17:27	06:02 07:02-07:19/17 17:58	06:14 19:28	05:38 07:32-08:30/58 19:56	05:24 07:32-08:33/61 20:18
17	07:08 16:53	06:42 07:46-08:33/47 17:28	06:00 07:00-07:22/22 17:59 06:46-06:55/9	06:13 19:29	05:37 07:31-08:30/59 19:57	05:25 07:32-08:33/61 20:18
18	07:08 16:54	06:41 07:44-08:33/49 17:29	05:59 06:42-07:23/41 18:00	06:11 19:30	05:36 07:31-08:30/59 19:58	05:25 07:33-08:35/62 20:19
19	07:07 16:55	06:40 07:44-08:33/49 17:30	05:57 06:41-07:24/43 18:01	06:10 19:31	05:35 07:31-08:31/60 19:59	05:25 07:33-08:35/62 20:19
20	07:07 16:56	06:38 07:42-08:32/50 17:31	05:56 06:39-07:24/45 18:02	06:08 19:32	05:35 07:30-08:31/61 20:00	05:25 07:33-08:35/62 20:19
21	07:06 16:57	06:37 07:42-08:31/49 17:33	05:54 06:37-07:24/47 18:03	06:07 19:33	05:34 07:30-08:31/61 20:01	05:25 07:33-08:35/62 20:19
22	07:06 16:58	06:36 07:41-08:31/50 17:34	05:53 06:37-07:25/48 18:04	06:06 19:34	05:33 07:30-08:32/62 20:02	05:25 07:33-08:35/62 20:20
23	07:05 16:59	06:34 07:40-08:29/49 17:35	05:51 06:36-07:25/49 18:05	06:04 19:35	05:32 07:30-08:31/61 20:03	05:25 07:34-08:36/62 20:20
24	07:05 17:00	06:33 07:40-08:28/48 17:36	05:49 06:36-07:25/49 18:06	06:03 19:36	05:32 07:29-08:31/62 20:03	05:26 07:34-08:36/62 20:20
25	07:04 17:02	06:32 07:39-08:26/47 17:37	05:48 06:35-07:25/50 18:07	06:02 19:37	05:31 07:30-08:32/62 20:04	05:26 07:34-08:36/62 20:20
26	07:03 17:03	06:30 07:39-08:25/46 17:38	05:46 06:35-07:24/49 18:07	06:00 19:37	05:30 07:29-08:31/62 20:05	05:26 07:35-08:36/61 20:20
27	07:03 17:04	06:29 07:40-08:23/43 17:39	05:45 06:35-07:24/49 18:08	05:59 19:38	05:30 07:30-08:32/62 20:06	05:27 07:35-08:36/61 20:20
28	07:02 17:05	06:27 07:39-08:19/40 17:40	05:43 06:35-07:23/48 18:09	05:58 19:39	05:29 07:29-08:32/63 20:07	05:27 07:35-08:36/61 20:20
29	07:01 17:06	06:26 07:40-08:13/33 17:41	05:42 06:36-07:22/46 18:10	05:56 19:40	05:29 07:30-08:32/62 20:07	05:27 07:35-08:37/62 20:20
30	07:00 17:07		05:40 06:37-07:21/44 18:11	05:55 07:57-08:09/12 19:41	05:28 07:29-08:32/63 20:08	05:28 07:35-08:37/62 20:20
31	07:00 17:08		06:38 07:39-08:20/41 19:12		05:28 07:30-08:32/62 20:09	
Potential sun hours	302	310	370	396	443	446
Sum of minutes with flicker	0	1031	882	115	1646	1859

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: Bufalo real case WTG: 8 - CA08

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4,16	4,62	5,58	6,71	8,10	9,27	10,00	9,47	7,89	5,95	5,05	4,11

Operational time

0	1	Sum
1.500	1.500	3.000

	July	August	September	October	November	December
1	05:28 07:36-08:38/62 20:20	05:50 07:45-08:38/53 20:03	06:18 19:23	06:46 18:35	06:17 07:27-08:01/34 16:51	06:49 16:29
2	05:29 07:36-08:38/62 20:20	05:51 07:46-08:38/52 20:02	06:19 19:21	06:46 18:33	06:18 07:28-08:01/33 16:50	06:50 16:29
3	05:29 07:35-08:37/62 20:20	05:52 07:47-08:37/50 20:01	06:20 19:20	06:47 18:32	06:19 07:29-08:00/31 16:49	06:51 16:29
4	05:30 07:36-08:38/62 20:20	05:53 07:48-08:36/48 20:00	06:21 19:18	06:48 18:30	06:20 07:30-08:00/30 16:48	06:52 16:28
5	05:30 07:37-08:39/62 20:20	05:54 07:48-08:35/47 19:59	06:22 19:16	06:49 18:29	06:21 07:31-07:58/27 16:47	06:53 16:28
6	05:31 07:36-08:39/63 20:19	05:55 07:49-08:34/45 19:58	06:23 19:15	06:50 08:26-08:35/9 18:27	06:22 07:33-07:57/24 16:46	06:54 16:28
7	05:31 07:37-08:39/62 20:19	05:56 07:51-08:32/41 19:57	06:24 07:56-08:02/6 19:13	06:51 08:22-08:39/17 18:26	06:23 07:34-07:55/21 16:45	06:55 16:28
8	05:32 07:36-08:39/63 20:19	05:57 07:52-08:31/39 19:55	06:25 07:51-08:06/15 19:12	06:52 08:20-08:41/21 18:24	06:25 07:36-07:53/17 16:44	06:56 16:28
9	05:33 07:37-08:40/63 20:19	05:58 07:54-08:29/35 19:54	06:26 07:48-08:08/20 19:10	06:53 08:18-08:42/24 18:22	06:26 07:40-07:51/11 16:43	06:57 16:28
10	05:33 07:37-08:39/62 20:18	05:59 07:56-08:28/32 19:53	06:27 07:46-08:09/23 19:09	06:54 08:16-08:44/28 18:21	06:27 16:42	06:58 16:28
11	05:34 07:37-08:40/63 20:18	05:59 07:59-08:25/26 19:52	06:27 07:44-08:10/26 19:07 07:34-07:41/7	06:55 08:15-08:45/30 18:19	06:28 16:41	06:58 16:28
12	05:35 07:38-08:40/62 20:17	06:00 08:01-08:21/20 19:51	06:28 07:31-08:11/40 19:05	06:56 08:14-08:45/31 18:18	06:29 16:40	06:59 16:28
13	05:35 07:37-08:40/63 20:17	06:01 08:07-08:15/8 19:49	06:29 07:28-08:12/44 19:04	06:57 08:13-08:46/33 18:16	06:30 16:39	07:00 16:29
14	05:36 07:38-08:40/62 20:17	06:02 19:48	06:30 07:27-08:13/46 19:02	06:58 08:12-08:49/37 18:15	06:31 16:38	07:01 16:29
15	05:37 07:38-08:41/63 20:16	06:03 19:47	06:31 07:26-08:13/47 19:01	06:59 08:12-08:53/41 18:14	06:32 16:37	07:01 16:29
16	05:37 07:38-08:40/62 20:15	06:04 19:45	06:32 07:25-08:13/48 18:59	07:00 08:11-08:55/44 18:12	06:33 16:37	07:02 16:29
17	05:38 07:38-08:41/63 20:15	06:05 19:44	06:33 07:23-08:12/49 18:57	07:01 08:11-08:57/46 18:11	06:35 16:36	07:03 16:30
18	05:39 07:39-08:41/62 20:14	06:06 19:43	06:34 07:23-08:12/49 18:56	07:02 08:11-08:58/47 18:09	06:36 16:35	07:04 16:30
19	05:40 07:39-08:42/63 20:14	06:07 19:41	06:35 07:22-08:12/50 18:54	07:03 08:11-08:59/48 18:08	06:37 16:35	07:04 16:30
20	05:40 07:39-08:41/62 20:13	06:08 19:40	06:36 07:22-08:11/49 18:53	07:04 08:11-09:00/49 18:06	06:38 16:34	07:05 16:31
21	05:41 07:40-08:41/61 20:12	06:09 19:39	06:36 07:22-08:11/49 18:51	07:05 08:11-09:01/50 18:05	06:39 16:33	07:05 16:31
22	05:42 07:40-08:41/61 20:12	06:09 19:37	06:37 07:23-08:10/47 18:49	07:06 08:12-09:02/50 18:04	06:40 16:33	07:06 16:32
23	05:43 07:41-08:41/60 20:11	06:10 19:36	06:38 07:23-08:09/46 18:48	07:07 08:13-09:03/50 18:02	06:41 16:32	07:06 16:32
24	05:44 07:41-08:42/61 20:10	06:11 19:34	06:39 07:24-08:08/44 18:46	07:08 08:14-09:03/49 18:01	06:42 16:32	07:07 16:33
25	05:44 07:41-08:41/60 20:09	06:12 19:33	06:40 07:25-08:06/41 18:44	07:09 08:14-09:03/49 18:00	06:43 16:31	07:07 16:33
26	05:45 07:41-08:41/60 20:08	06:13 19:32	06:41 07:41-08:04/23 18:43 07:26-07:38/12	07:10 08:16-09:03/47 17:58	06:44 16:31	07:08 16:34
27	05:46 07:42-08:41/59 20:08	06:14 19:30	06:42 07:42-08:02/20 18:41	06:11 07:17-08:03/46 16:57	06:45 16:30	07:08 16:35
28	05:47 07:43-08:40/57 20:07	06:15 19:29	06:43 07:45-07:59/14 18:40	06:12 07:19-08:02/43 16:56	06:46 16:30	07:08 16:35
29	05:48 07:44-08:40/56 20:06	06:16 19:27	06:44 18:38	06:14 07:23-08:03/40 16:55	06:47 16:30	07:09 16:36
30	05:49 07:43-08:39/56 20:05	06:17 19:26	06:45 18:36	06:15 07:27-08:03/36 16:54	06:48 16:29	07:09 16:37
31	05:50 07:44-08:39/55 20:04	06:18 19:24		06:16 07:27-08:02/35 16:52		07:09 16:37
Potential sun hours	453	424	374	347	303	294
Sum of minutes with flicker	1894	496	815	1000	228	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: Bufalo real case WTG: 9 - CA09
Assumptions for shadow calculations
Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 11:56-13:16/80 16:38	06:59 12:04-13:26/82 17:10	06:25 17:42	06:37 19:13	05:54 06:52-07:02/10 19:42	05:27 20:10
2	07:09 11:56-13:16/80 16:38	06:58 12:05-13:26/81 17:11	06:23 17:43	06:35 19:14	05:53 06:56-06:58/2 19:43	05:27 20:10
3	07:10 11:56-13:17/81 16:39	06:57 12:05-13:26/81 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11
4	07:10 11:56-13:17/81 16:40	06:56 12:06-13:25/79 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12
5	07:10 11:56-13:18/82 16:41	06:55 12:07-13:25/78 17:14	06:19 17:46	06:31 19:17	05:49 19:46	05:26 20:12
6	07:10 11:57-13:19/82 16:42	06:54 12:08-13:25/77 17:15	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13
7	07:10 11:57-13:19/82 16:43	06:53 12:09-13:24/75 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:14
8	07:10 11:57-13:20/83 16:44	06:52 12:11-13:24/73 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14
9	07:10 11:58-13:21/83 16:45	06:51 12:12-13:23/71 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15
10	07:10 11:57-13:20/83 16:45	06:50 12:14-13:23/69 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15
11	07:10 11:57-13:21/84 16:46	06:49 12:15-13:21/66 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16
12	07:09 11:58-13:22/84 16:47	06:48 12:18-13:20/62 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16
13	07:09 11:58-13:23/85 16:48	06:47 12:20-13:19/59 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:24 20:17
14	07:09 11:58-13:23/85 16:50	06:46 12:24-13:17/53 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:24 20:17
15	07:09 11:58-13:23/85 16:51	06:44 12:29-13:15/46 17:26	06:04 17:57	06:16 07:00-07:01/1 19:27	05:39 19:56	05:24 20:18
16	07:08 11:59-13:24/85 16:52	06:43 12:34-13:12/38 17:27	06:02 17:58	06:14 06:54-07:05/11 19:28	05:38 19:57	05:24 20:18
17	07:08 11:59-13:24/85 16:53	06:42 12:39-13:09/30 17:28	06:00 17:59	06:13 06:52-07:07/15 19:29	05:37 19:57	05:25 20:18
18	07:08 11:59-13:25/86 16:54	06:41 12:47-13:03/16 17:29	05:59 18:00	06:11 06:51-07:09/18 19:30	05:36 19:58	05:25 20:19
19	07:07 11:59-13:25/86 16:55	06:40 17:30	05:57 18:01	06:10 06:49-07:09/20 19:31	05:35 19:59	05:25 20:19
20	07:07 12:00-13:26/86 16:56	06:38 17:31	05:56 18:02	06:08 06:49-07:10/21 19:32	05:35 20:00	05:25 20:19
21	07:06 12:00-13:26/86 16:57	06:37 17:33	05:54 18:03	06:07 06:48-07:10/22 19:33	05:34 20:01	05:25 20:19
22	07:06 11:59-13:26/87 16:58	06:36 17:34	05:53 18:04	06:06 06:47-07:10/23 19:34	05:33 20:02	05:25 20:20
23	07:05 12:00-13:26/86 16:59	06:34 17:35	05:51 18:05	06:04 06:47-07:10/23 19:35	05:32 20:03	05:25 20:20
24	07:05 12:00-13:26/86 17:00	06:33 17:36	05:49 18:06	06:03 06:47-07:10/23 19:36	05:32 20:03	05:26 20:20
25	07:04 12:00-13:26/86 17:02	06:32 17:37	05:48 18:07	06:02 06:47-07:09/22 19:37	05:31 20:04	05:26 20:20
26	07:03 12:01-13:27/86 17:03	06:30 17:38	05:46 18:08	06:00 06:47-07:09/22 19:38	05:30 20:05	05:26 20:20
27	07:03 12:01-13:27/86 17:04	06:29 17:39	05:45 18:08	05:59 06:48-07:08/20 19:38	05:30 20:06	05:27 20:20
28	07:02 12:02-13:26/84 17:05	06:27 17:40	05:43 18:09	05:58 06:48-07:07/19 19:39	05:29 20:07	05:27 20:20
29	07:01 12:02-13:26/84 17:06	06:26 17:41	05:42 18:10	05:56 06:48-07:05/17 19:40	05:29 20:07	05:27 20:20
30	07:00 12:03-13:27/84 17:07		05:40 18:11	05:55 06:50-07:04/14 19:41	05:28 20:08	05:28 20:20
31	07:00 12:04-13:26/82 17:08		06:38 19:12		05:28 20:09	
Potential sun hours	302	310	370	396	443	446
Sum of minutes with flicker	2605	1136	0	291	12	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: Bufalo real case WTG: 9 - CA09
Assumptions for shadow calculations
Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28 20:20	05:50 20:03	06:19 19:23	06:46 18:35	06:17 11:45-12:51/66 16:51	06:49 11:40-13:04/84 16:29
2	05:29 20:20	05:51 20:02	06:19 19:21	06:47 18:33	06:18 11:43-12:52/69 16:50	06:50 11:40-13:04/84 16:29
3	05:29 20:20	05:52 20:01	06:20 19:20	06:47 18:32	06:19 11:41-12:52/71 16:49	06:51 11:41-13:05/84 16:29
4	05:30 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 11:41-12:54/73 16:48	06:52 11:42-13:05/83 16:28
5	05:30 20:20	05:54 19:59	06:22 19:16	06:49 18:29	06:21 11:39-12:54/75 16:47	06:53 11:42-13:05/83 16:28
6	05:31 20:19	05:55 19:58	06:23 19:15	06:50 18:27	06:22 11:38-12:55/77 16:46	06:54 11:43-13:05/82 16:28
7	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	06:23 11:37-12:55/78 16:45	06:55 11:44-13:06/82 16:28
8	05:32 20:19	05:57 19:55	06:25 19:12	06:52 18:24	06:25 11:36-12:55/79 16:44	06:56 11:44-13:06/82 16:28
9	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	06:26 11:36-12:56/80 16:43	06:57 11:44-13:06/82 16:28
10	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 11:36-12:57/81 16:42	06:58 11:45-13:06/81 16:28
11	05:34 20:18	05:59 07:03-07:09/6 19:52	06:27 19:07	06:55 18:19	06:28 11:35-12:57/82 16:41	06:59 11:46-13:06/80 16:28
12	05:35 20:17	06:00 07:00-07:12/12 19:51	06:28 19:05	06:56 18:18	06:29 11:35-12:57/82 16:40	06:59 11:47-13:07/80 16:28
13	05:35 20:17	06:01 06:57-07:12/15 19:49	06:29 19:04	06:57 18:17	06:30 11:34-12:58/84 16:39	07:00 11:48-13:08/80 16:29
14	05:36 20:17	06:02 06:56-07:13/17 19:48	06:30 19:02	06:58 18:15	06:31 11:35-12:59/84 16:38	07:01 11:47-13:07/80 16:29
15	05:37 20:16	06:03 06:55-07:14/19 19:47	06:31 19:01	06:59 18:14	06:32 11:35-12:59/84 16:37	07:02 11:48-13:08/80 16:29
16	05:37 20:16	06:04 06:54-07:15/21 19:46	06:32 18:59	07:00 18:12	06:33 11:34-13:00/86 16:37	07:02 11:49-13:09/80 16:29
17	05:38 20:15	06:05 06:54-07:16/22 19:44	06:33 18:57	07:01 18:11	06:35 11:34-13:00/86 16:36	07:03 11:49-13:08/79 16:30
18	05:39 20:14	06:06 06:53-07:16/23 19:43	06:34 18:56	07:02 18:09	06:36 11:34-13:00/86 16:35	07:04 11:50-13:09/79 16:30
19	05:40 20:14	06:07 06:53-07:16/23 19:42	06:35 18:54	07:03 18:08	06:37 11:35-13:01/86 16:35	07:04 11:51-13:10/79 16:30
20	05:40 20:13	06:08 06:52-07:15/23 19:40	06:36 18:53	07:04 18:06	06:38 11:35-13:01/86 16:34	07:05 11:51-13:10/79 16:31
21	05:41 20:12	06:09 06:52-07:15/23 19:39	06:36 18:51	07:05 18:05	06:39 11:35-13:02/87 16:33	07:05 11:52-13:11/79 16:31
22	05:42 20:12	06:09 06:52-07:14/22 19:37	06:37 18:49	07:06 18:04	06:40 11:36-13:02/86 16:33	07:06 11:52-13:11/79 16:32
23	05:43 20:11	06:10 06:53-07:14/21 19:36	06:38 18:48	07:07 18:02	06:41 11:36-13:02/86 16:32	07:06 11:52-13:11/79 16:32
24	05:44 20:10	06:11 06:53-07:13/20 19:35	06:39 18:46	07:08 18:01	06:42 11:36-13:02/86 16:32	07:07 11:53-13:12/79 16:33
25	05:44 20:09	06:12 06:54-07:12/18 19:33	06:40 18:45	07:09 13:15-13:35/20 18:00	06:43 11:36-13:02/86 16:31	07:07 11:53-13:12/79 16:33
26	05:45 20:09	06:13 06:55-07:10/15 19:32	06:41 18:43	07:10 13:08-13:39/31 17:58	06:44 11:38-13:03/85 16:31	07:08 11:54-13:13/79 16:34
27	05:46 20:08	06:14 06:56-07:07/11 19:30	06:42 18:41	12:03-12:42/39 16:57	06:45 11:38-13:03/85 16:30	07:08 11:54-13:13/79 16:35
28	05:47 20:07	06:15 19:29	06:43 18:40	11:57-12:44/47 16:56	06:46 11:38-13:04/86 16:30	07:08 11:54-13:14/80 16:35
29	05:48 20:06	06:16 19:27	06:44 18:38	11:53-12:47/54 16:55	06:47 11:39-13:04/85 16:30	07:09 11:54-13:14/80 16:36
30	05:49 20:05	06:17 19:26	06:45 18:37	11:50-12:49/59 16:54	06:48 11:39-13:04/85 16:29	07:09 11:55-13:15/80 16:37
31	05:50 20:04	06:18 19:24		11:47-12:50/63 16:52		07:09 11:56-13:16/80 16:37
Potential sun hours	453	424	374	347	303	294
Sum of minutes with flicker	0	311	0	313	2452	2496

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: Bufalo real case WTG: 10 - CA10
Assumptions for shadow calculations
Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:51 20:03	06:19 19:23	06:46 17:33-17:53/20	06:17 16:51	06:49 16:29
2	07:10 16:38	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:19 19:21	06:47 17:33-17:52/19	06:18 16:50	06:50 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:20	06:48 17:34-17:50/16	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:48 17:36-17:48/12	06:20 16:48	06:52 16:28
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:17	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:15	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:20	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:14	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	06:24 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:56	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:10 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16	05:34 20:18	06:00 19:52	06:28 19:07	06:55 18:20	06:28 16:41	06:59 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:18	06:00 19:51	06:28 19:05	06:56 18:18	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:25 20:17	05:36 20:17	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:45 17:26	06:04 17:57	06:16 19:27	05:39 19:56	05:25 20:18	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:38	07:02 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	05:25 20:18	05:37 20:16	06:04 19:46	06:32 18:59	07:00 18:12	06:34 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:58	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:11	06:35 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:19	05:39 20:14	06:06 19:43	06:34 18:56	17:45-17:55/10	07:02 18:09	07:04 16:35
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	05:25 20:19	05:40 20:14	06:07 19:42	06:35 18:54	17:42-17:57/15	07:03 18:08	07:04 16:35
20	07:07 16:56	06:38 17:31	05:56 18:02	06:09 19:32	05:35 20:00	05:25 20:19	05:40 20:13	06:08 19:40	06:36 18:53	17:40-17:58/18	07:04 18:07	07:05 16:34
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:20	05:41 20:12	06:09 19:39	06:37 18:51	17:38-17:59/21	07:05 18:05	07:05 16:33
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:20	05:42 20:12	06:10 19:37	06:37 18:49	17:37-18:00/23	07:06 18:04	07:06 16:33
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:32 20:03	05:26 20:20	05:43 20:11	06:10 19:36	06:38 18:48	17:36-18:00/24	07:07 18:02	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:04	05:26 20:20	05:44 20:10	06:11 19:35	06:39 18:46	17:35-18:00/25	07:08 18:01	07:07 16:32
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	05:26 20:20	05:45 20:09	06:12 19:33	06:40 18:45	17:33-17:59/26	07:09 18:00	07:07 16:31
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	05:26 20:20	05:45 20:09	06:13 19:32	06:41 18:43	17:33-17:59/26	07:10 17:59	07:08 16:31
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:39	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	17:32-17:58/26	06:12 16:57	07:08 16:30
28	07:02 17:05	06:28 17:40	05:43 18:10	05:58 19:40	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	17:32-17:57/25	06:13 16:56	07:08 16:30
29	07:01 17:06	06:26 17:41	05:42 18:10	05:57 19:41	05:29 20:08	05:27 20:20	05:48 20:06	06:16 19:27	06:44 18:38	17:32-17:56/24	06:14 16:55	07:09 16:30
30	07:01 17:07		05:40 18:11	05:55 19:41	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:37	17:32-17:55/23	06:15 16:54	07:09 16:37
31	07:00 17:08		06:39 19:12		05:28 20:09		05:50 20:04	06:18 19:24			06:16 16:52	07:09 16:37
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
Sum of minutes with flicker	0	0	350	0	0	0	0	0	286	67	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: Bufalo real case WTG: 11 - CA11
Assumptions for shadow calculations
Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June	July	August	September	October	November	December
1	07:09 16:38	06:59 17:10	06:25 17:42	06:37 19:13	05:54 19:42	05:27 20:10	05:28 20:20	05:51 20:03	06:19 19:23	06:46 18:35	06:17 16:51	06:50 16:29
2	07:10 16:39	06:58 17:11	06:23 17:43	06:35 19:14	05:53 19:43	05:27 20:10	05:29 20:20	05:51 20:02	06:20 19:21	06:47 18:33	06:18 16:50	06:51 16:29
3	07:10 16:39	06:57 17:12	06:22 17:44	06:34 19:15	05:52 19:44	05:27 20:11	05:29 20:20	05:52 20:01	06:20 19:20	06:48 18:32	06:19 16:49	06:51 16:29
4	07:10 16:40	06:56 17:13	06:20 17:46	06:32 19:16	05:50 19:45	05:26 20:12	05:30 20:20	05:53 20:00	06:21 19:18	06:49 18:30	06:20 16:48	06:52 16:29
5	07:10 16:41	06:55 17:14	06:19 17:47	06:31 19:17	05:49 19:46	05:26 20:12	05:30 20:20	05:54 19:59	06:22 19:17	06:49 18:29	06:21 16:47	06:53 16:28
6	07:10 16:42	06:54 17:16	06:17 17:48	06:29 19:18	05:48 19:47	05:26 20:13	05:31 20:20	05:55 19:58	06:23 19:15	06:50 18:27	06:22 16:46	06:54 16:28
7	07:10 16:43	06:53 17:17	06:16 17:49	06:28 19:19	05:47 19:48	05:25 20:14	05:31 20:19	05:56 19:57	06:24 19:13	06:51 18:26	06:24 16:45	06:55 16:28
8	07:10 16:44	06:52 17:18	06:14 17:50	06:26 19:20	05:46 19:49	05:25 20:14	05:32 20:19	05:57 19:56	06:25 19:12	06:52 18:24	06:25 16:44	06:56 16:28
9	07:10 16:45	06:51 17:19	06:13 17:51	06:25 19:21	05:45 19:50	05:25 20:15	05:33 20:19	05:58 19:54	06:26 19:10	06:53 18:23	06:26 16:43	06:57 16:28
10	07:10 16:46	06:50 17:20	06:11 17:52	06:23 19:22	05:44 19:51	05:25 20:15	05:33 20:18	05:59 19:53	06:27 19:09	06:54 18:21	06:27 16:42	06:58 16:28
11	07:10 16:47	06:49 17:21	06:10 17:53	06:22 19:23	05:43 19:52	05:25 20:16	05:34 20:18	06:00 19:52	06:28 19:07	06:55 18:20	06:28 16:41	06:59 16:28
12	07:09 16:48	06:48 17:22	06:08 17:54	06:20 19:24	05:42 19:53	05:25 20:16	05:35 20:18	06:00 19:51	06:28 19:06	06:56 18:18	06:29 16:40	06:59 16:29
13	07:09 16:49	06:47 17:24	06:07 17:55	06:19 19:25	05:41 19:54	05:25 20:17	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:17	06:30 16:39	07:00 16:29
14	07:09 16:50	06:46 17:25	06:05 17:56	06:17 19:26	05:40 19:55	05:25 20:17	05:36 20:17	06:02 19:48	06:30 19:02	06:58 18:15	06:31 16:38	07:01 16:29
15	07:09 16:51	06:45 17:26	06:04 17:57	06:16 19:27	05:39 19:56	05:25 20:18	05:37 20:16	06:03 19:47	06:31 19:01	06:59 18:14	06:32 16:38	07:02 16:29
16	07:08 16:52	06:43 17:27	06:02 17:58	06:14 19:28	05:38 19:57	05:25 20:18	05:37 20:16	06:04 19:46	06:32 18:59	07:00 18:12	06:34 16:37	07:02 16:29
17	07:08 16:53	06:42 17:28	06:01 17:59	06:13 19:29	05:37 19:58	05:25 20:18	05:38 20:15	06:05 19:44	06:33 18:58	07:01 18:11	06:35 16:36	07:03 16:30
18	07:08 16:54	06:41 17:29	05:59 18:00	06:11 19:30	05:36 19:58	05:25 20:19	05:39 20:14	06:06 19:43	06:34 18:56	07:02 18:09	06:36 16:35	07:04 16:30
19	07:07 16:55	06:40 17:30	05:57 18:01	06:10 19:31	05:36 19:59	05:25 20:19	05:40 20:14	06:07 19:42	06:35 18:54	07:03 18:08	06:37 16:35	07:04 16:30
20	07:07 16:56	06:38 17:32	05:56 18:02	06:09 19:32	05:35 20:00	05:25 20:19	05:41 20:13	06:08 19:40	06:36 18:53	07:04 18:07	06:38 16:34	07:05 16:31
21	07:06 16:57	06:37 17:33	05:54 18:03	06:07 19:33	05:34 20:01	05:25 20:20	05:41 20:12	06:09 19:39	06:37 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	07:06 16:58	06:36 17:34	05:53 18:04	06:06 19:34	05:33 20:02	05:25 20:20	05:42 20:12	06:10 19:37	06:37 18:49	07:06 18:04	06:40 16:33	07:06 16:32
23	07:05 16:59	06:34 17:35	05:51 18:05	06:04 19:35	05:33 20:03	05:26 20:20	05:43 20:11	06:10 19:36	06:38 18:48	07:07 18:03	06:41 16:32	07:06 16:32
24	07:05 17:00	06:33 17:36	05:50 18:06	06:03 19:36	05:32 20:04	05:26 20:20	05:44 20:10	06:11 19:35	06:39 18:46	07:08 18:01	06:42 16:32	07:07 16:33
25	07:04 17:02	06:32 17:37	05:48 18:07	06:02 19:37	05:31 20:04	05:26 20:20	05:45 20:09	06:12 19:33	06:40 18:45	07:09 18:00	06:43 16:31	07:07 16:33
26	07:03 17:03	06:30 17:38	05:46 18:08	06:00 19:38	05:31 20:05	05:26 20:20	05:45 20:09	06:13 19:32	06:41 18:43	07:11 17:59	06:44 16:31	07:08 16:34
27	07:03 17:04	06:29 17:39	05:45 18:09	05:59 19:39	05:30 20:06	05:27 20:20	05:46 20:08	06:14 19:30	06:42 18:41	06:12 16:57	06:45 16:30	07:08 16:35
28	07:02 17:05	06:28 17:40	05:43 18:10	05:58 19:40	05:29 20:07	05:27 20:20	05:47 20:07	06:15 19:29	06:43 18:40	06:13 16:56	06:46 16:30	07:08 16:35
29	07:01 17:06	06:26 17:41	05:42 18:11	05:57 19:41	05:29 20:08	05:28 20:20	05:48 20:06	06:16 19:27	06:44 18:38	06:14 16:55	06:48 16:30	07:09 16:36
30	07:01 17:07		05:40 18:11	05:55 19:42	05:28 20:08	05:28 20:20	05:49 20:05	06:17 19:26	06:45 18:37	06:15 16:54	06:49 16:29	07:09 16:37
31	07:00 17:09		06:39 19:12		05:28 20:09		05:50 20:04	06:18 19:24		06:16 16:52		07:09 16:38
Potential sun hours	302	310	370	396	443	446	453	424	374	347	303	294
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

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar per WTG

Calculation: Bufalo real case WTG: 12 - CU1
Assumptions for shadow calculations
Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

Table with 12 columns for months (January to December) and rows for each day of the year (1-31). Each cell contains sun rise and set times (hh:mm) and a numerical value representing minutes with flicker. Summary rows at the bottom show 'Potential sun hours' and 'Sum of minutes with flicker' for each month and overall totals.

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

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



SHADOW - Calendar per WTG

Calculation: Bufalo real case WTG: 13 - CU2

Assumptions for shadow calculations

Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4,16	4,62	5,58	6,71	8,10	9,27	10,00	9,47	7,89	5,95	5,05	4,11

Operational time

0	1	Sum
1.500	1.500	3.000

	January	February	March	April	May	June
1	07:09 10:34-13:31/177 16:37	06:59 09:01-09:22/21 17:09 10:45-14:04/199	06:24 08:20-09:32/72 17:42 12:58-14:03/65	06:37 08:58-09:37/39 19:13	05:54 19:42	05:27 20:09
2	07:09 10:35-13:31/176 16:38	06:58 08:58-09:25/27 17:10 10:46-14:05/199	06:23 08:17-09:31/74 17:43 13:00-14:03/63	06:35 08:59-09:34/35 19:14	05:52 19:43	05:27 20:10
3	07:09 10:35-13:32/177 16:39	06:57 08:56-09:27/31 17:12 10:46-14:06/200	06:21 08:14-09:30/76 17:44 13:02-14:01/59	06:33 09:00-09:31/31 19:15	05:51 19:44	05:26 20:11
4	07:09 10:35-13:32/177 16:40	06:56 08:54-09:29/35 17:13 10:47-14:06/199	06:20 08:12-09:29/77 17:45 13:05-14:00/55	06:32 09:02-09:29/27 19:16	05:50 19:45	05:26 20:11
5	07:10 10:35-13:33/178 16:41	06:55 08:53-09:30/37 17:14 10:48-14:07/199	06:19 08:09-09:28/79 17:46 13:07-13:59/52	06:30 09:04-09:25/21 19:17	05:49 19:46	05:26 20:12
6	07:10 10:36-13:34/178 16:41	06:54 08:51-09:32/41 17:15 10:49-14:07/198	06:17 08:08-09:27/79 17:47 13:10-13:57/47	06:29 09:08-09:21/13 19:18	05:48 19:47	05:25 20:13
7	07:10 10:36-13:35/179 16:42	06:53 08:50-09:33/43 17:16 10:51-14:08/197	06:16 08:06-09:26/80 17:48 13:13-13:55/42	06:27 19:19	05:47 19:48	05:25 20:13
8	07:10 10:36-13:35/179 16:43	06:52 08:49-09:35/46 17:17 10:52-14:08/196	06:14 08:04-09:24/80 17:49 13:17-13:52/35	06:26 19:20	05:45 19:49	05:25 20:14
9	07:10 10:36-13:35/179 16:44	06:51 08:47-09:35/48 17:19 10:53-14:08/195	06:13 08:03-09:23/80 17:50 13:23-13:49/26	06:24 19:21	05:44 19:50	05:25 20:14
10	07:09 10:36-13:37/181 16:45	06:50 08:46-09:36/50 17:20 10:55-14:08/193	06:11 08:01-09:20/79 17:51 13:30-13:42/12	06:23 19:22	05:43 19:51	05:24 20:15
11	07:09 10:37-13:38/181 16:46	06:49 08:46-09:37/51 17:21 10:58-14:08/190	06:09 08:01-09:19/78 17:52	06:21 19:23	05:42 19:52	05:24 20:16
12	07:09 10:37-13:40/183 16:47	06:48 08:45-09:38/53 17:22 11:02-14:09/187	06:08 07:59-09:16/77 17:53	06:20 19:24	05:41 19:53	05:24 20:16
13	07:09 10:37-13:41/184 16:48	06:47 08:44-09:38/54 17:23 11:03-14:09/186	06:06 07:59-09:15/76 17:54	06:18 19:25	05:40 19:54	05:24 20:16
14	07:09 10:37-13:43/186 16:49	06:45 08:41-09:39/58 17:24 11:05-14:09/184	06:05 07:58-09:12/74 17:55	06:17 19:26	05:39 19:54	05:24 20:17
15	07:08 10:38-13:45/187 16:50	06:44 08:37-09:39/62 17:25 11:06-14:08/182	06:03 07:58-09:09/71 17:56	06:15 19:27	05:39 19:55	05:24 20:17
16	07:08 10:38-13:46/188 16:51	06:43 08:35-09:39/64 11:09-11:49/40 17:27 11:50-14:08/138	06:02 07:57-09:05/68 17:57	06:14 19:28	05:38 19:56	05:24 20:18
17	07:08 10:38-13:48/190 16:52	06:42 08:33-09:40/67 11:13-11:44/31 17:28 11:55-12:23/28 12:27-14:08/101	06:00 07:56-09:00/64 17:58	06:12 19:29	05:37 19:57	05:24 20:18
18	07:07 10:38-13:49/191 16:53	06:41 08:32-09:40/68 11:19-11:37/18 17:29 12:05-12:13/8 12:28-14:08/100	05:59 07:56-08:56/60 17:59	06:11 19:29	05:36 19:58	05:24 20:18
19	07:07 10:39-13:51/192 16:54	06:39 08:30-09:39/69 17:30 12:29-14:08/99	05:57 07:55-08:53/58 18:00	06:10 19:30	05:35 19:59	05:24 20:19
20	07:06 10:39-13:52/193 16:56	06:38 08:29-09:40/71 17:31 12:32-14:08/96	05:55 07:55-08:53/58 18:01	06:08 19:31	05:34 20:00	05:24 20:19
21	07:06 10:40-13:53/193 16:57	06:37 08:28-09:40/72 17:32 12:34-14:08/94	05:54 07:54-08:52/58 18:02	06:07 19:32	05:33 20:01	05:25 20:19
22	07:05 10:40-13:54/194 16:58	06:35 08:26-09:39/73 17:33 12:36-14:07/91	05:52 07:54-08:51/57 18:03	06:05 19:33	05:33 20:02	05:25 20:19
23	07:05 10:40-13:56/196 16:59	06:34 08:25-09:39/74 17:34 12:40-14:07/87	05:51 07:54-08:50/56 18:04	06:04 19:34	05:32 20:02	05:25 20:20
24	07:04 10:41-13:57/196 17:00	06:33 08:25-09:38/73 17:35 12:44-14:08/84	05:49 07:54-08:49/55 18:05	06:03 19:35	05:31 20:03	05:25 20:20
25	07:04 10:41-13:58/197 17:01	06:31 08:23-09:37/74 17:37 12:48-14:07/79	05:48 07:55-08:48/53 18:06	06:01 19:36	05:31 20:04	05:26 20:20
26	07:03 10:42-13:58/196 17:02	06:30 08:23-09:37/74 17:38 12:53-14:06/73	05:46 07:54-08:47/53 18:07	06:00 19:37	05:30 20:05	05:26 20:20
27	07:02 10:42-14:00/198 17:03	06:29 08:22-09:35/73 17:39 12:53-14:05/72	05:44 07:54-08:45/51 18:08	05:59 19:38	05:29 20:06	05:26 20:20
28	07:02 10:42-14:01/199 17:05	06:27 08:21-09:35/74 17:40 12:55-14:05/70	05:43 07:55-08:44/49 18:09	05:57 19:39	05:29 20:06	05:27 20:20
29	07:01 10:43-14:01/198 17:06	06:26 08:20-09:33/73 17:41 12:56-14:04/68	05:41 07:55-08:42/47 18:10	05:56 19:40	05:28 20:07	05:27 20:20
30	07:00 10:43-14:02/199 17:07		05:40 07:56-08:41/45 18:11	05:55 19:41	05:28 20:08	05:27 20:20
31	06:59 09:04-09:17/13 17:08 10:43-14:03/200		06:38 08:57-09:38/41 19:12		05:27 20:09	
Potential sun hours	302	310	370	396	443	446
Sum of minutes with flicker	5835	5937	2481	166	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: Bufalo real case WTG: 13 - CU2
Assumptions for shadow calculations
Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	July	August	September	October	November	December			
1	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	08:39-09:55/76 18:35	06:17 16:51	08:16-09:07/51 10:28-13:38/190	06:49 16:29	10:19-13:22/183
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	08:39-09:57/78 18:33	06:18 16:50	08:16-09:06/50 10:25-13:38/193	06:50 16:28	10:20-13:21/181
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	08:40-09:58/78 18:31	06:19 16:49	08:17-09:05/48 10:23-13:37/194	06:51 16:28	10:20-13:21/181
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	08:40-09:59/79 14:04-14:24/20	06:20 16:47	08:18-09:03/45 10:21-13:37/196	06:52 16:28	10:21-13:21/180
5	05:30 20:19	05:54 19:59	06:22 19:16	06:49 18:28	08:41-10:01/80 13:57-14:28/31	06:21 16:46	08:20-09:03/43 10:21-13:38/197	06:53 16:28	10:22-13:21/179
6	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	08:42-10:02/80 13:52-14:30/38	06:22 16:45	08:21-09:02/41 10:19-13:37/198	06:54 16:28	10:22-13:21/179
7	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	08:43-10:02/79 13:47-14:31/44	06:23 16:44	08:23-09:00/37 10:18-13:37/199	06:55 16:28	10:22-13:20/178
8	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	08:44-10:03/79 13:43-14:32/49	06:24 16:43	08:24-08:59/35 10:17-13:36/199	06:56 16:28	10:22-13:20/178
9	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	08:45-10:04/79 13:40-14:34/54	06:25 16:42	08:26-08:57/31 10:16-13:36/200	06:57 16:28	10:23-13:21/178
10	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	08:47-10:04/77 13:38-14:35/57	06:27 16:41	08:29-08:55/26 10:17-13:36/199	06:57 16:28	10:24-13:21/177
11	05:33 20:18	05:59 19:52	06:27 19:07	06:55 18:19	08:49-10:05/76 13:35-14:36/61	06:28 16:40	08:32-08:53/21 10:16-13:35/199	06:58 16:28	10:25-13:21/176
12	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	08:52-10:05/73 13:33-14:37/64	06:29 16:40	08:36-08:49/13 10:15-13:35/200	06:59 16:28	10:25-13:22/177
13	05:35 20:17	06:01 19:49	06:29 19:04	06:57 18:16	08:54-10:06/72 13:31-14:37/66	06:30 16:39	10:15-13:34/199	07:00 16:28	10:25-13:21/176
14	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	08:54-10:07/73 13:29-14:38/69	06:31 16:38	10:15-13:34/199	07:01 16:28	10:26-13:22/176
15	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	08:54-10:08/74 13:27-14:38/71	06:32 16:37	10:15-13:34/199	07:01 16:29	10:27-13:22/175
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	08:54-10:08/74 13:25-14:38/73	06:33 16:36	10:15-13:33/198	07:02 16:29	10:27-13:22/175
17	05:38 20:15	06:05 19:44	06:33 18:57	07:01 18:10	08:55-10:09/74 13:24-14:38/74	06:34 16:36	10:15-13:32/197	07:03 16:29	10:28-13:22/174
18	05:38 20:14	06:05 19:43	06:33 18:55	07:02 18:09	08:55-10:09/74 13:18-14:38/80	06:35 16:35	10:15-13:32/197	07:03 16:30	10:29-13:23/174
19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	08:56-10:09/73 13:13-14:38/85	06:36 16:34	10:15-13:31/196	07:04 16:30	10:29-13:23/174
20	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	08:56-10:09/73 13:10-14:38/88	06:38 16:34	10:15-13:30/195	07:05 16:30	10:30-13:24/174
21	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	08:57-10:09/72 13:06-14:38/92	06:39 16:33	10:16-13:30/194	07:05 16:31	10:30-13:24/174
22	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	08:58-10:09/71 13:03-14:38/95	06:40 16:32	10:16-13:30/194	07:06 16:31	10:31-13:25/174
23	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	08:59-10:09/70 13:01-14:38/97	06:41 16:32	10:16-13:29/193	07:06 16:32	10:31-13:25/174
24	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	09:01-10:10/69 12:59-14:37/98	06:42 16:31	10:16-13:28/192	07:07 16:32	10:32-13:26/174
25	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	09:02-10:10/68 12:58-14:38/100	06:43 16:31	10:16-13:27/191	07:07 16:33	10:32-13:26/174
26	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	09:03-10:09/66 12:23-12:54/31	06:44 16:30	10:16-13:26/190	07:07 16:34	10:32-13:26/174
27	05:46 20:07	06:14 19:30	06:42 18:41	06:11 16:57	08:05-09:09/64 10:39-13:38/179	06:45 16:30	10:17-13:25/188	07:08 16:34	10:33-13:28/175
28	05:47 20:07	06:15 19:28	06:42 18:39	06:12 16:56	08:07-09:08/61 10:36-13:38/182	06:46 16:30	10:17-13:24/187	07:08 16:35	10:33-13:28/175
29	05:47 20:06	06:15 19:27	06:43 18:38	06:13 16:54	08:10-09:08/58 10:34-13:38/184	06:47 16:29	10:18-13:24/186	07:08 16:36	10:33-13:28/175
30	05:48 20:05	06:16 19:25	06:44 18:36	06:14 16:53	08:13-09:07/54 10:32-13:38/186	06:48 16:29	10:19-13:23/184	07:09 16:36	10:33-13:29/176
31	05:49 20:04	06:17 19:24		06:15 16:52	08:15-09:07/52 10:31-13:38/187			07:09 16:37	10:33-13:29/176
Potential sun hours	453	424	374	347		303		294	
Sum of minutes with flicker	0	0	1250	4854		6284		5466	

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: Bufalo real case WTG: 14 - CU3

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4,16	4,62	5,58	6,71	8,10	9,27	10,00	9,47	7,89	5,95	5,05	4,11

Operational time		
0	1	Sum
1.500	1.500	3.000

	January	February	March	April	May	June
1	07:09 16:37	06:59 09:56-10:28/32 17:09	06:24 09:31-10:45/74 17:42	06:37 08:56-10:10/74 19:13	05:54 08:59-09:30/31 19:42	05:27 08:38-08:58/20 20:09
2	07:09 16:38	06:58 09:54-10:31/37 17:10	06:23 09:32-10:44/72 17:43	06:35 08:54-10:08/74 19:14	05:52 08:59-09:27/28 19:43	05:27 08:36-09:01/25 20:10
3	07:09 16:39	06:57 09:52-10:33/41 17:12	06:21 09:31-10:42/71 17:44	06:33 08:53-10:07/74 19:15	05:51 09:01-09:24/23 19:44	05:26 08:34-09:02/28 20:11
4	07:09 16:40	06:56 09:50-10:35/45 17:13	06:20 09:32-10:41/69 17:45	06:32 08:53-10:06/73 19:16	05:50 09:04-09:21/17 19:45	05:26 08:33-09:04/31 20:11
5	07:10 16:41	06:55 09:48-10:37/49 17:14	06:19 09:32-10:39/67 17:46	06:30 08:52-10:04/72 19:17	05:49 09:09-09:16/7 19:46	05:26 08:32-09:06/34 20:12
6	07:10 16:41	06:54 09:47-10:38/51 17:15	06:17 09:32-10:38/66 17:47	06:29 08:52-10:04/72 19:18	05:48 19:47	05:25 08:31-09:07/36 20:13
7	07:10 16:42	06:53 09:45-10:40/55 17:16	06:16 09:32-10:36/64 17:48	06:27 08:51-10:02/71 19:19	05:47 19:48	05:25 08:30-09:08/38 20:13
8	07:10 16:43	06:52 09:44-10:41/57 17:17	06:14 09:32-10:33/61 17:49	06:26 08:51-10:02/71 19:20	05:46 19:49	05:25 08:28-09:08/40 20:14
9	07:09 16:44	06:51 09:42-10:42/60 17:19	06:13 09:33-10:31/58 17:50	06:24 08:50-10:00/70 19:21	05:44 19:50	05:25 08:28-09:09/41 20:14
10	07:09 16:45	06:50 09:41-10:43/62 17:20	06:11 09:33-10:28/55 17:51	06:23 08:50-09:59/69 19:22	05:43 19:51	05:24 08:28-09:10/42 20:15
11	07:09 16:46	06:49 09:40-10:44/64 17:21	06:09 09:35-10:26/51 17:52	06:21 08:49-09:57/68 19:23	05:42 19:52	05:24 08:27-09:11/44 20:15
12	07:09 16:47	06:48 09:40-10:45/65 17:22	06:08 09:35-10:23/48 17:53	06:20 08:49-09:57/68 19:24	05:41 19:53	05:24 08:27-09:12/45 20:16
13	07:09 16:48	06:47 09:39-10:46/67 17:23	06:06 09:37-10:20/43 17:54	06:18 08:49-09:55/66 19:25	05:40 19:54	05:24 08:27-09:12/45 20:16
14	07:09 16:49	06:45 09:38-10:47/69 17:24	06:05 09:38-10:16/38 17:55	06:17 08:49-09:55/66 19:26	05:39 19:54	05:24 08:26-09:13/47 20:17
15	07:08 16:50	06:44 09:37-10:47/70 17:25	06:03 09:40-10:13/33 17:56	06:15 08:48-09:53/65 19:27	05:39 19:55	05:24 08:26-09:13/47 20:17
16	07:08 16:51	06:43 09:36-10:48/72 17:27	06:02 09:43-10:08/25 17:57	06:14 08:49-09:53/64 19:28	05:38 19:56	05:24 08:26-09:14/48 20:18
17	07:08 16:52	06:42 09:36-10:48/72 17:28	06:00 09:46-10:01/15 17:58	06:12 08:49-09:52/63 19:29	05:37 19:57	05:24 08:26-09:14/48 20:18
18	07:07 16:53	06:41 09:36-10:49/73 17:29	05:59 08:13-09:14/61 17:59	06:11 08:49-09:50/61 19:29	05:36 19:58	05:24 08:26-09:14/48 20:18
19	07:07 16:54	06:39 09:34-10:49/75 17:30	05:57 08:12-09:14/62 18:00	06:10 08:49-09:49/60 19:30	05:35 19:59	05:24 08:26-09:15/49 20:19
20	07:06 16:56	06:38 09:34-10:49/75 17:31	05:55 08:11-09:14/63 18:01	06:08 08:49-09:47/58 19:31	05:34 20:00	05:24 08:27-09:16/49 20:19
21	07:06 16:57	06:37 09:34-10:49/75 17:32	05:54 08:09-09:14/65 18:02	06:07 08:50-09:46/56 19:32	05:34 20:01	05:25 08:27-09:16/49 20:19
22	07:05 16:58	06:35 09:33-10:49/76 17:33	05:52 08:07-09:14/67 18:03	06:05 08:50-09:45/55 19:33	05:33 20:02	05:25 08:27-09:16/49 20:19
23	07:05 16:59	06:34 09:33-10:49/76 17:34	05:51 08:06-09:14/68 18:04	06:04 08:50-09:43/53 19:34	05:32 20:02	05:25 08:27-09:16/49 20:20
24	07:04 17:00	06:33 09:33-10:49/76 17:35	05:49 08:05-09:14/69 18:05	06:03 08:51-09:42/51 19:35	05:31 20:03	05:25 08:28-09:16/48 20:20
25	07:04 17:01	06:31 09:32-10:48/76 17:37	05:48 08:04-09:14/70 18:06	06:01 08:52-09:40/48 19:36	05:31 20:04	05:26 08:28-09:16/48 20:20
26	07:03 17:02	06:30 09:32-10:48/76 17:38	05:46 08:03-09:13/70 18:07	06:00 08:53-09:39/46 19:37	05:30 20:05	05:26 08:28-09:16/48 20:20
27	07:02 17:03	06:29 09:31-10:47/76 17:39	05:44 08:01-09:12/71 18:08	05:59 08:53-09:37/44 19:38	05:30 20:06	05:26 08:29-09:17/48 20:20
28	07:02 17:05	06:27 09:32-10:46/74 17:40	05:43 08:00-09:12/72 18:09	05:57 08:54-09:35/41 19:39	05:29 20:06	05:27 08:29-09:16/47 20:20
29	07:01 10:09-10:13/4 17:06	06:26 09:31-10:45/74 17:41	05:41 07:58-09:11/73 18:10	05:56 08:56-09:34/38 19:40	05:28 20:07	05:27 08:29-09:16/47 20:20
30	07:00 10:02-10:21/19 17:07		05:40 07:58-09:11/73 18:11	05:55 08:57-09:32/35 19:41	05:28 20:08	05:27 08:31-09:16/45 20:20
31	06:59 09:58-10:24/26 17:08		06:38 08:56-10:10/74 19:12		05:27 08:42-08:55/13 20:09	
Potential sun hours	302	310	370	396	443	446
Sum of minutes with flicker	49	1870	2279	1826	119	1283

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: Bufalo real case WTG: 14 - CU3

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4,16	4,62	5,58	6,71	8,10	9,27	10,00	9,47	7,89	5,95	5,05	4,11

Operational time

0	1	Sum
1.500	1.500	3.000

	July	August	September	October	November	December
1	05:28 08:31-09:15/44 20:20	05:50 20:03	06:18 08:48-09:57/69 19:22	06:45 10:16-11:01/45 18:35 09:03-09:47/44	06:17 09:10-10:14/64 16:51	06:49 16:29
2	05:28 08:32-09:16/44 20:20	05:51 20:02	06:19 08:48-09:57/69 19:21	06:46 10:14-11:04/50 18:33 09:05-09:45/40	06:18 09:11-10:13/62 16:50	06:50 16:28
3	05:29 08:33-09:15/42 20:20	05:52 20:01	06:20 08:48-09:58/70 19:19	06:47 10:13-11:06/53 18:31 09:07-09:42/35	06:19 09:12-10:12/60 16:49	06:51 16:28
4	05:29 08:34-09:15/41 20:20	05:53 20:00	06:21 08:48-09:59/71 19:18	06:48 10:11-11:08/57 18:30 09:10-09:38/28	06:20 09:13-10:10/57 16:47	06:52 16:28
5	05:30 08:35-09:14/39 20:19	05:54 19:59	06:22 08:48-09:59/71 19:16	06:49 10:10-11:10/60 18:28 09:15-09:34/19	06:21 09:15-10:10/55 16:46	06:53 16:28
6	05:30 08:36-09:14/38 20:19	05:55 19:57	06:23 08:48-10:00/72 19:15	06:50 10:09-11:11/62 18:27	06:22 09:17-10:08/51 16:45	06:54 16:28
7	05:31 08:37-09:12/35 20:19	05:55 19:56	06:24 08:47-10:00/73 19:13	06:51 10:08-11:13/65 18:25	06:23 09:18-10:07/49 16:44	06:55 16:28
8	05:32 08:39-09:12/33 20:19	05:56 09:17-09:28/11 19:55	06:24 08:47-10:00/73 19:11	06:52 10:08-11:14/66 18:24	06:24 09:20-10:05/45 16:43	06:56 16:28
9	05:32 08:40-09:10/30 20:18	05:57 09:13-09:32/19 19:54	06:25 08:47-10:01/74 19:10	06:53 10:07-11:15/68 18:22	06:25 09:22-10:03/41 16:42	06:57 16:28
10	05:33 08:42-09:09/27 20:18	05:58 09:10-09:34/24 19:53	06:26 08:48-10:01/73 19:08	06:54 10:06-11:16/70 18:21	06:26 09:25-10:02/37 16:41	06:57 16:28
11	05:33 08:45-09:07/22 20:18	05:59 09:08-09:36/28 19:52	06:27 08:48-10:02/74 19:07	06:55 10:06-11:17/71 18:19	06:28 09:27-09:59/32 16:40	06:58 16:28
12	05:34 08:48-09:04/16 20:17	06:00 09:06-09:38/32 19:50	06:28 08:48-10:02/74 19:05	06:56 10:05-11:18/73 18:18	06:29 09:30-09:56/26 16:40	06:59 16:28
13	05:35 08:53-09:00/7 20:17	06:01 09:04-09:40/36 19:49	06:29 08:49-10:02/73 19:04	06:57 10:05-11:18/73 18:16	06:30 09:34-09:53/19 16:39	07:00 16:28
14	05:36 20:16	06:02 09:03-09:42/39 19:48	06:30 08:48-10:02/74 19:02	06:58 10:04-11:19/75 18:15	06:31 09:41-09:45/4 16:38	07:01 16:28
15	05:36 20:16	06:03 09:02-09:43/41 19:47	06:31 08:49-10:02/73 19:00	06:59 10:04-11:19/75 18:13	06:32 16:37	07:01 16:29
16	05:37 20:15	06:04 09:01-09:45/44 19:45	06:32 08:50-10:02/72 18:59	07:00 10:04-11:20/76 18:12	06:33 16:36	07:02 16:29
17	05:38 20:15	06:05 08:59-09:45/46 19:44	06:33 08:51-10:02/71 18:57	07:01 10:04-11:20/76 18:10	06:34 16:36	07:03 16:29
18	05:38 20:14	06:05 08:58-09:47/49 19:43	06:33 08:51-10:01/70 18:55	07:02 10:04-11:20/76 18:09	06:35 16:35	07:03 16:30
19	05:39 20:13	06:06 08:57-09:48/51 19:41	06:34 08:52-10:01/69 18:54	07:03 10:04-11:20/76 18:08	06:36 16:34	07:04 16:30
20	05:40 20:13	06:07 08:56-09:49/53 19:40	06:35 08:52-10:01/69 18:52	07:04 10:04-11:20/76 18:06	06:38 16:34	07:04 16:30
21	05:41 20:12	06:08 08:55-09:50/55 19:38	06:36 08:53-10:00/67 18:51	07:05 10:04-11:19/75 18:05	06:39 16:33	07:05 16:31
22	05:42 20:11	06:09 08:54-09:51/57 19:37	06:37 08:53-09:59/66 18:49	07:06 10:04-11:19/75 18:03	06:40 16:32	07:06 16:31
23	05:42 20:11	06:10 08:54-09:52/58 19:36	06:38 08:54-09:58/64 18:47	07:07 10:04-11:19/75 18:02	06:41 16:32	07:06 16:32
24	05:43 20:10	06:11 08:52-09:52/60 19:34	06:39 08:55-09:57/62 18:46	07:08 10:05-11:19/74 18:01	06:42 16:31	07:07 16:32
25	05:44 20:09	06:12 08:52-09:53/61 19:33	06:40 08:55-09:56/61 18:44	07:09 10:05-11:19/74 17:59	06:43 16:31	07:07 16:33
26	05:45 20:08	06:13 08:51-09:54/63 19:31	06:41 10:32-10:40/8 18:43 08:56-09:55/59	07:10 10:06-11:18/72 17:58	06:44 16:30	07:07 16:34
27	05:46 20:07	06:14 08:51-09:55/64 19:30	06:42 10:26-10:47/21 18:41 08:57-09:54/57	06:11 09:06-10:17/71 16:57	06:45 16:30	07:08 16:34
28	05:47 20:07	06:15 08:50-09:55/65 19:28	06:42 10:22-10:52/30 18:39 08:58-09:53/55	06:12 09:07-10:17/70 16:56	06:46 16:30	07:08 16:35
29	05:47 20:06	06:15 08:50-09:56/66 19:27	06:43 10:19-10:56/37 18:38 09:00-09:51/51	06:13 09:07-10:16/69 16:54	06:47 16:29	07:08 16:36
30	05:48 20:05	06:16 08:50-09:56/66 19:25	06:44 10:17-10:59/42 18:36 09:01-09:49/48	06:14 09:08-10:15/67 16:53	06:48 16:29	07:09 16:36
31	05:49 20:04	06:17 08:48-09:56/68 19:24		06:15 09:10-10:15/65 16:52		07:09 16:37
Potential sun hours	453	424	374	347	303	294
Sum of minutes with flicker	418	1156	2162	2296	602	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: Bufalo real case WTG: 15 - CU4

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4,16	4,62	5,58	6,71	8,10	9,27	10,00	9,47	7,89	5,95	5,05	4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 08:29-09:03/34 16:37	06:58 08:02-08:38/36 17:09	06:24 07:44-08:16/32 17:42	06:37 08:31-08:51/20 19:13	05:54 19:42	05:27 20:09
2	07:09 08:29-09:03/34 16:38	06:58 08:02-08:38/36 17:10	06:23 07:45-08:15/30 17:43	06:35 08:33-08:47/14 19:14	05:52 19:43	05:27 20:10
3	07:09 08:30-09:03/33 16:39	06:57 08:02-08:38/36 17:12	06:21 07:45-08:13/28 17:44	06:33 19:15	05:51 19:44	05:26 20:11
4	07:09 08:30-09:03/33 16:40	06:56 08:02-08:37/35 17:13	06:20 07:47-08:12/25 17:45	06:32 19:16	05:50 19:45	05:26 20:11
5	07:09 08:31-09:04/33 16:41	06:55 08:02-08:37/35 17:14	06:18 07:45-08:09/24 17:46	06:30 19:17	05:49 19:46	05:26 20:12
6	07:10 08:31-09:04/33 16:41	06:54 08:02-08:37/35 17:15	06:17 07:41-08:07/26 17:47	06:29 19:18	05:48 19:47	05:25 20:13
7	07:10 08:32-09:04/32 16:42	06:53 08:03-08:36/33 17:16	06:15 07:38-08:03/25 17:48	06:27 19:19	05:47 19:48	05:25 20:13
8	07:10 08:32-09:04/32 16:43	06:52 08:03-08:35/32 17:17	06:14 07:35-08:05/30 17:49	06:26 19:20	05:45 19:49	05:25 20:14
9	07:09 08:32-09:04/32 16:44	06:51 08:03-08:33/30 17:19	06:12 07:34-08:07/33 17:50	06:24 19:21	05:44 19:50	05:25 20:14
10	07:09 08:33-09:04/31 16:45	06:50 08:03-08:32/29 17:20	06:11 07:31-08:07/36 17:51	06:23 19:22	05:43 19:51	05:24 20:15
11	07:09 08:34-09:05/31 16:46	06:49 08:04-08:32/28 17:21	06:09 07:31-08:09/38 17:52	06:21 19:23	05:42 19:52	05:24 20:15
12	07:09 08:35-09:05/30 16:47	06:48 08:00-08:04/4 17:22	06:08 07:29-08:09/40 17:53	06:20 19:24	05:41 19:53	05:24 20:16
13	07:09 08:35-09:04/29 16:48	06:46 07:55-08:30/35 17:23	06:06 07:28-08:10/42 17:54	06:18 19:25	05:40 19:53	05:24 20:16
14	07:09 08:36-09:04/28 16:49	06:45 07:53-08:28/35 17:24	06:05 07:27-08:10/43 17:55	06:17 19:26	05:39 19:54	05:24 20:17
15	07:08 08:38-09:04/26 16:50	06:44 07:50-08:25/35 17:25	06:03 07:26-08:10/44 17:56	06:15 19:27	05:39 19:55	05:24 20:17
16	07:08 08:38-09:03/25 16:51	06:43 07:49-08:22/33 17:27	06:02 07:25-08:10/45 17:57	06:14 19:27	05:38 19:56	05:24 20:18
17	07:08 08:39-09:03/24 16:52	06:42 07:48-08:16/28 17:28	06:00 07:24-08:09/45 17:58	06:12 19:28	05:37 19:57	05:24 20:18
18	07:07 08:40-09:02/22 16:53	06:40 07:47-08:18/31 17:29	05:59 07:24-08:10/46 17:59	06:11 19:29	05:36 19:58	05:24 20:18
19	07:07 08:42-09:02/20 16:54	06:39 07:45-08:18/33 17:30	05:57 07:23-08:09/46 18:00	06:10 19:30	05:35 19:59	05:24 20:19
20	07:06 08:43-09:00/17 16:56	06:38 07:45-08:19/34 17:31	05:55 07:24-08:09/45 18:01	06:08 19:31	05:34 20:00	05:24 20:19
21	07:06 08:45-09:00/15 16:57	06:37 07:44-08:19/35 17:32	05:54 07:23-08:08/45 18:02	06:07 19:32	05:34 20:01	05:25 20:19
22	07:05 08:48-08:57/9 16:58	06:35 07:43-08:19/36 17:33	05:52 07:23-08:07/44 18:03	06:05 19:33	05:33 20:02	05:25 20:19
23	07:05 08:06-08:33/27 16:59	06:34 07:43-08:19/36 17:34	05:51 07:23-08:07/44 18:04	06:04 19:34	05:32 20:02	05:25 20:20
24	07:04 08:05-08:34/29 17:00	06:33 07:43-08:20/37 17:35	05:49 07:23-08:05/42 18:05	06:03 19:35	05:31 20:03	05:25 20:20
25	07:04 08:04-08:34/30 17:01	06:31 07:43-08:19/36 17:37	05:48 07:24-08:05/41 18:06	06:01 19:36	05:31 20:04	05:26 20:20
26	07:03 08:04-08:35/31 17:02	06:30 07:43-08:19/36 17:38	05:46 07:24-08:03/39 18:07	06:00 19:37	05:30 20:05	05:26 20:20
27	07:02 08:04-08:36/32 17:03	06:29 07:42-08:18/36 17:39	05:44 07:24-08:01/37 18:08	05:59 19:38	05:29 20:06	05:26 20:20
28	07:02 08:03-08:36/33 17:05	06:27 07:43-08:18/35 17:40	05:43 07:25-08:00/35 18:09	05:57 19:39	05:29 20:06	05:27 20:20
29	07:01 08:02-08:37/35 17:06	06:26 07:43-08:16/33 17:41	05:41 07:25-07:58/33 18:10	05:56 19:40	05:28 20:07	05:27 20:20
30	07:00 08:02-08:37/35 17:07		05:40 07:27-07:56/29 18:11	05:55 19:41	05:28 20:08	05:27 20:20
31	06:59 08:01-08:37/36 17:08		06:38 08:28-08:54/26 19:12		05:27 20:09	
Potential sun hours	302	310	370	396	443	446
Sum of minutes with flicker	1038	979	1138	34	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: Bufalo real case WTG: 15 - CU4
Assumptions for shadow calculations
Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28 20:20	05:50 20:03	06:18 19:22	06:45 18:35	08:08-08:49/41 16:51	06:17 16:29
2	05:28 20:20	05:51 20:02	06:19 19:21	06:46 18:33	08:09-08:48/39 16:50	06:18 16:28
3	05:29 20:20	05:52 20:01	06:20 19:19	06:47 18:31	08:09-08:46/37 16:49	06:19 16:28
4	05:29 20:20	05:53 20:00	06:21 19:18	06:48 18:30	08:11-08:45/34 16:47	06:20 16:28
5	05:30 20:19	05:54 19:58	06:22 19:16	06:49 18:28	08:12-08:43/31 16:46	06:21 16:28
6	05:30 20:19	05:55 19:57	06:23 19:15	06:50 18:27	08:13-08:41/28 16:45	06:22 16:28
7	05:31 20:19	05:55 19:56	06:24 19:13	06:51 18:25	08:15-08:41/26 16:44	06:23 16:28
8	05:32 20:19	05:56 19:55	06:24 19:11	06:52 18:24	08:17-08:44/27 16:43	06:24 16:28
9	05:32 20:18	05:57 19:54	06:25 19:10	06:53 18:22	08:22-08:46/24 16:42	06:25 16:28
10	05:33 20:18	05:58 19:53	06:26 19:08	06:54 18:21	08:21-08:47/26 16:41	06:26 16:28
11	05:33 20:18	05:59 19:52	06:27 19:07	06:55 18:19	08:19-08:48/29 16:40	06:28 16:28
12	05:34 20:17	06:00 19:50	06:28 19:05	06:56 18:18	08:18-08:49/31 16:40	06:29 16:28
13	05:35 20:17	06:01 19:49	06:29 19:03	06:57 18:16	08:17-08:50/33 16:39	06:30 16:28
14	05:36 20:16	06:02 19:48	06:30 19:02	06:58 18:15	08:16-08:50/34 16:38	06:31 16:28
15	05:36 20:16	06:03 19:47	06:31 19:00	06:59 18:13	08:15-08:50/35 16:37	06:32 16:29
16	05:37 20:15	06:04 19:45	06:32 18:59	07:00 18:12	08:15-08:51/36 16:36	06:33 16:29
17	05:38 20:15	06:05 19:44	06:32 18:57	07:01 18:10	08:14-08:51/37 16:36	06:34 16:29
18	05:38 20:14	06:05 19:43	06:33 18:55	07:02 18:09	08:14-08:50/36 16:35	06:35 16:30
19	05:39 20:13	06:06 19:41	06:34 18:54	07:03 18:08	08:14-08:50/36 16:34	06:36 16:30
20	05:40 20:13	06:07 19:40	06:35 18:52	07:04 18:06	08:14-08:50/36 16:34	06:38 16:30
21	05:41 20:12	06:08 19:38	06:36 18:51	07:05 18:05	08:14-08:49/35 16:33	06:39 16:31
22	05:42 20:11	06:09 19:37	06:37 18:49	07:06 18:03	08:14-08:49/35 16:32	06:40 16:31
23	05:42 20:11	06:10 19:36	06:38 18:47	07:07 18:02	08:15-08:48/33 16:32	06:41 16:32
24	05:43 20:10	06:11 19:34	06:39 18:46	07:08 18:01	08:16-08:48/32 16:31	06:42 16:32
25	05:44 20:09	06:12 19:33	06:40 18:44	07:09 17:59	08:17-08:47/30 16:31	06:43 16:33
26	05:45 20:08	06:13 19:31	06:41 18:43	07:10 17:58	08:18-08:46/28 16:30	06:44 16:34
27	05:46 20:07	06:14 19:30	06:42 18:41	07:11 16:57	07:19-07:53/34 16:30	06:45 16:34
28	05:47 20:06	06:15 19:28	06:42 18:39	06:12 16:56	07:20-07:56/36 16:30	06:46 16:35
29	05:47 20:06	06:15 19:27	06:43 18:38	06:13 16:54	07:22-07:57/35 16:29	06:47 16:36
30	05:48 20:05	06:16 19:25	06:44 18:36	06:14 16:53	07:24-07:59/35 16:29	06:48 16:36
31	05:49 20:04	06:17 19:24		06:15 16:52	07:35-08:01/26	07:09 16:37
Potential sun hours	453	424	374	347	303	294
Sum of minutes with flicker	0	0	797	1015	1013	1032

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: Bufalo real case WTG: 16 - CU5
Assumptions for shadow calculations
Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

Table with 13 columns for months (January-December) and 31 rows for days. Each cell contains a time range (e.g., 07:09-16:37) or a specific time (e.g., 06:58). Summary rows at the bottom show 'Potential sun hours' and 'Sum of minutes with flicker' for each month and overall totals.

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: Bufalo real case WTG: 17 - CU6
Assumptions for shadow calculations
Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	January	February	March	April	May	June			
1	07:09 16:37	06:58 17:09	06:24 17:42	06:37 19:13	07:27-07:55/28	05:54 19:42	08:11-09:17/66 07:14-07:38/24	05:27 20:09	08:26-08:56/30
2	07:09 16:38	06:58 17:10	06:23 17:43	06:35 19:14	07:24-07:54/30	05:52 19:43	08:11-09:17/66 07:14-07:36/22	05:27 20:10	08:27-08:55/28
3	07:09 16:39	06:57 17:12	06:21 17:44	06:33 19:15	07:22-07:53/31	05:51 19:44	08:11-09:16/65 07:16-07:34/18	05:26 20:11	08:28-08:54/26
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	07:21-07:54/33	05:50 19:45	08:11-09:16/65 07:18-07:32/14	05:26 20:11	08:29-08:53/24
5	07:09 16:41	06:55 17:14	06:18 17:46	06:30 19:17	08:48-09:02/14 07:20-07:53/33	05:49 19:46	08:11-09:15/64 07:21-07:29/8	05:26 20:12	08:30-08:53/23
6	07:09 16:41	06:54 17:15	06:17 17:47	06:29 19:18	08:42-09:08/26 07:19-07:53/34	05:48 19:47	08:11-09:15/64	05:25 20:13	08:32-08:52/20
7	07:09 16:42	06:53 17:16	06:15 17:48	06:27 19:19	08:38-09:10/32 07:18-07:52/34	05:47 19:48	08:11-09:14/63	05:25 20:13	08:32-08:50/18
8	07:09 16:43	06:52 17:17	06:14 17:49	06:26 19:20	08:35-09:13/38 07:18-07:52/34	05:45 19:49	08:12-09:14/62	05:25 20:14	08:34-08:49/15
9	07:09 16:44	06:51 17:19	06:12 17:50	06:24 19:21	08:32-09:14/42 07:17-07:50/33	05:44 19:50	08:12-09:13/61	05:25 20:14	08:35-08:48/13
10	07:09 16:45	06:50 17:20	06:11 17:51	06:23 19:22	08:31-09:16/45 07:18-07:50/32	05:43 19:51	08:12-09:12/60	05:24 20:15	08:37-08:47/10
11	07:09 16:46	06:49 17:21	06:09 17:52	06:21 19:23	08:28-09:17/49 07:17-07:48/31	05:42 19:52	08:12-09:12/60	05:24 20:15	08:39-08:45/6
12	07:09 16:47	06:48 17:22	06:08 17:53	06:20 19:24	08:27-09:18/51 07:18-07:46/28	05:41 19:52	08:12-09:11/59	05:24 20:16	
13	07:09 16:48	06:46 17:23	06:06 17:54	06:18 19:25	08:24-09:19/55 07:17-07:44/27	05:40 19:53	08:13-09:10/57	05:24 20:16	
14	07:09 16:49	06:45 17:24	06:05 17:55	06:17 19:26	08:23-09:20/57 07:16-07:44/28	05:39 19:54	08:13-09:09/56	05:24 20:17	
15	07:08 16:50	06:44 17:25	06:03 17:56	06:15 19:26	08:21-09:20/59 07:14-07:44/30	05:38 19:55	08:13-09:08/55	05:24 20:17	
16	07:08 16:51	06:43 17:27	06:02 17:57	06:14 19:27	08:21-09:21/60 07:13-07:45/32	05:38 19:56	08:14-09:08/54	05:24 20:18	
17	07:08 16:52	06:42 17:28	06:00 17:58	06:12 19:28	08:20-09:21/61 07:13-07:45/32	05:37 19:57	08:15-09:07/52	05:24 20:18	
18	07:07 16:53	06:40 17:29	05:59 17:59	06:11 19:29	08:18-09:21/63 07:11-07:45/34	05:36 19:58	08:15-09:06/51	05:24 20:18	
19	07:07 16:54	06:39 17:30	05:57 18:00	06:09 19:30	08:18-09:21/63 07:11-07:45/34	05:35 19:59	08:15-09:05/50	05:24 20:19	
20	07:06 16:56	06:38 17:31	05:55 18:01	06:08 19:31	08:16-09:21/65 07:10-07:45/35	05:34 20:00	08:17-09:05/48	05:24 20:19	
21	07:06 16:57	06:37 17:32	05:54 18:02	06:07 19:32	08:16-09:21/65 07:10-07:45/35	05:33 20:01	08:17-09:04/47	05:25 20:19	
22	07:05 16:58	06:35 17:33	05:52 18:03	06:05 19:33	08:15-09:21/66 07:10-07:45/35	05:33 20:01	08:17-09:03/46	05:25 20:19	
23	07:05 16:59	06:34 17:34	05:51 18:04	06:04 19:34	08:14-09:20/66 07:09-07:44/35	05:32 20:02	08:19-09:03/44	05:25 20:19	
24	07:04 17:00	06:33 17:35	05:49 18:05	06:03 19:35	08:14-09:20/66 07:10-07:44/34	05:31 20:03	08:19-09:02/43	05:25 20:20	
25	07:04 17:01	06:31 17:37	05:48 18:06	06:01 19:36	08:13-09:20/67 07:10-07:44/34	05:31 20:04	08:19-09:01/42	05:26 20:20	
26	07:03 17:02	06:30 17:38	05:46 18:07	06:00 19:37	08:13-09:20/67 07:10-07:43/33	05:30 20:05	08:21-09:01/40	05:26 20:20	
27	07:02 17:03	06:29 17:39	05:44 18:08	05:59 19:38	08:12-09:19/67 07:10-07:42/32	05:29 20:06	08:21-08:59/38	05:26 20:20	
28	07:02 17:05	06:27 17:40	05:43 18:09	05:57 19:39	08:12-09:19/67 07:11-07:41/30	05:29 20:06	08:22-08:59/37	05:27 20:20	
29	07:01 17:06	06:26 17:41	05:41 18:10	05:56 19:40	08:12-09:19/67 07:12-07:40/28	05:28 20:07	08:23-08:58/35	05:27 20:20	
30	07:00 17:07		05:40 18:11	05:55 19:41	08:12-09:19/67 07:12-07:39/27	05:28 20:08	08:24-08:57/33	05:27 20:20	
31	06:59 17:08		06:38 19:12		07:27-07:54/27	05:27 20:09	08:25-08:56/31		
Potential sun hours	302	310	370	396	443	446			
Sum of minutes with flicker	0	0	385	2401	1700	213			

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: Bufalo real case WTG: 17 - CU6
Assumptions for shadow calculations
Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

	July	August	September	October	November	December
1	05:28 08:45-08:48/3 20:20	05:50 08:23-09:22/59 20:03	06:18 08:27-09:16/49 19:22 07:16-07:47/31	06:45 07:33-07:53/20 18:35	06:16 16:29	06:49 16:29
2	05:28 08:43-08:51/8 20:20	05:51 08:23-09:22/59 20:02	06:19 08:28-09:14/46 19:21 07:16-07:48/32	06:46 07:32-07:53/21 18:33	06:18 16:50	06:50 16:28
3	05:29 08:41-08:53/12 20:20	05:52 08:22-09:22/60 20:01	06:20 08:30-09:12/42 19:19 07:15-07:48/33	06:47 07:31-07:53/22 18:31	06:19 16:49	06:51 16:28
4	05:29 08:40-08:55/15 20:19	05:53 08:21-09:23/62 20:00	06:21 08:32-09:10/38 19:18 07:15-07:49/34	06:48 07:31-07:53/22 18:30	06:20 16:47	06:52 16:28
5	05:30 08:39-08:56/17 20:19	05:54 08:21-09:24/63 19:58	06:22 08:35-09:07/32 19:16 07:15-07:49/34	06:49 07:31-07:52/21 18:28	06:21 16:46	06:53 16:28
6	05:30 08:39-08:57/18 20:19	05:55 08:21-09:24/63 19:57	06:23 08:38-09:04/26 19:15 07:15-07:49/34	06:50 07:31-07:52/21 18:27	06:22 16:45	06:54 16:28
7	05:31 08:37-08:58/21 20:19	05:55 08:21-09:25/64 19:56	06:24 08:42-08:58/16 19:13 07:15-07:48/33	06:51 07:31-07:51/20 18:25	06:23 16:44	06:55 16:28
8	05:32 08:37-09:00/23 20:19	05:56 08:21-09:25/64 19:55 07:29-07:40/11	06:24 07:15-07:48/33 19:11	06:52 07:31-07:49/18 18:24	06:24 16:43	06:56 16:28
9	05:32 08:35-09:00/25 20:18	05:57 08:21-09:26/65 19:54 07:27-07:43/16	06:25 07:16-07:48/32 19:10	06:53 07:32-07:47/15 18:22	06:25 16:42	06:56 16:28
10	05:33 08:35-09:02/27 20:18	05:58 08:20-09:25/65 19:53 07:24-07:44/20	06:26 07:17-07:47/30 19:08	06:54 07:35-07:46/11 18:21	06:26 16:41	06:57 16:28
11	05:33 08:35-09:03/28 20:17	05:59 08:20-09:26/66 19:51 07:22-07:45/23	06:27 07:19-07:47/28 19:07	06:55 18:19	06:28 16:40	06:58 16:28
12	05:34 08:33-09:04/31 20:17	06:00 08:20-09:26/66 19:50 07:21-07:46/25	06:28 07:19-07:46/27 19:05	06:56 18:18	06:29 16:40	06:59 16:28
13	05:35 08:33-09:05/32 20:17	06:01 08:20-09:26/66 19:49 07:20-07:47/27	06:29 07:19-07:46/27 19:03	06:57 18:16	06:30 16:39	07:00 16:28
14	05:36 08:33-09:07/34 20:16	06:02 08:20-09:27/67 19:48 07:19-07:48/29	06:30 07:19-07:44/25 19:02	06:58 18:15	06:31 16:38	07:00 16:28
15	05:36 08:31-09:07/36 20:16	06:03 08:20-09:27/67 19:46 07:18-07:49/31	06:31 07:20-07:43/23 19:00	06:59 18:13	06:32 16:37	07:01 16:29
16	05:37 08:31-09:08/37 20:15	06:04 08:20-09:27/67 19:45 07:18-07:50/32	06:32 07:21-07:41/20 18:59	07:00 18:12	06:33 16:36	07:02 16:29
17	05:38 08:30-09:10/40 20:15	06:05 08:19-09:26/67 19:44 07:16-07:49/33	06:32 07:22-07:39/17 18:57	07:01 18:10	06:34 16:36	07:03 16:29
18	05:38 08:30-09:11/41 20:14	06:05 08:19-09:26/67 19:42 07:16-07:49/33	06:33 07:24-07:37/13 18:55	07:02 18:09	06:35 16:35	07:03 16:30
19	05:39 08:29-09:11/42 20:13	06:06 08:19-09:26/67 19:41 07:15-07:50/35	06:34 18:54	07:03 18:07	06:36 16:34	07:04 16:30
20	05:40 08:28-09:12/44 20:13	06:07 08:20-09:26/66 19:40 07:15-07:50/35	06:35 18:52	07:04 18:06	06:37 16:34	07:04 16:30
21	05:41 08:28-09:13/45 20:12	06:08 08:20-09:26/66 19:38 07:15-07:50/35	06:36 18:51	07:05 18:05	06:39 16:33	07:05 16:31
22	05:42 08:28-09:14/46 20:11	06:09 08:21-09:26/65 19:37 07:15-07:50/35	06:37 18:49	07:06 18:03	06:40 16:32	07:05 16:31
23	05:42 08:26-09:14/48 20:11	06:10 08:21-09:26/65 19:36 07:15-07:50/35	06:38 18:47	07:07 18:02	06:41 16:32	07:06 16:32
24	05:43 08:26-09:15/49 20:10	06:11 08:21-09:24/63 19:34 07:14-07:48/34	06:39 18:46	07:08 18:01	06:42 16:31	07:06 16:32
25	05:44 08:26-09:16/50 20:09	06:12 08:21-09:24/63 19:33 07:14-07:48/34	06:40 18:44	07:09 17:59	06:43 16:31	07:07 16:33
26	05:45 08:26-09:17/51 20:08	06:13 08:22-09:23/61 19:31 07:15-07:47/32	06:41 18:43	07:10 17:58	06:44 16:30	07:07 16:34
27	05:46 08:25-09:18/53 20:07	06:14 08:23-09:22/59 19:30 07:15-07:47/32	06:42 07:41-07:46/5 18:41	06:11 16:57	06:45 16:30	07:08 16:34
28	05:47 08:24-09:18/54 20:06	06:15 08:23-09:22/59 19:28 07:16-07:46/30	06:42 07:37-07:49/12 18:39	06:12 16:56	06:46 16:30	07:08 16:35
29	05:47 08:24-09:19/55 20:05	06:15 08:24-09:21/57 19:27 07:17-07:44/27	06:43 07:35-07:51/16 18:38	06:13 16:54	06:47 16:29	07:08 16:36
30	05:48 08:23-09:20/57 20:05	06:16 08:25-09:20/55 19:25 07:18-07:45/27	06:44 07:34-07:52/18 18:36	06:14 16:53	06:48 16:29	07:09 16:36
31	05:49 08:23-09:21/58 20:04	06:17 08:26-09:17/51 19:24 07:17-07:45/28		06:15 16:52		07:09 16:37
Potential sun hours	453	424	374	347	303	294
Sum of minutes with flicker	1100	2653	806	191	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: Bufalo real case WTG: 18 - CU7

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
0 1 Sum
1.500 1.500 3.000

Table with 12 columns for months (January to December) and 12 rows for days (1 to 31). Each cell contains a 2x2 matrix of times (Sun rise, Sun set, First time, Last time) and a sum of minutes with flicker. Summary rows at the bottom show totals for Potential sun hours and Sum of minutes with flicker.

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

Project:

Cantorato V172

Licensed user:

ISE SRL
VIA G. CABOTO,23
IT-88100 Catanzaro
+393498519351
Camillo / camillocrivaro@hotmail.com
Calculated:
01/08/2024 03:04/4.0.547

SHADOW - Calendar per WTG

Calculation: Bufalo real case WTG: 19 - CU8

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time

0 1 Sum
1.500 1.500 3.000

Table with columns for months (January to December) and rows for days (1 to 31). Each cell contains sun rise and set times (hh:mm) and minutes with flicker. Summary rows at the bottom show 'Potential sun hours' and 'Sum of minutes with flicker' for each month and total.

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

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

SHADOW - Calendar per WTG

Calculation: Bufalo real case WTG: 20 - CU9

Assumptions for shadow calculations

Reference year for calendar 2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]
 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4,16 4,62 5,58 6,71 8,10 9,27 10,00 9,47 7,89 5,95 5,05 4,11

Operational time
 0 1 Sum
 1.500 1.500 3.000

	January	February	March	April	May	June
1	07:09 16:37	06:58 17:09	06:24 07:23-07:42/19 17:42	06:37 19:13	05:54 19:42	05:27 06:21-06:44/23 20:09
2	07:09 16:38	06:58 17:10	06:23 07:25-07:41/16 17:43	06:35 19:14	05:52 19:43	05:27 06:22-06:44/22 20:10
3	07:09 16:39	06:57 17:12	06:21 07:27-07:38/11 17:44	06:33 19:15	05:51 19:44	05:26 06:21-06:43/22 20:11
4	07:09 16:40	06:56 17:13	06:20 17:45	06:32 19:16	05:50 19:45	05:26 06:22-06:43/21 20:11
5	07:09 16:41	06:55 07:37-07:47/10 17:14	06:18 17:46	06:30 19:17	05:49 19:46	05:25 06:23-06:43/20 20:12
6	07:09 16:41	06:54 07:36-07:49/13 17:15	06:17 17:47	06:29 19:18	05:48 19:47	05:25 06:24-06:43/19 20:13
7	07:09 16:42	06:53 07:34-07:50/16 17:16	06:15 17:48	06:27 19:19	05:47 19:48	05:25 06:24-06:43/19 20:13
8	07:09 16:43	06:52 07:33-07:52/19 17:17	06:14 17:49	06:26 19:20	05:45 19:49	05:25 06:24-06:42/18 20:14
9	07:09 16:44	06:51 07:32-07:51/19 17:18	06:12 17:50	06:24 19:21	05:44 19:50	05:25 06:25-06:42/17 20:14
10	07:09 16:45	06:50 07:31-07:52/21 17:20	06:11 17:51	06:23 19:22	05:43 19:51	05:24 06:25-06:42/17 20:15
11	07:09 16:46	06:49 07:31-07:53/22 17:21	06:09 17:52	06:21 19:23	05:42 19:52	05:24 06:26-06:42/16 20:15
12	07:09 16:47	06:48 07:31-07:53/22 17:22	06:08 17:53	06:20 19:24	05:41 06:27-06:36/9 19:53	05:24 06:26-06:42/16 20:16
13	07:09 16:48	06:46 07:31-07:53/22 17:23	06:06 17:54	06:18 19:25	05:40 06:24-06:38/14 19:53	05:24 06:27-06:42/15 20:16
14	07:09 16:49	06:45 07:32-07:53/21 17:24	06:05 17:55	06:17 19:26	05:39 06:23-06:39/16 19:54	05:24 06:28-06:42/14 20:17
15	07:08 16:50	06:44 07:31-07:52/21 17:25	06:03 17:56	06:15 19:26	05:38 06:22-06:40/18 19:55	05:24 06:28-06:42/14 20:17
16	07:08 16:51	06:43 07:32-07:52/20 17:27	06:02 17:57	06:14 19:27	05:38 06:22-06:41/19 19:56	05:24 06:28-06:42/14 20:18
17	07:08 16:52	06:42 07:28-07:51/23 17:28	06:00 17:58	06:12 19:28	05:37 06:21-06:42/21 19:57	05:24 06:29-06:42/13 20:18
18	07:07 16:53	06:40 07:27-07:50/23 17:29	05:59 17:59	06:11 19:29	05:36 06:20-06:42/22 19:58	05:24 06:29-06:42/13 20:18
19	07:07 16:54	06:39 07:24-07:48/24 17:30	05:57 18:00	06:09 19:30	05:35 06:19-06:43/24 19:59	05:24 06:29-06:42/13 20:19
20	07:06 16:56	06:38 07:24-07:46/22 17:31	05:55 18:01	06:08 19:31	05:34 06:20-06:44/24 20:00	05:24 06:30-06:43/13 20:19
21	07:06 16:57	06:37 07:23-07:46/23 17:32	05:54 18:02	06:07 19:32	05:33 06:19-06:44/25 20:01	05:25 06:30-06:43/13 20:19
22	07:05 16:58	06:35 07:22-07:46/24 17:33	05:52 18:03	06:05 19:33	05:33 06:19-06:44/25 20:01	05:25 06:30-06:43/13 20:19
23	07:05 16:59	06:34 07:22-07:46/24 17:34	05:51 18:04	06:04 19:34	05:32 06:19-06:44/25 20:02	05:25 06:30-06:43/13 20:19
24	07:04 17:00	06:33 07:22-07:47/25 17:35	05:49 18:05	06:03 19:35	05:31 06:19-06:44/25 20:03	05:25 06:31-06:44/13 20:20
25	07:04 17:01	06:31 07:21-07:46/25 17:37	05:48 18:06	06:01 19:36	05:31 06:19-06:44/25 20:04	05:26 06:31-06:44/13 20:20
26	07:03 17:02	06:30 07:21-07:46/25 17:38	05:46 18:07	06:00 19:37	05:30 06:19-06:44/25 20:05	05:26 06:31-06:44/13 20:20
27	07:02 17:03	06:29 07:21-07:45/24 17:39	05:44 18:08	05:59 19:38	05:29 06:19-06:44/25 20:06	05:26 06:31-06:45/14 20:20
28	07:02 17:05	06:27 07:22-07:45/23 17:40	05:43 18:09	05:57 19:39	05:29 06:20-06:44/24 20:06	05:27 06:31-06:45/14 20:20
29	07:01 17:06	06:26 07:22-07:43/21 17:41	05:41 18:10	05:56 19:40	05:28 06:19-06:44/25 20:07	05:27 06:30-06:45/15 20:20
30	07:00 17:07		05:40 18:11	05:55 19:41	05:28 06:20-06:44/24 20:08	05:27 06:31-06:46/15 20:20
31	06:59 17:08		06:38 19:12		05:27 06:21-06:44/23 20:09	
Potential sun hours	302	310	370	396	443	446
Sum of minutes with flicker	0	532	46	0	438	475

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: Bufalo real case WTG: 20 - CU9

Assumptions for shadow calculations

Reference year for calendar

2024

Sunshine probability S (Average daily sunshine hours) [CROTONE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4,16	4,62	5,58	6,71	8,10	9,27	10,00	9,47	7,89	5,95	5,05	4,11

Operational time

0	1	Sum
1.500	1.500	3.000

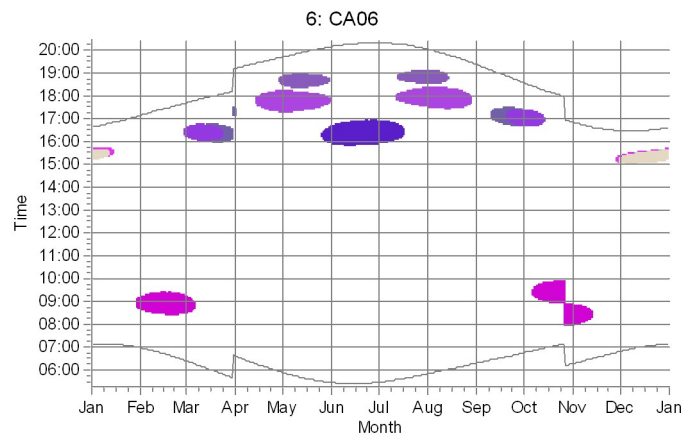
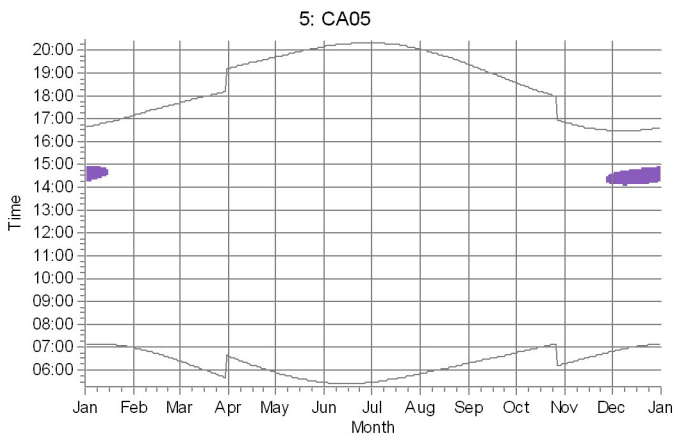
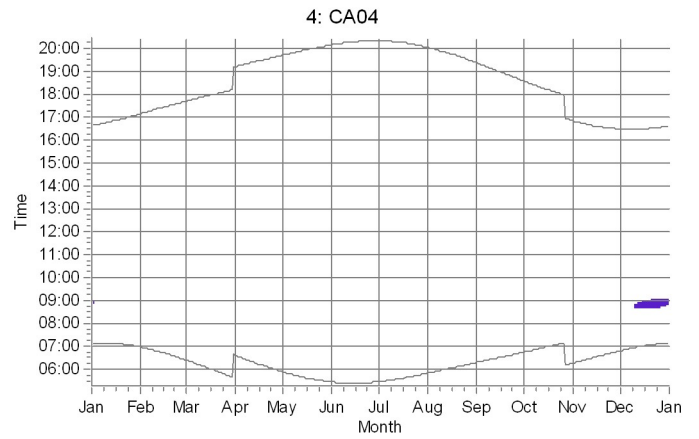
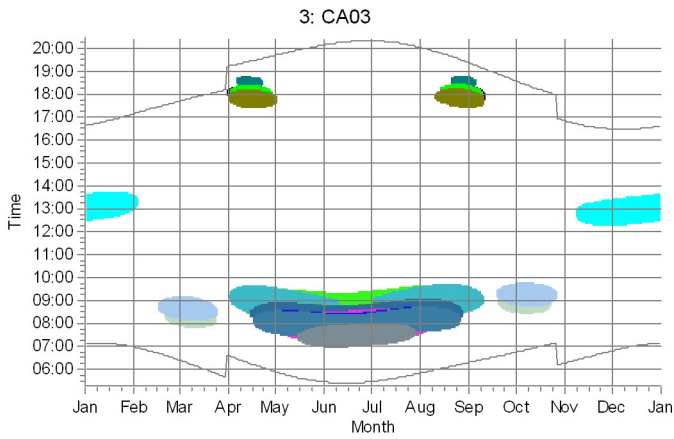
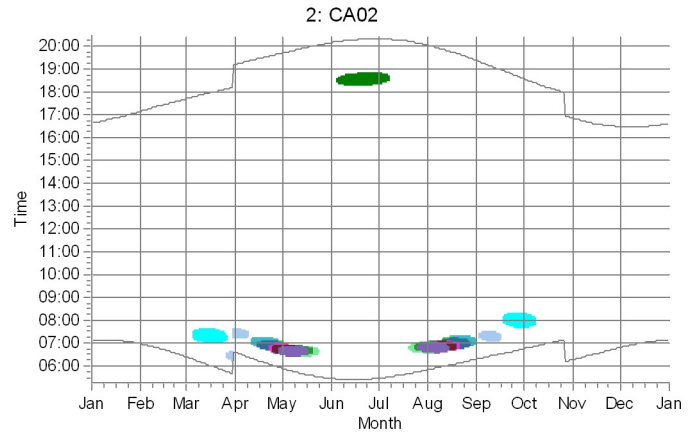
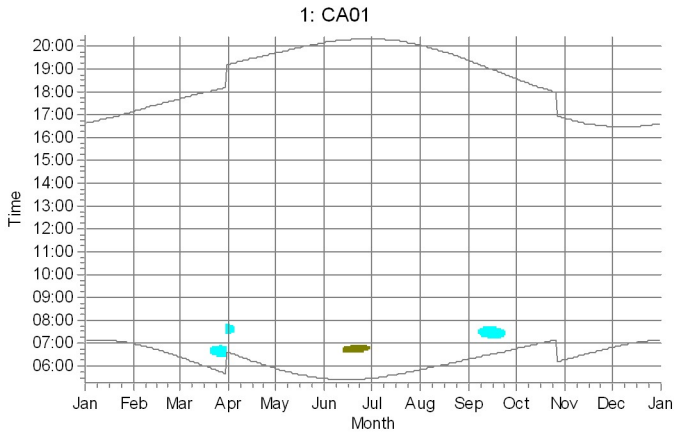
	July	August	September	October	November	December
1	05:28 06:30-06:46/16 20:20	05:50 06:39-06:45/6 20:03	06:18 19:22	06:45 18:35	06:16 07:01-07:23/22 16:51	06:49 16:29
2	05:28 06:31-06:47/16 20:20	05:51 20:02	06:19 19:21	06:46 18:33	06:18 07:01-07:22/21 16:50	06:50 16:28
3	05:29 06:30-06:47/17 20:20	05:52 20:01	06:20 19:19	06:47 18:31	06:19 07:02-07:21/19 16:49	06:51 16:28
4	05:29 06:30-06:48/18 20:20	05:53 20:00	06:21 19:18	06:48 18:30	06:20 07:02-07:20/18 16:47	06:52 16:28
5	05:30 06:30-06:48/18 20:19	05:54 19:58	06:22 19:16	06:49 18:28	06:21 07:04-07:20/16 16:46	06:53 16:28
6	05:30 06:30-06:49/19 20:19	05:55 19:57	06:23 19:15	06:50 18:27	06:22 07:06-07:19/13 16:45	06:54 16:28
7	05:31 06:29-06:49/20 20:19	05:55 19:56	06:24 19:13	06:51 18:25	06:23 07:08-07:16/8 16:44	06:55 16:28
8	05:32 06:29-06:50/21 20:19	05:56 19:55	06:24 19:11	06:52 18:24	06:24 16:43	06:56 16:28
9	05:32 06:29-06:50/21 20:18	05:57 19:54	06:25 19:10	06:53 18:22	06:25 16:42	06:56 16:28
10	05:33 06:29-06:51/22 20:18	05:58 19:53	06:26 19:08	06:54 08:04-08:10/6 18:21	06:26 16:41	06:57 16:28
11	05:33 06:29-06:52/23 20:18	05:59 19:52	06:27 19:07	06:55 08:00-08:13/13 18:19	06:28 16:40	06:58 16:28
12	05:34 06:28-06:52/24 20:17	06:00 19:50	06:28 19:05	06:56 07:58-08:15/17 18:18	06:29 16:40	06:59 16:28
13	05:35 06:29-06:52/23 20:17	06:01 19:49	06:29 19:03	06:57 07:56-08:16/20 18:16	06:30 16:39	07:00 16:28
14	05:36 06:29-06:53/24 20:16	06:02 19:48	06:30 19:02	06:58 07:55-08:17/22 18:15	06:31 16:38	07:00 16:28
15	05:36 06:28-06:53/25 20:16	06:03 19:46	06:31 19:00	06:59 07:54-08:17/23 18:13	06:32 16:37	07:01 16:29
16	05:37 06:28-06:53/25 20:15	06:04 19:45	06:32 18:59	07:00 07:53-08:18/25 18:12	06:33 16:36	07:02 16:29
17	05:38 06:29-06:54/25 20:15	06:05 19:44	06:32 18:57	07:01 07:53-08:18/25 18:10	06:34 16:36	07:03 16:29
18	05:38 06:29-06:54/25 20:14	06:05 19:43	06:33 18:55	07:02 07:53-08:18/25 18:09	06:35 16:35	07:03 16:30
19	05:39 06:28-06:53/25 20:13	06:06 19:41	06:34 18:54	07:03 07:52-08:17/25 18:07	06:36 16:34	07:04 16:30
20	05:40 06:29-06:54/25 20:13	06:07 19:40	06:35 18:52	07:04 07:52-08:17/25 18:06	06:37 16:33	07:04 16:30
21	05:41 06:29-06:54/25 20:12	06:08 19:38	06:36 18:51	07:05 07:53-08:16/23 18:05	06:39 16:33	07:05 16:31
22	05:42 06:30-06:54/24 20:11	06:09 19:37	06:37 18:49	07:06 07:53-08:16/23 18:03	06:40 16:32	07:05 16:31
23	05:42 06:29-06:53/24 20:11	06:10 19:36	06:38 18:47	07:07 07:54-08:16/22 18:02	06:41 16:32	07:06 16:32
24	05:43 06:30-06:53/23 20:10	06:11 19:34	06:39 18:46	07:08 07:54-08:19/25 18:01	06:42 16:31	07:06 16:32
25	05:44 06:30-06:53/23 20:09	06:12 19:33	06:40 18:44	07:09 07:57-08:20/23 17:59	06:43 16:31	07:07 16:33
26	05:45 06:31-06:53/22 20:08	06:13 19:31	06:41 18:43	07:10 07:59-08:21/22 17:58	06:44 16:30	07:07 16:34
27	05:46 06:32-06:52/20 20:07	06:14 19:30	06:42 18:41	07:11 07:02-07:22/20 16:57	06:45 16:30	07:08 16:34
28	05:47 06:32-06:51/19 20:06	06:15 19:28	06:42 18:39	07:12 07:01-07:22/21 16:56	06:46 16:30	07:08 16:35
29	05:47 06:33-06:50/17 20:06	06:15 19:27	06:43 18:38	07:13 07:00-07:22/22 16:54	06:47 16:29	07:08 16:36
30	05:48 06:34-06:49/15 20:05	06:16 19:25	06:44 18:36	07:14 07:00-07:22/22 16:53	06:48 16:29	07:09 16:36
31	05:49 06:36-06:48/12 20:04	06:17 19:24		06:15 07:01-07:23/22 16:52		07:09 16:37
Potential sun hours	453	424	374	347	303	294
Sum of minutes with flicker	656	6	0	471	117	0

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

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

SHADOW - Calendar per WTG, graphical

Calculation: Bufalo real case

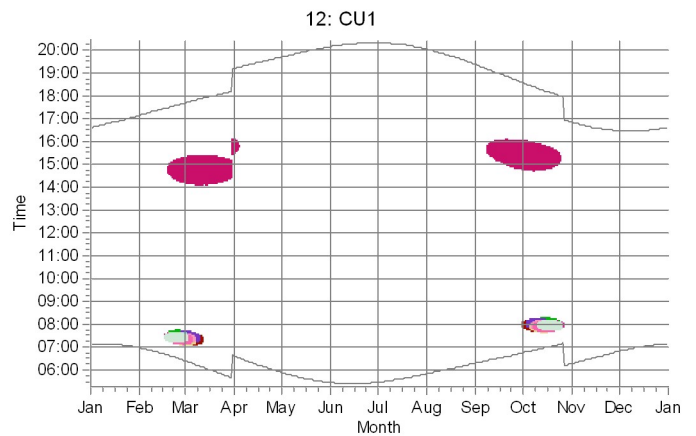
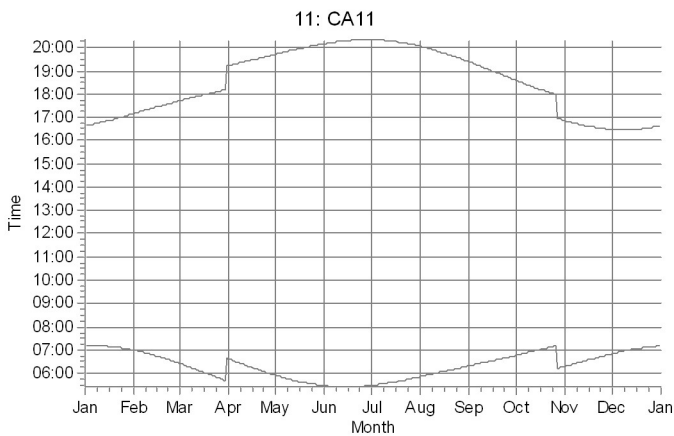
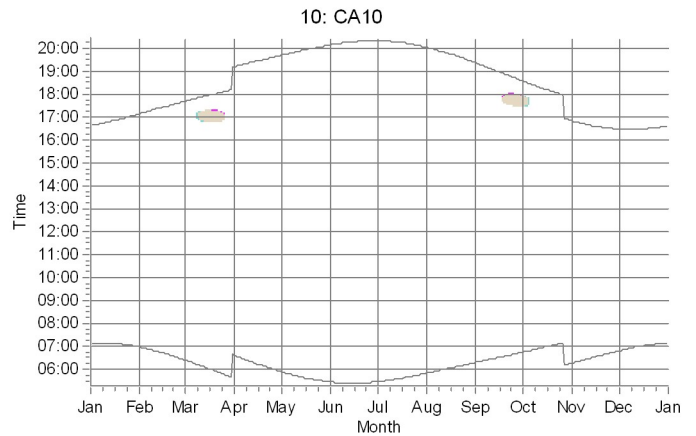
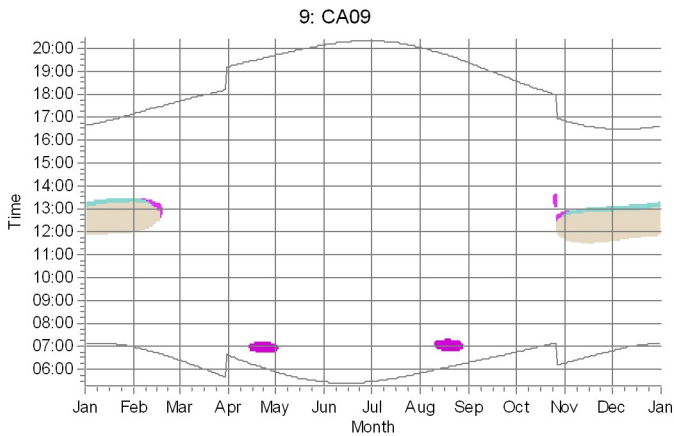
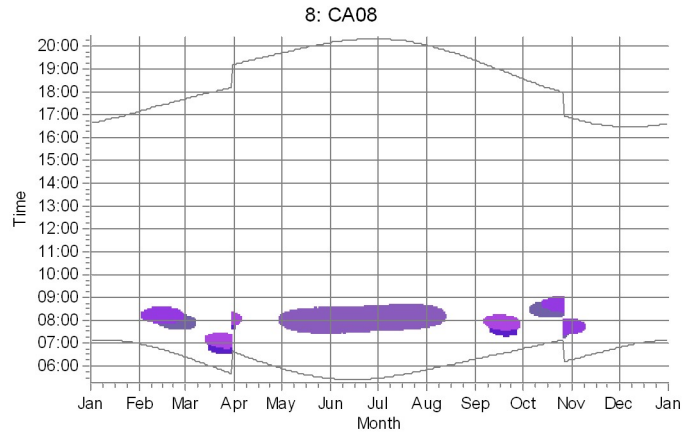
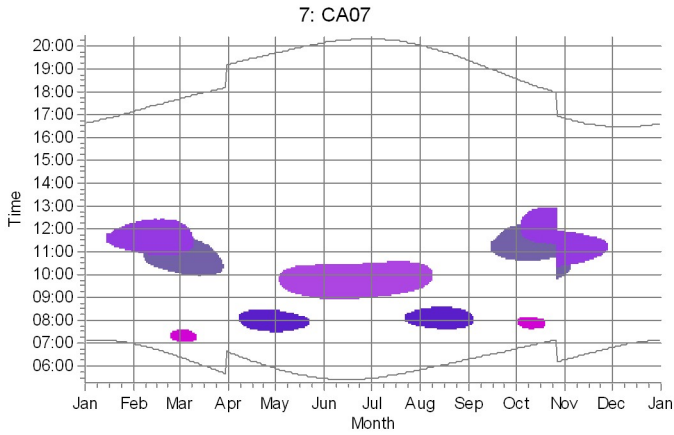


Shadow receptors

A: R127 CA01	M: R57 CA04	S: R16 CA03	Y: R22 CA03	AE: R28 CA03	AK: R34 CA03	AS: R74 CA10
F: R132 CA01	N: R11 CA03	T: R17 CA 03	Z: R23 CA03	AF: R29 CA03	AL: R35 CA03	AT: R75 CA10
G: R133 CA01	O: R12 CA03	U: R18 CA03	AA: R24 CA03	AG: R30 CA03	AO: R61 CA06	AU: R71 CA10
H: R134 CA01	P: R13 CA03	V: R19 CA03	AB: R25 CA03	AH: R31 CA03	AP: R62 CA07	AV: R72 CA10
I: R135 CA01	Q: R14 CA03	W: R20 CA03	AC: R26 CA03	AI: R32 CA03	AQ: R59 CA06	AW: R73 CA10
J: R56 CA03	R: R15 CA03	X: R21 CA03	AD: R27 CA03	AJ: R33 CA03	AR: R60 CA06	

SHADOW - Calendar per WTG, graphical

Calculation: Bufalo real case

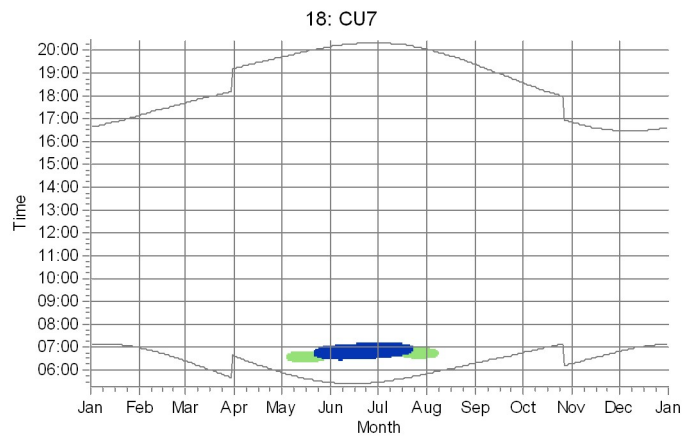
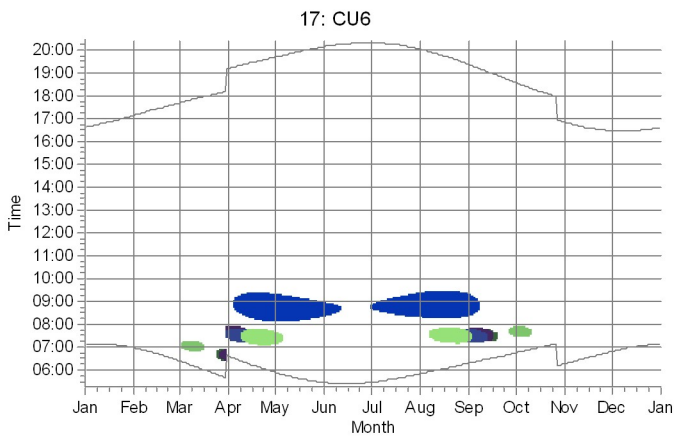
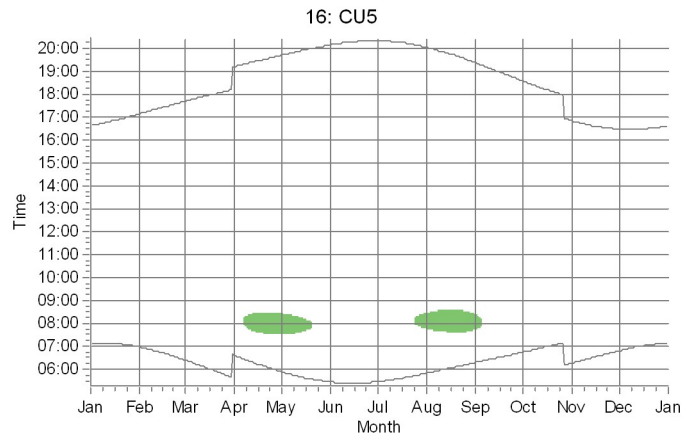
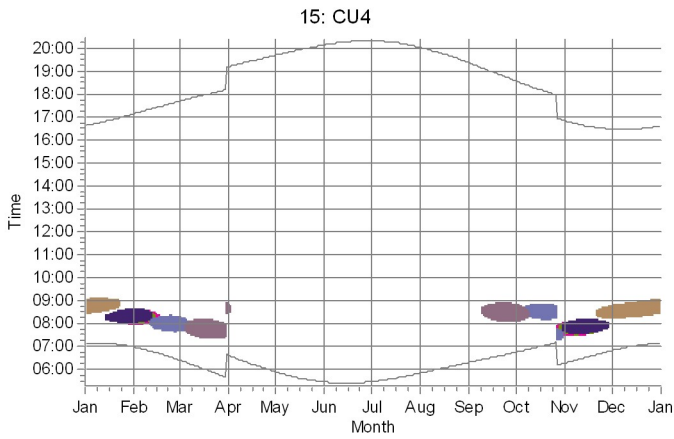
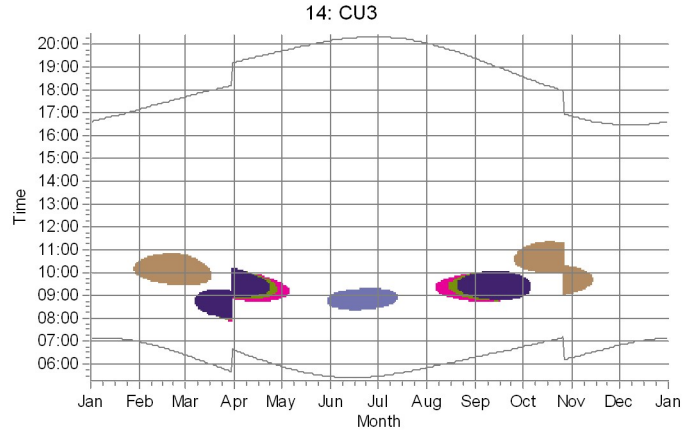
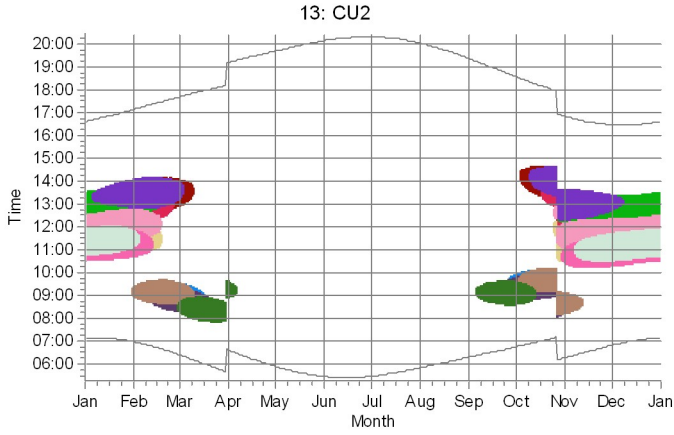


Shadow receptors

AO: R61 CA06	AR: R60 CA06	AU: R71 CA10	AX: R07 CU1	BA: R10 CU2	BD: R13 CU2	BG: R16 CU2
AP: R62 CA07	AS: R74 CA10	AV: R72 CA10	AY: R08 CU2	BB: R11 CU2	BE: R14 CU2	BH: R17 CU2
AQ: R59 CA06	AT: R75 CA10	AW: R73 CA10	AZ: R09 CU2	BC: R12 CU2	BF: R15 CU2	BI: R18 CU2

SHADOW - Calendar per WTG, graphical

Calculation: Bufalo real case

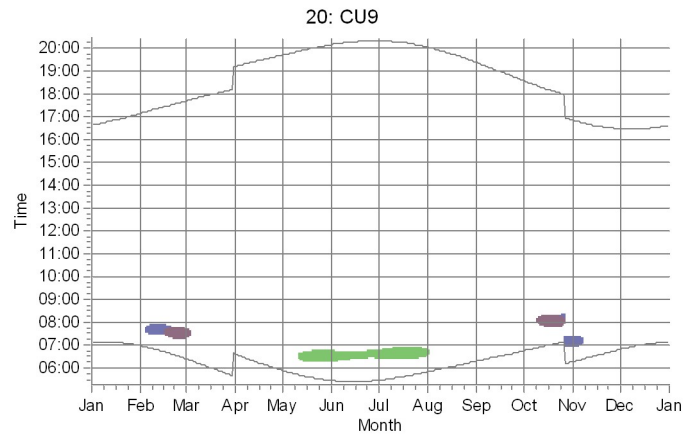
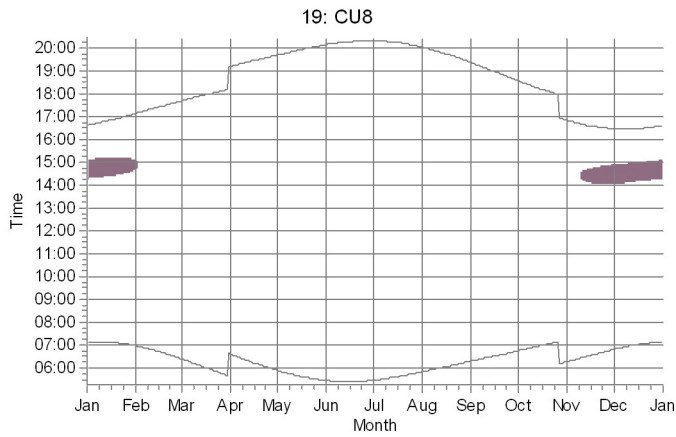


Shadow receptors

AY: R08 CU2	BC: R12 CU2	BG: R16 CU2	BK: R22 CU2	BO: R27 CU2	BS: R31 CU3	BW: R35 CU5
AZ: R09 CU2	BD: R13 CU2	BH: R17 CU2	BL: R23 CU2	BP: R28 CU2	BT: R32 CU5	BX: R36 CU5
BA: R10 CU2	BE: R14 CU2	BI: R18 CU2	BM: R24 CU2	BQ: R29 CU3	BU: R33 CU5	BY: R37 CU5
BB: R11 CU2	BF: R15 CU2	BJ: R21 CU2	BN: R26 CU2	BR: R30 CU3	BV: R34 CU5	

SHADOW - Calendar per WTG, graphical

Calculation: Bufalo real case

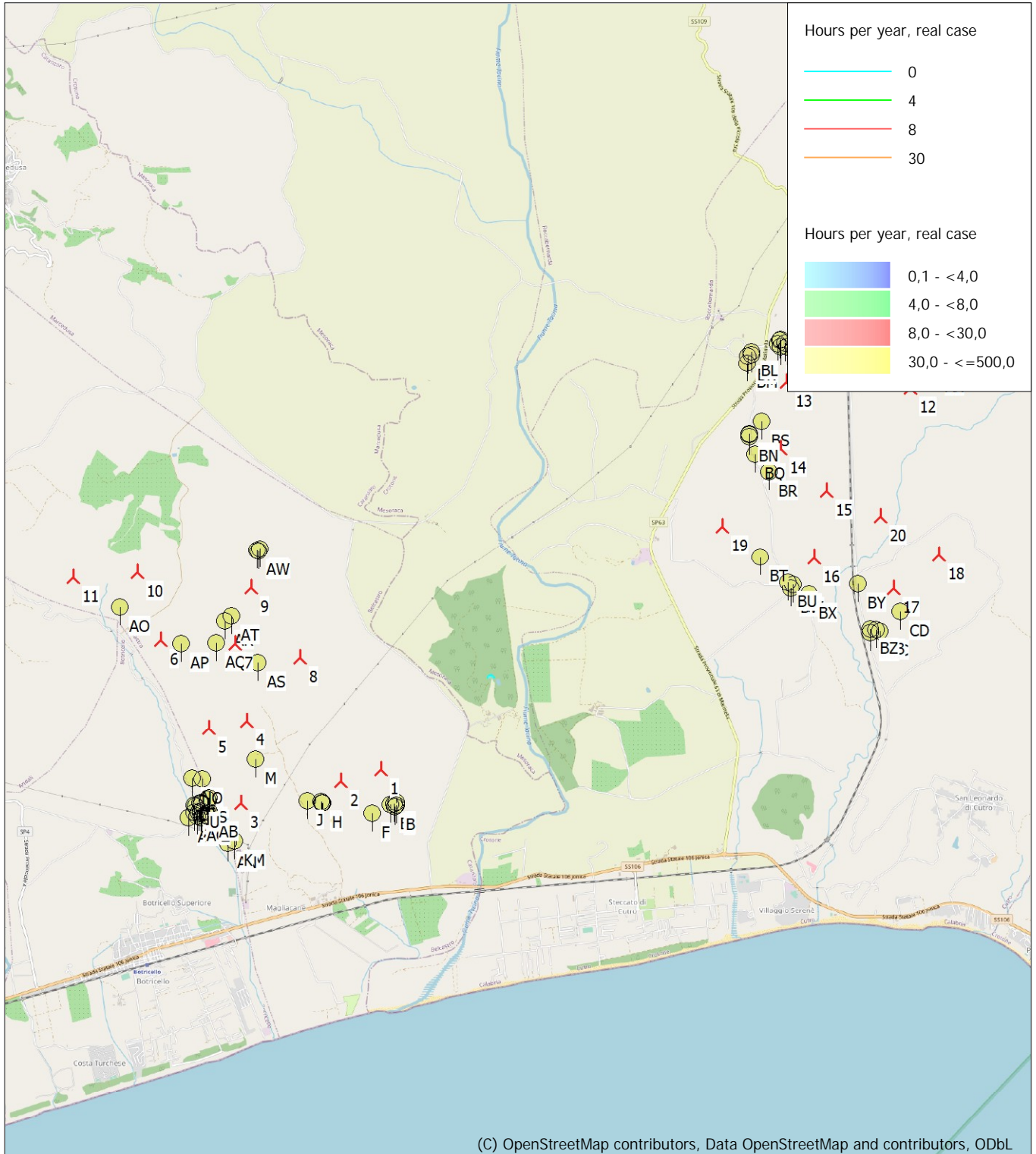


Shadow receptors

BQ: R29 CU3 BR: R30 CU3 BT: R32 CU5

SHADOW - Map

Calculation: Bufalo real case



0 1 2 3 4 km

Map: EMD OpenStreetMap , Print scale 1:75.000, Map center UTM (north)-WGS84 Zone: 33 East: 665.585 North: 4.316.055

New WTG Shadow receptor

Flicker map level: 100 m above sea level

Time step: 4 minutes, Day step: 14 days, Map resolution: 30 m, Visibility resolution: 15 m, Eye height: 4,0 m