

**Table 2.13(m)** Design 97.5 percentile of beam and diffuse irradiance on vertical and horizontal surfaces: Southampton (Thorney Island) (2002–2012)

Month	Orientation		Daily mean irradiance (W·m <sup>-2</sup> ) and mean hourly irradiance (W·m <sup>-2</sup> ) for the 21st day of the given month																				
			Mean	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	
January Sunrise: 0754 Sunset: 1634	Normal to beam		444	0	0	0	0	0	0	0	0	458	595	644	666	680	692	705	0	0	0	0	
	N	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Diffuse	17	0	0	0	0	0	0	0	20	38	54	65	68	62	49	31	17	0	0	0	0
	NE	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Diffuse	17	0	0	0	0	0	0	19	38	54	65	68	62	49	31	20	0	0	0	0	0
	E	Beam	27	0	0	0	0	0	0	0	283	247	118	0	0	0	0	0	0	0	0	0	0
		Diffuse	23	0	0	0	0	0	0	21	107	103	82	68	62	49	31	19	0	0	0	0	0
	SE	Beam	98	0	0	0	0	0	0	0	448	540	507	415	290	146	0	0	0	0	0	0	0
		Diffuse	37	0	0	0	0	0	0	22	149	168	166	148	117	74	31	16	0	0	0	0	0
	S	Beam	157	0	0	0	0	0	0	0	350	517	599	628	615	568	491	0	0	0	0	0	0
		Diffuse	51	0	0	0	0	0	0	20	124	163	186	195	188	168	157	17	0	0	0	0	0
	SW	Beam	125	0	0	0	0	0	0	0	47	191	341	473	581	657	700	0	0	0	0	0	0
		Diffuse	44	0	0	0	0	0	0	19	48	91	130	161	180	188	213	20	0	0	0	0	0
	W	Beam	46	0	0	0	0	0	0	0	0	0	0	41	206	361	499	0	0	0	0	0	0
		Diffuse	27	0	0	0	0	0	0	21	38	54	65	67	98	122	159	19	0	0	0	0	0
	NW	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0
		Diffuse	17	0	0	0	0	0	0	22	38	54	65	68	62	49	27	16	0	0	0	0	0
Horiz.	Beam	48	0	0	0	0	0	0	17	83	159	205	218	202	158	90	12	0	0	0	0	0	
	Diffuse	25	0	0	0	0	0	0	27	64	84	97	100	92	72	48	22	0	0	0	0	0	
	Global	73	0	0	0	0	0	0	45	147	243	302	319	294	231	138	35	0	0	0	0	0	
February Sunrise: 0705 Sunset: 1729	Normal to beam		498	0	0	0	0	0	222	551	690	698	690	683	693	696	554	0	0	0	0	0	
	N	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Diffuse	31	0	0	0	0	0	9	42	64	87	112	120	116	94	59	28	5	0	0	0	0
	NE	Beam	2	0	0	0	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Diffuse	31	0	0	0	0	0	9	61	64	87	112	120	116	94	59	28	5	0	0	0	0
	E	Beam	41	0	0	0	0	0	0	182	361	306	141	0	0	0	0	0	0	0	0	0	0
		Diffuse	40	0	0	0	0	0	9	103	141	143	131	120	116	94	59	28	5	0	0	0	0
	SE	Beam	110	0	0	0	0	0	0	213	522	605	525	402	258	106	0	0	0	0	0	0	0
		Diffuse	56	0	0	0	0	0	9	112	178	211	235	216	174	108	59	28	5	0	0	0	0
	S	Beam	168	0	0	0	0	0	0	118	377	550	602	605	574	523	435	255	0	0	0	0	0
		Diffuse	71	0	0	0	0	0	9	83	145	198	256	274	269	226	151	83	5	0	0	0	0
	SW	Beam	139	0	0	0	0	0	0	11	172	326	455	554	633	668	524	0	0	0	0	0	0
		Diffuse	63	0	0	0	0	0	9	42	61	113	181	231	263	257	205	145	5	0	0	0	0
	W	Beam	67	0	0	0	0	0	0	0	0	0	0	37	209	372	510	486	0	0	0	0	0
		Diffuse	45	0	0	0	0	0	9	42	64	87	112	111	160	183	168	136	5	0	0	0	0
	NW	Beam	9	0	0	0	0	0	0	0	0	0	0	0	0	0	53	163	0	0	0	0	0
		Diffuse	32	0	0	0	0	0	9	42	64	87	112	120	116	94	62	62	5	0	0	0	0
Horiz.	Beam	83	0	0	0	0	0	1	43	175	283	324	329	305	261	189	76	0	0	0	0	0	
	Diffuse	49	0	0	0	0	0	15	83	101	129	175	191	187	148	88	44	9	0	0	0	0	
	Global	132	0	0	0	0	0	15	126	277	412	499	520	492	409	277	120	9	0	0	0	0	
March Sunrise: 0604 Sunset: 1817	Normal to beam		514	0	0	0	0	30	338	646	811	873	901	902	889	677	616	0	0	0	0	0	
	N	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Diffuse	44	0	0	0	0	1	36	79	97	114	129	137	155	143	82	55	34	0	0	0	0
	NE	Beam	6	0	0	0	0	0	15	91	26	0	0	0	0	0	0	0	0	0	0	0	0
		Diffuse	46	0	0	0	0	1	51	108	90	114	129	137	155	143	82	55	36	0	0	0	0
	E	Beam	51	0	0	0	0	0	28	277	417	345	155	0	0	0	0	0	0	0	0	0	0
		Diffuse	54	0	0	0	0	1	54	162	174	156	129	137	155	143	82	55	38	0	0	0	0
	SE	Beam	118	0	0	0	0	0	26	301	563	644	577	436	246	38	0	0	0	0	0	0	0
		Diffuse	63	0	0	0	0	1	53	168	205	211	209	192	180	116	82	55	35	0	0	0	0
	S	Beam	175	0	0	0	0	0	8	148	380	565	662	691	654	561	335	200	0	0	0	0	0
		Diffuse	76	0	0	0	0	1	49	124	166	196	225	244	288	270	140	93	34	0	0	0	0
	SW	Beam	151	0	0	0	0	0	0	0	155	359	542	678	755	602	535	0	0	0	0	0	0
		Diffuse	72	0	0	0	0	1	36	79	97	120	168	214	295	327	195	168	36	0	0	0	0
	W	Beam	82	0	0	0	0	0	0	0	0	0	0	75	306	507	517	557	0	0	0	0	0
		Diffuse	59	0	0	0	0	1	36	79	97	114	129	120	196	254	178	173	38	0	0	0	0
	NW	Beam	16	0	0	0	0	0	0	0	0	0	0	0	0	0	129	253	0	0	0	0	0
		Diffuse	47	0	0	0	0	1	36	79	97	114	129	137	155	143	97	105	35	0	0	0	0
Horiz.	Beam	146	0	0	0	0	0	7	123	315	468	547	572	542	466	280	170	24	0	0	0	0	
	Diffuse	64	0	0	0	0	2	79	145	144	147	162	175	220	212	119	84	50	0	0	0	0	
	Global	211	0	0	0	0	2	85	268	459	615	709	747	762	678	399	254	74	0	0	0	0	

Table continues

**Table 2.13(m)** Design 97.5 percentile of beam and diffuse irradiance on vertical and horizontal surfaces: Southampton (Thorney Island) ((2002–2012)  
— continued

Month	Orientation		Daily mean irradiance ( $\text{W}\cdot\text{m}^{-2}$ ) and mean hourly irradiance ( $\text{W}\cdot\text{m}^{-2}$ ) for the 21st day of the given month																				
			Mean	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	
April	Normal to beam		472	0	0	0	0	66	74	107	212	866	893	892	891	882	894	892	876	0	0	0	
	N	Beam	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	21	0	0	0	
		Diffuse	64	0	0	0	14	55	74	105	136	148	170	189	181	170	130	88	44	26	1	0	
	NE	Beam	6	0	0	0	0	47	40	35	20	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	68	0	0	0	14	68	103	138	159	148	170	189	181	170	130	88	51	28	1	0	
	E	Beam	33	0	0	0	0	64	68	84	128	333	123	0	0	0	0	0	0	0	0	0	
		Diffuse	72	0	0	0	14	73	111	153	193	178	155	189	181	170	130	88	51	35	1	0	
	SE	Beam	77	0	0	0	0	43	56	84	161	583	480	319	132	0	0	0	0	0	0	0	
		Diffuse	78	0	0	0	14	67	108	153	203	226	231	220	167	170	130	88	51	32	1	0	
	Sunrise: 0457 Sunset: 1907	S	Beam	130	0	0	0	0	0	11	35	99	492	555	556	511	420	302	149	0	0	0	
			Diffuse	86	0	0	0	14	43	95	138	184	208	247	279	265	241	171	98	51	26	1	0
		SW	Beam	171	0	0	0	0	0	0	0	0	113	305	467	591	663	700	673	585	0	0	0
			Diffuse	92	0	0	0	14	43	74	105	136	136	194	257	285	309	269	209	153	28	1	0
		W	Beam	137	0	0	0	0	0	0	0	0	0	0	105	325	518	688	803	848	0	0	0
			Diffuse	87	0	0	0	14	43	74	105	136	148	170	166	217	268	266	236	204	35	1	0
		NW	Beam	59	0	0	0	0	0	0	0	0	0	0	0	0	69	273	462	615	0	0	0
			Diffuse	72	0	0	0	14	43	74	105	136	148	170	189	181	144	164	164	159	32	1	0
	Horiz.	Beam	192	0	0	0	1	15	29	57	137	630	689	690	653	577	484	359	217	77	0	0	
		Diffuse	97	0	0	0	22	91	155	218	268	187	223	263	254	245	180	115	65	25	6	0	
		Global	289	0	0	0	23	107	184	275	405	816	912	952	907	822	663	474	281	101	6	0	
May	Normal to beam		584	0	0	0	127	336	527	642	722	792	828	855	867	863	837	771	672	496	0	0	
	N	Beam	13	0	0	0	40	42	0	0	0	0	0	0	0	0	0	0	83	156	0	0	
		Diffuse	69	0	0	8	60	92	104	127	143	153	158	156	148	134	116	94	76	80	16	0	
	NE	Beam	42	0	0	0	112	251	301	237	110	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	75	0	0	8	84	156	173	162	140	153	158	156	148	134	116	94	69	41	15	0	
	E	Beam	90	0	0	0	118	313	457	478	413	285	102	0	0	0	0	0	0	0	0	0	
		Diffuse	83	0	0	8	86	175	214	216	201	174	143	156	148	134	116	94	69	41	18	0	
	SE	Beam	109	0	0	0	55	191	345	439	475	455	366	230	58	0	0	0	0	0	0	0	
		Diffuse	82	0	0	8	65	138	185	207	213	204	187	160	126	134	116	94	69	41	18	0	
	Sunrise: 0405 Sunset: 1954	S	Beam	107	0	0	0	0	0	31	143	258	358	415	429	392	309	187	46	0	0	0	0
			Diffuse	74	0	0	8	40	76	103	140	170	187	195	192	178	154	123	85	69	41	16	0
		SW	Beam	141	0	0	0	0	0	0	0	0	52	221	376	497	566	572	504	383	216	0	0
			Diffuse	82	0	0	8	40	76	104	127	143	132	163	183	194	195	186	170	141	96	15	0
		W	Beam	137	0	0	0	0	0	0	0	0	0	104	310	492	622	667	625	461	0	0	0
			Diffuse	86	0	0	8	40	76	104	127	143	153	158	140	165	183	194	200	193	162	18	0
		NW	Beam	76	0	0	0	0	0	0	0	0	0	0	0	0	130	308	440	501	436	0	0
			Diffuse	78	0	0	8	40	76	104	127	143	153	158	156	148	126	143	158	166	156	18	0
	Horiz.	Beam	252	0	0	0	24	116	261	404	534	647	709	733	708	639	528	383	234	96	22	0	
		Diffuse	89	0	2	13	82	142	172	189	197	194	191	181	169	154	138	123	100	69	20	0	
		Global	340	0	2	13	106	258	432	593	731	840	900	914	877	793	666	506	334	165	41	0	
June	Normal to beam		526	0	0	0	177	367	476	595	727	744	851	838	885	801	799	806	722	675	0	0	
	N	Beam	19	0	0	0	64	64	0	0	0	0	0	0	0	0	0	0	102	221	0	0	
		Diffuse	74	0	0	14	75	101	110	132	146	159	159	161	151	144	124	100	83	88	31	2	
	NE	Beam	46	0	0	0	158	282	286	241	141	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	81	0	0	15	106	167	182	173	147	159	159	161	151	144	124	100	76	48	29	2	
	E	Beam	90	0	0	0	160	335	407	441	419	276	121	0	0	0	0	0	0	0	0	0	
		Diffuse	88	0	0	15	107	182	215	221	202	183	145	161	151	144	124	100	76	48	34	3	
	SE	Beam	100	0	0	0	68	191	290	382	452	405	357	212	51	0	0	0	0	0	0	0	
		Diffuse	85	0	0	14	77	139	182	207	208	208	182	162	127	144	124	100	76	48	35	3	
	Sunrise: 0349 Sunset: 2021	S	Beam	91	0	0	0	0	0	2	100	220	297	384	382	365	259	156	30	0	0	0	0
			Diffuse	76	0	0	14	47	81	104	139	163	187	187	189	173	160	127	85	76	48	31	2
		SW	Beam	132	0	0	0	0	0	0	0	0	14	186	328	465	489	514	499	391	279	0	0
			Diffuse	84	0	0	15	47	81	110	132	146	133	155	181	187	200	189	166	141	100	29	2
		W	Beam	139	0	0	0	0	0	0	0	0	0	82	293	433	571	676	654	616	0	0	0
			Diffuse	89	0	0	15	47	81	110	132	146	159	159	141	162	190	199	196	193	172	34	3
		NW	Beam	83	0	0	0	0	0	0	0	0	0	0	0	0	123	293	457	535	591	0	0
			Diffuse	83	0	0	14	47	81	110	132	146	159	159	161	151	136	151	159	169	167	35	3
	Horiz.	Beam	264	0	0	1	39	136	246	387	552	624	750	742	752	622	537	438	287	167	43	2	
		Diffuse	95	0	3	24	95	148	187	205	198	213	184	189	166	178	155	123	105	70	38	3	
		Global	359	0	3	25	133	283	434	592	750	837	934	931	917	800	692	561	392	236	81	6	

Table continues

**Table 2.13(m)** Design 97.5 percentile of beam and diffuse irradiance on vertical and horizontal surfaces: Southampton (Thorney Island) ((2002–2012)  
— *continued*

Month	Orientation		Daily mean irradiance (W·m <sup>-2</sup> ) and mean hourly irradiance (W·m <sup>-2</sup> ) for the 21st day of the given month																				
			Mean	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	
July	Normal to beam		539	0	0	0	164	342	473	564	637	699	742	777	792	795	770	793	792	826	0	0	
	N	Beam	17	0	0	0	57	54	0	0	0	0	0	0	0	0	0	0	73	233	0	0	
		Diffuse	70	0	0	8	60	89	101	126	145	157	163	161	154	140	122	97	69	70	15	1	
	NE	Beam	43	0	0	0	147	264	285	228	120	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	78	0	0	8	89	153	173	168	151	157	163	161	154	140	122	97	69	40	14	1	
	E	Beam	88	0	0	0	151	320	416	433	384	277	121	0	0	0	0	0	0	0	0	0	
		Diffuse	86	0	0	8	91	171	209	219	211	188	156	161	154	140	122	97	69	40	17	1	
	SE	Beam	102	0	0	0	67	188	304	385	423	413	346	232	80	0	0	0	0	0	0	0	
		Diffuse	84	0	0	8	63	130	178	207	219	216	199	172	138	140	122	97	69	40	18	1	
	Sunrise: 0414 Sunset: 2005	S	Beam	97	0	0	0	0	13	111	215	306	368	392	367	299	191	70	0	0	0	0	
			Diffuse	76	0	0	8	36	71	98	139	172	194	204	201	188	165	134	90	69	40	15	1
		SW	Beam	140	0	0	0	0	0	0	0	21	175	322	439	514	526	526	465	381	0	0	
			Diffuse	83	0	0	8	36	71	101	126	145	135	166	189	201	203	196	171	138	95	14	1
		W	Beam	145	0	0	0	0	0	0	0	0	0	63	254	428	553	674	732	772	0	0	
			Diffuse	86	0	0	8	36	71	101	126	145	157	163	142	168	188	201	197	185	160	17	1
		NW	Beam	86	0	0	0	0	0	0	0	0	0	0	0	91	256	427	569	710	0	0	
			Diffuse	78	0	0	8	36	71	101	126	145	157	163	161	154	129	146	153	156	150	18	1
		Horiz.	Beam	240	0	0	1	27	110	223	344	461	563	633	668	654	600	500	412	295	180	79	0
Horiz.		Diffuse	94	0	0	13	72	131	172	201	217	221	218	207	194	176	158	122	87	48	8	6	
Horiz.		Global	333	0	0	14	100	241	395	544	678	784	851	875	848	776	659	534	382	227	86	6	
August	Normal to beam		475	0	0	0	0	193	456	592	686	723	708	735	917	783	737	623	444	0	0		
	N	Beam	1	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	5	0	0	0	
		Diffuse	57	0	0	0	17	60	83	108	127	142	152	151	132	126	107	85	56	30	3	0	
	NE	Beam	28	0	0	0	0	140	251	203	80	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	63	0	0	0	17	102	150	144	124	142	152	151	132	126	107	85	57	31	3	0	
	E	Beam	79	0	0	0	0	187	417	470	424	290	111	0	0	0	0	0	0	0	0	0	
		Diffuse	73	0	0	0	17	118	196	209	197	175	149	151	132	126	107	85	57	35	3	0	
	SE	Beam	114	0	0	0	0	125	338	462	520	490	386	271	148	0	0	0	0	0	0	0	
		Diffuse	77	0	0	0	17	97	174	207	217	215	205	177	125	126	107	85	57	33	3	0	
	Sunrise: 0458 Sunset: 1915	S	Beam	130	0	0	0	0	62	183	311	403	435	456	528	378	255	111	0	0	0	0	
			Diffuse	74	0	0	0	17	49	96	139	173	198	216	214	178	170	138	99	57	30	3	0
		SW	Beam	134	0	0	0	0	0	0	0	80	229	374	598	584	575	472	300	0	0	0	0
			Diffuse	77	0	0	0	17	49	83	108	127	133	173	198	188	208	201	183	140	31	3	0
		W	Beam	99	0	0	0	0	0	0	0	0	0	72	318	448	558	556	429	0	0	0	0
			Diffuse	73	0	0	0	17	49	83	108	127	142	152	138	149	183	198	202	176	35	3	0
		NW	Beam	37	0	0	0	0	0	0	0	0	0	0	0	0	50	214	314	307	0	0	0
			Diffuse	64	0	0	0	17	49	83	108	127	142	152	151	132	111	130	146	142	33	3	0
		Horiz.	Beam	193	0	0	0	4	44	175	311	440	525	547	571	679	520	408	259	116	31	0	0
Horiz.		Diffuse	82	0	0	3	26	99	144	170	183	196	213	205	140	162	146	129	99	42	6	0	
Horiz.		Global	275	0	0	3	31	142	318	481	623	721	760	777	819	682	553	388	215	73	6	0	
September	Normal to beam		498	0	0	0	0	513	621	630	688	747	783	781	775	749	689	0	0	0	0		
	N	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	41	0	0	0	2	29	53	80	102	117	124	123	115	98	75	47	21	1	0	0	
	NE	Beam	15	0	0	0	0	0	226	138	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	44	0	0	0	2	31	105	100	102	117	124	123	115	98	75	47	25	1	0	0	
	E	Beam	70	0	0	0	0	0	471	488	377	255	87	0	0	0	0	0	0	0	0	0	
		Diffuse	54	0	0	0	2	33	165	176	171	150	119	123	115	98	75	47	28	1	0	0	
	SE	Beam	126	0	0	0	0	0	441	552	539	526	464	340	170	0	0	0	0	0	0	0	
		Diffuse	63	0	0	0	2	31	158	191	206	206	191	164	125	98	75	47	24	1	0	0	
	Sunrise: 0546 Sunset: 1807	S	Beam	168	0	0	0	0	153	293	386	490	569	594	550	465	342	192	0	0	0	0	
			Diffuse	68	0	0	0	2	29	87	134	173	198	211	211	196	167	127	79	21	1	0	0
		SW	Beam	148	0	0	0	0	0	0	0	7	166	340	500	607	669	666	589	0	0	0	0
			Diffuse	64	0	0	0	2	31	53	80	90	132	167	194	207	206	190	160	25	1	0	0
		W	Beam	89	0	0	0	0	0	0	0	0	0	113	309	480	601	640	0	0	0	0	0
			Diffuse	55	0	0	0	2	33	53	80	102	117	124	121	151	170	177	170	28	1	0	0
		NW	Beam	21	0	0	0	0	0	0	0	0	0	0	0	10	183	317	0	0	0	0	
			Diffuse	44	0	0	0	2	31	53	80	102	117	124	123	115	82	97	104	24	1	0	0
		Horiz.	Beam	146	0	0	0	25	134	250	326	411	476	497	461	392	290	167	65	0	0	0	
Horiz.		Diffuse	57	0	0	1	3	42	87	120	153	166	167	162	150	129	101	67	21	6	0	0	
Horiz.		Global	203	0	0	1	3	67	221	370	478	577	643	659	611	521	391	234	86	6	0	0	

*Table continues*

**Table 2.13(m)** Design 97.5 percentile of beam and diffuse irradiance on vertical and horizontal surfaces: Southampton (Thorney Island) (2002–2012)  
— continued

Month	Orientation		Daily mean irradiance ( $\text{W}\cdot\text{m}^{-2}$ ) and mean hourly irradiance ( $\text{W}\cdot\text{m}^{-2}$ ) for the 21st day of the given month																					
			Mean	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030		
October	Normal to beam		465	0	0	0	0	0	0	455	555	631	672	726	729	905	911	0	0	0	0	0		
	N	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	27	0	0	0	0	4	36	54	75	88	94	92	82	70	45	17	1	0	0	0	0	
	NE	Beam	2	0	0	0	0	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	28	0	0	0	0	4	36	64	75	88	94	92	82	70	45	21	1	0	0	0	0	
	E	Beam	38	0	0	0	0	0	0	340	309	207	52	0	0	0	0	0	0	0	0	0	0	
		Diffuse	35	0	0	0	0	4	39	142	142	123	92	92	82	70	45	21	1	0	0	0	0	
	SE	Beam	105	0	0	0	0	0	0	438	512	520	455	354	199	40	0	0	0	0	0	0	0	
		Diffuse	48	0	0	0	0	4	40	167	190	191	176	147	107	62	45	17	1	0	0	0	0	
	Sunrise: 0636 Sunset: 1700	S	Beam	174	0	0	0	0	0	279	414	528	590	630	588	633	503	0	0	0	0	0	0	
			Diffuse	61	0	0	0	0	4	36	125	167	193	205	202	185	180	139	17	1	0	0	0	0
		SW	Beam	149	0	0	0	0	0	0	74	227	380	537	633	855	877	0	0	0	0	0	0	
			Diffuse	54	0	0	0	0	4	36	54	86	127	160	183	194	225	217	21	1	0	0	0	0
		W	Beam	73	0	0	0	0	0	0	0	0	0	0	129	307	576	737	0	0	0	0	0	0
			Diffuse	40	0	0	0	0	4	39	54	75	88	94	102	129	169	188	21	1	0	0	0	0
		NW	Beam	7	0	0	0	0	0	0	0	0	0	0	0	0	165	0	0	0	0	0	0	0
			Diffuse	29	0	0	0	0	4	40	54	75	88	94	92	82	70	69	17	1	0	0	0	0
		Horiz.	Beam	88	0	0	0	0	2	33	116	202	276	317	336	301	294	186	51	0	0	0	0	0
Horiz.		Diffuse	40	0	0	0	1	6	50	93	120	133	137	127	113	90	59	15	12	0	0	0	0	
Horiz.		Global	128	0	0	0	1	8	83	210	322	409	454	463	414	383	245	66	12	0	0	0	0	
November	Normal to beam		387	0	0	0	0	0	0	551	617	663	670	684	682	0	0	0	0	0	0	0		
	N	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	17	0	0	0	0	0	6	37	45	59	67	66	58	40	39	1	0	0	0	0	0	
	NE	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	18	0	0	0	0	0	6	33	45	59	67	66	58	40	45	1	0	0	0	0	0	
	E	Beam	23	0	0	0	0	0	0	296	197	53	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	22	0	0	0	0	0	7	37	109	95	70	66	58	40	41	1	0	0	0	0	0	
	SE	Beam	92	0	0	0	0	0	0	526	532	479	363	230	80	0	0	0	0	0	0	0	0	
		Diffuse	36	0	0	0	0	0	7	41	162	169	162	136	100	52	35	1	0	0	0	0	0	
	Sunrise: 0727 Sunset: 1611	S	Beam	141	0	0	0	0	0	0	448	555	624	625	598	527	0	0	0	0	0	0	0	0
			Diffuse	47	0	0	0	0	0	6	37	144	174	194	193	182	150	39	1	0	0	0	0	0
		SW	Beam	107	0	0	0	0	0	0	107	253	404	520	616	665	0	0	0	0	0	0	0	0
			Diffuse	39	0	0	0	0	0	6	33	66	108	146	170	185	181	45	1	0	0	0	0	0
		W	Beam	33	0	0	0	0	0	0	0	0	0	111	273	413	0	0	0	0	0	0	0	0
			Diffuse	24	0	0	0	0	0	7	37	45	59	67	81	109	125	41	1	0	0	0	0	0
		NW	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Diffuse	17	0	0	0	0	0	7	41	45	59	67	66	58	40	35	1	0	0	0	0	0
		Horiz.	Beam	49	0	0	0	0	0	13	57	124	182	218	215	187	130	44	0	0	0	0	0	0
Horiz.		Diffuse	25	0	0	0	0	1	6	41	72	90	100	98	85	59	45	12	0	0	0	0	0	
Horiz.		Global	74	0	0	0	0	1	19	98	196	273	318	313	273	189	89	12	0	0	0	0	0	
December	Normal to beam		380	0	0	0	0	0	0	309	546	571	614	669	710	0	0	0	0	0	0	0		
	N	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	13	0	0	0	0	0	0	10	32	46	54	54	47	36	43	0	0	0	0	0	0	
	NE	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	13	0	0	0	0	0	0	10	32	46	54	54	47	36	43	0	0	0	0	0	0	
	E	Beam	18	0	0	0	0	0	0	175	196	73	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	18	0	0	0	0	0	10	84	87	65	54	47	36	43	0	0	0	0	0	0	0	
	SE	Beam	83	0	0	0	0	0	0	301	488	437	367	268	134	0	0	0	0	0	0	0	0	
		Diffuse	32	0	0	0	0	0	11	121	155	148	128	99	64	43	0	0	0	0	0	0	0	
	Sunrise: 0802 Sunset: 1600	S	Beam	128	0	0	0	0	0	0	251	495	545	588	609	582	0	0	0	0	0	0	0	0
			Diffuse	42	0	0	0	0	0	10	106	156	172	177	173	176	43	0	0	0	0	0	0	0
		SW	Beam	98	0	0	0	0	0	0	54	212	334	464	593	688	0	0	0	0	0	0	0	0
			Diffuse	35	0	0	0	0	0	10	50	91	124	150	170	203	43	0	0	0	0	0	0	0
		W	Beam	29	0	0	0	0	0	0	0	0	0	69	230	392	0	0	0	0	0	0	0	0
			Diffuse	19	0	0	0	0	0	10	32	46	54	63	91	128	43	0	0	0	0	0	0	0
		NW	Beam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Diffuse	13	0	0	0	0	0	11	32	46	54	54	47	36	43	0	0	0	0	0	0	0
		Horiz.	Beam	31	0	0	0	0	0	1	46	123	152	164	153	110	0	0	0	0	0	0	0	0
Horiz.		Diffuse	22	0	0	0	0	0	17	60	73	85	83	70	55	71	4	0	0	0	0	0	0	
Horiz.		Global	53	0	0	0	0	0	18	106	197	236	247	224	165	71	4	0	0	0	0	0	0	