

Table 2.13(f) Design 97.5 percentile of beam and diffuse irradiance on vertical and horizontal surfaces: Leeds (Church Fenton) (2002–2011)

Month	Orientation		Daily mean irradiance (W·m ⁻²) and mean hourly irradiance (W·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	
January	Normal to beam		303	0	0	0	0	0	0	0	0	49	341	552	576	592	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	16	0	0	0	0	0	0	0	13	27	52	64	67	61	46	40	13	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	16	0	0	0	0	0	0	12	27	52	64	67	61	46	46	13	0	0	0	0	0
	E	Beam	12	0	0	0	0	0	0	0	30	143	104	0	0	0	0	0	0	0	0	0	0
		Diffuse	20	0	0	0	0	0	0	13	44	99	88	67	61	46	40	13	0	0	0	0	0
	SE	Beam	65	0	0	0	0	0	0	0	48	313	442	367	260	137	0	0	0	0	0	0	0
		Diffuse	34	0	0	0	0	0	0	13	49	153	184	164	127	79	35	13	0	0	0	0	0
	Sunrise: 0807 Sunset: 1624	S	Beam	103	0	0	0	0	0	0	38	300	521	552	545	514	0	0	0	0	0	0	0
			Diffuse	45	0	0	0	0	0	13	46	148	207	216	207	185	40	13	0	0	0	0	0
		SW	Beam	80	0	0	0	0	0	0	5	111	295	413	510	589	0	0	0	0	0	0	0
			Diffuse	38	0	0	0	0	0	12	36	89	142	177	198	206	46	13	0	0	0	0	0
		W	Beam	22	0	0	0	0	0	0	0	0	0	33	176	320	0	0	0	0	0	0	0
			Diffuse	21	0	0	0	0	0	13	27	52	64	69	104	130	40	13	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
			Diffuse	16	0	0	0	0	0	13	27	52	64	67	61	46	35	13	0	0	0	0	0
Horiz.	Beam	31	0	0	0	0	0	9	7	76	149	161	149	117	66	0	0	0	0	0	0	0	
	Diffuse	26	0	0	0	0	0	18	59	98	108	111	100	75	41	22	0	0	0	0	0	0	
	Global	57	0	0	0	0	0	26	66	174	257	273	250	192	106	22	0	0	0	0	0	0	
February	Normal to beam		414	0	0	0	0	0	426	519	594	667	645	602	586	515	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	30	0	0	0	0	9	38	66	87	136	106	96	80	56	38	5	0	0	0	0	0
	NE	Beam	4	0	0	0	0	0	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Diffuse	31	0	0	0	0	9	63	66	87	136	106	96	80	56	42	5	0	0	0	0	0
	E	Beam	46	0	0	0	0	0	351	342	266	138	0	0	0	0	0	0	0	0	0	0	0
		Diffuse	42	0	0	0	0	9	143	159	152	169	106	96	80	56	42	5	0	0	0	0	0
	SE	Beam	112	0	0	0	0	0	411	498	531	514	389	239	100	0	0	0	0	0	0	0	0
		Diffuse	61	0	0	0	0	9	161	204	227	323	201	152	100	56	37	5	0	0	0	0	0
	Sunrise: 0712 Sunset: 1724	S	Beam	148	0	0	0	0	0	230	362	485	590	582	520	454	330	0	0	0	0	0	0
			Diffuse	72	0	0	0	0	9	107	165	214	353	256	231	199	147	38	5	0	0	0	0
		SW	Beam	103	0	0	0	0	0	14	155	320	434	496	542	499	0	0	0	0	0	0	0
			Diffuse	58	0	0	0	0	9	38	65	121	243	214	225	224	196	42	5	0	0	0	0
		W	Beam	38	0	0	0	0	0	0	0	0	0	32	182	313	376	0	0	0	0	0	0
			Diffuse	39	0	0	0	0	9	38	66	87	136	100	136	159	160	42	5	0	0	0	0
		NW	Beam	1	0	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0
			Diffuse	30	0	0	0	0	9	38	66	87	136	106	96	80	62	37	5	0	0	0	0
Horiz.	Beam	66	0	0	0	0	1	70	145	218	278	277	242	198	124	40	1	0	0	0	0	0	
	Diffuse	50	0	0	0	0	15	69	112	144	237	171	158	133	96	50	8	0	0	0	0	0	
	Global	116	0	0	0	0	16	139	257	361	515	448	401	331	220	90	9	0	0	0	0	0	
March	Normal to beam		531	0	0	0	0	6	515	608	846	995	1045	1048	977	795	72	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	35	0	0	0	0	2	20	75	97	103	107	108	102	90	76	53	14	0	0	0	0
	NE	Beam	6	0	0	0	0	3	135	17	0	0	0	0	0	0	0	0	0	0	0	0	0
		Diffuse	36	0	0	0	0	2	20	106	89	103	107	108	102	90	76	53	14	0	0	0	0
	E	Beam	57	0	0	0	0	5	425	395	364	181	0	0	0	0	0	0	0	0	0	0	0
		Diffuse	45	0	0	0	0	2	20	184	181	145	108	108	102	90	76	53	14	0	0	0	0
	SE	Beam	138	0	0	0	0	5	466	542	692	685	534	314	66	0	0	0	0	0	0	0	0
		Diffuse	54	0	0	0	0	2	20	195	217	201	175	150	118	80	76	53	14	0	0	0	0
	Sunrise: 0605 Sunset: 1819	S	Beam	197	0	0	0	0	2	234	371	614	787	838	794	647	414	25	0	0	0	0	0
			Diffuse	61	0	0	0	0	2	20	132	175	188	188	177	159	139	74	14	0	0	0	0
		SW	Beam	154	0	0	0	0	0	0	177	428	650	809	849	720	64	0	0	0	0	0	0
			Diffuse	53	0	0	0	0	2	20	75	97	113	141	164	179	187	196	87	14	0	0	0
		W	Beam	69	0	0	0	0	0	0	0	0	0	82	350	554	605	65	0	0	0	0	0
			Diffuse	43	0	0	0	0	2	20	75	97	103	107	94	123	147	175	87	14	0	0	0
		NW	Beam	7	0	0	0	0	0	0	0	0	0	0	0	0	135	29	0	0	0	0	0
			Diffuse	37	0	0	0	0	2	20	75	97	103	107	108	102	90	87	76	14	0	0	0
Horiz.	Beam	146	0	0	0	0	1	174	275	454	582	620	588	480	309	19	1	0	0	0	0	0	
	Diffuse	45	0	0	0	0	3	40	126	152	127	107	101	95	93	100	113	24	0	0	0	0	
	Global	191	0	0	0	0	3	41	300	426	581	689	720	683	573	409	132	25	0	0	0	0	

Table continues

Table 2.13(f) Design 97.5 percentile of beam and diffuse irradiance on vertical and horizontal surfaces: Leeds (Church Fenton) (2002–2011)
— 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		494	0	0	0	0	174	453	686	825	814	760	889	848	788	802	357	511	0	0	0	
	N	Beam	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	4	0	0	0	
		Diffuse	55	0	0	0	7	62	84	103	117	133	144	137	132	122	101	90	51	26	0	0	
	NE	Beam	26	0	0	0	0	123	237	211	64	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	60	0	0	0	7	102	148	132	105	133	144	137	132	122	101	90	55	26	0	0	
	E	Beam	85	0	0	0	0	169	412	539	501	316	108	0	0	0	0	0	0	0	0	0	
		Diffuse	70	0	0	0	7	117	198	203	181	162	138	137	132	122	101	90	55	27	0	0	
	SE	Beam	132	0	0	0	0	116	346	551	645	571	431	346	151	0	0	0	0	0	0	0	
		Diffuse	75	0	0	0	7	99	179	206	206	207	201	162	130	122	101	90	55	27	0	0	
	Sunrise: 0450 Sunset: 1916	S	Beam	150	0	0	0	0	77	240	410	491	501	589	519	403	295	68	0	0	0	0	
			Diffuse	74	0	0	0	7	52	102	138	165	193	214	200	192	173	134	113	55	26	0	0
		SW	Beam	140	0	0	0	0	0	0	0	124	278	487	584	611	644	275	347	0	0	0	
			Diffuse	75	0	0	0	7	52	84	103	117	128	171	184	203	211	197	177	144	26	0	0
		W	Beam	96	0	0	0	0	0	0	0	0	0	100	306	460	615	320	495	0	0	0	
			Diffuse	71	0	0	0	7	52	84	103	117	133	144	124	156	183	192	191	183	27	0	0
		NW	Beam	33	0	0	0	0	0	0	0	0	0	0	0	40	226	178	353	0	0	0	
			Diffuse	61	0	0	0	7	52	84	103	117	133	144	137	132	106	122	147	145	27	0	0
		Horiz.	Beam	194	0	0	0	1	40	171	350	510	567	561	658	597	497	422	141	129	6	0	0
Horiz.		Diffuse	76	0	0	1	11	105	146	149	146	167	193	156	159	157	128	166	92	42	0	0	
Horiz.		Global	270	0	0	1	12	146	317	499	656	734	754	814	756	655	550	307	220	48	0	0	
May	Normal to beam		460	0	0	0	46	192	489	638	798	700	869	919	878	769	818	673	425	70	0	0	
	N	Beam	4	0	0	0	14	21	0	0	0	0	0	0	0	0	0	0	43	21	0	0	
		Diffuse	69	0	0	3	55	100	109	128	136	160	151	146	143	140	116	102	92	62	10	0	
	NE	Beam	32	0	0	0	40	141	272	223	102	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	74	0	0	3	64	143	180	163	128	160	151	146	143	140	116	102	81	44	10	0	
	E	Beam	81	0	0	0	43	178	425	477	460	255	111	0	0	0	0	0	0	0	0	0	
		Diffuse	82	0	0	3	65	156	225	224	193	188	136	146	143	140	116	102	81	44	10	0	
	SE	Beam	111	0	0	0	20	112	329	452	548	425	415	280	89	0	0	0	0	0	0	0	
		Diffuse	83	0	0	3	57	132	197	218	209	225	184	154	127	140	116	102	81	44	10	0	
	Sunrise: 0353 Sunset: 2009	S	Beam	119	0	0	0	0	40	162	316	347	475	504	437	308	213	61	0	0	0	0	
			Diffuse	77	0	0	3	40	81	113	148	167	208	194	185	180	172	130	99	81	44	10	0
		SW	Beam	130	0	0	0	0	0	0	0	65	257	432	529	526	579	455	249	31	0	0	
			Diffuse	83	0	0	3	40	81	109	128	136	146	159	175	194	214	194	188	156	66	10	0
		W	Beam	104	0	0	0	0	0	0	0	0	0	107	311	436	606	582	395	65	0	0	
			Diffuse	83	0	0	3	40	81	109	128	136	160	151	130	161	197	199	217	201	77	10	0
		NW	Beam	46	0	0	0	0	0	0	0	0	0	0	0	0	91	278	369	309	61	0	0
			Diffuse	75	0	0	3	40	81	109	128	136	160	151	146	143	130	141	169	174	76	10	0
		Horiz.	Beam	232	0	0	1	9	66	238	391	571	552	718	761	695	554	506	333	151	15	0	0
Horiz.		Diffuse	94	0	0	5	86	163	188	196	174	229	173	153	162	185	144	150	146	94	17	0	
Horiz.		Global	326	0	0	6	95	230	426	586	745	781	891	913	856	739	650	482	296	109	18	0	
June	Normal to beam		462	0	0	0	152	318	443	502	800	782	785	786	838	730	711	632	656	178	8	0	
	N	Beam	10	0	0	0	54	51	0	0	0	0	0	0	0	0	0	0	77	55	4	0	
		Diffuse	77	0	1	24	82	109	116	141	140	155	163	163	152	149	132	113	88	90	21	5	
	NE	Beam	40	0	0	0	136	241	260	193	135	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	84	0	1	24	111	172	189	185	136	155	163	163	152	149	132	113	84	62	21	4	
	E	Beam	86	0	0	0	138	291	380	373	463	293	114	0	0	0	0	0	0	0	0	0	
		Diffuse	91	0	1	24	112	189	226	236	195	179	152	163	152	149	132	113	84	62	21	5	
	SE	Beam	103	0	0	0	60	170	278	335	520	451	357	227	78	0	0	0	0	0	0	0	
		Diffuse	90	0	1	24	84	148	195	225	205	209	196	173	133	149	132	113	84	62	21	5	
	Sunrise: 0332 Sunset: 2040	S	Beam	99	0	0	0	0	13	100	272	345	390	395	383	267	166	43	0	0	0	0	
			Diffuse	82	0	1	24	54	88	115	158	160	189	203	204	184	177	144	107	84	62	21	5
		SW	Beam	117	0	0	0	0	0	0	0	36	195	331	464	466	475	405	366	76	2	0	0
			Diffuse	90	0	1	24	54	88	116	141	140	131	166	192	197	218	209	193	155	98	21	4
		W	Beam	106	0	0	0	0	0	0	0	0	0	74	273	392	506	529	594	162	7	0	0
			Diffuse	92	0	1	24	54	88	116	141	140	155	163	145	166	202	216	223	208	128	21	5
		NW	Beam	55	0	0	0	0	0	0	0	0	0	0	0	0	89	241	344	474	154	8	0
			Diffuse	84	0	1	24	54	88	116	141	140	155	163	163	152	140	159	179	180	125	21	5
		Horiz.	Beam	236	0	0	3	36	120	228	320	593	637	672	676	693	555	472	343	267	47	1	0
Horiz.		Diffuse	108	0	2	39	110	166	205	239	176	201	209	210	181	206	186	172	125	125	41	7	
Horiz.		Global	344	0	2	42	146	286	433	560	769	838	881	886	874	761	657	515	392	172	42	8	

Table continues

Table 2.13(f) Design 97.5 percentile of beam and diffuse irradiance on vertical and horizontal surfaces: Leeds (Church Fenton) (2002–2011)
— continued

Month	Orientation		Daily mean irradiance ($W \cdot m^{-2}$) and mean hourly irradiance ($W \cdot m^{-2}$) 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	
July	Normal to beam		438	0	0	0	131	293	446	565	673	709	703	702	703	701	668	639	541	414	0	0	
	N	Beam	10	0	0	0	45	42	0	0	0	0	0	0	0	0	0	0	38	111	0	0	
		Diffuse	75	0	0	12	65	96	106	129	143	156	165	167	161	148	131	107	85	87	31	4	
	NE	Beam	39	0	0	0	117	223	263	218	112	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	82	0	0	12	91	157	180	171	145	156	165	167	161	148	131	107	83	54	30	4	
	E	Beam	85	0	0	0	121	274	393	435	408	284	118	0	0	0	0	0	0	0	0	0	
		Diffuse	91	0	0	12	92	174	220	229	212	189	162	167	161	148	131	107	83	54	34	4	
	SE	Beam	104	0	0	0	54	163	293	398	465	440	351	234	95	0	0	0	0	0	0	0	
		Diffuse	91	0	0	12	68	137	190	219	225	222	212	188	153	148	131	107	83	54	34	4	
	Sunrise: 0359 Sunset: 2022	S	Beam	100	0	0	0	0	0	22	127	249	339	378	385	356	292	189	75	0	0	0	0
			Diffuse	85	0	0	12	42	77	108	147	176	201	218	221	209	185	153	109	83	54	31	4
		SW	Beam	118	0	0	0	0	0	0	0	39	184	310	409	471	471	436	326	195	0	0	0
			Diffuse	91	0	0	12	42	77	106	129	143	137	176	205	221	224	217	195	163	113	30	4
		W	Beam	106	0	0	0	0	0	0	0	0	0	0	54	222	374	477	541	499	387	0	0
			Diffuse	93	0	0	12	42	77	106	129	143	156	165	149	180	203	218	220	210	173	34	4
		NW	Beam	55	0	0	0	0	0	0	0	0	0	0	0	0	58	204	330	380	352	0	0
			Diffuse	83	0	0	12	42	77	106	129	143	156	165	167	161	135	156	170	177	162	34	4
Horiz.	Beam	210	0	0	2	24	96	209	338	474	554	581	585	564	516	427	331	206	98	27	0		
	Diffuse	110	0	2	20	86	147	187	208	211	221	235	238	229	210	193	163	137	97	43	7		
	Global	319	0	2	22	110	244	396	546	684	775	816	823	793	727	620	494	342	195	70	7		
August	Normal to beam		417	0	0	0	0	195	459	463	594	590	493	531	545	631	725	724	722	0	0	0	
	N	Beam	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	61	0	0	0	20	63	85	115	132	150	166	164	156	135	107	81	53	32	8	0	
	NE	Beam	25	0	0	0	0	141	247	151	57	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	67	0	0	0	20	110	154	153	130	150	166	164	156	135	107	81	53	33	8	0	
	E	Beam	69	0	0	0	0	190	420	368	369	239	79	0	0	0	0	0	0	0	0	0	
		Diffuse	79	0	0	0	20	127	206	218	210	192	177	164	156	135	107	81	53	34	8	0	
	SE	Beam	97	0	0	0	0	128	347	370	466	417	285	214	106	0	0	0	0	0	0	0	
		Diffuse	85	0	0	0	20	105	184	219	234	238	236	208	169	135	107	81	53	33	8	0	
	Sunrise: 0452 Sunset: 1923	S	Beam	110	0	0	0	0	0	71	155	289	351	324	353	336	329	276	149	6	0	0	0
			Diffuse	83	0	0	0	20	53	101	155	189	221	247	247	232	195	146	98	44	32	8	0
		SW	Beam	126	0	0	0	0	0	0	0	80	173	285	370	486	582	561	497	0	0	0	0
			Diffuse	85	0	0	0	20	53	85	115	132	152	204	228	241	233	210	185	148	33	8	0
		W	Beam	104	0	0	0	0	0	0	0	0	0	0	50	187	359	548	645	697	0	0	0
			Diffuse	80	0	0	0	20	53	85	115	132	150	166	163	191	202	203	202	190	34	8	0
		NW	Beam	44	0	0	0	0	0	0	0	0	0	0	0	0	21	192	351	489	0	0	0
			Diffuse	67	0	0	0	20	53	85	115	132	150	166	164	156	121	128	141	146	33	8	0
Horiz.	Beam	152	0	0	0	4	44	170	233	365	409	363	394	386	402	387	294	189	10	0	0		
	Diffuse	98	0	0	1	32	106	148	200	210	238	284	274	257	207	150	114	74	51	13	0		
	Global	250	0	0	1	35	150	318	433	574	647	648	668	643	609	537	408	262	61	13	0		
September	Normal to beam		446	0	0	0	0	0	509	537	560	587	593	635	693	734	787	608	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	1	25	53	81	103	118	126	123	112	94	71	48	19	2	0	0	
	NE	Beam	14	0	0	0	0	0	221	113	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	44	0	0	0	1	28	108	103	103	118	126	123	112	94	71	48	23	2	0	0	
	E	Beam	63	0	0	0	0	0	469	423	337	220	72	0	0	0	0	0	0	0	0	0	
		Diffuse	56	0	0	0	1	33	175	184	179	159	129	123	112	94	71	48	25	2	0	0	
	SE	Beam	114	0	0	0	0	0	443	486	490	463	384	293	169	7	0	0	0	0	0	0	
		Diffuse	65	0	0	0	1	29	168	201	218	219	205	175	130	79	71	48	21	2	0	0	
	Sunrise: 0547 Sunset: 1808	S	Beam	155	0	0	0	0	0	157	263	357	435	471	504	510	462	377	180	0	0	0	0
			Diffuse	71	0	0	0	1	25	91	142	184	212	227	224	204	171	127	85	19	2	0	0
		SW	Beam	138	0	0	0	0	0	0	0	14	152	282	419	553	646	711	526	0	0	0	0
			Diffuse	66	0	0	0	1	28	53	81	96	142	180	204	213	209	190	169	23	2	0	0
		W	Beam	84	0	0	0	0	0	0	0	0	0	0	89	271	452	629	564	0	0	0	0
			Diffuse	56	0	0	0	1	33	53	81	103	118	126	127	152	169	174	178	25	2	0	0
		NW	Beam	19	0	0	0	0	0	0	0	0	0	0	0	0	0	178	271	0	0	0	0
			Diffuse	44	0	0	0	1	29	53	81	103	118	126	123	112	94	90	108	21	2	0	0
Horiz.	Beam	123	0	0	0	0	68	123	201	269	327	353	377	382	347	286	139	89	0	0	0		
	Diffuse	62	0	0	0	12	26	89	133	167	187	199	188	161	130	92	75	13	24	1	0		
	Global	186	0	0	0	12	93	211	334	436	514	551	565	544	478	378	214	102	24	1	0		

Table continues

Table 2.13(f) Design 97.5 percentile of beam and diffuse irradiance on vertical and horizontal surfaces: Leeds (Church Fenton) (2002–2011)
— 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		399	0	0	0	0	0	0	94	223	674	681	701	636	477	901	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	28	0	0	0	0	6	30	48	75	82	88	86	79	65	34	71	2	0	0	0	0	
	NE	Beam	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	
		Diffuse	28	0	0	0	0	6	30	61	75	82	88	86	79	65	34	71	2	0	0	0	0	
	E	Beam	20	0	0	0	0	0	0	71	125	225	56	0	0	0	0	0	0	0	0	0	0	
		Diffuse	33	0	0	0	0	6	34	81	126	120	88	86	79	65	34	71	2	0	0	0	0	
	SE	Beam	80	0	0	0	0	0	0	91	209	568	474	357	185	29	0	0	0	0	0	0	0	
		Diffuse	46	0	0	0	0	6	35	88	154	197	180	149	112	70	34	71	2	0	0	0	0	
	Sunrise: 0643 Sunset: 1655	S	Beam	143	0	0	0	0	0	59	170	578	614	626	527	342	509	0	0	0	0	0	0	
			Diffuse	58	0	0	0	0	6	30	77	141	199	212	208	193	158	107	71	2	0	0	0	0
		SW	Beam	129	0	0	0	0	0	0	32	250	394	528	561	456	873	0	0	0	0	0	0	
			Diffuse	53	0	0	0	0	6	30	48	95	126	163	187	201	190	164	71	2	0	0	0	0
		W	Beam	59	0	0	0	0	0	0	0	0	0	0	121	265	302	726	0	0	0	0	0	0
			Diffuse	38	0	0	0	0	6	34	48	75	82	88	99	131	147	141	71	2	0	0	0	0
		NW	Beam	6	0	0	0	0	0	0	0	0	0	0	0	0	153	0	0	0	0	0	0	0
			Diffuse	29	0	0	0	0	6	35	48	75	82	88	86	79	65	51	71	2	0	0	0	0
Horiz.	Beam	63	0	0	0	0	0	43	21	72	265	289	293	236	138	160	0	0	0	0	0	0		
	Diffuse	45	0	0	0	0	10	38	100	149	122	131	125	121	113	39	118	15	0	0	0	0		
	Global	108	0	0	0	0	10	80	120	221	386	420	417	357	251	198	118	15	0	0	0	0		
November	Normal to beam		335	0	0	0	0	0	0	444	499	527	537	553	457	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	16	0	0	0	0	0	4	28	42	58	65	64	54	35	39	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	16	0	0	0	0	0	4	26	42	58	65	64	54	35	39	0	0	0	0	0	0	
	E	Beam	19	0	0	0	0	0	0	0	240	162	45	0	0	0	0	0	0	0	0	0	0	
		Diffuse	21	0	0	0	0	0	4	29	112	101	73	64	54	35	39	0	0	0	0	0	0	
	SE	Beam	75	0	0	0	0	0	0	0	428	436	389	300	194	59	0	0	0	0	0	0	0	
		Diffuse	37	0	0	0	0	0	4	31	168	181	172	144	104	51	39	0	0	0	0	0	0	
	Sunrise: 0741 Sunset: 1559	S	Beam	112	0	0	0	0	0	0	365	456	505	510	493	359	0	0	0	0	0	0	0	
			Diffuse	48	0	0	0	0	0	4	28	149	186	205	204	189	140	39	0	0	0	0	0	0
		SW	Beam	83	0	0	0	0	0	0	0	88	208	325	422	503	448	0	0	0	0	0	0	
			Diffuse	39	0	0	0	0	0	4	26	67	115	154	179	192	167	39	0	0	0	0	0	0
		W	Beam	24	0	0	0	0	0	0	0	0	0	0	86	218	275	0	0	0	0	0	0	0
			Diffuse	23	0	0	0	0	0	4	29	42	58	65	83	111	115	39	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	16	0	0	0	0	0	4	31	42	58	65	64	54	35	39	0	0	0	0	0	0
Horiz.	Beam	30	0	0	0	0	0	0	35	79	122	146	146	126	69	0	0	0	0	0	0	0		
	Diffuse	27	0	0	0	0	0	7	34	75	100	111	108	91	62	66	5	0	0	0	0	0		
	Global	58	0	0	0	0	0	7	69	154	222	257	254	217	131	66	5	0	0	0	0	0		
December	Normal to beam		217	0	0	0	0	0	0	0	583	462	408	288	0	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	14	0	0	0	0	0	0	18	89	42	51	51	43	33	9	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	14	0	0	0	0	0	0	18	89	42	51	51	43	34	10	0	0	0	0	0	0	
	E	Beam	11	0	0	0	0	0	0	0	0	211	61	0	0	0	0	0	0	0	0	0	0	
		Diffuse	17	0	0	0	0	0	0	18	89	97	67	51	43	33	9	0	0	0	0	0	0	
	SE	Beam	52	0	0	0	0	0	0	0	526	359	249	119	0	0	0	0	0	0	0	0	0	
		Diffuse	29	0	0	0	0	0	0	18	89	186	155	127	84	32	9	0	0	0	0	0	0	
	Sunrise: 0819 Sunset: 1545	S	Beam	68	0	0	0	0	0	0	0	533	447	396	266	0	0	0	0	0	0	0	0	
			Diffuse	34	0	0	0	0	0	0	18	89	188	181	171	131	33	9	0	0	0	0	0	0
		SW	Beam	45	0	0	0	0	0	0	0	0	228	273	311	257	0	0	0	0	0	0	0	
			Diffuse	27	0	0	0	0	0	0	18	89	102	130	145	128	34	10	0	0	0	0	0	0
		W	Beam	6	0	0	0	0	0	0	0	0	0	0	44	98	0	0	0	0	0	0	0	0
			Diffuse	16	0	0	0	0	0	0	18	89	42	51	64	77	33	9	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	14	0	0	0	0	0	0	18	89	42	51	51	43	32	9	0	0	0	0	0	0
Horiz.	Beam	15	0	0	0	0	0	0	0	0	103	99	88	52	11	7	0	0	0	0	0	0		
	Diffuse	24	0	0	0	0	0	0	30	148	70	90	93	82	51	13	0	0	0	0	0	0		
	Global	39	0	0	0	0	0	0	30	148	173	189	181	135	61	20	0	0	0	0	0	0		