

August 2002

Global Solar Radiation on a Horizontal Surface  
 Hourly Integrated and Daily Totals  
 Instrument: Eppley PSP  
 Watt-Hours per Square Meter

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily
1	0	0	0	0	0	8	53	128	100	221	216	353	418	363	521	425	242	104	48	6	0	0	0	0	3205
2	0	0	0	0	0	8	81	246	305	583	725	900	952	897	788	528	420	257	77	8	0	0	0	0	6775
3	0	0	0	0	0	8	84	289	424	268	591	736	859	556	793	522	400	248	74	10	0	0	0	0	5862
4	0	0	0	0	0	5	68	211	470	637	486	406	715	724	771	669	228	274	30	7	0	0	0	0	5701
5	0	0	0	0	0	7	48	276	337	482	722	740	681	669	712	577	462	272	75	1	0	0	0	0	6061
6	0	0	0	0	0	6	72	241	439	627	762	851	868	833	678	585	355	207	38	0	0	0	0	0	6562
7	0	0	0	0	0	5	70	249	464	658	813	903	945	930	839	681	488	277	79	6	0	0	0	0	7408
8	0	0	0	0	0	5	85	286	494	686	836	931	957	923	805	665	475	268	74	3	0	0	0	0	7494
9	0	0	0	0	0	5	80	274	469	619	773	623	688	918	811	672	477	267	72	4	0	0	0	0	6752
10	0	0	0	0	0	6	79	272	478	678	828	914	949	919	822	650	479	262	71	2	0	0	0	0	7409
11	0	0	0	0	0	6	91	271	475	498	558	855	935	917	820	667	475	264	68	0	0	0	0	0	6901
12	0	0	0	0	0	4	62	268	462	623	789	909	876	903	703	689	485	252	65	1	0	0	0	0	7091
13	0	0	0	0	0	5	41	125	109 ?	?	?	135	303	179	218	322	336	170	78	5	0	0	0	0	2027 ?
14	0	0	0	0	0	3	67	248 ?	419	642	625	634	451	817	450	128	64 ?	?	57	0	0	0	0	0	4604 ?
15	0	0	0	0	0	8	52	175	283	646	607	725	858	825	736	631	416	87	22	0	0	0	0	0	6070
16	0	0	0	0	0	4	55	191 ?	385	564	650	844	844	868	796	577	389	250	66	1	0	0	0	0	6484
17	0	0	0	0	0	6	59	252	264	450	530	884	795	782	704	588	426	176	24	0	0	0	0	0	5940
18	0	0	0	0	0	4	60	202	418	554	749	822	842	190	328 ?	74 ?	402	247	57	0	0	0	0	0	4949
19	0	0	0	0	0	3	54	252	447	622	653	683	774	865	483	303	400	41 ?	13	0	0	0	0	0	5595
20	0	0	0	0	0	3	38	175	272	595	617	877	754	697	761	631	192	51	11	0	0	0	0	0	5675
21	0	0	0	0	0	2	59	229	430	608	635	823	846	842	759	587	361	211	29	0	0	0	0	0	6422
22	0	0	0	0	0	3	59	231	433	668	715	779	840	837	751	589	404	202	47	0	0	0	0	0	6558
23	0	0	0	0	0	3	56	230	441	620	756	782	508	590	754	591	406	201	40	0	0	0	0	0	5978
24	0	0	0	0	0	3	52	221	402	582	721	807	788	749	473	549	353	154	34	0	0	0	0	0	5888
25	0	0	0	0	0	0	12	52	115	572	715	812	829	414	168	96 ?	?	?	2	0	0	0	0	0	3787 ?
26	0	0	0	0	0	1	27	133	343	608	606	792	436	?	80 ?	?	?	40	20	0	0	0	0	0	3086 ?
27	0	0	0	0	0	2	35	129	171	172	155	475	350	142 ?	59 ?	83	50 ?	?	2	0	0	0	0	0	1825 ?
28	0	0	0	0	0	0	20	71	191	440	378	676	425	650	340	334	204	117	40	0	0	0	0	0	3888
29	0	0	0	0	0	1	19	86	100	72	145 ?	584	753	291	230	182	111	80	21	0	0	0	0	0	2675
30	0	0	0	0	0	0	0	?	?	?	78	138	157	151	347	238	90	80	20	0	0	0	0	0	1299 ?
31	0	0	0	0	0	0	3	53	86	197	225	579	509	448	348	279	188	91	19	0	0	0	0	0	3023
Avg	0	0	0	0	0	4	53	202	341	524	589	709	707	663	576	470	337	184	44	2	0	0	0	0	5258
S D	0	0	0	0	0	2	24	73	137	171	220	213	222	265	250	207	138	83	25	3	0	0	0	0	1804
S/A	0	0	0	0	0	0.62	0.46	0.36	0.4	0.33	0.37	0.3	0.31	0.4	0.43	0.44	0.41	0.45	0.57	1.64	0	0	0	0	0.34
Min	0	0	0	0	0	0	0	52	86	72	78	135	157	142	59	74	50	40	2	0	0	0	0	0	1299
Max	0	0	0	0	0	8	91	289	494	686	836	931	957	930	839	689	488	277	79	10	0	0	0	0	7494
n	0	0	0	0	0	73	367	349	353	347	353	370	371	351	351	348	338	332	351	34	0	0	0	0	4689

Daylight Data Recovery: 0.0% missing; 4.8% exceed the 15% QC threshold -- 4925 total daylight measurements.

Instrument: Eppley PSP Serial Number: 28401F3 Calibration Factor: 7.980 μV/W/m<sup>2</sup> Calibration Date: 05/1998

Data & Flag	Hour Column	Day Column
<value> *	> 20% Missing	> 10% Missing
<value> ?	> 20% Fail QC	> 10% Fail QC
<blank> *	> 90% Missing	> 90% Missing
<blank> ?	> 90% Fail QC	> 90% Fail QC

Note: Daily values with a missing flag (\*) are not used in monthly statistics.

August 2002

Estimated Direct Normal Solar Radiation  
 Hourly Integrated and Daily Totals  
 Instrument: Calculated  
 Watt-Hours per Square Meter

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily	
1	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
2	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
3	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
4	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
5	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
6	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
7	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
8	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
9	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
10	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
11	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
12	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
13	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
14	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
15	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
16	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
17	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
18	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
19	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
20	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
21	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
22	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
23	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
24	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
25	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
26	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
27	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
28	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
29	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
30	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
31	0	0	0	0	0	0	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	0	0	*	
Avg	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	N/A	*
SD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	N/A
Max	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	N/A
n	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Daylight Data Recovery: 100.0% missing; 0.0% exceed the 15% QC threshold -- 4925 total daylight measurements.

Instrument: Calculated Serial Number: Estimated Calibration Factor: Global = Diffuse + Direct \* COS (Zenith Angle) Calibration Date: N/A

Data & Flag	Hour Column	Day Column
<value> *	> 20% Missing	> 10% Missing
<value> ?	> 20% Fail QC	> 10% Fail QC
<blank> *	> 90% Missing	> 90% Missing
<blank> ?	> 90% Fail QC	> 90% Fail QC

Note: Daily values with a missing flag (\*) are not used in monthly statistics.

**Savannah State College**  
**32.03 N Latitude 81.07 W Longitude 11 Meters AMSL Time Zone -5**

**August 2002**

**Diffuse Solar Radiation (Shadow Band) on a Horizontal Surface**  
**Hourly Integrated and Daily Totals**  
**Instrument: Eppley PSP**  
**Watt-Hours per Square Meter**

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily				
1	0	0	0	0	0	9	59	143	111	247	237	392	454	400	511	465	199	115	55	7	0	0	0	0	3402				
2	0	0	0	0	0	8	91	263	290 ?	466 ?	566 ?	?	?	?	?	478 ?	319 ?	238 ?	90	9	0	0	0	0	2818 ?				
3	0	0	0	0	0	10 ?	96	224 ?	440 ?	299	505 ?	696 ?	654 ?	390 ?	?	445 ?	399 ?	276 ?	87	11	0	0	0	0	4530 ?				
4	0	0	0	0	0	5	76	169 ?	?	?	475 ?	453	558 ?	449 ?	483 ?	?	214	185 ?	35	9	0	0	0	0	3111 ?				
5	0	0	0	0	0	9 ?	53	181 ?	309 ?	416 ?	422 ?	692 ?	549 ?	507 ?	648 ?	457 ?	399 ?	227 ?	92	2	0	0	0	0	4963 ?				
6	0	0	0	0	0	7 ?	81	245 ?	?	?	?	?	?	?	526 ?	?	381	235	42	0	0	0	0	0	1518 ?				
7	0	0	0	0	0	7 ?	77	230 ?	?	?	?	?	?	?	?	?	?	225 ?	95	8	0	0	0	0	0	643 ?			
8	0	0	0	0	0	5	100	?	?	?	?	?	?	?	?	?	?	216 ?	89	4	0	0	0	0	0	415 ?			
9	0	0	0	0	0	6	92	222 ?	?	?	?	598 ?	518 ?	?	?	?	?	212 ?	87	5	0	0	0	0	0	1739 ?			
10	0	0	0	0	0	6	92	219 ?	?	?	?	?	?	?	?	?	?	228 ?	86	4	0	0	0	0	0	636 ?			
11	0	0	0	0	0	8 ?	88	?	?	437 ?	482 ?	?	?	?	?	?	?	212 ?	83	2	0	0	0	0	0	1312 ?			
12	0	0	0	0	0	6 ?	75	209 ?	?	?	?	?	?	?	614 ?	?	?	213 ?	78	2	0	0	0	0	0	1197 ?			
13	0	0	0	0	0	7 ?	46	140	104 ?	39 ?	41 ?	133	338	201	228	358	340	187	50 ?	6	0	0	0	0	0	2217 ?			
14	0	0	0	0	0	4 ?	60	205 ?	242 ?	?	506 ?	549 ?	390 ?	?	359 ?	141	59	13 ?	49	0	0	0	0	0	0	2578 ?			
15	0	0	0	0	0	10 ?	63	128 ?	276	?	527 ?	701 ?	?	?	?	?	254 ?	98	24	0	0	0	0	0	0	2082 ?			
16	0	0	0	0	0	4	69	201	290 ?	172 ?	481 ?	?	706 ?	?	?	?	320 ?	214 ?	79	1	0	0	0	0	0	2539 ?			
17	0	0	0	0	0	8 ?	68	196 ?	221 ?	294 ?	318 ?	?	?	?	649 ?	?	?	204	26	0	0	0	0	0	0	1983 ?			
18	0	0	0	0	0	4	67	229	345 ?	445 ?	?	?	716 ?	210	168 ?	73 ?	277 ?	206 ?	64	0	0	0	0	0	0	0	2803 ?		
19	0	0	0	0	0	6 ?	53 ?	206 ?	?	?	561 ?	629 ?	658 ?	?	377 ?	283	284 ?	43	15	0	0	0	0	0	0	0	3114 ?		
20	0	0	0	0	0	4 ?	42	194	299	382 ?	485 ?	?	609 ?	630 ?	?	?	186	57	12	0	0	0	0	0	0	0	2901 ?		
21	0	0	0	0	0	3 ?	66	224 ?	?	?	570 ?	?	?	?	?	?	309 ?	205 ?	35	0	0	0	0	0	0	0	1412 ?		
22	0	0	0	0	0	5 ?	69	253 ?	382 ?	?	344 ?	230 ?	483 ?	604 ?	?	?	?	206 ?	56	0	0	0	0	0	0	0	2632 ?		
23	0	0	0	0	0	3	63	216 ?	?	?	?	596 ?	322 ?	436 ?	?	?	?	204 ?	49	0	0	0	0	0	0	0	1890 ?		
24	0	0	0	0	0	4	57	231	?	?	?	?	511 ?	595 ?	437 ?	?	346 ?	173	39	0	0	0	0	0	0	0	2392 ?		
25	0	0	0	0	0	0	13	57	125	482 ?	?	?	?	319 ?	186	108 ?	?	?	3	0	0	0	0	0	0	0	1292 ?		
26	0	0	0	0	0	1	30	147	301 ?	481 ?	588 ?	613 ?	447	?	75	36 ?	19 ?	43	21	0	0	0	0	0	0	0	2803 ?		
27	0	0	0	0	0	?	40	142	186	188	153	214 ?	325	93 ?	54	91	47 ?	14 ?	3	0	0	0	0	0	0	0	1552 ?		
28	0	0	0	0	0	0	22	79	207	391 ?	370	479 ?	411	429 ?	292	334	163	131	47	0	0	0	0	0	0	0	0	3355 ?	
29	0	0	0	0	0	?	21	94	111	78	132	486 ?	577 ?	325	258	202	123	88	22	0	0	0	0	0	0	0	0	2517	
30	0	0	0	0	0	0	0	?	26 ?	38 ?	80	153	173	166	380	264	103	92	25	0	0	0	0	0	0	0	0	1501 ?	
31	0	0	0	0	0	0	5	55	95	218	246	555 ?	533	463	388	307	208	100	21	0	0	0	0	0	0	0	0	3194	
Avg	0	0	0	0	0	5	59	182	229	298	385	481	497	389	368	269	236	162	50	2	0	0	0	0	0	0	0	2292 ?	
S D	0	0	0	0	0	3	27	58	111	155	174	192	142	161	184	154	117	75	29	3	0	0	0	0	0	0	0	1056	
S/A	0	0	0	0	0	0.58	0.46	0.32	0.49	0.52	0.45	0.4	0.29	0.41	0.5	0.57	0.5	0.47	0.59	1.53	0	0	0	0	0	0	0	0	0.46
Min	0	0	0	0	0	0	0	55	26	38	41	133	173	93	54	36	19	13	3	0	0	0	0	0	0	0	0	415	
Max	0	0	0	0	0	10	100	263	440	482	588	701	716	630	649	478	399	276	95	11	0	0	0	0	0	0	0	4963	
n	0	0	0	0	0	57	365	226	154	116	146	112	136	121	143	134	153	238	344	34	0	0	0	0	0	0	0	2504	

Daylight Data Recovery: 0.0% missing; 49.2% exceed the 15% QC threshold -- 4925 total daylight measurements.

Instrument: Eppley PSP    Serial Number: 17862F3    Calibration Factor: 7.530 μV/W/m<sup>2</sup>    Calibration Date: 05/1998

Data & Flag	Hour Column	Day Column
<value> *	> 20% Missing	> 10% Missing
<value> ?	> 20% Fail QC	> 10% Fail QC
<blank> *	> 90% Missing	> 90% Missing
<blank> ?	> 90% Fail QC	> 90% Fail QC

Note: Daily values with a missing flag (\*) are not used in monthly statistics.

Prepared by: Afshin M. Andreas, NREL