

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

**September 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	0	3	38 ?	76	142	293	404	416	511	381	280	217	62	20	0	0	0	0	0	2843
2	0	0	0	0	0	0	23	78	137	200	238	253	209	466	252	222	130	92	17	0	0	0	0	0	2318
3	0	0	0	0	0	0	45	114	354	564	740	637	758	652	744	564	388	174	22	0	0	0	0	0	5756
4	0	0	0	0	0	0	48	175	429	560	614	538	629	724	705	477	306	164	30	0	0	0	0	0	5398
5	0	0	0	0	0	0	43	202	309	596	647	784	674	571	600	563	375	154	25	0	0	0	0	0	5541
6	0	0	0	0	0	0	28	157	74	74 ?	376	536	765	745	618	513	292	132	32	0	0	0	0	0	4342
7	0	0	0	0	0	0	40	210	419	591	640	316	301	854	712	437	200	99	22	0	0	0	0	0	4841
8	0	0	0	0	0	0	43	205	386	609	756	852	876	783	597	423	296	133	9	0	0	0	0	0	5968
9	0	0	0	0	0	0	18	185	372	551	707	843	794	426	369	437	243	84	24	0	0	0	0	0	5053
10	0	0	0	0	0	0	29	163	420	602	754	850	876	829	725	558	325	135	7	0	0	0	0	0	6273
11	0	0	0	0	0	0	18	119	267	583	732	815	834	788	691	510	331	121	15	0	0	0	0	0	5824
12	0	0	0	0	0	0	31	172	370	509	596	770	794	750	640	475	154	32	6	0	0	0	0	0	5298
13	0	0	0	0	0	0	41	166	421	487	252	126	73 ?	83 ?	255	201	85	21	6	0	0	0	0	0	2217
14	0	0	0	0	0	0	26	93	181	408	467	635	540	406	220	140	170	57	5	0	0	0	0	0	3348
15	0	0	0	0	0	0	11	55	136	290	353	187	251	193	108	227	225	105	6	0	0	0	0	0	2148
16	0	0	0	0	0	0	32	108	235	489	639	692	629	432	377	311	229	108	15	0	0	0	0	0	4296
17	0	0	0	0	0	0	31	86	266	481	682	569	273	563	547	406	330	88	11	0	0	0	0	0	4334
18	0	0	0	0	0	0	44	88	161	514	612	635	836	626	381	166	72	14	0	0	0	0	0	0	4148
19	0	0	0	0	0	0	25	109	231	400	438	270	113 ?	286	375	361	192	83	10	0	0	0	0	0	2894
20	0	0	0	0	0	0	36	185	381	481	689	450	772	488	592	537	313	100	8	0	0	0	0	0	5032
21	0	0	0	0	0	0	18	80	129	383	679	730	785	720	660	480	270	95	6	0	0	0	0	0	5035
22	0	0	0	0	0	0	45	195	283	439	737	588	618	638	504	404	181	44	4	0	0	0	0	0	4679
23	0	0	0	0	0	0	33	189	408	284	576	733	824	698	528	424	278	88	2	0	0	0	0	0	5064
24	0	0	0	0	0	0	21	91	198	257	293	163	124	98	98	153	127	43	4	0	0	0	0	0	1668
25	0	0	0	0	0	0	22	55	142	130	131	124	157	95 ?	173 ?	96	80	37	4	0	0	0	0	0	1246
26	0	0	0	0	0	0	30	178	257	501	772	434	580	596	383	330	230	70	6	0	0	0	0	0	4367
27	0	0	0	0	0	0	22	121	270	451	655	626	514	637	466	388	255	64	7	0	0	0	0	0	4476
28	0	0	0	0	0	0	26	175	366	542	695	457	178	403	416	249	123	34	3	0	0	0	0	0	3669
29	0	0	0	0	0	0	10	32	58	126	151	315	339	182	92	122	51	16	6	0	0	0	0	0	1497
30	0	0	0	0	0	0	25	149	378	476	490	661	641	561	303	264	200	40	6	0	0	0	0	0	4195
Avg	0	0	0	0	0	0	29	132	270	424	547	533	539	527	450	357	222	83	11	0	0	0	0	0	4126
S D	0	0	0	0	0	0	11	54	119	161	197	230	269	201	146	92	45	9	0	0	0	0	0	0	1428
S/A	0	0	0	0	0	0	0.4	0.41	0.44	0.38	0.36	0.43	0.5	0.43	0.45	0.41	0.41	0.54	0.78	0	0	0	0	0	0.35
Min	0	0	0	0	0	0	3	32	58	74	131	124	73	83	92	96	51	14	0	0	0	0	0	0	1246
Max	0	0	0	0	0	0	48	210	429	609	772	852	876	854	744	564	388	174	32	0	0	0	0	0	6273
n	0	0	0	0	0	0	315	355	359	357	359	359	350	348	354	359	357	359	155	0	0	0	0	0	4386

Daylight Data Recovery: 0.0% missing; 1.0% exceed the 15% QC threshold -- 4432 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.

September 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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	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
3	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
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	36	0	0	0	0	0	53
5	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	38	219	57	0	0	0	0	0	315
6	0	0	0	0	0	0	0	43	0	0	0	0	0	0	0	32	119	91	0	0	0	0	0	0	284
7	0	0	0	0	0	0	83	376	404	174	6	0	0	6	184	159	5	55	4	0	0	0	0	0	1457
8	0	0	0	0	0	0	96	311	467	642	541	445	453	493	453	416	405	149	0	0	0	0	0	0	4872
9	0	0	0	0	0	0	15	293	405	585	645	728	536	149	170	211	155	23	30	0	0	0	0	0	3945
10	0	0	0	0	0	0	4	84	592	784	842	872	878	866	843	773	569	330	18	0	0	0	0	0	7455
11	0	0	0	0	0	0	0	59	213	682	745	765	771	755	727	593	533	273	33	0	0	0	0	0	6149
12	0	0	0	0	0	0	16	203	403	374	320	506	547	528	475	379	98	0	0	0	0	0	0	0	3849
13	0	0	0	0	0	0	89	332	571	279	0	0	0	0	6	0	0	0	1	0	0	0	0	0	1277
14	0	0	0	0	0	0	0	0	37	191	153	345	137	14	0	0	0	0	0	0	0	0	0	0	878
15	0	0	0	0	0	0	0	0	0	2	3	0	0	0	0	40	24	121	2	0	0	0	0	0	191
16	0	0	0	0	0	0	2	39	59	409	516	464	293	114	44	37	59	41	0	0	0	0	0	0	2076
17	0	0	0	0	0	0	4	22	302	425	520	266	16	274	305	343	391	137	6	0	0	0	0	0	3010
18	0	0	0	0	0	0	8	0	18	412	321	199	434	293	144	0	0	0	0	0	0	0	0	0	1829
19	0	0	0	0	0	0	0	34	87	142	91	0	0	5	39	145	99	74	0	0	0	0	0	0	716
20	0	0	0	0	0	0	95	401	566	470	617	200	415	109	291	655	476	245	12	0	0	0	0	0	4552
21	0	0	0	0	0	0	0	0	8	188	596	559	593	697	806	707	525	287	8	0	0	0	0	0	4973
22	0	0	0	0	0	0	147	504	355	463	830	351	304	404	205	188	12	0	0	0	0	0	0	0	3762
23	0	0	0	0	0	0	50	291	614	189	486	542	626	613	399	480	527	210	0	0	0	0	0	0	5028
24	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
25	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
26	0	0	0	0	0	0	0	205	199	412	583	152	259	257	81	157	166	25	0	0	0	0	0	0	2495
27	0	0	0	0	0	0	0	69	182	327	503	382	227	387	241	388	376	97	0	0	0	0	0	0	3180
28	0	0	0	0	0	0	31	466	665	771	735	272	1	39	170	115	55	0	0	0	0	0	0	0	3319
29	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
30	0	0	0	0	0	0	34	278	417	350	282	480	441	348	112	183	223	0	0	0	0	0	0	0	3149
Avg	0	0	0	0	0	0	23	134	219	276	311	251	231	212	190	200	162	80	7	0	0	0	0	0	2294
S D	0	0	0	0	0	0	39	166	236	254	306	271	274	267	250	242	204	104	14	0	0	0	0	0	2148
S/A	0	0	0	0	0	0	1.74	1.24	1.08	0.92	0.98	1.08	1.18	1.26	1.32	1.21	1.26	1.3	2.04	0	0	0	0	0	0.94
Min	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
Max	0	0	0	0	0	0	147	504	665	784	842	872	878	866	843	773	569	330	57	0	0	0	0	0	7455
n	0	0	0	0	0	0	317	360	360	360	360	360	360	360	360	360	360	360	155	0	0	0	0	0	4432

Daylight Data Recovery: 0.0% missing; 0.0% exceed the 15% QC threshold -- 4432 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**

**September 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	0	3	35	84	157	318	441	457	517	413	302	219	68	22	0	0	0	0	0	3038
2	0	0	0	0	0	0	24	83	147	219	264	279	216	465	277	186	136	101	19	0	0	0	0	0	2416
3	0	0	0	0	0	0	54	121	304 ?	474 ?	?	471 ?	361 ?	445 ?	?	?	?	129 ?	25	0	0	0	0	0	2384 ?
4	0	0	0	0	0	0	55	159 ?	?	477 ?	440 ?	422 ?	463 ?	511 ?	457 ?	445 ?	254 ?	158	26	0	0	0	0	0	3867 ?
5	0	0	0	0	0	0	48	177 ?	295	538 ?	422 ?	580 ?	430 ?	432 ?	446 ?	?	288 ?	99	19	0	0	0	0	0	3774 ?
6	0	0	0	0	0	0	32	144	82	69	395	482 ?	536 ?	597 ?	568 ?	481	238	107	34	0	0	0	0	0	3764 ?
7	0	0	0	0	0	0	31	92	219	462	482 ?	341	323	?	527 ?	337	208	87	22	0	0	0	0	0	3131 ?
8	0	0	0	0	0	0	29	110	156	181	327	464	472	359	247	167	118	90	10	0	0	0	0	0	2731
9	0	0	0	0	0	0	16	98	164	161	196	211	318	301	244	308	174	82	22	0	0	0	0	0	2296
10	0	0	0	0	0	0	29	138	120	81	89	95	97	94	86	81	67	50	5	0	0	0	0	0	1033
11	0	0	0	0	0	0	20	100	157	130	145	154	153	149	143	144	97	54	12	0	0	0	0	0	1457
12	0	0	0	0	0	0	29	109	171	263	341	334	312	304	283	244	107	34	6	0	0	0	0	0	2537
13	0	0	0	0	0	0	33	69	145	307	254	137	72	65	264	218	92	22	6	0	0	0	0	0	1682
14	0	0	0	0	0	0	28	101	173	290	348	341	422	401	241	155	178	62	5	0	0	0	0	0	2747
15	0	0	0	0	0	0	13	57	148	301	365	204	276	210	116	212	221	75	6	0	0	0	0	0	2203
16	0	0	0	0	0	0	35	107	210	219	241	300	376	339	347	289	208	97	16	0	0	0	0	0	2785
17	0	0	0	0	0	0	31	79	118	213	280	346	267	343	326	196	169	57	12	0	0	0	0	0	2438
18	0	0	0	0	0	0	48	94	155	245	369	472	462	389	283	187	81	15	0	0	0	0	0	0	2799
19	0	0	0	0	0	0	26	103	192	315	376	301	106	298	357	277	161	66	11	0	0	0	0	0	2591
20	0	0	0	0	0	0	26	73	112	184	221	292	420	408	402	161	117	51	9	0	0	0	0	0	2477
21	0	0	0	0	0	0	21	86	134	266	222	267	282	157	85	74	70	36	7	0	0	0	0	0	1707
22	0	0	0	0	0	0	30	56	118	142	109	302	365	311	361	302	182	47	4	0	0	0	0	0	2329
23	0	0	0	0	0	0	29	107	119	172	216	285	298	206	245	163	69	53	4	0	0	0	0	0	1967
24	0	0	0	0	0	0	24	97	205	273	312	180	122	107	99	166	136	47	5	0	0	0	0	0	1773
25	0	0	0	0	0	0	22	58	152	141	143	137	170	79	147	98	76	40	5	0	0	0	0	0	1269
26	0	0	0	0	0	0	31	124	170	238	341	311	366	391	328	245	167	66	7	0	0	0	0	0	2784
27	0	0	0	0	0	0	23	107	187	249	280	314	326	333	299	180	115	46	8	0	0	0	0	0	2468
28	0	0	0	0	0	0	25	51	65	66	154	241	192	387	304	194	103	36	4	0	0	0	0	0	1821
29	0	0	0	0	0	0	12	33	60	135	161	329	357	191	99	130	55	17	6	0	0	0	0	0	1585
30	0	0	0	0	0	0	23	75	192	264	283	277	281	295	234	174	116	42	6	0	0	0	0	0	2262
Avg	0	0	0	0	0	0	28	95	157	241	279	310	310	313	284	218	146	64	11	0	0	0	0	0	2404
S D	0	0	0	0	0	0	11	34	57	120	102	116	125	140	129	97	63	33	8	0	0	0	0	0	702
S/A	0	0	0	0	0	0	0.4	0.36	0.36	0.5	0.37	0.37	0.4	0.45	0.46	0.45	0.43	0.51	0.74	0	0	0	0	0	0.29
Min	0	0	0	0	0	0	3	33	60	66	89	95	72	65	85	74	55	15	0	0	0	0	0	0	1033
Max	0	0	0	0	0	0	55	177	304	538	482	580	536	597	568	481	288	158	34	0	0	0	0	0	3867
n	0	0	0	0	0	0	298	345	342	335	326	334	328	316	319	327	338	352	155	0	0	0	0	0	4117

Daylight Data Recovery: 0.0% missing; 7.1% exceed the 15% QC threshold -- 4432 total daylight measurements.

Instrument: Eppley PSP    Serial Number: 17862F3    Calibration Factor: 7.530 µV/W/m²    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