

Calibration History of the Eppley PSP # 21981F3 Pyranometer

This page shows the calibration history of Eppley PSP 21981F3. The responsivity used to transform the irradiance voltage data into Wm^{-2} is a running average of the responsivity obtained over the years. This reduces the variation of the responsivities associated with the random uncertainty of a given calibration (See Figs. 1 & 2). The rate of change of the pyranometer responsivity is related to exposure to UV radiation. The responsivity values used are in the comprehensive format files or the site files. The responsivities measured during specific calibrations are listed in Table 1.

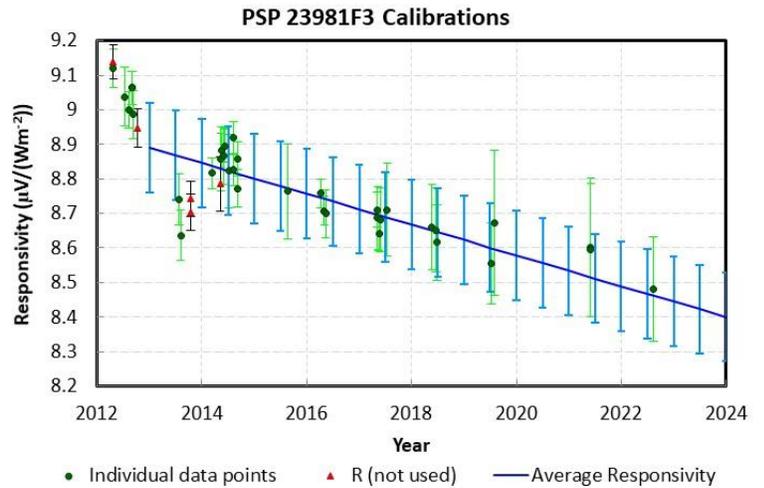
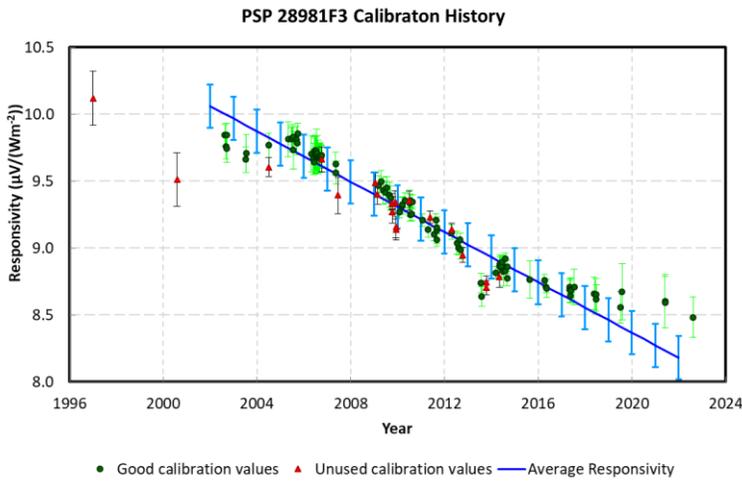


Figure 1: All calibration data plotted against time with long-term trend

Figure 2: Calibration trend over the last ten years.

Information provided in the Table 1 are:

- Date of calibration
- Responsivity value
- Uncertainty at the 95% level of confidence
- Average SZA over which the calibration value was obtained
- Average temperature during the calibration
- Type of calibration and instruments used
- Location of calibration
- Notes

Table 1: Calibration History for PSP 21981F3 (P22)

	Calibration Date	Responsivity ($\mu V/Wm^{-2}$)	Uncertainty ($\mu V/Wm^{-2}$)	Average SZA ($^{\circ}$)	Temperature (C)	Reference Instruments	Location	Notes
1	1997/01/01	10.1200	0.2000	-	25.00	factory	Factory	
2	2000/08/01	9.5100	0.2000	-			Augustyn	
3	2002/08/19	9.8432	0.0793	45.04	25.11	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	

4	2002/09/03	9.7580	0.0916	45.01	23.15	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
5	2002/09/12	9.8425	0.0897	44.90	26.62	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
6	2002/09/18	9.7440	0.1018	45.00	24.50	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
7	2003/07/11	9.6610	0.0979	45.03	29.81	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
8	2003/07/16	9.7079	0.1413	45.04	29.01	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
9	2004/07/01	9.6030	0.0710		27.00	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89, PSP_19692F3 R=9.5058	Eugene, OR	
10	2004/07/04	9.7680	0.0901	44.98	25.75	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
11	2005/01/12	9.8132	0.1312	45.37	20.14	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
12	2005/06/23	9.8187	0.0816	45.28	24.43	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
13	2005/06/30	9.8145	0.0950	44.88	25.83	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
14	2005/07/13	9.8281	0.0938	44.96	26.72	NIP_18948E6 R=8.1358. Schenk_1315 R=14.89	Eugene, OR	
15	2005/07/22	9.7316	0.1393	45.05	26.44	NIP_17668E6 R=8.6203, Schenk_1315 R=14.89	Eugene, OR	
16	2005/09/08	9.8106	0.0975	45.01	24.19	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	

17	2005/09/18	9.7852	0.0873	45.12	20.22	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
18	2005/09/29	9.8527	0.0803	47.75	24.89	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
19	2006/04/27	9.7025	0.1350	45.03	16.97	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
20	2006/05/29	9.6662	0.1149	45.78	22.33	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
21	2006/06/06	9.6445	0.0938	44.95	27.22	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
22	2006/06/17	9.7053	0.1180	44.92	21.64	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
23	2006/06/24	9.7311	0.1133	44.95	29.76	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
24	2006/06/27	9.6935	0.1364	45.01	27.71	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
25	2006/07/07	9.7023	0.1300	44.97	26.87	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
26	2006/07/16	9.7270	0.1631	45.01	29.09	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
27	2006/07/26	9.7096	0.1345	44.97	25.16	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
28	2006/08/06	9.6802	0.1277	44.93	26.63	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
29	2006/08/12	9.6766	0.1103	44.97	26.45	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
30	2006/09/01	9.6734	0.1089	45.05	25.32	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	

31	2006/09/05	9.6719	0.1056	44.97	26.15	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
32	2006/09/08	9.6901	0.0961	44.89	24.37	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
33	2006/09/22	9.6806	0.0874	45.22	23.30	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
34	2006/09/29	9.6912	0.0820	46.76	24.17	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
35	2006/10/16	9.6632	0.0918	50.30	19.76	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
36	2007/06/16	9.3948	0.1359		-	BORCAL	NREL, SRRL	
37	2007/05/08	9.6301	0.0852	45.00	24.91	NIP_18948E6 R=8.1358, Schenk_1315 R=14.9679	Eugene, OR	
38	2007/05/17	9.5643	0.0872	44.97	23.70	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
39	2009/01/02	9.4886	0.0771	64.13	5.27	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
40	2009/02/20	9.4007	0.0731	55.03	13.02	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
41	2009/03/12	9.4638	0.0732	47.19	9.15	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
42	2009/04/19	9.4957	0.0827	44.91	20.78	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
43	2009/05/20	9.4290	0.1015	45.49	17.33	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
44	2009/06/27	9.4157	0.0827	44.94	23.22	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	

45	2009/01/02	9.4486	0.0831	45.13	24.44	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
46	2009/08/26	9.3955	0.0922	44.98	26.06	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
47	2009/09/11	9.3732	0.0890	45.00	28.02	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
48	2009/10/09	9.3286	0.0771	50.72	16.78	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
49	2009/11/24	9.3417	0.0865	64.81	12.98	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
50	2009/12/08	9.1376	0.0772	66.87	-2.44	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
51	2009/01/28	9.2712	0.0843	55.44	18.93	ACR, Schenk_1315 R=14.89	Eugene, OR	
52	2009/10/08	9.3348	0.0462	50.47	18.82	ACR, Schenk_1315 R=14.89	Eugene, OR	
53	2009/10/11	9.3358	0.0448	51.83	13.08	ACR, Schenk_1315 R=14.89	Eugene, OR	
54	2009/12/04	9.1573	0.0808	67.45	5.87	ACR, Schenk_1315 R=14.89	Eugene, OR	
55	2010/01/27	9.2712	0.0461	45.87	25.82	ACR, Schenk_1315 R=14.89	Eugene, OR	
56	2010/03/18	9.3143	0.0613	45.10	11.99	ACR, Schenk_1315 R=14.89	Eugene, OR	
57	2010/03/19	9.3223	0.0581	44.94	14.87	ACR, Schenk_1315 R=14.89	Eugene, OR	
58	2010/04/23	9.3566	0.0559	44.72	13.02	ACR, Schenk_1315 R=14.89	Eugene, OR	
59	2010/06/28	9.3527	0.0708	39.59	23.36	ACR, Schenk_1315 R=14.89	Eugene, OR	
60	2010/07/06	9.3336	0.0986	44.42	25.00	ACR, Schenk_1315 R=14.89	Eugene, OR	
61	2010/07/14	9.2465	0.0480	44.81	34.55	ACR, Schenk_1315 R=14.89	Eugene, OR	
62	2010/07/15	9.3541	0.0506	45.05	29.36	ACR, Schenk_1315 R=14.89	Eugene, OR	

63	2010/08/13	9.2555	0.0517	44.93	47.74	ACR, Schenk_1315 R=14.89	Eugene, OR	
64	2010/08/16	9.3469	0.0534	44.56	30.08	ACR, Schenk_1315 R=14.89	Eugene, OR	
65	2011/01/21	9.2063	0.0477	44.51	27.42	ACR, Schenk_1315 R=14.89	Eugene, OR	
66	2011/04/22	9.1381	0.0575	45.56	16.73	ACR, Schenk_1315 R=14.89	Eugene, OR	
67	2011/05/19	9.2307	0.0468	35.53	17.54	ACR, Schenk_1315 R=14.89	Eugene, OR	
68	2011/07/28	9.1048	0.0504	45.05	31.74	ACR, Schenk_1315 R=14.89	Eugene, OR	
69	2011/08/19	9.2086	0.0486	44.35	23.43	ACR, Schenk_1315 R=14.89	Eugene, OR	
70	2011/09/01	9.1335	0.0994	45.11	21.00	ACR, Schenk_1315 R=14.89	Eugene, OR	
71	2011/09/03	9.0627	0.0488	44.50	33.86	ACR, Schenk_1315 R=14.89	Eugene, OR	
72	2011/09/06	9.1532	0.0496	44.79	25.72	ACR, Schenk_1315 R=14.89	Eugene, OR	
73	2012/04/22	9.1383	0.0489	37.86	24.37	ACR, Schenk_1315 R=14.89	Eugene, OR	
74	2012/04/23	9.1198	0.0562	44.93	21.04	ACR, Schenk_1315 R=14.89	Eugene, OR	
75	2012/07/11	9.0381	0.0862	44.89	25.00	ACR, Schenk_1315 R=14.89	Eugene, OR	
76	2012/08/09	9.0001	0.0532	45.49	29.11	ACR, Schenk_1315 R=14.89	Eugene, OR	
77	2012/08/31	9.0631	0.0488	44.89	17.18	ACR, Schenk_1315 R=14.89	Eugene, OR	
78	2012/08/31	9.0631	0.0488	44.89	17.18	ACR, Schenk_1315 R=14.89	Eugene, OR	
79	2012/09/07	8.9867	0.0693	48.58	34.72	ACR, Schenk_1315 R=14.89	Eugene, OR	
80	2012/10/10	8.9474	0.0562	51.20	17.42	ACR, Schenk_1315 R=14.89	Eugene, OR	
81	2013/07/25	8.7392	0.0744	44.19	32.26	ACR, Schenk_1315 R=14.89	Eugene, OR	
82	2013/08/06	8.6363	0.0723	44.99	23.77	ACR, Schenk_1315 R=14.89	Eugene, OR	
83	2013/10/15	8.7041	0.0517	52.89	14.48	ACR, Schenk_1315 R=14.89	Eugene, OR	

84	2013/10/16	8.7424	0.0502	54.82	13.70	ACR, Schenk_1315 R=14.89	Eugene, OR	
85	2014/03/12	8.8168	0.0448	47.26	12.65	ACR, Schenk_1315 R=14.89	Eugene, OR	
86	2014/05/07	8.7855	0.0799	51.88	10.20	ACR, Schenk_1315 R=14.89	Eugene, OR	
87	2014/05/13	8.8577	0.0932	42.22	25.43	ACR, Schenk_1315 R=14.89	Eugene, OR	
88	2014/05/14	8.8824	0.0507	45.45	21.38	ACR, Schenk_1315 R=14.89	Eugene, OR	
89	2014/06/05	8.8655	0.0831	45.02	17.82	ACR, Schenk_1315 R=14.89	Eugene, OR	
90	2014/06/11	8.8954	0.0477	44.85	17.13	ACR, Schenk_1315 R=14.89	Eugene, OR	
91	2014/07/10	8.8226	0.1066	45.10	25.12	ACR, Schenk_1315 R=14.89	Eugene, OR	
92	2014/08/06	8.8273	0.0468	44.63	29.05	ACR, Schenk_1315 R=14.89	Eugene, OR	
93	2014/08/07	8.9184	0.0470	45.15	21.78	ACR, Schenk_1315 R=14.89	Eugene, OR	
94	2014/09/04	8.7728	0.0543	44.96	27.22	ACR, Schenk_1315 R=14.89	Eugene, OR	
95	2014/09/05	8.8582	0.0490	45.08	24.25	ACR, Schenk_1315 R=14.89	Eugene, OR	
96	2015/08/22	8.7648	0.1374	45.24	22.61	ACR, Schenk_1315 R=14.89	Eugene, OR	
97	2016/04/07	8.7585	0.0417	45.02	19.79	ACR R=1.00069, Schenk_1315 R=14,89	Eugene, OR	
98	2016/05/01	8.7071	0.0423	44.99	23.84	ACR R=1.00069, Schenk_1315 R=14,89	Eugene, OR	
99	2016/05/11	8.6990	0.0688	45.00	23.50	ACR R=1.00069, Schenk_1315 R=14,89	Eugene, OR	
100	2017/05/08	8.7106	0.0502	44.81	16.60	ACR R=1.00069, Schenk_1315 R=14,89	Eugene, OR	
101	2017/05/09	8.6865	0.0910	44.80	17.53	ACR R=1.00069, Schenk_1315 R=14,89	Eugene, OR	
102	2017/05/19	8.6422	0.0505	45.03	24.17	ACR R=1.00069, Schenk_1315 R=14,89	Eugene, OR	
103	2017/05/26	8.6811	0.0919	45.01	22.79	ACR R=1.00069, Schenk_1315 R=14,89	Eugene, OR	
104	2017/07/15	8.7105	0.1335	44.98	21.89	ACR R=1.00069, Schenk_1315 R=14,89	Eugene, OR	

105	2018/05/22	8.6605	0.1233	45.00	22.00	ACR R=1.0002, Schenk_1315 R=14.9111	Eugene, OR	
106	2018/06/19	8.6515	0.1215	45.12	26.46	ACR R=1.0002, Cmp22_120365 R=8.9179	Eugene, OR	
107	2018/06/26	8.6163	0.1097	45.34	23.04	ACR R=1.0002, Schenk_1315 R=14.9111	Eugene, OR	
108	2019/07/08	8.5550	0.1182	44.85	26.63	ACR R=1.00034, Cmp22_120363 R=9.6981	Eugene, OR	
109	2019/08/01	8.6733	0.2103	45.12	25.74	ACR R=1.00034, Cmp22_120363 R=9.6981	Eugene, OR	
110	2021/06/02	8.6019	0.2012	44.93	27.10	ACR R=1.00038, Cmp22_120363 R=9.7005	Eugene, OR	
111	2021/06/03	8.5940	0.1934	45.10	25.46	ACR R=1.00038, Cmp22_120363 R=9.7005	Eugene, OR	
112	2022/08/11	8.4823	0.1512	44.89		ACR R=1.00038, Cmp22_120365 R=8.9202	Eugene, OR	