

Calibration Record of Eppley PSP 16984F3 Pyranometer

This page shows the calibration history of the Eppley PSP pyranometer number 16984F3. 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.

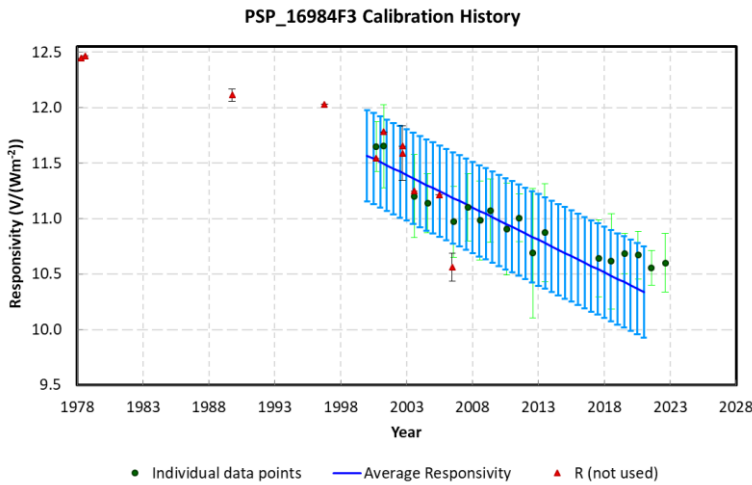


Figure 1: All calibration data plotted against time with long-term trend

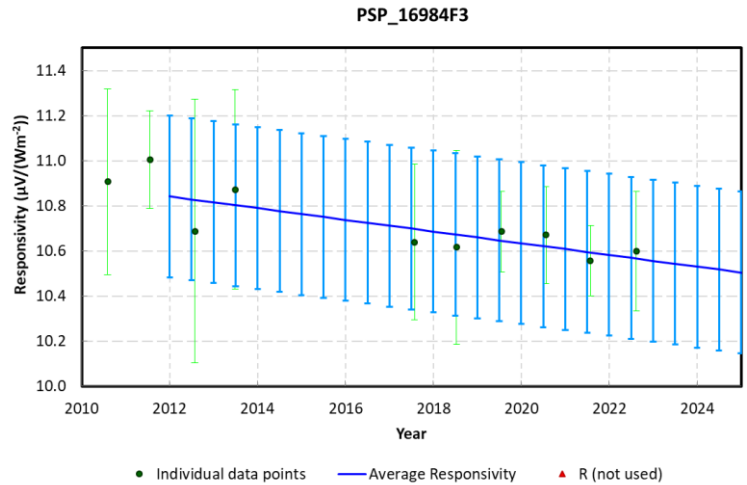


Figure 2: Calibration data plotted against time for 10 year trend

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_16984F3

	Calibration Date	Responsivity ($\mu\text{V}/\text{Wm}^{-2}$)	Uncertainty ($\mu\text{V}/\text{Wm}^{-2}$)	Average SZA ($^\circ$)	Temperature (C)	Reference Instruments	Location	Notes
1	1978/04/20	12.4440		-	25.00	Factory	Factory	

2	1978/08/10 1978/08/25	12.59		-	-	NOAA	Boulder, CO	Thermal Offset ignored
3	1989/10/01	12.1130	0.0560	-	-	NREL	NREL	Thermal Offset ignored
4	1996/10/08	11.993	.0367	-	-	PSP_17853F3 R=7.347	Eugene, OR	
5	2000/09/06	11.2624	.0669	45.00	19.80	PSP_13365F3 R=7.517	Hermiston, OR	
6	2001/04/05	11.4940	.0563	45.00	11.30	PSP_13365F3 R=7.409	Hermiston, OR	
7	2002/09/01	11.3433	.1450	45.00	14.80	PSP_13365F3 R=7.481	Hermiston, OR	
8	2003/07/31	11.0727	.1463	45.00	34.35	PSP_13365F3 R=7.463	Hermiston, OR	
9	2005/06/15	10.8483	0.2443	45.00	19.66	PSP_13365F3 r=7.338	Hermiston, OR	
10	2006/06/16	10.5609	.2518	-	-	NIP_17668E6, PSP_13365F3	Hermiston, OR	Don't trust
11	2000/09/06	11.6475	0.2259	45.30	20.70	PSP_13365F3 R=7.7118	Hermiston, OR	
12	2001/04/04	11.6521	0.3736	44.94	12.21	PSP_13365F3 R=7.6971	Hermiston, OR	
13	2002/09/03	11.5896	0.2466	53.35	17.00	PSP_13365F3 R=7.6825	Hermiston, OR	
14	2003/07/30	11.2020	0.3739	44.93	34.96	PSP_13365F3 R=7.6678	Hermiston, OR	
15	2004/07/30	11.1392	0.2655	44.93	33.32	PSP_23981F3 R=9.7544	Hermiston, OR	
16	2006/07/25	10.9706	0.3210	44.81	33.51	PSP_13365F3 R=7.6238	Hermiston, OR	
17	2007/08/23	11.1004	0.3041	44.82	26.89	PSP_13365F3 R=7.6091	Hermiston, OR	

18	2008/07/23	10.9824	0.3535	44.99	22.94	PSP_13365F3 R=7.5945	Hermiston, OR	
19	2009/05/08	11.0718	0.2837	44.87	16.02	PSP_13365F3 R=7.5798	Hermiston, OR	
20	2010/08/03	10.9068	0.4128	44.91	29.36	PSP_13365F3 R=7.5651	Hermiston, OR	
21	2011/07/19	11.0058	0.2166	45.03	19.91	PSP_13365F3 R=7.5505	Hermiston, OR	
22	2012/07/27	10.6883	0.5855	44.99	27.24	PSP_13365F3 R=7.5358	Hermiston, OR	
23	2013/06/27	10.8728	0.4413	45.14	30.20	CMP22_120363 R=9.6822	Hermiston, OR	
24	2017/07/27	10.6400	0.3458	45.02	28.96	CMP22_120363 R =9.6916	Hermiston, OR	
25	2018/07/12	10.6162	0.4300	44.94	33.90	CMP22_120363 R=9.6939	Hermiston, OR	
26	2019/07/19	10.6855	0.1795	44.97		NIP_17668E6 R=8.6121, CMP22_120363 R=9.6981	Hermiston, OR	
27	2020/07/23	10.6715	0.2149	44.97	27.70	NIP_17668E6 R=8.6121, CMP22_120363 R=9.6981	Hermiston, OR	
28	2021/07/28	10.5573	0.1556	44.88	27.94	NIP_17668E6 R=8.6210, CMP22_120363 R=9.7005	Hermiston, OR	
29	2022/08/13	10.6003	0.2648	44.97	27.65	NIP_23385E6 R=8.5247, Shenk_1330 R=14.3501	Hermiston, OR	