

# Calibration History of the LICOR PY22978 Pyranometer

This page shows the calibration history of the LICOR PY22978. 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.

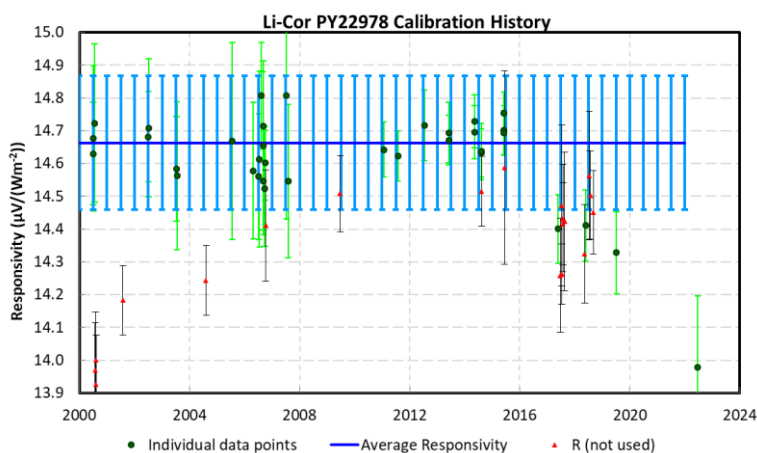


Figure 1: All calibration data plotted against time with long-term trend

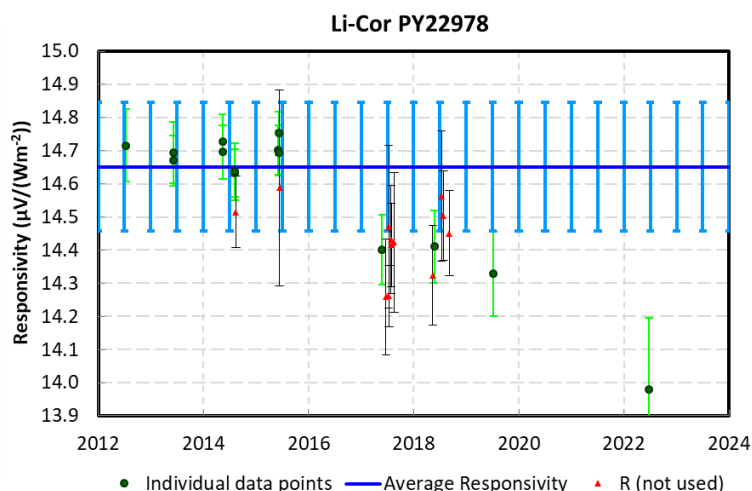


Figure 2: Calibration data plotted against time for 10 year trend

## 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 information for LICOR PY22978\_Li3**

	Calibration Date	Responsivity ( $\mu V/Wm^{-2}$ )	Uncertainty ( $\mu V/Wm^{-2}$ )	Average SZA ( $^{\circ}$ )	Temperature (C)	Reference Instruments	Location	Notes
1	6/29/2000	14.6300	0.1557	44.85	26.42	NIP_18948E6 R=8.1358, PSP_18560F3 R=8.5134	Eugene, OR	
2	7/2/2000	14.6768	0.2218	45.09	24.08	NIP_18948E6 R=8.1358, PSP_18560F3 R=8.5134	Eugene, OR	

3	7/18/2000	14.7225	0.2413	44.98	26.71	NIP_18948E6 R=8.1358, PSP_18560F3 R=8.5134	Eugene, OR	
4	7/24/2000	13.9696	0.1443	44.95	27.36	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
5	8/1/2000	14.0000	0.1475	45.13	27.98	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
6	8/8/2000	13.9273	0.1490	45.26	22.72	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
7	7/28/2001	14.1830	0.1053	45.00	30.18	NREL, SRRL	NREL, SRRL	
8	7/2/2002	14.6818	0.1372	44.80	25.54	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
9	7/8/2002	14.7086	0.2105	44.98	27.74	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
10	7/10/2003	14.5831	0.1598	45.04	29.25	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
11	7/16/2003	14.5617	0.2259	45.05	29.32	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
12	8/9/2004	14.2430	0.1068	45.00	-	NREL, SRRL	NREL, SRRL	
13	7/22/2005	14.6685	0.3009	45.05	26.44	NIP_17668E6 R=8.6203, Schenk_1315 R=14.89	Eugene, OR	
23	1/28/2006	14.4109	0.1700	50.30	19.76	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
14	4/27/2006	14.5779	0.2084	45.06	17.34	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
15	7/7/2006	14.5603	0.1917	44.97	26.91	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	

16	7/16/2006	14.6134	0.2688	44.97	26.15	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
17	8/12/2006	14.8068	0.1626	44.55	29.60	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
18	9/1/2006	14.7142	0.1659	45.05	25.32	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
19	9/5/2006	14.6550	0.2578	44.97	26.15	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
20	9/8/2006	14.5468	0.1638	44.89	24.37	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
21	9/22/2006	14.5240	0.1777	45.22	23.30	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
22	9/29/2006	14.6011	0.1137	46.76	24.17	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
24	7/12/2007	14.8067	0.3774	45.18	26.52	NIP_23928E6 R=8.26, Schenk+1315 R=14.89	Eugene, OR	
25	7/31/2007	14.5458	0.2343	45.15	25.29	NIP_18948E6 R=8.1358, Schenk_1315 R=14.89	Eugene, OR	
26	6/24/2009	14.5080	0.1155	45.00	-	NREL, SRRL	NREL, SRRL	
27	1/21/2011	14.6425	0.0832	44.51	25.42	ACR, Schenk_1315 R=14.89	Eugene, OR	
28	7/28/2011	14.6228	0.0768	45.05	29.74	ACR, Schenk_1315 R=14.89	Eugene, OR	
29	7/11/2012	14.7159	0.1084	44.89	25.00	ACR, Schenk_1315 R=14.89	Eugene, OR	
30	6/4/2013	14.6709	0.0760	45.29	25.41	ACR, Schenk_1315 R=14.89	Eugene, OR	
31	6/5/2013	14.6943	0.0918	44.90	20.91	ACR, Schenk_1315 R=14.89	Eugene, OR	
32	5/13/2014	14.7284	0.0811	44.92	25.58	ACR, Schenk_1315 R=14.89	Eugene, OR	

33	5/14/2014	14.6956	0.0807	45.45	21.38	ACR, Schenk_1315 R=14.89	Eugene, OR
34	8/6/2014	14.6325	0.0728	44.63	29.05	ACR, Schenk_1315 R=14.89	Eugene, OR
35	8/7/2014	14.6372	0.0859	45.15	21.78	ACR, Schenk_1315 R=14.89	Eugene, OR
36	8/14/2014	14.5150	0.1074	44.75	20.11	CMP22_120363 R=9.6939	Silver Lake, OR
37	6/5/2015	14.7014	0.0752	44.77	23.32	ACR, CMP22_120363 R=9.68217	Eugene, OR
38	6/6/2015	14.6938	0.0684	44.73	21.63	ACR, CMP22_120363 R=9.68217	Eugene, OR
39	6/7/2015	14.7526	0.0658	47.02	30.72	ACR, CMP22_120363 R=9.68217	Eugene, OR
40	6/12/2015	14.5881	0.2950	44.99	21.91	CMP22_120363 R=9.6939	Silver Lake, OR
41	5/26/2017	14.4005	0.1050	45.01	22.79	ACR, Schenk_1315 R=14.89	Eugene, OR
42	6/22/2017	14.2591	0.1749	45.02	23.38	CMP22_120363 R=9.6916	Silver Lake, OR
43	7/11/2017	14.4714	0.2455	45.00	28.88	NIP_17668E6 R=8.630302026, CMP22_120363 R=9.691603485	Twin Falls, ID
44	7/12/2017	14.2613	0.0922	45.04	22.78	CMP22_120363 R=9.6916	Challis, ID
45	7/27/2017	14.4327	0.1636	45.02	28.96	CMP22_120363 R=9.6916	Hermiston, OR
46	7/29/2017	14.4156	0.1252	45.00	28.71	CMP22_120363 R=9.6916	Chaney, WA
47	8/17/2017	14.4231	0.2111	44.98	22.85	CMP22_120363 R=9.6916	Portland, OR
48	5/12/2018	14.3238	0.1500	45.01	20.10	CMP22_120363 R=9.6916	Silver Lake, OR
49	5/22/2018	14.4107	0.1087	45.00	22.00	ACR R=1.0002, SCHENK_1315 R=14.9111	Eugene, OR
50	7/12/2018	14.5625	0.1966	44.94	33.90	CMP22_120363 R=9.6939	Hermiston, OR
51	7/25/2018	14.5036	0.1345	44.91	31.32	CMP22_120363 R=9.6939	Cheney, WA
52	9/4/2018	14.4511	0.1278	45.00	25.20	CMP22_120363 R=9.6939	Portland, OR
53	7/8/2019	14.3279	0.1260	44.85	26.63	ACR R=1.00034, CMP22_120363 R=9.6981	Eugene, OR

54	6/22/2022	13.9789	0.2165	44.83		ACR R=1.0038, SCHENK_1315 R=14.855	Eugene, OR	
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