

THE EPPLEY LABORATORY, INC.

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Scientific Instruments
for Precision Measurements
Since 1917

STANDARDIZATION OF EPPLEY PRECISION SPECTRAL PYRANOMETER Model PSP

Serial Number: 29097F3

Resistance: 687 Ω at 23 $^{\circ}\text{C}$
Temperature Compensation Range: -20 to 40 $^{\circ}\text{C}$

This radiometer has been compared with Standard Precision Spectral Pyranometer, Serial Number 21231F3 in Eppley's Integrating Hemisphere under radiation intensities of approximately 700 watts meter⁻² (roughly one half a solar constant).

As a result of a series of comparisons, it has been found to have a sensitivity of:

$$8.99 \times 10^{-6} \text{ volts/watts meter}^{-2}$$

The calculation of this constant is based on the fact that the relationship between radiation intensity and emf is rectilinear to intensities of 1400 watts meter⁻². This radiometer is linear to within $\pm 0.5\%$ up to this intensity.

The calibration of this instrument is traceable to standard self-calibrating cavity pyrhemometers in terms of the Systems Internationale des Unites (SI units), which participated in the Tenth International Pyrhemometric Comparisons (IPC X) at Davos, Switzerland in September-October 2005.

Eppley recommends a minimum calibration cycle of five (5) years but encourages annual calibrations for highest measurement accuracy. Unless otherwise stated in the remarks section below or on the Sales Order, the results are "AS FOUND / AS LEFT".

Useful conversion facts: 1 cal cm⁻² min⁻¹ = 697.3 watts meter⁻²
1 BTU/ft²-hr⁻¹ = 3.153 watts meter⁻²

Shipped to:
Oregon State University
Corvallis, OR

Date of Test: January 18, 2008

S.O. Number: 61475
Date: January 30, 2008

In Charge of Test: *R. T. Eggen*
Reviewed by: *Thomas J. Kube*

Remarks: