

THE EPPLEY LABORATORY, INC.

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Scientific Instruments
for Precision Measurements
Since 1917

STANDARDIZATION OF EPPLEY PRECISION INFRARED RADIOMETER Model PIR

Serial Number: 34952F3

Resistance: 674 Ω at 23 $^{\circ}\text{C}$
Temperature Compensation Range: -20° to $+40^{\circ}$ $^{\circ}\text{C}$

This pyrgeometer has been compared against Eppley's Blackbody Calibration System under radiation intensities of approximately 200 watts meter⁻² and an average ambient temperature of $^{\circ}\text{C}$ as measured by Standard Omega Temperature Probe, RTD#1.

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

$$3.43 \times 10^{-6} \text{ volts/watts meter}^{-2}$$

The calculation of this constant is based on the fact that the relationship between radiation intensity and emf is rectilinear to intensities of 700 watts meter⁻². This radiometer is linear to within $\pm 1.0\%$ up to this intensity.

The calibration of this instrument is traceable to the International Practical Temperature Scale (IPTS) through a precision low-temperature blackbody.

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".

Shipped to:

Univ. of Hawaii

Honolulu, HI

S.O. Number: 61880

Date: Dec. 11, 2008

Date of Test: Dec. 10, 2008

In Charge of Test: *R. T. Eppley*

Reviewed by: *Thomas J. Kueh*

Remarks: