

Calibration Report: Pyranometer

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Calibration date: 2012 May 11.
Next calibration: 2014 May 11.
Application period 2012 May 11 through 2014 May 11.
Reference standard: AHF-31041

Several radiometers were calibrated at the Clouds and the Earths Radiant Energy System (CERES) Ocean Validation Experiment (COVE) site. The results of these Calibrations are included in this box. Calibration history is available on request. The sensitivity factors and their associated uncertainties (95%) are as follows:

Sensor	S ($\mu\text{V}/(\text{W}/\text{m}^2) \pm \text{U95\%}$)	Method
CM21-051417	11.39 \pm 0.83%	relative to CM31-000507
CM21-060145	8.89 \pm 1.20%	relative to CM31-000507
CM22-000025	9.25 \pm 0.97%	shade/unshade
CM22-040100	9.06 \pm 0.86%	relative to CM31-000507
CM31-000506	11.65 \pm 0.93%	shade/unshade
CM31-000507	11.69 \pm 0.75%	shade/unshade
CM31-990004	12.08 \pm 0.90%	relative to CM31-000507

Use the value below. The level was broken the data are poor.

CM22-000024	9.20 \pm 2.5%	relative to CM31-000507
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Application

$$I = (\mu\text{V output})/S \pm \text{sqrt}(2)*\text{U95\%}$$

Where: I = the irradiance measured by the pyranometer

(μV output) = microvolt output of the pyranometer

S = calibration coefficient of the pyranometer

U95% = the 95 % confidence level

A more complete discussion is available on request in the following document.
Pyranometer_calibration_20120615_private.doc