

Solarmeter® Model 5.0

Total UV (A+B) Meter • 0-199.9 mW/cm²

Handheld Digital UVA & UVB Radiometer
with Integral Sensor



Applications

- Monitoring UV Lamp Intensity and Aging
- Testing Acrylic Shield Transmission
- Monitoring PUVA Therapy Lamp Intensity and Aging
- Testing Eyewear UV Blocking Capabilities
- Measuring Outdoor UV
- Testing Window Film/Tint Transmission
- Choose Standard Model 5.0 For Outdoor / High Intensity Applications
- Choose Sensitive Model 5.7 For Indoor / Low Intensity Applications

Features and Benefits

- Compact, Handheld, and Durable
- Simple Single-Button Operation
- NIST Traceable Accuracy
- LCD Display
- Made In USA

Sensor

The semiconductor UV sensor consists of a GaAsP photodiode chip which is completely insensitive to visible light longer than 400nm and infrared radiation, since its spectral response covers only the UV region from 280 to 400nm. Applications include solar UV detection (as the spectral response is well matched to the solar UV spectrum) and tanning lamps peaking near 365nm ("new era" fluorescent and "high pressure" HID.)

Meter Operation

To operate your Solarmeter, aim the sensor window located on the top panel of the meter directly at a UV source. Press and hold the push-button switch on the face of the meter. For best results take note of the distance the reading was taken from the UV source in order to ensure repeatable results.

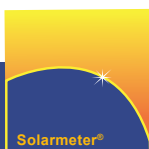
Battery operation voltage is viable from 9V down to 6.5V. Below 6.5V, the numbers on the LCD display will begin to dim, indicating the need for battery replacement. Under typical service load, a standard 9V battery will last approximately 2 years.

Proper Usage of Solarmeter® Ultraviolet Radiometer for Lamp Aging Tests

- Wear eye protection when checking UV lamps (Glasses that provide wrap around protection are ideal).
- Allow lamps to warm-up prior to taking readings (at least 15 minutes).

Lamp Aging

- When checking lamp aging, make sure to use the same location and distance to ensure accurate readings.
- Lamps should be replaced when output drops to about 50% of their original (new) readings.



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Curing Lamps

- For curing lamps, hold the meter at the distance you intend your work piece to be cured.

Tanning Lamps

- To take the overall reading at the center of the tanning bed, place meter pointing up with canopy closed.
- To take individual lamp readings, hold the meter against the acrylic with canopy open.
- If you are unsure of original lamp values, replace two adjacent lamps identical new ones and compare.
- This meter is primarily “seeing” the UVA “browning” rays. For erythemal readings use Model 7.0 MED/hr meter.

Acrylic Testing

- For acrylic testing, take readings with and without acrylic at a fixed distance. Model 6.0 is best for acrylic tests.

General

- When comparing different types of lamps consider readings to be relative rather than absolute.
- Lamps that peak near 365nm (newer designs) will read higher than lamps that peak near 350nm.
- Do not subject the meter to extremes in temperature, humidity, shock or dust.
- Use a dry, soft cloth to clean the instrument. Keep sensor free of oil, dirt, etc.

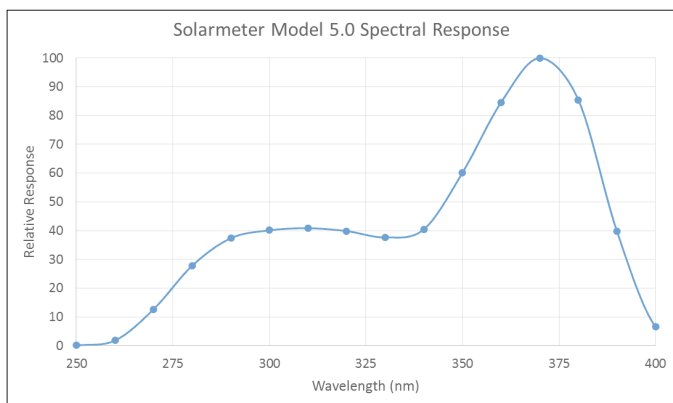


Fig. 1. Model 5.0 Spectral Response

SPECIFICATIONS

Model	5.0
Irradiation Range (Standard Model)	0-199.9 mW/cm ² Total UV
Irradiation Range (Model 5.OHP for High Pressure Lamps - Special Order Model)	0-1999 mW/cm ² Total UV
Irradiation Range (Model 5.OSF for Science Fair Applications - Special Order Model)	0-199.9 W/m ² Total UV
Response	280-400 nm (UVB through UVA)
Resolution	0.1 mW/cm ²
Conversion Rate	3.0 Readings / Sec
Display	3.5 Digit LCD
Digit Size	0.4" / 10.2 mm
Operational Temperature	32°F to 100°F / 0°C to 37.8°C
Operational Humidity	5% to 80% RH
Accuracy	±5% Ref. NIST
Meter Dimensions	4.2L x 2.4W x 0.9D in / 106.7L x 61W x 22.9D mm
Weight	4.5 oz / 128g Including Battery
Power Source	9-Volt DC Battery
Lens	Acrylic
Diffuser	Teflon
Agency Approval	CE Mark

Rev: sm/sensors/model5.0_5/2018
Specifications subject to change without notice.

Solar Light Company, Inc. is recognized worldwide for over 50 years as America's premier manufacturer of precision ultraviolet light sources, solar simulators, and radiometers. Our standard line of UV, visible, and IR radiometers and light meters measure laboratory, industrial, environmental, and health related light levels with NIST traceable accuracy. Column ozone, aerosol, and water vapor thickness measurements, in addition to long-term global ultraviolet radiation studies all over the world are performed using our atmospheric line of instrumentation. Solar Light also provides NIST traceable spectroradiometric analyses, calibrations for light meters and light sources, OEM instrumentation and monitors, and accelerated ultraviolet radiation degradation testing of materials.

