

SOLAR[®] LIGHT

CALReady™ UVA and Photopic Visible Light Sensors Model PMA4100

Process Control Instruments with the Capability of
Being Calibrated in the Field by the End User

Solar Light's Model PMA4100-Series CALReady™ UVA and Photopic Visible Light Sensors are process control instruments that have the capability of being calibrated in the field by the end user. The complete system is comprised of two sensor types: The PMA4110-420 UVA Sensor and the PMA4130-420 Photopic Sensor. The PMA4110-420 sensor is sensitive to the 320 to 400 nm spectral band and has a maximum (20 mA) sensitivity of 1.000 W/cm² while the PMA4130-420 sensor is sensitive to the CIE Weighted Photopic spectral range of 480 to 620nm, with a maximum (20 mA) sensitivity of 5000 Lux. The sensors detect light from their respective spectral bands and send a current-proportioned signal on a 4–20 mA current loop. This CALReady™ sensor system includes reference sensors, transfer calibrated from NIST-Traceable standards. The SL3301 software system can perform an in situ transfer calibration of the process sensors when connected via USB.



Applications

- Photostability

Features and Benefits

- High Sensitivity
- Dynamic Range 2×10^5
- Excellent Long-term Stability
- Cosine Corrected
- NIST Traceable Calibration
- Field Calibration



Part Number: 210017

Revision Level: A

Specifications subject to change without notice.

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SPECIFICATIONS	
Photopic Sensor	
Spectral Response	Follows CIE Photopic Spectral Luminous Efficiency Curve (400-700nm), Figure 1
Angular Response	5% for Angles <60°
Range	5,000 [Lux] = 20mA
Input Power	4-20mA
Power Supply Requirement	12-24VDC
Operating Environment	32 to 120°F (0 to +50°C)
Temperature Coefficient	Negligible
Cable Length	6 ft (1.82m) Straight Cable
Dimensions and Weight	*See Outline Drawings
UVA Sensor	
Spectral Response	320-400nm, Figure 3
Angular Response	5% for Angles <60°
Range	1 [W/m ²] = 20mA
Input Power	4-20mA
Power Supply Requirement	12-24VDC
Operating Environment	32 to 120°F (0 to +50°C)
Temperature Coefficient	Negligible
Cable Length	6 ft (1.82m) Straight Cable
Dimensions and Weight	*See Outline Drawings
WIRE CONNECTIONS	
Wire Color	PMA4100 Signal
Red	+VDC and Current
Black	-GND

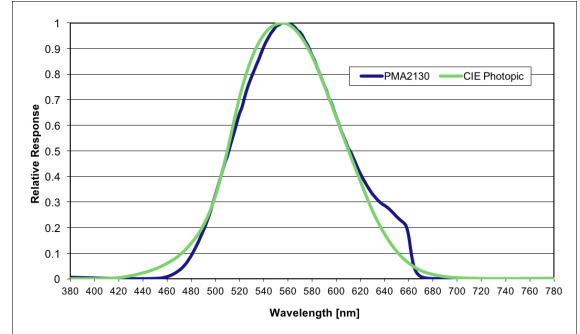


Fig. 1. Photopic Spectral Response

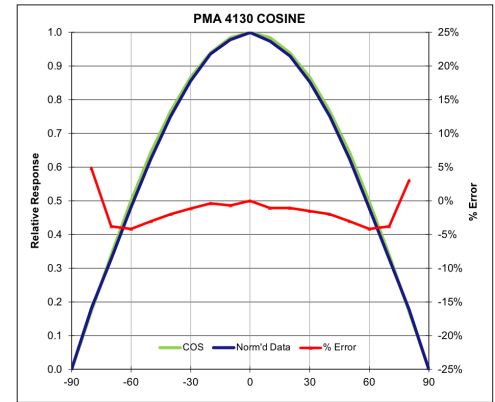


Fig. 2. Photopic Cosine Response

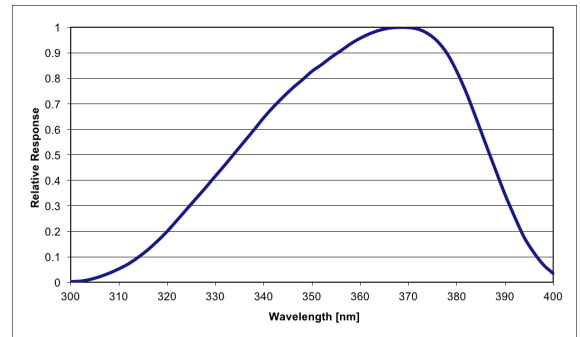


Fig. 3. UVA Spectral Response

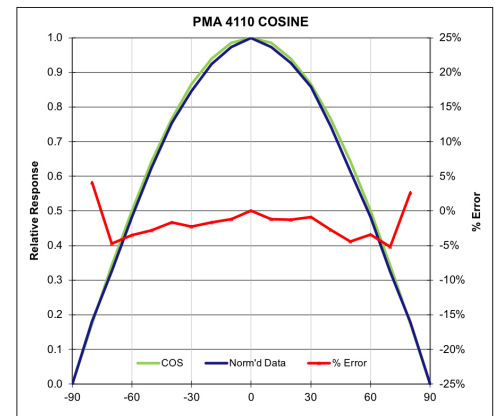
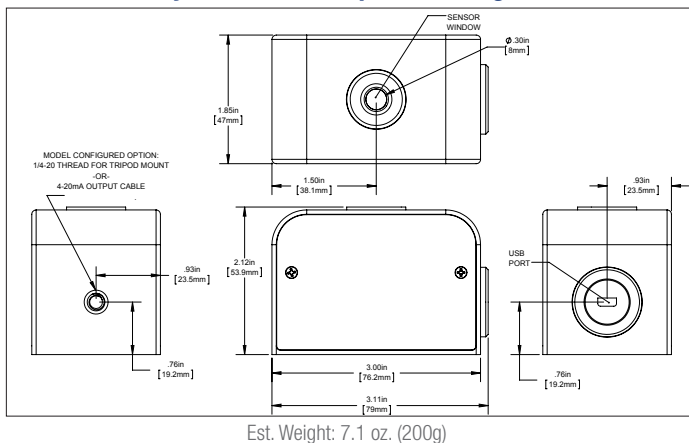


Fig. 4. UVA Cosine Response

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Since 1967, Solar Light Company, Inc. has been recognized worldwide as America's premier manufacturer of Precision Solar Simulators and Light Sources, Light Measurement Instrumentation, UV Transmittance Analyzers, Meteorological Instrumentation, and Digital and Analog Sensors. Our advanced 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, accelerated ultraviolet radiation degradation testing of materials, and OEM instrumentation and monitors. Please visit our website for more details, specifications, and pictures!



State Of The Art Solar Simulators available in 150-1000+ watt UV or AM variations for a variety of applications including PV Cell Testing, Materials Testing, Pre-Irradiation for *In Vitro* Broad Spectrum Sunscreen Testing, SPF Testing, and much more.



Multi-Functional Professional Grade Radiometers available with and without data logging, and compatible with over 130 Solar Light PMA-Series Sensors to measure UV, Visible and IR wavelengths. Specialty Meters also available to measure UV Radiation, SUV/UVA, Scotopic/Photopic Spectra, and much more.



Advanced NIST-Traceable Sensors for accurate measurement of UVA, UVB, UVA+B, UVC, Visible, IR, Photostability, Temperature, and Custom Wavelength – well over 130 models in both digital and analog configurations, all compatible with our Radiometers.



Ultraviolet Transmittance Analyzers available as complete integrated turnkey systems to meet the latest ISO24443 requirements.



Handheld Ozonometers and Sunphotometers for fast and dependable Column Ozone, Aerosol, and Water Vapor Thickness measurements, in addition to long-term global ultraviolet radiation studies.