

SOLAR[®] LIGHT

Scotopic / Photopic Specialty Meter Model SL-3101

Measures Illumination According to the Dark and Light
Luminous Efficiency Curve of the Human Eye

Solar Light's Model SL-3101 Scotopic / Photopic Meter measures spectral response following the CIE scotopic (400-600nm) and photopic (400-700nm) action spectra with on board calculations for S/P Ratio, Visually Effective Light Level, and Perceived Brightness. The meter's sensors have teflon diffusers, assuring an angular response close to the cosine function (Lambertian response,) which is very important in accurately measuring radiation flux from extended sources or from sources positioned at an angle to the axis of the sensors. This SL-3101 kit includes the meter, a scotopic sensor, a photopic sensor, a custom stand for the two sensors, a rugged carrying case for all the hardware in the kit, and a NIST-Traceable Meter Calibration Certificate.



Applications

- Architectural Lighting Design
- Lighting Efficiency Measurements
- Energy Efficiency Studies
- Scotopic Lighting Research

Features and Benefits

- 2.6 Million Dynamic Range
- On-board Calculations for S/P Ratio, Perceived Brightness and Visual Effectiveness
- NIST Traceable Accuracy
- Selectable Units
- 99.997% Linearity
- Made in USA



SPECIFICATIONS	
Dynamic Range	2.6 x10 ⁶ (6.5 digits)
Accuracy	Within 0.2% FS
Non-linearity	0.003% integral non-linearity
Temperature Coefficient	50 PPM/°C
Max. Sampling Rate	3 per second
Weight	18 oz. (510 g)
Batteries	4xAA Alkaline batteries
Screen Refresh Rate	10 per sec.
Size	4"W x 1.75"D x 7.6"H (10 x 4.35 x 19.3 cm)
Battery life	>40 hours continuous use
Operating Temperature	0 to 50°C (non-condensing)
LCD Size	2.5" x 0.5" (6.4 x 1.3 cm)
Program Control	9-button keypad

REFERENCES

¹ "American National Standards: Nomenclature and Definitions for Illuminating Engineering" (1981). Illuminating Engineering Society, New York

² Smith, Warren J. "Modern Optical Engineering", McGraw-Hill, New York (1966).

PHOTOPIC DETECTOR SPECIFICATIONS	
Spectral Response	Follows CIE photopic spectral luminous efficiency curve (400-700nm), Figure 1
Angular Response	5% for angles <60°
Range	PMA2130SP - 150,000 Lux, 14,000 ft-cd
Display Resolution	PMA2130SP - 1 Lux, 0.1 ft-cd
Operating Environment	32 to 120 °F (0 to +50°C)
Diameter	1.6" (40.6 mm)
Height	1.8" (45.8 mm)
Weight	7.1 oz. (200 grams)

SCOTOPIC DETECTOR SPECIFICATIONS	
Spectral Response	Follows CIE scotopic spectral luminous efficiency curve (400-600nm), Figure 2
Angular Response	5% for angles <60°
Range	PMA2131SP - 385,000 Lux, 36,000 ft-cd
Display Resolution	PMA2131SP - 1 Lux, 0.1 ft-cd
Operating Environment	32 to 120 °F (0 to +50°C)
Diameter	1.6" (40.6 mm)
Height	1.8" (45.8 mm)
Weight	7.1 oz. (200 grams)

SL/Meters/SL-3101_06/2017
Specifications subject to change without notice.

The SL-3101 Kit Includes:

- SL-3101 Meter
- Scotopic/Photopic Detectors
- Custom Stand for 2 Sensors
- Hard Carrying Case with Storage for Meter and 2 Sensors
- NIST Traceable Meter Calibration Certificate

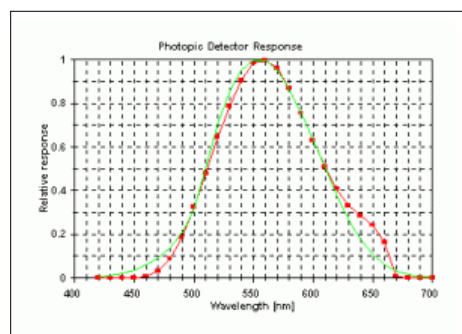


Fig. 1. SL-3101 Photopic Spectral Response

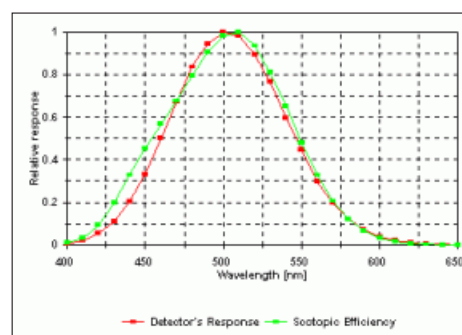


Fig. 2. SL-3101 Scotopic Spectral Response

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.