

Solar Light's [Model PMA1133 Analog Luminance Probe](#) accurately measures luminance according to the CIE photopic luminous efficiency function, which mimics the the human eye's visual response in the photopic region. The Photopic Spectral Luminous Efficiency Curve peaks at 555nm, and is normalized to 1 at that wavelength. Luminance is the amount of visible light leaving a point on a surface in a particular direction. The light that leaves the surface can be due to emission, reflection, or transmission. Luminance is commonly used to quantify emission or reflection off flat, diffuse, uniform surfaces. The standard SI unit for luminance is cd/m^2 (candela per square meter, sometimes referred to as "nit.") Another common unit of luminance is fL (footlambert) where $1 \text{ fL} = 3.426 \text{ cd/m}^2$.



Applications

- Quality Control of CRTs, LCD, LED, and Other Displays
- Inspection of Monitors

Features and Benefits

- High Sensitivity
- Wide Dynamic Range
- Excellent Long-Term Stability
- NIST Traceable Calibration
- Selectable Units
- Low Cost
- Included Suction Cup

SPECIFICATIONS

Spectral Response	Follows CIE photopic spectral luminous efficiency curve (400-700nm), Figure 1
Field of View	13.7°
Range	6,600 [cd/m ²] or 2,000 [fL]
Operating Environment	32 to 120 °F (0 to +50 °C)
Temperature Coefficient	Negligible
Cable Length	6 ft. Straight Cable (1.82m)
Dimensions and Weight	*See Outline Drawing

WIRE CONNECTIONS

Wire Color	PMA1133 Signal
White and Yellow	Analog Output (0 to Supply - 0.5 Volts) Connect Wires Together
Green and Blue	Analog/Power Ground, Connect Wires Together
Red	+5V to +12V Power Input
Orange	-5V to -12V Power Input
Braid	Cable Shield

REFERENCES

"American National Standards: Nomenclature and Definitions for Illuminating Engineering" (1981).
Illuminating Engineering Society, New York.
Smith, Warren J. "Modern Optical Engineering", McGraw-Hill, New York (1966).

Part Number: 210040

Revision Level: B

Specifications subject to change without notice.

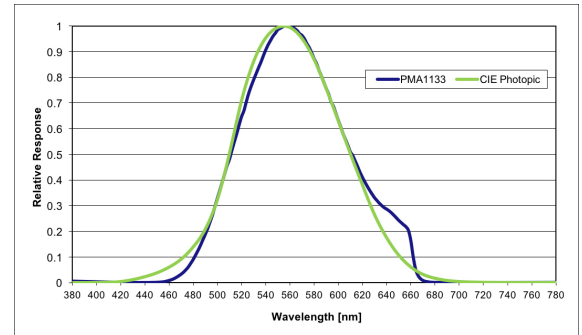


Fig. 1. Linear Spectral Response

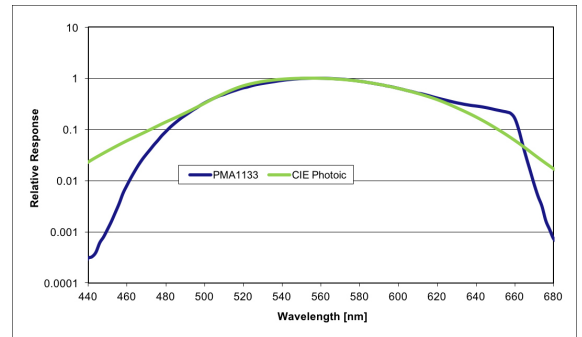
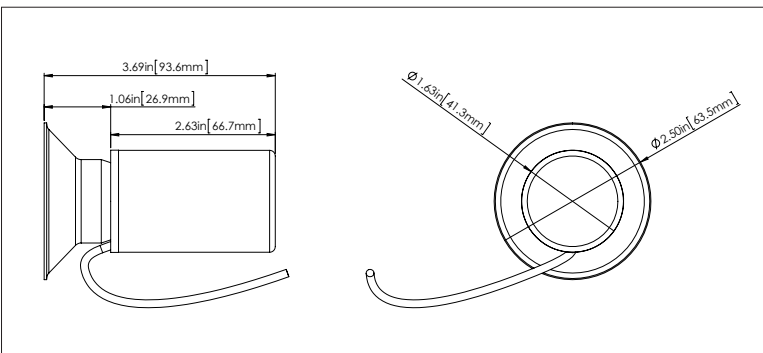


Fig. 2. Log Spectral Response

Luminance Probe PMA1133



Est. Weight: 3.9 oz. (110 g)

Since 1967, Solar Light Company, LLC 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.