

When used with our [Model PMA2100 Dual-Input Data Logging Radiometer](#), Solar Light's Model PMA2120 UV Radiation Safety Sensor indicates how long a worker may remain at the measured position before reaching the threshold limit value (TLV) proposed by the American Conference of Governmental Industrial Hygienists (ACGIH) published guidelines. If desired, the instantaneous effective irradiance can be displayed in  $\mu\text{W}/\text{cm}^2$ . The radiation can be integrated over time and the dose in  $\text{mJ}/\text{cm}^2$  can be shown on the Radiometer's LCD display. The angular response of the PMA2120 sensor is cosine corrected, and suitable for measurements of diffuse radiation or radiation from extended sources.

The TLV exposure dose has been chosen by the ACGIH as one that can be tolerated, even if repeated every work day, without causing any long term effects. The TLV for occupational exposure takes into consideration the risks of acute and chronic injury to both an eye and skin. The eye is the most radiation sensitive organ, and therefore the dose causes no eye damage is the maximum allowable radiation dose. Actinic ultraviolet radiation (UVB and UVC) is strongly absorbed by cornea and conjunctiva. Overexposure of these tissues cause keratoconjunctivitis, commonly referred to as welder's flash or arc-eye.

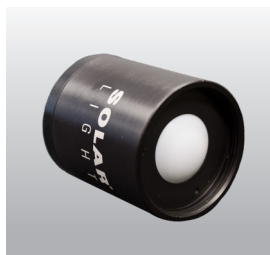


### Applications

- Industrial and Laboratory Safety
- Hospital Monitoring
- Germicidal Lamps Monitoring
- Commercial Lighting
- Safety Glass Testing
- Welding
- UV Curing and Printing

### Features and Benefits

- High Sensitivity
- Excellent Long-Term Stability
- Cosine Corrected
- NIST Traceable Calibration
- Radiometric Units and Max Exposure Time

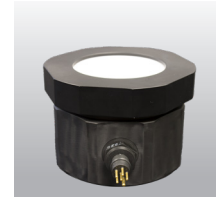




**Standard Chassis - IP60**  
1.8" (45.8mm) High x 1.6" (40.6mm) Diameter



**Weatherproof Standard Chassis - IP68**  
Can be submersed up to 3 meters deep  
1.8" (45.8mm) High x 1.6" (40.6mm) Diameter



**Waterproof Underwater Chassis - IP68**  
Can be submersed up to 100 meters deep  
3.3" (83.4 mm) High x 4.7" (119.7 mm) Diameter

### Options:

- Tripod Mounting Plate
- Weatherproof Chassis (submersible up to 3 meters)
- Waterproof Underwater Chassis (submersible up to 100 meters)
- Analog Model Also Available (Model PMA1120)

SPECIFICATIONS	
<b>Spectral Response</b>	220-400nm, Figure 1
<b>Cosine Response</b>	5% for Angles <40° (Standard Chassis)
<b>Range</b>	*See model chart on the next page
<b>Display Resolution</b>	*See model chart on the next page
<b>Operating Environment</b>	32 to 120°F (0 to +50°C)
<b>Temperature Coefficient</b>	1%/°C
<b>Cable Length</b>	*See cable length chart below
<b>Dimensions and Weight</b>	*See outline drawings
REFERENCES	
"Documentation of the threshold limit values for Physical Agents in the Work Environment" American Conference of Governmental Industrial Hygienists, Inc. Sliney, D.H., The Merits of an Envelope Action Spectrum for UVR Exposure Criteria, Am. Industr. Hyg. Assn. J., 33 (9):644-653, 1972	

Part Number: 210009

Revision Level: D

Specifications subject to change without notice.

CABLE LENGTHS	
<b>Standard Chassis</b>	6ft Straight Cable (1.82m) (Custom Lengths Available)
<b>Weatherproof Chassis</b>	15ft Standard Cable (4.57m) (Custom Lengths Available)
<b>Waterproof Underwater Chassis</b>	Cable Length by Request. Specify up to 100 Meters.

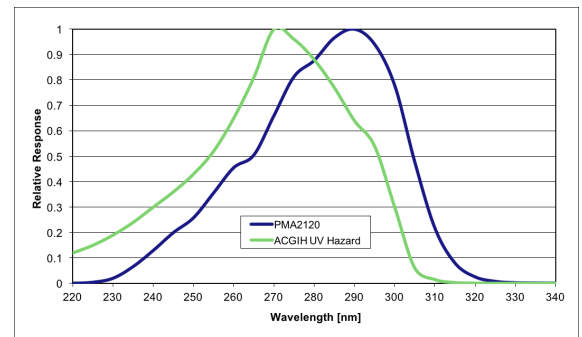


Fig. 1. Linear Spectral Response

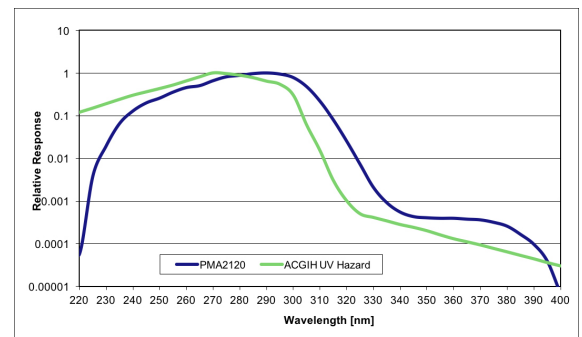


Fig. 2. Log Spectral Response

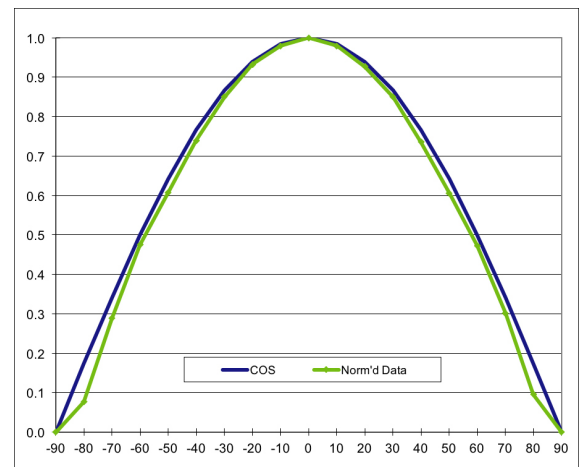


Fig. 3. Cosine Response

### Partial Model Selection Chart



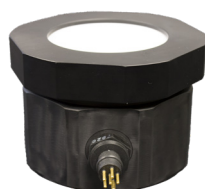
#### STANDARD CHASSIS - IP60

Model	Range	Display Resolution
PMA2120	1,000 [ $\mu\text{W}/\text{cm}^2$ ] or 3 [sec-10 Hrs]	0.01 [ $\mu\text{W}/\text{cm}^2$ ] or 1 [hh:mm:ss]



#### WEATHERPROOF CHASSIS - IP68

Model	Range	Display Resolution
PMA2120- WP	1,000 [ $\mu\text{W}/\text{cm}^2$ ] or 3 [sec-10 Hrs]	0.01 [ $\mu\text{W}/\text{cm}^2$ ] or 1 [hh:mm:ss]

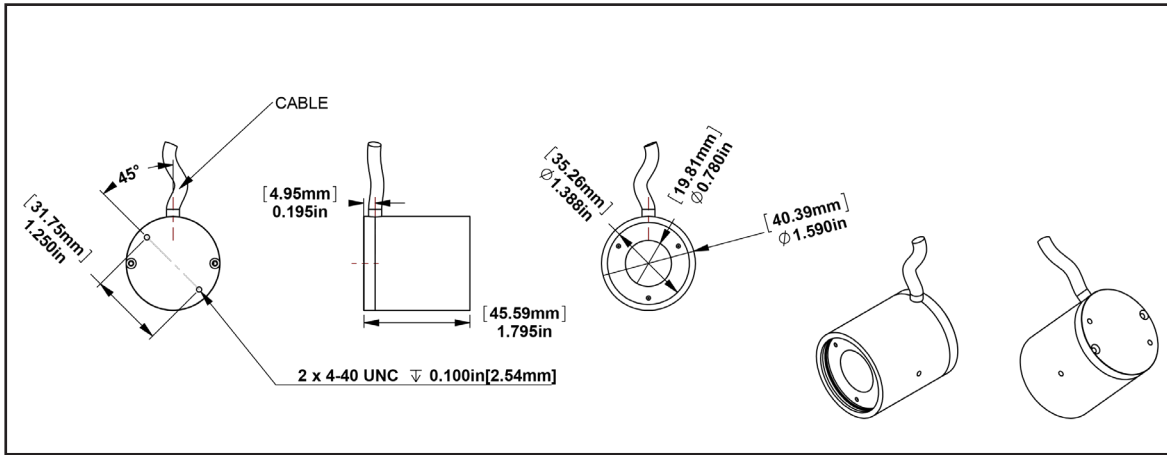


#### WATERPROOF UNDERWATER CHASSIS - IP68

Model	Range	Display Resolution
PMA2120- UW	1,000 [ $\mu\text{W}/\text{cm}^2$ ] or 3 [sec-10 Hrs]	0.01 [ $\mu\text{W}/\text{cm}^2$ ] or 1 [hh:mm:ss]

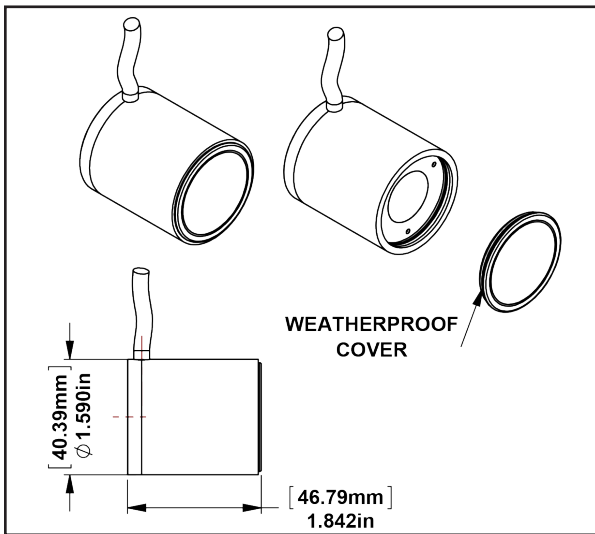
Custom ranges, cable lengths, and cable types are available upon request – please consult factory for details

## Standard Chassis



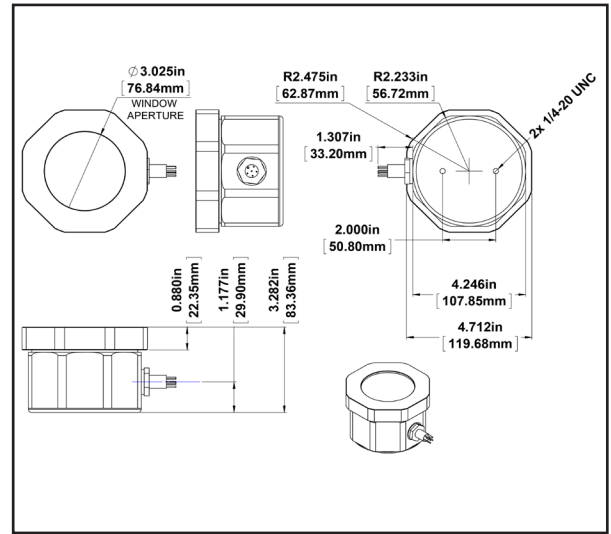
Est. Weight: 4 oz. (113 g)

## Weatherproof Chassis



Est. Weight: 4.2 oz. (119 g)

## Waterproof Underwater Chassis



Est. Weight: 3.7 lbs. (1678 g)

## Additional Sensor Information

LIGHT SOURCE	CORRECTION FACTOR
Quartz-Halogen Lamp	1.00
Xenon Arc Lamp	1.19
Direct Sunlight	0.16
Low Pressure Mercury Lamp	2.49
Metal Halide Lamp	1.65

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.