Measure Photon Flux and Energy Flux Spectra

PS-100, 200, & 300 Series

Spectroradiometer



Our spectroradiometers are calibrated in a LI-COR LI1800-02 optical radiation calibrator. The lamp is a tungsten-halogen lamp and is NIST (National Institute of Standards and Technology) traceable and calibrated to a precise PPF Density (µmol m^{-2} s^{-1}) at LI-COR after every 50 hours of use.

All models come complete with components needed for portable use. The detector collects light for the spectroradiometer via fiber optic cable. The spectroradiometer then transmits its measurements to a PC where custom software (included) displays the spectrum of the light source. Live data can be saved as a data file suitable for work in other programs such as Excel or SigmaPlot.

Irradiance Measurements: Display in units of Watts per square meter (per nm) or Moles per square meter per second (per nm as a photon dose rate); simultaneous display of integrated PPF.

Illuminance Measurements: Display in units of Lumen per square meter (per nm) or footcandles as lumen per square foot; simultaneous display of integrated LUX.

CIELAB Application: Simultaneous window (with live spectra) displays 1931 CIE xy Chromaticity Diagram. Illuminance mode displays dominant wavelength and purity. Irradiance mode displays color temperature.

Spectrocolorimeter: Measures the color of reflected light. Simultaneous window (with live spectra) displays 1976 CIE LAB diagram for L*, a*, b*. Display CIELAB color values with chroma, hue, x, y, and tri-stimulus and Delta-E*. Load or save standards for subsequent Delta-E* color comparisons.

Chemwiz Measurements: Measures the concentration of chemicals. Simultaneous window (with live spectra) allows concentration calibration or loading of previously developed chemicals to be loaded for concentration display of unknown samples. Performs single wavelength linear PLS calibrations.

UV Monitor: Measures the distribution of UV energy. Display in units of watts for UVa, UVb, UVc, ratio UVa/UVb, Vis/Ir power. Provides both maximum time in seconds until Erythema action and maximum time until Melanogenic action.

Specifications

Cosine Response
- 80° zenith angle: ± 4%

Spectral Range
- PS-100: 350 to 1000 nm
- PS-200: 300 to 850 nm
- PS-300: 300 to 1000 nm

Base Unit Size
- PS-100: 15.5 x 9.5 x 4 cm
- PS-200: 15.5 x 11 x 8 cm
- PS-300: 15.5 x 11 x 8 cm

Base Unit Mass
- PS-100: 500 g
- PS-200: 900 g
- PS-300: 900 g

Detector
- 2048 pixel; 14 by 200 um microelement array

Linear Range
- 0 to 2.1 absorbance units (< 0.5%)

Detector Integration (Exposure) Range
- 1 millisecond to 65 seconds (synoptic multi-channel)

Power Requirement
- 220 - 250 mA at +5 VDC, supplied via USB cable

Optical Cable
- 2 meters armored cable; cables are not interchangeable

Wavelength Resolution
- PS-100: 1.6 nm
- PS-200: 1.5 nm
- PS-300: 2.0 nm

Wavelength Repeatability
- Less than 0.05 nm

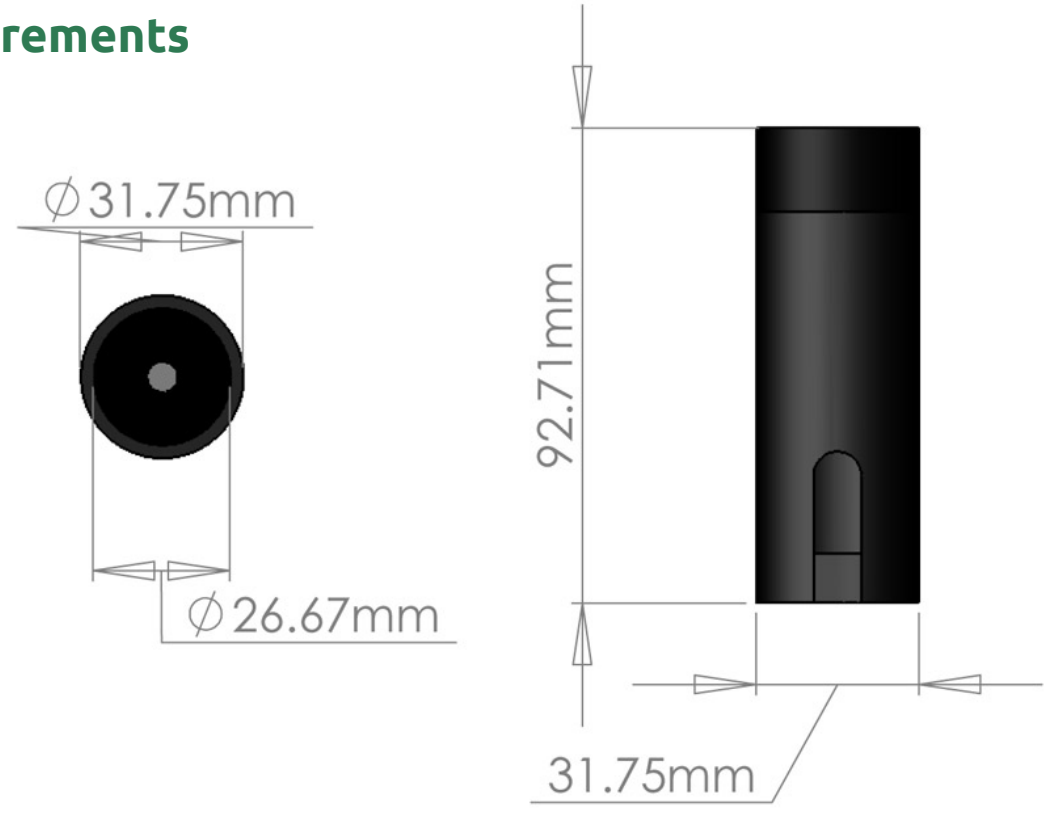
Wavelength Stability
- Less than 0.001 nm per C

Dynamic Range
- 1 to 65536 counts (16-bit)

Signal to Noise Ratio
- Up to 1000 : 1

Warranty
- 1 year against defects in materials and workmanship

Measurements



Scan to call us

www.apogeeinstruments.com

Scan for more information on PS systems