



## PORTABLE SPECTRORADIOMETERS | SS-110 and SS-120

Affordable, absolute spectral measurement across a wide wavelength range in the lab and field.

### Product Specifications

### Features

#### Wavelength Options

340 to 820 nm (SS-110) and 635 to 1100 nm (SS-120) wavelengths.

#### Complete Package

Includes spectroradiometer and cosine-corrected detector mounted in the housing, 180° FOV head, AL-200 bubble-level, USB cable for computer interface, carrying case, and USB drive with required drivers and software (Windows compatible, XP and later; Mac compatible, 10.9 and later).

#### Unattended Field Measurements

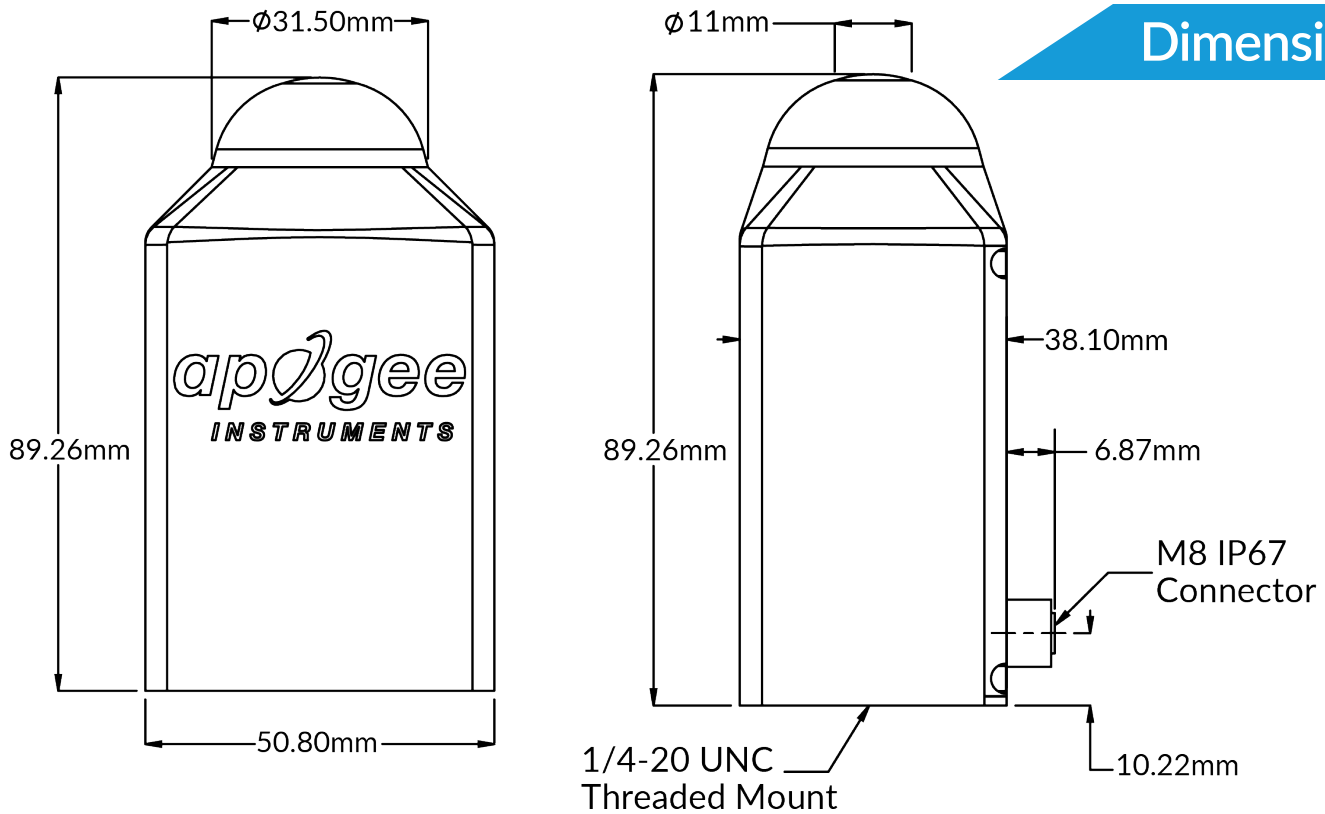
Spectroradiometer is small and lightweight with all measurement components contained in the durable, waterproof housing. Power consumption is low (1 W at 12 V DC) with automatic temperature compensation.

#### Typical Applications

Measurement of spectral output of radiation sources for plant or human lighting, reflectance and transmittance measurements of natural and synthetic surfaces and materials (often plant leaves and canopies), and absorptance measurements of chemical samples.

	SS-110	SS-120
Wavelength Range	340 to 820 nm	635 to 1100 nm
Wavelength Measurement Interval	1 nm	
Wavelength Resolution	3 nm (full width half maximum)	
Wavelength Accuracy	± 0.5 nm	
Wavelength Repeatability	± 0.2 nm	
Analog to Digital Resolution	14 bit	
Signal to Noise Ratio	1500:1 (at maximum signal)	
Stray Light	≤ 0.25 % at 590 nm	≤ 0.25 % at 850 nm
Dark Noise	≤ 3 counts	
Integration Time Range	10 ms to 10 s	
Linearity	Less than 1 %	
Measurement Sensitivity	Greater than 10 % of max sensitivity for wavelengths greater than 380 nm	Greater than 10 % of max sensitivity for wavelengths less than 1030 nm
Measurement Repeatability	Less than 1 % (wavelengths greater than 400 nm)	Less than 1 % (wavelengths less than 1020 nm)
Directional (Cosine) Response	± 5 % at 75° zenith angle	
Field of View	180° (upward-facing); 25° or 150° (downward-facing)	
Temperature Response	-0.1 ± 0.1 % per C	
Irradiance Calibration Uncertainty	± 5 %	
Current Draw	190 mA during measurement and when idle (USB)	
Power Requirement	1 W (USB)	
Interface Cable	5 m PVC jacket with USB (for computer)	
Operating Environment	-20 to 70 C, 0 to 100 % relative humidity	
Thread Size (for Mounting)	¼"-20	
Dimensions	89.3 mm height, 50.8 mm width, 38.1 mm depth	
Mass	300 g	
Warranty	1 year against defects in materials and workmanship	

## Dimensions



## Accessories/Applications

Lighting quality is just as important as lighting quantity. In addition to measuring total PPFD, the Portable Spectroradiometer splits light to individually measure each color intensity or wavelength. Spectral output measurements can be used to maximize lighting efficiency, change the light characteristics to mimic seasonal changes, optimize visual appearance of displays, and many other applications.

