



APOGEE PHOTOMETRIC SENSOR | SE-100

Measure light with the sensitivity of the human eye

Features

Overview

Apogee photometric radiometers use a photodetector with a spectral response that closely matches the sensitivity of the human eye to light; sensors include a diffuser to properly weight light incident from any angle. Apogee photometric radiometers provide highly accurate illuminance measurements (lux or footcandles) at an affordable price.

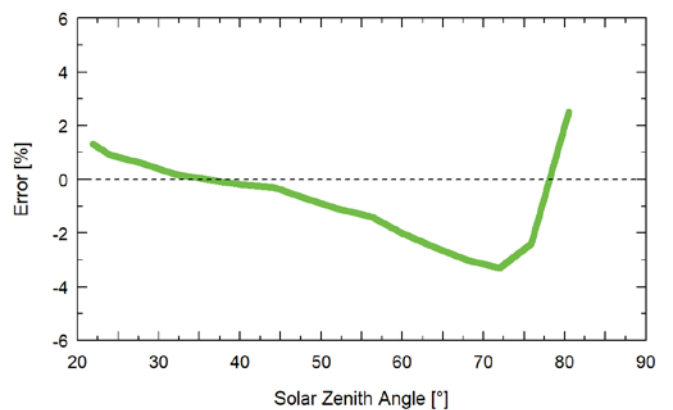
Rugged, Self-cleaning Housing

Sensor features an anodized aluminum body with fully-potted electronics. The dome-shaped sensor head minimizes errors by shedding dust and water for a self-cleaning performance.

Calibration Traceability

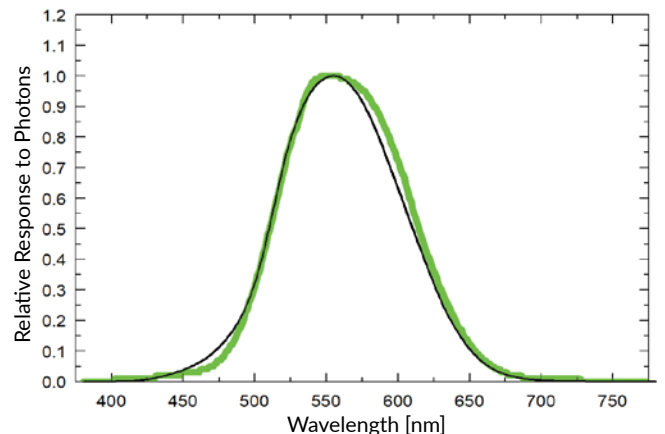
Apogee SE photometric sensors are calibrated through side-by-side comparison to the mean of two transfer standard sensors under a reference lamp. The reference sensors are verified with a quartz halogen lamp traceable to the National Institute of Standards and Technology (NIST).

Cosine Response



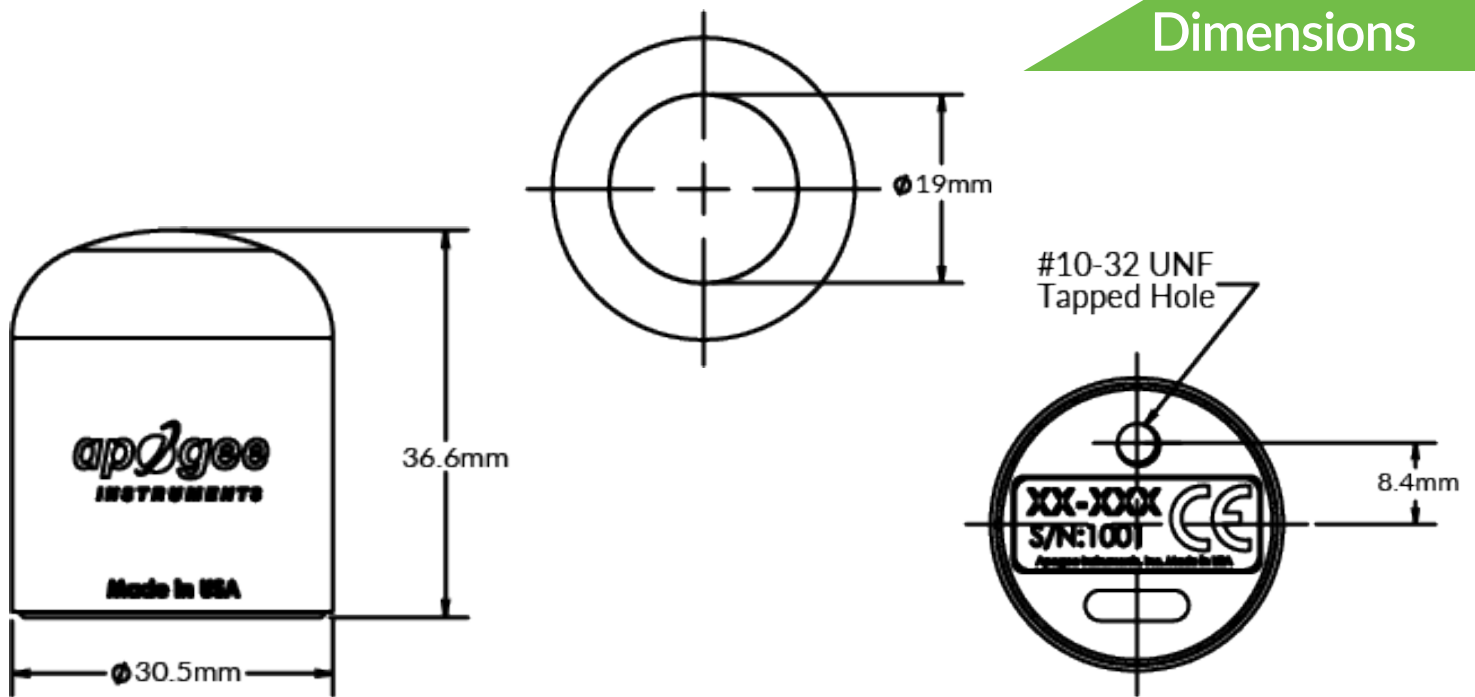
Mean cosine response of four Apogee SE photometric sensors. Cosine response was calculated as the relative difference of SE photometric sensors from the mean of replicate reference photometric sensors deployed outdoors. These data are the average of the AM and PM response.

Spectral Response



Spectral sensitivity of photometric sensors. Replicate (n=6) sensors indicate a spectral shift to lower wavelengths caused by non-zero incidence angle, resulting in mismatch between CIE 1931 photopic weighting factors and sensor sensitivity. Measurements were made with CR6 datalogger at 10 nm increments in the monochromator.

Dimensions



Product Specifications

	SE-100-SS
Output (sensitivity)	0.001 mV per lux
Calibration Factor	1000 lux per mV
Calibration Uncertainty	± 5 %
Output Range	0 to 200 mV
Measurement Range	0 to 200 klux
Measurement Repeatability	Less than 0.5 %
Long-term Drift	Less than 2 % per year
Non-linearity	Less than 1 %
Response Time	Less than 1 ms
Spectral Range	CIE 1931 luminous efficiency function
Field of View	180°
Directional (Cosine) Response	± 2 % at 45°, ± 5 % at 75°
Temperature Response	Less than 0.1 % per C
Operating Environment	-40 to 70 C; 0 to 100 % relative humidity
Dimensions	24 mm diameter, 37 mm height
Mass	100 g (with 5 m of lead wire)
Cable	5 m of shielded, twisted-pair wire with TPR jacket (high water resistance, high UV stability, flexibility in cold conditions); pigtail lead wires
Warranty	4 years against defects in materials and workmanship