

AVA-IRRAD-KITS

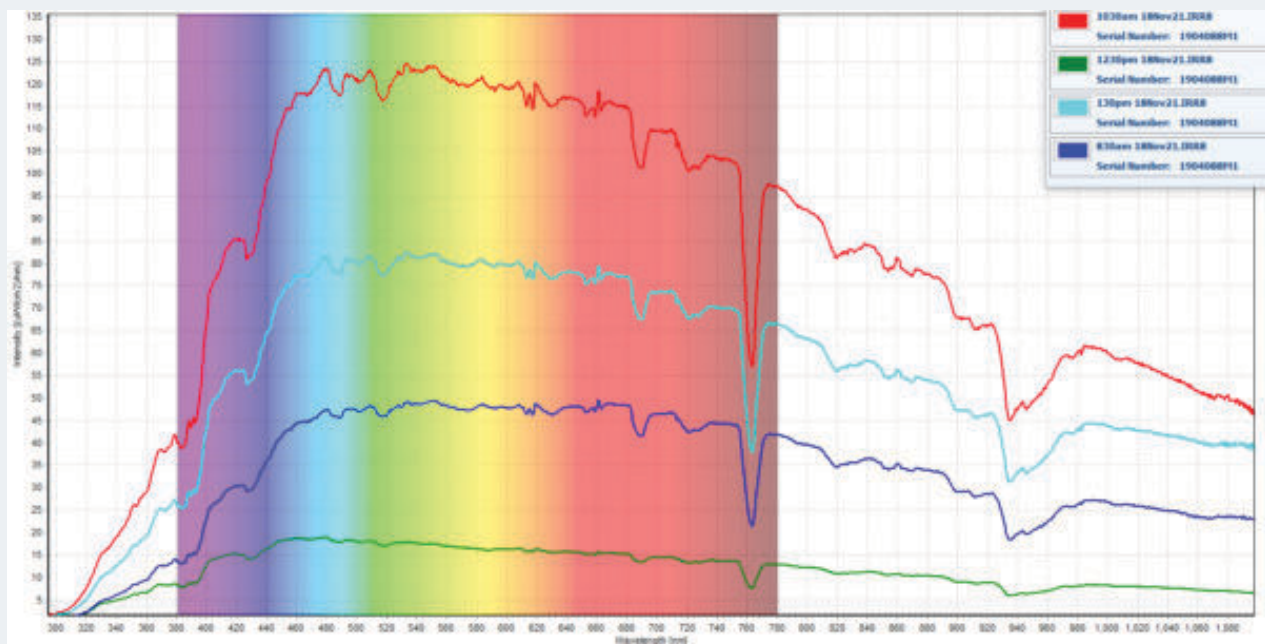
AVANTES^{USA}
MEMBER OF THE NYNOMIC GROUP

DATASHEET

Radiometry is the set of techniques for measuring electro-magnetic radiation including ultra violet, visible and near infrared light. Avantes spectrometer instruments can be configured into radiometry bundles (aka spectroradiometers) to allow for quantitative characterization of light sources of many types from incandescent sources to LEDs, plasmas and natural sources such as sunlight. The Avantes radiometry bundles are carefully selected system configurations which have been tested in a variety of industrial and academic/research environments. Avantes radiometry bundles can meet the needs of engineers and scientists in a variety of disciplines such as lighting design, climate research, meteorology, renewable energy, and astronomy. Typical system configurations involve one or more spectrometers, a fiber optic cable, sampling optical head and a radiometric calibration. For these bundles the spectrometer is configured for the appropriate range of 200-400 nm for UV irradiance, 360-1100 nm for VIS irradiance, and 1100-1700 nm for NIR irradiance. The AvaSpec line of instruments provides exceptional resolution, thermal stability, and stray-light rejection to ensure the accuracy of radiometric measurements. Avantes Compactline instruments are ideal for field radiometry applications where size and low power requirements are critical, including OEM and applications where portability is required.

In addition to the spectrometer, Avantes offers a variety of sampling accessories ranging from integrating spheres to cosine correctors and collimators to enable light sampling in a variety of settings. Crucial to any radiometry bundle is the calibration and Avantes offers fully NIST-traceable calibration services to convert spectral data into quantitative radiometric values. The Avantes AvaSoft-IRRAD software module enables irradiance parameter measurements such as radiometric quantities – $\mu\text{Watt}/\text{cm}^2$, $\mu\text{Joule}/\text{cm}^2$, μWatt or μJoule , photometric quantities Lux or Lumen, color coordinates X, Y, Z, x, y, z, u, v, color rendering index and color temperature, and a number of photons $\mu\text{Mol}/\text{s}\cdot\text{m}^2$, $\mu\text{Mol}/\text{m}^2$, $\mu\text{Mol}/\text{s}$, and μMol . AvaSoft-IRRAD software also facilitates the performance of irradiance intensity calibrations.

IRRADIANCE SPECTRA



APPLICATIONS IN RADIOMETRY

LED Metrology

Solar Measurement

Solar Simulator
Measurements

General Radiometry

Time Series
Experiments

CHOOSE YOUR RADIOMETRY BUNDLE

BUNDLE A

PART NUMBER	DESCRIPTION
AVA-IRRAD-UV	AvaSpec-PCT2048CL-IRRAD-UV: AvaSpec PACTO Fiber-optic Spectrometer, 75 mm AvaBench, 2048 pixel CMOS detector 14 x 200 μm , USB powered, USB 2.0 interface, incl. AvaSoft-full, Avasoftware-IRRAD Slit-100-PRS-FC/PC: 100 micron slit DCL-UV/VIS-200: Detector collection lens Grating MN1200-0.25: (200-450 nm) Range: 200-400 nm; Resolution: 1.1 nm IRRAD-CAL-UV: NIST traceable radiometric calibration over the Ultraviolet range (200-400 nm)s

BUNDLE B

PART NUMBER	DESCRIPTION
AVA-IRRAD-VIS/NIR	AvaSpec-PCT2048CL-IRRAD-VIS/NIR AvaSpec PACTO Fiber-optic Spectrometer, 75 mm AvaBench, 2048 pixel CMOS detector 14 x 200 μm , USB powered, USB 2.0 interface, incl. AvaSoft-full, Avasoftware-IRRAD Slit-50-PRS-FC/PC: 50 micron slit DCL-UV/VIS-200: Detector collection lens OSC linear variable order sorting filter Grating MN300-0.4 (360-1100 nm) Range: 350-1100 nm; Resolution: 2.5 nm IRRAD-CAL-VIS: NIST traceable radiometric calibration over the VIS and NIR range (360-1100 nm)

BUNDLE C

PART NUMBER	DESCRIPTION
AVA-IRRAD-UV/VIS/NIR	AvaSpec-PCT2048CL-IRRAD-VIS/NIR AvaSpec PACTO Fiber-optic Spectrometer, 75 mm AvaBench, 2048 pixel CMOS detector 14 x 200 μm , USB powered, USB 2.0 interface, incl. AvaSoft-full, Avasoftware-IRRAD Slit-50-PRS-FC/PC: 50 micron slit DCL-UV/VIS-200: Detector collection lens OSC-UA: linear variable order sorting filter Grating MN300-0.3 (360-1100 nm) Range: 200-1100 nm; Resolution: 2.5 nm IRRAD-CAL-UV/VIS: NIST traceable radiometric calibration over the UV, VIS and NIR ranges (200-1100 nm)

CHOOSE YOUR LIGHT COLLECTION OPTIC ADD-ON

OPTION 1 DIRECT ATTACH COSINE CORRECTOR (NO FIBER)



PART NUMBER	DESCRIPTION
AVA-IRRAD-Option-1	Direct attach cosine corrector for all SMA AvaSpecs with diffusing material for UV/VIS/NIR, 4.5 mm

OPTION 2 FIBER/COSINE CORRECTOR AND TRIPOD



PART NUMBER	DESCRIPTION
AVA-IRRAD-Option-2	FC-UVIR400-1-MS 400 micron core, 1 meter fiber optic cable (broadband 200-2500 nm) CC-VIS/NIR Cosine corrector for UV/VIS/NIR with SMA coupling Ava-Tripod Tripod with COL-UV/VIS thread and 6.8 mm hole for FCR and CC-UV/VIS

OPTION 3a FIBER/INTEGRATING SPHERE AND STAND



PART NUMBER	DESCRIPTION
AVA-IRRAD-Option-3a	FC-UVIR400-1-MS 400 micron core, 1 meter fiber optic cable (broadband 200-2500 nm) Avasphere-50-IRRAD Cosine corrector for UV/VIS/NIR with SMA coupling

OPTION 3b

PART NUMBER	DESCRIPTION
AVA-IRRAD-Option-3b	AvaSphere-100-IRRAD Integrating sphere, 100 mm, 3 ports (0, 90, NP), baffled SMA port, including post mount IRRAD-Stage-US Cosine corrector for UV/VIS/NIR with SMA coupling