



specbos 1211

Broadband Radiometer 350 ... 1000 nm

specbos 1211 is a broadband miniaturized and fast which can be used in laboratories as well as production environment to measure the following quantities:

- ◆ Luminance, Radiance
- ◆ Illuminance, Irradiance
- ◆ xy and u'v' coordinates, RGB values
- ◆ Dominate wavelength, color purity
- ◆ Correlated Color Temperature
- ◆ Color Rendering Index

Highlights:

- ◆ Wavelength range from VIS to NIR
- ◆ High sensitivity
- ◆ Radiance as well as Irradiance measuring modes
- ◆ Small and easy to use
- ◆ NIST traceable calibration
- ◆ Measurement also possible with DLLs or SCPI compatible commands



Additional features:

- ◆ Pass/ fail decisions
- ◆ Ranking function (up to 16 ranks)
- ◆ Saving of reference spectra
- ◆ Spectral calculations
- ◆ Data export in csv and xls files
- ◆ Switching between Si and Imperial units

Advantages:

- ◆ USB powered
- ◆ Very fast measurement
- ◆ Internal target spot laser (luminance measurement)
- ◆ Mechanical shutter for dark signal compensation
- ◆ Easy to install
- ◆ Start of measurement with external trigger signal

Examples for Applications are the following:

- ◆ Calibration of broadcast monitors
- ◆ Color adjustment of digital projectors
- ◆ Measurement of weighted spectra, e.g. to characterize hazardous radiation
- ◆ Measurement of fluorescence lamps
- ◆ Spectral measurements in goniometers
- ◆ Measurement of extended luminaires like OLEDs
- ◆ The instrument can be operated with the intuitive measuring software JETI LiVal for a demo version see www.jeti.com (or with one of the application specific programs).



Specifications

Optical parameters

Spectral range	350 ... 1000 nm
Optical bandwidth	4.5 nm
Wavelengths resolution	1 nm
Digital electronic resolution	15 bit ADC
Viewing angle	1.8° (luminance mode)
Measuring distance/ diameter	20 cm - Ø6 mm; 100 cm - Ø31 mm (luminance mode)

Measuring values

Spectral Radiance/ spectral Irradiance
Luminance / total and weighted Radiance
Illuminance / total and weighted Irradiance
Chromaticity coordinates x,y; u',v'
Correlated Color Temperature, Color purity
CRI, CQS, RGB
Circadian metrics, Photosynthetically Active Radiation

Measuring ranges and accuracies

Measuring range luminance	0.1 ... 2 500 cd/m ² (Ill. A) 0.1 ... 1 800 cd/m ² (typical white LED) (higher values with optional filter)
Measuring range illuminance	2 ... 20 000 lx (Ill. A) 2 ... 15 000 lx (typical white LED) (higher values with optional diffuser/ filter combination)
Luminance accuracy	±2 % (@ 1 000 cd/m ² and ill. A)
Luminance repeatability	±1 % (@ 1 000 cd/m ² and ill. A)
Chromaticity accuracy	±0.002 x, y (Ill. A)
Color repeatability	±0.0005 x, y (Ill. A)
CCT repeatability	±20 K (Ill. A)

Other technical data

Dispersive element	Imaging grating (flat field)
Light receiving element	Backthinned CCD array 2048 pixels (binned)
Power supply	USB Hub powered
Interface	USB 2.0 fullspeed, Bluetooth (specbos 1211-BT) RS232 (specbos 1211-RS), LAN (specbos 1211-LAN)
Dimensions	180 mm x 82 mm x 53 mm
Weight	450 g
Operating conditions	Temperature 10 ... 40 °C Humidity < 85 % relative humidity at 35 °C
Accessories (included)	PC software JETI LiVal for Windows 7/ 8/ XP/ Vista DLL, LabVIEW VI's USB cable and trigger connector Cosine diffuser (for irradiance measurement) Calibration certificate, operation instructions Tripod, transport box
Accessories (optional)	Netbook with installed software (for mobile applications) Filters, side view and fiber extended diffusers, add on optics (see: www.jeti.com)
Calibration	NIST traceable
Recommended interval	1 year