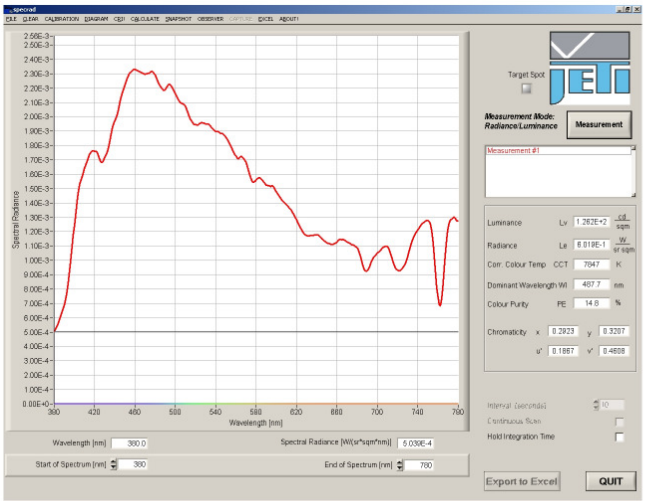
Spectroradiometer

specbos 1201

specbos 1201 is a precise and compact VIS spectroradiometer. It can be used in laboratory as well as production environment to measure the following quantities:

- Luminance, Radiance
- Illuminance, Irradiance
- xy and u´v´ coordinates
- Dominate wavelength, Color purity
- Correlated Color Temperature
- Color Rendering Index
- Circadian metrics, Photosynthetically Active Radiation

Luminous Intensity and Luminous Flux measuring heads are optional.



Screenshot of the radiometric software (daylight)

The instrument can be operated with the intuitive measuring software JETI LiVal (for a demo version see www.jeti.com). Furthermore it is possible to implement the instrument into individual applications using the virtual COM port directly by the following ways:

- Radiometric DLL
- Radiometric Virtual Instruments for LabView
- Serial commands

Advantages:

- USB powered
- Internal target spot laser (luminance measurement)
- Easy to install
- Start of measurement with external trigger signal (short cut or TTL)

Measuring objects:

- TV, Monitors, LCD-, LED-Displays
- Digital projectors
- Traffic lights, car lights
- Room illumination
- Lamps, LEDs

Specification

Optical parameters	
Spectral range	380 nm ... 780 nm
Optical bandwidth	5 nm
Wavelengths resolution	1 nm
Digital electronic resolution	15 bit ADC
Viewing angle	1.8°
Measuring distance/ diameter	20 cm - ∅ 6 mm; 100 cm - ∅ 31 mm (luminance)
Measuring values	Spectral radiance Total luminance / total radiance Total illuminance / total irradiance Chromaticity coordinates x,y; u',v' Correlated Color Temperature, Color purity Color Rendering Index Circadian metrics, Photosynthetically Active Radiation
Measuring ranges and accuracies	
Measuring range luminance	2 ... 7 x·10^4 cd/m^2 (higher values with optional filter)
Measuring range illuminance	20 ...5 x 10^5 lx
Luminance accuracy	± 2 % (@ 1000cd/ m^2 and illuminant A)
Luminance repeatability	± 1 %
Chromaticity accuracy	± 0.002 x, y (@ illuminant A)
Color repeatability	± 0.0005 x, y (@ illuminant A)
CCT repeatability	± 20 K (@ illuminant A)
Wavelength accuracy	± 0.5 nm
Other technical data	
Dispersive element	Imaging grating (flat field)
Light receiving element	Photodiode array 1024 pixel (binned)
Power supply	Hub powered
Interface	USB 2.0 fullspeed
Dimensions	140 mm x 58 mm x 34 mm
Weight	350 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 diffusor (for irradiance measurement) Calibration certificate, operation instructions Tripod, transport box
Accessories (optional)	Integrating spheres of different diameters, Luminous intensity measurement set up (CIE 127, cond. A and B)
NIST traceable calibration	Recommended interval: one year

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