Spectrometric solutions from components to systems

JETI TECHNISCHE INSTRUMENTE GMBH

spectraval 1511NIR

Stand alone VIS/ NIR Spectroradiometer

spectraval 1511NIR is a compact spectroradiometer for the visible and near infrared wavelength range. It has a display and can be used for spectral Radiance measurement with a measuring angle of 1.8°. The actual measuring area is marked by a red circle.
spectraval 1511NIR can be operated in stand alone mode (using the display program) or in connection with a computer (using the included software JETI LiVal or special programs for monitor calibration as CalMAN, LightSpace CMS, ChromaPure).

Advantages:

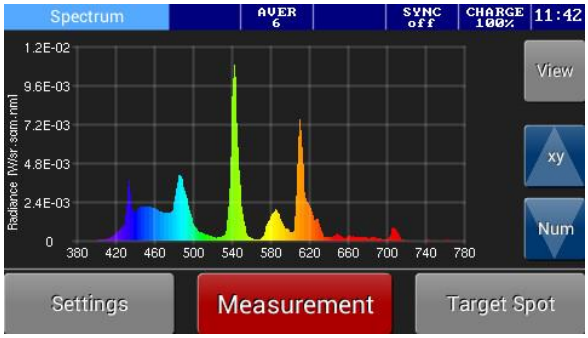
- Compact solutions
- Fast measurement
- Precise results due to high quality spectrograph and NIST traceable calibration
- Comfortable handling due to Bluetooth connection

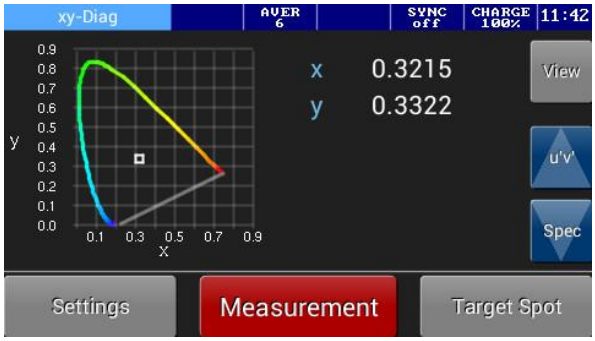
Examples for applications:

- Remote sensing
- Spectral measurement of plants
- Color adjustment of digital projectors
- Color characterization of LED displays
- Measurement of Reflexion spectra

spectraval 1511NIR displays the following values:

- Luminance, Radiance
- Spectral Reflexion
- xy and u´v´ coordinates, RGB values
- Dominate wavelength, color purity
- Correlated Color Temperature
- Color Rendering Index
- Radiometric spectrum





More quantities like CQS, RGB, L*a*b*, TLCI and TM-30 can be obtained using the PC software JETI LiVal (demo version see: www.jeti.com).

Specifications

Optical parameters

Spectral range	380 ... 1000 nm
Optical bandwidth	4.5 nm
Wavelength resolution	1 nm
Digital electronic resolution	16 bit ADC
Viewing angle	1.8°
Measuring distance/ diameter (measured from front end of the device)	20 cm – Ø 8 mm; 100 cm – Ø 33 mm

Measuring values

	Spectral Radiance, Luminance, total Radiance Spectral reflexion x,y, u',v', CCT, color purity, CRI, RGB and others
With optional diffusor	Spectral Irradiance/ Integral Irradiance/ Illuminance

Measuring ranges and typical measuring uncertainties (according to CIE TN 009:2019)

Luminance measuring range	0.2 ... 180 000 cd/m² (Illuminant A) 0.2 … 140 000 cd/ m2 (typical warm white LED)
Luminance uncertainty	± 4.4 % (Illuminant A @ 100 cd/m2, k=2)
Luminance repeatability	± 1 % (Illuminant A)
Chromaticity uncertainty	± 0.002 x, y (Illuminant A, k=2)
Color repeatability	± 0.0005 x, y (Illuminant A)
CCT repeatability	± 20 K (Illuminant A)
Max. wavelength error	± 0.3 nm (HgAr line source)
Polarization error f8	< 2 %

Other technical data

Dispersive element	Imaging grating (flat field)
Light receiving element	CCD line array 2048 pixels (binned)
Power supply	Battery and USB powered
Interfaces	USB 2.0 fullspeed, Bluetooth
Dimensions	140 mm x 115 mm x 70 mm
Weight	500 g
Operating conditions	Temperature 10 ... 40 °C Humidity < 85 % relative humidity at 35 °C
Accessories (included)	PC software JETI LiVal for Windows 8.1/ 10, operating instructions and software development kit on Bluetooth stick, USB cable, battery charger and trigger connector, tripod, carrying bag, protection cap Calibration certificate
Calibration	NIST traceable
Recommended interval	1 year

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