

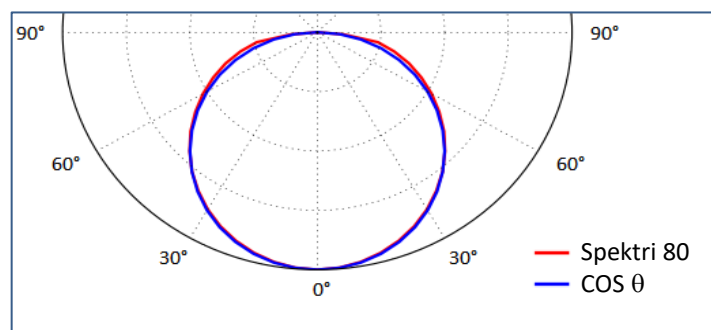
SPECTRORADIOMETER SPEKTRI 80

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SPEKTRI-80 the Spectroradiometer for Field and Laboratory



Calibration	Factory calibration traceable to MIKES / NIST
Meter Class	Directional response conforms to DIN 5032 Part 7 Class B



SPECTRORADIOMETER SPEKTRI 80 – Android App

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SPEKTRI 80 Android App features

Main	Color evaluation	Spectral radiation	PAR	Conf
- Illuminance Ev [lx] - Correlated color temperature CCT [K] - Chromaticity coordinates CIE1931 (x,y), CIE1964 (u,v), CIE1976 (u',v')	- Color rendering index CRI: Ra, R1 to R14 - Standard deviation color matching SDCM	- Spectral irradiance [W/nm/m²] - Irradiance [mW/cm²] - Effective wavelength λ_{eff} [nm] - Peak wavelength λ_p [nm]	- unit: [$\mu\text{mol}/\text{m}^2/\text{s}$] - PPFD 400-700nm - PFD-B 400-500nm - PFD-G 500-600nm - PFD-R 600-700nm - PFD-UV 380-400nm - PFD-FR 700-780nm	- Measuring mode Lv/Ev/Φ_v - WL range selection - Result comparison - Test name edition - Data saving



SPECTRORADIOMETER

SPEKTRI 80 Selection Guide

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Product family	SPEKTRI 80 (SSL S-80)					
Product Code	S-80.PAR	S-80.Ee	S-80.Color	S-80. Colorlux	S-80.Lv_L1 S-80.Lv_L2	S-80.Lab
Product Name	SPEKTRI 80. Horti	SPEKTRI 80. Irradiance	SPEKTRI 80. Color	SPEKTRI 80. Colorlux	SPEKTRI 80. Luminance probe L1 / L2	SPEKTRI 80. Laboratory
Application Areas	Horticulture, Agriculture	Medical, Dental	General lighting	General lighting	Display, Automotive	General spectroscopy
Measuring Parameters						
Illuminance Ev	✓		✓	✓		✓
Irradiance Ee	✓	✓	✓	✓		✓
Radiance Le					✓	✓
Luminance Lv					✓	✓
Flicker (MI, FI, f)				✓		
CCT, ccxy, ccu'v'	✓		✓	✓	✓	✓
SDCM			✓	✓	✓	✓
CRI / TM30			✓	✓	✓	✓
Spectrum	✓	✓	✓	✓	✓	✓
PAR	✓		✓	✓		✓
Battery operated	✓	✓	✓	✓	✓	✓
BT connection	✓	✓	✓	✓	✓	✓
USB readout						✓
Android App	✓	✓	✓	✓	✓	✓
PC software *	Optional	Optional	Optional	Optional	Optional	✓
Export to Excel	✓	✓	✓	✓	✓	✓

*(SSL SRM sw)

SPECTRORADIOMETER SPEKTRI 80.Horti

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Application examples:

- ✓ Horticultural and Agricultural Lighting

SPECTRORADIOMETER

SPEKTRI 80.Horti

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DEVICE CODE		S-80.PAR	
Measurement scope	Main	PAR	
Parameters	- Illuminance Ev - Correlated color temperature CCT - CIE Chromaticity coordinates (x,y) - Total PPFD - Spectrum graph - PPFD graph as a function of time	unit: [μmol/m²/s] - PPFD 400-700nm - PFD-B 400-500nm - PFD-G 500-600nm - PFD-R 600-700nm - PFD-UV 380-400nm - PFD-FR 700-780nm - Chrolophyll A/B - Betacarotene - Phytochrome red / far red	
SPECTRAL SENSOR			
Ev range	65 – 250 000 lx	Optical Bandwidth	9 – 11 nm
PPFD range	1 – 5000 μmol/s/m² (white LEDs) 0.2 – 1000 μmol/s/m² (single color LEDs)	WL resolution	1 nm
Sensor	CMOS diode array	Wavelength (WL) range	380-780 nm
Signal to noise	1000 : 1	Integration time	10 ms – 30 s
Accuracy	Ev 3%, CCT 3%, PPFD 4%	Digital resolution	16 bits
OTHER			
Measuring head	Outer diameter 42mm, height 10mm, PTFE diffuser 2mm thick		
Data readout	Android app through Bluetooth, PC software through USB-B 2.0		
Dimensions	118mm x 78mm x 42mm		
Weight	230 g		

SPECTRORADIOMETER SPEKTRI 80.Irradiance

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Application examples:

- ✓ Medical, Dental
- ✓ Occupational health

SPECTRORADIOMETER

SPEKTRI 80.Irradiance

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DEVICE CODE	S-80.Ee		
Measurement scope	Main	Spectral radiation	
Parameters	- Irradiance Ee - Measurement statistics	- Spectral irradiance [W/nm/m²] - Irradiance [mW/cm²] - Effective wavelength λ_{eff} [nm] - Peak wavelength λ_p [nm]	
SPECTRAL SENSOR			
Ee range	0.0001 – 18 mW/cm² (*)	Optical Bandwidth	9 – 11 nm
		WL resolution	1 nm
Sensor	CMOS diode array	WL range	380 - 780 nm
Signal to noise	1000 : 1	Integration time	10 ms – 30 s
Accuracy	Ee 3%	Digital resolution	16 bits
OTHER			
Measuring head	Outer diameter 42mm, height 10mm, PTFE diffuser 2mm thick		
Data readout	Android app through Bluetooth, PC software through USB 2.0 (type B USB)		
Dimensions	118mm x 78mm x 42mm		
Weight	230 g		

(*) Depending on the analyzing wavelength.

SPECTRORADIOMETER SPEKTRI 80.Color

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SPEKTRI 80 spectroradiometer for colorimetry



Application examples:

- ✓ General lighting
- ✓ Colorimetry

SPECTRORADIOMETER

SPEKTRI 80.Color

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DEVICE CODE S-80.Color				
Measurement scope	Main	Color evaluation	Spectral radiation	PAR
Parameters	- Ev [lx] - CCT [K] - CIE Chromaticity coordinates (x,y) CIE 1931, (u,v) CIE 1964, (u',v') CIE 1976	- Color rendering index CRI: Ra, R1 to R14 - Standard deviation color matching SDCM	- Spectral irradiance [W/nm/m²] - Irradiance [mW/cm²] - λ _{eff} [nm] - λ _p [nm]	unit: [μmol/m²/s] - PPFD - PFD-B - PFD-G - PFD-R - PFD-UV - PFD-FR
SPECTRAL SENSOR				
Measurement range	Illuminance (lx)	PPFD (μmol/s/m²)	Optical Bandwidth	9 – 11 nm
	25 – 100 000	0.5 – 2000		
Sensor	CMOS diode array		WL resolution	1 nm
Signal to noise	1000 : 1		WL range	380 – 780 nm
Accuracy	Illuminance 3%, CCT 3%, CRI, Ra 2%, WL 1nm	Integration time	10 ms – 30 s	
		Digital resolution	16 bits	
OTHER				
Data readout	Android app through Bluetooth, PC software through USB 2.0 (type B USB)			
Dimensions	118mm x 78mm x 42mm			
Weight	230 g			

SPECTRORADIOMETER SPEKTRI 80.ColorLux

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SPEKTRI 80 spectroradiometer + Flicker sensor



Application examples:

- ✓ General lighting
- ✓ Colorimetry
- ✓ Flicker

SPECTRORADIOMETER

SPEKTRI 80.ColorLux

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DEVICE CODE	S-80.ColorLux				
Measurement scope	Main	Color evaluation	Flicker	Spectral radiation	PAR
Parameters	- Ev [Ix] - CCT [K] - CIE Chromaticity coordinates (x,y) CIE 1931, (u,v) CIE 1964, (u',v') CIE 1976	- Color rendering index CRI: Ra, R1 to R14 - Standard deviation color matching SDCM	- Percent flicker (%) - Flicker Index - Flicker Frequency - Flicker risk IEEE1789	- Spectral irradiance [W/nm/m²] - Irradiance [mW/cm²] - λ _{eff} [nm] - λ _p [nm]	unit: [μmol/m²/s] - PPFD - PFD-B - PFD-G - PFD-R - PFD-UV - PFD-FR
SPECTRAL SENSOR					
Measurement range	Illuminance (Ix)	PPFD (μmol/s/m²)	Optical Bandwidth	9 – 11 nm	
	25 – 100 000	0.5 – 2000			
Sensor	CMOS diode array		WL resolution	1 nm	
Signal to noise	1000 : 1		WL range	380 – 780 nm	
Accuracy	Illuminance 3%, CCT 3%, CRI, Ra 2%, WL 1nm		Integration time	10 ms – 30 s	
			Digital resolution	16 bits	
FLICKER SENSOR					
Digital Resolution		12 bits	Sampling rate	200 000 samples/s	
Illuminance range		100-200 000 lx	Frequency range	0 – 10 kHz	
OTHER					
Data readout	Android app through Bluetooth, PC software through USB 2.0 (type B USB)				
Dimensions	118mm x 78mm x 42mm				
Weight	230 g				

SPECTRORADIOMETER SPEKTRI 80.Luminance probe

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SPEKTRI 80 spectroradiometer + Luminance probe



Application examples:

- ✓ Displays
- ✓ Control buttons and illuminated signs
- ✓ Outdoor illumination

SPECTRORADIOMETER

SPEKTRI 80.Luminance probe

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DEVICE CODE		SSL S-80.Lv_L1	
Measurement scope	Main	Color evaluation	Spectral radiation
Parameters	- L_v [cd/m^2] - CCT [K], - Color coordinates (x,y) CIE 1931, (u,v) CIE 1964, (u',v') CIE 1976	- Color rendering index CRI: R_a, R_1 to R_{14} - TM-30-18: R_f, R_g, color vector graphic (SRM sw), - Standard deviation color matching SDCM	- Spectral radiance [$\text{W}/\text{nm}/\text{m}^2$] - Radiance [$\text{mW}/\text{cm}^2$] - Effective wavelength λ_{eff} [nm] - Peak wavelength λ_p [nm]
SPECTRAL SENSOR			
WL range	380 – 780 nm	Optical Bandwidth	9 – 11 nm
Sensor	CMOS diode array	WL resolution	1 nm
Signal to noise	1000 : 1	Integration time	10 ms – 30 s
Accuracy	L_v 3%, CCT 3%, CRI 2%, WL 1 nm	Digital resolution	16 bits
LUMINANCE PROBE L1			
Luminance range (cd/m^2)	40 – 100 000	Field of view	1.5°
Spot size (diam.)	20mm @ 0.5m	Fiber	2m, core 0.4mm, NA:0.22
OTHER			
Data readout	Android app through Bluetooth, PC software through USB 2.0 (type B USB)		
Dimensions	118mm x 78mm x 42mm		
Weight	230 g + probe 100g		

SPECTRORADIOMETER SPEKTRI 80.Luminance L2

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SPEKTRI 80 spectroradiometer + Luminance optics



Application examples:

- ✓ Displays
- ✓ Control buttons and illuminated signs
- ✓ Outdoor illumination

SPECTRORADIOMETER

SPEKTRI 80.Luminance L2

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DEVICE CODE		SSL S-80.Lv_L2	
Measurement scope	Main	Color evaluation	Spectral radiation
Parameters	- L_v [cd/m^2] - CCT [K], - Color coordinates (x,y) CIE 1931, (u,v) CIE 1964, (u',v') CIE 1976	- Color rendering index CRI: R_a, R_1 to R_{14} - TM-30-18: R_f, R_g, color vector graphic (SRM sw), - Standard deviation color matching SDCM	- Spectral radiance [$\text{W}/\text{nm}/\text{m}^2$] - Radiance [$\text{mW}/\text{cm}^2$] - Effective wavelength λ_{eff} [nm] - Peak wavelength λ_p [nm]
SPECTRAL SENSOR			
WL range	380 – 780 nm	Optical Bandwidth	9 – 11 nm
Sensor	CMOS diode array	WL resolution	1 nm
Signal to noise	1000 : 1	Integration time	10 ms – 30 s
Accuracy	L_v 3%, CCT 3%, CRI 2%, WL 1 nm	Digital resolution	16 bits
LUMINANCE PROBE L2			
Luminance range (cd/m^2)	10– 50 000	Field of view	2°
Spot size (diam.)	17mm @ 0.5m	Laser accessory	Red spot alignment laser
OTHER			
Data readout	Android app through Bluetooth, PC software through USB 2.0 (type B USB)		
Dimensions	118mm x 78mm x 42mm		
Weight	280 g		

SPECTRORADIOMETER SPEKTRI 80.Laboratory

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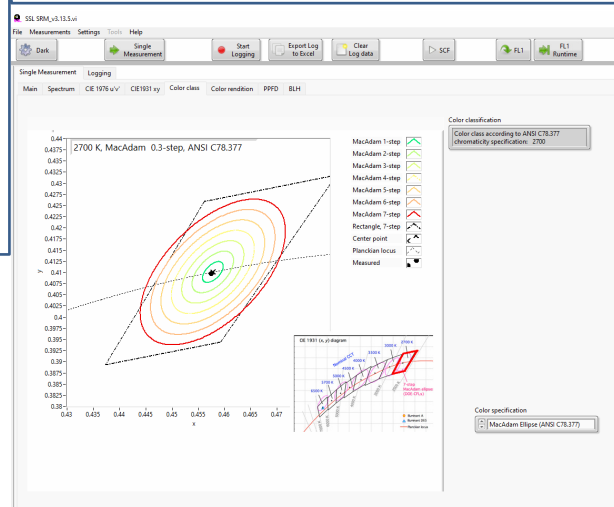
SPEKTRI 80 spectroradiometer + probe + advanced software



Illuminance probe



Luminance probe L1



Application examples:

- General spectroscopy
- Displays
- General lighting

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SPECTRORADIOMETER SPEKTRI 80.Laboratory

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DEVICE CODE		SSL S-80.Lab		
Parameters	- Ev [lx] / Lv [cd/m2]	- Color rendering index CRI: Ra, R1 to R14	- Spectral irradiance [W/nm/m²]	unit: [μmol/m²/s]
	- CCT [K]	- TM-30-18: Rf, Rg, color vector graphic	- Irradiance [mW/cm²]	- PPFD
	- CIE Chromaticity coordinates (x,y)	- Standard deviation color matching SDCM	- λ _{eff} [nm]	- PFD-B
	CIE 1931, (u,v) CIE 1964, (u',v') CIE 1976	- Color class	- λ _p [nm]	- PFD-G
				- PFD-R
				- PFD-UV
				- PFD-FR
SPECTRAL SENSOR				
Sensor	CMOS diode array	WL resolution	1 nm	
Signal to noise	1000 : 1	WL range	380 – 780 nm	
Accuracy	Ev/Lv 3%, CCT 3%, CRI 2%, WL 1nm	Integration time	10 – 30 000 ms	
Optical Bandwidth	9 – 11nm	Digital resolution	16 bits	
ILLUMINANCE PROBE E1				
Measurement range	Ev (lx)	PPFD (μmol/s/m²)		
	25 – 100 000	0.5 – 2000		
LUMINANCE PROBE L1				
Luminance range Lv (cd/m²)	40 – 100 000	Field of view	1.5°	
Spot size (diam.)	20mm @ 1m	Fiber	2m, Core 0.4mm, NA: 0.22	
OTHER				
Data readout	Android app through Bluetooth, PC software through USB 2.0 (type B USB)			
Dimensions	118mm x 78mm x 42mm			
Weight	200 g + 100g (probe)			

SPECTRORADIOMETER

SPEKTRI 80.Sphere accessory

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SPEKTRI 80 spectroradiometer + AUX lamp



Application examples:

- ✓ Measurements with small spheres
- ✓ Luminous flux / Spectral radiant flux

SPECTRORADIOMETER

SPEKTRI 80.Sphere Accessory

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DEVICE CODE		SSL S-80.Phi	
Measurement scope	Main	Color evaluation	Spectral radiation
Parameters	- Φ_v [lm] - CCT [K] - Color coordinates (x,y) CIE 1931, (u,v) CIE 1964, (u',v') CIE 1976	- Color rendering index CRI: Ra, R1 to R14 - TM-30-18: Rf, Rg, color vector graphic (SRM sw), - Standard deviation color matching SDCM	- Spectral radiant flux [W/nm] - Radiant flux [mW] - Effective wavelength λ_{eff} [nm] - Peak wavelength λ_p [nm]
SPECTRAL SENSOR			
WL range	380 – 780 nm	Optical Bandwidth	9 – 11 nm
Sensor	CMOS diode array	WL resolution	1 nm
Signal to noise	1000 : 1	Integration time	10 ms – 30 s
Accuracy	Φ_v 4%, CCT 3%, CRI 2%, WL 1nm	Digital resolution	16 bits
ILLUMINANCE PROBE E3			
PTFE diffuser	Diam. 10 mm	Fiber	Bifurcated fiber 2m, core 0.6mm, NA:0.39
AUX Light source			
Type: external LED light MH42	Color: Neutral white	Power: 1 W	USB powered (USB A connector)
OTHER			
Data readout	Android app through Bluetooth, PC software through USB 2.0 (type B USB)		
Dimensions	118mm x 78mm x 42mm		
Weight	230 g + probe 100g		