



Spectroradiometer for the Measurement of Radiometric and Photometric Quantities

Example for application	Measuring objects	Measurement set-up	Photometric/ radiometric quantities	Units	Measuring device	Measuring head	Remark
	Generally uniform light sources such as monitors and illuminated screens		Luminance Radiance	$\frac{cd}{m^2}$ $\frac{W}{sr * m^2}$	specbos 1201/ 1211	Optionally: neutral density filter to extend the measuring range	Aperture angle 1.8°
	Segments of displays and signs		Luminance Radiance	$\frac{cd}{m^2}$ $\frac{W}{sr * m^2}$	specbos 1201 focus/ specbos 1211 focus	Focusing optics	Measuring area 0.5, 1 and 3 mm Aperture angle 0.6 ... 2.1°
	All-around radiating light sources such as bulbs, fluorescence lamps and LEDs (wholespace and half-space)		Luminous flux Radiant flux	$lm$ $W$	specbos 1301/ 1311 (specbos 1201/ 1211 with an integrating sphere)	Integrating sphere	Different sphere diameters available (100 ... 500 mm)
	Low power LEDs		Luminous intensity Radiant intensity	$cd$ $\frac{W}{sr}$	specbos 1401 (specbos 1201 with CIE 127-attachment)	CIE 127 tube type A or B (incl. integrating sphere)	Not for power-LEDs
	Point light sources such as single LEDs, directed bright light sources (reflectorlamps, lensed lamps)		Luminous intensity Radiant intensity	$cd$ $\frac{W}{sr}$	specbos 1201/ 1211	Diffusor	Take care of the screening of extraneous light
	Illuminated areas such as worktables		Illuminance Irradiance	$lx$ $\frac{W}{m^2}$	specbos 1201/ 1211	Diffusor	Cosine-matched

Additional colorimetric and special measurands (for all arrangements):

Chromaticity  
 Correlated Color Temperature  
 Color purity  
 Color Rendering Index CRI  
 Tristimulus values :

$x, y, u', v'$   
 CCT [K]  
 PE [%]  
 Ra, R1 ... R15  
 XYZ, RGB

Dominant/ Peak/ Centroid wavelength  
 Circadian metrics  
 Weighted integral values  
 Photosynthetically active radiation

$\lambda$  [nm]  
 $L_{ec}$  [ $W/(sr*m^2)$ ], acv  
 $E_{phot}$  [ $\mu mol/(sec.*m^2)$ ]