



Overview

Product name	LE7-2x / LE7-4x / LE7-IR
Principle	<p>An integrating sphere to illuminate transparent test charts based on iQ-LED technology (includes micro-spectrometer).</p> <p>Hardware / Software controlled device with an internal spectrometer for spectral control. The iQ-LED technology is optimized for the best spectral match and allows CRI values up to 99, depending on illuminant and intensity.</p>

Features

Integrating sphere

Diameter integrating sphere	500 mm
Output window	Rectangular output window, 290 x 220 mm Dual slot for D280 sized test charts

Illumination

Light source	<p>Different versions available with:</p> <p>LE7-2x: 2 x iQ-LED V2 LE7-4x: 4 x iQ-LED V2 LE7-IR: 2 x iQ-LED V2 plus 4 x iQ-LED IR</p> <p>Image Engineering iQ-LED V2 technology:</p> <p>41 SMD high power LEDs / separated in 20 color channels / Spectral range: 380 – 820 nm / Intensity controlled via 4000 steps per channel and 32 kHz PWM (switchable to 1000 steps with 128 kHz) / An approx. lifetime of 10.000 hrs. / Typical LED spectra on request / iQ-LED IR with 11 additional channels, expands the spectral range to 380 – 1050 nm</p>
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Uniformity	> 97 % for active chart area, 280 x 157.5 mm, for standard D illuminants > 96 % for full chart area, 290 x 220 mm, for standard D illuminants
Illumination stability	+/- 1% when stabilized (2% after switching D illuminants in the first 5 seconds)
Response time (switch illuminant)	< 50 ms
Maximum / Minimum illumination level	LE7-2x / LE7 IR: 6000 lx for standard D illuminants LE7-4x: 12.000 lx for standard D illuminants Min. down to 25 lx (depending on illuminant and required curve fit / CRI), with ND filters for low intensity use down to 1,5 lx
Dim function	Software-based by presetting the intensity, or by selecting different pre-stored intensity illuminants directly on the device
Predefined standard illuminants	D50, D55, D65, D75, A, B, C, E Planckian spectral curve by selected temperature (1900 - 18,000 K)
Service life	10,000 h

Spectrometer

Construction	Built-in mini spectrometer
Spectral range	350 – 870 nm
Pixel resolution	2048 pixel
FWHM	2.4 nm
Output data	Real time measurement of spectral trend and radiant power via control software
Calibration	Yearly calibration required, independent of working hours (contact Image Engineering), NIST traceable

Software

System requirements	PC with Windows 7 operating system (or higher) USB port
Functions	<ul style="list-style-type: none"> • Auto-generation of standard illuminants or externally measured spectra • Creation or adaptation of spectral trends via 20 (IR: 31) LED channels • Save and load function of self-defined spectral arrangements or intensities • Storage of illuminants/sequences on device • Creation of test sequences • Real-time display of spectral measurement • Real-time calculation of CCT, CRI, curve fit and illumination level
API (C++)	Optional available (iQ-LED API)



General description hardware

Power supply / consumption	110 V / 230 V, LE7-2x: 180 W / LE7-4x: 340W / LE7-IR: 260W
Ports	1 x USB for software control 1 x port for the power adaptor
Dimension [W x H x D]	620 x 730 x 430 mm
Weight	16 kg
Operating conditions	Optimal: 22 - 26 degrees Celsius, maximal: 18 - 28 degrees Celsius
Warm up time	< 2 min. at an optimal ambient temperature
Scope of delivery	Integrating sphere (with a dual slot for D280 sized charts), spectrometer (built-in), power cord, USB cable, control software

Miscellaneous

Accessories	Rolling Cart
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