



## Overview

Product name	iQ-LED V2 bundle
Principle	High power SMD-LED based spectral broadband light source to build your own spectral programmable illumination device The iQ-LED technology is optimized for best spectral match and allows CRI values up to 99, depending on illuminant and intensity.

## Features

### Illumination

Light source	<ul style="list-style-type: none"> <li>• 41 SMD high power LEDs separated in 20 color channels</li> <li>• Spectral range: 380 – 820 nm</li> <li>• Intensity controlled via 4000 steps per channel with 32 kHz PWM</li> <li>• Switchable to 1000 steps with 128 kHz PWM</li> <li>• Typical LED spectra and Gamut on request</li> </ul>
Illumination stability	+/- 1% when stabilized (for selected standard illuminants after changing illuminant at optimal temperature) 2% (after switching D illuminants while the first 5 seconds)
Response time (switch illuminant)	< 50 ms
Maximum / Minimum illumination level	Depending on application/installation and illuminant. iQ-LED bundle comes as components WITHOUT any diffuser or sphere to mix the separated LED light channels. For intensity examples, please see other Image Engineering iQ-LED products
Dim function	Software based dim function by presetting the intensity during a closed loop link with the micro-spectrometer or stored with different intensity illuminants on device
Included reference illuminants	D50, D55, D65, D75, A, B, C, E Planckian spectral curve by selected temperature (1900 – 18,000 K) The iQ-LED technology is optimized for the best spectral match and allows CRI values up to 99, depending on illuminant and intensity
Service life	10,000 h (iQ-LED)



## Spectrometer

Construction	mini spectrometer
Spectral range	305 – 1100 nm
Pixel resolution	2048 pixel
FWHM	2.5 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
Control system	Software-based control system via USB
Functions	<ul style="list-style-type: none"> <li>• Auto-generation of standard illuminants or externally measured spectra</li> <li>• Creation or adaptation of spectral trends via 20 LED channels</li> <li>• Save and load function of self-defined spectral arrangements or intensities</li> <li>• Storage of up to 44 different illuminants, one sequence and default light source on device, controllable via microswitch controller (without connected PC)</li> <li>• Creation of test sequences</li> <li>• Real-time display of spectral measurement</li> <li>• Real-time calculation of CCT, CRI, curve fit and illumination level</li> </ul>
Output data	Real-time measurement of spectral trend, CCT, CRI, illuminance and radiant power with closed-loop connection to micro spectrometer
API (C++)	Optional available (iQ-LED API)

## General description hardware

Power supply / consumption	12 V / 100 W
Ports	1 x USB for software control
Dimension [W x H x D]	100 mm x 105 mm x 76 mm iQ-LED PCB incl. CAN-USB connector board
Weight	0.5 kg (only iQ-LED V2 device)
Operating conditions	Optimal: 22°C to 26°C / Maximum: 18°C to 28°C
Warm up time	< 2 min. at optimal ambient temperature
Scope of delivery	<p>Starter bundle version:</p> <p>1 x iQ-LED V2, 1 x CAN-USB connector board, 1 x micro switch controller board, USB cable, power supply, calibrated micro-spectrometer (detailed specs see EX2 datasheet) with 1m metal coated fiber, control software</p> <p>Add on version:</p> <p>1 x iQ-LED V2, CAN cable, power supply</p>