



## Overview

Product name	CAL2 V2
Principle	An iQ-LED powered calibration edge box with an adaptable and software-controlled design (patented by IE).

## Features

### Edge Box

Output window	60 mm x 60 mm output window
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### Illumination

Light source	1 x iQ-LED V2 Image Engineering iQ-LED V2 technology: 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) / approx. lifetime of 10000 hours / Typical LED spectra on request
Control functionality without PC	Storage of up to 44 different illuminants and one sequence on the device, default light source, controllable via micro switches on the device without PC
Uniformity	60 mm x 60 mm output window > 96%
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	8000 lx for standard D illuminants Minimum down to 25 lx, depending on illuminant and required curve fit / CRI
Dim function	Software-based by presetting the intensity while the calibration device is in the measurement position 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 - 18000 K)
Service life	10000 h

## Spectrometer

Construction	Separated spectrometer calibration device
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	NIST traceable yearly calibration is required independent of working hours (contact Image Engineering)

## Software

System requirements	PC with Windows 7 operating system (or higher) USB port
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 illuminants/sequences on the device</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 (lux/watt)</li> </ul>
API (C++)	Available as a separate option (iQ-LED API)

## General description hardware

Power supply/consumption	110 V / 230 V, 200 W
Ports	1 x USB for software control 1 x port for the power adaptor 1 x 3.5 mm jack for trigger output
Dimension [W x H x D]	130 x 255 x 265 mm
Weight	1.3 kg
Operating conditions	optimal: 22 - 26 °C, maximum: 18 - 28 °C
Warm-up time	< 2 min. at optimal ambient temperature
Scope of delivery	CAL2 V2, spectrometer, power cord, USB cables, control software, calibration protocol