

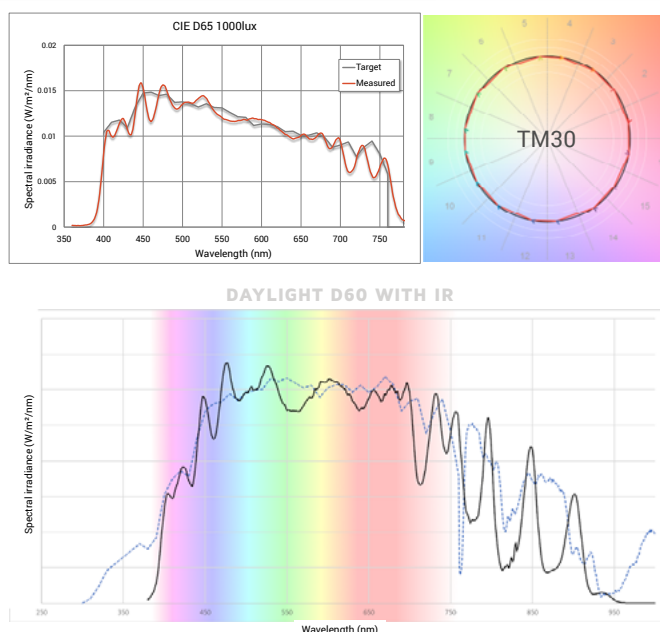


The Multispectral Lighting System (MLS) is the best way to get comprehensive lighting conditions in an image quality lab. It is designed to illuminate test charts of up to 2 meters wide, with more than 90% uniformity with an accurate spectrum and in a very impressive range of illuminance: from 0.1lux to 10,000lux

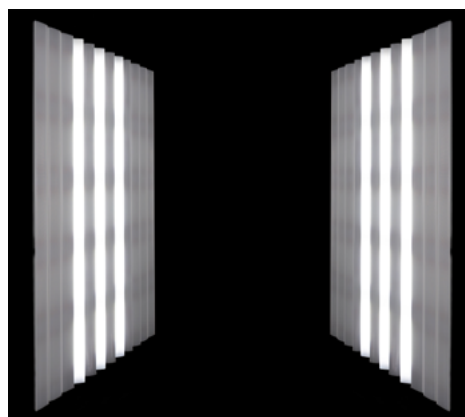
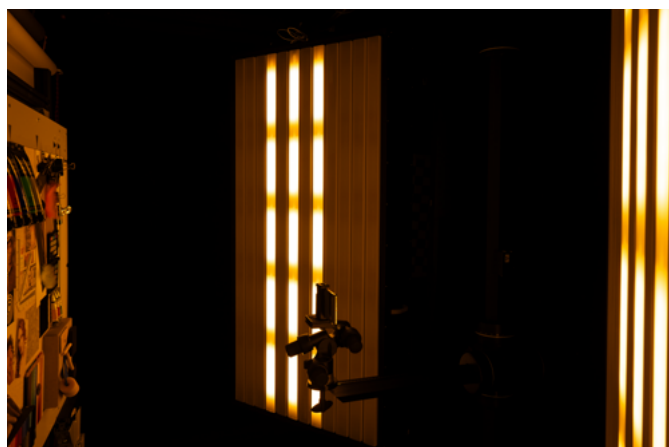
Key features

Designed to replicate any lighting condition, in your lab, with high accuracy and repeatability

- ≡ Multispectral LED light, with constant current (DC driven - no PWM)
- ≡ High dynamic of illuminance: 0.1 to 10,000 lux
- ≡ High uniformity (>90%)
- ≡ Computer control with closed loop
- ≡ Flicker ON/OFF feature (continuous or adjustable frequency 50 to 1,000Hz)
- ≡ Fast light transition (<30ms)
- ≡ Multispectral control > continuous spectrum (H, A, D50 to D90, mixed, etc) generated with CRI>95
- ≡ 29 Pre-Calibrated Illuminants (such as CIE-A, H, D50-75 ; LED 2700K, 4000K ; BLACKBODY 5600-6600K spectra)

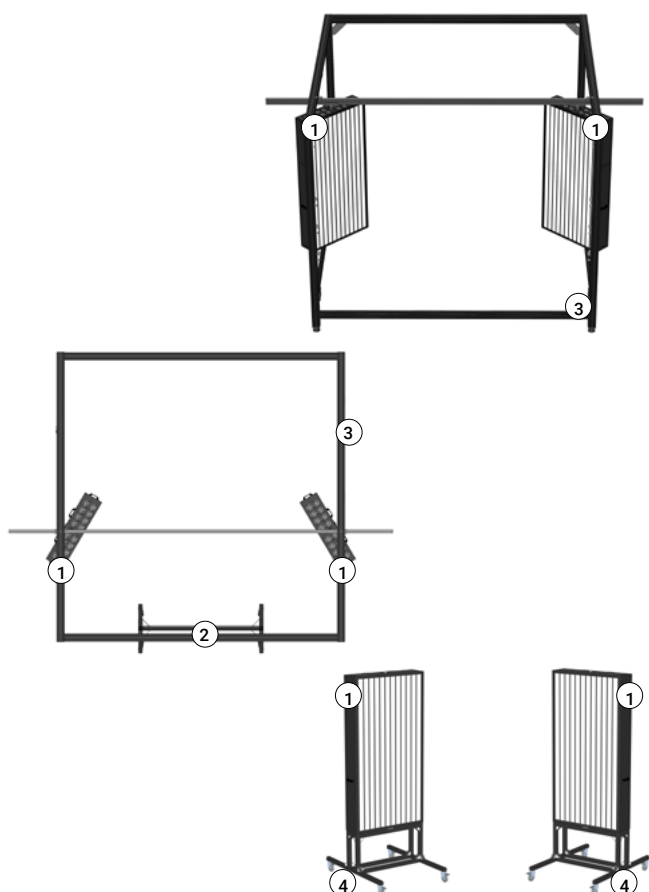


MLS IN APPLICATION



MULTISPECTRAL LIGHTING SYSTEM HARDWARE

MLS Setup for standard lab usage



① Multispectral Lighting Systems ② Luxmeter and Spectrometer, ③ Framing Structure, ④ Support on wheels

Required equipment



Gossen Luxmeter
- Mavomaster &
Mavoprobe 5032B



Spectrometer CSS45
- required for MLS
Standard version



Spectrometer Jeti
- required for MLS
SUNIR version

Recommended equipment

FRAMING & ACCESSORIES



MLS support on
wheels



MLS framing
structure



Laser Telemeter -
Leica

General specification

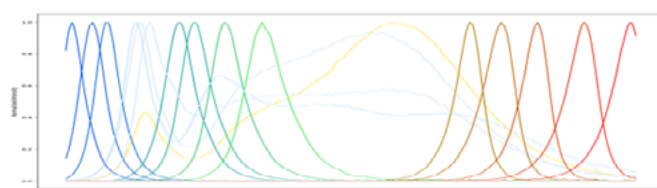
STANDARD VERSION

- > 16 LEDs channels for high intensity
- > 16 LEDs channels for low intensity
- > 16bits constant current drivers to ensure a high quality of spectrums
- > 90% uniformity for all illuminant in a 120x80cm chart
- > Possibility to activate a flicker mode with adjustable frequency 50 to 1,000Hz
- > Fast light transition (<30ms)

SUNIR VERSION

- > 5 more LEDs channels for super high intensity and NIR addition
- > Simulation of NIR : up to D50 1,000lux and CIE A 200lux

SPECTRAL CHARACTERISTICS OF THE MLS LED CHANNELS



Pre-Calibrated Illuminants	Minimum Brightness (lux)	Maximum Brightness (lux)	Colour Rendering Index
Daylight CIE-D50	10	1,000	>95
Daylight CIE-D55	10	1,000	>95
Daylight CIE-D65	10	1,000	>95
Tungsten CIE-A	10	200	>95
Warm LED 2700K	0.1	500	Typical LED CRI
Cool LED 4000K	1	500	Typical LED CRI
...	...	...	...

MULTISPECTRAL LIGHTING SYSTEM SOFTWARE

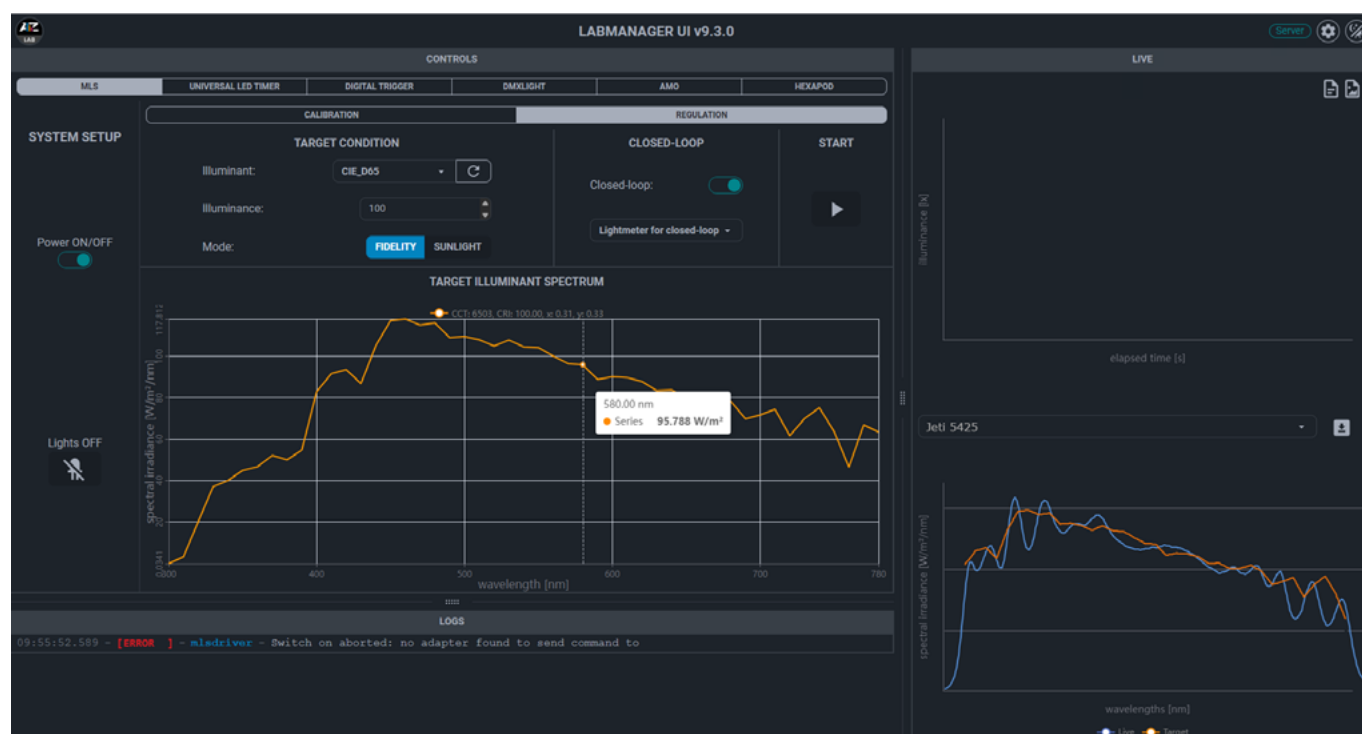
Analyzer Software Suite provides comprehensive automation and controls tools, as well as extensive documentation

DXOMARK has created advanced instrument control software. Using a client/server architecture, it controls all the instruments in the laboratory to ensure centralized and accurate monitoring. It uses an MQTT protocol to ensure efficiency and error management.

LabManager provides the MLS calibration tools required to ensure an accurate and repeatable light simulation.

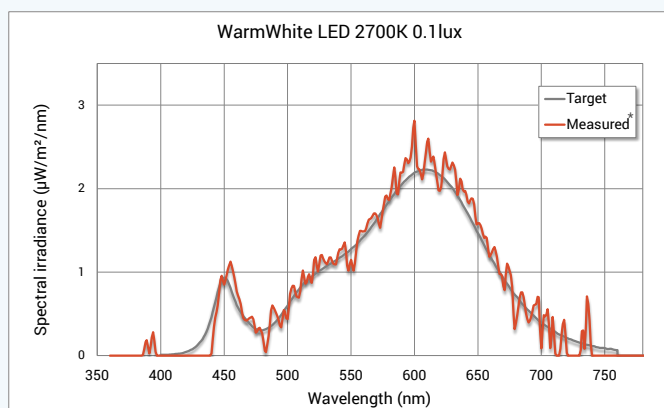
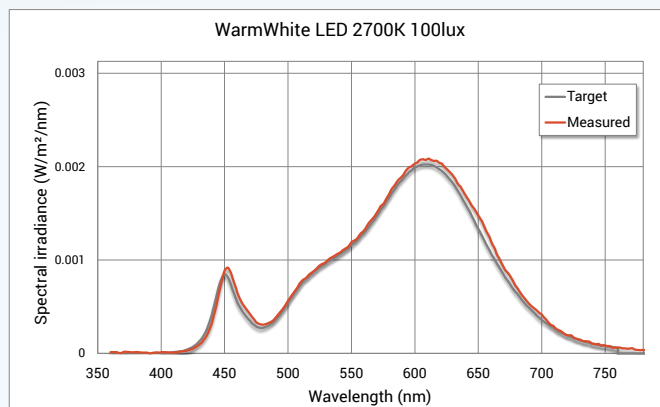
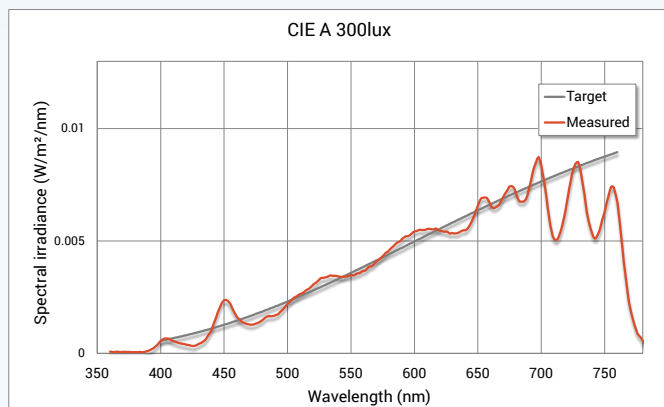
The LabManager is composed of 3 parts:

- One server that drives all the instruments and manages the connections,
- One Python API to easily automate the lab,
- One Graphical User Interface (GUI) in a web page to control visually everything.

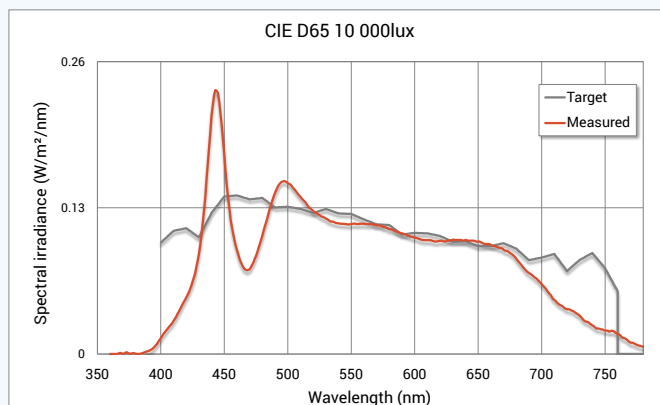
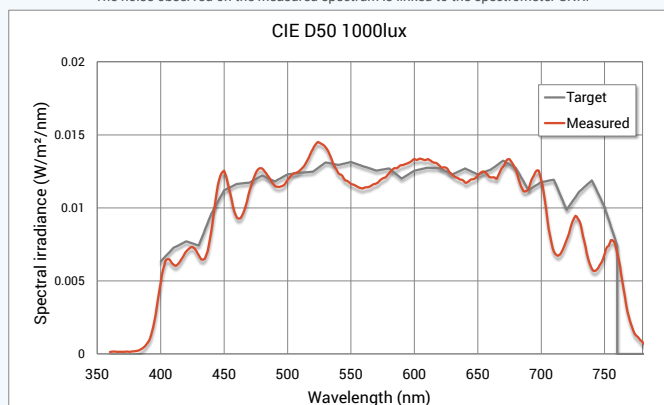
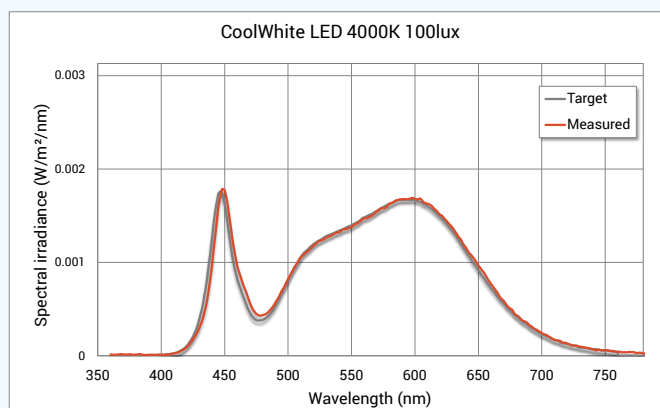


The LabManager GUI is made to control the lighting in the easiest way possible. One just has to choose the illuminant, the intensity, and press play! It allows real-time monitoring of spectrum and lux levels, even without placing the measurement instrument in the field of view of the camera under test.

SPECTRA EXAMPLES



*The noise observed on the measured spectrum is linked to the spectrometer SNR.



Specifications

POWER SUPPLY

Maximum consumption of the MLS: 1000W (for standard version) and 2000W (for the SUNIR version) for each projector

Each projector is plugged in with its own power cable

Supported AC input power: 100-240 VAC, 50/60 Hz

Delivered with the EU socket format only

PLATFORM REQUIREMENTS

PC-type computer with the following minimum configuration:

- Intel Core i5 Fifth generation® processor,
- A version of Windows 11® 64 bits operating system,
- 4 GB of RAM,
- 64 GB of free disk space to operate the software,
- 1 Ethernet adaptor dedicated to instrument control, not shared with LAN

LABORATORY REQUIREMENTS

Laboratory minimum size: 4 x 3m

Temperature: 23°C ± 2°C (ISO 554:1976)

Humidity: 50% ± 20% (ISO 554:1976)