Calibrated Source Series

Lambertian & homogeneous calibrated source based on LCD backlight technology

| CCFLamp's benefits |
|---|
| Lambertian source |
| Homogenous all over the surface |
| Excellent source stability up to ±0.3% |
| Easy luminance setting between 35 and 400 cd/m² |
| CCFL backlight technology for spectral content - similar to LCD's |

ADVANCED COLORIMETRY by ◆ ELDIM

Description

The device includes a CCFL backlight used as reference source and a dedicated electronic driver that measures and regulates the flux emitted by the backlight. The regulation ensures an emission at ±0.3% of the nominal value in the dynamic range 10-100% of the device.

It makes it a convenient tool for:

- Photometry & colorimetry equipment calibration
- CCD flat fielding
- Optical component evaluation

Calibration & Specifications

The absolute luminance of the device is measured using a Topcon SR3 system mounted on a reference goniometer. The emission is not azimuth depend but varies with the incidence angle. It is not far from a Lambertian one except at very grazing angle, ±2.5% over ±30° incident angle. The device is provided with its calibrated angular characteristics.
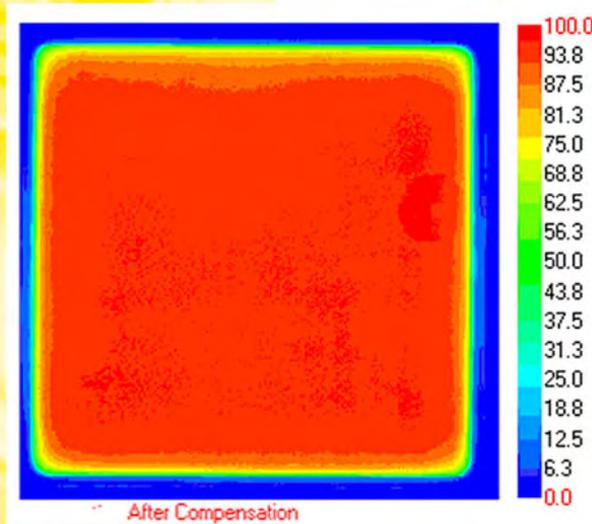

Homogeneity measurement by video-colorimeter after compensation
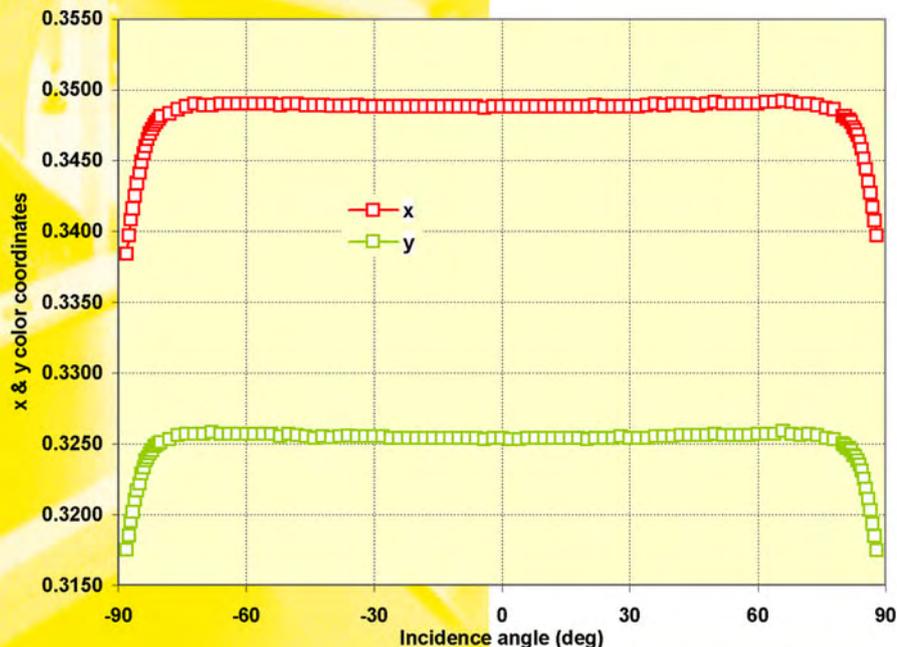
Color coordinates are stable within ±0.001 in ±70° angular aperture

Optional color filters

The CCFL device can be provided with and optional set of color filters for precise color calibration. The nine color filters covers a great part of the chromatic plane (see below and the table). Then the color calibration can be made within a great part of the chromatic plane. The color filter set is provided with the different absolute transmittances and the color coordinates measured by reference SR3 spectrophotometer using the CCFLLamp.
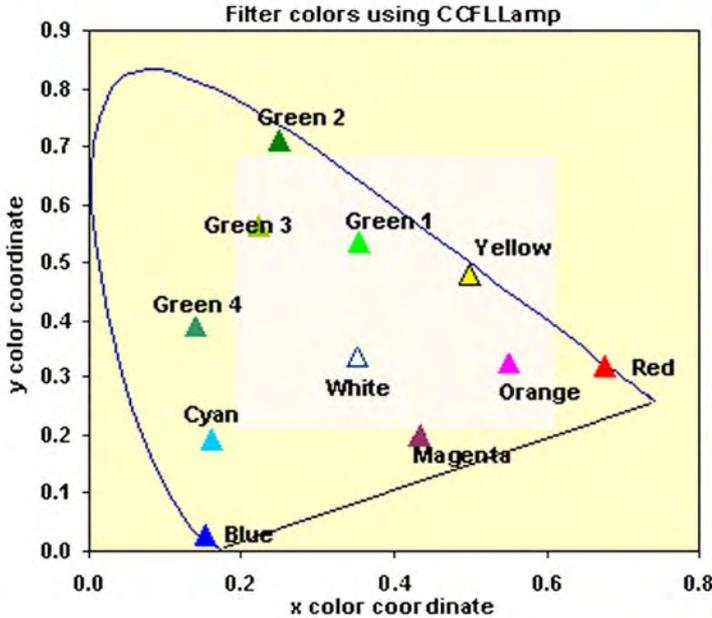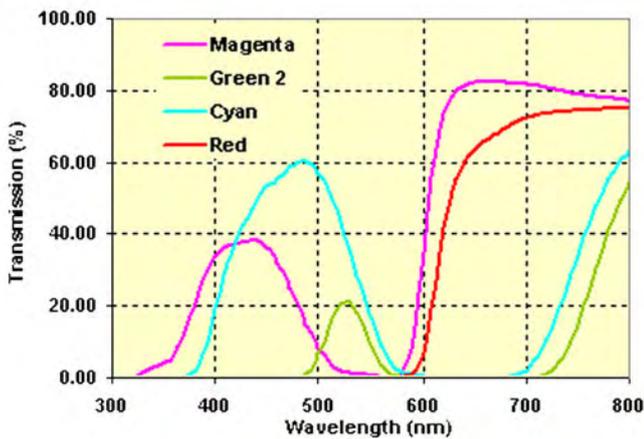

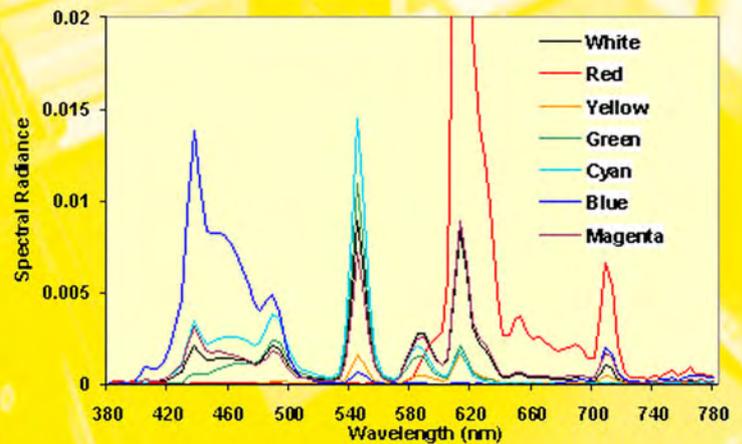*Used with CCFLLamp color filters cover most of the chromatic plane*
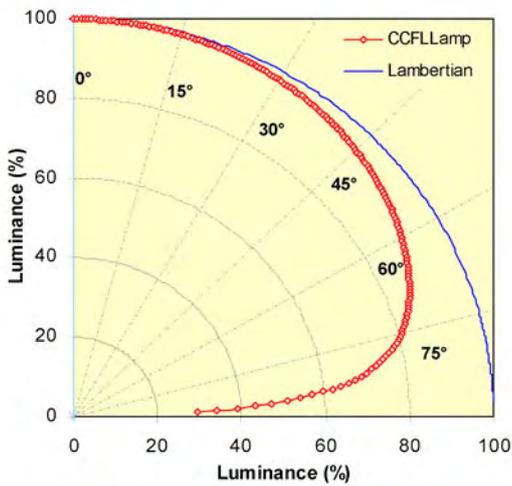

ELDIM's CCFLamp color filters

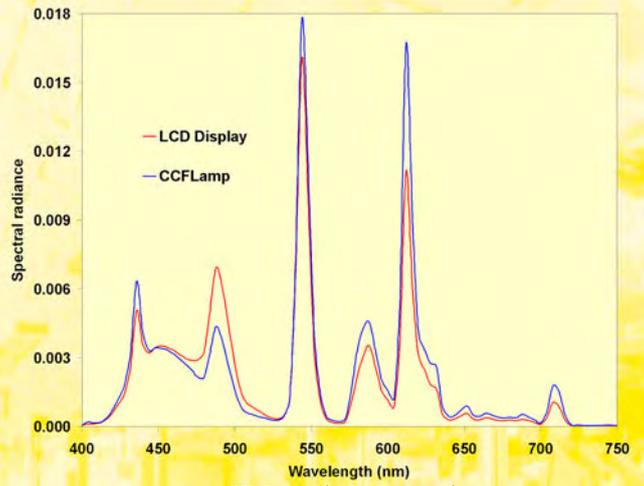| Color Filter	Color Coordinates	
	x	**y**
None	0.353	0.335
Red	0.677	0.318
Orange	0.549	0.324
Yellow	0.497	0.480
Green1	0.355	0.535
Green2	0.251	0.710
Green3	0.224	0.565
Green4	0.140	0.387
Cyan	0.162	0.192
Blue	0.154	0.027
Magenta	0.434	0.199

Example of filter transmittance

Spectral radiance of CCFLLamp with some color filters

CCFLamp angular response near to Lambertian source

CCFL Spectrum close to customers needs
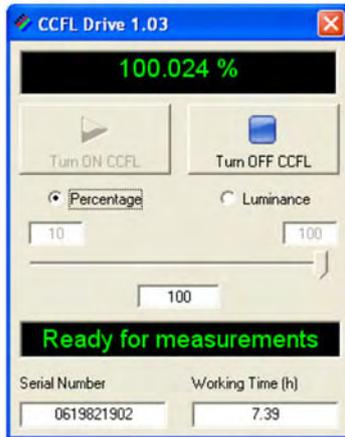
Easy software interface

CCFLamp with colored filters

CCFLamp specifications

Linearity of CCFLamp	Luminance Max	400 cd/m²
	Luminance Min	30 cd/m²
Stability of CCFLamp	Stability from 10% to 100% of intensity	0.3%
Uniformity of CCFLamp Compliant with VESA 2.0	Uniformity on 90% of diffuse surface	±5%
	Uniformity on 70% of diffuse surface	±2.5%
Angular Response of CCFLamp	Intensity at 00° incidence	100%
	Intensity at 10° incidence	99,7%
PC link	USB connection (full speed)	
Voltage	110/220V	
Diffuser Size (in mm)	CCFLamp100: 158x158 CCFLamp200: 291x347	
Working Area (in mm)	CCFLamp100: 148x148 CCFLamp200: 281x337	
Housing Size (L x W x H) (in mm)	CCFLamp100: 353x282x38 CCFLamp200: 517x405x38	
Weight	CCFLamp100 CCFLamp200	2.5 kg 5 kg

***ELECTRONICS FOR DISPLAYS
AND IMAGING DEVICES***

ELDIM - 14200 Hérouville Saint Clair - France
Phone : + 33 2 31 94 76 00 - Fax : + 33 2 31 94 09 50
EMail : eldim@eldim.fr • Internet address : http://www.eldim.fr