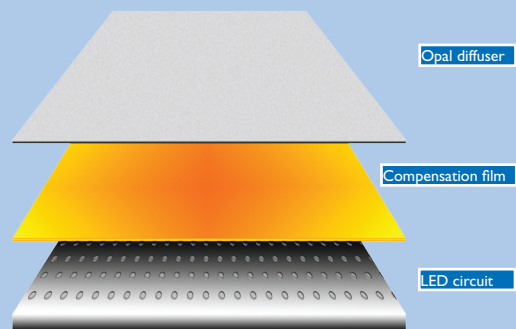
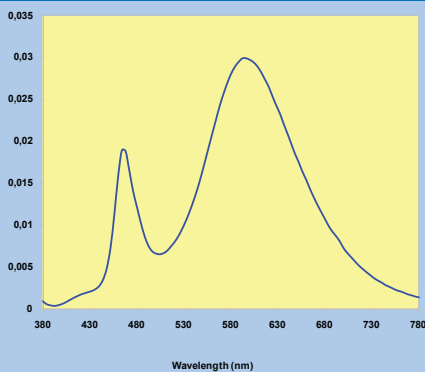
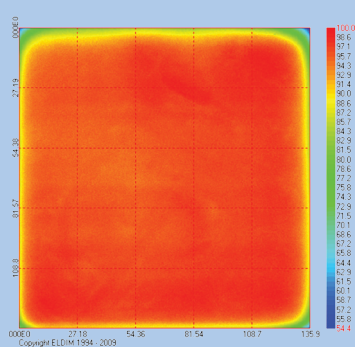


LAMBERTIAN & HOMOGENEOUS CALIBRATED SOURCE

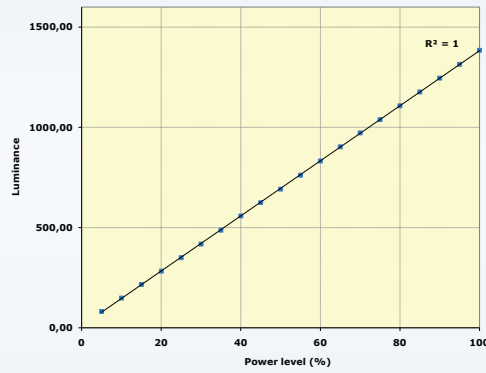
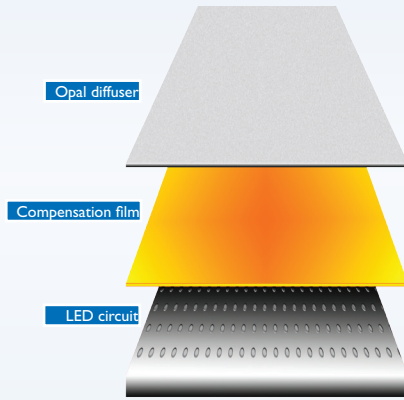


MOST ACCURATE HOMOGENEITY LED SOURCE

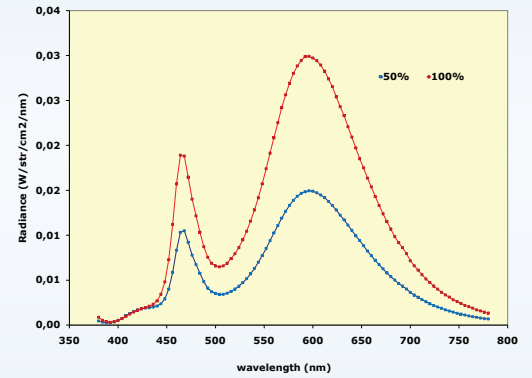
LEDSource series



ADVANCED LIGHT ANALYSIS by ELDIM



Calibration of the luminance linearity



Spectral radiance at two levels 50 and 100%

LEDSource Description

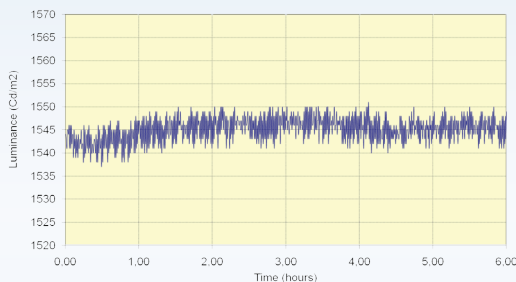
White LEDSource's benefits:

- Quasi Lambertian source with continuous radiance from 400 to 700nm
- Homogeneous all over the surface
- Excellent source stability with real time monitoring
- Easy luminance setting between 70 and 1400 cd/m²
- Easy software automation with ActiveX control
- Ideal for film transmittance measurements

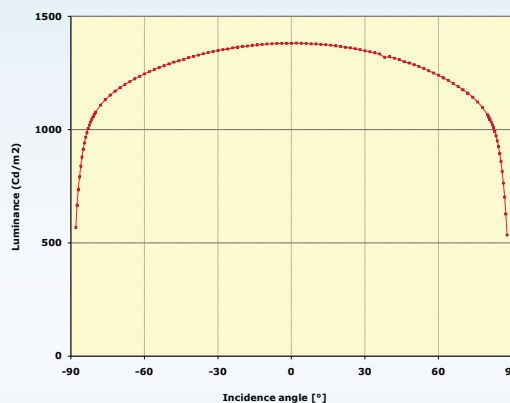
WHITE LEDSource includes a great number of white and violet LEDs regularly distributed on an integrated circuit on all the emissive surface. White LEDs provide the essential of the radiance between 440 and 700nm. The violet LEDs provide radiance between 400 and 440nm. An internal photodiode gives a reference signal to stabilize the emission in real time. Quasi Lambertian emission is obtained using an opal diffuser on top of the LED circuit. The emission of the entire surface of the source is homogenized using a dedicated compensation film below the opal diffuser.

LEDSource calibration & specifications

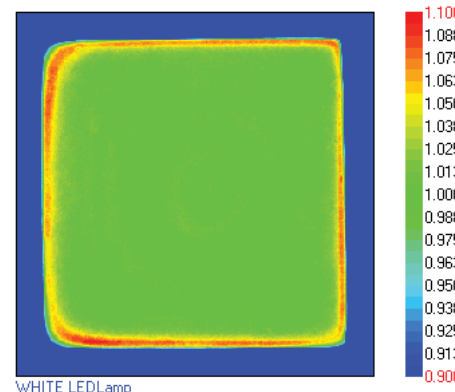
The absolute luminance of the device is measured using a Topcon SR3 system mounted on a reference goniometer. The emission is azimuth independent but depends on the incidence angle (see below). It is not far to be Lambertian except at very grazing angle. Internal calibration ensures excellent luminance linearity. Each system is provided with all its calibrated angular and spectral characteristics.



Measured luminance stability of LEDSource during 6 hours

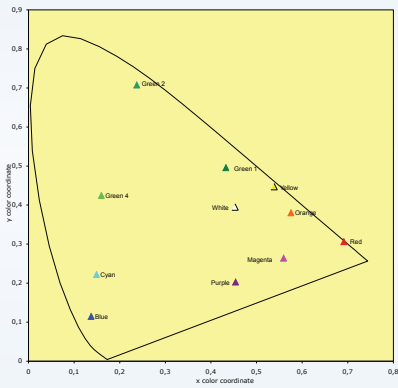


Normal incidence luminance at level 100% versus incidence angle



WHITE LEDLamp

luminance homogeneity measured by video-luminance meter



Used with LEDSource color filters cover most of the chromatic plane

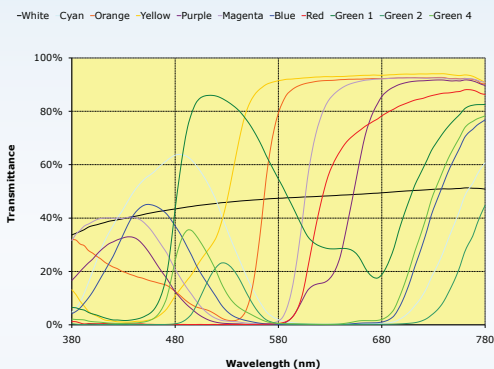


ELDIM's LEDSource color filters

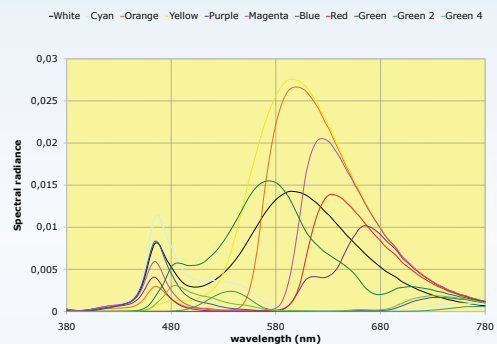
Optional color filters

The white LEDSource can be provided with an 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 LEDSource.

Color filter	Color coordinates	
	X	Y
None	0.453	0.395
Red	0.691	0.307
Orange	0.575	0.381
Yellow	0.538	0.447
Green 1	0.432	0.496
Green 2	0.237	0.708
Green 4	0.159	0.425
Cyan	0.148	0.223
Blue	0.137	0.115
Magenta	0.559	0.265
Purple	0.453	0.203



Example of filter transmittance

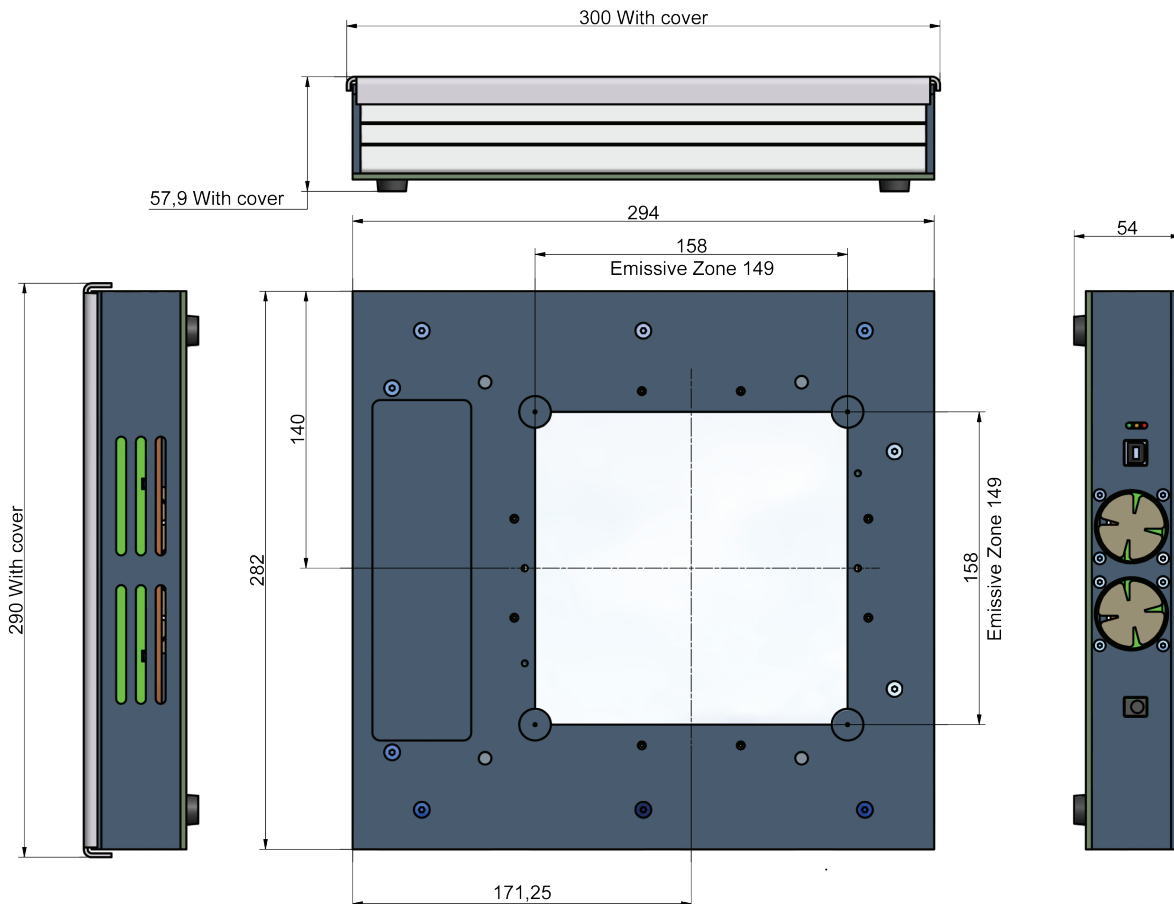


Spectral radiance of LEDSource with some color filters

Major specifications of LEDSource

Parameters		specifications
stability	Stability from 5% to 100% of intensity	0.3%
Linearity	Linearity from 5% to 100% of intensity	0.5%
Luminance	Luminance Max. Luminance Min.	1500cd/m ² 75cd/m ²
Color stability	x color coordinate (±0.001) y color coordinate (±0.001)	0.444 0.390
Uniformity VESA 2.0 compliant	on 90% of diffuse surface on 70% of diffuse surface	±4% ±2%
Angular response	Luminance variation at 10° Luminance variation at 30° Color variation at 10°	<2% <5% <±0.001
Polarization	Polarization degree	<2%
Interface		USB 2.0
Power		110/220V
Working area	in mm	148x148
Diffuser area	in mm	158x158
Housing size	(LxWxH) in mm	353x282x38
Weight	in kg	2.5

Outer dimension (unit mm)



EQ-101 V3.0 04/2010 ©ELDIM S.A.