SSL RESOURCE
Photometric Testing Efficiency

TURNING LUMINAIRE GONIOMETER FAMILY **SSL LUMI**

ALL INCLUSIVE MEASUREMENT SYSTEM

- ✓ Accurate characterization of spatial photometric, colorimetric and spectrometric features of luminaires by C or B type goniophotometer
- ✓ Luminous flux and efficacy
- ✓ Input power and power factor
- ✓ Spatial color uniformity (SDCM)
- ✓ Total correlated color temperature (CCT), color rendering index (CRI) and spectral radiant flux distribution
- ✓ Camera based UGR measurements

SAVE TIME, SPACE AND MONEY

- ✓ Fast sample mounting by a motorized sample holder and remote control
- ✓ Automatic luminous area measurements and turning axis adjustment
- ✓ Reliable LDT/IES measurements in standard height rooms
- ✓ User-friendly and versatile test software
- ✓ Sample holders, installation and training service, etc.
- ✓ Fast colorimetric measurements

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Solution for testing any size of luminaires for general lighting, street lighting or automotive lighting.

B Type Measurement for Automotive Lights
(photo: SSL LUMI 120)

Innovative Mechanical Structure (photo: SSL LUMI 180)

- Integrated electrical device rack for space saving solution
- Leveling castors for easier moving and installation
- Motorized vertical arm and camera for automatic adjustment of the turning axis

Burning position correction for B and C type measurement to meet CIE S025 standard.

Burning Position Correction Setup for B type (photo: SSL LUMI 120)

Burning Position Correction Setup for C type (photo: SSL LUMI 90)

GONIOMETER FAMILY SSL **LUMI**

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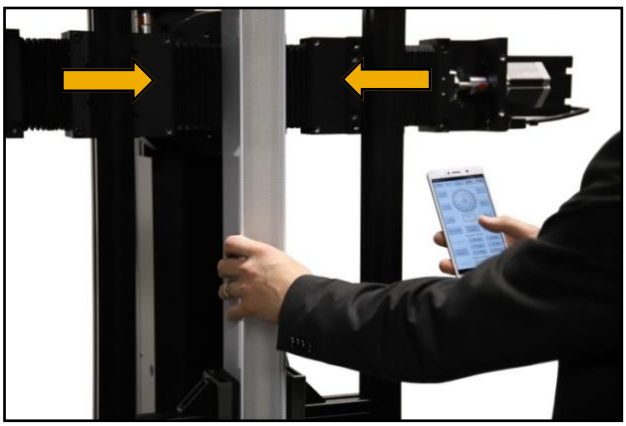
PRODUCT	SSL **LUMI 90**	SSL **LUMI 120**	SSL **LUMI 180**
Application area	up to small-medium sized SSL luminaires (LED panels / downlights)	long automotive headlamps, general lighting fixtures	long automotive headlamps, general lighting fixtures
Goniometer type	C type (B type) with horizontal optical axis one column (two columns) arrangement		
Gonio controller	3 axis Stepper controller (19" 1U, RS-232) Worm gear drive system with deep groove ball bearings		
Arrangement	Goniometer station with electrical device 19" rack integration		
19" Rack space	6U in one column	4U in one column	8U in two columns
Gonio dimensions	1.2m, 0.6m, 0.5m, 50kg	1.3 m, 0.6 m, 0.8 m, 120kg	1.6 m, 1.3 m, 0.9 m, 160kg
Height of optical axis	1.1 m	1.3 m	1.5 m
B-DUT[1]: L x W x T, m	0.6m x 0.5m x 0.1m, 10kg	1.2m x 0.8m x 0.3m, 20kg	1m x 1m x 0.3m, 40kg
C-DUT[1]: D x T, m	0.9m x 0.3m, 6kg	1.2m x 0.8m, 15kg	1.8m x 0.6m, 25kg
Minimum space for lab room (WxH, Length L)[2]	1.1 m x 1.7 m, L: 5.5 m (C), 10 m (B)	3.5 m x 2.2 m, L: 8 m (C), 20 m (B)	2.7 m x 2.5 m L: 10 m (C), 17 m (B)
Angular range	±175° (γ and C axes)		
Resolution / Accuracy	<0.006° / <0.1° (γ and C axes)		

[1]Maximum dimensions of the luminaire under test (DUT): L=Length, W=Width, T=Thickness (B type), Diagonal D = $(L^2+W^2)^{1/2}$, T=Thickness (C type). m = mass (kg)
[2]On the basis of the photometric distances: 15 x "luminous area length" for automotive lamps (B type), 5 x "luminous area length" for C type measurements

Easy and fast sample mounting



Mounting of a luminaire in 5 seconds using a motorized sample holder and Android-based remote control.

Up to four photometers

Camera

1. Luminous area
2. UGR
3. Photograph
4. Turning axis adjustment
5. Setup alignment

SSL-GSM Spectroradiometer

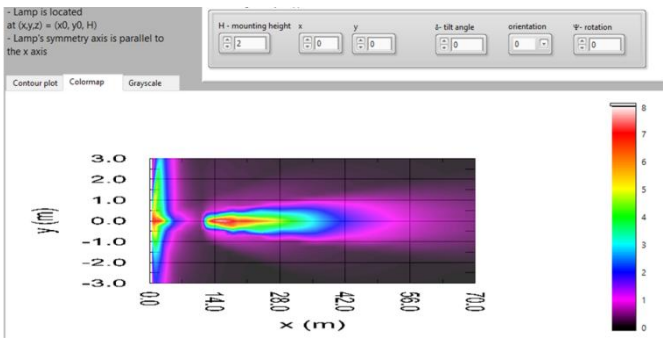
1. Spatial color uniformity
2. Total spectral radiant flux
3. Total color parameters
4. CCT/CRI as a function of angle

Secondary photometer

1. Measurement of low luminous intensities
2. Automated flicker measurements

LUMI – ORDERING Information

Goniometers	
SSL LUMI 90 SSL LUMI 120 SSL LUMI 180	3-axis Goniometer station (C, γ), motorized vertical arm, Photometer SSL L-200, GPM-sw-full, Stray light tube and stand, Alignment laser, laser distance meter, Imaging Camera, SPEKTRI 80 + SSL-GSM
Sample holders	
SSL-SH-Mot-xxx	Motorized sample holder (xxx specified by the gonio model)
SSL-SH-xxx	Sample holder of linear LUT (xxx specified by the gonio model): two alternatives attaching mechanisms: (1) by squeezeing the LUT with four angle brackets (2) by screwing the LUT using square nuts (M4/M6/M8) in the grooves (angle brackets are removed)
SSL-SH-park	Sample holder of park lights: Mounting by squeezing a park light from its edges, max. Ø70 cm, a top of the park light can be located into center hole diameter 12 cm
SSL-SH-panel	Sample holder of panel lights and down lights : Mounting by squeezing a LED panel from its edges, compatible for different sizes LED panels with thicknesses of >7.5 mm
SSL-SH-street	Sample holder of street luminaires with pole mounting system: 60mm tube, fixation by two screws in radial orientation, max. distance between mounting hole and the roof of the LUT 13cm
Options	
SSL-B-xxx	B type goniometer option to be connected onto a goniometer station. Including mechanical adapters and sw add-on. xxx specified by the base gonio model.
SSL-SecPhm	Secondary photometer for measuring low luminous intensity levels / flicker (SSL L-40 photometer+ sw add-on)
SSL-BPC	Setup for burning position corrector including a related software tool
SSL-black	Special low reflectance black material for a back wall and floor of gonio laboratory room
SSL-computer	Measurement computer with needed communication cards and installation work (drivers and software)
SSL-service	Goniometer system first installation and basic training including example measurements on customer site (2-3 days)
Power meter and power sources	
SSL-pow-2	Automatic input power measurement in GPM software, Chroma 66201, AC plug adapter, 19” 2U
SSL-AC-2	APS-7050, 500W: a stable programmable AC power & automatic powering through the GPM software, 19” 2U
SSL-DC-750	TDK GEN 750W, programmable DC power supply, 19” 1U, DC power control software:



NEW SOFTWARE FEATURES

- Manual and automatic beam symmetrization
- Simulations of isolux figures from headlamps at different orientations, and tilt angles.
- Custom measurement angles (non-equidistant steps)
- Automatic custom test report (pdf / html)

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SSL Resource Oy
Myllyojankatu 2A
FI-24100 Salo, FINLAND

+358 (0)44 360 8199
sales@sslresource.com
www.sslresource.com