

# LS-LAM-40M

## Calibrated manual halogen light source

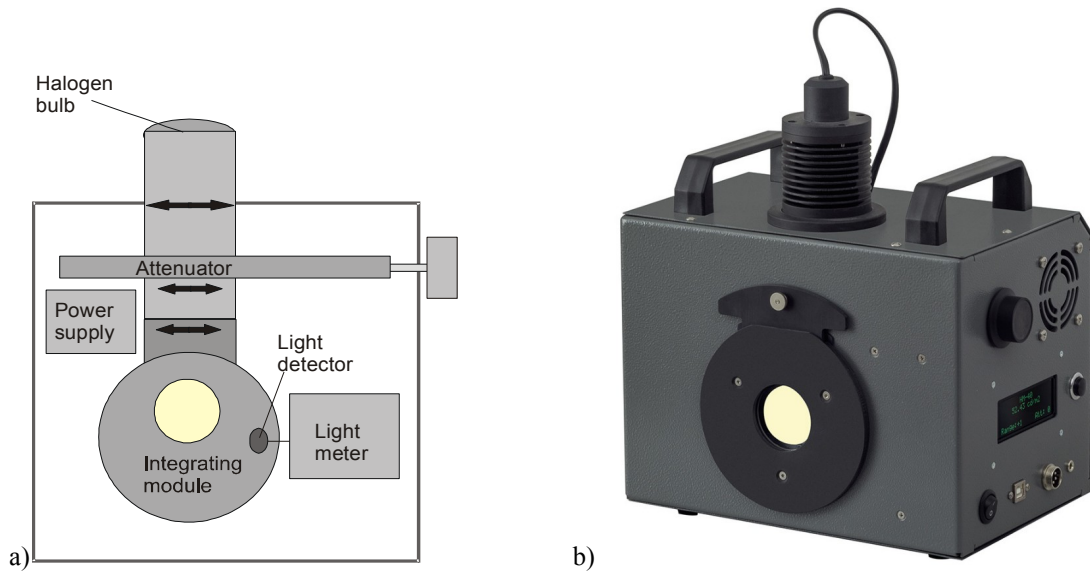


Fig. 1. LS-LAM40M calibrated manual halogen light source a)block diagram, b)photo

### BASIC INFORMATION:

The LS-LAM40M is a calibrated manual halogen light source that simulates area polychromatic sources of color temperature about 2856K in visible, near infrared, and short wave infrared spectral bands. Intensity of the emitted light regulated using an opto-mechanical attenuator that changes light intensity but does not change light color temperature.

LS-LAM40M light source is built using a concept of a special optical system projecting light emitted by a halogen bulb to integrating module that later works as a light emitter. The light source offers extremely high dynamic range, continuous regulation of light intensity

(ability to simulate both ultra night conditions and ultra bright day conditions).

Aperture of LS-LAM40M light source is typically limited to 40mm. This aperture is enough for calibration of VIS-SWIR sensors and VIS-SWIR cameras of small optics. sensors. Next, when testing VIS-SWIR cameras of aperture over 40mm Inframet offer additional C100 collimator of aperture 100mm that enables calibration of VIS-SWIR cameras of aperture as high as 100mm.

Set of external filters enable work of this light source in several modes:only visible, NIR and SWIR, and only SWIR.

### FEATURES

- ◆ Ultra wide calibrated spectral band from visible to short wave infrared.
- ◆ High dynamic range and continuous regulation of luminance that enable over million of different luminance levels. Typical sources enable step luminance regulation or enable continuous regulation but for much smaller luminance range.
- ◆ Spectrum of LS-LAM40M light source resemble well spectrum of standard greybody of 2856K color temperature in spectral band 400-1000nm.
- ◆ Optical aperture of the light source can be increased with help of C100 collimator to 100mm (or more) when testing VIS-SWIR cameras.

### CALIBRATION

LS-LAM40M light source is a broadband light source that emits light from visible to short wave infrared band. This light source is typically calibrated in photometric units:  $\text{cd/m}^2$  units. However, the source can be optionally calibrated in radiometric units ( $\text{W/m}^2$ ) for spectral bands determined by spectral filters specified by user.

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### SPECIFICATIONS

<i>Parameter</i>	<i>Value</i>
Light source	special halogen bulb (porous tungsten)
Light source diameter	40 mm (can be increased to 100mm using C100 collimator)
Emission spectral band	350nm to 2200nm;
Color temperature of halogen bulb	2856K $\pm$ 100K at 400-1000nm band
Luminance range	1mcd/m <sup>2</sup> - 800 cd/m <sup>2</sup>
Regulation type	Manual, continuous
Regulation method	Opto-mechanical attenuator
Regulation resolution	0.1mcd/m <sup>2</sup> (at low intensity range)
Temporal stability	<1%
Spectral filters	Three filters: a)only visible, b)only NIR and SWIR, c)only SWIR
Dimensions	37x49x29cm
Mass	12 kg

\*specifications are subject to change without prior notice

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