Application Note

Light measurement of streetlighting fixtures

LabSpion

For large light sources.
Spectrometer sensor with built-in laser distance
detector on tripod.

Max. 150 cm / 25 kg

BaseSpion

For small and medium-sized light sources. Spectrometer sensor on table-top rail.

Max. 54 cm / 9 kg

LabRail

For large light sources.
Spectrometer sensor with rail-mounted sensor and distance detector
(standard length 12 m).

Max. 150 cm / 25 kg

Viso Accessories

Add a Cali-t50 lamp to make system calibrations.

Add a LabTemp 3-port temperature probe and measurement system for monitoring DUT temperature

CHOOSE THE RIGHT SYSTEM

The LabSpion system is especially well suited to measurement of street lights with complex light distributions. The technology behind all Viso light measurement systems is fast spectrometer sensors. Hence, all data is based on full-spectrum goniometer measurements.

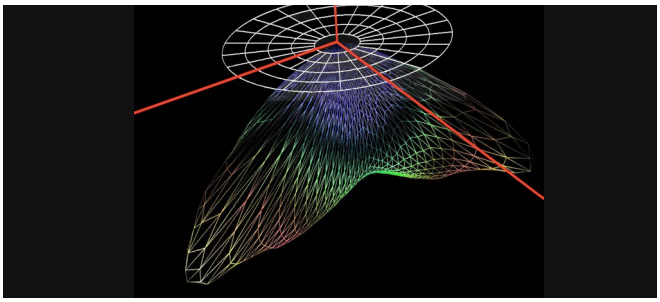
Measuring is fast: One full plane (= two C-planes) in a 5° resolution is measured in just 20 seconds. A complex measurement with e.g. 32 c-planes and 1° resolution will be done in just 20 minutes. All necessary data is captured making use of an integrating sphere redundant.

A built-in power analyzer keeps track of DUT warm-up and power feed. All data is stored in the same measurement file.

Light Inspector

The Light Inspector software works with all Viso systems and makes measurements easier than ever.

Fully graphical workflow



USER-FRIENDLY SOFTWARE

The Viso Light Inspector software is the strongest and most intuitive light measurement software solution in the market. The user-friendly dashboard provides you with a perfect overview of your measurements - and in real-time. The software handles automatic goniometer setup and measurement. The Light Inspector has extensive output options and connect directly to MATLAB, LabVIEW, etc.

COMPACT LABORATORY

Even though streetlights as big as Ø1500 mm can be measured in the system, the whole goniometer setup fits into a space not wider and taller than 2.5 meter. The sensor distance needed is often 10 or 12 m depending on your lighting fixtures. The system can be set up in 30 minutes.

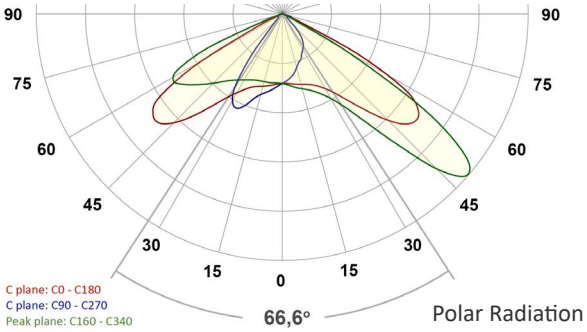
visosystems.com - Tel. +45 36991882 - info@visosystems.com
Viso Systems Aps - Copenhagen - Denmark

ALL IN ONE MEASUREMENT

Data sheets for streetlighting fixtures includes lots of information about the emitted light. Goniometers from Viso Systems capture all information with a single measurement

Flux data

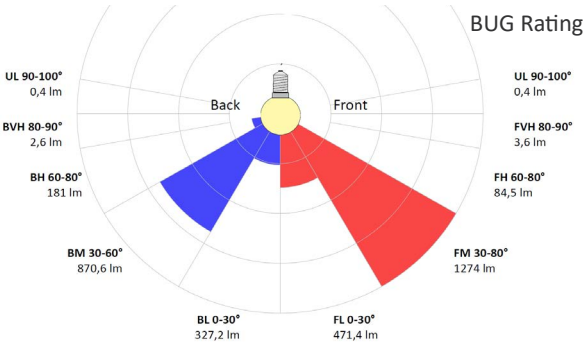
- Total luminous flux [lumen]
- Polar radiation pattern:
  C0-180 (red)
  C90-270 (Blue)
  Peak plane (Green)
- Utilization factor
- BUG-rating (IESNA TM-15-07)
- Glare rating according to EN 13032-2



Polar Radiation

Color information Spectrum, CCT, CRI, TM30-18

- Export all measured color data in full resolution [watt/nm/sr]
- Generates integrated spectrum
- Generates CCT correlated color temperature (ANSI C78.377-2011)
- Generates color rendering indices:
  CRI (CIE 1995)
  CQS (NIST)
  TM30-18 (ANSI-IES)



Chromaticity

Color Consistency

- CIE 1931 color space chromaticity diagram
- x,y-coordinates, u,v-coordinates
- MacAdam ellipses, SDCM
- ANSI binning possible

Glare restriction - Obtrusive light

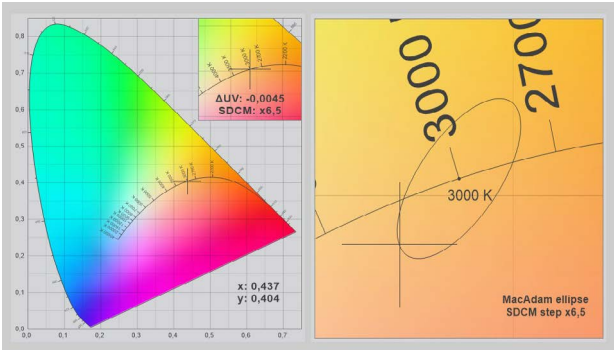
Luminous intensity class G*3

γ	Measured data, I_{max} [cd/klm]	Specified max. in EN 13201-2
70°	565	
80°	67	100
90°	0	20
>95°	0	

DUT temperature

Add a LabTemp temperature probe system and measure e.g.:

- Junction temperature
- Case temperature
- Solder point temperature

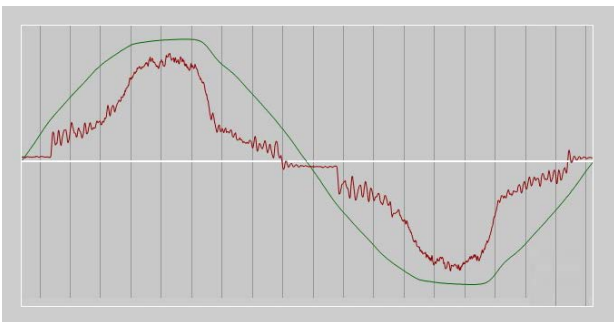


Color over angle

- Export all measured color data in full gamma-angle resolution [watt/nm/sr]
- Gamma resolution down to 0.1°
- Up to 72 C-planes

Flicker

- Capture all TLA/flicker data and save in your light measurement file
- SVM, PstLM, Flicker Index, Flicker Percent, Ja8/10, Mp, Frequency etc.



Power specs

- Built-in power analyzer
- Compatible with external power supplies
- Outputs voltage, amps, wattage, AC frequency etc.
- Outputs power factor and THD