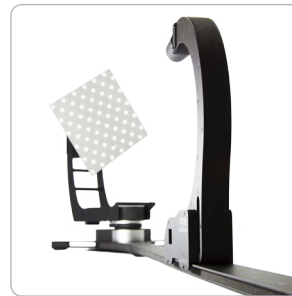# Application Note

Light measurement of LED Components

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

LightSpion

Portable measurement laboratory for small light sources.
Fold-out spectrometer sensor.

Max. 8 cm / 1 kg

LabFlicker

Allows measurement of all contemporary flicker metrics and connects to all Viso goniometers

CHOOSE THE RIGHT SYSTEM

The BaseSpion system is especially well suited to measurement of RGB LEDs, COB LEDs and SMD LEDs. Fast spectrometer sensors is the technology behind all Viso light measurement systems. 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. As all data is generated by the Viso system, there is no need for subsequent integrating sphere measurements.

A built-in power analyzer keeps track of DUT warm-up and power feed. The LabTemp accessory connects directly to the power analyzer. 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.

ALL IN ONE MEASUREMENT

**Data sheets for LED components (SMD, COB) 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]
- Peak intensity [candela]
- Spatial radiation pattern
- Polar radiation pattern
- Performance curves:
    - Flux vs junction or case temperature (with LabTemp)
   - Flux vs forward voltage
    - Flux vs drive current
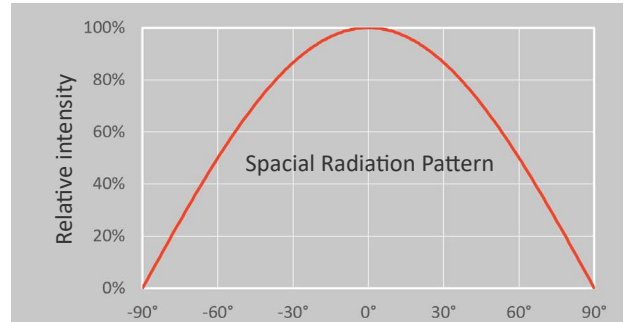
**Color information
Spectrum, CCT, CRI, TM30-18**

- 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)
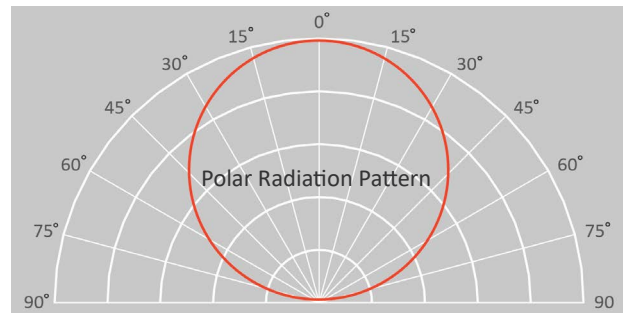
**Chromaticity
Color Consistency**

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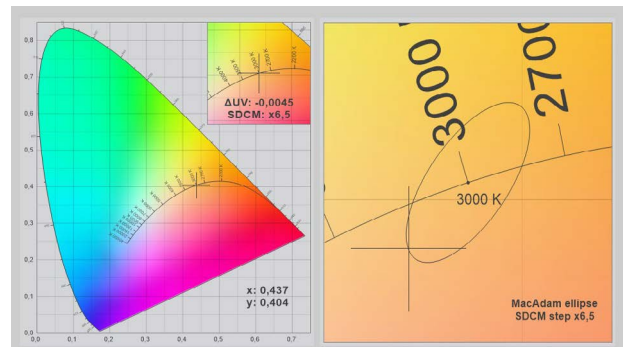- ANSI binning possible
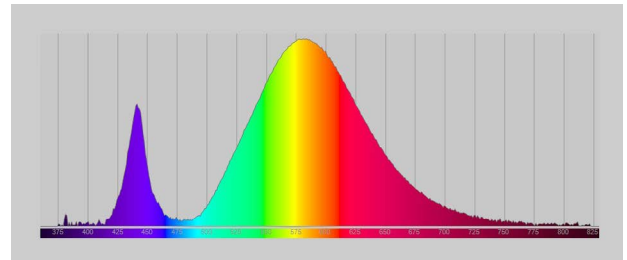
DUT temperature

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

Blue Hazard

Blue light hazard EN 62471 risk group (approximation based on uniform luminance distribution on surface).

Power specs

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