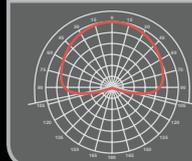




Light measurement made easy



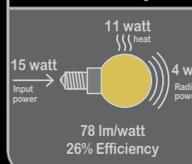
Beam angle



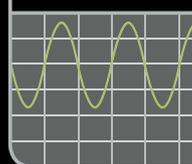
IES / LDT



Efficiency



Flicker



SCANDINAVIAN EXPERTISE

Hundreds of clients worldwide use goniometer solutions from Viso Systems in Copenhagen, Denmark. Our customers are primarily in the general lighting industry as well as in horticultural lighting, automotive lighting and other specialized lighting applications.

YOUR OWN LABORATORY

Previously, only large companies had the need and the resources to build their own laboratory.

Now times have changed, and small and medium sized companies request light measurement equipment too. Constant LED-product changes create a demand for lots of measurements – every day. Further, lighting customers expect much more detailed product specifications and legislation calls for endless checking of requirements.

Measuring solutions from Viso Systems are designed to meet the demands of both large, mid-sized and small companies that want their own laboratory. Our customers appreciate easily operated high-end equipment at an attractive price.

Once your own laboratory is in place you will also enjoy:

- Faster and more focused product development.
- Building internal competences
- Professional product specifications to present to your customers

DESIGN

We develop and improve our products every day - and preferably in interaction with our customers. Your inputs and ideas are important to us. Close dialogue with the users ensures that our systems are always suitable for your tasks and meet new requirements.

Viso Systems equipment is suitable for many different applications, such as general lighting, horticulture and LED components. We help our clients customize equipment, installation and reports to suit specific needs.

VISO SYSTEMS

Based in Copenhagen, Denmark, Viso Systems has developed and produced high-end light measurement equipment and controls since 2006. We supply the lighting market with

innovative light measurement and control technology that is of the highest quality and precision. We simplify the complexity of measurements and control systems by delivering intuitive user interfaces. The implementation of unique technology in our products, for example the fast spectrometer solution that replaces a photometer, puts us on the forefront of smart, fully integrated measurement solutions.

SOFTWARE

The Viso Light Inspector software is the strongest and most intuitive light measurement software solution in the market.

The dashboard provides you with a perfect overview of your measurements - and in real-time. We know that speed of measurement and data production is crucial to your business.

Whether you just want to create LDT and IES files or you want more advanced reports, Viso Light Inspector software will provide fast and easily customized outputs.

PRODUCTION

All production and development takes place in Viso Systems' headquarters in Copenhagen, Denmark and with our network of experienced and reliable sub-suppliers.

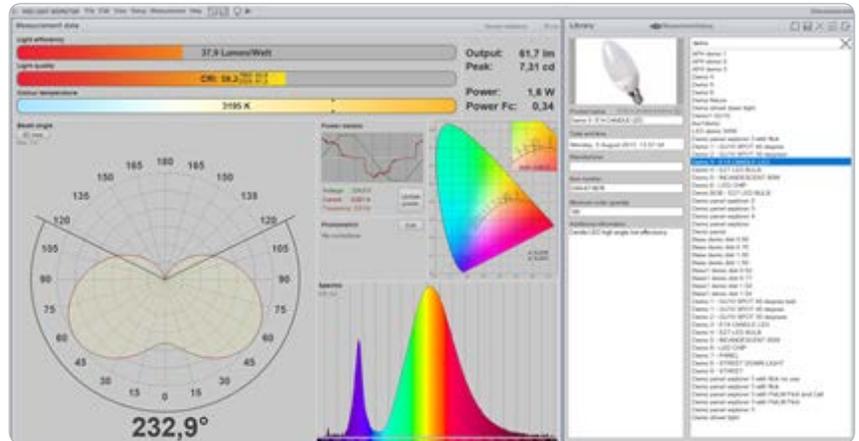
Our products are assembled, meticulously tested and certified before shipment. Delivery time is normally only 14 days from order.

WHAT MAKES VISO DIFFERENT

Viso customers reported back to us that especially our software solution is market leading. Further, we focus on powerful customer service to facilitate your day-to-day laboratory work. All-in-one solutions and short delivery times makes it easy to get started.

UNIQUE SOFTWARE

Your everyday tool is the second-to-none Light Inspector software solution. The dashboard gives you a great real-time overview of measurements. Underlying functionality allows you to analyze and download your results in much more detail



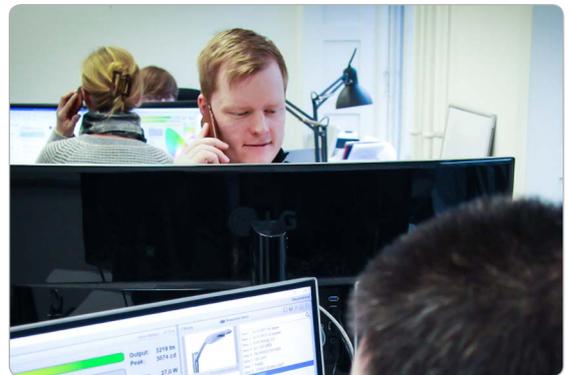
CUSTOMIZED REPORTS

The Viso pdf report generator allows you to present all data and graphs nicely to your customers. Customize your reports to carry your logo and your selection of data, and reuse your templates again and again.



STRONG SUPPORT

Our worldwide network of resellers as well as head office engineers are ready to answer your questions.



ALL-IN-ONE

Viso solutions are all-in-one: We capture both light distributions and color data in the same measurement, hence there is no need for an integrating sphere. The system comprises all hardware - no external racks are needed.



READY TO SHIP

Normal delivery time is only about 14 days from order. Our equipment is designed for 2-day air freight.





Light Inspector

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

Fully graphical workflow



LabRail

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

Max. 150 cm / 25 kg



LabSpion

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

Max. 150 cm / 25 kg



BaseSpion

For 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



Extender

Extension for LightSpion increasing measuring distance up to 180 cm.

Max. 22 cm / 4 kg



LabFlicker

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



Viso Accessories

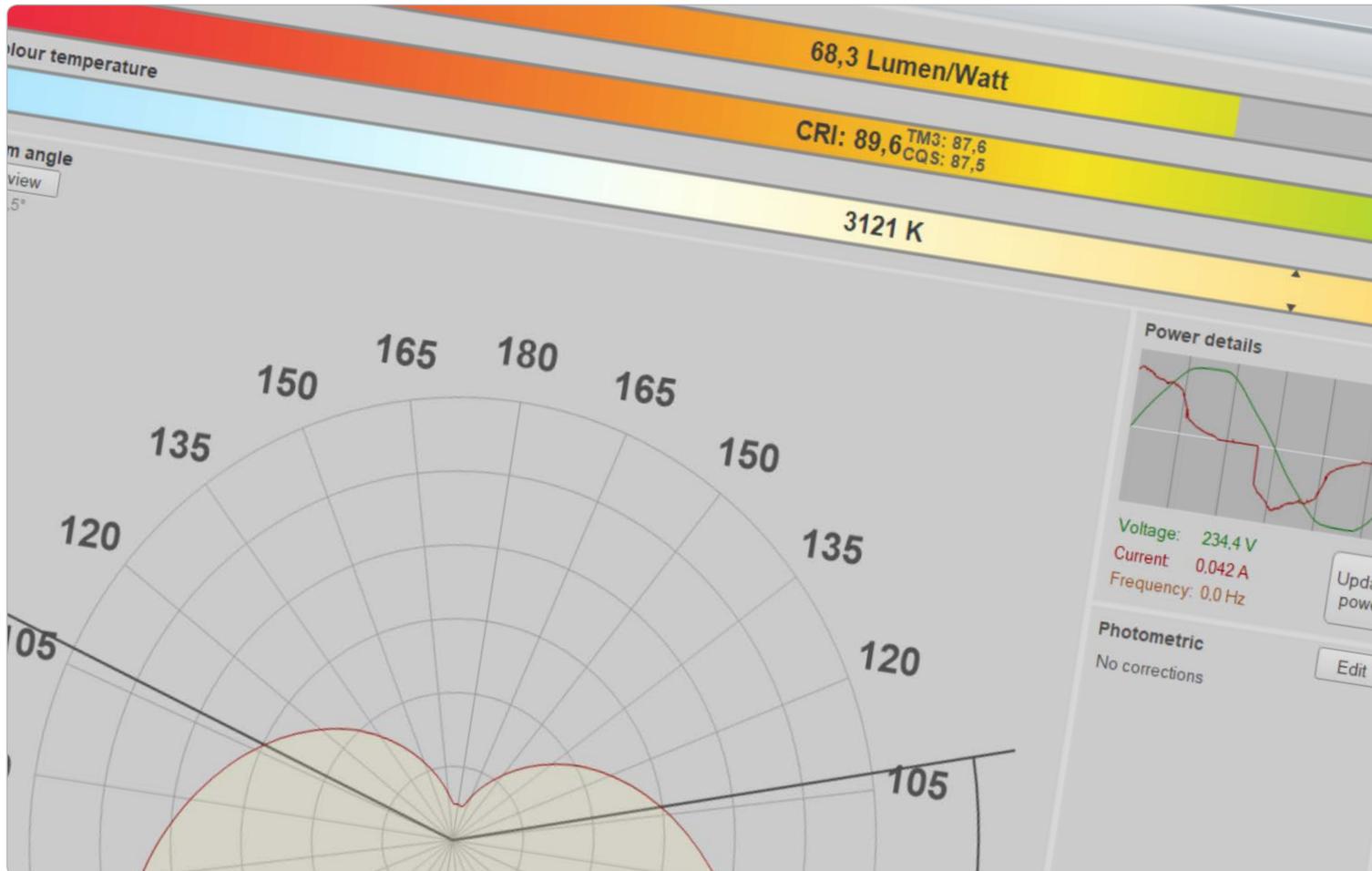
Add a Cali-T50 lamp to make system calibrations.

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

LIGHT INSPECTOR SOFTWARE

The Viso Light Inspector® is the most intuitive photogoniometer interface and software system on the market. It is included in all Viso Light measurement products. All measured data is shown in-real time and the photometric results are displayed graphically to give you a fast overview.

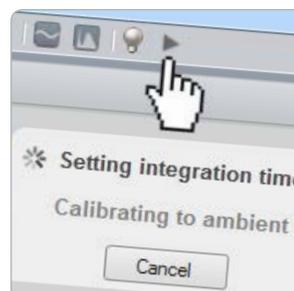
THE DASHBOARD



CLICK AND GO

- User-friendly graphical interface
- Automatic goniometer setup
- Graphical power analyzer
- Real-time measurement data
- Detailed angular distribution
- Add product image and description
- Customize pdf reports using Viso report designer
- Connect directly to MATLAB, LabVIEW, etc.
- Compatible with Windows 7, 8 and 10

One click starts the fully automatic setup and the measurement cycle

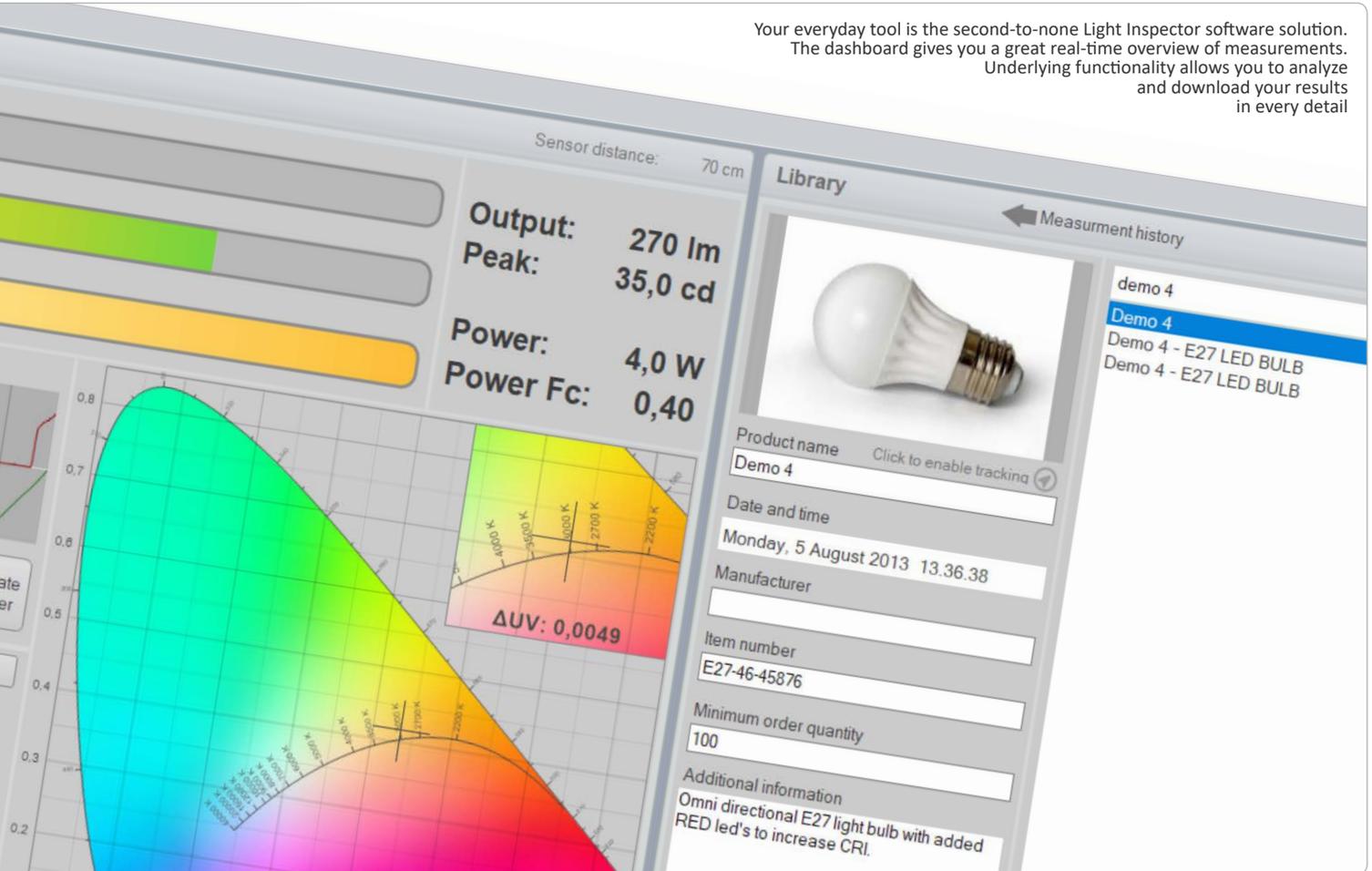


Comprehensive color quality data results, including CRI, CQS and TM30 values

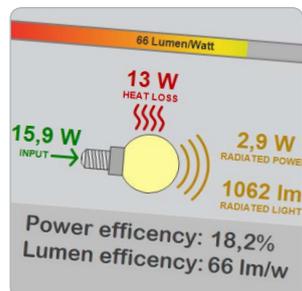


Using a spectrometer sensor and a built-in power analyzer, the unique Viso technology enables fast measurements and ensures that all data is measured quickly, making other equipment such as integration spheres redundant.

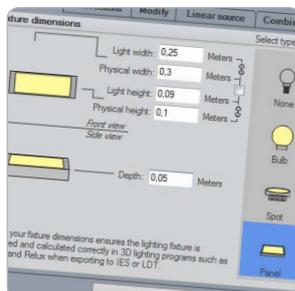
Your everyday tool is the second-to-none Light Inspector software solution. The dashboard gives you a great real-time overview of measurements. Underlying functionality allows you to analyze and download your results in every detail



Real power efficiency can be calculated using the radiated spectral energy

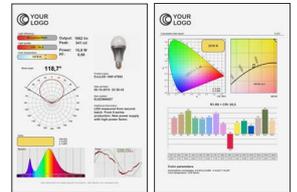


Easily add dimensions to your light sources and luminous areas

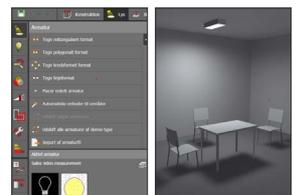


EXPORT

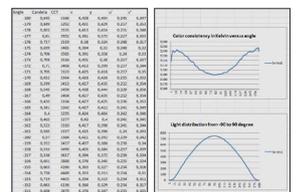
PDF



LDT
IES



EXCEL



LABRAIL WITH LABSPION

The unique LabRail® system together with a LabSpion goniometer is a complete light measurement solution. The 2-axis goniometer enables the system to measure the full 3D light distribution of any light source giving lighting professionals comprehensive .ldt and .ies files.



GO ANYWHERE IN 5 SECONDS

- Works seamlessly with LabSpion
- Repositioning of sensor in only 5 seconds
- Perfect alignment every time
- No cables
- Free your floor space
- Automatic positioning
- Easy suspension from ceiling

Upgrade your LabSpion: Replace the tripod with a LabRail system



The LabRail connects to the LabSpion power analyzer with a single ethernet cable



The standard rail is 12 m long and secures optimal alignment every time



The integrated laser measures the distance to the light source automatically



The rail solution allows easy repositioning of the sensor. The sensor travels securely on the up to 16 m long rail along the optical axis. Once the light source is in place there is no need for further alignment of the sensor.



PERFECT ALIGNMENT

The LabRail is the newest product from Viso Systems. The LabRail system combines a full-size goniometer with a rail-based sensor system.

12 meters (8 x 1,5 m) of rail is standard - but both shorter and longer rails are available. The rail assembly is suspended from the ceiling in the laboratory.

Sensor movement along the rail is motorized and sensor distance can be optimized for any size of light source.

Owners of LabSpion systems may replace the standard tripod arrangement with the rail system upgrade kit.

SPECIFICATIONS

Sensor distance range	35 cm to 12,000 cm (standard)
Sensor distance setup	Automatic
Power supply input	90 to 260 VAC, 50/60 Hz

More specifications in page 18-19



LABSPION

The LabSpion® is a complete light measurement solution ideal for all light sources from small lamps and LED chips to large panels and streetlights. The 2-axis goniometer system measures the full 3D distribution field of any light source giving lighting professionals comprehensive LDT/IES simulation files.



The 2-axis goniometer gives you a full 3D light distribution



Just plug in the USB cable and everything is fully integrated



The main board easily slides out allowing a quick update

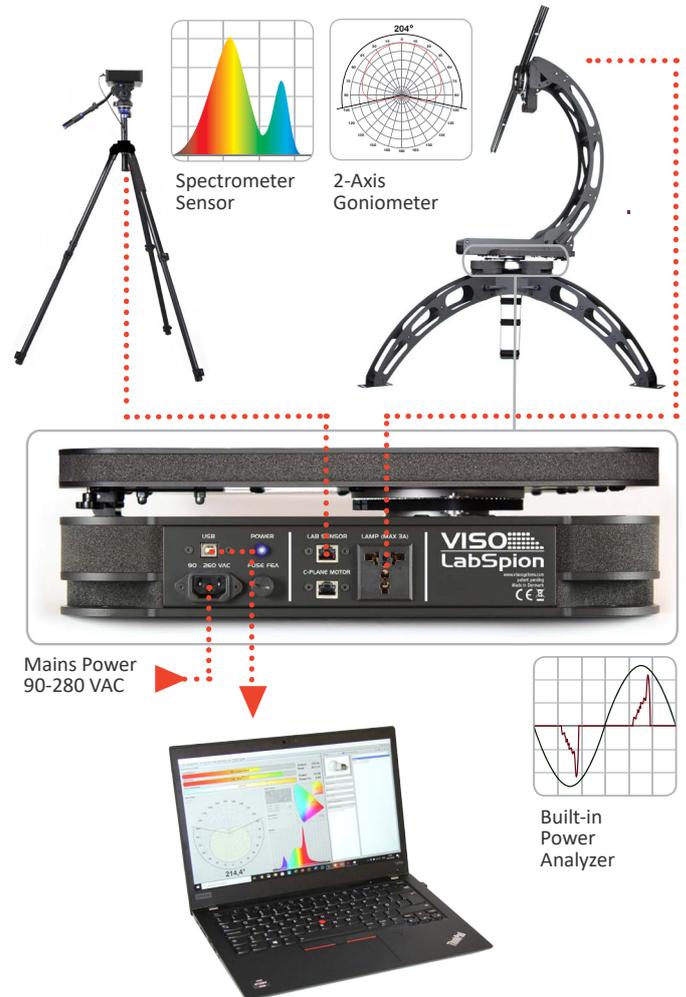


The distance is easily detected with the integrated laser



Using a spectrometer sensor and a built-in power analyzer, the unique Viso technology enables fast measurements and ensures that all data is measured quickly, making other equipment such as integration spheres redundant.

EASY CONNECTIVITY



SPECIFICATIONS

Measurement method	Far field, type C horizontal
Spectrometer range	360 - 830 nm
Sensor distance range	35 cm to 1,600 cm
Sensor distance setup	Manual
Lamp diameter range	0 – 1,5 m at 2-axis
Lamp maximum weight	25 kg
Power supply input	90 to 260 VAC, 50/60 Hz

More specifications in page 18-19

MEASURE IN 30 SECONDS

- Lumen
- Peak candela value
- Color temperature, CCT
- Spectrum, CRI, TM30, CQS
- Beam angle
- Detailed angular field distribution
- Power and power factor
- Lumen per Watt

BASESPION

The BaseSpion® is a great tool for any light measurement laboratory and allows you to measure all medium-sized lighting products. The 2-axis goniometer enables the system to measure full 3D distribution fields of any light source and gives lighting professionals comprehensive LDT and IES simulation files.



The universal light source bracket easily clicks onto the goniometer



Before measurement, simply slide, align and lock the light source to the center



The base center lock makes it easy to align the light source to the center of rotation



The automatic sensor positioning system ensures accurate distance



The BaseSpion is the perfect solution for any midsize laboratory that wants advanced light measurements in a compact system. It is the best solution for LED chips, modules, panels, downlights, bulbs and spots.



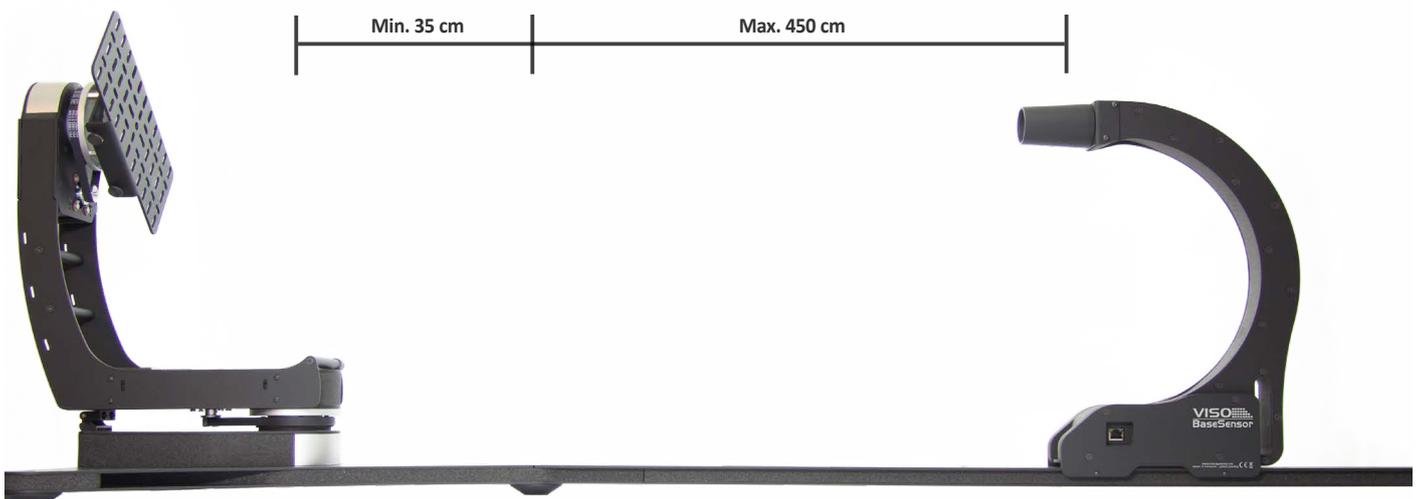
COMPACT

The BaseSpion is a professional laboratory table-top light measurement system. It offers fully automated multiple C-plane measurements. The design of the system makes it very flexible to work with in any lighting laboratory. The goniometer drivers and the power analyzer are all built in. Just connect via USB to any PC and get results in just 30 seconds

SPECIFICATIONS

Measurement method	Far field, type C horizontal
Spectrometer range	360 - 830 nm
Sensor distance range	35 cm to 450 cm
Sensor distance setup	Automatic detector on rail
Lamp diameter range	0 - 54 cm
Lamp maximum weight	9 kg
Power supply input	90 to 260 VAC, 50/60 Hz

More specifications in page 18-19



LIGHTSPION

The portable Viso LightSpion® enables you to fully measure any light source in just 30 seconds. It measures all the photometric data and no expert knowledge is required. The LightSpion can even be used outside of a laboratory or dark room, making it a great tool for on-site inspections and empowering your sales force.



The water protected case is exceptionally lightweight (5 kg)



The built-in power analyzer gives you power information instantly



Quick and easy, the system is pre-calibrated and ready to be used



The LightSpion is operated from your own PC with Light Inspector software installed



The LightSpion is the only portable system on the market that includes a spectrometer sensor and a built-in power analyzer. This lightweight and professional measurement solution makes it easy to take it with you anywhere you go.

STANDARD FEATURES

The LightSpion is designed to measure small, symmetrical light sources such as household lamps and LEDs in one plane (two C-planes).

An omni-directional reference lamp is included to enable verification of the calibration at any time.

The LightSpion includes a bracket that enables the system to measure (sections of) linear lamps, such as LED strips and tubes. Full length of the light source is typed into the Viso Light Inspector to provide the full photometric data.



Reference lamp included



Linear lamp source bracket

SPECIFICATIONS

Measurement method	Far field, type C horizontal
Spectrometer range	350 - 800 nm
Sensor distance range	66 cm (with extender 115 and 182 cm)
Sensor distance setup	Manual
Lamp diameter range	0 – 80 mm (with extender 220 mm)
Lamp maximum weight	1 kg (with extender 4 kg)
Power supply input	90 to 260 VAC, 50/60 Hz

More specifications in page 18-19

OPTIONAL: EXTENDER

The LightSpion Extender® is an excellent tool for measuring light sources that exceed 8 cm in diameter. The extender for the LightSpion provides you with the distance necessary for measuring light sources that are up to 22 cm in diameter and up to 5 kg in weight.

Manual rotation of the lamp in 45-degree steps (up to 8 c-planes) allows measuring even asymmetrical light sources.



LABFLICKER

The LabFlicker® is the first flicker instrument to integrate seamlessly with your light measurement system, making it simpler than ever to automatically incorporate all photometric data into your reporting.



The LabFlicker connects directly to the Light Inspector software giving you a live preview of your flicker signal. The smart signal processing algorithm frames and calculates your flicker data in real-time. The LabFlicker can be used as a stand-alone device but gets more powerful when used together with any Viso product as all photometric data can be seamlessly exported into one complete report. The LabFlicker is designed to be used in a laboratory setting positioned close to the light source.

RESULTS

- SVM, PstLM
- Flicker percentage
- Flicker index
- Flicker frequency
- MP (Assist)
- JA8/10



Connects directly to your PC via USB allowing for a fast, real-time preview



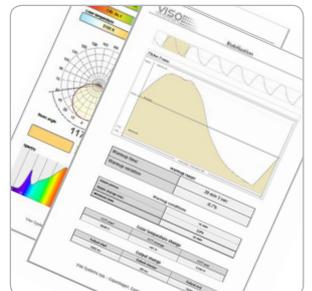
OLED display gives live flicker results during measurement



Ultra-fast 350.000 samples/sec photo sensor gives you precise data



Seamless integration with Viso pdf-reporting: All photometrics in one output



ACCESSORIES

All necessary equipment is included in your first shipment. A few items may be added to extend your capabilities. Do your own calibrations with the Cali-T50 reference lamp. Measure DUT temperature and integrate the results in your reports.

CALI-T50



The Cali-T50 is a tungsten irradiance reference lamp with an auto ramp-up power supply. This reference lamp can be used to recalibrate/verify your calibration at any time without the need for external support. It is easily mounted in the center bracket of the LabSpion. The Cali-T50 is included in LabSpion and LabRail

LABTEMP



Keeping track of the temperature of the device under test is often important. The new LabTemp hub allows you to follow the temperature via three standard temperature probes. Results will be displayed dynamically and in reports. The LabTemp can be mounted on all steel surfaces via strong permanent magnets

TECHNICAL SPECIFICATIONS



LabSpion



**LabRail
for LabSpion**

Physical Dimensions

Shipping Weight	90 kg	35 kg
Dimensions (L x W x H)	190 x 190 x 162.5 cm	25 x 25 x 160 cm
Weight	78 kg	30 kg
Sensor Distance Range	0.5 to 50 m	0.5 to 12 m
Sensor Distance	≥ Light Source Length x 10 (min. x 8)	Standard up to 12 m (can be extended)
Sensor Distance Set-Up	Laser Range Finder	Laser Range Finder, Automatic
Light Source Diameter Range	0 - 1.5 m @ 2-Axis (Up to 6 m at 1-Axis)	
Light Source (DUT) Maximum Weight	25 kg	

Electrical Specifications

Power Supply Input	90 - 260 VAC, 50/60 Hz	90 - 260 VAC, 50/60 Hz
Power Analyzer Voltage Range	90 - 260 VAC < ±0.5V	
Power Analyzer Current Range	0 - 3 A (Average ±0.5 mA)	
Power Analyzer Power Range @ 230 V	0 - 600 W (Average: ±0.1 W)	
Power Analyzer Power Range @ 110 V	0 - 300 W (Average: ±0.1W)	
Power Analyzer Sample Rate	70,000 Samples/sec	

Photometric Specifications

Measurement Method	Far Field	Far Field
Lumen and candela accuracy	±4 %	
Intensity, Lux at Sensor (Equal to cd @ 1 m)	0.20 – 200,000 <±2,5% lux	
Max intensity, candela @ 0.5 m	0.05 – 50,000 <± 2,5% candela	
Max intensity, candela @ 5 m	5 – 5,000,000 <± 2,5% candela	
Max intensity, candela @ 10 m	20 – 20,000,000 <± 2,5% candela	
Max intensity, candela @ 20 m	80 – 80,000,000 <± 2,5% candela	
Color Temperature Range	1,000 K - 40,000 K < ±35 K	
Color Rendering Index	Up to 100 < ±0.7	
Resolution, Standard	5 Degrees/Step (Auto-Detect)	±3 mm
Resolution, Highest	0.1 Degrees/Step (Auto-Detect)	±2 mm
Number of c-planes	2-72 (max. 144)	
Spectrometer Type	Ibsen Photonics FREEDOM	
Custom Viso	(High Sensitive Transmission Grating)	
Spectrometer Range	360 - 830 nm (1024 pixels)	
Spectrometer Detector	Hamamatsu S11639-01	
Calibration	Fully Calibrated Plug and Play Solution	Not Necessary
Re-calibration	Every Two Years	Not Necessary

BaseSpion



LightSpion



Extender for LightSpion



	41 kg	7 kg	9 kg
	205 - 360 x 56 x 55 cm	43 x 11.5 x 33.5 cm	100 x 36 x 21 cm
	38 kg	6 kg	7 kg
	0.35 - 4.5 m	66 cm	66, 115 and 182 cm
	≥ Light Source Length x 10 (min. x 8)	Fixed	Fixed (Three Settings)
	Automatic Detector on Sensor Rail	Fixed	Manual input
	0 - 54 cm	0 - 8 cm @ 1-Axis	0 - 22 cm
	9 kg	1 kg	4 kg
	90 - 260 VAC, 50/60 Hz	90 - 260 VAC, 50/60 Hz	
	90 - 260 VAC < ±0.5V	90 - 260 VAC < ±0.5V	
	0 - 3 A (Average ±0.5 mA)	0 - 3 A (Average ±0.5 mA)	
	0 - 600 W (Average: ±0.1 W)	0 - 600 W (Average: ±0.1 W)	
	0 - 300 W (Average: ±0.1W)	0 - 300 W (Average: ±0.1W)	
	70,000 Samples/sec	70,000 Samples/sec	
	Far Field	Far Field	
	±4 %	LED ±4%, other types ±7.8%	
	0.20 – 200,000 <±2,5% lux	10 - 10,000 lux	
	0.05 – 50,000 <± 2,5% candela	0.5 - 50,000 candela ±4% @ 66 cm	
	5 – 4,000,000 <± 2,5% candela @ 4.5 m		
	1,000 K - 40,000 K < ±35 K	1,000 K - 10,000 K < ±35 K	
	Up to 100 < ±0,7	Up to 100 < ±0,7	
	5 Degrees/Step (Auto-Detect)	7.5 Degrees/Step (Auto-Detect)	7.5 Degrees/Step (Auto-Detect)
	0.1 Degrees/Step (Auto-Detect)	0.1 Degrees/Step	0.1 Degrees/Step
	2-72 (max. 144)	2 (fixed)	2-8
	Ibsen Photonics FREEDOM (High Sensitive Transmission Grating)	STS Ocean Optics	
	360 - 830 nm (1024 pixels)		
	Hamamatsu S11639-01	Panavision ELIS-1024	
	Fully Calibrated Plug and Play Solution	Fully Calibrated Plug and Play Solution	Not Necessary
	Every Two Years	Every Two Years	Not Necessary

REPORT DESIGNER

Design your report templates in your company style. No need to cut and paste or ask any other department to customize a report for a unique look. Use Viso's Report Designer to export directly to the client or to your website in the format you desire.

LOTS OF EXPORT OPTIONS

Light Inspector allows you to make several kinds of outputs - scientific and for marketing:

- Light distribution .ies and .ltd files (universal or custom)
- Raw data as .csv or MS Office Excel spreadsheets
- PDF standard reports
- Customized reports based on your own templates. Light Inspector allows you to design your own PDF report templates using Microsoft Office Word as an editor. Everything you can design in MS Word, you may include - even embedded MS Excel spreadsheets or custom graphics and logos

EXPORT TO

PDF

LDT/IES

EXCEL

PDF REPORT DESIGNER

VISO SYSTEMS

Light efficiency: 91 Lumens/Watt Output: 1000 lm
 Light quality: CRI: 84,3 Peak: 333 cd
 Color temperature: 3100 K Power: 11,0 W
 PF: 0,91

Product name: Demo panel explorer 3 with flick
 Item number: P0130035
 Date and time: 14.01.2016 13:38:22
 Description: Has been measured from new shipping batch.

Beam angle: 117°

Spectra and Power graphs are also shown.

Viso Systems Aps - Copenhagen, Denmark - www.visosystems.com

VISO SYSTEMS

Color details

3100 K

TM30: 84,1

CRI 84,3 (R1-R8)

CS: 83,3

Color parameters table:

Color name	CRi	CRi-R9	TM30 R1	TM30 R2	CSi	x	y	u	v	Just
100% R	84,3	75,8	84,1	84,4	83,3	0,420	0,602	0,346	0,344	-0,008

Viso Systems Aps - Copenhagen, Denmark - www.visosystems.com

VISO SYSTEMS

UGR

Glare Evaluation According to UGR

p Ceiling	70	70	50	30	70	70	50	30
p Walls	50	30	50	30	50	30	50	30
p Floor	20	20	20	20	20	20	20	20

Room size: 2H, 3H, 4H, 6H, 8H, 12H

Viewing direction at right angles to lamp axis

Room size	X	Y	Viewing direction at right angles to lamp axis	Viewing direction parallel to lamp axis							
2H	2H	15,1	16,5	15,4	16,7	17,0	15,1	16,4	15,4	16,7	16,9
	3H	16,7	17,9	17,1	18,2	18,5	16,6	17,8	17,0	18,1	18,4
	4H	17,3	18,5	17,7	18,8	19,1	17,2	18,4	17,8	18,7	19,0
	6H	17,7	18,8	18,1	19,1	19,4	17,7	18,7	18,0	19,0	19,4
	8H	17,8	18,9	18,2	19,2	19,5	17,8	18,8	18,2	19,1	19,5
	12H	17,9	18,9	18,3	19,2	19,6	17,9	18,8	18,2	19,1	19,5
4H	2H	15,8	17,0	16,2	17,2	17,6	15,8	16,9	16,1	17,2	17,5
	3H	17,6	18,6	18,0	18,9	19,3	17,5	18,5	17,9	18,8	19,2
	4H	18,3	19,2	18,7	19,5	19,9	18,2	19,1	18,7	19,5	19,8
	6H	18,8	19,6	19,3	20,0	20,4	18,8	19,5	19,2	19,9	20,3
	8H	19,0	19,7	19,4	20,1	20,5	18,9	19,6	19,4	20,0	20,5
	12H	19,1	19,7	19,5	20,1	20,6	19,1	19,7	19,5	20,1	20,6
8H	4H	18,6	19,3	19,0	19,7	20,1	18,5	19,2	19,0	19,6	20,1
	6H	19,2	19,8	19,7	20,2	20,7	19,2	19,8	19,7	20,2	20,7
	8H	19,5	20,0	20,0	20,4	20,9	19,4	19,9	19,9	20,4	20,9
	12H	19,6	20,0	20,1	20,5	21,0	19,6	20,0	20,1	20,5	21,0
	4H	18,6	19,2	19,1	19,7	20,1	18,5	19,2	19,0	19,6	20,0
	6H	19,3	19,8	19,8	20,2	20,7	19,2	19,7	19,7	20,2	20,7

Standard table: BK06

Correction summand: 2,4

Corrected glare indices referring to 1000 lm total luminous flux

Viso Systems Aps - Copenhagen, Denmark - www.visosystems.com

VISO SYSTEMS

Light planning

Coefficients of Utilization

Ceiling	80	70	50	30	80	70	50	30
Reflection	70	50	30	10	70	50	30	10
Walls	20	20	20	20	20	20	20	20
Floor	20	20	20	20	20	20	20	20

RCR (RCR: Room Cavity Ratio)

LAMP/S (number of lamps)

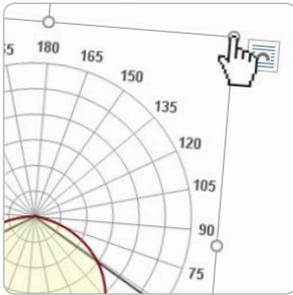
Luminaire budgetary diagram

Zonal Lumen Summary

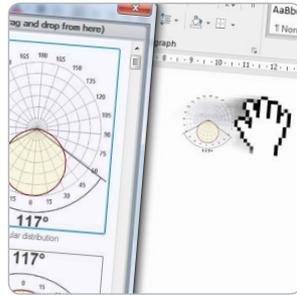
0°-15°	16°-30°	31°-45°	46°-60°	61°-75°	76°-90°	91°-105°	106°-120°
23,4 lm	92,3 lm	139 lm	112 lm	180 lm	165 lm	128 lm	75,3 lm

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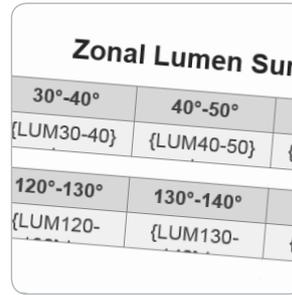
Simply add, move and/or resize any photometric data diagram



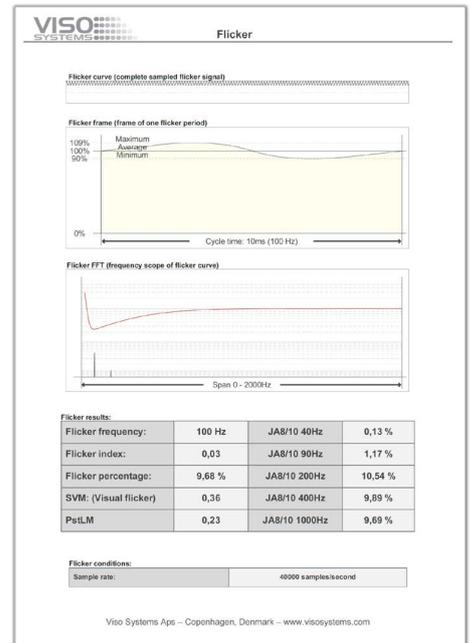
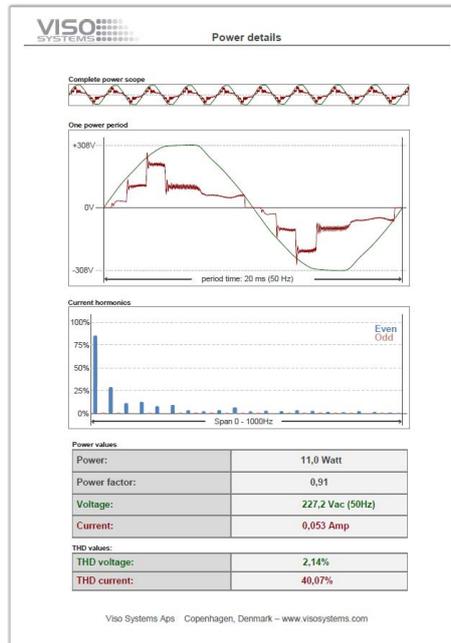
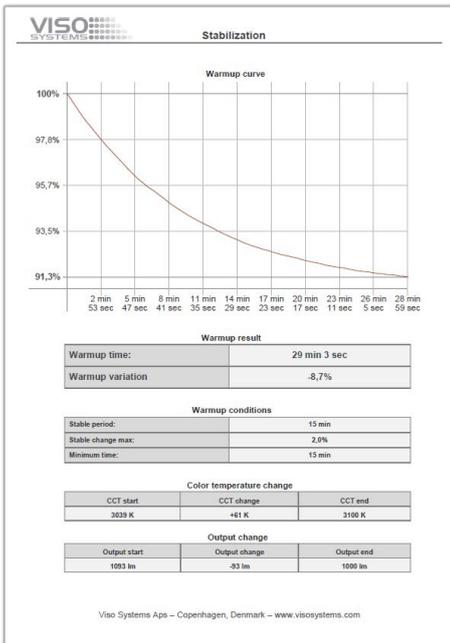
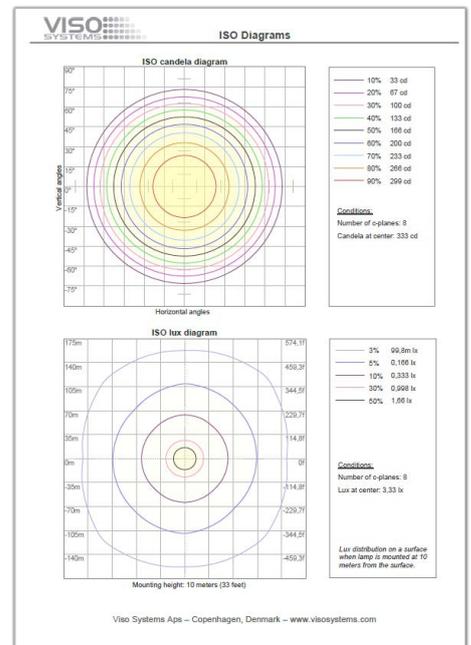
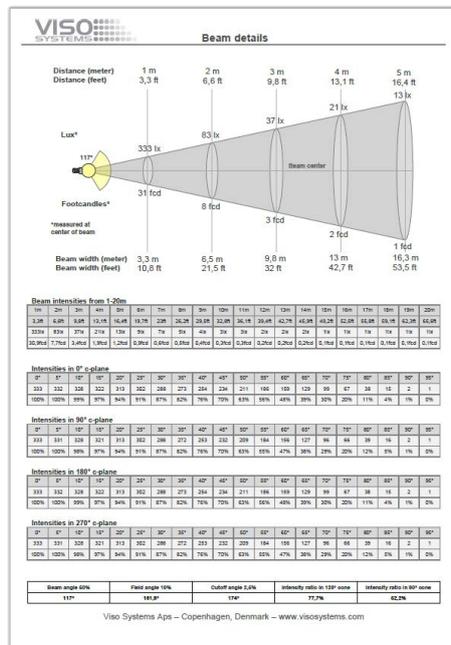
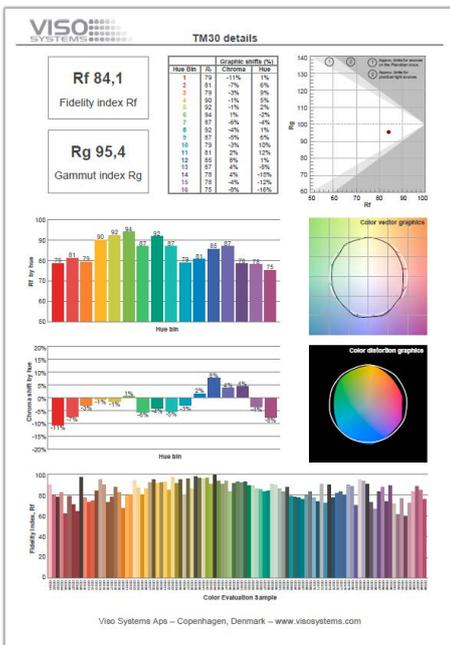
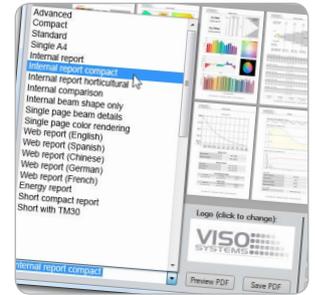
Extensive library of diagrams with any photometric data just drag and drop



Use keywords to place photometric values anywhere and create tables



Unlimited number of PDF templates can be saved and selected with preview

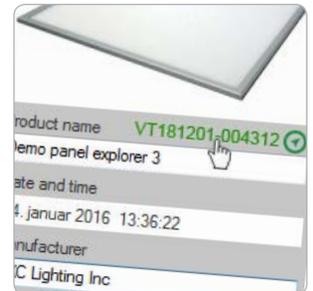


TRACK AND TRACE

LDT and IES files are not protected formats. To strengthen your credibility you have the option of uploading your results to Viso's server. Let your customers have access to the original results with a simple tracking number. Safeguard the integrity of your most important results by backing them up.

Track and trace your measurements with our unique new feature that gives each measurement a time, date and location stamp and stores all details on the Viso Systems tracking server with a unique number. Afterwards, it is possible to share and verify the data merely by sharing the tracking number. In this way, anyone can go onto the Viso Systems tracking site and verify the measurement data, time and location.

- **Guarantee measurement integrity** for clients, including before and after results.
- **Keep track of measurement history** using a simple tracking number list.
- **Verify your suppliers** measurement results including date and location.



Enable the tracking function in the Light Inspector software

VISO MEASUREMENT TRACKING

Smartest way to share and keeping track of your measurements

Enter tracking number:

Tracking details:					
Tracking number	Measurement date/time	Measurement duration	Tracking country	Tracking city	Tracking IP
VT180502-008887	14-01-2016 13:36	n/a	Denmark	Copenhagen	XXX.XXX.XXX.14
Added: 02-05-2019	14-01-2016 13:36 (UTC) Not real-time tracked	Start: 13:36:22 End: 13:36:22		Latitude: 55.6667 Longitude: 12.5833	

Product details:					
Product name	Manufacturer	Item number	Lamp type	Lamp physical size	Lamp illumination size
Demo panel explorer 3 with PaLM Flick	Viso Demo Light	PO130035	Square	Length: 42 cm / 16.5 in. Width: 42 cm / 16.5 in. Height: 1 cm / 0.4 in.	Length: 40 cm / 15.7 in. Width: 40 cm / 15.7 in. Height: 0 cm / 0 in.

System details:					
System serial number	Measurement device	Measurement sensor	Spectrometer name	Calibration source	Last calibration date
n/a	n/a Device n/a Firmware version n/a	n/a Sensor n/a Firmware version n/a	n/a Serial n/a		n/a

Measurement setup:					
Vertical resolution	Horizontal resolution	Sensor distance	Integration time	Average count	Internal number
45° # planes = # (8 c-planes)	3.5° Min 3.5° - Max 3.5°	312.8 cm (102.26 feet)	200 ms Min 200ms - Max 200ms	0 Min n/a - Max n/a	n/a

Measurement data:				
		Selected output type		
	Output:	Photometric		
	Total output	1005 lm	Radiated power	
	Peak intensity	334.3 cd	n/a	Horticultural
	Efficiency	91.3 lm/watt	27.91 %	1.3 µmol/Joule
	Color temperature	3100 K	n/a	n/a
	Color rendering (CRI)	84.3	n/a	n/a
	Beam angle	116.9°	n/a	n/a
	Beam angle (C0-C180)	117.2°	n/a	n/a
	Beam angle (C90-C270)	116.3°	n/a	n/a
	Input:		Warmup* (imported from another measurement)	
Power	11 Watt	Warmup time	29 min (Completed)	
Power factor	0.91	Intensity variation	-8.7%	
Voltage	227.2 Vac (50Hz)	Color variation	61 Kelvin - 0.0023 Duv	
Current	0.053 Amp	Warmup conditions	Min 15min - Max 2% within 15min	

READY FOR GROWTH



LEDs are perfect for growth lighting solutions and, as all Viso measurement solutions use unique super-fast spectrometer sensor technology, horticultural data can easily be computed.



MEASURE IN 30 SECONDS

- PPF
- PPFD
- Efficiency $\mu\text{mol}/\text{Joule}$
- Beam angle
- Detailed angular field distribution
- Power
- Power factor
- Export to: IES and LDT in PPFD

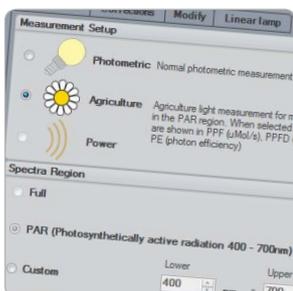
Horticultural lighting is the standard term used when lights are used for growing plants. Instead of lumen, data is displayed in PPF value, which consists of number of photons radiated by a light source in the photosynthetically active wavelength interval 400-700 nm. As all Viso measurement solutions use fast spectrometer sensors, the PPF can be calculated for any of your measurements.

You might think this kind of data is not necessary for general lighting applications, but if you work on illuminating open spaces like hotel lobbies, which include plants in the architecture, you might be required to specify PPF values.

Viso technology even allows you to generate 3D files in PPFD (photon flux density) as IES and LDT files. This way, you can use existing lighting CAD software, such as Dialux and AG132, to create your horticultural planning.



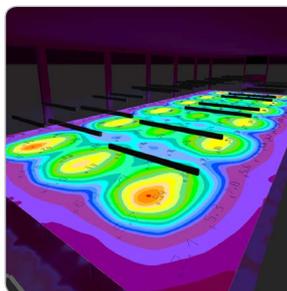
Switch between photometric and horticultural on any measurement



Import your PPFD IES file into Dialux or AG132 and set up a greenhouse



Heat map shows exact PPFD distribution on any desired plane

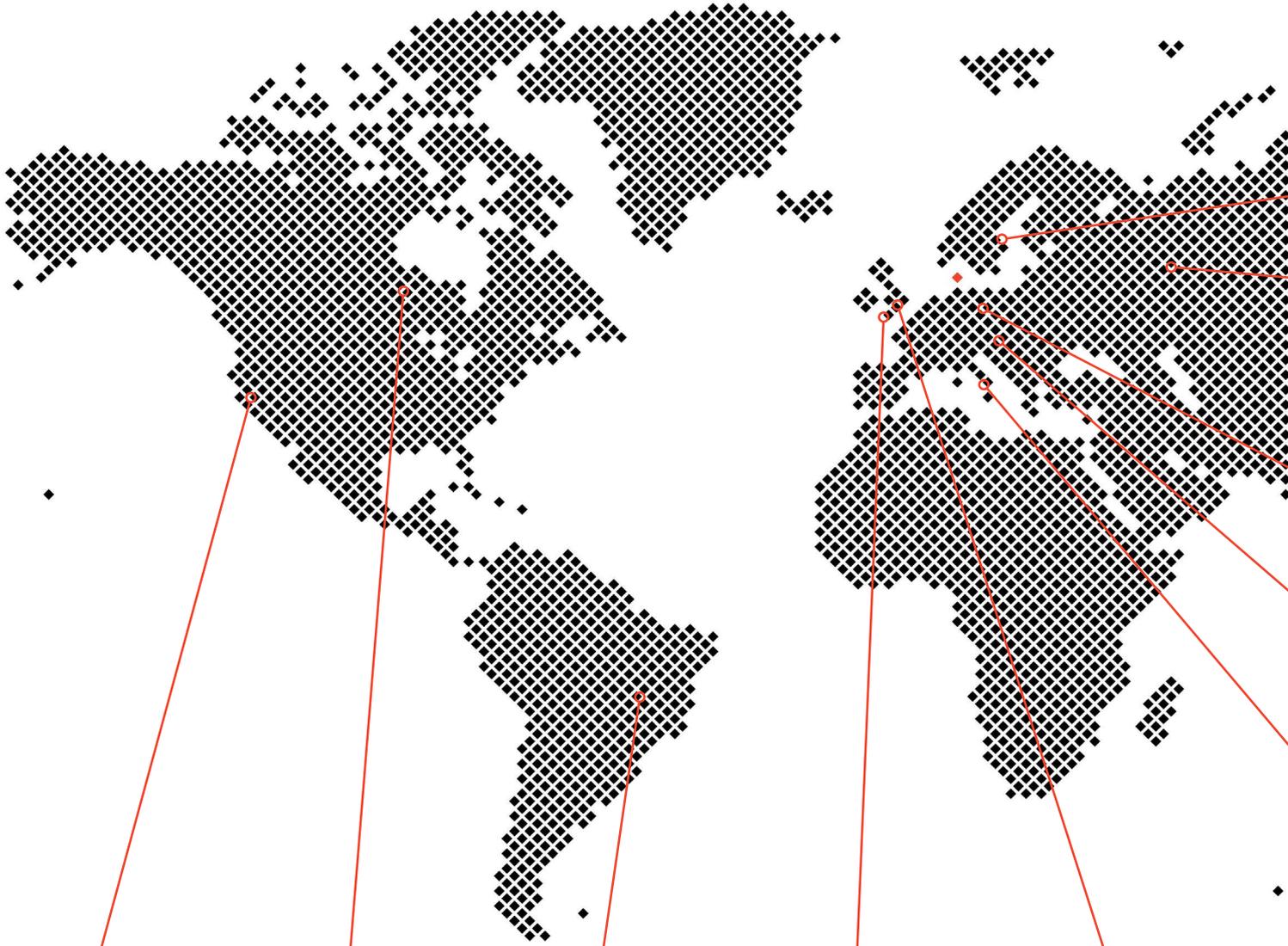


The automatic sensor positioning system insures accurate distance



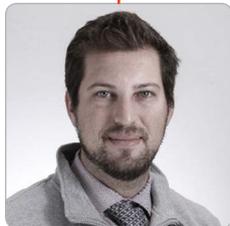
AROUND THE WORLD

The Viso measurement solutions are being used by hundreds of customers around the world. Below is reference to a few of our customers including their experience using the systems. You can read the full customer reviews on www.visosystems.com/review



Matt Samuel
LEDRA Brands, USA

- The LabSpion allows us to create our own IES files, that are published on our website
- Before we outsourced ALL of our photometric testing, which was a costly and time consuming process
- We use Viso daily to assist with product development



Daniel Silverstein
Liteline, Canada

- With the LabSpion we now measure more than a dozen fixtures per week
- Colour versus angle is very helpful and a unique feature
- Reduced cost from using external labs means the system was paid back in less than 1 year



Martin Nähr
Stella, Brazil

- The LabSpion makes it possible to quickly compare our products for both quality control and for competitive purposes
- Fast product comparisons have improved our sales process



Daniel Mahdavi
Orluna, UK

- The LightSpion system saves us waiting 2-4 weeks for IES files from an external lab
- With our own system we can run thermal improvements, beam shape improvements, and LED selection
- R&D is faster and we are able to prototype accurately



Matthew Earnshaw
ACDC, UK

- With the LightSpion + Extender we can now turn around any measurement in few minutes
- Before we had to ship our fixtures and pay £300 per measurement
- The system was paid back in 1-2 weeks, due to quantity of measurements



Håkan Jordanson
Nokalux, Sweden

- LabSpion has reduced our measurement time significantly to an average of 8 minutes per fixture
- Before we paid €800 for a measurement at an external lab
- The quality of our lighting fixtures has increased as we can test faster



Aleksandr Goncharov
Arlight, Russia

- Before the LabSpion, we had to use a combination of an integration sphere and hand-held spectrometers, which imposed many measurement errors
- The software has a user-friendly interface and it is very fast



John Cheung
Retc, Hong Kong

- BaseSpion and LabSpion allows us measure 50 lamps per week
- Viso help us to save time so we can focus on quality aspects
- The system was paid back in less than one year



Stephan Meyer
Korona, Germany

- The use of LED technology required us to do much more measurements to maintain development schedules
- The LightSpion + Extender also made it possible for us develop solution of specialized high-end projects
- Before, it took two weeks to get a single measurement done by an external lab and would cost €650



Matteo Botner
Botlighting, Italy

- After developing an internal test facility, we have been much quicker and more effective in selecting materials and partners
- Customers appreciate that the company has the right instruments for R&D. This has improved our reputation in the market



Robert Francij
Molto Luce, Austria

- With LabSpion we are faster in the engineering phase, so we are able to bring the products to market more quickly
- We primarily use the system for measuring prototypes, i.e. efficiency of reflectors

Read all of the full reviews on
www.visosystems.com/review

CUSTOMER SUPPORT

Installation takes less than two hours and you will be able to use your equipment from day one. As you work more with light measurements, questions will probably arrive. Viso Systems take pride in assisting you as fast as possible.

SHOWING YOUR EXPERTISE

Viso measurement systems are straight-forward to use. In just a few days, your lighting lab will become an essential part of your business and R&D.

Reach the full potential of having your own light measurement facility and expand your services and knowledge about lighting every day.

- Interpret your results in detail
- Optimize your dark room, avoid stray light and other interference
- Optimize your setting, alignments, measuring distances, c-plane quantity etc.
- Design an optimize your own reports



GETTING ANSWERS

- Call your local distributor
- Call Viso Systems head office
- Send us an email
- Check the online Viso Q&A section at www.visosystems.com/q
- Check the most up-to-date manuals at www.visosystems.com
- Join the Viso Forum at www.visosystems.com/forum

CONTACT



Our worldwide network of partners will be able to support you with any questions you might have. We look forward to assisting you.

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