



UPRtek

VISO  
SYSTEMS

Leading by Design and Service



**LED Measurement Devices**  
Product Catalog

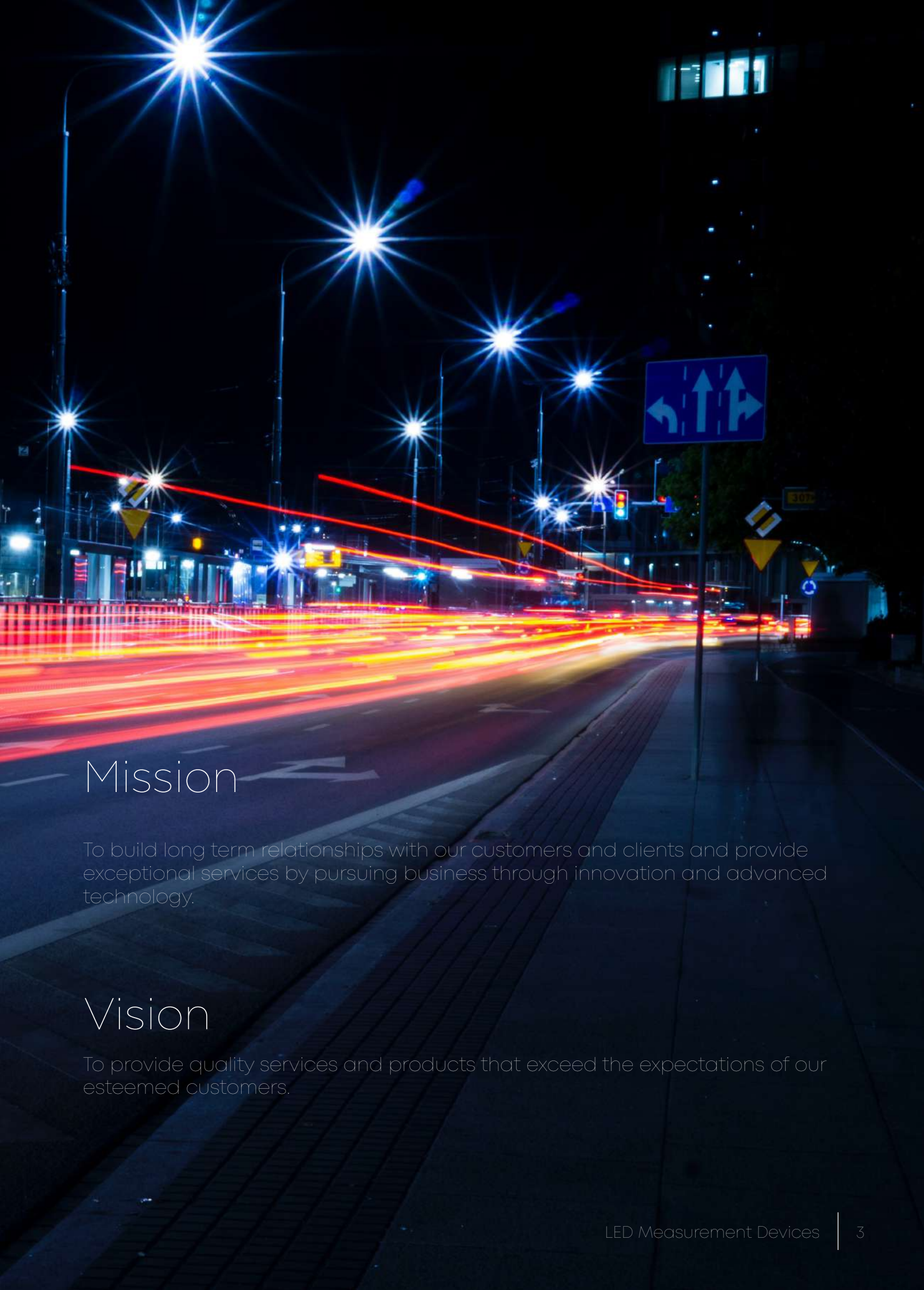
A nighttime photograph of a city street. The scene is dominated by bright, starburst-like streetlights that cast a blue glow. In the foreground, there are long, horizontal light trails in shades of red and orange, likely from traffic. A metal railing runs across the middle ground. In the background, there are illuminated structures, possibly bus stops or transit stations, and a traffic sign with arrows. The overall atmosphere is modern and urban.

## About TD

TD Elektronik has been established as LED & LED Lighting components distributor company in Istanbul, Turkey in 2008. Our traditional business model is based on satisfying customers' needs with top quality in shortest time. In addition to LED & LED lighting components, TD Elektronik also plays a role in LED Measurement Devices and Wireless Connection Devices sectors.

## Company Strategy

To hold the leadership in the market by supplying superior products & providing enhanced service. We believe in treating our customers with respect and faith. We integrate honesty and business ethics into all aspects of our business functioning.

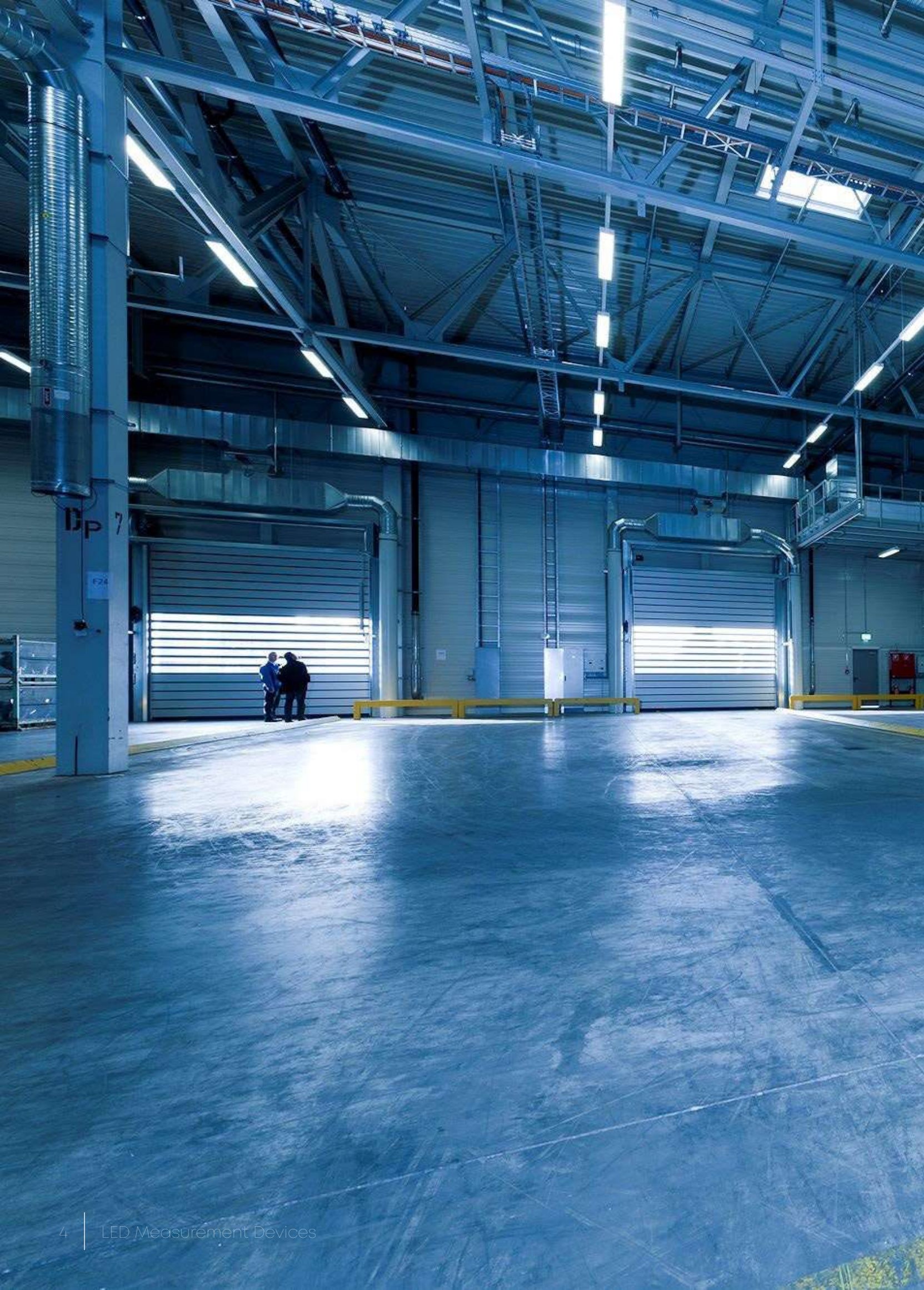


## Mission

To build long term relationships with our customers and clients and provide exceptional services by pursuing business through innovation and advanced technology.

## Vision

To provide quality services and products that exceed the expectations of our esteemed customers.





# Measurement Devices

## Company profile

United Power Research Technology Corporation, an affiliate of the Phison Group, was formed in 2010, inspired to respond to declining net margins in the technology sectors.

United in the Power of elite Research Technology, the UPRtek mission is to avail inaccessible, exclusive science and technology to a broader market by reinventing them for practical use for everyday businesses as well as for individual consumers. In 2011, UPRtek released its first two brand products into the market – the UPRtek Smart Controller and the UPRtek Spectrometers.

Since 2012, UPRtek has attended numerous exhibitions and entered award competitions to increase brand recognition and stir awareness in the public sector. Our most coveted awards include the 2012 Golden Torch, 2013 Aurora, 2013 IES Progress Report, 2014 and 2015 Taiwan Excellence awards, validating our brand quality and enhancing our brand confidence.

UPRtek products are infused with a formula of practicality, mobility, green technology and intelligence. We believe that this formula gives clear direction for the UPRtek Brand and, in the end, allows our customers a truly satisfying experience.





MK350S Premium



MF250N



MK350N Premium



PG100N

# UPRtek

MK350 Series | MF250N | CV 600 | PG100N



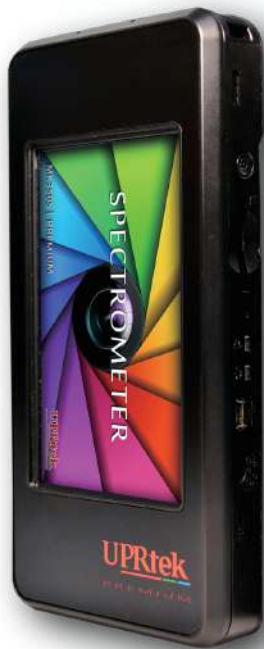
The MK350 Series are UPRtek's precision Spectrometers (i.e. light meters) including the Advanced, N Premium and Compact models. They are differentiated by functionality, usage and size.

The S advanced model has a very wide range of features and measurement capabilities, including ability to cover all ultimate analysis, by comparison and administrations.

Both the N Premium and Compact models provide the user with a quick snapshot and basic measurement information; also these two products are given a tremendous boost with the ability to connect to the uSpectrum PC software and the Smart Phone Apps. The Compact Model is pocket-sized and has an extra feature called "Flicker Sensor".

# UPRtek Measurement Devices

## MK350S Premium Type



- Supreme and Versatility in Light Measurement
- Suitable for Manufacture & QC by Checker & Compare mode
- Suitable for QC & Buyer by Binning & MacAdam SDCM for LED ranking
- Suitable for interior & film industry by 3D Lux Image Distribution
- Suitable for Agriculture in LED Plant factory by PPF mode



- On-the-spot data comparison features comparing two LEDs, or comparing against historical data
- Built-in file browser allows users to instantly read data in saved files
- Visual aim 'n click scope with crosshair aiming



# MK350N Premium Type



Added more useful measuring functions,

- R1 ~ R15CQS (Color Quality Scale by NIST Recommending)
- S/P Ratio
- CIE X/Y/Z
- TlCI (Television Lighting Consistency Index by BBC/UK)
- Purity, DUV, etc.
- Flicker Measuring



As Standard Accessory of MK350N Premium Type:

- Including WiFi SD Card
- Including PC Software
- Price is included



# UPRtek Measurement Devices

## MK350D Compact Type



- 1st real pocket size & 1st flicker compliant spectrometer ever!
- Only half size of name card!
- Perform Flicker (%) during 10 ~ 165 Hz
- R9 value to meet requirement for [CRI + R9] easily on Stand Alone device
- Supports Micro SD card unlimited data storage for measurement.
- Compliant to DIN 5032 Part 7 class B is Under Verification
- Traceability to NIST is available since July'14



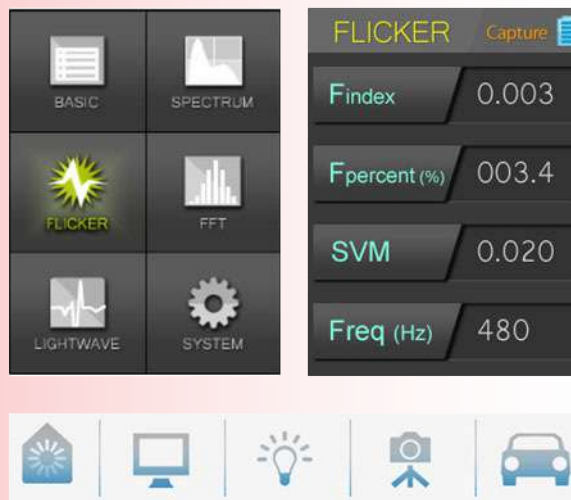
- Real Pocket Size Spectrometer
- Flicker Compliant Spectrometer
- Light Safety Check
- UV Protection



# MF250N Flicker Meter



- The only flicker meter with spectrum function on the earth.
- 2 in 1 sensor design can with different uses
- Embedded percent flicker index functions
- CCT, LUX, Spectrum and detected
- While providing color temperature, illuminance, spectrum, frequency data



- MF250N Flicker Meter - Measuring the risk what you can't see and keep the environment safer and stay healthy.
- MF250N Handheld Flicker Meter is light to carry. Measure Flicker at anytime and anywhere.
- Flicker Mode-Providing Flicker index, Percent Flicker and Philip SVM (Stroboscopic effect Visibility Measure). Applied to Solid-State Lighting, Liquid Crystal Display and photographer.

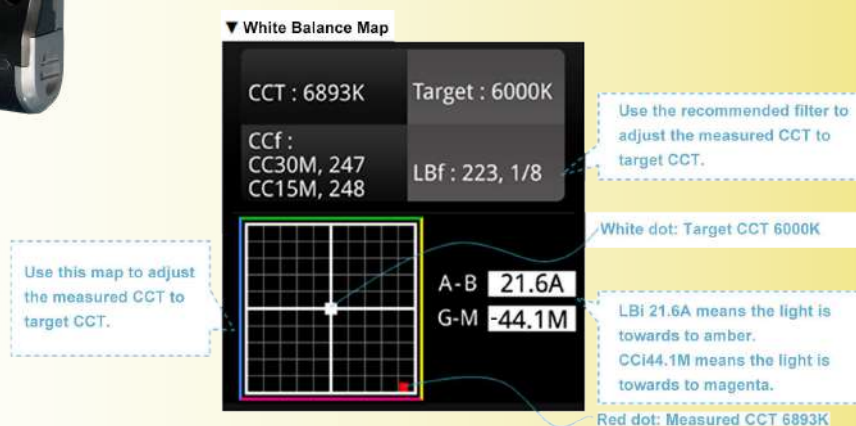


# UPRtek Measurement Devices

## CV600 Chrome View Meter

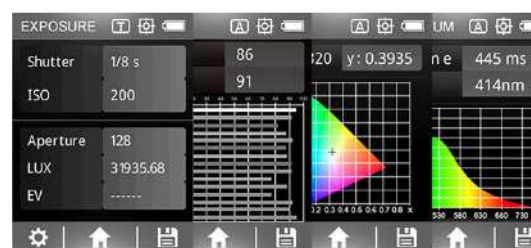


- Embedded an accurate optical sensor designed to measure LED photography lights.
- The design is very fashionable and exactly matches the color aesthetics of the film industry.
- It's a practical lighting tool that analyzes the light source and indicates what you need to do to achieve your desired effects.
- It is a wireless controllable system that allows users more possibilities to manage their testing requirements and data.



### UPRtek CV600 Spectral Color Meter

CV600 - All purpose Professional Cinematic and Photographic Light meter. It is not only a Light meter, but also a Color meter, Cine meter and Exposure meter a quicker, more efficient measurements for cinematographer, videographer, video makers, and film producers to capture every life moment!



## PG100N Spectral Par Meter



- UPRtek PG100N Handheld plant growth lighting detector
- PG100N Handheld Spectral PAR meter is focused on achieving the demands of agricultural field. It shows its own advantages of measuring functions, such as spectrum, PPFD and PFD so that users can utilize these parameters in the plant factories. Meanwhile, PG100N Spectral PAR Meter offers the analysis report for users to understand the ambient light requirement of plant growth, timely adjust the artificial light source to make sure the efficiency of the agricultural production, safely, achieve a scientific, intelligent agricultural environment.

PPFD		PFD	
μmol/(m <sup>2</sup> ·s)		μmol/(m <sup>2</sup> ·s)	
PPFD 400-700nm	11.59	PFD 380-780nm	11.59
PFD-R 400-500nm	3.03	PFD-UV 380-400nm	3.03
PFD-G 500-600nm	5.68	PFD-FR 700-780nm	5.68
PFD-B 600-700nm	2.87		

Normally, Photosynthetically available Radiation (PAR) wavelength is 400nm - 700nm. The light intensity has valuable effects on the plant due to the different wavelengths.

Blue light (400nm - 500nm) - High absorption of chlorophyll and carotenoids influences the photosynthesis greatly.

- Green light (500nm - 600nm) - Low absorption by pigments.
- Red light (600nm - 700nm) - Improving plant flowering and germination.
- UV light (400nm↓) - Inhibition of plant growth but good for plant pigment generation.
- FR light (700nm↑) - Adjustments of flowering and germination.

Users can easily understand the environmental requirement of plant growth and adjust the artificial light clearly through the PPFD & PFD UI. Ensure the horticulture high production, safety and achieve the scientific, intelligent cultivation environment.



# LED MEASUREMENT TOOLS

Your nearest colleague in R&D!

It is the measuring equipment that every lighting designer should have. All lumens, CCT, CRI, and light distribution curve parameters are calculated in just 30 seconds and delivered to you in LDT and IES format.





# Measurement Devices

## Company profile

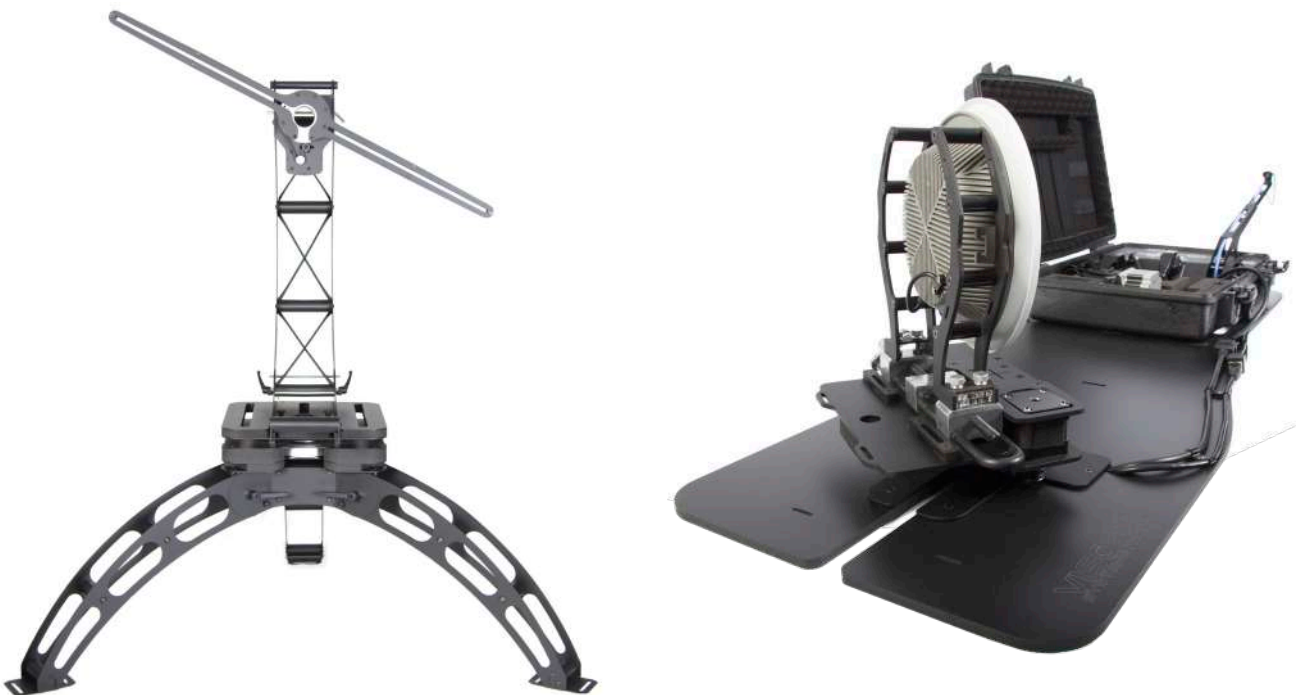
Viso Systems was founded in 2005 and supplies the lighting market with highly innovative control and measurement technology. This combined with Viso's unique technologies, such as our fully automated real-time color correction technologies puts Viso of the forefront of smart fully integrated control and measurement solutions.

By simplifying the complexity of measurements and control system and delivering easy, intuitive user interfaces, Viso's vision is to supply a platform for all luminaire manufacturers which simplifies the installation and lowers the projected after-sales expenses.

### Technology

Viso has a wealth of experience within developing hardware and software solutions for dynamic control systems within the dynamic lighting market.

Viso technology features the unique color correction algorithm, new fixtures are constantly measured in our color lab and fixture profiles are made readily available to the user over the internet.



# VISO SYSTEMS



POWER / DATA

VISO  
LabSensor

DATA CDR

www.visosystems.com  
Product Warranty  
Made in Denmark

WARNING  
LASER

CE

LASER  
ON

DIS



Light Measurement Made Easy

# VISO Systems Measurement Devices

## LabSpion®



The LabSpion® is a complete light measurement solution covering all light sources from small lamps, LED chips, large panels and street lamps. The 2 axis goniometer enables the system to measure the full 3D distribution field of any lamp giving lighting professionals comprehensive LDT and IES simulation files.

- LabSpion® measuring quickly Lumen, Peak Candela, Colour Temperature, CRI, CQS, Beam Angle, Angular Field Distribution, Power, Power Factor, Lumen per Watt in 30 seconds.
- Measurement data is then automatically saved in a specific folder in the form of fixture files. They are usually exported into PDF, PNG, IES, LDT and CSV formats to be further presented by customers in their reports.

• The 2 axis goniometer gives you full 3D light distribution.

• Just plug in the USB. Everything is fully integrated.

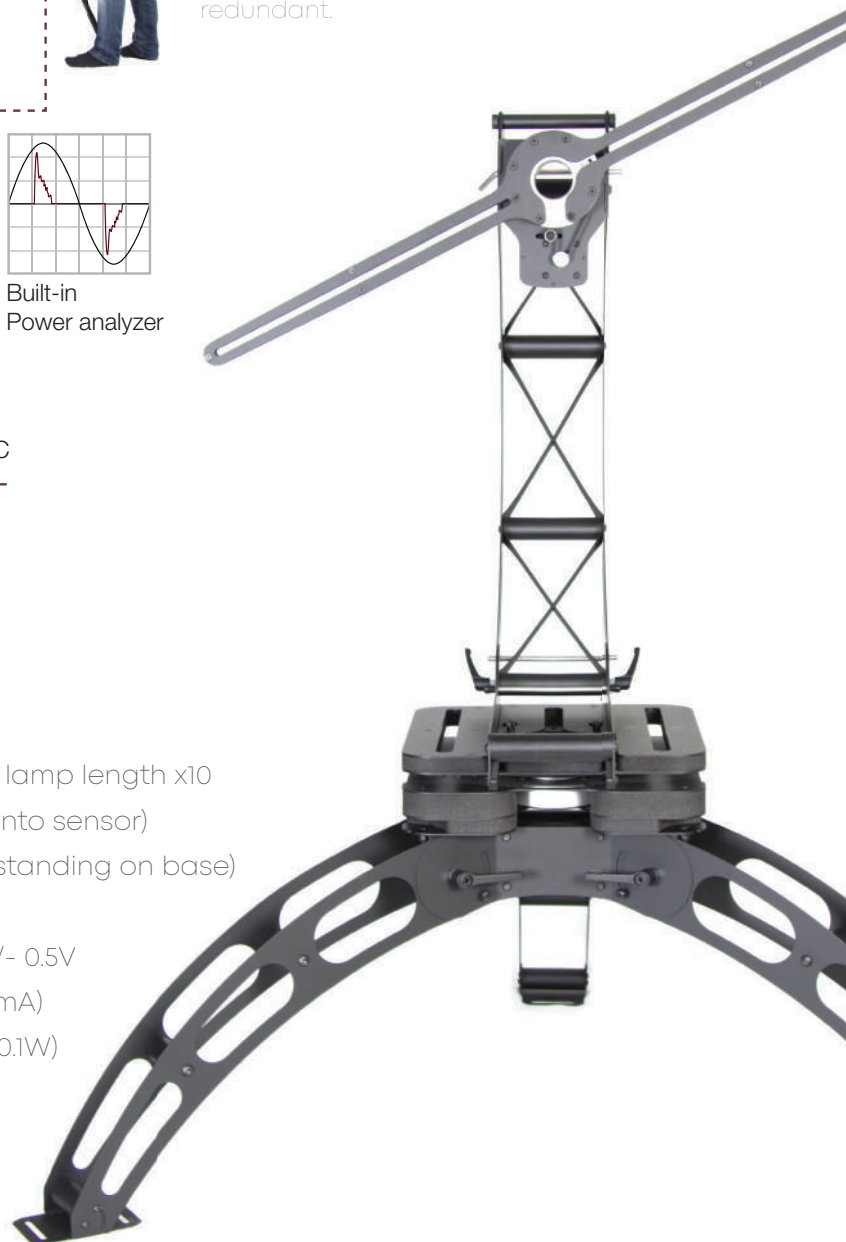
• The main board easily slides out allowing for quick update.

• The integrated laser makes it easy to setup measurement distance.





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



## Specifications:

- Measurement method: Far Field
- Shipping weight: 86 Kg
- Sensor distance: 50m to 0.5m Sensor distance  $\geq$  lamp length x10
- Sensor distance setup: Laser range finder (build into sensor)
- Lamp diameter: 0 – 1,5m at 2 axis (1 axis upto 6m standing on base)
- Maximum lamp weight: 25Kg
- Power analyzer voltage range: 90VAC-260VAC  $\pm$  0.5V
- Power analyzer current range: 0A-3A (Avg:  $\pm$  0.5mA)
- Power analyzer power range: 0W-600W (Avg:  $\pm$  0.1W)
- Lumen: typ 1 – 3,000,000  $\pm$  4.00%
- Candela: typ 0.07 – 1,000,000  $\pm$  2,5%
- Colour temperature: 1.000K-10.000K  $\pm$  35K
- Colour rendering index (CRI): 0-100  $\pm$  0,7
- Angular resolution BASIC MODE: 5 degree/step (About 20 sec measurement time per C-plane)
- Angular resolution HIGH MODE: 0.1 degree/step (About 5 min measurement time per C-plane)
- Spectrometer type: Ibsen Photonics FREEDOM Custom viso (high sensitive transmission grating)
- Spectrometer range: 360-830nm (1024 pixels)
- Spectrometer detector: SONY ILX511B
- Calibration: Fully calibrated plug and play solution
- Re-calibration: Every 1 year (Maximum 2 years)

# VISO Systems Measurement Devices

## BaseSpion®



The BaseSpion® is a great tool for any light measurement laboratory. Allowing you to measure all midrange lighting products. The 2 axis goniometer enables the system to measure the full 3D distribution field of any lamp giving lighting professionals comprehensive LDT and IES simulation files.

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



• The design of the system makes it very flexible to work with in any lighting laboratory. The goniometer drivers and power analyzer are all built-in. Just connect via USB to any computer and get result in 30 seconds.

• Universal bracket that easily clicks onto the goniometer.



• Before measurement simply slide, align and lock lamp to center.



• Base center lock making it easy to fix lamps during alignment.



• The automatic sensor positioning system insure accurate distance.





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

## Specifications:

### PHYSICAL DIMENSIONS

- Shipping weight: 30 Kg
- Dimensions (L x W x H): 205-360 x 56 x 55 cm
- Weight: 25 Kg
- Sensor distance: 35cm to 450 cm
- Sensor distance  $\geq$  lamp length: x10 (min x8)
- Sensor distance setup: Automatic rail distance sensor
- Lamp diameter range: 0 – 560mm at 2 axis
- Lamp maximum weight: 9Kg

### PHOTOMETRIC

- Measurement method: Far Field
- Lumen and candela accuracy: +/- 4 %
- Max lumen @ 4.5m: 608.000 +/- 4.00%
- Max Intensity, candela @ 4.5m: 203.000 <+/- 2,5%
- Colour temperature: 1.000K-10.000K <+/- 35K
- Colour rendering index: 0-100 <+/- 0,7
- Angular resolution BASIC MODE: 5 degrees/step
- Angular resolution HIGH MODE: 0.1 degrees/step
- Spectrometer type: Ibsen Photonics FREEDOM
- Spectrometer range: 360-830nm (1024 pixels)
- Spectrometer detector: SONY ILX511B

### ELECTRICAL

- Power supply input: 90 to 260 VAC, 50/60 Hz
- Power analyser voltage range: 90VAC-260VAC <+/- 0.2V
- Power analyser current range: 0A-3A (Avg: +/- 0.15mA)
- Power analyser power range: 0W-300W (Avg: +/- 0.1W)
- Power analyser sample rate: 70.000 samples/sec



# VISO Systems Measurement Devices

## LightSpion®

The portable VISO LightSpion® enables you to fully measure any light source within 30 seconds. It measures all the photometric data, while 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 LightSpion is the only portable system on the market that includes a spectrometer sensor and a built-in power analyser. This light weight professional measurement solution makes it easy to take it anywhere with you.
- The LightSpion can measure any light source upto 8cm in diameter. Also, it is the first small goniometer to measure linear lamps, such as LED strips and tubes.
- The case is 5kg, making it exceptional light weight and it is watertight protected.
- With built-in power analyser that gives you information instantly.
- Quick and easy, the system is pre-calibrated and ready to be used.
- With a spectrometer sensor that gives you all photometric data in one system.







## Specifications:

### PHYSICAL DIMENSIONS

- Shipping weight: 6 Kg
- Dimensions (L x W x H): 43 x 11,5 x 33,5 cm
- Weight: 5 Kg
- Sensor distance: 66 cm
- Light sources diameter range: 0 - 80 mm
- Light source maximum weight: 2 Kg

### PHOTOMETRIC

- Measurement method: Far Field
- Flux, lumen: 10 – 50.000
- Flux accuracy: LED +/- 4%, other types +/-7.82%
- Intensity, candela: 0,05 - 200.000 +/- 2,5%
- Colour temperature: 1.000K-10.000K <+/- 35K
- Colour rendering index: 0-100 <+/- 0,7
- Angular resolution LOW MODE: 4 degrees/step
- Angular resolution HIGH MODE: 1 degree/step
- Spectrometer type: STS Ocean Optics
- Calibration: Fully calibrated plug and play solution
- Re-calibration: Every 2 years

### ELECTRICAL

- Power supply input: 90 to 260 VAC, 50/60 Hz
- USB current consumption: 200 mA
- Power analyser voltage range: 30VAC-400VAC <+/- 0.2V
- Power analyser current range: 0A-3A (Avg: +/- 0.1mA)
- Power analyser power range: 0W-300W (Avg: +/- 0.01W)
- Power analyser sample rate: 70.000 samples/sec

## Reference Lamp

The LightSpion can measure any light source up to 8cm in diameter. Also, it is the first small goniometer to measure linear lamps, such as LED strips and tubes. The reference lamp includes a document that specifies the light measurement data of the lamp, allowing you to check the integrity of the system at any time. Linear light sources lack photometric specification for the reason that they are few light measurement solutions that can measure linear lamps. The LightSpion supplies a smart solution to resolve this issue. The linear lamp is mounted on the bracket, then a section of the lamp is measured. Then the real length of the lamp is typed into the Viso Light Inspector to provide the full photometric data. Due to the multiple placement of the LED's, a decrease in the lumen accuracy should be expected of +/-7%.



# VISO Systems

## Measurement Devices

### LightSpion Extender®



The LightSpion Extender® is an excellent tool for measuring larger lamps that exceeds 8cm in diameter.

The extender of the LightSpion provides you with the distance that allows you to measure lamps that are up to 22cm in diameter.



• The LightSpion Extender® is an excellent tool for measuring larger lamps that exceeds 8cm in diameter. The extender of the LightSpion provides you with the distance that allows you to measure lamps that are up to 22cm in diameter.

• The power outlet is placed on the goniometer, for easy connection.

• Bracket allows for fast and easy manual adjustment of c-plane.

• It includes a high precision belt drive, it can handle up to 5Kg.

• Center of lamp adjustment done simply by sliding the lamp bracket.



## LabFlicker



The LabFlicker connects directly to the Light Inspector software giving you live preview of your flicker signal. The smart signal processing algorithm frames and calculates your flicker data 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, eliminated the complicated hassle of combining multiple systems together.
- The LabFlicker is designed to be used in a laboratory setting, positioned up and close to the light source.
- **Results:** Flicker percentage, Flicker index, Flicker frequency, SVM index, JA8 title 24, Export sample array to Excel

• Connect directly to computer via micro USB allowing fast real-time preview.



• OLED display giving live feedback during measurement and flicker results.



• Ultra-fast 100,000 samples/sec photo sensor giving you precise data.

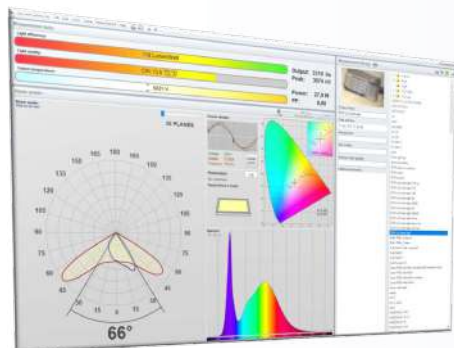


• Seamless integration with Viso "custom pdf" reporting, all photometric in one.



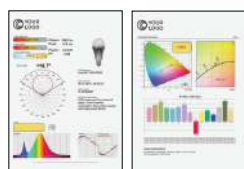
# VISO Systems Measurement Devices

## Light Inspector®

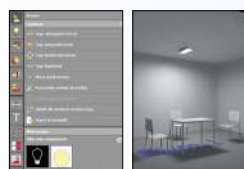


The Viso Light Inspector® software is an intuitive interface and it is included in all Viso Light measurement products. The software shows all the data being measured in real time and the photometric results are graphically represented to give you a fast overview of all measurements.

### Export



PDF



LDT IES



EXCEL

- GRAPHICAL EFFICIENCY AND QUALITY
- REALTIME MEASUREMENT DATA
- ADD CUSTOM TEXT AND IMAGE
- GRAPHICAL POWER ANALYZER
- FULL AUTO SPECTROMETER SETUP
- DETAILED ANGULAR FIELD DISTRIBUTION
- DIRECTLY EMAIL RESULTS
- GET PHOTOMETRIC IN A 90°/120° CONE
- CONNECT DIRECTLY TO MATLAB
- COMPABILITY WINDOWS XP, 7, 8, 10

• Version 4.89 of the Light Inspector software now supports custom design of PDF reports. This powerful new feature allows you to fully customize your report design to facilitate your corporate identity by using Microsoft Word editor to create your report templates. This feature also gives you the option to only show the measurement data which are essential for your type of product.

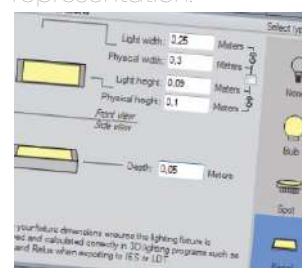
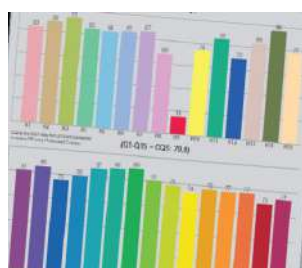
• The Light Inspector is the first software to fully give you the power over your reporting reducing the workflow as lighting fixture data sheets can go directly from light measurement to the website without the need of marketing post design.

• With only ONE click, fully automatic setup of the goniometer.

• An extensive color quality data results, including CRI and CQS values.

• Real power efficiency can be calculated using the radiated spectral energy.

• You can easily add dimensions to your lamps for an accurate representation.

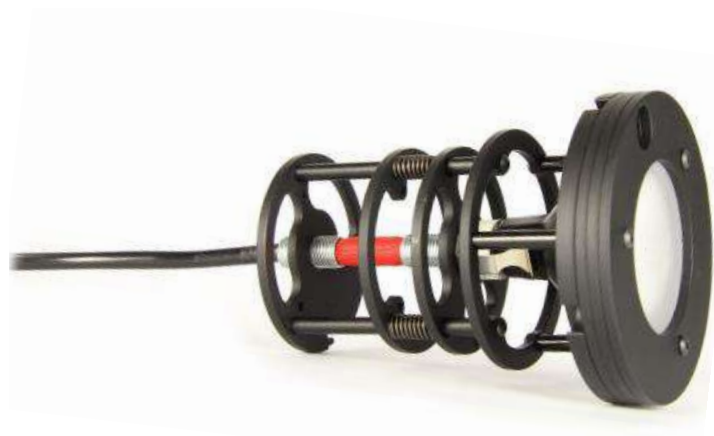


## Cali

Viso Cali is a tungsten irradiance lamp and auto ramp-up power supply used with LabSpion. This reference lamp can be used to 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 is an irradiance reference lamp which means it is a directional lamp with intensity and spectra defined in one point in front of the lamp as shown below.



# OVER 3 COUNTRIES

Being a solution provider-partner in energy, telecommunication and lighting industries over the regions of Eastern Europe, Turkey and Middle East.



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