

MAKE YOUR LIGHT
ALWAYS RIGHT

LIGHTSHIP
✧ ✧ LET THERE BE LIGHT ✧ ✧



WELCOME

to the **first lighting laboratory** of its kind in Egypt and the Middle East...

Siraj - Lightship Testing Laboratory (LTL), we are proud to introduce it as a step forward towards enhancing the quality of lighting products in Egypt and the Middle East using the latest technologies, machinery and equipment.

Lightship Testing Laboratory is another subsidiary of Siraj, which is managed as an independent unit to be a third-party testing entity. LTL is a highly qualified lighting laboratory that provide a wide range of latest lighting tests in **ONE place!** The tests include environmental, electrical, photometric, colorimetric, coating testing and on-site tests.

LTL is accredited ISO 9001, 14001,45001 being part of Siraj Industries, ISO/IEC 17025:2017 by ANSI National Accreditation declaring that it conducts all LED lighting luminaries' tests according to the international standards, norms and approved test methods.



OUR MISSION

We are committed to provide our customers with one-of-a-kind testing experience through a wide range of high-quality tests, according to the international standards and norms, on time delivery and turn-around-times to meet customer's expectations. In addition to the, continual research and development to preserve a world-class laboratory for the first time in Egypt.

OUR OBJECTIVES

Since our data quality is described in the terms of, accuracy, timeliness, and Comparability, our main objectives are to always assure the accuracy and precision of laborator results, so that they will always be reliable, interpretable, repeatable and defensible.

Also, we keen to establish and maintain national and international recognition through compatibility with the requirements of relevant standards.



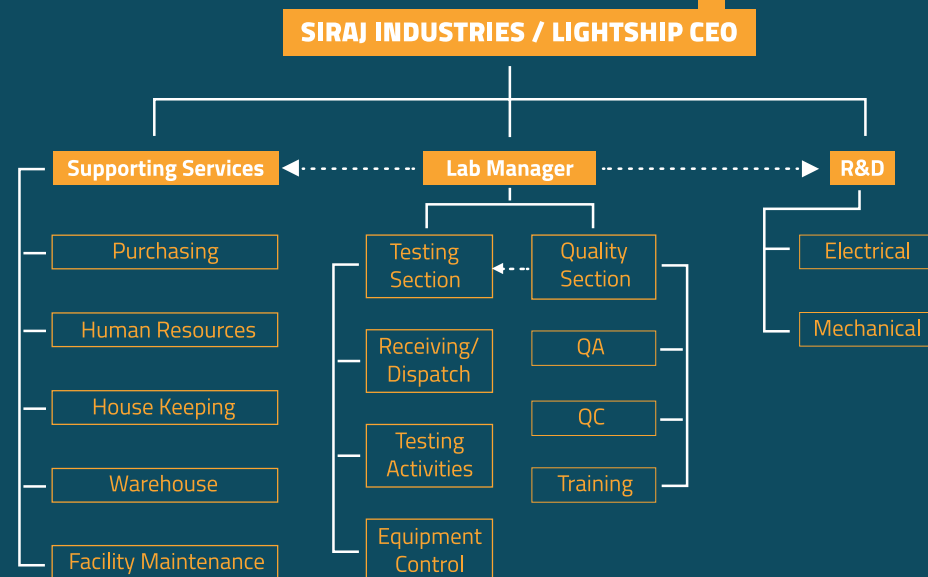
CONFIDENTIALITY POLICY

For the sake of our customers' privacy, we're committed to,

- Ensuring the protection of customer confidential information and proprietary rights, including electronic storage and transmission of results.
- Providing responsibility for the management of all information obtained or created during the performance of laboratory activities, through legally enforceable commitments.
- Informing the customers in advance, of the information that intends to be placed in the public domain, except for information that the customer makes publicly available, or when agreed between the laboratory and the customer, all other information is considered proprietary information and shall be regarded as confidential.
- Ensuring employees honesty to the confidentiality of all information obtained or created during the performance of laboratory activities, except as required by law. This includes any committee members, contractors, personnel of external bodies, or individuals acting on the laboratory's behalf.
- Giving the customer the opportunity to witness laboratory activity upon request, as long as it can guarantee other customer privacy in such situations.



LIGHTSHIP TESTING LABORATORY STRUCTURE



LIGHTSHIP TESTING

LABORATORY

ACCREDITED

SCOPE

ENVIRONMENTAL SIMULATION

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested
Water Protection IPX 3	IEC 605981:2020- RLV clause 9.2.4 IEC 60529:1989+AMD1:1999+AMD2:2013 clause 14.2.3	Luminaires & Electrical Equipment
Water Protection IPX 4	IEC 605981:2020- RLV clause 9.2.5 IEC 60529:1989+AMD1:1999+AMD2:2013 clause 14.2.4	Luminaires & Electrical Equipment
Water Protection IPX 5	IEC 605981:2020- RLV clause 9.2.6 IEC 60529:1989+AMD1:1999+AMD2:2013 clause 14.2.5	Luminaires & Electrical Equipment
Water Protection IPX 6	IEC 605981:2020- RLV clause 9.2.7 IEC 60529:1989+AMD1:1999+AMD2:2013 clause 14.2.6	Luminaires & Electrical Equipment
Water Protection IPX 7	IEC 605981:2020- RLV clause 9.2.8 IEC 60529:1989+AMD1:1999+AMD2:2013 clause 14.2.7	Luminaires & Electrical Equipment
Resistance to Dust and Solid Objects IP 5X	IEC 605981:2020- RLV clause 9.2.1 IEC 60529:1989+AMD1:1999+AMD2:2013 clause 13.5	Luminaires & Electrical Equipment
Resistance to Dust and Solid Objects IP 6X	IEC 605981:2020- RLV clause 9.2.2 IEC 60529:1989+AMD1:1999+AMD2:2013 clause 13.6	Luminaires & Electrical Equipment
Salt Spray Resistance	ASTM B117-19	Materials or Finishes
Humidity Test	IEC 60598-1:2020 RLV clause 9.3	Luminaires
Endurance Test	IEC 60598-1:2020 RLV clause 12.3 IEC 60598-1:2020 RLV Annex K (Temperature measurement) IEC 60598-1:2020 RLV Annex C (Abnormal circuit conditions)	Luminaires
Degrees of Protection Provided by Enclosures for Electrical Equipment Against External Mechanical Impacts (IK code)	IEC 62262:2002 clause 4.2 IEC 62262:2002 clause 5 IEC 62262:2002 clause 6 IEC 60068-2-75:2014 clause 5 IEC 60068-2-75:2014 Annex A IEC 60068-2-75:2014 Annex D IEC 60598-1:2020 clause 4.13.1 IEC/TR 62696:2011 clause 3.2 IEC/TR 62696:2011 clause 3.3 IEC/TR 62696:2011 clause 3.4	Luminaires & Electrical Equipment
Cross Dry Adhesion	ISO 2409:2020	Coating
Coating Thickness	ISO 2360:2017	Coating

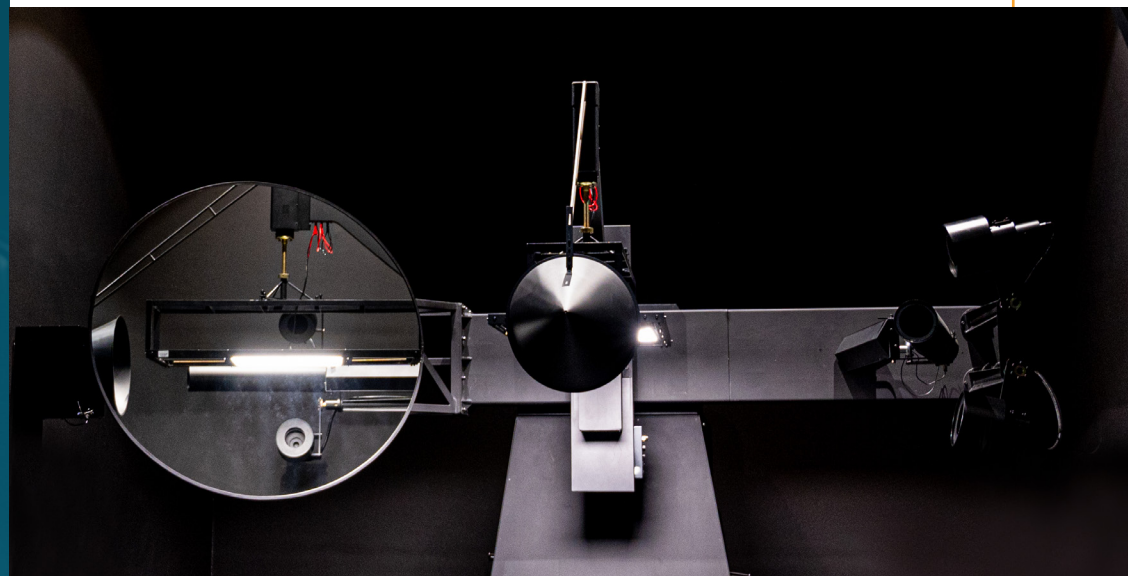
ELECTRICAL



Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested
LED Driver Test (Input power – Output Power – Input voltage – Output Voltage – Input Current – Output Current – Power Factor – UTHD – ITHD)	SOP-7.216- (LED Driver Test) EVERFINE LT-101A, LED Driver Tester Manual	LED Electronic Driver

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested
Measuring Luminous Flux and Color Maintenance	ANSI/IES LM-84-20	LED Lamps, Light Engines, and Luminaires
Electrical and Photometric Measurements	ANSI/IES LM-79-19	Solid State Lighting
Glare Measurement (UGR-GR-TI)	SOP-7.2-15 (Light Glare Measurements test) EVERFINE LGM-200B, Lighting Glare Measurement System Manual	Indoor & Outdoor Lighting Applications
Light Flickering Measurements (Flicker Index – Percentage Flicker)	SOP-7.2-17 (Light Flickering Analysis) EVERFINE LFA-3000, Light flicker analyzer Manual	Indoor & Outdoor Lighting Applications
Light Output Test (a) Illuminance (b) Correlated Color Temperature (CCT) (K) (c) Color Rendering Index (CRI)	SOP-7.2-12 (Light output test #2) ANSI/IES LS-4-20 clause 15 EVERFINE SFIM-400, Spectral Flickering Irradiance Meter Manual	Indoor & Outdoor Lighting Applications
Reflectance Measurements	SOP-7.2-14 (Color Analysis Test) EVERFINE HACA-3650, High Accuracy Color Analyzer Manual	Materials or Finishes
Transmittance Measurements	SOP-7.2-14 (Color Analysis Test) EVERFINE HACA-3650, High Accuracy Color Analyzer Manual	Materials or Finishes
CIE Lab Color Coordinates (L* – a* – b*)	SOP-7.2-14 (Color Analysis Test) EVERFINE HACA-3650, High Accuracy Color Analyzer Manual	Materials or Finishes

PHOTOMETRIC





LIGHTSHIP TESTING LABORATORY ACCREDITED SERVICES & TESTS

ENVIRONMENTAL TESTING

IPX3 – IPX4 Tests Rain & Splash -Proof Products

IPX3 Rain-proof & IPX4 Splash-proof are a water sprinkling simulation tests to experiment the ability of products with water penetration or under rain. The two types have different angles, where the IPX3 Rain-proof is used with angle of 120° and 60° on either side of the unit under test by a slope of rainfall to electric products with a flow rate of 2.3 litre/min. While the IPX4 Splash-proof is used for angle of almost 360° and 180° on either side of the sample by a slope of rainfall to electric products with a flow rate of 3.5 litre/min.

Both tests are according to the related requirements of IEC60529 and IEC60598-1.

IPX5 - IPX6 Tests Jet-Proof & Powerful Water Jet Products

IPX5 Jet-proof & IPX6 Powerful water Jet-proof are a water resistance tests in which they simulate mass flow of water from all directions. Both tests have different rates, where IPX5 Jet-proof with a flow rate of 12.5 litre/min. and the IPX6 Powerful water Jet-proof with a flow rate of 100 litre/min.

Both tests are according to the related requirements of IEC60529 and IEC60598-1.





IPX7 Test Watertight Products



IPX7 watertight is to examine the protection against water ingress by immersion up to 1 meter for 30 minutes for electrical products.

According to the related requirements of IEC60529 and IEC60598-1.



IP5/6X Dust-proof are to test the enclosure of electrical products degree of protection against ingress of dust.

According to the related requirements of IEC60529 and IEC60598-1.

IP5X - IP6X Test Dust-Proof & Dust Tight Products



DUST PROOF

HUMIDITY TEST

Humidity test can simulate high humidity environment for the products during storage, transportation and use, as well as examining the physical characteristics of the product under high humidity condition.

According to the related requirements of IEC60598-1.



ENDURANCE TEST

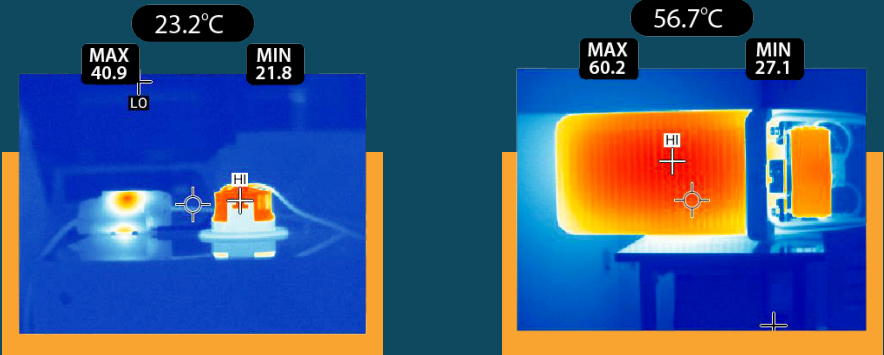


Endurance test can simulate high temperature environment for the products during storage, transportation and use. Also, it is used for testing the performance of the product under high temperature conditions.

According to the related requirements of IEC60598-1.

IN-SITU TEMPERATURE MEASUREMENTS

This test is for the temperature measurement of LEDs, the electronic power supply of the lighting systems and the thermal management of the lighting system, providing an overview of the temperature values of the total lighting system design. It also helps to see overheated components and prevent component failures.



SALT-SPRAY TEST

The Salt spray test puts the product under an artificial “Three-proof” climate environment against heat, salt fog, mold testing to measure the environmental adaptability and corrosion resistance for the tested items.

According to the related requirements of ASTM B117-19.



MECHANICAL IMPACT TEST - (IK) TEST

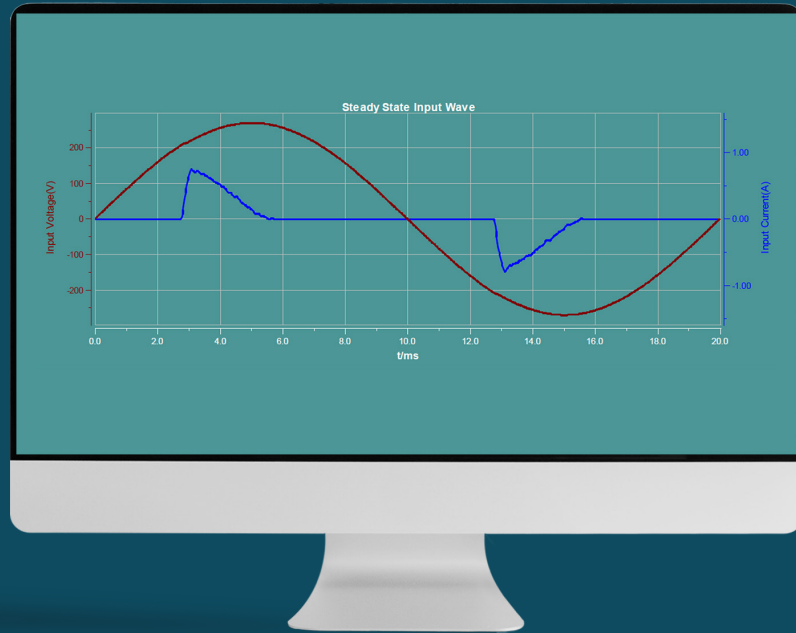
IK ratings are defined as IKXX, where “XX” is a number from 01 to 10 indicating the degrees of protection provided by enclosures against external mechanical impacts. The different IK ratings relate to the ability of an enclosure to resist impact energy levels measured in joules (J).

According to the related requirements of IEC60598-1, IEC62262, IEC60068-2-75 and IEC/TR62696.



DEGREES OF PROTECTION AGAINST EXTERNAL MECHANICAL IMPACTS

IK01	IK02	IK03	IK04	IK05	IK06	IK07	IK08	IK09	IK10
0.14J	0.2J	0.35J	0.5J	0.7J	1J	2J	5J	10J	20J



PHOTOMETRIC & COLORIMETRIC TESTING

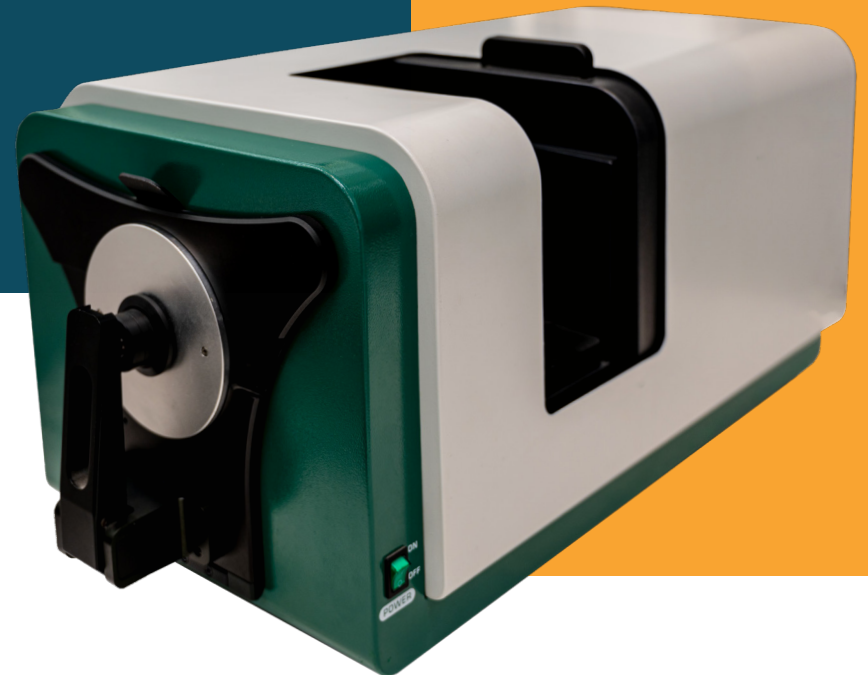
COLOR AND MATERIAL OPTICAL MEASUREMENT

This test employs high accuracy & spectral measurement technologies to provide accurate color, reflectance and transmittance.

ELECTRICAL TESTING

LED DRIVER TEST

LED Driver test is used to measure the input and output electrical parameters for LED drivers such as, I/P & O/P voltage, I/P & O/P current, active power, power factor, impact current, voltage and current ripples, voltage and current harmonics, total harmonics distortion, start-up time and efficiency.



LIGHTING GLARE MEASUREMENT



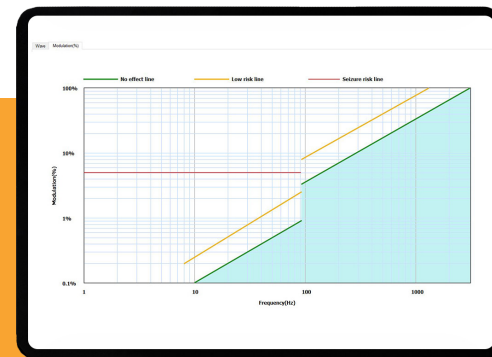
The test is to measure the glare ratings of indoor and outdoor lighting scene complying with the requirements of CIE 115. Measurable parameters include, Luminance, TI for road lighting, UGR for indoor lighting and GR for outdoor lighting.

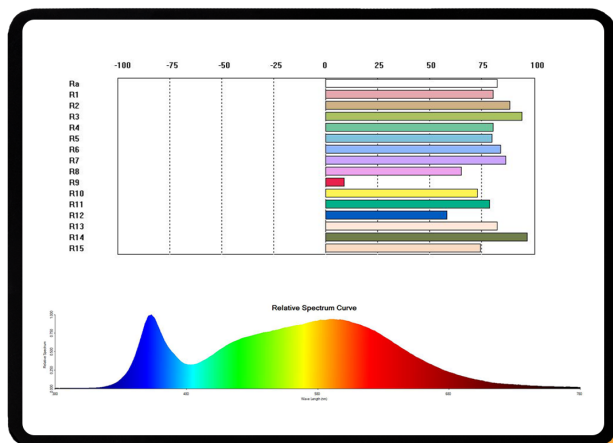
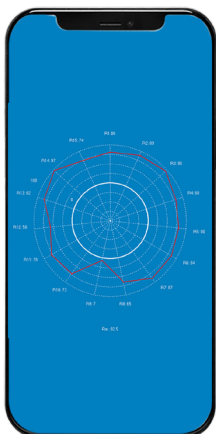


LIGHT FLICKERING ANALYSIS

Light flickering analysis is used for determining the flicker risk rate, provides flicker index and percentage flicker.

According to different international standards.





AGING AND LIFE TEST FOR LED LUMINAIRES

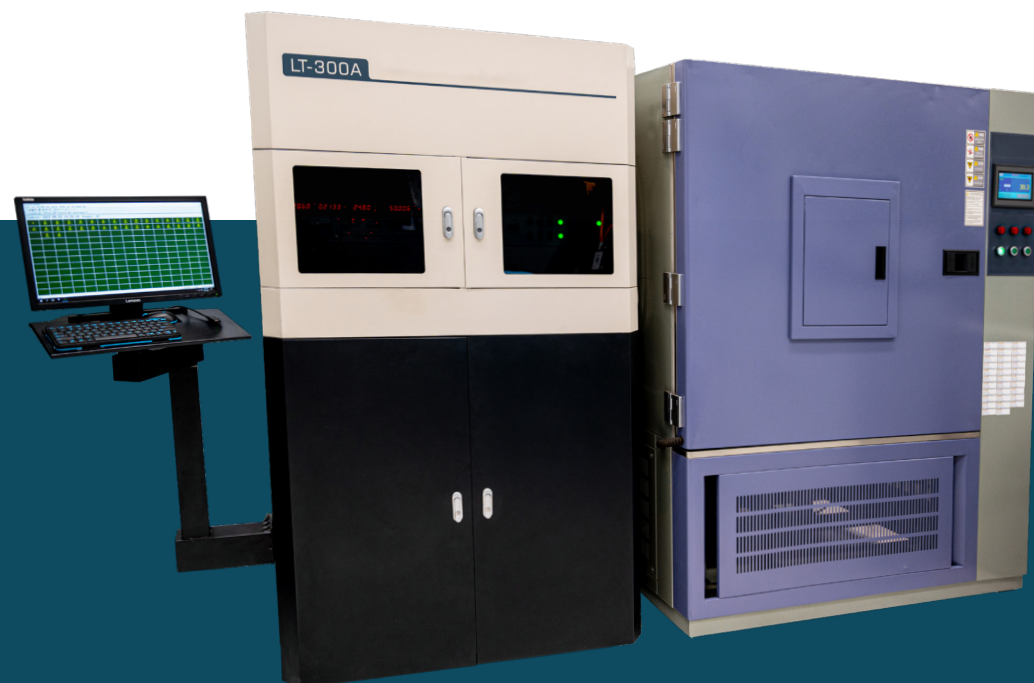
This test measures the luminous flux and color maintenance of LED Lamps, light engines and luminaires LM-84.

According to the related requirement of ANSI/IES LM-84-20.



LIGHT OUTPUT TEST

This test is used for indoor and outdoor lighting applications to measure the Illuminance, correlated color temperature (CCT) and color rendering index (CRI) for the testing scene.



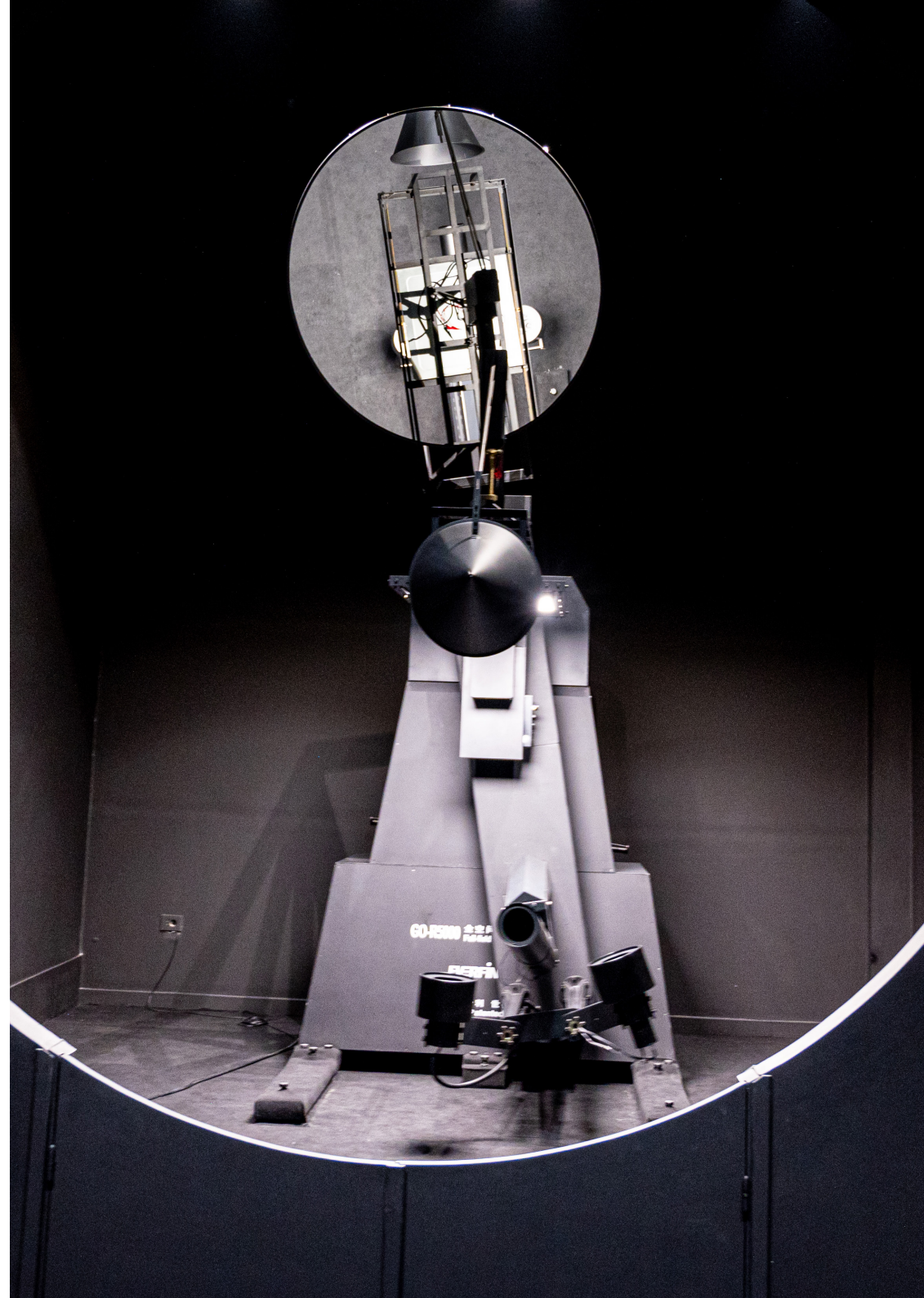
OPTICAL & ELECTRICAL MEASUREMENTS

OF SOLID-STATE LIGHTING
PRODUCTS LM-79



This test measures the total luminous, radiant, or photon flux, electrical power, system efficacy, luminous, radiant, or photon intensity distribution and color quantities and/or spectrum of solid-state lighting (SSL) products for illumination purpose, under standard conditions.

According to the related requirement of ANSI/IES LM-79-19.



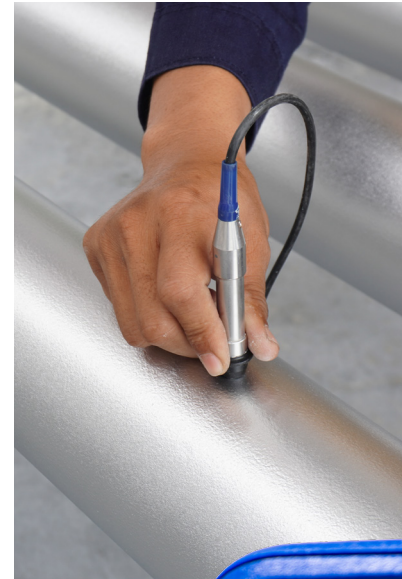


COATING TESTING

CROSS ADHESION TEST

This test is used to determine the resistance of paint and coating material of detaching the substrates by using a cutting tool to cut a perpendicular angle mesh pattern into the coating so that it penetrates all the way to the substrate.

According to the related requirements of ISO 2409.



COATING THICKNESS TEST

This test is used to measure coating thickness, which is one of the most critical measurements in the coating industry because of its impact on the coating process, quality and cost. It can be used also to evaluate the coating durability and lifetime.

According to the related requirements of ISO 2360.





LIGHTSHIP IS HERE



TO ENHANCE THE DEFINITION OF
ELECTRICAL TESTING IN EGYPT



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