Continuous improvement in lighting demands ever better metrology tools. More and more businesses rely on modern measurement practices to be competitive and outstanding. We provide the knowledge, reliable equipment and services to empower your company for success today and into the future.
**Illumia® Plus** Integrating Sphere Spectrometer Systems

Modular, configurable systems with a wide range of spectrometer options and sphere sizes from 25 cm to 3 m

Add-on electronics modules increase functionality and simplify compliance with IESNA LM-79, LM-78, LM-82 and equivalent global measurement guidelines and standards

Systems are delivered with Labsphere’s Integral® software platform

Automated calibration and LM-79 stabilization routines ensure ease-of-use and increased efficiency

New integrating sphere design allows for hot-swap of DUTs for shorter measurement scan times and less down time

---

**Illumia® Pro2** Light Characterization Systems

Accurately test for thermal variances

Wide dynamic range which allows a single sphere to measure a wide range of light levels

NIST traceable standards for in-house recalibration

Spectral results in milliseconds

Spectraflect® interior sphere coating

Conforms to national standard measurement geometries
**Illumia®Plus Elevated Temperature Systems**

Test over a broad range of temperatures

Test lamps and luminaires in accordance with LM-82 recommended practices

Total control, measurements and reporting with Integral software

---

**Illumia®Plus HalfMoon® Integrating Hemisphere Systems**

Ideal for in-line production testing

Test forward flux emitting luminaires and fixtures measured with half the footprint of a regular integrating sphere system

NVLAP* accredited 2pi spectral flux lamp standards

2pi lamp standards minimize substitution errors between the lamp standard and the DUT

Radiometric, photometric and colorimetric characterization capabilities

Easy mounting capabilities

IES accepted method for photometry of light sources

*ISO/IEC 17025:2005 Lab Code 200951-0
Goniophotometer Systems

**Type D Benchtop Goniospectrometer**
Produce IES files in-house, saving time and money while protecting your IP
Move your products to market faster
Ideal for testing lamps and LED modules and light source optics

**Type A Goniophotometer**
Most commonly referred instrument for automotive lighting, traffic signal and retro-reflector testing

**Type C Moving Mirror Goniophotometer**
Commonly used in the photometry of interior and street lighting

**Type C Moving Detector Goniophotometer**
Recommended for solid state lighting sensitive to position

Flicker Test Accessories

**Flicker-iP Flicker Test Accessory**
Quickly upgrade your illumia®Plus System for flicker analysis
The Flicker-iP integrates with Labsphere’s illumia®Plus Light Measurement Integrating Sphere Spectrometers
Using Labsphere’s Integral hardware set feature, connect to the Flicker-iP and you are ready to measure your device

**Flicker-BT Flicker Test Accessory**
Benchtop meter for illuminance and flicker analysis
High-speed illuminance meter designed to measure temporal lighting artifacts
The sensor is integrated with a signal condition module that connects directly to a PC
Data acquisition and analysis is performed with the Flicker-IP software
Redefines the way total spectral flux is measured and revolutionizes how these measurements are synthesized into useful information.

ANSI Binning, CRI, CQS and TM-30 Data and Graphics reporting

Innovative HTML5-based application with robust reporting and options

Application Program Interfaces to work with your existing business software

Mobile technology eliminates the need to be in the same place as the test and measurement hardware

Multiple users can access multiple test stations from anywhere

32-bit API supports LabVIEW®, .NET, C, and VBA

**Uncertainty Analysis Services**

Uncertainty is inherent in every measurement. To better understand the value of a measurement, analyzing the uncertainty is required and instills confidence in the measured values.

For each lamp or luminaire, a Labsphere Uncertainty Analysis Report provides Type A and Type B Uncertainty Contributions including:
- Reference lamp standard spectral flux uncertainty
- Current to the reference lamp(s)
- Aging of the reference lamps
- Wavelength accuracy of the spectrometer
- Noise contributions
- Stray light Near field absorption
- Non-linearity
- Temperature
- Combined uncertainties
- Degrees of freedom for each contribution factor
- Expanded uncertainty
- Spectral flux uncertainty every 5 nm

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Expand. Uncert., k=2</th>
<th>Expand. Uncert., k=2</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \Phi ) (W)</td>
<td>2.786</td>
<td>0.0074</td>
<td>0.4%</td>
</tr>
<tr>
<td>( \Phi ) (lumens)</td>
<td>821.82</td>
<td>3.018</td>
<td>0.3%</td>
</tr>
<tr>
<td>( \chi )</td>
<td>0.4569</td>
<td>0.0132</td>
<td></td>
</tr>
<tr>
<td>( \gamma )</td>
<td>0.4049</td>
<td>0.0135</td>
<td></td>
</tr>
<tr>
<td>( u' )</td>
<td>0.2631</td>
<td>0.0106</td>
<td></td>
</tr>
<tr>
<td>( v' )</td>
<td>0.5247</td>
<td>0.0021</td>
<td></td>
</tr>
<tr>
<td>CCT, K</td>
<td>2693</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>CRI</td>
<td>82</td>
<td>1.7</td>
<td></td>
</tr>
</tbody>
</table>
Industries & Markets We Serve

Internationally recognized companies utilize our technology each and every day. Learn how we can help your business today.

Lighting
Aerospace & Defense
Image Sensors
Automotive & Transportation
Research & Development
Consumer Electronics
Industrial Photonics
Medical & Lifescience
Cosmetics & Sun Protection
Telecommunications

sales@labsphere.com       www.labsphere.com

© 2019 Labsphere, Inc. All Rights Reserved