Integral

LIGHT MEASUREMENT SOFTWARE

REVOLUTIONARY

ADAPTABLE

FLEXIBLE

EFFICIENT

labsphere®

A HALMA COMPANY

REVOLUTIONARY

Integral

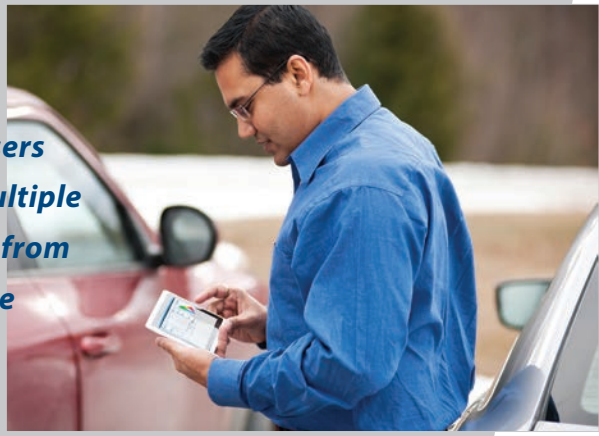
Labsphere's Integral Light Measurement Software is a completely new platform that redefines the way light is measured and revolutionizes how those measurements are synthesized into useful information.

Integral combines Labsphere's 30 plus years of partnership with light measurement customers with the latest in software and computing technology and devices to streamline productivity in photometry.

ANY PLATFORM, ANY LOCATION, ANY LANGUAGE

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

Multiple users can access multiple test stations from anywhere

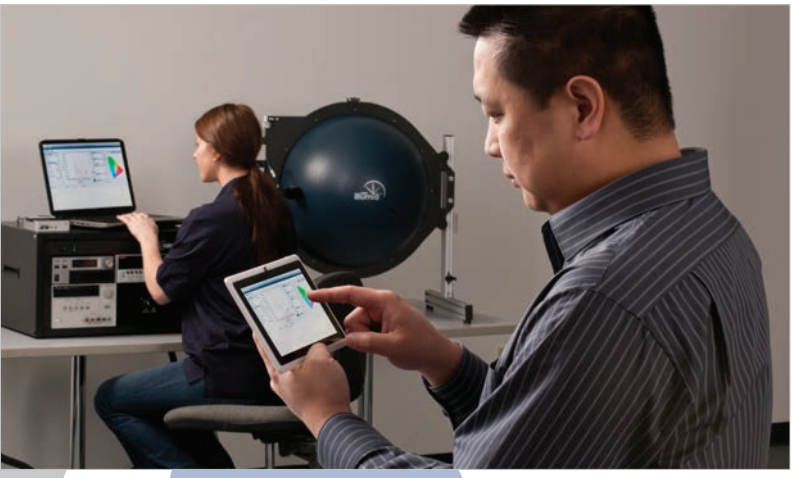


flexible

- Access Integral from any device that runs an HTML5-enabled web browser
- Instantly switch between English, Mandarin Chinese, Japanese, Korean, German, Italian, and French
- Many different test hardware configurations (spectrometer, AC and DC power supplies, temperature control and monitors) are supported, including non-Labsphere products, with more components added continually
- The Integral Cube is a small (10 cm x 10 cm x 4 cm) dedicated computer that runs the Integral server and controls all hardware. Users connect to the Integral server from any HTML5-compatible device on their network (or Internet through corporate WAN/VPN) to make new measurements, observe measurements being made by others, and analyze results

efficient

- Working with thought leaders in the lighting industry, Labsphere has minimized unnecessary operations with Integral features to improve productivity:
  - Automated LM-79 stabilization followed by test
  - Automated calibration routines
  - Automated current/voltage/temperature sweeps including automated adjustment of exposure times as light output levels change during a sweep
  - Automated setting of integration times and filter wheel settings
  - Eliminate cutting and pasting from separate Photometry and electrical power measurement systems
- One user can control many test stations
- Multiple users can access the same test station from anywhere



adaptable

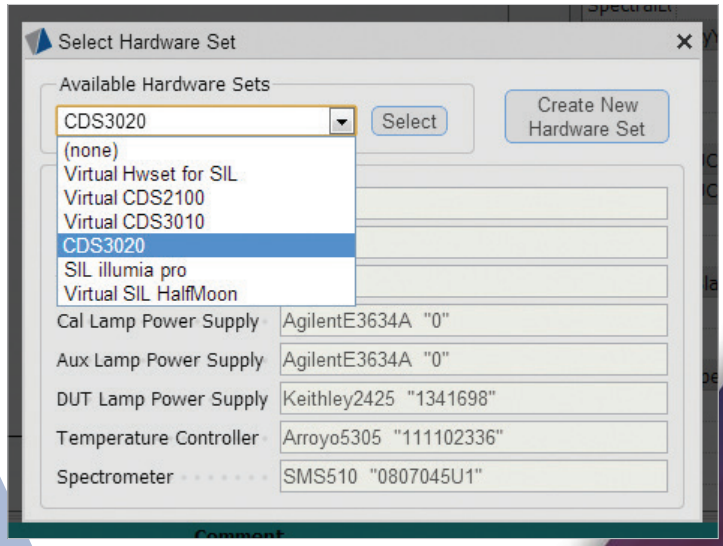
- Powerful, easy-to-use Application Programming Interface (API) lets customers create their own applications. The 32 bit Windows API supports Labview, .NET, C, and VBA
- Fully compliant with LM-79 procedures

SETS A NEW LEVEL IN

data management

- Individual user profiles with separate access levels
- Stores full hardware configuration, user ID and user-entered text along with each measurement
- All data stored in an industry standard relational database with rapid search capability
- Export/Import from Excel and other tools using standard XML format
- Built-in report generator with the ability to create custom reports

Multi Language Support

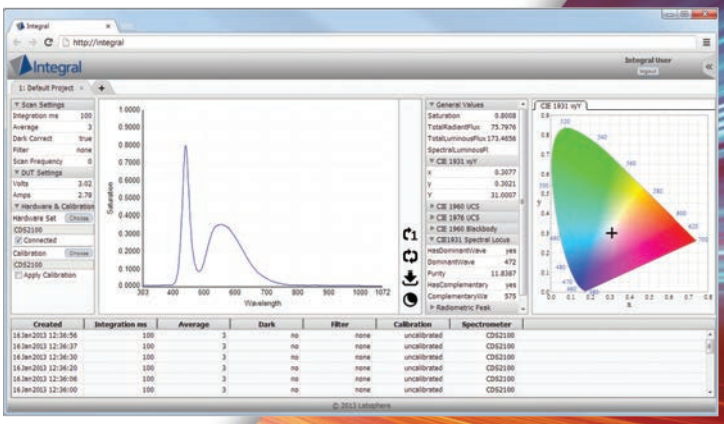


Hardware Selection Screen

POWERFUL

analysis engine

- View single or multiple data sets simultaneously
- View CIE 1930, 1960 and 1976 chromaticity diagrams
- Including LED quadrangles, MacAdam ellipses, and user-defined regions
- Zoom in/out on areas of interest in spectra or chromaticity diagram
- All Industry standard color calculations including:
  - x, y, u, v, u', v', CCT, CRI (1-15 and general), CQS, luminous flux (lumens), scotopic lumens, Duv, dominant wavelength, peak wavelength, FWHM, Centroid, Purity



Typical Spectral Scan

Also available from Labsphere is an Integral Software Maintenance Plan which includes technical support and software upgrades as they become available. Labsphere serves on all major international standards committees for light measurement and will ensure that Integral software is kept up to date with the latest industry standards.

Light Measurement Systems

FEATURING INTEGRAL LM SOFTWARE

Labsphere's Light Measurement Systems offer turn-key solutions for R&D, production and quality assurance. Integral Light Measurement Software drives our systems resulting in lamp measurement capabilities unrivaled in the industry today.

illumia® Light Measurement Systems are designed to minimize spatial distribution sensitivity associated with directional and divergent light sources and provide easy-to-use systems designed in concert with industry measurement standards.

The systems are easily customized with a choice of high-speed spectrometers and a variety of interchangeable light measurement accessories allowing for the highest accuracy and dynamic range available. Spectral results are achieved in milliseconds and conform to national standard measurement geometries.

All systems are certified by our calibration laboratory team with extensive experience in performing application-specific calibrations, all of which are traceable to the National Institute of Standards and Technologies (NIST).

- 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

MEASURE

- Total Spectral Flux
- Luminous & Radiant Flux
- Chromaticity
- CCT & CRI
- Peak & Dominant Wavelength
- I, V and Luminous Efficacy

and many more measurements

Integral LM Software Order Information

Item Description	Part Number
Single Integral license; includes Integral cube, single user, and first year of maintenance	AS-81000-000
10 license pack	AS-81000-001
Additional user license. This allows additional users to log into a single cube and/or single user to login from multiple devices	AS-81001-000
10 user pack	AS-81001-001
On-site software upgrade from TOCS/illumia Pro/MtrxSpec to single Integral license; includes Integral cube, single user, and first year of maintenance	AS-81010-000
On-site upgrade visit	AS-81011-000
Annual Software Maintenance Plan, includes free upgrades and technical support for 1 user	AS-81020-000
Annual Software Maintenance Plan 10 pack	AS-81020-001
Annual Software Maintenance Plan per additional user	AS-81021-000
Annual Software Maintenance Plan 10 additional user pack	AS-81021-001
Application Programming Interface (API) license. Includes activation of the API and first year of front line technical support on the API.	AS-81030-001
API Maintenance Plan. Requires API license and active Software Maintenance Plan	AS-81040-001

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