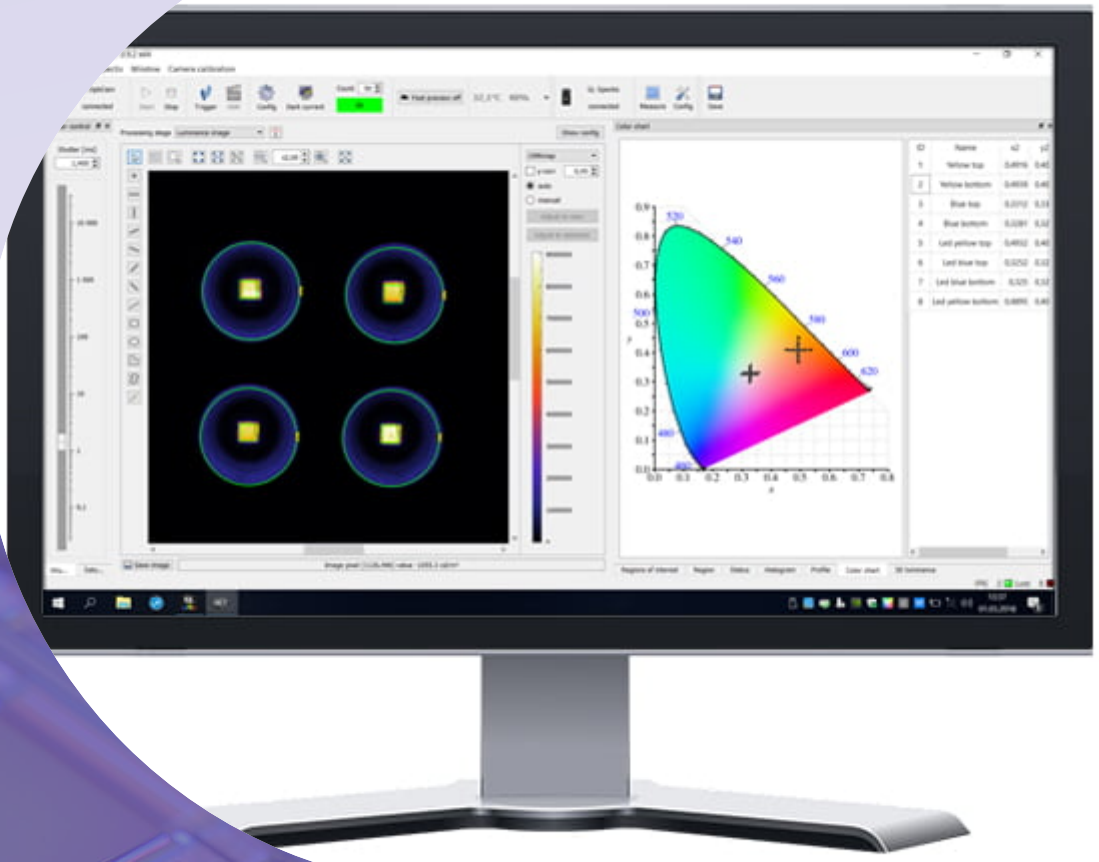
SOFTWARE - GL OPTIC | LIGHT MEASUREMENT SOLUTIONS



peo PHOTONICS

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Partner GL Optic

Product offering

GL EPREL PRODUCT REGISTRATION SPECTROSOFT ADD-ON

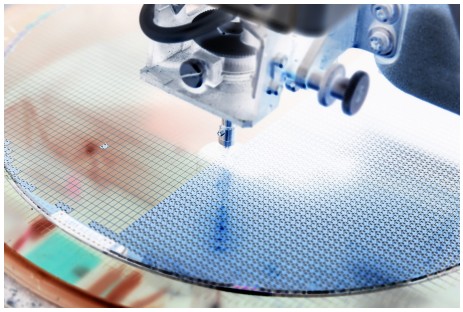
GL AUTOMATION – SPECTROSOFT ADD-ON

GL SPECTROSOFT M

GL EPREL PRODUCT REGISTRATION SPECTROSOFT ADD-ON

Directive 2009/125/EC (also known as ECODESIGN) introduced by the European Union in 2019, has imposed on manufacturers and importers of lighting products a number of requirements that must be met by products placed on the EU market. The main goal of the project is to reduce the presence of poor quality products available in the EU.

In order to introduce a new product for sale, it must be registered in the EPREL database. A corresponding energy efficiency label is generated, which must be included on the packaging and clearly displayed to the customer.



The EPREL database has been operating for several years, but there are still problems with product registration. In order to register a product, the necessary tests must be carried out and the results imported in a strictly defined format in an .xml file. In its current form, operating the EPREL database and entering data into it is time-consuming and not very intuitive.

To meet the needs of manufacturers and importers of lighting, we have created an add-on to the GL SPECTROSOFT software that will speed up the process of introducing products to sale. GL EPREL ADD-ON will automatically save the measurement results in the correct format and allow export to a file ready for import into the EPREL database. Save your time and equip your laboratory with the EPREL add-on.

The add-on to the GL SPECTROSOFT software has been developed in accordance with the requirements of the EU Directive 2019/125/EC. The program automatically calculates the values of all the necessary parameters needed to register the product in the EPREL database and saves all data in the form of a proper report in the .xml format.

So far, the product registration process in the EPREL database required tedious and complicated manual work. With EPREL Product Registration ADD-ON, one click is all it takes to generate a complete report ready for import into the EPREL database. You are literally just a few minutes away from registering your product in the EPREL database. Define, measure, save, import and done.

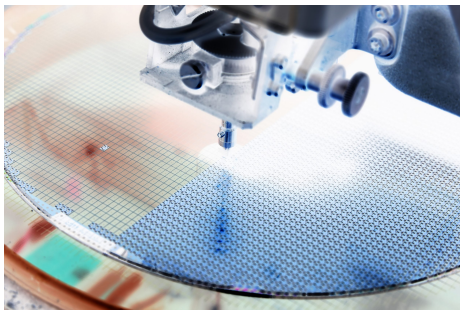
Laboratories equipped with GL OPTIC measurement systems and wishing to use the GL EPREL Product Registration ADD-ON add-on can easily adapt their test stands to fully ECODESIGN compliant measurements. Equip your laboratory with the necessary measurement devices and enjoy the possibilities offered by the EPREL ADD-ON add-on.

For more information, simply complete the contact form, and a member of our team will be in touch shortly.

GL AUTOMATION – SPECTROSOFT ADD-ON

The world of LED light measurement is expanding beyond traditional optical testing with thermal conditions, current or power levels also requiring measurement and reporting. The GL Spectrosoft Automation add-on automates complex operations, supplements and accelerates measurements of additional information (eg. the luminous efficacy, temperature, etc.) and minimizes errors caused by misalignment of the equipment.

Instead of individually setting up parameters for each connected device separately, this novel additional software communicates with and runs all of them. It is the perfect tool for laboratories with complex operations and production applications alike.



A complete sequence of operations can be easily preset in the drag and drop interface, such as: cooling temperature, current and voltage before a measurement with the use of programmable peripheral devices. Choose the relevant measurement options from the list of available operations and create a measurement script which will be automatically executed by the software.

Collect data from external devices and integrate all your critical information together in a single measurement report. Simply set parameters and check the influence of the current or temperature on the performance of your lighting product and create a comprehensive analysis summary.

GL AUTOMATION add-on supports programmable power supplies, current sources, multimeters and temperature controllers. Different current levels or temperature conditions can now be monitored and measured with the use of the automation script editor. Select from a list of support devices to have custom integrations of your own device developed for you.

The latest industry standards and guidelines for proper LED measurement put a lot of attention on additional parameters which have significant influence on LED performance. These are mainly monitoring thermal performance and electrical characteristics like current and voltage. This is why modern LED measurement includes optical measurements along with temperature measurement and stabilized, monitored power parameters. Spectrosoft Automation was purpose built to control these complex testing procedures, and communicate with different instruments at the same time providing the operator with unified interface and report interface.

Once you connect all devices which are supported by the Automation software, building a custom measurement script is simply a matter of using the drag and drop interface and selecting the logical sequence from the list of available commands to the Automation editor window. These scripts may include setting initial parameters of power supply to your lamp, measurement parameters of your spectrometer and readings from a separated power meter for instance.

For performance tests and measurements, you can include different current levels and check optical output of your lighting products under different conditions. The software will help you to build the measurement

sequence and store all data in a user-friendly customized reports.

Automation supports Peltier-controlled LED mounts (TEC) which can stabilize the LED module at a given temperature level e.g. 25°C as required by the CIE standards. It can also simulate higher ‘working’ temperatures as required by IES LM standards for LED modules test and measurements. All this is as simple as putting the list of steps and parameters in the editor. You don’t need to be a programmer to control, switch and measure various parameters using this PC interface.

GL AUTOMATION add-on Specifications

Devices supported by GL AUTOMATION add-on

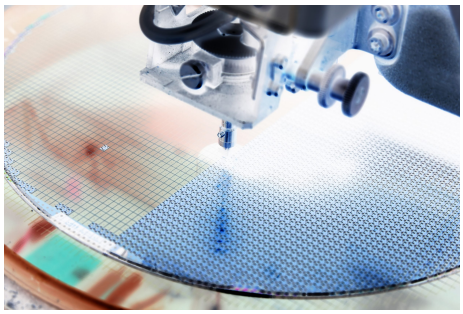
- **Temperature Control** : Arroyo TEC Source controllers. *Tested with Arroyo 5300-08-24 8A / 24V TEC Source*
- **Digital thermometer**: Digital thermometers for GL Opti Sphere
- **Power meter**: Gossen MetraHit Energy multimeter
- **GL Sphere Controller**: GL Optic Sphere controller box.
- **Power supply**: HEIDEN ACS AC power supply, ITECH IT6333b DC power supply, ITECH IT7321 AC power supply, IT7322 AC power supply, IT7324 AC power supply, IT7326 AC power supply, Manson SDP is a simple DC power supply, Manson SSP is a simple DC power supply, TDK Lambda DC power supply family, including TDK Lambda Genesys, TDK Lambda Z+, and TDK Lambda ZUP

Note: Integration of new devices is available upon request.

For more information, simply complete the contact form, and a member of our team will be in touch shortly.

GL SPECTROSOFT M

GL SPECTROSOFT M is a modular, PC-based analytical software designed for laboratory applications, field work, production quality control and for general light assessment purposes. With a range of powerful add ons, GL SPECTROSOFT M adds power, speed and efficiency to your GL SPECTROMETER. Whether analyzing field measurements, comparing lighting scenarios, or supporting production quality control, this versatile software platform provides quick access to all important information.

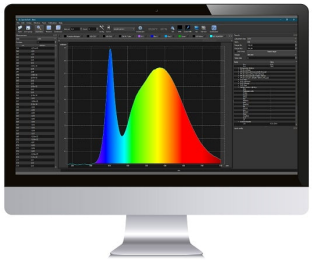


As purpose built light measurement software written for GL Optic’s measurement instrument, GL SPECTROSOFT M is “the key” for all the advanced features of the spectrometers. It turns raw data from devices into powerful information. The software provides data in well presented and customizable windows (tables) and also in an easy to interpret graphical charts. Advanced features include configurable pass/fail criteria and structured reporting formats to simplify presentation and sharing of results. Spectrosoft Connect is included with all systems, other versions optional.

Calculate, evaluate, present or report such parameters as: CCT, chromaticity error, peak wavelength, dominant wavelength, CRI, color coordinate values according to CIE standards, ISO, metamerism index, PAR, PPF, PPFD, photobiological safety, binning, MacAdam ellipses and much more.

With an extensive range of analysis, automation and reporting tools, the days of exporting data to excel to crunch data are over. The tools go beyond “standard” spectral analysis with options like color mixing, pass/fail, relative comparisons and more. It even integrates with CAD for simplified field audits.

GL SPECTROSOFT M light measurement software already offers best in class analysis and automation capabilities, but that doesn’t stop us from implementing new features and tools regularly. We adapt to the changing industry and deliver the metrics and tools lighting professionals need.



GL SPECTROSOFT M can calculate, evaluate, present or report such parameters as: CCT, chromaticity error, peak wavelength, dominant wavelength, CRI, color coordinate values according to CIE standards, ISO,

Metamerism Index, PAR, PPF, PPFD, photobiological safety, binning, MacAdam ellipses and much more...

This light measurement software gives a user the opportunity to experiment using collected data: to test them (e.g. PAS/FAIL), to analyze them according to international standards (CIE, ISO etc.), compare them with other data (reference window) and make calculations using different parameters (e.g. counting luminous intensity values).

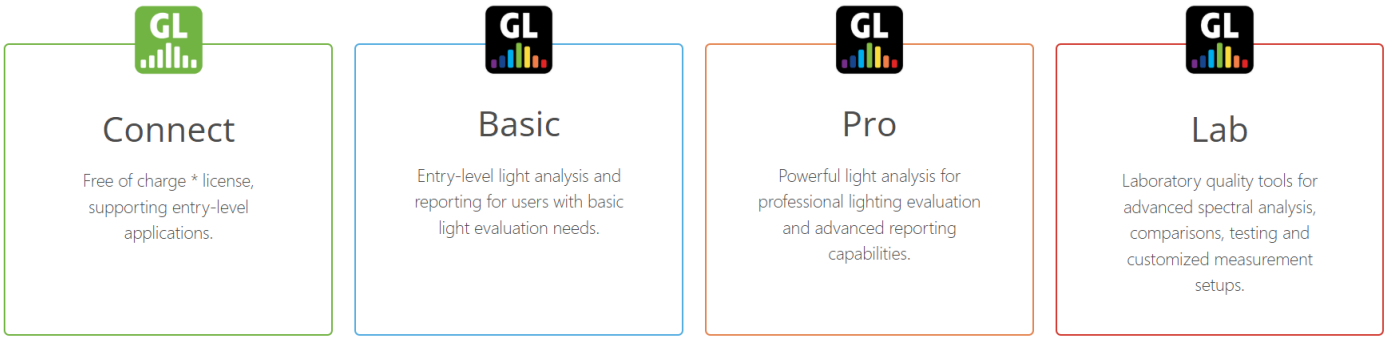
GL SPECTROSOFT M works as a plug-and-play tool for all our spectrometers, integrating sphere systems or goniometer systems. Our solutions are designed to scale with your business and eliminate unnecessary learning curves that come with changing software.

Software's calculations:

- New color rendering metrics: IES TM-30-15 and new CIE 224:2017 Color Fidelity Index Rf
- Human-centric lighting evaluation metrics: EML (Equivalent Melanopic Lux) and M/P Ratio (Melanopic Photopic Ratio)
- Colorimetric values: xy chromaticity, peak wavelength, dominant wavelength, purity, color rendering, correlated color temperature, CRI index, MacAdam Ellipses and Metamerism Index.
- Photosynthetic active radiation PAR 400–700 [µmol], PPF [µmol/s], PPFD [µmol/m2/s] and PBAR 350–800 nm
- Photobiological safety includes risk groups assessment wizard and detailed values, including irradiance EB, EBK, ES, EUVA, EUV, EIR Eskin and effective radiance values like LB, LIRA and LVISIRA.
- Radiometric values: irradiance [W/m2 nm], radiance [W/cm2 sr nm], radiant power [W/nm] and radiant intensity [W/sr nm]
- Photometric values: luminance [cd/m2], illuminance [lux], luminous intensity [cd] and luminous flux [lm]
- Flicker frequency,
- Flicker index
- Flicker ratio
- SVM (Stroboscopic Visibility Measure)
- Flicker graph and FFT graphs are available

Software levels:

GL SPECTROSOFT M is a complete software suite to analyze, interpret and present your results. Choose the license level suitable for your needs.



Key Features:

- Seamless OS integration for spectrometers, optical spheres, and probes
- Automatic calibration file recognition via coded adapters for absolute values (e.g., lumens with GL SPECTIS 1.0 and GL OPTI SPHERE)
- Extensive configurability: customizable quick results, report templates, and layouts
- Full data storage for comparisons; export to Excel/Word
- Continuous updates aligned with evolving LED market and standards

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shortly.