

OptLab-SPX

Software for the determination of colour data and optical material parameters

OptLab-SPX is designed for the determination of a variety of optical parameters calculated from the sample spectrum. This can be the color of a transparent or opaque material, the blocking characteristics of protective glasses, the whiteness index of a dye or the sunlight transfer capability of window glass.

OptLab-SPX is a stand-alone Windows® software package that is compatible to Thermo Scientific UV/Vis spectrophotometers and PerkinElmer UV/Vis and UV/Vis/NIR spectrometers. It is also available as an offline version without instrument control.

OptLab-SPX records or imports the required transmittance or reflectance sample spectrum and performs any required number of calculations with the spectrum data. This can either be done automatically after spectrum recording or can be done offline with stored spectra. OptLab-SPX can also import spectra of the VISIONlite®, Lambda-SPX and the UVWinLab® software as well as JCAMP-DX spectra and tabular data.

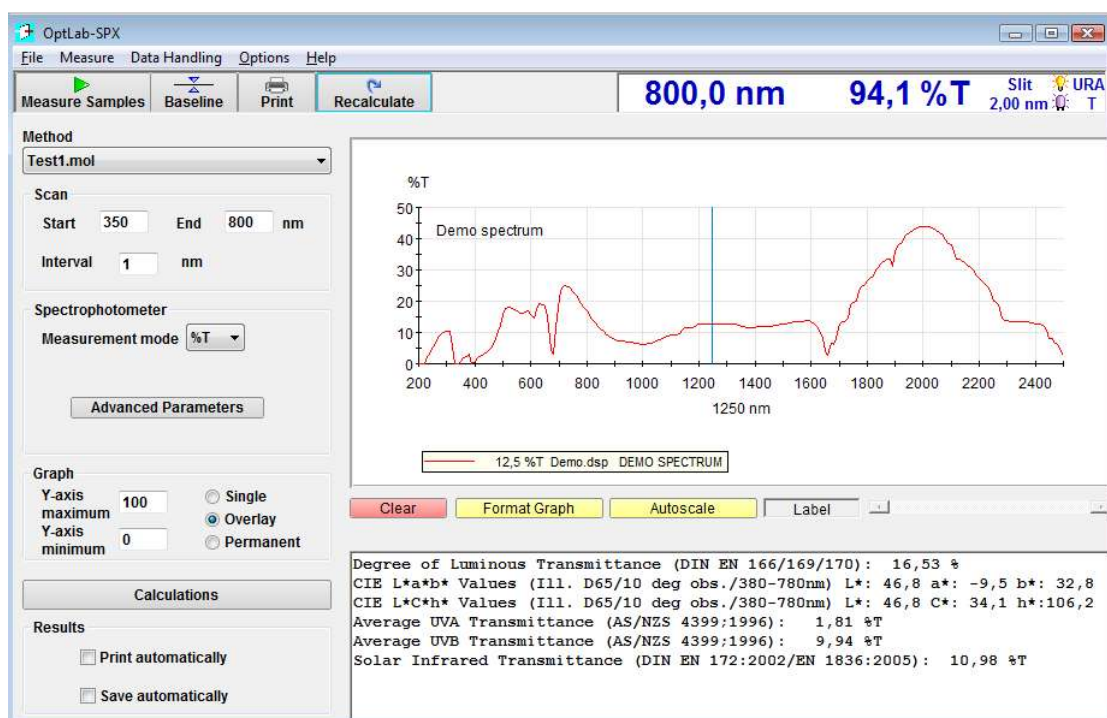
Generally, the available calculations are derived from national and international norms and standards like DIN, ISO, CIE, ANSI, JIST, etc..

Calculation parameters are summarized as a method together with measurement parameters: The method also determines details of result output (like automatic printout or graph scaling) and the type of sample thickness transformation. Meth-

ods are stored under selected names for easy usage in a routine environment.

OptLab-SPX Evaluation Parameters

- ✓ UV-, NIR- and light transmittance coefficients acc. EN, ANSI, JIST etc.
- ✓ XYZ, xyY, Lab* and LCh color values for several observers and illuminants acc. CIE/DIN/ASTM, ISO 11664
- ✓ Color difference (DIN 6174, CMC, CIEDE2000) to spectrum or Lab* data
- ✓ Color inspection acc. EP, Apha/Hazen/ Pt-Co, Gardner and iodine colour
- ✓ Whiteness and yellowness index acc. ASTM,
- ✓ Coefficients for signal recognition acc. DIN (Q-factor) and British Rail
- ✓ Determination of luminous and solar characteristics of glazing (EN 410, ISO 9050)
- ✓ UV- and NIR-protection coefficients
- ✓ Solar protection factor acc. COLIPA and AS/NZS, etc. for sun protection glasses, textiles and sun screens
- ✓ Haze value of plastic materials
- ✓ User-definable calculations and decisions with spectra data, results and user entries
- ✓ Check against high/low data and high/low reference spectra
- ✓ Sample classification according to results
- ✓ and many other options



OptLab-SPX main window

Sample Thickness Transformation

For characterizing transparent materials it may become necessary to generate results for a standard sample thickness. The sample thickness recalculation of an actual sample spectrum can be based on a single reflectance value, or on the material refractive index or on a full single-surface reflectance spectrum.

CIE, DIN, ASTM Color Measurement

OptLab-SPX records the required spectra and calculates standard color values like xyY, XYZ and Lab* for different illuminants and observers (including DIN EN ISO 11664) as well as dominant wavelength or the CIE Lab, CIE2000 and CMC color difference.

EP/DAB, Apha/Hazen, Gardner and Iodine Color Inspection

Testing of the color of liquids is traditionally done by visual comparison of the sample to reference solutions. This is according to EP/DAB and norms defining the Apha/Hazen or Gardner colour scales. OptLab-SPX automates this procedure and makes it objective and reproducible by comparing data extracted from the sample spectrum to stored values of the references. Where possible, this is also available for 5 and 10 cm cells.

Mathematical Calculations and Decisions

OptLab-SPX performs definable calculations and logical decisions with data of the spectrum or several spectra. The user can be queried for variable entries. Thus standard spectrum evaluations can be additionally implemented.

High/Low Comparisons and Classifications

Besides the various integral parameters, OptLab-SPX as well allows comparing a sample spectrum to a table of minimum and maximum data or to given high/low reference spectra.

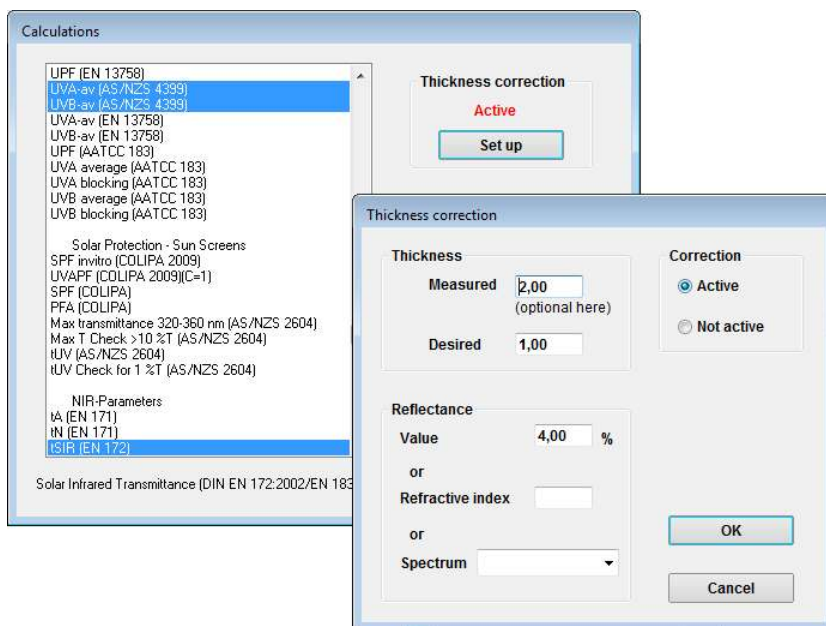
Numerical results of any calculation can be classified according to a classification scheme.

Configuring OptLab-SPX

Users can modify the list of available calculations; other calculations can be added, based on the available algorithms. It is also possible to change the naming of the predefined calculations and the format and unit of figures.

Report Configuration with Reporter-SPX

The additional installation of the *ascanis* Reporter-SPX Software allows configuring the report in many aspects, for example to define the spectrum diagram in size, color and appearance or to add additional texts and company logo.



OptLab-SPX parameter selection and thickness correction

System requirements: PC with Windows Vista/7/8/8.1, RS-232, resp. USB-port with adapter, CD drive.

OptLab-SPX is compatible to the PerkinElmer spectrometers of the Lambda 25 and 950 series. OptLab-SPX is compatible to the Thermo Scientific® UV/Vis spectrophotometers Evolution 2xx/300, GENESYS 6/10(S), Spectronic 200 and various other spectrometer models that are no longer in production..

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ascanis provides and supports applications software for instrumental analysis. Please contact us if you have a need for dedicated solutions.