

OptLab-SPX

Software for the determination of colour data and optical material parameters

OptLab-SPX is designed for the determination of a variety sample parameters calculated from the sample spectrum. This can be the colour 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.

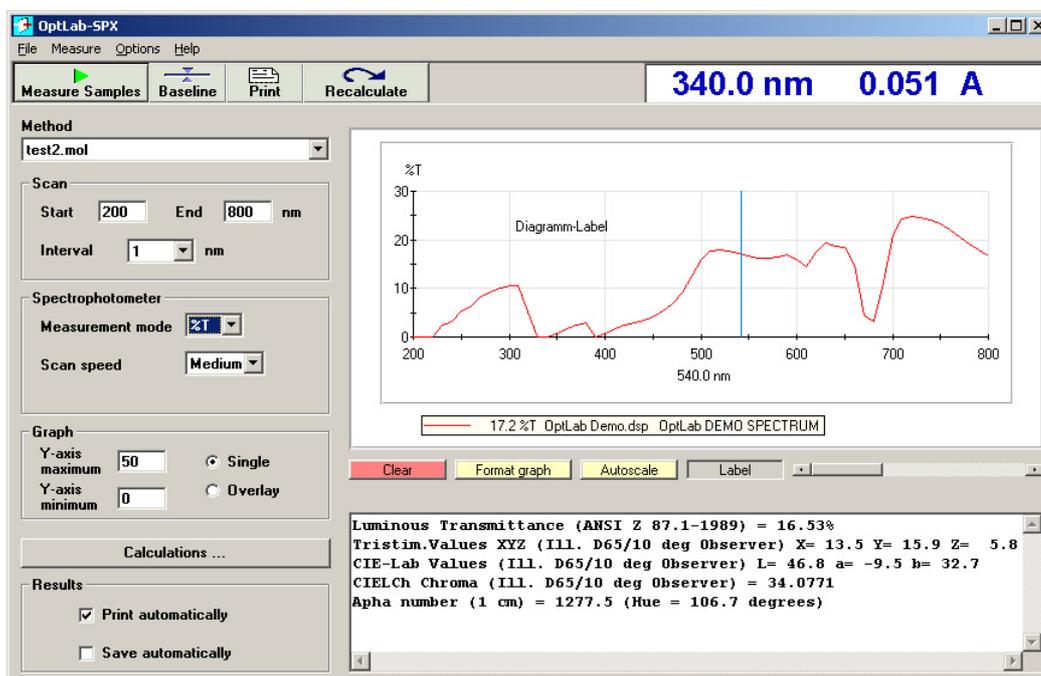
OptLab-SPX is a MS Windows® software package. It is compatible to the Thermo Scientific UV/Vis spectrometers of the Helios®, Evolution and GENESYS® (restrictions apply) series and to PerkinElmer Lambda 20/40 and 25/35/45 UV/Vis spectrometers and compatible models. It can also be used as an add-on to the ascانىs Lambda-SPX applications software for PerkinElmer Lambda 16/18/19.

OptLab-SPX records 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 import Lambda-SPX, PerkinElmer ASCII UVWinLab and JCAMP spectra as well as tabular data.

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

- ✓ UV-, NIR- and light transmittance coefficients acc. EN, ANSI, JIST etc.
- ✓ XYZ, xyY and Lab* colour values for different observers and illuminants acc. CIE/DIN/ASTM
- ✓ Lab colour difference data acc. DIN 6174
- ✓ Colour inspection acc. European Pharmacopeia
- ✓ Apha/Hazen and Gardner colour values
- ✓ Whiteness and yellowness index acc. ASTM,
- ✓ Coefficients for signal recognition acc. DIN (Q-factor) and British Rail
- ✓ UV- and NIR-protection coefficients
- ✓ Solar protection factor acc. COLIPA and AS/NZS
- ✓ Definable calculations and decisions with spectra data and user entries
- ✓ Check against high/low data and high/low reference spectra
- ✓ and many others

Calculation parameters are summarized as a method together with measurement parameters. The method determines the type of calculations, details of result output (like automatic printout or graph scaling) and the type of sample thickness transformation. Methods are stored under selected names for easy usage in a routine environment.



OptLab-SPX main window

Sample Thickness Transformation

To characterize 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 Colour Measurement

OptLab-SPX records the required spectra in transmittance or reflectance and calculates standard colour values like xyY, XYZ und Lab* for different illuminants and observers as well as the CIELab colour difference.

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

Testing of the colour 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

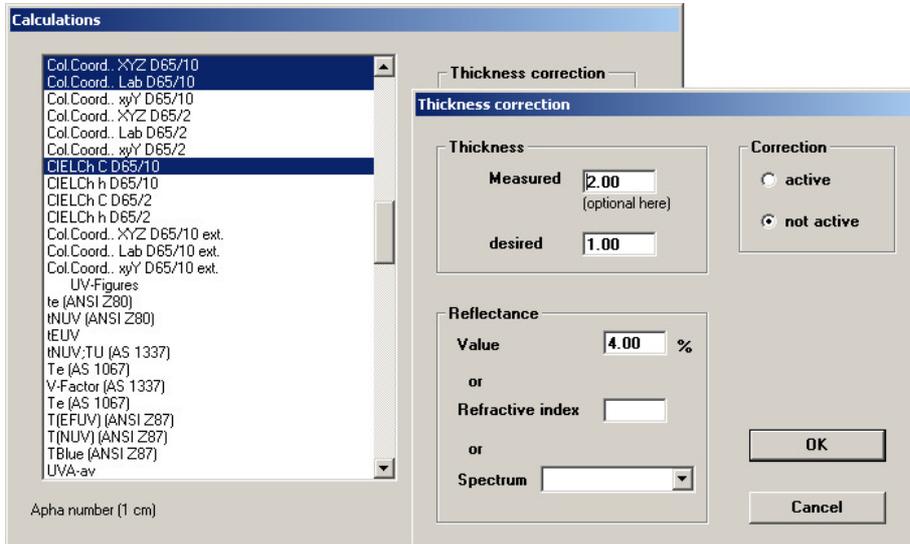
Besides the various integral parameters, OptLab-SPX as well allows to compare a sample spectrum to a table of minimum and maximum data or to given high/low reference spectra.

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, colour and appearance or to add additional texts and company logo.



OptLab-SPX parameter selection and thickness correction

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System requirements: MS Windows 95/2000/XP

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

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