VL ColorCalc Basic and Advanced Edition

Software for the Determination of Color Data with a Thermo Electron UV/Vis spectrophotometer

VL ColorCalc is designed for the determination of a variety of color values calculated from the sample spectrum. These can be the CIE color data of a transparent or opaque material, the whiteness index of a white paint or color difference to a given reference.

VL ColorCalc is a MS Windows® software package to communicate with a Thermo Electron UV/Vis spectrophotometer of the Genesys®, Helios® and Evolution series. It can be used as an add-on to the Thermo Electron VISIONlite® UV/Vis applications software.

VL ColorCalc records the required transmittance or reflectance sample spectrum and performs any required number of calculations with the spectrum data. Generally the available calculations are derived from national and international norms and standards like DIN, ISO, ANSI, JIST, etc..

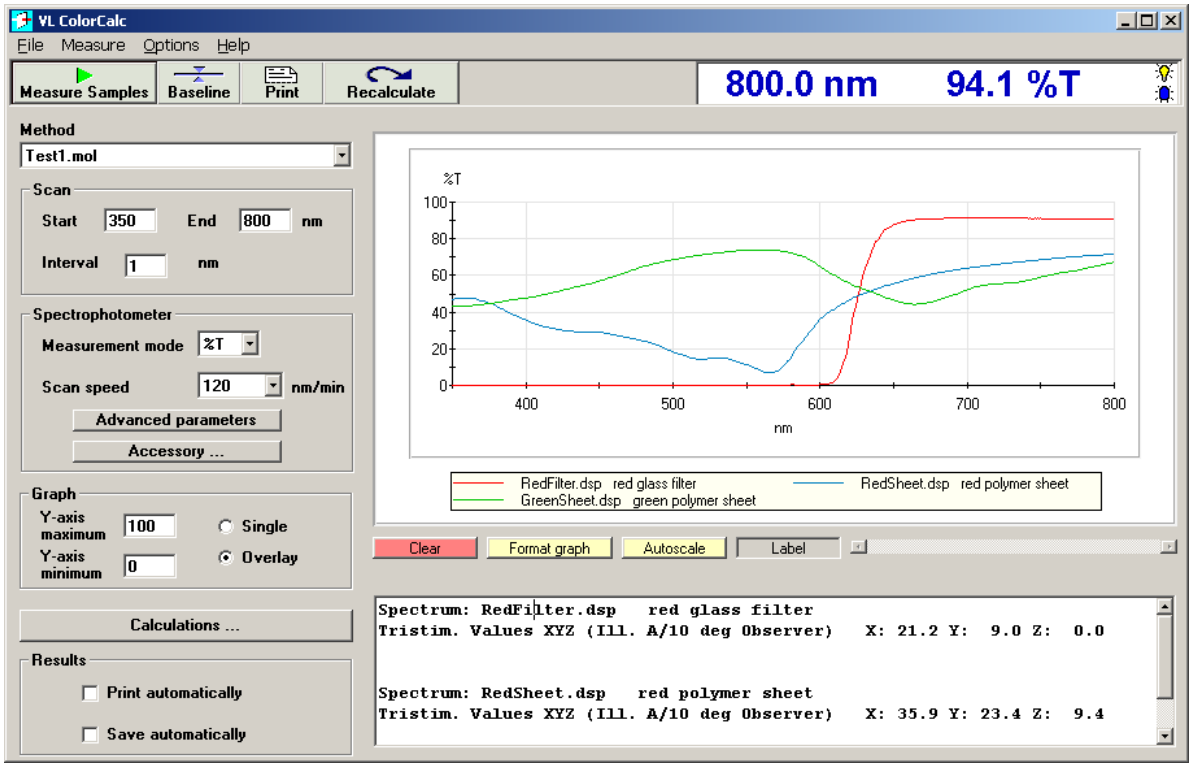
Calculations can either be done automatically after spectrum recording or offline with stored spectra. The software can import and export VISIONlite and JCAMP spectra as well as tabular data.

- ✓ **CIE/DIN/ASTM XYZ, xyY and Lab* color values for various illuminants and observers**
- ✓ **CIE Lab* color difference**
- ✓ **ASTM whiteness and yellowness index**

Additionally in Advanced Edition:

- ✓ **European Pharmacopeia color inspection**
- ✓ **Pt-Co/Apha/Hazen, Gardner and Iodine color values without reference solution**
- ✓ **Coefficients for signal recognition acc. DIN (Q-factor) and British Rail**
- ✓ **Definable calculations and decisions with spectra data and user entries**

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. Sophisticated evaluation can thus be performed with a few mouse clicks.



VL ColorCalc 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, on the material's refractive index or on a full single-surface reflectance spectrum.

CIE, DIN, ASTM Color Measurement

VL ColorCalc records the required spectra in transmittance or reflectance and calculates standard color values like xyY, XYZ und Lab* for different illuminants and observers as well as the CIELab color difference and whiteness/yellowness indices.

EP, Apha/Hazen, etc. 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 (European Pharmacopeia) and norms defining the Apha/Hazen/Pt-Co, Gardner or Iodine color scales. VL ColorCalc Advanced Edition automates these procedures and makes them 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

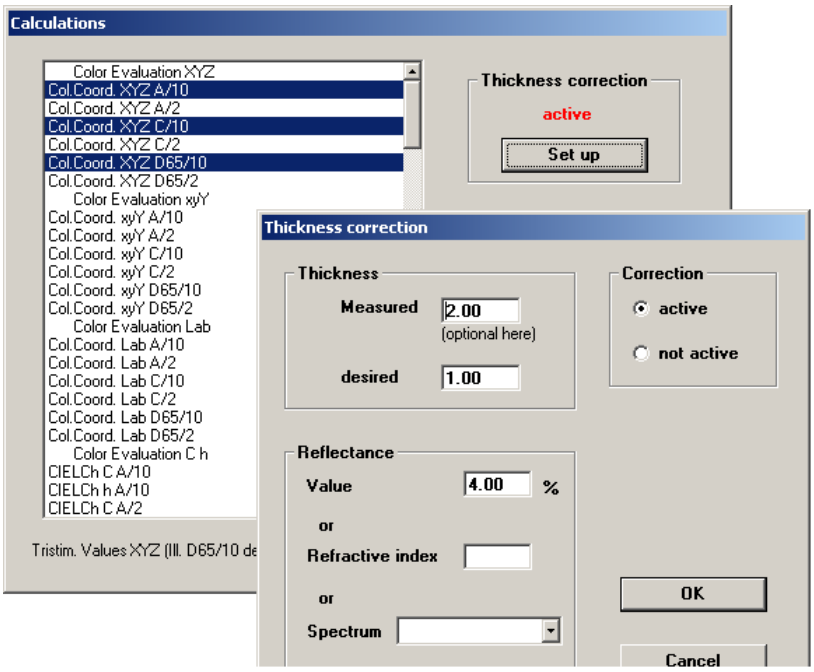
VL ColorCalc performs definable calculations and logical decisions with data of the spectrum or several spectra. The user can be queried for variable entries. Thus standard spectrum evaluations can be additionally implemented.

Configuring VL ColorCalc

Users can modify the list of available calculations: calculation options can be removed and can be extended, 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.



VL ColorCalc parameter selection and thickness correction windows

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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