

ColorLite PC Software

ColorDaTra Basic / Professional



ColorLite offers you the perfect solution for controlling the quality of your product colours

Quality control database software

Try the new range of spectrophotometers from ColorLite.

Innovative spectral Colour Metrology
Made in Germany

ColorDaTra
Basic and Professional

The software ColorDaTra is a database quality control tool for use with the ColorLite handheld spectrophotometers, available in two versions:

ColorDaTra Basic

ColorDaTra Professional

The **basic** version offers following functions for:

- archiving reference colours as standards
- visualising sample and batch colours - CIE L*a*b* scale, trend, spectrum
- creating report
- exporting colour data in an Excel© format.

The **professional** version extends the above features with:

- online window for operating direct from the computer via USB or Bluetooth
- additional window with standard information and photo option
- search engine with selection options for colour values, date, name
- extended colour values such as; metamerism, colour strength, transparency, opacity, white and yellow indices
- extend colour difference formula ΔE CMC_{1,2} and ΔE CIE94

ColorLite PC Software

ColorDaTra Basic / Professional



The software ColorDaTra is the perfect addition to your ColorLite handheld spectrophotometers

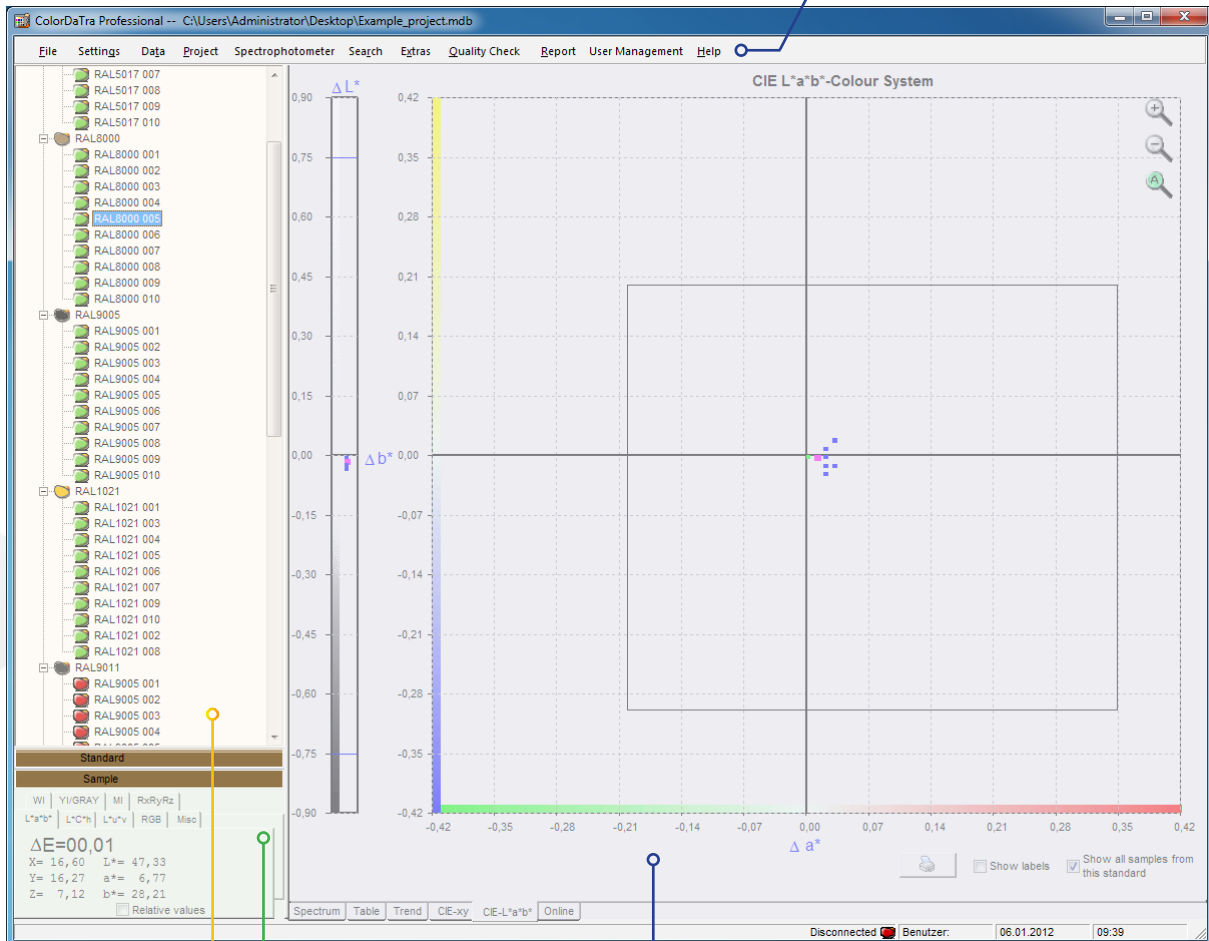
Enables stored data on the device to be transferred to and from the PC via USB 2.0, optional Bluetooth or RS232. The software works with all versions of MS-Windows© and is regularly modified. Updates are free and the software can run on as many PC's as required with no security device needed. To test the basic version is also available as a free demo version.

- MS-Access© database format
- Data is stored in „project“ files on a central server and accessed locally
- Project files can be copied and sent to a customer or supplier to upload
- and most important of all... it's very easy to use!



Overview

Main Menu



Tree view of standards and samples

Various colour values

Main window with different options for displaying colour values¹

Visualisation:

- Standard info
- Batch overview
- Pass/Fail
- Date/Time

Visualisation:

- CIE L*a*b*
- CIE L*C*h*
- Standard deviation
- Metamerism
- Colour Strength
- X,Y,Z / Rx, Ry, Rz

Visualisation:

- Spectral data 400 to 700 nm
- Table view of all colour data
- Trend diagram: chronological overview
- CIE x-y tristimulus diagram
- CIE L*a*b* diagram
- Online window - operate your sph860/900 spectrophotometer direct from the PC displaying various colour values

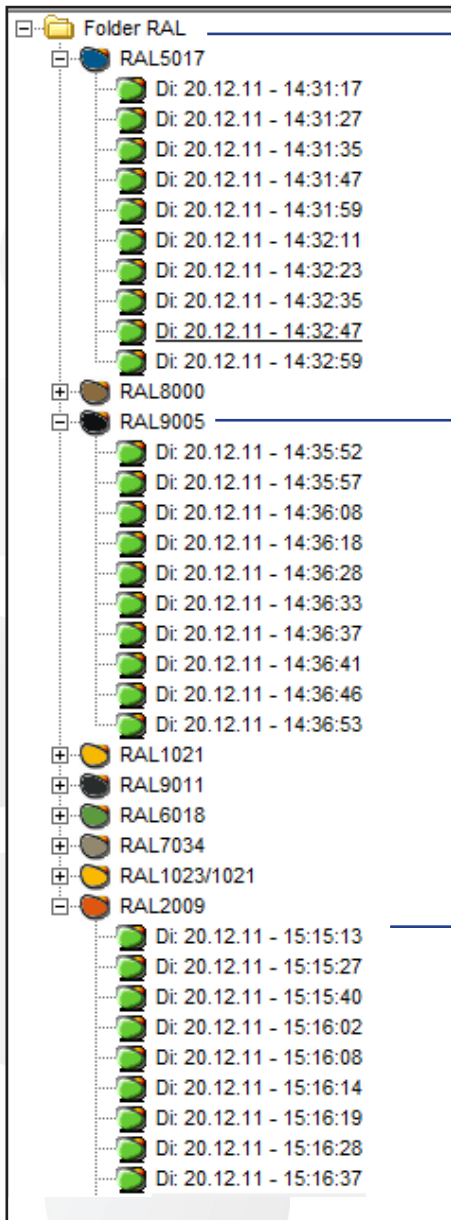
¹ ColorDaTra Professional only

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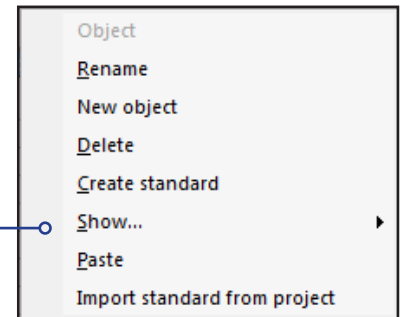
The tree view shows an overview of all standards and the assigned samples within a project file. To visualise the data on the main window, simple click on a sample or standard. Using ColorDaTra Professional measured values are automatically assigned to the selected standard.

Tree view of standards and samples



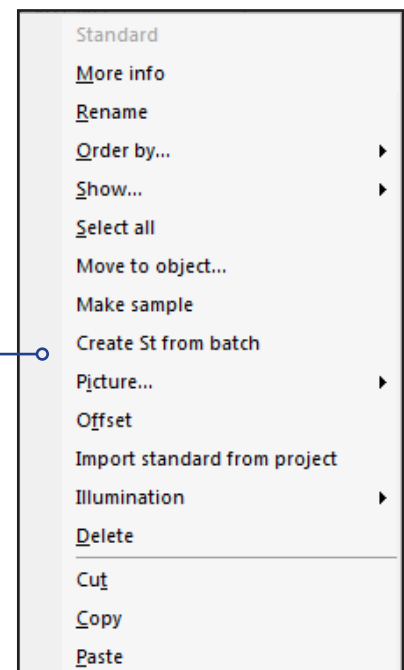
Folder - Organise any number of colour standards in folders. In the professional version more than one folder can be created.

In the context menu (right mouse button) follow options are available:



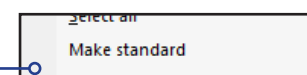
Standard - A standard is the reference colour i.e. the target colour. Each standard can be assigned a tolerance limit in the menu „Quality Control“. The software is structured so that samples are always assigned to a standard.

In the context menu (right mouse button) follow options are available:



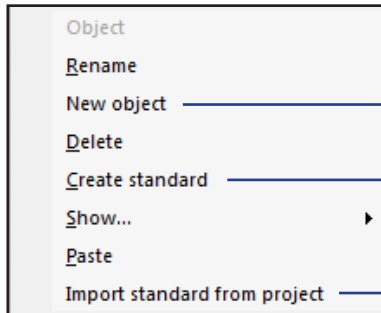
Samples - are the measured colours normally organised as a batch together standard is the reference colour. The icon colour acts as a PASS/FAIL indicator.

The context menu is similar to the standard menu with the exception that each sample can be converted into a standard.



Tree view of standards and samples

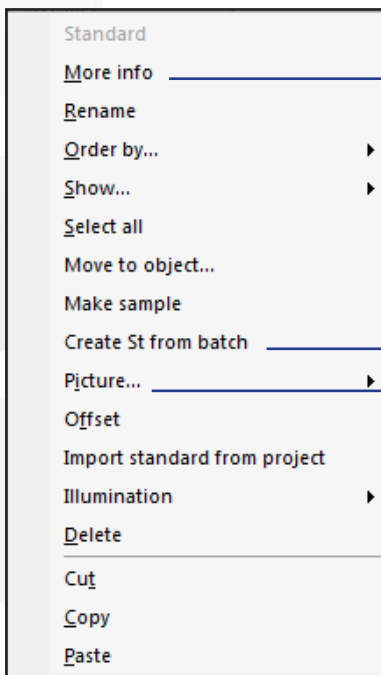
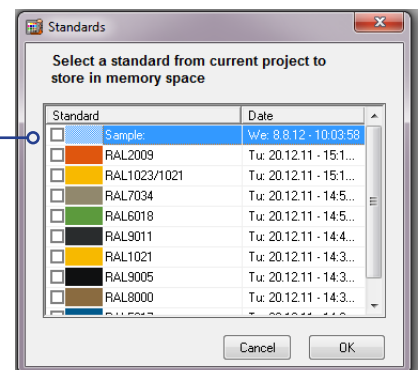
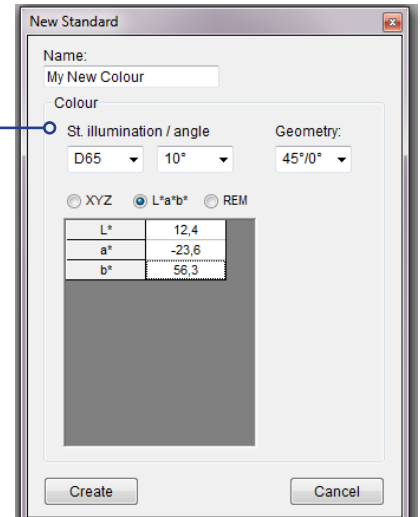
- Context menus



New object - Creates a new folder. This function is only available in the Professional version.

Create standard - Normally a standard should be created by measuring a reference colour as all spectrophotometers are relatively imprecise. But when comparing colours measured with the same model it is possible to use absolute values.

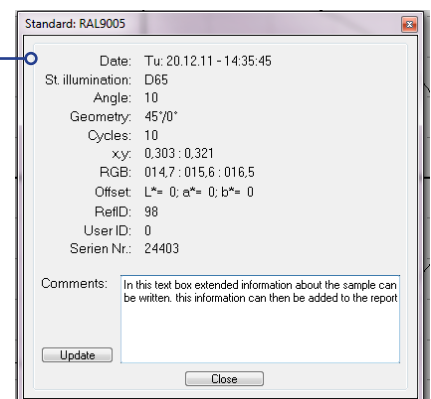
Import standard from project Standards are digitised colours. These can be stored in a main file and then imported to a new project file.



More info - opens a window which displays extended information of the standard or sample. In addition a text box is available to add comments etc. This information can be printed in the report function.

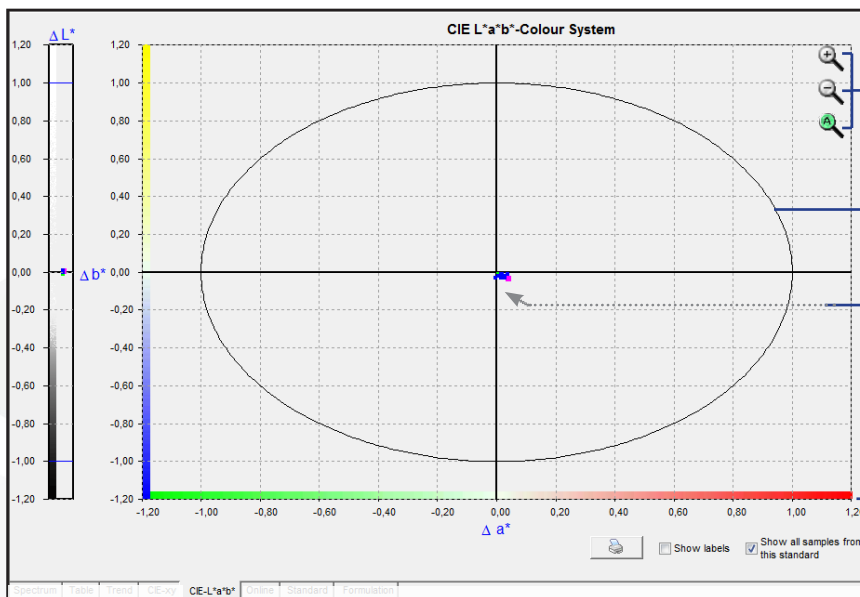
Create Standard from batch - Creates a new standard from the average values of a batch. The new standard will have an „M“ added to the name.

Picture... - is used to assign a photo to the standard. This photo can be displayed automatically when the standard is selected. To activate this mode change the setting in the setting menu. It is also possible to add the photo to the report. All typical photo formats can be used.



The CIE L*a*b* diagram is widely used in colour metrology to give an overview of differences between a standard and one or all samples from a batch. By holding down the shift key a second batch can be compared to the first.

Main window - CIE L*a*b* diagram



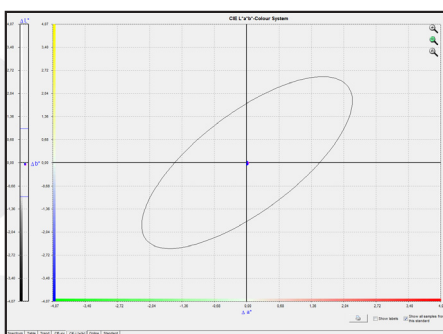
Zoom - use the (+) and (-) buttons to change the scale or activate the **auto zoom** function by pressing the (A) button (default).

Limit range - set the PASS/FAIL range for ΔE or ΔL^* , Δa^* , Δb^* .

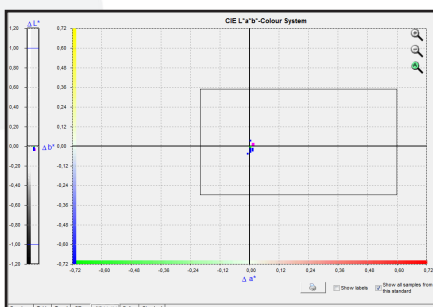
Relative samples values - each point on the diagram represents a sample with the standard as the central reference point

3 axes - display differences for the 3 colour values:

ΔL^* light(+) / dark(-),
 Δa^* red(+) / green(-),
 Δb^* yellow(+) / blue(-) difference



The diagram shows limits set using the ΔE CMC colour distance formular (Professional version only).



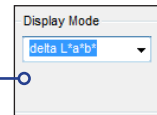
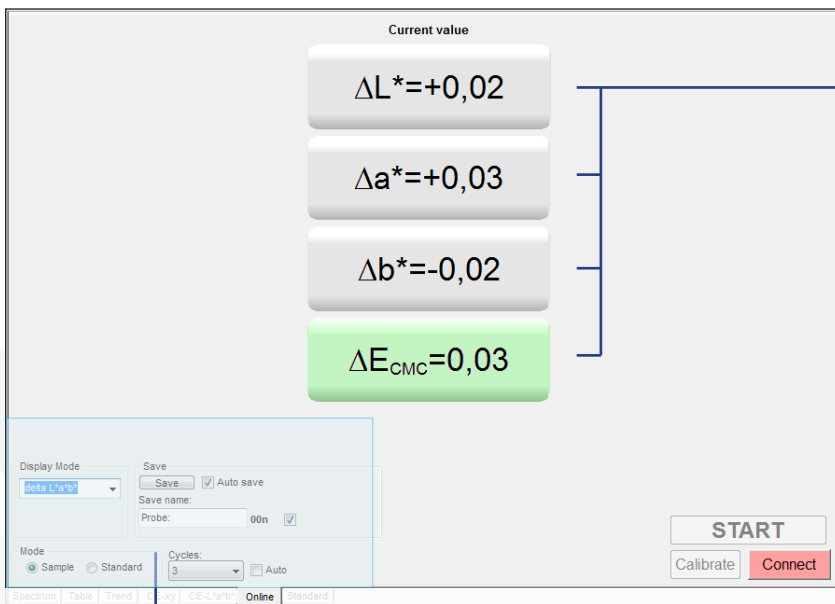
The diagram shows quality control limits set using ΔL^* , Δa^* , Δb^* values.

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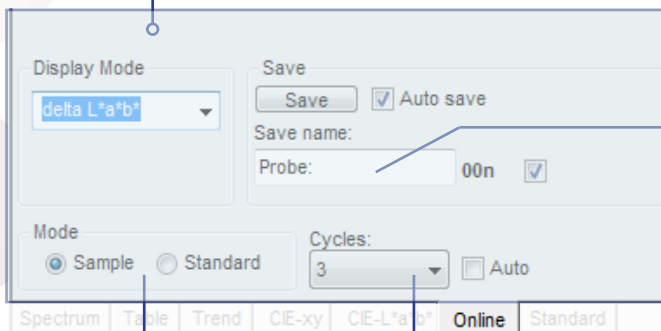
The "Online" window enables the user to connect their handheld ColorLite spectrophotometer directly to the PC and use like a desktop device.

Main window - Online (Professional version only)



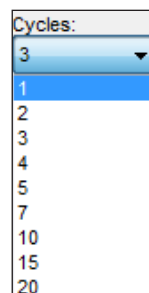
Colour values - are displayed according to the settings in the „Display Mode“ window:

- CIE L*, a*, b*, ΔE
- CIE ΔL*, Δa*, Δb*, ΔE
- CIE L*, C*, h*, ΔE
- CIE ΔL*, ΔC*, ΔH*, ΔE
- RGB
- White- and Yellowness Index
- Transparency, Opacity
- Density
- Hazen, Iodine...

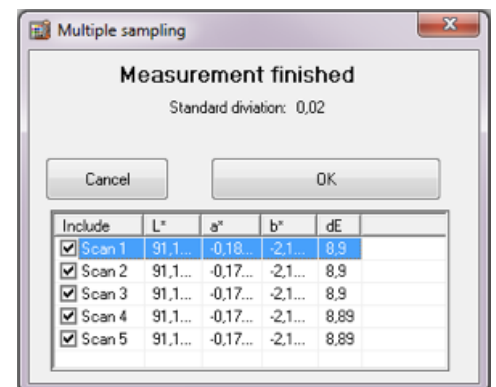


Name - simply enter the name of sample or standard. Note: This can be edited at any later time

Mode - Select between scanning a **standard** or **sample**



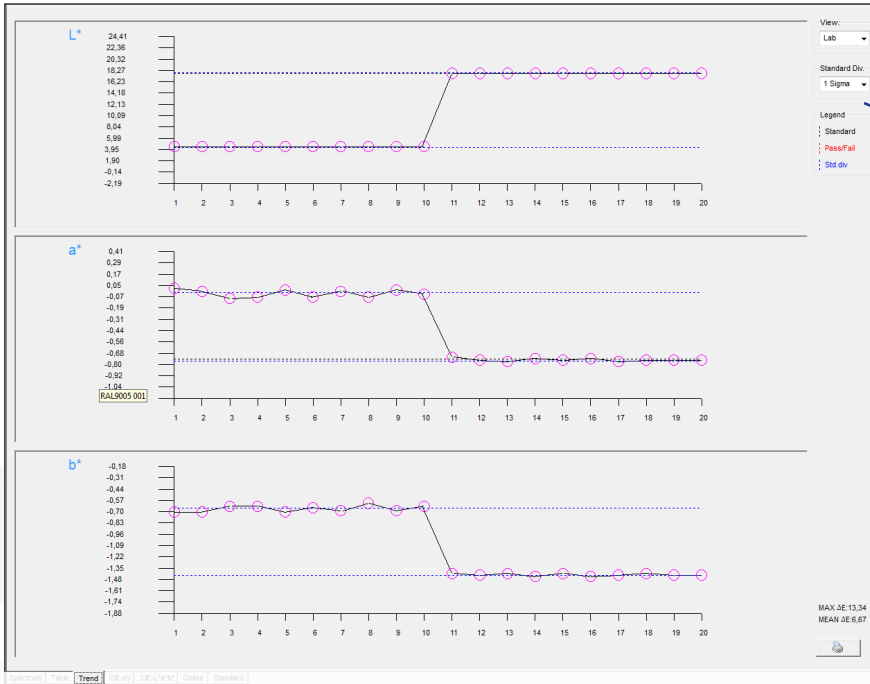
Cycles - Enter the number of scans per measurement.



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Main window - Trend diagram



View - select between ΔE or CIE L^*, a^*, b^* , $L^*u^*v^*$ or XYZ trend.

Standard deviation - select limit range to be displayed. Note this setting does not affect the quality control limits.

The trend diagram is used to give a chronological overview of the colour data from a batch. It can show how a colour changes over time.

The diagram left, shows 20 measurements.

Main window - Table

Name	Date	Time	DECIM	Run	User	X	Y	Z	L*	a*	b*	u*	v*	C*	h*	x	y	R457	KONTRAST	FS	YELLOW	JDD	WHITENESS	400	410	
RAL9011	20.12.11	14:41:34	0000	2.30	2.47	2.85	17.76	-0.74	-1.44	-1.23	-1.20	1.62	242.80	0.3023	0.3239	2.652	0	0	-11.23	60.58	23.909	2.80	2.80			
RAL9005 001	20.12.11	14:35:52	12.08	D6510*	0000	0.47	0.50	0.50	4.49	0.02	-0.71	-0.18	-0.42	0.71	271.61	0.3041	0.3204	0.529	-0.685	46.7	-11.18	73.29	28.221	0.33	0.45	
RAL9005 002	20.12.11	14:35:57	12.06	D6510*	0000	0.47	0.50	0.58	4.59	-0.01	-0.70	-0.18	-0.41	0.70	269.18	0.3039	0.3207	0.531	-0.684	46.6	-11.19	73.27	25.821	0.41	0.46	
RAL9005 003	20.12.11	14:36:01				0.49	0.57	4.48	-0.09	-0.63	-0.21	-0.36	0.64	261.87	0.3039	0.3221	0.518	-0.686	46.5	-10.83	73.32	23.469	0.40	0.45		
RAL9005 004	20.12.11	14:36:11				0.50	0.58	4.51	-0.07	-0.64	-0.20	-0.37	0.64	263.76	0.3041	0.3219	0.533	-0.684	46.6	-10.59	73.29	23.672	0.37	0.45		
RAL9005 005	20.12.11	14:36:21				0.49	0.58	4.47	0.00	-0.71	-0.18	-0.42	0.71	270.06	0.3038	0.3205	0.524	-0.686	46.6	-11.36	73.28	25.334	0.43	0.48		
RAL9005 006	20.12.11	14:36:31				0.50	0.58	4.49	-0.07	-0.65	-0.20	-0.38	0.65	263.85	0.3039	0.3217	0.53	-0.685	46.6	-10.8	73.3	24.124	0.40	0.45		
RAL9005 007	20.12.11	14:36:37	12.07	D6510*	0000	0.47	0.49	0.58	4.48	-0.01	-0.69	-0.18	-0.40	0.69	269.17	0.304	0.3208	0.523	-0.686	46.6	-11.08	73.29	25.577	0.43	0.44	
RAL9005 008	20.12.11	14:36:41	12.08	D6510*	0000	0.47	0.50	0.57	4.49	-0.08	-0.60	-0.19	-0.35	0.61	262.41	0.3045	0.3225	0.516	-0.685	46.6	-10.06	73.32	22.356	0.34	0.47	
RAL9005 009	20.12.11	14:36:46	12.08	D6510*	0000	0.47	0.49	0.58	4.46	0.00	-0.60	-0.17	-0.40	0.60	270.00	0.3042	0.3209	0.525	-0.687	46.6	-10.9	73.31	25.328	0.35	0.42	
RAL9005 010	20.12.11	14:36:53	12.08	D6510*	0000	0.47	0.49	0.57	4.47	-0.05	-0.64	-0.19	-0.37	0.64	265.53	0.3042	0.3217	0.525	-0.686	46.5	-10.56	73.32	23.867	0.46	0.46	
RAL9011 001	20.12.11	14:41:44	00.03	D6510*	0000	2.30	2.47	2.84	17.76	-0.73	-1.42	-1.21	-1.27	1.60	242.79	0.3025	0.3239	2.658	0	99.7	-11.07	60.6	23.611	2.57	2.77	
RAL9011 002	20.12.11	14:41:56	00.03	D6510*	0000	2.30	2.47	2.85	17.76	-0.76	-1.43	-1.24	-1.28	1.62	242.01	0.3023	0.3239	2.657	0	100	-11.21	60.59	23.781	2.63	2.81	
RAL9011 003	20.12.11	14:42:05	00.05	D6510*	0000	2.30	2.47	2.84	17.76	-0.77	-1.42	-1.25	-1.27	1.62	241.53	0.3023	0.3239	2.659	0	100	-11.17	60.6	23.613	2.59	2.81	
RAL9011 004	20.12.11	14:42:18	00.02	D6510*	0000	2.30	2.46	2.85	17.75	-0.74	-1.45	-1.23	-1.30	1.63	242.96	0.3022	0.3237	2.662	0	99.9	-11.3	60.59	24.063	2.58	2.79	
RAL9011 005	20.12.11	14:42:27	00.04	D6510*	0000	2.30	2.46	2.84	17.75	-0.75	-1.41	-1.22	-1.26	1.60	241.99	0.3024	0.324	2.666	0	99.7	-11.08	60.61	23.467	2.58	2.77	
RAL9011 006	20.12.11	14:42:36	00.02	D6510*	0000	2.30	2.46	2.84	17.74	-0.74	-1.45	-1.23	-1.30	1.63	242.96	0.3022	0.3237	2.659	-0.001	99.7	-11.3	60.6	24.067	2.64	2.79	
RAL9011 007	20.12.11	14:42:44	00.04	D6510*	0000	2.30	2.47	2.85	17.76	-0.77	-1.43	-1.25	-1.28	1.62	241.70	0.3022	0.3239	2.668	0	99.9	-11.24	60.6	23.762	2.58	2.80	
RAL9011 008	20.12.11	14:42:52	00.05	D6510*	0000	2.30	2.46	2.84	17.74	-0.76	-1.41	-1.23	-1.26	1.60	241.67	0.3024	0.324	2.652	-0.001	99.3	-11.08	60.63	23.471	2.65	2.79	
RAL9011 009	20.12.11	14:43:02	00.03	D6510*	0000	2.30	2.46	2.84	17.75	-0.76	-1.43	-1.24	-1.28	1.62	242.01	0.3023	0.3239	2.651	0	99.8	-11.21	60.61	23.766	2.56	2.80	
RAL9011 010	20.12.11	14:43:12	00.04	D6510*	0000	2.30	2.46	2.84	17.74	-0.76	-1.43	-1.24	-1.28	1.62	242.01	0.3023	0.3239	2.662	-0.001	99.6	-11.22	60.62	23.77	2.53	2.81	

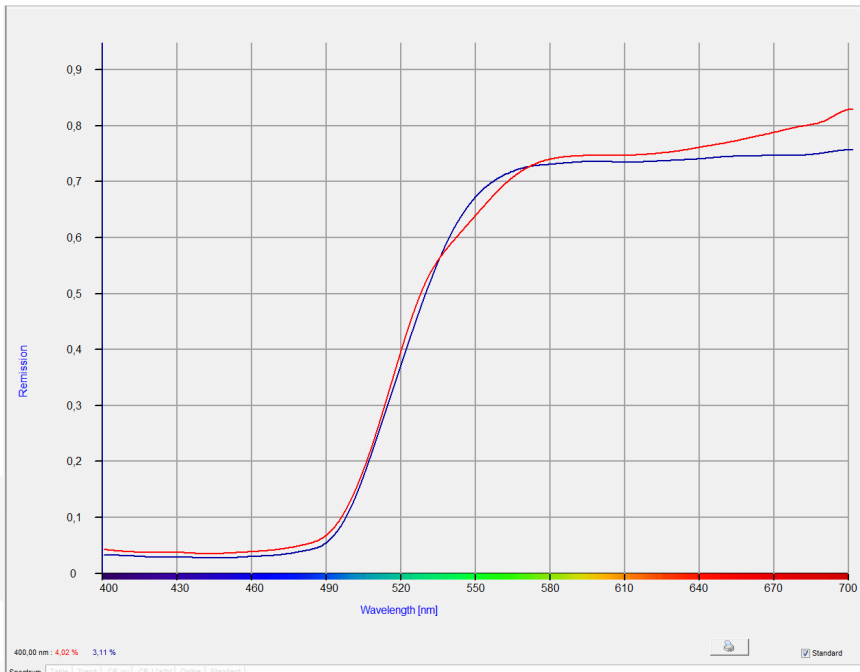
The table window displays all data from a batch.

Using the "cut and paste" function the data can be used in another program.

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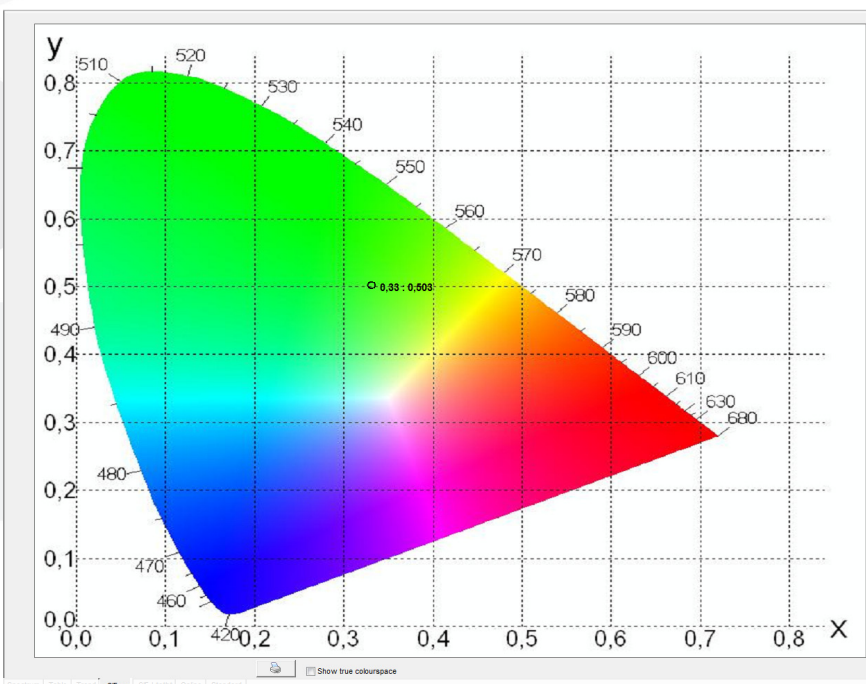
Main window - Spectrum diagram



The spectrum diagram displays the remission function of the standard and sample in the wavelength range of 400 to 700 nm.

Select the samples to be viewed in the tree view.

Main window - CIE x,y diagram

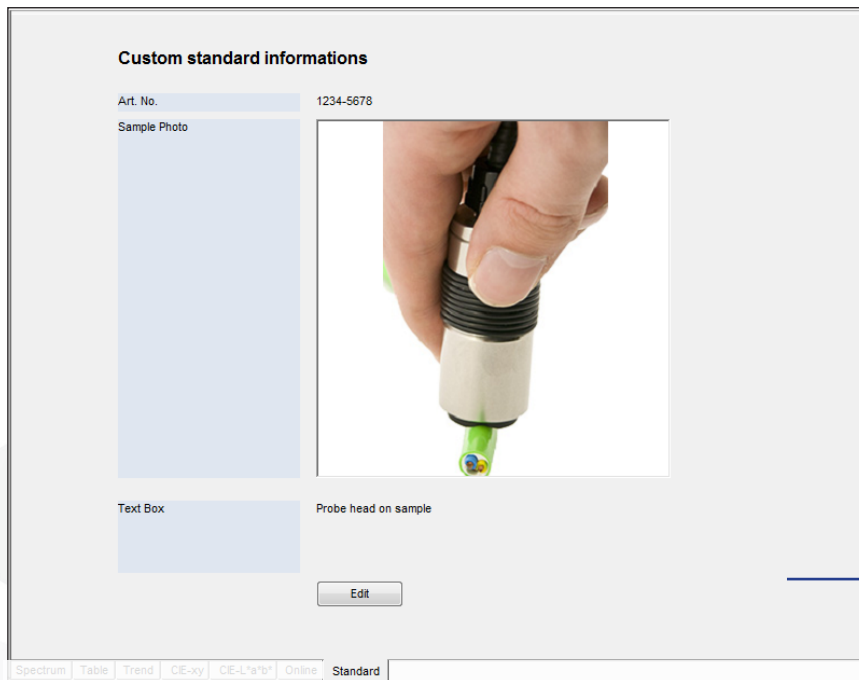


The CIE x,y chromaticity diagram from 1931 was one of the first colour scales used to visualise measured values. The 3rd brightness Y-axis is perpendicular to the plane.

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Main window - Standard Info (Professional version only)



Custom standard informations

Art. No. 1234-5678

Sample Photo

Text Box

Probe head on sample

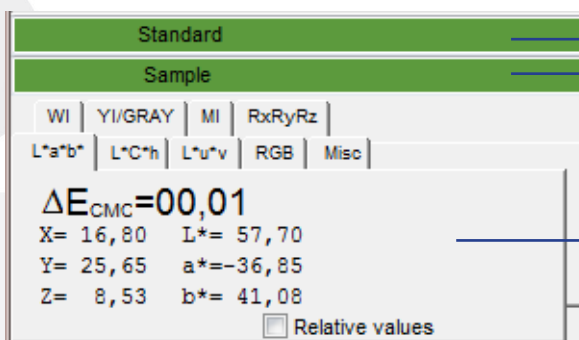
Edit

Spectrum | Table | Trend | CIE-xy | CIE-L*a*b* | Online | Standard

The standard information window can be used to enter extra information about the standard. Normally a photo can be assigned which shows where to measure on a sample

Click on the „Edit“ button to add a new field or to change the information

Colour information window



Standard

Sample

WI | YI/GRAY | MI | RxRyRz

L*a*b* | L*C*h | L*u*v | RGB | Misc

$\Delta E_{CMC} = 00,01$

X= 16,80 | L*= 57,70

Y= 25,65 | a*=-36,85

Z= 8,53 | b*= 41,08

Relative values

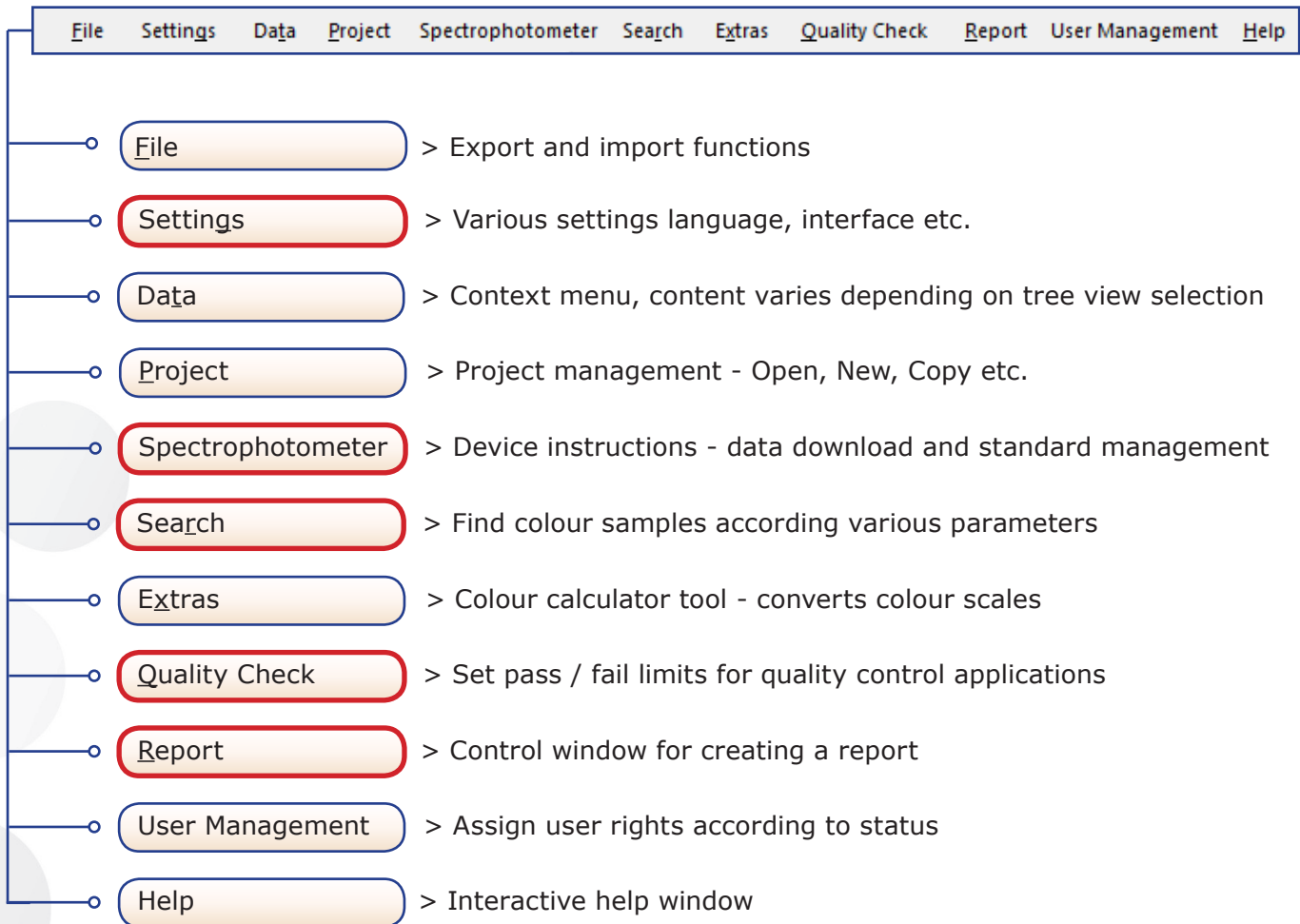
Standard colour box click to enlargen

Sample colour box click to enlargen

Colour values - displayed:

- CIE L*, a*, b*, ΔE
- CIE ΔL^* , Δa^* , Δb^*
- CIE L*, C*, h*
- CIE ΔL^* , ΔC^* , ΔH^*
- CIE XYZ
- White- and Yellowness Index
- RGB
- CIE ΔL^* , Δu^* , Δv^*
- Rx, Ry, Rz
- Standard deviation
- Colour strength

Main Menu - Overview



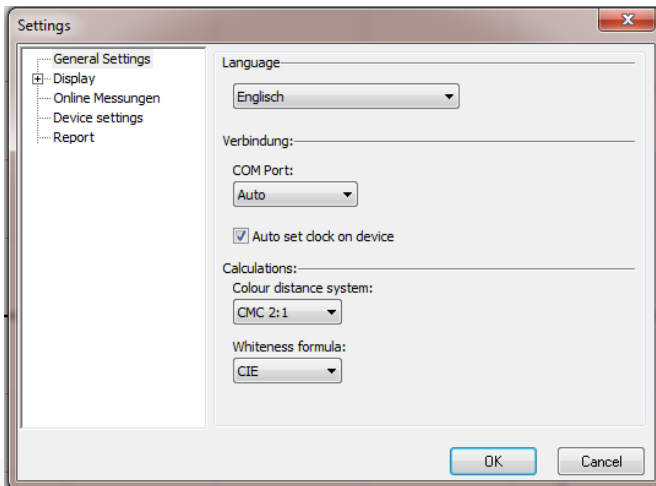
More details following...

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Main Menu

Settings



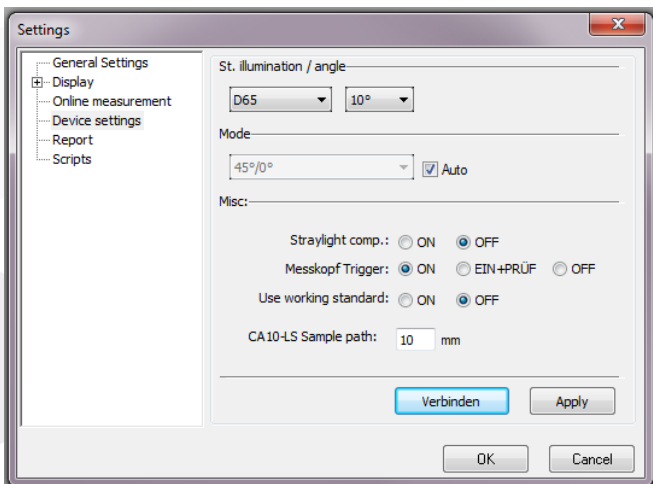
General Settings - Select language, interface, delta E mode and Whiteness formula (see

Display - Select remission spectrum resolution and photo settings.

Online - Select variables which automatically trigger scan.

Device Settings - Set device variables such D65, 10° via the PC.

Report - Enter path for logo and enter header text.



ColorLite PC Software

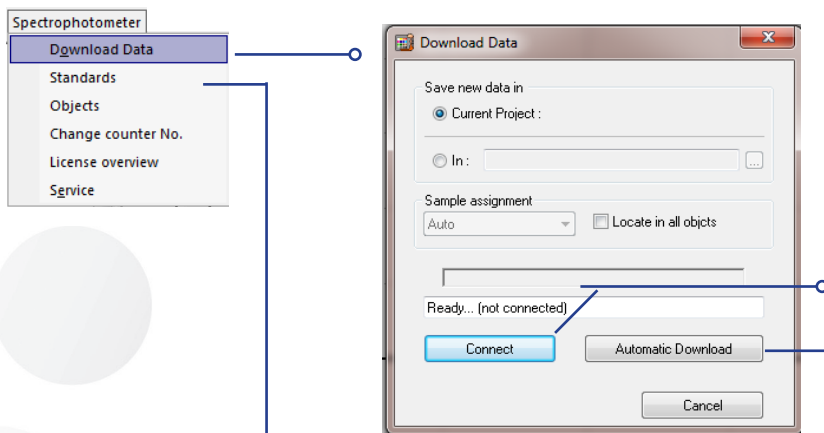
ColorDaTra Basic / Professional

The window displays the standard memory of the spectrophotometer. Standards are stored in up to 5 directories.

Using this tool it is possible to upload from the ColorDaTra software, rename, sort and delete standards. Also use to download photos to the sph900 device.

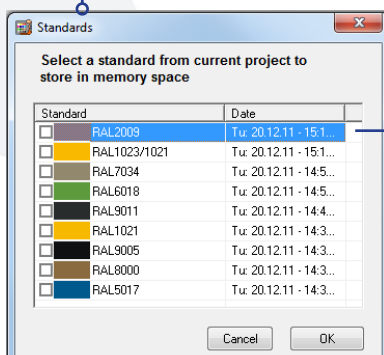
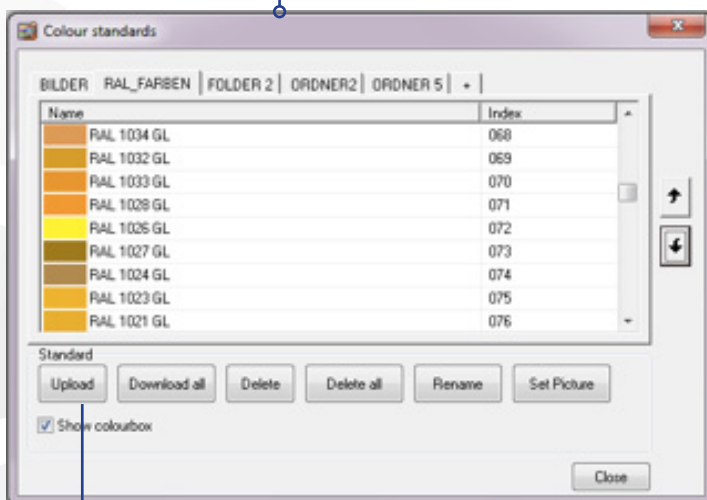
Main Menu

Spectrophotometer



Connect - Download data from the spectrophotometer - samples values will be automatically assigned to the correct standard.

Automatic Download - will automatically download new data stored on the device.



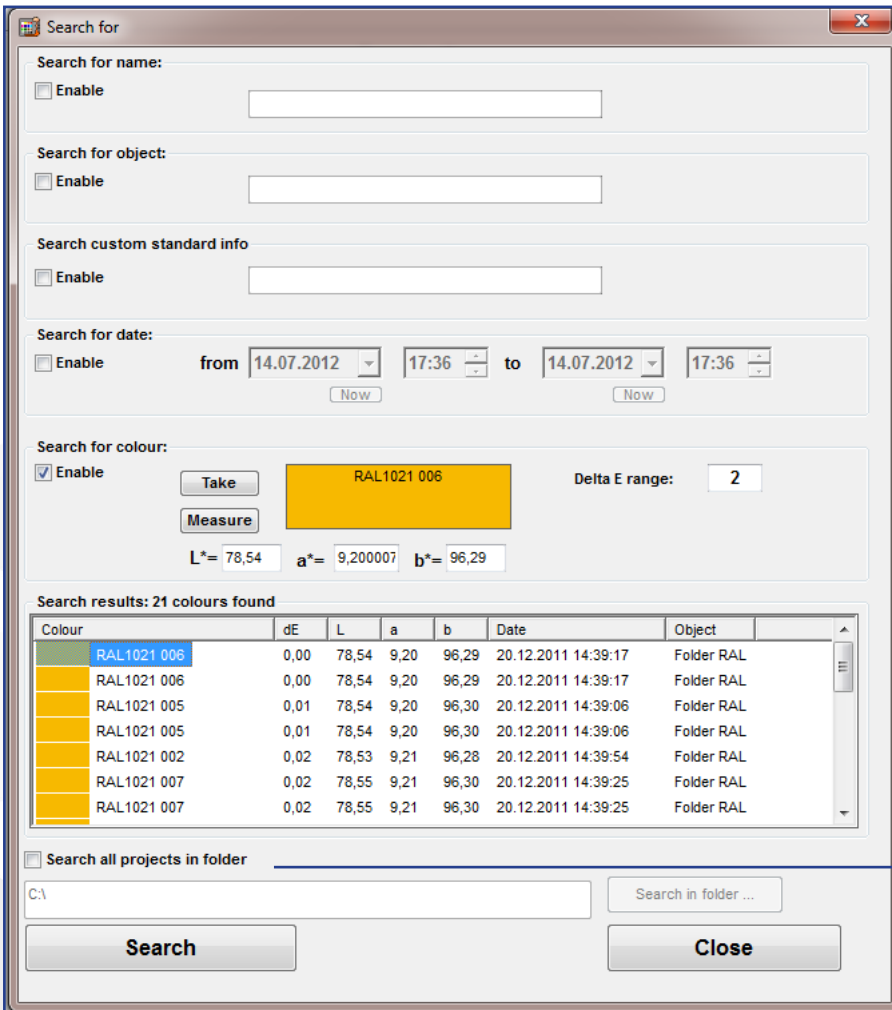
Standard Upload - window shows a list of standards in the opened project.

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Main Menu

Search



Search for

Search for name:
 Enable

Search for object:
 Enable

Search custom standard info
 Enable

Search for date:
 Enable from 14.07.2012 17:36 to 14.07.2012 17:36

Search for colour:
 Enable **Take** **Measure** **RAL1021 006** Delta E range: **2**
L* = 78,54 a* = 9,200007 b* = 96,29

Search results: 21 colours found

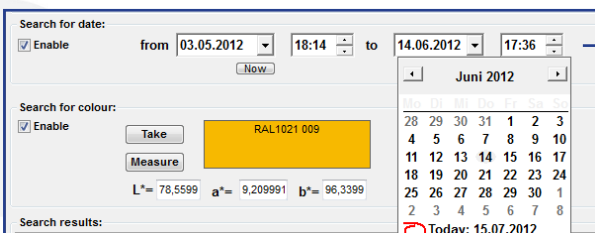
Colour	dE	L	a	b	Date	Object
RAL1021 006	0,00	78,54	9,20	96,29	20.12.2011 14:39:17	Folder RAL
RAL1021 006	0,00	78,54	9,20	96,29	20.12.2011 14:39:17	Folder RAL
RAL1021 005	0,01	78,54	9,20	96,30	20.12.2011 14:39:06	Folder RAL
RAL1021 005	0,01	78,54	9,20	96,30	20.12.2011 14:39:06	Folder RAL
RAL1021 002	0,02	78,53	9,21	96,28	20.12.2011 14:39:54	Folder RAL
RAL1021 007	0,02	78,55	9,21	96,30	20.12.2011 14:39:25	Folder RAL
RAL1021 007	0,02	78,55	9,21	96,30	20.12.2011 14:39:25	Folder RAL

Search all projects in folder C:\ Search in folder ...

Search **Close**

This tool helps to find colour data stored on a ColorDaTra database file. By pressing the "Take" button a sample colour from the tree view is imported. The software will search in the opened data base file for a matching colour.

It is possible to search in all files stored in a certain directory. To do this click the check box and select the directory where the files are stored.



Search for date:
 Enable from 03.05.2012 18:14 to 14.06.2012 17:36

Search for colour:
 Enable **Take** **Measure** **RAL1021 009** Delta E range: **2**
L* = 78,5599 a* = 9,209991 b* = 96,3399

Search results:
Today: 15.07.2012

Search for date - By activating more than one field it is possible to make a logical link. For example search for a certain colour that was measured between two dates.

Main Menu

Quality Check

meter Search Extras **Quality Check** Report User

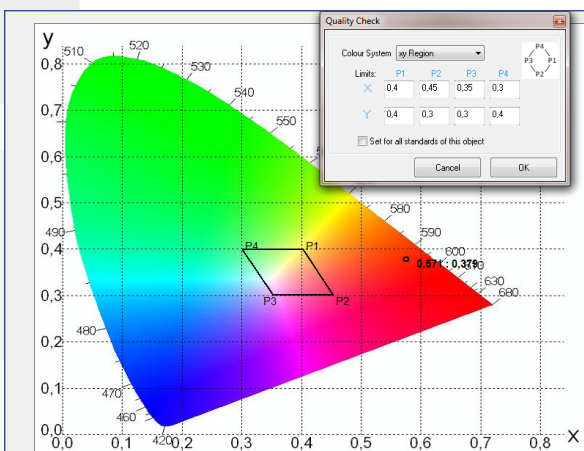
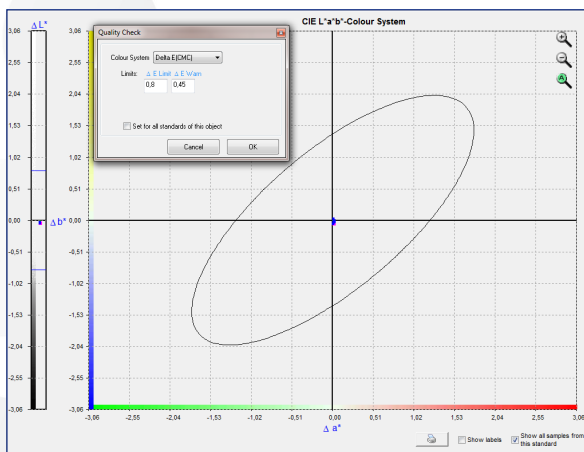
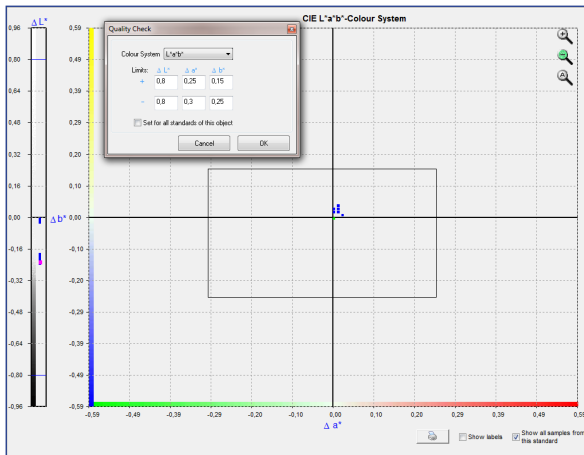
The quality check tool is used to set a limit for a Pass/Fail status, which will be assigned to the sample.

These values and the sample status are displayed in the report.

- **CIE L*a*b*** - Use to assign L*, a* and b* values an upper and lower limit. Sample Pass/Fail status will be dependent on these values. Set limit ranges will also be kept when the Standards are uploaded to the spectrophotometer.

- **CIE ΔE and ΔE_{CMC}** - Use to assign delta E limits to samples. The ΔE_{CMC} limits are only available in the Professional version.

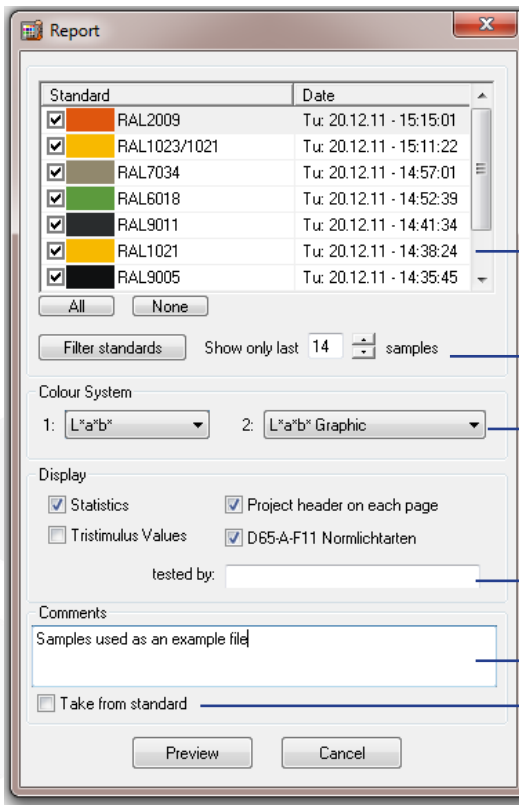
- **x,y Region** - To set a tolerance area in the chromaticity diagram four points can be entered.



Report - Tool

The report function enables the user to individually print the colour data. By selecting a PDF printer driver the output can be saved in a file format.

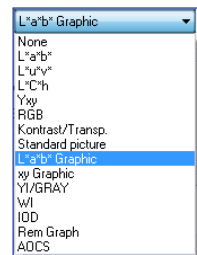
Enter your logo and heading in the settings menu.



Select **standards** to be printed in the report

Select number of last measured **samples** to be printed in the report

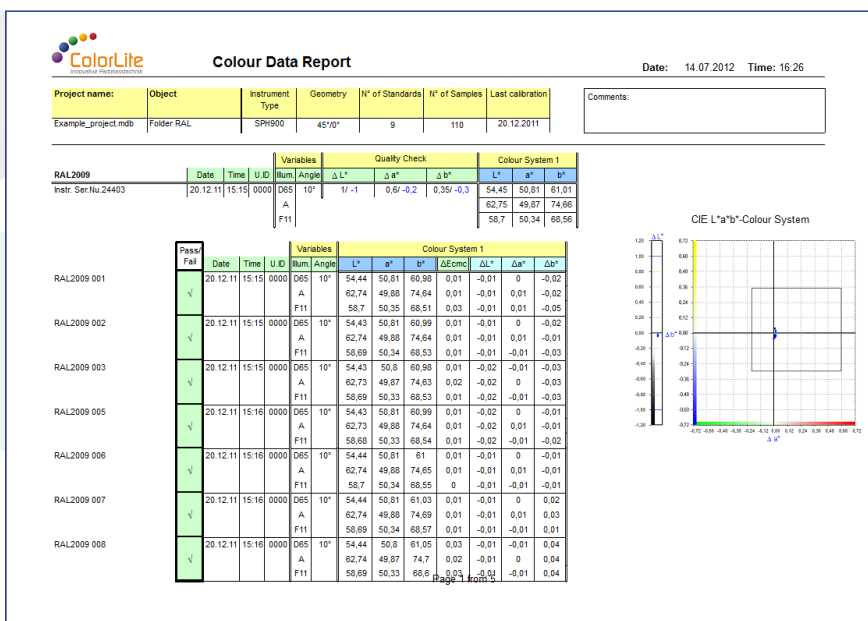
Select 2 colour scales or graphics to be displayed



Enter name of person to be printed on the report

Enter text for report

or select use of individual text from each standard



ColorLite PC Software

ColorDaTra Basic / Professional



And finally...

We are constantly improving and adding new features to our ColorDaTra database software, mainly for the Professional version. A lot of these improvements are ideas from you, our customers. This helps us to develop the software to meet your needs that makes your work simpler.

As ColorDaTra updates are free of charge our customers benefit from all new features many years after purchasing.

Reasons to choosing ColorLite as your partner for ensuring the quality of your product colours:

- ColorLite designs and produces a wide range of high quality products for colour measurement, mainly for quality control applications.
- Our equipment is designed, so that using it is **as simple as possible** greatly aiding the reliability of results .
- Our spectrophotometers offer our customers a perfect solution for measuring colours of all types of materials. Made possible through our unique wide range of accessories.
- Customer **support**: We understand that many companies have reservations about implementing colour measuring equipment in their quality control system. We aim to help by offering:
 - Guidance on what is the best setup for your sample range
 - Free training on how to use the equipment to get the optimal results
 - 14-day free trial period before purchasing

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