Spectralphotometer

ColorLite ColorCube - Quick Start Guide

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The ColorLite ColorCube is a trend-setting high precision laboratory spectralphotometer for reflectance colour measurement. The ColorLite ColorCube has been developed for a variety of surfaces and materials. It is characterized by the use of high-quality electronics and optical components. Included is the QS-software ColorDaTra to evaluate, analyse and create professional reports in all common colour scales.

Quality control
PC software ColorDaTra
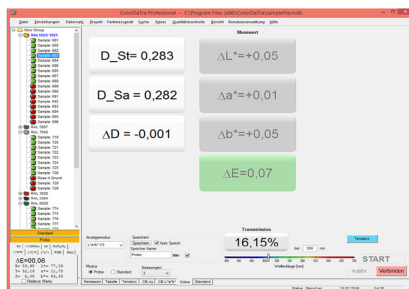
1) Getting started

Switch the ColorLite ColorCube on by long pressing the button on the front side of the ColorCube (at least 2 seconds). After the coloured LED lighting has switched on, the ColorCube is ready for use without any warm-up time. To get a connection between the ColorCube and the PC you must connect the USB cable with the connection socket.

Open the ColorDaTra software and connect the ColorCube by clicking "Connect".
(Separate instruction manual for the ColorDaTra software is included in the delivery)

2) Calibration - Colour measurement

To calibrate the device use a certified white calibration reference. We recommend to calibrate the device before using it or before measuring a colour standard. To calibrate, you must first start ColorDaTra on your PC. Then place the black reference above the measuring port and select - Calibrate -. After the dark measurement, carry on the measurement with the white standard. Follow the instructions on the PC. Place the calibration standard on the measuring port and click on "ok".

White certified calibration standard

3) How to measure a reference

Reference colours are normally target colours, which we call "**Standards**".
Standards can be measured and stored as reference colour.
This standard is used for later measurements in the ColorDaTra software.

Select "Standard" mode in the ColorDaTra software.

Choose a name for the standard, for example "Powder Red".

The measurement begins as soon as you press the "Start" button.

Typical standards are colour scales such as RAL or NCS, ideally in the same material as the sample. But very often for quality control applications a release sample is best measured as the standard. This ensures that the texture, geometry and other optical features are identical to the sample.

When measuring a standard following points should be observed:

- The standard must be clean - best always keep protected and never touch the surface.
- For the measurement of inhomogeneous samples such as granules or structured surfaces such as leather, it is possible to determine the number of measurements for colour analysis. In this case, an average from the number of individual measurements is displayed and stored.
- Number of scans can be found in ColorDaTra at "Measurements". The current setting is displayed on the screen. The basic setting is "3". The number of measurements can be chosen between 1 and 20.
- Select a tolerance range in ColorDaTra "Quality control". Fix which Pass/Fail limits are to be monitored. Feed in the limits in the mask. If you have not definded pass/fail limits for a standard, the ColorCube shows the measured colour visually via the integrated LED lighting.

4) Sample measurement

Sample values are measured as absolute readings, but are normally used to compare to a standard colour. Before the measurements starts a corresponding standard must be measured or selected from the stored selection.

Select "Sample" mode in ColorDaTra.

The measurement starts immediately after pressing the "Start" button.

Technical Data

Measurement geometries	45°/0° and d/8° or d/0° diffuse illumination
Standard illuminants	D65, D50, D55, A, C, F11
Standard observer	2° and 10°
Spectral resolution	Holographic grating spectrometer. FWHM at 500 nm < 10 nm. Sampling rate 3.5 nm with 115 x 16-bit values per scan
Spectral range	400 to 700 nm
Colour metric values	CIE L*a*b*; CIE L*C* h; Yxy; X,Y,Z and other common scales
Illumination	High performance LED's and integrating sphere (d/8°)
Measuring area	According to version between 2 mm and 80 mm
Calibration	Certified white reference, black standard
Repeatability	0.03 ΔE CIELab
Calibration warning	Reminds the user to recalibrate after a variable peroid
PC-Interface	Bluetooth 2.0, USB 2.0, WiFi optional
Dimensions (max.)	150 x 230 x 230 (H x L x W)
Weight	11.4 Kg
External Power supply	110 - 240 VAC/50-60 Hz