

# ColorLite ColorTube



Basic Benchtop-Spectrophotometer for reflection measurement

NAUMETRICS

premium measuring instruments



## Benchtop-Spectrophotometer

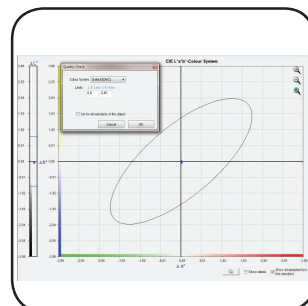
- High-End two channel system for highest precision
- Repeatability better as  $< \Delta E 0,01$
- Variable adjustment of the measuring area from 3 to 30mm
- Specular component included (SCI) and Specular component excluded (SCE)

The new developed high quality ColorTube is a benchtop spectrophotometer from ColorLite. The device is made from only highest quality materials like solid aluminium housing and safety glass front. The core of the two-channel system is an integrated sphere with a diameter of 140 mm and two spectrometers for the sample and reference channels. The measuring range is between 400 and 700 nm with a spectral scanning of 3.5 nm. The integrated gloss trap allows measurements with and without gloss exclusion. High-performance LED light sources ensure long-term stable measurement results. The type of light and the UV component are variably adjustable. Depending on the type of sample, the measuring surface area can be infinitely adjusted from 3 to 30mm.

For convenient sample handling, the ColorTube can be placed horizontally or vertically. Solids are simply positioned in front of the measuring opening and kept stable by the measuring arm. The measurement of pastes, powders and granules can be easily made with the optional glass cuvette. The device can be easily connected via USB cable with any Windows PC. Together with the included quality assurance software, the ColorTube offers the perfect complete solution for your application.



Vertical using



Quality control  
PC-Software ColorDaTra



LED Ring light  
with Pass/Fail  
function

## Basic Benchtop-Spectrophotometer ColorTube

Measurement Geometry	Two channel d/8° diffuse illumination; 8° viewing SCI (specular component included) SCE (specular component excluded) switchable
Integrating sphere size	140 mm
Measuring area	3 to 30 mm continuously variable adjustable
Displayed spectral range	400 nm to 700 nm
Spectral resolution	Holographic grating spectrometer FWHM**@ 500 nm < 10 nm Scanning in 3,5 nm interval 115 steps per scan
Spectral separation device	Planar diffraction grating
Measurement range	0 to 175%
Illuminates	D65, D55, D50, A, C, F11
Standard Observer	2° (1931) and 10° (1964)
Repeatability	$\Delta E \leq 0,01$ CIELab
Colour Scales	XYZ, Yxy, $\Delta E$ CIE L*a*b*, L*u*v*, L*C*h, Hunter Lab dE, dE94, dE2000, CMC1:1, CMC2:1, dECMCdyn CIE-L*a*b* diagram incl. Tolerance limits
Quality control tolerance limits and colour differences	$\Delta E$ CIELab; $\Delta L$ , $\Delta a$ , $\Delta b$ ; $\Delta u$ , $\Delta v$ ; $\Delta L$ , $\Delta C$ , $\Delta h$ ; Min/Max, PASS/FAIL, $\Delta E_{CMC}$ (1:1 und 1:2)
Other Values	Contrast: LRV - BS 8493:2008, various white-index values, various yellowness-index values, grey-index
International norms	ASTM D 2244, D 6290, E 308, E 1164 DIN 5033, 5036, 6174 DIN EN ISO 11664 ISO 7724
Calibration	Automatic white calibration
Size	370 x 235 x 180 mm 5,2 kg
Light Source	White and blue LED's, Life span > 20 year
PC connection	USB

### Included in the delivery are:

- Certified white calibration standard
- Black reference standard
- Certificate of Conformity
- PC-Software ColorDaTra Professional licence with free updates
- USB cable