



Benchtop Spectrophotometer CWD 8520



URAI[®]

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The CWD 8520 spectrophotometer belongs to the new generation of instruments for measuring and controlling color. It is equipped with LED technology and pre-installed Quality Control software. It is able to perform reflectance and transmittance measurements on liquid, solid, opaque, translucent and transparent samples.

The instrument is equipped with a sample holder compartment for transmittance, a large 10.5-inch rotatable TFT color touch screen display and an integrated camera for color vision. Optical geometry $d/8^\circ$, in reflectance with specular mode included and excluded, and $d/0^\circ$ in transmittance.

The CWD 8520 spectrophotometer allows high precision and great reliability and is the ideal partner for the laboratory. Its versatility allows measurements to be taken in multiple positions.



MAIN FEATURES

High-quality reflectance and transmittance measurements to perform quality control and color formulation

Automatic identification of the measuring aperture switchable between the 4 available apertures

Integrated temperature sensor to monitor and compensate the temperature ensuring more precise measurement

Wide wavelength range from 360nm-780nm with the possibility of cut off at 400 / 420 / 460 nm

Equipped with a dual array CMOS image sensor with 256 elements and stable and long-life LED illumination

Allows use in multiple positions for all needs with a large 10.5" rotatable screen

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TECHNICAL CHARACTERISTICS OF THE INSTRUMENT

Optical Geometry	Reflect: d / 8 ° (diffused illumination, 8 ° viewing angle); SCI & SCE / SPIN & SPEX; Include/excluded UV. Transmittance: d / 0 ° (diffused illumination, 0° viewing angle); SCI & SCE / SPIN & SPEX; Include/excluded UV
Light Source	360 nm to 780 nm, Combined LED Light, 400nm 420nm 460nm cut-off light source, UV included
Specular Component	Reflect: SCI&SCE - Transmittance: SCI&SCE
Color space	CIE LAB,XYZ,Yxy,LCh,CIE LUV,Musell,s-RGB,HunterLab,βxy,DIN Lab99
Color Difference Formula	ΔE^*_{ab} , ΔE^*_{uv} , ΔE^*_{94} , $\Delta E^*_{cmc}(2:1)$, $\Delta E^*_{cmc}(1:1)$, ΔE^*_{00} , DIN ΔE_{99} , ΔE (Hunter)
Observer Angle	2°/10°
Colorimetric Index	WI (ASTM E313, CIE/ISO, AATCC, Hunter), YI (ASTM D1925, ASTM 313), MI (Metamerism Index), Staining Fastness, Color Fastness, Color Strength, Opacity, 8° Glossiness, Gardner Index, Pt-Co Index, 555 Index,
Illuminant	D65,A,C,D50,D55,D75, F1,F2,F3,F4,F5,F6,F7,F8 ,F9,F10,F11,F12,CWF,DLF,TL83,TL84,TPL5,U30,B,U35,NBF ID50,ID65,LED-B1,LED-B2,LED-B3,LED-B4,LED-B5,LED-BH1,LED-RGB1,LED-V1,LED-V2,LED-C2,LED-C3,LED-C5,
Displayed Data	Spectrogram/Values, Samples Chromaticity Values, Color Difference Values/Graph, PASS/FAIL Result, Color Offset, Color assessment, haze, liquid chromaticity
Spectrophotometric Mode	Concave Grating
Wavelength Range	360~780nm
Wavelength Interval	10 nm
Semiband Width	5 nm
Measured Reflectance Range	0~200%
Integrating Sphere Size	Ø154 mm
Sensor	256 Image Element Double Array CMOS Image Sensor
Measuring Time	2.0 s (Measure SCI & SCE meantime about 4 s)
Measuring Aperture	Reflective: Φ30mm/Φ25.4mm, Φ18mm/Φ15mm, Φ10mm/Φ8mm, Φ6mm/Φ4mm. Transmissive: Φ30mm / Φ25mm, (No limit on sample height and width, but thickness≤54mm)
Repeatability	Spectral reflectance: Φ25.4 mm / SCI, standard deviation within 0.06% (400 nm a 700 nm) Chromaticity value: Φ25.4mm / SCI, Standard deviation within ΔE^*_{ab} 0.014 (When a white calibration plate is measured 30 times at 5 second intervals after white calibration) Spectral Transmittance: Φ25.4mm / SCI, Standard deviation within 0.06% (400 nm to 700 nm) Chromaticity value: Φ25.4mm/SCI, Standard deviation within ΔE^*_{ab} 0.015 (When a white calibration plate is measured 30 times at 5 second intervals after white calibration)
Inter-instrument Error	Φ 25.4mm/SCI, Within ΔE^*_{ab} 0.14 (Average for 12 BCRA Series II color tiles)
Data Port	USB, Bluetooth
Data Storage	64G storage, above 100 000pcs
Language	Simplified Chinese, Traditional Chinese, English
Power	AC 24V, 3A Power adapter power supply
Illuminant Life Span	5 years, more than 3 million times measurements
Display	10.5-inch rotatable Display pad
Operating Environment	0~40°C, 0~85%RH (no condensing)
Storage Environment	-20~50°C, 0~85%RH (no condensing)
Dimension	L*W*H=440x248x283mm
Weight	13.5 kg
Standard Accessory	Power Adapter, User Guide, U Disk(PC Software), USB cable, Standard Calibration Board, Black Calibration Cavity, Transmission black baffle, Sample holder, 25.4 caliber, 15 caliber, 8 caliber, 4 caliber, Transmissive Test Component, cuvette, 10.5-inch screen
Optional Accessory	Micro Aperture(4mm) transmission test clamp component, Instrument inversion components, culture dish, Film fixture