

Bench-top Spectrophotometer



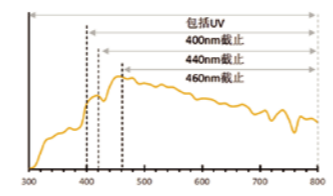
# CS-820N

## Product Features

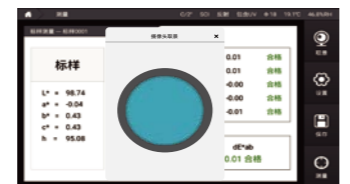
- Inter-Instrument Agreement:  $dE < 0.15$  (XLAV aperture)
- Provides Pulse Xenon and LED Two Kinds of Light Sources
- 24 standard light sources, 40 measurement standards
- Temperature and Humidity Auto Compensation Function
- Simultaneous reflectance/transmittance measurement
- Double optical path spectrum analysis technology
- Simultaneous SCI/SCE measurement



4 kinds of apertures, instrument can automatically recognize and adjust light path.



4 kinds of UV test modes.



Camera to view the measurement area.



both stable clamping and protection of the instrument.



Unique multifunction transmittance fixture design.



Perfect combination of accessories and instrument body, convenient for operation and storage.



Instrument is with 7.0 inches TFT touch display screen with good human-computer interface.



Intelligent instrument software, support operation without PC.



on sample size.



Different kinds of fixtures to measure different kinds of samples.

## Technical Data

Illumination/Viewing System	Reflection: d/8(Diffused illumination, 8 degree viewing) Simultaneous measurement of SCI/SCE (ISO7724/1, CIE No.15, ASTM E1164, DIN5033 Teil7, JIS Z8722 Condition C standard) Transmittance d/0(Diffused illumination, 0 degree viewing)	Color Difference	$\Delta E^*ab, \Delta E^*CH, \Delta E^*uv, \Delta E^*cmc, \Delta E^*94, \Delta E^*00, \Delta E^*ab(hunter), 555 \text{ shade sor}$
Sphere Diameter	152mm	Other Indices	WI(ASTM E313-00, ASTM E313-73, CIE/ISO, AATCC, Hunter, Taube Berger, Stensby) YI(ASTM D1925, ASTM E313-00, ASTM E313-73), Tint(ASTM E313-00, CIE, Ganz), Metamerism index milm, stain fastness, color fastness, ISO brightness, R457, A density, T density, E density, M Density, APHA/Pt-Co/Hazen, Gardner, Saybolt, ASTM color, Haze, Total Transmittance, Opacity, Color Strength
Wavelength	360-780nm	Language	English, Russian, Spanish, Portuguese, Japanese, Thai, Korean, German, French, Polish, Chinese (simple and traditional)
Wavelength Pitch	10nm	Storage Memory	8GB
Reflectance Range	0-200%	Screen Size	7 Inches Touch Screen
Resolution	0.01%	Power	DC stabilized power supply
Light Source	Pulse Xenon Lamp and LED	Operate Temperature	5-40 C (40-104F), relative humidity 80% (at 35 C) no condensation
UV Measurement	Include UV, 400nm cut, 420nm cut, 460nm cut	Storage Temperature	-20-45 C (-4-113F), relative humidity 80% (at 35 C) no condensation
Measurement Time	SCI/SCE < 2s SCI+SCE < 4s	Accessories	Power Adaptor, USB Cable, fixture for transmittance, U disk (PC software), Black Calibration Cavity, White and Green Calibration Tile, 0% Calibration Tile (transmittance), 30mm, 18mm, 11mm and 6mm apertures, Reflectance Test Support, Glass Cell 40x10mm, reflectance sample fixture
Transmittance Sample Size	No limit on sample width and height, thickness $\leq 50\text{mm}$	Optional Accessories	Heating Fixture for Transmittance, Vertical Support and Pneumatic ram for downward measurement, Reflectance fixture for small size sample, Reflectance Glass Cell Support, Corrosion-Resistant Protective Plate (non-removable), Sample Holder for Fiber, Film Fixture, Transmittance Fixture for Small Aperture, Trolley Case, European Standard Plug, American Standard Plug
Inter-Instrument Agreement	XLAV $\Delta E^*ab 0.15$ (BCRA Series II, Average measurement of 12 tiles, at 23 C)	Interface	RS-232, USB-A, USB-B
Measurement Aperture	Reflectance: XLAV $\Phi 25.4\text{mm}/\Phi 30\text{mm}$ , LAV $\Phi 15\text{mm}/18\text{mm}$ , MAV $\Phi 8\text{mm}/\Phi 11\text{mm}$ , SAV $\Phi 3\text{mm}/\Phi 6\text{mm}$ (Aperture size can be custom made) Auto aperture size recognition Transmittance: $\Phi 17\text{mm}/\Phi 25\text{mm}$	Instrument Size	465 x 240 x 260mm
Viewing Angles	2° and 10°	Other Function	1. Camera to view measurement area; 2. Support horizontal, vertical and downward measurement method (need optional accessories to support for downward measurement); 3. Auto humidity and temperature compensation function.
Repeatability	XLAV Spectrum Reflectance/Transmittance: standard deviation within 0.1% XLAV Chromaticity value: Standard deviation within $\Delta E^*ab 0.015$ * When a white calibration plate is measured 30 x at 5-second intervals after white calibration	Display	Reflectance and Transmittance graph/value, color value, color difference values, pass/fail, color simulation, color assessment, haze, liquid chromaticity values, color tendency
Color Spaces	L*a*b, L*C*h, Hunter Lab, Yxy, XYZ, RGB		
Illuminants	A, C, D50, D55, D65, D75, F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, CWF, U30, DLF, NBF, TL83, TL84		