High Repeatability Bench-top Spectrophotometer





CS-821N

Product Features

- Automatic calibration
- Excellent long-term repeatability, ensure excellent measurement repeatability even after environment changes
- It has two lamps: pulsed xenon and LED
- 24 kinds of illuminants and more than 40 measurement indices
- Temperature and humidity compensation function
- Seven -inch touch screen, Android operate system
- Dual optical paths spectrum analysis technology
- Support SCI+SCE simultaneous rapid measurement

Technical Data

CIE No. 15, GB.T. 3078, GB. 2803, GB/T 18033, ISO/TZ4/1, DINSO33 Tair J. IS 28722 condition C, ASTM E ASTM-D1003-07 Transmittance di0(Diffused illumination, 0 degree viewing) Sensor Silicon Protocidode Array Crating Method Concave Grating Sphere Diameter 152mm Wavelength 360nm-780nm Wavelength 10nm Half Band Width 1nm Reflectance Range Resolution 1mm Reflectance Range Resolution 1mm Reflectance Range Resolution 1mm Reseaurement I Include UV, 400nm cut, 420nm cut, 450nm cut Measurement I Include UV, 400nm cut, 420nm cut, 450nm cut Measurement Aperture Reflectance: XLAV 4025, 4mm/d030nm, LAV 0+15mm/18mm, MAV 0+8mm/d011mm, SAV 0+3mm/d040mm/d050mm, LAV 0+15mm/18mm, MAV 0+8mm/d011mm, SAV 0+3mm/d050mm/d050mm, LAV 0+15mm/18mm, MAV 0+8mm/d011mm, SAV 0+3mm/d050mm/	Name	Specifications
Grating Method Concave Grating Sphere Diameter 152mm Wavelength 360mm-780mm Wavelength Pitch 10nm Half Band Width 1nm Reflectance Range Resolution 0-200%, 0.01% Light Source Pulse Xenon Lamp and LED UV Measurement Include UV, 400mm cut, 420nm cut, 460nm cut Measurement Time SCISCE < 2s, SCI+SCE < 4s Measurement Aperture Reflectance: XLAV 0254 mm/0430mm, LAV Φ15mm/18mm, MAV Φ8mm/Φ11mm, SAV Φ3mm/Φ17mmsmittance Sample Size No limit on sample width and height, thickness s50nm XLAV Schometicly value: Standard deviation within Δ2*ab 0.015 (20°C±10°C arbitrary temperature change, white tile is measured every hour within Δ2*ab 0.015 (20°C±10°C arbitrary temperature change, white tile is measured avery hour within Δ2*ab 0.015 (20°C±10°C arbitrary temperature change, white tile is measured avery hour within Δ2*ab 0.015 (20°C±10°C arbitrary temperature change, white tile is measured avery hour within 0.1% XLAV Chromaticity value: Standard deviation of the change of the value	•	, , ,
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Wavelength 360nm-780nm Wavelength Pitch 10nm Half Band Width 1nm Reflectance Range Resolution 0-200%, 0.01% Light Source Pulse Xanon Lamp and LED UV Measurement Include UV, 400nm cut, 420nm cut, 460nm cut Measurement Time SCIS/SCE < 2s, SCI+SCE < 4s Measurement Aperture Reflectance: XLAV Ф25-4mm/Ф30mm, LAV Φ15mm/18mm,MAV Φ8mm/Φ11mm,SAV Φ3mm/Φ Transmittance.917mm/Ф25mm (Auto aperture size recognition) Transmittance Sample Size No limit on sample width and height, thickness s50mm Long Term Repeatability XLAV Spectrum Reflectance/intensitiance standard deviation within 0.1% 0.015 (20°C±10°C arbitrary temperature change, white tile is measured every hour within 24 hours) Repeatability XLAV Spectrum Reflectance/Transmittance standard deviation within 0.1% 0.015 (20°C±10°C arbitrary temperature change, white tile is measured every hour within 0.24 hours) Repeatability XLAV Spectrum Reflectance/Transmittance standard deviation within 0.1% 0.015 (20°C±10°C arbitrary temperature change, white tile is measured every hour within 0.24 hours) Repeatability XLAV Spectrum Reflectance/Transmittance standard deviation within 0.15 (20°C±10°C arbitrary temperature change, white tile is measured over the measured over the certification of the certification of the measurement of 12 tiles, at 23°C) Observer 2° and 10	Grating Method	Concave Grating
Wavelength Pitch 10nm Half Band Width 1nm Reflectance Range Resolution 0-200%, 0.01% Light Source Pulse Xenon Lamp and LED UV Measurement Include UV, 400nm cut, 420nm cut, 460nm cut Measurement Tame SCIVSCE < 2s, SCI+SCE < 4s Measurement Aperture Reflectance: XLAV Φ25, 4mm/Φ30mm, LAV Φ15mm/18mm, MAV Φ8mm/Φ11mm, SAV Φ3mm/Φ17man, mittance Sample Size No limit on sample width and height, thickness <50mm Long Term Repeatability XLAV Chromaticity value: Standard deviation within ΔE*ab 0.015 (20°C±10°C arbitrary temperature change, white tile is measured every hour within 24 hours) Repeatability XLAV Spectrum Reflectance/Transmitlance standard deviation within 0.1% XLAV Chromaticity value: Standard deviation vitin 0.1% XLAV Chromaticity value: Standard deviation vitin 0.1% XLAV Chromaticity value: Standard deviation vitin 0.1% XLAV Chromaticity value: Standard Vi	Sphere Diameter	152mm
Half Band Width Reflectance Range Resolution Light Source Pulse Xenon Lamp and LED UV Measurement Imme SCI/SGE < 2s.SGI+SGE < 4s Measurement Time SCI/SGE < 2s.SGI+SGE < 4s Measurement Aperture Reflectance: XLAV Φ25.4mm/Φ30mm, LAV Φ15mm/18mm,MAV Φ8mm/Φ11mm,SAV Φ3mm/Φ Transmittance: WITmm/Φ25mm (Auto aperture size recognition) No limit on sample width and height, thickness ≤50mm No limit on sample width and height, thickness ≤50mm ALAV Spectrum Reflectance: Transmittance soft within ΔΕ*ab 0.015 (20°C±10°C arbitrary temperature charge, white tile is measured every hour within ΔΕ*ab 0.015 (20°C±10°C arbitrary temperature charge, white tile is measured every hour within ΔΕ*ab 0.015 (20°C±10°C arbitrary temperature charge, white tile is measured every hour within ΔΕ*ab 0.015 (20°C±10°C arbitrary temperature charge, white tile is measured every hour within ΔΕ*ab 0.015 (20°C±10°C arbitrary temperature charge, white tile is measured every hour within ΔΕ*ab 0.015 (20°C±10°C arbitrary temperature charge, white tile is measured every hour within ΔΕ*ab 0.015 (20°C±10°C arbitrary temperature charge, white tile is measured avery hour within ΔΕ*ab 0.015 (20°C±10°C arbitrary temperature charge, white calibration inter-instrument Agreement XLAV ΔΕ*ab 0.25 (BCRA Series II, Average measurement of 12 tiles, at 23°C) Observer 2° and 10° 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 Language English, Russian, Spanish, Portuguese, Japanese, Thai, Korean, German, French, Polish, Chinese (simple and traditional), siles and 10° Reflectance and Transmittance graph/value, color difference values, pass/fail, color simulation, color assessment, haze, liquid chromaticity values, color difference values, pass/fail, color simulation, color assessment, haze, liquid chromaticity values, color tendency Vi(ASTM D1925,ASTM E313-70,OASTM E313-73,CIE/ISO,AATCC, Hunter, Taube Berger, Stensby) Yi(ASTM D1925,ASTM E313-00,OASTM E313-73),Tint(ASTM E313-00),Metamerism index milm, sta	Wavelength	360nm-780nm
Reflectance Range Resolution 0-200%,0.01% Light Source Pulse Xenon Lamp and LED UV Measurement Include UV, 400nm cut, 420nm cut, 420nm cut Measurement Time SCI/SCE < 2s, SCI+SCE < 4s	Wavelength Pitch	10nm
Light Source Pulse Xenon Lamp and LED UV Measurement Include UV, 400nm cut, 420nm cut, 460nm cut Measurement Time SCUSCE < 2s, SCI+SCE < 4s Measurement Aperture Reflectance: XLAV Φ25.4mm/Φ30mm, LAV Φ15mm/18mm,MAV Φ8mm/Φ11mm,SAV Φ3mm/Φ Transmittance Φ17mm/Φ25mm (Auto aperture size recognition) Transmittance Sample Size No limit on sample width and height, thickness s50mm Long Term Repeatability XLAV Chromaticity value: Standard deviation within Δ2*ab 0.015 (20°C±10°C arbitrary temperature change, white tile is measured every hour within 24 hours) Repeatability XLAV Spectrum Reflectance/Transmitlance: standard deviation within 0.1% LAV Chromaticity value: Standard deviation value: Standard deviati	Half Band Width	1nm
UM Measurement Include UV, 400mm cut, 420mm cut, 460mm cut	Reflectance Range Resolution	0-200%,0.01%
Measurement Time SCI/SCE < 2s;SCI+SCE < 4s Measurement Aperture Reflectance: XLAV Φ25.4mm/930mm, LAV Φ15mm/18mm,MAV Φ8mm/Φ11mm,SAV Φ3mm/Φ17mm/Φ25mm (Auto aperture size recognition) Transmittance Sample Size No limit on sample width and height, thickness s50mm Long Term Repeatability XLAV Chromaticity value: Standard deviation within ΔE*ab 0.015 (20°C±10°C arbitrary temperature change, white tile is measured very hour within 24 hours) Repeatability XLAV Spectrum Reflectance/Transmittance: standard deviation within 0.1%;XLAV Chromaticity value: Standard deviation within 24 hours) Repeatability XLAV Spectrum Reflectance/Transmittance: standard deviation within 0.1%;XLAV Chromaticity value: Standard deviation within 24 hours) Repeatability XLAV AE*ab 0.25 (BCRA Series II, Average measurement of 12 tiles, at 23 °C) Observer 2° and 10° 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 Language English, Russian, Spanish, Portuguese, Japanese, Thai, Korean, German, French, Polish, Chinese (simple and traditional) 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*AB**X*, SYX* Other Indices WI(ASTM E313-00,ASTM E313-73,CIE/ISO, AATCC, Hunter, Taube Berge	Light Source	Pulse Xenon Lamp and LED
Measurement Aperture Reflectance: XLAV Φ25.4mm/Φ30mm, LAV Φ15mm/18mm,MAV Φ8mm/Φ11mm,SAV Φ3mm/Φ17mnsmittance Sample Size No limit on sample width and height, thickness x50mm No limit on sample width and height, thickness x50mm Long Term Repeatability XLAV Chromaticity value: Standard deviation within ΔE*ab 0.015 (20°C±10°C arbitrary temperature change, white tile is measured every hour within 24 hours) Repeatability XLAV Spectrum Reflectance/Transmittance: standard deviation within 0.1%XLAV Chromaticity value: Standard deviation vitin 0.1%XLAV Chromaticity value: Standard deviation vitin 0.1%XLAV Chromaticity value: Standard deviation vitin 0.1%XLAV value: Standard deviation vitin 0.1%XLAV value: Standard value: Standard value: Standard	UV Measurement	Include UV, 400nm cut, 420nm cut, 460nm cut
Transmittance: Φ17mm/Φ25mm (Auto aperture size recognition) Transmittance Sample Size No limit on sample width and height, thickness \$50mm XLAV Chromaticity value. Standard deviation within AE*ab 0.015 (20°C±10°C arbitrary temperature change, white tile is measured every hour within 24 hours) Repeatability XLAV Chromaticity value. Standard deviation within AE*ab 0.015 (20°C±10°C arbitrary temperature change, white tile is measured every hour within AE*ab 0.015 (20°C±10°C arbitrary temperature change, white tile is measured every hour within AE*ab 0.015 (20°C±10°C arbitrary temperature change, white tile is measured every hour within AE*ab 0.015 (20°C±10°C arbitrary temperature change, white tile is measured every hour within AE*ab 0.015 (20°C±10°C arbitrary temperature change, white tile is measured every hour within AE*ab 0.015 (20°C±10°C arbitrary temperature) XLAV AE*ab 0.25 (BCRA Series II, Average measurement of 10°C 20°C±10°C arbitrary temperature and 10° 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 Language English, Russian, Spanish, Portuguese, Japanese, Thai, Korean, German, French, Polish, Chinese (simple and traditional), Reflectance and Transmittance graphivalue, color value, color difference values, pass/fail, color simulation, color assessment, haze, fluid chromaticity values, color tendency Color Spaces L*a*b_L*C*h, Hunter Lab, Yxy, XYZ Other Indices Wi(ASTM E313-00,ASTM E313-73, CIE/ISO, AATCC, Hunter, Taube Berger, Stensby) Y(ASTM B313-00,DASTM E313-73, CIE/ISO, AATCC, Hunter, Taube Berger, Stensby) Y(ASTM B313-00,DASTM E313-73, CIE/ISO, AATCC, Hunter, Taube Berger, Stensby) Y(ASTM D1925,ASTM E313-00,DASTM E313-73, Tint(ASTM E313-00),Metamerism index milm, stain fastm color fastness, ISO brightness, R457, A density, Tiednsity, E density, M Density, APHA/Pt-Co/Hazen, Gardn Saybott, ASTM color, Haze, Total Transmittance, Opacity, Color Strength Color Difference Storage Memory Seg Screen Size 7 Inches Touch Screen Android	Measurement Time	SCI/SCE < 2s;SCI+SCE < 4s
Long Term Repeatability XLAV Chromaticity value: Standard deviation within ΔΕ*ab 0.015 (20°C±10°C arbitrary temperature change, white tile is measured every hour within 24 hours) Repeatability XLAV Spectrum Reflectance/Transmittance: standard deviation within 0.1%/XLAV Chromaticity value: Standard deviation within 0.1%/XLAV Chromaticity values and 10° standard deviation of the control of the contro	Measurement Aperture	Reflectance: XLAV Φ25.4mm/Φ30mm, LAV Φ15mm/18mm,MAV Φ8mm/Φ11mm,SAV Φ3mm/Φ6mn Transmittance:Φ17mm/Φ25mm (Auto aperture size recognition)
Repeatability change, white tile is measured every hour within 24 hours) Repeatability XLAV Spectrum Reflectance/Transmittance: standard deviation within 0.1% XLAV Chromaticity value: Standard deviation within AE*ab 0.015* "When a white calibration plate is measured 30 x at 10-second intervals after white calibration Observer 2° and 10° 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 Language English, Russian, Spanish, Portuguese, Japanese, Thai, Korean, German, French, Polish,Chinese (simple and traditional), simulation, color assessment, haze, liquid chromaticity values, 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 Other Indices WI(ASTM E313-00,ASTM E313-73,CIE/ISO, AATCC, Hunter, Taube Berger, Stensby) YI(ASTM D1925,ASTM E313-73)-00,ASTM E313-73),Tint(ASTM E313-00)-WILLIAM DENSITY, A Gensity, Meamenism index milm, stain fastm color fastness, ISO brightness, R457, A density, T density, E density, Moensity, APHA/Pt-Co/Hazen, Garding Saybott, ASTM color, Haze, Total Transmittance, Opacity, Color Strength Color Difference ΔE*ab_ΔE*CH_ΔE*uv_ΔE*cmc_ΔE*94,ΔE*00,ΔEab(Hunter),555shade sort Storage Memory 8GB Screen System Android Power Adaptor DC stabilized power supply Operate Temperature 5-40*C(40-104	Transmittance Sample Size	No limit on sample width and height, thickness ≤50mm
within ΔΕ'ab 0.015 * When a white calibration plate is measured 30 x at 10-second intervals after white calibration inter-Instrument Agreement XLAV ΔΕ*ab 0.25 (BCRA Series II, Average measurement of 12 tiles, at 23 °C) Observer 2* and 10° 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 Language English, Russian, Spanish, Portuguese, Japanese, Thai, Korean, German, French, Polish,Chinese (simple and traditional), simulation, color assessment, haze, liquid chromaticity values, 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 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),Metamerism index milm, stain fastn color fastness, ISO brightness, R457, A density, T density, E density, M Density, APHA/Pt-Co/Hazen, Gardin Saybott, ASTM color, Haze, Total Transmittance, Opacity, Color Strength Color Difference ΔE*ab,ΔE*CH,ΔE*uv,ΔE*cmc,ΔE*94,ΔE*00,ΔEab(Hunter),555shade sort Storage Memory 8GB Screen Size 7 Inches Touch Screen Operate System Android Power Adaptor DC stabilized power supply Operate Temperature 5-40°C(40-104F), relative humidity 80% (at 35°C) no condensation Storage Temperature 2-045°C(Long Term Repeatability	
Observer 2° and 10° 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 Language English, Russian, Spanish, Portuguese, Japanese, Thai, Korean, German, French, Polish, Chinese (simple and traditional), Bright 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 Other Indices WI(ASTM B313-00,ASTM E313-73,CIE/ISO, AATCC, Hunter, Taube Berger, Stensby) Y1(ASTM D1925,ASTM E313-70,ASTM E313-73),Tint(ASTM E313-00),Metamerism index milm, stain fastm color fastness, ISO brightness, R457, A density, T density, E density, M Density, APHA/Pt-Co/Hazen, Gardin Saybolt, ASTM color, Haze, Total Transmittance, Opacity, Color Strength Color Difference ΔE*ab,ΔE*CH,ΔE*uv,ΔE*cmc,ΔE*94,ΔE*00,ΔEab(Hunter),555shade sort Storage Memory 8GB Screen Size 7 Inches Touch Screen Operate System Android Power Adaptor DC stabilized power supply Operate Temperature 5-40*C(40-104F), relative humidity 80% (at 35*C) no condensation Storage Temperature -20-45*C(4-113F), relative humidity 80% (at 35*C) no condensation Accessories Power Adaptor, USB Cable, fixture for transmittance, U disk (PC software), Black Cal	Repeatability	XLAV Spectrum Reflectance/Transmittance: standard deviation within 0.1%; XLAV Chromaticity value: Standard deviation within Δ E*ab 0.015 * When a white calibration plate is measured 30 x at 10-second intervals after white calibration
Illuminants	Inter-Instrument Agreement	XLAV ΔE^*ab 0.25 (BCRA Series II, Average measurement of 12 tiles, at 23 $^{\circ}$)
English, Russian, Spanish, Portuguese, Japanese, Thai, Korean, German, French, Polish, Chinese (simple and traditional), 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 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),Metamerism index milm, stain fastn color fastness, ISO brightness, R457, A density, T density, E density, M Density, APHA/Pt-Co/Hazen, Gardn Saybolt, ASTM color, Haze, Total Transmittance, Opacity, Color Strength Color Difference ΔE*ab,ΔE*CH,ΔE*uv,ΔE*cmc,ΔE*94,ΔE*00,ΔEab(Hunter),555shade sort Storage Memory 8GB Screen Size 7 Inches Touch Screen Operate System Android Power Adaptor DC stabilized power supply Operate Temperature 5-40°C(40-104F), relative humidity 80% (at 35°C) no condensation Storage Temperature -20-45°C(-4-113F), relative humidity 80% (at 35°C) no condensation Accessories Power Adaptor, USB Cable, fixture for transmittance, U disk (PC software), Black Calibration Cavity, White and Green Calibration Tile, Reflectance Test Support, 30mm, 18mm, 11mm and 6mm apertures, reflectance sample fixture, Glass Cell 40x10mm 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 Interface	Observer	2° and 10°
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 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),Metamerism index milm, stain fasts color fastness, ISO brightness, R457, A density, T density, E density, M Density, APHA/Pt-Co/Hazen, Gardn Saybolt, ASTM color, Haze, Total Transmittance, Opacity, Color Strength Color Difference ΔE*ab,ΔE*CH,ΔE*uv,ΔE*cmc,ΔE*94,ΔE*00,ΔEab(Hunter),555shade sort Storage Memory 8GB Screen Size 7 Inches Touch Screen Operate System Android Power Adaptor DC stabilized power supply Operate Temperature 5-40*C(40-104F), relative humidity 80% (at 35*C) no condensation Storage Temperature -20-45*C(4-113F), relative humidity 80% (at 35*C) no condensation Accessories Power Adaptor, USB Cable, fixture for transmittance, U disk (PC software), Black Calibration Cavity, White and Green Calibration Tile, Reflectance Test Support, 30mm,18mm,11mm and 6mm apertures, reflectance sample fixture, Glass Cell 40x10mm Optional Accessories Heating Fixture for Transmittance, Vertical Support and Pneumatic ram for downward measurement, Reflectance fixture for small size sample, Reflectanc	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
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 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),Metamerism index milm, stain fasts color fastness, ISO brightness, R457, A density, T density, E density, M Density, APHA/Pt-Co/Hazen, Gardn Saybolt, ASTM color, Haze, Total Transmittance, Opacity, Color Strength Color Difference ΔE*ab,ΔE*CH,ΔE*uv,ΔE*cmc,ΔE*94,ΔE*00,ΔEab(Hunter),555shade sort Storage Memory 8GB Screen Size 7 Inches Touch Screen Operate System Android Power Adaptor DC stabilized power supply Operate Temperature 5-40*C(40-104F), relative humidity 80% (at 35*C) no condensation Storage Temperature -20-45*C(4-113F), relative humidity 80% (at 35*C) no condensation Accessories Power Adaptor, USB Cable, fixture for transmittance, U disk (PC software), Black Calibration Cavity, White and Green Calibration Tile, Reflectance Test Support, 30mm,18mm,11mm and 6mm apertures, reflectance sample fixture, Glass Cell 40x10mm Optional Accessories Heating Fixture for Transmittance, Vertical Support and Pneumatic ram for downward measurement, Reflectance fixture for small size sample, Reflectanc	Language	English, Russian, Spanish, Portuguese, Japanese, Thai, Korean, German, French, Polish, Chinese (simple and traditional),
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),Metamerism index milm, stain fastn color fastness, ISO brightness, R457, A density, T density, E density, M Density, APHA/Pt-Co/Hazen, Gardn Saybolt, ASTM color, Haze, Total Transmittance, Opacity, Color Strength Color Difference ΔΕ*ab,ΔΕ*CH,ΔΕ*uv,ΔΕ*cmc,ΔΕ*94,ΔΕ*00,ΔΕab(Hunter),555shade sort Storage Memory 8GB Screen Size 7 Inches Touch Screen Operate System Android Power Adaptor DC stabilized power supply Operate Temperature 5-40°C(40-104F), relative humidity 80% (at 35°C) no condensation Storage Temperature -20-45°C(-4-113F), relative humidity 80% (at 35°C) no condensation Accessories Power Adaptor, USB Cable, fixture for transmittance, U disk (PC software), Black Calibration Cavity, White and Green Calibration Tile, Reflectance Test Support,30mm,18mm,11mm and 6mm apertures, reflectance sample fixture, Glass Cell 40x10mm 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 Interface RS-232, USB, USB-B	Display	
YI(ASTM D1925,ASTM E313-00,ASTM E313-73), Tint(ASTM E313-00), Metamerism index milm, stain fastin color fastness, ISO brightness, R457, A density, T density, E density, M Density, APHA/Pt-Co/Hazen, Gardin Saybolt, ASTM color, Haze, Total Transmittance, Opacity, Color Strength Color Difference ΔΕ*ab,ΔΕ*CH,ΔΕ*uv,ΔΕ*cmc,ΔΕ*94,ΔΕ*00,ΔΕab(Hunter),555shade sort Storage Memory 8GB Screen Size 7 Inches Touch Screen Operate System Android Power Adaptor DC stabilized power supply Operate Temperature 5-40°C(40-104F), relative humidity 80% (at 35°C) no condensation Storage Temperature -20-45°C(-4-113F), relative humidity 80% (at 35°C) no condensation Accessories Power Adaptor, USB Cable, fixture for transmittance, U disk (PC software), Black Calibration Cavity, White and Green Calibration Tile, Reflectance Test Support,30mm,18mm,11mm and 6mm apertures, reflectance sample fixture, Glass Cell 40x10mm 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	Color Spaces	L*a*b,L*C*h,Hunter Lab,Yxy,XYZ
Storage Memory Screen Size 7 Inches Touch Screen Operate System Android Power Adaptor DC stabilized power supply Operate Temperature 5-40°C(40-104F), relative humidity 80% (at 35°C) no condensation Storage Temperature -20-45°C(-4-113F), relative humidity 80% (at 35°C) no condensation Accessories Power Adaptor, USB Cable, fixture for transmittance, U disk (PC software), Black Calibration Cavity, White and Green Calibration Tile, Reflectance Test Support,30mm,18mm,11mm and 6mm apertures, reflectance sample fixture, Glass Cell 40x10mm 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 Interface RS-232、USB、USB-B	Other Indices	YI(ASTM D1925,ASTM E313-00,ASTM E313-73),Tint(ASTM E313-00),Metamerism index milm, stain fastness, color fastness, ISO brightness, R457, A density, T density, E density, M Density, APHA/Pt-Co/Hazen, Gardner,
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Operate System Power Adaptor DC stabilized power supply Operate Temperature 5-40°C(40-104F), relative humidity 80% (at 35°C) no condensation Storage Temperature -20-45°C(-4-113F), relative humidity 80% (at 35°C) no condensation Accessories Power Adaptor, USB Cable, fixture for transmittance, U disk (PC software), Black Calibration Cavity, White and Green Calibration Tile, Reflectance Test Support,30mm,18mm,11mm and 6mm apertures, reflectance sample fixture, Glass Cell 40x10mm 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 Interface RS-232、USB、USB-B	Storage Memory	8GB
Power Adaptor DC stabilized power supply Operate Temperature 5-40°C(40-104F), relative humidity 80% (at 35°C) no condensation Storage Temperature -20-45°C(-4-113F), relative humidity 80% (at 35°C) no condensation Accessories Power Adaptor, USB Cable, fixture for transmittance, U disk (PC software), Black Calibration Cavity, White and Green Calibration Tile, Reflectance Test Support,30mm,18mm,11mm and 6mm apertures, reflectance sample fixture, Glass Cell 40x10mm 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 Interface RS-232、USB、USB-B	Screen Size	7 Inches Touch Screen
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	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,
Other Function 4 Compare to view and a second beginning to the second beginnin	Interface	RS-232、USB、USB-B
Unier Function 1. Carriera to view measurement area;2. Support norizontal, vertical and downward measurement method (need	Other Function	1. Camera to view measurement area;2. Support horizontal, vertical and downward measurement method (need

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