SPECTROPHOTOMETER YS4580

One-click measurement of traffic road signs, markings, reflective film brightness factors, and chromaticity coordinates

YS4580 spectrophotometer uses 45/0 (45 degree ring illumination, 0 degree reception) geometric optical structure in accordance with CIE No. 15 and adopts concave grating spectrometry to accurately measure sample reflectance and various colorimetric data;Built-in GB2893, GB/T18833 standard color, can be manually customized polygonal rectangle tolerance, one button to realize the measurement of traffic road signs, marking lines, reflective film brightness factor and chromaticity coordinates.
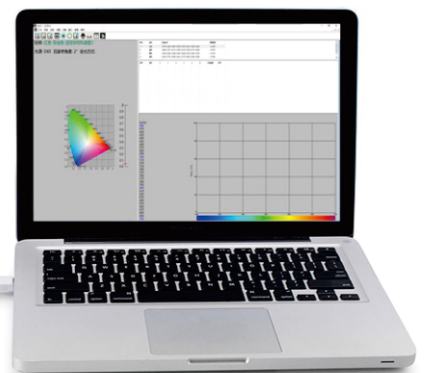
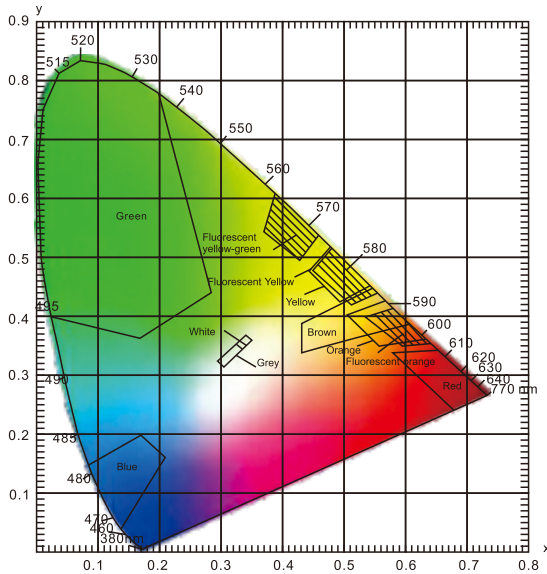Safe color display   Day&Night color measurement   USB/Bluetooth   Concave grating

CE   SCM   TÜV   RoHS   FC

Principle

In relevant standards such as "GB 2893 Safety Color" and "GB/T 18833 Road Traffic Reflective Film", a color area (multiple chromaticity coordinate points) and brightness factor requirements are usually given. Under 0 geometric conditions, it is determined whether the sample falls within the corresponding color area, so as to determine whether the sample meets the chromaticity requirements specified by the standard. Since the color area is a polygon, as shown in the left figure, it is impossible to complete the determination using an ordinary spectrophotometer. The spectrophotometer combined with the traffic sign measurement module of the SQCT software can easily solve this problem.

Explanation:

The chromaticity coordinates of white, yellow, orange, red, green, blue, brown, and gray fill the area.

The chromaticity coordinates of fluorescent yellow-green, fluorescent yellow, and fluorescent orange fill the area.

PRODUCT FEATURES

The beautiful appearance is combined with the structural design in line with human mechanics;

Using a combination of high-life and low-power LED light sources, including UV/excluding UV;

45/0 geometric optical structure, in line with CIE No. 15, GB/T3978, GB2893, GB/T18833, 1S07724-1, ASTME1164, DIN5033Teil7;

High electronic hardware configuration: 3.5-inch TFT true color screen, capacitive touch screen, concave grating, 256-pixel dual-array CMOS detector, etc.;

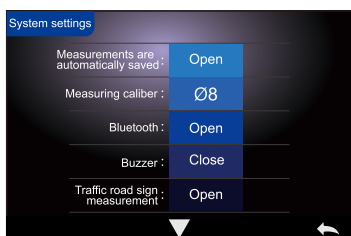USB/Bluetooth (compatible with 2.1) dual communication mode, wider adaptability;

Built-in standard polygon tolerance setting and specific traffic sign color gamut, especially suitable for traffic sign brightness factor and chromaticity performance judgment;

Large-capacity storage space, can store more than 30,000 test data;

Two standard observer angles, a variety of light source modes, a variety of color schemes, and a variety of standard chromaticity indicators to meet the needs of various customers for color measurement;
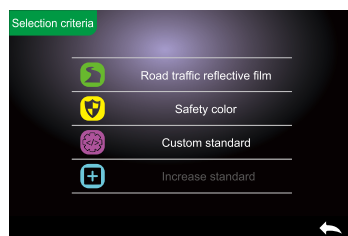
Φ20mm caliber is suitable for testing larger samples or uneven samples;

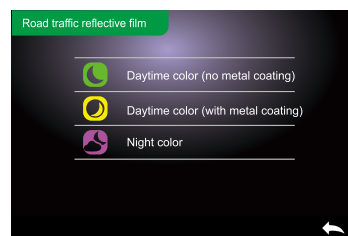PC-side software has powerful function extensions;

Product interface
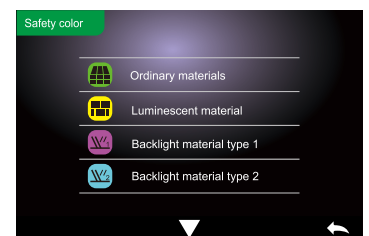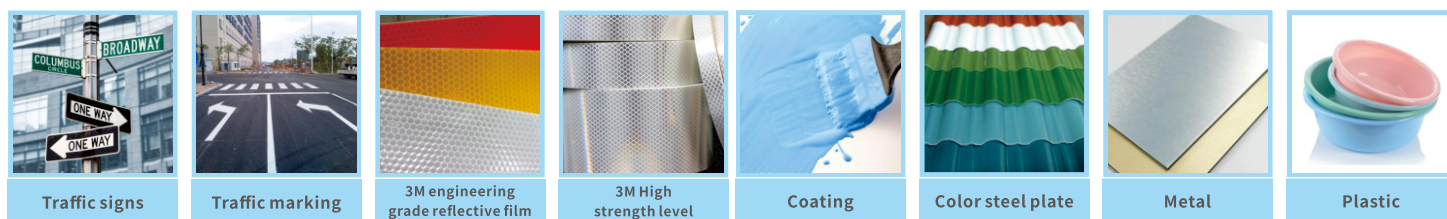

Traffic road sign measurement options

Choose standard interface

Road traffic light-emitting film interface

Safe color selection

| Traffic signs | Traffic marking | 3M engineering grade reflective film | 3M High strength level | Coating | Color steel plate | Metal | Plastic |

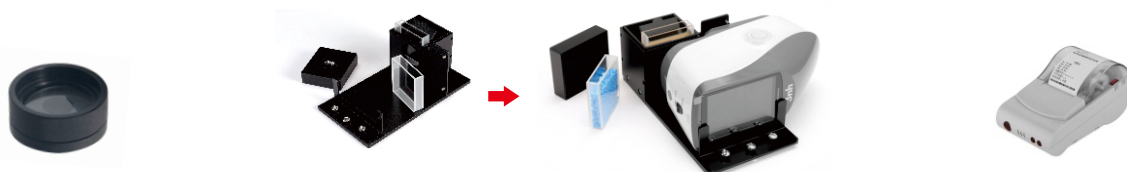## OPTIONALACCESSORIES

The instrument is equipped with various accessories; Such as micro printer, powder test box, etc.; Meet the needs of more measurement samples.

Powder test box: Easy to use, focusing on powdered target measurement.

Multifunctional test components: can be used to test liquid reagents, sauces (such as ketchup, paint), powders (such as coffeeBrown), color masterbatch, etc.

Micro printer: easy to carry, without computer can continuously print out the measurement of various parameters, easy to save.

TECHNICAL SPECIFICATIONS

Model：YS4580(Traffic dedicated)

Optical Geometry：45/0 (45 degree circular uniform illumination 0 degree reception)

Standard：CIE No.15, GB/T3978,GB2893,GB/T18833, 1S07724-1 ASTM，E1164,DIN5033Teil7

Integrating Sphere Size：Φ48mm

Light Source：Combination of LED light source,UV light source

Spectrophotometric Mode：Concave grating

Sensor：Dual array 256 pixel CMOS image sensor

Wavelength Range：400~700nm

Wavelength interval：10nm

Semiband Width：10nm

Measured Reflectance Range：0~200%

Measuring Aperture：Φ20mm

Measurement method：Single measurement, average measurement (2~99 times)

Color Space：CIELAB,XYZ,Yxy,LCh,CIELUV,s-RGB,HunterLab,βxy,DINLab99,Munsell(C/2)

Color Difference Formula：ΔE*ab,ΔE*uv,ΔE*94,ΔE*cmc(2:190*cmc(1:1),ΔE*00, DINΔE99,ΔE(Hunter)

Other measurements: Spectral Reflectance, Whiteness (ASTM E313-00, ASTM E313-73, CIE/ISO, AATCC, Hunter, Taube-Berger-Stensby), Yellowness (ASTM D1925, ASTM E313-00, ASTM E313-73), Metamerism Index Mt, Colorfastness to Crocking, Colorfastness to Light, Strength (Dye Strength, Coloring Power), Opacity, 555 Hue Classification, Blackness (My, dM), Color Density CMYK, Tint (ASTM E313-00), Color Density, Munsell (some functions realized through the host computer).

Measure time：About 1.5s

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(a total of 41 types of light sources,some of which are realized through the host computer).

Software Support: Andriod,IOS,Windows,WeChat Mini Program,HarmonyOS

Observer Angle：2°/10°

Displayed Data：Spectrogram/data, sample chromaticity value, Color difference value/graph, pass/fail result, color deviation

Repeatability：Spectral reflectance: standard deviation within 0.1% (400~700nm: within 0.2%)

Chroma value：Within E*ab0.04 (after the instrument is warmed up and corrected, the average value of 30 measurements on the whiteboard at an interval of 5s)

Inter-instrument Error：MAV, ΔE* ab0.2 (Measured average value of 12 swatches of BCRA series Ⅱ)

Size：L*W*H=184X77X105mm

Weight：About 600g

Battery：Lithium battery, 5000 times in 8 hours

Illuminant Life Span：More than 3 million measurements in 5 years

Display：TFT true color 3.5inch, capacitive touch screen
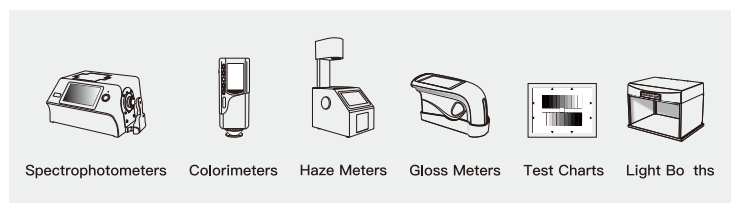
Data Port：USB,Bluetooth

Data Storage：1000 standard samples, 30000 samples

Language：Simplified Chinese, English, Traditional Chinese, Russian, It20an, German, Portuguese, Spanish, French

Standard Accessories：Power adapter, data cable, built-in lithium battery, manual, SQCX quality management software (download from official website), black and white calibration box, protective cover

Optional Accessories：Micro printer, powder test box ,Multifunctional test components ,Locating Plate

GUANGDONG THREENH TECHNOLOGY CO., LTD.

| Spectrophotometers | Colorimeters | Haze Meters | Gloss Meters | Test Charts | Light Bo ths |

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