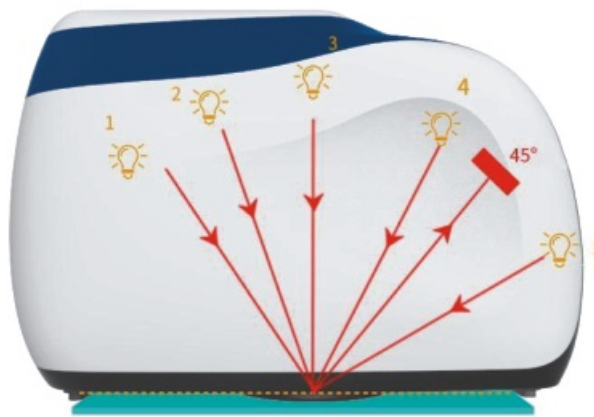


Multi-Angle Spectrophotometer

Introduction: **BGD 559 Multi-Angle Spectrophotometer** provides accurate and consistent color measurement for metallics, pearlescents and other complex special effect finished products. It adopts industrial-grade MCU and is equipped with 3 or 5 measuring angles. Under the superior performance of the optical measurement system, the instrument has excellent performance in multi-angle chromatic aberration measurement, even in the curved surface, but also has a high measurement accuracy and stability.

Features

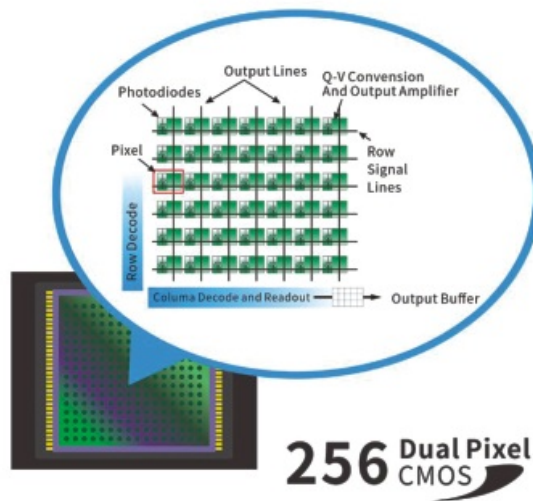
◆ Multi-angle measurement: Adopt 3 or 5 illumination sources, 1 receivers to measure multi measurement angles at the same time.



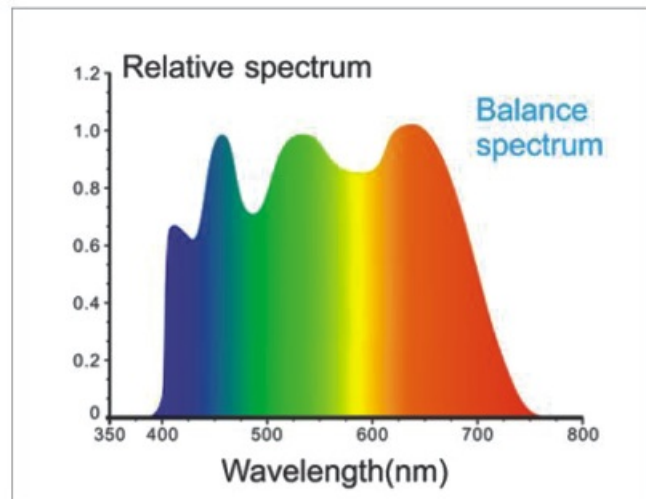
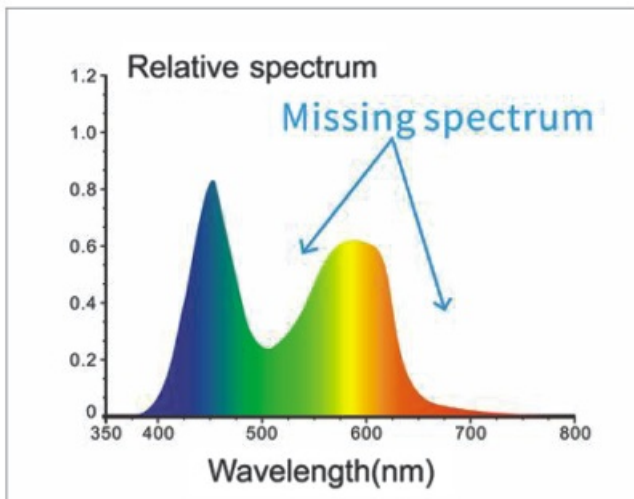
◆ More intuitive display: Touch screen can display all angle measurement results, more intuitive view of the comprehensive data.



◆ 256 Image Element Double Array CMOS Image Sensor: The higher optical resolution ensures the measuring speed, accuracy, stability and consistency of the instrument. The core technology makes it as the same platform with international standards and complete compatibility.



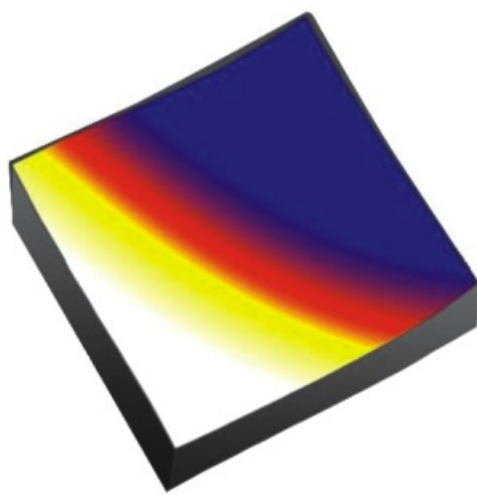
◆ Full spectrum LED light source with blue enhancement: It ensures sufficient spectral distribution in the visible light range, avoids the spectral loss of LED in a specific band, and ensures the accuracy of instrument measurement results and low cost maintenance.





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- ◆ Concave grating spectrophotometric technology: Higher resolution and more accurate color measurement.
- ◆ Professional-grade white board: High hardness in the surface, stable optical performance.



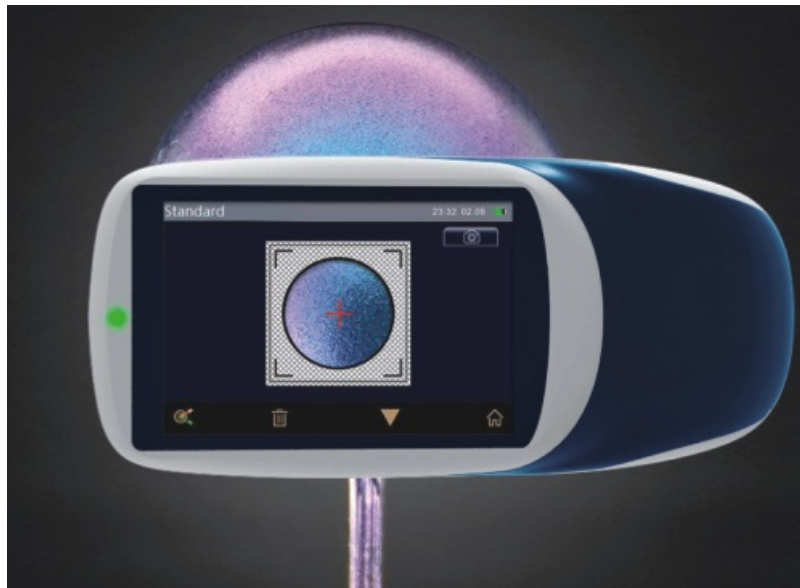
- ◆ Higher quality: Industrial grade real-time processing MCU, Bluetooth 5.0 transferring more stable and reliable.
- ◆ Ergonomics Novel and fashionable appearance design: The instrument is easy to operate, and the hand holding position and the measurement button are well-designed, which can meet different holding habits, smooth and fine surface, from the high-precision appearance treatment process.





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◆ Built-in color camera positioning, can accurately judge the object measured position, and improve the measurement efficiency and accuracy.



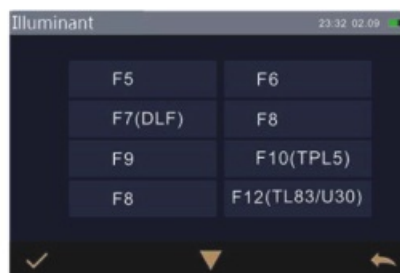
◆ Multiple color measurement space, multiple observation light sources, which can meet the special measurement demand under different measurement conditions.



ColorSpace



Illuminant





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◆ Easily analyze data: The screen can intuitively display spectrum/data, sample chromaticity value, color difference value/figure, pass/fail results, color simulation, sample effect value, effect difference value and other data, convenient to view while also greatly improve the user's work efficiency.

Angle	L*	a*	b*
15°	83.65	-0.10	84.38
25°	85.65	-0.46	80.43
45°	83.95	-0.72	91.21
75°	86.38	-1.10	79.36
110°	83.26	-0.64	88.28

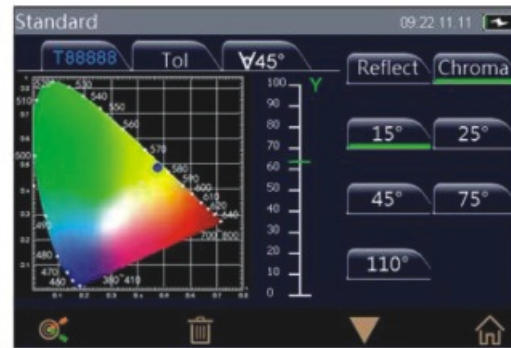
Color data

Angle	DL*	Da*	Db*
15°	2.15	0.35	4.56
25°	0.80	4.88	0.04
45°	10.54	5.34	13.17
75°	4.98	10.85	10.51
110°	9.82	8.58	11.36

Color difference value



Color difference graph



Samples Chromaticity values

◆ Conform to standards: ASTM D2244, E308, E1164, E2194, E2539; DIN 5033, 5036, 6174, 6175-1, 6175-2; ISO 7724, 11664-4; SAE J 1545





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Main Technical Parameters:

- ★ Measure Angle: 45° Receiver, 45 as 15° , 45 as 25° , 45 as 45° , 45 as 75° , 45 as 110°
- ★ Light Source: Full spectrum LED light source with blue enhancement, the lifetime can reach 5 years or 3 million measurements.
- ★ Spectrophotometric Mode: Concave Grating
- ★ Sensor: 256 Image Element Double Array CMOS Image Sensor
- ★ Wavelength Range: 400nm–700nm
- ★ Wavelength Interval: 10nm
- ★ Semiband Width: 10nm
- ★ Measurement Range: 0~600%
- ★ Measuring Aperture: Φ 12mm
- ★ Color Space: CIE LAB, XYZ, Yxy, LCh, β xy, DIN Lab99
- ★ Color Difference Formula: ΔE^*ab , ΔE^*94 , $\Delta E^*cmc(2:1)$, $\Delta E^*cmc(1:1)$, ΔE^*00 , DIN $\Delta E99$, ΔE DIN6175
- ★ Observer Angle: 2° /10°
- ★ Illuminant: D65, A, C, D50, D55, D75, F1, F2 (CWF), F3, F4, F5, F6, F7 (DLF), F8, F9, F10 (TPL5), F11 (TL84), F12 (TL83/U30)
- ★ Display: Spectrogram/Values, Samples Chromaticity Values, Color Difference Values/Graph, PASS/FAIL Result, Color Offset
- ★ Measuring Time: Approx. 1 second for one angle, approx. 5 seconds for all angles
- ★ Repeatability: Spectral reflectance standard deviation within 0.08%
- ★ Chromaticity value: ΔE^*ab 0.03 (When a white calibration plate is measured 30 times at 5 second intervals after white calibration)
- ★ Reproducibility: $\Delta E^* < 0.10$, avg on the gray tile of BCRA tile set; $\Delta E^* < 0.25$, avg on the color BCRA tile set
- ★ Inter-instrument Error: $0.2 \Delta E^*00$ (avg on reference Series II BCRA tile set)
- ★ Trigger Mode: Pressure sensing trigger, button trigger, software trigger
- ★ Measuring Mode: Single measurement, average measurement (1–99), continuous measurement (1–99)
- ★ Locating Mode: Color camera preview
- ★ Power: Lithium-ion battery, 3.7V, 3200mAh, Continuous test 6000 times within 8 hours of full charge
- ★ Display: 3.5-inch TFT color LCD, Capacitive Touch Screen
- ★ Interface: USB, Bluetooth 5.0
- ★ Data Storage: 1000 pcs Standards, 4000 pcs Samples
- ★ Language: Simplified Chinese, Traditional Chinese, English
- ★ Calibration: Built-in white board parameters, external white board, black light trap
- ★ Calibration Interval: 4 hours, 8 hours, 24 hours, Startup calibration
- ★ Dimension: 195mm × 83mm × 128mm (W × D × H)
- ★ Net Weight: About 1Kg
- ★ Standard Accessories: Power Adapter, USB Cable, User Guide, PC Software(download from the official website), Calibration Board, Black Light Trap, Protective Cap, Wristband
- ★ Optional Accessory: Micro-printer
- ★ **Ordering Information:** BGD 559/3---Tri-Angle Spectrophotometer (15° /45° /110°)
BGD 559/5---Five-Angle Spectrophotometer (15° /25° /45° /75° /110°)