

Three Angles Spectrophotometer



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CS-392

Color and Graininess Test



▲ Multi-angle color measurement



▲ Graininess Assessments



▲ Automobile Coating



▲ Laser Paper



▲ Mobile Phone Case

Character 1.

Measure color and color difference at three angles (15,45 and 110)

| +New | | L* | a* | b* | E* |
|-------|------|--------|--------|--------|-----|
| Car 1 | 15° | 108.47 | -14.85 | -17.81 | --- |
| | 45° | 50.80 | -8.07 | -13.57 | --- |
| | 110° | 20.57 | -4.65 | -13.95 | --- |
| | G | 11.49 | | | |

OK Measure Return Back

Color Value

| +New | | dL* | da* | db* | dE* |
|-------|------|-------|-------|------|------|
| Car 1 | 15° | 0.03 | -0.02 | 0.03 | 0.05 |
| | 45° | 0.02 | -0.03 | 0.04 | 0.06 |
| | 110° | 0.02 | 0.00 | 0.01 | 0.02 |
| | dG | -0.01 | | | |

Done

Color Difference

| +New | | dL* | da* | db* | dE* |
|-------|------|--------|-------|-------|-------|
| Car 1 | 15° | -10.98 | 17.19 | 23.77 | 31.58 |
| | 45° | 31.86 | 11.35 | 21.01 | 39.52 |
| | 110° | 59.29 | 8.10 | 20.61 | 63.29 |
| | dG | -8.35 | | | |

Done

Color Difference

Character 2.

Graininess Level (G)

Particle size of effective material can be tested.

| +New | | L* | a* | b* | E* |
|-------|------|--------|--------|--------|-----|
| Car 1 | 15° | 108.47 | -14.85 | -17.81 | --- |
| | 45° | 50.80 | -8.07 | -13.57 | --- |
| | 110° | 20.57 | -4.65 | -13.95 | --- |
| | G | 11.49 | | | |

OK Measure Return Back

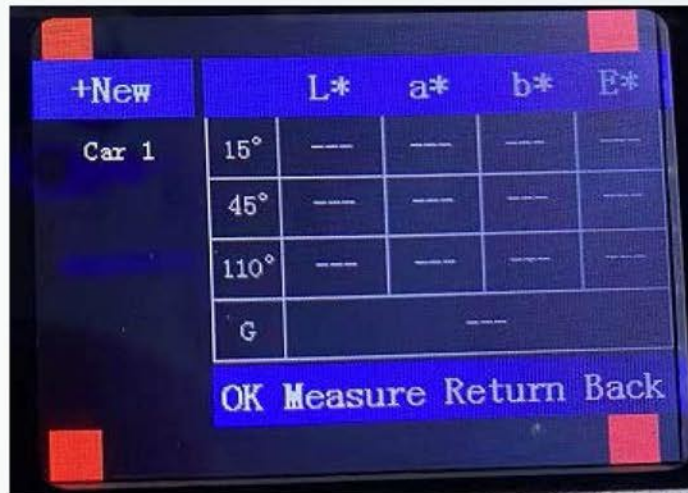
Character 3.

Instrument is with magnetic bottom for simple white and black calibration.



Character 4.

A sample contact sensor is installed at the instrument bottom to ensure good contact with sample and better measurement repeatability.



| +New | L* | a* | b* | E* |
|-------|------|-----|-----|-----|
| Car 1 | 15° | --- | --- | --- |
| | 45° | --- | --- | --- |
| | 110° | --- | --- | --- |
| | G | --- | | |

OK Measure Return Back

Bad Contact



| +New | L* | a* | b* | E* |
|-------|------|-----|-----|-----|
| Car 1 | 15° | --- | --- | --- |
| | 45° | --- | --- | --- |
| | 110° | --- | --- | --- |
| | G | --- | | |

OK Measure Return Back

Good Contact

Character 5.

Instrument is with Led lamp for long lifetime and conform to the following international standards ASTM D2244, E308, E1164, E2194, DIN 5033, 5036, 6174, 6175-2, DIN EN ISO 11664, ISO 7742, SAEJ1545.



CS-392 Technical Parameter



| | |
|-----------------------------------|--|
| Model | CS-392 |
| Illumination Angle | 45° |
| Measurement Angles | Color Measurement Angle: 15°, 45°, 110° Graininess Measure Angle: Integrating Sphere Diffuse |
| Parameters | Chromaticity Value: L*a*b, L*C*h, ΔE*ab, ΔE(cmc), ΔE DIN6175, ΔE 2000 Graininess Lever (G) |
| Wavelength Range | 400-700nm |
| Wavelength Pitch | 10nm |
| Reflectance Range | 0-500% |
| Resolution | 0.01% |
| Light Source | LED |
| Measurement Time | < 6s |
| Repeatability | dE≤0.05 Max. measure white tile, after calibration (measured 30 x at 5-second intervals) |
| Inter-instrument Agreement | dE≤0.5 Average measurement of BCRA II color tiles |
| Measurement Aperture | Diameter 17mm |
| Viewing Angles | 2°/ 10° |
| Illuminants | A,C,D50,D65, F2, F7, F11, F12 |
| Light Source Life time | 10 years, ≥1 million times |
| Interface | USB or custom made |
| Instrument Size | 145x58x99mm |
| Instrument Weight | 476g |
| Power | 3.7V/3000mAh rechargeable lithium battery |
| Temperature | 0-40°C (32-104 F) |
| Storage Temperature | -20-50°C (-4-122 F) |