

# SPECIFICATIONS

## MiniScan® EZ

### MEASUREMENT

**Measurement Principle:**

Dual-beam spectrophotometer

**Geometries:**

- Diffuse/8° (specular component included)
- OR**
- Directional annular 45° illumination / 0° viewing (specular component excluded)

**Spectrophotometer:**

256 element diode array and high resolution, concave holographic grating

**Sphere Diameter:**

63.5 mm (2.5 in.) (diffuse/8° models)

**Port Diameters/View Diameters**

45°/0° models:

LAV 31.8 mm (1.25 in) illuminated/25.4 mm (1 in) measured

Diffuse/8° models:

LAV 25.4 mm (1 in) illuminated/20.0 mm (0.8 in) measured

**Specular Component:**

Excluded on 45°/0° models, Included on Diffuse/8° models

**Spectral Range:**

400 nm - 700 nm

**Spectral Resolution:**

< 3 nm

**Effective Bandwidth:**

10 nm equivalent triangular

**Reporting Interval:**

10 nm

**Photometric Range:**

0 to 150 %

**Light Source:**

Pulsed Xenon Lamp

**Flashes per Measurement:**

1 flash

**Lamp Life:**

> 1 million flashes

**Measurement Time:**

< 1 second from button push to measurement  
2 seconds from button push to data display

**Minimum Interval  
between Measurements:**

3 seconds

**Standards Conformance:**

CIE 15:2004, ISO 7724/1, ASTM E1164, DIN 5033 Teil 7 and JIS Z 8722 Condition C

**Standards Traceability:**

Instrument standard assignment in accordance with National Institute of Standards and Technology (NIST) following practices described in CIE Publication 44 and ASTM E259

## PERFORMANCE

**Inter-Instrument Agreement:**

$\Delta E^* \leq 0.15$  CIE L\*a\*b\* (Avg) on BCRA II Tile Set  
 $\Delta E^* \leq 0.25$  CIE L\*a\*b\* (Max) on BCRA II Tile Set

**Colorimetric Repeatability:**  
(20 Readings)

$\Delta E^* \leq 0.05$  CIE L\*a\*b\* on white tile

## FIRMWARE

**Data Views:**

Color Data, Color Difference Data, Tristimulus Color Plot, Spectral Data, Spectral Difference Data, Spectral Plot, Spectral Difference Plot

**USB Flash Drive Features:**

Backup of Setups and Data, Setup Transfer to Multiple Units, Data Export to Excel

**Other Features:**

Pass/Fail, Average Multiple Readings, Search for Closest Standard

**Illuminants:**

A, C, D50, D55, D65, D75, F2, F7, F11

**Observers:**

2° and 10°

**Color Scales:**

CIE L\*a\*b\*, Hunter Lab, CIE L\*C\*h, CIE Yxy, CIE XYZ

**Color Difference Scales:**

$\Delta L^*a^*b^*$ ,  $\Delta Lab$ ,  $\Delta L^*C^*H$ ,  $\Delta Yxy$ ,  $\Delta XYZ$

**Color Difference Indices:**

$\Delta E^*$ ,  $\Delta E$ ,  $\Delta C^*$ ,  $\Delta C$  and  $\Delta E_{cmc}$

**Indices and Metrics:**

E313 Whiteness and Tint(C/2° and D65/10°), E313 Yellowness (C/2° and D65/10°), D1925 Yellowness (C/2°), Y Brightness, Z%, 457 nm Brightness, Opacity, Color Strength Average and Single Wavelength), Gray Change, Gray Stain, Metamerism Index, Shade Number

**Data Storage:**

As Standard - 100 spectral or tristimulus with Pass/Fail tolerances as Working, Physical, Numeric and Hitch  
As Sample - 750 spectral

**Languages:**

Chinese, English, French, German, Italian, Japanese, Spanish

## PHYSICAL / ELECTRICAL

**Dimensions:**

Height: 13.9 cm (5.5 in.)  
Width: 10.9 cm (4.3 in.)  
Depth: 26.7 cm (10.5 in.)  
Weight: 1 kg (2.2 lbs) with batteries

**Display:**

5.8 cm x 5.8 cm (2.3 in. x 2.3 in.) backlit LCD, blue monochrome

**Interface:**

USB 2.0

**Power:**

Six AA-size alkaline batteries or nickel-metal-hydrate rechargeable batteries

**Battery Performance:**

With alkaline batteries approximately 4,000 measurements  
With nickel-metal-hydrate batteries approximately 4,000 measurements when fully charged (varies with battery condition)

**Operating Environment:**

10° to 40°C (50° to 104° F), 10 % to 90 % RH, noncondensing

**Storage Environment:**

-20° to 65°C (-5° to 150° F), 10 % to 90 % RH, noncondensing

**Standard Accessories:**

- NiMH batteries
- Battery charger
- Calibrated instrument white tile
- Certificate of traceability
- Black glass (45°/0° models) or Light trap (diffuse/8° models)
- Green diagnostic tile (all instrument standards are contained in a single ergonomic holder)
- Dust cover
- Carrying case
- USB flash drive
- MiniScan EZ Users guide

For more information, please contact HunterLab at 703-471-6870, [sales@hunterlab.com](mailto:sales@hunterlab.com) or visit [www.hunterlab.com](http://www.hunterlab.com)