

# SPECIFICATIONS

## ColorFlex® EZ

### Measurement

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<b>Measurement Principle:</b>	Port up or Port forward dual-beam spectrophotometer
<b>Geometry:</b>	Annular 45° illumination and 0° viewing
<b>Spectrophotometer:</b>	Sealed optics; 256-element diode array and a high resolution concave holographic grating
<b>Port Diameter/View Diameter:</b>	31.8 mm (1.25 in) illuminated/ 25.4 mm (1.00 in) measured
<b>Specular Component:</b>	Excluded
<b>Spectral Range:</b>	400 nm - 700 nm
<b>Spectral Resolution:</b>	< 3 nm
<b>Effective Bandwidth:</b>	< 10 nm equivalent triangular
<b>Reporting Interval:</b>	10 nm
<b>Photometric Range:</b>	0 to 150%
<b>Light Source:</b>	Pulsed Xenon Lamp
<b>Number of Flashes per Measurement:</b>	1 flash
<b>Lamp Life:</b>	> 1 million flashes
<b>Measurement Time:</b>	< 1 second from button push to measurement 2 seconds from button push to data display
<b>Minimum Interval Between Measurements:</b>	3 seconds
<b>Standards Conformance:</b>	CIE 15:2004, ISO 7724/1, ASTM E-1164, DIN 5033, Teil 7 and JIS Z 8722 Condition C
<b>Standards Traceability:</b>	Instrument standard assignment in accordance with National Institute of Standards and Technology (NIST) following practices described in CIE Publication 44 and ASTM E259

### Performance

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<b>Inter-Instrument Agreement:</b>	$\Delta E^* \leq 0.15$ 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
<b>Colorimetric Repeatability: (20 Readings)</b>	$\Delta E^* \leq 0.05$ CIE $L^*a^*b^*$ on White Tile

## Firmware

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<b>Data Views:</b>	Color Data, Color Difference Data, Tristimulus Color Plot, Spectral Data, Spectral Difference Data, Spectral Plot, Spectral Difference Plot
<b>USB Flash Drive Features:</b>	Backup of Setups and Data, Setup Transfer to Multiple Units, Data Export to Excel
<b>Other Features:</b>	Pass/Fail, Average Multiple Readings, Search for Closest Standard
<b>Illuminants:</b>	A, C, D50, D55, D65, D75, F2, F7, F11
<b>Observers:</b>	2° and 10°
<b>Color Scales:</b>	CIE L*a*b*, Hunter Lab, CIE L*C*h, CIE Yxy, CIE XYZ
<b>Color Difference Scales:</b>	$\Delta L^*a^*b^*$ , $\Delta Lab$ , $\Delta L^*C^*H$ , $\Delta L^*C^*h$ , $\Delta Yxy$ , $\Delta XYZ$
<b>Color Difference Indices:</b>	$\Delta E^*$ , $\Delta E$ , $\Delta C^*$ , $\Delta C$ and $\Delta E_{cmc}$
<b>Indices and Metrics:</b>	E313 Whiteness (C/2° or D65/10°), E313 Tint (C/2° or D65/10°), E313 Yellowness (C/2° or 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
<b>Tomato Color Model Only:</b>	Tomato Color Scores: TPS - Tomato Paste Score TSS - Tomato Sauce Score TCS - Tomato Catsup Score TJS - Tomato Juice Score Tomato a/b Ratio Lycopene Index
<b>Citrus Color Model Only:</b>	Citrus Number, Citrus Redness, Citrus Yellowness
<b>Storage:</b>	As Standard - 250 spectral or tristimulus with Pass/Fail tolerances as Working, Physical, Numeric and Hitch As Sample - 2000 spectral
<b>Languages:</b>	Chinese, English, French, German, Italian, Japanese, Spanish

## Physical / Electrical

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<b>Dimensions:</b>	Height: 16 cm (6.3 in) Width: 13 cm (5.1 in) Depth: 36 cm (14.2 in) Weight: 4.5 kg (9.9 lb)
<b>Display:</b>	7.1 cm x 5.4 cm (2.8 in x 2.1 in) backlit color LCD
<b>Interface:</b>	3 USB 2.0 ports
<b>Power:</b>	100 to 240 VAC 47 to 63 Hz
<b>Operating Environment:</b>	10° to 40°C (50° to 104° F), 10% to 90% RH, noncondensing
<b>Storage Environment:</b>	-20° to 65°C (-5° to 150° F), 10% to 90% RH, noncondensing
<b>Standard Accessories:</b>	<ul style="list-style-type: none"><li>• Calibrated instrument white tile</li><li>• Certificate of traceability</li><li>• Black glass</li><li>• Green diagnostic tile</li><li>• Universal AC adaptor</li><li>• Computer interface cable</li><li>• PC utilities disk and Interface drivers</li><li>• User guide</li></ul>

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)

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Specifications subject to change without notice