

# SPECIFICATIONS

## ColorFlex<sup>®</sup> EZ Coffee

### Measurement

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<b>Measurement Principle:</b>	Port up dual-beam spectrophotometer
<b>Geometry:</b>	Directional annular 45° illumination / 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 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>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 E1164, 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:</b> (20 Readings)	$\Delta E^* \leq 0.05$ CIE L*a*b* on white tile

## Firmware

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<b>Data Views:</b>	Coffee Roast, Color Data, Color Difference Data, Tristimulus Color Plot, Spectral Data, Spectral Difference Data, Spectral Plot, Spectral Difference Plot
<b>USB Flash Drive Features:</b>	Data Export to Excel, Backup of Setups and Data, Setup Transfer to Multiple Units
<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 and 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>Ground Coffee Color Model Only:</b>	HCCI (HunterLab Coffee Color Index values), SCAA Number, SCAA Roast Classification, colorimetric and spectral data
<b>Data 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>	Simple 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 lbs)
<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>• PQ (Performance Qualification) Coffee tile</li><li>• Universal AC adaptor</li><li>• Computer interface cable</li><li>• USB flash drive</li><li>• ColorFlex EZ Coffee User Manual (on CD)</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)