

# SPECIFICATIONS



## ColorFlex<sup>®</sup> 12 Citrus

### MEASUREMENT

<b>Measurement Principle:</b>	Port forward dual-beam spectrophotometer
<b>Geometry:</b>	45°a:0° Annular Illuminated Optics, ASTM E1164
<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>	Range: 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>	Full spectrum Xenon Flash Lamp
<b>Measurement Duration:</b>	1 second
<b>Lamp Life:</b>	10 years typical
<b>Illumination:</b>	Factory Calibrated Xenon for Brightness, Whiteness, and Tint
<b>Standards Conformance:</b>	CIE 15:2018, 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

<b>Inter-Instrument Agreement:</b>	Color: $\Delta E^*_{2000} < 0.15$ D65/10 (Avg) on BCRA CCSII Tile
<b>Colorimetric Repeatability:</b>	Color: $\Delta E^* < 0.05$ D65/10 (Max) on White Tile



## USER INTERFACE

<b>Data Views:</b>	Color Data, Spectral Plot, EZ View, Spectral Data Table, 2D-Color Plot, Pass/Fail Color Indication, Time, and Date Stamp, Auto-naming, Auto-saving, Data backup
<b>USB Flash Drive Features:</b>	Job Data, Screen Capture and Database Export
<b>Other Features:</b>	Pass/Fail, Average Multiple Measurements, Set Multiple Automatic Measurements, Auto Export Data, Network Connectivity
<b>Illuminants:</b>	A, C, D50, D55, D65, D75, F02, F07, 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, Rd,a,b
<b>Color Differences:</b>	$\Delta L^*a^*b^*$ , $\Delta Lab$ , $\Delta L^*C^*h$ , $\Delta Yxy$ , $\Delta XYZ$ , $\Delta E$ , $\Delta E^*$ , $\Delta E^*2000$ , $\Delta H^*$ , $\Delta C^*$ , $\Delta Ecmc$ , $dRdab$
<b>Indices and Metrics:</b>	E313 Whiteness and Tint (C/2°, C/10°, D65/2° or D65/10°), E313 Yellowness (C/2°, C/10°, D65/2° or D65/10°), D1925 Yellowness (C/2°), Y Brightness, Z%, 457 nm Brightness, Opacity, Color Strength (Average and Single Wavelength), Gray Scale, Gray Stain, Metamerism Index
<b>Citrus Color Model Only:</b>	Citrus Number, Citrus Redness, Citrus Yellowness
<b>Data Storage:</b>	1 million Records max; 8 GB
<b>Languages:</b>	Supports multiple languages—with the option to add more as needed

## PHYSICAL / ELECTRICAL

<b>Dimensions:</b>	Height: 16 cm (6.25 in.) Width: 21 cm (8.75 in.) Depth: 24 cm (9.50 in.) Weight: 2.75 kg (6 lbs)
<b>Display:</b>	7" Touch screen, high resolution 1280x800
<b>Interface:</b>	2 USB ports, HDMI Video Output, Foot switch Input, Ethernet connection, USB Service Port, Convenient physical measurement/action button
<b>Power:</b>	90 – 240 VAC, 47 – 63 Hz to universal power supply @ 24 VDC/3.75A
<b>Operating Environment:</b>	10° to 30°C (50° to 86° F), 10 % to 90 % RH, noncondensing
<b>Storage Environment:</b>	-20° to 65°C (-4° to 149° F), 10 % to 90 % RH, noncondensing
<b>Standard Accessories:</b>	<ul style="list-style-type: none"><li>• Calibrated Orange Juice 4 Standard</li><li>• Calibrated Instrument Standard (White Tile) with Certificate of Traceability</li><li>• Diagnostic Check Tile (Green Tile)</li><li>• Reflectance Black Glass</li><li>• Orange Juice Tube Holder with 19.05mm (0.75 in) port plate</li><li>• Port Plate - 31.8 mm (1.25 in)</li><li>• Power Supply (90W)</li><li>• Quick Start 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)