SPECIFICATIONS

UltraScan® PRO

Measurement

Measurement Principle: Dual-beam spectrophotometer

Geometry: Diffuse d/8° reflectance, d/8° total transmission, d/0° regular transmission

Spectrophotometer: Two polychromators, each with a 512 element diode array and a high resolution, concave holographic grating

Sphere Diameter: 152 mm (6 in.)

Sphere Coating: Spectraflect™ for sphere, Duraflect™ for port plate and specular exclusion door

Port Size/Measured Area:

Port Diameter/View Diameter in RSIN/RSEX reflectance modes

Large Area View (LAV):	25 mm (1 in) illuminated/19 mm (0.75 in) measured
Medium Area View (MAV):	13 mm (0.5 in) illuminated/9 mm (0.35 in) measured
Small Area View (SAV):	7 mm (0.25 in) illuminated/4 mm (0.16 in) measured

Port Diameter/View Diameter in TTRAN transmittance modes

Large Area View (LAV):	25 mm (1 in) illuminated/17.4 mm (0.69 in) measured
Medium Area View (MAV):	25 mm (1 in) illuminated/13.2 mm (0.52 in) measured
Small Area View (SAV):	25 mm (1 in) illuminated/11.6 mm (0.46 in) measured

Port Diameter/View Diameter in RTRAN transmittance mode where lens is field stop for all areas of view

Large Area View (LAV):	17 mm (0.67 in) illuminated/17 mm (0.67 in) measured
Medium Area View (MAV):	17 mm (0.67 in) illuminated/17 mm (0.67 in) measured
Small Area View (SAV):	17 mm (0.67 in) illuminated/17 mm (0.67 in) measured

Lens Switching for LAV/MAV/SAV: Automatic

Specular Component: Automated Included (RSIN) or Excluded (RSEX) in reflectance

Spectral Range: 350 nm - 1050 nm full CIE visible range plus NIR

Wavelength Resolution: < 2 nm

Effective Bandwidth: 5 nm equivalent triangular

Reporting Interval: 5 nm

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Photometric Range:	0-150 %
Light Source:	Pulsed Xenon lamps (3), calibrated and controlled in the UV range
Automatic UV Control:	400 nm cutoff filter for UV control and UV exclusion Optional 420 nm cutoff filter for UV exclusion
Transmission Modes:	Total (TTRAN) and Regular (RTRAN)
Transmission Compartment:	Large and open on 3 sides 10.2 cm D X 35.6 cm W x 16.5 cm H (4 in. D x 14 in. W x 6.5 in. H)
Standards Conformance	
Reflectance:	CIE 15:2004, ISO 7724/1, ASTM E1164, DIN 5033, Teil 7 and JIS Z 8722 Condition C
Transmittance:	CIE 15:2004, ASTM E1164, DIN 5033 Teil 7 and JIS Z 8722 Condition E, G Haze conformance per ASTM D1003 Section 8. Procedure B Spectrophotometer
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

Colorimetric Repeatability: (20 readings)	< 0.03 ΔE* CIE L*a*b * on certified instrument standard (white) in LAV mode < 0.07 ΔE* CIE L*a*b* on blue denim tile in LAV mode
Spectral Repeatability:	Max 0.20 range between 435 nm and 695 nm
Inter-instrument Agreement:	ΔE*< 0.09 CIE L*a*b* (Avg) on BCRA II Tile Set ΔE*< 0.20 CIE L*a*b* (Max) on BCRA II Tile Set

Physical / Electrical

Dimensions:	Height: 32.3 cm (12.7 in.) Width: 42.0 cm (16.5 in.) Depth: 49.8 cm (19.6 in.) Weight: 25.9 kg (57 lbs)
Power:	90 to 250 VAC, 50 to 60 Hz 60 watts passive, 120 watts maximum
Interface:	RS-232C serial, 19,200 baud, DB9 (female) terminal
Operating Environment:	4° to 38°C (40° to 100° F), 10 % to 85 % RH, noncondensing
Storage Environment:	-21° to 66°C (-5° to 150° F), 10 % to 90 % RH, noncondensing (-5° to 150° F)
Standard Accessories:	• Certified Instrument Standard (white) • Certificate of traceability • Black calibration light trap • Transmittance zero calibration plate • Diagnostic Check Standard (green) • Wavelength diagnostic filter • Certified White Fluorescent Standard • Reflectance sample clamp • LAV aperture • MAV aperture • SAV aperture • RS-232C cable • USB-to-Serial adapter • Power cord • EasyMatch QC Software • EasyMatch QC Basic manual

For more information, please contact HunterLab at 703-471-6870, sales@hunterlab.com or visit www.hunterlab.com

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