

**datacolor** 

**650**<sup>TM</sup> Spectrophotometer  
Series

**600**<sup>TM</sup>

**550**<sup>TM</sup>

**400**<sup>TM</sup>

**A New Dimension  
in Reflectance and  
Transmittance  
Measurements**



**datacolor**   
**SPECTRUM**<sup>TM</sup>  
family of solutions

Datacolor has a solution  
to fit your environment



# Designed to Meet Your Color Measurement Needs

**W**hen choosing a color measurement instrument, you now have a range of choices from the industry leader. Are you on a tight budget or do you need the most advanced device available? Do you need transmittance measurements or will reflectance measurements do? Maybe you have an unusual space requirement. Whatever your need, Datacolor has a spectrophotometer that will meet your requirements. As part of our broad range of portable and benchtop spectrophotometers, our family of vertical and horizontal benchtop reflectance and transmittance instruments deliver an unprecedented and unparalleled combination of features and benefits, including:

## Full Agreement

You can be confident of full agreement throughout Datacolor's entire family of sphere instruments.

## Exceptional Stability

Exceptionally low drift means more stability, so you can recalibrate less often, increasing productivity.

## User-Friendly

Our intuitive design makes it easier to understand status indicators, reducing the chance of error in instrument setup and operation.

## Fast, Easy Maintenance

Datacolor instruments seldom require service. When they do, service is faster and easier because of fewer components and full data compatibility. And, our advanced technology ensures the ability to reproduce the same results you obtained before the service.

## Software Compatibility

Datacolor spectrophotometers are designed for use with our award-winning software. They are also compatible with virtually all color packages. So, with this combination of flexibility, precision, and performance you get an unbeatable package.

## Unsurpassed Performance

- ❖ Superior sensor technology can output data at 5nm or 10 nm intervals
- ❖ Datacolor spectrophotometers provide high-resolution color measurement and excellent short- and long-term repeatability
- ❖ The 3.0 mm aperture can measure unusually small sample areas
- ❖ The exceptionally large (30mm) aperture means you can maximize the surface area to be measured – ideal when measuring color without regard to a textured surface



# An Instrument for Your Environment

## Datacolor 650™ – Ultra-Precise Reflectance and Transmittance Measurements

The Datacolor 650 is the industry leader, offering:

- ❖ Haze measurements
- ❖ Regular transmittance, total transmittance and diffuse transmittance measurements
- ❖ Automated zoom lens and specular port
- ❖ Automated UV control
- ❖ Exceptional inter-instrument agreement
- ❖ Multiple viewing apertures with automatic aperture recognition
- ❖ Automatic gloss compensation

## Datacolor 600™ – Exceptional Reflectance Measurements

This high-precision, close-tolerance, reference grade spectrophotometer has special capabilities to handle fluorescent materials.

- ❖ Automated zoom lens and specular port
- ❖ Exceptional inter-instrument agreement
- ❖ Automated UV control
- ❖ Multiple viewing apertures with automatic aperture recognition
- ❖ Automatic gloss compensation

## Datacolor 550™ – High-Performance Reflectance and Regular Transmittance Measurements

- ❖ Superior performance at a moderate price
- ❖ Automated zoom lens and specular port
- ❖ Superior inter-instrument agreement with the capability to handle fluorescent measurements
- ❖ Multiple viewing apertures

## Datacolor 400™ – Excellent Reflectance Measurements

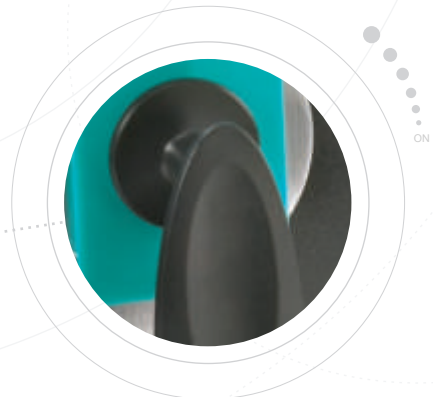
High-performance, reflectance-only spectrophotometer

- ❖ Excellent performance at an economical price
- ❖ Automated zoom lens and specular port
- ❖ Excellent inter-instrument agreement with optional capability to handle fluorescent measurements
- ❖ Multiple viewing apertures

## Because Color Matters



The Datacolor 650™, 600™, 550™ and 400™ are vital components of Datacolor SPECTRUM™, the complete solution for successful color management. Datacolor SPECTRUM™ helps organizations innovate faster, ensure consistent color quality, reduce the cost of production and accelerate their product's speed to market. Because color matters, leading businesses worldwide choose Datacolor's innovative technology and solutions to consistently achieve the right color.



Feature	<b>Datacolor 650™</b>	<b>Datacolor 600™</b>	<b>Datacolor 550™</b>	<b>Datacolor 400™</b>
Instrument Type	dual-beam spectrophotometer			
Measurement Geometry	diffuse illumination and 8° viewing			
Illumination Source	pulsed xenon filtered to approximate D65			
Sphere Diameter	152 mm / 6.0 in			
Specular Port	automated included or excluded			
Spectral Analyzer	proprietary SP2000 analyzer with dual 256 diode array and high resolution holographic grating			
Transmittance Measurements	Yes	No	Yes	No
Wavelength Range	360 nm to 700 nm			
Reporting Interval	5 nm or 10 nm <sup>1</sup>	5 nm or 10 nm <sup>1</sup>	10 nm	10 nm
Effective Bandwidth	5 nm or 10 nm	5 nm or 10 nm	10 nm	10 nm
Photometric Range	0 to 200%			
Black Trap	high performance			
20 Read Repeatability On The White Tile Using Dual Flash (CIELAB)	0.01 (max)	0.01 (max)	0.02 (max)	0.03 (max)
Inter-instrument Agreement <sup>2</sup> for Reflectance (CIELAB)	0.15 (max) 0.08 (avg)	0.15 (max) 0.08 (avg)	0.25 (max) 0.12 (avg)	0.30 (max) 0.15 (avg)
Inter-instrument Agreement <sup>2</sup> for Regular Transmittance at 550 nm	±0.20% at 85% T ±0.10% at 32% T	not available	not specified	not available
Inter-instrument Agreement <sup>2</sup> for Diffuse Transmittance at 550 nm	±0.40% at 42% T	not available	not available	not available
Inter-instrument Agreement <sup>2</sup> for Transmission Haze Measurements	±0.15% at 10% TH	not available	not available	not available
Lens	4 position auto zoom	4 position auto zoom	3 position auto zoom	3 position auto zoom
Aperture plates for reflection measurements	4 standard (LAV, SAV, USAV, Barium-coated MAV) 2 optional (MAV, XUSAV)	3 standard (LAV, SAV, USAV) 2 optional (XUSAV)	3 standard (LAV, SAV, USAV) 1 optional (XUSAV)	3 standard (LAV, SAV, USAV) 1 optional (XUSAV)
LAV	30 mm illuminated 26 mm measured	30 mm illuminated 26 mm measured	30 mm illuminated 26 mm measured	30 mm illuminated 26 mm measured
MAV	20 mm illuminated 16 mm measured	20 mm illuminated 16 mm measured	not available	not available
SAV	9 mm illuminated 5 mm measured	9 mm illuminated 5 mm measured	9 mm illuminated 5 mm measured	9 mm illuminated 5 mm measured
USAV	6.5 mm illuminated 2.5 mm measured	6.5 mm illuminated 2.5 mm measured	6.5 mm illuminated 2.5 mm measured	6.5 mm illuminated 2.5 mm measured
XUSAV <sup>3</sup>	3.0 mm illuminated 2.5 mm measured	3.0 mm illuminated 2.5 mm measured	3.0 mm illuminated 2.5 mm measured	3.0 mm illuminated 2.5 mm measured
Reflection Aperture Plate Detection	yes	yes	not available	not available
Transmission Sampling Aperture Size	22 mm	not available	35 mm	not available
UV Calibration	yes <sup>4</sup>	yes	yes	optional
Automatic UV Control	automatic UV calibration for the measurement of fluorescent Specimens with UV cutoff filters at 400 nm, 420 nm and 460 nm			
Instrument-mounted Measure Switch	yes <sup>4</sup>	yes <sup>4</sup>	not available	not available
Vertical Mount	not available	optional <sup>5</sup>	not available	optional <sup>5</sup>
<b>Horizontal Model Size And Weight</b>				
Height	325 mm / 12 13/16 in			
Width	312 mm / 12 5/16 in			
Depth	471 mm / 18 5/8 in (Including Sample Holder)			
Weight	14.97 kg / 33 lb			
<b>Vertical Model Size and Weight</b>				
Height	640 mm / 25 3/16 in			
Width	312 mm / 12 5/16 in			
Depth	371 mm / 14 5/8 in			
Weight	19.05 kg / 42 lb			
Power Requirements	85 to 264 VAC, 47 to 63 Hz, 80 VA peak, 35 VA typical			
Absolute Operating Range	5° to 40° C, 5% to 85% noncondensing relative humidity			
Interface	RS-232 <sup>6</sup> or USB 1.1			

<sup>1</sup> The software must be capable of supporting 5 nm reporting.

<sup>2</sup> Environmental conditions apply.

<sup>3</sup> Sample translucency may affect interlens agreement.

<sup>4</sup> The software must be capable of supporting the instrument-mounted measure switch.

<sup>5</sup> Including peephole sample viewer.

<sup>6</sup> The RS-232 interface is capable of 9600 to 115200 Baud and is shipped from the factory configured to 19200 Baud.

**For more information,  
please visit [www.datacolor.com](http://www.datacolor.com).**

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*Because Color Matters*

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