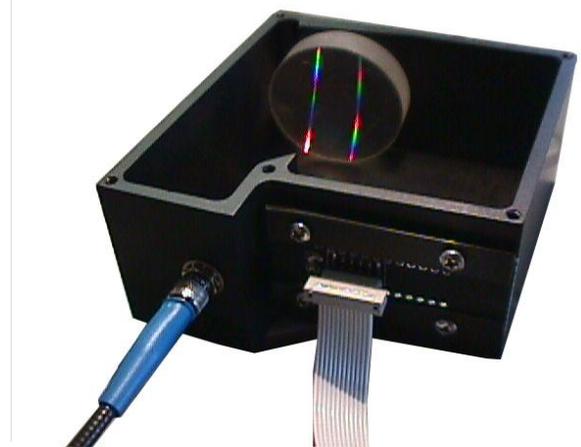


# Color Measurement Systems

## ➤ **BLACK-Comet CXR SpectroColorimeter**

- Reliably measure CIELAB & Delta E\* values
- Fiber optic Interface for sampling accessories
- Concave grating provides high sensitivity and
- Consistent resolution throughout 280-900nm range
- No mirrors for lowest possible stray light
- Extremely rugged with no moving parts
- Shock-proof durability and permanent alignment
- Miniature size, low cost, portable instrumentation
- Battery pack options for field measurements
- Simple USB2 interface to notebook & desktop PCs



High performance spectrocolorimeter has internal concave grating spectrograph optics with no mirrors or adjustments

## ➤ **Color Measurement Accessories**

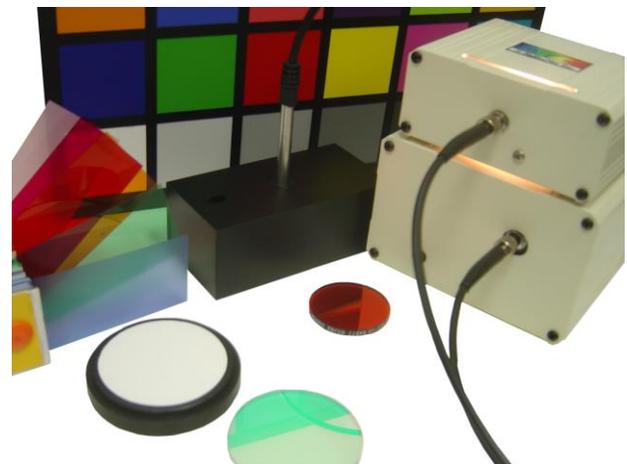
- **Liquid samples** - cuvette holder or dip probe
  - Food & Beverage
  - Industrial & Home liquids
- **Solid samples** - reflectance probe or fixture
  - Textiles
  - Plastics
- **Powder samples** - reflectance fixture
  - Pharmaceuticals
  - Raw materials



RFX-3D Reflectance fixtures have integrated halogen light source to make color measurement easy by placing samples on top

## ➤ **Versatility with Fiber Optics**

- **For use** in the lab, in the field, on-line, or at-line on the production floor
- **Color monitoring** and measurement
- **Quality Control** of incoming raw materials or finished products
- **Little to no sample prep needed!**



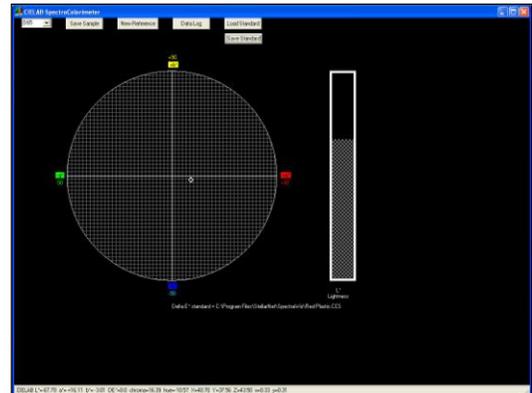
Reflectance Probe & Light source

# Color Measurement Systems

## ➤ SpectraWiz Software included free

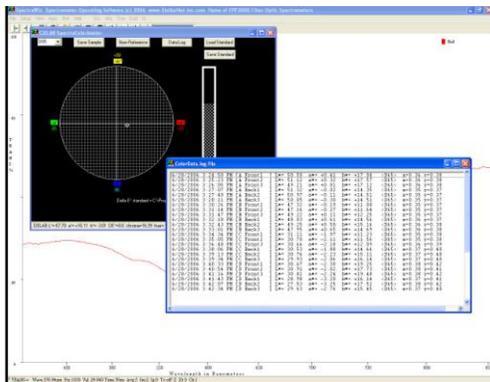
### • CIELAB color app measurements

- **L\***: Brightness (0 to 100)
- **a\***: **Green** (-a) to **Red** (+a)
- **b\***: **Blue** (-b) to **Yellow** (+b)
- **Delta E\*** color difference
- **X Y Z** tristimulus
- **xy** chromaticity
- **chroma**
- **hue**



CIELAB color measurement application

- **Select any illuminant (A-C,D50-D75,F1-F12)**
- **Compare samples to saved color standards**
- **Sample color values can be saved to text file**



Color App and Data log work with live Spectra

### ➤ Measure Delta E\* color difference

- Compare sample colors quickly & accurately
- Color variation displayed as numerical value
- Identify variations better than your eyes

### ➤ Save your own color standards for comparison

- Open color standard file for Delta E\* value measured against target sample

### ➤ Easily save color data into text log file

- Import log into Word or Excel for data management and QC reporting

Item	Description	SpectroColorimeters include SpectraWiz software free
BLACK-CXR	SpectroColorimeter	-best quality concave optics with fiber optic & USB2 interface
BLUE-Wave-VIS	SpectroColorimeter	-compact miniature optics with fiber optic & USB2 interface
GREEN-Wave-VIS	SpectroColorimeter	-lowest cost miniature optics with fiber optic & USB interface
<b>Accessories for solids or powders using a reflectance stand – samples placed o top</b>		
RS50	Reflectance standard to set white reference, 50mm diameter	
RFX-3D	Reflectance fixture with integrated light source & F600-VIS-NIR fiber optic cable	
<b>Accessories for solids or powders using a reflectance probe – samples place under</b>		
RS50	Reflectance standard to set white reference, 50mm diameter	
R600-8-VISNIR	Reflectance probe VIS-NIR, 600um fiber optic cable, 7 illuminate around 1 read	
RPH2	Reflectance probe holder. Maintains 45 or 90 degree angle variable distance (0-3/4")	
RTIP45	Black tip has 45 degree angle and slides onto reflectance probe and locks to set position	
SL1	Light source to illuminate fiber optic probe with 10,000 hour Tungsten-Krypton bulb	
SL1-Filter	Option instead of SL has color equalization filter in 0.5 inch diameter nose cone	
<b>Accessories for liquids – samples placed in cuvette or dip probe placed in beaker</b>		
SL1-CUV	Integrated light source with standard 10 mm cuvette holder and F600 fiber	
DP400	Dip probe with 400um armored fiber, includes 10mm path length tip (requires SL1 light)	
DP400-TIP	Additional tips for dip probe. Specify 2, 5, 10, or 20mm path lengths	