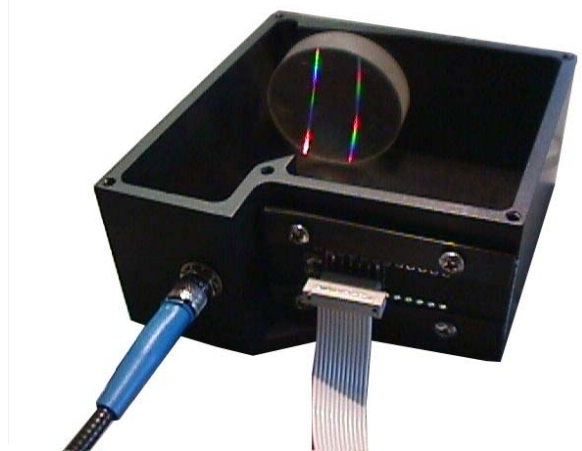


# Color Measurement Systems

## ➤ **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**

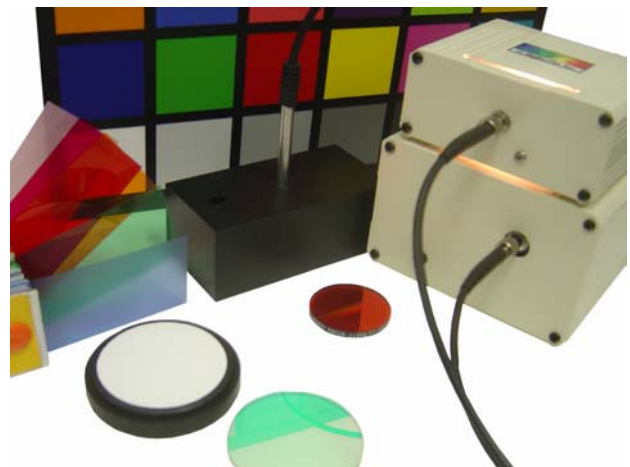
- **Liquid samples** - cuvette holder or dip probe
  - Food & Beverage
  - Industrial & Home liquids
- **Solid samples** - reflectance probe or fixture
  - Textiles
  - Plastics
- **Powder samples** - reflectance fixture
  - Pharmaceuticals
  - Raw materials



RFX 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!**



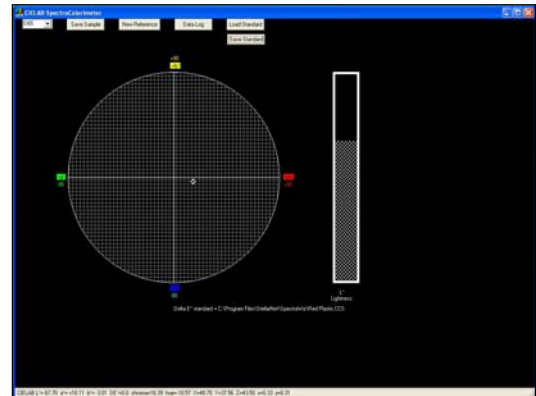
Reflectance Probe & Light source

# Color Measurement Systems

## ➤ SpectraWiz Software included free

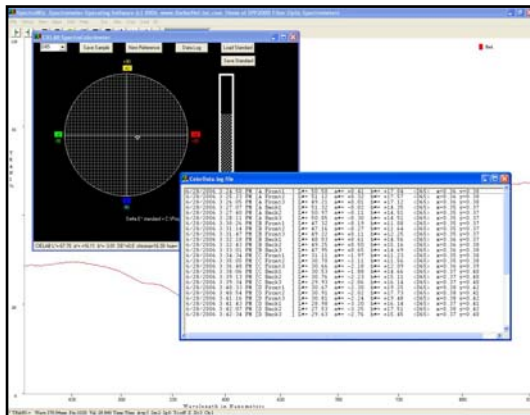
- CIELAB color app measurements

- 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           | Price  |
|---|---|--|--------|
| BLACK-CXR   | SpectroColorimeter  | -best quality concave optics with fiber optic & USB2 interface | \$2750 |
| BLUE-Wave-VIS   | SpectroColorimeter  | -compact miniature optics with fiber optic & USB2 interface    | \$2500 |
| GREEN-Wave-VIS  | SpectroColorimeter  | -lowest cost miniature optics with fiber optic & USB interface | \$1948 |
| <b>Accessories for solids or powders using a reflectance stand – samples placed o top</b> |   |  |        |
| RS50  | Reflectance standard to set white reference, 50mm diameter                                |  | \$125  |
| RFX-2   | Reflectance fixture with integrated light source & F600-VIS-NIR fiber optic cable         |  | \$625  |
| <b>Accessories for solids or powders using a reflectance probe – samples place under</b>  |   |  |        |
| RS50  | Reflectance standard to set white reference, 50mm diameter                                |  | \$125  |
| R600-8-VISNIR   | Reflectance probe VIS-NIR, 600um fiber optic cable, 7 illuminate around 1 read            |  | \$495  |
| RPH   | Reflectance probe holder. Maintains 45 or 90 degree angle variable distance (0-3/4")      |  | \$125  |
| RTIP45  | Black tip has 45 degree angle and slides onto reflectance probe and locks to set position |  | \$125  |
| SL1   | Light source to illuminate fiber optic probe with 10,000 hour Tungsten-Krypton bulb       |  | \$375  |
| SL1-Filter  | Option instead of SL has color equalization filter in 0.5 inch diameter nose cone         |  | \$595  |
| <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                 |  | \$655  |
| DP400   | Dip probe with 400um armored fiber, includes 10mm path length tip (requires SL1 light)    |  | \$1595 |
| DP400-TIP   | Additional tips for dip probe. Specify 2, 5, 10, or 20mm path lengths                     |  | \$410  |