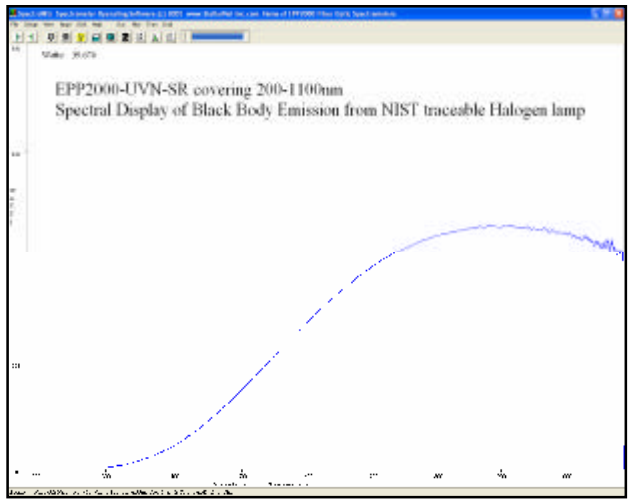
SpectroRadiometer Systems

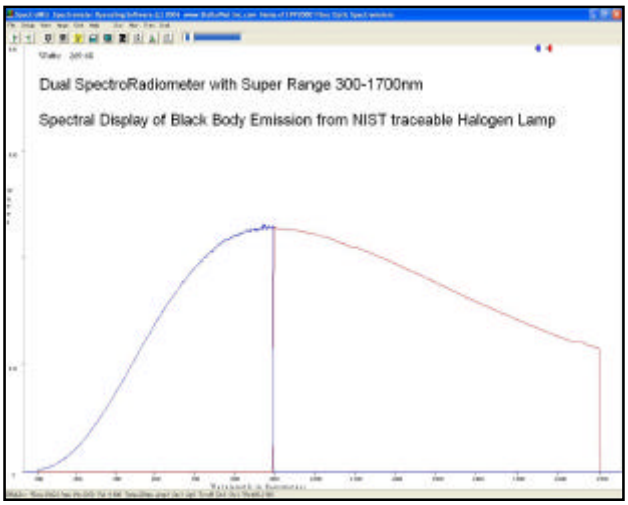
➢ UV-VIS & NIR Wavelengths 200-1700nm

- BLACK-*C*omet Concave Grating 200-850 / 280-900nm
- BLACK-*C*omet "Super Range" 200-1080 / 220-1100nm
- UVN-SR Super Range 200-1100nm CCD range
- Dual-Detector "Super Range" CCD + NIR-InGaAs

➢ Low cost - Ruggedized high performance
➢ Shock-proof - Permanently aligned
➢ Battery packs for field measurements
➢ USB-2 interface for Win32 XP/Vista/Win7



Halogen-lamp spectra - UVN-SR Spectro 200-1100nm



Halogen-lamp spectra – Dual-Detector SR 300-1700nm

➢ NIST Calibration

- **Fast delivery:** most system can be calibrated and shipped within 1 week after receipt of order.
- **Absolute calibration** accuracy within +/- 5% at detector integration setting used for calibration.
- **Certificate available** - documentation with NIST traceable serial numbers.

➢ SMA 905 Fiber Optic Accessories

- **F600 or F1000 Fiber cables and Direct attach**
- **Integrating Light Sphere** – 180° field of view
  - Standard 2" IC2 or LS4" and LS6" and larger spheres available

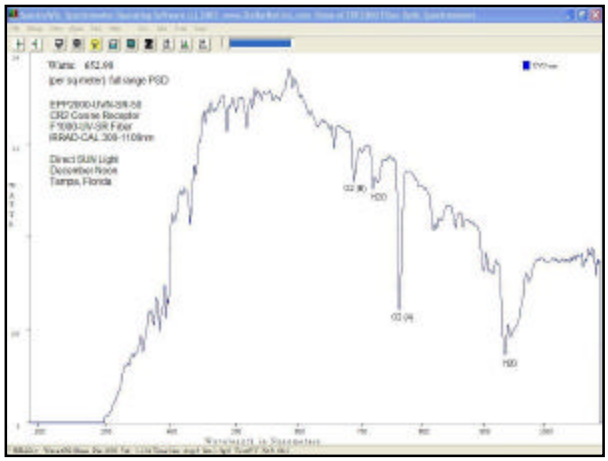
- **Cosine Receptors** – 180° field of view
  - CR2 for UV-VIS-NIR spectrometers
  - CR2-AP aperture for x10 brighter meas.
  - CR2-Lens reduces field of view to spot, enables spectral radiance calibration to measure watts/(sr m^2 nm) + candela

IC2 Integrating sphere with tripod

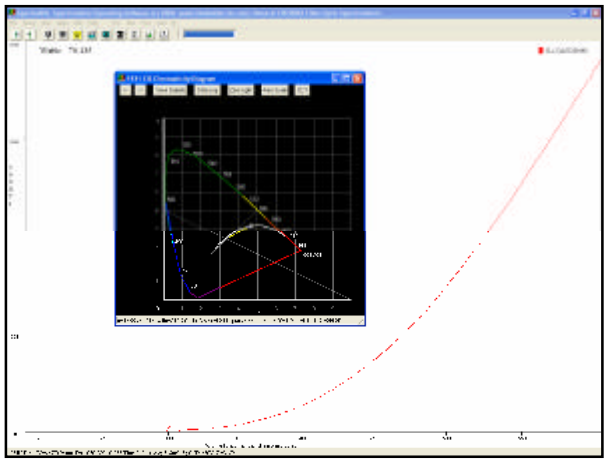
SpectroRadiometer Systems

➢ SpectraWiz Software included FREE

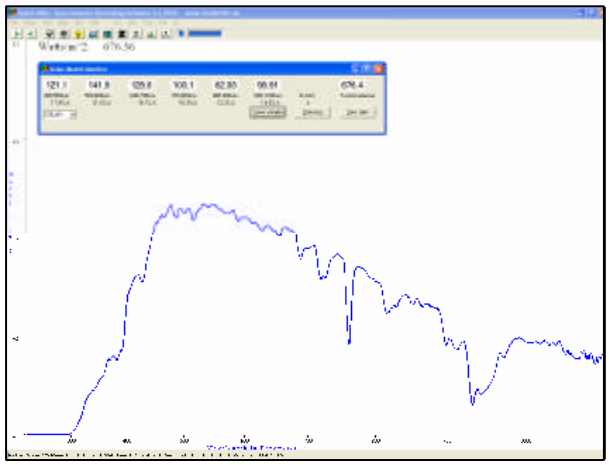
- **Absolute intensity measurements**
  - Radiant Flux – watts/nm
  - Luminous Flux –lumens/nm
  - Irradiance --watts/m^2, micro-watts/cm^2
  - lumens/m^2 -- LUX
  - moles per second -- PAR
  - Footcandles /m^2
  - xy Chromaticity, dominant wavelength, purity
  - correlated color temperature CCT and CRI
  - Set Power Spectral Density (PSD) range
- **Perform SpectroRadiometric calibrations**
- **LED / Laser / Solar / Plasma / ~ Emissions**



Direct SUN Light – December Noon – Tampa, FL



1931 xy chromaticity diagram measures color of light and CCT



Solar Spectral Match Application Panel- Classify Lamps

Item	Miniature Fiber Optic SpectroRadiometers
BLACK-*C*omet	C model for 190-850nm or CXR model for 280-900nm with 2048 pixel CCD detector
BLACK-*C*omet-SR	Super Range Dual Blaze grating C=200-1080nm or CXR=220-1100nm w/ 2048 CCD
BLUE-Wave	VIS model for 350-1050nm or UV model (+$160) 200-600nm w/ 2048 CCD
SILVER-Nova	Super Range UVN model for 200-1100nm with Dual Grating and w/ 2048 pixel CCD
DWARF-Star	NIR range for 900-1700nm with 512 pixel InGaAs PDA detector, 5nm FWHM
DWARF-Star 1024	NIR range for 1000-1700nm with 1024 pixel InGaAs PDA detector, 2.5nm FWHM
	NIST Traceable Calibrations
IRRAD-CAL	VIS-NIR for range 300-1700nm Note: actual spectrometer range can be smaller
IRRADUV-CAL	UV for range 200-600nm Note: actual spectrometer range can be larger
IRRADCAL-UVN	UV-VIS for range 200-850nm Concave grating only, dual UV+VIS calibration
RAD-CAL	Radiant power calibration (flux) in Watts/nm and Lumen/nm (for LEDs) 300-1100nm
RAD-CAL-DOC	Optional calibration certificate with equipment details and NIST traceable numbers
	Fiber Optic Accessories for SMA-905 fiber optic attachment
CR2	CR2 Cosine Receptor for UV-Vis-NIR with 1/4 inch diameter for SMA 905
CR2-AP	Screw on aperture for CR2 allows measurement of light that is 10 times brighter
F600-VIS	Armored 2 meter fiber optic cable attaches Receptor or Sphere to SpectroRadiometer
IC2	Integrating Cube (with sphere inside) 2 x2 x2” with 5/8 inch input port, 2 SMA I/Out
IS6	6” integrating sphere, 2.0” input port, SMA fiber optic output, internal white coating
IS12	12” integrating sphere that allows for internal mounting of devices for light measurement such as discrete LEDs, arrays, and bulbs. The sphere opens for simple access to mounting devices. IS12 Sphere includes lamp with data file used to calibrate the system for total flux measurements in watts/nm and lumens/nm.