

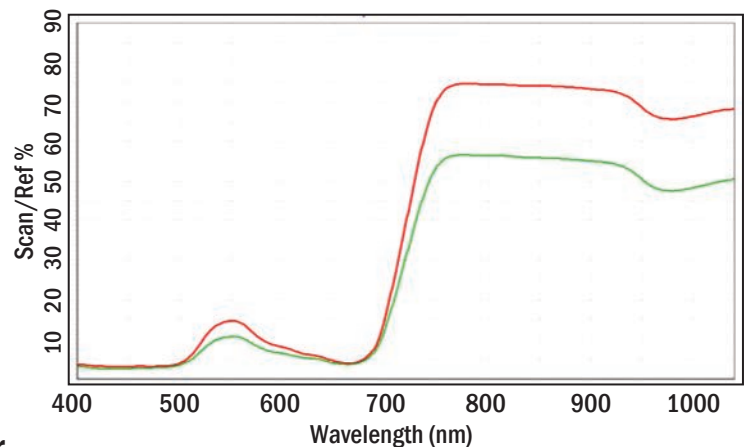
SPECTRAL EVOLUTION

Si Photodiode Array UV-VIS-NIR Spectrometers (320-1100nm)



PSP-1100 Field Portable Spectrophotometer

- Ideal for field reflectance studies
- High reliability- no moving optics to break in the field
- Autoexposure and autoshutter for easy operation
- Snap-in 2800MAH Lilon rechargeable battery for 3 hours of continuous use
- Remote sensing with wireless Bluetooth interface
- Lightweight- less than 3 pounds
- Built-in 2W tungsten-halogen source with SMA-905 connectors for use with contact probes and leaf clips



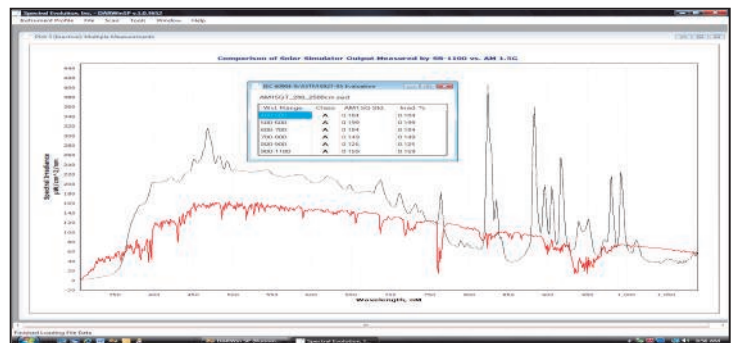
Suggested application: Leaf Reflectance

Dracaena deremensis leaf reflectance was measured using a SPECTRAL EVOLUTION PSP-1100 Spectrophotometer with optional fiber optic cable and leaf clip attachment. The graphs were generated using the easy-to-use DARWin SP Data Acquisition and Analysis software included with each PSP-1100. Red and green traces represent scans from two different regions of the same variegated leaf. DARWIN SP allows users to plot multiple scans on the same graph for easy comparison and analysis. All units feature automatic exposure control and auto-shutter for simple operation.



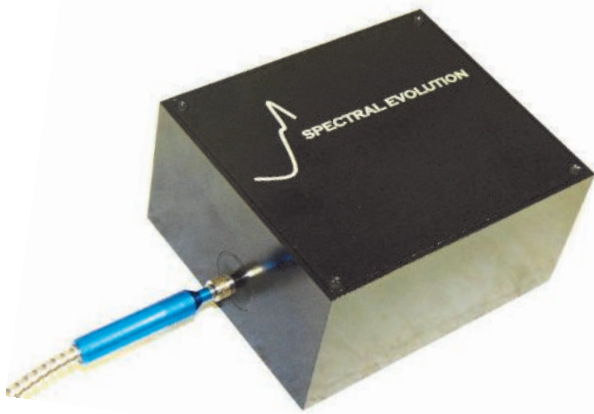
SR-1100 Laboratory Spectroradiometer

- Ideal for measuring spectral radiance and irradiance
- High reliability- no moving optics to break down.
- Complete with 1M fiber optic and right angle diffuser
- Remote sensing with wireless Bluetooth interface
- NIST traceable calibration
- Lightweight- less than 3 pounds
- Autoexposure and autoshutter for easy operation



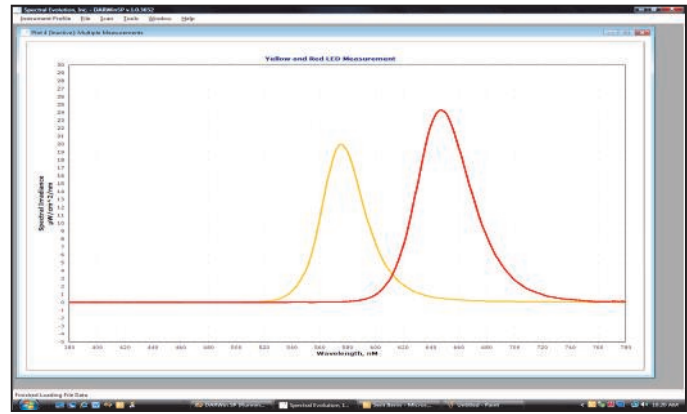
Suggested application- Solar Measurement

Validate the class of any commercially available continuous solar simulator using the SR-1100 Spectroradiometer as per IEC60904-9/ASTM E927-05. The graph was generated using the easy-to-use DARWin SP Data Acquisition and Analysis software included with each Spectrometer. The red trace demonstrates the simulated solar graph of AM1.5 Global Tilt as per ASTM specification (E892). The black trace shows the actual measurement of irradiance as detected using the SR-1100 over its full spectroradiographic range (320-1100nm). Built-in software routines automatically provide class status as a function of wavelength (inset).



LF-500 / LF-780 Lab Spectrometers

- Small size for easy incorporation into OEM equipment & lab applications
- Lightweight- less than 2 pounds
- Autoexposure and autoshutter for easy operation
- High reliability- no moving optics to break down
- SMA-905 connectors for simple set-up



Suggested Application: LED Measurement

Rapid one-touch measurements of light emitting diodes can be obtained using the LF-500 Spectrometer (with optional calibration) and the companion DARWin SP Data & Acquisition Module included with each unit. Here, the LF-500 was used to measure irradiance levels of commercially available red LEDs (red trace) and yellow LEDs (yellow trace) in two separate experiments. Easy pull-down menus in the software allow users to superimpose graphs for convenience.

	PSP-1100	SR-1100	LF-500	LF-780
Spectral Range	320-1100nm	320-1100nm	320-1100nm	380-780nm
Spectral Resolution	3.2nm	3.2nm	3.2nm	2.0nm
Spectrometer Type	Fiber Optic Input, Diffraction Grating	Fiber Optic Input, Diffraction Grating	Fiber Optic Input, Diffraction Grating	Fiber Optic Input, Diffraction Grating
Slit	50µm	50µm	50µm	50µm
Detector Type	512 element Si Array	512 element Si Array	512 element Si Array	512 element Si Array
A/D Converter	16 bit	16 bit	16 bit	16 bit
λ Reproducibility	0.1nm	0.1nm	0.1nm	0.1nm
λ Accuracy	0.5nm	0.5nm	0.5nm	0.5nm
Integration Time	7.5-2000ms	7.5-2000ms	7.5-2000ms	7.5-2000ms
Calibration	N/A	Factory calibrated for irradiance using NIST traceable source	N/A	N/A
Internal Battery	2800mAh Lilon snap-in battery with charger	N/A	N/A	N/A
Internal Light Source	2W Tungsten Halogen lamp- with high & low settings	N/A	N/A	N/A
Optional accessories	Leaf clips, shoulder straps, spare batteries & more- please inquire	Includes permanently mounted 1/2 meter fiber optic and right angle diffuser	Fiber optics, illuminators, cuvette & filter holders & more- please inquire	Fiber optics, illuminators, cuvette & filter holders & more- please inquire
Shutter for dark scans	Yes	Yes	Yes	Yes
Automatic exposure	Yes	Yes	Yes	Yes
Software included	DARWin SP Data Acquisition	DARWin SP Data Acquisition	DARWin SP Data Acquisition	DARWin SP Data Acquisition
Power	6-12V; 0.5W	6-12V; 0.5W	6-12V; 0.5W	6-12V; 0.5W
Dimensions	5.5" x 2.5" x 6.5"	5.5" x 2.5" x 6.5"	4" x 2" x 5"	4" x 2" x 5"
Weight	less than 3 pounds	less than 3 pounds	less than 2 pounds	less than 2 pounds
Interface	USB, Bluetooth	USB, Bluetooth	USB	USB



90 Sutton Street ♦ Unit 4
 North Andover, MA 01845 USA
 Tel: 978 687-1833 ♦ Fax: 978 945-0372
 Email: sales@spectralevolution.com
www.spectralevolution.com