

SPF SOLUTIONS FOR TODAY...

For over 50 years, Solar Light Company, LLC's suite of test and measurement solutions have been relied upon by the world's SPF testing laboratories for their unparalleled quality, accuracy, and reliability to measure sun protection products.



...AND SPF SOLUTIONS FOR TOMORROW

We will continue to support you with our current products and new capabilities to meet future regulatory requirements that transform productivity to accelerate time-to-market for crucial sun protection products vital to human health.



VALIDATION & COMPLIANCE



PRE-IRRADIATION SOLAR SIMULATORS



IN VITRO SPF ANALYZERS



IN VIVO SPF SOLAR SIMULATORS



NON-INVASIVE SPF SYSTEMS

SOLAR[®]
L I G H T



Solar Light Company, LLC, designs and manufactures precision solar simulators, meteorological instruments, sources, standards and calibration services to assess the impact of sunlight on human health and the environment. Areas of focus include SPF measurement, materials testing, monitoring UV disinfection systems, atmospheric monitoring and solar cell testing.

Solarmeter[®] by Solar Light Company, LLC, manufactures NIST-Traceable meters to monitor lamp irradiance and aging for UV sterilization, reptile husbandry, indoor tanning, red/blue light phototherapy, UV curing and UV Index.

Glenside, PA USA | SolarLight.com | SolarMeter.com

OPTRONIC[®]
L A B O R A T O R I E S

Optronic Laboratories, LLC, designs and manufactures high performance, optical radiation measurement systems, sources, standards, and calibration services to improve the way the world measures light. Areas of focus include aerospace and automotive lighting, NVIS measurements, display measurement, LED, and photobiological hazard testing.

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HYBRID DIFFUSE REFLECTANCE SPECTROSCOPY (HDRS)

The next generation of SPF Test and Measurement Solutions

SOLAR[®]
L I G H T

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ABOUT HDRS

Hybrid Diffuse Reflectance Spectroscopy (HDRS) non-invasive SPF methods, are currently being evaluated as an alternative to *in vivo* SPF test which reduces the ethical and safety considerations present with erythema *in vivo* methods. This new technology can be used today as an *in vivo* screening tool for development purposes. As the Global Leader in providing SPF Measurement Solutions, Solar Light Company, LLC, has developed both monochromatic and polychromatic DRS solutions with SPF product research, design and formulation and clinical testing in mind. In both techniques, a unique light guide array interface ensures repeatable and sensitive illumination and collection of the measured diffuse reflectance intensity to yield diffuse reflectance UVA-PF and SPF values.

MONOCHROMATIC

Monochromatic DRS utilizes two synchronized monochromators - a monochromatic source to illuminate the skin, and the diffusely reflected monochromatic light is measured with a high sensitivity photomultiplier detection system.

POLYCHROMATIC

Polychromatic DRS utilizes a polychromatic source to illuminate the skin, and the diffusely reflected polychromatic light is measured with a high-sensitivity photomultiplier detection system.

V.S.

MONOCHROMATIC		POLYCHROMATIC
Xenon arc lamp with dual-sync monochromators and PMT detection	TECHNOLOGY PLATFORM	Xenon arc lamp with broadband UVA spectrum output and PMT detection
Provides spectral shape and magnitude information of the sunscreen absorbance on human skin in the UVA region	INFORMATION PROVIDED	Provides magnitude information of sunscreen absorbance on human skin in the UVA region
Scan requires 30 seconds each - 3-5 locations recommended scans per test site	ANALYSIS TIME	Individual scan requires 5 seconds each - 9 locations recommended per test site - provides instant feedback on spreading uniformity
Built-in program for data analysis - QA analysis of data - importation of <i>in vitro</i> spectra, calculation of SPF, UVA-PF and CW - exportation of data results to Excel	DATA ANALYSIS	Built-in program for QA data analysis - importation of <i>in vitro</i> spectra, calculation of SPF, UVA-PF and CW - exportation of data results to Excel
Ideal for in-depth spectral analysis "on skin" - individual wavelength analysis	USE CASE	Ideal for clinical testing laboratory use - ease of data gathering and speed of data acquisition
Requires external UV transmittance analyzer for hybrid calculations of SPF and CW analysis	HYBRIDIZATION INFORMATION NEEDED	Requires external UV transmittance analyzer for hybrid calculations of SPF and CW analysis
32 kgs - 0.6 x 0.6 x 0.6 m ³	WEIGHT - SIZE	11 kgs - 0.3 x 0.6 x 0.6 m ³

To learn more about HDRS and Solar Light's family of gold standard SPF test and measurement solutions you can download "A Guide to Polychromatic and Monochromatic Diffuse Reflectance Spectroscopy for Analysis of Sunscreen Protection for Human Skin" at www.SolarLight.com/HDRS or request a hard copy at HDRS@SolarLight.com.