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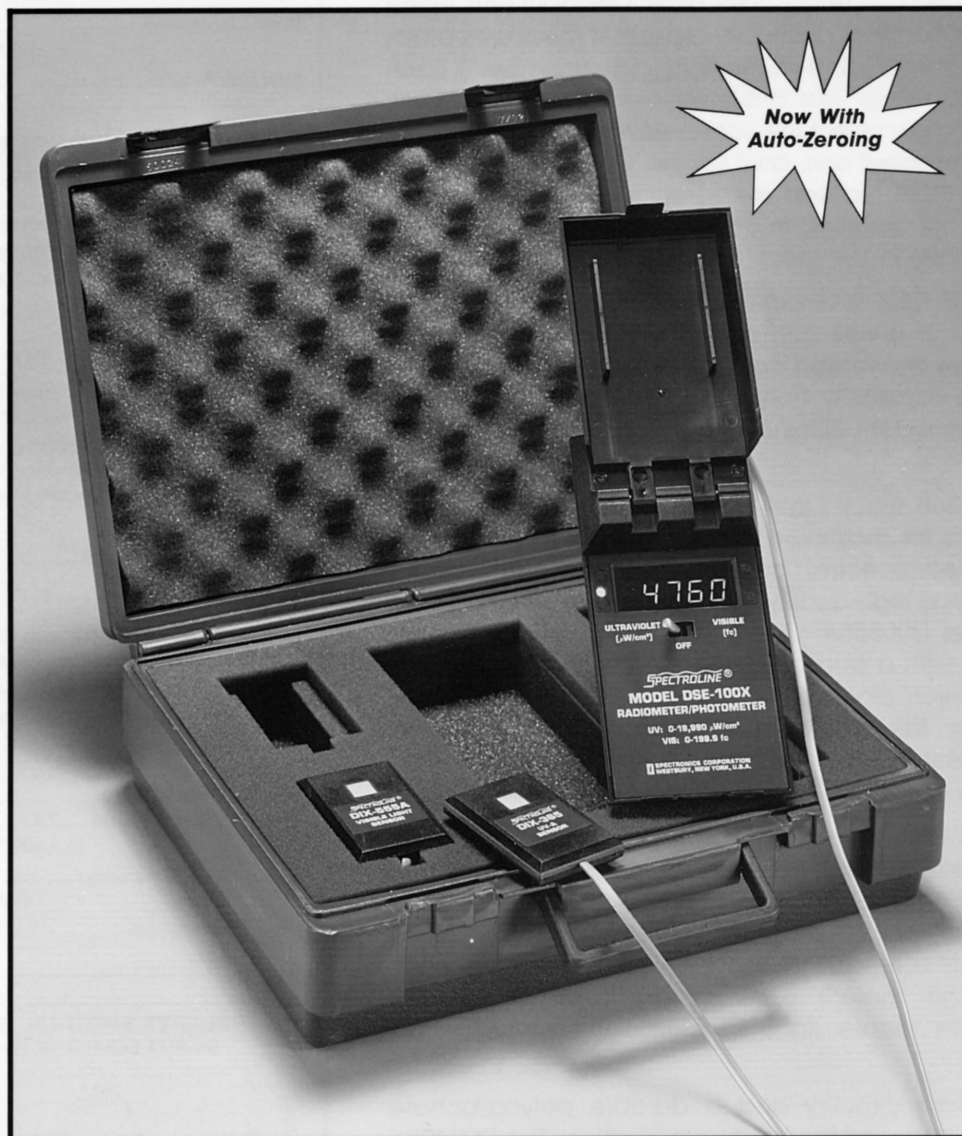
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SPECTROLINE

DSE-100X Radiometer/Photometer Measures Both Visible and Black Light



*Finally, one convenient meter can assure your compliance with MIL and ASTM standards for **both** visible and black light. Perfect for NDT and QC inspection, the cost-effective DSE-100X does it all. It provides readings in footcandles **and** microwatts per square centimeter—with **unmatched** accuracy and reliability!*

*Manufactured for high performance by Spectronics Corporation...
the world leader in UV technology since 1955*

The Spectroline Model DSE-100X Radiometer/Photometer is uniquely designed to measure *both visible and black light* (long wave UV). It features an unmatched overall accuracy of better than $\pm 5\%$, traceable to NIST, over its *entire* measurement range. This versatile system assures compliance with both MIL and ASTM standards, making it a necessity for effective FPI and MPI. It is approved by GE, Pratt & Whitney, Rolls-Royce, Boeing, the U.S. Navy and many other companies.

Central to the system is the DSE-100X digital readout unit. When used with two separately available sensors, it measures black light (in microwatts/cm²) and visible light (in footcandles*). Each interchangeable sensor has a convenient 3-foot cord with a modular jack. Simply select the sensor which suits your needs, plug it into the readout unit, and set the wavelength selector switch. The DSE-100X features auto-zeroing and ultra-reliable electronic circuitry, resulting in improved linearity and better signal-to-noise ratio in the measurements.

Because the DSE-100X is direct reading on both the UV and visible scales, it is unlike competitive meters which require measuring range conversion computations. With its simplified dual-measuring capability, from 0-19,990 $\mu\text{W}/\text{cm}^2$ or 0-199.9 fc, this cost-effective system eliminates the need for two separate meters.

The Model DIX-365 Black Light Sensor is calibrated by pyro-electric methods for maximum precision. To ensure the most closely controlled spectral coverage possible, this sensor uniquely features a high-quality interference filter. The *new and improved* Model DIX-555A Visible Light Sensor is calibrated photometrically with a quartz-halogen lamp and has a spectral response which closely follows the CIE relative photopic luminosity curve. The electro-optic circuitries in the sensors provide excellent signal-to-noise ratio. A certificate of calibration is provided with each sensor and readout unit.

For ease of operation, the DSE-100X readout unit features a simple-to-read 3 1/2/4 1/2 digit LED display for direct visible and black light readings that are easy to see, even in low levels of ambient light. Perfect for Type 1, "Darkened Booth" inspections, the DSE-100X has a resolution of 1 part in 1,999. Unlike competitive units, this meter's extraordinary sensitivity assures compliance with visible light specifications to within 0.1 footcandle.

Reliable solid-state circuitry and a durable polycarbonate housing ensure long and trouble-free operation. The DSE-100X is powered by four "AA" alkaline or NiCad batteries and features a battery-level indicator light for fail-safe usage. It has excellent linearity and cosine response. The optional Model DR-75 Carrying Case holds one readout unit and up to four sensors.

The DSE-2000 System provides everything you need for visible and black light measurements. It contains the DSE-100X readout unit along with the DIX-365 and DIX-555A sensors, all packed inside the DR-75 plastic carrying case.

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Technical Data

Readout Unit Specifications

Display.....	4 1/2 digit LED for black light 3 1/2 digit LED for visible light
Conversion Rate.....	3 readings per second nominal
Resolution.....	1 part in 1999
Temperature Coefficient.....	$\pm (0.025\% \text{ of reading} + 0.1 \text{ digit}) / ^\circ\text{C}$ (0 to 50°C)
Case Dimensions.....	7 1/4 L x 3 1/2 W x 2 "H (18.4L x 9.0W x 5.1cmH)
Total Net Weight.....	1 lb. (0.45kg)

Sensor Head Specifications

Overall Accuracy.....	Better than $\pm 5\%$ with reference to NIST standards
Spectral Ranges.....	320-400nm for black light 380-760nm for visible light
Measuring Ranges.....	0-19,990 $\mu\text{W}/\text{cm}^2$ for black light 0-199.9 fc for visible light
Resolution.....	10 $\mu\text{W}/\text{cm}^2$ for black light 0.1 fc for visible light
Filters.....	High-quality, vacuum-deposited, interference type for black light. Color band-pass filter** for visible light.
Angular Response.....	Cosine
Temperature Coefficient.....	$\pm 0.20\% / ^\circ\text{C}$ (0 to 50°C)

Power Requirements:

- 4 nonrechargeable "AA" size, 1.5 volt Alkaline battery cells are included as standard
- 4 rechargeable "AA" size, 1.25 volt NiCad battery cells and recharger are available as an option

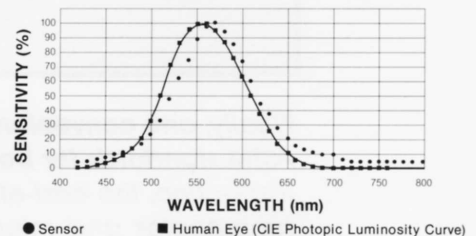
Reference Conditions:

- Temperature.....23°C $\pm 1^\circ\text{C}$
- Relative Humidity.....30 to 60%
- Atmospheric Pressure.....575 to 800mm Hg to 7,500 ft. (2,286m) altitude

Sensor Head Dimensions.....3L x 2W x 1/2"H
(7.6L x 5.1W x 1.3cmH)

Sensor Cord Length.....3 ft. (0.9m)

RELATIVE SPECTRAL RESPONSE DIX-555A SENSOR VS. HUMAN EYE



*The DSE-100X/L and DIX-555A/L versions are also available, which provide visible light readings in lux rather than footcandles.

**Corrected to match the luminosity of the human eye.

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