



ACS Material Equipment Series

MetriTec™ Illuminance Meter

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I. Product Overview

An illuminance meter, also known as a light meter, lux meter, or illumination meter, is a specialized instrument designed to measure the amount of light falling on a surface. It provides readings in lux (lx) or foot-candles (fc), enabling accurate evaluation of lighting conditions for diverse applications, including workplace safety, photography, architectural design, and industrial lighting assessments.

Modern illuminance meters are available in various models, including spectral illuminance meters, which analyze light across different wavelengths for precise measurements, and standard lux meters, which offer general light intensity readings. Advanced models often include features such as data logging, multiple measurement modes, and Bluetooth connectivity, making them ideal for scientific research and professional use.

ACS Materials offers a range of illuminance meters under the MetriTec™ Light Transmittance Meter Series, which incorporates many of these advanced features and is suitable for a wide range of applications.

II. Product Features of the MetriTec™ Light Transmittance Meter Series

MetriTec™ Illuminance Meter M330 is a versatile instrument designed with a spectral sensor. It is used for measuring illuminance, UV index, flicker frequency, standard deviation of color matching (SDCM), color rendering index (CRI), correlated color temperature (CCT), blue light hazard ratio, temperature, and humidity in various scenarios such as lamps and lanterns lighting, outdoor lighting, greenhouse lighting, and stage lighting. The instrument also can display the spectral curve, which helps identify the type of lighting fixture. The instrument also has a plant illumination mode, which is specially designed for plant growth environments. It can accurately measure photosynthetic photon flux density (PPFD), PPFD (Blue), PPFD (Green), PPFD (Red), Yield Photon Flux Density (YPFD), chlorophyll-a, and chlorophyll-b, helping users understand and optimize light management during the planting process and improve plant growth efficiency. It is suitable for home gardening, plant factories, greenhouses, agricultural research, plant lighting, and other fields.

In normal mode, the instrument measures parameters like illumination, CCT, flicker frequency, UV index, SDCM, CRI, temperature, and humidity to evaluate lighting characteristics. In plant mode, it accurately measures PPFD, YPFD, chlorophyll-a, and chlorophyll-b to optimize plant lighting for better quality and yield.

- Measurement of Lux, CCT, UVI and other parameters
- Multi-mode, multi-parameter measurement for broader applications
- Equipped with plant mode · accurately detect PPFD
- 1,000,000Lux ultra-large range design
- High precision, pass authoritative metrology inspection



MetriTec™ Illuminance Meter M331 is a multifunctional flaw detection light meter, specifically designed for non-destructive testing (NDT). The instrument is equipped with high-precision UV filter and professional UV detector. It can simultaneously measures UV power, visible light illuminance, and correlated color temperature (CCT). It meets the standards for non-destructive testing, penetrant testing, and magnetic particle testing.

UV power and visible light illuminance, two important parameters of NDT lamp, can be measured at the same time to ensure that the lamp can play an effective role in magnetic particle testing and penetration testing.

- Specifically designed for NDT to measure its UV power and visible light illuminance
- Specialized for non-destructive testing (NDT)
- 1,000,000 Lx visible light, 200,000 $\mu\text{W}/\text{cm}^2$ UV ultra-large range design
- Adopt spectral sensor for high accuracy



III. Product Specification

Type/ SKU	Description	Key Features	Applications
MetriTec™ Illuminance Meter M330 / ELILM330	Measures light intensity across different wavelengths, providing spectral data.	- High precision - Measures color temperature & spectrum - Cost-effective	- Normal and plant modes - Data logging - LED and OLED lighting analysis
MetriTec™ Illuminance Meter M331 / ELILM331	Measures ultraviolet (UV) light intensity, often used for UV-A applications.	- Specialized for non-destructive testing (NDT)	- Magnetic Particle Testing - Penetration Testing

IV. Product Application

Illuminance meters are widely used across various industries to measure light intensity and ensure optimal lighting conditions. Below are some of the key applications:

1. Indoor and Outdoor Lighting Assessment

- Ensures proper illumination in workplaces, homes, and public spaces.
- Helps comply with lighting standards such as OSHA and ISO 8995.
- Used in urban planning for street lighting efficiency.

2. Industrial and Commercial Applications

- Monitors light levels in manufacturing plants to improve worker safety and efficiency.
- Assesses lighting in warehouses, shopping malls, and offices for energy savings.
- Ensures proper lighting in hospitals and laboratories for accurate operations.

3. Horticulture and Plant Growth Monitoring

- Measures PPFD (Photosynthetic Photon Flux Density) to optimize plant growth.
- Helps control greenhouse lighting conditions for different plant species.
- Measures chlorophyll levels to monitor plant health.

4. Penetrant Testing and Magnetic Particle Inspection

- Used in non-destructive testing (NDT) to detect surface and subsurface defects in metals and materials.
- Ensures proper UV-A intensity for fluorescent penetrant inspection (FPI) and magnetic particle inspection (MPI).

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