

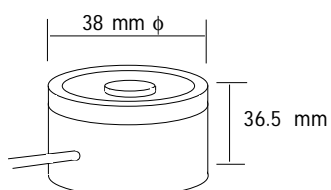
R203UV RADIOMETER

The R203UV radiometer has been designed for applications such as NDT with magnetic particle and dye penetrant fluorescing inks and the photostability testing of pharmaceutical products which require accurate measurements of both illuminance and ultra violet A irradiance.

FEATURES

Compact and robust, ideal for field or laboratory use.
Easy to operate with μ -processor control.
Spectral response filters give accurate measurements in both natural and artificial lighting conditions.
Auto-ranging detector amplifier
Direct reading for both spectral units.
High accuracy cosine corrected diffuser assemblies.
Large 4½ digit LCD display.
RS232 output for connection to PC
Battery operation.

LABORATORY DETECTOR (SD222) WITH INTERCHANGEABLE FILTER RINGS

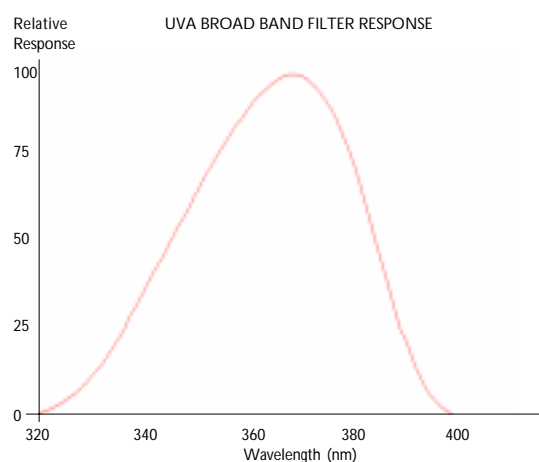


APPLICATIONS

UVA and ambient light levels in NDT applications
Measurement of photostability testing cabinets
Illumination engineering.

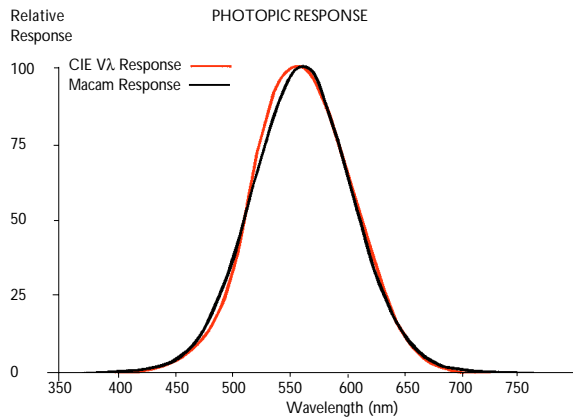
OPTIONS / ACCESSORIES

Levelling plate.
Waterproof detector options
Extension cable (5 to 25m).
Sample PC software.



ULTRA VIOLET 'A' IRRADIANCE

The R203 UV is supplied with a broad band ultra-violet A response filter ring with a cosine angular response input diffuser. For greater accuracy the UVA calibration of the radiometer is set to match a spectroradiometric measurement for a specified light source



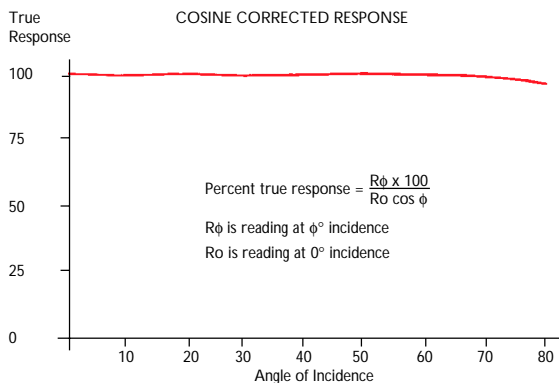
PHOTOMETRY & ILLUMINANCE

Photometry is the measurement of light as the human eye responds to it. The Commission Internationale de L'Eclairage (CIE) standard response function, V_λ known as the CIE Photopic Luminous Efficiency Curve is shown on the graph together with the R203UV's photopic filter response.

Illuminance is measurement of the photopic flux falling on a surface. Units of illuminance are the Lux, lumens per square metre,

COSINE CORRECTION

Light incident on a surface may come from all directions and it is necessary to measure the integrated illuminance from the sources in the hemisphere normal to the detector. Accurate measurements will only be obtained if the detector has an angular response which closely follows Lambert's Cosine Law. Macam filter ring supplies cosine corrected assemblies accurate to $\pm 3\%$ to 70° from normal incidence



SPECIFICATION

The Macam model R203UV radiometer comprises of a R203X display unit with lithium battery, SD222 laboratory detector and integral amplifier, UVA Cos-112 filter ring, CIE Cos -112 illuminance filter ring, RS232 interface cable, calibration certificate and CC-4 carrying case.

DISPLAY UNIT

| | |
|------------------------------|--|
| Model: | R203X |
| Design: | Portable μ processor controlled meter with back lit lcd display, auto or manual ranging, RS232 simple key pad operation, battery powered. |
| Ranges: | 0 - 19.999; 0 - 199.99; 0 - 1999.9; 0 - 19999; 0 - 19999 x 10 |
| Units: | Lux; $W.m^{-2}$; $mW.m^{-2}$ |
| Accuracy: | $\pm 1\%$, ± 1 digit |
| Keypad Operations: | Power On / Off Hold display toggle action Zero offset Auto or manual ranging Units selects filter ring calibration Linear, Integrate, Average, Min & Max recording. |
| Display: | $4\frac{1}{2}$ digit lcd display with 10mm high numerals. |
| Power Supply: | PP3 Lithium battery. Operating life 50 to 100 hours. |
| Photometric calibration: | Illuminant A source. |
| UVA Radiometric calibration: | Spectroradiometric calibration with specified UVA lamp. |
| Calibration standards: | Traceable to NPL optical metrology standards. |
| Calibration accuracy: | $\pm 5\%$ visible $\pm 7.5\%$ UVA. |
| Dimensions | 80mm x 45mm x 150mm. |
| Weight | Approx. 0.3 Kg. |

LABORATORY DETECTOR

| | |
|------------|--|
| Model: | SD222 |
| Design: | Silicon photodiode with integral detector amplifier and signal to frequency converter. Aluminium housing with removable filter rings and 1m cable. |
| Linearity | Better than 1% through ranges |
| Dimension: | 38mm ϕ x 36.5mm with a filter ring fitted |

ILLUMINANCE FILTER RING

| | |
|-------------------|-------------------------|
| Spectral Response | Ref photopic graph |
| Angular Response | $\pm 3\%$ to 70° |

UVA IRRADIANCE FILTER RING

| | |
|-------------------|-------------------------|
| Spectral Response | Ref radiometric graph |
| Angular Response | $\pm 3\%$ to 70° |

Macam

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