



NVC150 Night Vision Compatibility Testing

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NVC150 Night Vision Compatibility Testing

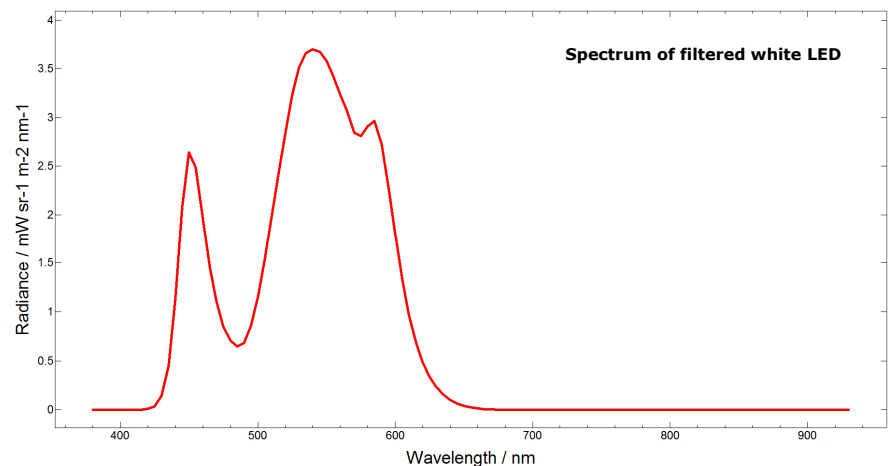
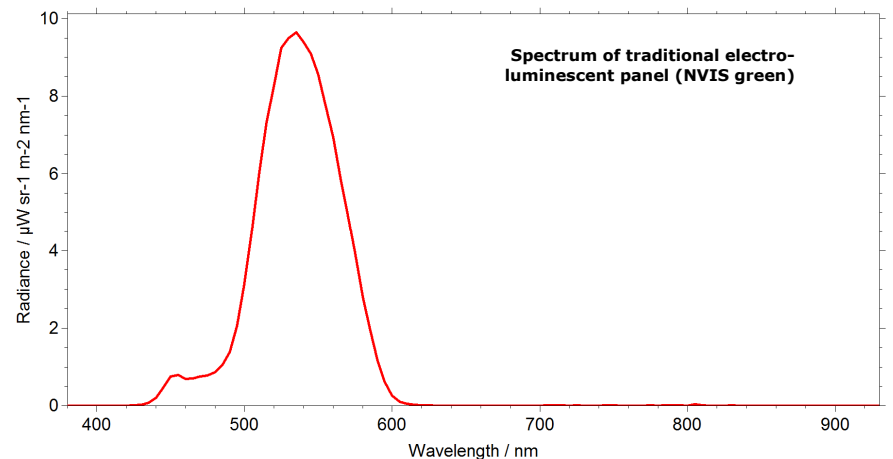
The Bentham NVC150 is a complete and accurate solution for night vision compatibility testing.

Configured as a spectroradiometer, the NVC150 is used in the testing of interior lighting (MIL STD 3009) and exterior lighting (SAE ARP5825, STANAG 1445 etc) whilst as a spectrophotometer, it is used in the testing of NVIS filter transmission.

In both cases, the superlative performance of the NVC150, including excellent stray light rejection and unparalleled sensitivity, ensures accurate NVIS filter characterisation

Key features include:

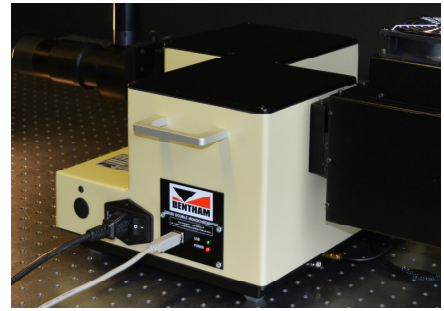
- Double monochromator for superlative stray light performance
- Thermoelectrically cooled photomultiplier detector (S20 photocathode)
- Optional spectroradiometer and spectrophotometer modes
- Range of telescope input optics
- Easy to use Windows control
- Reports colourimetric parameters, luminance, NR_a and NR_b



System Overview **IDR150**

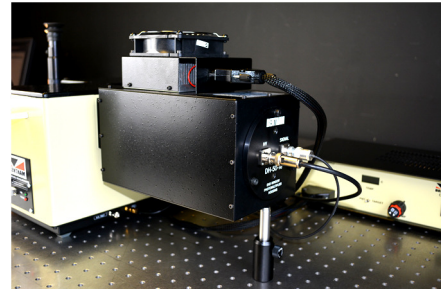
The IDR150, incorporating a compact double monochromator with all detection electronics integrated to the base of the unit, combines accuracy with the convenience of an easily transportable measurement system.

The throughput and stray light performance of IDR150 is optimised in this application through careful choice of diffraction gratings and filters.



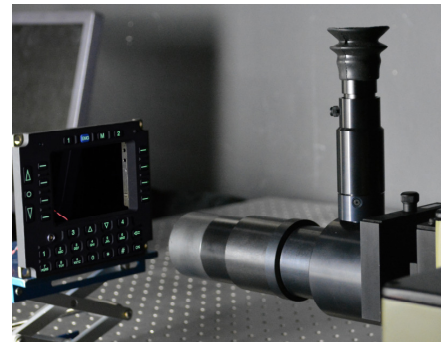
DH50-TE & CPS50

To ensure correct reporting of NR_a and NR_b , the measurement must not be limited by the instrument noise equivalent radiance. Highest sensitivity is ensured in employing a thermoelectrically cooled end-window multi-alkali photomultiplier (S20 photocathode). Whilst the gain of the PMT can be maximised, the attendant increase in dark current is suppressed by operation at -20°C



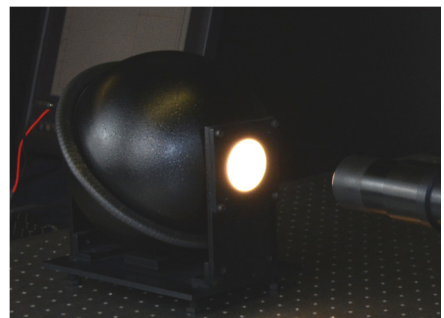
TEL301

The TEL301 direct view telescope is used to define the measurement geometry in the measurement of spectral radiance and spectral radiant intensity. A range of lenses and apertures are available to select the measurement area, from a character on a panel to an entire exterior luminaire.



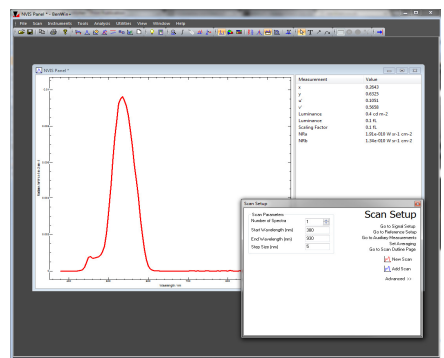
SRS8 Radiance Standard

Comprised of a quartz halogen source in a barium sulphate coated integrating sphere, the SRS8 spectral radiance standard provides a stable source having excellent uniformity, a pre-requisite of a spectral radiance standard. Calibration is provided traceable to PTB, Germany.



Software Control

The NVC150 is fully automated through the USB interface, and controlled by the Benwin+ Windows® software, allowing easy system calibration, source measurement, and the automatic reporting of NVIS parameters including colourimetric parameters, NVIS colour region, NR_a and NR_b .



Specification

Spectral range of operation	380-930nm
Spectral data interval	5nm
Spectral bandwidth (FWHM)	5nm
Wavelength accuracy	± 0.3nm, ± 0.05nm with software correction
Wavelength reproducibility	± 0.05nm
Resolution	0.5nm
Stray light rejection at 2.5 FWHM	10 ⁻⁸
Minimum working distance	25mm with Macro lens
Maximum working distance	50m with TL1 lens
Typical NER	10 ⁻¹⁰ W.m ⁻² .sr ⁻¹
Bench space required	1m deep x 2.5m wide typical including working space
Computer requirements	OS: Windows 7 or newer (32-/64-bit) Minimum hard disk space: approx. 100MB Minimum RAM: 2 GB 1 x USB 2.0 ports
Services requirements	2 x 110/220V AC mains sockets, 400VA total
Options	
Extension to 1100nm (or greater) for measurement of IR LEDs	Inclusion of second exit port and DH_Si silicon photodiode
Transmission measurement of filters	Inclusion of IL1 general illuminator and filter holder, to be mounted on monochromator entrance slit

