

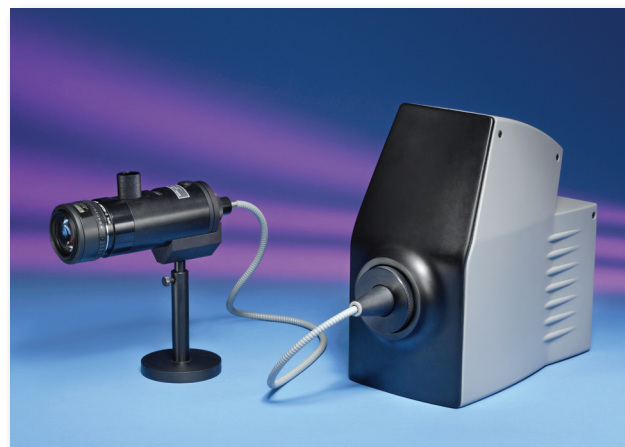
RadOMA-NVIS Spectroradiometer

PRODUCT SUMMARY

Gamma Scientific announces the GS-1290-NVIS Series, an advanced, high-speed spectroradiometer that combines the leading-edge sensitivity of backside-thinned CCD detector technology with Gamma Scientific's industry-renowned RadOMA opto-electrical platform. The GS-1290-NVIS is specifically configured for ANVIS testing of cockpit displays and lighting. It exceeds all requirements outlined in MIL-L-85762A and MIL-STD-3009

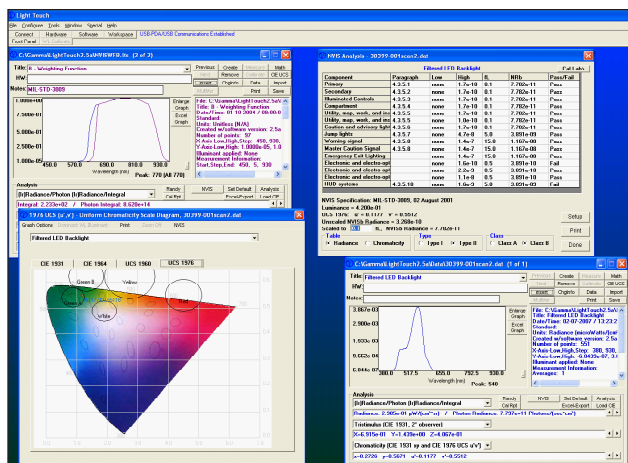
The GS-1290-NVIS represents the state-of-the-art in speed and accuracy in a commercially available spectroradiometer. Measurements that required a few minutes in the past with scanning grating spectroradiometer systems can now be performed in a matter of seconds.

Part of the RadOMA platform family – a durable opto-electrical design proven in hundreds of facilities world-wide – the GS-1290-NVIS shares the same feature-rich functionality as its siblings which includes: automatic dynamic range optimization that ensures system electrical gains are always set for the best results; USB 2.0 interface; and Gamma Scientific's powerful 32-bit Light Touch spectral data acquisition and analysis software package. The GS-1290-NVIS configuration covers 380-930 nm and includes 6 different field-of-view apertures



FEATURES

- Measurements down to 0.00015 cd/m^2
- Exceptional accuracy via high-resolution bandwidth coverage
- Near-real-time measurement
- High resolution: 0.6 nm/pixel
- Spectral range 380-930 nm
- 6 aperture telescope with direct or fiber-optic coupling
- Optional X-Y translation stage
- USB 2.0 interface
- Windows-based control/analysis software
- NIST-traceable accuracy.
- Self-calibrated The system never has to be returned for calibration.
- Direct Excel export for data and graphs
- Pass/Fail reporting per MIL specifications
- Zoomable CIE Chromaticity plotting with NVIS type outlines



Gamma Scientific's powerful Light Touch Analysis Software



GAMMA SCIENTIFIC

8581 Aero Drive, San Diego, CA 92123 Ph (858) 279-8034 Fax (858) 576-9286
Website: www.gamma-sci.com

RadOMA-NVIS Spectroradiometer

SPECIFICATIONS

Detector and Wavelength Specifications

Wavelength Range	380-930 nm
Wavelength Resolution	0.6 nm
Half Power Bandwidth	10 nm
Wavelength Repeatability	0.02 nm
Wavelength Accuracy	< 1 nm
Stray Light (HeNe Laser Line)	Less than 1×10^{-4}
Polarization Error	Less than 1%
Shutter	Electric Operation
Electrical Resolution	16-Bit
Luminance Accuracy (2856 K)	+/- 1% of calculated luminance
Color Accuracy (2856 K)	CIE 1931xy x=+/- 0.0005 y=+/- 0.0005
Measurement Aperture Sizes	5, 2, 1, 0.5, 0.33, and 0.1 degree standard
Lens	Standard 50 mm Macro lens
Computer Interface	USB 2.0
Control Software	Light Touch RadOMA® for Windows®
Dimensions:	
Height	11.8" (29.9 cm)
Width	6" (15.1 cm)
Length	12.1" (30.8 cm)
Weight	10 lbs (4.6 kg)

NVIS Analysis - 30399-001scan2.dat

Filtered LED Backlight

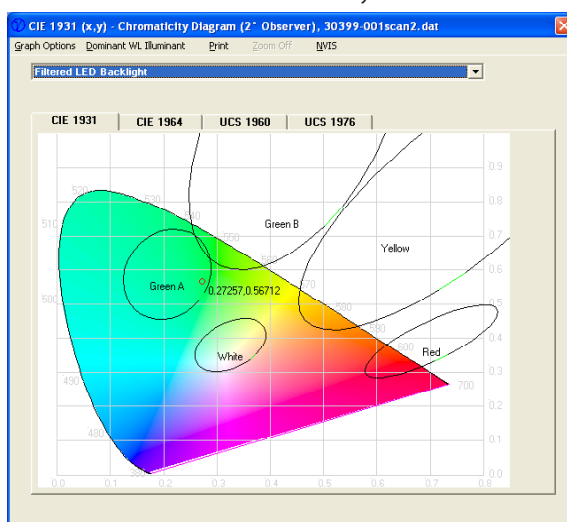
Component	Paragraph	u-prime	v-prime	Radius	IL	Region	Distance	Pass/Fail
Primary	4.3.4.1	0.088	0.543	0.037	0.1	Green A	3.084e-02	Pass
Secondary	4.3.4.2	0.088	0.543	0.037	0.1	Green A	3.084e-02	Pass
Illuminated Col	4.3.4.3	0.088	0.543	0.037	0.1	Green A	3.084e-02	Pass
Compartment li	4.3.4.4	0.088	0.543	0.037	0.1	Green A	3.084e-02	Pass
Utility, map, w	4.3.4.5	0.088	0.543	0.037	0.1	Green A	3.084e-02	Pass
Utility, map, w	4.3.4.5	0.190	0.490	0.040	0.1	White	9.468e-02	Fail
Caution and ai	4.3.4.6	0.088	0.543	0.037	0.1	Green A	3.084e-02	Pass
Jump lights	4.3.4.7	0.088	0.543	0.037	5.0	Green A	3.084e-02	Pass
Jump lights	4.3.4.7	0.274	0.622	0.083	15.0	Yellow	1.716e-01	Fail
Special lightin	All of the above	0.131	0.623	0.057	0.1	Green B	7.304e-02	Fail
Warning signal	4.3.4.8.1	0.274	0.622	0.083	15.0	Yellow	1.716e-01	Fail
Warning signal	4.3.4.8.1	---	---	---	---	Not App.	Not App.	Not App.
Master Caution	4.3.4.8.2	0.274	0.622	0.083	15.0	Yellow	1.716e-01	Fail

NVIS Specification: MIL-STD-3009, 02 August 2001
 Luminance = 4.200e-01
 UCS 1976: u' = 0.1177 v' = 0.5512
 Unscaled NVISa Radiance = 7.332e-10
 Scaled to 0.1 IL, NVISa Radiance = 1.746e-10

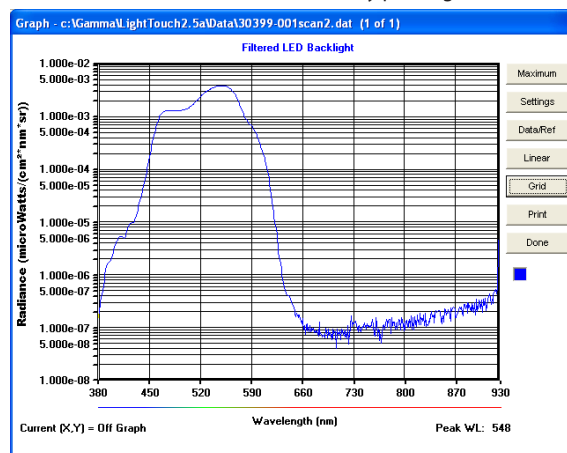
Table Type Class
☐ Radiance ☒ Chromaticity ☒ Type I ☐ Type II ☒ Class A ☐ Class B

Setup Print Done

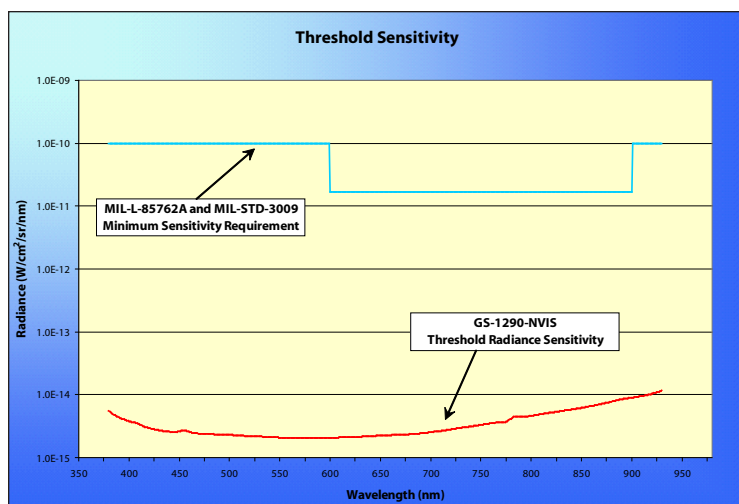
NVIS Pass/Fail Analysis



Zoomable CIE Chromaticity plotting



Spectral Data Plotting



Threshold sensitivity curve obtained using 5 degree field-of-view



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