

## Innovative Solutions for NIR Light Measurement

# ILT970NIR Spectroradiometric Measurement Systems

The NIR Spectroradiometric Measurement Systems are optimized for the near-infrared (NIR) spectral region calibrated from 970 nm to 1650 nm. Choose from five (5) options for measuring spectral irradiance ( $W/cm^2\text{-nm}$ ) and spectral flux ( $W/nm$ ). Each Spectroradiometer includes the NIR spectrometer and optical fiber, an optical measurement head for spectral irradiance or spectral flux, a stand, SpectlLight III control software and DLLs, and a carry and storage case.

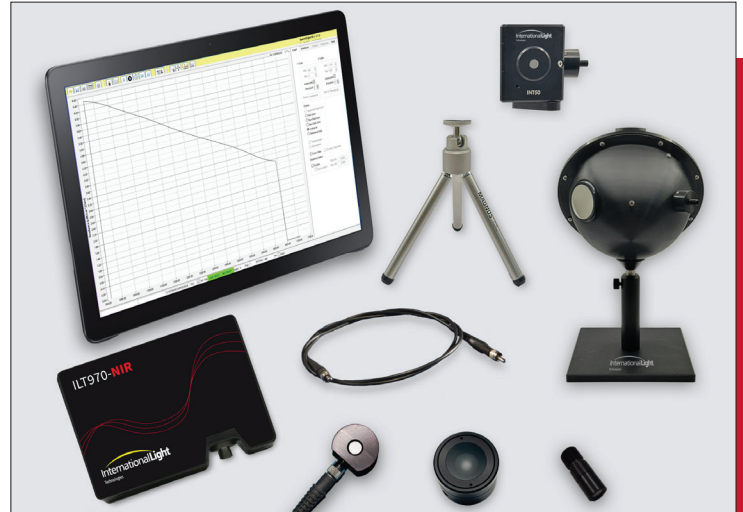
These Spectroradiometer Systems have been fully characterized and are calibrated for their spectroradiometric response following ISO 17025-certified processes, and supported by global recalibration centers in North America, Europe, and China.

### NIR Spectroradiometers for measuring:

- Spectral Irradiance, Irradiance
- Spectral Flux, Optical Power

### Ideal for:

- Food and Agriculture Quality Control
- Industrial Process Monitoring
- Inspection and R&D



### At A Glance:

- Easy to Use
- User Friendly Software\*
- Spectral Range: 970 nm to 1650 nm



\* Computer not included

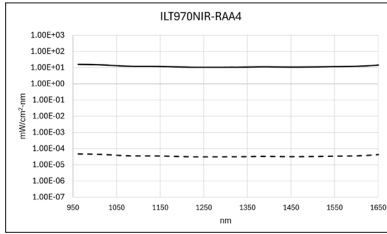
# ILT970NIR Specifications

SPECTRORADIOMETERS	ILT970NIR-RAA4	ILT970NIR-W/A2	ILT970NIR-W5E	ILT970VNIR-INT50	ILT970VNIR-INT150
Type	NIR Spectral Irradiance	NIR Spectral Irradiance	NIR Spectral Irradiance	NIR Spectral Flux	NIR Spectral Flux
Spectral Range of Spectrometer	900 nm to 1650 nm	900 nm to 1650 nm	900 nm to 1650 nm	900 nm to 1650 nm	900 nm to 1650 nm
Spectral Range of Calibration	970 nm to 1650 nm	970 nm to 1650 nm	970 nm to 1650 nm	970 nm to 1650 nm	970 nm to 1650 nm
Radiometric Dynamic Range (970 - 1650 nm)	3.28E-03 to 1.12E+03 W/cm <sup>2</sup> (970 - 1650 nm)	1.32E-02 to 4.48E+03 W/cm <sup>2</sup> (970 - 1650 nm)	5.62E-03 to 1.91E+03 W/cm <sup>2</sup> (970 - 1650 nm)	1.98E-02 to 6.75E+03 W (970 - 1650 nm)	1.45E-01 to 4.91E+04 W (970 - 1650 nm)
Integration Time Range	1 ms - 20 sec.	1 ms - 20 sec	1 ms - 20 sec	1 ms - 20 sec	1 ms - 20 sec
Spectral Resolution	~10 nm	~10 nm	~10 nm	~10 nm	~10 nm
Wavelength Accuracy	5.8 nm	5.8 nm	5.8 nm	5.8 nm	5.8 nm
Stray Light Rejection	n/a	n/a	n/a	n/a	n/a
Fiber Length	1 m	1 m	1 m	1 m	1 m
Fiber Connections	SMA-905	SMA-905	SMA-905	SMA-905	SMA-905
Optical Heads	RAA4	W/A2	W5E	INT50	INT150
Input Configuration	Right Angle	Parallel	Parallel	Sphere Entrance Port	Sphere Entrance Port
Reference Plane	Front Surface	Front Surface	Front Surface		
Active Sensor Area	0.27 in. (6.9 mm) dia.	0.598 in. (15.2 mm) dia.	0.157 in. (4 mm) dia.	0.28 in. (7 mm) input port	1.5 in. (38 mm) input port
Optical Head Dimensions	0.61 in. (1.54 cm) dia. by 0.44 in. (1.12 cm) tall	1.65 in. (4.19 cm) dia. by 1.29 in. (3.28 cm) tall	1.25 in. (0.64 cm) dia. by 0.79 in. (2.0 cm) long	2 in. (5 cm) dia. integrating sphere with 0.27 in. (0.7 cm) entrance port and 0.5 in. (1.27 cm) near cosine fiber port	6 in. (15.24 cm) dia. integrating sphere with 3 ports, 1.5 in. (3.8 cm) entrance port, 0.5 in. (1.24 cm) near cosine fiber port, and 1 in. (2.54 cm) north pole port with port plug
Spectrometer Dimensions HxWxL	7.16 in. (182 mm) x 4.33 in. (110 mm) x 1.85 in. (47 mm)	7.16 in. (182 mm) x 4.33 in. (110 mm) x 1.85 in. (47 mm)	7.16 in. (182 mm) x 4.33 in. (110 mm) x 1.85 in. (47 mm)	7.16 in. (182 mm) x 4.33 in. (110 mm) x 1.85 in. (47 mm)	7.16 in. (182 mm) x 4.33 in. (110 mm) x 1.85 in. (47 mm)
Spectrometer Weight	1150 g	1150 g	1150 g	1150 g	1150 g
Sphere Coating				Spectrafect®	Spectrafect
Mounting	1/4-20 mounting thread with tripod	1/4-20 mounting thread with tripod	1/4-20 mounting thread with tripod	1/4-20 mounting thread with tripod	1/4-20 boss, 4 in. (10 cm) post, 4 in. (10 cm) post holder, and 6 in. x 6 in. (15 cm x 15 cm) base
Calibration	Spectral Irradiance Response	Spectral Irradiance Response	Spectral Irradiance Response	Spectral Flux Response	Spectral Flux Response
Storage and Carrying Case	Included	Included	Included	Included	Included
Software*	SpectralLight III	SpectralLight III	SpectralLight III	SpectralLight III	SpectralLight III

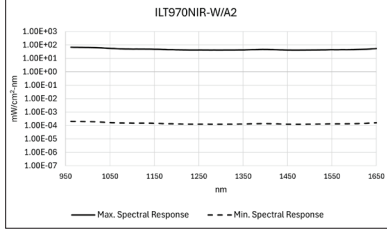
\* Computer Specifications:

- A CPU or laptop with 1GHz processor, 1GB of RAM, 256GB hard drive, and a screen resolution of 1024 x 768
- Operating system: Windows 11 or later
- Microsoft .Net Framework 4.5 or later needs to be installed and enabled

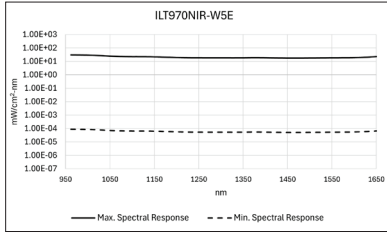
# Optical Heads and Spectroradiometer Measurement Ranges



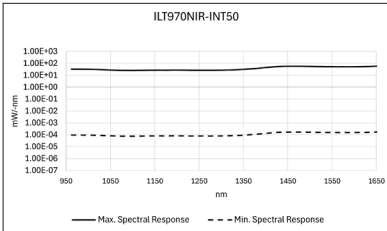
**RAA4 Right-Angle Adapter/Diffuser Head** with mini-integrating sphere for measuring spectral irradiance, total irradiance, and spectral characteristics of light sources.



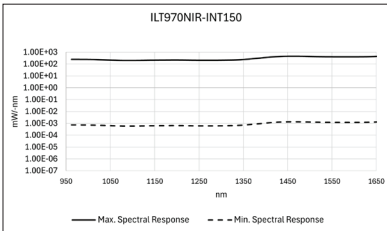
**W/A2 Diffused Quartz Head** with SMA adaptor for measuring spectral and total irradiance, illuminance, color parameters, and spectral characteristics of light sources.



**The W5E miniature cosine correcting diffuser** with a SMA905 fiber adaptor for measuring spectral and total irradiance, illuminance, color parameters, and spectral characteristics of light sources.



**INT50 5 cm (2”) Integrating Sphere** for measuring forward and total spectral flux, power in watts, and spectral characteristics.



**INT150 15 cm (6”) Integrating Sphere** for measuring forward and total spectral flux, power in watts, and spectral characteristics.