



ISV series

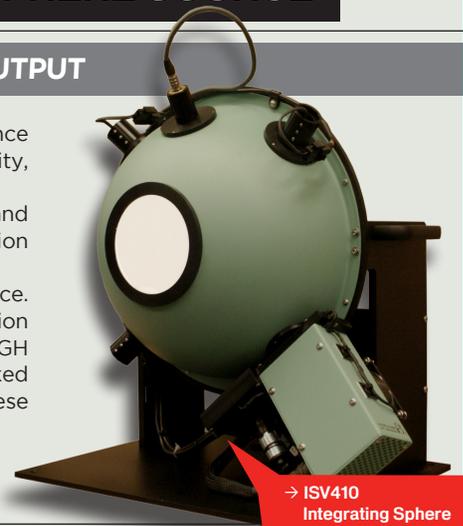


ISV series

UV TO SWIR INTEGRATING SPHERE SOURCE

CLOSED LOOP CONTROL OF LUMINANCE FOR A RELIABLE OUTPUT

The ISV Integrating Sphere Sources are compact, reliable and easy-to-operate reference sources providing an adjustable luminance output with unprecedented accuracy and stability, over the UV-VIS-NIR and SWIR spectral ranges. They have been specifically designed for the calibration and test of cameras and sensors such as night vision systems, image intensifier cameras, radiometers, UV-vision enhancement systems, visible to SWIR focal plane arrays and optical detectors. The emitting head is controlled via a 2U electronic unit through an ergonomic interface. Superior stability and repeatability are obtained through a closed loop control regulation based on an optical reading and acting on an iris attenuator. As well as all other HGH sources, the ISV sources are delivered with a certificate of radiometric calibration linked to International Primary Standards demonstrating the accuracy and reliability of these reference sources.



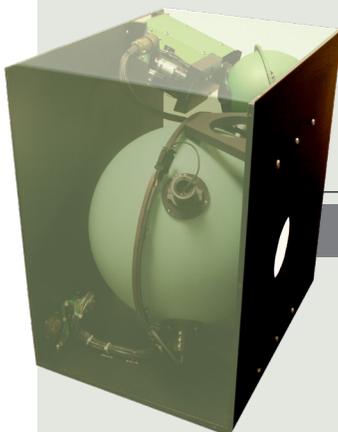
→ ISV410 Integrating Sphere

High performance radiation 200nm to 2500nm wavelength range thanks to the highest PTFE diffuse reflexion factor:

- o Highly uniform output port up to 4 inches (>101.6 mm)
- o Intuitive interface
- o Real time display of the luminance or radiance
- o High stability suitable for most sensitive sensors
- o Wide dynamic range with ultra-stable spectrum
- o Control through colored touchscreen panel
- o Radiometric calibration over multiple bandwidths including SWIR
- o Easy selection of luminance units
- o Display of color temperature and night levels
- o Remote control via Ethernet link, RS232, IEEE488
- o Built-in test equipment (BITE)
- o Infratest-LT remote control software

HIGH PERFORMANCE MODELS

- o **ISV410-UV:** Unique 5000K CT model utilizing four Xenon arc lamp – ideal for the test and calibration of radiometers and UV-enhanced cameras.
- o **ISV 410-LL:** Low light VIS and NIR source specifically for the test and calibration of Night Vision systems.



→ ISV410-LL Low Light Integrating Sphere

OPTIONS

- o Automated shutter for immediate ON/OFF of radiation
- o Low or high contrast USAF 1951 targets for resolution and MRC testing
- o Targets for LSF/MTF, distortion, FOV tests
- o InGaAs or Ge detector for improved SWIR regulation



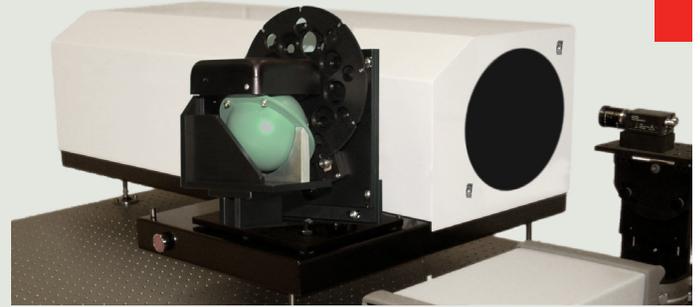
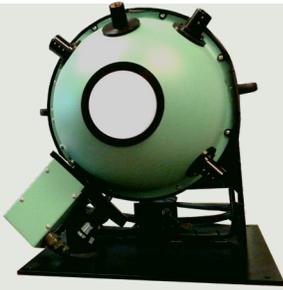
ISV series

UV TO SWIR

ILLUMINATION SOURCE

ISV series

ref: ISV-Len-aj



→ UV to SWIR test equipment

TECHNICAL DATA

| | ISV210 | ISV410 | ISV410-HL | ISV410-UV | ISV410-LL |
|---------------------------|---|---|-------------------------------|---|--|
| Color Temperature * | 2950 K ± 25 K | | | 5000 K ± 25 K | 2856 K ± 25 K |
| Spectral Range | 300 nm to 2500 nm | | | 200 nm to 2500 nm | 300 nm to 2500 nm |
| Luminance Range * | 1 to 3,500 cd/m ² | 1 to 35,000 cd/m ² | 1 to 85,000 cd/m ² | 1 to 35,000 cd/m ² | 10 ⁻⁵ to 0.5 μW/cm ² .sr (continuous range) 7 fixed steps to 10 ³ μW/cm ² .sr |
| Dynamic Range up to | 1: 10000 | 1: 100000 | 1: 10000 | 1: 100000 | |
| Luminance Uniformity | > 98 % | | | | |
| Luminance Stability | <0.1% or < 2 cd/m ² whichever is greater | | | Long term: <0.5% over 8 hours Short term: down to ± 10 cd/m ² | 0.5% or ± 3x10 ⁻⁵ μW/cm ² .sr whichever is greater |
| Display resolution/ units | Five significant figures / cd/m ² or fL or W/cm ² .sr | | | | 1.0 x 10 ⁻⁶ μW/cm ² .sr |
| Warm Up Time | < 5 min. per lamp | | | | < 10 min. per lamp |
| Step Change Time | < 30 sec for change of 3,000 cd/m ² | < 60 sec for change of 8,000 cd/m ² | | < 60 sec (continuous range) | |
| Lamp Life | At least 500 hours | | | | |
| Luminance Control Loop | Automatic | | | | |
| Detector | Si standard, peak at 950 nm Optional: Ge or InGaAs (optional), peak at 1500 nm | | | | |
| Sphere Diameter | 6" (152.4 mm) | 12" (304.8 mm) | | | |
| Output port Diameter | 2" (50.8 mm) | 4" (101.6 mm) | | 2" (50.8 mm) optional | |
| Controller Size | 2U x 19" Rack Mount | | | | |
| Controller Weight | 7 kg | 10 kg | 10 kg | 7 kg | |
| Computer Interface | Ethernet, RS-232, IEEE-488 | | | | |
| Power Requirements | 100-240VAC, 50/60Hz | | | | |

* All models are delivered with a calibration certificate in color temperature and absolute radiance.



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