

- Calibration of instruments for radiation measurements
- Measurement of radiation from UV to IR
- Software for special requirements

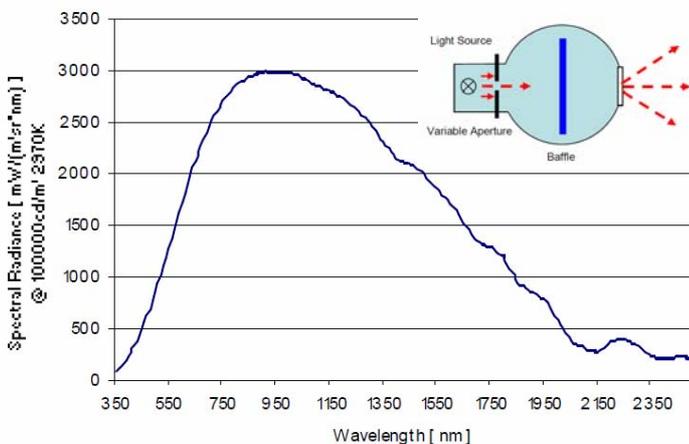
The Austrian  
Calibration Measurement Software Company

## ISS-8-VA Integrating Sphere Light Source

Integrating Sphere Light Sources often called Uniform Light Sources provide a uniform hemispherical light incident at the reference plane of the light output port and therefore a uniform light output from that port. This effect is created through multiple diffuse light reflections within the hollow sphere and by the sphere shape itself. An additional feature of integrating sphere light sources is that intensity at the light output port can be adjusted. A variable aperture placed at the junction between light source and sphere enables flux control into the sphere.

### Intensity Control:

For the calibration of pixel uniformity or luminance sensitivity at different brightness levels an adjustable light output is required. The common method for intensity control is a variable aperture between light source and integrating sphere to control the light flux into the sphere. In applications where a very wide dynamic range needs to be controlled the available attenuation range of a variable aperture is not enough. Using a variable aperture with a 30mm diameter, or 706mm<sup>2</sup> in area, six decade attenuation would require an aperture size of 0.0007mm<sup>2</sup> or 30µm in diameter. Even using a micrometer drive for the variable aperture the reproducibility and resolution would be poor. This problem is solved by providing the ability to add OD1 and OD2 attenuator filters into the light patch which reduces the flux by OD0 (no filter), OD1 (10%) and OD2 (1%) steps. The combination of the variable aperture with step attenuators allows a wide intensity range to be controlled with high resolution.



Specifications:	
<b>Integrating Sphere:</b>	80mm diameter
Coating Sphere & Baffle	ODM98
Light Output Port	19 mm diameter
<b>Light Source:</b>	100W/12V; Quartz Halogen
• Reflector Material	ODM98
• Operation Current	8.5A/DC
• Variable Aperture	Two Plate Design
• Blocking	> 10 <sup>-6</sup> @closed
• Aperture Diameter	30mm to Zero
• Aperture Resolution	0.01% with stable CCT
• Aperture Control	Manual Drive
• Step Attenuator	Hole Pattern OD0, OD1, OD2
• Step Control	Exchangeable Inserts
<b>Light Output:</b>	
Max. Luminance	100000cd/m <sup>2</sup> @OD0, VA=100%
Max. Luminance	10000cd/m <sup>2</sup> @OD1, VA=100%
Max. Luminance	1000cd/m <sup>2</sup> @OD2, VA=100%
Min. Luminance	0.1 cd/m <sup>2</sup> @OD2 + VA=0.01%
Color Temperature	About 2970K
CCT Drift; VA only	+/- 20K @ 100000 to 10cd/m <sup>2</sup>
CCT Drift VA with OD	+/- 40K @ 100000 to 0.1cd/m <sup>2</sup>
Max. Spectral Radiance	2900W/m <sup>2</sup> srµm @950nm
Uniformity	≥98% @ 90% port diameter



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