

# RSA-FO-150 Fiber Optic Single Beam Reflectance Spectroscopy Accessory

**Measures hemispherical reflectance for both specular and diffuse samples**

The compact RSA-FO-150 is an easy to use reflectance spectroscopy accessory designed for use with a multitude of commercially available fiber based spectrometers. When coupled to a light source and spectrometer, this sphere measures hemispherical reflectance for both specular and diffuse samples.

The RSA-FO-150 is a compact lightweight integrating sphere based reflectance spectroscopy accessory. The integrating sphere has two SMA 905 fiber ports. The light input port is located on the top of the sphere. It is positioned at 8° from normal for direct illumination of the sample. The second fiber port is located 90° from the sample port. It is positioned to collect the integrated radiance from the sphere wall using a fiber optic spectrometer. The specular subtraction port is standard with the RSA-FO-150. This port is closed for 8°/hemispherical reflectance measurements or with the simple turn of a thumb screw the port reveals a light-trap for specular excluded measurements. The sample port is knife edged to permit collection of wide angle scatter.

The interior of the sphere is fabricated from Labsphere's Spectralon® diffuse reflectance material and a total port fractional area of 1% the design ensures superior optical spatial integration. Spectralon is a thermoplastic resin that is characterized by its high reflectance  $\geq 99\%$  in the visible and  $\geq 95\%$  from 250 to 2500 nm.



## Applications:

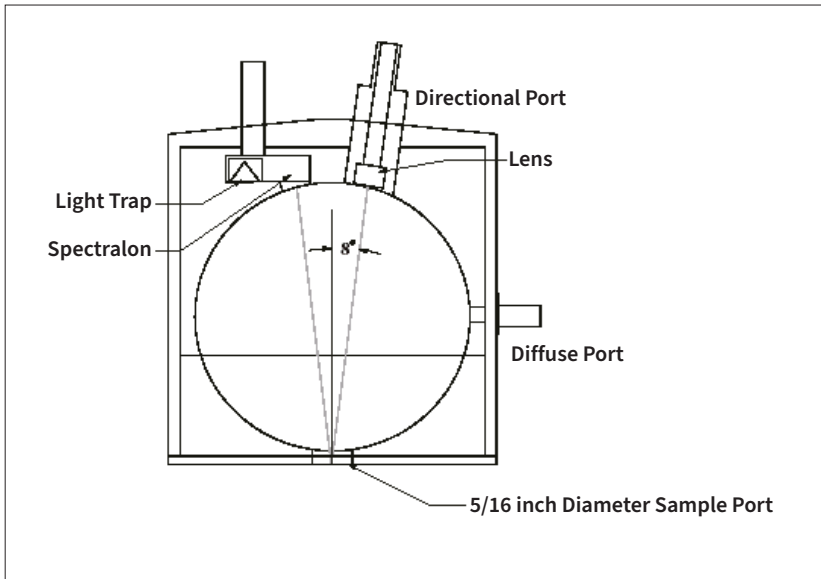
- Measure spectral reflectance
- Specular or diffuse samples
- Measure color
- Reflectance system design
- Measure VIS/NIR reflectance properties

## Features:

- Spectralon interior; premier diffuse reflectance material
- 8°/h Measurement geometry
- Compatible with standard spectrometers
- Rugged portable design

# Ordering Information and Specifications

Model Number:	RSA-FO-150	
Order Number:	AS-02581-000	
Sphere Diameter:	3.81 cm	
Sample Port Diameter:	0.79 cm	
Coating Material:	Spectralon	
Spectral Range:	250 - 2500 nm	
Connections:	Directional Port SMA, 400 $\mu\text{m}$ core diameter max Diffuse Port SMA, 1000 $\mu\text{m}$ core diameter max	
Relative Efficiency:	Spectrometer Fiber Diameter	Flux Throughput
	50 $\mu\text{m}^*$	9.87 E-07
	100 $\mu\text{m}$	3.95 E-06
	200 $\mu\text{m}$	1.58 E-05
	400 $\mu\text{m}$	6.31 E-05
	600 $\mu\text{m}$	1.42 E-04
	1000 $\mu\text{m}$	3.95 E-04
Dimensions:	2.75 in (7 cm) x 2.5 in (6.35 cm) x 2.75 in (7 cm)	
Weight:	0.28 kg	



\* included with the FOL-150-S