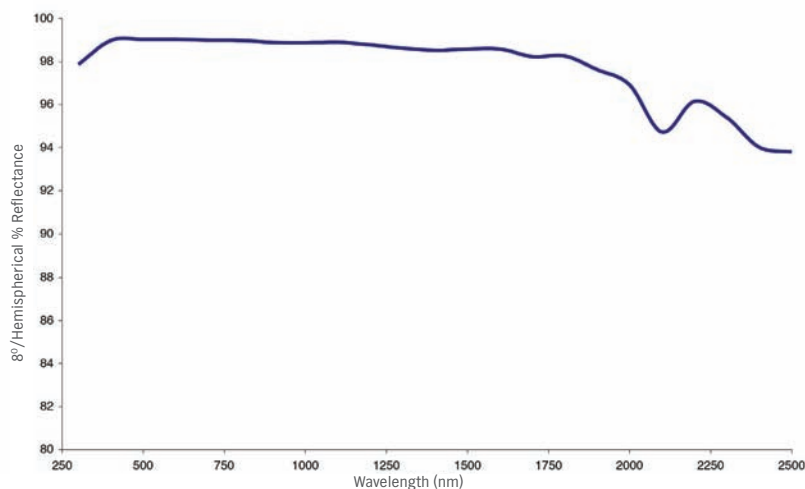


# SPACE-GRADE SPECTRALON MATERIAL

## Diffuse reflectance material designed for space applications

TYPICAL 8° HEMISPHERICAL REFLECTANCE SRM-99S



### ACCURATE

Labsphere's space-grade Spectralon® reflectance material has gained wide acceptance as a reflecting diffuse material for terrestrial remote sensing applications for both field and laboratory applications. Space-grade Spectralon combines high reflectance with an extremely Lambertian reflectance profile, exhibiting reflectance values of >99% reflectance over the wavelength range from 400 to 1500 nm and >95% reflectance from 250 to 2500 nm.

Labsphere's space-grade Spectralon has undergone extensive testing for UV exposure, Proton bombardment, atomic oxygen exposure,  $\alpha$ -Lyman radiation, outgassing and static charge testing by national laboratories, such as Jet Propulsion Laboratory, Goddard Space Flight Center, TRW, and CSEM. This testing has led to the development of a stringent manufacturing process that eliminates potential contaminants which lead to UV degradation.

### FEATURES:

- >99% Diffuse reflectance
- Extremely Lambertian
- Chemically inert
- Thermally stable
- Environmentally stable
- Resistant to UV degradation
- NIST traceable calibration

### BEST FOR:

- Solar illuminated diffuse panels
- Radiance calibration standards
- Calibration targets
- Integrating sphere uniform sources

### QUALITY

Space-grade Spectralon is developed using an advanced manufacturing process that involves special cleaning and baking procedures, rigid inspection, special handling and packaging, and a full documentation of the process. Each sample undergoes rigorous mechanical and spectroscopic analysis.

The material packaging process includes specially configured sample containers, with nitrogen purging to protect the material against molecular and particulate contamination. Each step of the manufacturing process ensures that the material is of the highest purity and cleanliness, essential for space environment applications.

### CUSTOMIZABLE

Labsphere's space-grade Spectralon can be machined into a wide variety of shapes for any number of different applications according to design specifications. Labsphere's engineering staff has an established industry-wide reputation for its knowledge and experience in Spectralon design, and often collaborates with customers to develop custom designs.



# Specifications

Property	ATSM Test	Value
Density:		1.25 -1.5 g/cm <sup>3</sup>
Water Permeability:	D-570	<0.001% (hydrophoric)
Hardness:	D-785	20 - 30 Shore D
Thermal Stability:		Decomposes at >400°C
Coefficient of Linear Expansion:	D-696	5.5 - 6.5 x 10 <sup>-5</sup> in/in - °F; 10 <sup>-4</sup> °C <sup>-1</sup>
Vacuum Stability:		No outgassing except for entrained air
Flammability:		Non-Flammable (UL rating V - 0)
		Incompatible with non-polar solvents, greases
Yield Stress:	D-638	208 psi
Volume Resistivity		>10 <sup>18</sup> Ω/cm
Dielectric Strength		18 V/μm