

CALIBRATION CERTIFICATE

SERIAL NUMBER: DF25A-5863

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CALIBRATION LABORATORY: Labsphere, Inc., Reflectance Calibration Laboratory

CALIBRATED STANDARD OR SAMPLE

Spectralon Reflectance Target, Sample I. D: SRT-20-050

CALIBRATION REQUESTED

8°/Hemispherical Spectral Reflectance Calibration from 250-2500 nm reported in 50 nm intervals.

APPLICABLE DOCUMENTS

Labsphere #QP-14012-000 General Reflectance Calibration Requirements
#QP-14069-000 Background Correction for RSA-PE-19
#QP-14068-000 Procedure For Calibration of Spectralon Material
#QP-14074-000 Morning Check for RSA-PE-19

TEST AND TEST METHOD

The 8°/Hemispherical Spectral Reflectance was measured for the sample listed above. The calibration was performed with standards traceable to the U.S. National Institute of Standards and Technology (NIST). The reflectance was determined by using a Perkin-Elmer 900 double beam ratio recording spectrophotometer (serial # 70038) equipped with a Labsphere RSA-PELA-1000 integrating sphere accessory (serial # 08220625262). Incident flux at 8° from normal was reflected from the above sample then radiated onto the internal surface of the integrating sphere. The sphere's internal surface radiance was proportional to that of a laboratory working standard used to determine the spectral reflectance.

NATIONAL LABORATORY TRACEABLE STANDARD

SRS-99-020-WS-3 (NIST)

CALIBRATION RESULTS MEETS SPECIFICATIONS

See Table I "8°/Hemispherical Spectral Reflectance Factor"

See Graph I "8°/Hemispherical Spectral Reflectance Factor"

LABORATORY ENVIRONMENT

Temperature: 23 ± 3°C.

ESTIMATE CALIBRATION UNCERTAINTY

The random uncertainty, expressed by standard deviation, of reflectance measurements performed by Labsphere, Inc. is less than 0.005 for the spectral range 300-2200 nm, and is less than or equal to 0.020 over the spectral range 250-2500 nm.

CALIBRATION INTERVAL

If the product is handled with care, recalibration is recommended after one year of use, at the discretion of the user.

This certificate shall not be reproduced except in full, without the written approval of Labsphere, Inc.

Calibrated by:

Title: Optical Calibration Technician

Date :



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Table I
8°/Hemispherical Spectral Reflectance Factor for SRT-20-050

<u>Wavelength</u> <u>(nm)</u>	<u>Reflectance</u> <u>Factor</u>	<u>Wavelength</u> <u>(nm)</u>	<u>Reflectance</u> <u>Factor</u>
250	0.210	1400	0.298
300	0.201	1450	0.302
350	0.199	1500	0.306
400	0.201	1550	0.310
450	0.204	1600	0.314
500	0.209	1650	0.318
550	0.214	1700	0.322
600	0.219	1750	0.326
650	0.224	1800	0.329
700	0.228	1850	0.335
750	0.234	1900	0.338
800	0.239	1950	0.344
850	0.245	2000	0.346
900	0.255	2050	0.350
950	0.259	2100	0.354
1000	0.262	2150	0.359
1050	0.266	2200	0.359
1100	0.271	2250	0.362
1150	0.276	2300	0.363
1200	0.280	2350	0.368
1250	0.285	2400	0.369
1300	0.289	2450	0.373
1350	0.292	2500	0.373

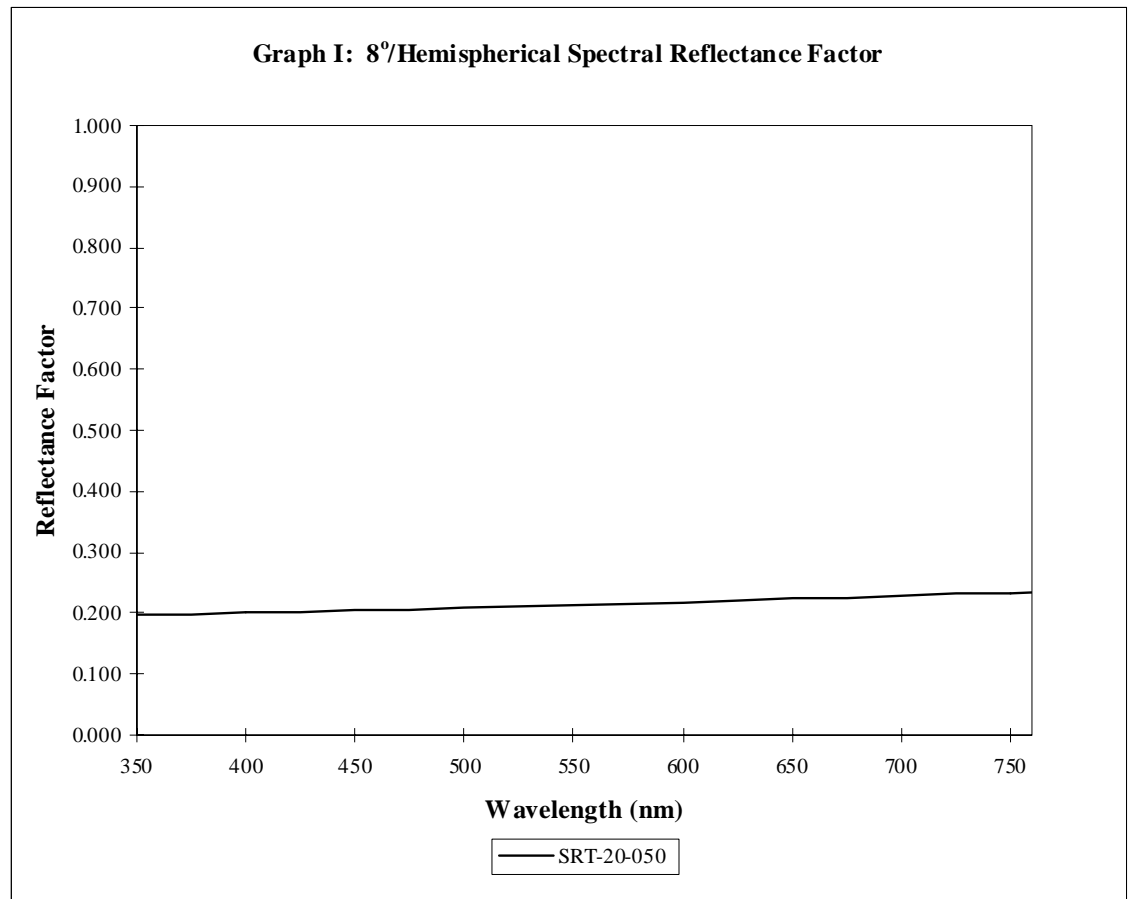


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