

Description

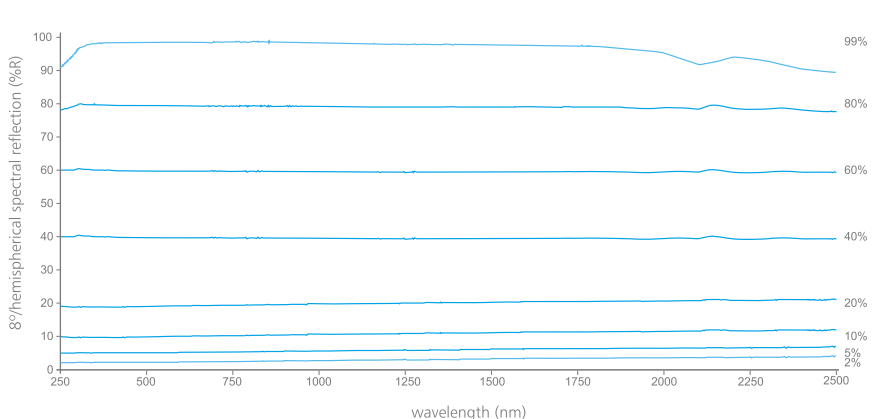
Spectralex reflection targets (diffuse reflecting reference measuring surfaces) offer the highest possible levels of diffuse reflection over a wide wavelength range (250-2500nm). Their constant and almost perfectly Lambertian reflection behaviour therefore makes these reflection targets the ideal reference measuring surface for the calibration of optical devices where a large reference surface is required.

Spectralex reflection targets are particular well-suited for use in space and vacuum applications, as only pure optical PTFE can be used in these cases. As a high-purity volume reflector, our material is therefore used in a wide range of different areas of application.

The unique material properties offered by Spectralex also ensure protection against discolouration and embrittlement of the measuring surface even under harsh environmental conditions. This guarantees long-term use without any loss of reflection and with maximum dimensional stability.

Our Spectralex reflection targets are available in different reflection levels and dimensions. It is also possible to have multiple reflection levels within a single reflection target. We will also be happy to help develop customer-specific solutions just for you – just get in touch!

Reflectance graph



Application

Calibration / white balancing of

- colorimeter
- radiometer
- CCD-cameras
- spectrophotometer
- densitometer
- hyperspectral sensors
- video cameras / digital cameras
- laserscanner
- a.o. optical equipment

Linearity test of

- detector systems
- colorimeter
- densitometer
- spectrophotometer
- a.o. optical equipment

Calibration

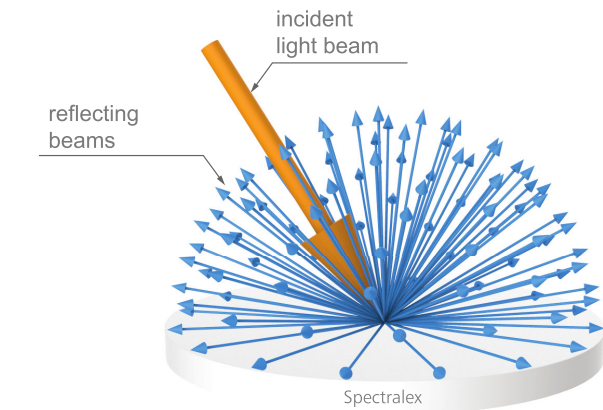
Lake Photonics has a calibration laboratory for measuring the diffuse reflection of flat surfaces (spectral radiance factor $\beta(8^\circ/d)$). The measurements are taken using a UV-Vis-NIR spectrophotometer (Lambda 950S) by PerkinElmer®. The spectral range of the measurements is between 250 and 2450nm. The measurement data is traceable to the National Metrology Institute of Germany (PTB), and is provided electronically in measuring steps of 1nm. A certificate with printed measured values in 50nm steps is also provided.

Optical properties

reflectance value	350 – 1500nm = ~99%R
(Spectralex without additives)	250 – 2500nm = ~93%R
laser damage threshold (LDT)	~8 J/cm ³
refractive index	~1,38
surface homogeneity	+/- 0,2%R

* various greyscale available:

80%R, 60%R, 40%R, 20%R, 10%R, 5%R, 2%R	
surface homogeneity (grayscale):	+/- 1 %R
linearity of the spectrum (grayscale):	+/- 0,5 %

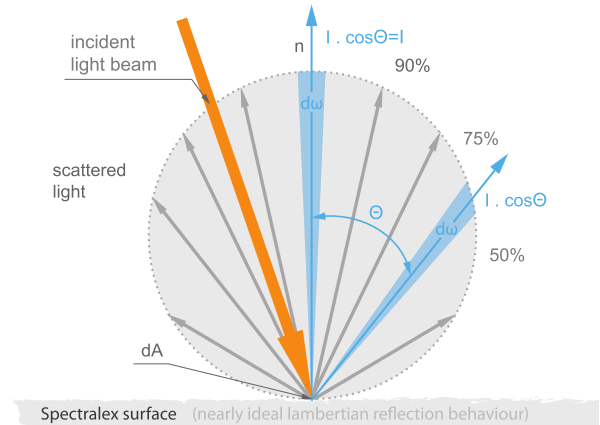


Technical properties

working temperature	-200°C – 260°C
humidity range	10% – 90% RH

Physical properties

- universal chemical resistance
- resistance to UV radiation
- insoluble in water (hydrophobic, nonpolar)
- physiologically safe



Order information

article number		reflectance value	reflectance surface	dimensions
uncalibrated	*calibrated (250-2500nm)	(%R)	(length x width)	(length x width x height)
DRT-0500-99-U	DRT-0500-99-C	99	500x500 mm	500 x 500 x 12mm
DRT-0300-99-U	DRT-0300-99-C	99	300x300 mm	300 x 300 x 12mm
DRT-0200-99-U	DRT-0200-99-C	99	200x200 mm	200 x 200 x 12mm
DRT-0100-99-U	DRT-0100-99-C	99	100x100 mm	100 x 100 x 12mm
DRT-0050-99-U	DRT-0050-99-C	99	50x50 mm	50 x 50 x 12mm
DRT-0200-80-U	DRT-0200-80-C	80	200x200 mm	200 x 200 x 12mm
DRT-0100-80-U	DRT-0100-80-C	80	100x100 mm	100 x 100 x 12mm
DRT-0050-80-U	DRT-0050-80-C	80	50x50 mm	50 x 50 x 12mm
DRT-0200-60-U	DRT-0200-60-C	60	200x200 mm	200 x 200 x 12mm
DRT-0100-60-U	DRT-0100-60-C	60	100x100 mm	100 x 100 x 12mm
DRT-0050-60-U	DRT-0050-60-C	60	50x50 mm	50 x 50 x 12mm
DRT-0200-40-U	DRT-0200-40-C	40	200x200 mm	200 x 200 x 12mm
DRT-0100-40-U	DRT-0100-40-C	40	100x100 mm	100 x 100 x 12mm
DRT-0050-40-U	DRT-0050-40-C	40	50x50 mm	50 x 50 x 12mm
DRT-0200-20-U	DRT-0200-20-C	20	200x200 mm	200 x 200 x 12mm
DRT-0100-20-U	DRT-0100-20-C	20	100x100 mm	100 x 100 x 12mm
DRT-0050-20-U	DRT-0050-20-C	20	50x50 mm	50 x 50 x 12mm
DRT-0200-10-U	DRT-0200-10-C	10	200x200 mm	200 x 200 x 12mm
DRT-0100-10-U	DRT-0100-10-C	10	100x100 mm	100 x 100 x 12mm
DRT-0050-10-U	DRT-0050-10-C	10	50x50 mm	50 x 50 x 12mm
DRT-0200-05-U	DRT-0200-05-C	5	200x200 mm	200 x 200 x 12mm
DRT-0100-05-U	DRT-0100-05-C	5	100x100 mm	100 x 100 x 12mm
DRT-0050-05-U	DRT-0050-05-C	5	50x50 mm	50 x 50 x 12mm
DRT-0200-02-U	DRT-0200-02-C	2	200x200 mm	200 x 200 x 12mm
DRT-0100-02-U	DRT-0100-02-C	2	100x100 mm	100 x 100 x 12mm
DRT-0050-02-U	DRT-0050-02-C	2	50x50 mm	50 x 50 x 12mm

* Through the adding of additives, the optical and physical properties can be changed.
 ** Calibration includes printed certificate inclusive electronic measurement data delivered on a portable data storage device. Traceable to the National Metrology Institute of Germany (PTB).
 Delivery information: reflectance targets will be supplied with a protective frame made of anodised aluminium and a waterproof transportation box.

For customized queries and further information, please contact us directly!