



Description

Spectralex Lite targets (diffuse reflecting reference measuring surfaces) are characterised primarily by their constant and almost perfectly Lambertian reflection behaviour over a wide wavelength range (250-2500nm). But the product also boasts a range of significant benefits in terms of weight and cost (under 9Kg/m²).

Spectralex is laminated onto an aluminium composite panel in film thickness using a special production method, meaning that only a minimal amount of the expensive raw material is required. The aluminium honeycomb core also gives the composite panel very good stability at an extremely low weight. This is a key advantage in the case of very large-scale and mobile applications, and provides an excellent alternative to the expensive and heavy reflection targets made from solid PTFE material.

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 Lite reflection targets are available in different reflection levels and dimensions. We will also be happy to help develop customer-specific solutions just for you – just get in touch!

Application

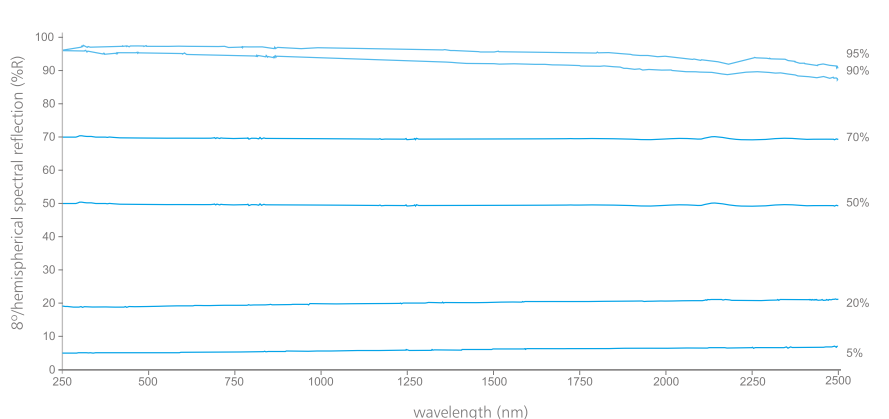
Calibration / white balancing of

- 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

Reflectance graph



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.

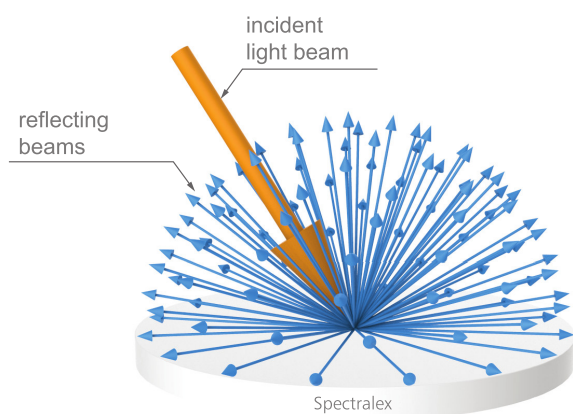
Optical properties

		material thickness	
		2mm	1mm
reflectance value	250 – 2500nm =	~95%R	~90%R
(Spectralex without additives)			
laser damage threshold (LDT)		~8 J/cm ³	
refractive index		~1,38	
surface homogeneity		+/- 0,1%R	

* various greyscale available:

70%R, 50%R, 20%R, 5%R

surface homogeneity (grayscale):	+/- 1 %R
surface homogeneity (grayscale):	+/- 0,5 %

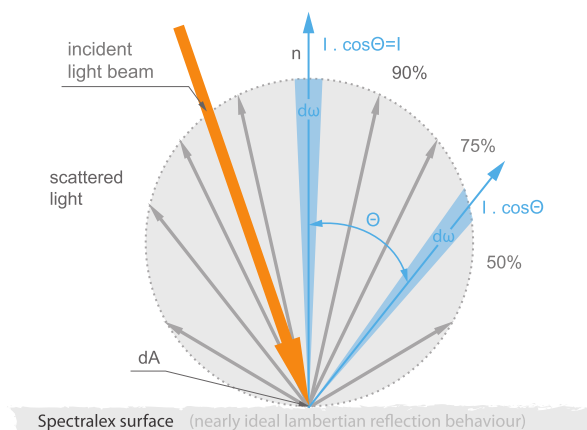


Technical properties

working temperature	-5°C – 65°C
humidity range	5% – 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)
LWT-1000-95-U	LWT-1000-95-C	95	1000x1000 mm	1000 x 1000 x 12mm
LWT-0500-95-U	LWT-0500-95-C	95	500x500 mm	500 x 500 x 12mm
LWT-0300-95-U	LWT-0300-95-C	95	300x300 mm	300 x 300 x 12mm
LWT-0200-95-U	LWT-0200-95-C	95	200x200 mm	200 x 200 x 12mm
LWT-1000-90-U	LWT-1000-90-C	90	1000x1000 mm	1000 x 1000 x 11mm
LWT-0500-90-U	LWT-0500-90-C	90	500x500 mm	500 x 500 x 11mm
LWT-0300-90-U	LWT-0300-90-C	90	300x300 mm	300 x 300 x 11mm
LWT-0200-90-U	LWT-0200-90-C	90	200x200 mm	200 x 200 x 11mm
LWT-1000-70-U	LWT-1000-70-C	70	1000x1000 mm	1000 x 1000 x 11mm
LWT-0500-70-U	LWT-0500-70-C	70	500x500 mm	500 x 500 x 11mm
LWT-0300-70-U	LWT-0300-70-C	70	300x300 mm	300 x 300 x 11mm
LWT-0200-70-U	LWT-0200-70-C	70	200x200 mm	200 x 200 x 11mm
LWT-1000-50-U	LWT-1000-50-C	50	1000x1000 mm	1000 x 1000 x 11mm
LWT-0500-50-U	LWT-0500-50-C	50	500x500 mm	500 x 500 x 11mm
LWT-0300-50-U	LWT-0300-50-C	50	300x300 mm	300 x 300 x 11mm
LWT-0200-50-U	LWT-0200-50-C	50	200x200 mm	200 x 200 x 11mm
LWT-1000-20-U	LWT-1000-20-C	20	1000x1000 mm	1000 x 1000 x 11mm
LWT-0500-20-U	LWT-0500-20-C	20	500x500 mm	500 x 500 x 11mm
LWT-0300-20-U	LWT-0300-20-C	20	300x300 mm	300 x 300 x 11mm
LWT-0200-20-U	LWT-0200-20-C	20	200x200 mm	200 x 200 x 11mm
LWT-1000-05-U	LWT-1000-05-C	5	1000x1000 mm	1000 x 1000 x 11mm
LWT-0500-05-U	LWT-0500-05-C	5	500x500 mm	500 x 500 x 11mm
LWT-0300-05-U	LWT-0300-05-C	5	300x300 mm	300 x 300 x 11mm
LWT-0200-05-U	LWT-0200-05-C	5	200x200 mm	200 x 200 x 11mm

*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).

Size versions 200x200mm and 300x300 mm will be supplied with a M4 thread on the backside.

Size versions 500x500mm and 1000x1000mm will be supplied with two high-quality handholds on the backside. Customized mounting options are also available.

In addition to a size version of 500x500mm and above, you will get a smaller reference target (100x100mm), for recalibration purposes.

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