

# Reference Tiles

For diffuse reflection measurements, Avantes offers the WS-2 reference tile. For specular reflection measurements, the RS-2 is available.

The WS-2 reference tile is made out of a white diffuse PTFE based material, which is considered the highest grade reference material for diffuse reflectance. It is mostly used in colorimetric application where a reference signal has to be obtained during a reflection measurement.

The PTFE material is high purity and processed using exacting standards to an amorphous structure, so the tile reflects light from 350-1800 nm at circa 98% and from 250-2500 nm at more than 92%. The material offers long term stability, even in UV applications. The plastic is hydrophobic and chemically inert, so it is cleanable.

For gemology applications, the WS-2 is used in combination with a reflection integrating sphere. The gemstone is put on the middle of the tile with the integrating sphere over it.

The special WS-2-GEM is designed to facilitate holding and cooling a gemstone with liquid nitrogen, as it features a cavity and hole in the middle of the tile.

The WS-2-CAL is a NIST traceable calibrated white reference tile which includes an electronic calibration file covering 250-2500 nm.

The RS-2 is a mirror tile which can be used as a reference standard for specular reflection measurements.

The RS-2-CAL is a calibrated mirror tile which includes a NIST traceable calibration file, which is created using an 8° absolute specular reflectance measurement over the wavelength range from 250-2500 nm.

As with most Avantes products, these accessories can be delivered in a custom design. Contact us for more information.

## WS-2 and WS-2-GEM



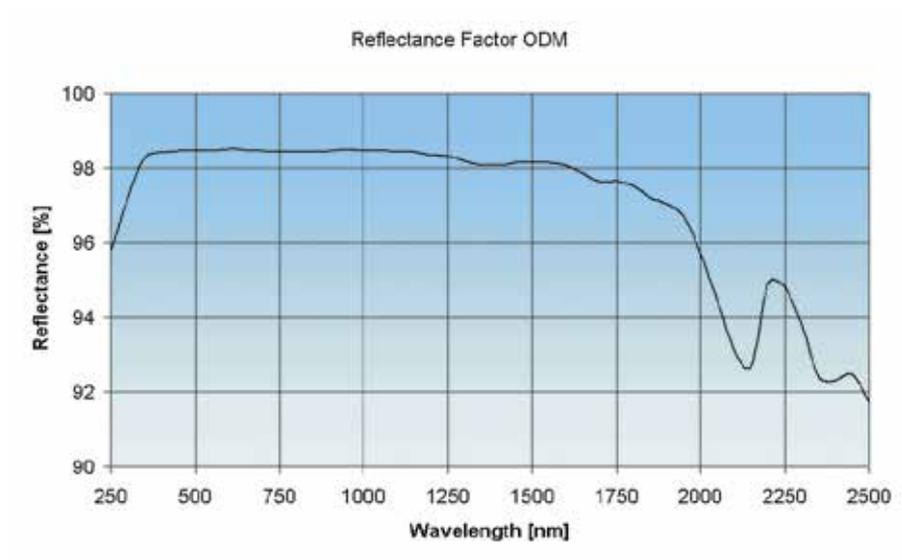
## RS-2



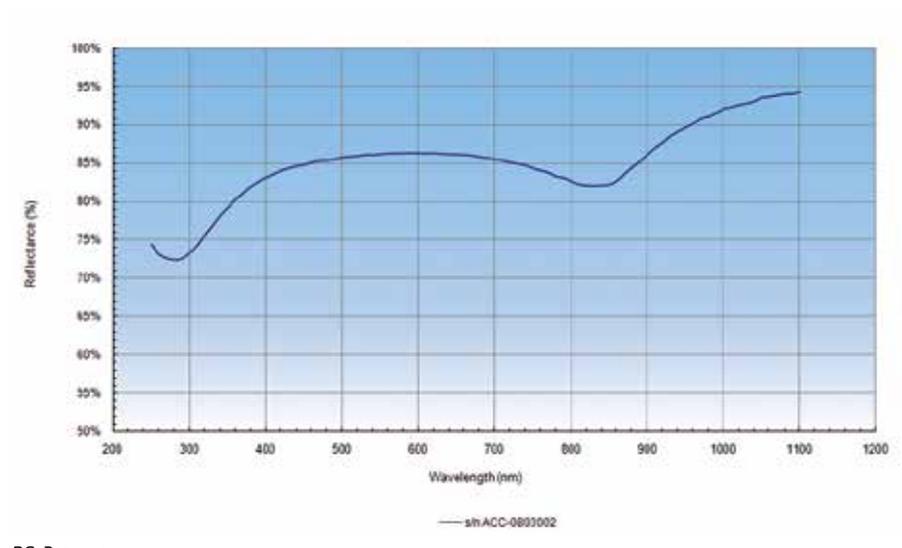
### Technical Data

|                         | WS-2  | RS-2                                 |
|-------------------------|---|--------------------------------------|
| <b>Material</b>         | Diffuse PTFE material                         | BK7 with Al+MgF <sub>2</sub> coating |
| <b>Max. temperature</b> | 280°C   | 80°C                                 |
| <b>Dimensions tile</b>  | 32 mm diameter / 10 mm thick                  | 32 mm diameter / 1 mm thick          |
| <b>Housing</b>          | 38 mm diameter, black PVC, cover red anodized |                                      |

For the latest information,  
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WS-2 curve



RS-2 curve

### Ordering Information

|                 |  |
|-----------------|--|
| <b>WS-2</b>     | • White reference tile   |
| <b>WS-2-GEM</b> | • White reference tile with cone, specially for Gemstone measurement                             |
| <b>WS-2-CAL</b> | • NIST traceable calibrated white reference tile with 8° hemispherical calibration, 250-2500nm   |
| <b>RS-2</b>     | • Specular Reflectance standard with Al+MgF <sub>2</sub> , 250-2500 nm                           |
| <b>RS-2-CAL</b> | • NIST traceable calibrated Specular Reflectance standard with Al+MgF <sub>2</sub> , 250-2500 nm |