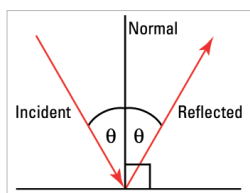


## Thermo Scientific Fixed Angle Specular Reflectance Accessories

The Fixed Angle Specular Reflectance accessories for the Thermo Scientific™ Evolution™ UV-Visible Spectrophotometers measure specular reflectance at 8°\*, 15°, 20°, 30°, 45°, and 60°.

Specular reflectance is “mirror like” reflectance off a surface, i.e., the angle of reflectance is the same as the angle of the incident beam.



The specular reflectance properties of coatings on transparent and opaque surfaces help define accuracy of the coating procedure and the performance of coated materials.

Examples of coated products:

- Anti-reflective coating on eyeglasses or binocular lenses
- UV mirror on a cockpit window
- Solar reflective window for skyscrapers
- Metal first surface mirror for research laser tables
- Gloss paint
- Rear reflector for a spot-lamp
- Anti-reflective coating for stacks of stepper lenses for photolithography
- Military pilot helmet visor
- Research, military or production reflectors

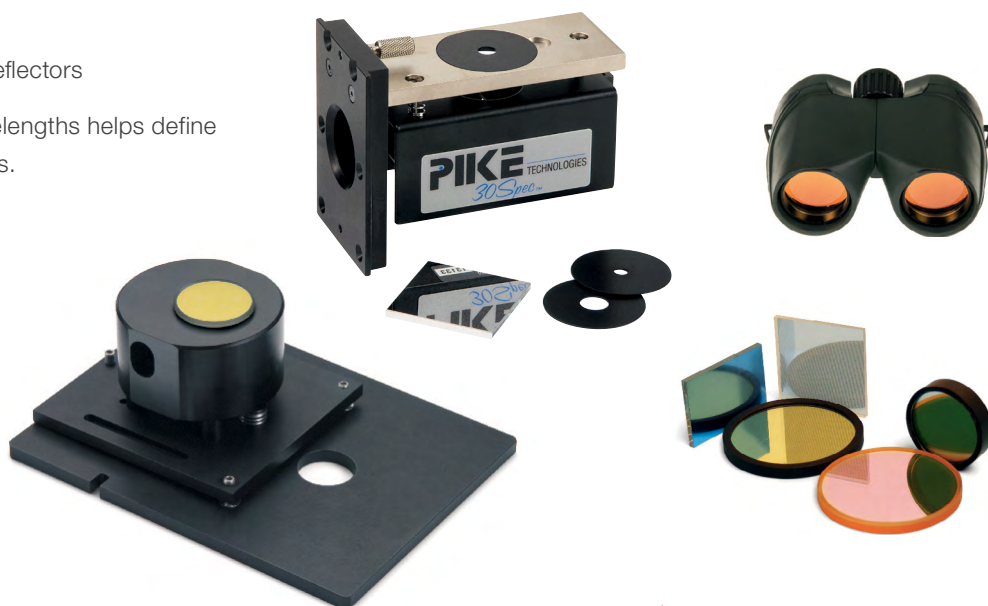
Reflectivity at critical angles and wavelengths helps define performance and commercial success.

### Sophisticated design for measuring advanced coating performance

Many industries use coatings to enhance their products. For example, plate and automotive glass may be treated with coatings to enhance reflection of UV or IR wavelengths for interior safety and climate control. Additionally, transmissive optical elements, like lenses, are often treated with an anti-reflective (AR) coating to prevent losses due to reflections. Laser mirrors, however, must be highly reflective at the appropriate wavelength to prevent beam energy losses. Consistency in these reflective coatings is vital and can be tested using specular reflectance accessories for UV-Visible spectrophotometers.

### Near-normal measurements for demanding applications

Whether you're developing new products or performing QA/QC measurements on reflective surfaces, near-normal reflectivity measurements tell you how your surface performs under direct observation. The 8° near-normal specular reflectance accessory (SRA) is mounted on an Evolution Spectrophotometer baseplate and installs directly into the sample compartment\* for a secure and reproducible fit. Align the accessory once and performance is optimized every time at every subsequent installation. A reference piece or calibrated mirror is recommended to get absolute reflectance data in your laboratory.



\*Available only for the Evolution Pro Spectrophotometers.

### Specific angles for special applications

- Mirrors operating at 45° on laser tables are required to direct the beam through experiments in research applications.
- Hot mirrors and cold mirrors have different cut-on and cut-off wavelengths depending on the angle of incidence.
- Film thickness measurements can be performed at any known angle.

### Slide-in mounting in the solid sample holder

- SRAs with fixed angles of 15°, 20°, 30°, 45° and 60° fit in the Solid Sample Holder accessory and are quickly and easily interchanged for measurements at different angles.
- An optional second slide mount allows you to condition the light by placing a filter or polarizer before or after your sample.

### Feature packed software for control and calculation

Thermo Scientific Insight™ Pro Software gives the user complete control of the instrument for alignment and method development.

The Thermo Scientific line of fixed angle SRAs gives you access to the fixed angles you need with less storage space and lower initial cost.

### Specifications

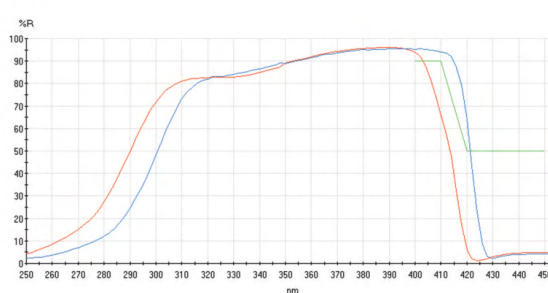
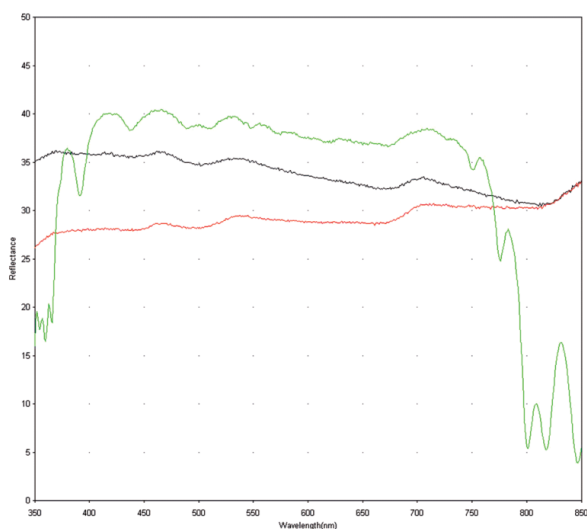
Mask apertures	8°	12 mm diameter circle
	15°, 20°, 30°	4 mm × 7 mm
	45°, 60°	4 mm × 13 mm
Optics	MgF <sub>2</sub> coated, UV-enhanced aluminum mirrors	

### Wavelength measurement range

Evolution One/One Plus	190 – 1100 nm
Evolution Pro	190 – 1100 nm

### Product information

Thermo Scientific Evolution One Spectrophotometer	840-341400
Thermo Scientific Evolution One Plus Spectrophotometer	840-341500
Thermo Scientific Evolution Pro Spectrophotometer	840-340200
Solid Sample Slide Holder—Fixed Position (to mount fixed angle SRAs 15° – 60°)	222-261700
Sample Slide Holder and Baseplate (to mount fixed angle SRAs 15° – 60°)	222-217200
8° Near-normal Specular Reflectance Accessory	222-244800
15° Specular Reflectance Accessory	222-233500
20° Specular Reflectance Accessory	222-233600
30° Specular Reflectance Accessory	222-219500
45° Specular Reflectance Accessory	222-219600
60° Specular Reflectance Accessory	222-233700



◀ Easily measure the reflectance of materials using Insight Pro Software.

- Conventional rhodium mirror (red)
- New mirror (green)
- Reference mirror (black)

Measurements taken with a 30° Specular Reflectance accessory. The results support a manufacturer's claim that its new mirror is 40% more reflective than a conventional rhodium mirror. An aluminum first-surface mirror of known reflectivity is included as a reference.

Learn more at [thermofisher.com/specular-reflectance](https://thermofisher.com/specular-reflectance)