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# Coherent® LightSmyth™ 800nm, 1398.6 Grooves/mm, 12.7 x 12.7mm Transmission Diffraction Grating

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LightSmyth™ Transmission Diffraction Gratings

Stock #16-859 [CONTACT US](#)

⊖ 1 ⊕ €525.<sup>00</sup>

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| Volume Pricing |                               |
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| Qty 1-9        | €525,00 each                  |
| Qty 10-24      | €472,50 each                  |
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ⓘ Prices shown are exclusive of VAT/local taxes

## Product Downloads

### General

1304165 **Model Number:**

Transmission Diffraction Grating **Type:**

**Note:**

S-Polarization defined with E-field parallel to the grating grooves

## Physical & Mechanical Properties

**Groove Density Uniformity (grooves/mm):**  
0.001

**Dimensions (mm):**  
12.70 x 12.70

**Clear Aperture CA (mm):**  
11.70 x 11.70

**Construction:**  
Multi-Layer Dielectric Binary Etch Grating

**Length (mm):**  
12.70

**Thickness (mm):**  
0.95 ±0.050

**Width (mm):**  
12.70

**Alignment of Grooves to Edge (°):**  
0.1 (typical)

## Optical Properties

**Groove Density (grooves/mm):**  
1398.6

**Design Wavelength DWL (nm):**  
800 ±20

**Minimum Efficiency (%):**  
≥94 @ 800nm

**Angle of Incidence (°):**  
34 ±1

**Coating:**  
Dielectric

**Substrate:**   
**Fused Silica** (Corning 7980)

**Surface Quality:**  
60-40

**Polarization:**  
S and P

## Regulatory Compliance

**Certificate of Conformance:**  
[View](#)

## Need different specs or modifications?

Edmund Optics offers comprehensive custom manufacturing services for optical and imaging components tailored to your specific application requirements. Whether in the prototyping phase or preparing for full-scale production, we provide flexible solutions to meet your needs. Our experienced engineers are here to assist—from concept to completion.

Our capabilities include:

- Custom dimensions, materials, coatings, and more
- High-precision surface quality and flatness
- Tight tolerances and complex geometries
- Scalable production—from prototype to volume

Learn more about our [custom manufacturing capabilities](#) or submit an inquiry [here](#).

## Product Details

- High Diffraction Efficiency (≥90% Absolute) and Low Scatter
- Polarization Independent and Single Polarization Optimized Gratings
- Robust Inorganic Materials for Superior Power Handling and Reliability
- Designs for NIR Wavelengths between 800 - 1800nm

Coherent® LightSmyth™ Transmission Diffraction Gratings are manufactured through a precision lithographic wafer-scale fabrication process and provide excellent optical performance, low polarization sensitivity, and low scatter. These gratings have a high diffraction efficiency of ≥90%, minimizing optical losses when used in multi-pass configurations. Gratings designed for near infrared (NIR) wavelengths between 800 - 1800nm are available with all featuring a precision line density uniformity of 0.001 lines/mm. Coherent® LightSmyth™ Transmission Diffraction Gratings are used in demanding applications including Spectral Beam Combining (SBC), LiDAR, optical telecommunications, pulse compression of pico- and femtosecond pulses, and spectroscopy. These gratings contain no organic materials and can be used with high power lasers and in environments up to 500 °C with no effects on performance. Please contact us for custom sizes or OEM requirements.

**Note:** II-VI Incorporated is now Coherent Corp.

## Special Handling

These optics require special handling to avoid damage and ensure long-term performance. Proper handling, cleaning, and storage are essential to maintain optical quality. Explore our [Optics Cleaning Resources](#) for step-by-step guides and best practices. For personalized assistance, [Email us](#) or [Chat](#) with our technical support team.



Component Handling Tools

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