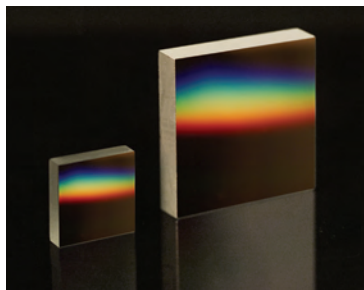


Ruled Diffraction Gratings



Highlights

- Higher Efficiencies than Holographic Gratings
- Offered in 3 Sizes:
 - 12.7 x 12.7 x 6 mm
 - 25 x 25 x 6 mm
 - 50 x 50 x 9.5 mm

Specifications

- **Efficiencies:** 60-80% at Blaze λ (in Littrow)
- **Dimensional Tolerances:** ± 0.5 mm
- **Ghost Intensities:** <0.5% of Parent Line
- **Damage Threshold:** 350 mJ/cm² at 200 ns (Pulsed); 40 W/cm² (CW)
- **Surface Quality:** 60-40 Scratch-Dig

These replicated, ruled diffraction gratings are offered in a variety of sizes and blaze angles. Ruled gratings typically can achieve higher efficiencies than holographic gratings due to their blaze angles. Efficiency curves for all of these gratings are shown on the following pages to aid in selection of the appropriate grating.

| ITEM# | GROOVES (lines/mm) | BLAZE λ (nm) | BLAZE ANGLE | DISPERSION (nm/mrad) | SIZE | \$ | £ | € | RMB |
|-----------|--------------------|----------------------|-------------|----------------------|--------------------|----------|---------|---------|----------|
| GR13-0303 | 300 | 300 | 2° 34' | 3.33 | 12.7 x 12.7 x 6 mm | \$ 61.20 | £ 42.50 | € 54.40 | ¥ 516.80 |
| GR13-0305 | 300 | 500 | 4° 18' | 3.32 | 12.7 x 12.7 x 6 mm | \$ 61.20 | £ 42.50 | € 54.40 | ¥ 516.80 |
| GR13-0310 | 300 | 1000 | 8° 36' | 3.30 | 12.7 x 12.7 x 6 mm | \$ 61.20 | £ 42.50 | € 54.40 | ¥ 516.80 |
| GR13-0605 | 600 | 500 | 8° 37' | 1.65 | 12.7 x 12.7 x 6 mm | \$ 61.20 | £ 42.50 | € 54.40 | ¥ 516.80 |
| GR13-0608 | 600 | 750 | 13° 0' | 1.62 | 12.7 x 12.7 x 6 mm | \$ 61.20 | £ 42.50 | € 54.40 | ¥ 516.80 |
| GR13-0610 | 600 | 1000 | 17° 27' | 1.59 | 12.7 x 12.7 x 6 mm | \$ 61.20 | £ 42.50 | € 54.40 | ¥ 516.80 |
| GR13-0616 | 600 | 1600 | 28° 41' | 1.46 | 12.7 x 12.7 x 6 mm | \$ 61.20 | £ 42.50 | € 54.40 | ¥ 516.80 |
| GR13-1203 | 1200 | 300 | 10° 22' | 0.82 | 12.7 x 12.7 x 6 mm | \$ 61.20 | £ 42.50 | € 54.40 | ¥ 516.80 |
| GR13-1205 | 1200 | 500 | 17° 27' | 0.80 | 12.7 x 12.7 x 6 mm | \$ 61.20 | £ 42.50 | € 54.40 | ¥ 516.80 |
| GR13-1208 | 1200 | 750 | 26° 44' | 0.74 | 12.7 x 12.7 x 6 mm | \$ 61.20 | £ 42.50 | € 54.40 | ¥ 516.80 |
| GR13-1210 | 1200 | 1000 | 36° 52' | 0.67 | 12.7 x 12.7 x 6 mm | \$ 61.20 | £ 42.50 | € 54.40 | ¥ 516.80 |
| GR13-1850 | 1800 | 500 | 26° 44' | 0.50 | 12.7 x 12.7 x 6 mm | \$ 61.20 | £ 42.50 | € 54.40 | ¥ 516.80 |

| ITEM# | GROOVES (lines/mm) | BLAZE λ (nm) | BLAZE ANGLE | DISPERSION (nm/mrad) | SIZE | \$ | £ | € | RMB |
|-----------|--------------------|----------------------|-------------|----------------------|----------------|-----------|---------|---------|----------|
| GR25-0303 | 300 | 300 | 2° 34' | 3.33 | 25 x 25 x 6 mm | \$ 102.00 | £ 70.80 | € 90.60 | ¥ 861.30 |
| GR25-0305 | 300 | 500 | 4° 18' | 3.32 | 25 x 25 x 6 mm | \$ 102.00 | £ 70.80 | € 90.60 | ¥ 861.30 |
| GR25-0310 | 300 | 1000 | 8° 36' | 3.30 | 25 x 25 x 6 mm | \$ 102.00 | £ 70.80 | € 90.60 | ¥ 861.30 |
| GR25-0605 | 600 | 500 | 8° 37' | 1.65 | 25 x 25 x 6 mm | \$ 102.00 | £ 70.80 | € 90.60 | ¥ 861.30 |
| GR25-0608 | 600 | 750 | 13° 0' | 1.62 | 25 x 25 x 6 mm | \$ 102.00 | £ 70.80 | € 90.60 | ¥ 861.30 |
| GR25-0610 | 600 | 1000 | 17° 27' | 1.59 | 25 x 25 x 6 mm | \$ 102.00 | £ 70.80 | € 90.60 | ¥ 861.30 |
| GR25-0613 | 600 | 1250 | 22° 1' | 1.55 | 25 x 25 x 6 mm | \$ 102.00 | £ 70.80 | € 90.60 | ¥ 861.30 |
| GR25-0616 | 600 | 1600 | 28° 41' | 1.46 | 25 x 25 x 6 mm | \$ 102.00 | £ 70.80 | € 90.60 | ¥ 861.30 |
| GR25-1204 | 1200 | 400 | 13° 53' | 0.81 | 25 x 25 x 6 mm | \$ 102.00 | £ 70.80 | € 90.60 | ¥ 861.30 |
| GR25-1205 | 1200 | 500 | 17° 27' | 0.80 | 25 x 25 x 6 mm | \$ 102.00 | £ 70.80 | € 90.60 | ¥ 861.30 |
| GR25-1208 | 1200 | 750 | 26° 44' | 0.74 | 25 x 25 x 6 mm | \$ 102.00 | £ 70.80 | € 90.60 | ¥ 861.30 |
| GR25-1210 | 1200 | 1000 | 36° 52' | 0.67 | 25 x 25 x 6 mm | \$ 102.00 | £ 70.80 | € 90.60 | ¥ 861.30 |
| GR25-1850 | 1800 | 500 | 26° 44' | 0.50 | 25 x 25 x 6 mm | \$ 102.00 | £ 70.80 | € 90.60 | ¥ 861.30 |

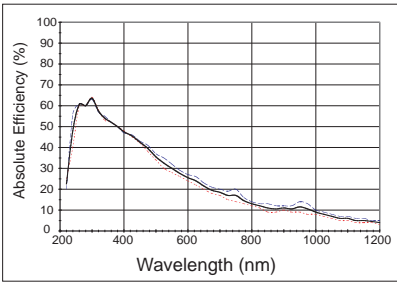
| ITEM# | GROOVES (lines/mm) | BLAZE λ (nm) | BLAZE ANGLE | DISPERSION (nm/mrad) | SIZE | \$ | £ | € | RMB |
|-----------|--------------------|----------------------|-------------|----------------------|------------------|-----------|----------|----------|------------|
| GR50-0305 | 300 | 500 | 4° 18' | 3.32 | 50 x 50 x 9.5 mm | \$ 179.60 | £ 124.60 | € 159.50 | ¥ 1,516.60 |
| GR50-0310 | 300 | 1000 | 8° 36' | 3.30 | 50 x 50 x 9.5 mm | \$ 179.60 | £ 124.60 | € 159.50 | ¥ 1,516.60 |
| GR50-0603 | 600 | 300 | 5° 9' | 1.66 | 50 x 50 x 9.5 mm | \$ 179.60 | £ 124.60 | € 159.50 | ¥ 1,516.60 |
| GR50-0605 | 600 | 500 | 8° 37' | 1.65 | 50 x 50 x 9.5 mm | \$ 179.60 | £ 124.60 | € 159.50 | ¥ 1,516.60 |
| GR50-0608 | 600 | 750 | 13° 0' | 1.62 | 50 x 50 x 9.5 mm | \$ 179.60 | £ 124.60 | € 159.50 | ¥ 1,516.60 |
| GR50-0610 | 600 | 1000 | 17° 27' | 1.59 | 50 x 50 x 9.5 mm | \$ 179.60 | £ 124.60 | € 159.50 | ¥ 1,516.60 |
| GR50-0613 | 600 | 1250 | 22° 1' | 1.55 | 50 x 50 x 9.5 mm | \$ 179.60 | £ 124.60 | € 159.50 | ¥ 1,516.60 |
| GR50-0616 | 600 | 1600 | 28° 41' | 1.46 | 50 x 50 x 9.5 mm | \$ 179.60 | £ 124.60 | € 159.50 | ¥ 1,516.60 |
| GR50-1204 | 1200 | 400 | 13° 53' | 0.81 | 50 x 50 x 9.5 mm | \$ 179.60 | £ 124.60 | € 159.50 | ¥ 1,516.60 |
| GR50-1205 | 1200 | 500 | 17° 27' | 0.80 | 50 x 50 x 9.5 mm | \$ 179.60 | £ 124.60 | € 159.50 | ¥ 1,516.60 |
| GR50-1208 | 1200 | 750 | 26° 44' | 0.74 | 50 x 50 x 9.5 mm | \$ 179.60 | £ 124.60 | € 159.50 | ¥ 1,516.60 |
| GR50-1210 | 1200 | 1000 | 36° 52' | 0.67 | 50 x 50 x 9.5 mm | \$ 179.60 | £ 124.60 | € 159.50 | ¥ 1,516.60 |
| GR50-1850 | 1800 | 500 | 26° 44' | 0.50 | 50 x 50 x 9.5 mm | \$ 179.60 | £ 124.60 | € 159.50 | ¥ 1,516.60 |

Handling of Gratings

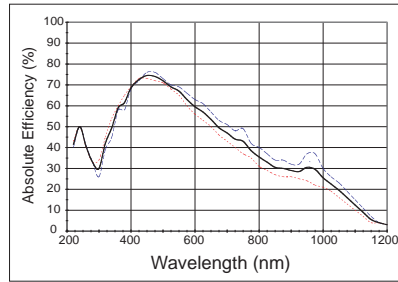
The surface of a diffraction grating can be easily damaged by fingerprints, aerosols, moisture, or the slightest contact with any abrasive material. Gratings should only be handled when necessary and always held by the sides. Latex gloves or a similar protective covering should be worn to prevent transfer of oil from fingers to the grating surface.

Any attempt to clean a grating with a solvent voids the warranty. No attempt should be made to clean a grating other than blowing off dust with clean, dry air or nitrogen.

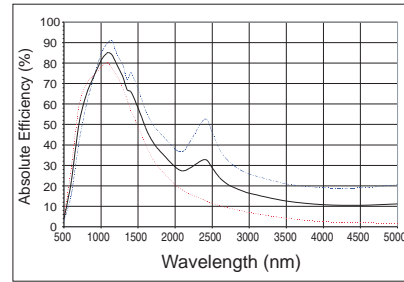
Ruled Diffraction Gratings (See Our Website for Enlarged Plots)



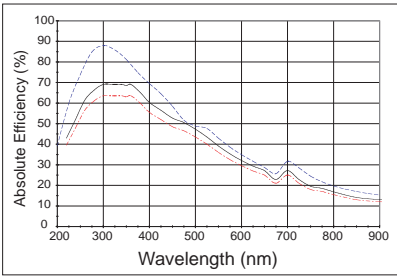
300 grooves/mm Blazed at 300 nm



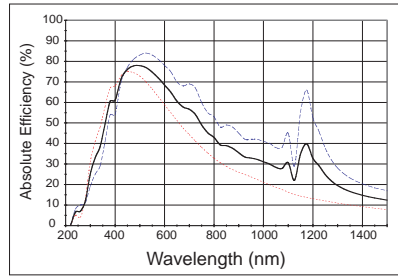
300 grooves/mm Blazed at 500 nm



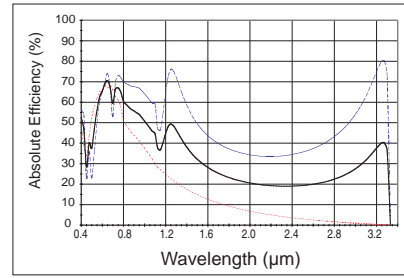
300 grooves/mm Blazed at 1.0 μm



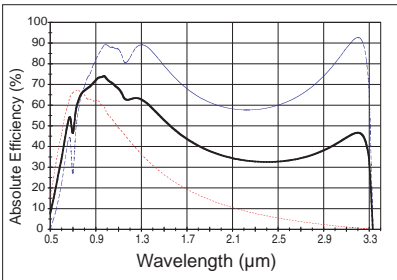
600 grooves/mm Blazed at 300 nm



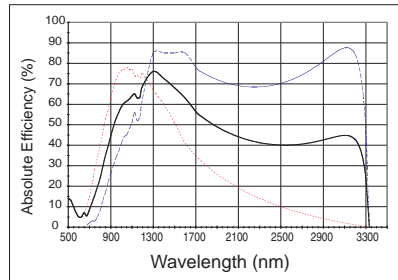
600 grooves/mm Blazed at 500 nm



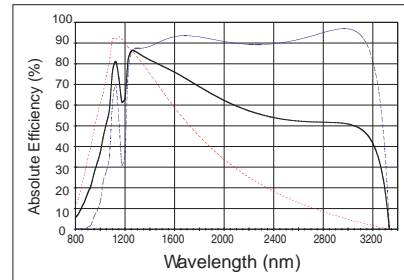
600 grooves/mm Blazed at 750 nm



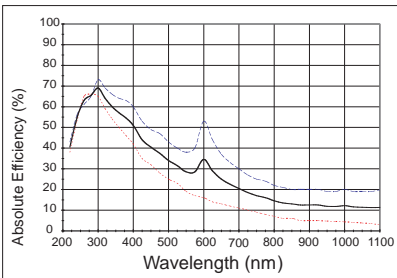
600 grooves/mm Blazed at 1.0 μm



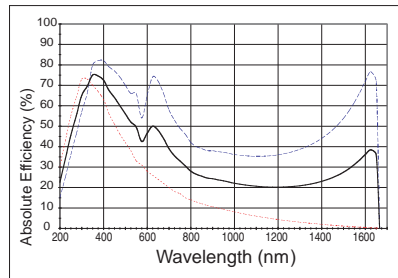
600 grooves/mm Blazed at 1.25 μm



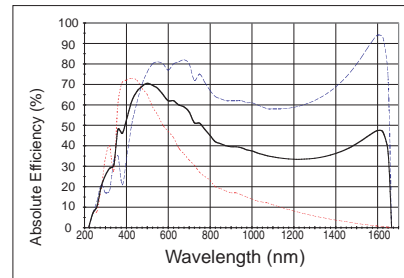
600 grooves/mm Blazed at 1.6 μm



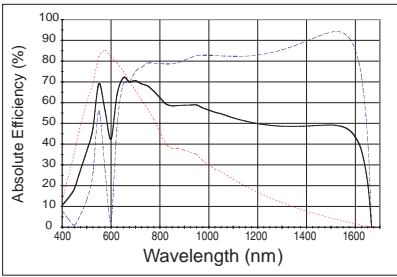
1200 grooves/mm Blazed at 300 nm



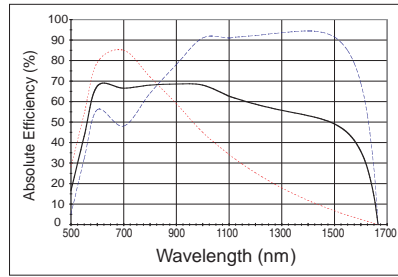
1200 grooves/mm Blazed at 400 nm



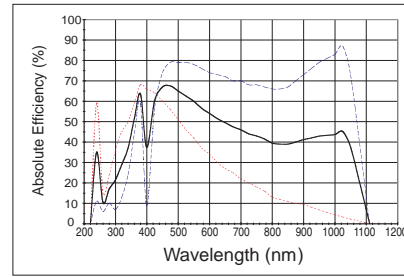
1200 grooves/mm Blazed at 500 nm



1200 grooves/mm Blazed at 750 nm



1200 grooves/mm Blazed at 1.0 μm



1800 grooves/mm Blazed at 500 nm

Efficiency Curve Key

- — — S-Polarized Polarization
- - - - - P-Polarized Polarization
- — — Average

*All gratings are measured in the Littrow mounting configuration
 *All gratings utilize an aluminum (Al) reflective coat