

## BARR CUSTOM UV STEEP EDGE LASER REJECTION FILTERS

### Overview:

Barr offers high performance, custom steep edge filters for use in the UV spectral region. Filters can be supplied which show measured blocking density of OD 5 or greater at the laser line of interest, while providing steep edge slope. Filters of this type have use in UV Raman Spectroscopy.



### Representative Features:

- High in-band transmission
- Broad transmission range
- Effective blocking of laser line (measured blocking  $\geq$  OD 5)
- Steep Edge Slope (< 1%) for laser lines from 244nm through 325nm

$$\text{Edge Slope \%} = [(\lambda_{HP} - \lambda_{Laser}) / \lambda_{Laser}] \times 100$$

- Can be designed for rejection of UV laser lines including 224.3nm, 229nm, 244nm, 248.6nm, 266nm, and 325nm
- Low auto-fluorescence
- Can be supplied in variety of sizes and shapes

### Representative Spectral Properties:

| Laser Wavelength (nm) | 244.0nm    | 248.6nm    | 266.0nm    | 325.0nm    |
|-----------------------|------------|------------|------------|------------|
| AOI Range:            | 0 to 3 deg |

### PROPERITES AT NORMAL INCIDENCE

| HP Wavelength (nm)                         | 244.0nm | 248.6nm | 266.0nm | 325.0nm |
|--------------------------------------------|---------|---------|---------|---------|
| Max HP wavelength at normal incidence (nm) | 246.4nm | 251nm   | 268.7nm | 328.3nm |

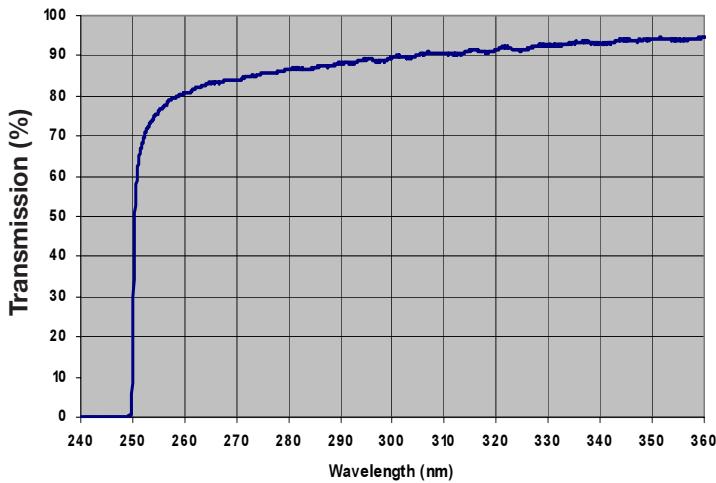
| Edge steepness<br>[(WL(HP) - WL(laser))/WL(laser)] x 100 | < 1% | < 1% | < 1% | < 1% |
|----------------------------------------------------------|------|------|------|------|
|----------------------------------------------------------|------|------|------|------|

| Transmission                      | 244.0nm     | 248.6nm     | 266.0nm     | 325.0nm     |
|-----------------------------------|-------------|-------------|-------------|-------------|
| Half Power Wavelength + 1nm       | > 60%T      | > 60%T      | > 60%T      | > 65%T      |
| Half Power Wavelength + 3nm       | > 70% T     | > 70%T      | > 70%T      | > 75%T      |
| Optimized Transmission Range (nm) | HP to 358nm | HP to 362nm | HP to 395nm | HP to 498nm |

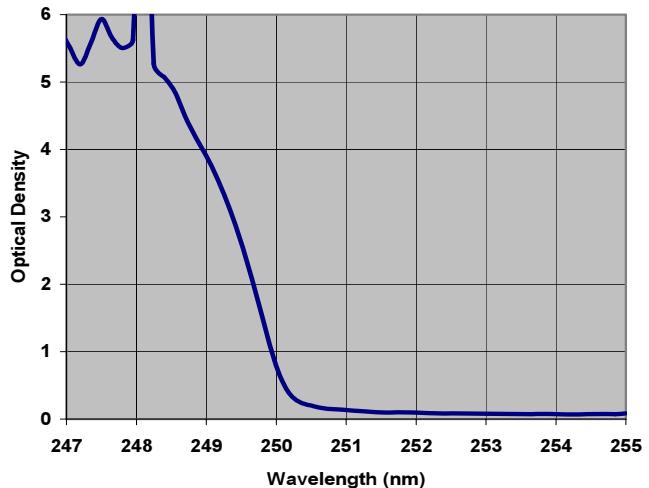
| Blocking at Laser line (OD): | 244.0nm | 248.6nm | 266.0nm | 325.0nm |
|------------------------------|---------|---------|---------|---------|
| Theoretical Blocking         | > OD 6  | > OD 6  | > OD6   | > OD 6  |
| Minimum Measured Blocking:   | OD 5    | OD 5    | OD 5    | OD 5    |

## Representative Measured Spectra:

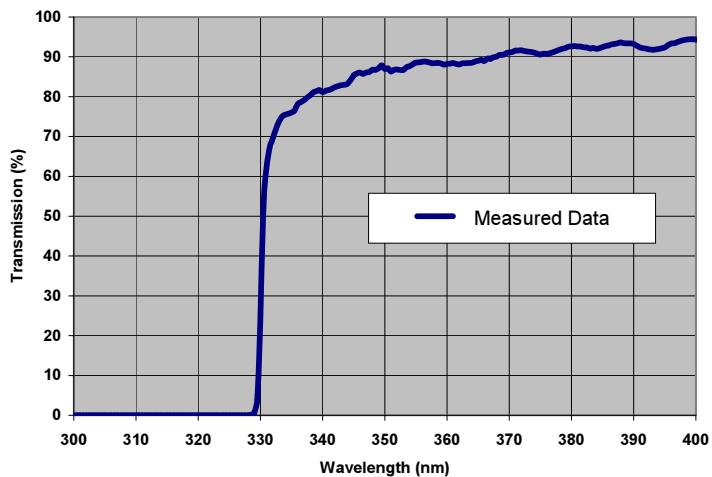
248.6nm Rejection Filter



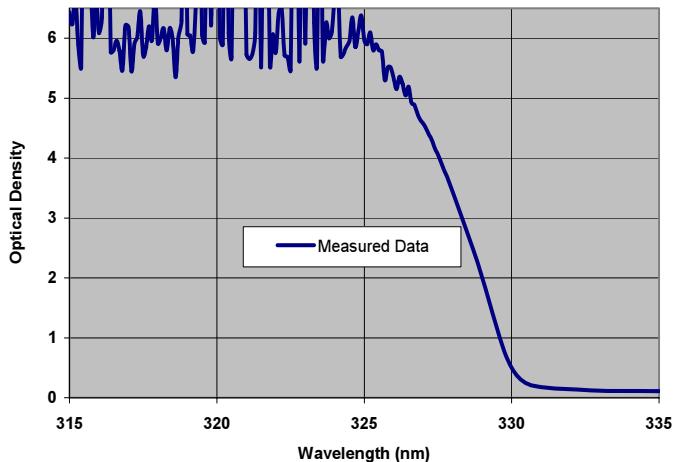
248.6nm Rejection Filter - Blocking



325nm Rejection Filter



325nm Rejection filter- Blocking



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