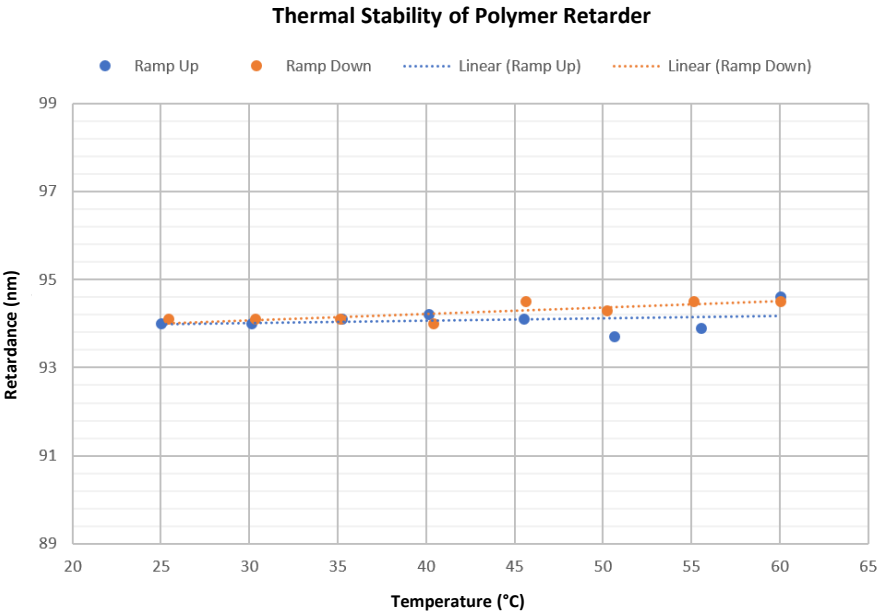
Polymer Film Retarders

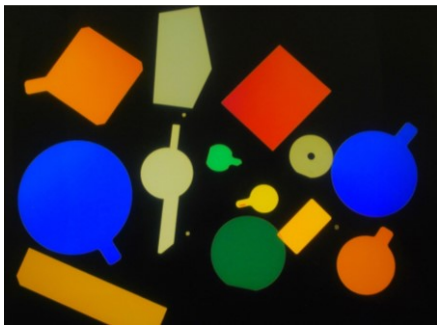
Meadowlark Optics is pleased to present our Bare Polymer Film Retarder. Our proprietary polymer film provides high retardance accuracy in a cost effective product which can be provided in almost any configuration and quantity. The temperature dependence of the nominal retardance is approximately 0.01%/°C, which provides a very stable and versatile polarization solution.

Manufactured in-house for wavelengths between 400 and 1800 nm, this retarder is ideal for applications requiring a high precision, thin and cost effective solution. We are also able to tune the retardance to your Angle of Incidence to optimize performance. AR coatings are available on a special order basis.

Standard shapes and retardance values are available when quick turn-around is needed. We can also accommodate requests for custom shapes sizes (up to 4 inches) and retardance values.

Please contact a Meadowlark Optics Solutions Engineer for assistance with your custom requirements.





Key Features

- Very thin profile
- Thermally stable
- High volume scalable
- AR coatings available
- Custom retardance available

Waveplate Suite

- Precision Retarder
- Precision Achromatic Retarder
- Precision Superachromatic Retarder
- Dual-Wavelength Retarder
- Wide Field Retarder
- Liquid Crystal Variable Retarder
- Polymer Film Retarder
- Raptor Applied Polymer Retarder
- Large Aperture Retarder
- Bi-Crystalline Achromatic Retarder

SPECIFICATIONS	
Substrate Material	Polymer Film
Thickness	0.003 inch (~76.2 µm), nominal
Wavelength Range	400 – 1800 nm
Retardance Ranges **Single Layer** **Double Layer**	 20 – 1600 nm 1600 – 3000 nm
Reflectance	~4% per surface
Retardance Variation	≤ 2%/inch
Retardance Accuracy	± λ/300
Acceptance Angle	± 6˚
Transmitted Wavefront Distortion **(per inch)**	≤ 2λ (P-V @ 633 nm) ≤ λ/2 (RMS @ 633 nm)
Surface Quality	80 – 50 scratch-dig
Beam Deviation	≤ 30 arc sec
Operating Temperature	-40˚C to +60˚C

ORDERING INFORMATION

Round		
Dimensions ***± 0.02 in. (0.50 mm)*** ***in. (mm)***	***Clear Aperture*** ***in. (mm)***	***Part Number***
0.50 (12.7 mm)	0.45 (11.43 mm)	λ/4 Wave: BQ – 050 – λ λ/2 Wave: BH – 050 – λ
1.00 (25.4 mm)	0.90 (22.86 mm)	λ/4 Wave: BQ – 100 – λ λ/2 Wave: BH – 100 – λ
1.50 (38.1 mm)	1.35 (34.29 mm)	λ/4 Wave: BQ – 150 – λ λ/2 Wave: BH – 150 – λ
2.00 (50.8 mm)	1.80 (45.72 mm)	λ/4 Wave: BQ – 200 – λ λ/2 Wave: BH – 200 – λ
Square		
Dimensions ***± 0.02 in. (0.50 mm)*** ***in. (mm)***	***Clear Aperture*** ***in. (mm)***	***Part Number***
0.50 x 0.50 (12.7 x 12.7 mm)	0.50 x 0.50 (12.7 x 12.7 mm)	λ/4 Wave: BQ – 050x050 – λ λ/2 Wave: BH – 050x050 – λ
1.00 x 1.00 (25.4 x 25.4 mm)	0.90 x 0.90 (22.86 x 22.86 mm)	λ/4 Wave: BQ – 100x100 – λ λ/2 Wave: BH – 100x100 – λ
1.50 x 1.50 (38.1 x 38.1 mm)	1.35 x 1.35 (34.29 x 34.29 mm)	λ/4 Wave: BQ – 150x150 – λ λ/2 Wave: BH – 150x150 – λ
2.00 x 2.00 (50.8 x 50.8 mm)	1.80 x 1.80 (45.72 x 45.72 mm)	λ/4 Wave: BQ – 200x200 – λ λ/2 Wave: BH – 200x200 – λ