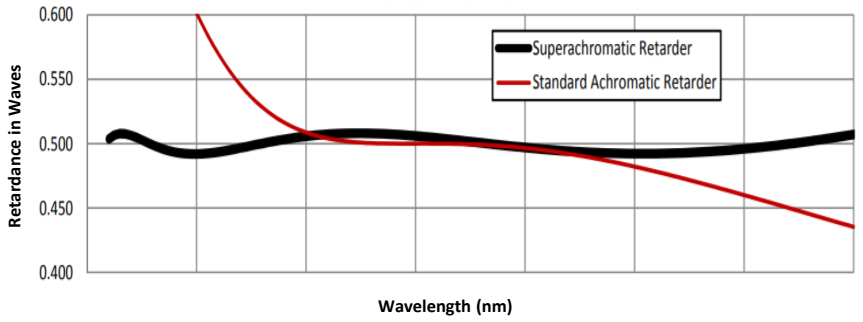
Precision Superachromatic Retarder

Meadowlark Optics is proud to offer our Precision Superachromatic Retarder—with the broadest wavelength coverage of our entire retarder product line. These are available standard for two wavelength ranges; 420 to 1100 nm, and 800 to 1700 nm. Both quarter and half wave retardances available as standard options. Custom devices are available for other wavelength ranges and retardances. Stock items are not anti-reflection coated due to the broad wavelength coverage but custom coatings can be provided.

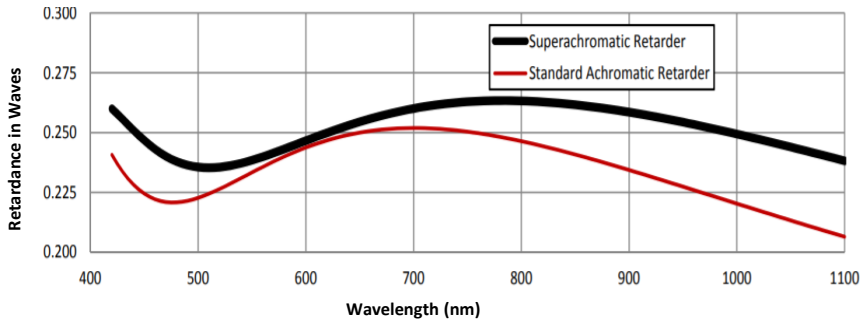
The Superachromatic Retarders contain carefully aligned birefringent polymer sheets laminated between precision polished optically flat N-BK7 windows. While assembly is quite similar to that of our Precision Retarders, optical transmission is slightly reduced because there are more polymer layers and there is no anti-reflection coating.

These retarders are accurate to ±λ/50 over the entire wavelength range; we ship retardance measurements at more than 25 wavelengths accurate to ±0.001 waves with every Precision Superachromatic Retarder.

Half Wave Retardance – VIS to NIR



Quarter Wave Retardance – VIS to NIR

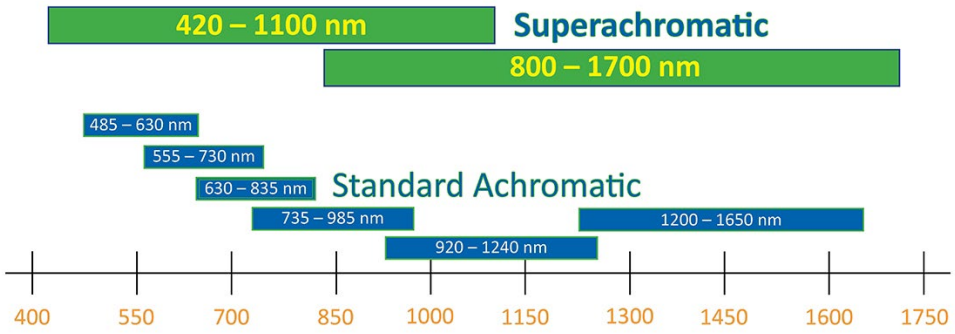


Key Features

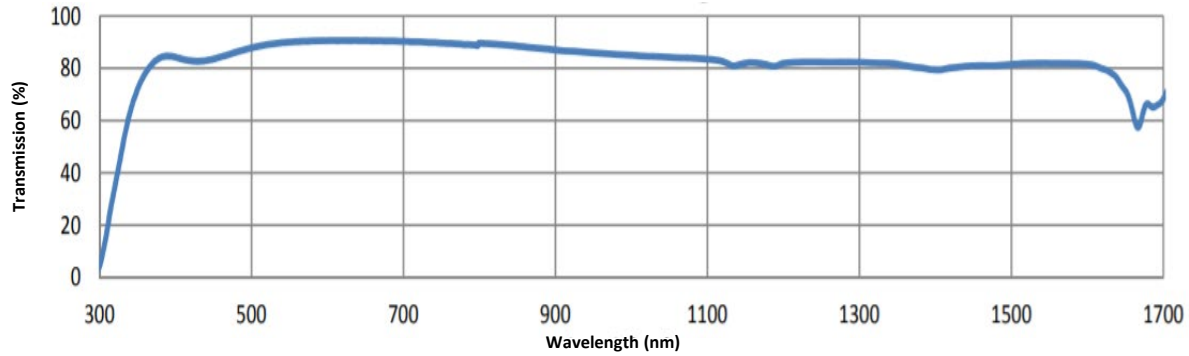
- Ultra-broadband wavelength range
- 420 to 1100 nm and 800 to 1700 nm
- Custom wavelength ranges available
- Custom retardances available
- Superior field of view

Waveplate Suite

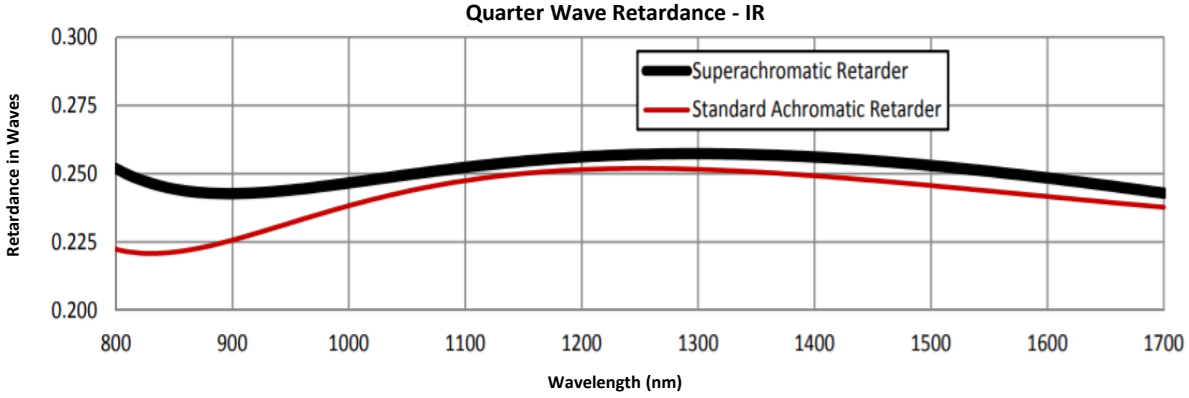
- Precision Retarder
- Precision Achromatic Retarder
- Precision Superachromatic Retarder
- Dual-Wavelength Retarder
- Wide Field Retarder
- Liquid Crystal Variable Retarder
- Polymer Film Retarder
- Raptor Applied Polymer Retarder
- Large Aperture Retarder
- Bi-Crystalline Achromatic Retarder



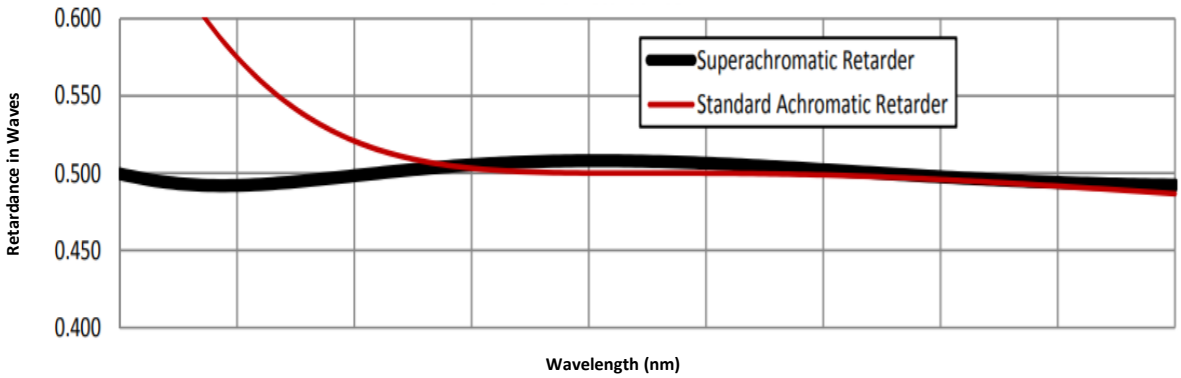
Superachromatic Retarder Transmission



Quarter Wave Retardance - IR



Half Wave Retardance - IR



ORDERING INFORMATION

Mounted					
Diameter ±0.005 in. (±0.13 mm)	***Clear Aperture in. (mm)***	***Thickness ±0.020 in. (±0.51 mm)***	***Wavelength Range (nm)***	***λ/4 Part #***	***λ/2 Part #***
1.00 (25.40)	0.70 (17.80)	0.36 (9.10)	420 – 1100 nm	AQM – 100S	AHM – 100S
1.00 (25.40)	0.70 (17.80)	0.36 (9.10)	800 – 1700 nm	AQM – 100L	AHM – 100L
2.00 (50.80)	1.20 (30.50)	0.50 (12.70)	420 – 1100 nm	AQM – 200S	AHM – 200S
2.00 (50.80)	1.20 (30.50)	0.50 (12.70)	800 – 1700 nm	AQM – 200L	AHM – 200L
Unmounted					
Diameter ±0.010 in. (±0.25 mm)	***Clear Aperture in. (mm)***	***Thickness ±0.020 in. (±0.51 mm)***	***Wavelength Range (nm)***	***λ/4 Part #***	***λ/2 Part #***
1.00 (25.40)	0.80 (20.30)	0.27 (6.90)	420 – 1100 nm	AQ – 100S	AH – 100S
1.00 (25.40)	0.80 (20.30)	0.27 (6.90)	800 – 1700 nm	AQ – 100L	AH – 100L
2.00 (50.80)	1.60 (40.60)	0.51 (13.00)	420 – 1100 nm	AQ – 200S	AH – 200S
2.00 (50.80)	1.60 (40.60)	0.51 (13.00)	800 – 1700 nm	AQ – 200L	AH – 200L

Custom sizes and retardances are available. Please contact your sales engineer for assistance.

SPECIFICATIONS

Retarder Material	Birefringent Polymer
Substrate Material	N-BK7
Wavelength Ranges	420 – 1100 nm 800 – 1700 nm
TWD (1.00 in.)	λ/2 (P-V@633 nm)
Retardance Accuracy	≤λ/50
Acceptance Angle	±10˚
Surface Quality	40 – 20 scratch-dig
Beam Deviation	≤ 2 arc-min
Temperature Range	-20˚C to +50˚C (Operating)
Laser Damage Threshold	500 W/cm^2, CW 300 mJ/cm^2, 10 ns, visible 500 mJ/cm^2, 10 ns, 1064 nm