

Precision Superachromatic Retarder

Meadowlark Optics is proud to introduce our new Precision Superachromatic Retarder—now 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—and in both quarter and half wave retardances. 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.

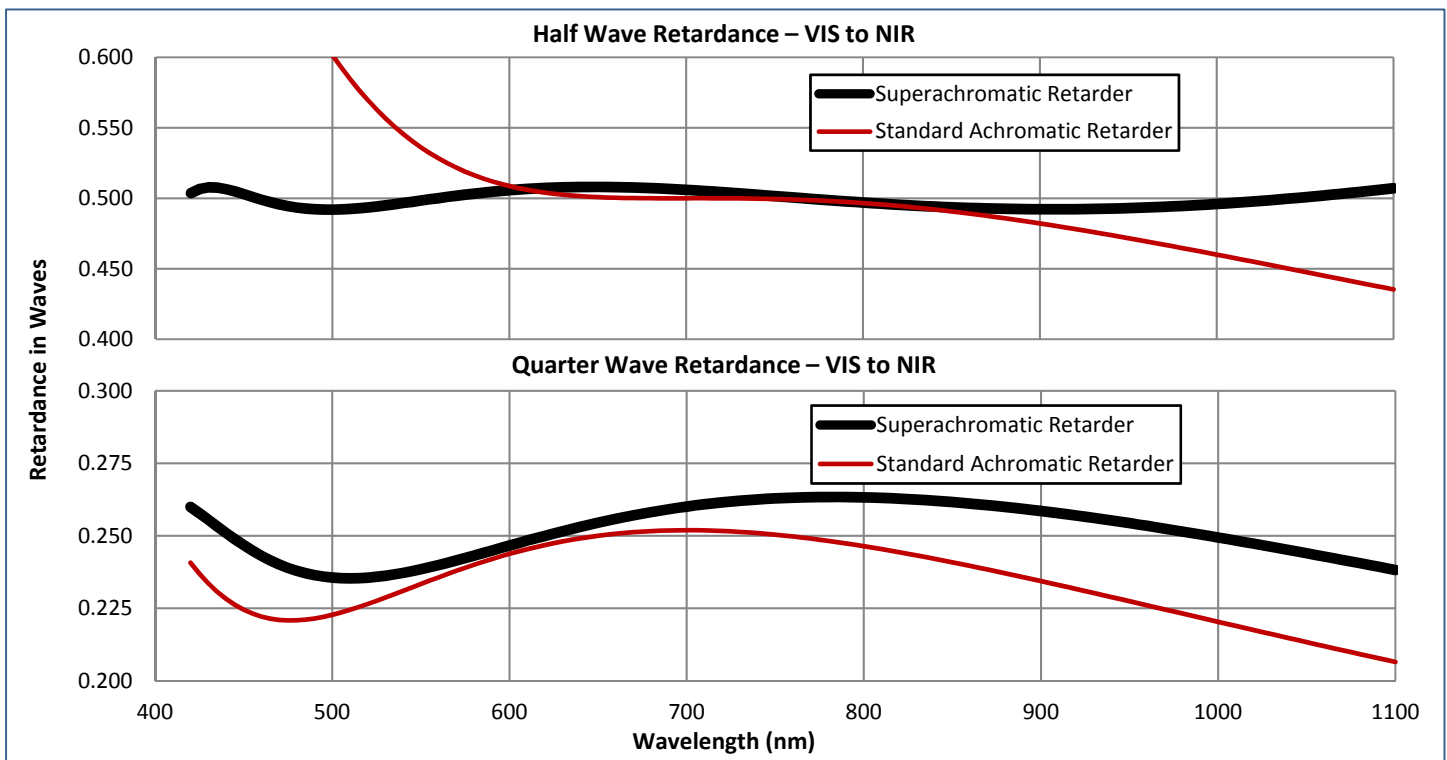
The Superachromatic Retarders contain carefully aligned birefringent polymer sheets laminated between precision polished optically flat N-BK7 windows. While assembly is quite similar to that of our Precision Retarders, optical transmission is slightly reduced because there are more polymer layers and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

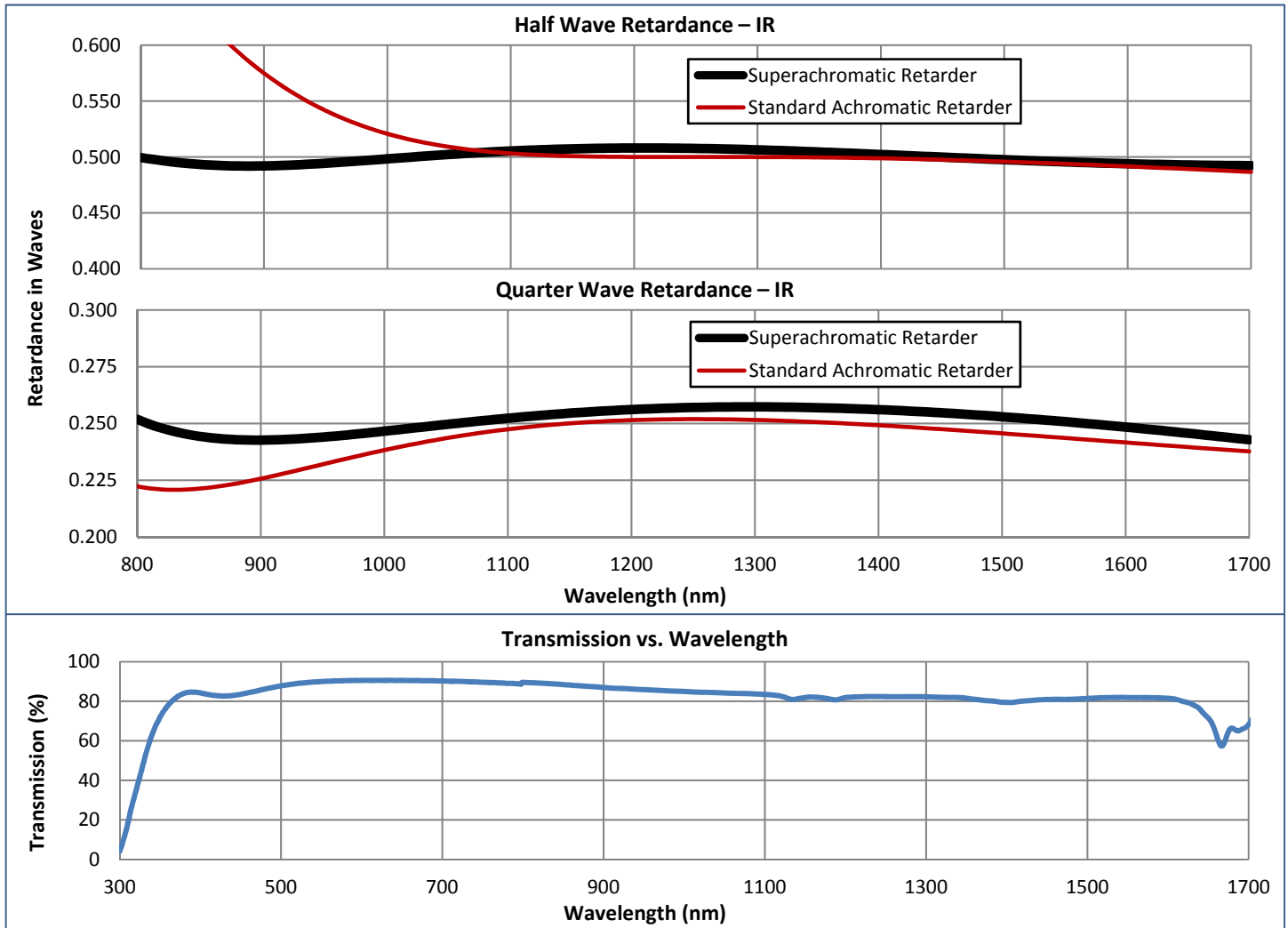
These retarders are accurate to $\pm\lambda/50$ over the entire wavelength range; we ship retardance measurements at more than 25 wavelengths accurate to ± 0.001 waves with every Precision Superachromatic Retarder.



Superachromatic 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





SPECIFICATIONS		ORDERING INFORMATION					
Retarder Material	Birefringent Polymer	Mounted					
Substrate Material	N-BK7	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 #
Wavelength Ranges	420-1100 nm 800-1700 nm	1.00 [25.4]	0.70 [17.8]	0.36 [9.1]	420 - 1100	AQM - 100S	AHM - 100S
TWD (1.00 in.)	λ/4 (P-V @ 633) [λ/16 (RMS @ 633)]	1.00 [25.4]	0.70 [17.8]	0.36 [9.1]	800 - 1700	AQM - 100L	AHM - 100L
		2.00 [50.8]	1.20 [30.5]	0.50 [12.7]	420 - 1100	AQM - 200S	AHM - 200S
Retardance Accuracy	≤λ/50	2.00 [50.8]	1.20 [30.5]	0.50 [12.7]	800 - 1700	AQM - 200L	AHM - 200L
Acceptance Angle	±10°	Unmounted					
Surface Quality	40-20 scratch-dig	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 #
Beam Deviation	≤ 2 arc min	1.00 [25.4]	0.80 [20.3]	0.27 [6.9]	420 - 1100	AQ - 100S	AH - 100S
		1.00 [25.4]	0.80 [20.3]	0.27 [6.9]	800 - 1700	AQ - 100L	AH - 100L
Temperature Range	10°C to 50°C (Operating)	2.00 [50.8]	1.60 [40.6]	0.51 [13.0]	420 - 1100	AQ - 200S	AH - 200S
Laser Damage Threshold	500 W/cm ² , CW 300 mJ/cm ² , 10ns, VIS 500 mJ/cm ² , 10ns, 1064 nm	2.00 [50.8]	1.60 [40.6]	0.51 [13.0]	800 - 1700	AQ - 200L	AH - 200L
		<i>Custom sizes and retardances are available. Please contact your sales engineer for assistance.</i>					