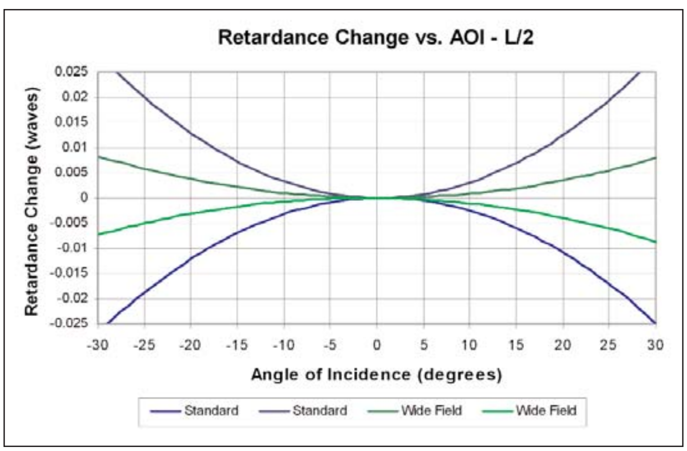
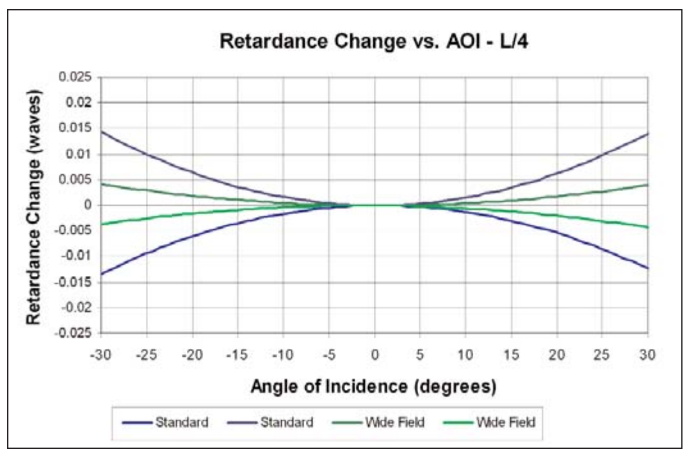
WIDE FIELD RETARDERS

Meadowlark Optics Wide Field Retarders

The classic mathematical definition of retardance has always been considered the product of a material's birefringence and the thickness of the part. This a great calculation to use when all of the light hits the surface of the retarder at normal incidence, but can lead to many problems when a converging or diverging beam comes into contact with the retarder. Two primary issues will create retardance variations when considering a non-collimated bundle will vary from the center to the edge of the beam and each ray at a different location will see varying magnitudes of the ordinary and extraordinary axes of the retarder. All of this leads to variations in the retardance profile when light passes through the optic.

Meadowlark Optics has now discovered a technique to remove the off-angle effects of retarders. These new components can accept very large angles and still present a uniform retardance profile once light has passed through the optic. Our measurements have shown retardance changes of about 1 nm at ± 30° from normal incidence. This breakthrough allows retarders to exist in sections of optical instruments that were never possible before, like next to scanning mirrors, and can help simplify your optical design by removing the need for collimating lenses.





ORDERING INFORMATION

Diameter D(in.)	Clear Aperture(in.)	Thickness T(in.)	λ/4 wave Part No.	λ/2 wave Part No.
Mounted				
1.00	0.40	0.23	WQM-050-λ	WHM-050-λ
1.00	0.70	0.35	WQM-100-λ	WHM-100-λ
Unmounted				
0.50	0.40	0.13	WQ-050-λ	WH-050-λ
1.00	0.80	0.25	WQ-100-λ	WH-100-λ

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