Wide Field Retarders

Key Benefits

- **Unmatched off-axis performance**
- **Standard and custom wavelength retarders**
- **Mounted and unmounted versions available**
- **Off-axis performance ideal for uncollimated light applications**

Meadowlark Optics now offers Wide Field Retarders, the latest innovation in near zero-order polymer retarder technology. At their design wavelength, Wide Field Retarders provide a consistent retardance value over a wide acceptance angle, out to 30° or more.

Standard quarter- and half-wave designs are available for common wavelengths in the visible to near infrared region. Figure 2-10 shows the Wide Field Retarder performance as a function of incidence angle for the half-wave design. Quarter-wave Wide Field Retarder performance is shown in figure 2-11.

Multilayer broadband antireflection (BBAR) coatings are included as standard. Note that BBAR coating performance varies with incidence angle; these coatings perform best at (or near) normal incidence.

As with all Meadowlark Optics retarders, the fast axis is conveniently marked. Custom retardance values are available for wavelengths from 400-1800 nm. Please call for application assistance or to request a custom quotation.

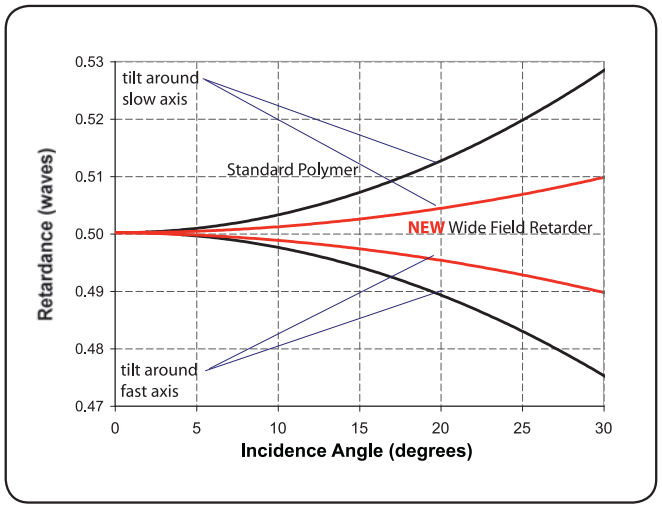

Fig. 2-10 Half-wave Wide Field Retarder performance versus incidence angle

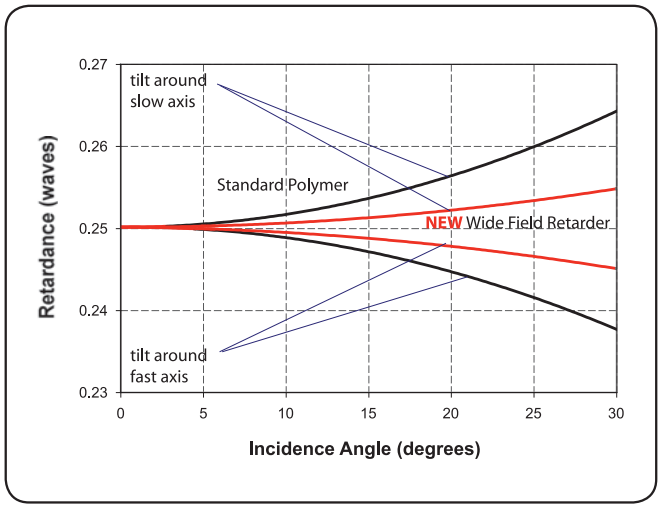

Fig. 2-11 Quarter-wave Wide Field Retarder performance versus incidence angle performance

Wide Field Retarders

SPECIFICATIONS	
Retarder Material	Birefringent Polymer
Substrate Material	BK 7 Grade A, fine annealed
Standard Wavelengths	532, 632.8, 670,780,850, 1064 and 1550 nm
Custom Wavelengths	400-1800 nm (specify)
Standard Retardance	λ/4 and λ/2
Retardance Accuracy	≤ λ/250 at normal incidence at the center of the part
Retardance Change (at 30° tilt)	
Half-wave Quarter-wave	≤ λ/100 ≤ λ/200
Transmitted Wavefront Distortion (at 632.8 nm)	≤ λ/2
Surface Quality	60-40 scratch and dig
Beam Deviation	≤ 1 arc min
Reflectance (per surface)	
At normal incidence At 30° incidence	≤ 0.5% ≤ 1.0%
Diameter Tolerance	
Mounted Unmounted	±0.005 in. +0/-0.010 in.
Temperature Range	0° C to 40° C

ORDERING INFORMATION

Mounted				
Diameter (in.)	*Clear Aperture (in.)*	*Thickness (in.)*	*λ/4 Wave Part No.*	*λ/2 Wave Part No.*
1.00	0.40	0.25	WQM-050-λ	WHM-050-λ
1.00	0.70	0.35	WQM-100-λ	WHM-100-λ
2.00	1.20	0.50	WQM-200-λ	WHM-200-λ
Unmounted				
Diameter (in.)	*Clear Aperture (in.)*	*Thickness (in.)*	*λ/4 Wave Part No.*	*λ/2 Wave Part No.*
0.50	0.40	0.14	WFQ-050-λ	WFH-050-λ
1.00	0.80	0.28	WFQ-100-λ	WFH-100-λ
1.50	1.20	0.40	WFQ-150-λ	WFH-150-λ

Custom sizes and retardance values are available. Please contact your Meadowlark Optics sales engineer for a custom quote.