



meadowlark optics

# POLARIZERS




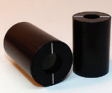




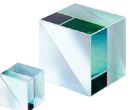
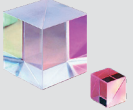


== SELECTION GUIDE ==



POLARIZERS • SPATIAL LIGHT MODULATORS • WAVEPLATES • LIQUID CRYSTAL DEVICES • OTHER CAPABILITIES



Over 45 Years of Photonics Innovation

	POLARIZER	FEATURES	WAVELENGTH
LINEAR	 <b>Precision</b>	<ul style="list-style-type: none"> <li>• Custom shapes and large apertures available</li> <li>• Ultraviolet, visible, near infrared versions</li> <li>• Most economical linear polarizer choice</li> </ul>	UV – NIR
	 <b>High Contrast</b>	<ul style="list-style-type: none"> <li>• High contrast</li> <li>• High transmission</li> <li>• Wavelength-specific design</li> </ul>	650 – 950 nm
	 <b>**Ultra High Contrast</b>	<ul style="list-style-type: none"> <li>• Spectral performance - <b>good</b></li> <li>• High temperature resistance</li> <li>• Highest available contrast ratio</li> <li>• Excellent ultraviolet product option</li> </ul>	UV – MWIR
	 <b>Glan-Thompson</b>	<ul style="list-style-type: none"> <li>• Excellent extinction ratio</li> <li>• Spectral performance - <b>better</b></li> <li>• Multilayer BBAR coatings also available</li> </ul>	UV – NIR
	 <b>Ultra Broadband</b>	<ul style="list-style-type: none"> <li>• Extremely broadband - <b>best</b></li> <li>• Wide acceptance angle</li> <li>• Excellent transmitted contrast</li> <li>• Thin, compact design</li> </ul>	UV – NIR
	 <b>MWIR</b>	<ul style="list-style-type: none"> <li>• Excellent contrast ratio</li> <li>• Thin profile</li> <li>• High transmission</li> <li>• Custom apertures &gt; 2 inches available</li> </ul>	MWIR – LWIR (3 – 6 μm)
BEAMSPLITTING	 <b>Wiregrid Versalight™ Plate</b>	<ul style="list-style-type: none"> <li>• Broad spectral performance</li> <li>• Specularly reflective operation</li> <li>• High power handling capability</li> <li>• Visible and near infrared versions</li> </ul>	FS: UV – NIR Eagle: VIS – NIR
	 <b>ICE Cube™ &amp; Versalight™ Wiregrid Beam Splitters</b>	<ul style="list-style-type: none"> <li>• 420 to 2600 nm</li> <li>• Wide acceptance angle</li> <li>• Excellent transmitted contrast</li> <li>• Coated and uncoated available</li> </ul>	Ice Cube™: 420 – 700 nm; Uncoated: 420 - 2600 nm
	 <b>Laser Line Beam Splitter</b>	<ul style="list-style-type: none"> <li>• High contrast</li> <li>• High transmitted and reflected efficiencies</li> <li>• Low surface reflectance</li> <li>• High damage threshold options available</li> </ul>	VIS – NIR
	 <b>Broadband Beam Splitter</b>	<ul style="list-style-type: none"> <li>• High contrast</li> <li>• High transmitted and reflected efficiencies</li> <li>• High damage threshold options available</li> <li>• Broad spectral performance</li> </ul>	VIS – NIR
CIRCULAR	 <b>Dichroic Circular</b>	<ul style="list-style-type: none"> <li>• High isolation</li> <li>• Large diameters available</li> <li>• Achromatic versions for broadband performance</li> </ul>	VIS – NIR (specify wavelength)
	 <b>Beam Separator</b>	<ul style="list-style-type: none"> <li>• High isolation</li> <li>• Excellent wavefront quality</li> <li>• Robust opto-mechanical design</li> </ul>	• VIS – NIR

	POLARIZER	CONTRAST RATIO	*TWD (P-V)	ACCEPTANCE ANGLE	BEAM DEVIATION
LINEAR	Precision	UV: up to 500:1 VIS: up to 30,000:1 NIR: up to 10:000:1	UV: $\leq \lambda/2$ VIS: $\leq \lambda/5$ NIR: $\leq \lambda/2$	$\pm 10^\circ$	UV: $\leq 2$ arc min VIS: $\leq 1$ arc min NIR: $\leq 2$ arc min
	High Contrast	up to 10,000:1	$\lambda/4$	$\pm 5^\circ$	$\leq 3$ arc min
	**Ultra High Contrast	up to 10,000,000:1	UV: 1 $\lambda$ per 10 mm dia. VIS: 1 $\lambda$ per 10 mm dia. IR: 1 $\lambda$ per 10 mm dia. MWIR: design dependent	$\pm 5^\circ$	$\leq 5$ arc min
	Glan-Thompson	100,000:1 over central 2/3 of clear aperture	N/A	$\pm 5^\circ$	$\leq 3$ arc min
	Ultra Broadband	up to 1,000,000:1	$\leq 3.5 \lambda$ per in.	$\pm 40^\circ$	$\leq 10$ arc min
	MWIR	up to 25,000:1	$\leq 1.5 \lambda$ per in. (at 4 $\mu\text{m}$ )	$\pm 20^\circ$	$\leq 2$ arc min
BEAMSPLITTING	Wiregrid Versalight™ Plate	2,000:1 (typical transmission)	FS: $\sim \lambda/4$ per in. Eagle: $\sim 5 \lambda$ per in.	$\pm 40^\circ$	$\leq 1$ arc min
	ICE Cube™ & Versalight™ Wiregrid Beam Splitters	10,000:1 (typical transmission)	$\leq \lambda/3$ (transmitted)	$\pm 25^\circ$	$\leq 5$ arc min
	Laser Line Beam Splitter	up to 1,000:1 (typical transmission)	$\leq \lambda/4$ (surface flatness)	$\pm 2^\circ$	$\leq 3$ arc min
	Broadband Beam Splitter	up to 500:1 (typical transmission)	$\leq \lambda/8$ (surface flatness)	$\pm 2^\circ$	$\leq 3$ arc min
CIRCULAR	Dichroic Circular	N/A	VIS: $\leq \lambda/5$ NIR: $\leq \lambda/2$	$\pm 10^\circ$	VIS: $\leq 1$ arc min NIR: $\leq 2$ arc min
	Beam Separator	N/A	$\leq \lambda/5$ (transmitted)	$\pm 2^\circ$	$\leq 3$ arc min

\*Meadowlark Optics chooses to specify Transmitted Wavefront Distortion as Peak-to-Valley (P-V). We believe P-V more accurately reflects the high and low points of the surface vs. RMS which uses an average.

\*\*Ultra High Contrast Polarizers are sold laminated. If unlaminated is desired, please contact a Solutions Engineer for a custom quote.

## Why Choose Meadowlark Polarizers?

**Wide Range of Options** – This selection chart provides an at-a-glance view of our standard polarizers broken down into Circular, Linear and Beam splitting categories.

**Broad Wavelength Capabilities** – Our standard polarizers are designed for use in the 220-nm to 6-micron range (with custom options up to 15 microns.)

**High Quality and Precision** – Meadowlark Optics is proud to continue providing our customers with industry-leading specifications including excellent surface quality, high extinction ratio, low transmitted wavefront distortion, and more.

**Custom Solutions** – Prism clusters, attached retarders, odd shapes and sizes – while we are delighted to provide you one of our standard components or systems, we are just as happy to customize a solution that more exactly fits your needs.

## About Meadowlark Optics

Innovating since 1979 – Meadowlark Optics has provided world-class polarization optics and liquid crystal solutions for a variety of applications for over 45 years. To ensure precision and top quality, our 20,000 SF headquarters and manufacturing facility boasts the latest in clean rooms, optical fabrication, and metrology equipment. Need help selecting the right product for your application? Contact one of our Solutions Engineers to discuss your requirements.

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