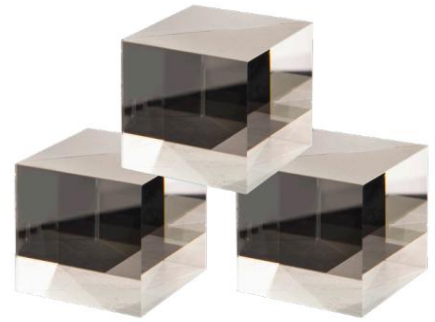
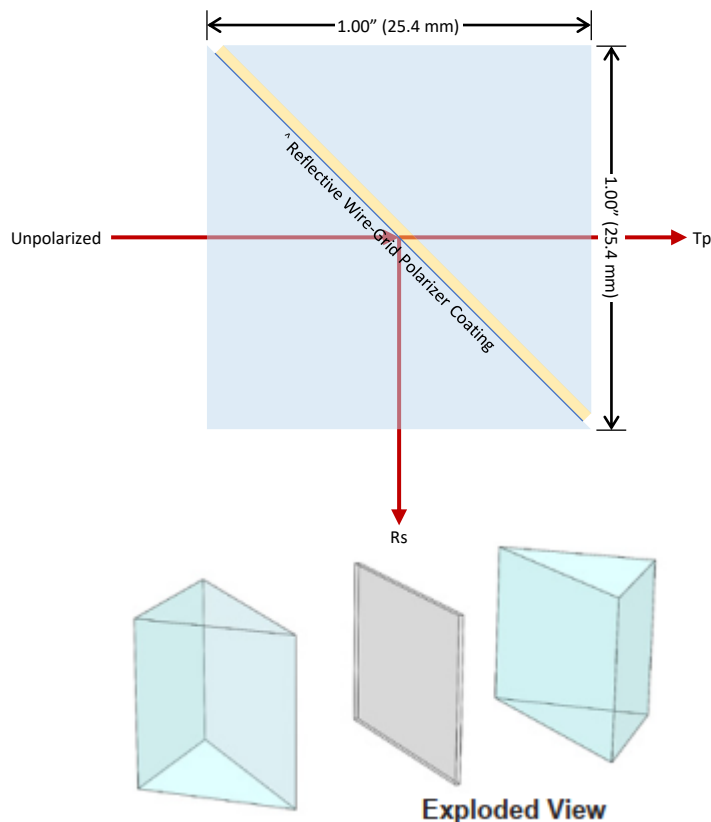


## Wiregrid Polarizing Beam Splitter – ICE Cube

Meadowlark Optics is now the exclusive provider of the ICE Cube™ formerly offered by Moxtek. This polarizing beam splitter (PBS) cube is optimized for use over a wide range of acceptance angles while maintaining color uniformity and image contrast in the visible wavelength ranges. The ICE Cube allows compact optical designs with reduced optical paths. Engineers are now able to design smaller systems while maintaining excellent optical performance. The ICE Cube polarizer performance exceeds that for the commonly used thin film MacNeille cubes in both acceptable wavelength range and angle of incidence range while providing more than twice the contrast ratio in the transmitted beam for most wavelengths.

The ICE Cube is assembled by embedding our polarizing beam splitter plate between two AR coated glass prisms. These cubes are designed with Nanowire® grid structures centered on the hypotenuse of the ICE Cube. The ICE Cube PBS separates natural light into two main orthogonal, linearly polarized components; the p-polarized light which is transmitted while the s-polarized light is reflected at a 90° angle. In principle, half of the incident light is reflected, and the other half is transmitted.



### Key Features

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- Wide angle of incidence range
- Uniformity over wide range of angles
- High contrast and transmission over wide range of angles

### Polarization Suite

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#### Linear Polarizers

- Precision Linear Polarizer
- High Contrast Linear Polarizer
- Ultra-High Contrast Linear Polarizer
- Glan-Thompson Polarizer
- Ultra Broadband Polarizer
- MWIR Polarizer
- Deep Ultraviolet Polarizer

#### Beamsplitting Polarizers

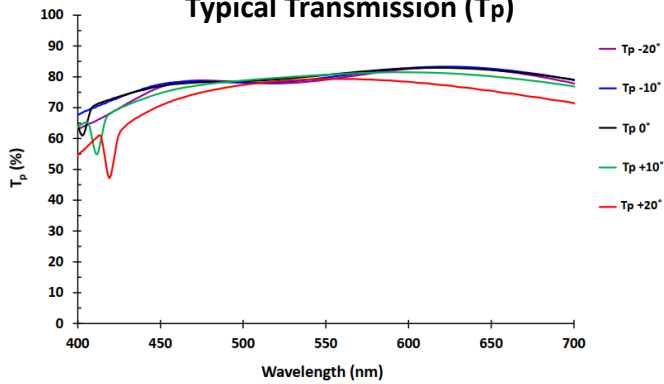
- Wire Grid Versalight Polarizer
- Wire Grid Versalight Beam Splitter
- Laser Line Beamsplitting Polarizer
- Broadband Beamsplitting Polarizer
- Polarizing Bandpass Filter

#### Circular Polarizers

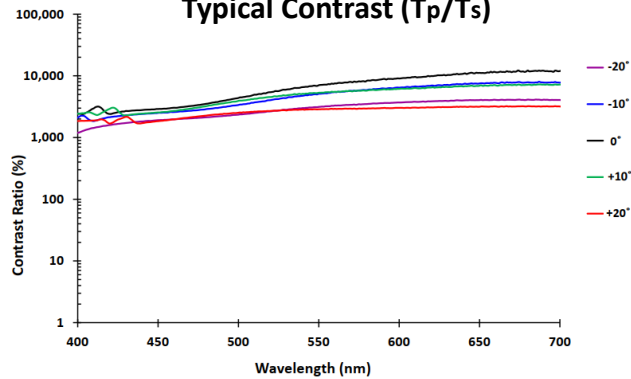
- Dichroic Circular Polarizer
- Beam Separator



**Meadowlark Optics ICE Cube  
Typical Transmission (Tp)**



**Meadowlark Optics ICE Cube  
Typical Contrast (Tp/Ts)**



**SPECIFICATIONS**

<b>Substrate Material</b>	N-BK7
<b>Operating Wavelength:</b>	400-700 nm (typical average for azimuthal)
<b>Average Reflectivity:</b>	<0.5% @ 400-700 nm (4x cube faces)
<b>Transmitted Wavefront Distortion</b>	≤ λ/3 (Typical @ 633 nm)
<b>Surface Quality</b>	40 – 20 scratch-dig
<b>Beam Deviation (transmittance)</b>	≤ 5 arc min
<b>Dimensional Tolerance</b>	+ 0.0 mm/-0.25 mm
<b>Acceptance Angle</b>	Up to ± 25°
<b>Maximum Temperature</b>	90°C

Many options, including custom wavelengths and sizes are available. Please contact your Meadowlark Optics Solutions Engineer for more information.

**ORDERING INFORMATION**

Unmounted		
Dimension in. (mm)	Clear Aperture in. (mm)	Part Number
1.00 x 1.00 x 1.00 in 25.4 x 25.4 x 25.4 mm	0.90 in 22.9 mm	BV-100-ICE

**Typical Angle of Incidence (AOI) Performance**

ICE Cube Typical Performance	Angle of Incidence (AOI) Averaged 400 - 700 nm					
	0°	± 5°	± 10°	± 15°	± 20°	± 25°
<b>Tp %</b>	78	78	77	76	75	73
<b>Ts %</b>	0.016	0.015	0.017	0.020	0.020	0.025
<b>Rs %</b>	84	84	84	84	84	84
<b>Rp %</b>	1.7	1.6	2.2	3	4.3	6
<b>Contrast Ratio</b>	7,100	7,100	7,100	6,700	5,600	4,100
<b>Efficiency %</b>	66.3	66.0	65.5	64.7	63.6	62.1