



PPL & PFU Polarizers
(mounting optional)

ProFlux® polarizers are designed using Moxtek® Nanowire® Technology to control light and image polarization even in high energy and high temperature applications. Made from highly durable materials, ProFlux provides pure polarization that gives high contrast and a bright image for the life of the projector or instrument.

The ProFlux degree of polarization depends little on wavelength and angle of incidence, making these polarizers the ideal choice for various analytical tool applications. ProFlux polarizers have excellent polarization uniformity over large apertures, and provide bright, high contrast, and long-lasting performance.

Moxtek's advanced manufacturing technology is able to manufacture precision polarizers in high volume quantities for projection display, analytical, automotive, medical, research, and other applications.

Applications

- Projection Display
- Spectroscopy
- Microscopy
- Medical & Dental Imaging
- Machine Vision
- Automotive
- Head Up Display (HUD)
- Head Mounted Display (HMD)
- Polarizing Cameras

Standard Product Options

Product Name	Description
PPL04C	High Contrast
PFU04C	Ultra High Contrast
PPL05C	High Transmission
PFU05C	Balanced Transmission/Contrast
PFU01C	Ultra High Transmission

Features

Benefits

Nanowire® Technology	Brightness and contrast uniformity
	>20° half angle without performance loss
	Wavelength and AOI independent
Inorganic	High heat resistance

General Specifications

Substrate Type: Display Grade Glass

Thickness: 0.7mm ± 0.07mm

Index of Refraction: 435.8nm: 1.5198

643.8nm: 1.5078

Thermal Expansion: 31.7 x 10⁻⁷/°C (0-300°C)

Wavelength Range: 420nm - 700nm

AR Coating: Standard on backside only

Dimensional Tolerance: ± 0.2mm

Edge Exclusion: 2mm

Transmission Axis (TA): Referenced to long side of part

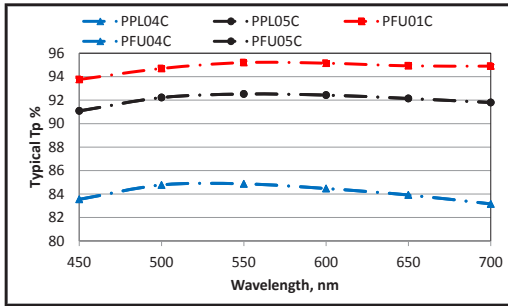
TA Tolerance: ± 1°

Angle of Incidence: 0° ± 20°

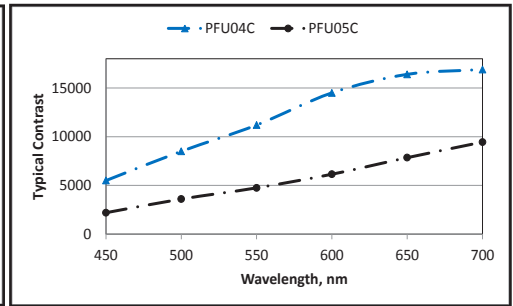
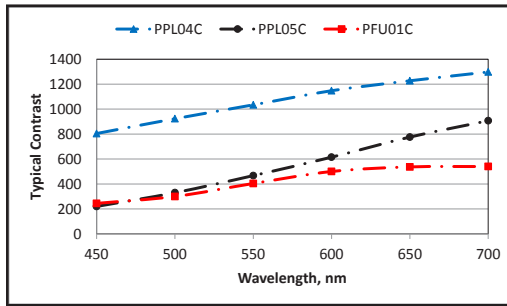
Maximum Temperature: 200°C > 5,000 hours

RoHS: Compliant

Typical Transmission Comparison



Typical Contrast Comparison



Performance Specifications at Normal Incidence

The following chart contains the performance specifications for all ProFlux[®] Visible Light Polarizers (PPL and PFU) with standard AR coating.

ProFlux [®] PPL and PFU Polarizers Performance Specifications at 0° AOI	450nm			550nm			650nm		
	MIN Tp (%)	MAX Ts (%)	CR (Tp/ Ts)	MIN Tp (%)	MAX Ts (%)	CR (Tp/ Ts)	MIN Tp (%)	MAX Ts (%)	CR (Tp/ Ts)
PPL04C High Contrast	72.0	0.12	683	82.0	0.1	820	82.0	0.08	1025
PFU04C Ultra Contrast*	82.0	0.030	4100	82.0	0.018	4556	82.0	0.015	5467
PPL05C High Transmission	88.6	0.89	100	90.0	0.43	209	88.5	0.26	340
PFU05C Ultra Transmission*	89.6	0.12	747	91.0	0.10	910	89.5	0.08	1119
PFU01C Ultra High Transmission	91.6	0.89	102	92.5	0.43	215	92.5	0.26	350

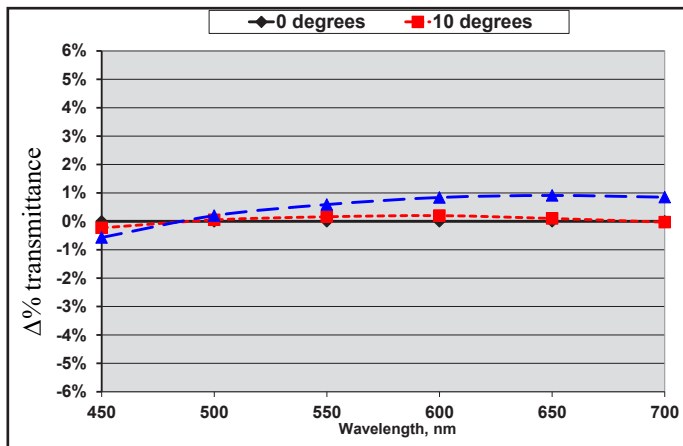
Tp- Transmitted “p” polarization, Ts- Transmitted “s” polarization, CR- Contrast ratio, Tp/Ts

* Products only available in limited quantities

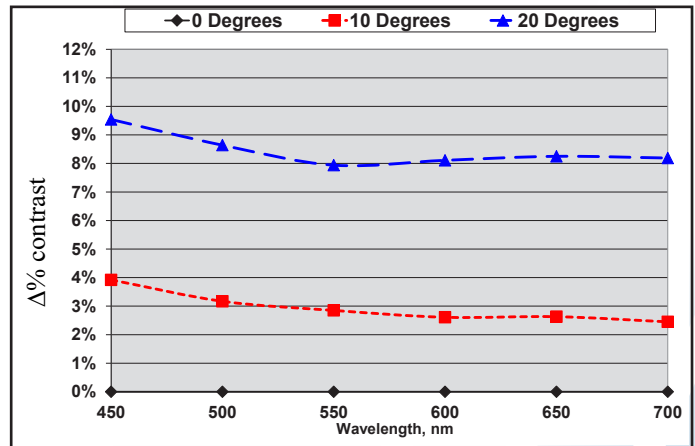
Off-Axis Performance

The light entering a polarizer is typically a cone. The size of the cone depends upon the f/number of the system. Most systems use a cone half angle of less than 20°. The ProFlux[®] polarizer performance changes very little with angle of incidence, resulting in uniform system performance over the aperture. This is illustrated in the typical off-axis 1/2 angle performance graphs of transmittance and contrast shown below.

Off-Axis Transmittance



Off-Axis Contrast (typical)



For warranty and ordering information, please visit www.moxtek.com.



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