



PPL & PFU Polarizers  
(mounting optional)

## 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

\*See OPT-DATA-1011 for size and mounting options

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.

Features	Benefits
Nanowire® Technology	Brightness and contrast uniformity
	±20° AOI without depolarization
	Wavelength and AOI independent
	Broadband
Inorganic	High heat resistance

## General Specifications

*Wavelength Range:* 420nm - 700nm

*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<sup>-7</sup>/°C (0-300°C)

*AOI (Angle of Incidence):* 0° ± 20°

*AR Coating:* Standard on backside only

*Maximum Temperature:* 200°C > 5,000 hours

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

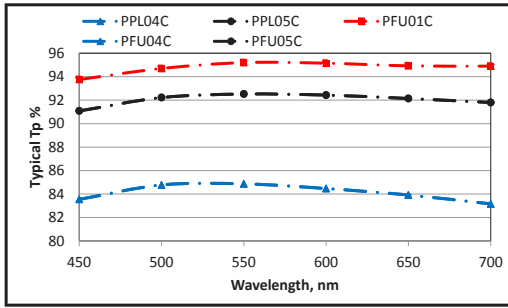
*TA Tolerance:* ± 1°

*Dimensional Tolerance:* ± 0.2mm

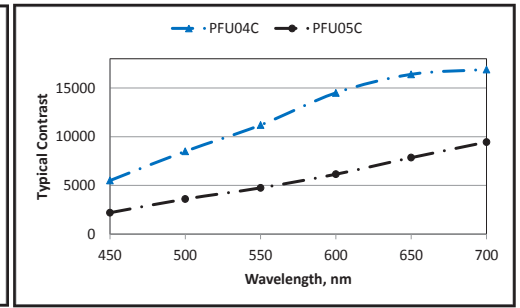
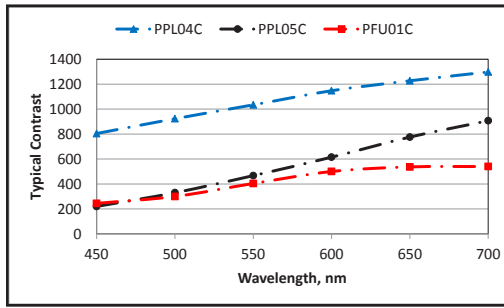
*Edge Exclusion:* 2mm

*RoHS:* Compliant

## Typical Transmission Comparison



## Typical Contrast Comparison



## Performance Specifications at Normal Incidence

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

ProFlux <sup>®</sup> 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	82.0	0.12	683	82.0	0.1	820	82.0	0.08	1025
PFU04C Ultra Contrast*	72.0	0.030	2400	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	91.0	0.89	102	92.5	0.43	215	92.5	0.26	356

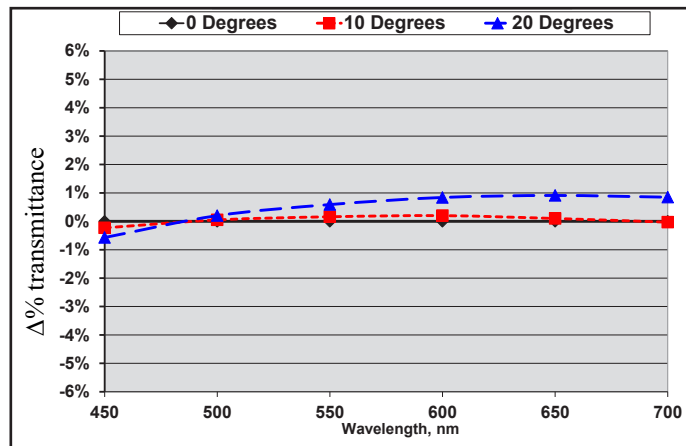
Tp- Transmitted "p" polarization, Ts- Transmitted "s" polarization, CR- Contrast ratio, Tp/Ts

\* Products only available in limited quantities

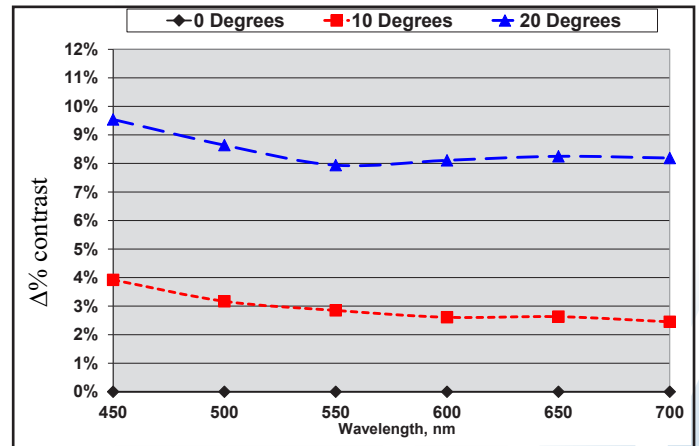
## Off-Axis Performance

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<sup>®</sup> 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](http://www.moxtek.com).



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