

# Visible Light Polarizers

PPL, PFU & RCV Series Datasheet



PPL, PFU & RCV 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
RCV8N2EC	Balanced Transmission/Contrast
RCV8LCET	High Contrast With Protective Overcoat™
RCV6N2EC	Ultra High Transmission
RCV6LCET	High Transmission With Protective Overcoat™

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:* 420 - 700nm

*Substrate Type:* Display Grade Glass

*Thickness:* 0.7 ±0.07mm

*Index of Refraction:* 1.5198 (435.8nm)  
1.5078 (643.8nm)

*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

Do not touch or clean the wire-grid polarizer surface otherwise the polarizer will be damaged.

## Performance Specifications at Normal Incidence

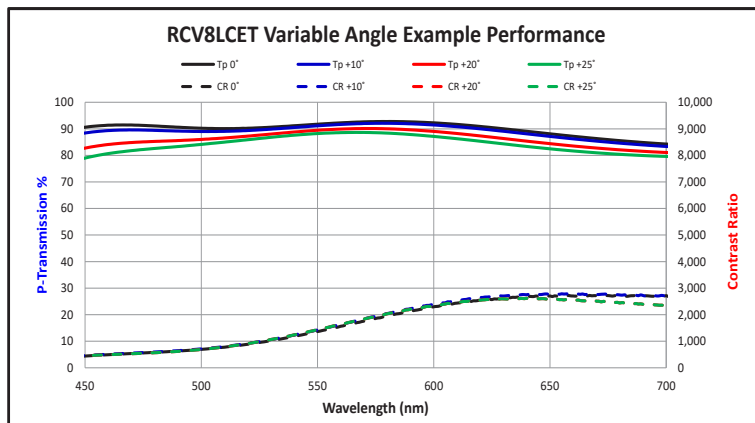
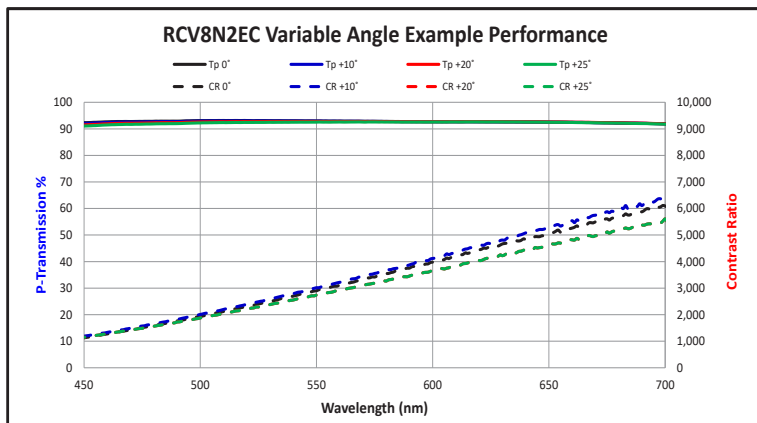
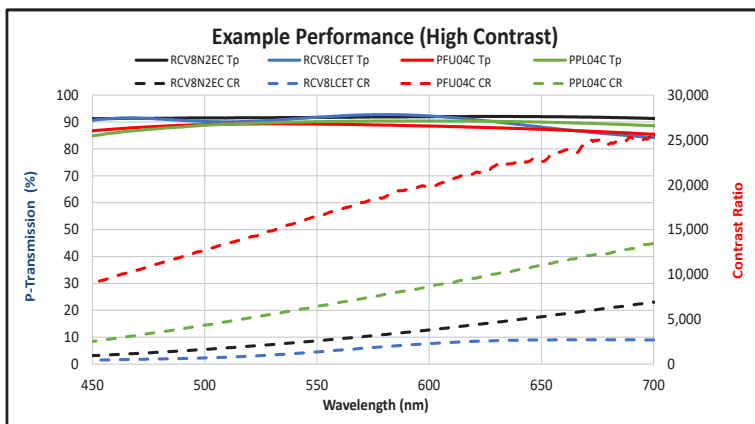
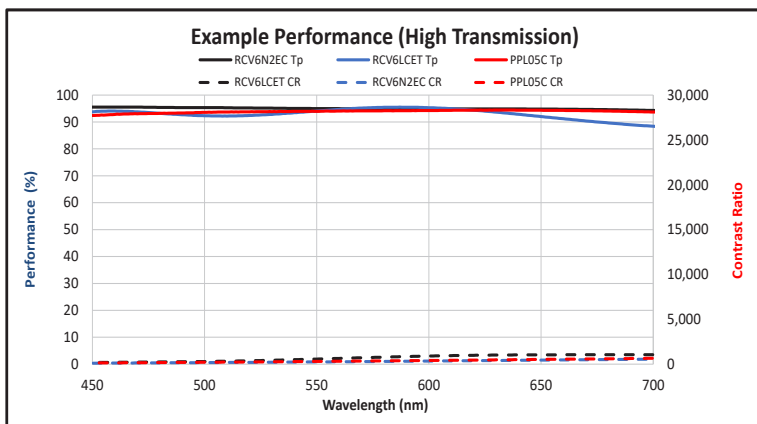
Product	450nm			550nm			650nm		
	Tp% (min)	Ts% (max)	CR (min)	Tp% (min)	Ts% (max)	CR (min)	Tp% (min)	Ts% (max)	CR (min)
<b>PPL04C (High Contrast)</b>	82.0	0.12	683	82.0	0.1	820	82.0	0.08	1,025
<b>*PFU04C (Ultra High Contrast)</b>	72.0	0.03	2,400	82.0	0.018	4,556	82.0	0.015	5,467
<b>PPL05C (High Transmission)</b>	88.6	0.89	100	90.0	0.43	209	88.5	0.26	340
<b>RCV8N2EC (Balanced HT/HC)</b>	90.0	0.12	750	91.0	0.09	1011	90.0	0.06	1500
<b>**RCV8LCET (High Contrast)</b>	87.0	0.25	348	88.5	0.10	885	86.0	0.07	1229
<b>RCV6N2EC (Ultra High Transmission)</b>	93.0	0.89	104	93.0	0.43	215	92.5	0.26	356
<b>**RCV6LCET (Ultra High Transmission)</b>	90.5	0.89	102	91.5	0.43	213	89.0	0.26	342

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

\* Products only available in limited quantities

\*\*RCV8LCET, RCV6LCET have a protective Overcoat™ hard coating to protect the polarizer ribs. See Tech note OPT-TECH-1013 for details.

## Example Optical Performance (Tested at 0°)



RCV8N2EC (No Overcoat)

\*\*RCV8LCET (With Overcoat)  
See Tech Note: OPT-Tech-1013

Performance data was taken from sample evaluations. Some part-to-part variation is expected.

For more detail, please use our Polarizer Comparison Tool at [www.moxtek.com](http://www.moxtek.com)

For warranty and ordering information, please visit [www.moxtek.com](http://www.moxtek.com).



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