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

<table>
<thead>
<tr>
<th>Nanowire® Technology</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brightness and contrast uniformity</td>
<td>±20° AOI without depolarization</td>
</tr>
<tr>
<td>Wavelength and AOI independent</td>
<td>Broadband</td>
</tr>
<tr>
<td>Inorganic</td>
<td>High heat resistance</td>
</tr>
</tbody>
</table>

### 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:** \(31.7 \times 10^{-7}/°C\) (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

### Applications

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

### Standard Product Options

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPL04C</td>
<td>High Contrast</td>
</tr>
<tr>
<td>PFU04C</td>
<td>Ultra High Contrast</td>
</tr>
<tr>
<td>PPL05C</td>
<td>High Transmission</td>
</tr>
<tr>
<td>PFU05C</td>
<td>Balanced Transmission/Contrast</td>
</tr>
<tr>
<td>PFU01C</td>
<td>Ultra High Transmission</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>450nm</th>
<th>550nm</th>
<th>650nm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MIN Tp (%)</td>
<td>MAX Ts (%)</td>
<td>CR</td>
</tr>
<tr>
<td>PPL04C High Contrast</td>
<td>82.0</td>
<td>0.12</td>
<td>683</td>
</tr>
<tr>
<td>PFU04C Ultra Contrast</td>
<td>72.0</td>
<td>0.030</td>
<td>2400</td>
</tr>
<tr>
<td>PPL05C High Transmission</td>
<td>88.6</td>
<td>0.89</td>
<td>100</td>
</tr>
<tr>
<td>PFU05C Ultra Transmission</td>
<td>89.6</td>
<td>0.12</td>
<td>747</td>
</tr>
<tr>
<td>PFU01C Ultra High Transmission</td>
<td>91.0</td>
<td>0.89</td>
<td>102</td>
</tr>
</tbody>
</table>

**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.