



Normal Incidence Polarizers (PPL Series)

ProFlux™ polarizers are superior to all other normal incidence polarizers:

- Operate without degradation at high heat and light levels.
- Operate at acceptance angles of $\pm 20^\circ$ without depolarization of the skew rays and without compensation films
- Operate without degradation in typical consumer display environments
- Operate in combination with ProFlux™ beam splitters enabling system contrast of $>10,000:1$

ProFlux™ polarizers are recommended for use as pre-polarizers and analyzers (entrance and exit polarizers) and in polarization recovery products with incident angles less than 20° . They are available with an BBAR coating optimized for use at normal incidence. They may be ordered in any dimension from 10mm x 10mm to 140mm x 140mm. Other sizes and shapes (circles and triangles), and other types of AR coating are available as special orders.

In order to provide optimum application performance, ProFlux™ polarizers are available with various combinations of high contrast and high transmission.

Proflux™ Products

PPL03 - General Purpose Polarizer

Designed to be used where both transmission and contrast are of equal importance:

- Optical systems where T_p and T_c are equally critical
- General purpose applications
- Optical Instruments

PPL04 - High Contrast Polarizer

Designed to be used where system contrast is of key importance:

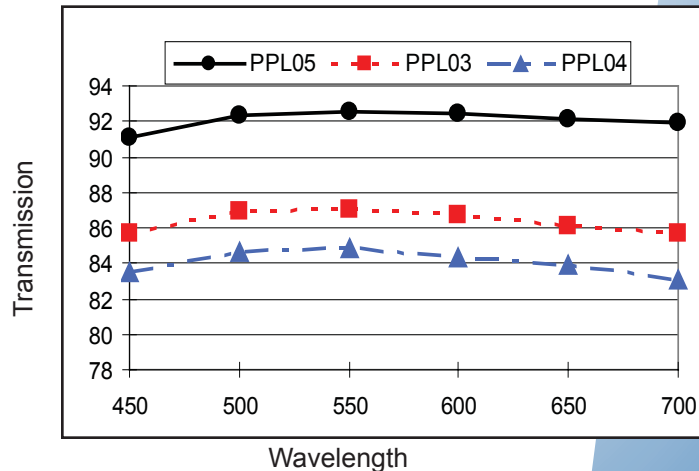
- Prepolarizer for transmissive light value systems
- Clean-up polarizer for transmissive systems with advanced designs
- Polarizer for systems requiring high contrast

PPL05 - Very High Transmission Polarizer

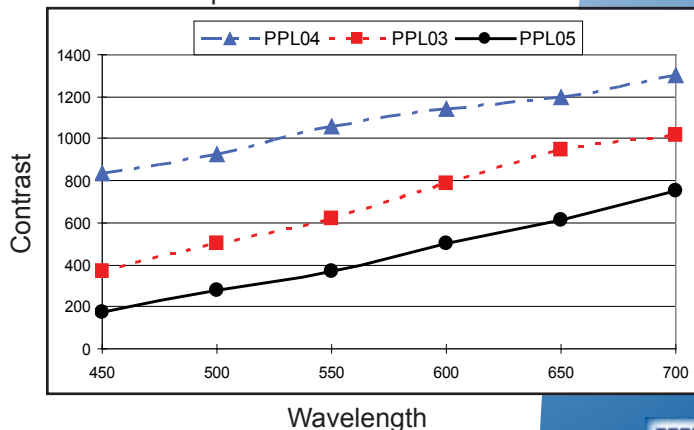
Designed to maximize light transmission:

- Polarization recovery in light sources
- Illumination stage prepolarizer

Transmission Comparison



Contrast Comparison



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The following chart contains the performance specifications for all ProFlux™ normal incident polarizers (PPL) with standard AR coating. Parts may be obtained without AR coating if desired.

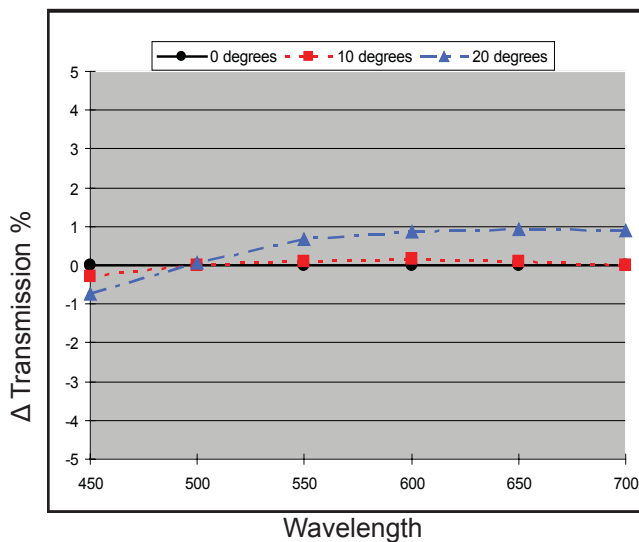
Performance Specifications at Normal Incidence

Product		450nm		550nm		650nm	
		Typical	Min/Max	Typical	Min/Max	Typical	Min/Max
PPL03C General Purpose	Tp(%)	85.7	84.0 Min	87.0	84.7 Min	86.1	84.2 Min
	Ts(%)	0.23	.27 Max	0.14	.16 Max	0.09	.11 Max
	Contrast	370	310 Min	620	530 Min	950	760 Min
PPL04C High Contrast	Tp(%)	83.5	82.0 Min	84.9	82.0 Min	83.9	82.0 Min
	Ts(%)	0.10	.12 Max	0.08	.10 Max	0.07	.08 Max
	Contrast	835	680 Min	1060	820 Min	1200	1020 Min
PPL05C Very High Transmission	Tp(%)	91.1	88.6 Min	92.5	90.0 Min	92.1	88.5 Min
	Ts(%)	0.52	.89 Max	0.25	.43 Max	0.15	.26 Max
	Contrast	175	100 Min	370	210 Min	614	340 Min

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)

