



ProFlux™ Polarizers



A Comparison to Existing Technologies

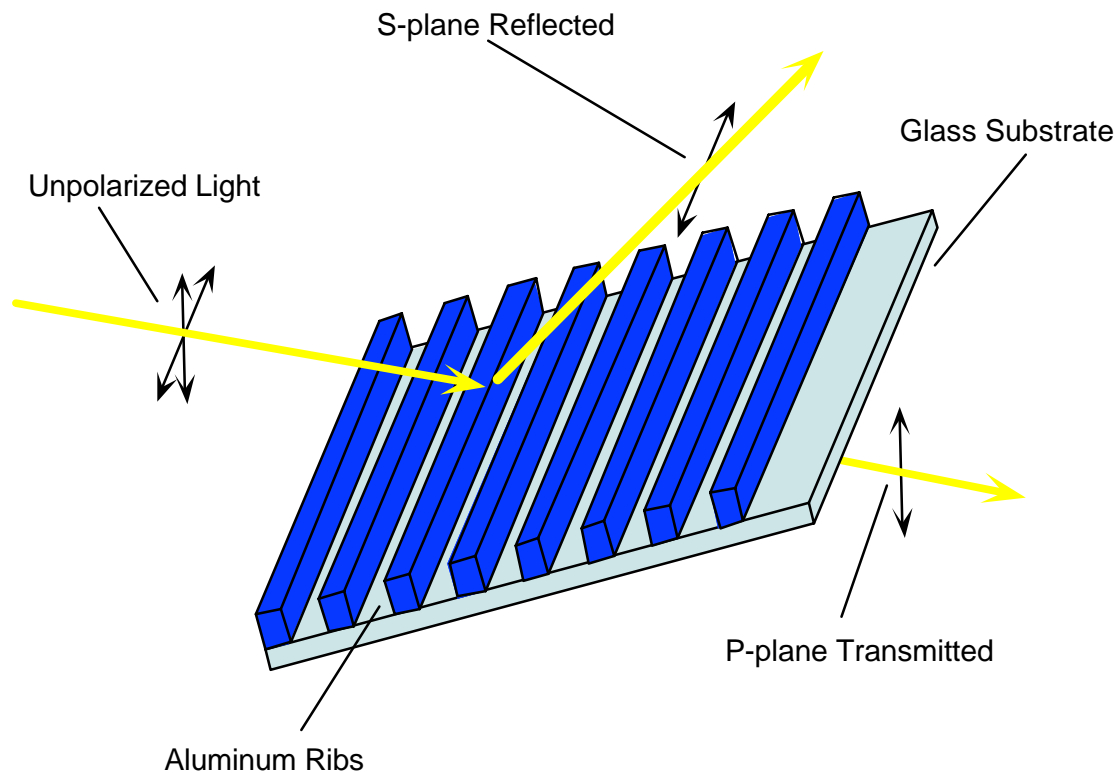
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What Is a Wire-Grid Polarizer?



- A grating-type structure
- The rib period is about half the wavelength of light



ProFlux™ Comparison



- **Absorptive dichroic polarizers**
 - Stretched polymer chains create resonant absorption - many microns thick
 - ProFlux™ metal wires reflect, a thin film phenomenon
- **Brewster-type reflective polarizers**
 - s-polarization reflects, p-polarization transmits
 - ProFlux™ reflects in the direction of the wires, independent of the plane of incidence

ProFlux™ Advantage



- **Pure polarization for small f/numbers**
 - PBS f/1.8
 - Polarizer f/1.2
- **More available light**
- **High contrast and contrast uniformity**
- **Durability**

ProFlux™ Durability



- **ProFlux™ is a thin, patterned aluminum film on a glass substrate**
- **ProFlux™ contains no organic materials**
- **ProFlux™ will not degrade over time**
- **ProFlux™ will not degrade in high light flux environments**

Performance Comparisons

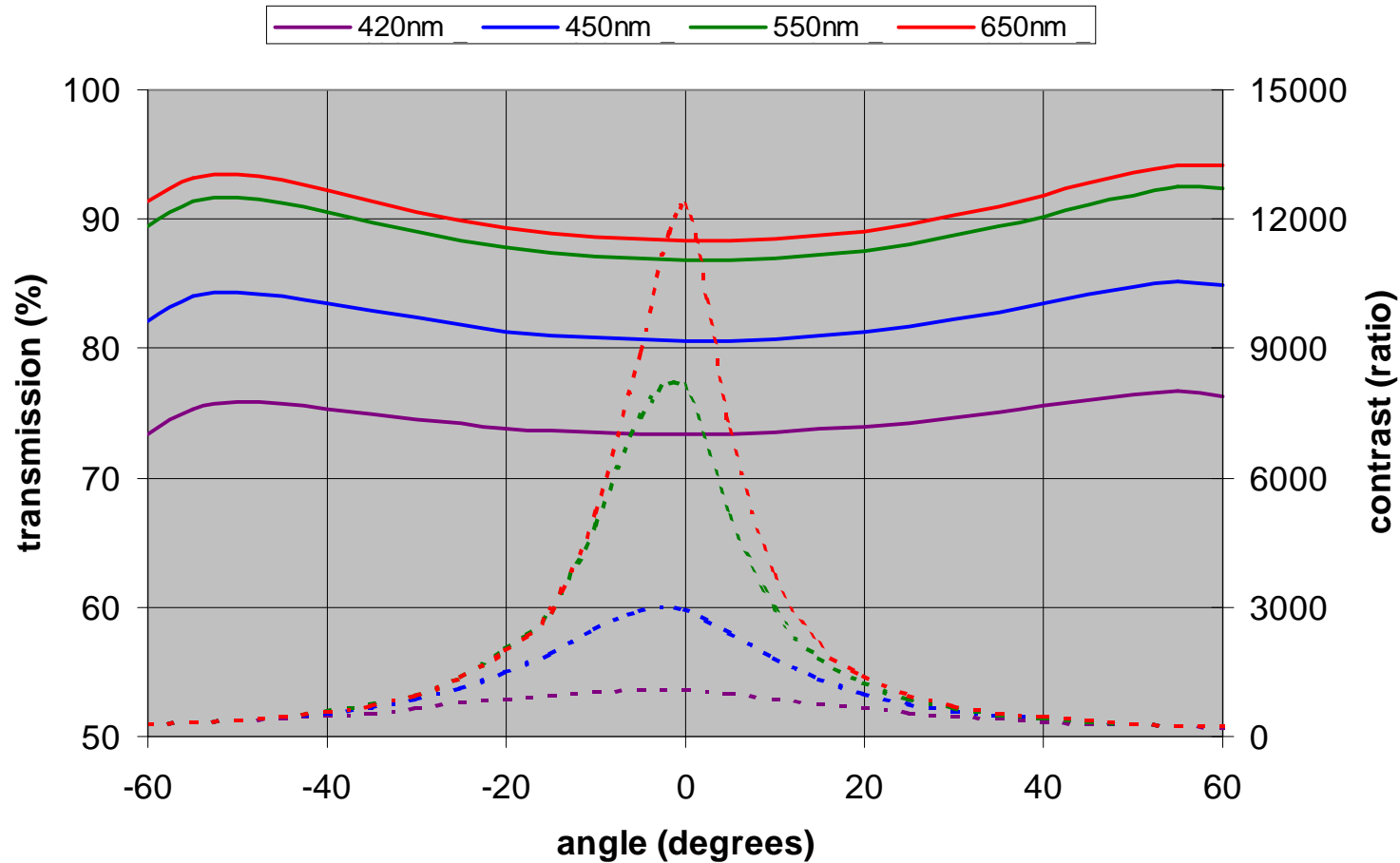


- **Performance comparisons follow**
 - ProFlux
 - Dichroic sheets and Brewster cubes
- **Measurements performed by Moxtek**
 - Considered typical for the polarizer technology
- **Asymmetries in the measurements**
 - Due to misalignment of the polarizer with the analyzer
 - Demonstrates alignment sensitivity

Dichroic Sheet



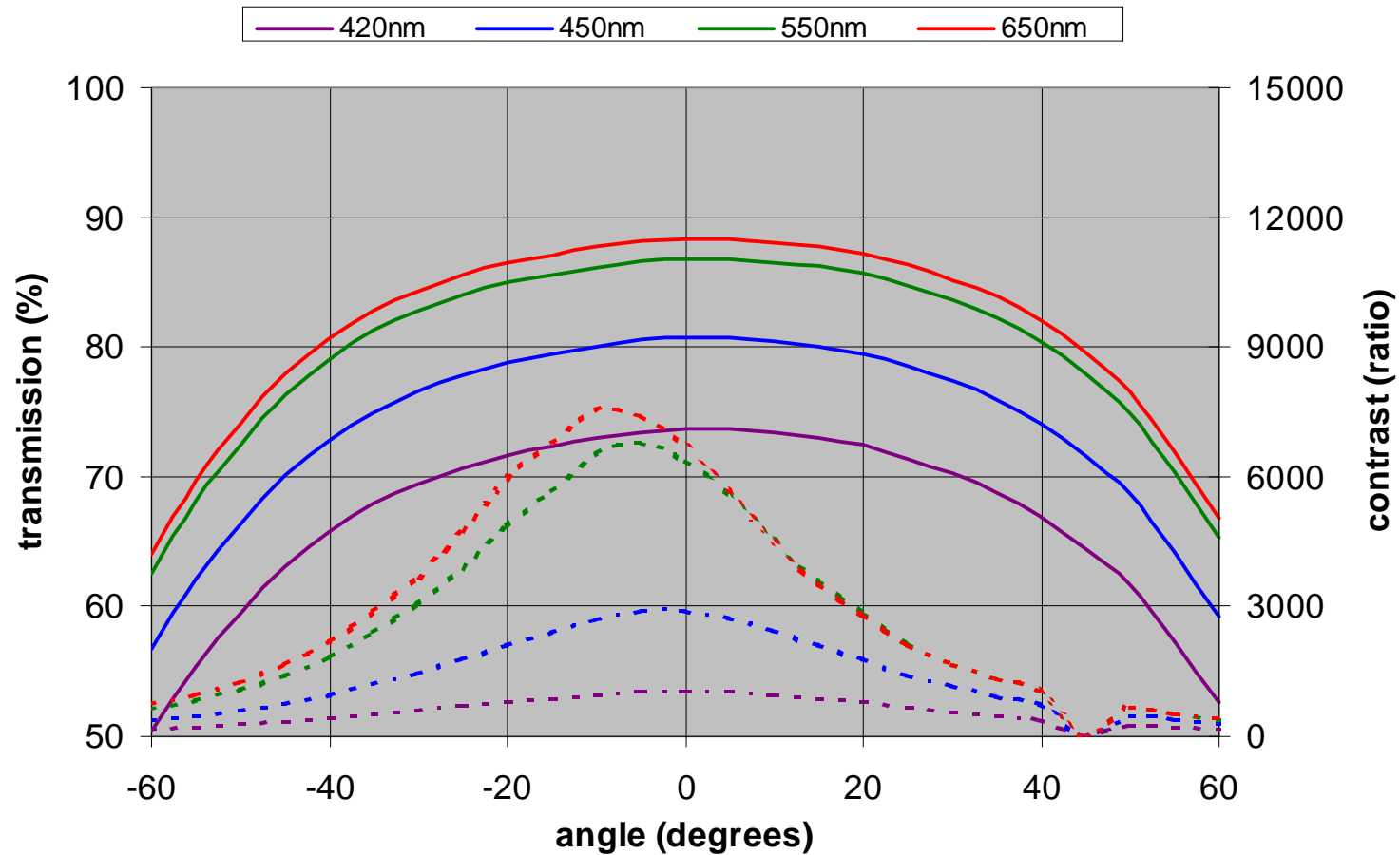
Rotation perpendicular to transmission axis



Dichroic Sheet



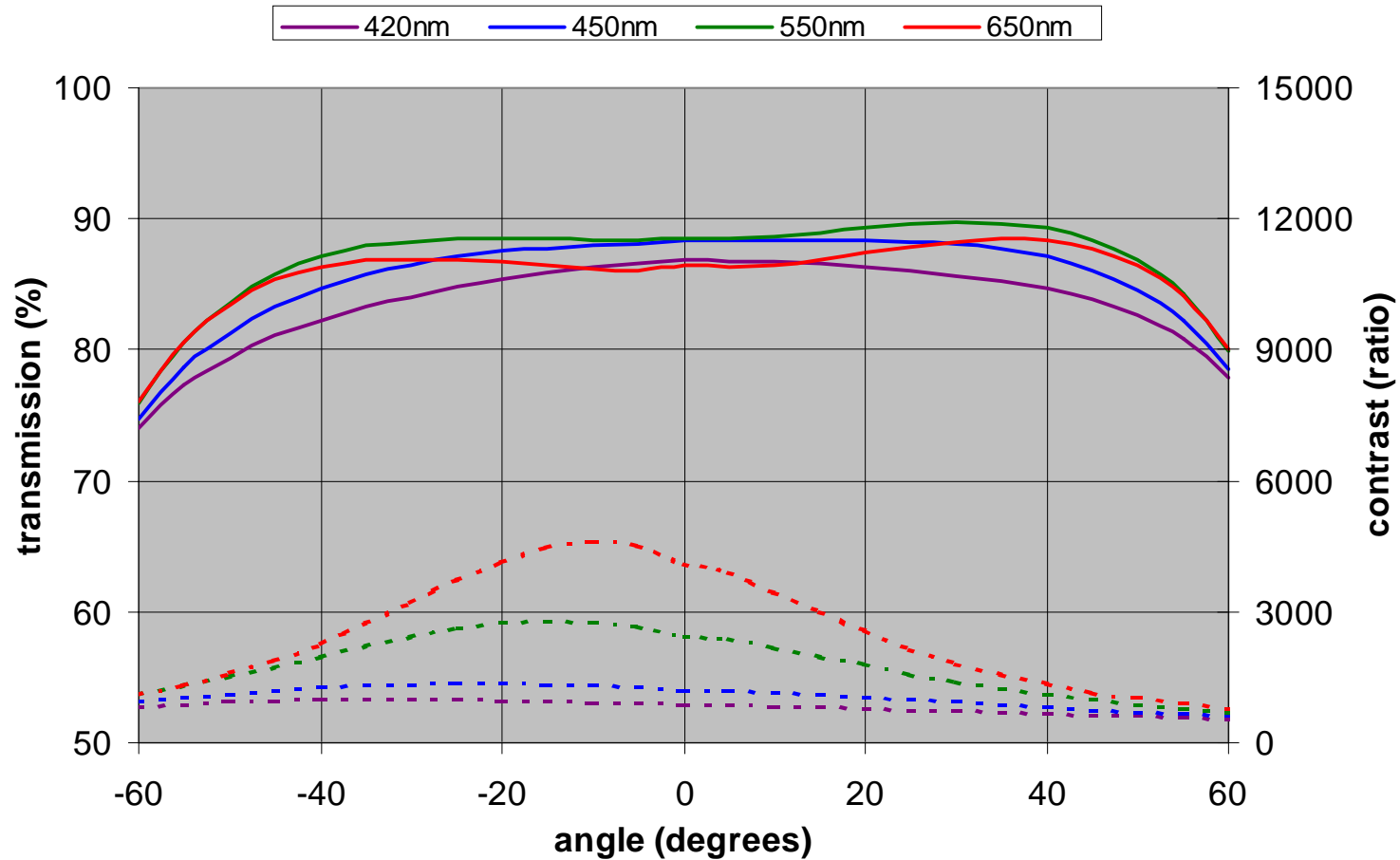
Rotation parallel to transmission axis



ProFlux™ Polarizer



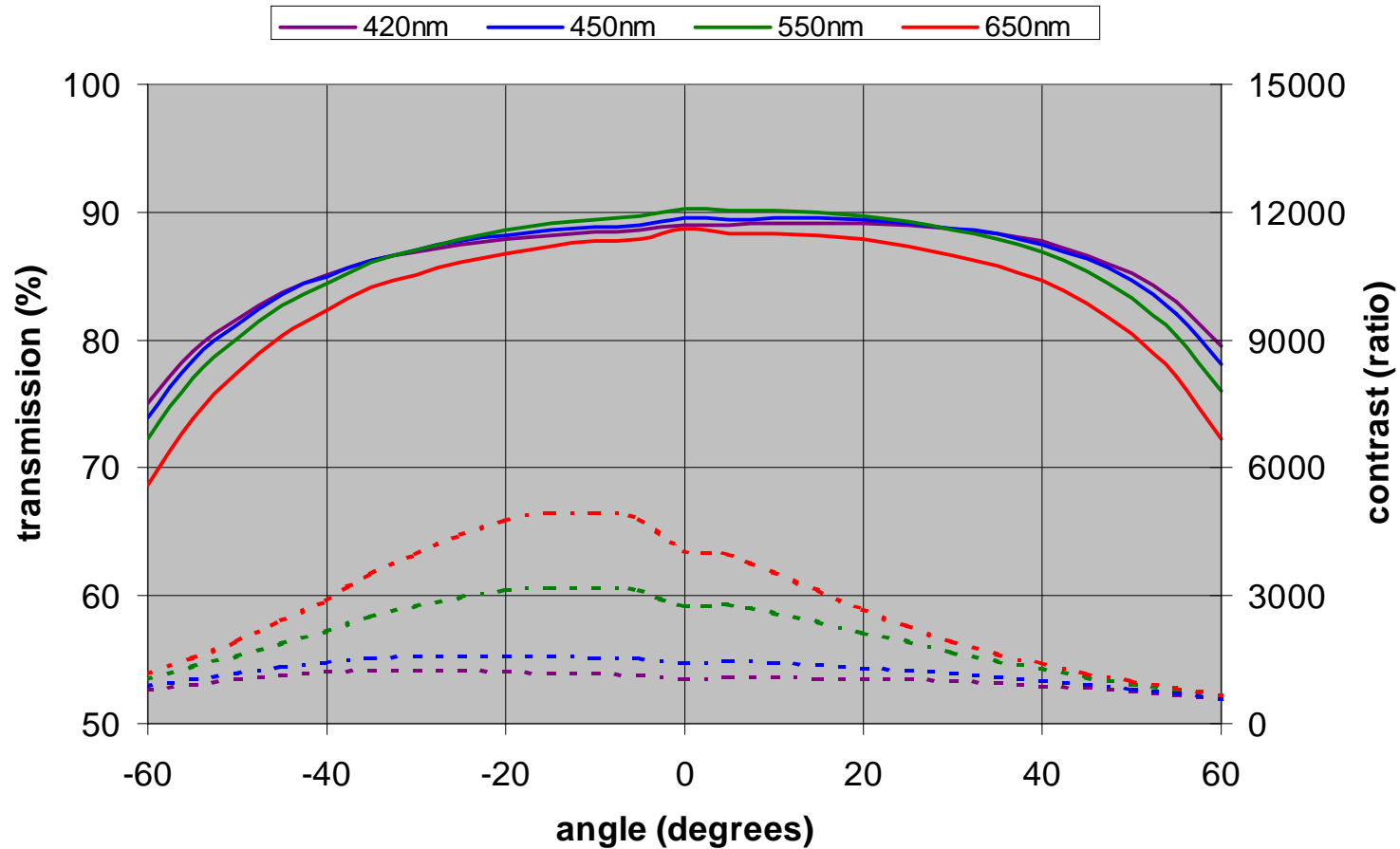
Rotation perpendicular to transmission axis



ProFlux™ Polarizer



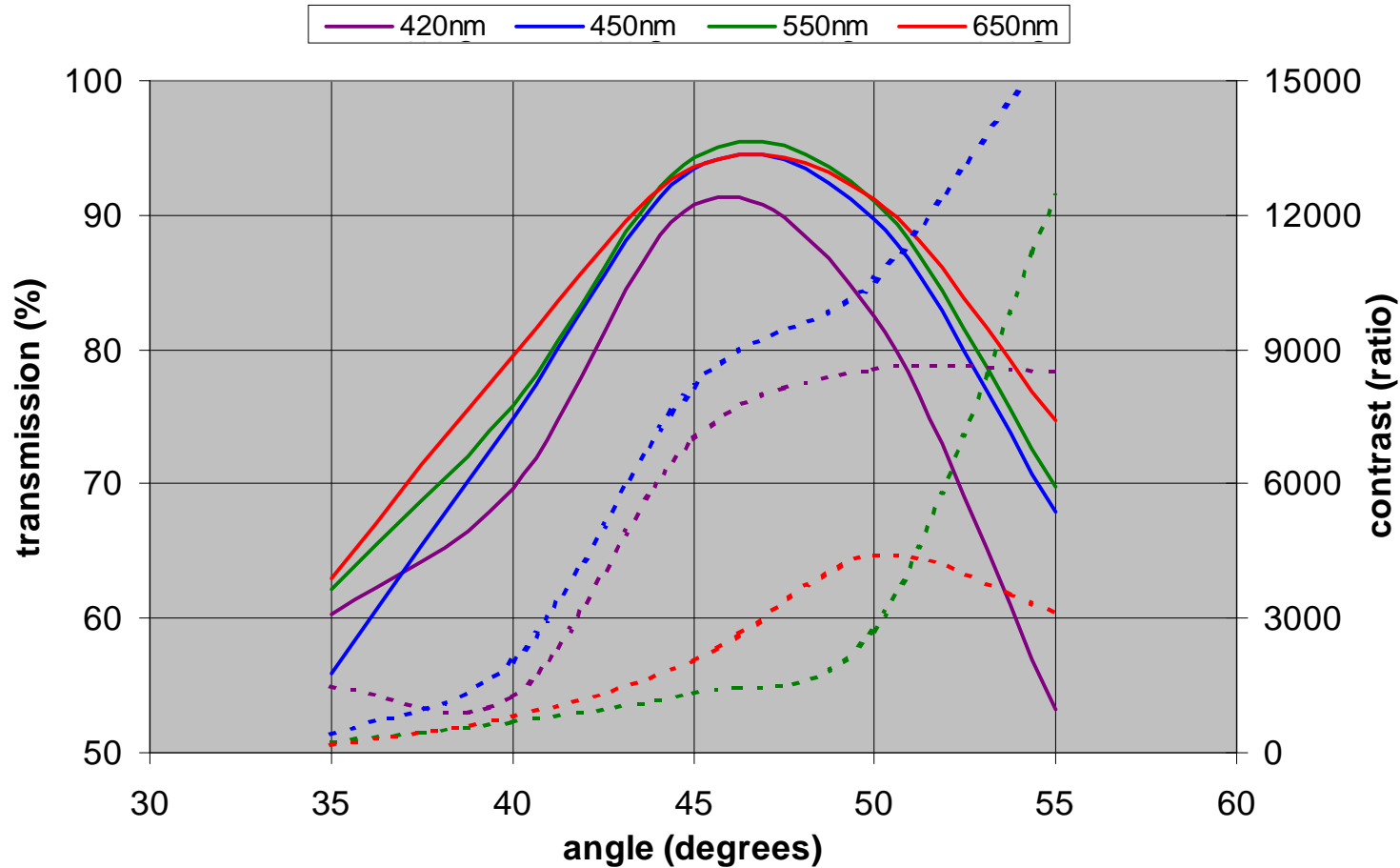
Rotation parallel to transmission axis



PBS Cube - Transmission



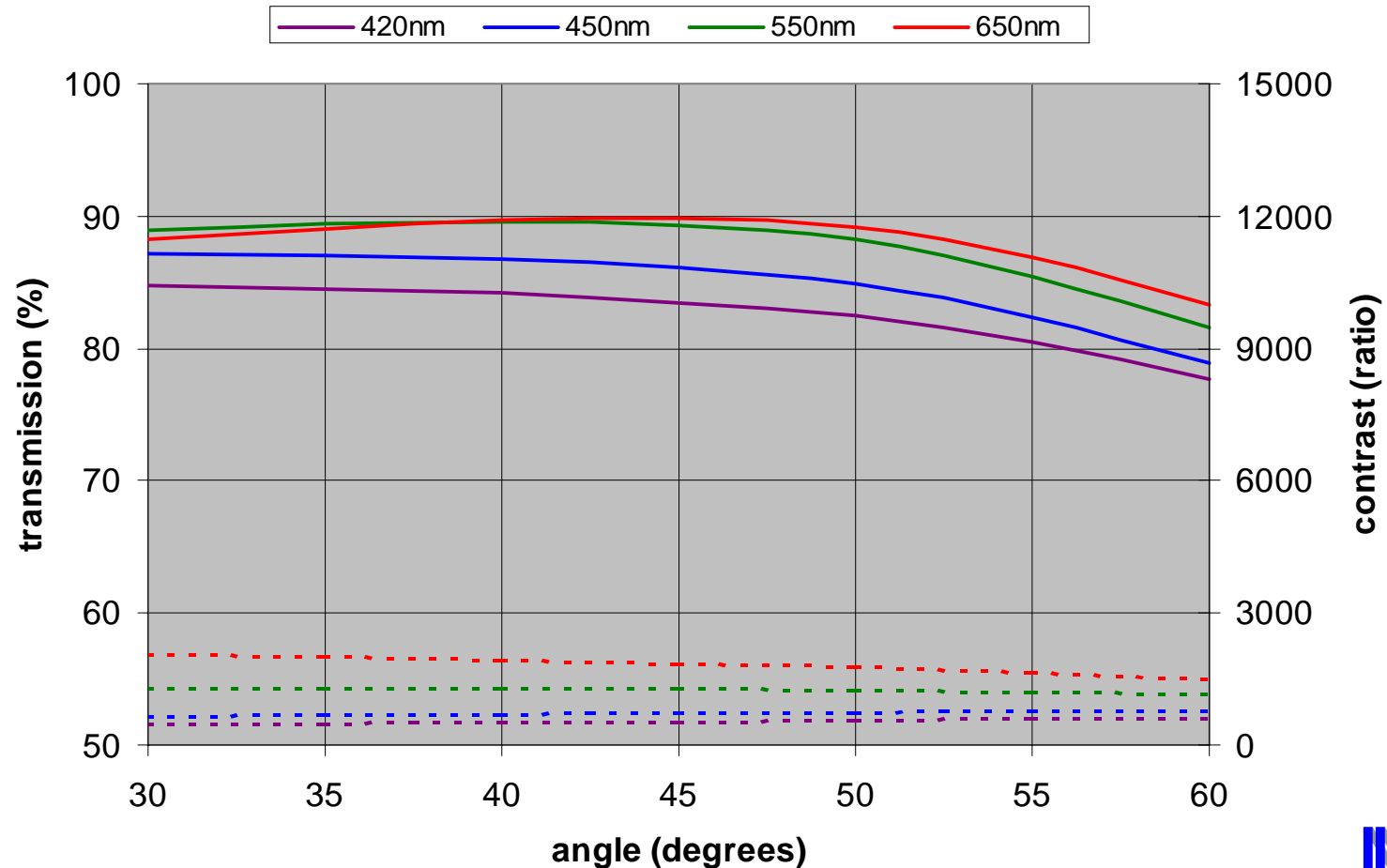
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ProFlux™ PBS - Transmission



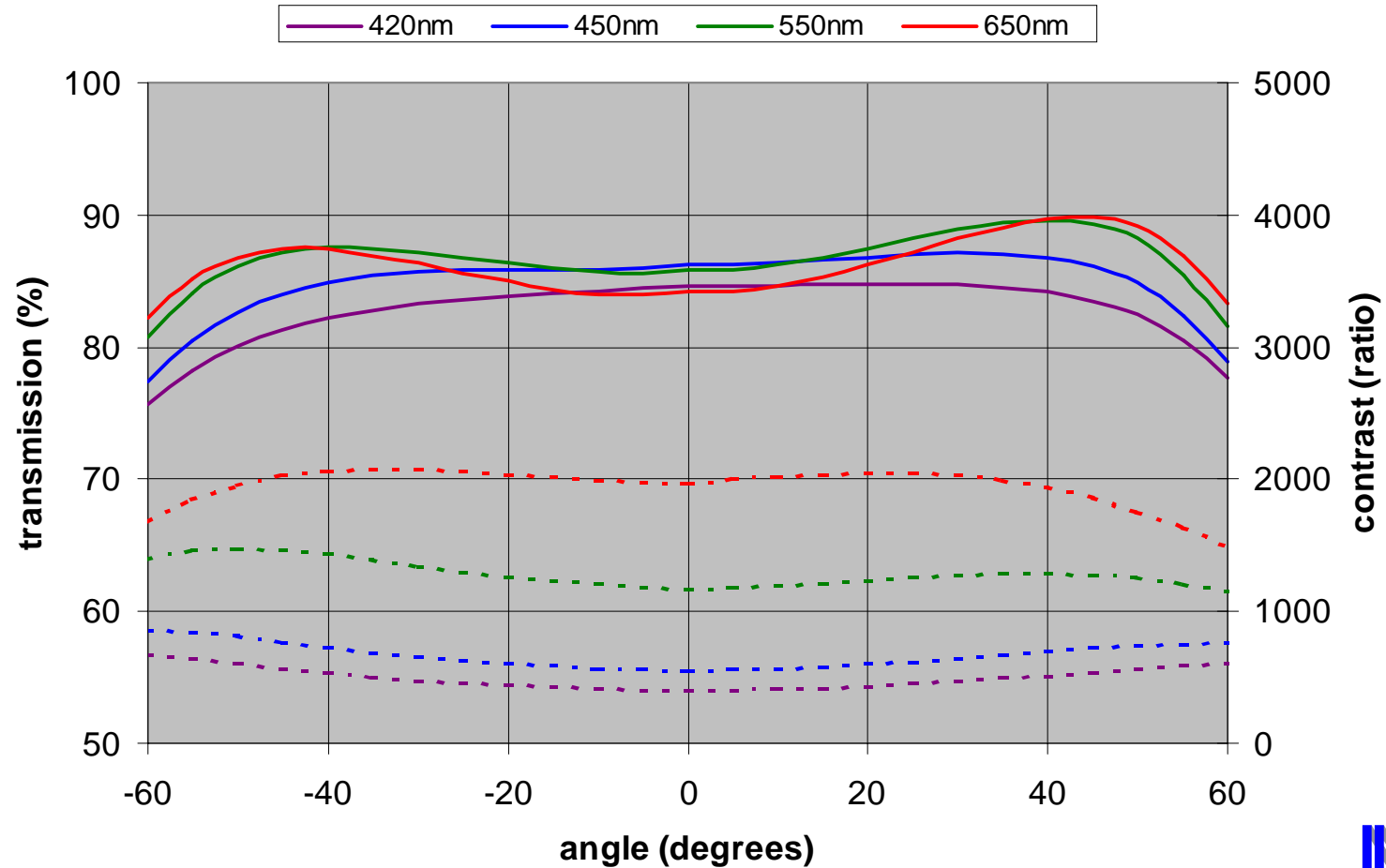
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ProFlux™ PBS - Transmission



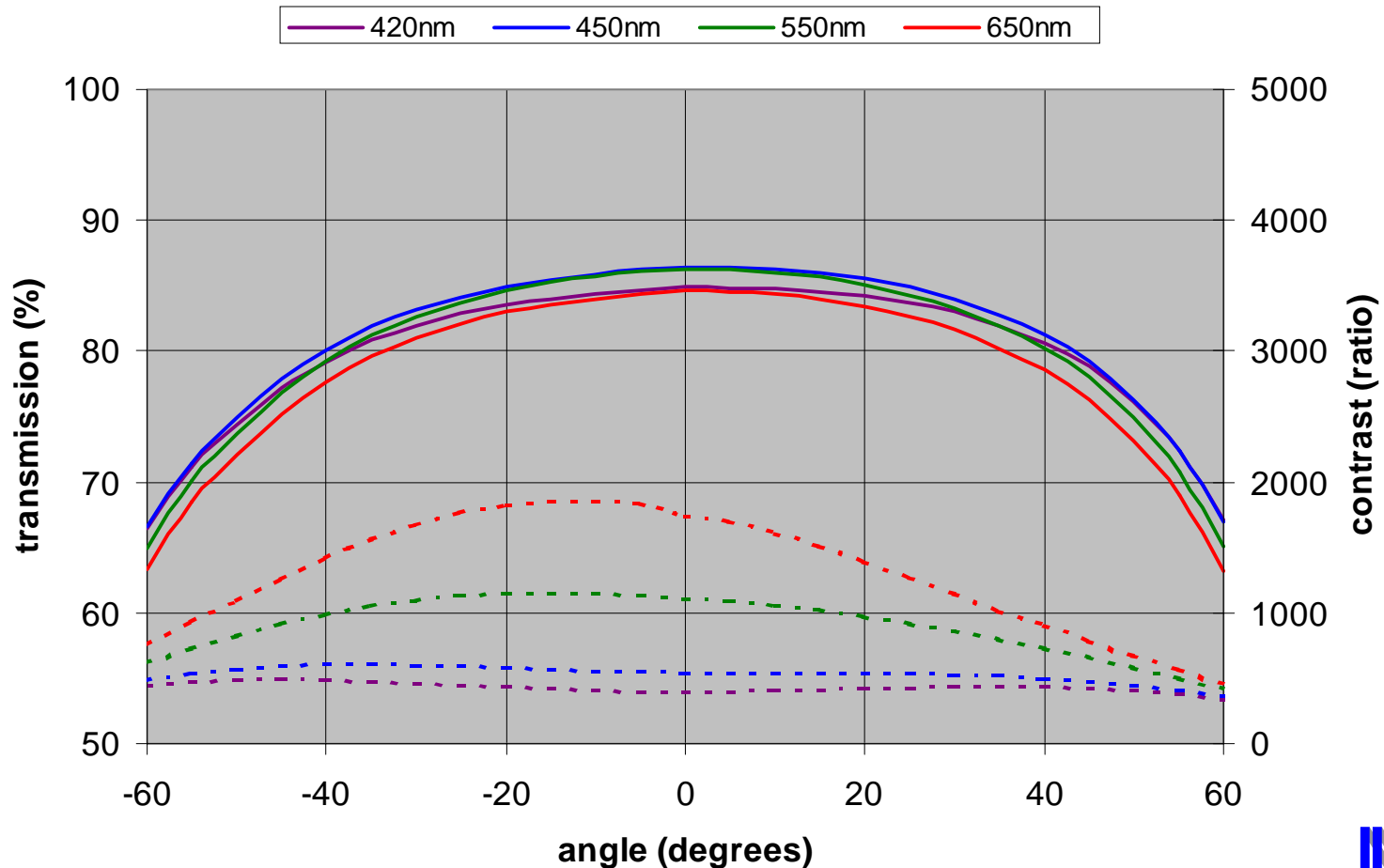
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ProFlux™ PBS - Transmission



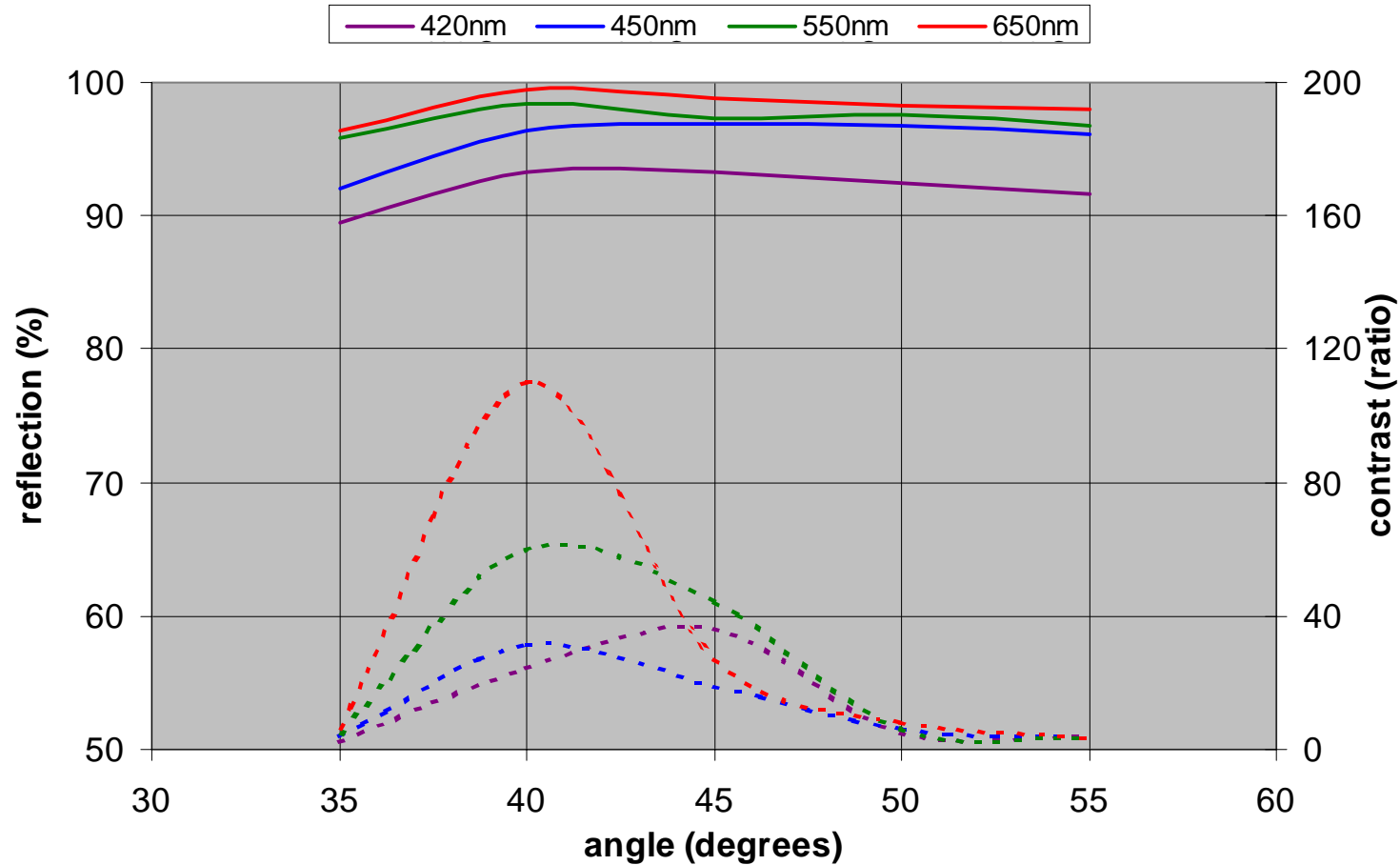
Rotation parallel to transmission axis



PBS Cube - Reflection



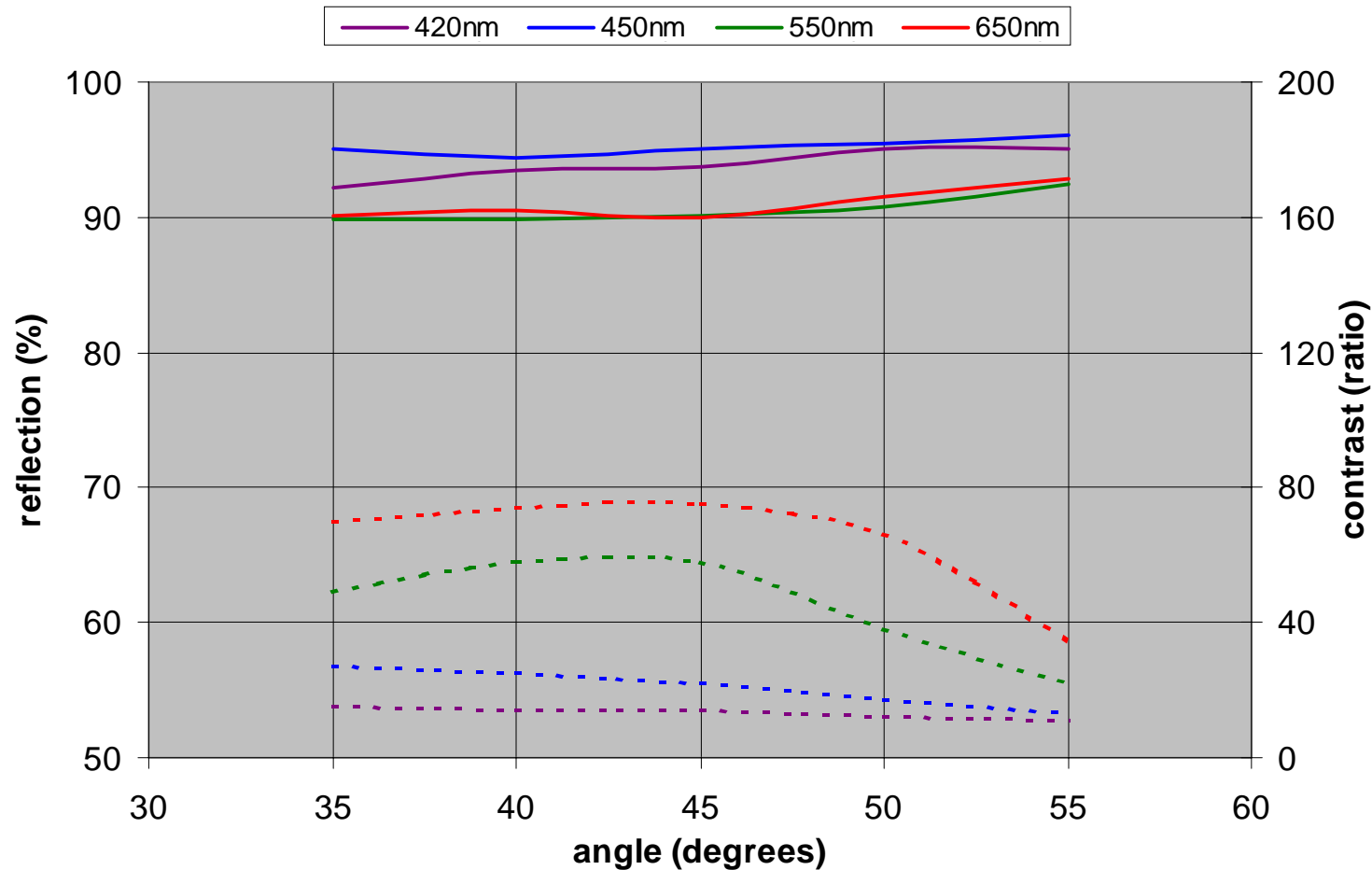
Rotation perpendicular to transmission axis



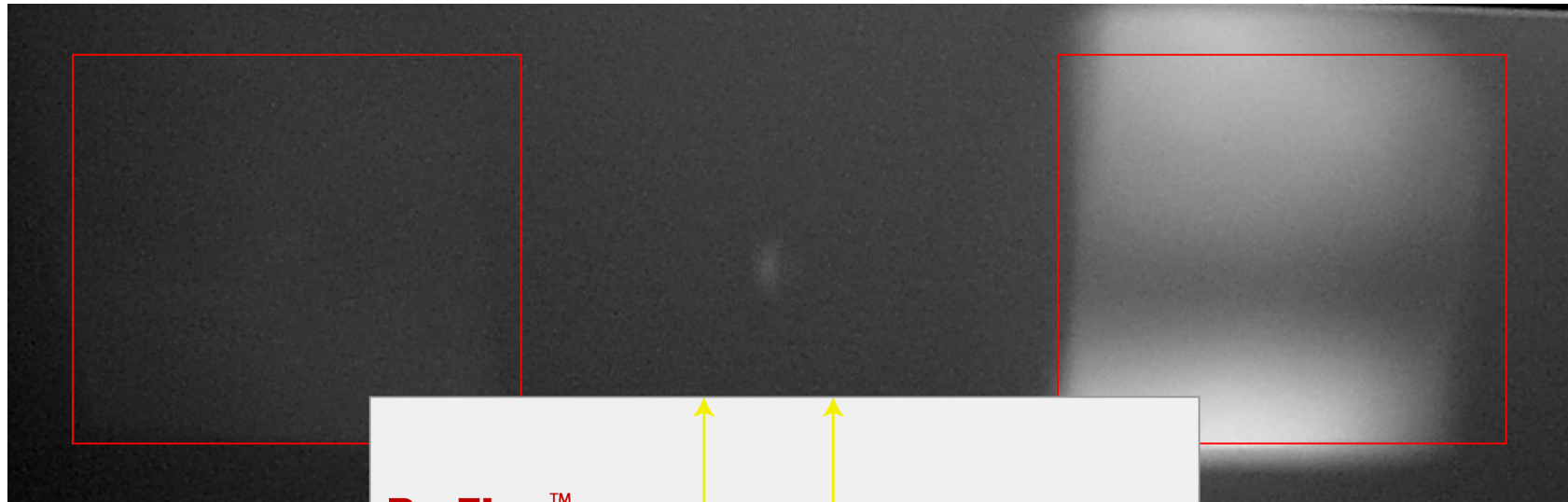
ProFlux™ PBS - Reflection



Rotation perpendicular to transmission axis

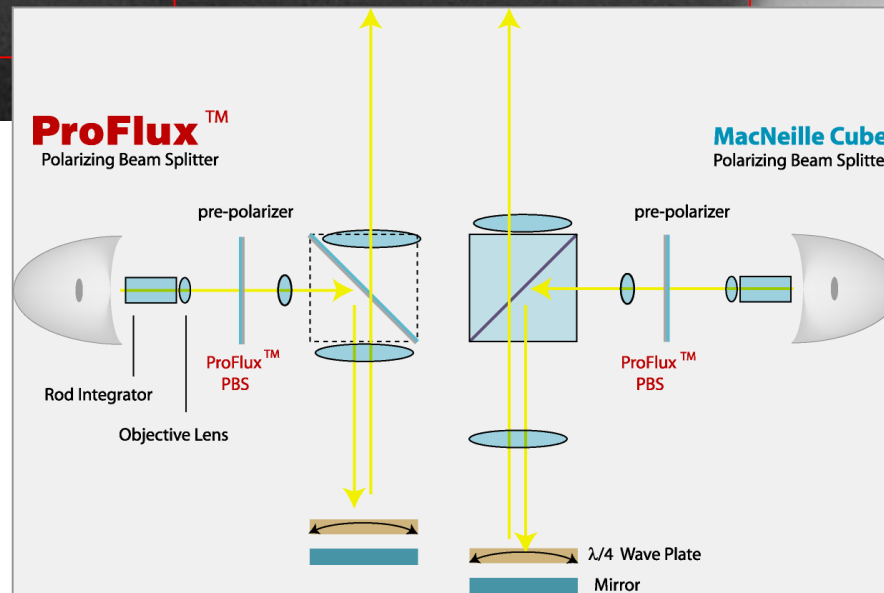


ProFlux™ PBS vs. Cube at f/2



ProFlux™

Cube



May 2002

SID Exhibitor's Forum

Summary



- **ProFlux™ polarizers and PBS's**
 - **Unique polarization mechanism**
 - Polarizes relative to direction of wires
 - **Durable**
 - Glass and thin aluminum film
 - Reflects and transmits
 - **Pure polarization over wide aperture**
 - Large acceptance angles in any orientation