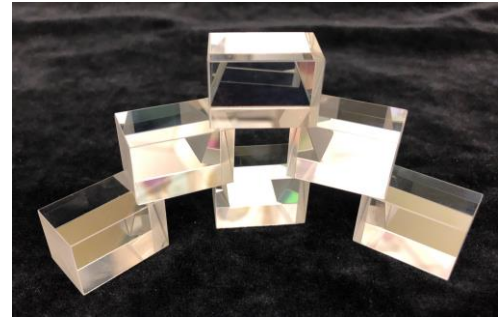


## 3M™ Polarizing Beam Splitter (PBS) Film 1000

3M PBS Film 1000 is designed for superior performance in augmented reality waveguide projection systems, optimizing throughput efficiency, and image quality.

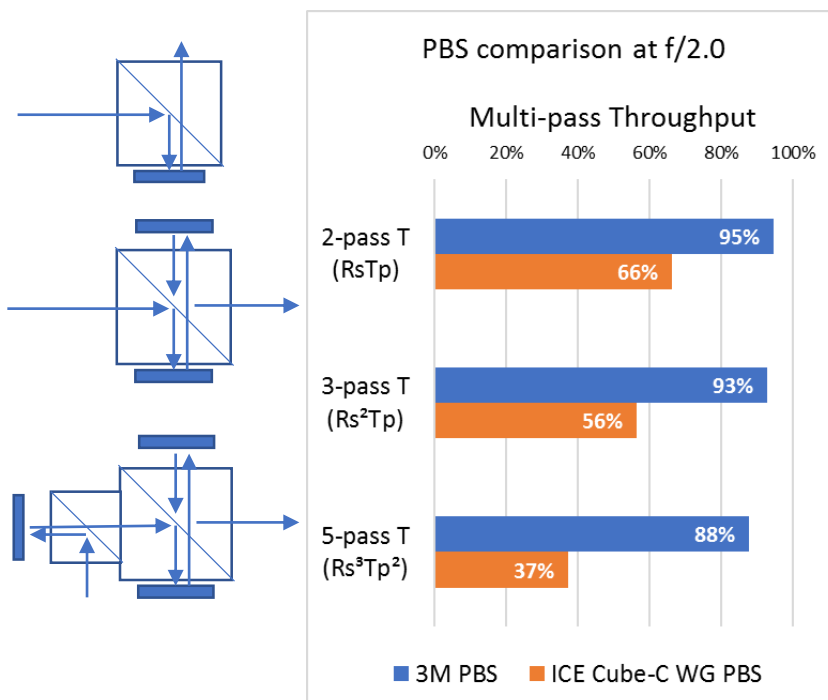


### Characteristics

3M PBS Film 1000 utilizes 3M multilayer optical film to control the optical path based on polarization of light

- Recommended for illumination PBS or imaging PBS
- Suitable for imaging in transmission and reflection
- High throughput efficiency even in multi-pass systems
- Performs over a large cone angle (~f2.0)
- Contrast ratio of PBS with 3M PBS Film 1000, averaged across visible spectrum:
  - >900:1 in Reflection Mode (average)
    - Without post-polarizer
  - >11,400:1 in Transmission Mode (average)
- Not recommended for high intensity projection systems

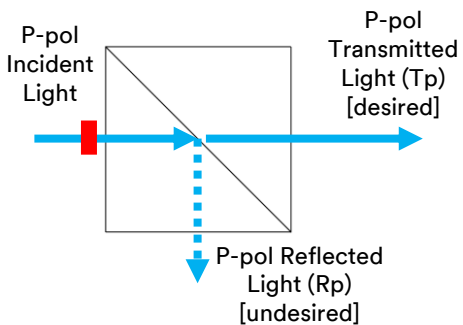
3M can provide guidelines for lamination into PBS, including recommended OCA and application method. Provide prisms, and 3M can build a PBS lab prototype for you.



\*WireGrid is Thorlabs #WPBS254-VIS

# Typical Performance Shown in AR coated, BK7 Glass

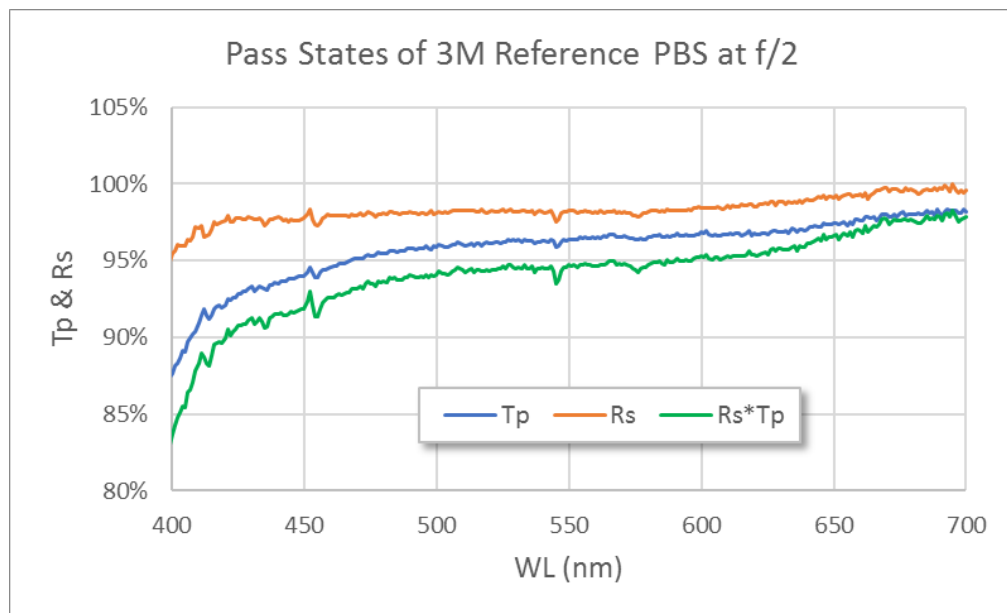
## Typical P-pol performance in PBS



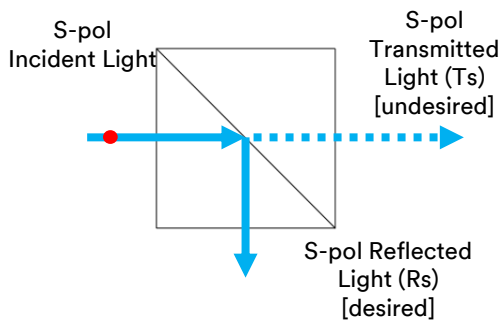
Average, 450-650nm

Tp: 96.2%

Rp: 0.11%



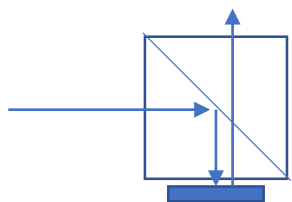
## Typical S-pol performance in PBS



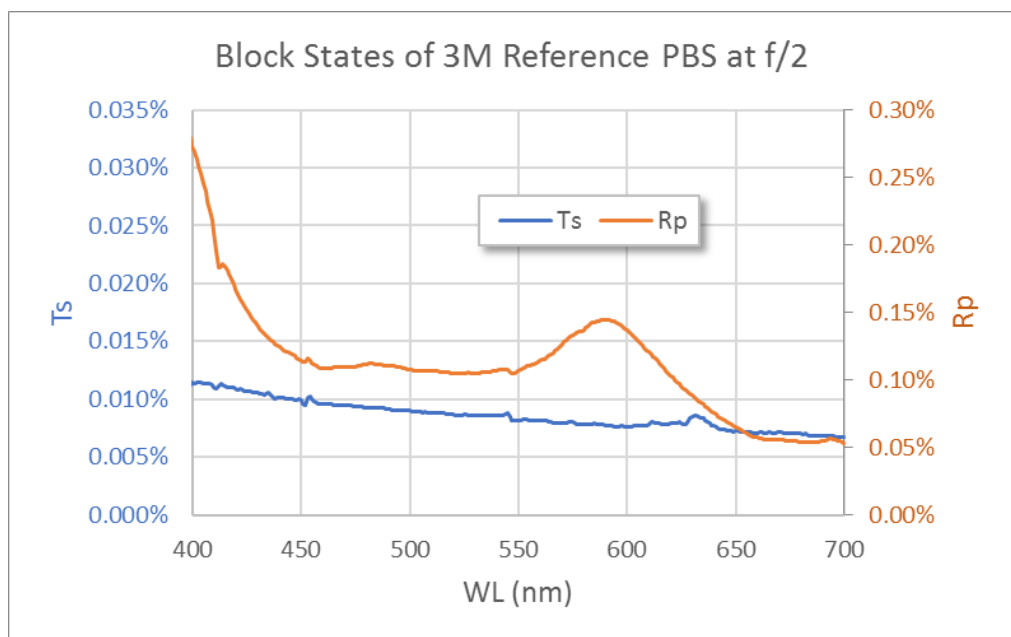
Average, 450-650nm

Ts: 0.0085%

Rs: 98.3%



Average Rs\*Tp  
450-650nm: 94.5%



## Typical 2-pass PBS Efficiency with 3M PBS Film 1000

Rs\*Tp represents the cumulative transmission of light through a typical two-pass optical system using this PBS

Note: Results will vary with optical system