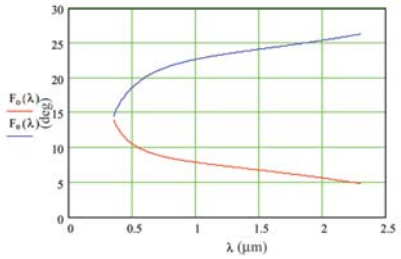
# Glan Thompson Polarizer

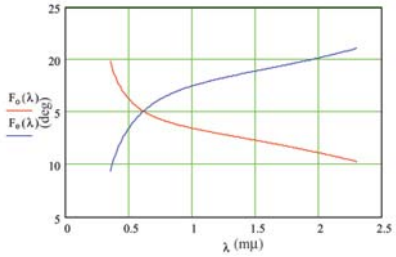
Glan Thompson polarizer is made of two calcite prisms or α-BBO prisms cemented together. Two types of Glan Thompsons are available. One is the standard form and the other is the long form. Their length to aperture ratios are 2.5 : 1 and 3.0 : 1 respectively. Glan Thompsons tend to have higher extinction ratio than air spaced polarizers. In the ultra violet spectrum, their transmission is limited by absorption in birefriengent materials as well as the cement layer. α-BBO polarizers and Calcite polarizers can be used from about 200 to 900nm and 350 to 2300 nm respectively.

The polarizers have the widest field angle of any design. The standard form of this polarizer with 2.5:1 length to aperture ratio has a full acceptance cone angle of more than 15°@ 589nm, symmetric about the input axis, while the long form with 3:1 ratio has a field angle >26° The polarized field Angle Fo and Fe of all these is shown in the plot below.

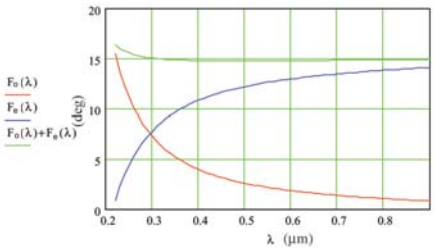
### Angular Field vs wavelength




Calcite: L/A=2.5 (350-2300nm)



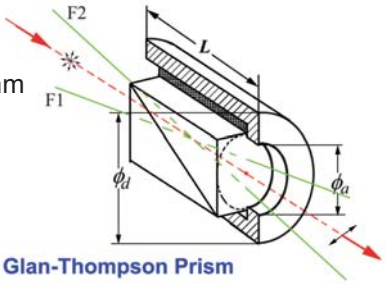

Calcite: L/A=3.0 (350-2300nm)




α-BBO: 200-900 nm

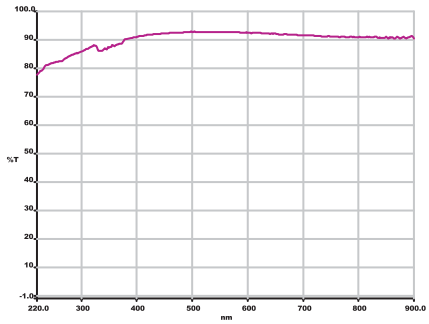
**Specifications:**

| | | |
|---|---|---|
| Material | : | α-BBO, Calcite |
| Wavelength Range | : | α**-BBO:** 200-900 nm, **Calcite:** 350-2300 nm |
| Ectinction Ratio | : | Calcite:<5x10$^{-5}$ ; α-BBO:<5x10$^{-6}$ |
| Surface quality | : | 20-10 |
| Beam Deviation | : | < 3 arc minutes |
| Wavefornt Distortion | : | λ/3@633nm |
| Damage Threshold | : | >200 MW/cm$^2$ |
| Coating | : | Single Layer $MgF_2$ |
| Mount | : | Black Anodized Aluminium |

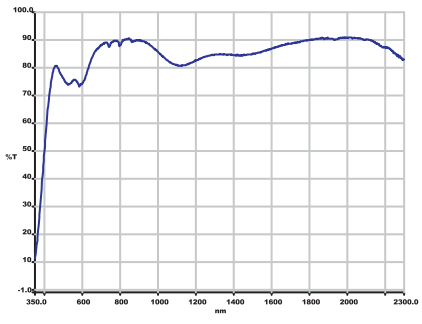



Glan-Thompson Prism

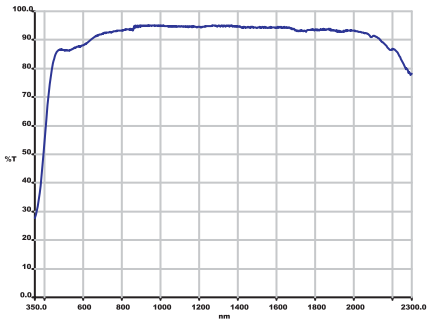
## Transmission (T%) vs wavelength



GMP 6010



GMP 7110



GMP 7215

### 1. α-BBO Glan Thompson Polarizer (Foctek Patent NO.: ZL 2005 1 0018753.6)

| P/N # | Wavelength Range(nm) | L/CA | Extinction Ratio | Angular Field (deg) | CA Φa (mm) | O.D. Φd (mm) | L+/-0.1 (mm) | Unit Price |
|---|---|---|---|---|---|---|---|---|
| GMP6006 | 200-1100 (Single Layer $MgF_2$) (Coating@532nm) | 1.6 | <5 x $10^{-6}$ | >15° | 6.0 | 15.0 | 14.0 | $299.0 |
| GMP6008 | | | | | 8.0 | 25.4 | 17.0 | $359.0 |
| GMP6010 | | | | | 10.0 | 25.4 | 21.0 | $479.0 |
| GMP6012 | | | | | 12.7 | 25.4 | 26.0 | $689.0 |
| GMP6015 | | | | | 15.0 | 30.0 | 31.0 | $889.0 |
| GMP6020 | | | | | 20.0 | 38.0 | 40.0 | $1299.0 |

### 2. Calcite Glan Thompson Polarizer

| P/N # | L/CA | Extinction Ratio | Angular Field (deg) | CA Φa (mm) | O.D. Φd (mm) | L+/-0.1 (mm) | Unit Price |
|---|---|---|---|---|---|---|---|
| GMP7106 | 2.5 | <5 x $10^{-6}$ | 14°-16° | 6.0 | 15.0 | 18.0 | $249.0 |
| GMP7108 | | | | 8.0 | 25.4 | 23.0 | $289.0 |
| GMP7110 | | | | 10.0 | 25.4 | 28.0 | $349.0 |
| GMP7112 | | | | 12.7 | 25.4 | 35.0 | $469.0 |
| GMP7115 | | | | 15.0 | 30.0 | 41.0 | $559.0 |
| GMP7206 | 3.0 | <5 x $10^{-6}$ | 25°-28° | 6.0 | 15.0 | 21.0 | $289.0 |
| GMP7208 | | | | 8.0 | 25.4 | 27.0 | $329.0 |
| GMP7210 | | | | 10.0 | 25.4 | 33.0 | $399.0 |
| GMP7212 | | | | 12.7 | 25.4 | 41.0 | $519.0 |
| GMP7215 | | | | 15.0 | 30.0 | 48.0 | $629.0 |

**Note: Price list is for quantity <=5 pcs.**

**Call for OEM quantity pricing, AR coated and Custom Design Polarizer.**