



## 40m BHD Optics: AS2 Pickoff Mirror

AUTHOR(S)	DATE	Document Change Notice, Release or Approval
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### 1 Description

25.4 mm (1")  $\emptyset$  pickoff mirror @ 1064 nm

### 2 Material

Corning HPFS 7980 (high purity fused silica, UV grade)  
Grade 0F or better

### 3 Dimensions

**Diameter:** 25.4 mm +0.0/-0.1 mm  
**Thickness (edge):** 6.35 mm  $\pm$  0.2 mm  
**Wedge:** 2.0°  $\pm$  0.1°  
Plano / Plano ( $|R| > 500$  m)

### 4 Surface Roughness & Quality

#### Side 1:

##### Super-polished

< 5 Å RMS over central 80% of diameter  
10-5 scratch-dig

#### Side 2:

##### Commercial polish

< 10 Å RMS over central 80% of diameter

### 5 Surface Figure

#### Side 1:

Flat <  $\lambda/10$  PV at 632.8 nm over central 80% of diameter

#### Side 2:

Flat <  $\lambda/4$  PV at 632.8 nm over central 80% of diameter

### 6 Coating

Ion Beam Sputtered (IBS) coatings  
Wavelength: **1064 nm**  
Polarization: **p-polarization**  
Angle of incidence: 45°– 48°



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**Side 1:**

$T = 10\% \pm 1\%$

**Side 2:**

AR coating

$R < 0.2\%$

### 7 Serial numbers and marks

Each optic shall be laser engraved on the barrel for in-vacuum use—**no pencil marks shall be present**

Each barrel shall be inscribed as follows:

- Label centered on the thickest location:  
**E2000229-v2 SN0x**
  - with “x” starting at **1**
- Arrow at the thinnest location pointing towards Side 1