



**aLIGO ISC Optics: 1" 50:50 Beam Splitter @ 532nm**

APPROVALS	DATE	RE V	DCN NO.	BY	CHECK	DCC	DATE
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DCC RELEASE							

**1 Description**

1" Ø Flat/Flat 50:50 beam splitters @ 532nm s-pol

**2 Material**

Fused Silica

**3 Dimensions**

1"Ø +.000/-.010" X .0.250" ± .010" tk., Plano / Plano

**4 Surface Roughness**

**Side 1**

Commercial polish

Surface Roughness: <5Å RMS in CA

Surface Quality: 10-5

**Side 2**

Commercial Polish

Surface Roughness: <5Å RMS in CA

Surface Quality: 40-20

**5 Surface Figure**

**Side 1**

Flat < λ/10 at 632.8 over central 85%

**Side 2**

Flat < λ/4 at 632.8 over central 85%

**6 Coating**

Wavelength: 532nm

Angle of incidence: 45°

**Side 1**

R = 50%, R-T <= 1% for S polarization

**Side 2**

R<0.25% (best effort), for S polarization



## SPECIFICATION

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Serial numbers and registration marks shall be scribed or etched on the barrel of the optic for in-vacuum use

**Coating vendor to provide:**

1. Three spectrophotometer graphs of the reflectance and transmittance of the HR coatings; one covering the spectrum from 500nm to 1200nm; the others, with increased sensitivity, showing wavelengths from 900nm to 1100nm and from 500nm to 600nm
2. Spectrophotometer graphs of the reflectance of the AR coating taken as cited above.