aLIGO ISC Optics:

2” High Reflectors @ 1064nm

APPROVALS	DATE	REV	DCN NO.	BY	CHECK	DCC	DATE
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DCC RELEASE							

1 Description

2” Ø Flat/Flat high reflector @ 1064nm

2 Material

Corning HPFS 7980 1-G

3 Dimensions

1"Ø +.000/-.005" X .375" ± .020" tk., Plano / Plano

4 Surface Roughness

Side 1
Super polish
Surface Roughness: <1Å 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 80%
Side 2
Flat < λ/4 at 632.8 over central 80%

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6 Coating

Wavelength: **1064nm**
Angle of incidence: 45°±5° (best effort for wider AOI range)
Side 1
R >= 99.995% @ 1064nm (best effort) for **s** and **p-**polarization
Side 2
AR coating, R < 1% @ 1064nm (best effort) for **s** and **p-**polarization

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.