



SPECIFICATION

RTS Test Bench 2” dia. Mirror Specifications

APPROVALS	DATE	REV	DCN NO.	BY	CHECK	DCC	DATE
AUTHOR: H. Armandula	02-14-07						
CHECKED: L. Zhang							
APPROVED: G. Billingsley							
DCC RELEASE							

1 Material

Fused Silica 7980, 0C

2 Dimensions

2” dia. +0/- .010"

Thickness: 1/2" ± .010"

Chamfers: 0.002" ± 0.001” @ 45° ±15°

3 Surface Roughness / Quality

Side 1

Super-polished - < 1 Angstrom over central 80 % of diameter

10-5 scratch-dig; best effort for 0/0

20-10 scratch-dig outside central 80 % of diameter

Identify Side 1 with an arrow

Side 2

< 5 Angstrom over central 80 % of diameter

20-10 scratch-dig over 80 % of diameter

4 Surface Figure

Side 1 and 2

Flat ≤ λ/10 at 632.8 over central 80% (clear aperture)

≤ 5 minutes

5 Coating

Wavelength: 1064 nm

Angle of incidence: 45° - “P” polarization

Coating absorption ≤ 1 ppm

Scatter <15 ppm

Coating uniformity: 1nm rms

**LIGO****SPECIFICATION**

Drawing No Rev. Group

Sheet 2 of 2

RTS Test Bench 2" dia. Mirror Specifications**Side 1****HR - R** > 99.97 %**Side 2****AR - R** ≤ 10 ppm

Coating vendor to provide:

1. One 1" witness sample from each coating run
2. Two spectrophotometer graphs of the reflectance and transmittance of the HR coatings must be provided; one covering the spectrum from 530nm to 1200nm; the other, with increased sensitivity, to show wavelengths from 900nm to 1100nm
3. Spectrophotometer graphs of the reflectance of the AR coating taken as cited above.



Research Electro-Optics Inc.

CERTIFICATE OF CONFORMANCE

Research Electro-Optics (REO), Inc.
5505 Airport Boulevard
Boulder, Colorado 80301 USA
(303) 938-1960, Fax (303) 447-3279
Country of Origin: United States of America

We hereby certify that all Research Electro-Optics, Inc. products are in conformance with the regulations of the EC - Directive 2002/95/EC (RoHS) together with the EC Decision 2005/747/EC.

REO Part # :	NS11406	Rev. :	NS
Part Description :	HR @ 1064nm, 45degree AOI on 2" diameter CFM		
REO Job # :	02849		
REO Coating Run # :	S7-326-P1/S7-329-P1		
Test data	<input checked="" type="checkbox"/> is <input type="checkbox"/> is not included.		
Certified by (name) :	Robert M. Morrissey	Date :	6/5/2007
Certified by (signature) :		Date :	6/5/2007

Shipping Information:			
Date :	06/05/07		
Customer Part # :	—	Rev. :	—
Shipper # :	25797		
Initials :			

Comments:	
One part has a scratch on S2 and one part has several defects on S2. These two parts are labeled as "Scratch on S2" and "Defects on S2" on the labels. -RMM 6/05/07	
So #9422 Po #75-S029622 Id#1344-03	

Research Electro-Optics, Inc. hereby certifies that the items listed above have been inspected and tested to the extent necessary to conform with all the requirements of the noted purchase order, drawing, and applicable specification(s). Inspection and test data are on file at our facility and will be furnished to customer upon request.

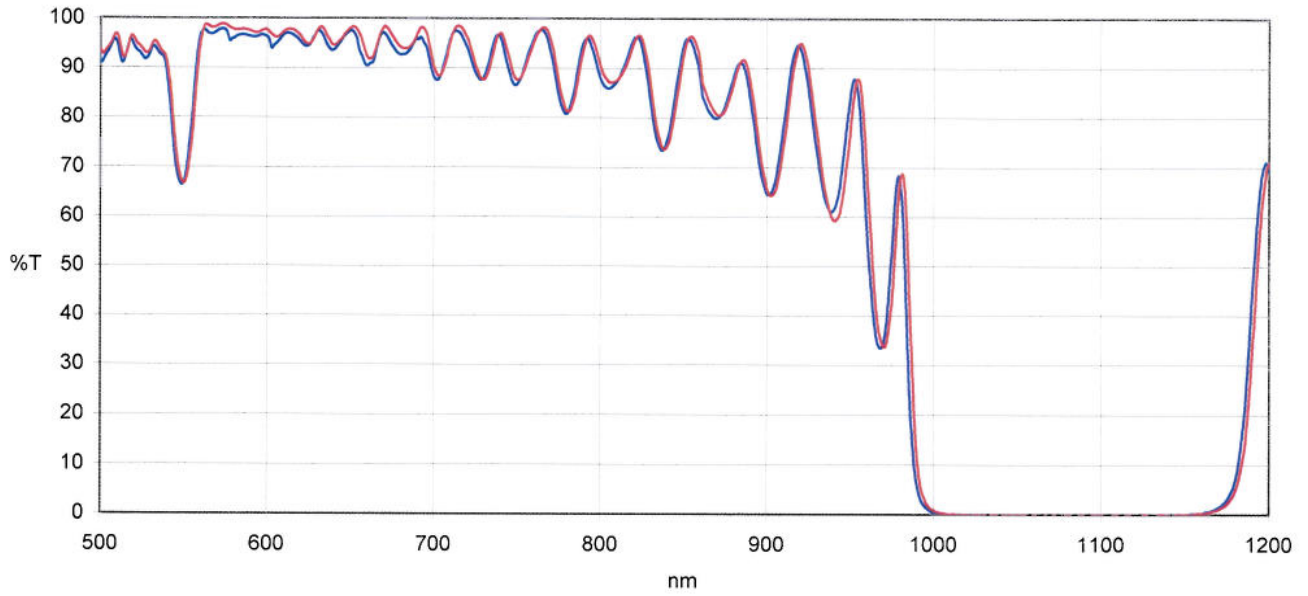


Research Electro-Optics Inc.

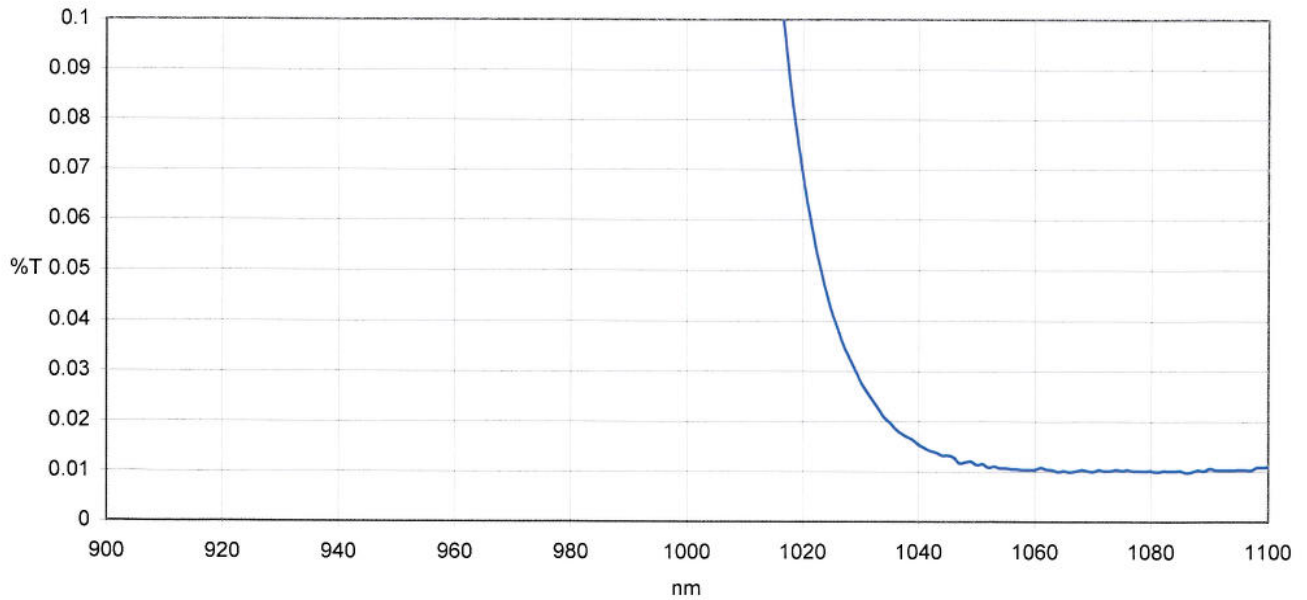
Spectrophotometer Report

Run #:	S7-326-P1
SP ID #:	PE900-2
CF:	1.0000
Date:	5/30/2007
Time:	11:17:16 AM
Analyst:	dh

HR@1064nm, Scanned at 45°AOI P-polarization



1064nm Detail



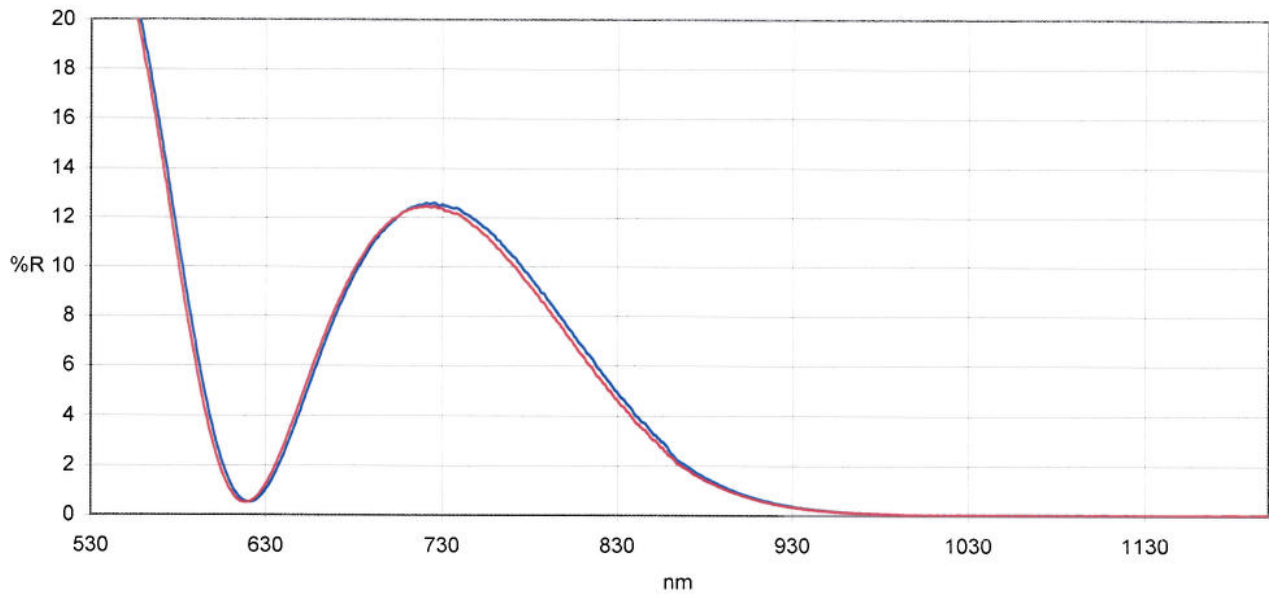


Research Electro-Optics Inc.

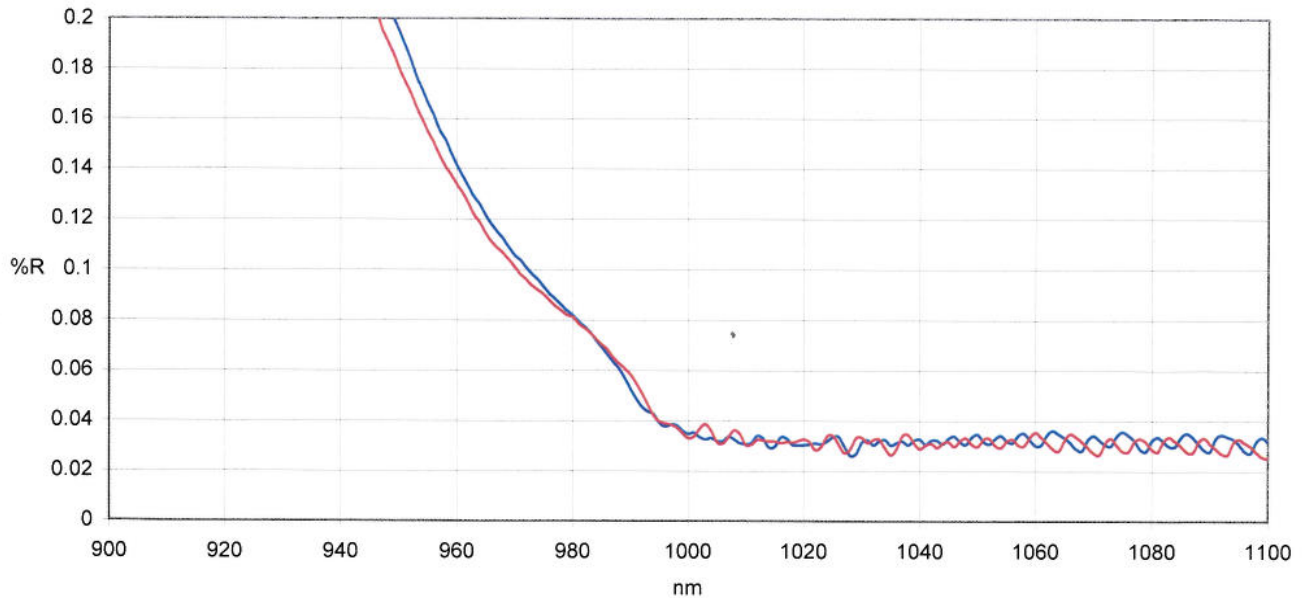
Spectrophotometer Report

Run #:	S7-329-P1
SP ID #:	PE900-1
CF:	0.0088
Date:	5/31/2007
Time:	9:40:21 AM
Analyst:	CX

AR @ 1064nm, Scan at 45° AOI, P-Polarization



Detail @ 1064nm





Ship to : CALTECH
ATTN: H ARMANDULA MC 18-34 LIGO
391 S. HOLLISTON AVE.
PASADENA CA 91125

Sold to : CALIFORNIA INSTITUTE OF TECH
ACQUISITION AND PAYABLES
MAIL CODE 103-6
PASADENA CA 91125

Ship Date	Customer PO	Sales Order	# of Boxes	Weight	Ship VIA	Tracking Number	F O B
06/05/2007	75-SO29622	009422-00	1	2.0000	FedEx Economy PPA	483844702938	OUR PLANT

Item	Fac / Part / Rev / Description / Details	Order Quantity	Ship Quantity
000001	<p>*EARLY DELV.REQUESTED Vendor PN: NS11406 U/M EA SO Item 001 REO TO COAT SUPERPOLISHED OPTICS PER THE FOLLOWING:</p> <p>E070031 REV 00 AS DEFINED BY THE DOCUMENTS PROVIDED BY HELENA ARMADULA ON 2/15/07</p> <p>EXCEPTIONS:</p> <p>COATING ABSORPTION BEST EFFORT FOR <1PPM WITH A GUARANTEE <1.5PPM (REO WILL NOT MEASURE THIS BUT WE ARE CONFIDENT THAT WE CAN MEET THIS FROM AN ABSOLUTE STANDPOINT).</p> <p>THIS LINE ITEM IS FOR COATING ONLY.</p> <p>Lot/SN(s) 02849 Qty 10</p>	10.00000	10.00000
	<p>LOT# 02849 RN# S7-326/S7-329</p> <p><i>Received 6-8-07 Helena Armandula</i></p>		