ETM03

LIGO-T990142-00-D

SUBSTRATE

A. DCN: LIGO-T970018-00-D LIGO DETECTOR OPTICS
B. LIGO S/N: ETM03-A Incoming Inspection Check-off Sheet
Core Optics Polished Substrate

The purpose of this sheet is to verify material physical dimensions, perform visual and microscopic inspection, and to facilitate material traceability of LIGO Detector optics. This sheet is to be included in the LIGO Quality Assurance traceability file. Complete a check-off sheet for each optic blank received and inspected.

C. LIGO Contract/Purchase No.: PC167159 D. Substrate Polisher: CSIRO
E. Core optic Material: BS / FM / 2ITM / 4ITM / (ETM) / RM F. Date Received: 11-03-97

G ☑ Verify glass polisher's Certification with LIGO Component Specification No. E960102-A-D. Attach the completed LIGO Component Specification Verification Sheet.

H ☑ Attach a copy of the glass polisher's Certification Document and data sheet to check-off sheet.

I. ☑ Verify receipt of an IBM PC compatable disc in ASCII format of all Surface Data per the applicable LIGO Component Specification sheet data files are available at CSIRO ftp site

J ☑ Attach the surface maps supplied by vendor per above Component Specifications to the check off sheet.

K ☑ Visually inspect for shipping container damage. If applicable, describe damage on attached sheet and notify the Cognizant Engineer

L ☑ Visually inspect the polished substrate for shipping damage, for chips on surfaces and edges, or for other defects. If applicable, describe damage/defects on attached sheet and notify Cognizant Engineer.

M ☑ Verify polished substrate's physical dimensions per applicable LIGO drawing.

☑	Inspection of material diameter.	Diameter	9.88 in	250.84 mm	
☑	Inspection of material thickness	Thickness	4.08 3.94 in	100.01 99.99 mm	*

N ☑ Verify that the Serial Number is present in the proper format as required by LIGO Component Specification.

O ☑ Verify that the Registration Mark (line with arrow pointing toward surface #1) is present as required by LIGO Component Specification.

P ☑ Inspect the sides and bevels with the naked eye in normal room light and against a black background to verify that there is no gray, scuffs or scratches per the applicable LIGO Component Specification.

Q ☑ Use a dark field microscope at 5X magnification to inspect the polished optic for scratches and defects over the central 80 mm diameter per the applicable LIGO Component Specification.

* See notation on page 3

R ☐ Sign and date original packing slip (shipper) and distribute per paragraph 3.R. did not find a packing slip.

Inspection By: _____ Date Inspected: 11-11-97

Reviewed and/or accepted by:

Cognizant Engineer: _____ Date: _____

LIGO QA Officer or Designee: _____ Date: _____

FM300

Figure 1

LIGO DETECTOR OPTICS
Incoming Inspection Check-off Sheet

Core Optics Polished Substrate

COMMENTS/DISCREPANCIES: (Disposition damage/discrepancies per LIGO Quality Assurance Plan (LIGO M960076-00-P) paragraphs 5.12 and 5.12.1.) The CSIRO certification report of physical dimensions indicates that the thickness may be out of spec.

report: 100 +/- 0.01 mm

spec: 100 + 0.0 mm

100 - 0.5 mm

SKETCHES:

DISPOSITIONS:

Subject: ETM03-A thickness
Date: Tue, 11 Nov 1997 13:46:23 -0800
From: GariLynn Billingsley <Billingsley_G@ligo.caltech.edu>
To: Kells@ligo.caltech.edu, Janeen@ligo.caltech.edu, Jordan@ligo.caltech.edu, Stan@ligo.caltech.edu
CC: SteveE@ligo.caltech.edu

Steve has noted the following discrepancies on inspecting the ETMs from CSIRO. They are noted in the CSIRO inspection reports. I'm forwarding them to you to see if you have any concerns. Thanks -G

>Return-Path: <stevee@ligo.caltech.edu>
>Date: Tue, 11 Nov 1997 11:13:05 -0600
>From: Steve Elieson <stevee@ligo.caltech.edu>
>Organization: California Institute of Technology
>To: gari@ligo.caltech.edu
>Cc: jordan@ligo.caltech.edu
>Subject: ETM03-A thickness
>Content-Length: 295
>
>Gari,
>
>The CSIRO certification report of physical dimensions for ETM-03A
>indicate that the thickness dimension may be out of spec.
>
> Report: 100 +/-0.01 mm
> Spec.: 100 +0.0 mm
> 100 -0.1 mm
>
>The discrepancy is noted on the Incoming Inspection Check-off sheet.
>
>
>ROC spec: 7400 +/- 220 m
>
> max. 7620 m
> min. 7180 m
>
>ROC Report: 7170 +/- 70 m
>
> max: 7240 m
> min. 7100 m
>
>As the reported roc of ETM03-A approaches max it meets the spec min.
>
>Stevee

Substrate, End Test Mass	Serial Number: ETMØ3-A		Specification	Reported Value	✓
	Surface 1	Surface Figure Over Central 200mm	Spherical, Concave	Concave	✓
		Absolute Radius of Curvature Tolerance	220 7,400m 220 + ~~150m~~ ~~150m~~	7.17 Km ± 0.07	✓ *
		Variation of Radius of Curvature from Average	+ 111m - 111m		
		Astigmatism	< 10nm p-v	2.3 nm	✓
	Surface 2	Surface Figure Over Central 200mm	Flat	Convex	✓
		Radius of Curvature	> 80 Km	>| 1700 | Km	✓
		Astigmatism	< 64nm p-v	0.7 nm	✓
	Surface Errors Surface 1	Low Spatial Frequency Band Central 80mm	≤ 4.3 cm^{-1} σ_{rms} < 0.8nm	0.47 nm	✓
		Low Spatial Frequency Band Central 200mm	≤ 4.3 cm^{-1} σ_{rms} < 1.6nm	0.78nm	✓
		High Spatial Frequency Band Central 80 & 200 mm	≤ 4.3 – 7,500 cm^{-1} σ_{rms}<0.2nm	0.2 nm 0.2nm	✓

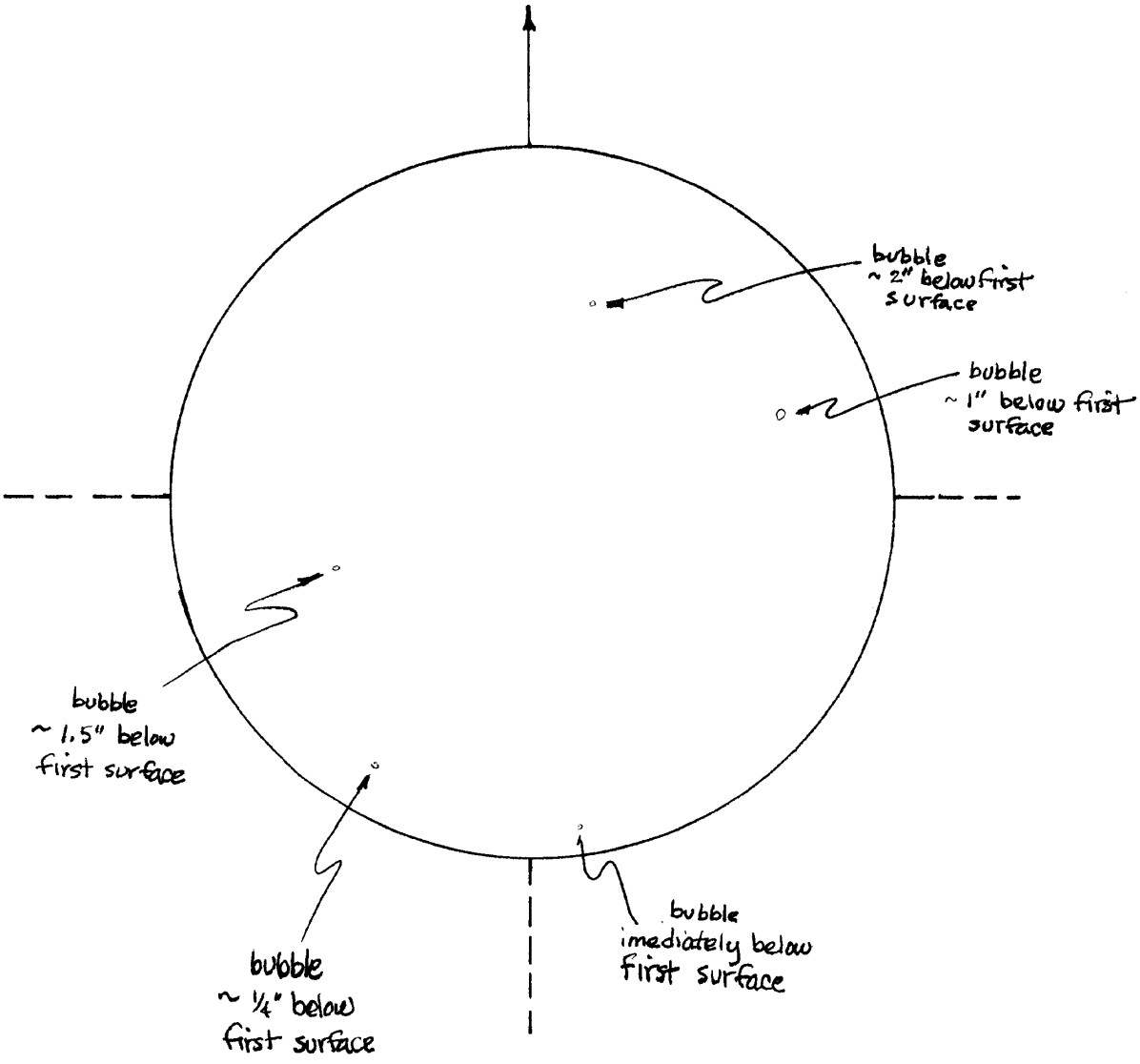
Scratches, Point Defects & Polish Side 1		Specification	Certification	✓
	Scratches	The Total Area of scratches within the central 80mm diameter shall not exceed 25 X 10^3 square micrometers (width x length). Ø	Hand Sketch w/dimensions	✓
		The total area of scratches outside the central 80 mm diameter shall not exceed 250 x 10^3 square micrometers. 2000 [redacted]	Hand Sketch w/dimensions	✓
	Point Defects	There shall be no more than 10 point defects within the central 80mm diameter. [redacted] Ø	Hand Sketch w/dimensions	✓
		There shall be no more than 100 point defects on the entire surface. Point defects of radius greater than 25 micrometers are treated like scratches for the purpose of this specification. Point defects of radius less than 2.5 micrometers are disregarded. 4	Hand Sketch w/dimensions	✓
	Side/Bevel Polish	Sides and bevels shall be polished from a three micrometer grit finish. These surfaces shall appear transparent with no gray, scuffs or scratches visible to the naked eye when viewed in normal room light against a black background.	Inspection Report	✓

LIGO Component Specification Verification Sheet
End Test Mass

		Specification	Certification	✓
Scratches, Point Defects & Polish Side 2	Scratches	The total area of scratches shall not exceed 1 X 10^6 square micrometers over the central 235 mm. 4000	Hand Sketch w/dimensions	✓
	Point Defects	There shall be no more than 100 point defects within the central 80mm diameter.	Hand Sketch w/dimensions	✓
		There shall be no more than 300 point defects on the entire optic. Point defects of radius greater than 25 micrometers are treated like scratches for the purpose of this specification. Point defects of radius less than 2.5 micrometers are disregarded.	Hand Sketch w/dimensions	✓
	Side/Bevel Polish	Sides and bevels shall be polished from a three micrometer grit finish. These surfaces shall appear transparent with no gray, scuffs or scratches visible to the naked eye when viewed in normal room light against a black background.	Inspection Report	✓

LIGO Component Specification Verification Sheet
End Test Mass

Serial No: ETMØ3-A
Date: 11-11-97



This Certification Package relates to the following substrate: **End Test Mass**

Serial number: ETM03A

The Package consists of the following documents:

1. Printed documents

HABA - LIGO - C - PD:	Certification of Physical Dimensions and Registration Mark location, orientation and dimensions
HABA - LIGO - C - SB:	Certification of Side and Bevel Polish
HABA - LIGO - C - SP:	Certification of Scratches and Point Defects
HABA - LIGO - C - SN:	Certification of Serial Number location, dimensions
HABA - LIGO - C - SF:	Certification of Surface Figure for Sides 1 and 2
HABA - LIGO - C - SL:	Certification of Surface Errors - Low Frequency, for Side 1
HABA - LIGO - C - SH:	Certification of Surface Errors - High frequency, for Side 1
Attachment 1	Hard copy print out of LADI data for Side 1 with piston, tilt removed and also for piston, tilt, power, astigmatism removed
Attachment 2	Hard copy print out of LADI data for Side 2 with piston, tilt, removed
Attachment 3	Hard copy printouts of TOPO 2D data obtained with 2.5X and 40X heads at three central positions (side 1)

2. Electronic data

Surface maps for sides 1 and 2 are available at the CSIRO ftp site under the following file names:

LADI data:	ETM3A1.ASC (Side 1)	ETM3A2.ASC (Side 2)
TOPO data: (2.5X)	T2EM031A.ASC, T2EM031B.ASC, T2EM031C.ASC (Side 1)	
(40X)	T4EM031A.ASC, T4EM031B.ASC, T4EM031C.ASC	

1	**Substrate Type:**	**End Test Mass**
2	**Serial Number:**	**ETM-03A**
3	**Physical quantity certified:**	**Physical Dimensions and Registration Mark**
4	**LIGO specification reference:**	**D960791-A-D**
5	**CSIRO measurement/inspection procedure reference:**	**HABA-LIGO-M-PD**
6	**Variations to the measurement/inspection procedure:** (indicate Yes/No and attach separate sheet if Yes)	**No**
7	**CSIRO Log Book Reference**	**LN00028 p. 15**
8	**Team member responsible for measurement/inspection:**	**Carl Sona**
9	**Measurement/inspection results reviewed by:**	**Bob Oreb**

10. Results

[Measurement errors (± 1σ) shown only where they are comparable to tolerances specified or when measurement is within 2σ of boundary of acceptability]

Physical Quantity	Result
Diameter	250.84 mm
Cylindricity	0.01 mm
Thickness (maximum - for FM, RM, ETM) (minimum - for BS)	100.00 ±0.01 mm
Bevel as per drawing (height, angle):	(S1) Height: 2.11 mm Angle: $44^0 51'$ (S2) Height: 2.17 mm Angle: $44^0 38'$
Wedge angle:	$2^0 0'$
Location of registration mark (± angle with respect to minimum part thickness):	+12'
Location of other 3 marks (with respect to registration mark at minimum thickness)	$89^0 57'$, $179^0 58'$, $270^0 02'$
Registration mark dimensions (OK/ not OK)	OK

11. Certification

The measurements and inspection data presented in this report were obtained using the procedures outlined in the relevant CSIRO procedures document (sec. 5). These results have been reviewed against the LIGO specifications (sec. 4). Taking into account the variations (if any) from these measurement procedures noted in sec.6, CSIRO certifies the substrate to comply with the LIGO specification for this physical quantity.

Project Manager:  Chris Walsh

Date: 24 Oct. 97

1	**Substrate Type:**	**End Test Mass**
2	**Serial Number:**	**ETM-03A**
3	**Physical quantity certified:**	**Side and Bevel Polish**
4	**LIGO specification reference:**	**E960102-A-D**
5	**CSIRO measurement/inspection procedure reference:**	**HABA-LIGO-M-SB-A**
6	**Variations to the measurement/inspection procedure:** (indicate Yes/No and attach separate sheet if Yes)	**No**
7	**CSIRO Log Book Reference**	**LN00024**
8	**Team member responsible for measurement/inspection:**	**J Seckold**
9	**Measurement/inspection results reviewed by:**	**A Leistner**

10. Results

Defects, if any, in the side and bevel polish compared to the LIGO specification (4 above) are detailed below *(team member to note defects here; if none seen, note "no defects observed").*

No defects observed.

11. Certification

The measurements and inspection data presented in this report were obtained using the procedures outlined in the relevant CSIRO procedures document (sec. 5). These results have been reviewed against the LIGO specifications (sec. 4). Taking into account the variations (if any) from these measurement procedures noted in sec.6, CSIRO certifies the substrate to comply with the LIGO specification for this physical quantity.

Project Manager: Chris Walsh

Date: 24. Oct 97

1	**Substrate Type:**	**End Test Mass**
2	**Serial Number:**	**ETM-03A**
3	**Physical quantity certified:**	**Serial Number and location**
4	**LIGO specification reference:**	**E960102-A-D**
5	**CSIRO measurement/inspection procedure reference:**	**HABA-LIGO-M-SN-A**
6	**Variations to the measurement/inspection procedure:** (indicate Yes/No and attach separate sheet if Yes)	**No**
7	**CSIRO Log Book Reference**	**LN00024**
8	**Team member responsible for measurement/inspection:**	**J Seckold**
9	**Measurement/inspection results reviewed by:**	**A Leistner**

10. Results

Quantity inspected	Result of Inspection (OK / not OK)
Location of serial number as per drawing (sec. 4)	OK
Orientation of serial number as per drawing (sec. 4)	OK
Height of lettering	OK

11. Certification

The measurements and inspection data presented in this report were obtained using the procedures outlined in the relevant CSIRO procedures document (sec. 5). These results have been reviewed against the LIGO specifications (sec. 4). Taking into account the variations (if any) from these measurement procedures noted in sec.6, CSIRO certifies the substrate to comply with the LIGO specification for this physical quantity.

Project Manager: Chris Walsh

Date: 24 Oct 97

1	**Substrate Type:**	**End Test Mass**
2	**Serial Number:**	**ETM-03A**
3	**Physical quantity certified:**	**Scratches and Point Defects**
4	**LIGO specification reference:**	**E960102-A-D**
5	**CSIRO measurement/inspection procedure reference:**	**HABA-LIGO-M-SP-A**
6	**Variations to the measurement/inspection procedure:** (indicate Yes/No and attach separate sheet if Yes)	**No**
7	**CSIRO Log Book Reference**	**LN00024**
8	**Team member responsible for measurement/inspection:**	**E Pavlovic**
9	**Measurement/inspection results reviewed by:**	**J Seckold**

10. Results

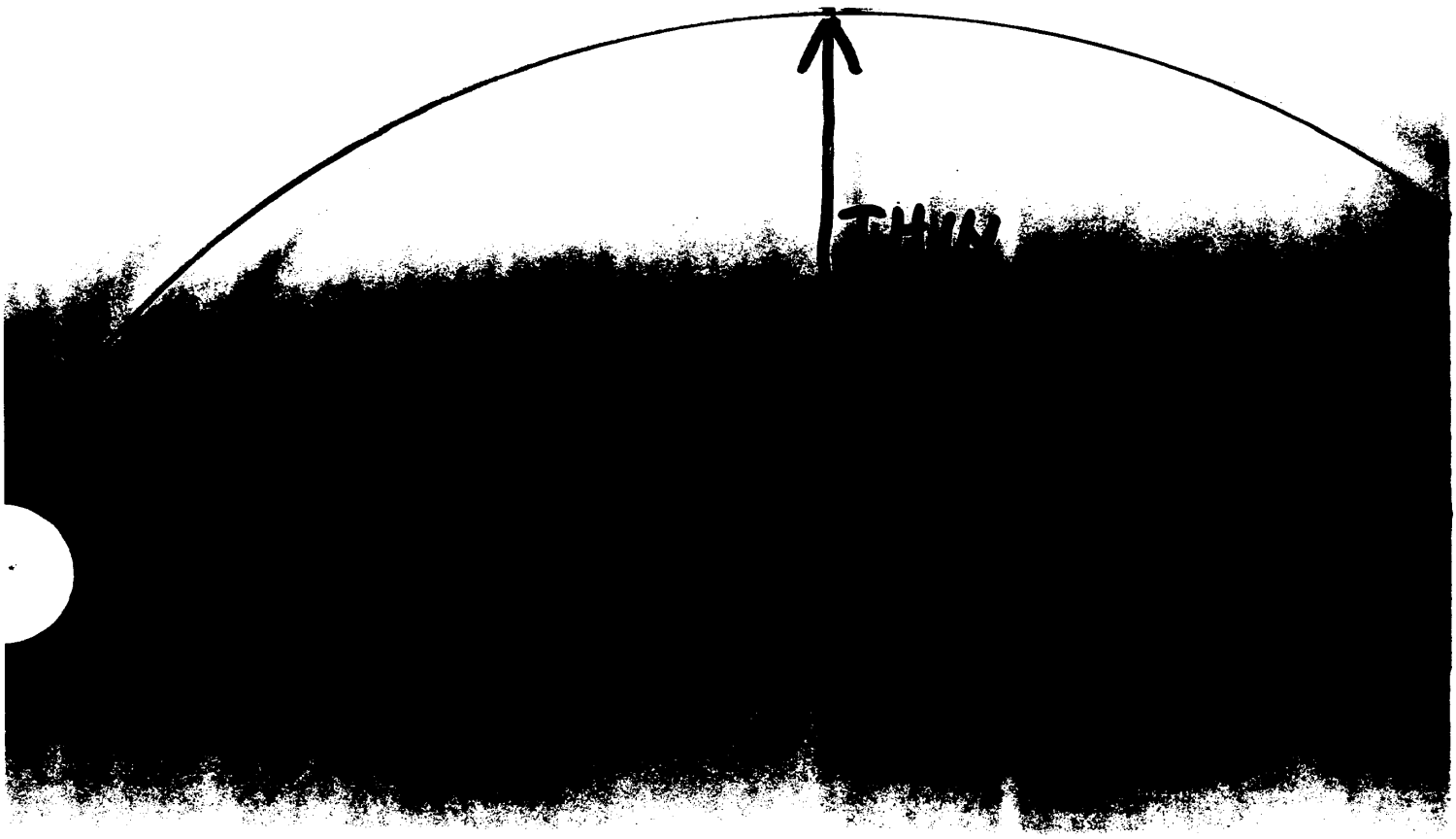
	Numbers of point defects		**Total Area of scratches (square micrometres)**	
	Inside central 80 mm	**Entire surface (235 mm)**	**Inside central 80 mm**	**Outside central 80 mm (235 mm)**
Surface 1	**None**	**4**	**None**	**2000**
Surface 2	**None**	**None**	**2000**	**4000**

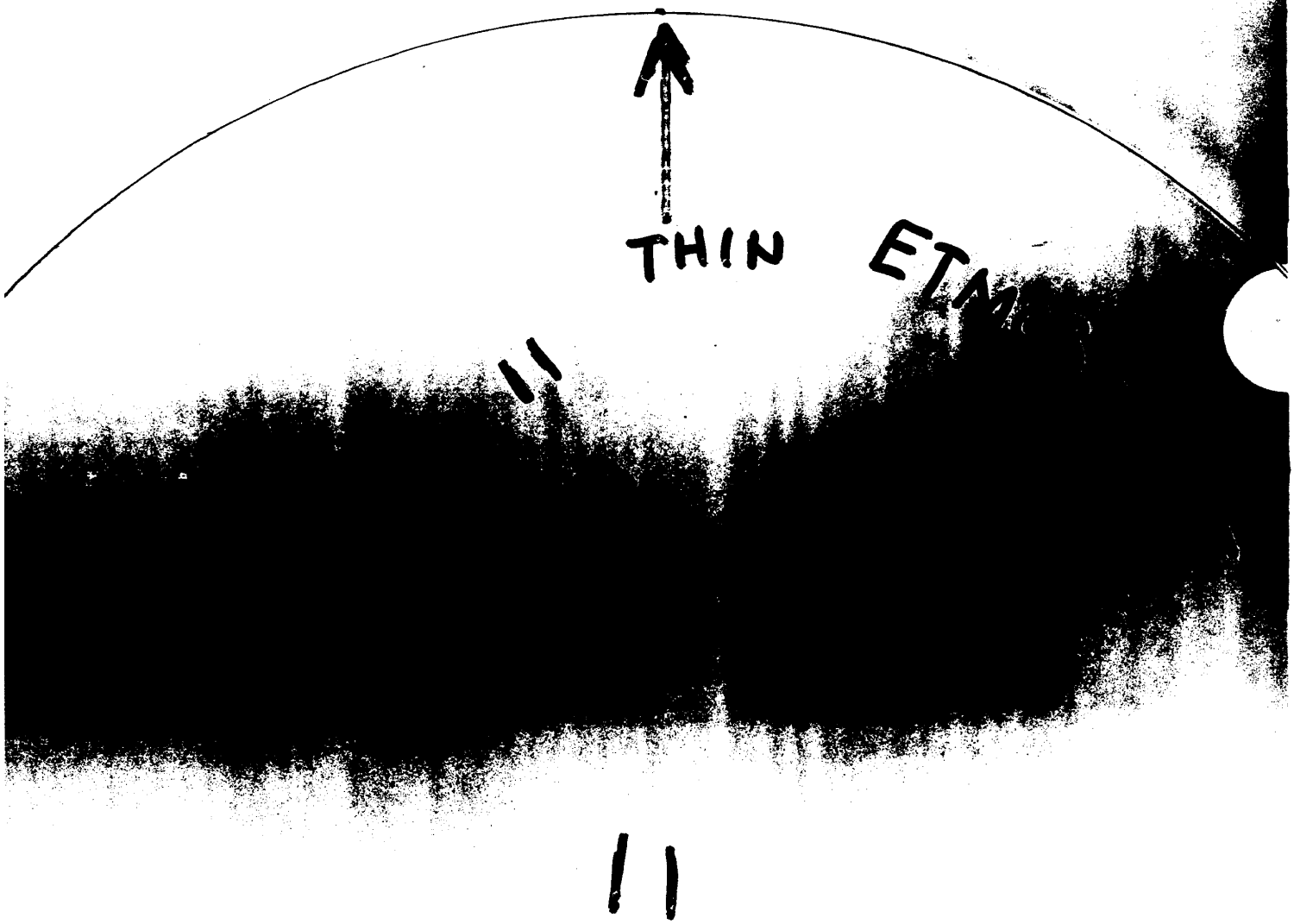
11. Certification

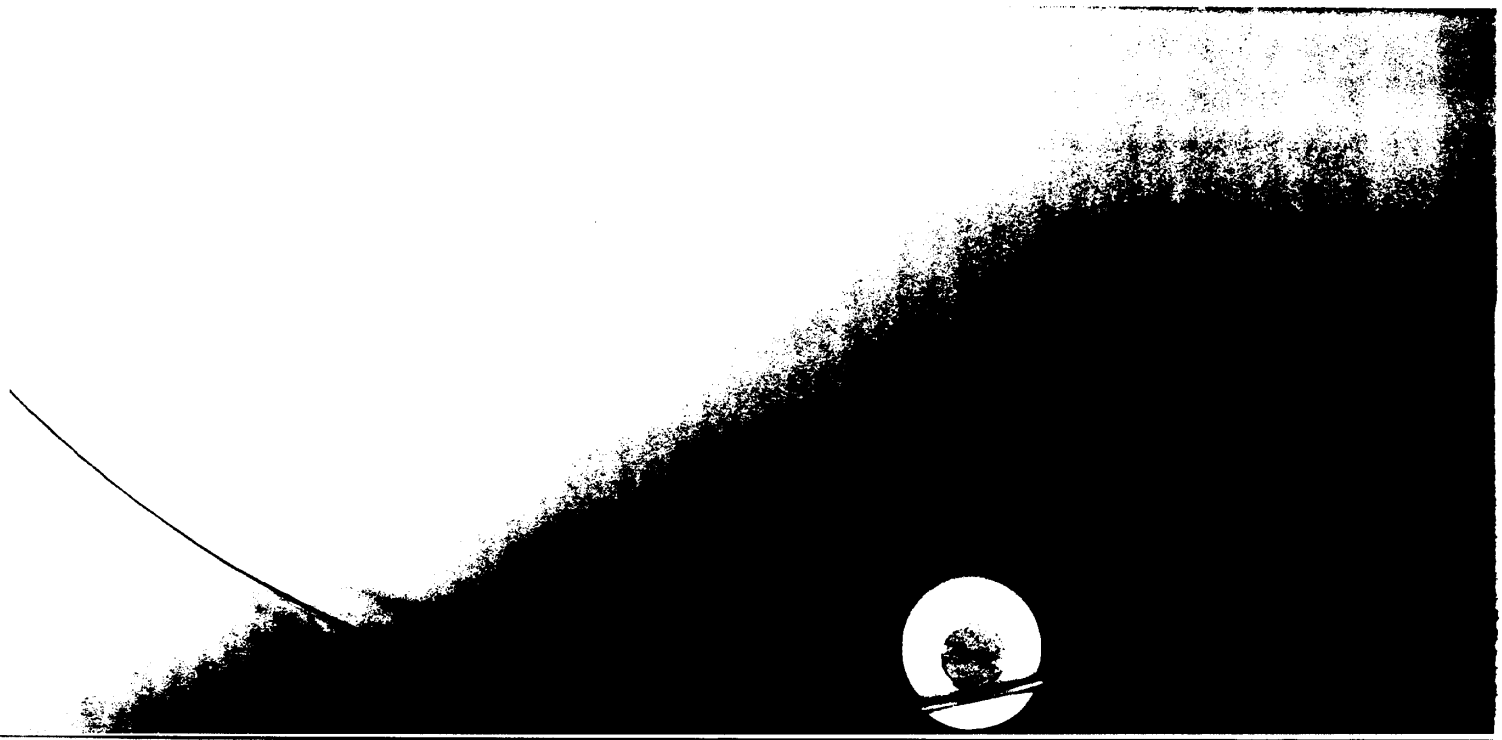
The measurements and inspection data presented in this report were obtained using the procedures outlined in the relevant CSIRO procedures document (sec. 5). These results have been reviewed against the LIGO specifications (sec. 4). Taking into account the variations (if any) from these measurement procedures noted in sec.6, CSIRO certifies the substrate to comply with the LIGO specification for this physical quantity.

Project Manager:  Chris Walsh

Date: 24 Oct 97




THIN ET



1	**Substrate Type:**	**End Test Mass**
2	**Serial Number:**	**ETM-03A**
3	**Physical quantity certified:**	**Surface Figure**
4	**LIGO specification reference:**	**E960102-A-D**
5	**CSIRO measurement/inspection procedure reference:**	**HABA-LIGO-M-SF-A**
6	**Variations to the measurement/inspection procedure:** (indicate Yes/No and attach separate sheet if Yes)	**No**
7	**CSIRO Log Book Reference**	**LN00060, p.111**
8	**Team member responsible for measurement/inspection:**	**D Farrant**
9	**Measurement/inspection results reviewed by:**	**B Oreb**

10. Results

	Radius of Curvature in km	**Astigmatism (nm)**	**Electronic data file reference**
Surface 1	**7.17 ± 0.07 (concave)**	**2.3**	**ETM3A1.ASC**
Surface 2	**> |1700| (convex)**	**0.7**	**ETM3A2.ASC**

Hardcopies of the phase maps are attached to this certification as part of Attachment 1 for Side 1 and Attachment 2 for Side 2. Phase map data is stored in electronic format at the CSIRO ftp site under the filenames shown in the third column.

11. Certification

The measurements and inspection data presented in this report were obtained using the procedures outlined in the relevant CSIRO procedures document (sec. 5). These results have been reviewed against the LIGO specifications (sec. 4). Taking into account the variations (if any) from these measurement procedures noted in sec.6, CSIRO certifies the substrate to comply with the LIGO specification for this physical quantity, except for the radius of curvature of side 1, which is 10 m outside the bottom tolerance. The spread in the four radii (ETM01 to ETM04) is well within the LIGO tolerance.

Project Manager:  Chris Walsh

Date: 24 Oct 97

1	**Substrate Type:**	**End Test Mass**
2	**Serial Number:**	**ETM-03A**
3	**Physical quantity certified:**	**Surface Errors - Low Spatial Frequency**
4	**LIGO specification reference:**	**E960102-A-D**
5	**CSIRO measurement/inspection procedure reference:**	**HABA-LIGO-M-SL-A**
6	**Variations to the measurement/inspection procedure:** (indicate Yes/No and attach separate sheet if Yes)	**No**
7	**CSIRO Log Book Reference**	**LN00060, p.111**
8	**Team member responsible for measurement/inspection:**	**D Farrant**
9	**Measurement/inspection results reviewed by:**	**B Oreb**

10. Results

	Low Frequency Surface Errors (nm)	
	80 mm aperture	**200 mm aperture**
Surface 1	0.47	0.78
Surface 2	N/A	N/A

Hardcopies of the phase maps over the central 200 mm with piston, tilt, power and astigmatism removed are attached to this certification in Attachment 2 for Side 1 and Attachment 2 for Side 2.

11. Certification

The measurements and inspection data presented in this report were obtained using the procedures outlined in the relevant CSIRO procedures document (sec. 5). These results have been reviewed against the LIGO specifications (sec. 4). Taking into account the variations (if any) from these measurement procedures noted in sec.6, CSIRO certifies the substrate to comply with the LIGO specification for this physical quantity.

Project Manager:  Chris Walsh

Date: 24 Oct 97

1	**Substrate Type:**	**End Test Mass**
2	**Serial Number:**	**ETM-03A**
3	**Physical quantity certified:**	**Surface Errors - high spatial frequency**
4	**LIGO specification reference:**	**E960102-A-D**
5	**CSIRO measurement/inspection procedure reference:**	**HABA-LIGO-M-SH-B**
6	**Variations to the measurement/inspection procedure:** (indicate Yes/No and attach separate sheet if Yes)	**No**
7	**CSIRO Log Book Reference**	**LN00066, pp.40 - 43, 18 -22**
8	**Team member responsible for measurement/inspection:**	**F Lesha**
9	**Measurement/inspection results reviewed by:**	**C Walsh**

10. Results

10.1 Surface errors in nanometres averaged over sampling locations within central 80 mm:

Side 1: **0.20 nm**

Side 2: **N/A**

10.2 Surface errors in nanometres averaged over all sampling locations on surface:

Side 1: **0.20 nm**

Side 2: **N/A**

10.3 Surface errors in nanometres at different positions A through H on surface:

	A	B	C	D	E	F	G	H
Surface 1	**0.19**	**0.18**	**0.23**	**0.20**	**0.19**	**0.23**	**0.19**	**0.21**
Surface 2	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

Two - dimensional surface maps at three central locations are available at the CSIRO ftp site under filenames of the form TOEM0YZA.asc, where O is the objective used (O=2 for 2.5X, 4 for 40X), EM refers to End Test Mass, 0Y is the number, Z = 1 or 2 is the side and A = A, B, C, ... is the sampling position. Hard copies of the data are at Attachment 3 (Side 1).

11. Certification

The measurements and inspection data presented in this report were obtained using the procedures outlined in the relevant CSIRO procedures document (sec. 5). These results have been reviewed against the LIGO specifications (sec. 4). Taking into account the variations (if any) from these measurement procedures noted in sec.6, CSIRO certifies the substrate to comply with the LIGO specification for this physical quantity.

Project Manager: Chris Walsh

Date: 24 Oct 97

LADI CERTIFICATION DATA

CSIRO

Title: ETM3A1

Date: 10/08/97

Diameter: 200 mm

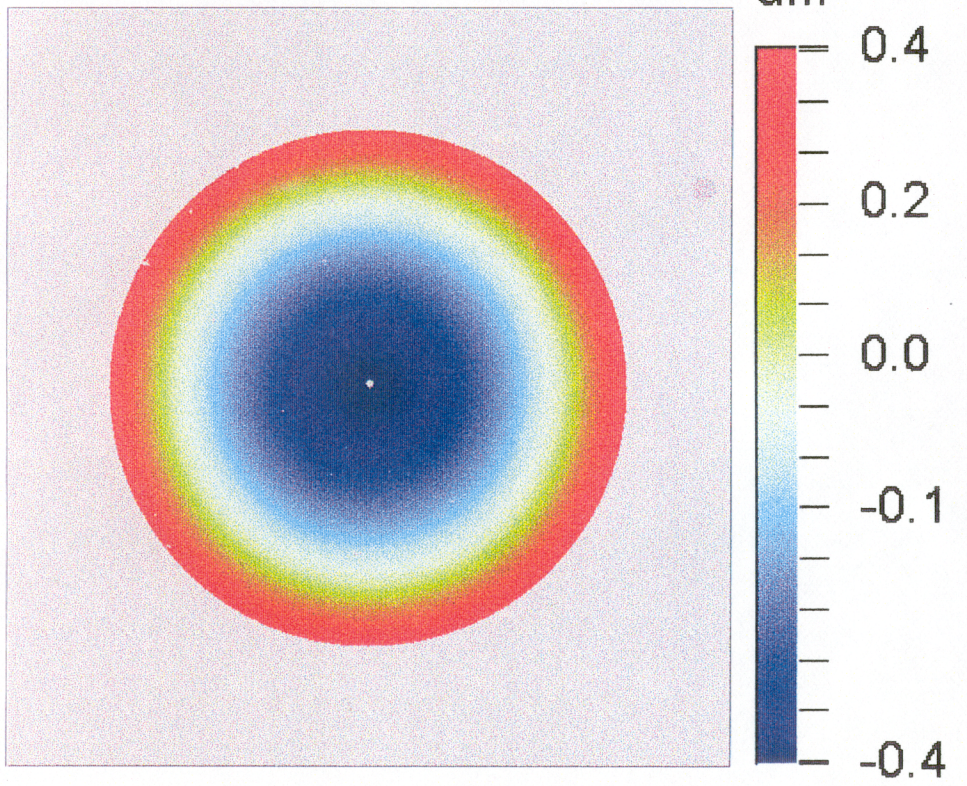
Astig: 2.3 nm

Power: 697.1 nm

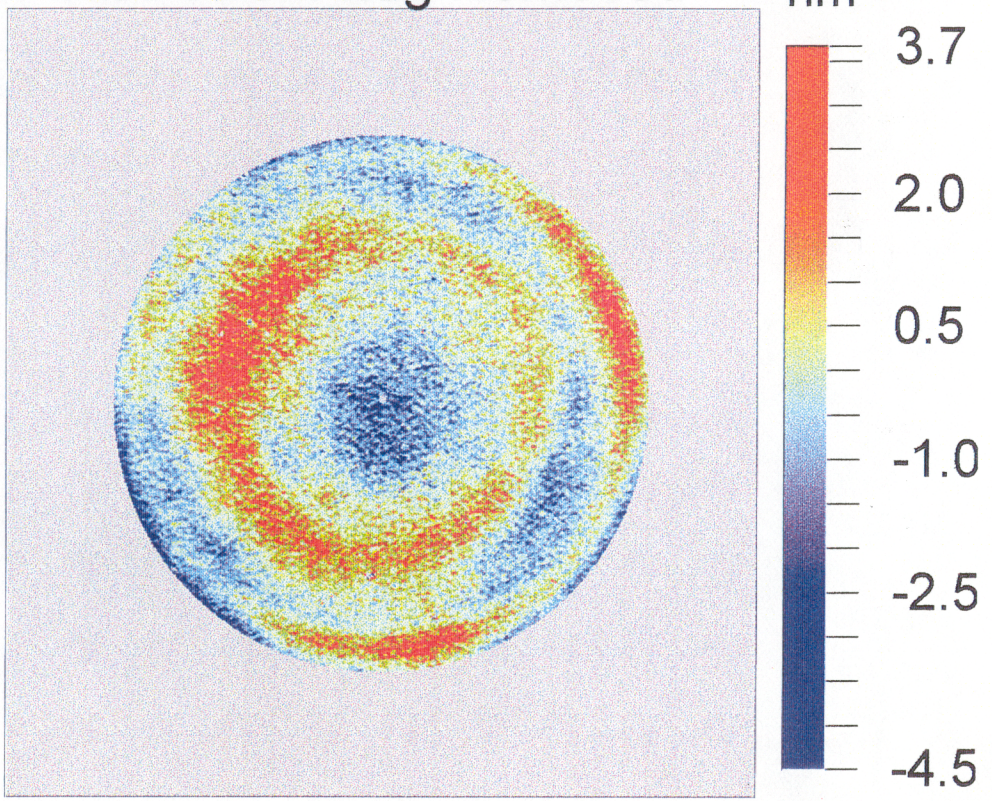
PV: 8.2 nm

RMS: 0.8 nm

Tilt Removed



Tilt/Power/Astig Removed



Attachment 1

LADI CERTIFICATION DATA

CSIRO

Title: ETM3A2

Date: 10/03/97

Diameter: 200 mm

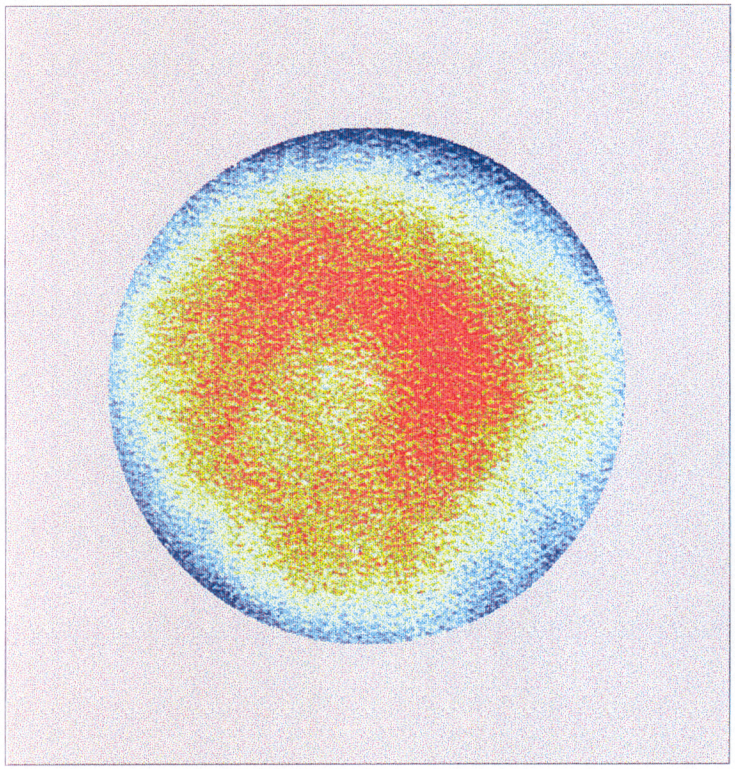
Astig: -0.7 nm

Power: -2.9 nm

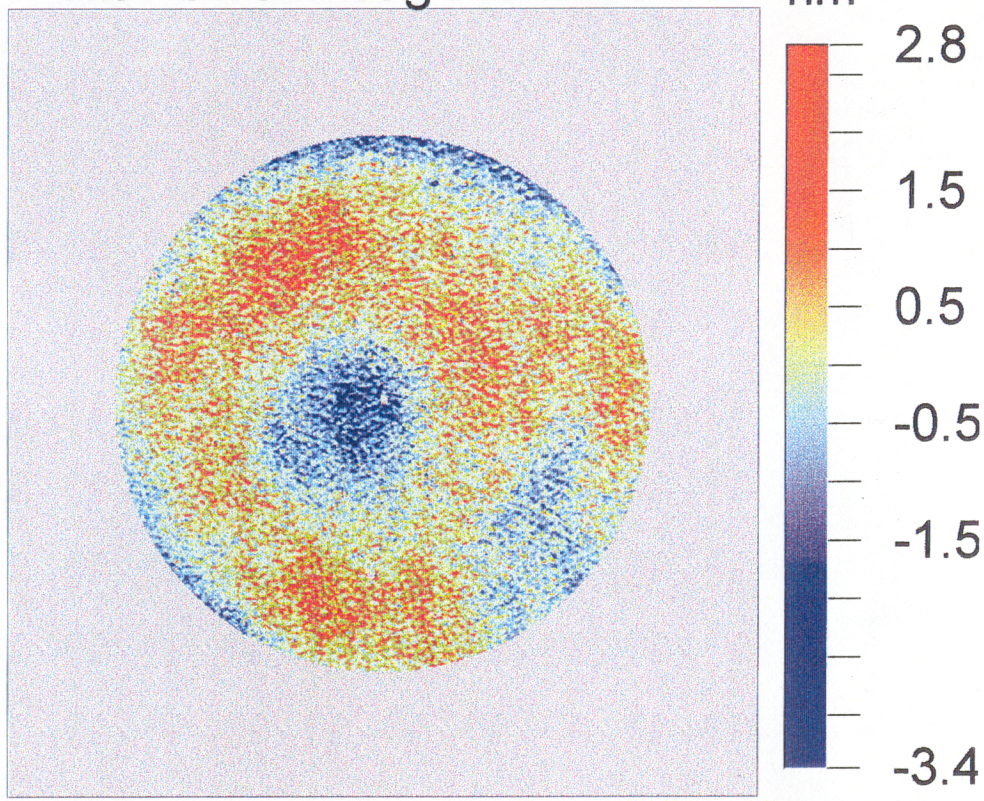
PV: 6.2 nm

RMS: 0.6 nm

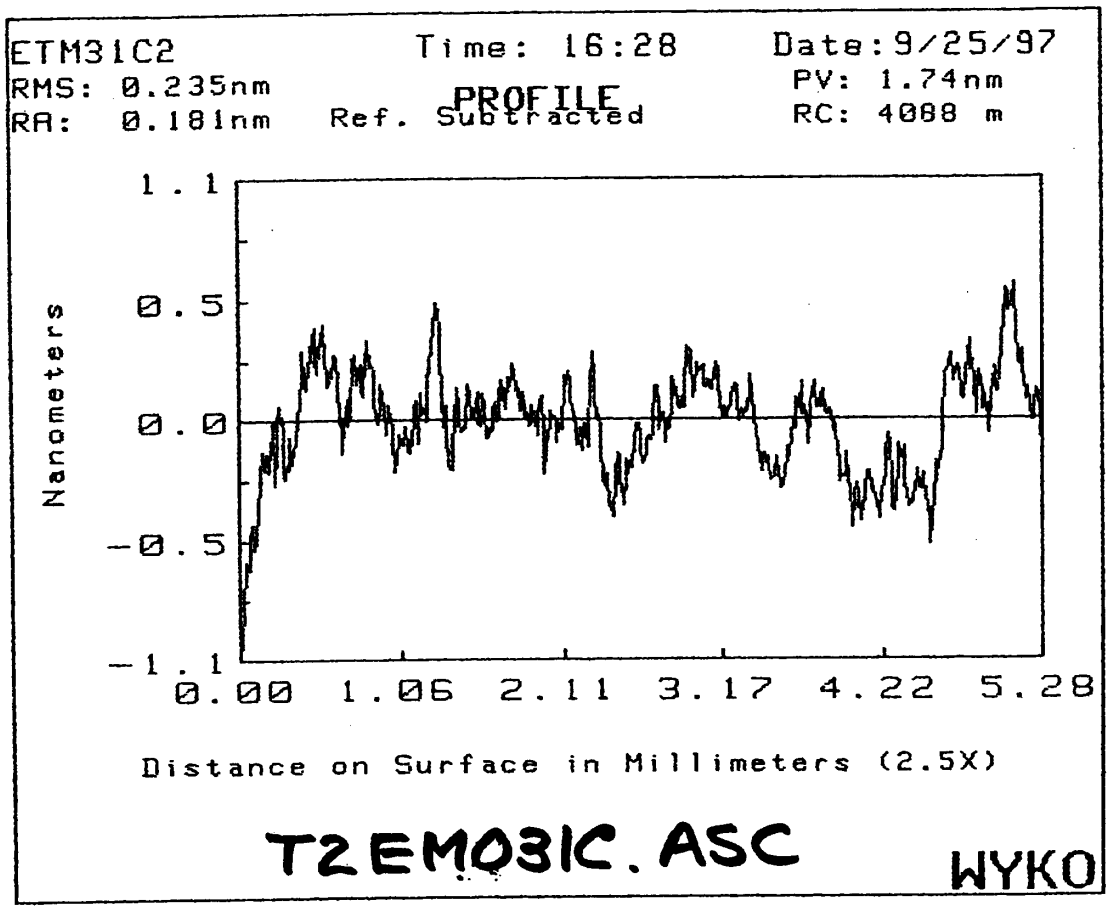
Tilt Removed



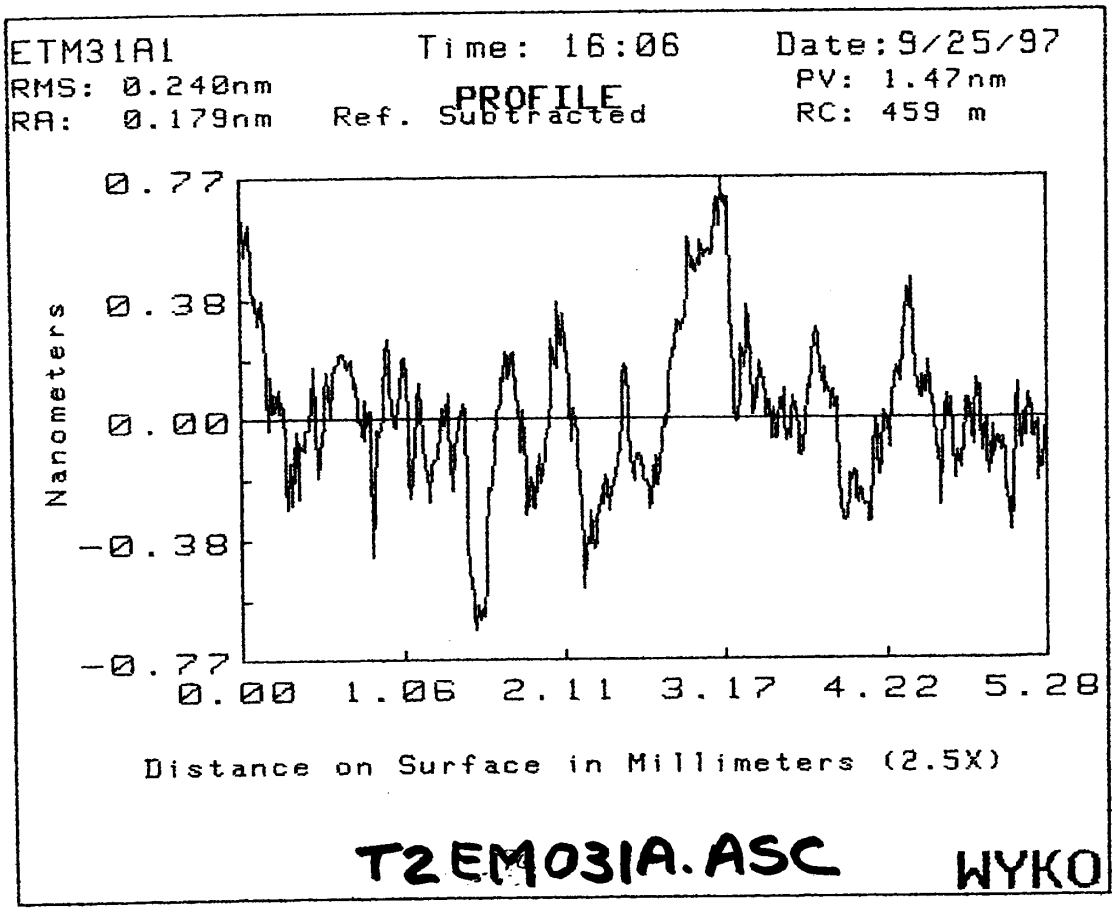
Tilt/Power/Astig Removed

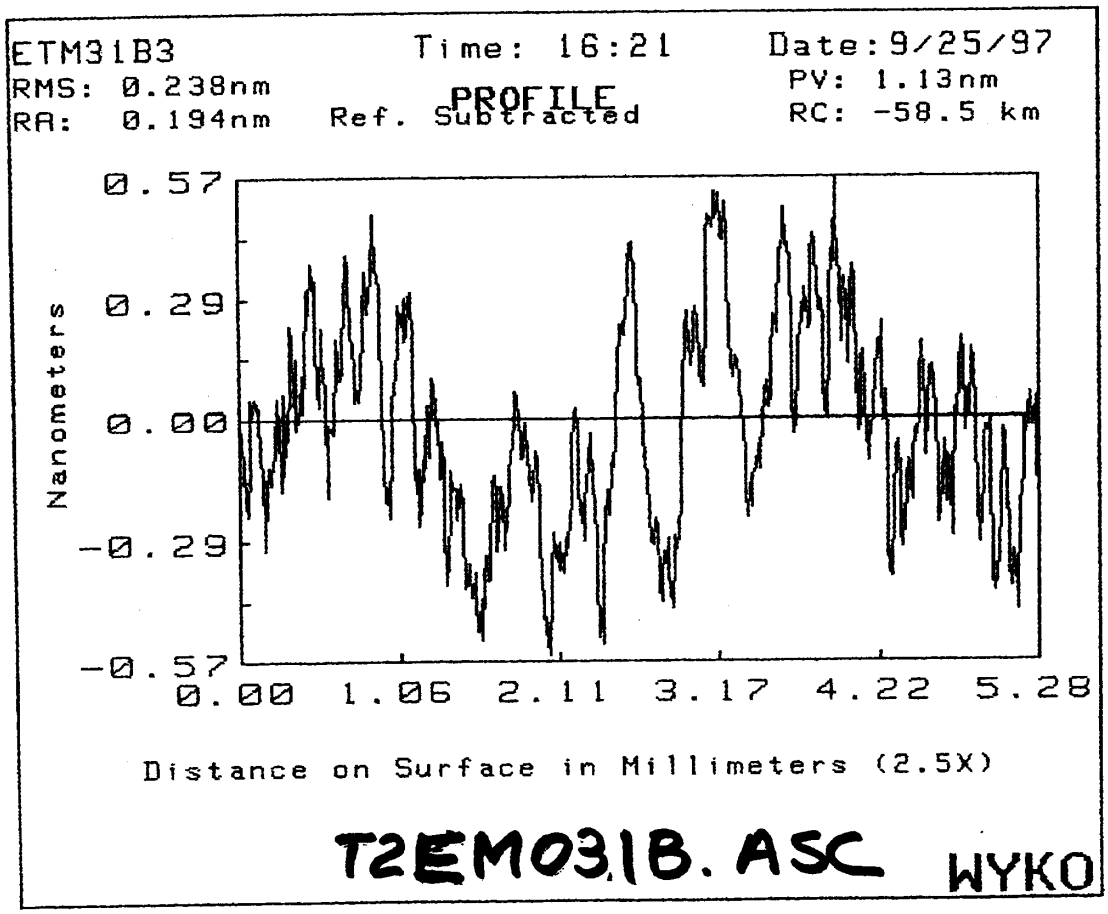


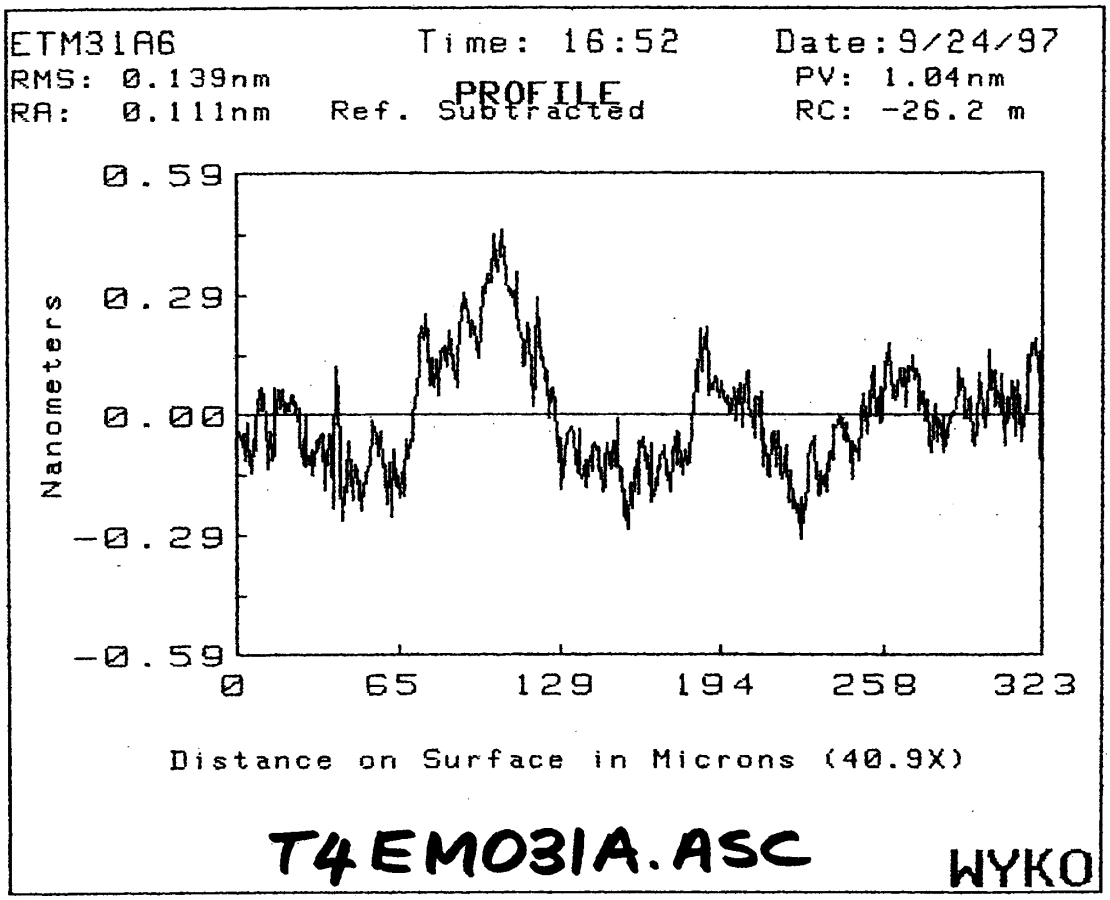
Attachment 2

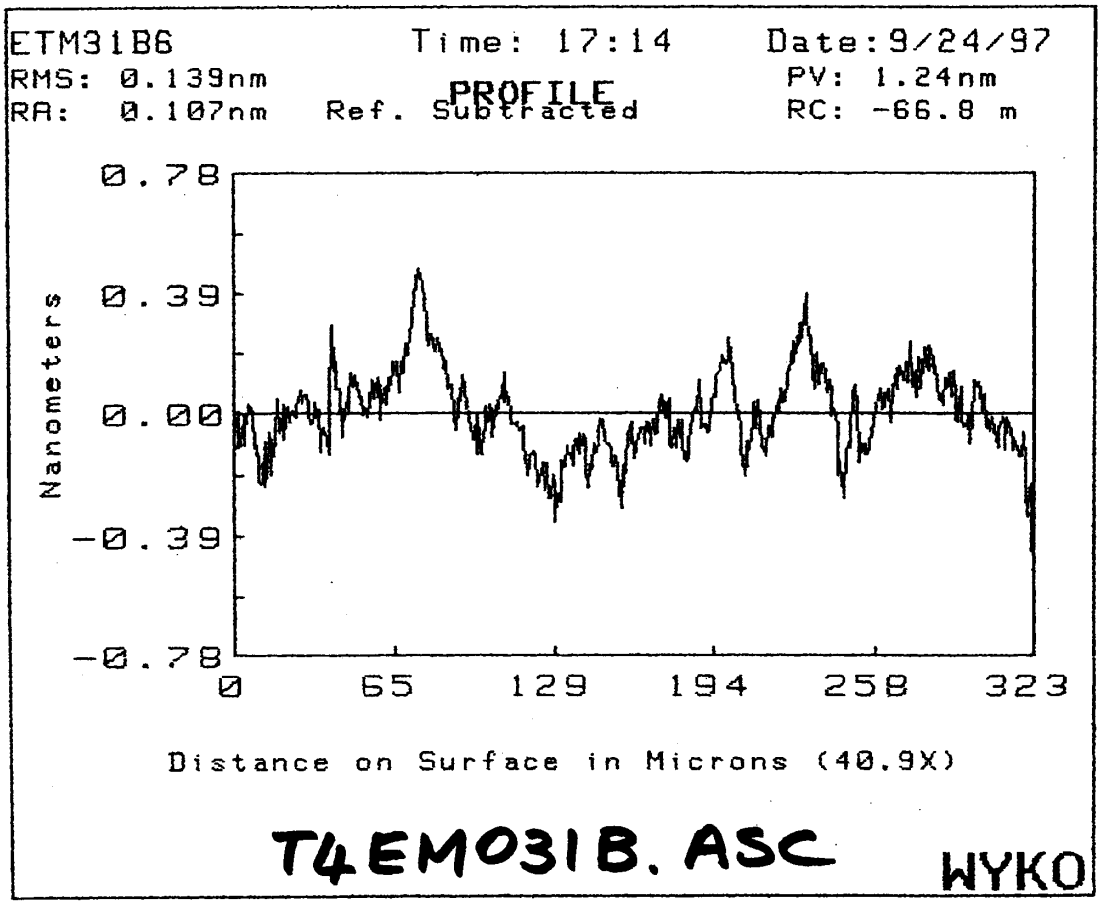

ETM31C2
Time: 16:28
Date:9/25/97
RMS: 0.235nm
PROFILE
PV: 1.74nm
RA: 0.181nm
Ref. Subtracted
RC: 4088 m
1.1
0.5
0.0
-0.5
-1.1
Nanometers
0.00
1.06
2.11
3.17
4.22
5.28
Distance on Surface in Millimeters (2.5X)
T2EM031C.ASC
WYKO

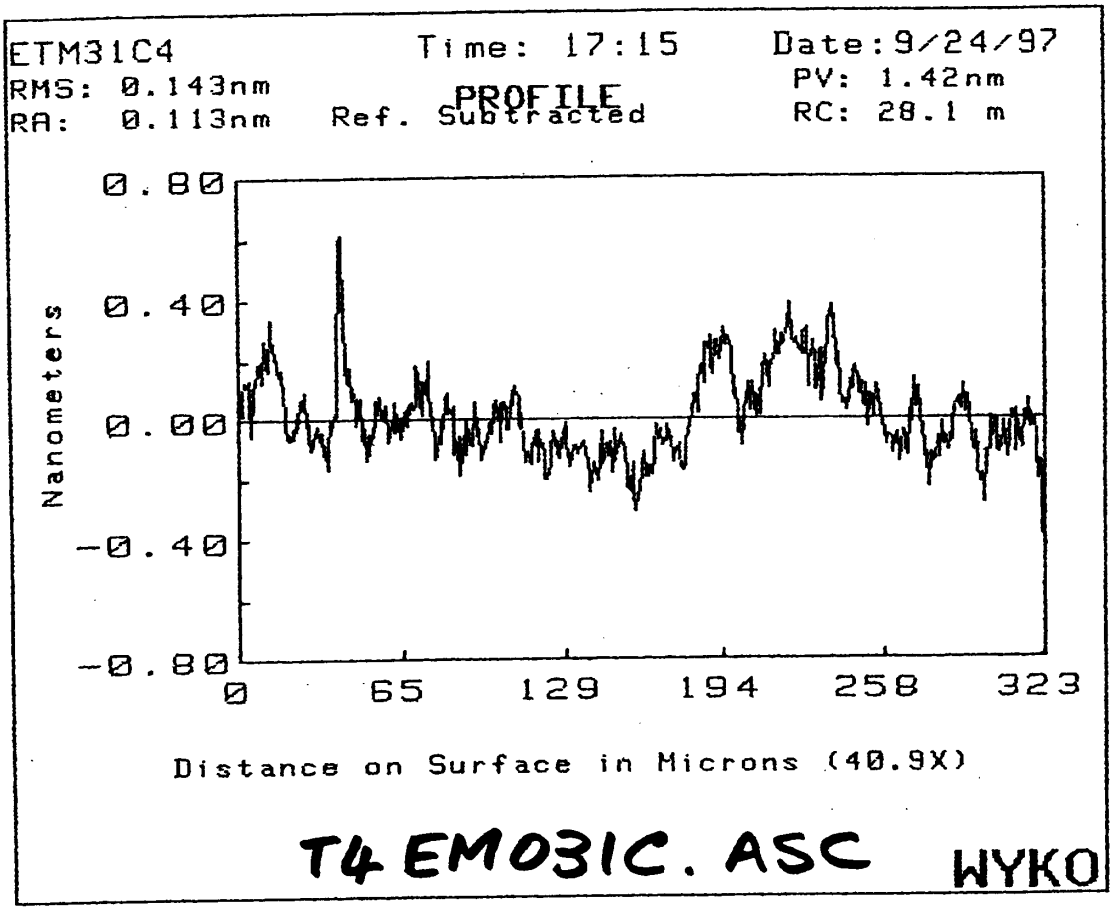
Attachment 3






ETM31A6
Time: 16:52
Date:9/24/97
RMS: 0.139nm
PROFILE
PV: 1.04nm
RA: 0.111nm
Ref. Subtracted
RC: -26.2 m
0.59
0.29
0.00
-0.29
-0.59
Nanometers
0
65
129
194
258
323
Distance on Surface in Microns (40.9X)
T4EM031A.ASC
WYKO


ETM31B6
Time: 17:14
Date:9/24/97
RMS: 0.139nm
PROFILE
PV: 1.24nm
RA: 0.107nm
Ref. Subtracted
RC: -66.8 m
0.78
0.39
0.00
-0.39
-0.78
Nanometers
0
65
129
194
258
323
Distance on Surface in Microns (40.9X)
T4EM031B.ASC
WYKO


ETM31C4
Time: 17:15
Date:9/24/97
RMS: 0.143nm
RA: 0.113nm
PROFILE
Ref. Subtracted
PV: 1.42nm
RC: 28.1 m
0.80
0.40
0.00
-0.40
-0.80
Nanometers
0
65
129
194
258
323
Distance on Surface in Microns (40.9X)
T4 EM03IC.ASC
WYKO


MIRROR

Research Electro-Optics Inc.

CERTIFICATE OF CONFORMANCE

Section3.14/REO QC Manual, Q-001, Doc. No. V:QA:REO 014, Rev."B", 09/13/96

Certificate of Conformance from: **Research Electro-Optics (REO) Inc.**
1855 South 57th. Court
Boulder, Colorado 80301
(303) 938-1960, Fax (303) 447-3279

Research Electro-Optics (REO), Inc. hereby certifies that the items listed below 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.

- Date of shipment : MAY 27, 1998
- Customer Name, Purchase Order No. : LIGO PO#PC162519/CON05
- Customer Part Number & Revision : E98006800D
- Part Description : ETM03, ETM04; HR/AR@1064NM
- REO Job No. : OPT05831-016 Run No.: OX740, OX741
- Qty. Shipped/Lot No. : 2 PCS

☒ **Test data (included)**

Comment:

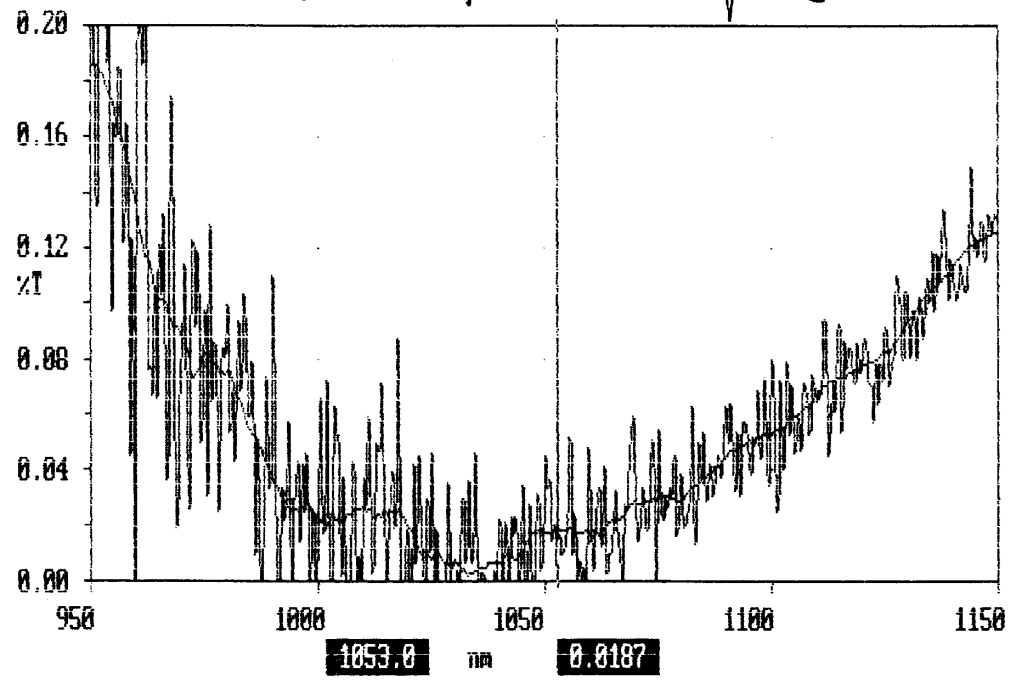
Certified by: _____, 5/27/98
Quality Assurance

Verified by: _____, 5/27/98
Engr/Tech

NOTE
Certificate must accompany the package to be shipped or attached to the outside of the same box to which the "Packing Slip" envelope is attached.

ETM03; ETM04

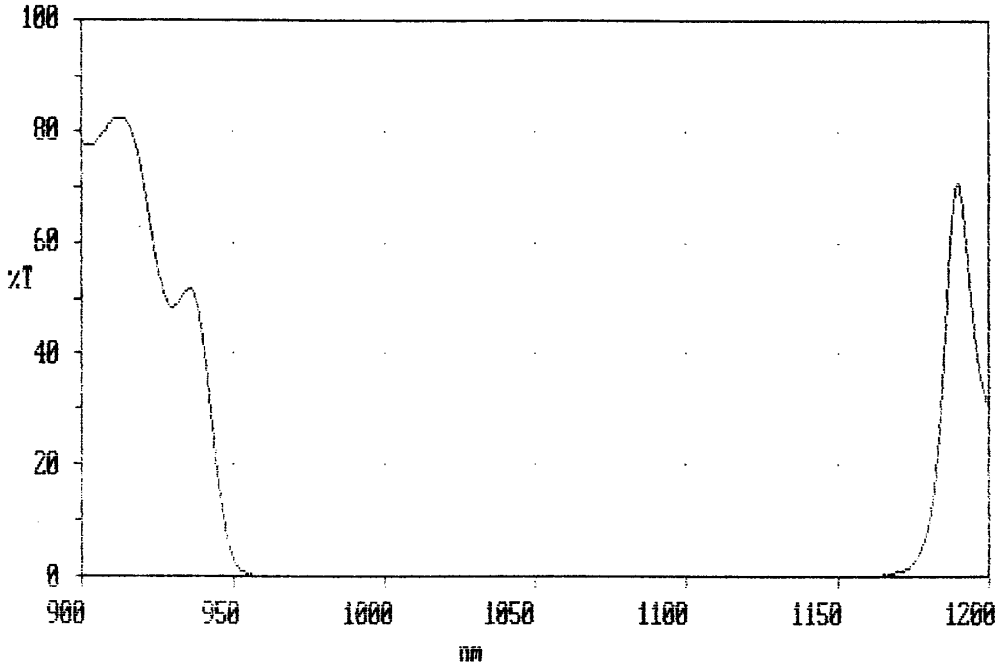
Y: user002; 1150.0 - 950.0 nm; pts 401; int 0.50; ord 0.0026 - 0.1862 %T
Inf: #0X741. AR at 1064nm, after bake, 1" fs witness piece



measured with Laser @ 1053nm
R = 114 ppm @ 5°

ETM03, ETM04

X: USER001; 1200.0 - 900.0 nm; pts 301; int 1.00; ord -0.205 - 82.780 %T
Inf: RUN #0X740 HR01064NM AFTER PROCESSING



X: USER001; 1200.0 - 900.0 nm; pts 301; int 1.00; ord -0.205 - 82.780 %T
Inf: RUN #0X740 HR01064NM AFTER [redacted] processing