

## Delivery Note

**Number:** 7352

**Date:** 14<sup>th</sup> December 2012

**For the attention of:**

David Shwa  
The Hebrew University of Jerusalem  
Air Fright – Collect, DHL Global Forwarding, Attn: Alan Barnes

The Hebrew University of Jerusalem  
Supply Department  
Campus Edmond Safra  
Givat Ram  
Jerusalem 91904  
Israel

**Details:**

2 off 17.5mm Clear Aperture Solid Fused Silica Etalon - Design #S5c  
FSR 15.0GHz. Fe ~91 at 795nm / 3mm

REF: YOUR PURCHASE ORDER NO: HUIJ 71/3042/4015

Country of Origin: GB

Sent by ..... *Al Wilson* ..... Date *14/12/12* .....

[www.slsoptics.com](http://www.slsoptics.com)

Tromode Estate, Carrs Lane, Tromode, Isle of Man, IM4 4QD, British Isles  
Telephone: +44 (0) 1624 616728 Facsimile: +44 (0) 1624 613520 Email: [enquiries@slsoptics.com](mailto:enquiries@slsoptics.com)



**MASTER  
JOB SHEET**

<b>ASSEMBLY</b>	<b>OPTICS</b>	<b>STOCK</b>
<b>MISCELLANEOUS</b>	<b>COATING</b>	<b>ENGINEERING</b>

Internal Order Number: **120756** Date: **17 October 2012**  
Customer: **The Hebrew University of Jerusalem** Cust Order Number: **HUJ71/3042/4015**  
Drawing No: **Design #S5c** Wk Due: **50**  
Qty Ordered: **2** Qty Outstanding: **2** ✓ Quote No: **12/0038** Cust Supplied: **No**  
Description: **17.5mm CA Solid FS etalon. FSR 15.0GHz. Fe ~91 at 795nm / 3mm (As per Design #S5c)** ✓

**OPTICS**

Substrate Material: **Fused Silica**  
Diameter: **20.0** ✓  
Thickness: **6.876+/-0.001** ✓ Length: Width:  
Wedge/Parallelism: **L/75 parallel**  
Front Surface Figure: **L/75** Rear Surface Figure: **L/75**

SLS OPTICS LTD  
SOLID F. S. ETALON  
FSR 15.0 GHz  
Fe ~ 91 @ 795nm  
DESIGN # S5c

SLS Optics Ltd  
SEALED PACKAGE  
Open Only in Clean  
Room Conditions

Notes:

**COATING**

Side 1: **>97%R at 795nm / 0deg** ✓  
Apt: **>18** Design 1:  Run No 1:  Tested:

Side 2: **>97%R at 795nm / 0deg** ✓  
Apt: **>18** Design 2:  Run No 2:  Tested:

Notes:

Coating Type: **Ultra Hard Oxide** ✓ Ultrasonic Cleaning: **Yes/No**

**ENGINEERING**

Cells Required: **Yes** Jigging Required: **No**

Notes: **25mm dia x 12mm Al cell with dust caps** ✓

**PACKING**

Quantity Packed:  Quantity Rejected:  Quantity Stocked:

**ASSOCIATED DOCUMENTATION**

**Coating Curves & Any test data  
EUR 1 Form Required - See PO for shipping & invoicing  
instructions  
MUST BE SHIPPED AS PER INSTRUCTIONS**

NCR NOTES Yes  No   
Entered By: Susan Knighton

Completed / Shipped on 14 / 12 / 12

Signed [Signature]

SLS OPTICS Ltd.  
SOLID Etalon Calculation

David Shwa  
Racah Inst. Of Phy. Hebrew University, Jerusalem

Design#S5(c  
(at Zero Deg.)

**Please Note:**

This etalon is NOT TUNED to the design Wavelength. A Transmission Maxima will occur within 1 FSR and the etalon will require TILTING should any specific wavelength require isolation.

Substrate diameter 20mm

**Customer controlled**

**Wavelength nm**

**Refractive index of Fused Silica**

**Etalon thickness mm**

FSR nm

FSR cm-1

FSR GHz

**Clear (coated) aperture diameter mm**

**Effective aperture (Laser Beam diameter) mm**

Sphericity error over clear aperture @ 632.8nm

Sphericity error over clear ap. @ operational wavelength

Sphericity error over effective ap. @ operational wavelength

Parallelism error over clear aperture @ 632.8nm

Parallelism error over clear ap. @ operational wavelength

Parallelism error over effective ap. @ operational wavelength

Surface roughness (rms) nm

**Full beam divergence mr**

Half-angle mr

Cone solid angle omega sr

**Reflector coating %**

Reflector coating loss %

AR coating loss %

Reflectivity finesse Fr

Sphericity finesse, over effective aperture Fs

Parallelism finesse, over effective aperture Fp

Roughness finesse Frms

Defect finesse, over effective aperture Fd

Divergence finesse, over effective aperture Fdiv

**Tilt angle degrees (in air) assumed to be Zero**

Tilt angle r (in air)

Tilt finesse, over effective aperture Fttilt

**Effective finesse Fe**

Effective reflectivity Re

Etalon coatings peak T, over effective aperture %

**Etalon peak Transmission over effective aperture %**

Contrast

Peak T insertion loss dB

Tpeak / Tvalley dB

**FWHM nm**

**FWHM cm-1**

**FWHM GHz**

SLS OPTICS LTD  
SOLID F. S. ETALON  
FSR 15.0 GHz  
Fe ~ 91 @ 795nm  
DESIGN # S5c

795

1.453404

6.876

0.032

0.500

15.00

17.5

3

N 75

N 94

N 3206

N 75

N 94

N 550

0.4

1

0.5

7.85E-07

97

0.2

0

103

1603

317

423

251

318

0.000001

1.75E-08

12499079

91.36

96.62

77.17

77.17

3384.09

-1.13

3.53

0.0003

0.0055

0.164

Specified as Greater than 97%R

**Customer controlled**

**Customer controlled**



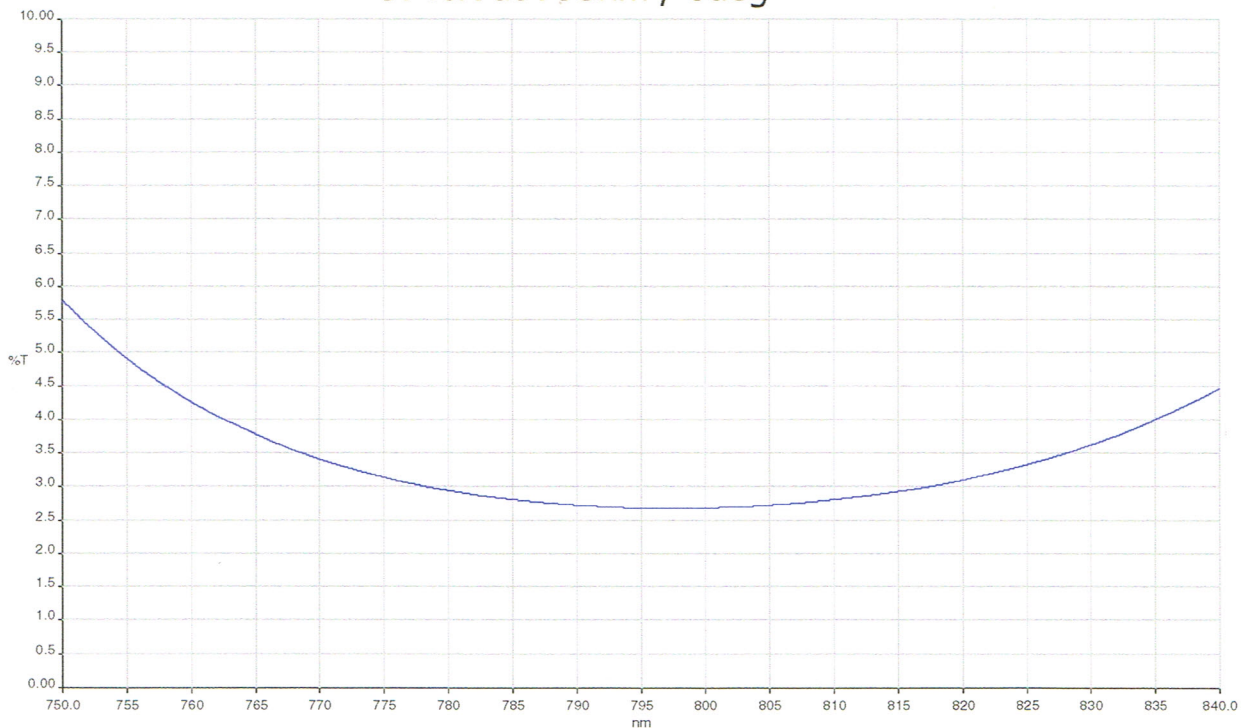
SLS OPTICS LTD  
SOLID F. S. ETALON  
FSR 15.0 GHz  
Fe ~ 91 @ 795nm  
DESIGN # S5c

**Customer:** The Hebrew University of Jerusalem

**Order No:** HUJ71/3042/4015

**Serial No:** 3823 Side 1

**Description:** 2 off 17.5mm CA Solid Fused Silica Etalon  
>97%R at 795nm / 0deg



Tested: J.C.

Checked: *Ruc*

**Ultrahard coating**

This coating meets the following standards with respect to adhesion and resistance to moderate abrasion;  
MIL-C-675C, MIL-M-13508C, MIL-C-48497A

Only pure Methanol should be used to clean this coating, using the drag-wipe method.

120756-3823



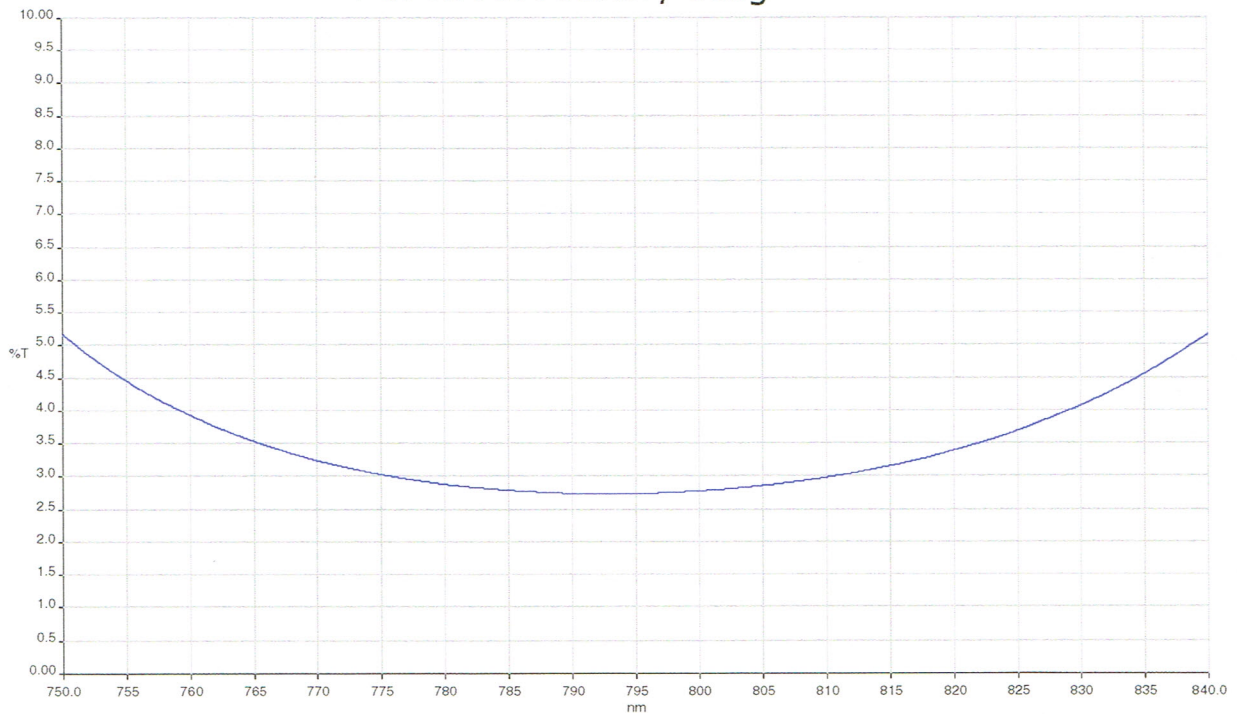
SLS OPTICS LTD  
SOLID F. S. ETALON  
FSR 15.0 GHz  
Fe ~ 91 @ 795nm  
DESIGN # S5c

**Customer:** The Hebrew University of Jerusalem

**Order No:** HUJ71/3042/4015

**Serial No:** 3824 Side 2

**Description:** 2 off 17.5mm CA Solid Fused Silica Etalon  
>97%R at 795nm / 0deg



Tested: J.A.

Checked: *Rice*

**Ultrahard coating**

This coating meets the following standards with respect to adhesion and resistance to moderate abrasion;  
MIL-C-675C, MIL-M-13508C, MIL-C-48497A

Only pure Methanol should be used to clean this coating, using the drag-wipe method.

120756-3824