

Instrumatic Española, S.A.

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Nº de Albarán: 10.412

Albarán

Fecha: 31-dic-01
S/Pedido: S00155/195
Nº Ref.: 10326 X DP
Nº Cliente: 15
Cod.Prov.:

Nombre: UNIV. POLITECNICA DE CATALUNYA
Dpto.: Centre pel Desenv. de Sensors, Instrumen. y Sist.
Dirección: Rambla de Sant Nebridi, 10
Población: 08222 - TERRASSA (Barcelona)
CIF.: Q-0818003F

Codigo	Descripción	Cant.	Precio Unitario	TOTAL
SED033	33 mm2 silicon detector with window, spectral range from 200-1100 nm, 950 nm peak. UNCALIBRATED. N/S - 4059	1	74.000 Pts	74.000 Pts
SED240	Same as SED220 but with quartz window. Spectral range: 185-320 nm 240 nm peak. UNCALIBRATED. N/S - 5676	1	121.000 Pts	121.000 Pts
ACT5	200 mm dia. Produces expanded actinic response when used with SED 240 Detector. N/S - 23008	1	93.000 Pts	93.000 Pts
UVA	12,5 mm dia. Tailored filter when combined with silicon detector produces UVA response from 315 to 390 nm (10%). N/S - 23821	1	27.000 Pts	27.000 Pts
UVB-1	20 mm dia. Tailored filter when combined with solar blind vacuum photodiode produces response from 265 to 332 nm (10%). N/S - 23781	1	26.000 Pts	26.000 Pts
W	Internal hemisphere of solid quartz for use with (PM),(SED)(SHD)(SL) detectors for cosine response in the UV-Vis-IR. N/S - 10237	1	32.000 Pts	32.000 Pts
Calibración PIR	Irradiance response, (amps)(cm2)(watt-1) at peak sensitivity of an IL detector.	3	61.000 Pts	183.000 Pts
Subtotal				556.000 Pts
Descuento				0 Pts
Base Imponible				556.000 Pts
				3.341,63 €

International Light

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ilsales@intl-light.com • www.intl-light.com

CALIBRATION CERTIFICATE

International Light certifies that the instrument described below has been compared with the laboratory working standards whose calibrations are traceable to the U.S. National Institute of Standards and Technology and whose procedures are in accordance with the requirements of ANSI/NC SL Z540-1-1994, ISO 10012-1:1992(E) and ISO/IEC Guide 25:1990(E).

Rendered-to: INSTRUMATIC ESPANOLA, S.A.
Detector: SED033 #7059 Input Optic: W #10237
Filter: UVA #23821 Misc.: N/A
Spectral Response (half power points): See Chart

(PIR) PEAK IRRADIANCE RESPONSE SENSITIVITY FACTOR AS CALIBRATED ON: 03-Dec-2001

740e-3 (A)(cm²)(W-1) assuming monochromatic irradiance at 360nm

Unit will read directly in watts per square centimeter when used with an IL1700 and the Sensitivity Factor Above.

CALIBRATED WITH IL1700 +5V BIAS: ON OFF

REFERENCE PLANE: Groove ONE formed by filter or diffuser elements and next element, counted from front surface of assembly.

PRIMARY STANDARD: U.S. National Institute of Standards and Technology Detector Response

U1023 - January 1997 - NIST Test No. 844/257423-96/2 D204 - January 1997 - NIST Test No. 844/257423-96/1

N.I.S.T. Uncertainty: 200-250nm=5%;250-400nm=1.0%;400-900nm=0.31%;900-1000nm=0.58%;1000-1100nm=2.93%

INTERNATIONAL LIGHT PRIMARY TRANSFER STANDARDS:

IL D.R.I.P.#01,#02,#3275,#139,#1490,U522,H627

JAN 1998

IL Transfer Uncertainty to Customer = +/- 4.5 % plus NIST uncertainty above.

LIGHT SOURCE: 18a Hg-Xc IRRADIANCE: 7.55e-3 W/cm²

INSTRUMENTATION: #4544/UVA/W PROCEDURE: PIR18

TEMPERATURE: 20 degrees C HUMIDITY: 33 %

CALIBRATED BY: [Signature] CHECKED BY: [Signature]

Calibration Technician

QA Manager, Calibrations

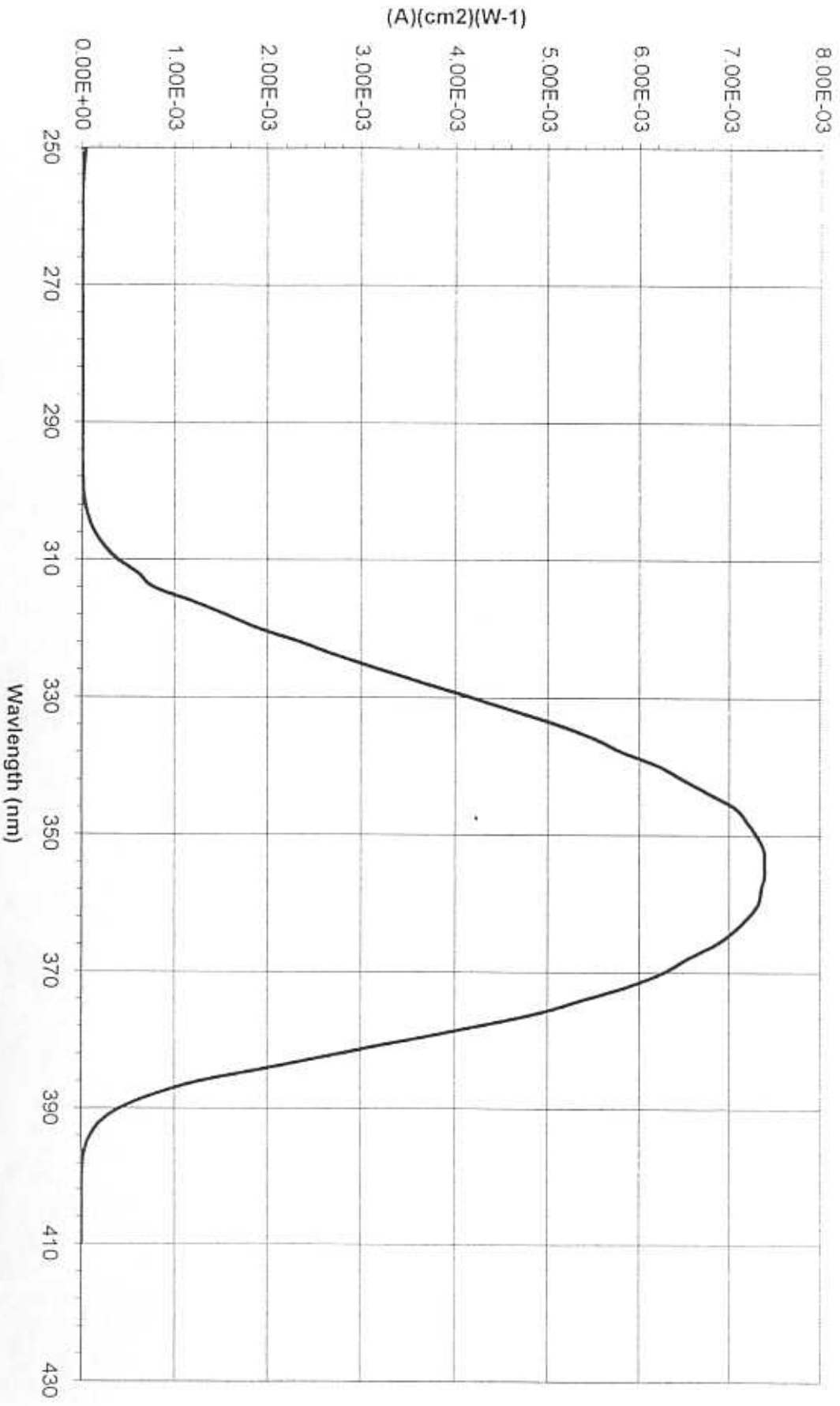
FOR AUTHORIZED COPIES OF THIS CERTIFICATE OR OTHER INFORMATION PLEASE REFER TO THESE NUMBERS. THIS CERTIFICATE SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF INTERNATIONAL LIGHT, INC.

Calibration Date: 03-Dec-01 Certificate No. 112030801 FO/Sales Order #: 103502

IL RECOMMENDS AN ANNUAL CALIBRATION CONFIRMATION INTERVAL. INTERVALS OF CONFIRMATION MAY NEED TO BE ADJUSTED DEPENDING ON RESULTS OF PRECEDING CALIBRATIONS.

Monday, December 03, 2001 2:41:16 PM

SED(SEL)033/UV/VW Typical Response



033_UVA_W_0599.XIS

International Light certifies that the instrument described below has been compared with the laboratory working standards whose calibrations are traceable to the U.S. National Institute of Standards and Technology and whose procedures are in accordance with the requirements of ANSI/NCSL Z540-1-1994, ISO 10012-1:1992(E) and ISO/IEC Guide 25:1990(E).

Rendered-to: INSTRUMATIC ESPANOLA, S.A.
Detector: SED240 #5676 Input Optic: W #10237
Filter: UVB-1 #23781 Misc.: N/A
Spectral Response (half power points): See Chart

(PIR) PEAK IRRADIANCE RESPONSE SENSITIVITY FACTOR AS CALIBRATED ON: 03-Dec-2001

1.139e-5 (A)(cm²)(W⁻¹) assuming monochromatic irradiance at 290nm

Unit will read directly in watts per square centimeter when used with an IL1700 and the Sensitivity Factor Above.

CALIBRATED WITH IL1700 +5V BIAS: ON OFF

REFERENCE PLANE: Groove ONE formed by filter or diffuser elements and next element, counted from front surface of assembly.

PRIMARY STANDARD: U.S. National Institute of Standards and Technology Detector Response
U1023 - January 1997 - NIST Test No. 844/257423-96/2 D204 - January 1997 - NIST Test No. 844/257423-96/1
N.I.S.T. Uncertainty: 200-250nm=5%;250-400nm=1.0%;400-900nm=0.31%;900-1000nm=0.58%;1000-1100nm=2.93%

INTERNATIONAL LIGHT PRIMARY TRANSFER STANDARDS:
IL D.R.L.P.#01,#02,#3275,#139,#1490,U522,H627 JAN 1998
IL Transfer Uncertainty to Customer = +/- 5.5 % plus NIST uncertainty above.

LIGHT SOURCE: 18a Hg-Xe IRRADIANCE: 4.80e-3 W/cm²
INSTRUMENTATION: #1029/SCS280/W PROCEDURE: PIR18
TEMPERATURE: 20 degrees C HUMIDITY: 33 %
CALIBRATED BY: [Signature] CHECKED BY: R. Gorman
Calibration Technician QA Manager, Calibrations

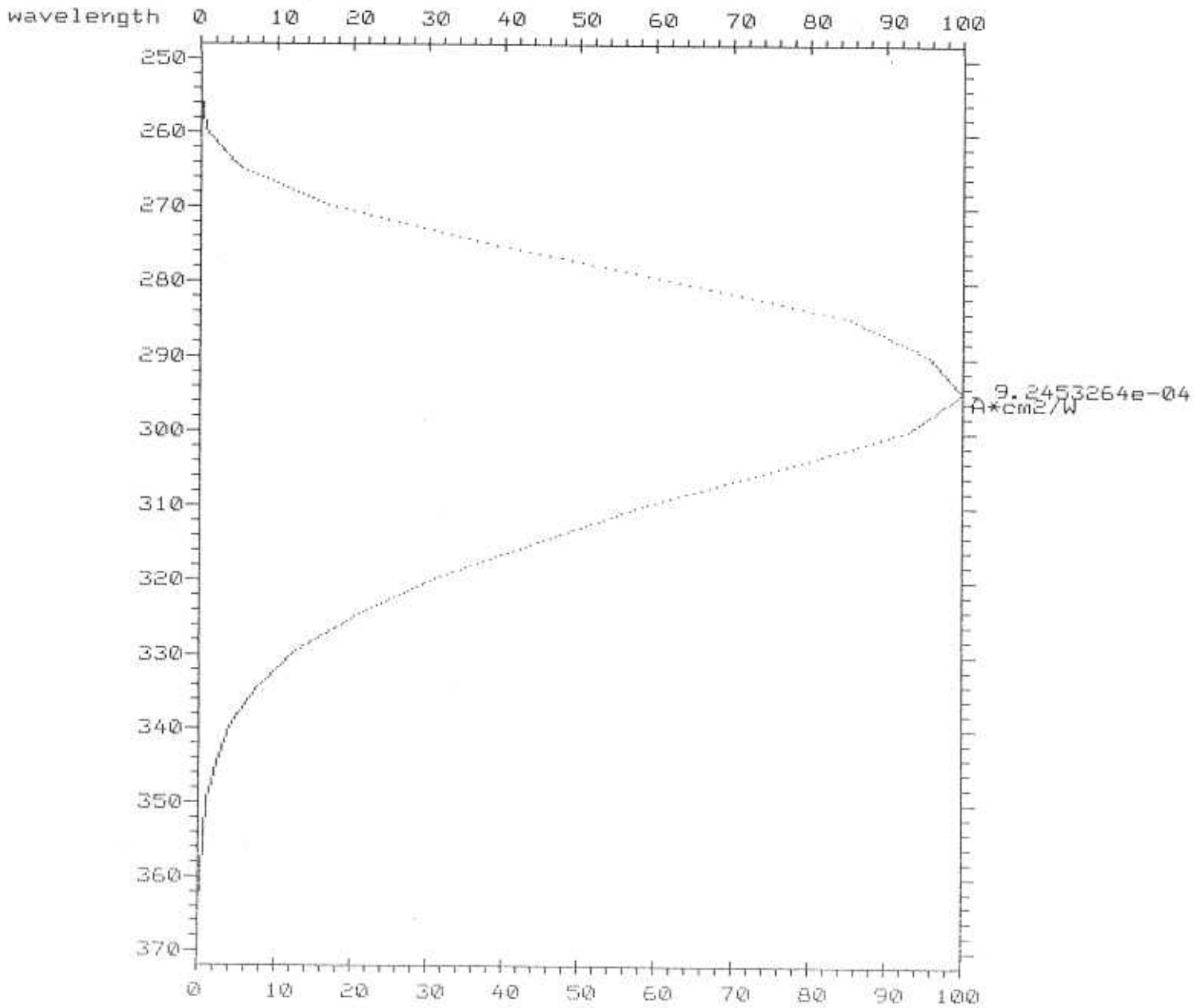
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Calibration Date: 03-Dec-01 Certificate No.: 112030802 FO/Sales Order #: 103502

IL RECOMMENDS AN ANNUAL CALIBRATION CONFIRMATION INTERVAL. INTERVALS OF CONFIRMATION MAY NEED TO BE ADJUSTED DEPENDING ON RESULTS OF PRECEDING CALIBRATIONS.

SED240/SCS280/W TYPICAL RESPONSE

this is a spectral plot of file '#1029.280.w.rel' normalized to 100



International Light certifies that the instrument described below has been compared with the laboratory working standards whose calibrations are traceable to the U.S. National Institute of Standards and Technology and whose procedures are in accordance with the requirements of ANSI/NCSS Z540-1-1994, ISO 10012-1:1992(E) and ISO/IEC Guide 25:1990(E).

Rendered-to: INSTRUMATIC ESPANOLA, S.A.
Detector: SED240 #5676 Input Optic: W #10237
Filter: ACT5 #23008 Misc.: N/A
Spectral Response (half power points): See Chart

(PIR) PEAK IRRADIANCE RESPONSE SENSITIVITY FACTOR AS CALIBRATED ON: 03-Dec-2001

$3.82e-4$ (A)(cm²)(eff W⁻¹) assuming monochromatic irradiance at 270nm



Unit will read directly in effective watts per square centimeter when used with an IL1700 and the Sensitivity Factor Above.

CALIBRATED WITH IL1700 +5V BIAS: ON OFF

REFERENCE PLANE: Groove ONE formed by filter or diffuser elements and next element, counted from front surface of assembly.

PRIMARY STANDARD: U.S. National Institute of Standards and Technology Detector Response
UI023 - January 1997 - NIST Test No. 844/257423-96/2 D204 - January 1997 - NIST Test No. 844/257423-96/1
N.I.S.T. Uncertainty: 200-250nm=5%;250-400nm=1.0%;400-900nm=0.31%;900-1000nm=0.58%;1000-1100nm=2.93%

INTERNATIONAL LIGHT PRIMARY TRANSFER STANDARDS:
IL D.R.L.P.#01,#02,#3275,#139,#1490,U522,H627 JAN 1998
IL Transfer Uncertainty to Customer = +/- 6.5 % plus NIST uncertainty above.

LIGHT SOURCE: 17a Deuterium/EG&G Monochromator IRRADIANCE: $1.279e-6$ W/cm²
INSTRUMENTATION: U522 PROCEDURE: PIR17
TEMPERATURE: 20 degrees C HUMIDITY: 33 %
CALIBRATED BY:  Calibration Technician CHECKED BY:  QA Manager, Calibrations

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Calibration Date: 03-Dec-01 Certificate No.: 112030803 FO/Sales Order #: 103502

IL RECOMMENDS AN ANNUAL CALIBRATION CONFIRMATION INTERVAL. INTERVALS OF CONFIRMATION MAY NEED TO BE ADJUSTED DEPENDING ON RESULTS OF PRECEDING CALIBRATIONS.

Monday, December 03, 2001 2:42:32 PM

SED240/ACT5/W

