



Calibration, Test Certificates and Wiring Information

Serial Number45951→45954.....
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LIGHT

WIRING CONNECTIONS FOR: SKR 1860

The sensor houses four semiconductor diodes which are connected back to back using a common ground connection. Thus there are three wires from each unit. These are shown below. The diodes are electrically fragile and no external sources of voltage or current should be applied to them.

SKR 1860 - Current Output Sensor

The green wire should be connected to the common of the logger or readout unit. If the sensor has been supplied with a Skye meter or logger then a connector will have been fitted using the same wiring colours as shown below.

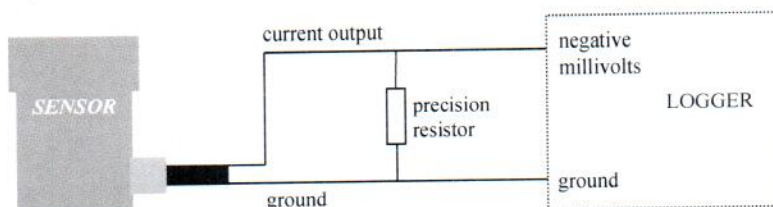
Wire Colour	Function
Red	Channel 1 negative current output
Yellow	Channel 2 negative current output
Green	Channel 3 negative current output
Blue	Channel 4 negative current output
White	Ground
Grey	Cable Screen

SKR 1860/X - Current Output Sensor with Extension cable EXT/3

If your sensor has a cable length greater than 10m and is supplied wire ended then it may be fitted with an EXT/3 extension cable. The sensor cable and the extension cable will already be connected when supplied. The connection details are shown below. The blue wire should be connected to the common of the logger or readout unit.

Wire Colour	Function
Black	Channel 1 negative current output
Red	Channel 2 negative current output
Yellow	Channel 3 negative current output
Green	Channel 4 negative current output
Blue	Ground
White	Cable Screen

The current output from these sensors is often very small, e.g. 1 microamp or less. If the datalogger or recorder does not have a current input, then a precision resistor may be placed across each of the four sensor outputs to give a millivolt signal as below:



The millivolt signal will be proportional to the current output and resistor value as shown:

$$\text{mV per unit of light} = \text{microamp per unit of light} * \text{resistor (kohms)}$$

The resistor value should be as low as possible to get the mV output required for the anticipated light levels, and should not exceed 10 kohm (10,000 ohm). The millivolt output derived should not be greater than 60 mV otherwise a degree of non-linearity may occur.



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CALIBRATION CERTIFICATE No : 1860DA/116/0915

UNIT TYPE :- FOUR CHANNEL AMPLIFIED SENSOR

SERIAL NUMBER :- SKR 1860D/A 45951

Sensitivities with cosine-corrected diffuser

Channel Number	Centre Wavelength (nm)	Bandwidth (nm)	Zero Offset (mV)	Sensitivity ($\mu\text{mol m}^{-2} \text{s}^{-1} / \text{mV}$)	Output Scaling ($10\text{V} = \dots \mu\text{mol m}^{-2} \text{s}^{-1}$)
1	633.0	38.0	-0.08	0.05182	518.2
4	800.7	38.5	0.30	0.05088	508.8

N.B. All sensitivities refer to sensor current produced by light falling on the sensor in the passband of that channel. When comparing channels from this sensor to similar channels on another sensor please take into account any difference in spectral response.

DATE OF CALIBRATION :- 01/09/2015

LAMP REFERENCE :- SK5

A/D UNIT :- F3352

Calibrated against a National Physical Laboratory UK reference standard lamp.
Uncertainty $\pm 5\%$ (typically $< \pm 3\%$) based on an estimated confidence of not less than 95%.

Calibrated By :- G. Sims

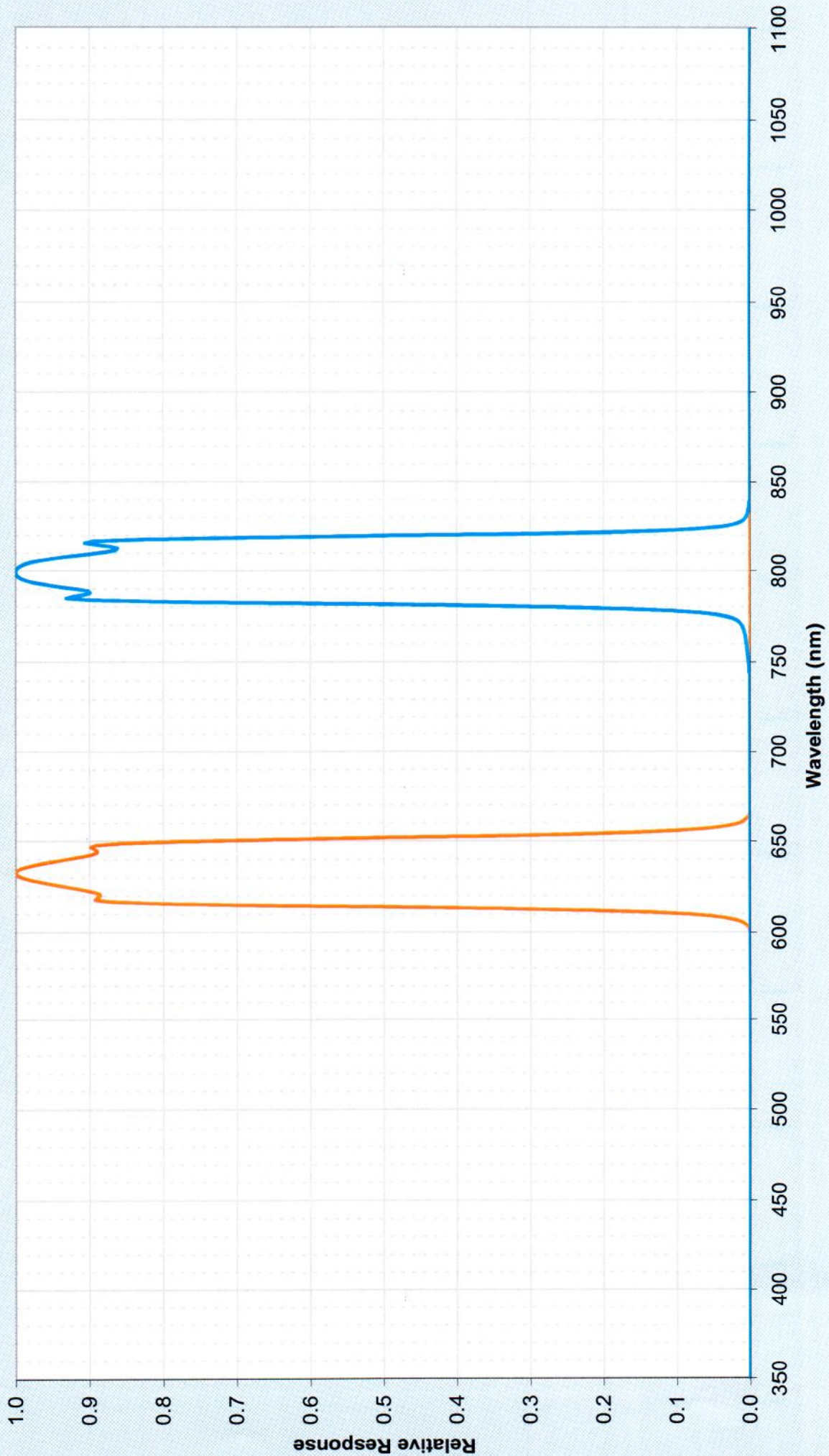
Checked By :-

Issue Date :- 02/09/2015

IT IS RECOMMENDED THAT THIS UNIT IS RECALIBRATED WITHIN 2 YEARS OF THE ABOVE CALIBRATION DATE.

SKR 1860D/A 45951

Normalised Spectral Response (μmoles)



Channel 1 Channel 4



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CALIBRATION CERTIFICATE No : 1860NDA/117/0915

UNIT TYPE :- FOUR CHANNEL AMPLIFIED SENSOR

SERIAL NUMBER :- SKR 1860ND/A 45952

Sensitivities as narrow angle sensor without diffuser

Channel Number	Centre Wavelength (nm)	Bandwidth (nm)	Zero Offset (mV)	Sensitivity ($\mu\text{mol sr}^{-1} \text{m}^{-2} \text{s}^{-1} / \text{mV}$)	Output Scaling $10\text{V} = \dots \mu\text{mol sr}^{-1} \text{m}^{-2} \text{s}^{-1}$
1	633.2	38.3	0.14	0.01642	164.2
4	799.7	38.4	0.09	0.01567	156.7

N.B. All sensitivities refer to sensor current produced by light falling on the sensor in the passband of that channel. When comparing channels from this sensor to similar channels on another sensor please take into account any difference in spectral response.

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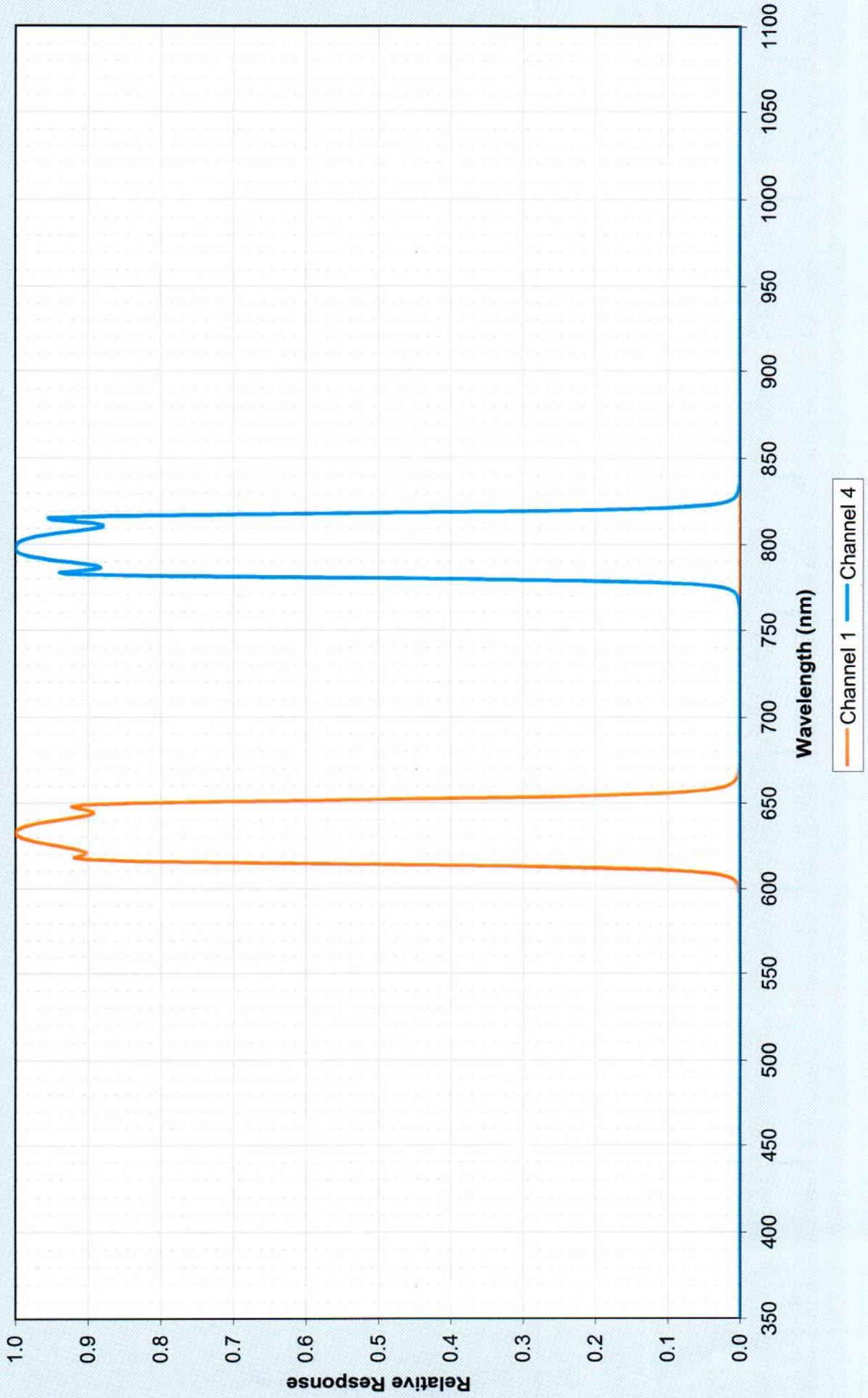
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UNIT TYPE :- FOUR CHANNEL AMPLIFIED SENSOR

SERIAL NUMBER :- SKR 1860D/A 45953

Sensitivities with cosine-corrected diffuser

Channel Number	Centre Wavelength (nm)	Bandwidth (nm)	Zero Offset (mV)	Sensitivity ($\mu\text{mol m}^{-2} \text{s}^{-1} / \text{mV}$)	Output Scaling ($10\text{V} = \dots \mu\text{mol m}^{-2} \text{s}^{-1}$)
1	531.2	11.2	0.14	0.01407	140.7
4	568.9	10.0	0.05	0.01366	136.6

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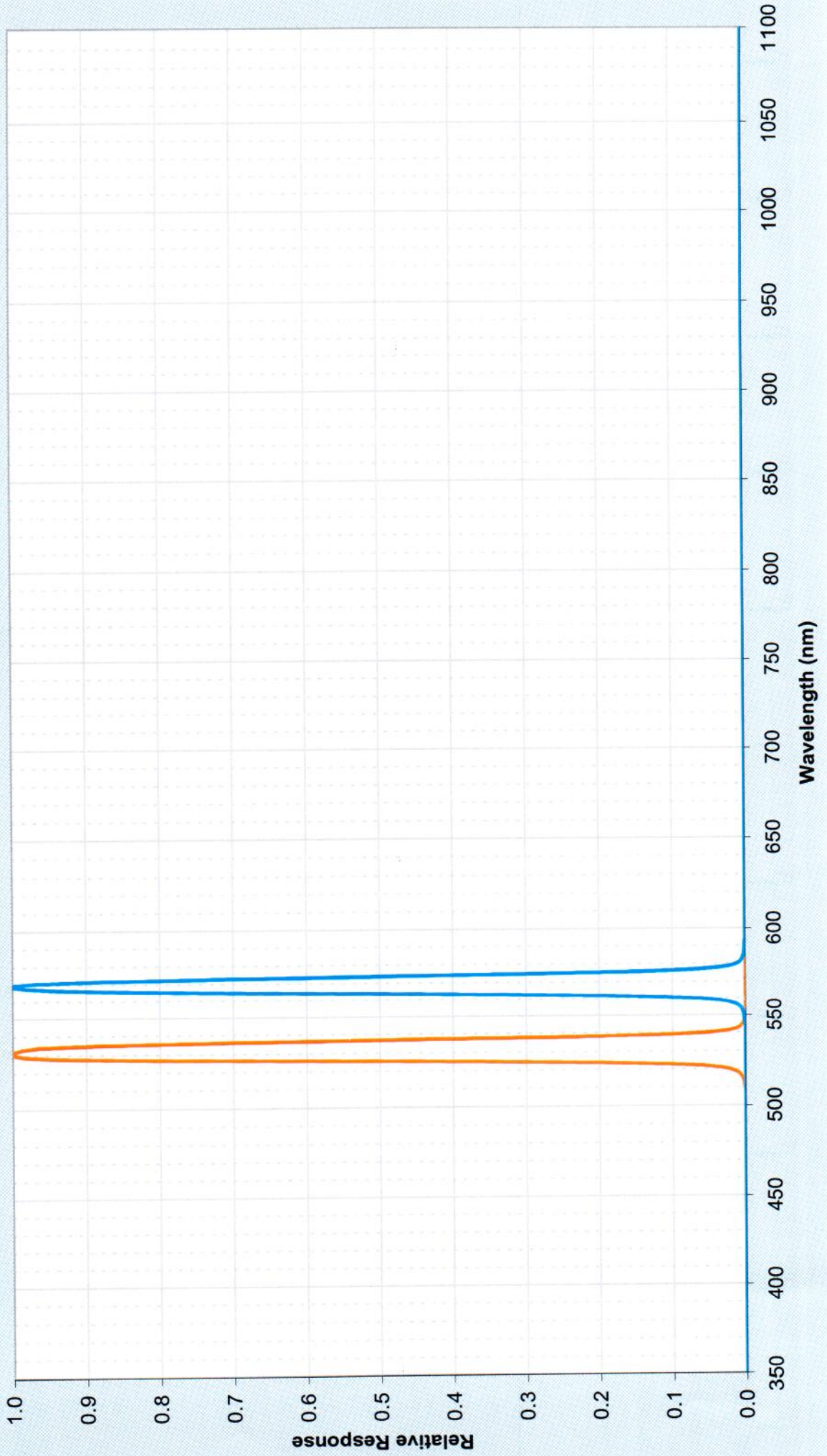
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1	531.0	11.5	0.01	0.004575	45.75
4	569.3	9.7	0.18	0.004077	40.77

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