

Pre-Delivery Resonon Test Report

Identification Data	
Date	April 15, 2016
Resonon SN	100124-2
Configuration	Cfg001
Instrument Name	RS2
Andor Camera SN	CCD-17880

Configuration	
Filters Installed	
1. 540-900 nm bandpass filter. See Fig. 1.	
Sensors Installed	
1. 10K Ohm Thermister: Digikey part # 615-1010-ND; 3 units.	
2. Humidity Sensor: Digikey part # 480-3294-1-ND	
Fiber bundle info: Leoni 800 μ m core fibers. See Fig. 2.	
Grating: Aug. 2015 batch. See Fig. 3.	

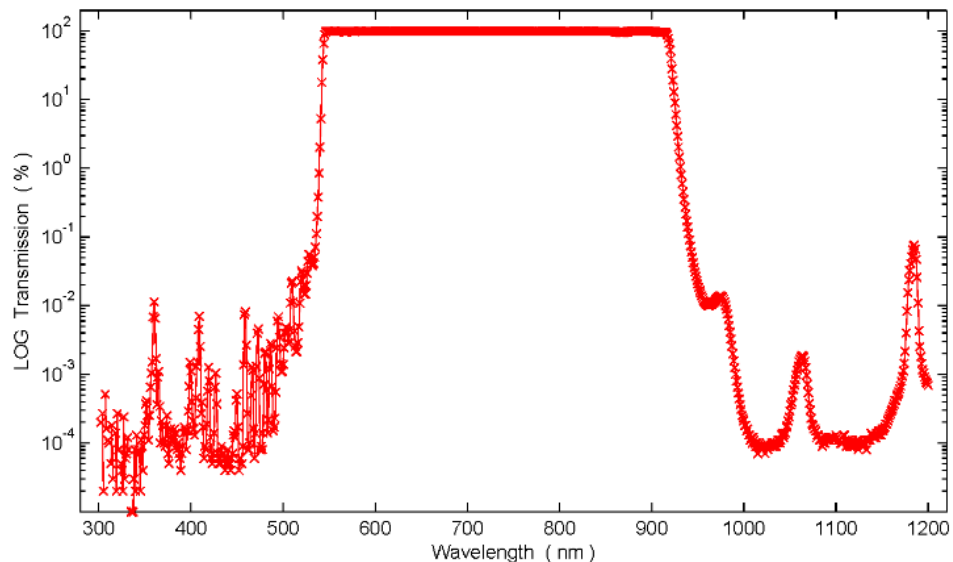


Figure 1: Bandpass filter on front face of 1st prism. This is Chroma Technology filter Batch 294787, dated 2015-08-10.

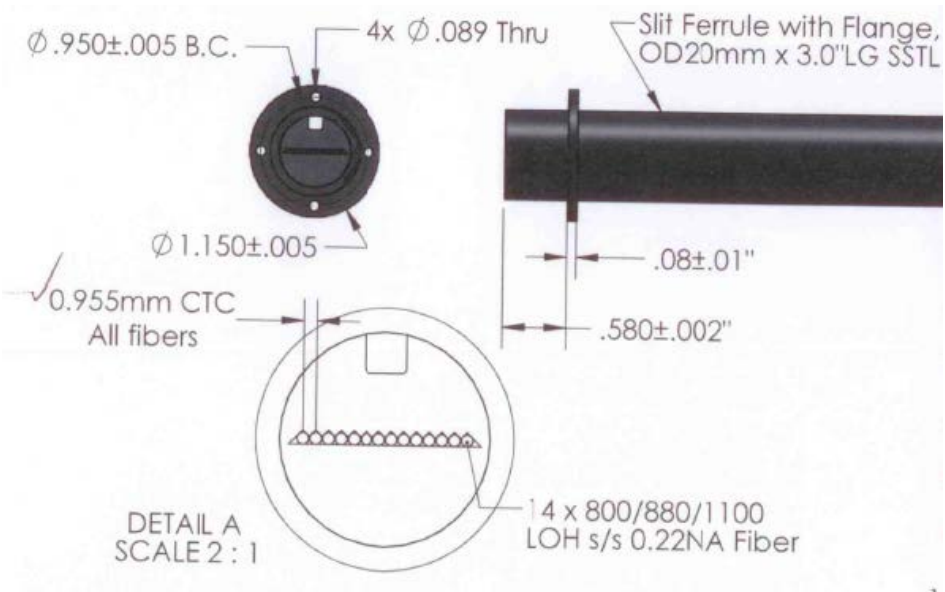


Figure 2: Leoni Fiber details



SERIAL NO: 3664

Spatial Frequency: 470 lpmm
CWL: 700 nm

1st and 0 Order measurements for this grating were taken at the following wavelength and incident angle:

Measurement Wavelength: 633 nm
Incident Angle: 6.82 degrees

0 Order		1st Order	
Ave		Ave	
3		76	

Measurement Wavelength: 686 nm
Incident Angle: 6.82 degrees

0 Order		1st Order	
S-Pol	P-Pol	S-Pol	P-Pol
1	1	75	78

Measurement Wavelength: 828 nm
Incident Angle: 6.82 degrees

0 Order		1st Order	
S-Pol	P-Pol	S-Pol	P-Pol
5	5	81	83

Figure 3: Grating efficiency

Test Summary	
Smile (Peak to Trough)	
@ 587 nm	0.7 pixels (See Fig. 4.)
@ 705 nm	0.6 pixels (See Fig. 5.)
Keystone (Peak to Trough)	
Channel 1	3.0 pixels (See Fig. 6.)
Channel 7	0.0 pixels (See Fig. 7.)
Channel 14	5.0 pixels (See Fig. 8.)
Spectral Resolution (FWHM)	
@ 587 nm	<1.0 nm (See Fig. 9.)
@ 705 nm	< 1.0 nm (See Fig. 9.)
Spatial Resolution	
See Figs. 10 and 11.	
Stability ("shake" test)	
<0.1 nm shift. See Table 2	

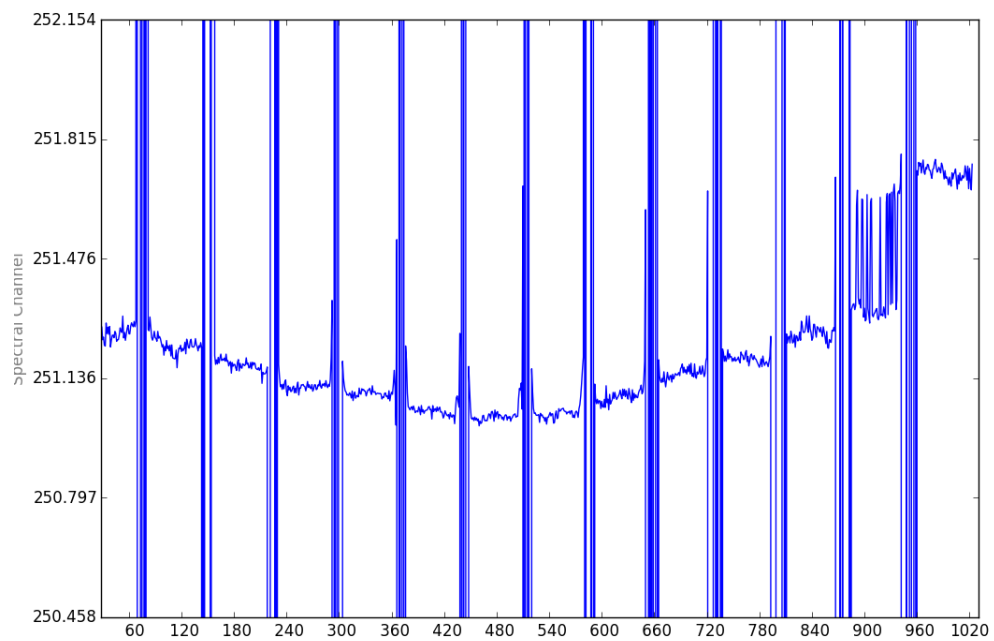


Figure 4: Smile at 587 nm. Horizontal axis is spatial channels and vertical axis is spectral.

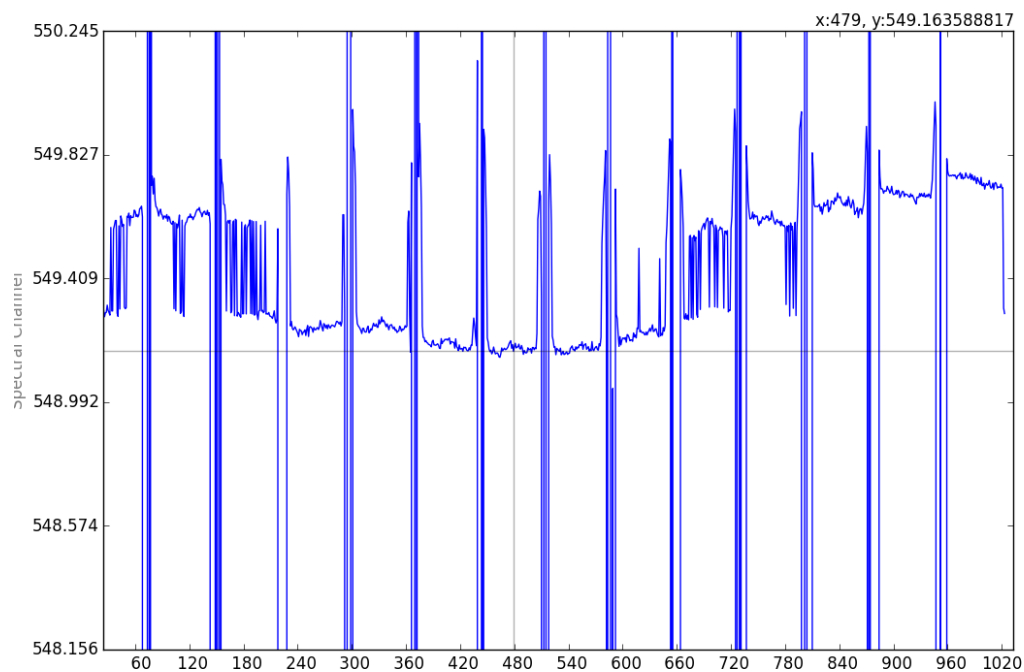


Figure 5: Smile at 705 nm.

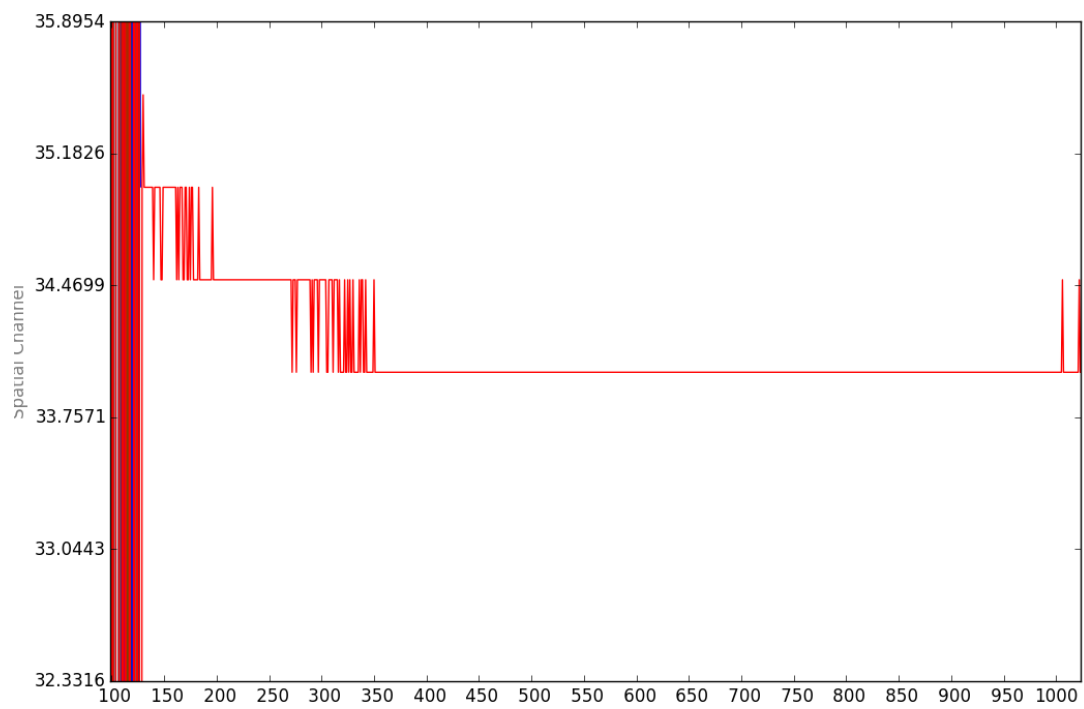


Figure 6: Channel 1 keystone. Horizontal axis is spectral channels and vertical axis is spatial.

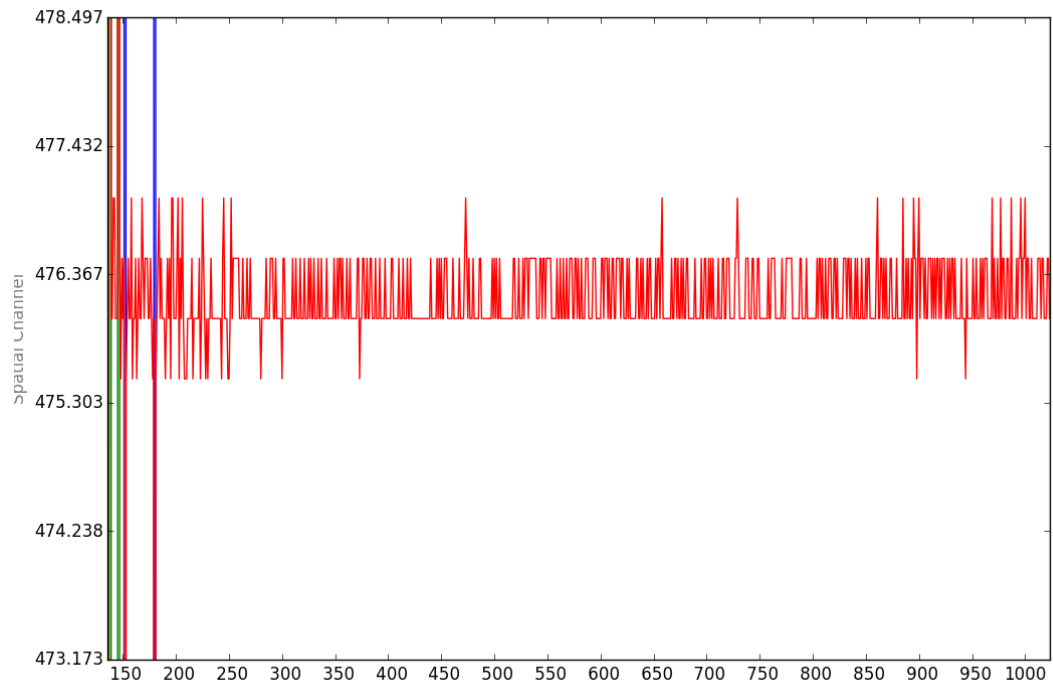


Figure 7: Channel 7 tilt

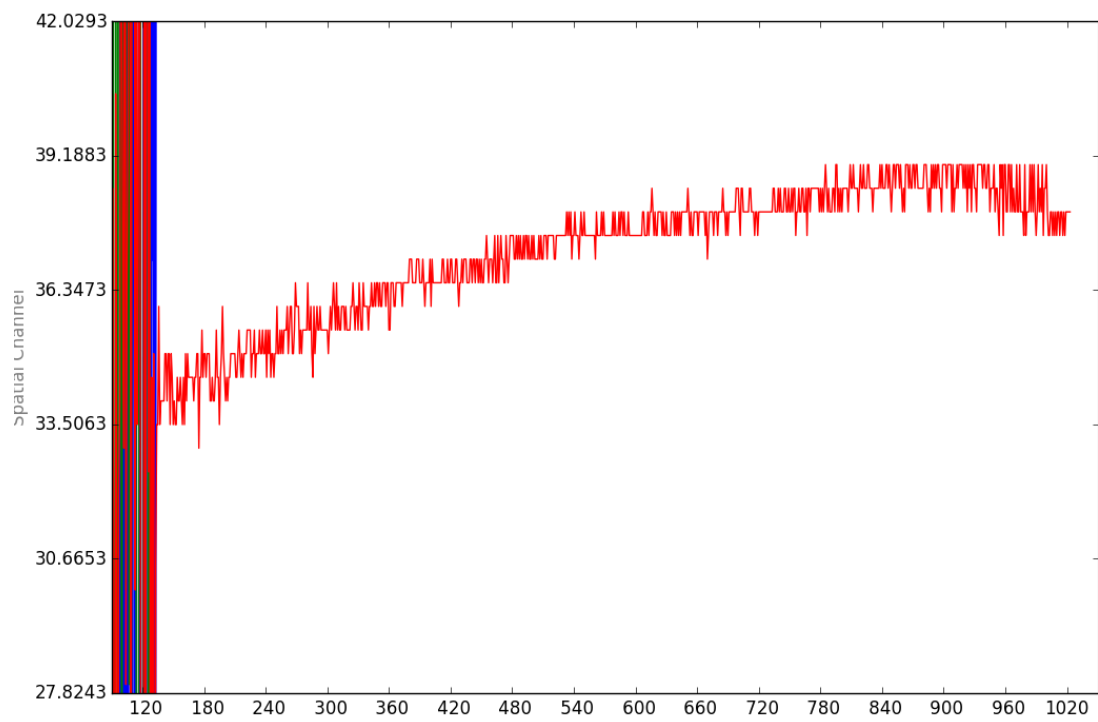


Figure 8: Channel 14 keystone.

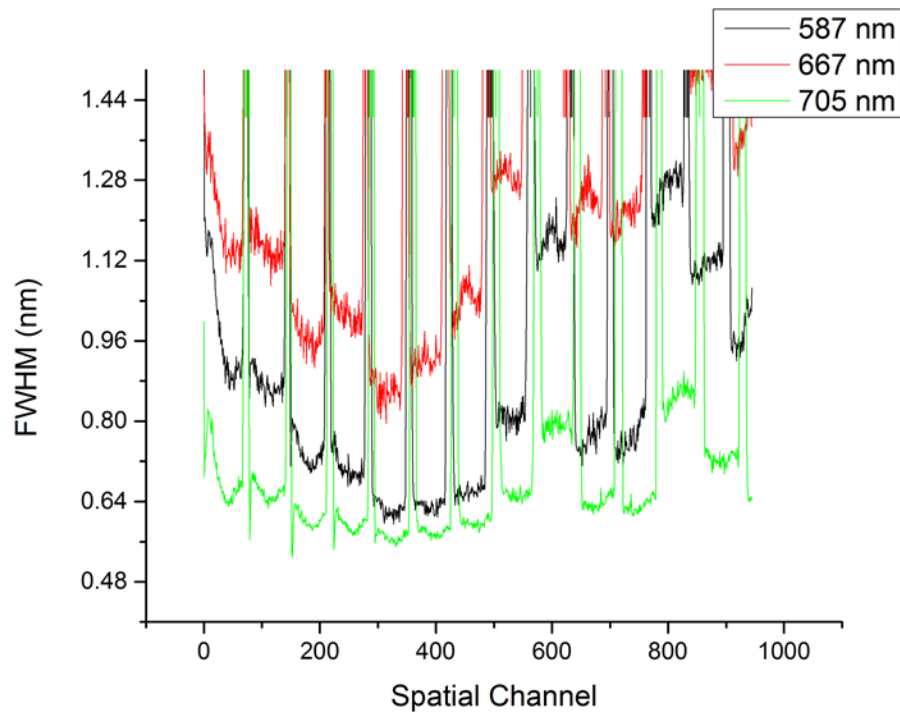


Figure 9: Spectral widths vs. spatial position

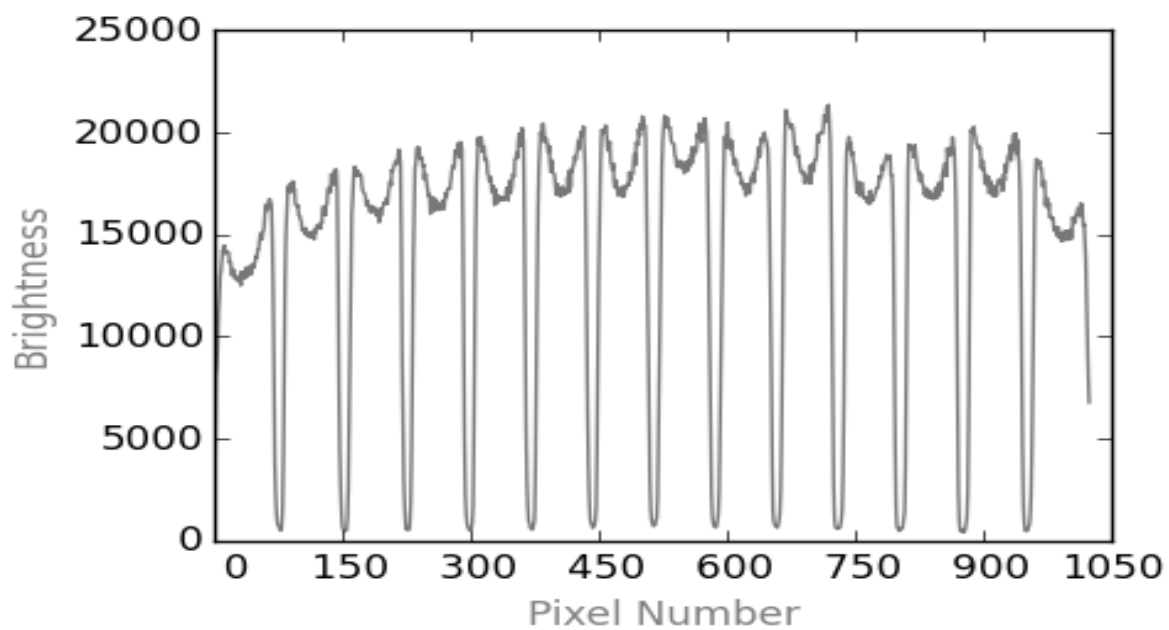


Figure 10: Cross section of fibers.

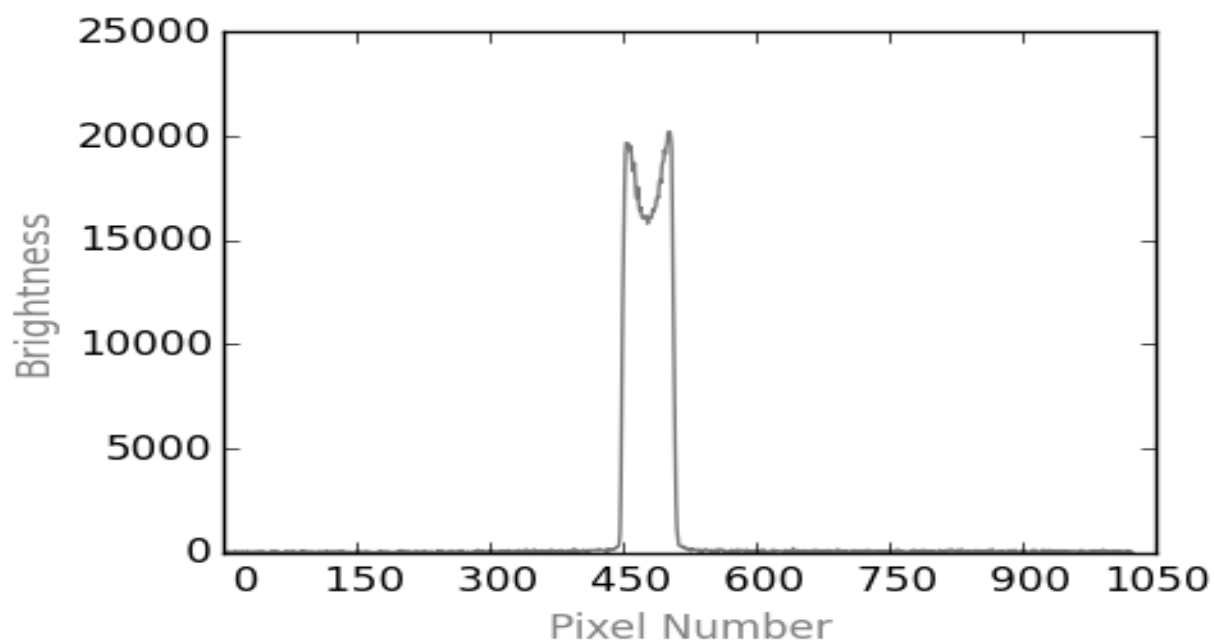


Figure 3: Cross section of channel 7.

Table 2: Results of shaker test before and after a four hour “shake” on the shaker table.						
	Pre Shake Pixel Position	Pre Shake FWHM	Post Shake Pixel Position	Post Shake FWHM	Change in Position	Change in FWHM
587 nm	251	~1nm	251	~1nm	0	0
667 nm	453	~1nm	453	~1nm	0	0
705 nm	549	~1nm	549	~1nm	.0	0