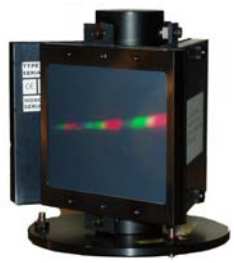
Diffraction Gratings



Bentham offers around 200 types of diffraction gratings.

The following table lists the most popular types which are likely to suit the majority of applications.

Grooves per mm	Blaze Wavelength	Type*	Recommended Wavelength Range	Comments
2400	250nm	H	200nm – 675nm	Optimum resolution in UV
1800	250nm	H	200nm – 900nm	High resolution, low scatter in UV-VIS
1800	500nm	R	200nm – 900nm	High resolution, high efficiency in UV-VIS
1200	500nm	R	250nm – 1200nm	High efficiency in UV-VIS-NIR
1200	750nm	R	350nm – 1200nm	Night vision compatibility testing
830	1.2μm	R	500nm – 1.8μm	Optimum for 1.1μm to 1.8μm
600	1.6μm	R	0.8μm – 2.5μm	Fibre spectral loss
300	3.0μm	R	1.5μm – 5.5μm	General purpose IR
150	4.0μm	R	2.4μm – 8.0μm	Recommended 3μm to 5μm
100	9.0μm	R	4.5μm – 16.2μm	General purpose IR
75	12.0μm	R	6μm - 21μm	Recommended 8μm to 14μm
50	18.0μm	R	9μm - 27μm	General purpose IR
GRATINGS FOR ARRAY DETECTORS				
Grooves per mm	**Blaze Wavelength**	**Type***	**Recommended Wavelength Range**	**Comments**
150	-	H	540nm	Spectral range with 25mm array
300	-	H	270nm	Spectral range with 25mm array
600	-	H	135nm	Spectral range with 25mm array

* *H = holographic, R = ruled*

Gratings for single and double monochromators

Bentham supplies mounted diffraction gratings for use in the M300 series single and double monochromators in three different ways:

- Standard range
- Non-standard range
- Special gratings

All gratings are supplied on kinematic mounts which allow adjustment in 3° of freedom. Once set up for a particular monochromator, the gratings can be removed and replaced without loss of calibration. A screw-on protective cover is supplied so that gratings not in use can be stored without damage or accumulation of dust.

Ordering Information

Bentham's part numbering system for gratings is as follows:

e.g. **G3 12 R 0U5**

Denotes which Monochromator the grating is for
G3 = M300
G15 = DM150
T3 = TM300/DTM300

Ruling density (grooves/mm)/100
e.g. 12 = 1200g/mm
06 = 600g/mm

Type
R = Ruled
H = Holographic

Blaze wavelength in micrometers, using U as decimal point
e.g. 0U5 = 0.5μm

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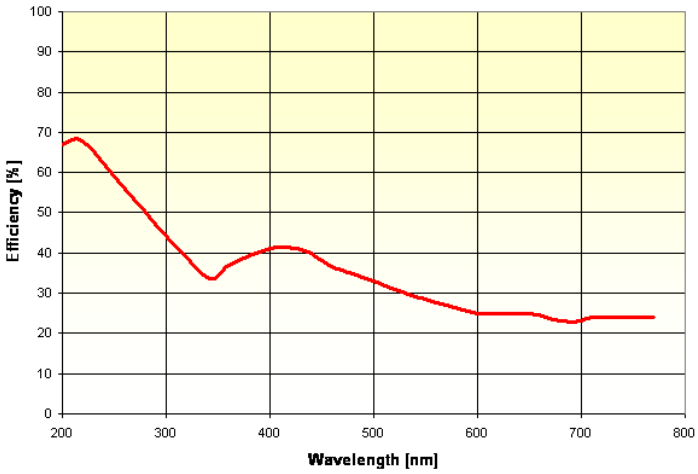
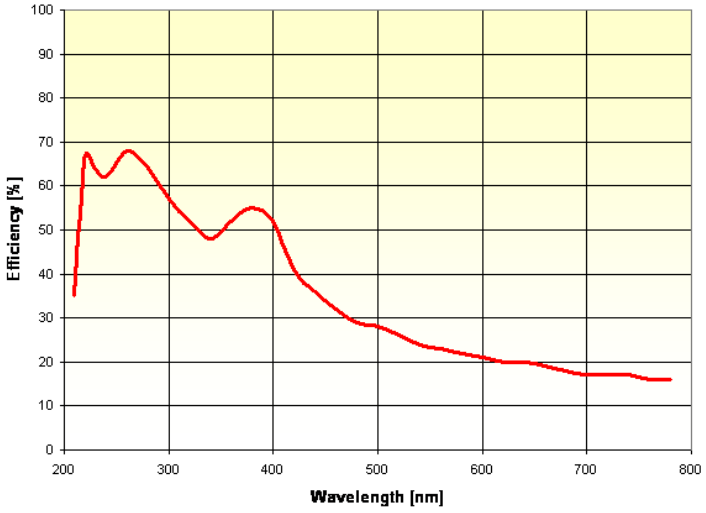
Diffraction Gratings

T324H0U25 / G324H0U25 / G1524H0U25	
Grooves/mm:	2400
Blaze wavelength:	250nm
Type:	Holographic +45° - Aluminium



T318H0U25 / G318H0U25 / G1518H0U25	
Grooves/mm:	1800
Blaze wavelength:	250nm
Type:	Holographic +45° - Aluminium



T318R0U5 / G318R0U5 / G1518R0U5	
Grooves/mm:	1800
Blaze wavelength:	500nm
Type:	Ruled +45° - Aluminium

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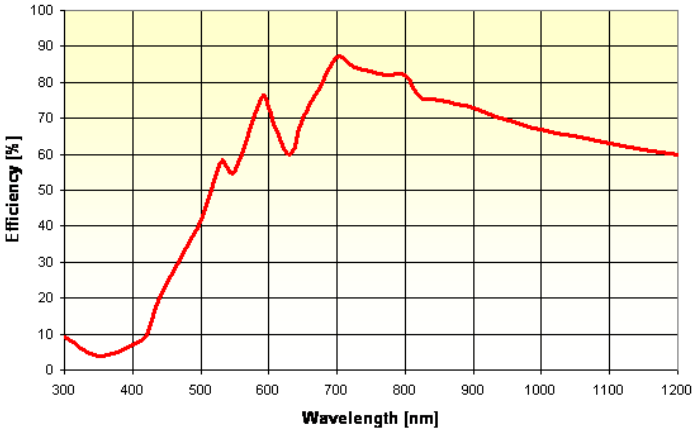
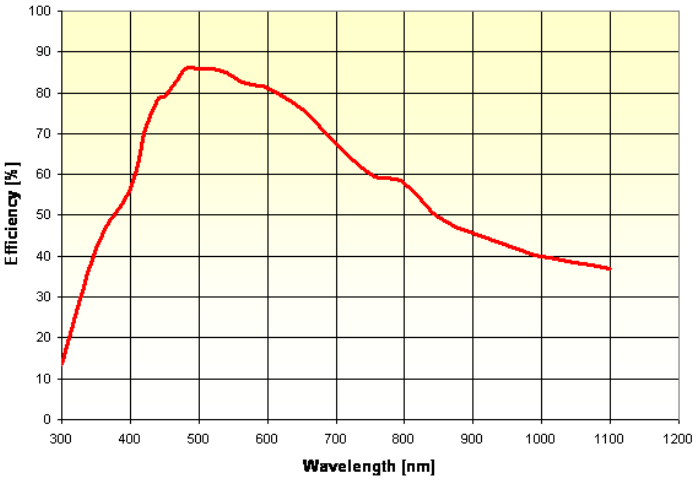
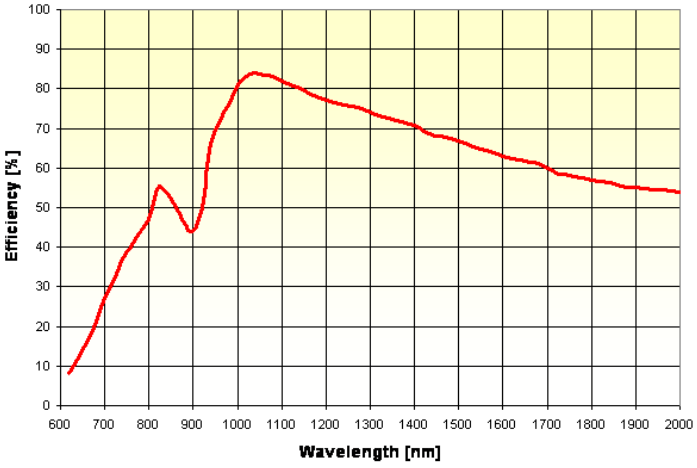


T312R0U75 / G312R0U75 / G1512R0U75	
Grooves/mm:	1200
Blaze wavelength:	750nm
Type:	Ruled +45° - Aluminium



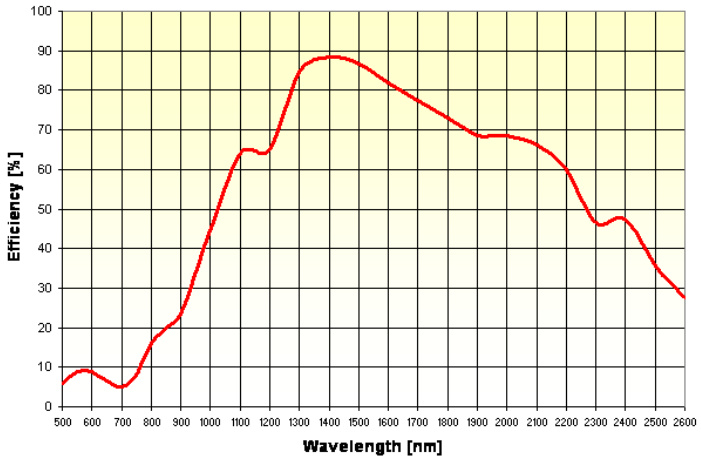
T312R0U5 / G312R0U5 / G1512R0U5	
Grooves/mm:	1200
Blaze wavelength:	500nm
Type:	Ruled +45° - Aluminium



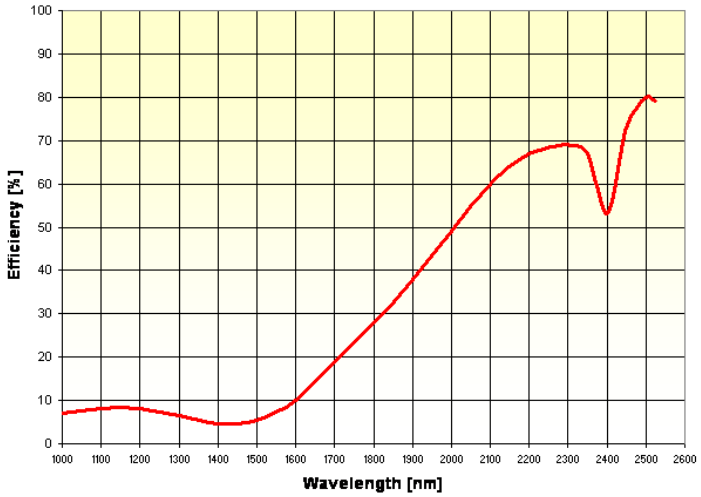
T3083R1U2 / G3083R1U2 / G15083R1U2	
Grooves/mm:	830
Blaze wavelength:	1.2μm
Type:	Ruled +45° - Aluminium

Diffraction Gratings

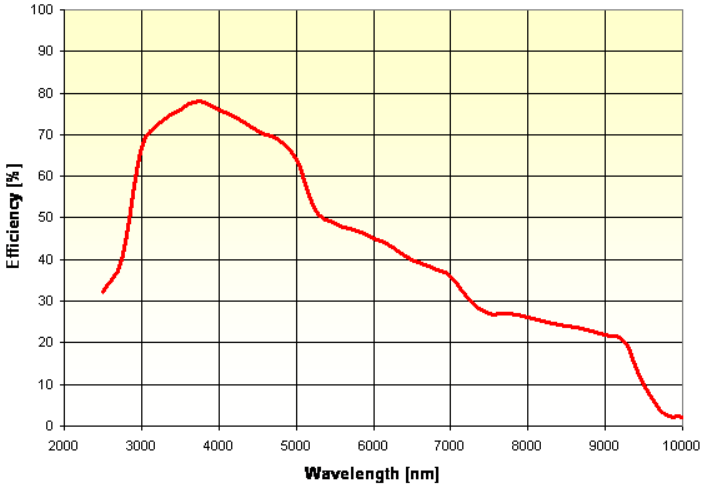
T306R1U6 / G306R1U6 / G1506R1U6	
Grooves/mm:	600
Blaze wavelength:	1.6μm
Type:	Ruled +45° - Aluminium



T303R3U0 / G303R3U0 / G1503R3U0	
Grooves/mm:	300
Blaze wavelength:	3.0μm
Type:	Ruled +45° - Aluminium



T3015R4U0 / G3015R4U0 / G15015R4U0	
Grooves/mm:	150
Blaze wavelength:	4.0μm
Type:	Ruled +45° - Aluminium



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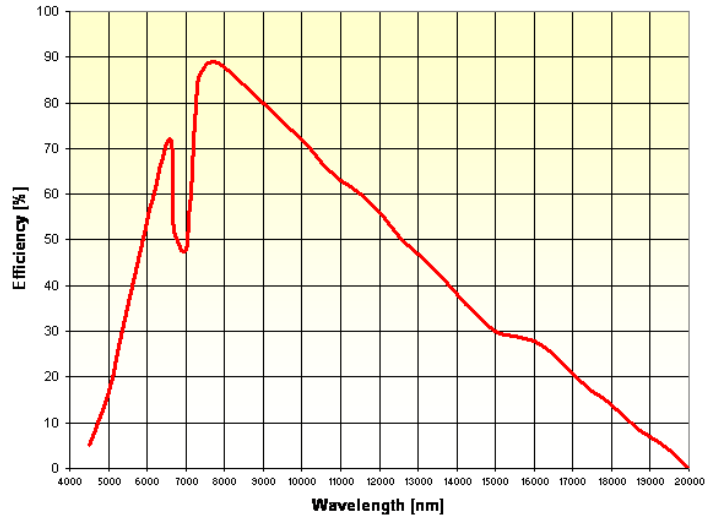
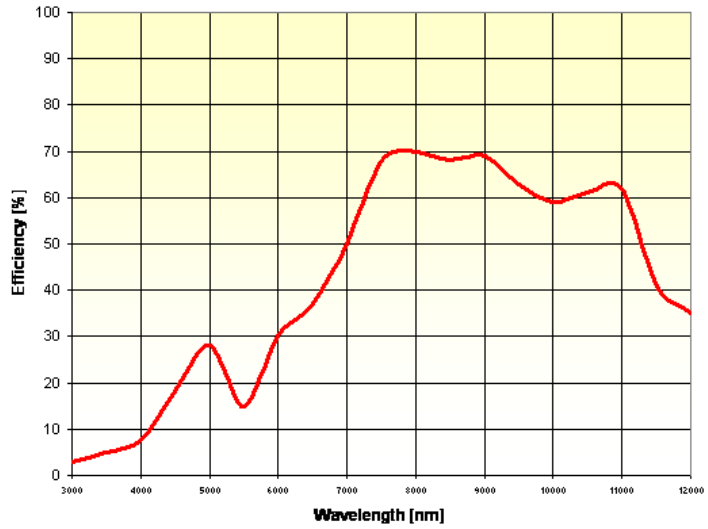
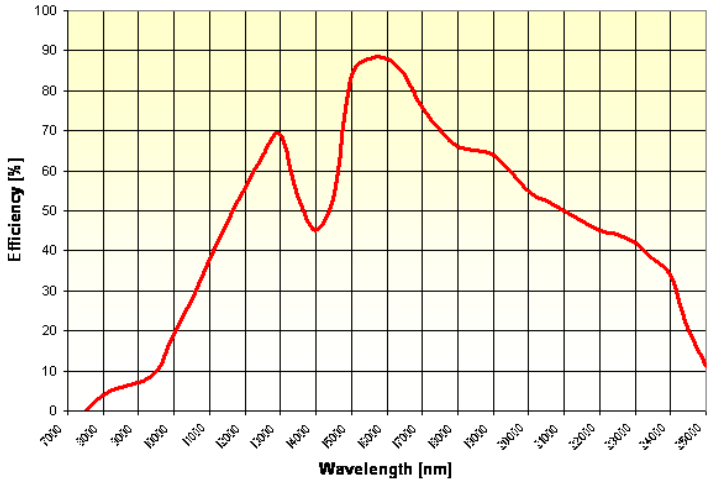


T3010R9U0 / G3010R9U0 / G15010R9U0	
Grooves/mm:	100
Blaze wavelength:	9μm
Type:	Ruled +45° - Aluminium



T3075R12U0 / G3075R12U0 / G15075R12U0	
Grooves/mm:	75
Blaze wavelength:	12.0μm
Type:	Ruled +45° - Aluminium



T30050R18U0 / G30050R18U0 / G150050R18U0	
Grooves/mm:	50
Blaze wavelength:	18.0μm
Type:	Ruled +45° - Aluminium

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