SBS
vision solution

8K Line Scan Lens

Products Features

- ▶ 8K line scan lens is a good choice for the lithium battery inspection.
- ▶ Short working distance, high resolution.
- ▶ Excellent optical performance, the image result is very uniform from center to side.
- ▶ It is suitable for 2K/4K/8K line scan camera.

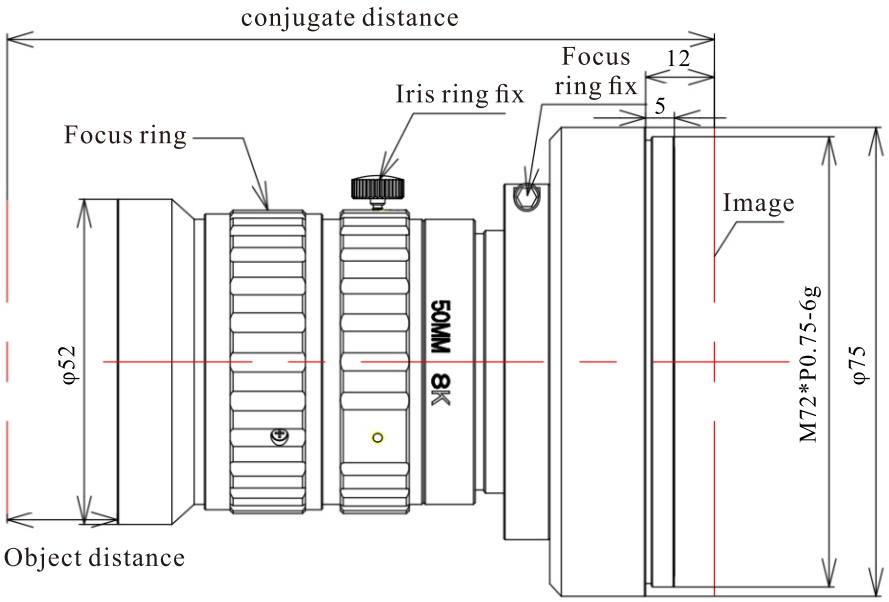
Parameter

NO.	Item No.	Image size (mm)	Iris (F#)	Resolution	Mag. range	WD (mm)	Focal length (mm)	Distortion (%)	Relative illumination (%)	Conjugate distance (mm)	Mount
1	SBS-XS508K-005X	φ60	4-22	8K7um	0.025x-0.07x	735-2000	50	<0.2	>60	839-2102	M72*P0.75
2	SBS-XS508K-010X	φ60	4-22	8K7um	0.07x-0.13x	405-735	50	<0.2	>60	512-839	M72*P0.75
3	SBS-XS508K-020X	φ60	4-22	8K7um	0.15x-0.25x	220-350	50	<0.2	>60	333-458	M72*P0.75
4	SBS-XS608K-018X	φ60	4-16	8K7um	0.04x-0.33x	214-1536	60	<0.5	>70	318-1622	M42/M48/M58 /M72/F
5	SBS-XS808K-028X	φ60	4-22	8K7um	0.2x-0.375x	276-460	80	<0.2	>70	438- 608	M72*P0.75
6	SBS-XS808K-050X	φ60	4-22	8K7um	0.375x-0.625x	188-273	80	<0.1	>70	368-434	M72*P0.75
7	SBS-XS808K-075X	φ60	4-22	8K7um	0.625x-0.9x	147-185	80	<0.1	>70	348- 365	M72*P0.75

Parameter

Magnification (β)	Conjugate distance (I/0) (mm)	Working distance (mm)	Lens length (mm)	Field of view (mm)		
				φ43.27	φ57	φ60
0.025x	2102.00	2000	90.00	1705	2246	2364
0.030x	1802.20	1700	90.20	1442	1900	2000
0.035x	1562.50	1460	90.50	1236	1629	1714
0.040x	1382.70	1280	90.70	1082	1425	1500
0.045x	1243.00	1140	91.00	962	1267	1333
0.050x	1113.30	1010	91.30	865	1140	1200
0.055x	1038.50	935	91.50	787	1036	1091
0.060x	963.70	860	91.70	721	950	1000
0.065x	899.00	795	92.00	666	877	923
0.070x	839.20	735	92.20	615	810	853

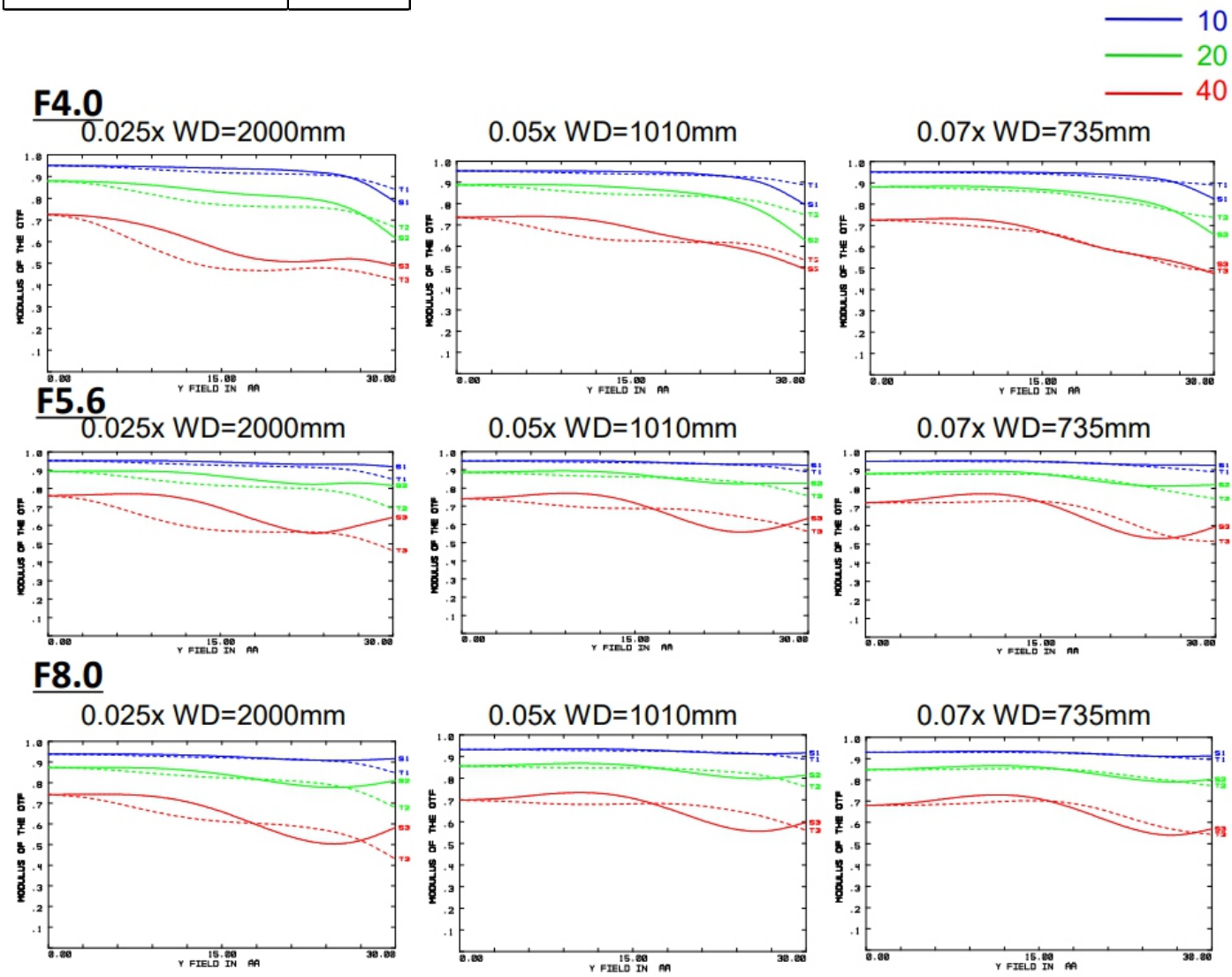
Dimensions(mm)



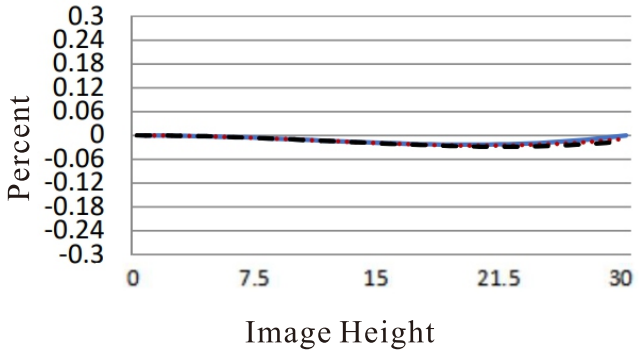
vision solution SBS-XS508K-005X

MTF based on the image height of visible spectrum

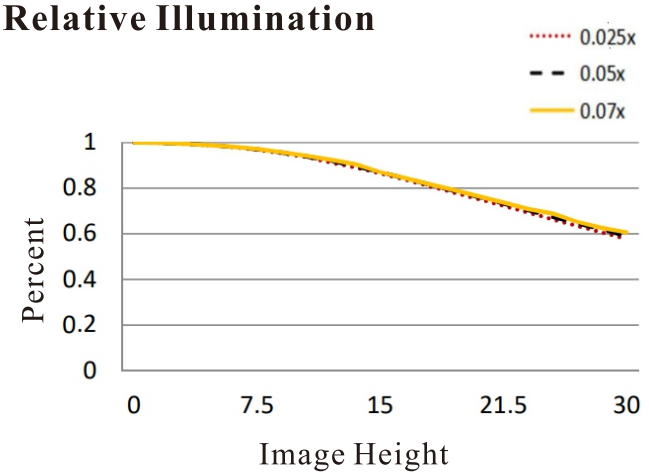
Wavelength λ(nm)	656	587	546	486	435
Spectral weighting (%)	15	20	30	25	10
Spatial frequency R (1 p/mm)	10	20	40		
Image size	φ60				



Distortion



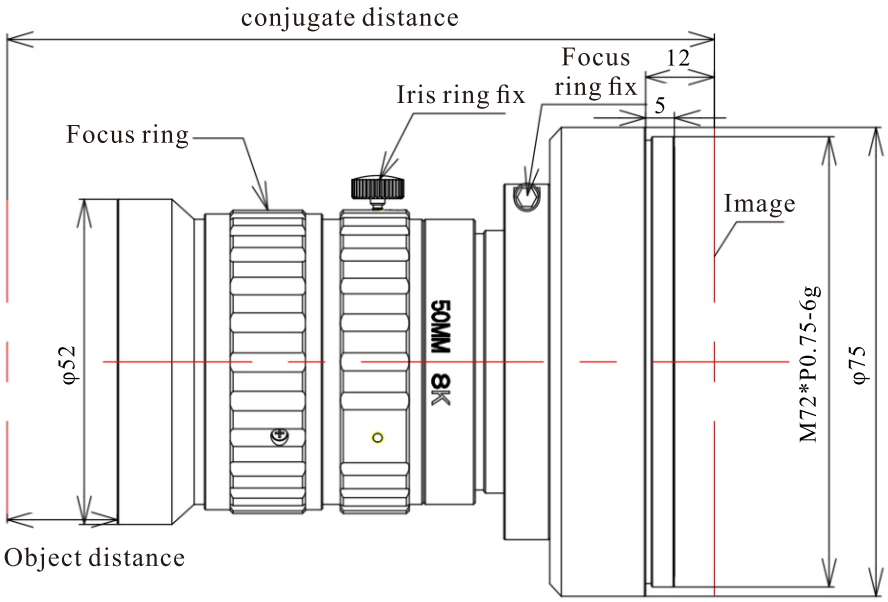
Relative Illumination



Parameter

Magnification (β)	Conjugate distance (I/0) (mm)	Working distance (mm)	Lens length (mm)	Field of view (mm)		
				φ43.27	φ57	φ60
0.07x	839.40	735	92.40	618	814	857
0.075x	794.60	690	92.60	577	760	800
0.08x	754.90	650	92.90	541	713	750
0.085x	715.10	610	93.10	509	671	706
0.09x	685.40	580	93.40	481	633	667
0.095x	655.60	550	93.60	455	600	632
0.10x	625.90	520	93.90	433	570	600
0.11x	581.40	475	94.40	393	518	545
0.12x	546.80	440	94.80	361	475	500
0.13x	512.40	405	95.40	333	438	462

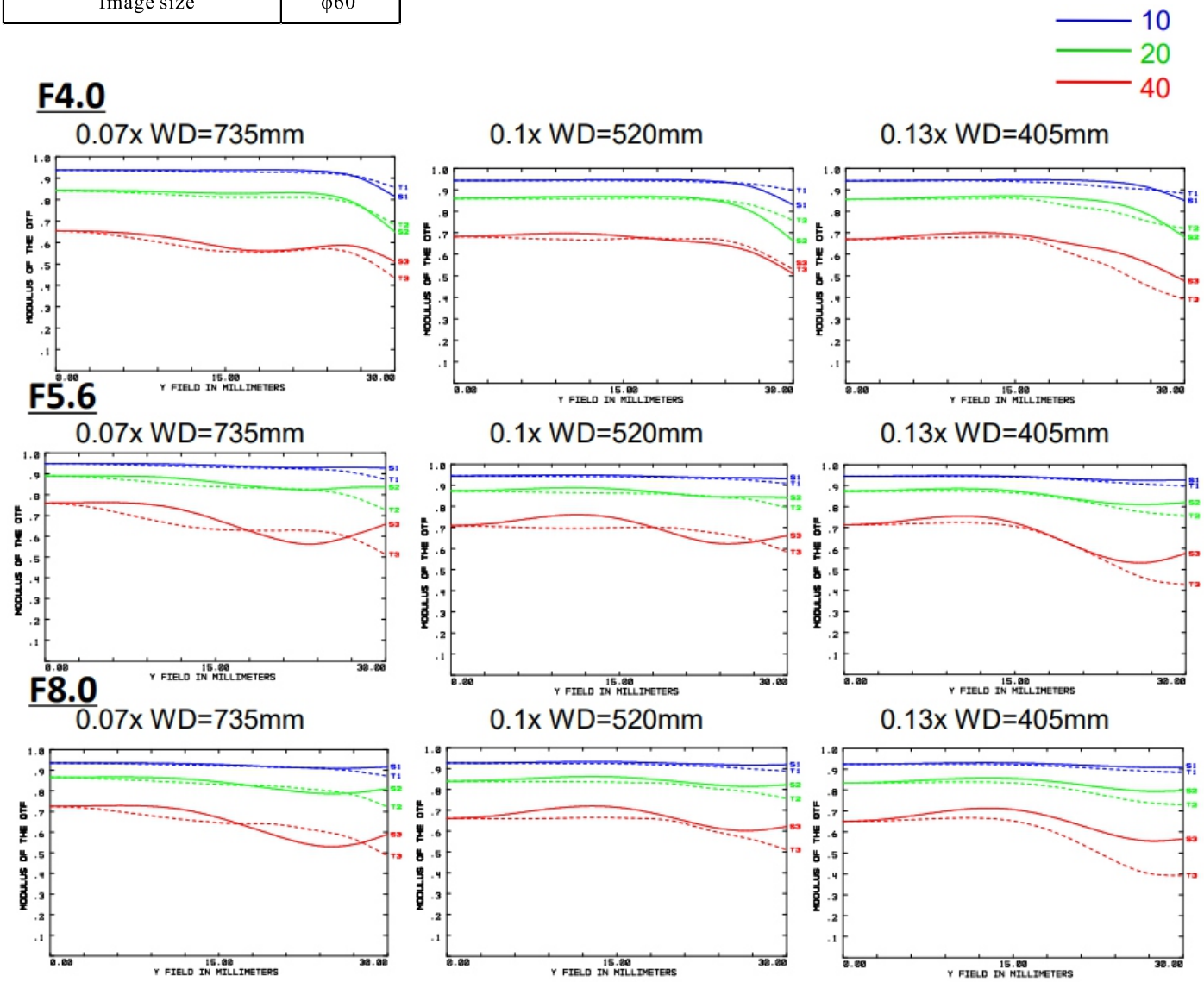
Dimensions(mm)



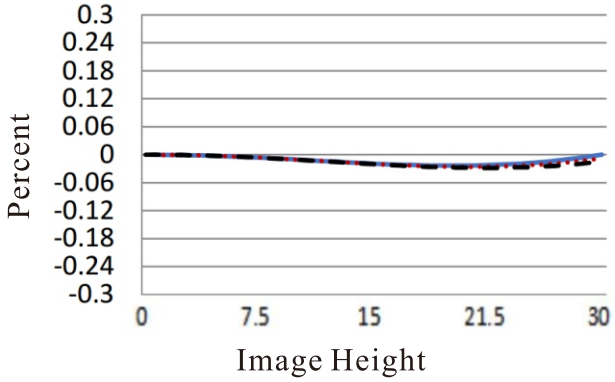
vision solution SBS-XS508K-010X

MTF based on the image height of visible spectrum

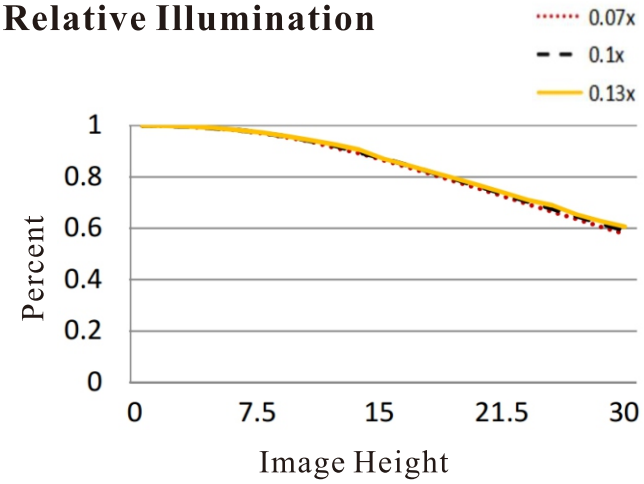
Wavelength λ(nm)	656	587	546	486	435
Spectral weighting (%)	15	20	30	25	10
Spatial frequency R (1 p/mm)	10	20	40		
Image size	φ60				



Distortion



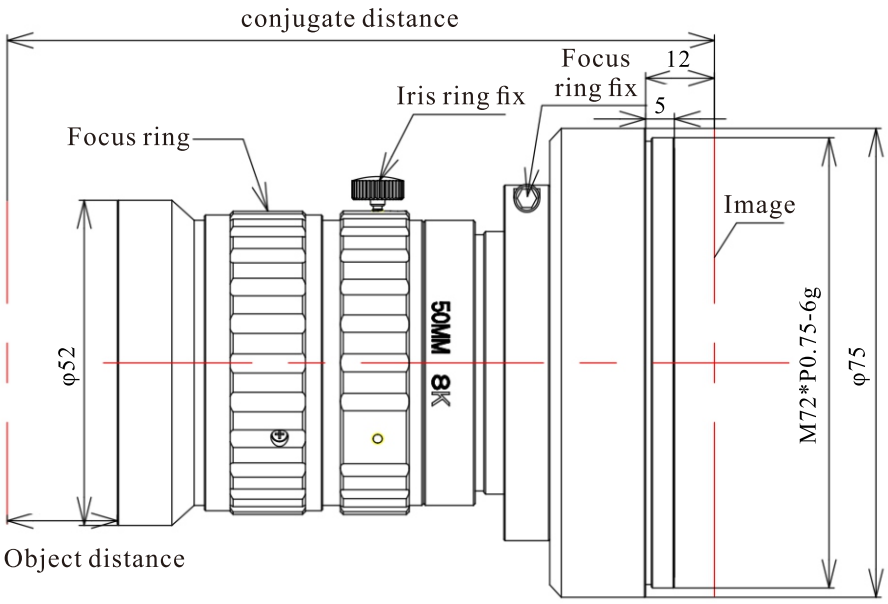
Relative Illumination



Parameter

Magnification (β)	Conjugate distance (I/0) (mm)	Working distance (mm)	Lens length (mm)	Field of view (mm)		
				φ43.27	φ57	φ60
0.15x	458.60	350	96.60	289	380	400
0.16x	442.00	333	97.00	270	356	375
0.17x	424.50	315	97.50	255	335	353
0.18x	408.00	298	98.00	240	317	333
0.19x	393.50	283	98.50	228	300	316
0.20x	381.00	270	99.00	216	285	300
0.21x	369.40	258	99.40	206	271	286
0.22x	359.90	248	99.90	197	259	273
0.23x	350.40	238	100.40	188	248	261
0.24x	340.90	228	100.90	180	238	250
0.25x	333.40	220	101.40	173	228	240

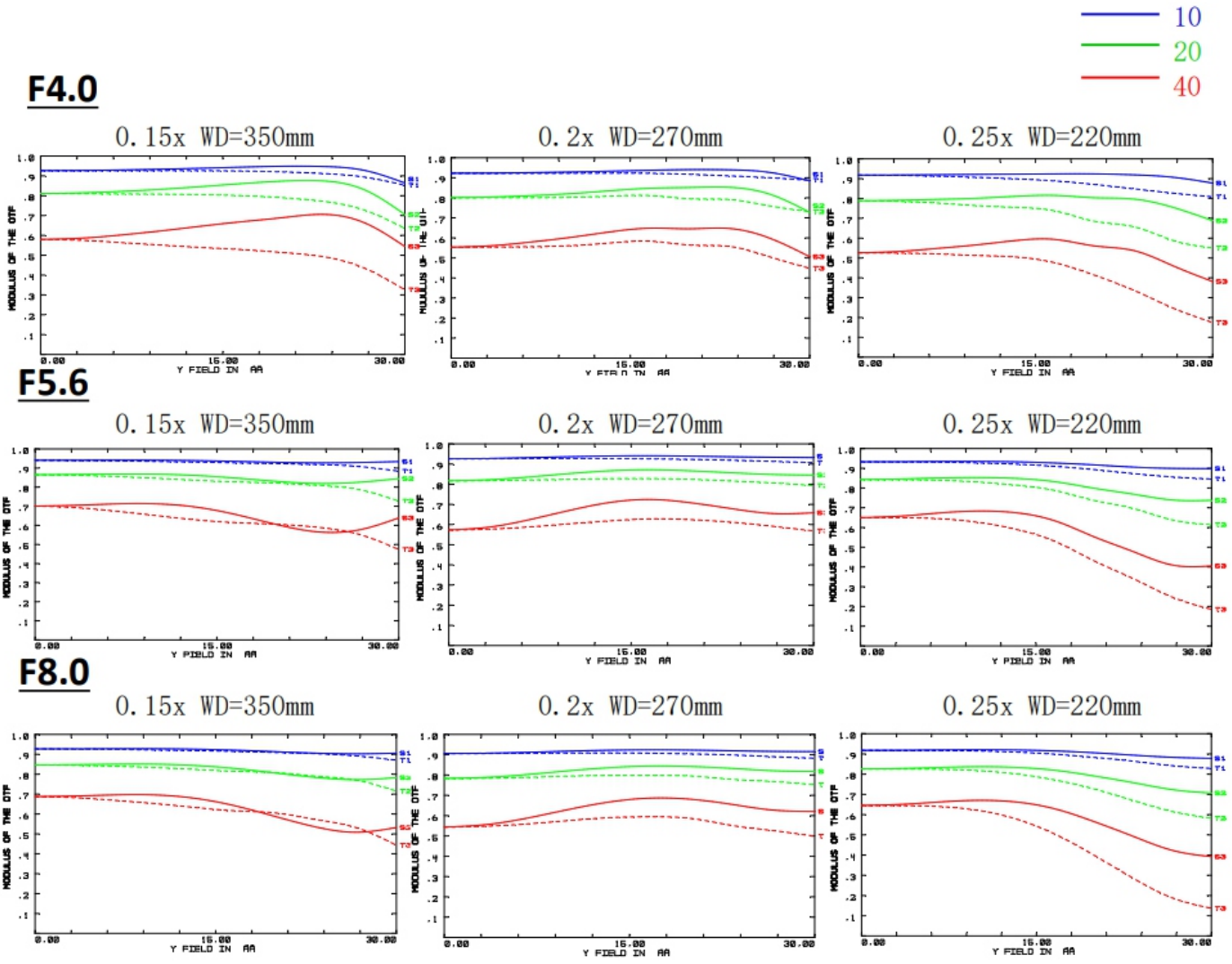
Dimensions(mm)



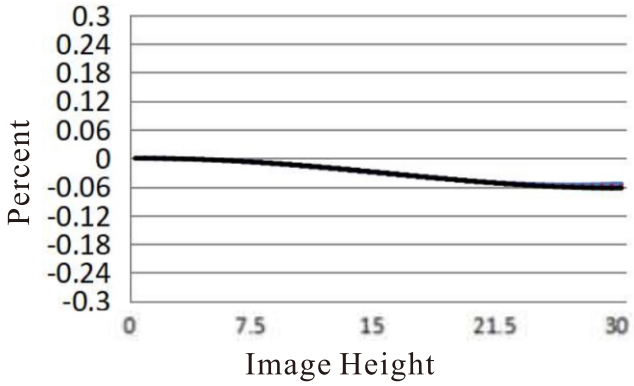
vision solution SBS-XS508K-020X

MTF based on the image height of visible spectrum

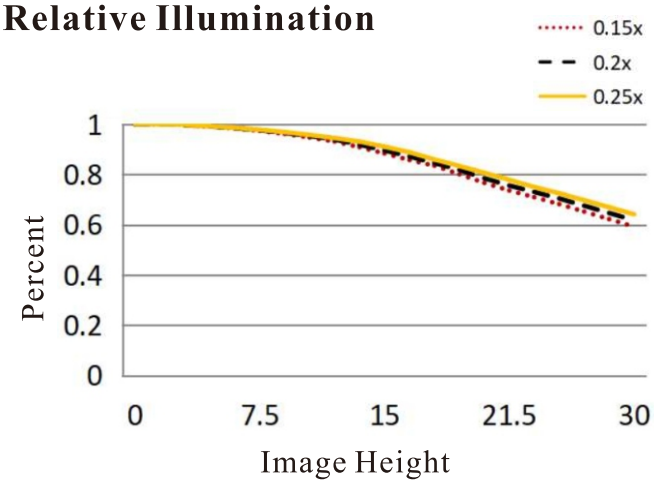
Wavelength λ(nm)	656	587	546	486	435
Spectral weighting (%)	15	20	30	25	10
Spatial frequency R (1 p/mm)	10	20	40		
Image size	φ60				



Distortion



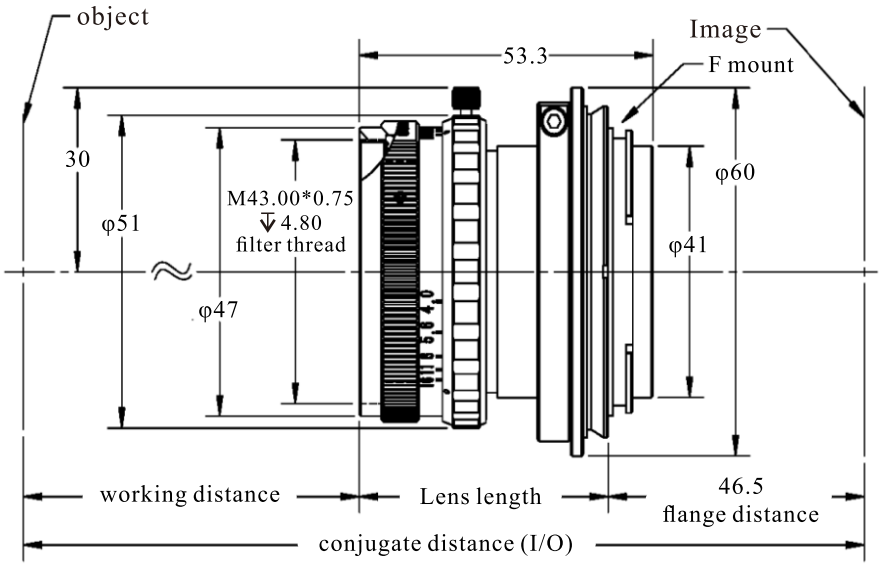
Relative Illumination



Parameter

Magnification (β)	Conjugate distance (I/0) (mm)	Working distance (mm)	Lens length (mm)	Field of view (mm)		
				φ43. 27	φ57	φ60
0.04x	1622.85	1536.06	40.00	1082	1425	1500
0.06x	1122.75	1034.76	41.00	721	950	1000
0.08x	873.29	784.11	43.00	541	713	750
0.10x	724.10	633.72	44.00	433	570	600
0.12x	625.04	533.46	45.00	361	475	500
0.14x	554.63	461.84	46.00	309	407	429
0.16x	502.11 (with F/M72 extension ring)	408.13	47.00	270	356	375
0.18x	461.54 (with F/M72 extension ring)	366.36	49.00	240	317	333
0.20x	429.32 (with F/M72 extension ring)	332.94	50.00	216	285	300
0.24x	381.58 (with F/M72 extension ring)	282.81	52.00	180	238	250
0.28x	348.18 (with F/M72 extension ring)	247.00	55.00	155	204	214
0.33x	318.63 (with F/M72 extension ring)	214.45	58.00	131	173	182

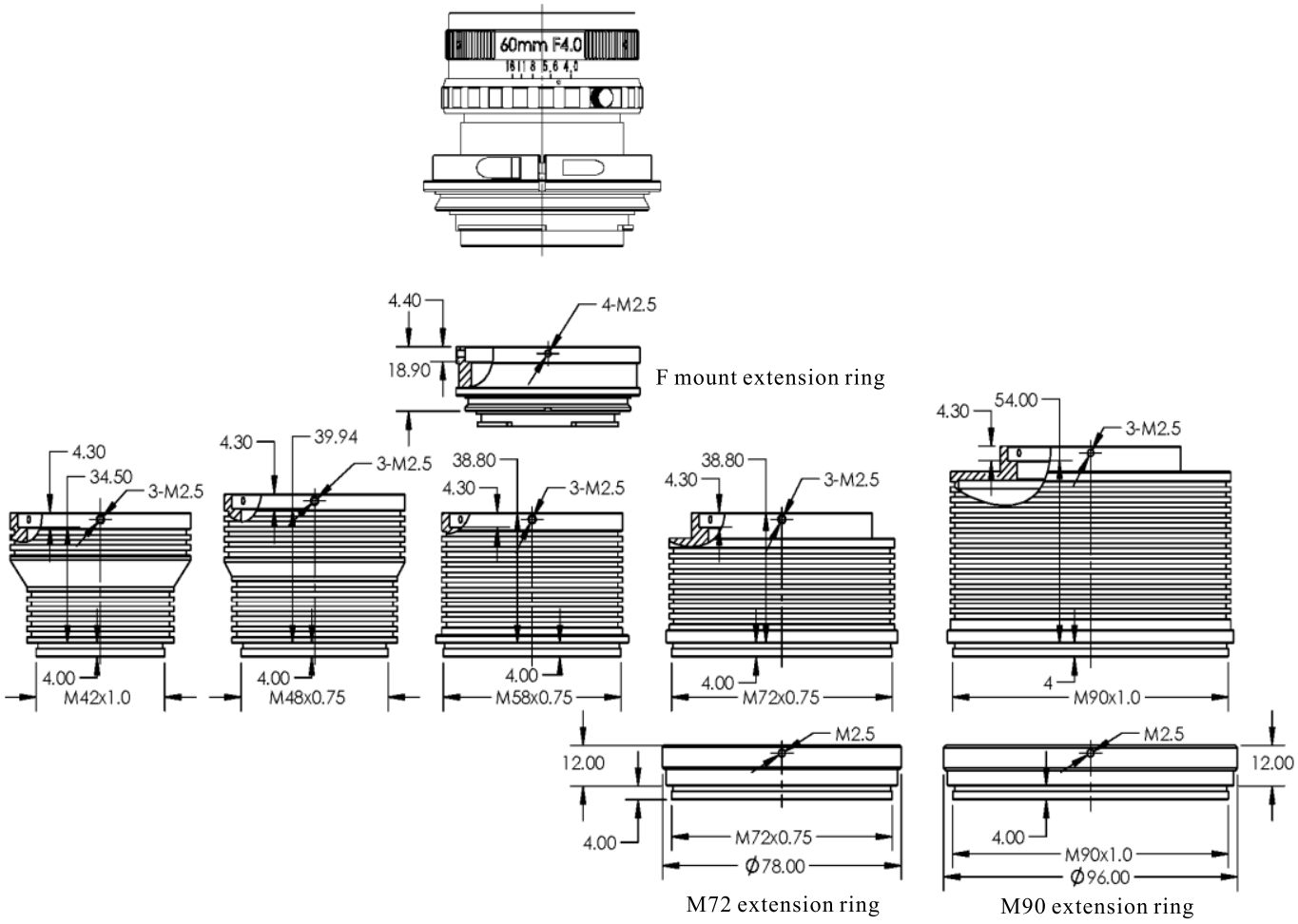
Dimensions(mm)



vision solution SBS-XS608K-018X

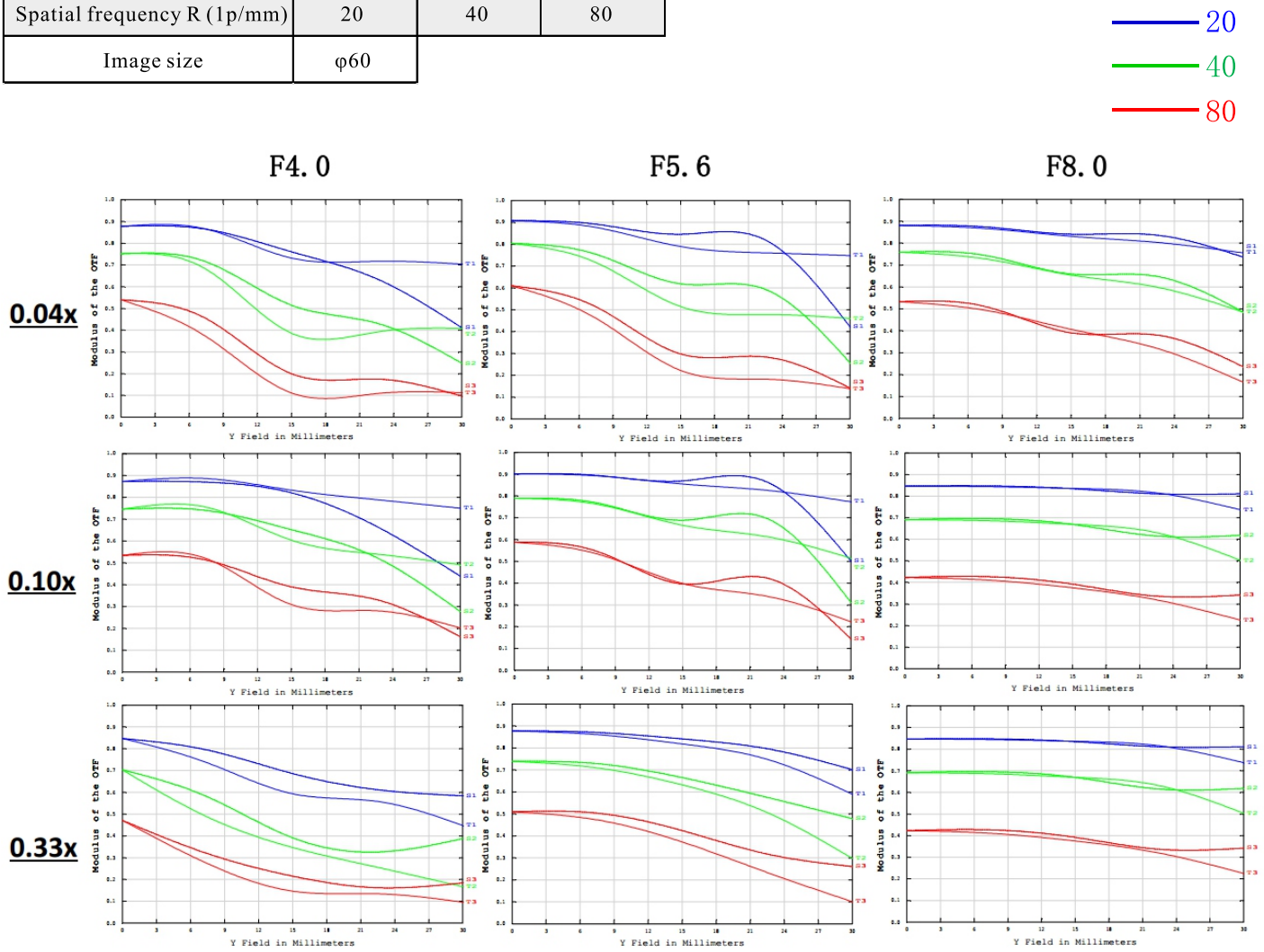
Dimensions(mm)

SBS-XS608K-018X extension ring

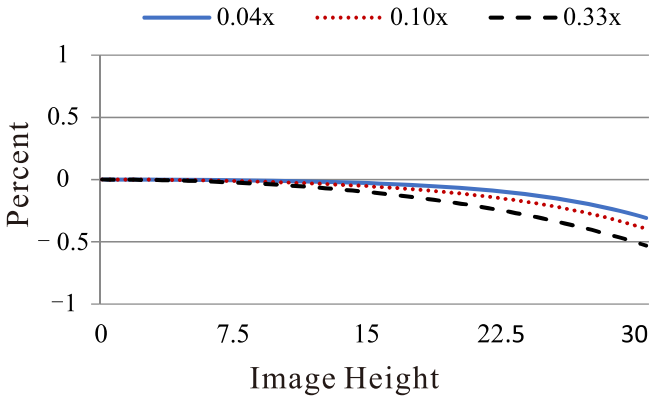


MTF based on the image height of visible spectrum

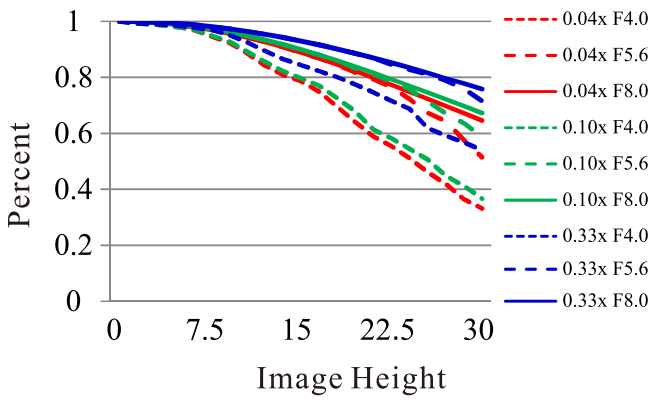
Wavelength λ(nm)	656	587	546	486	435
Spectral weighting (%)	15	20	30	25	10
Spatial frequency R (1p/mm)	20	40	80		
Image size	φ60				



Distortion



Relative Illumination

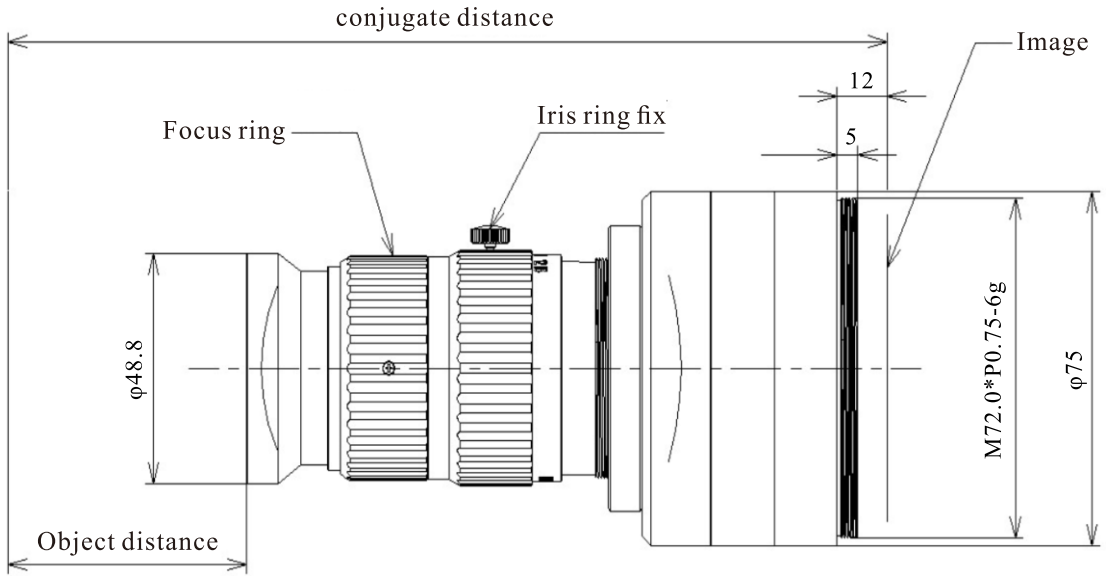


vision solution SBS-XS808K-028X

Parameter

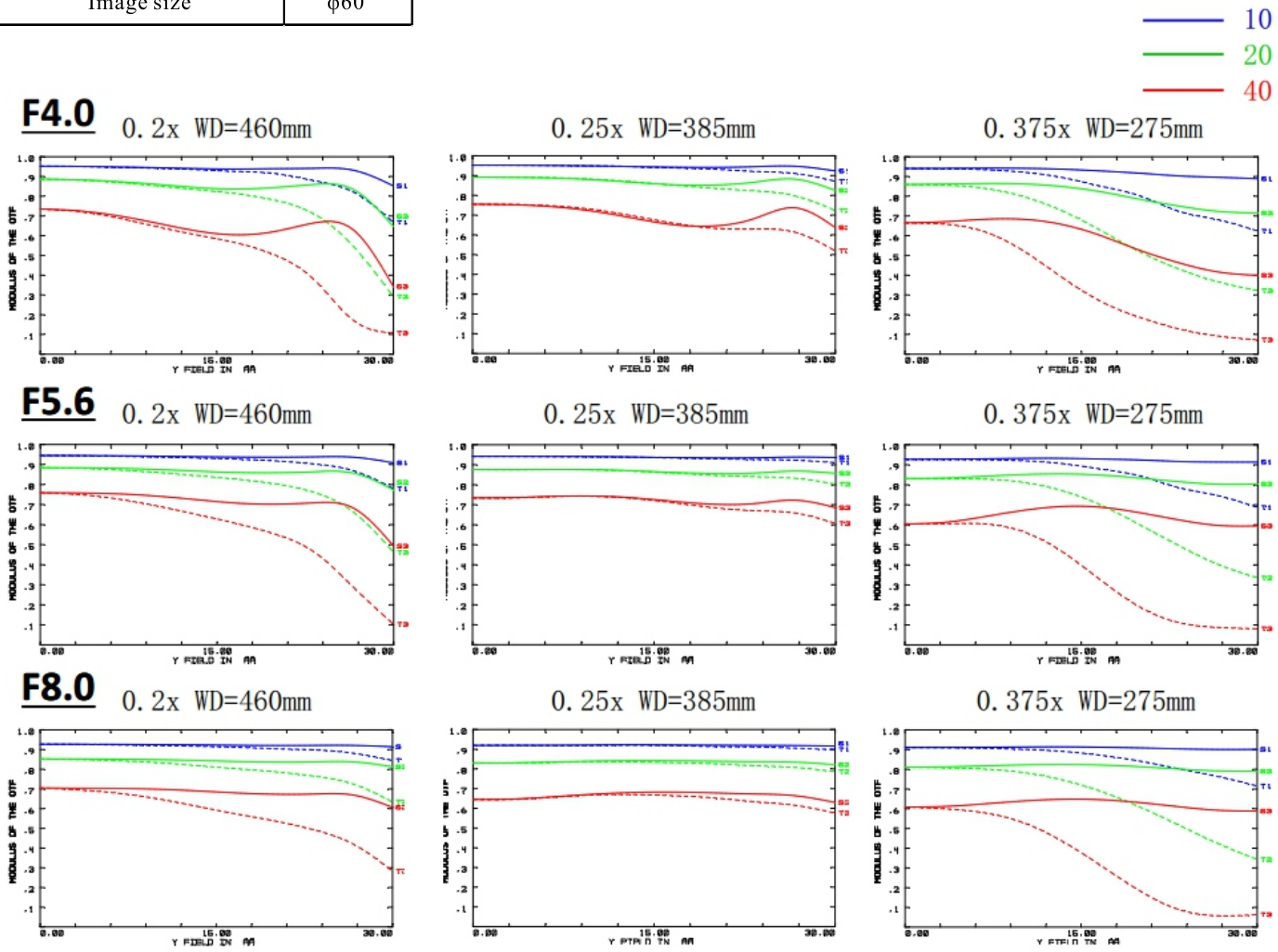
Magnification (β)	Conjugate distance (I/0) (mm)	Working distance (mm)	Lens length (mm)	Field of view (mm)		
				φ43.27	φ57	φ60
0.20x	608.20	460	136.20	216	285	300
0.21x	595.70	447	136.70	206	271	286
0.22x	578.50	429	137.50	197	259	273
0.23x	563.40	413	138.40	188	248	261
0.25x	536.90	385	139.90	173	228	240
0.27x	513.60	360	141.60	160	211	222
0.30x	486.00	330	144.00	144	190	200
0.32x	470.70	313	145.70	135	178	188
0.35x	452.00	292	148.00	124	163	171
0.375x	438.30	276.3	150.00	115	152	160

Dimensions(mm)

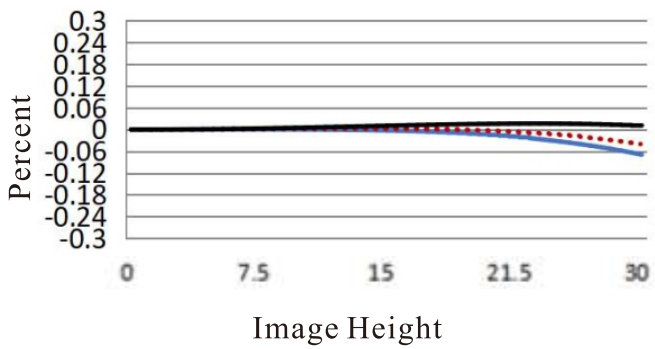


MTF based on the image height of visible spectrum

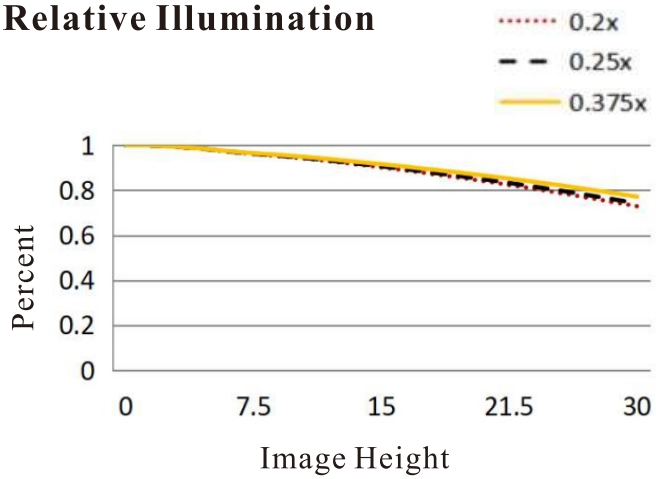
Wavelength λ(nm)	656	587	546	486	435
Spectral weighting (%)	15	20	30	25	10
Spatial frequency R (1 p/mm)	10	20	40		
Image size	φ60				



Distortion



Relative Illumination

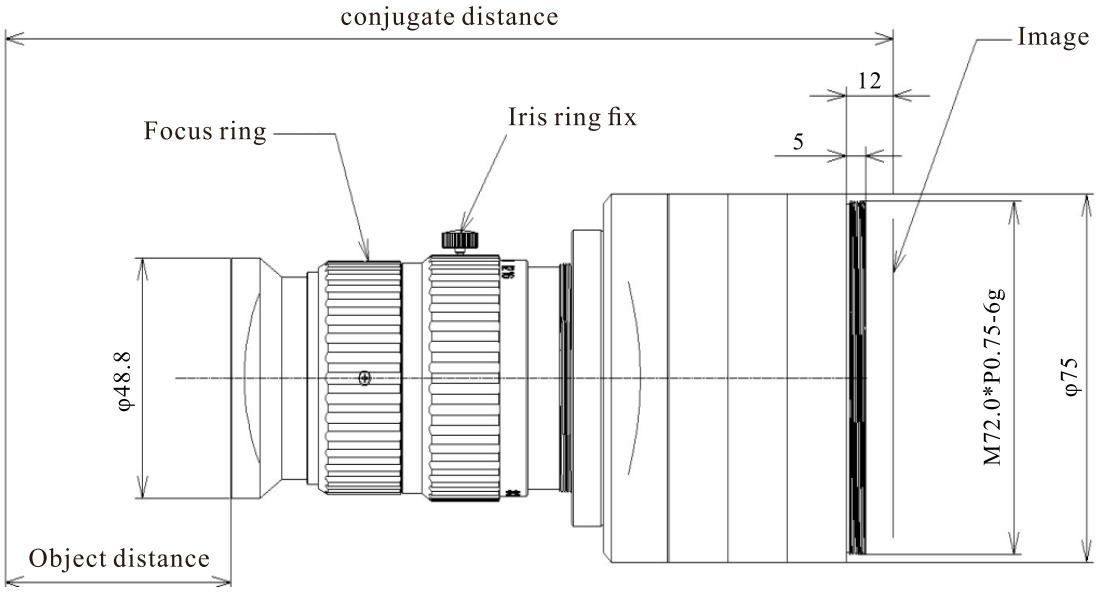


vision solution SBS-XS808K-050X

Parameter

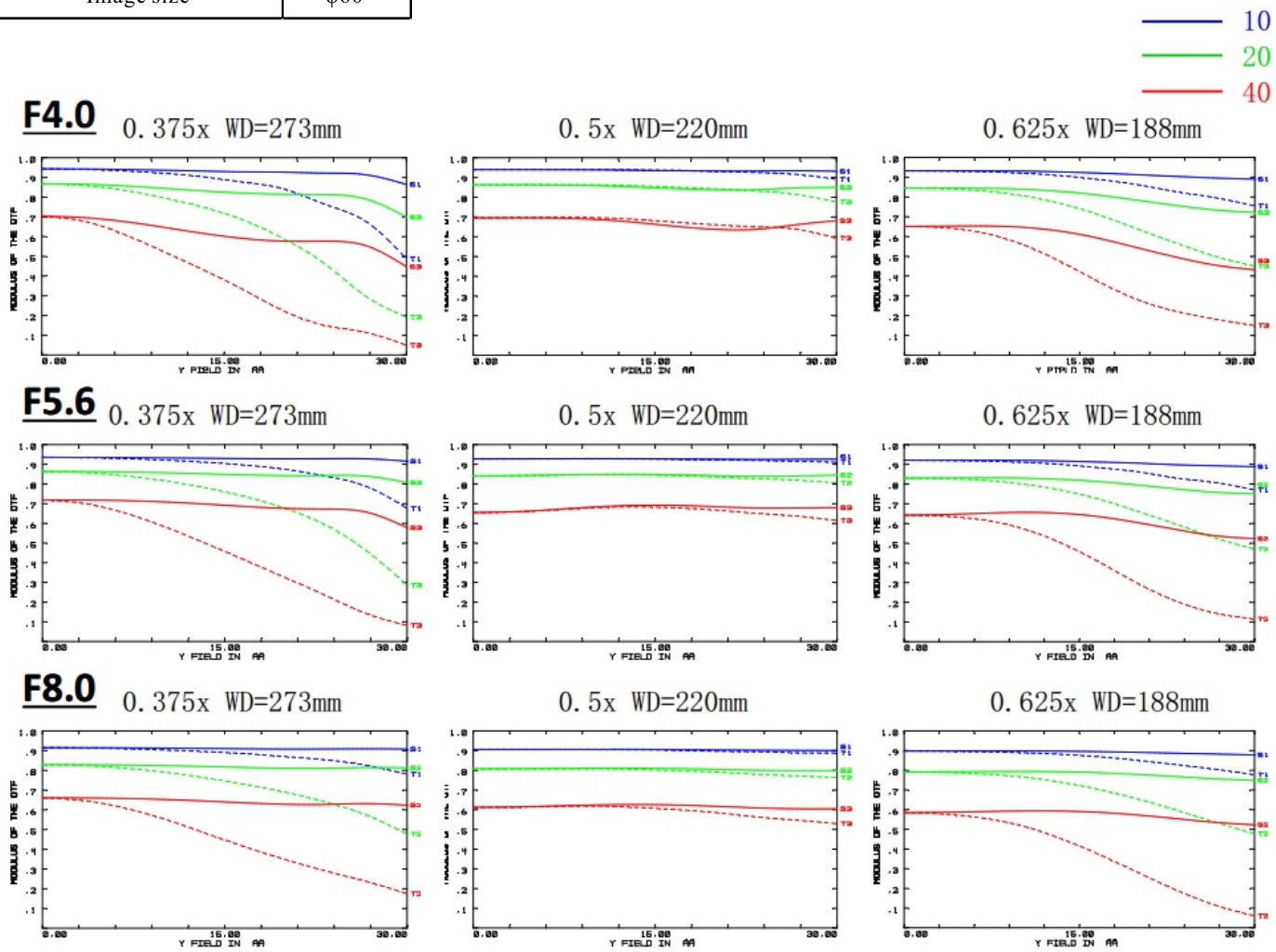
Magnification (β)	Conjugate distance (I/0) (mm)	Working distance (mm)	Lens length (mm)	Field of view (mm)		
				φ43.27	φ57	φ60
0.375x	434.00	273	149.00	115	152	160
0.39x	427.20	265	150.20	111	146	154
0.41x	414.60	250	152.60	106	139	146
0.43x	411.30	246	153.30	101	133	140
0.45x	404.10	237	155.10	96	127	133
0.47x	398.60	230	156.60	92	121	128
0.50x	390.90	220	158.90	87	114	120
0.53x	384.10	210.8	161.30	82	108	113
0.55x	380.00	205	163.00	79	104	109
0.57x	376.50	200	164.50	76	100	105
0.60x	371.90	193	166.90	72	95	100
0.625x	368.80	188	168.80	69	91	96

Dimensions(mm)

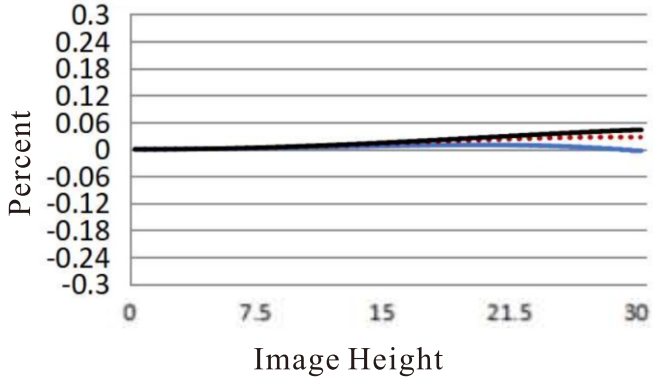


MTF based on the image height of visible spectrum

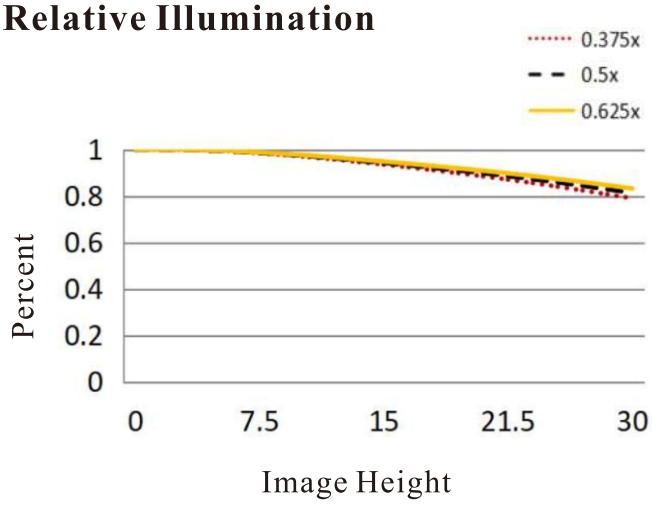
Wavelength λ(nm)	656	587	546	486	435
Spectral weighting (%)	15	20	30	25	10
Spatial frequency R (1 p/mm)	10	20	40		
Image size	φ60				



Distortion



Relative Illumination

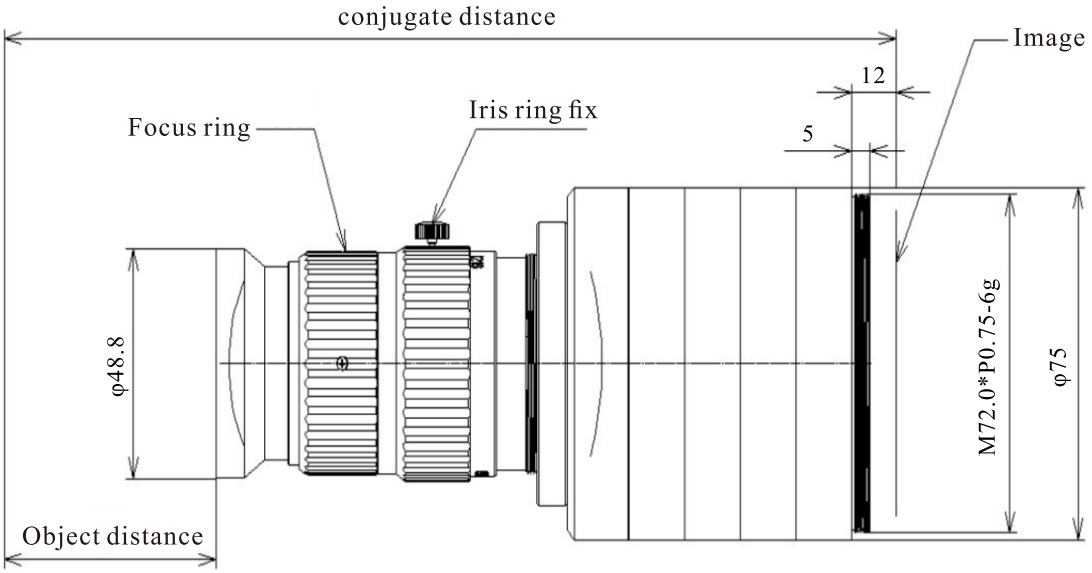


vision solution SBS-XS808K-075X

Parameter

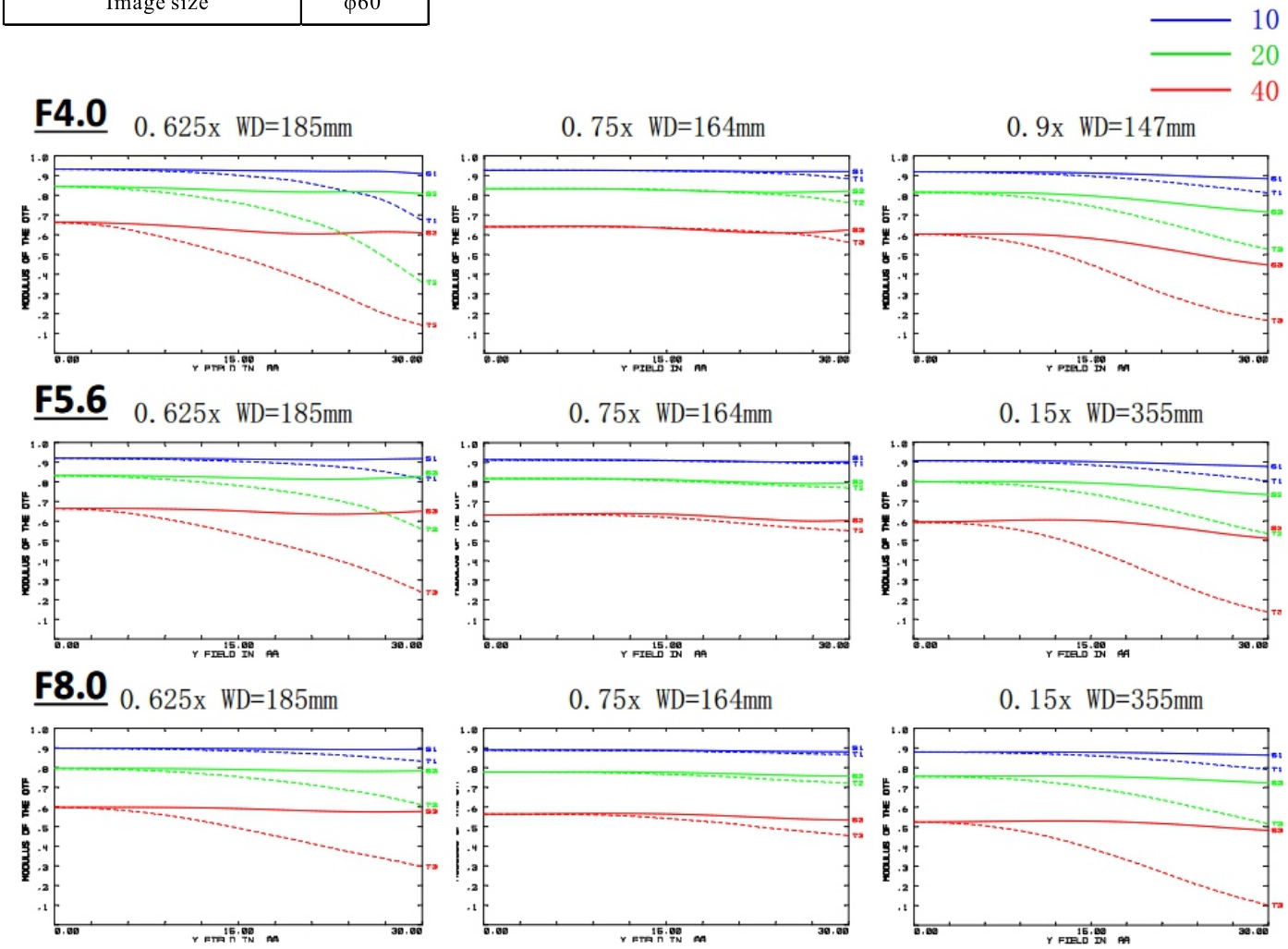
Magnification (β)	Conjugate distance (I/0) (mm)	Working distance (mm)	Lens length (mm)	Field of view (mm)		
				φ43.27	φ57	φ60
0.625x	365.50	185	168.50	69	91	96
0.65x	362.90	180.5	170.40	67	88	92
0.67x	360.90	177	171.90	65	85	90
0.70x	358.20	172	174.20	62	81	86
0.72x	356.40	168.5	175.90	60	79	83
0.75x	354.40	164	178.40	58	76	80
0.77x	353.30	161.5	179.80	56	74	78
0.80x	351.80	157.5	182.30	54	71	75
0.82x	351.00	155.3	183.70	53	70	73
0.85x	350.00	152	186.00	51	67	71
0.88x	349.10	148.7	188.40	49	65	68
0.90x	348.80	147	189.80	48	63	67

Dimensions(mm)

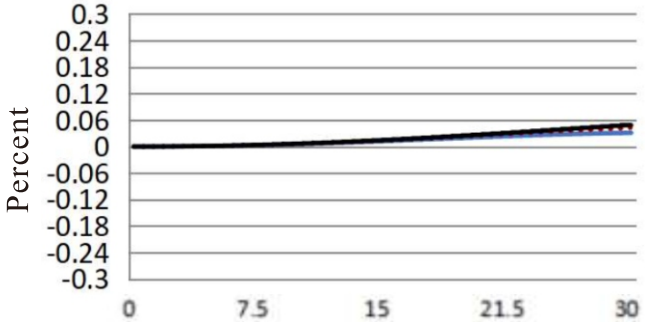


MTF based on the image height of visible spectrum

Wavelength λ(nm)	656	587	546	486	435
Spectral weighting (%)	15	20	30	25	10
Spatial frequency R (1 p/mm)	10	20	40		
Image size	φ60				



Distortion



Relative Illumination