



Products Features

- ▶ Low distortion, high relative illumination.
- ▶ Choice is flexible from different magnification.
- ▶ Excellent optical performance, the image result is very uniform from center to side.
- ▶ It is suitable for 2K/4K/8K/16K line scan camera.

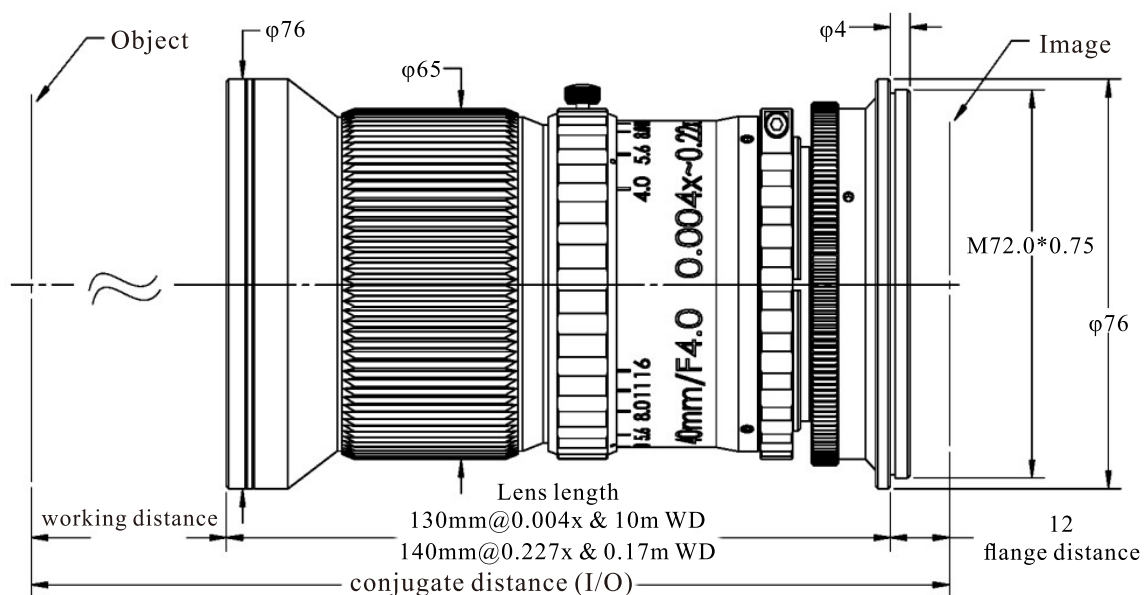
Parameter

NO.	Item No.	Image size (mm)	Iris (F#)	Resolution	Mag. Range	Working distance (mm)	Focal length (mm)	Distortion (%)	Relative illumination (%)	Conjugate distance (mm)	Mount
1	SBS-XS4016K-012X	φ60	4-16	16K3.45um	0.004x-0.227x	170-9987	40	<0.5	>60	322-10130	M58/M72
2	SBS-XS8016-018X	φ80	4-16	16K5um	0.04x-0.33x	303-2071	80	<0.1	>60	430-2176	M42/M48/M58/M72/M90/F
3	SBS-XS14616K-026X	φ82	4-16	16K5um	0.22x-0.30x	571-752	146	<0.005	>80	799-966	M95/M90/M72
4	SBS-XS14616K-033X	φ82	4-16	16K5um	0.30x-0.37x	482-571	146	<0.005	>80	720-799	M95/M90/M72
5	SBS-XS14616K-050X	φ82	4-16	16K5um	0.45x-0.55x	357-417	146	<0.005	>80	613-658	M95/M90/M72
6	SBS-XS14616K-075X	φ82	4-16	16K5um	0.70x-0.85x	267-304	146	<0.002	>80	566-581	M95/M90/M72
7	SBS-XS14616K-100X	φ82	4-16	16K5um	0.92x-1.08x	180-198	146	<0.001	>80	423-443	M95/M90/M72
8	SBS-XS14616K-133X	φ82	4-16	16K5um	1.2x-1.5x	192-216	146	<0.002	>90	567-586	M95/M90/M72
9	SBS-XS14616K-200X	φ82	4-16	16K5um	1.75x-2.25x	154-179	146	<0.002	>90	606-690	M95/M90/M72
10	SBS-XS14616K-300X	φ82	4-16	16K10um	2.7x-3.5x	144-157	146	<0.002	>90	717-826	M95/M90/M72

Parameter

Magnification (β)	Conjugate distance (I/O) (mm)	Working distance (mm)	Lens length (mm)	Field of view (mm)	
				$\phi 43.27$	$\phi 60$
0.004x	10130.30	9987.70	130.60	10979.70	15434.50
0.04x	1140.70	996.50	132.10	1097.00	1535.60
0.10x	541.40	394.70	134.70	435.70	606.20
0.14x	428.50	280.00	136.40	309.90	429.50
0.16x	393.50	244.20	137.30	270.60	374.40
0.18x	366.50	216.30	138.10	240.00	331.50
0.20x	345.00	194.00	139.00	215.60	297.30
0.227x	322.30	170.20	140.20	189.50	260.80

Dimensions(mm)

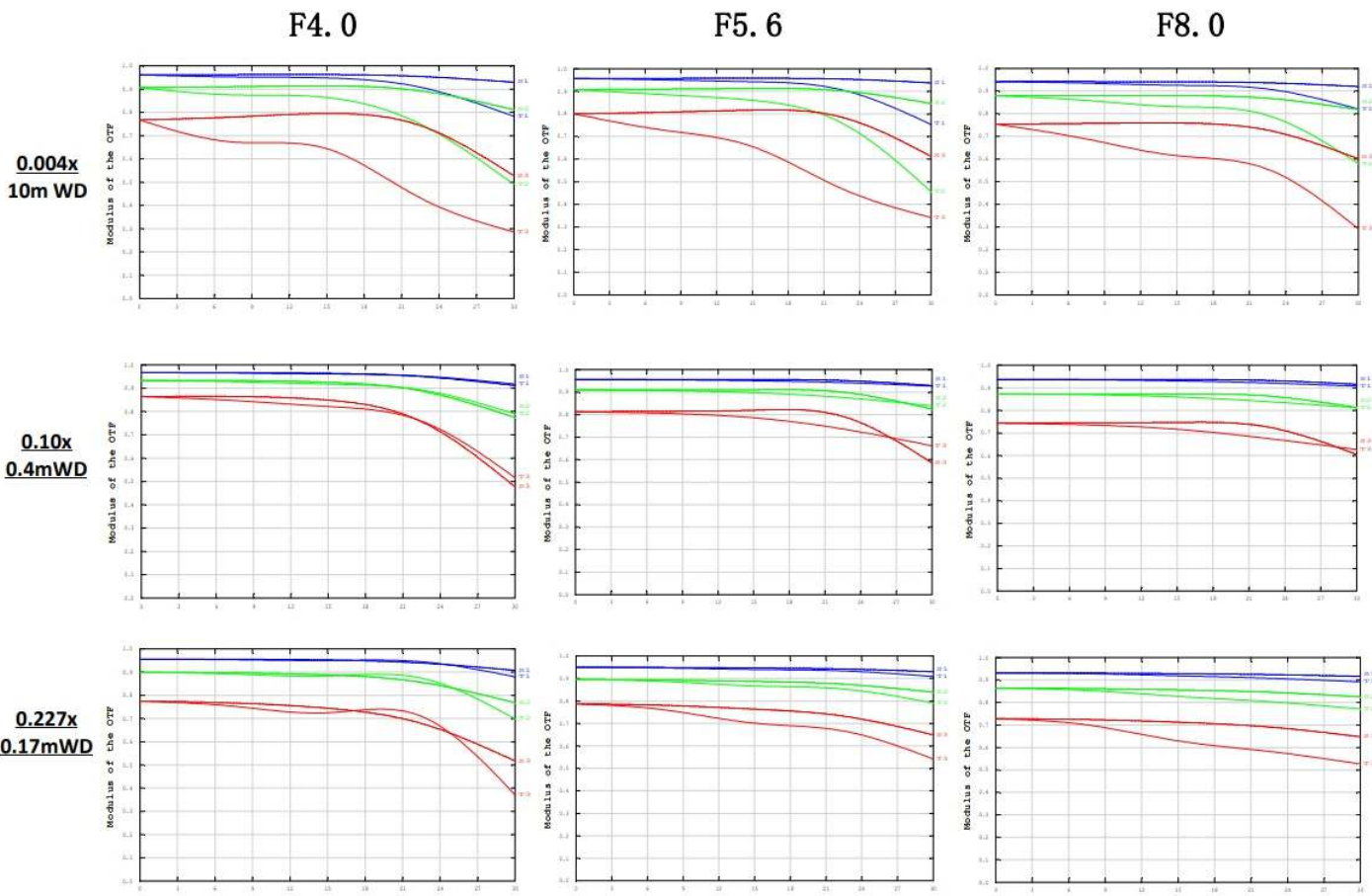


MTF based on the image height of visible spectrum

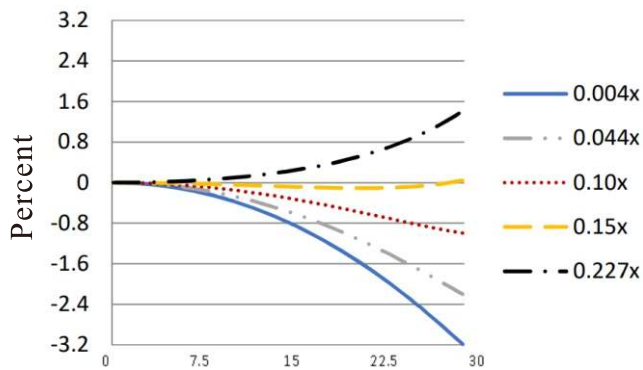
SBS-XS4016K-012X (M72*0.75)

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	$\phi 60$				

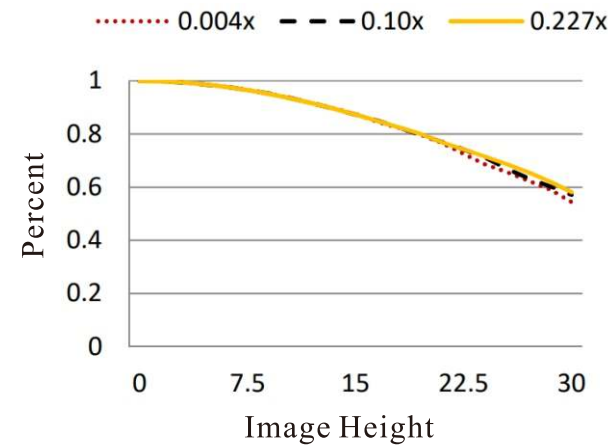
10
20
40



Distortion

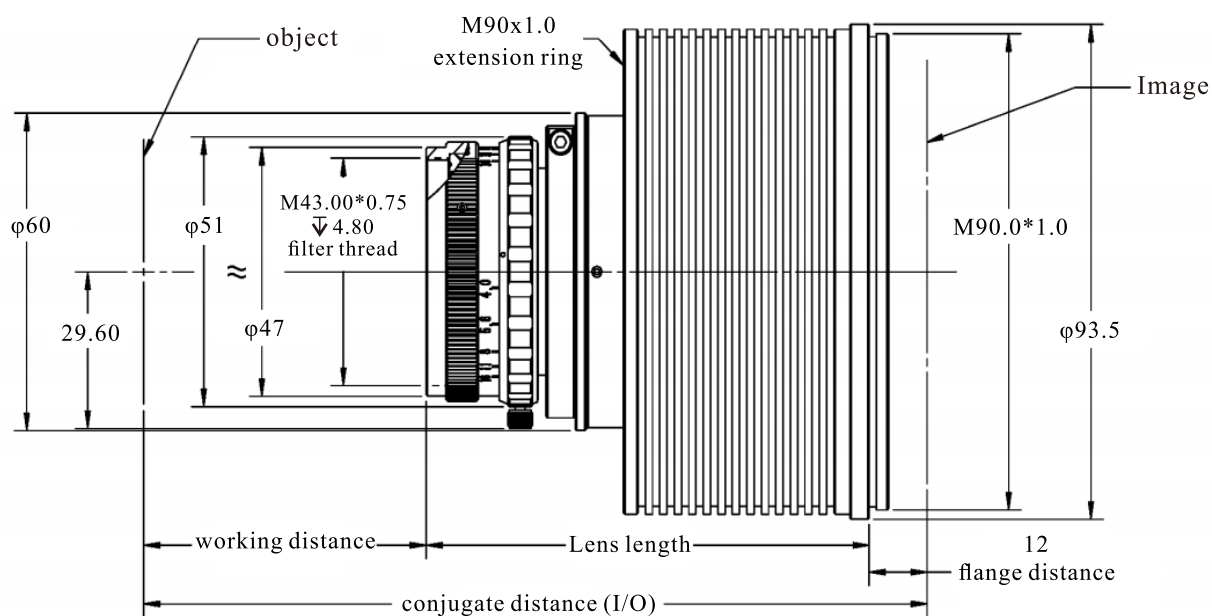


Relative Illumination



Parameter

Magnification (β)	Conjugate distance (I/O) (mm)	Working distance (mm)	Lens length (mm)	Field of view (mm)		
				$\phi 43.27$	$\phi 60$	$\phi 80$
0.04x	2175.99	2071.87	92.00	1081.80	1500.00	2000.00
0.06x	1506.75	1401.04	94.00	721.20	1000.00	1333.30
0.08x	1172.94	1065.62	95.00	540.90	750.00	1000.00
0.10x	973.28	864.37	97.00	432.70	600.00	800.00
0.12x	840.72	730.21	99.00	360.60	500.00	666.70
0.14x	746.48	634.37	100.00	309.10	428.60	571.40
0.16x	676.20	562.50	102.00	270.40	375.00	500.00
0.18x	621.90	506.60	103.00	240.40	333.30	444.40
0.20x (with M90 extension ring)	578.78	461.88	105.00	216.40	300.00	400.00
0.24x (with M90 extension ring)	514.89	394.79	108.00	180.30	250.00	333.30
0.28x (with M90 extension ring)	470.17	346.88	111.00	154.50	214.30	285.70
0.33x (with M90 extension ring)	430.61	303.32	115.00	131.10	172.70	242.40

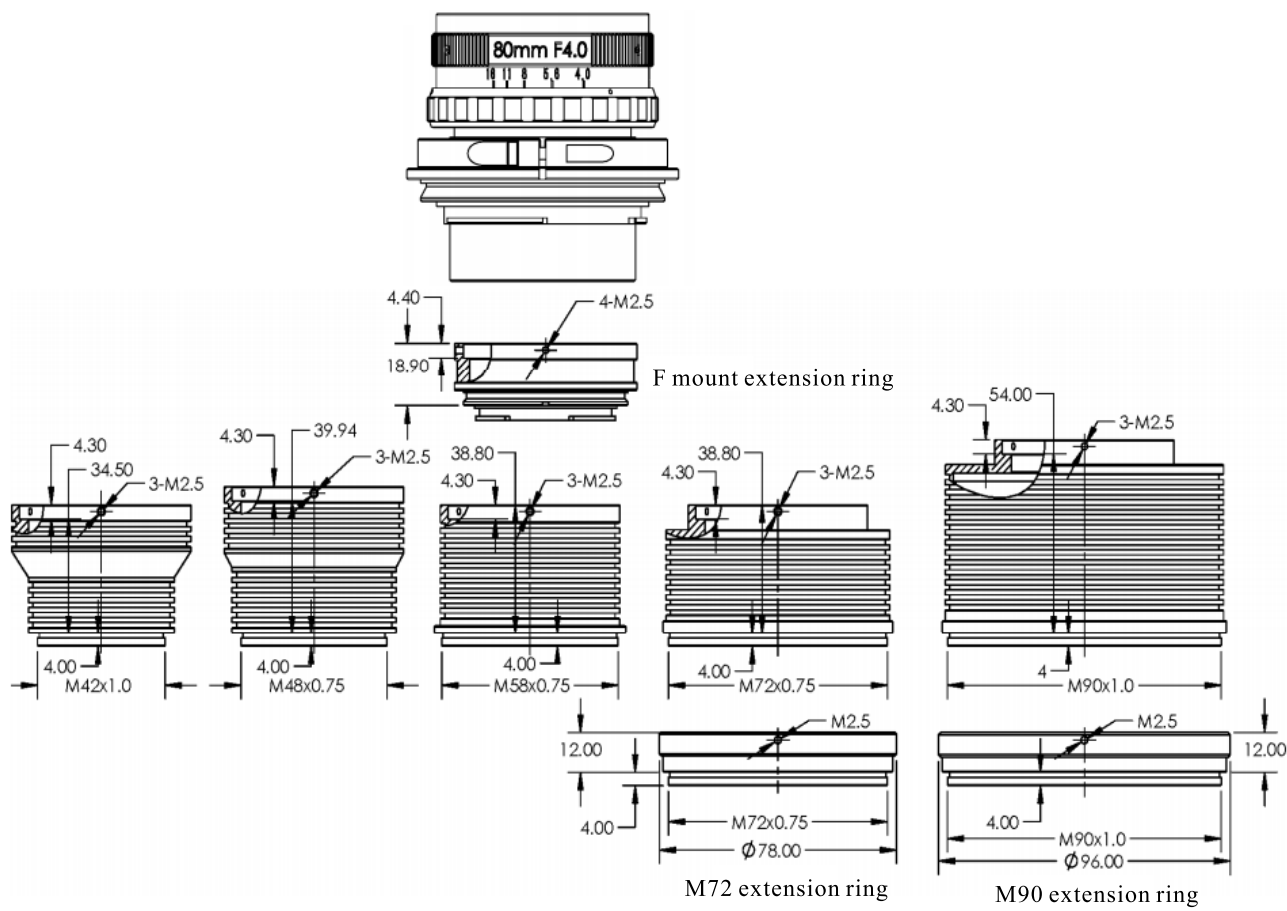
Dimensions(mm)



vision solution SBS-XS8016K-018X

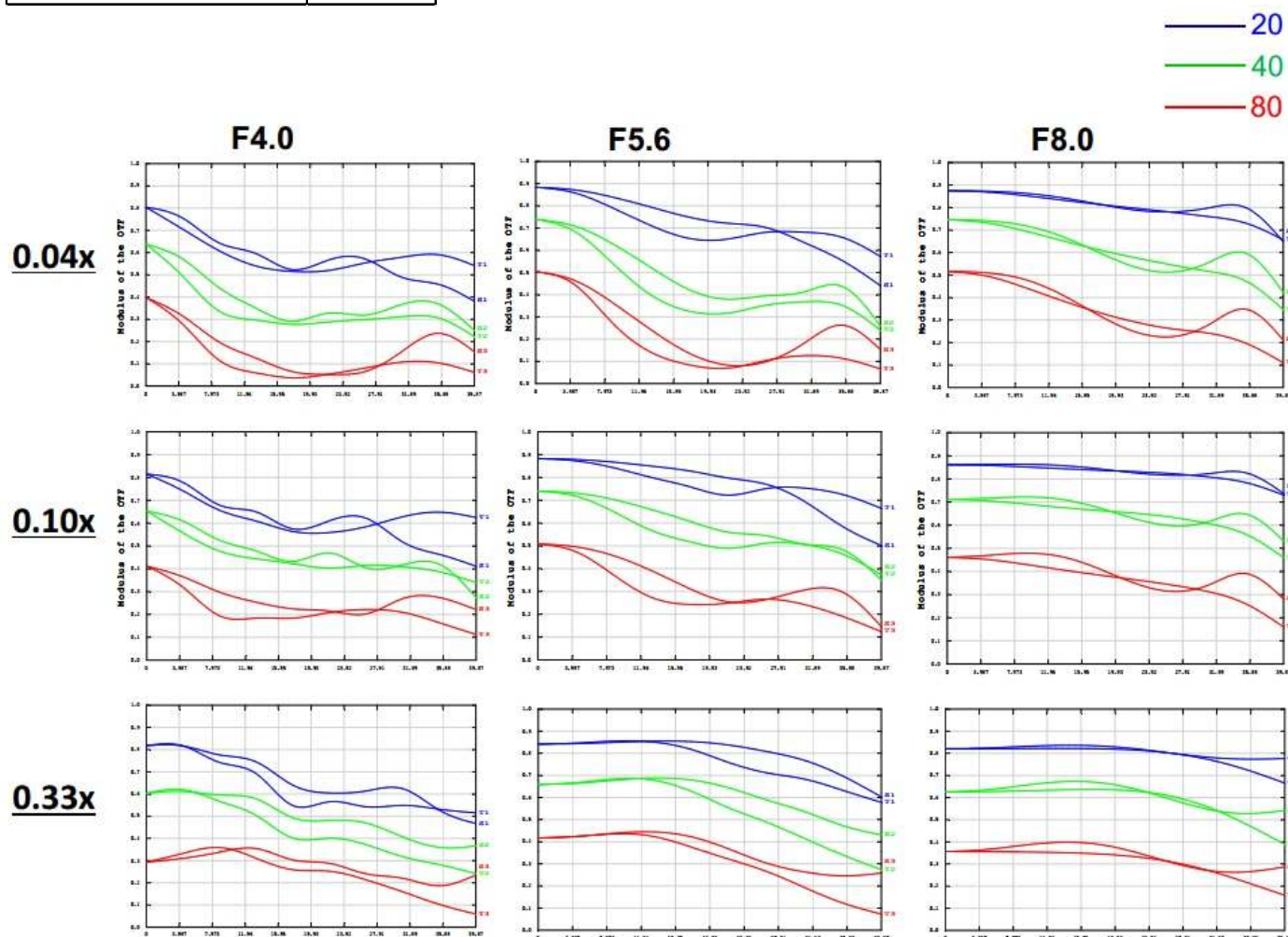
Dimensions(mm)

SBS-XS8016K-018X extension ring

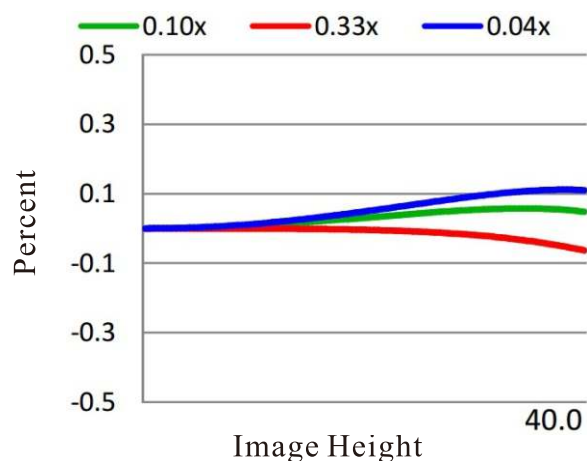


MTF based on the image height of visible spectrum

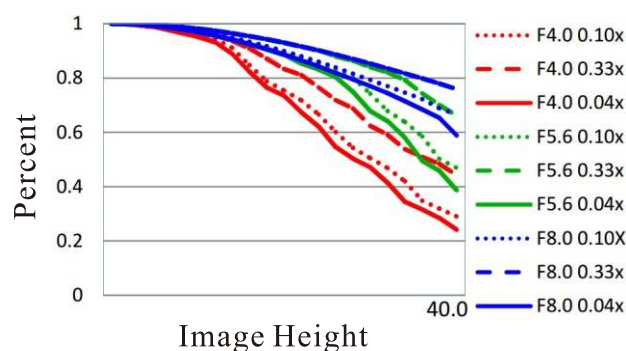
Wavelength λ (nm)	656	587	546	486	435
Spectral weighting (%)	15	20	30	25	10
Spatial frequency R (lp/mm)	20	40	80		
Image size	$\phi 80$				



Distortion



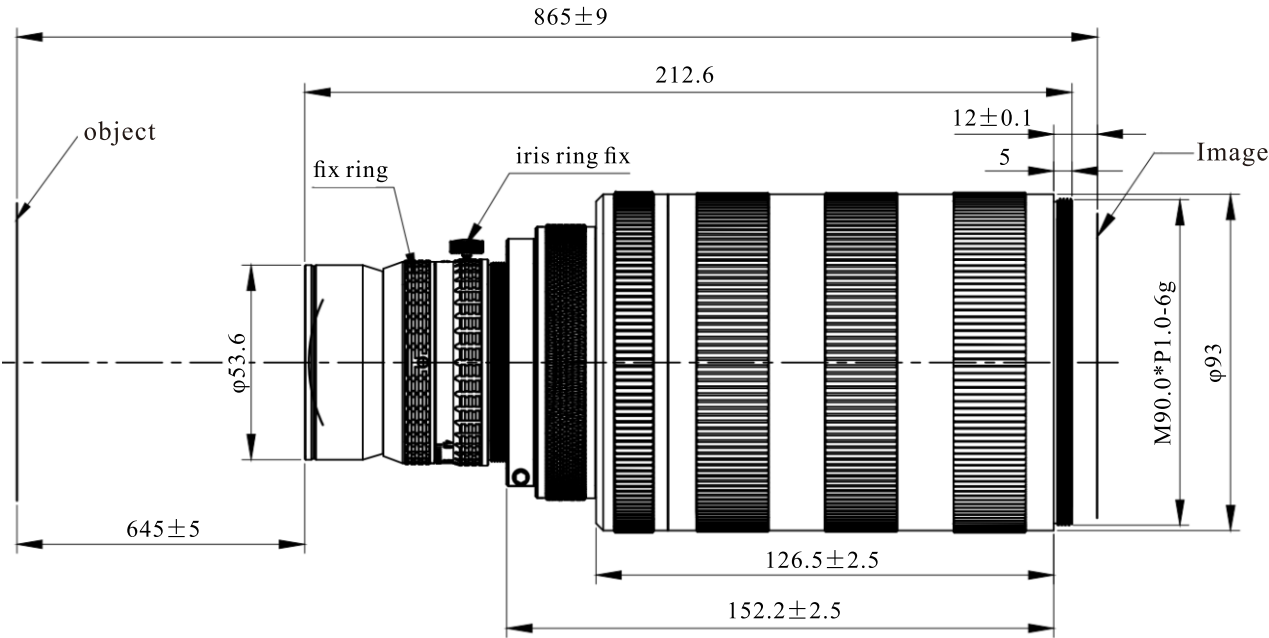
Relative Illumination



Parameter

Magnification (β)	Conjugate distance (I/O) (mm)	Working distance (mm)	Lens length (mm)	Field of view (mm)		
				φ 43. 27	φ57	φ80
0.22x	966.00	752.00	201.00	196.70	259.10	363.60
0.23x	940.50	725.00	203.50	188.10	247.80	347.80
0.24x	915.00	698.00	205.00	180.30	237.50	333.30
0.25x	892.00	674.00	206.40	173.10	228.00	320.00
0.26x	865.00	645.00	208.30	166.40	219.20	307.70
0.27x	851.00	630.00	209.30	160.30	211.10	296.30
0.28x	833.80	608.00	210.80	154.50	203.60	285.70
0.29x	817.00	593.00	212.20	149.20	196.60	275.90
0.30x	799.00	571.00	213.90	144.20	190.00	266.70

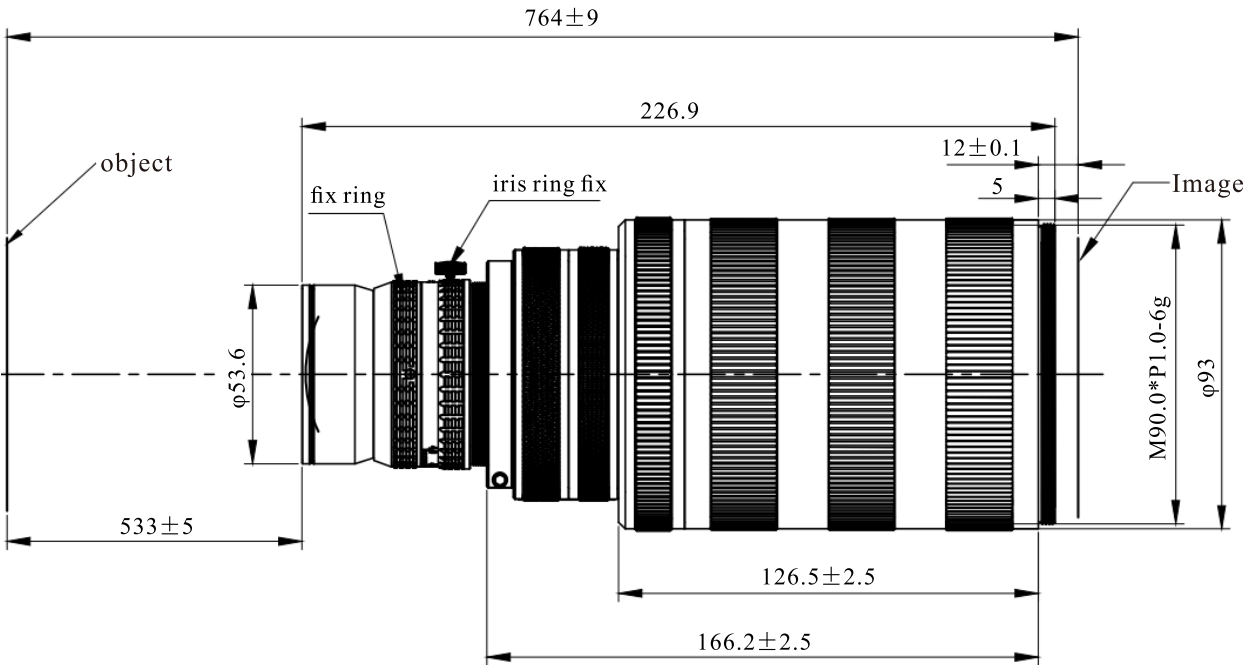
Dimensions(mm)



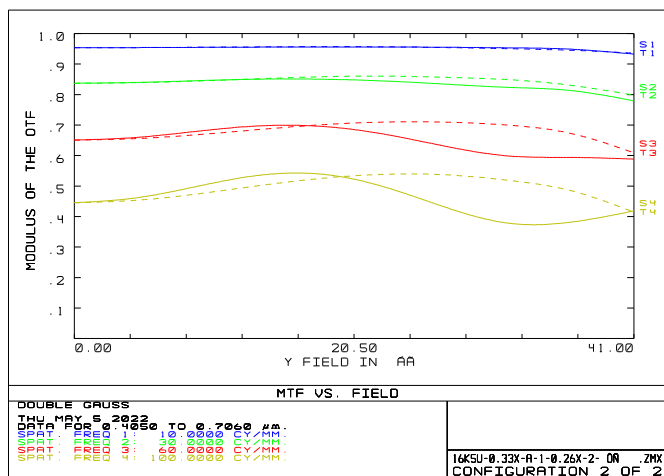
Parameter

Magnification (β)	Conjugate distance (I/O) (mm)	Working distance (mm)	Lens length (mm)	Field of view (mm)		
				φ 43. 27	φ57	φ80
0.30x	799.00	571.00	215.00	144.20	190.00	266.70
0.31x	789.00	562.00	216.00	139.60	183.90	258.10
0.32x	777.00	548.00	217.00	135.20	178.10	250.00
0.33x	764.00	533.00	219.00	131.10	172.70	242.40
0.34x	751.00	519.00	220.00	127.30	167.60	235.30
0.35x	741.00	508.00	222.00	123.60	162.90	228.60
0.36x	730.00	495.00	223.00	120.20	158.30	222.20
0.37x	720.00	482.00	225.00	116.90	154.10	216.20

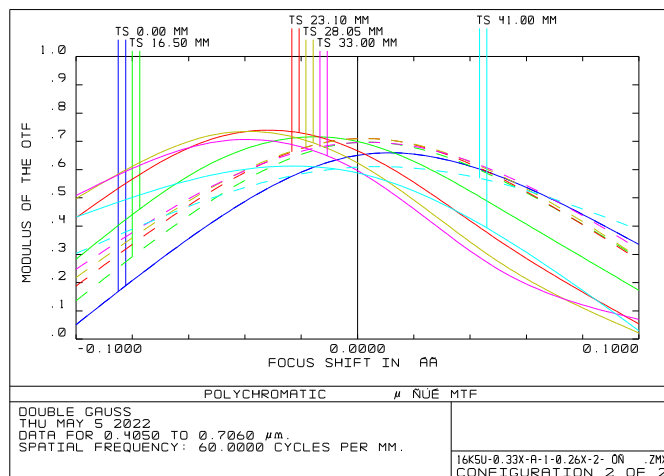
Dimensions(mm)



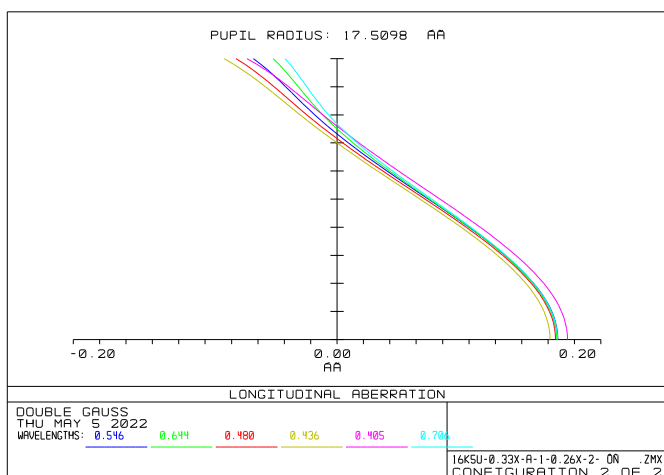
MTF VS Field 0.33X F4.0



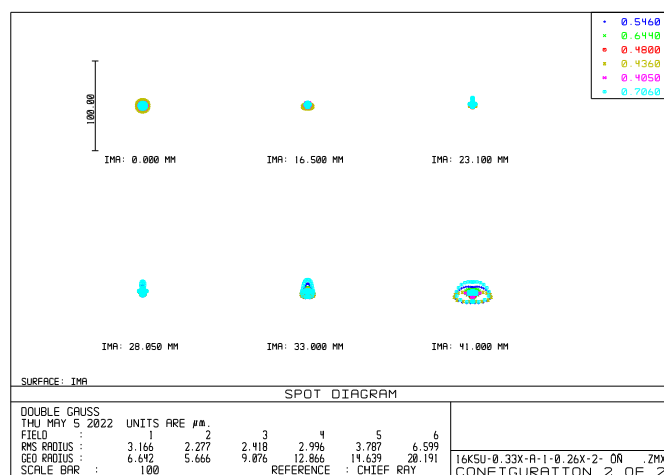
MTF VS Through Focus



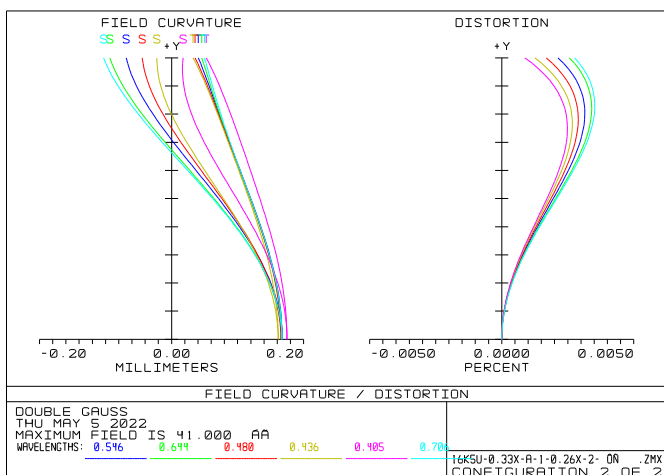
Axial color



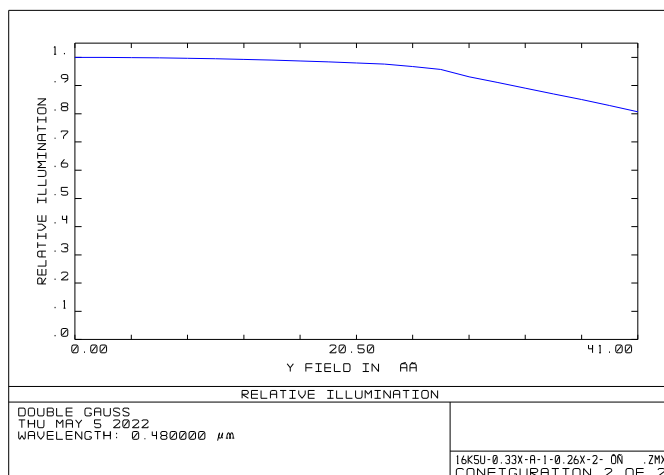
Spot Diagram



Distortion



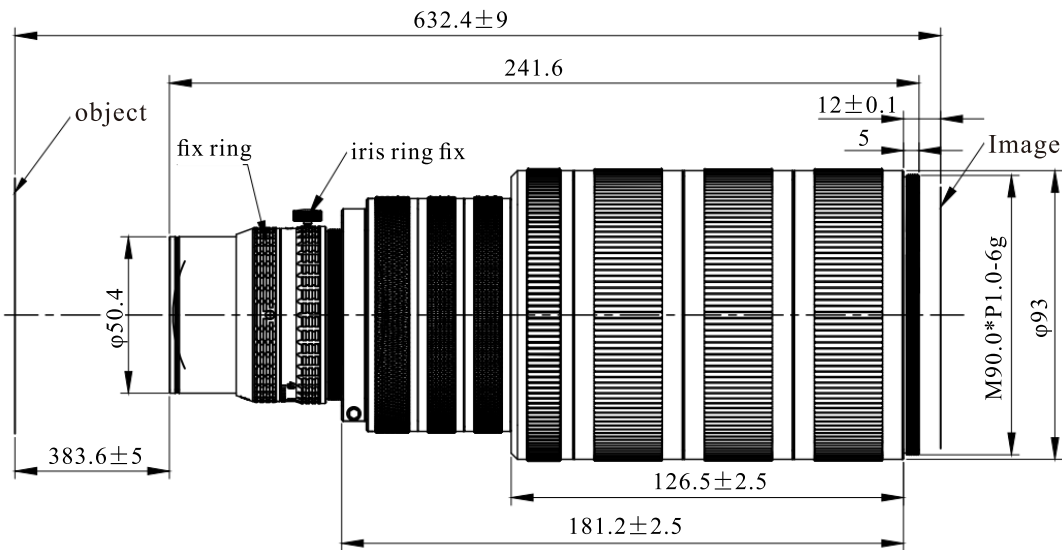
Relative Illumination



Parameter

Magnification (β)	Conjugate distance (I/O) (mm)	Working distance (mm)	Lens length (mm)	Field of view (mm)		
				φ 43. 27	φ57	φ80
0.45x	658.70	417.50	229.00	96.20	126.70	177.80
0.46x	654.90	409.00	230.50	94.10	123.90	173.90
0.47x	646.90	402.50	231.90	92.10	121.30	170.20
0.48x	641.40	395.60	233.40	90.10	118.80	166.70
0.49x	636.90	389.60	235.30	88.30	116.30	163.30
0.50x	632.40	383.60	237.00	86.50	114.00	160.00
0.51x	628.10	377.30	238.20	84.80	111.80	156.90
0.52x	624.20	372.60	239.50	83.20	109.60	153.80
0.53x	620.00	367.00	241.00	81.60	107.50	150.90
0.54x	616.60	362.00	242.50	80.10	105.60	148.10
0.55x	613.50	357.50	244.00	78.70	103.60	145.50

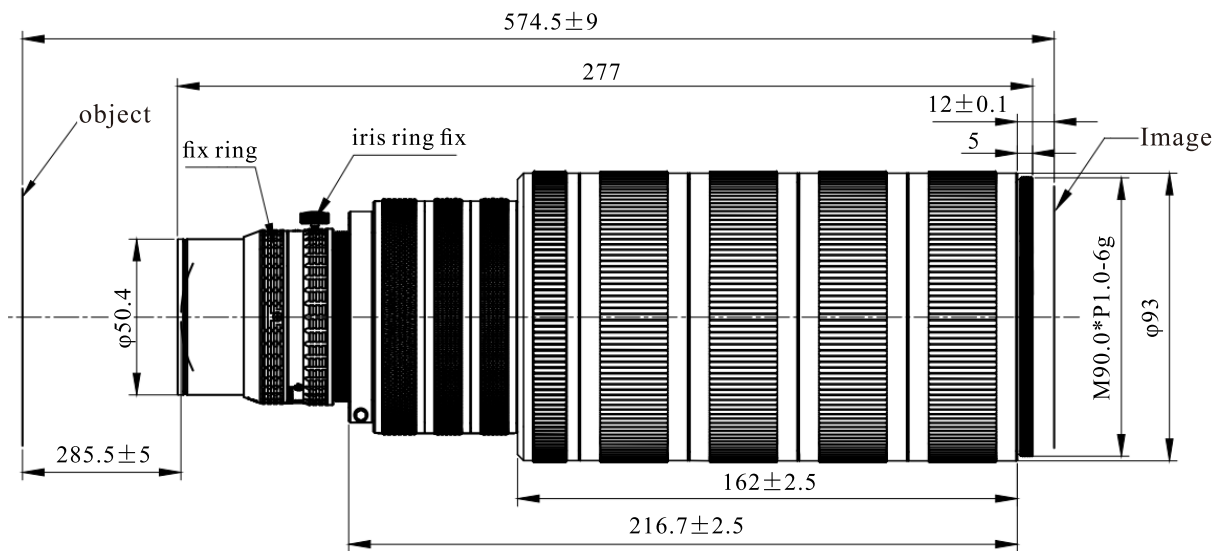
Dimensions(mm)



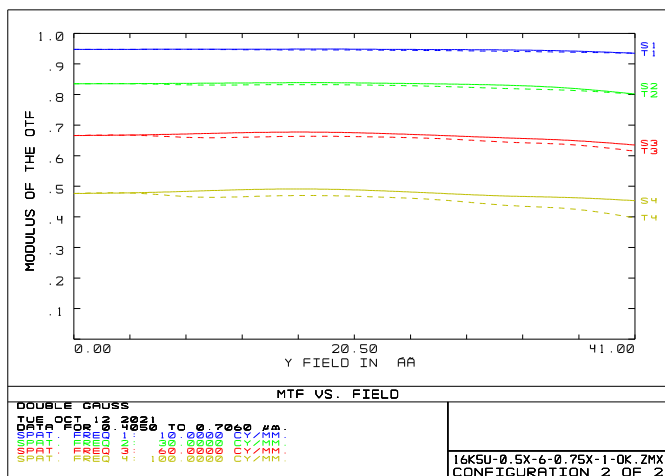
Parameter

Magnification (β)	Conjugate distance (I/O) (mm)	Working distance (mm)	Lens length (mm)	Field of view (mm)		
				φ 43. 27	φ57	φ80
0.70x	581.20	304.50	270.00	61.80	81.40	114.30
0.72x	578.00	293.50	273.00	60.10	79.20	111.10
0.75x	574.50	285.50	277.00	57.70	76.00	106.70
0.78x	571.40	283.50	281.00	55.50	73.10	102.60
0.80x	569.00	279.00	284.00	54.10	71.30	100.00
0.82x	568.00	274.50	287.00	52.80	69.50	97.60
0.85x	566.10	267.50	292.00	50.90	67.10	94.10

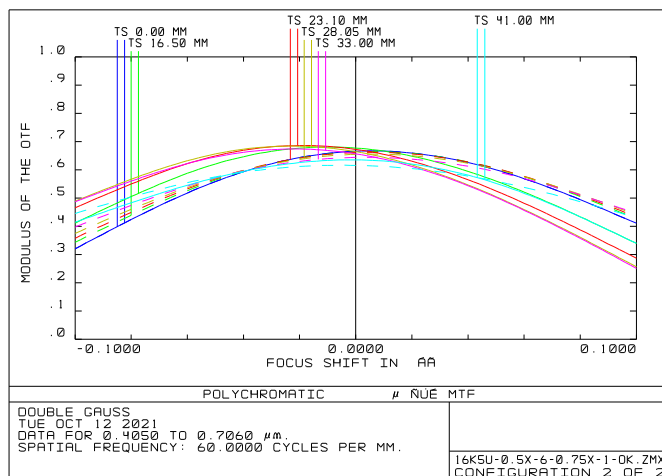
Dimensions(mm)



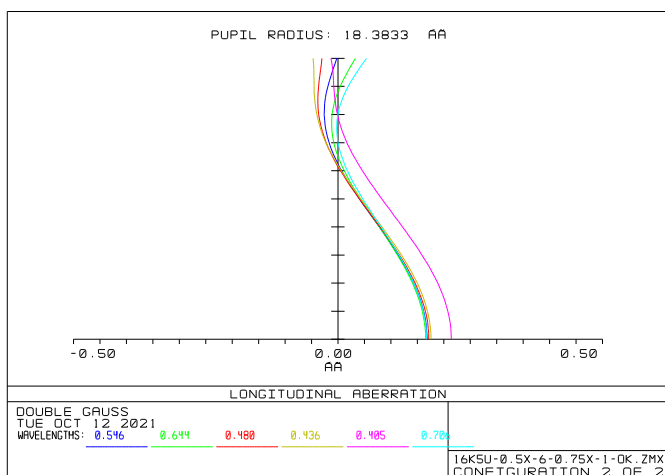
MTF VS Field 0.75X F4.0



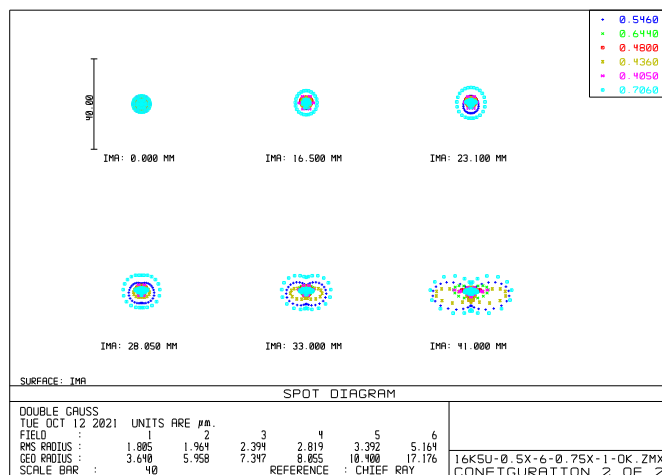
MTF VS Through Focus



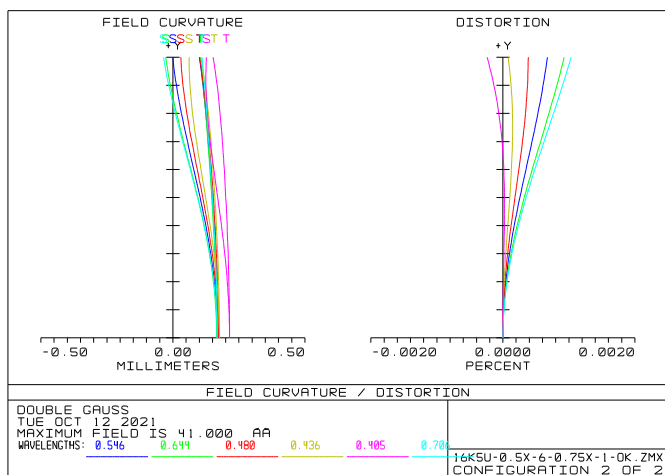
Axial color



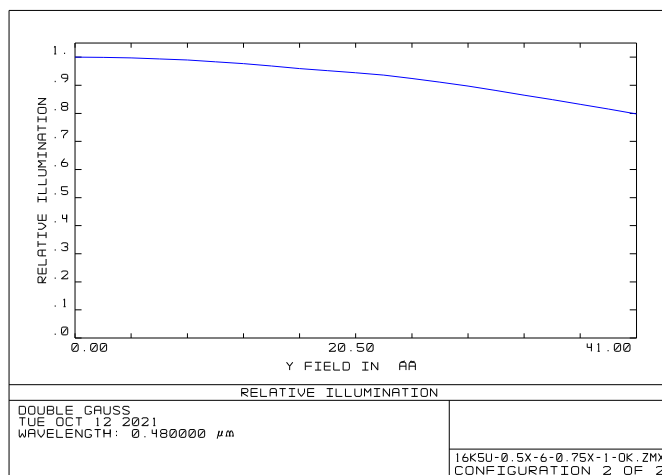
Spot Diagram



Distortion



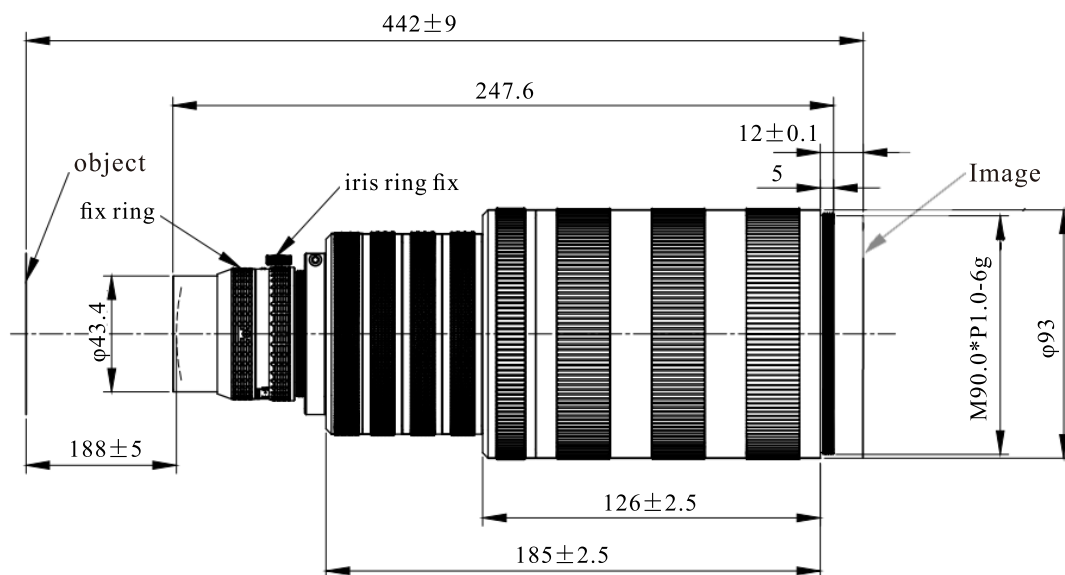
Relative Illumination



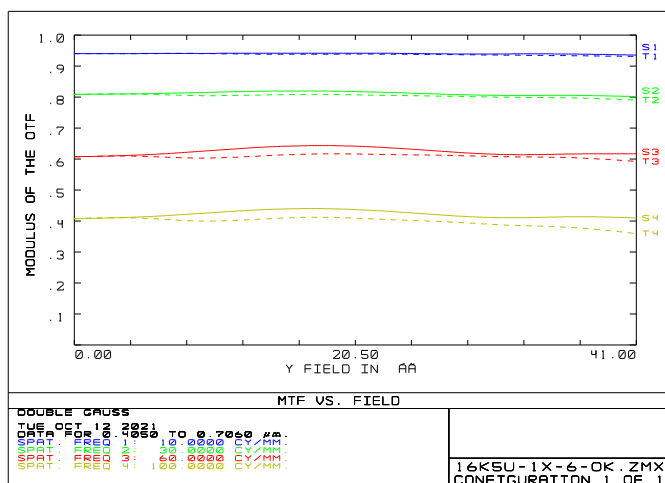
Parameter

Magnification (β)	Conjugate distance (I/O) (mm)	Working distance (mm)	Lens length (mm)	Field of view (mm)		
				φ 43. 27	φ57	φ80
0.92x	443.10	198.40	232.70	47.00	62.00	87.00
0.94x	442.70	195.80	235.00	46.00	60.60	85.10
0.96x	442.50	193.20	237.30	45.10	59.40	83.30
0.98x	442.40	190.10	239.00	44.20	58.20	81.60
1.00x	442.30	188.40	241.90	43.30	57.00	80.00
1.02x	442.30	186.20	244.10	42.40	55.90	78.40
1.04x	432.50	184.00	246.50	41.60	54.80	76.90
1.06x	431.70	181.90	248.80	40.80	53.80	75.50
1.08x	422.90	179.80	251.20	40.10	52.80	74.10

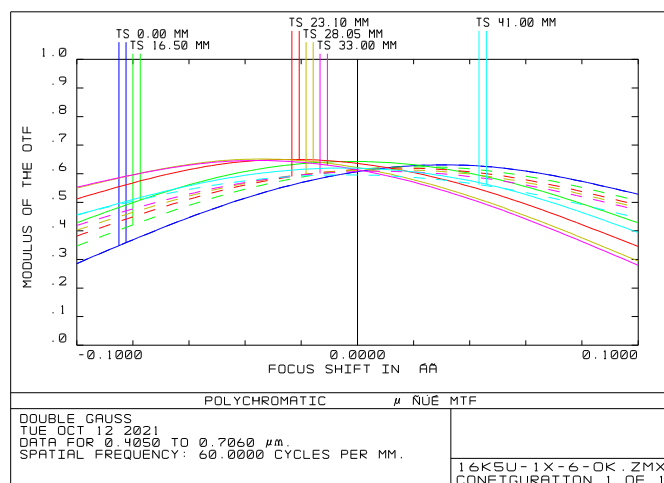
Dimensions(mm)



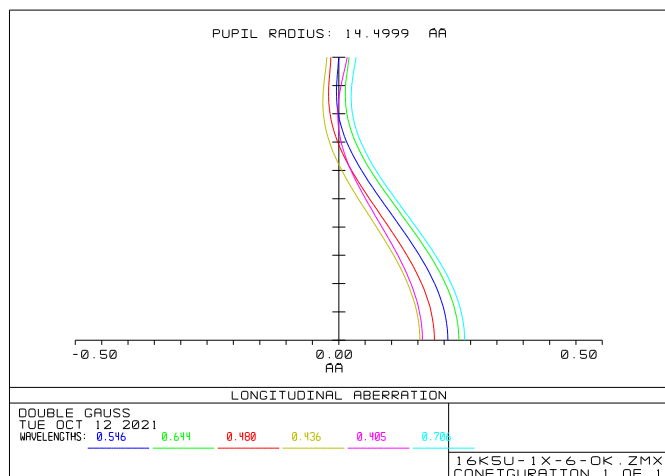
MTF VS Field 1.00X F4.0



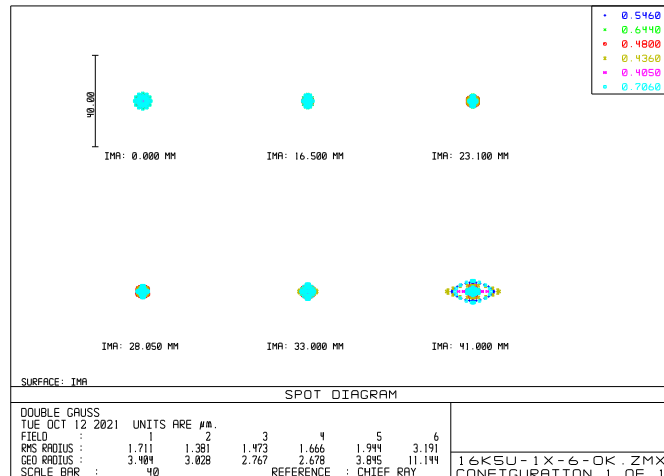
MTF VS Through Focus



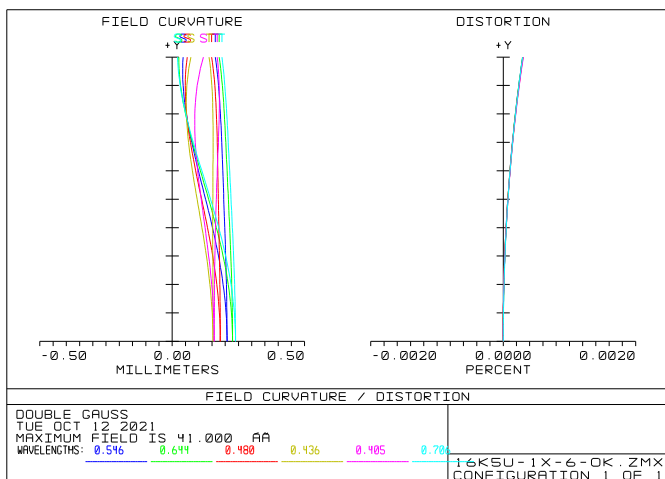
Axial color



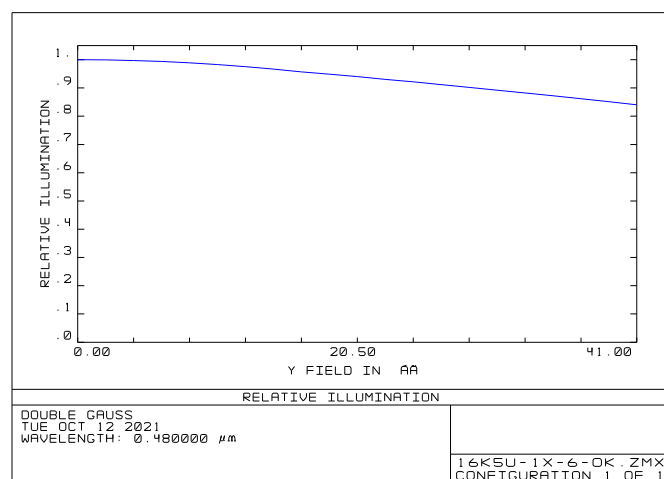
Spot Diagram



Distortion



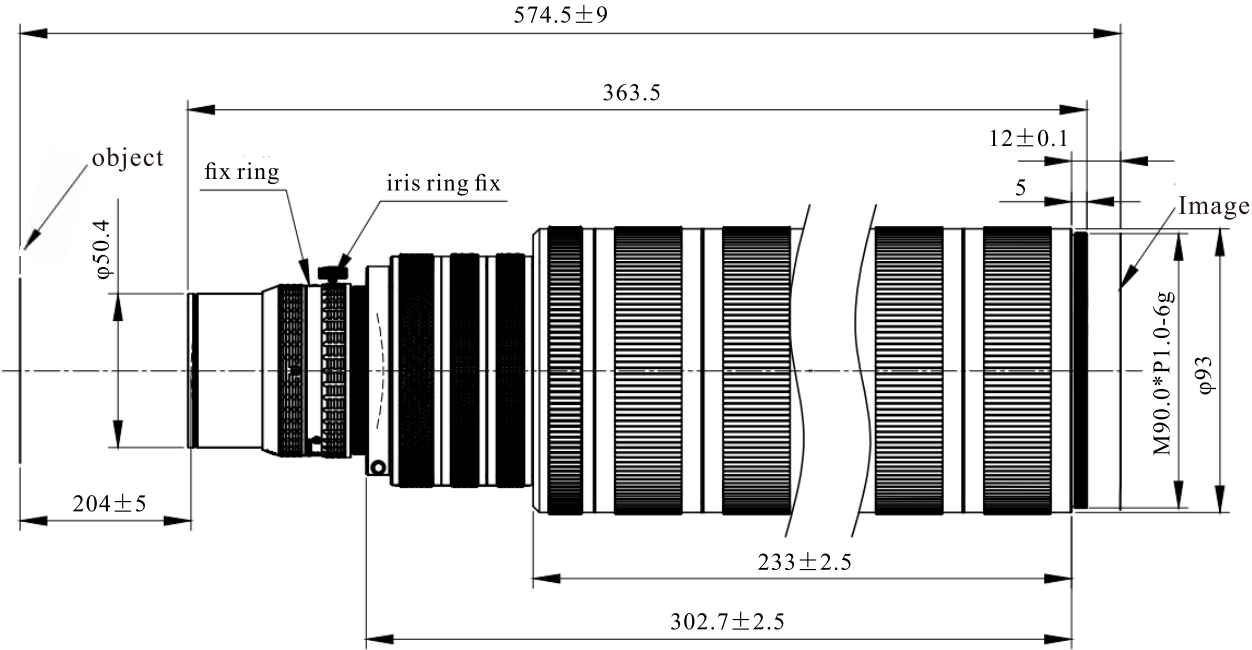
Relative Illumination



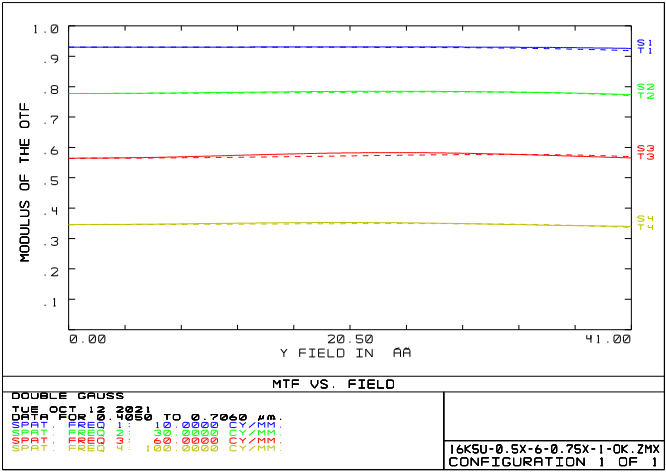
Parameter

Magnification (β)	Conjugate distance (I/O) (mm)	Working distance (mm)	Lens length (mm)	Field of view (mm)		
				φ 43. 27	φ57	φ80
1.20x	567.20	216.00	239.30	36.10	47.50	66.70
1.23x	568.80	213.50	343.00	35.20	46.30	65.00
1.26x	570.10	210.50	347.60	34.30	45.20	63.50
1.30x	572.40	207.00	353.30	33.30	43.80	61.50
1.33x	574.50	204.00	358.40	32.50	42.90	60.20
1.36x	576.20	202.00	362.20	31.80	41.90	58.80
1.40x	578.90	199.00	367.90	30.90	40.70	57.10
1.45x	582.60	195.40	375.20	29.80	39.30	55.20
1.50x	586.50	192.00	382.60	28.80	38.00	53.30

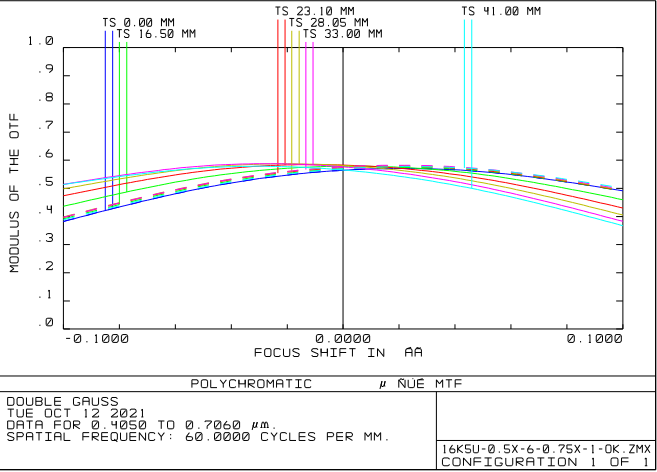
Dimensions(mm)



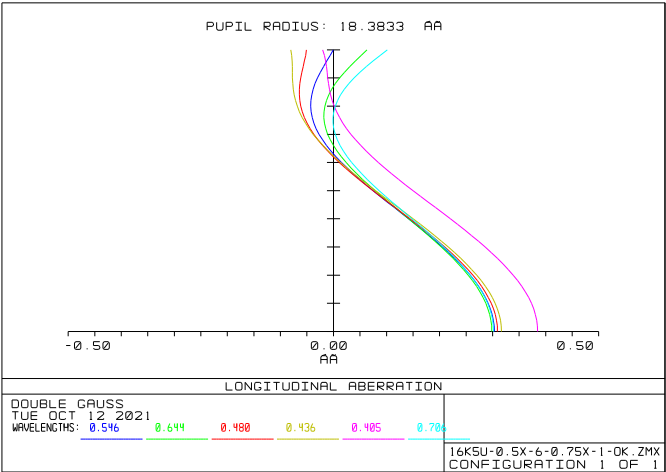
MTF VS Field 1.33X F4.0



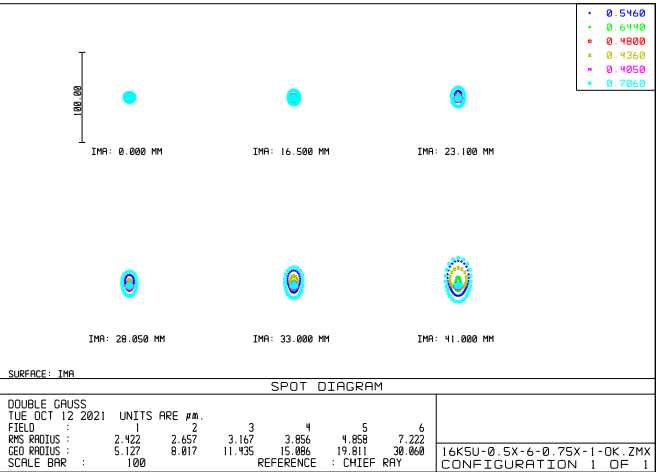
MTF VS Through Focus



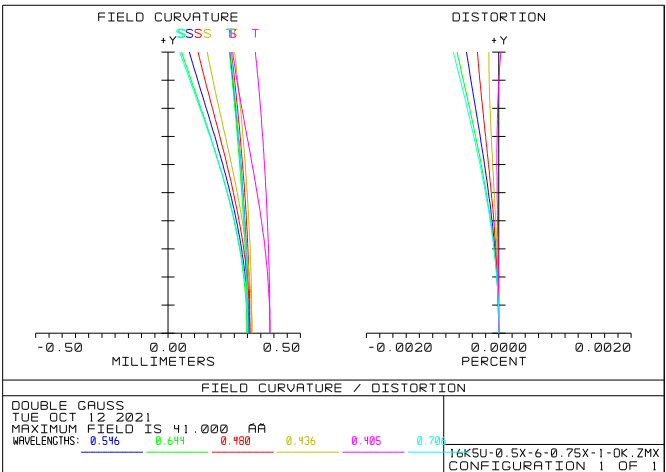
Axial color



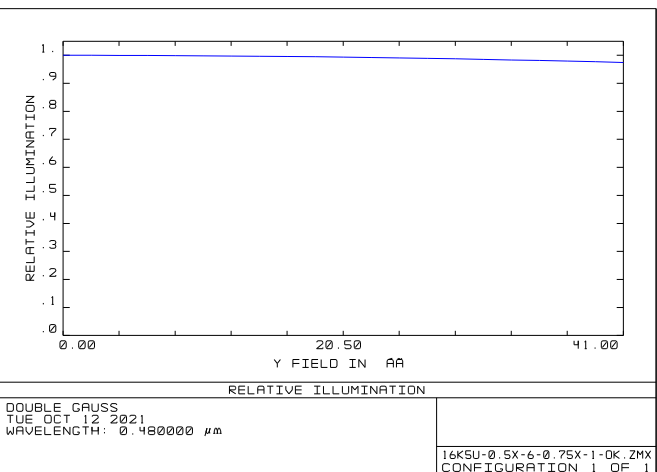
Spot Diagram



Distortion



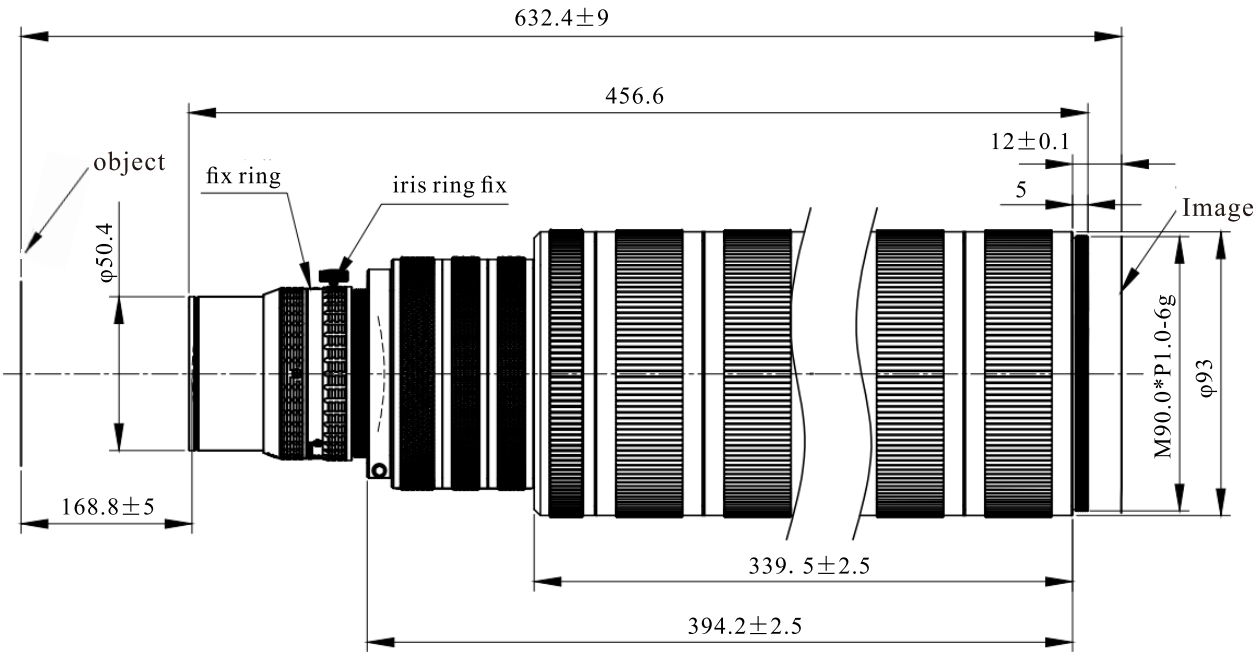
Relative Illumination



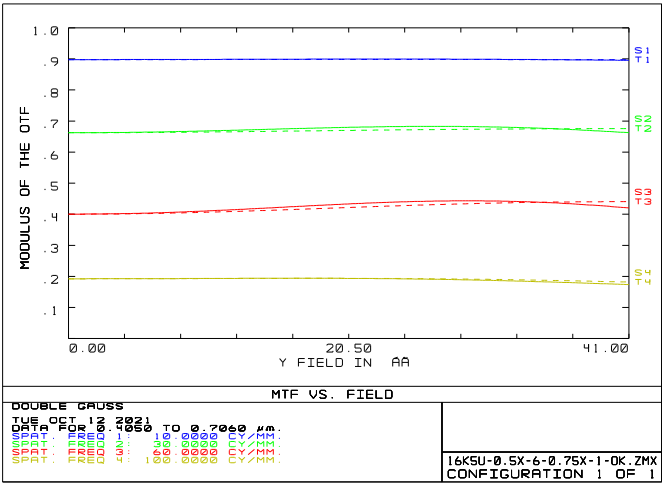
Parameter

Magnification (β)	Conjugate distance (I/O) (mm)	Working distance (mm)	Lens length (mm)	Field of view (mm)		
				φ 43. 27	φ57	φ80
1.75x	606.10	179.30	414.50	24.70	32.60	45.70
1.80x	610.80	177.00	421.80	24.00	31.70	44.40
1.90x	621.60	172.50	437.10	22.80	30.00	42.10
2.00x	632.40	168.80	451.20	21.60	28.50	40.00
2.10x	642.50	165.50	465.00	20.60	27.10	38.10
2.20x	655.20	162.00	481.20	19.70	25.90	36.40
2.25x	690.40	154.30	523.60	19.20	25.30	35.60

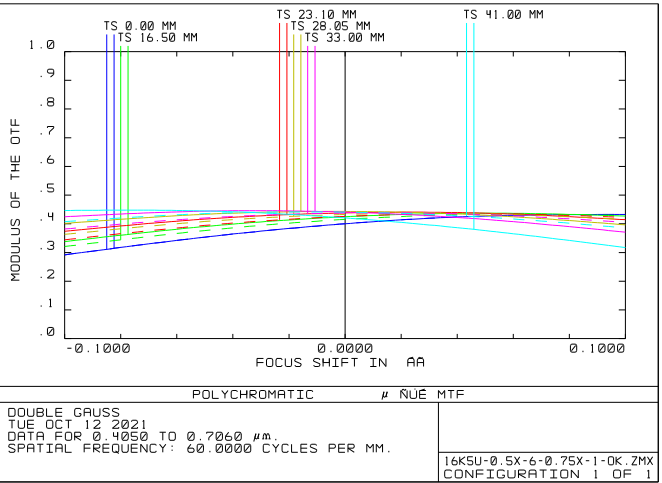
Dimensions(mm)



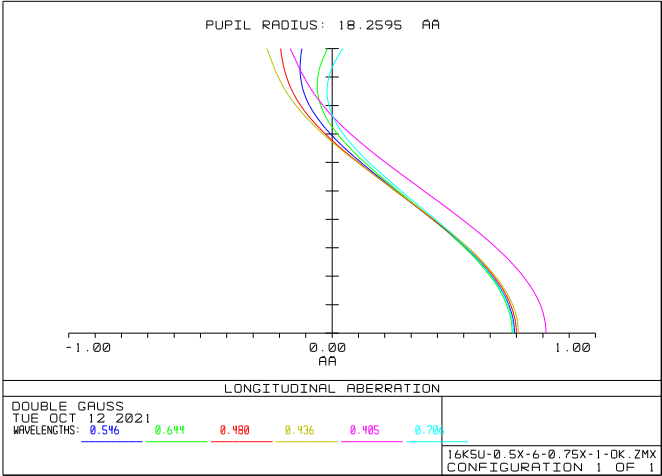
MTF VS Field 2.00X F4.0



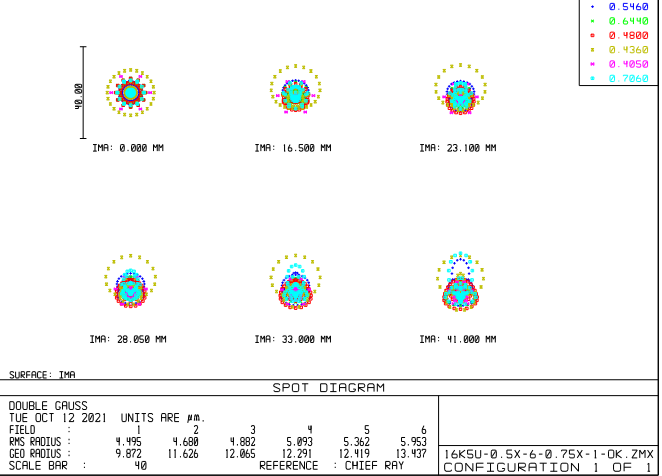
MTF VS Through Focus



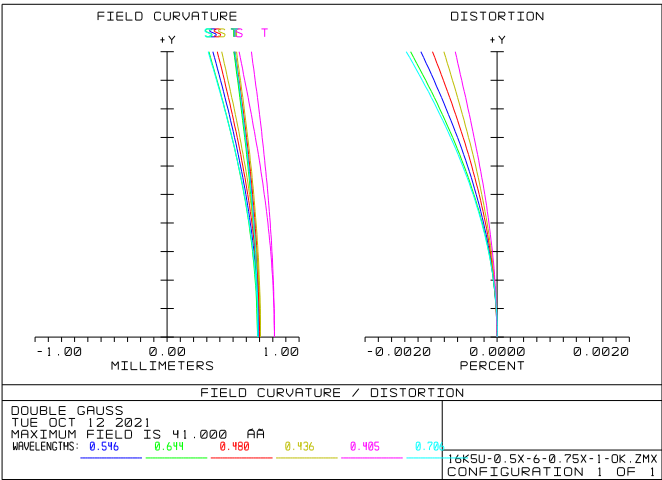
Axial color



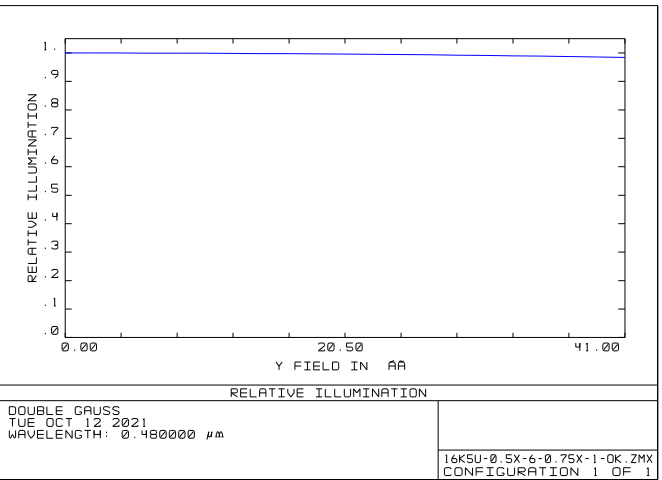
Spot Diagram



Distortion



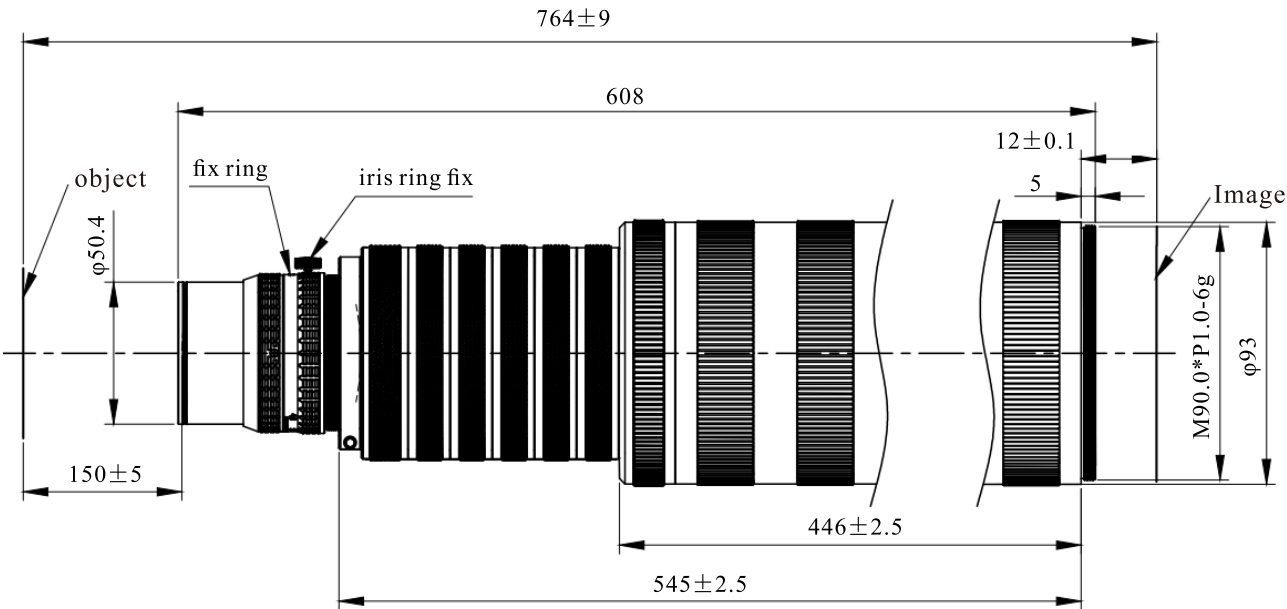
Relative Illumination



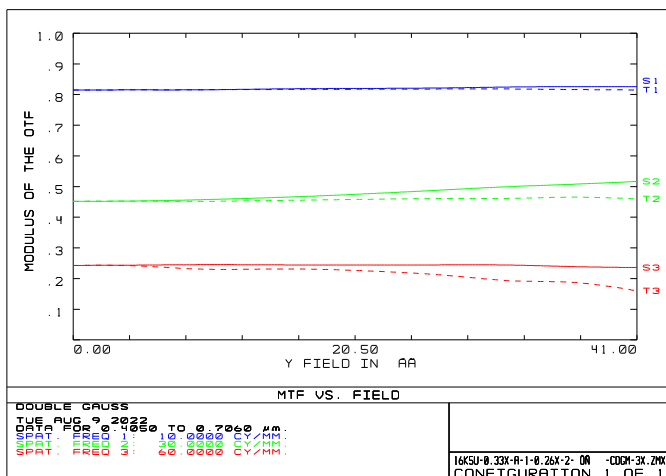
Parameter

Magnification (β)	Conjugate distance (I/O) (mm)	Working distance (mm)	Lens length (mm)	Field of view (mm)		
				φ 43. 27	φ57	φ80
2.70x	717.00	157.00	548.00	16.00	21.10	29.60
2.80x	732.60	153.60	567.00	15.50	20.40	28.60
2.90x	744.00	152.00	580.00	14.90	19.70	27.60
3.00x	764.00	150.00	602.00	14.40	19.00	26.70
3.10x	776.00	148.00	616.00	14.00	18.40	25.80
3.20x	785.00	147.00	626.00	13.50	17.80	25.00
3.30x	800.00	145.50	642.50	13.10	17.30	24.20
3.40x	810.00	144.50	653.50	12.70	16.80	23.50
3.50x	826.00	144.00	670.00	12.40	16.30	22.90

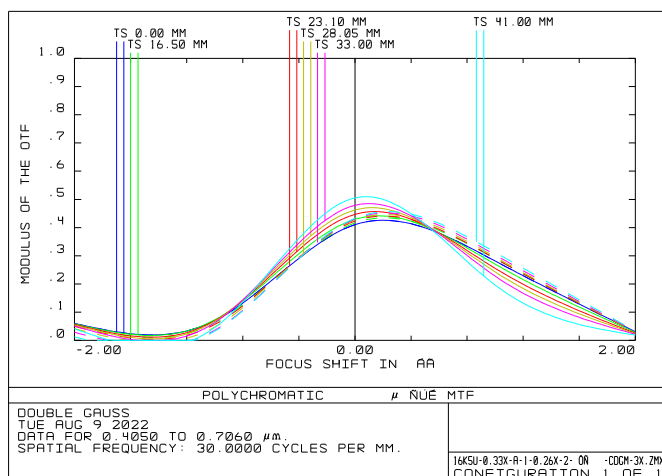
Dimensions(mm)



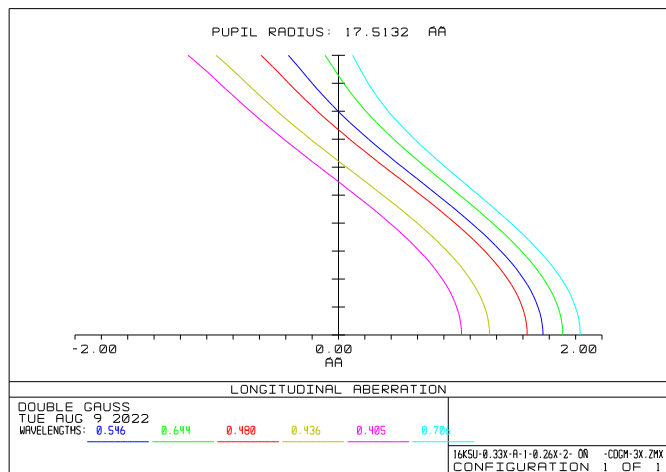
MTF VS Field 3.00X F4.0



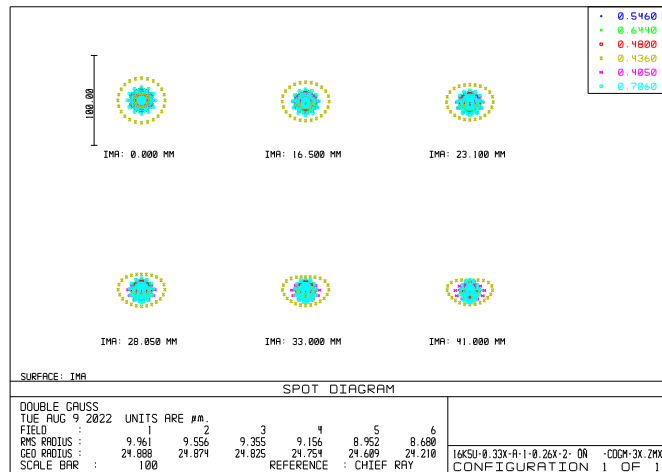
MTF VS Through Focus



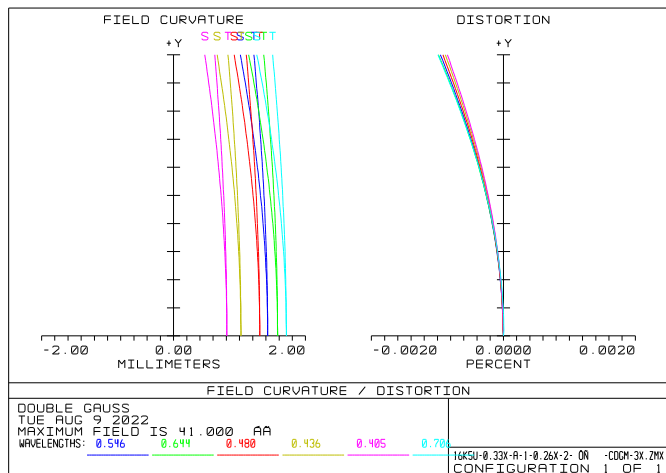
Axial color



Spot Diagram



Distortion



Relative Illumination

