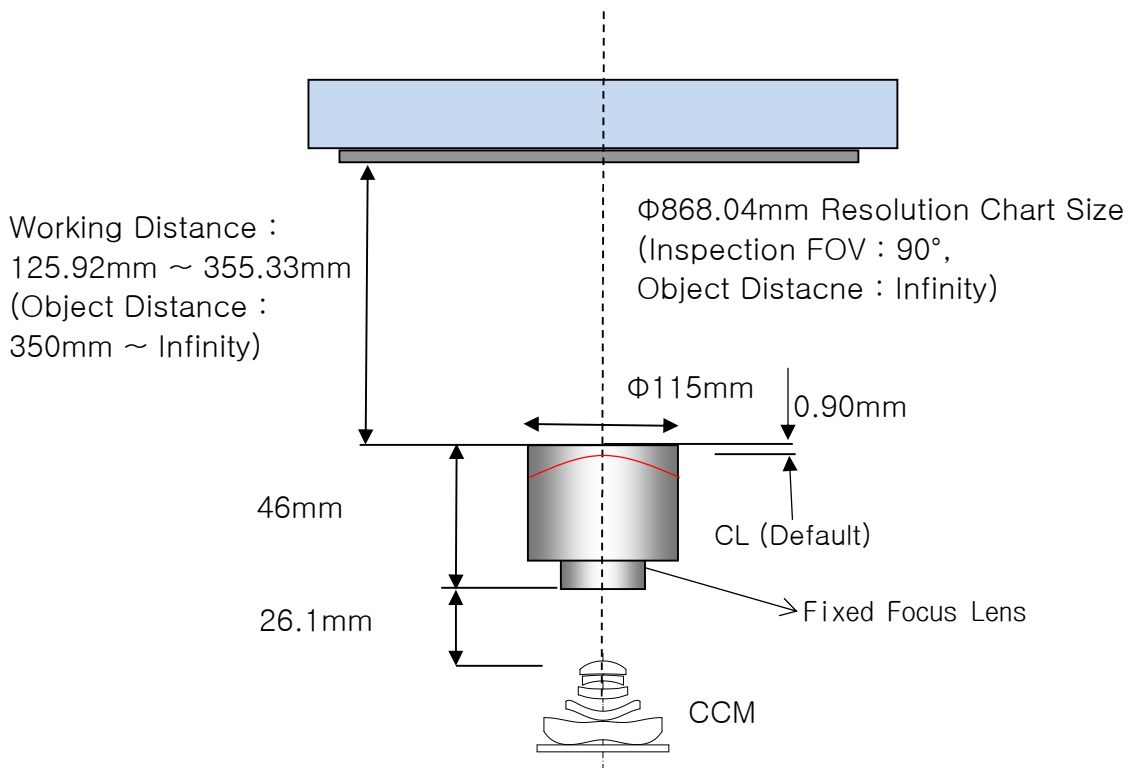


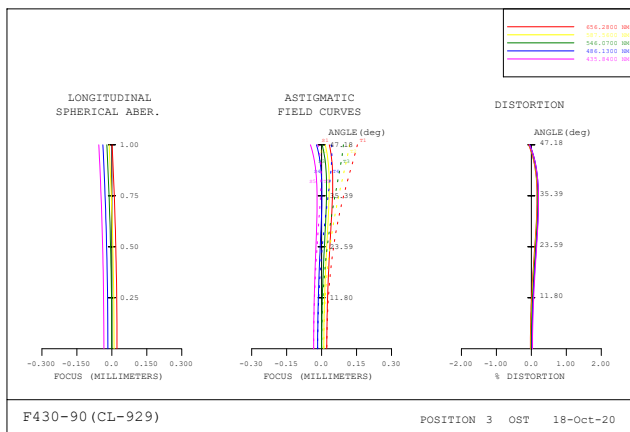
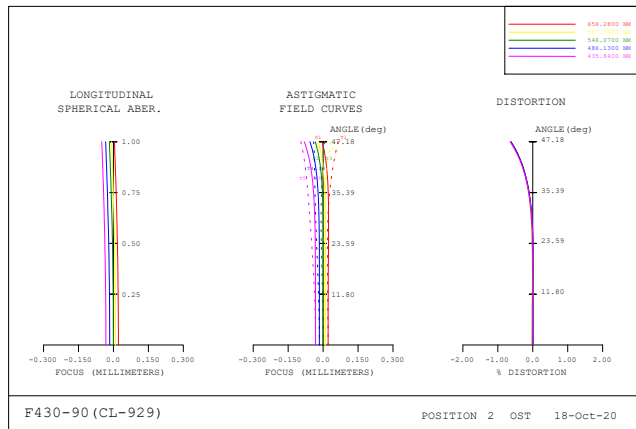
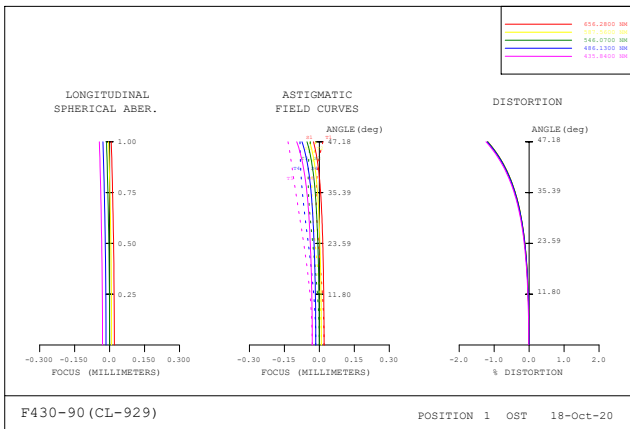
CL-929(F430-90) Collimating Lens Spec.

2021-07-28
OneStone

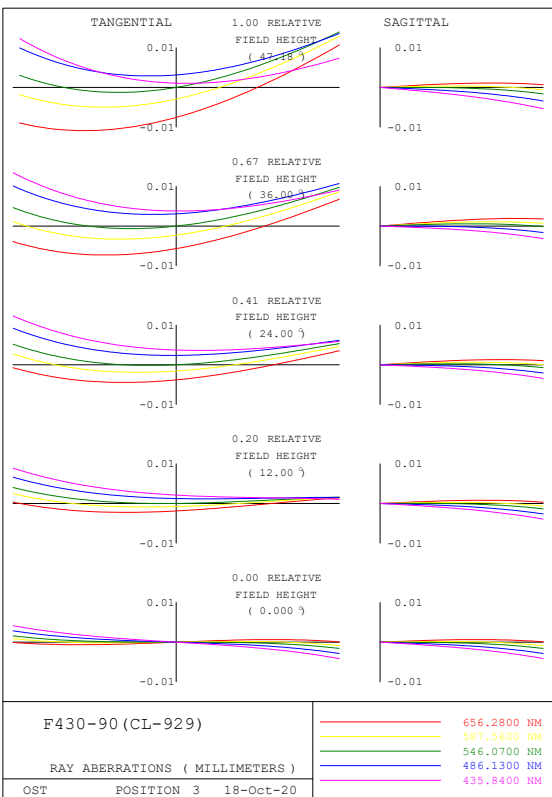
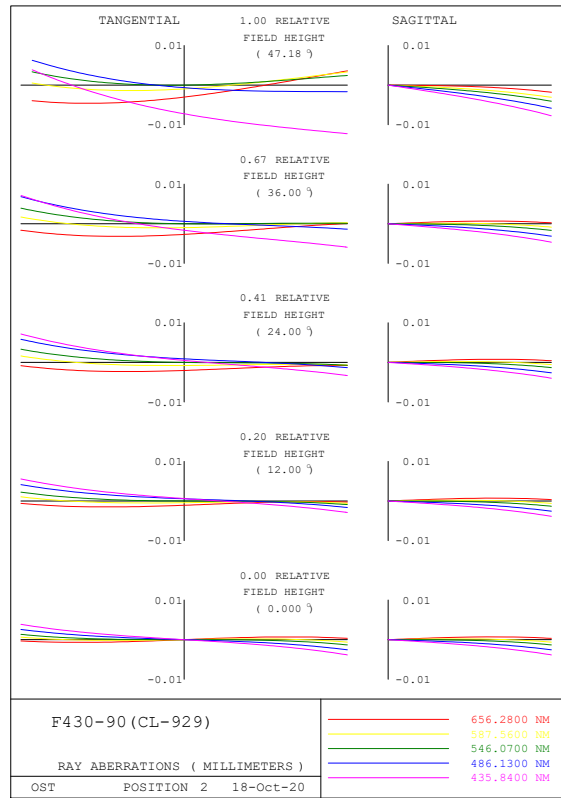
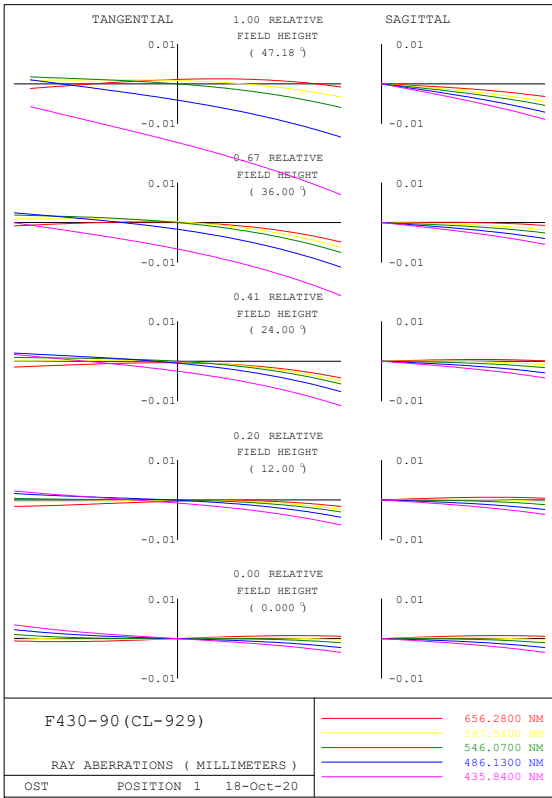
Model name	CL-929 (Designed by OneStone)	
Characteristic of CL-929	Fixed Focus Lens A Convenient Lens	
EFL	428.7mm	
Inspectable FOV of CCM	90°	
Ass'y Size	Φ115.0mm X L46.0mm, 0.00kg	
Exit Pupil Size	Φ5.0mm	
Exit Pupil Position	28.8mm (from Vertex of CL's last lens to CCM)	
Working Distace		
(from CL 1st Lens R1 surface to Chart)	355.33mm	at Object Distance Infinity
	125.92mm	at Object Distance 0.35m



Optical Performance of CL-929(F430-90) Lens (Infinity, 1m, 0.5m at 90°)



Optical Performance of CL-929(F430-90) Lens (Infinity, 1m, 0.5m at 90°)

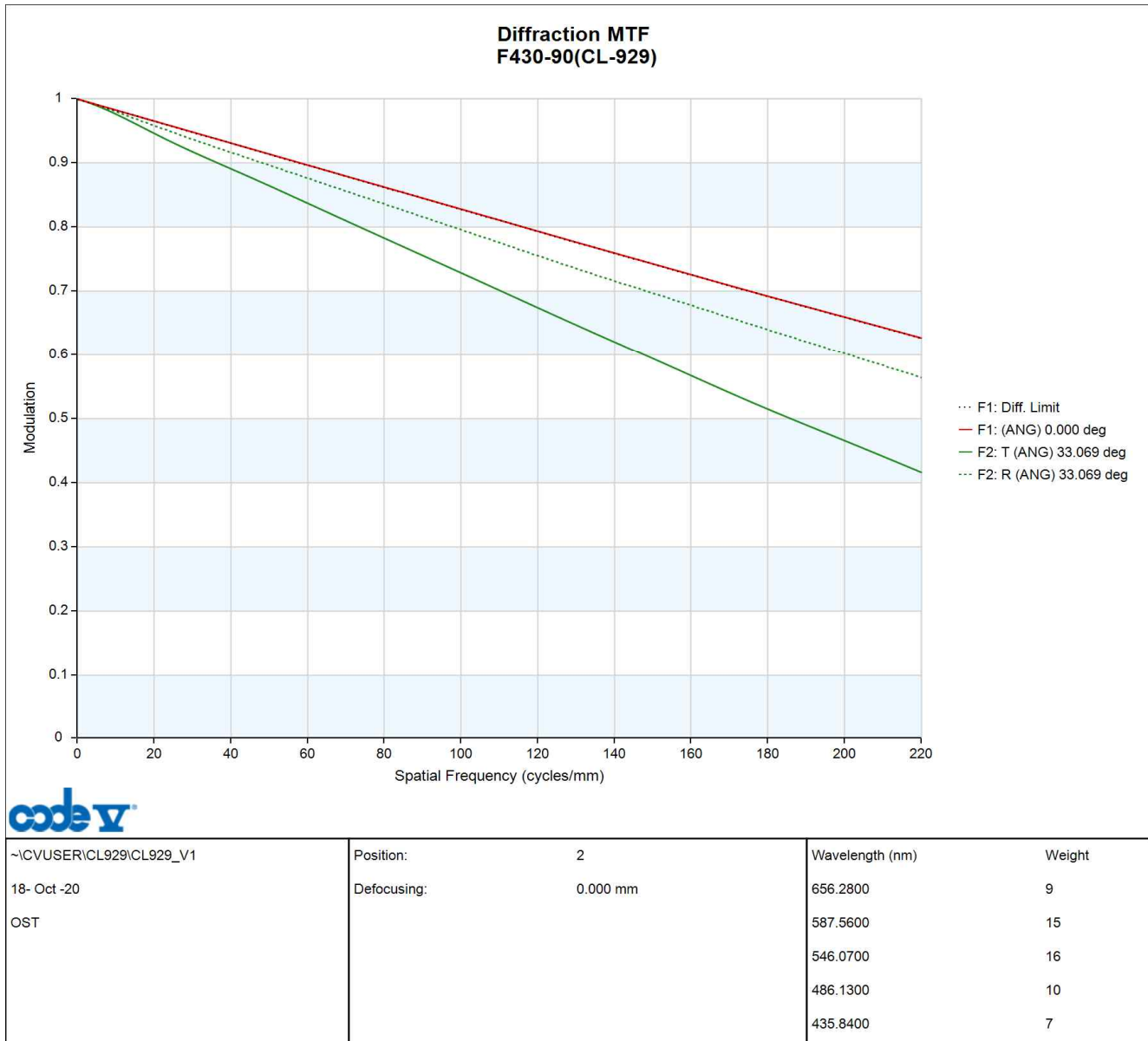


MTF Analysis for FOV 89.5° Lens of A-Company

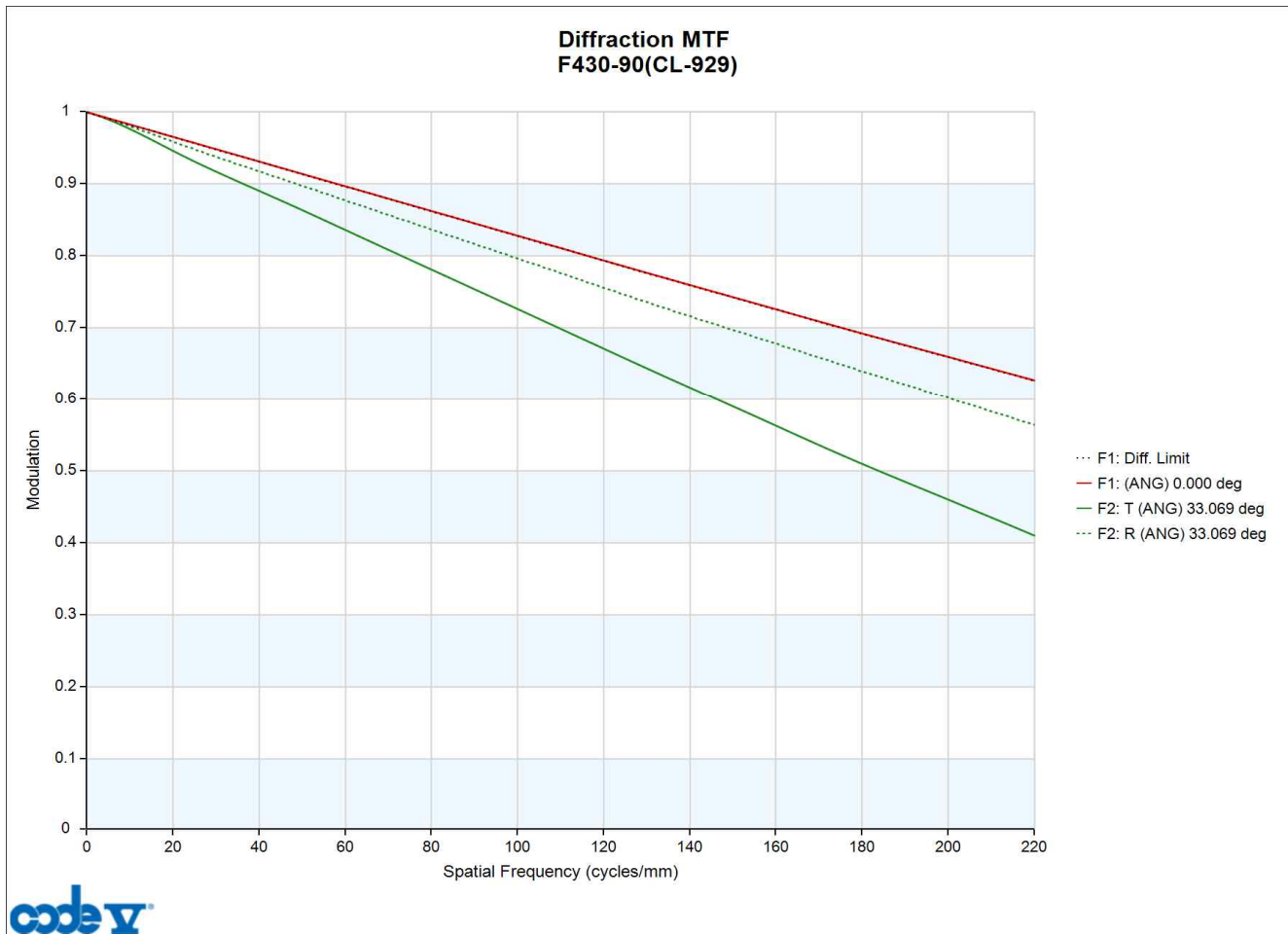
e_{fl} = 1.22mm F_{no} = 2.45

EPD = 0.498mm (= e_{fl}/F_{no})

Object Distance : 1m (Center, 0.7F)



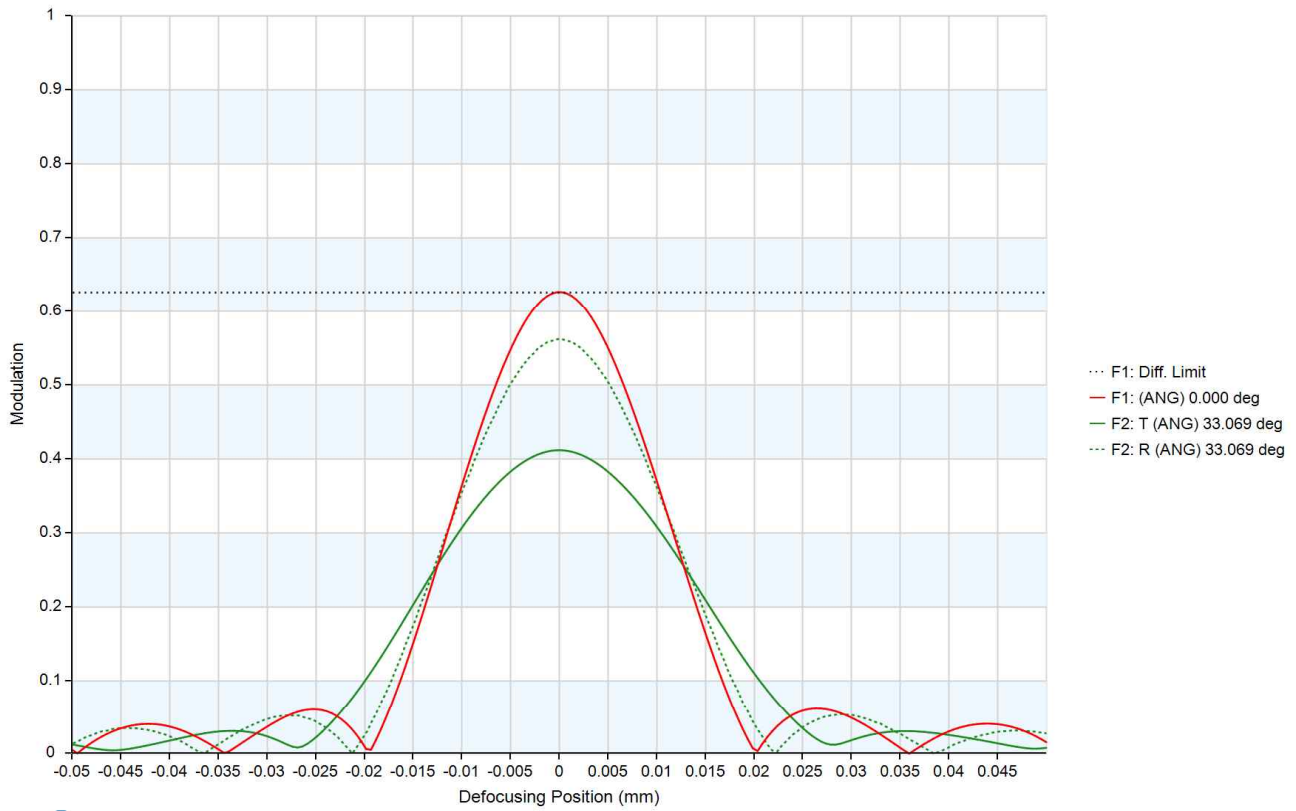
Object Distance : 0.5m (Center, 0.7F)



~\CVUSER\CL929\CL929_V1 18-Oct-20 OST	Position:	3	Wavelength (nm)	Weight
	Defocusing:	0.000 mm	656.2800	9
			587.5600	15
			546.0700	16
			486.1300	10
			435.8400	7

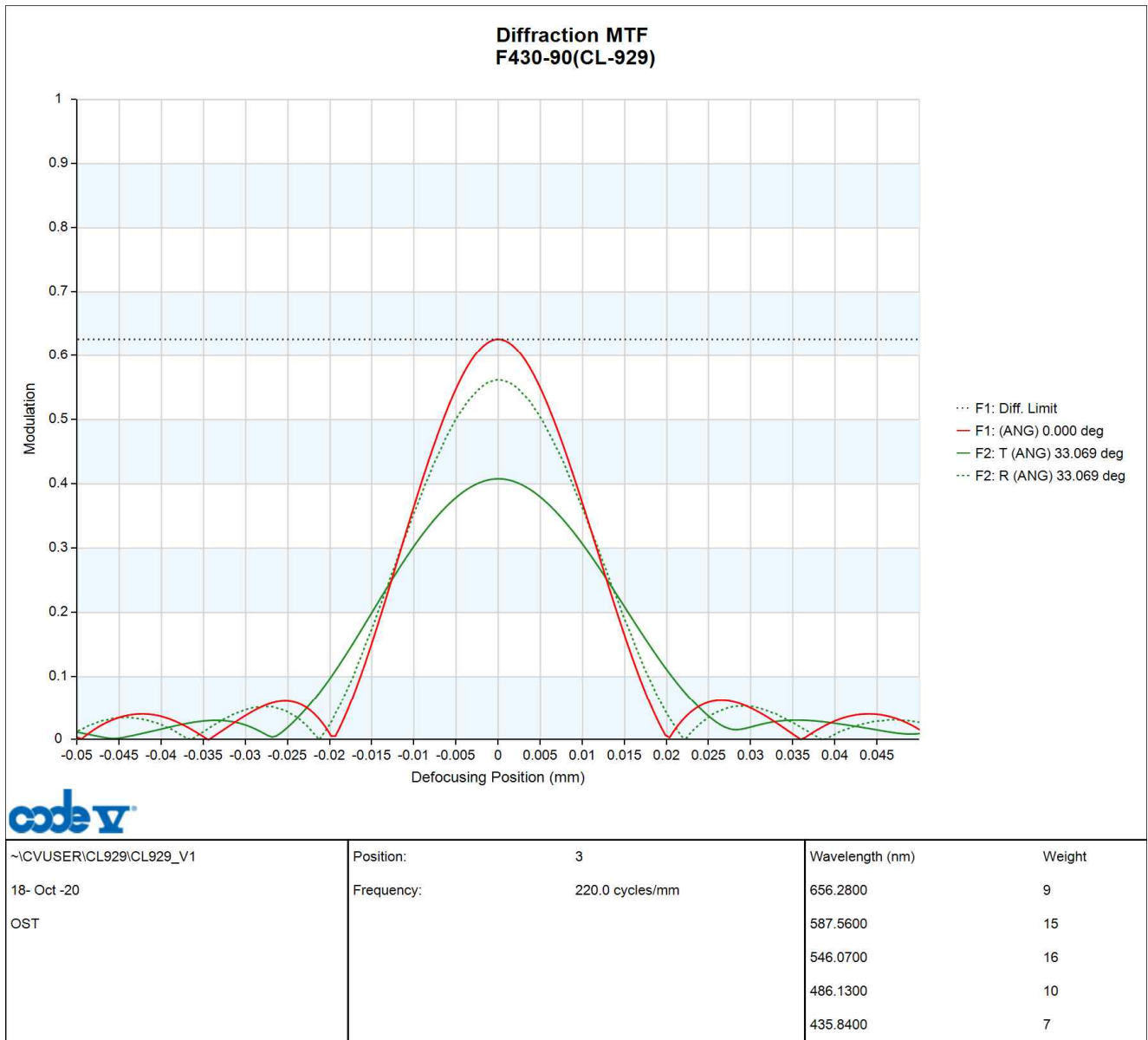
Object Distance : 1m (Center, 0.7F)

**Diffraction MTF
F430-90(CL-929)**

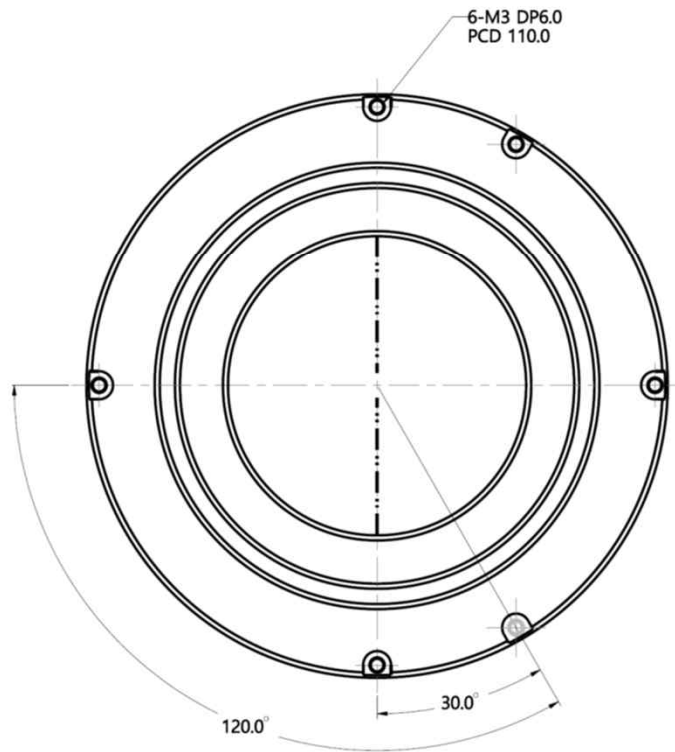
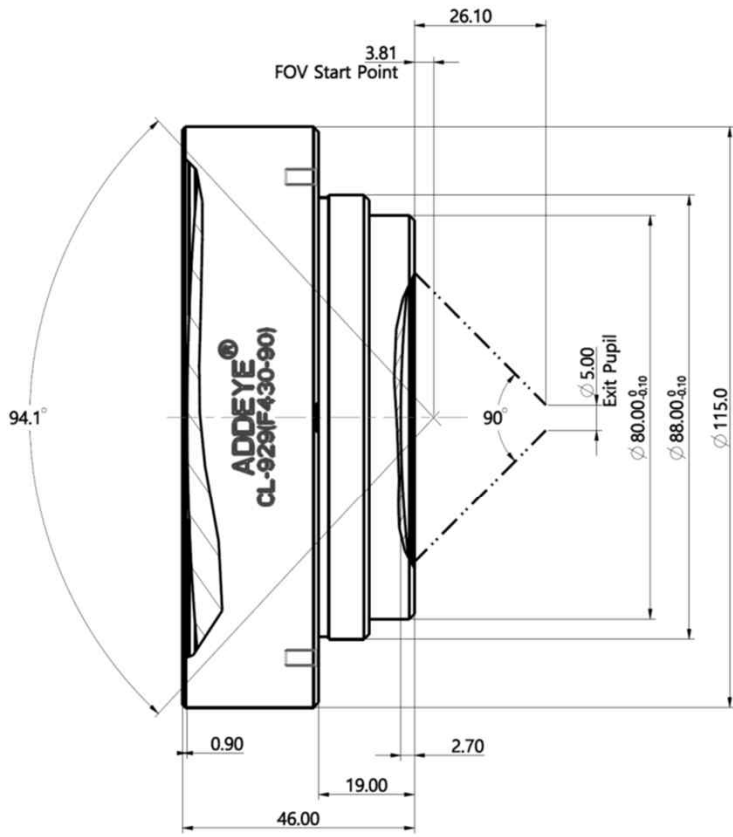


~\CVUSER\CL929\CL929_V1 18- Oct -20 OST	Position:	2	Wavelength (nm)	Weight
	Frequency:	220.0 cycles/mm	656.2800	9
			587.5600	15
			546.0700	16
			486.1300	10
		435.8400	7	

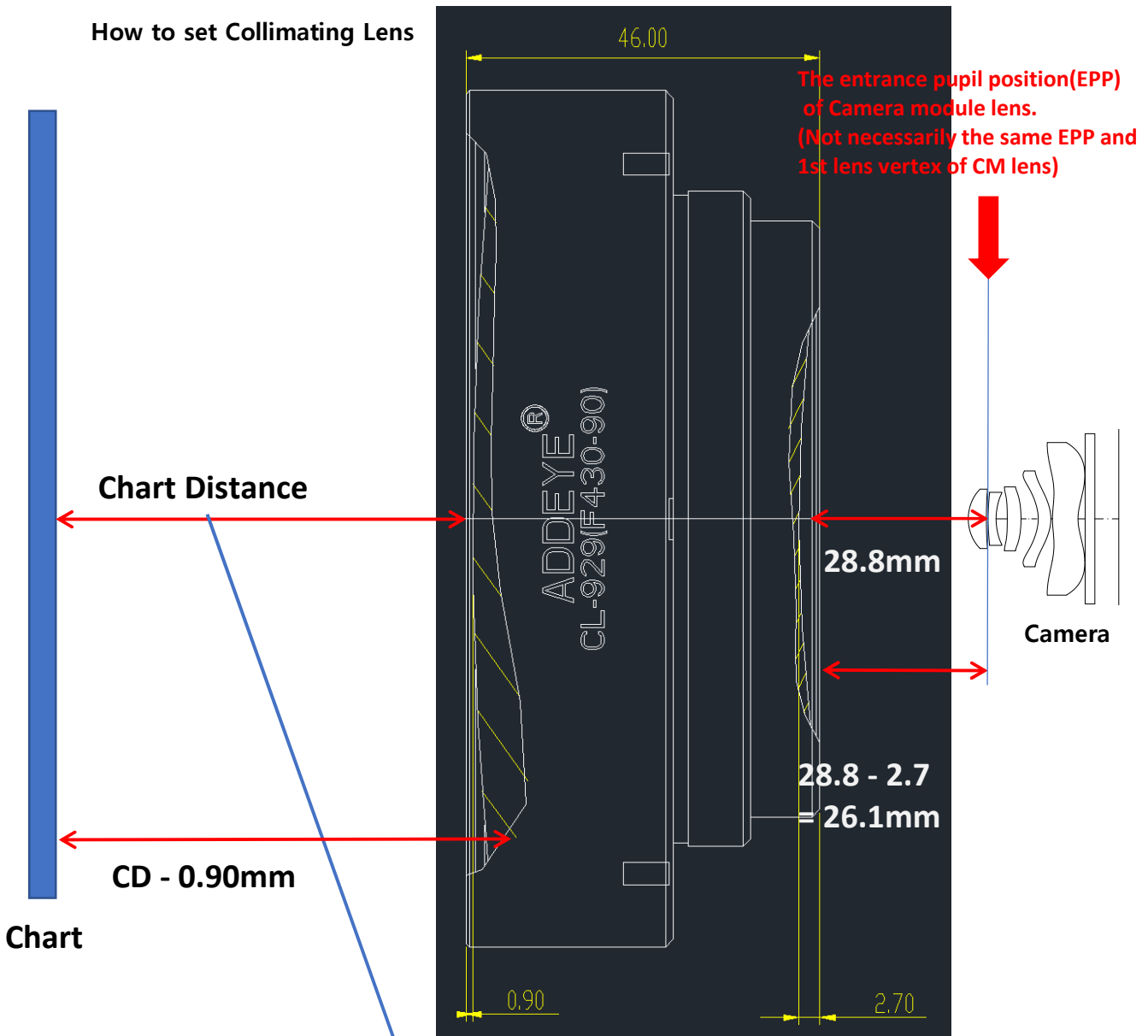
Object Distance : 0.5m (Center, 0.7F)



CL929(F430-90) Outer Mechanical Drawings



How to set Collimating Lens



The chart size of CL-929(F430-90) : No Sub Lens

18-Oct-2020
OneStone

Object Distance(mm) : Real shooting distance with camera.

Chart Distance(mm) : Distance from 1st lens R1 vertex of CL to chart.

** This table is based on the FOV of camera lens.

The FOV of camera lens : 90.00

Object Distance (Object~PCM)	Sub Lens (recomanded)	Chart Distance (Chart~ CL vertex)	Chart Size(Dia)
1.00e+100	0.00D	355.33	868.04
5.00e+004	0.00D	351.69	860.17
4.00e+004	0.00D	350.78	858.23
3.70e+004	0.00D	350.42	857.44
3.00e+004	0.00D	349.29	855.00

The chart size of CL-929(F430-90) : No Sub Lens

18-Oct-2020
OneStone

Object Distance(mm) : Real shooting distance with camera.
Chart Distance(mm) : Distance from 1st lens R1 vertex of CL to chart.
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5.00e+004	0.00D	351.69	860.17
4.00e+004	0.00D	350.78	858.23
3.70e+004	0.00D	350.42	857.44
3.00e+004	0.00D	349.29	855.00
2.00e+004	0.00D	346.34	848.63
1.00e+004	0.00D	337.73	830.05
9.00e+003	0.00D	335.87	826.03
8.00e+003	0.00D	333.57	821.06
7.00e+003	0.00D	330.65	814.76
6.00e+003	0.00D	326.82	806.50
5.00e+003	0.00D	321.59	795.21
4.00e+003	0.00D	314.01	778.85
3.00e+003	0.00D	302.05	753.02
2.00e+003	0.00D	280.31	706.10
1.90e+003	0.00D	277.12	699.22
1.80e+003	0.00D	273.65	691.72
1.70e+003	0.00D	269.85	683.52
1.60e+003	0.00D	265.69	674.53
1.50e+003	0.00D	261.09	664.62
1.40e+003	0.00D	256.00	653.63
1.30e+003	0.00D	250.33	641.39
1.20e+003	0.00D	243.98	627.67
1.10e+003	0.00D	236.80	612.18
1.00e+003	0.00D	228.63	594.55
9.50e+002	0.00D	224.12	584.80
9.40e+002	0.00D	223.17	582.76
9.00e+002	0.00D	219.26	574.32
8.50e+002	0.00D	214.04	563.04
8.00e+002	0.00D	208.39	550.85
7.50e+002	0.00D	202.28	537.66
7.00e+002	0.00D	195.63	523.31
6.50e+002	0.00D	188.39	507.67
6.00e+002	0.00D	180.45	490.54
5.50e+002	0.00D	171.72	471.69
5.00e+002	0.00D	162.07	450.87
4.50e+002	0.00D	151.36	427.74
4.00e+002	0.00D	139.38	401.89
3.50e+002	0.00D	125.92	372.82

The chart size of CL-929(F430-90) : No Sub Lens

18-Oct-2020
OneStone

Object Distance(mm)	:	1.00e+003
Distance from Chart to CL(mm)	:	228.63
Distance from Chart to Exit-Pupil(mm)	:	299.83
The Type of Sub Lens	:	0.00D

** This table is based on the Object Distance of camera lens.

FOV of Camera Lens (degrees)	Chart Size(Diameter) (mm)
80.00	497.29
80.50	501.78
81.00	506.29
81.50	510.85
82.00	515.44
82.50	520.07
83.00	524.74
83.50	529.44
84.00	534.19
84.50	538.98
85.00	543.80
85.50	548.67
86.00	553.59
86.50	558.55
87.00	563.55
87.50	568.60
88.00	573.69
88.50	578.83
89.00	584.02
89.50	589.26
90.00	594.55

※ If CL is inserted : 1m inspection
Without CL : 30cm inspection

Lens Pictures

