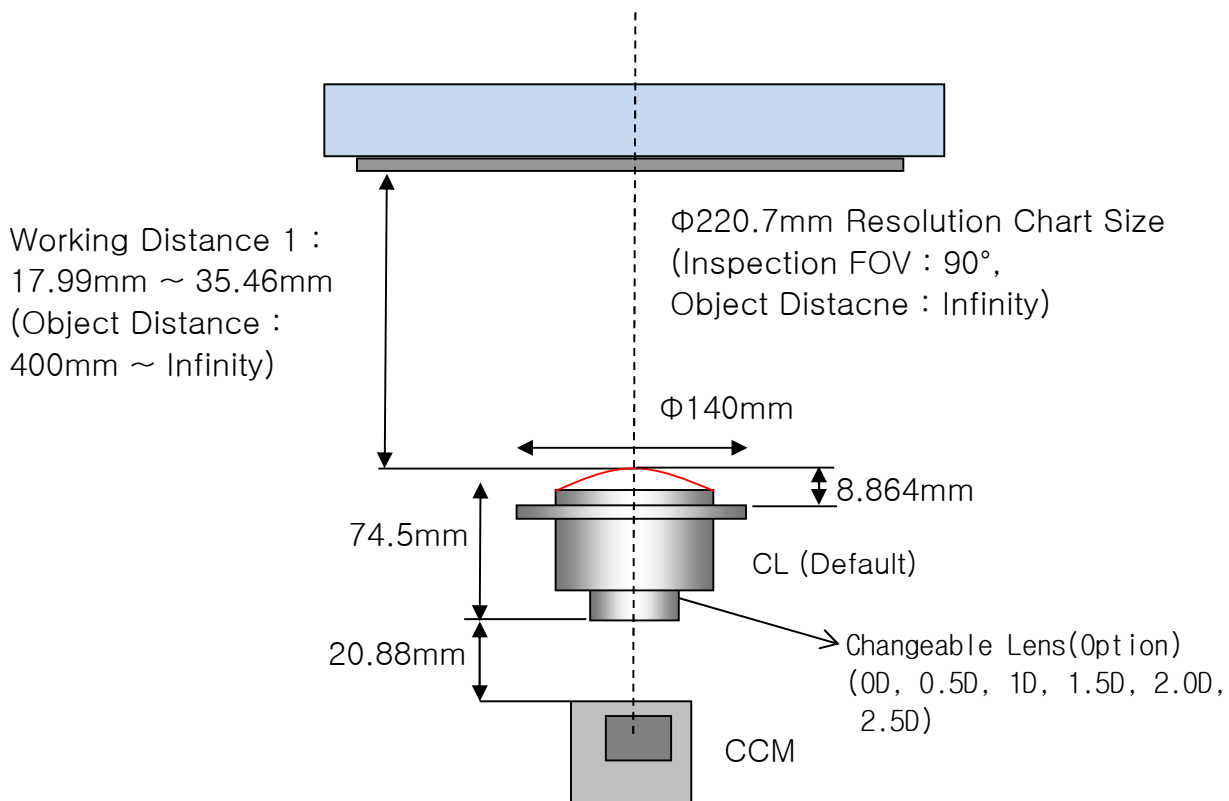


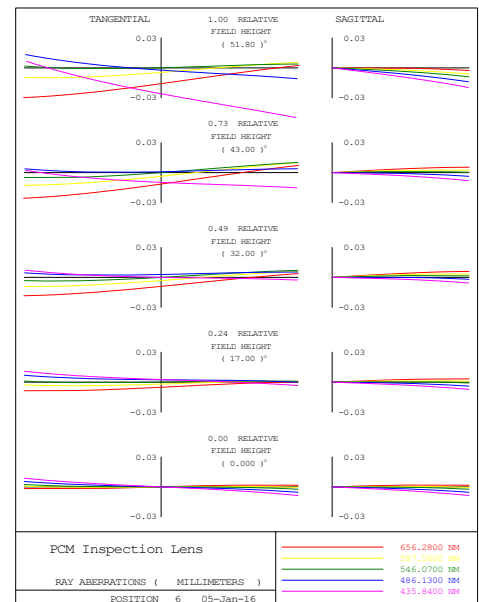
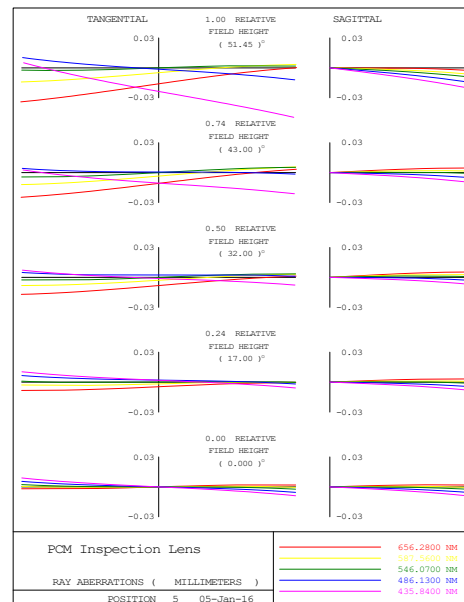
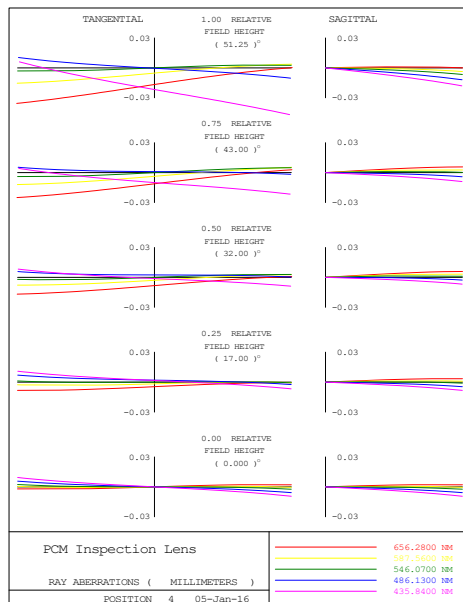
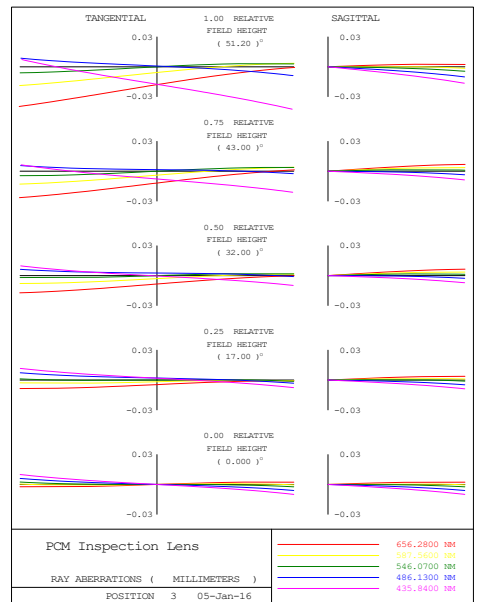
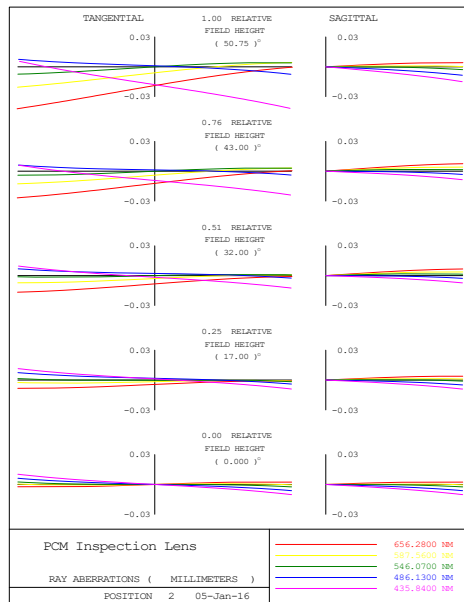
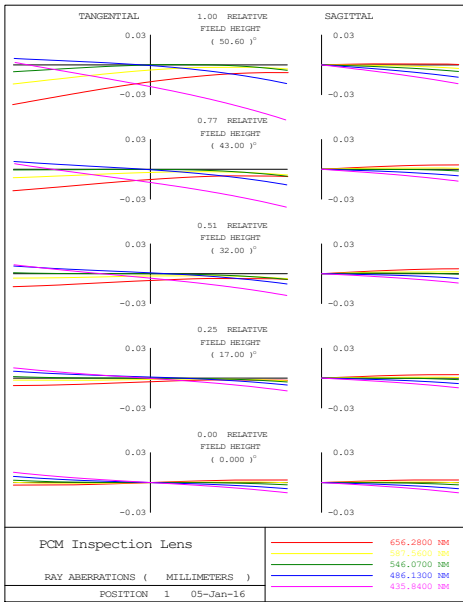
CL-924C Collimator Lens Spec.

2020-03-11
OneStone

Model name	CL-924C (Designed by OneStone)
Characteristic of CL-924C	Changeable Lens
Main Lens	CL-924C (Main)
Sub Lens Sets	CL-924C (Sub 0.0D), CL-924C (Sub 0.5D) CL-924C (Sub 1.0D), CL-924C (Sub 1.5D) CL-924C (Sub 2.0D), CL-924C (Sub 2.5D)
Main plus each Sub set	ex) CL-924C (Main+Sub 0.0D)
EFL	110.5 ~ 129.1mm (Average 120mm)
Inspectable FOV of CCM	90°
Ass'y Size	Φ140mm X L74.5mm
Exit Pupil Size	Φ4.0mm
Exit Pupil Position	24.0mm (from Vertex of CL CCM side to CCM)
Working Distace 1 (from CL 1st Lens R1 surface to Chart)	35.46mm at Object Distance Infinity (0D) 17.99mm at Object Distance 0.4m (2.5D)



Optical Performance of CL-924C Lens (Infinity, 2m, 1m, 0.66m, 0.5m, 0.4m at 90°)



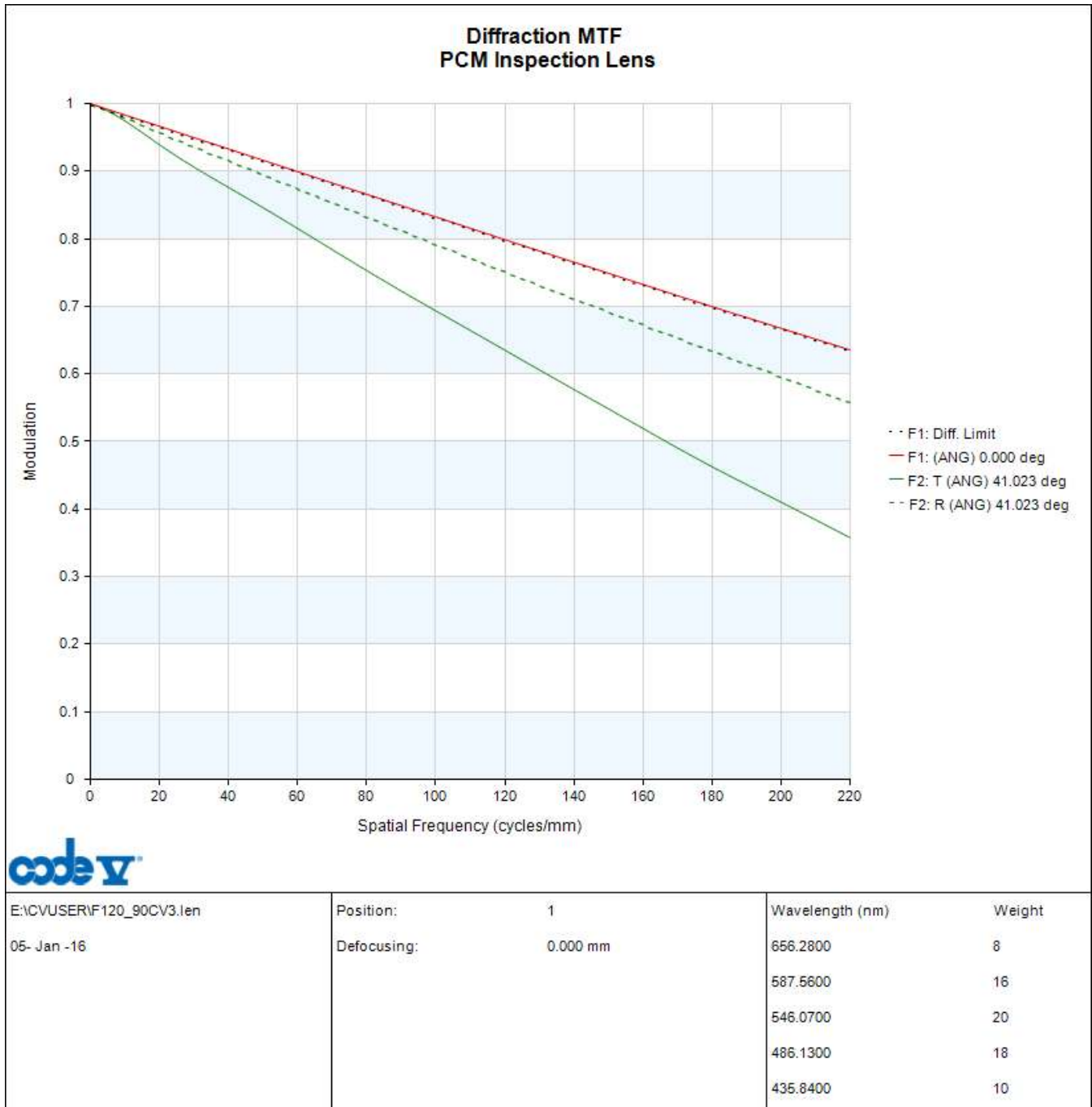
Longitudinal Chromatic Aberration : less than 0.03D
 Lateral Chromatic Aberration : less than 0.18D

MTF Analysis for FOV 89.5° Lens of A-Company

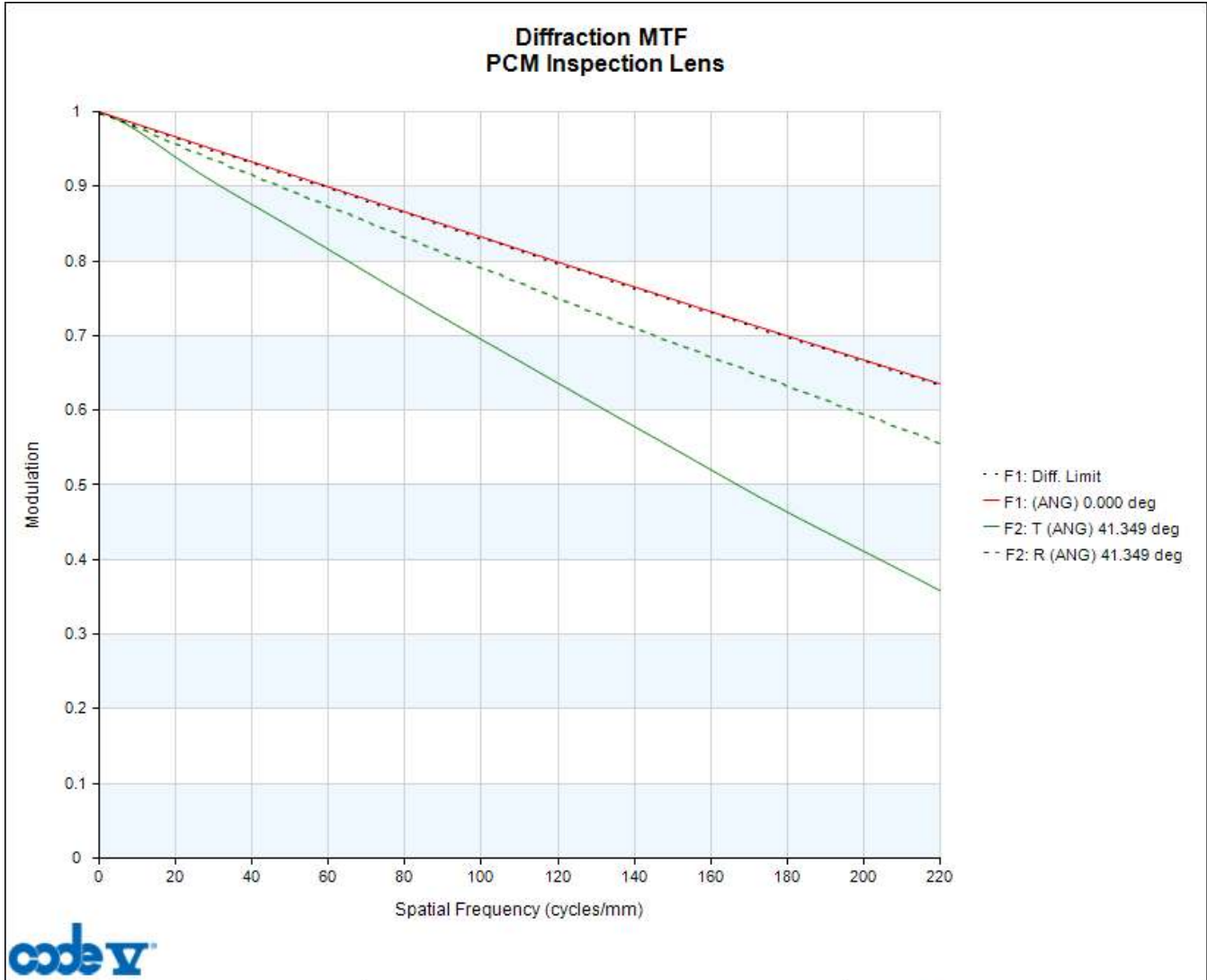
e_fl = 1.22mm F_no = 2.45

EPD = 0.498mm (= e_fl/F_no)

Object Distance : 1m (Center, 0.7F)



Object Distance : 0.5m (Center, 0.7F)



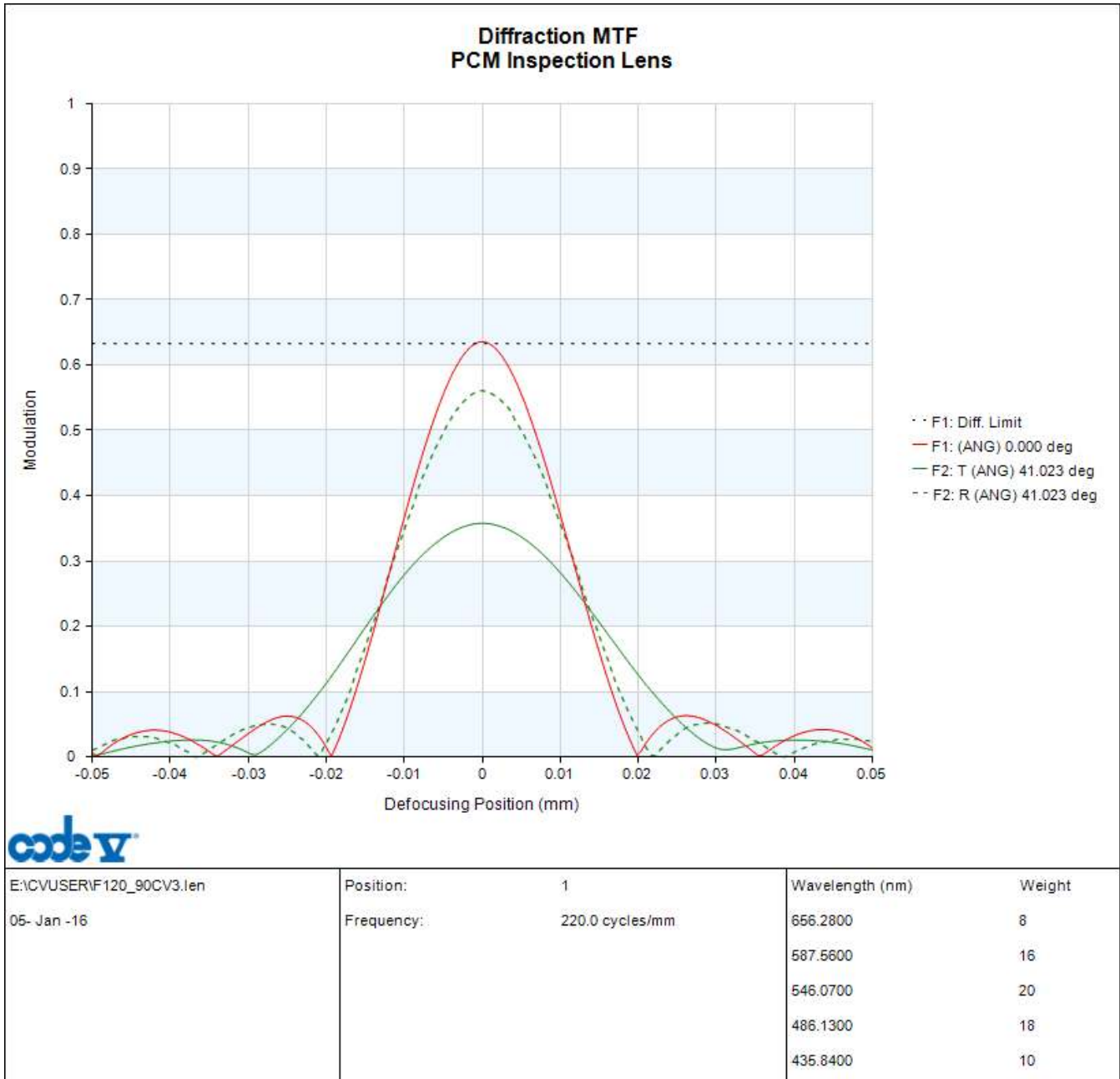
E:\CVUSER\F120_90CV3.len

05- Jan -16

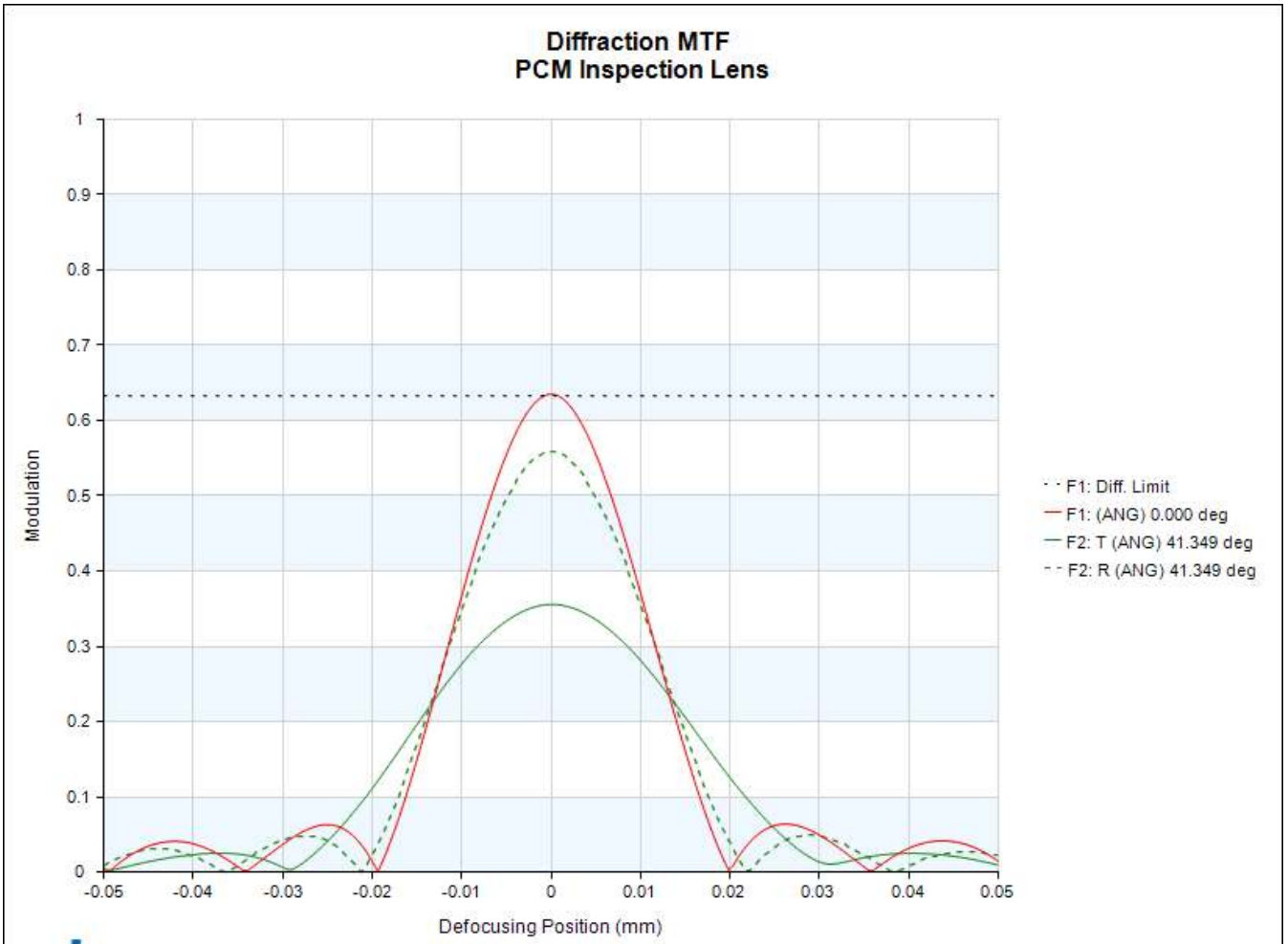
Position: 2
Defocusing: 0.000 mm

Wavelength (nm)	Weight
656.2800	8
587.5600	16
546.0700	20
486.1300	18
435.8400	10

Object Distance : 1m (Center, 0.7F)

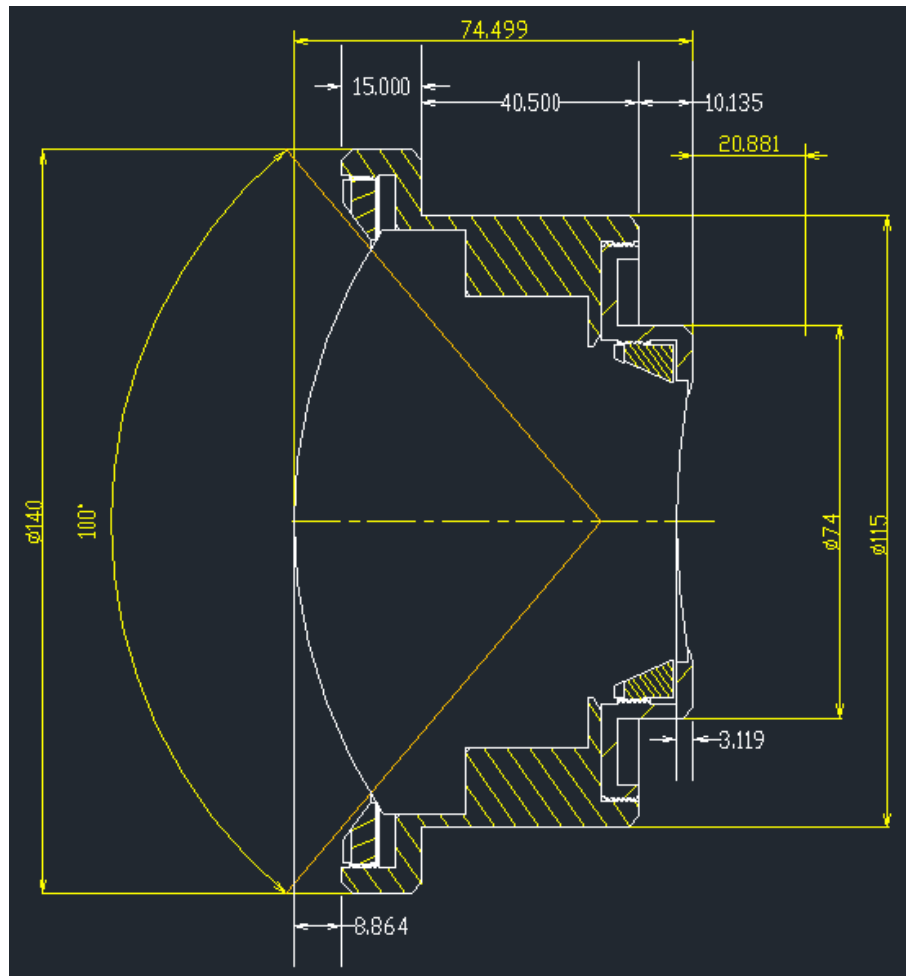
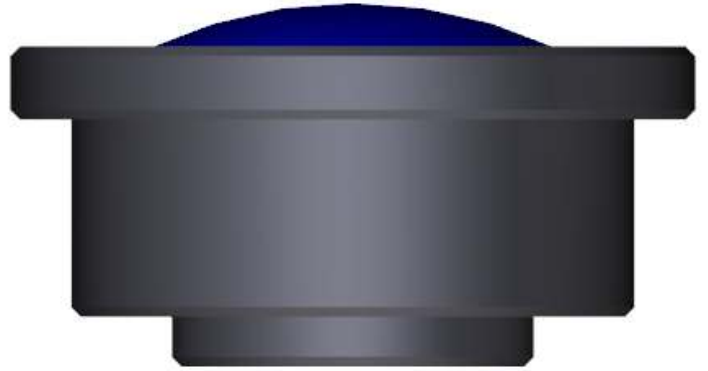


Object Distance : 0.5m (Center, 0.7F)



E:\CVUSER\F120_90CV3.len	Position: 2	Wavelength (nm)	Weight
05- Jan -16	Frequency: 220.0 cycles/mm	656.2800	8
		587.5600	16
		546.0700	20
		486.1300	18
		435.8400	10

CL-924C Outer Mechanical Drawings



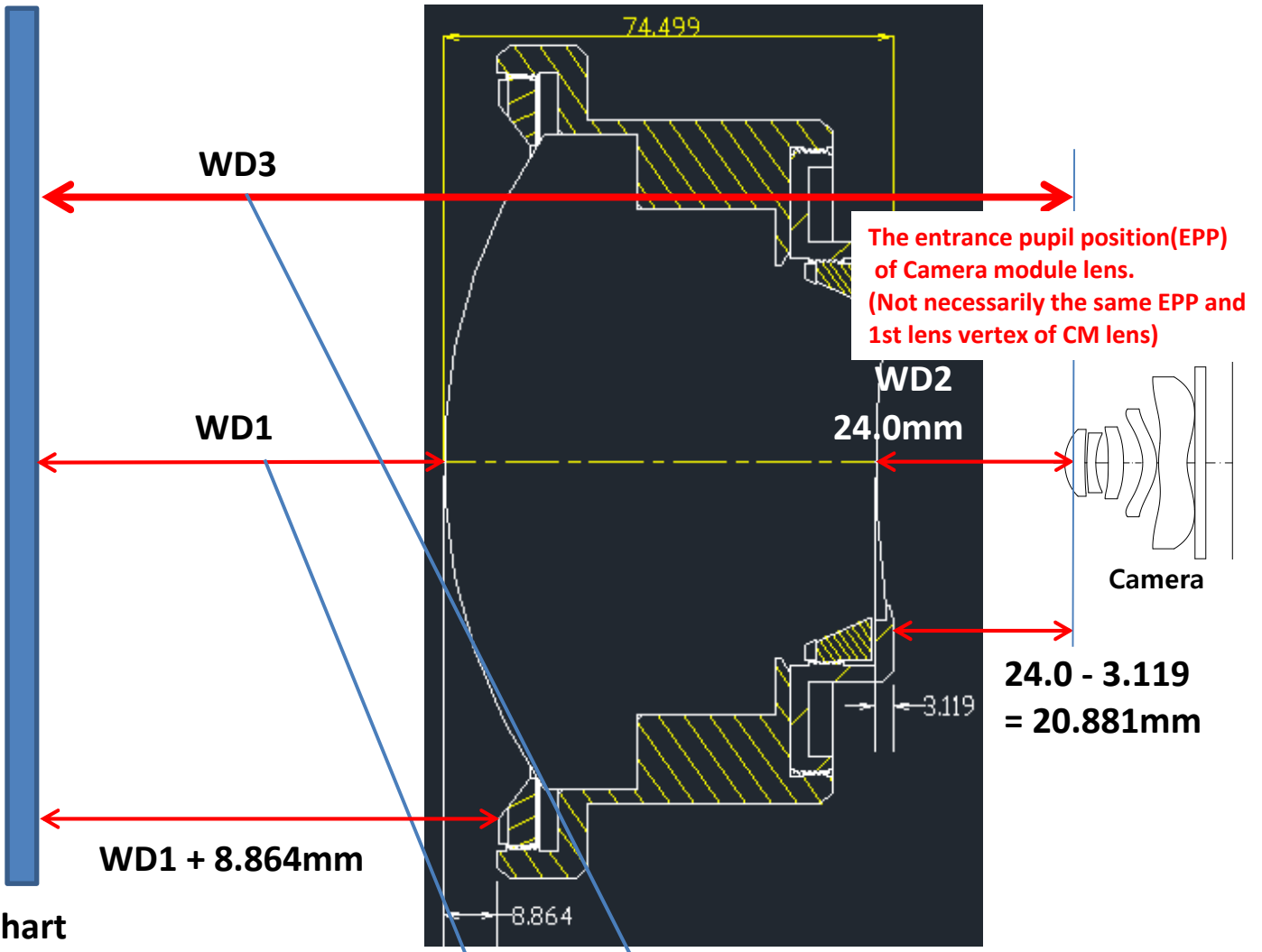


Chart
Chart Size at Full Angle 90° of CL924C (using with Sub Lens 0D ~ 2.5D)

- Object Distance : Object Distance of Phone Camera
- Working Distance 1 : Distance from Vertex of CL Chart side to Chart
- Working Distance 2 : Distance from Vertex of CL CCM side to CCM (24mm)
- Working Distance 3 : Distance from Chart to CCM

PCM Module	
FOV	90

※ This Chart Size Table is based on and made by FOV of CCM Lens.

Object Distance (Object ~ CCM)	Sub Lens (Recom)	Working Distance 1 (Chart~C/L Vertex, Real)	Working Distance 3 (Chart~CCM, Real)	Chart Size (Φ, mm)
1.00E+100	0D	35.5	108.5	220.7
100000	0D	35.3	108.3	220.4
50000	0D	35.2	108.2	220.1
25000	0D	35.0	108.0	219.5
10000	0D	34.8	107.8	219.0

Chart Size at Full Angle 90° of CL924C (using with Sub Lens 0D ~ 2.5D)

Object Distance : Object Distance of Phone Camera

Working Distance 1 : Distance from Vertex of CL Chart side to Chart

Working Distance 2 : Distance from Vertex of CL CCM side to CCM (24mm)

Working Distance 3 : Distance from Chart to CCM

PCM Module	
FOV	90

※ This Chart Size Table is based on and made by FOV of CCM Lens.

Object Distance (Object ~ CCM)	Sub Lens (Recom)	Working Distance 1 (Chart~C/L Vertex, Real)	Working Distance 3 (Chart~CCM, Real)	Chart Size (Φ, mm)
1.00E+100	0D	35.5	130.8	220.7
100000	0D	35.3	130.7	220.4
50000	0D	35.2	130.6	220.1
25000	0D	35.0	130.3	219.5
10000	0D	34.2	129.6	217.7
7500	0D	33.8	129.2	216.7
5000	0D	33.0	128.4	214.8
4500	0D	32.8	128.2	214.2
4000	0.5D	35.3	130.7	221.3
3500	0.5D	34.9	130.3	220.3
3000	0.5D	34.3	129.7	218.9
2500	0.5D	33.5	128.9	216.9
2000	0.5D	32.3	127.7	214.0
1900	0.5D	32.0	127.4	213.3
1800	0.5D	31.7	127.1	212.5
1700	0.5D	31.3	126.7	211.6
1600	0.5D	30.9	126.3	210.6
1500	1.0D	32.4	127.8	217.0
1400	1.0D	31.8	127.2	215.6
1300	1.0D	31.2	126.6	214.0
1200	1.0D	30.5	125.8	212.2
1100	1.0D	29.6	125.0	210.1
1000	1.0D	28.6	124.0	207.6
900	1.0D	27.4	122.8	204.7
800	1.5D	27.6	123.0	205.6
700	1.5D	25.8	121.1	201.0
600	2.0D	24.6	120.0	199.3
500	2.0D	21.4	116.8	191.3
400	2.5D	18.0	113.4	184.0

Lens Pictures

