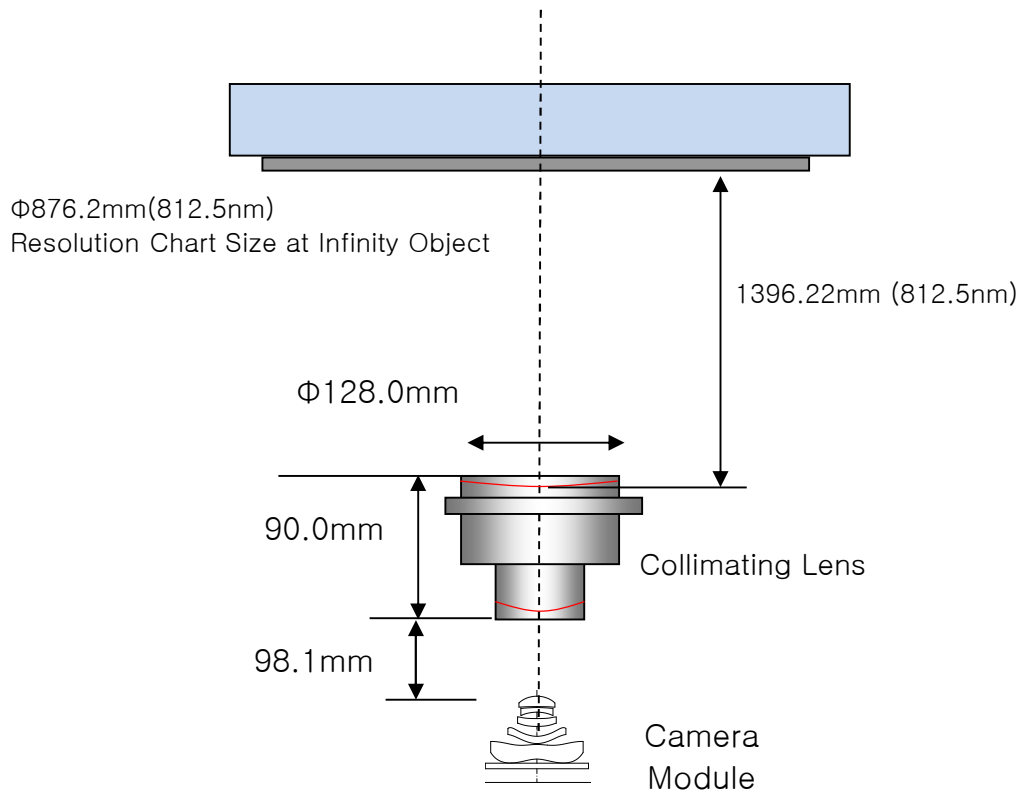


# F1500-30-IR Collimating Lens Specification

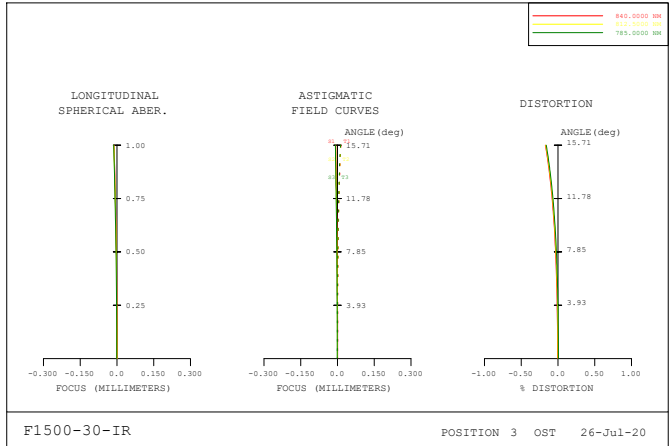
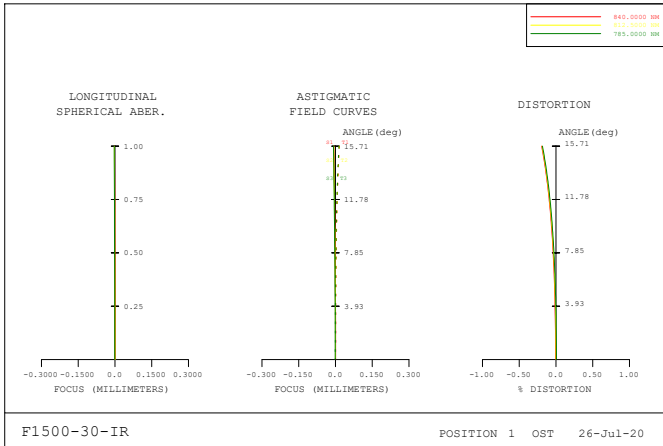
2020-10-20  
OneStone

<b>Model name</b>	F1500-30-IR (Designed by OneStone)
<b>Characteristic of CL</b>	Available with IR System (785 ~ 840nm)
<b>Construction of CL (Default)</b>	Main Lens Only
<b>EFL</b>	1500.1mm (at 812.5nm)
<b>Inspectable FOV of CCM</b>	32.5°
<b>Ass'y Size &amp; Weight</b>	Φ128.0mm X L90.0mm, 1.75kg
<b>Exit Pupil Size</b>	Φ28.0mm
<b>Exit Pupil Position</b>	100.0mm (from Vertex of CL CCM side to CCM)
<b>Working Distace</b> (from CL 1st Lens R1 surface to Chart)	1396.22mr at Object Distance Infinity (0.0D)



# Optical Performance of F1500-30-IR (OD = Inf & 10m, RW = 812.5nm at 32.5°)

Aberration Scale :  $\pm 0.3 \pm 0.3 \pm 1.0\%$

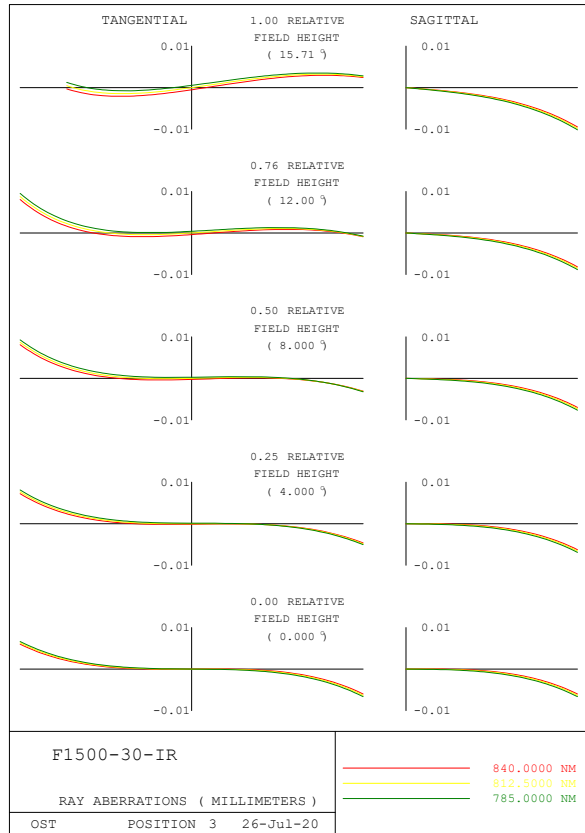
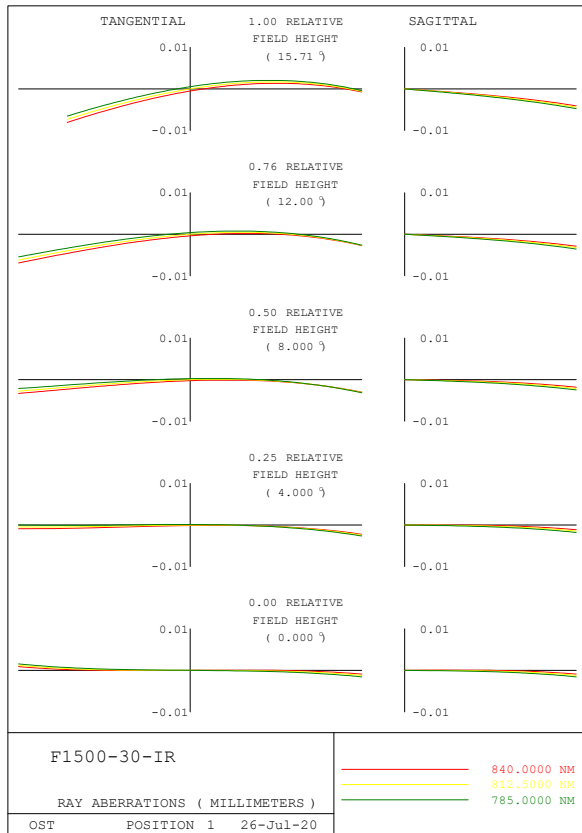


Astigmatism : less than 0.011D

Field Curvature : less than 0.004D

Distortion : less than 0.19%

Aberration Scale :  $\pm 0.01$



Longitudinal Chromatic Aberration : less than 0.012D

Lateral Chromatic Aberration : less than 0.0006D

# MTF Analysis for FOV 18.6° Lens

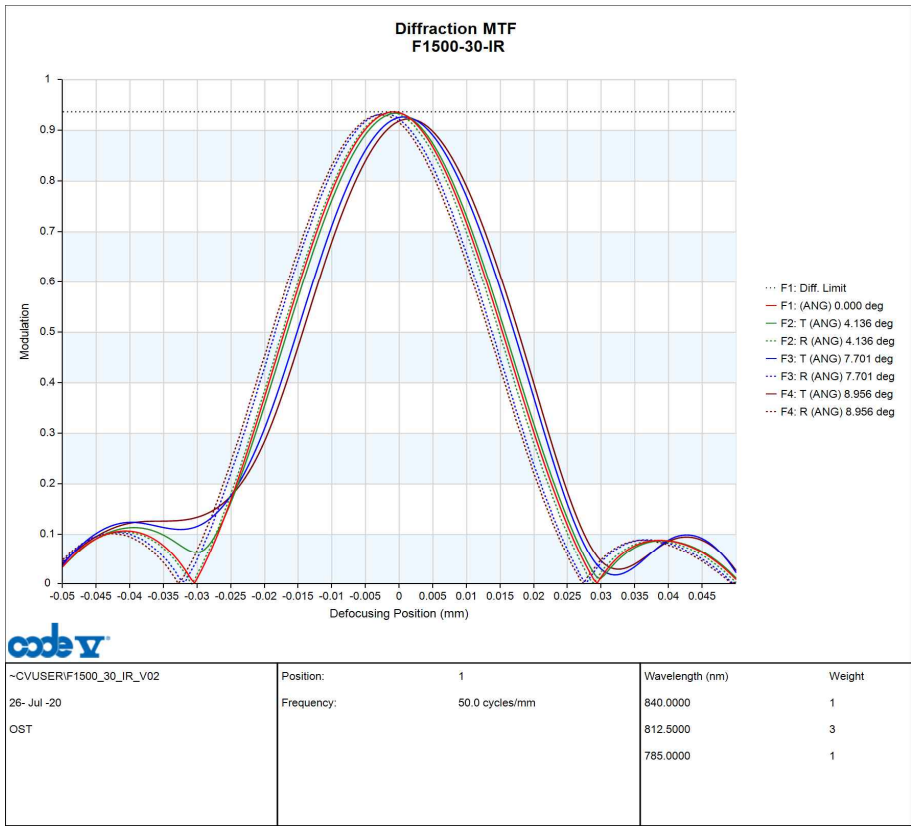
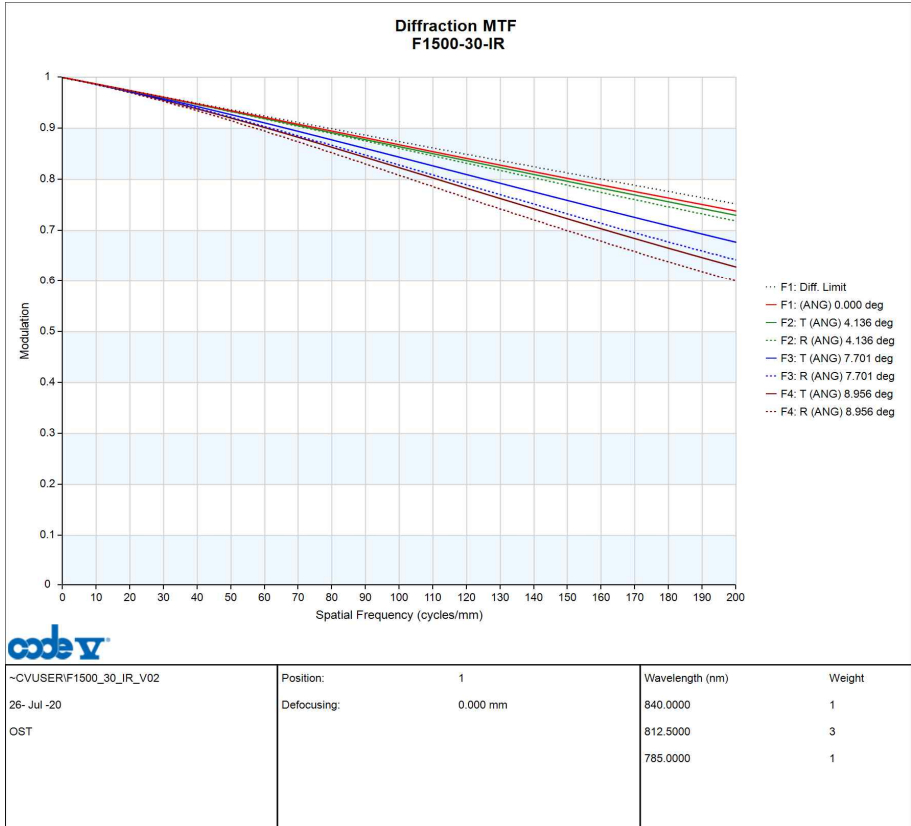
e<sub>fl</sub> = 28.5mm

F<sub>no</sub> = 1.2

Reference Wave : 812.5nm

EPD = 23.75mm ( = e<sub>fl</sub>/F<sub>no</sub> )

Object Distance : Infinity (Object angle 0, 4.8, 8, 9.3 )



# MTF Analysis for FOV 32.5° Lens

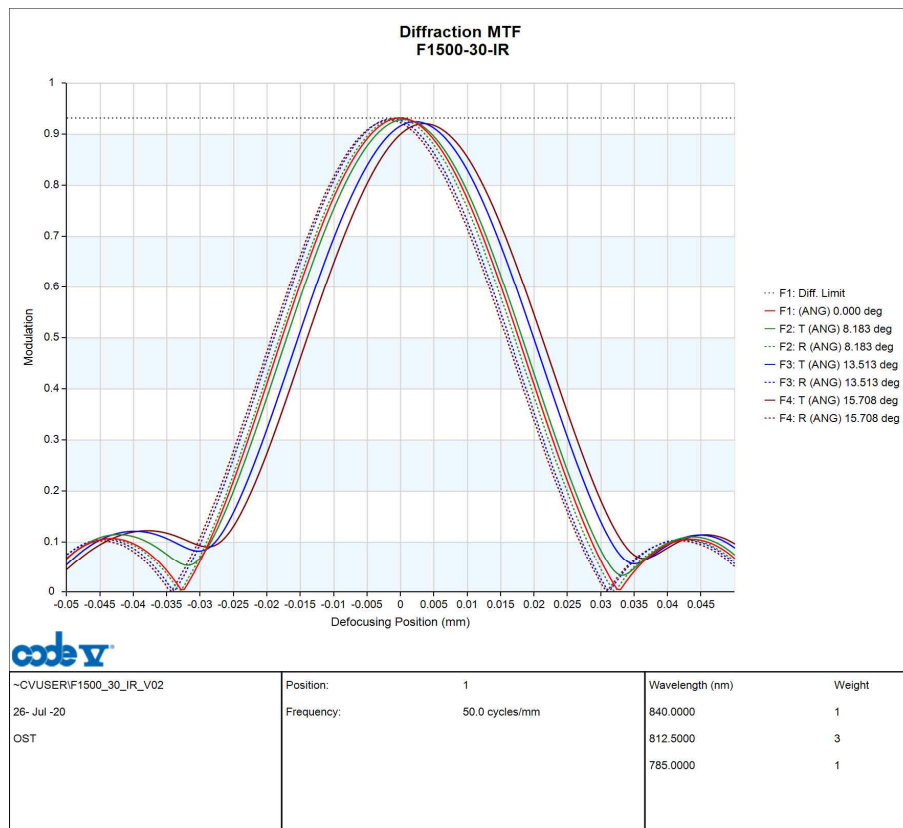
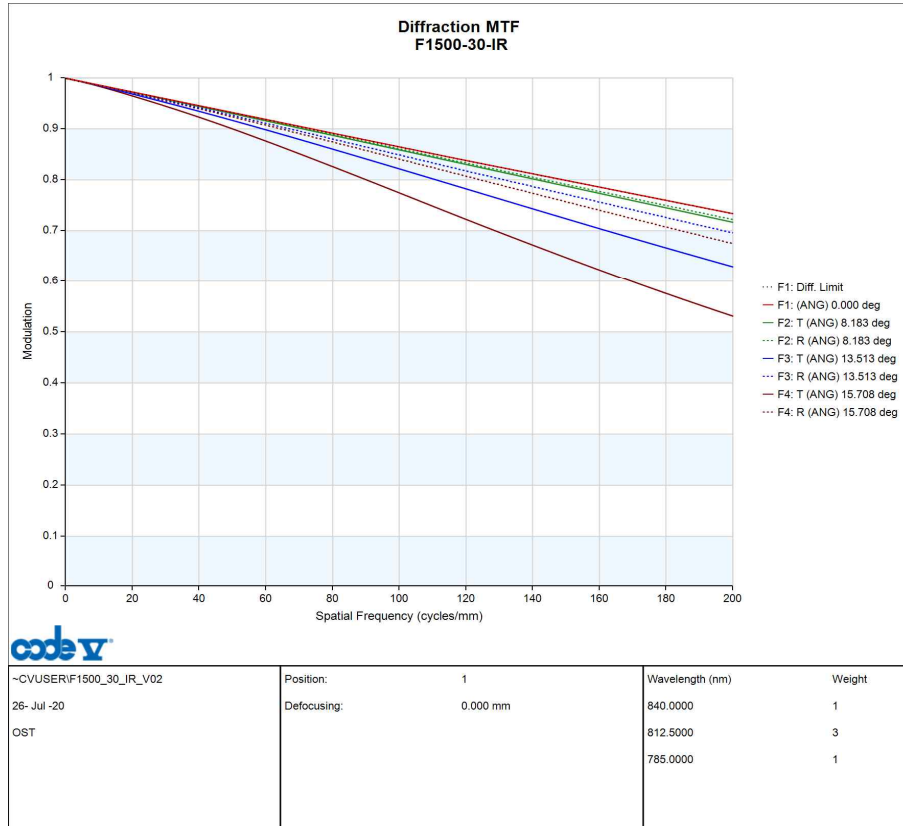
efl = 16.0mm

Fno = 1.2

Reference Wave : 812.5nm

EPD = 12.33mm ( = efl/Fno)

Object Distance : Infinity (Object angle 0, 8.5, 14, 16.25 )



## Chart

The chart size of F1500\_30\_IR (Whole Sub Lens is available)

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

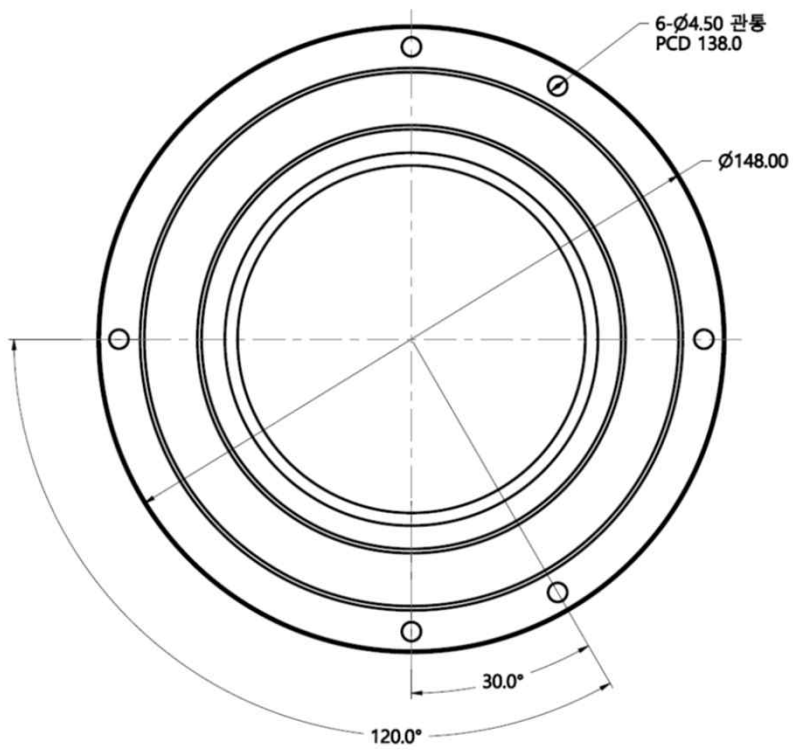
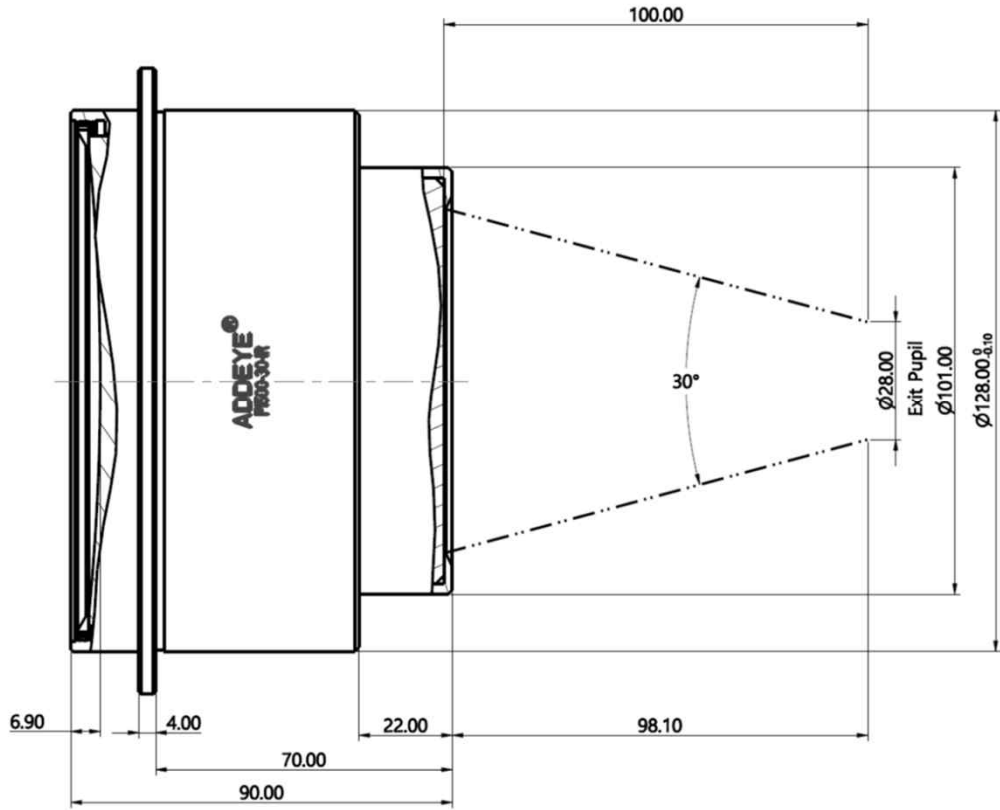
Working Distance(mm) : Distance from 1st lens R1 vertex of CL to chart.

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

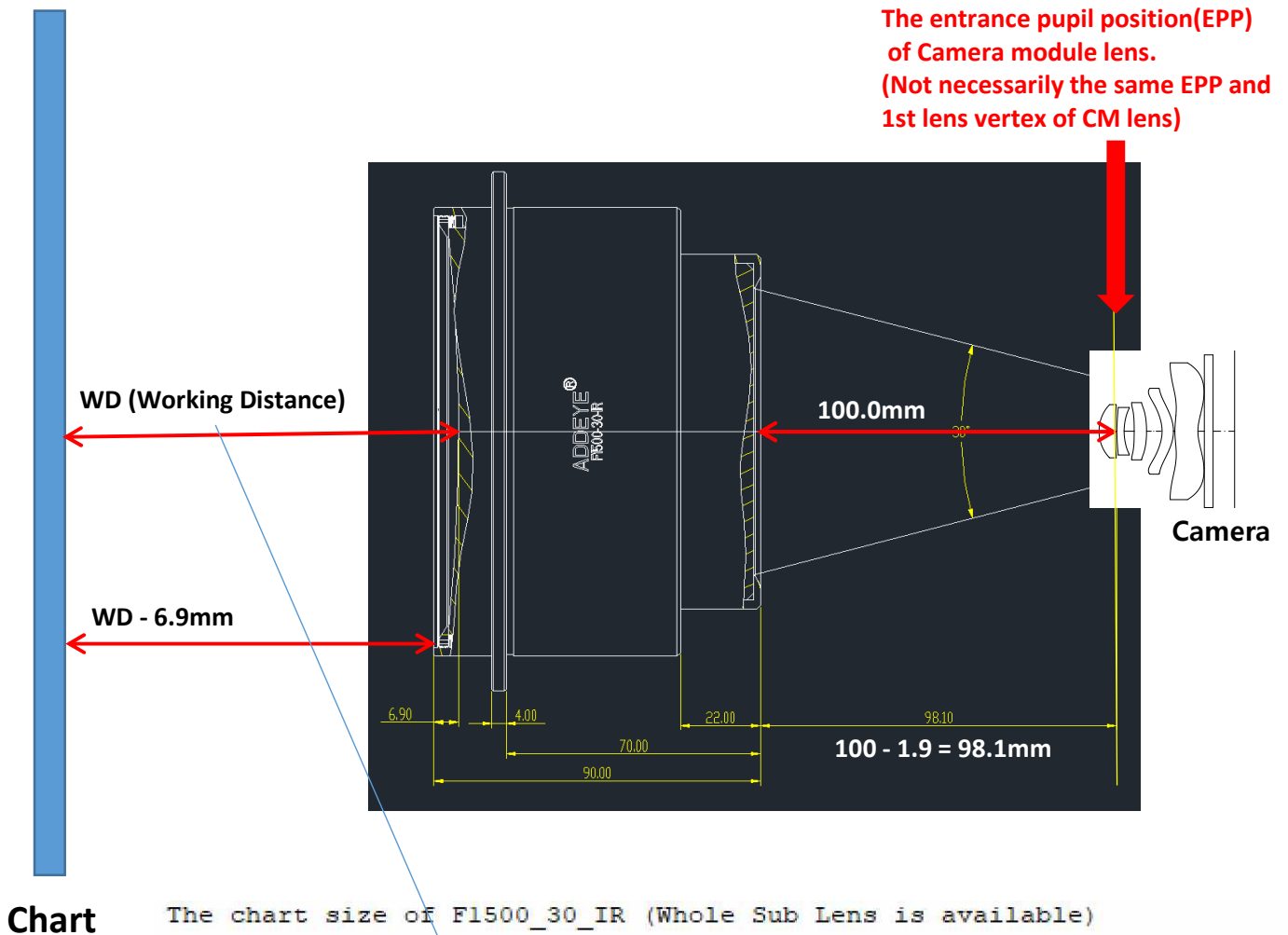
The FOV of camera lens : 32.50

Object Distance (Object~PCM)	Sub Lens (recomanded)	Working Distance (Chart~ CL vertex)	Chart Size(Dia)
1.00e+100	0.00D	1396.22	876.2
1.00e+005	0.00D	1374.04	863.7
9.00e+004	0.00D	1371.61	862.3
8.00e+004	0.00D	1368.59	860.6
7.00e+004	0.00D	1364.72	858.4
6.00e+004	0.00D	1359.60	855.6
5.00e+004	0.00D	1352.48	851.6
4.00e+004	0.00D	1341.92	845.6
3.00e+004	0.00D	1324.65	835.9
2.00e+004	0.00D	1291.27	817.1
1.00e+004	0.00D	1199.55	765.5

# Drawings



## How to set Collimating Lens



Chart

The chart size of F1500\_30\_IR (Whole Sub Lens is available)

20-Jul-2020  
OneStone

Object Distance (mm) : Real shooting distance with camera.  
Working 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 : 32.50

Object Distance (Object~PCM)	Sub Lens (recomanded)	Working Distance (Chart~ CL vertex)	Chart Size (Dia)
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7.00e+004	0.00D	1364.72	858.4
6.00e+004	0.00D	1359.60	855.6
5.00e+004	0.00D	1352.48	851.6
4.00e+004	0.00D	1341.92	845.6
3.00e+004	0.00D	1324.65	835.9
2.00e+004	0.00D	1291.27	817.1
1.00e+004	0.00D	1199.55	765.5

Lens Picture

