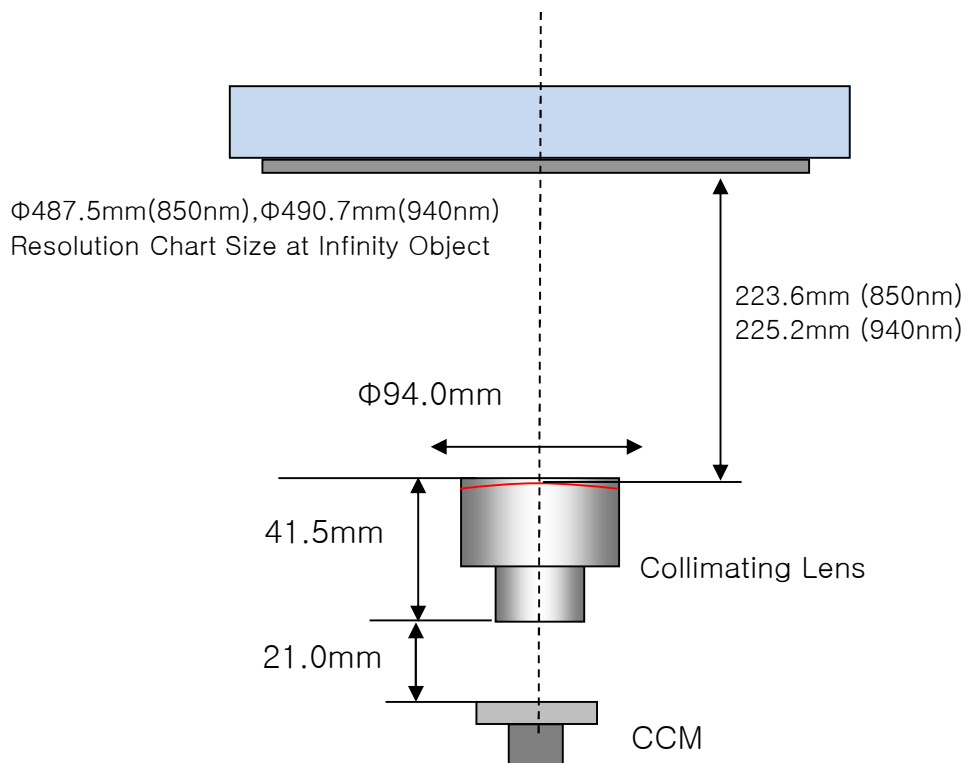


CL-825IR (F300-80IR) Collimating Lens Specification

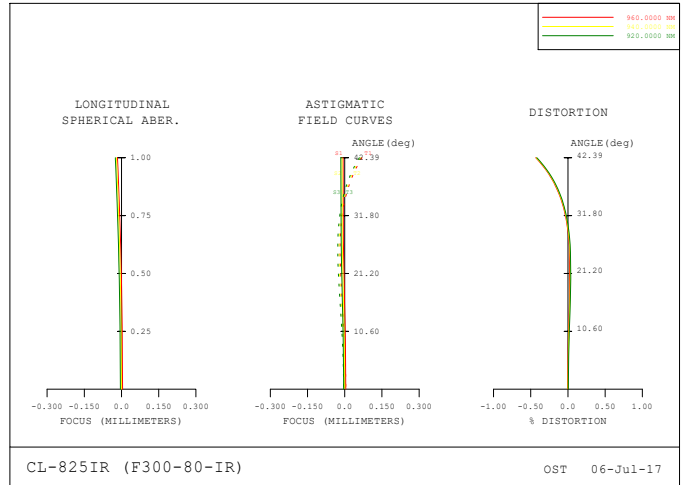
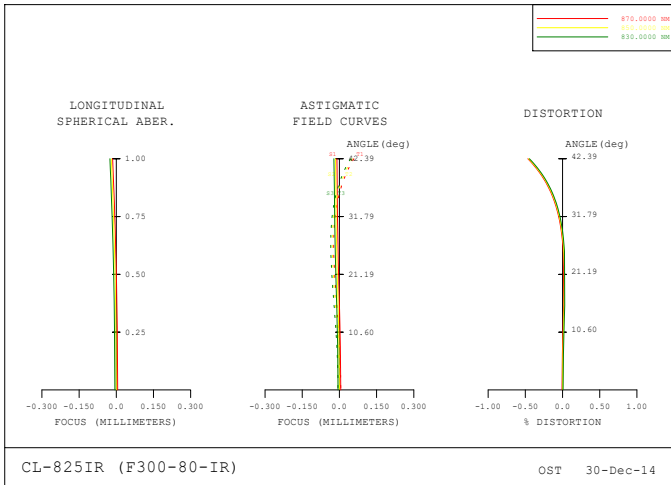
2020-04-24
OneStone

| | |
|---|--|
| Model name | CL-825IR (Designed by OneStone) |
| Characteristic of CL-825IR | Available with IR System (850nm, 940nm) |
| Construction of CL (Default) | Main Lens Only |
| EFL | 286.8mm (850nm), 288.7mm(940nm) |
| Inspectable FOV of CCM | 80° |
| Ass'y Size & Weight | Φ94.0mm X L41.5mm, 0.44kg |
| Exit Pupil Size | Φ4.0mm |
| Exit Pupil Position | 25.0mm (from Vertex of CL CCM side to CCM) |
| Working Distace (from CL 1st Lens R1 surface to Chart) | 223.6mm at Object Distance Infinity (0.0D) 225.2mm at Object Distance Infinity (0.0D) |



Optical Performance of CL-825IR Lens (OD = 0.5m, RW = 850nm, 940nm at 80°)

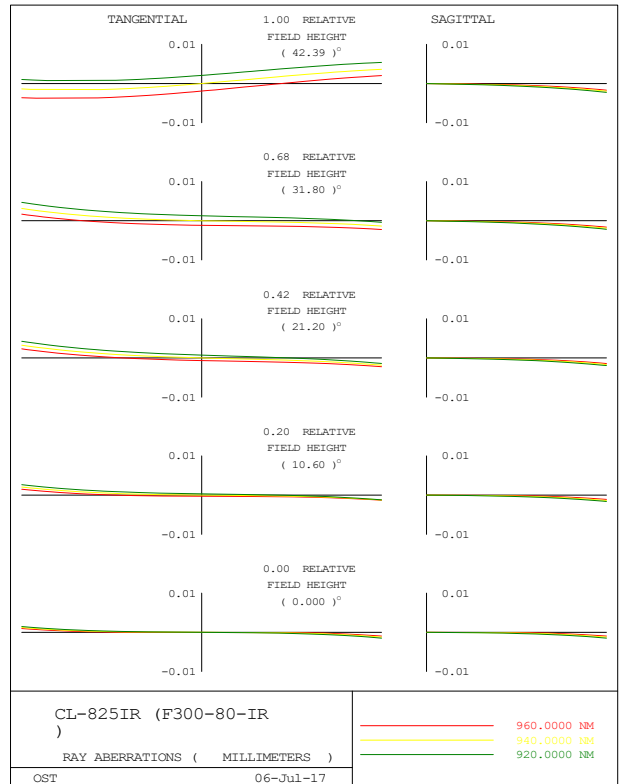
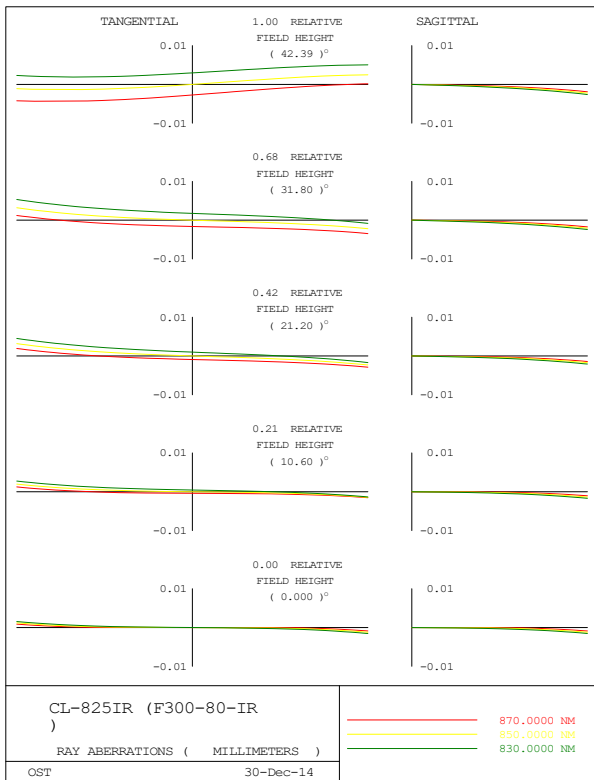
Aberration Scale : $\pm 0.3 \pm 0.3 \pm 1.0\%$



Field Curvature : less than 0.146D

Distortion : less than 1.789%

Aberration Scale : ± 0.01



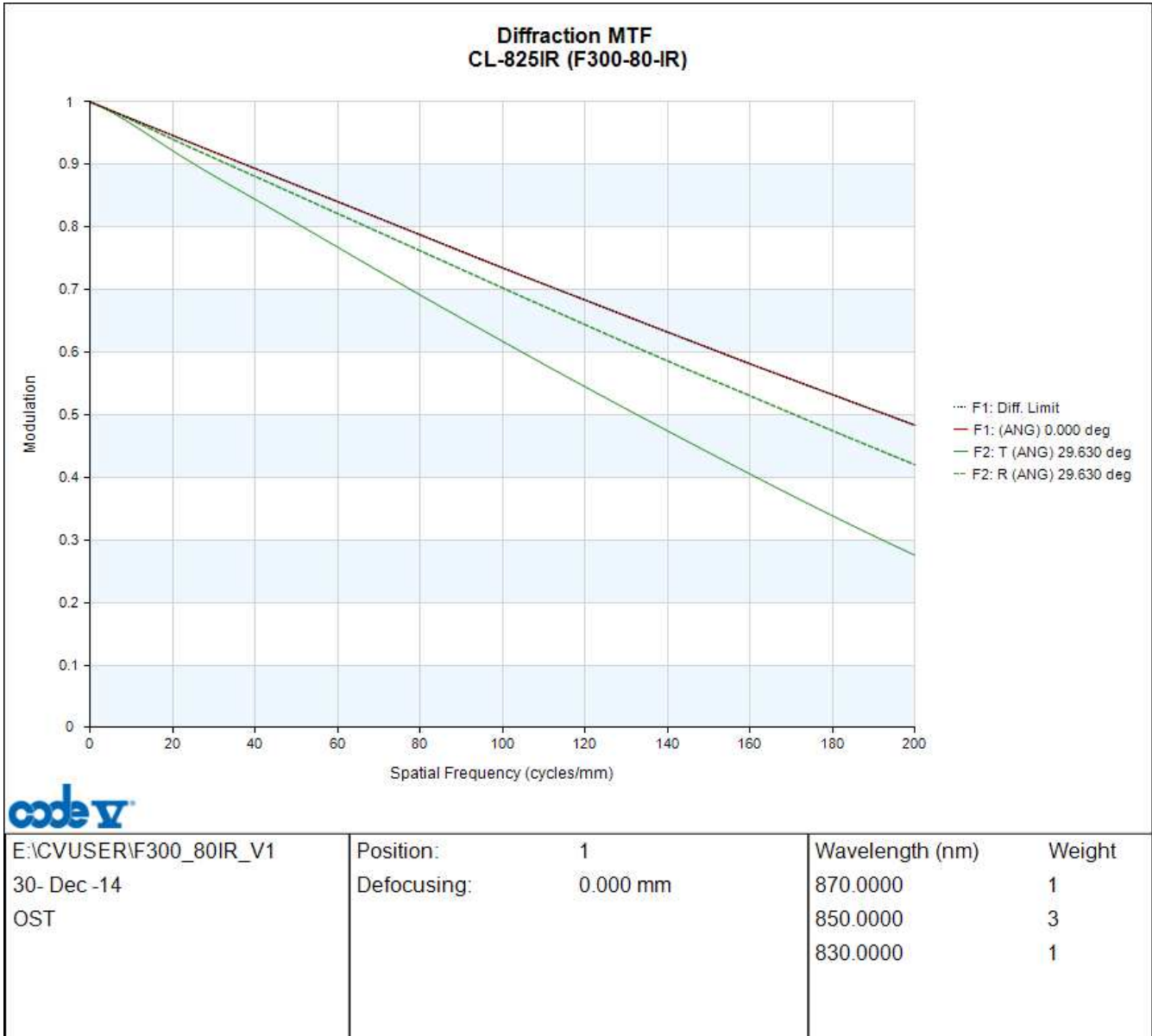
Longitudinal Chromatic Aberration : less than 0.091D

Lateral Chromatic Aberration : less than 0.018D

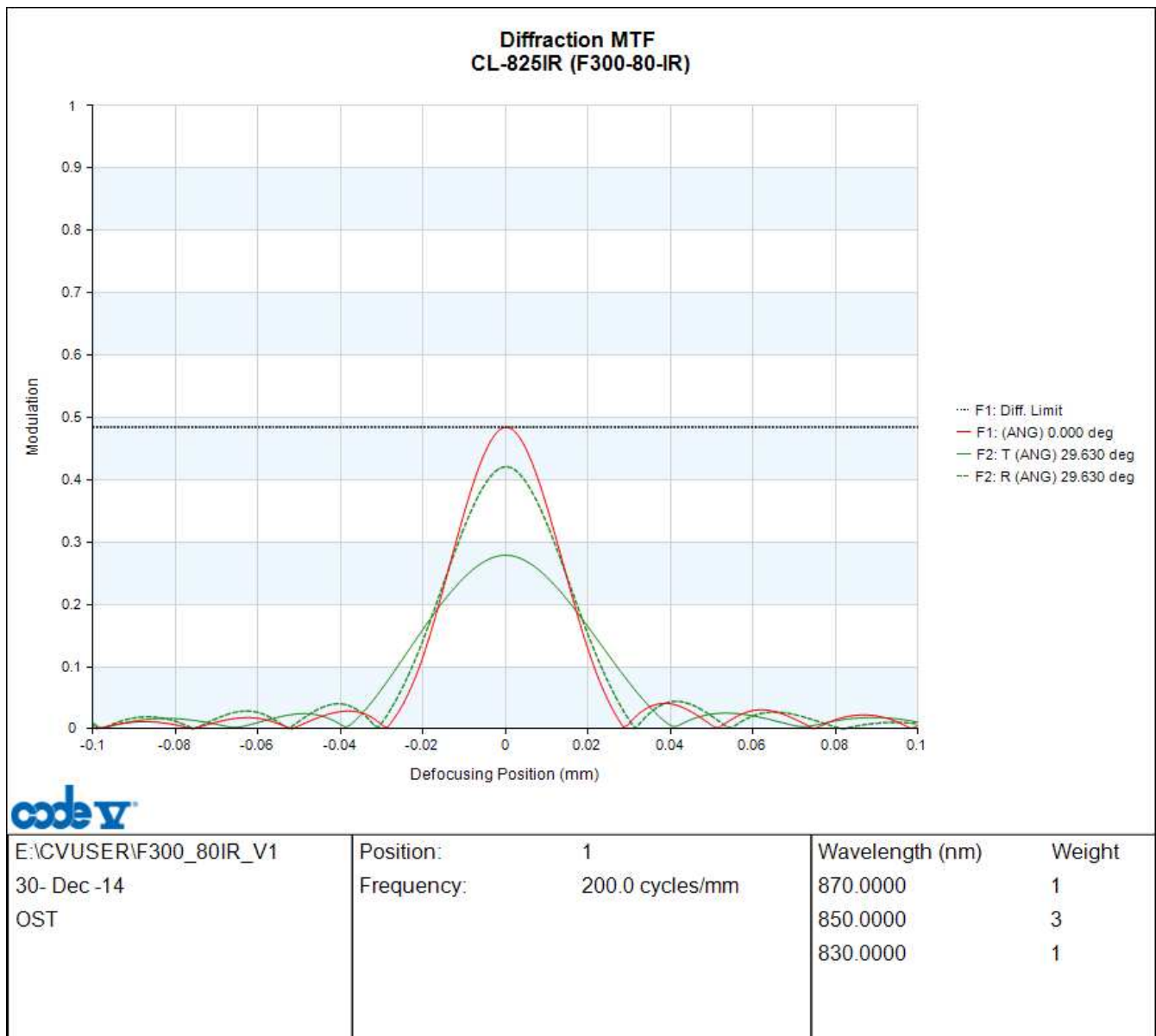
MTF Analysis for FOV 80.0° Lens of S-Company

e_{fl} = 1.22mm F_{no} = 2.45 Reference Wave : 850nm
 EPD = 0.498mm (= e_{fl}/F_{no})

Object Distance : 0.5m (Center, 0.7F)



Object Distance : 0.5m (Center, 0.7F)



The chart size of CL-825IR (Reference Wave 850nm)

2017-07-06

OneStone

Object Distance : Real shooting distance with Camera.

Working Distance : Distance from 1st Lens R1 vertex of CL to chart.

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

| PCM Module | |
|------------|----|
| FOV | 80 |
| Half | 40 |

| Object Distance (Object ~ PCM) | Working Distance (Chart ~ Relay Lens) | Chart Size (Φ, mm) |
|-----------------------------------|--|--------------------|
| 1.00E+100 | 223.57 | 487.5 |
| 10000 | 215.58 | 472.9 |
| 8000 | 213.66 | 469.4 |
| 6000 | 210.52 | 463.7 |
| 5000 | 208.06 | 459.2 |
| 4500 | 206.44 | 456.2 |
| 4000 | 204.45 | 452.6 |
| 3500 | 201.94 | 448.0 |
| 3000 | 198.67 | 442.0 |
| 2800 | 197.06 | 439.1 |
| 2600 | 195.24 | 435.8 |
| 2400 | 193.14 | 431.9 |
| 2200 | 190.71 | 427.5 |
| 2000 | 187.86 | 422.3 |
| 1800 | 184.46 | 416.1 |
| 1600 | 180.36 | 408.6 |
| 1400 | 175.28 | 399.3 |
| 1300 | 172.27 | 393.8 |
| 1200 | 168.86 | 387.6 |
| 1100 | 164.96 | 380.5 |
| 1000 | 160.47 | 372.3 |
| 900 | 155.23 | 362.7 |
| 800 | 149.04 | 351.4 |
| 700 | 141.61 | 337.9 |
| 600 | 132.54 | 321.3 |
| 500 | 121.22 | 300.7 |
| 450 | 114.43 | 288.3 |
| 400 | 106.68 | 274.1 |

The chart size of CL-825IR (Reference Wave 940nm)

2017-07-06

OneStone

Object Distance : Real shooting distance with Camera.

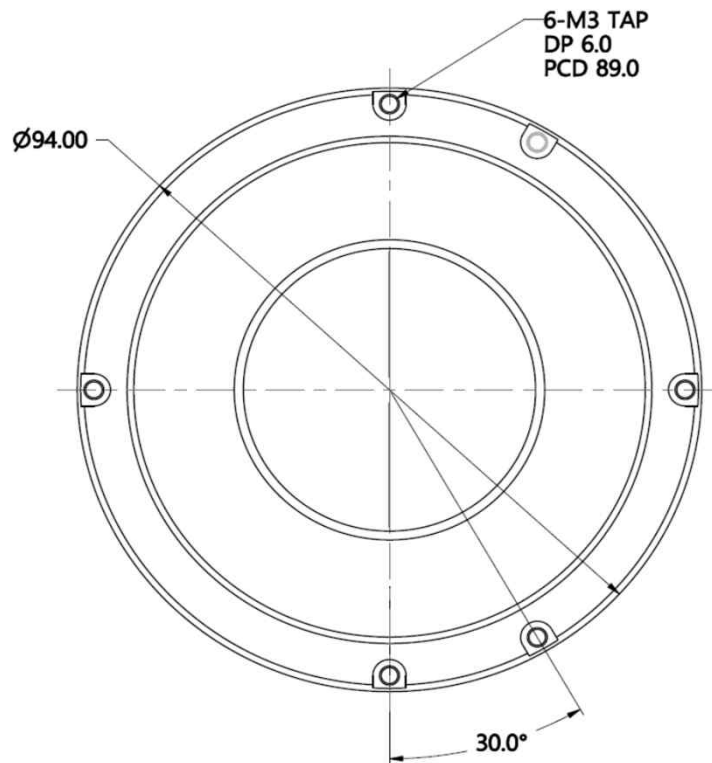
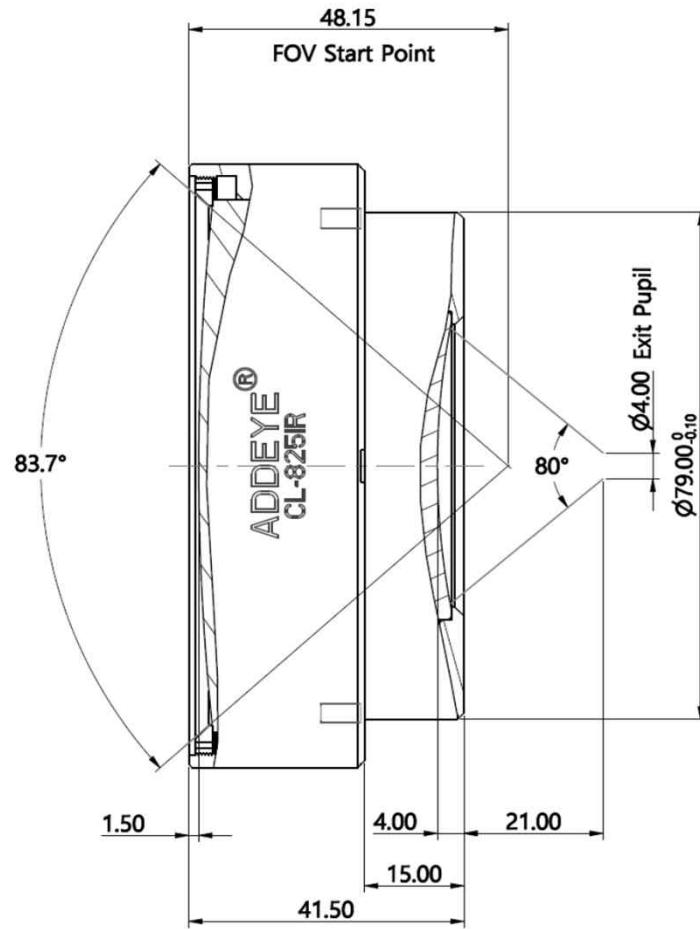
Working Distance : Distance from 1st Lens R1 vertex of CL to chart.

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

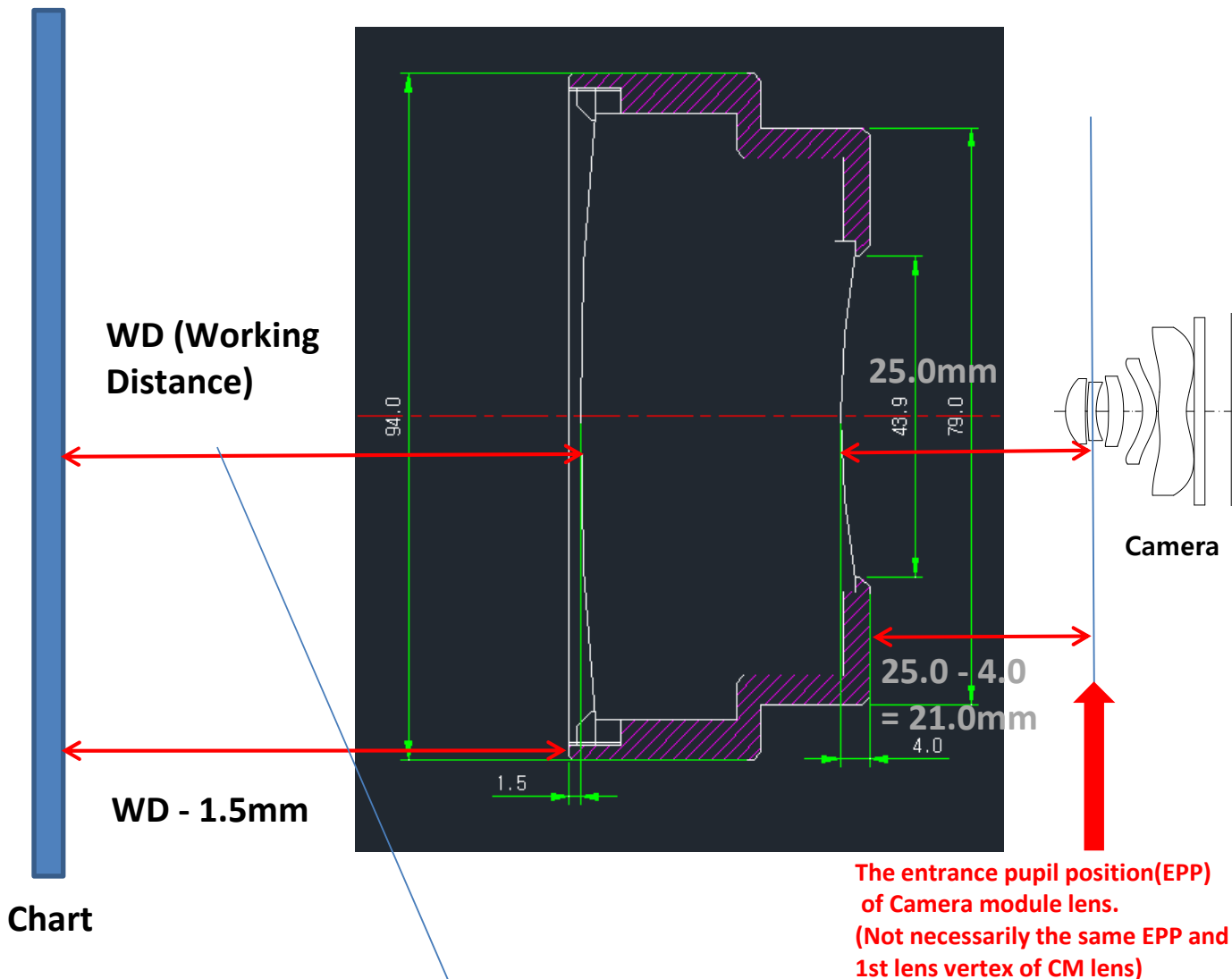
| PCM Module | |
|------------|----|
| FOV | 80 |
| Half | 40 |

| Object Distance | Working Distance | Chart Size (Φ, mm) |
|-----------------|------------------|--------------------|
| 1.00E+100 | 225.24 | 490.7 |
| 10000 | 217.16 | 475.9 |
| 8000 | 215.21 | 472.4 |
| 6000 | 212.03 | 466.6 |
| 5000 | 209.54 | 462.0 |
| 4500 | 207.90 | 459.0 |
| 4000 | 205.89 | 455.4 |
| 3500 | 203.35 | 450.7 |
| 3000 | 200.04 | 444.7 |
| 2800 | 198.41 | 441.7 |
| 2600 | 196.57 | 438.3 |
| 2400 | 194.45 | 434.5 |
| 2200 | 191.99 | 430.0 |
| 2000 | 189.10 | 424.7 |
| 1800 | 185.67 | 418.4 |
| 1600 | 181.52 | 410.9 |
| 1400 | 176.39 | 401.5 |
| 1300 | 173.35 | 395.9 |
| 1200 | 169.90 | 389.7 |
| 1100 | 165.97 | 382.5 |
| 1000 | 161.43 | 374.2 |
| 900 | 156.14 | 364.5 |
| 800 | 149.89 | 353.1 |
| 700 | 142.40 | 339.4 |
| 600 | 133.25 | 322.7 |
| 500 | 121.83 | 301.9 |
| 450 | 114.99 | 289.4 |
| 400 | 107.18 | 275.1 |

CL-825IR Outer Mechanical Drawings



How to set Collimator Lens



The chart size of CL-825IR (Reference Wave 940nm)

2017-07-06
OneStone

Object Distance : Real shooting distance with Camera.

Working Distance : Distance from 1st Lens R1 vertex of CL to chart.

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

| PCM Module | |
|------------|----|
| FOV | 80 |
| Half | 40 |

| Object Distance | Working Distance | Chart Size (Φ, mm) |
|-----------------|------------------|--------------------|
| 1.00E+100 | 225.24 | 490.7 |
| 10000 | 217.16 | 475.9 |
| 8000 | 215.21 | 472.4 |
| 6000 | 212.03 | 466.6 |
| 5000 | 209.54 | 462.0 |

Lens Pictures

