

MVL-LF5040M-F

Large Format $\Phi 43.2\text{mm}$ 50mm Focal Length FA LENS

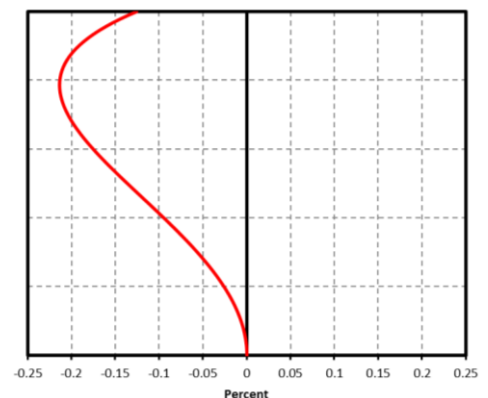
LF series large format FA Lens are optimized for machine vision light sources and sensors, with excellent imaging quality and high image uniformity, magnification range from 0.01x to 0.33x. It is suitable for high resolution machine vision industry applications.



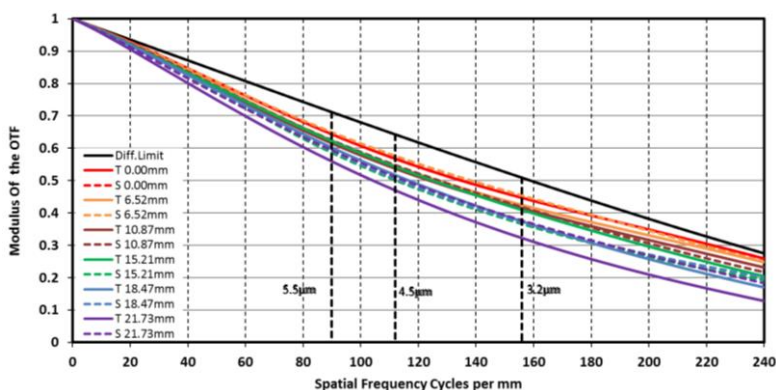
Key Features

- Higher resolution, compatible with $3.1\ \mu\text{m}$ pixel size
- Ultra-high resolution and consistency of image clarity
- Ultra-low distortion and high relative illumination
- Image circle $\phi 43.2\text{mm}$, applicable to large sensor area scan and 8K $5\ \mu\text{m}$ line scan cameras
- F-Mount can be extended to V-Mount

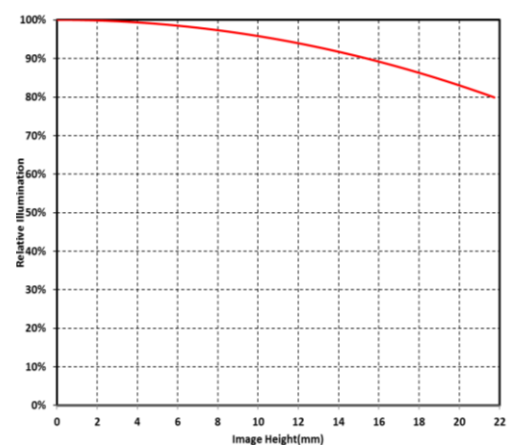
Distortion



MTF



Relative Illumination

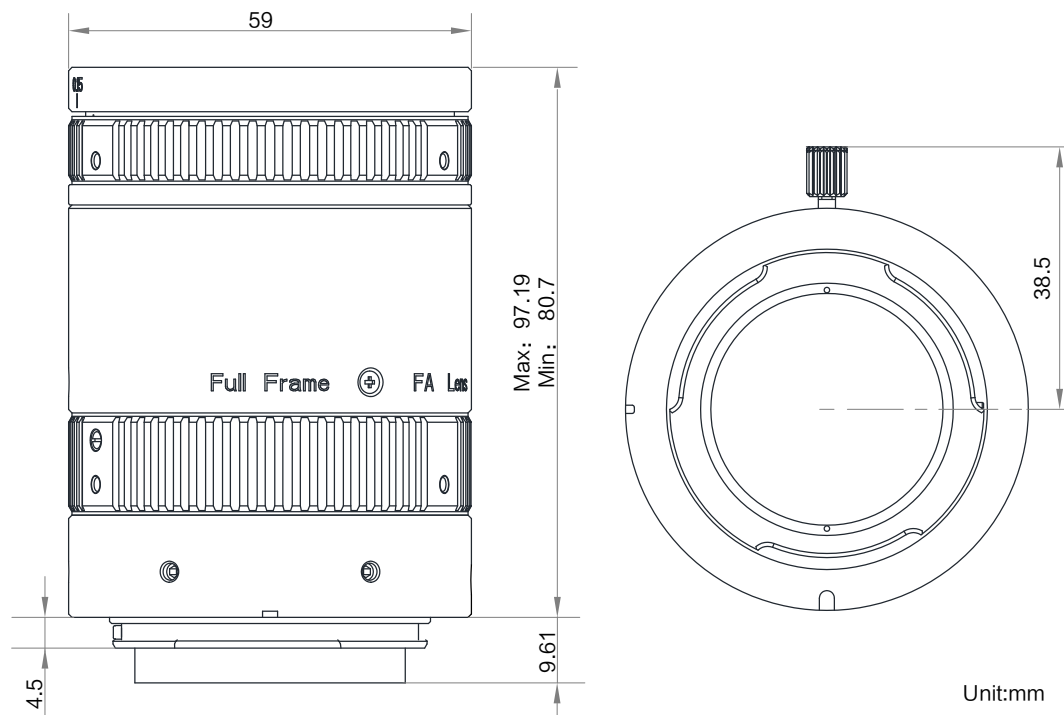


Note: The above curves are the simulate results based on F4.0, $\beta=-0.20\text{X}$, WD=249 mm.

Specification

Parameter	Model	MVL-LF5040M-F
	Fixed focal length, Manual iris, Large format lens	
Performance		
Focal Length	50 mm	
F-Number	F4.0 ~ F22	
Image Size	Φ43.2 mm	
Optical Distortion	-0.22%	
Minimum Operation Distance	150 mm	
Magnification Range	0.01x ~ 0.33x	
Field of View	D (43.47 mm) : 47.02° H (36.17 mm) : 39.77° V (24.11 mm) : 27.11°	
Mechanical		
Iris Control	Manual	
Focus Control	Manual	
Filter Thread	M52*0.75	
Mount	F-Mount	
Flange Back Length	46.5 mm	
Dimension	Φ59×97.19 mm	
Weight	601.5 g	
Temperature	-10 ~ 50℃	
General		
Certification	RoHS2.0	

Dimension



Field of View

Working Distance (mm)	Magnification	Field of View (mm)				
		H(23mm)	V(23mm)	H(36.17mm)	V(24.11mm)	H(8K 5μm)
150	-0.331	69.62	69.62	109.29	72.86	123.77
200	-0.249	92.50	92.50	145.20	96.80	164.44
250	-0.200	115.38	115.38	181.12	120.74	205.11
300	-0.167	138.26	138.26	217.03	144.69	245.79
350	-0.143	161.13	161.13	252.95	168.63	286.46
400	-0.125	184.03	184.03	288.88	192.59	327.16
450	-0.111	206.89	206.89	324.78	216.52	367.81
500	-0.100	230.40	230.40	361.68	241.12	409.60
550	-0.091	252.65	252.65	396.61	264.41	449.16
600	-0.084	275.53	275.53	432.52	288.35	489.83
700	-0.072	321.29	321.29	504.37	336.24	571.19
800	-0.063	367.05	367.05	576.20	384.13	652.54
900	-0.056	412.80	412.80	648.01	432.01	733.87
1000	-0.050	458.56	458.56	719.85	479.90	815.22
1100	-0.046	504.31	504.31	791.67	527.78	896.56
1200	-0.042	550.08	550.08	863.51	575.67	977.92
1300	-0.039	595.83	595.83	935.32	623.55	1059.25
1400	-0.036	641.59	641.59	1007.16	671.44	1140.60
1500	-0.034	687.35	687.35	1079.00	719.33	1221.96