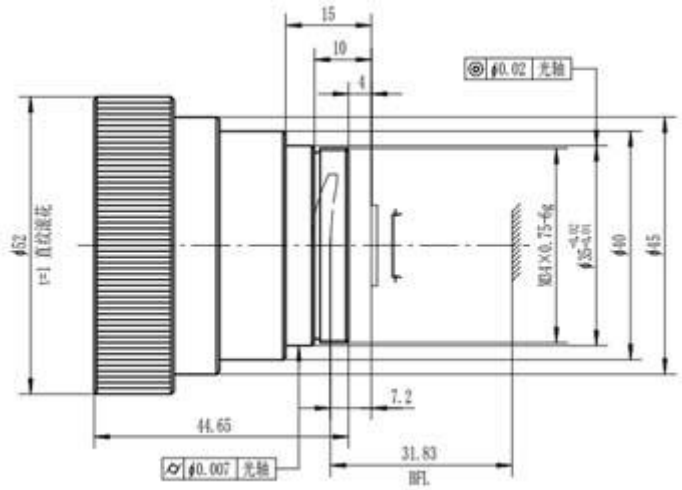
50mm/F2.0 Optical Athermalized Lens for MWIR Thermal Cameras

50mmF2.0 athermaiized lens module is designed for cooled detector (InSb FPA Focal Plane Arrays) of 640x512-15μm at MWIR wavelength range 3.7~4.8μm, it is optical passively athermalized, and is optimized optically for good MTF and low distortion at temperature range of -40℃ to +50℃. Please see the following data sheet and curves to get more information about this lens module. The improvements and changes of the design is available for customer's special request.



SPECIFICATIONS

Optical Parameters	
EFL :	50mm
f Number (f#)	2.0
Wavelength range	3.7~4.8 micro
Detector	640x512-15micro
FOV	10.97°x8.78°（14.02°）
Coating	DLC+AR
Average Transmittance	>81%
Working temperature range	-40℃ ~ +50℃ (Need not to refocus)
Maxium Diameter	44mm
Overall Optical Length	69.54mm
BFL	31.96mm (7.33mm in air, 24.63mm in detector)
Distortion	<5%

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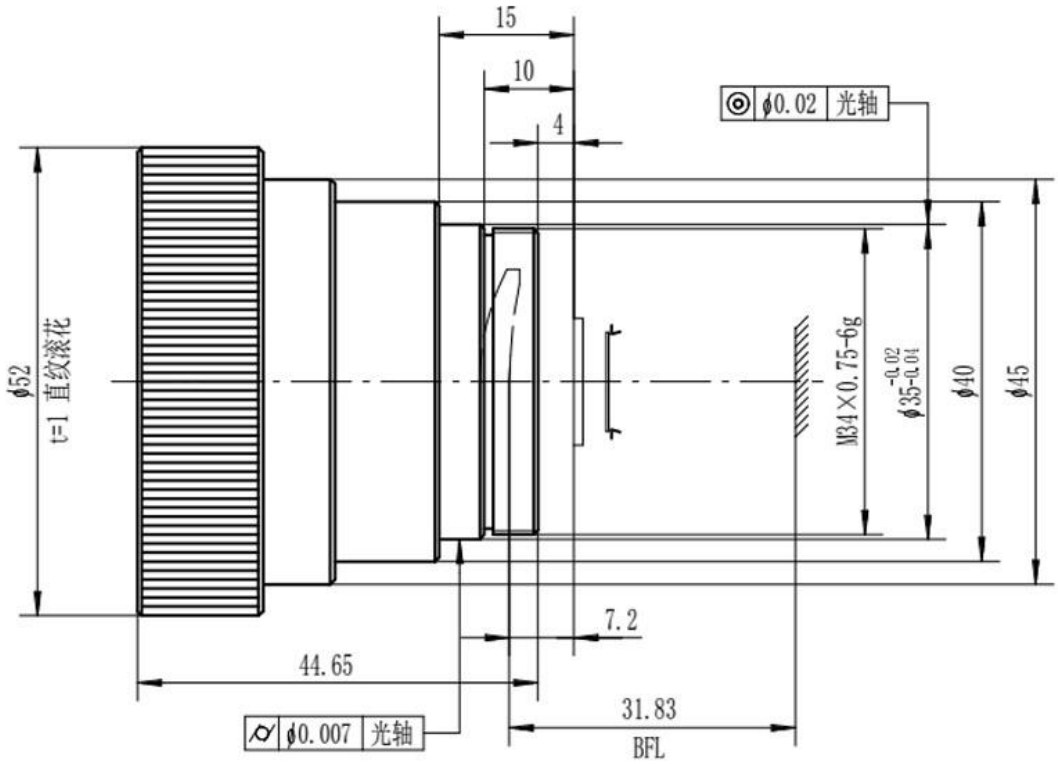
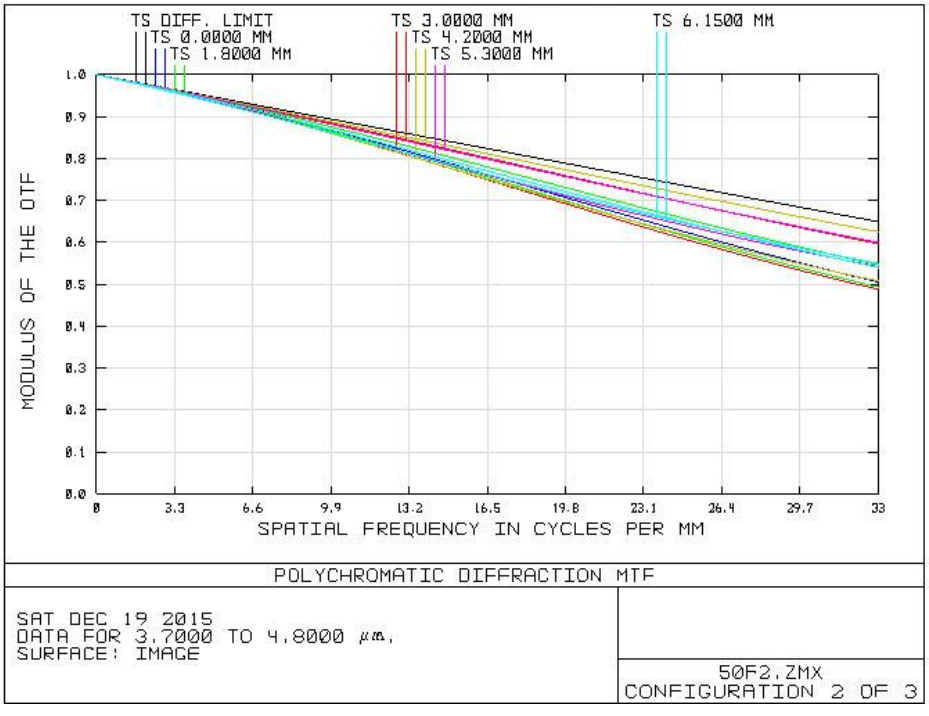


-40° MTF (@331p/mm)



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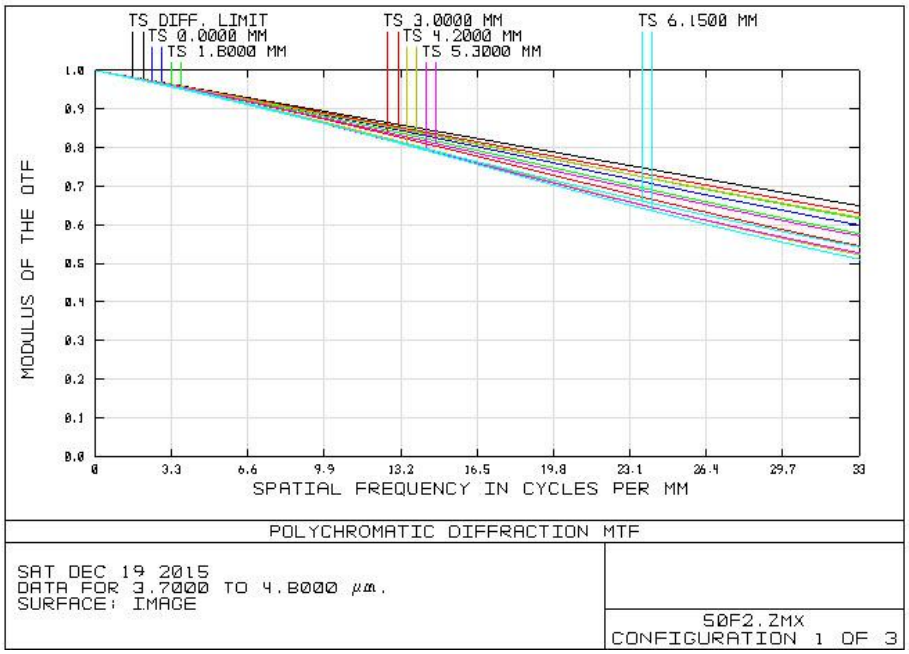
20° MTF (@331p/mm)



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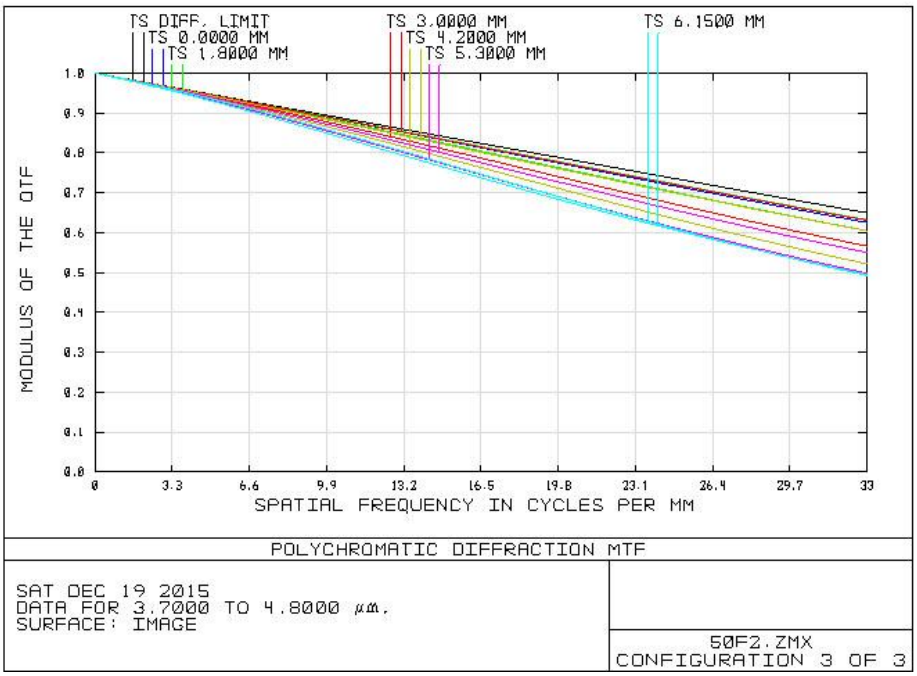

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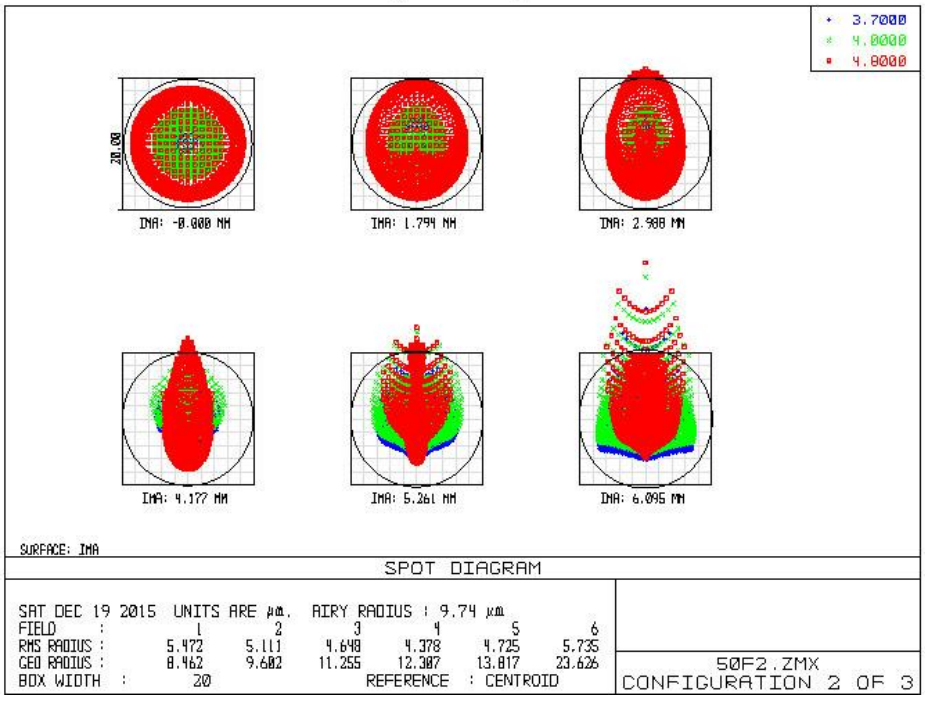
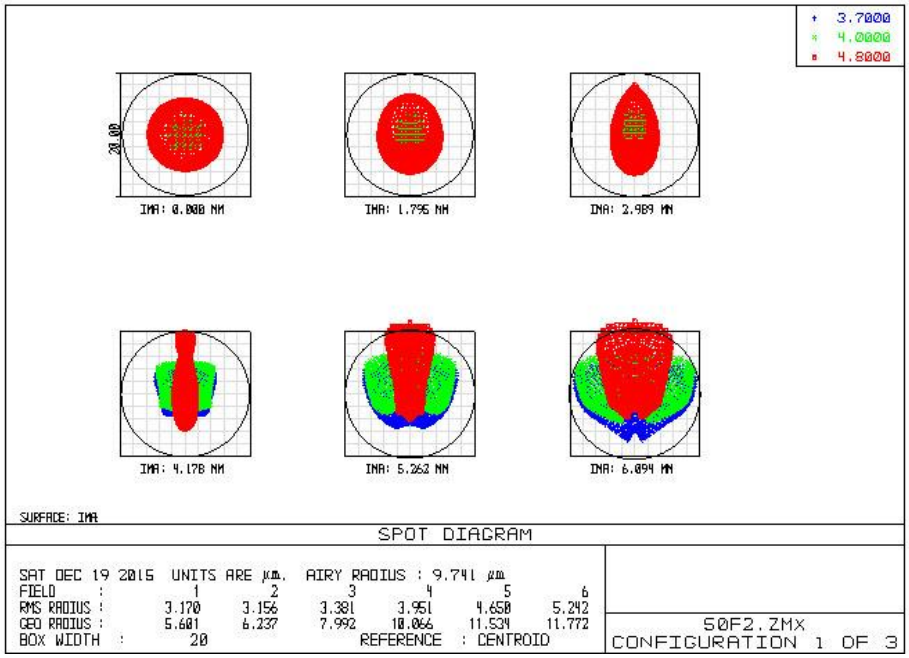
-40° Spot diagram



20° Spot diagram



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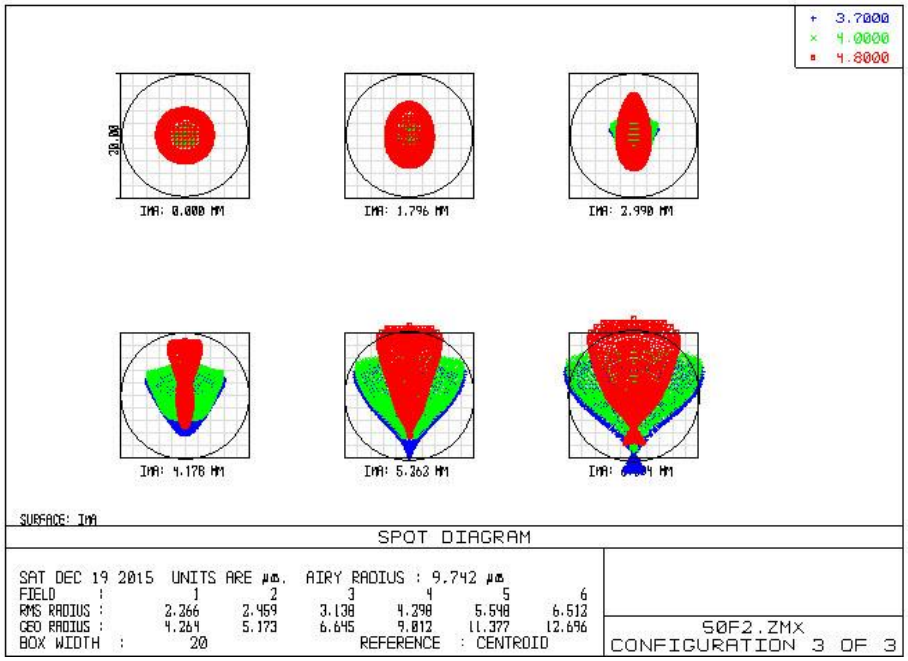
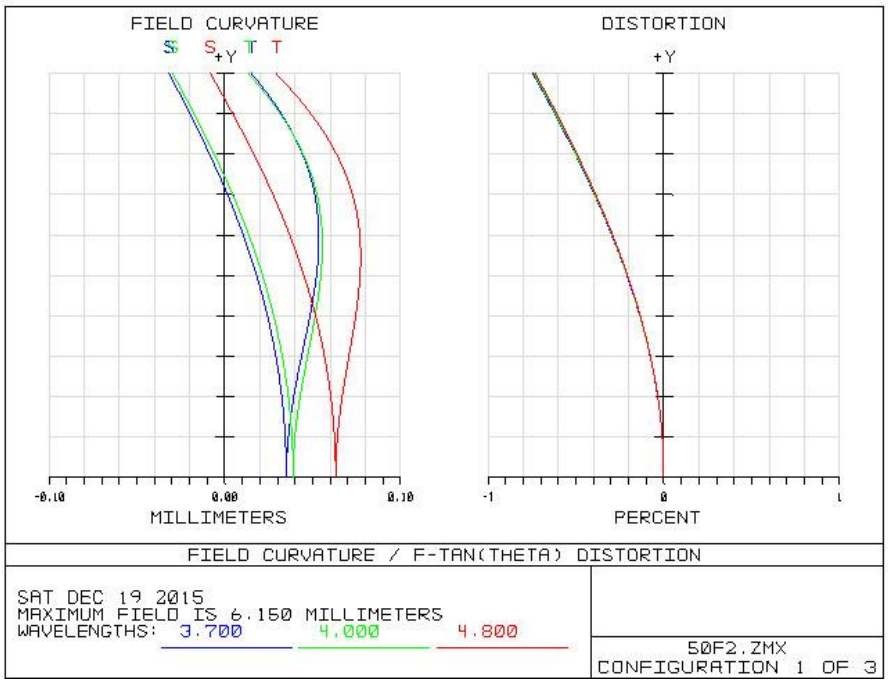
50° Spot diagram



20° Field curvature and distortion



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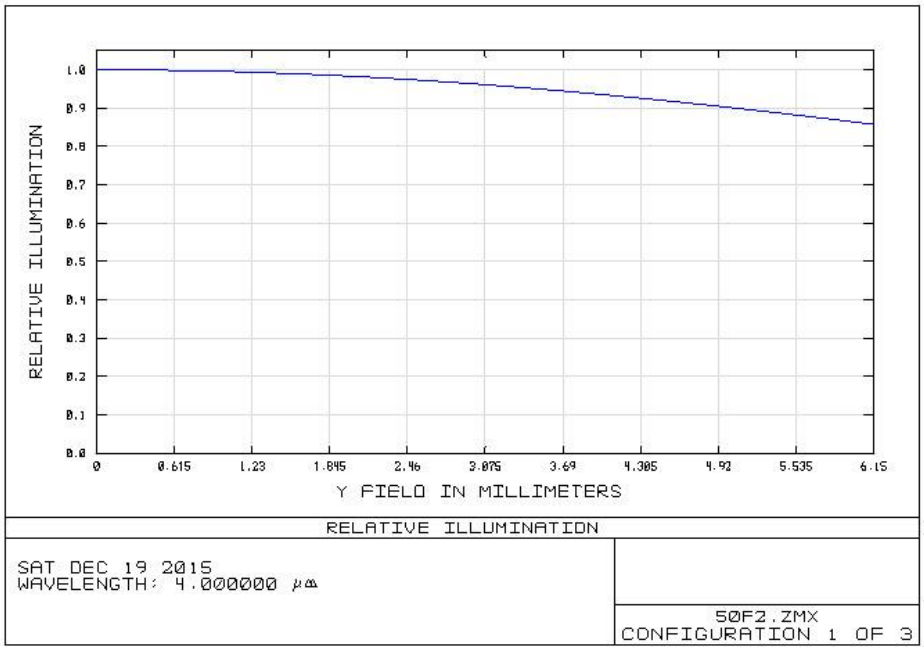
Relative Illumination



Vignetting

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