

90mm~1100mmF4.0 中波制冷连续变焦镜头技术规格书

镜头代码: MIR90-1100F4.0A-64015-CZE

版本更新历史

更新时间	描述
2023-6-21	第一版

1. 镜头指标

1.1 光学参数

指标	设计结果		备注
	宽视场	窄视场	
焦距	90mm	1100mm	
F/#	4.0	4.0	
分辨率	640x512-15 μ m		
HFOV x VFOV	6.11°x4.89°	0.5°x0.4°	
光谱范围	3.7 μ m~4.8 μ m		
外露面镀膜	DLC		
透过率	>80%		1mm 陪镀片计算
工作温度	-40°C~+60°C		
存储温度	-50°C~+70°C		
调焦范围	15m-Infinity	200m-Infinity	
畸变	<2.0%	<2.75%	
光轴一致性	十字光标中心点位置偏移量 \leq 5 像素		

1.2 机械参数

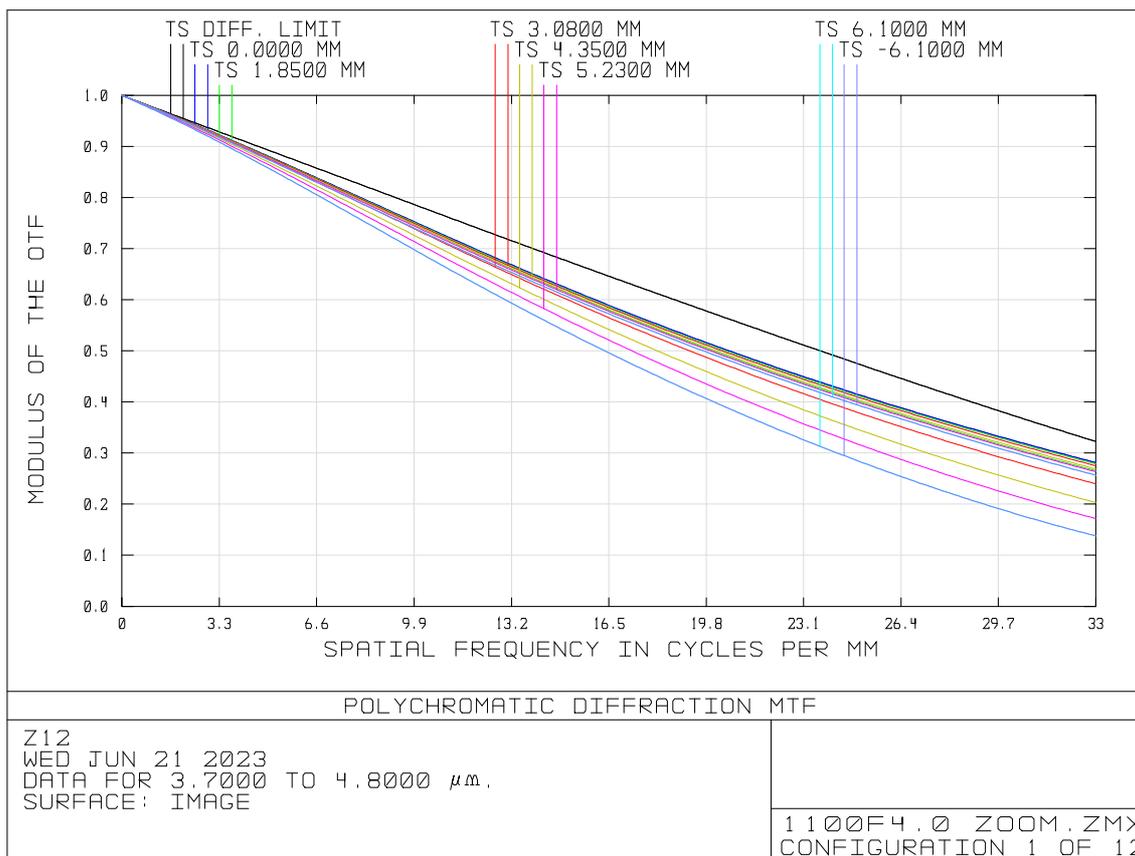
指标	设计结果	备注
重量	~8kg	
外观表面处理	阳极氧化发黑	
密封性	第一透镜和法兰 IP67	
相机安装方式	底座	见外观图
镜头安装方式	法兰	见外观图
后工作距离	26mm	见外观图
最大尺寸	350.57mm x ϕ 295mm	
调焦机构	编码器电机	
变焦机构	编码器电机	
调焦时间	取决于控制板设置	
变焦时间		

1.3 电器参数

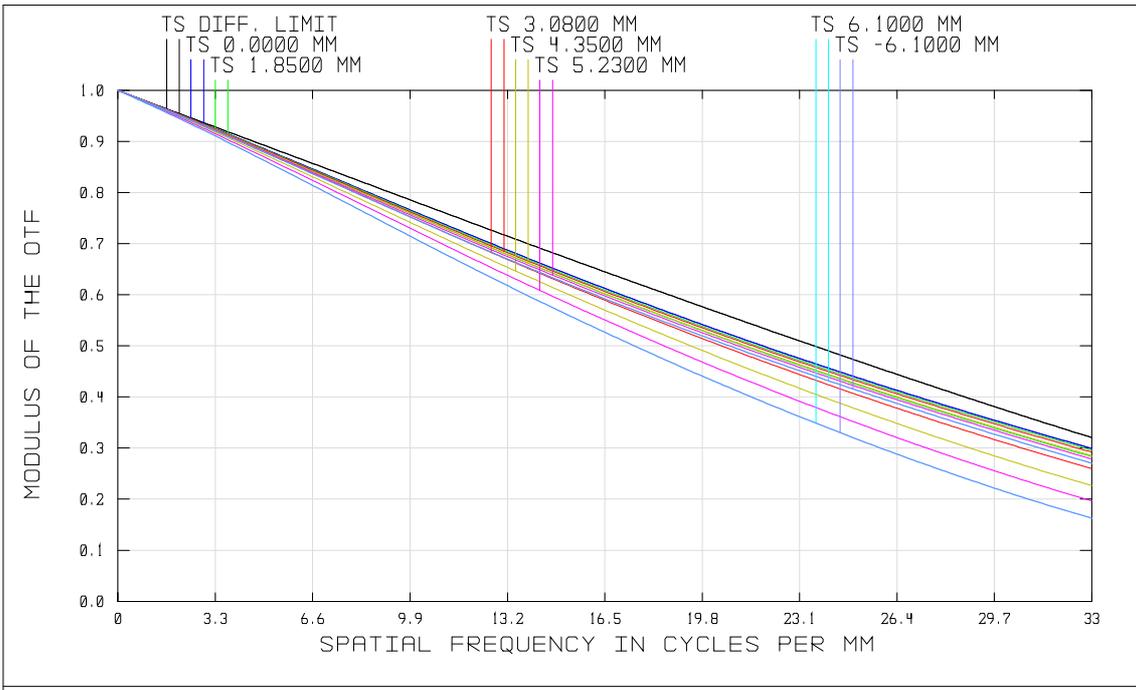
指标	设计结果	备注
驱动电压	12V DC	详见驱动板控制手册
通讯协议	RS232 /422	
上位机软件	MotorCtr.exe	

2. 成像表现

2.1 MTF@20°C



EFL 1100mm

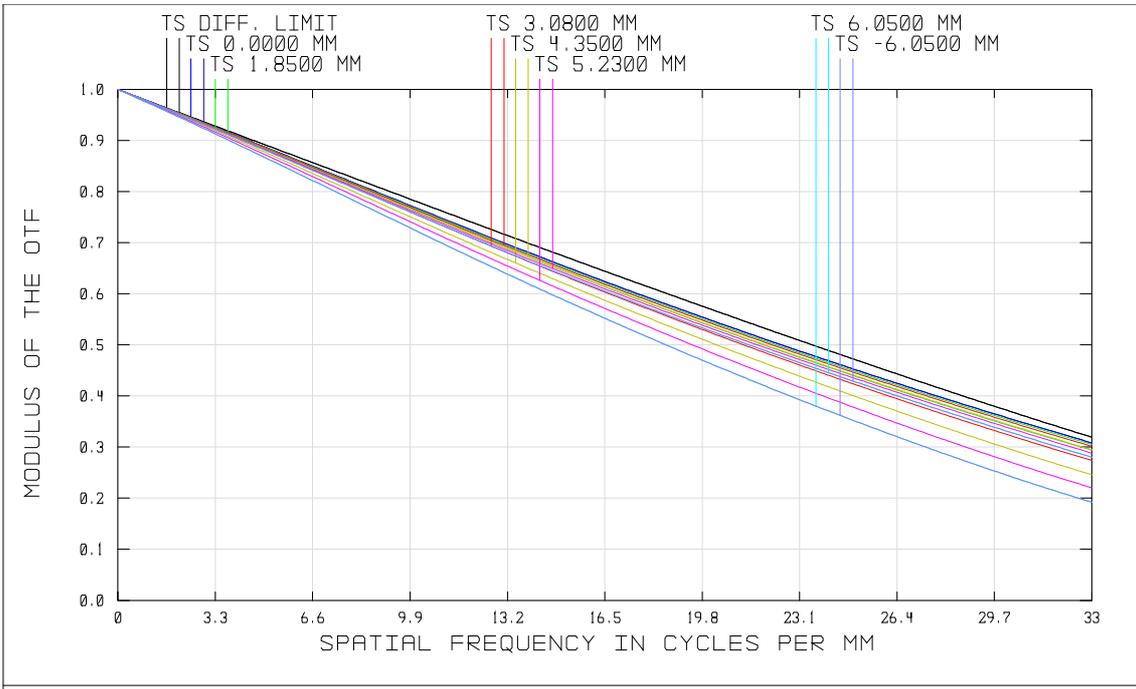


POLYCHROMATIC DIFFRACTION MTF

Z12
 WED JUN 21 2023
 DATA FOR 3.7000 TO 4.8000 μm .
 SURFACE: IMAGE

1100F4.0 ZOOM.ZMX
 CONFIGURATION 3 OF 12

EFL 900mm

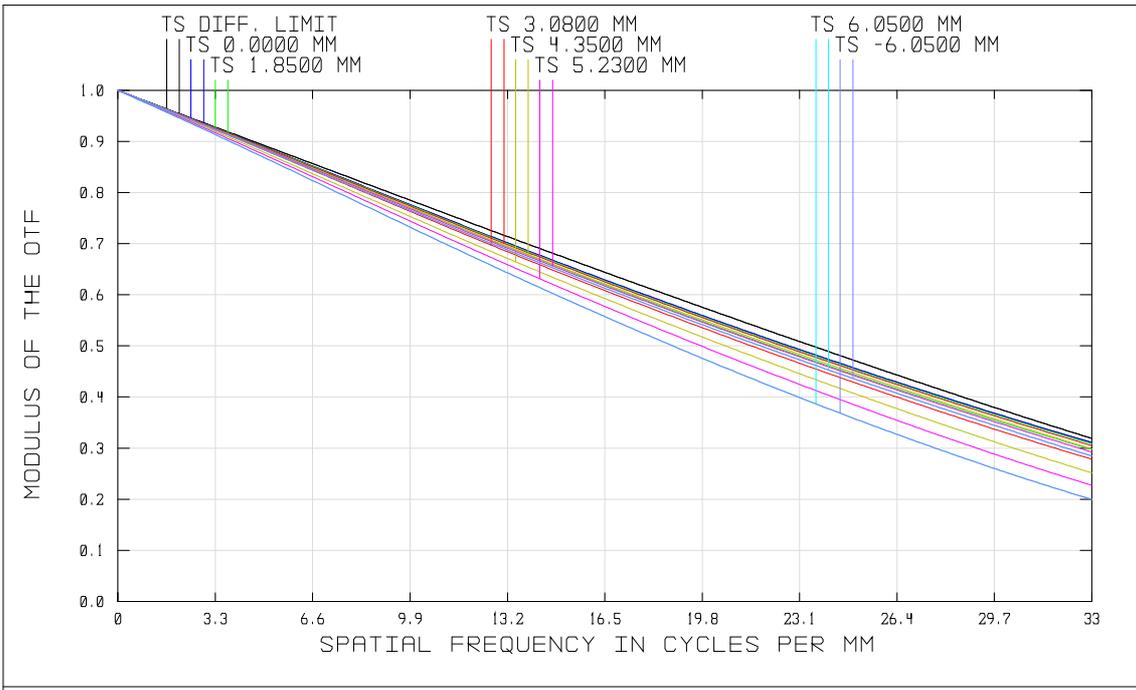


POLYCHROMATIC DIFFRACTION MTF

Z12
 WED JUN 21 2023
 DATA FOR 3.7000 TO 4.8000 μm .
 SURFACE: IMAGE

1100F4.0 ZOOM.ZMX
 CONFIGURATION 5 OF 12

EFL 700mm

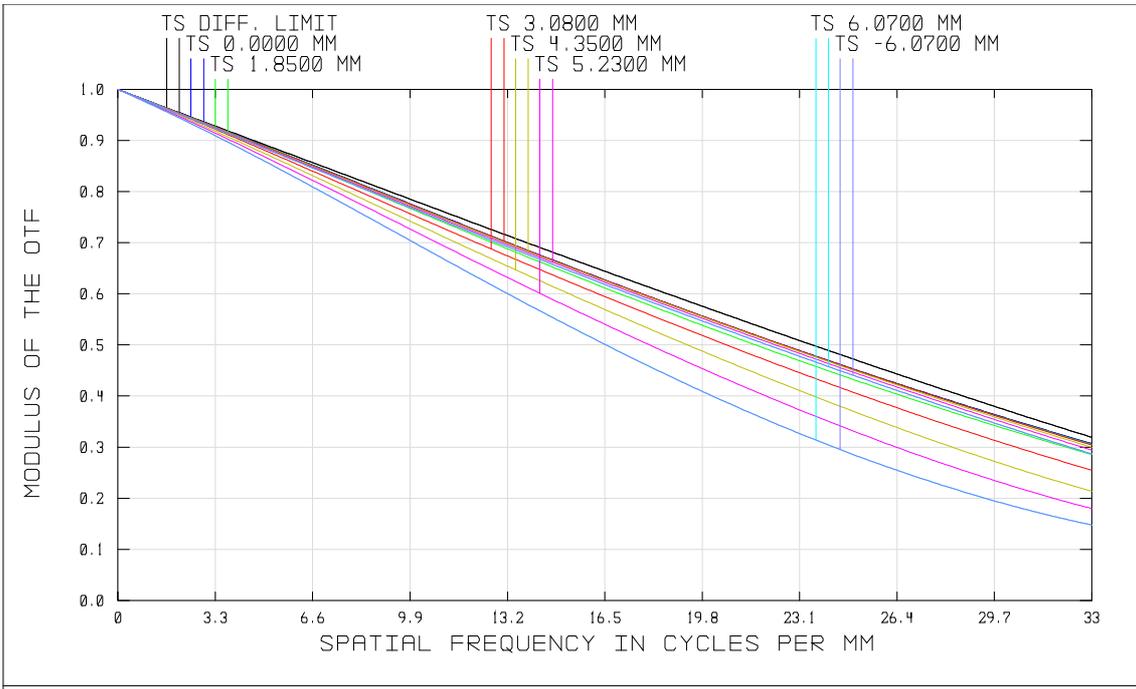


POLYCHROMATIC DIFFRACTION MTF

Z12
WED JUN 21 2023
DATA FOR 3.7000 TO 4.8000 μm .
SURFACE: IMAGE

1100F4.0 ZOOM.ZMX
CONFIGURATION 7 OF 12

EFL 500mm

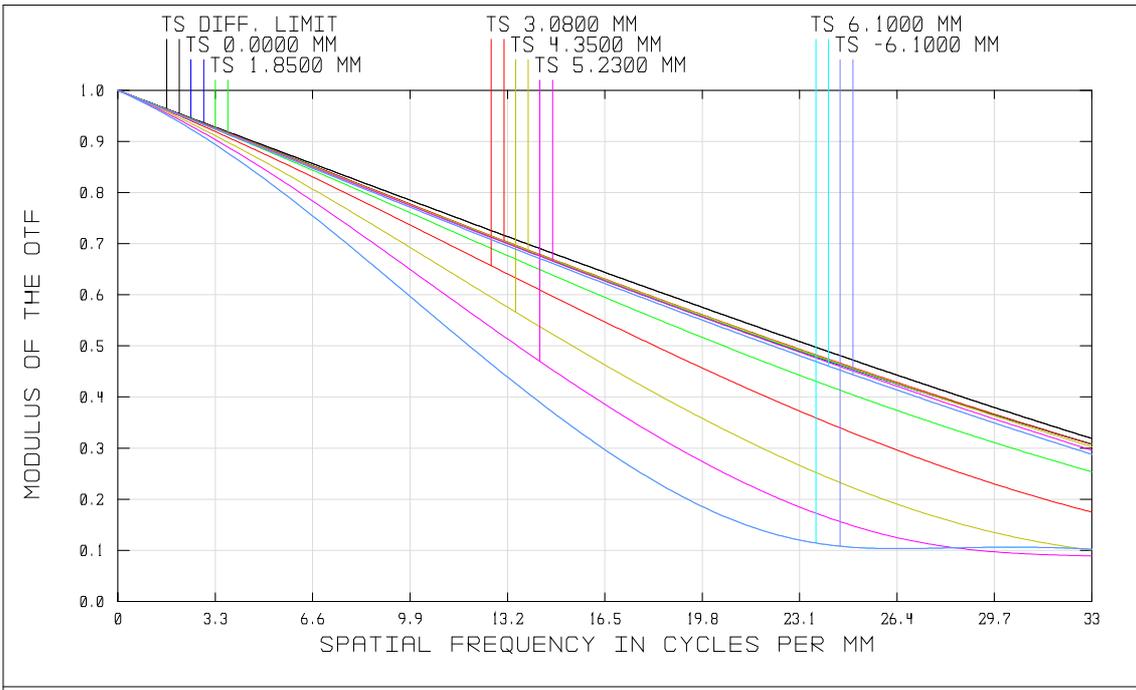


POLYCHROMATIC DIFFRACTION MTF

Z12
WED JUN 21 2023
DATA FOR 3.7000 TO 4.8000 μm .
SURFACE: IMAGE

1100F4.0 ZOOM.ZMX
CONFIGURATION 9 OF 12

EFL 300mm



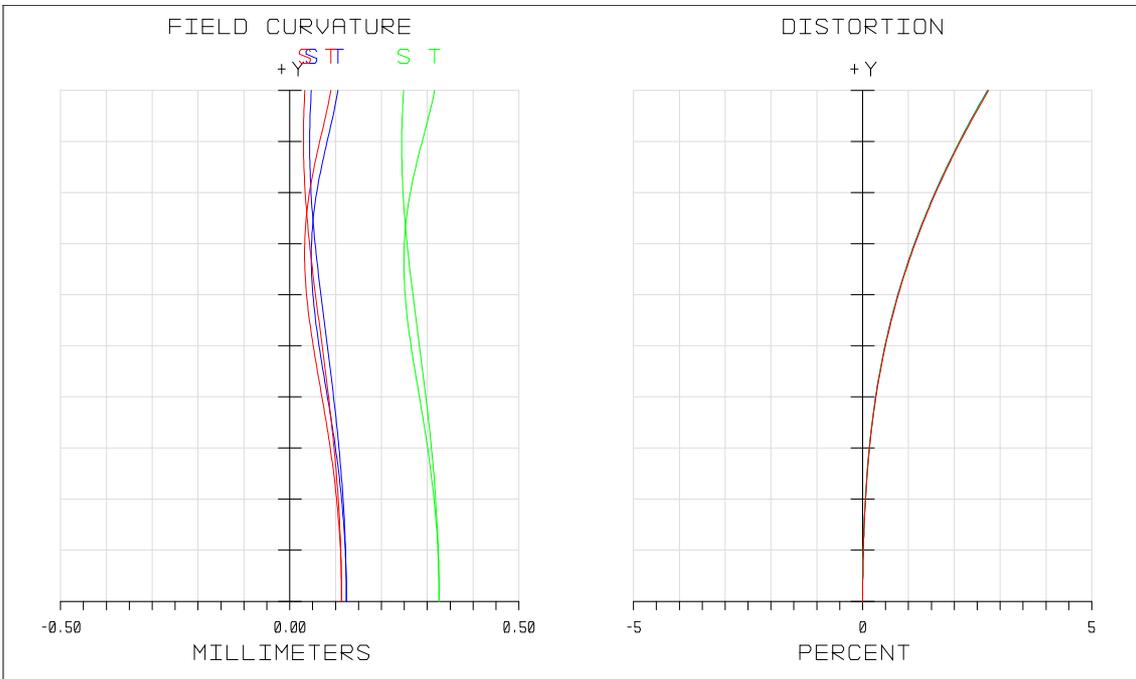
POLYCHROMATIC DIFFRACTION MTF

Z12
 WED JUN 21 2023
 DATA FOR 3.7000 TO 4.8000 μm .
 SURFACE: IMAGE

1100F4.0 ZOOM.ZMX
 CONFIGURATION 11 OF 12

EFL 90mm

2.2 场曲/畸变

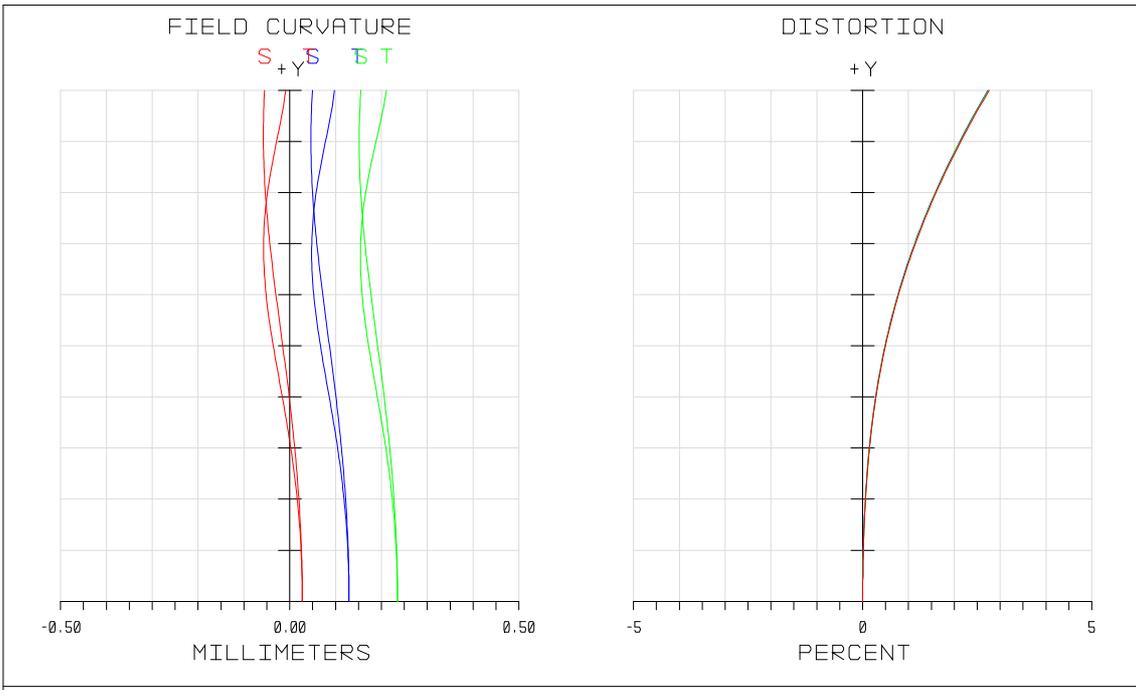


FIELD CURVATURE / F-TAN(THETA) DISTORTION

Z12
 WED JUN 21 2023
 MAXIMUM FIELD IS 6.100 MILLIMETERS
 WAVELENGTHS: 3.700 4.200 4.800

1100F4.0 ZOOM.ZMX
 CONFIGURATION 1 OF 12

EFL 1100mm

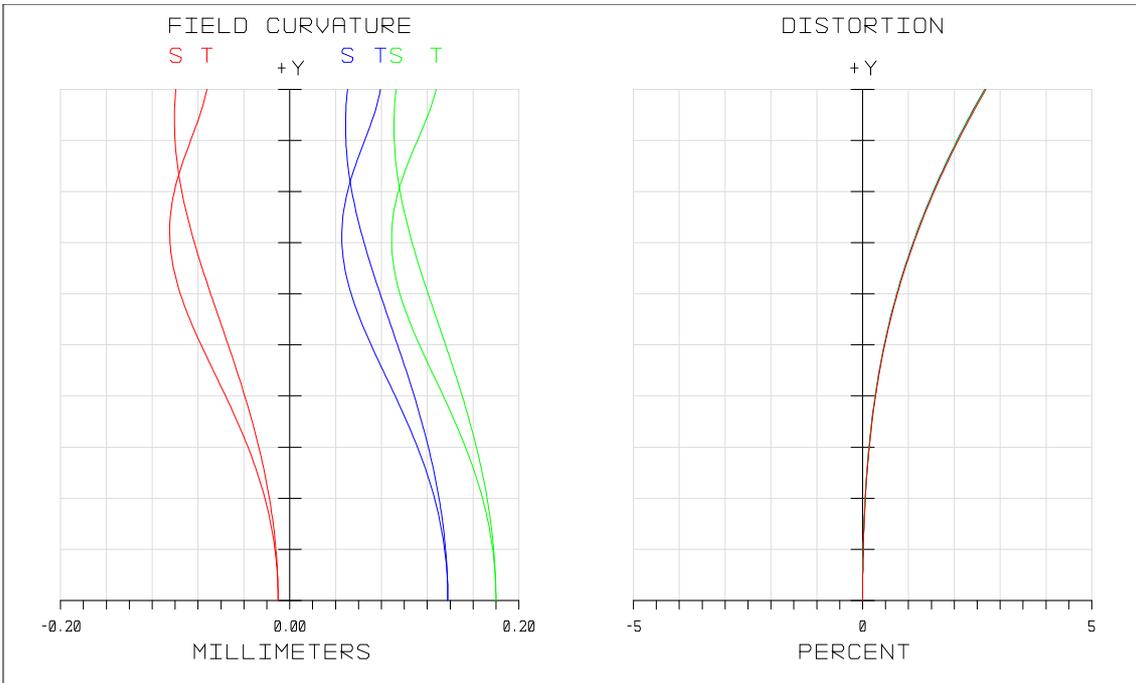


FIELD CURVATURE / F-TAN(THETA) DISTORTION

Z12
 WED JUN 21 2023
 MAXIMUM FIELD IS 6.100 MILLIMETERS
 WAVELENGTHS: 3.700 4.200 4.800

1100F4.0 ZOOM.ZMX
 CONFIGURATION 3 OF 12

EFL 900mm

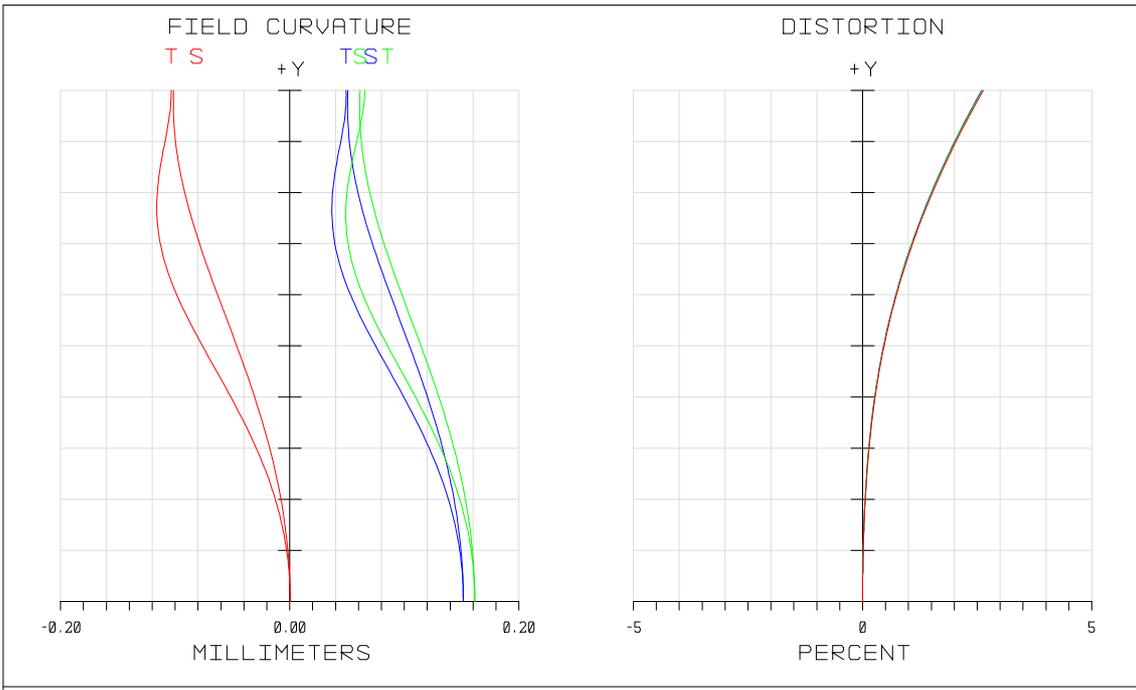


FIELD CURVATURE / F-TAN(THETA) DISTORTION

Z12
 WED JUN 21 2023
 MAXIMUM FIELD IS 6.050 MILLIMETERS
 WAVELENGTHS: 3.700 4.200 4.800

1100F4.0 ZOOM.ZMX
 CONFIGURATION 5 OF 12

EFL 700mm

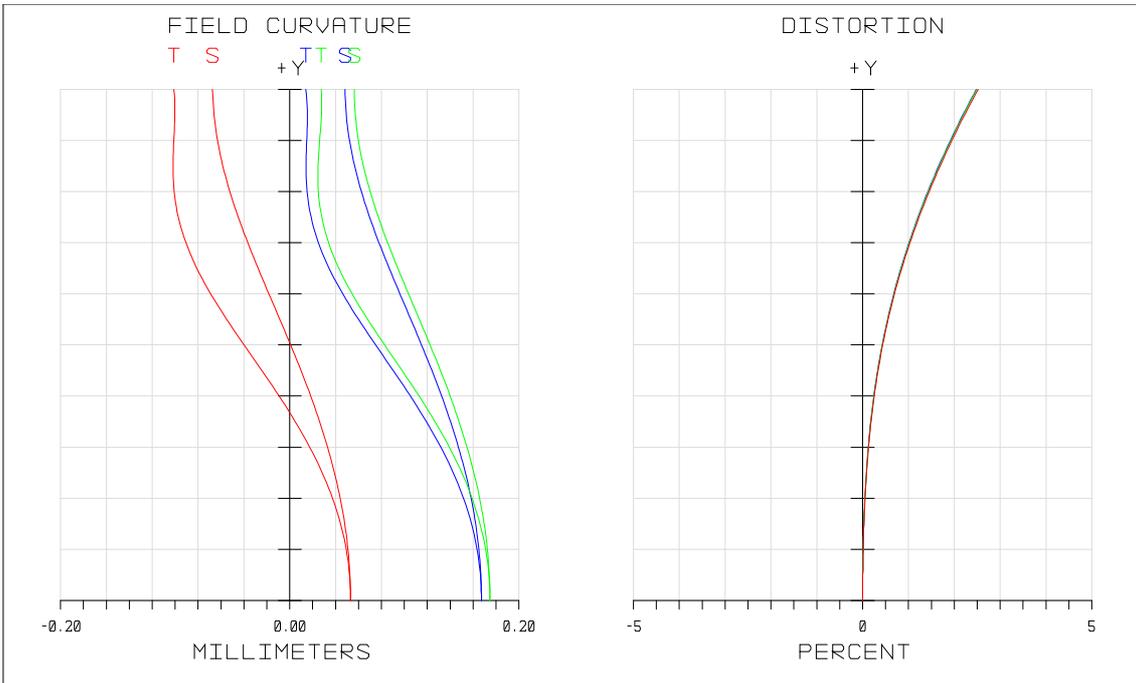


FIELD CURVATURE / F-TAN(THETA) DISTORTION

Z12
 WED JUN 21 2023
 MAXIMUM FIELD IS 6.050 MILLIMETERS
 WAVELENGTHS: 3.700 4.200 4.800

1100F4.0 ZOOM.ZMX
 CONFIGURATION 7 OF 12

EFL 500mm

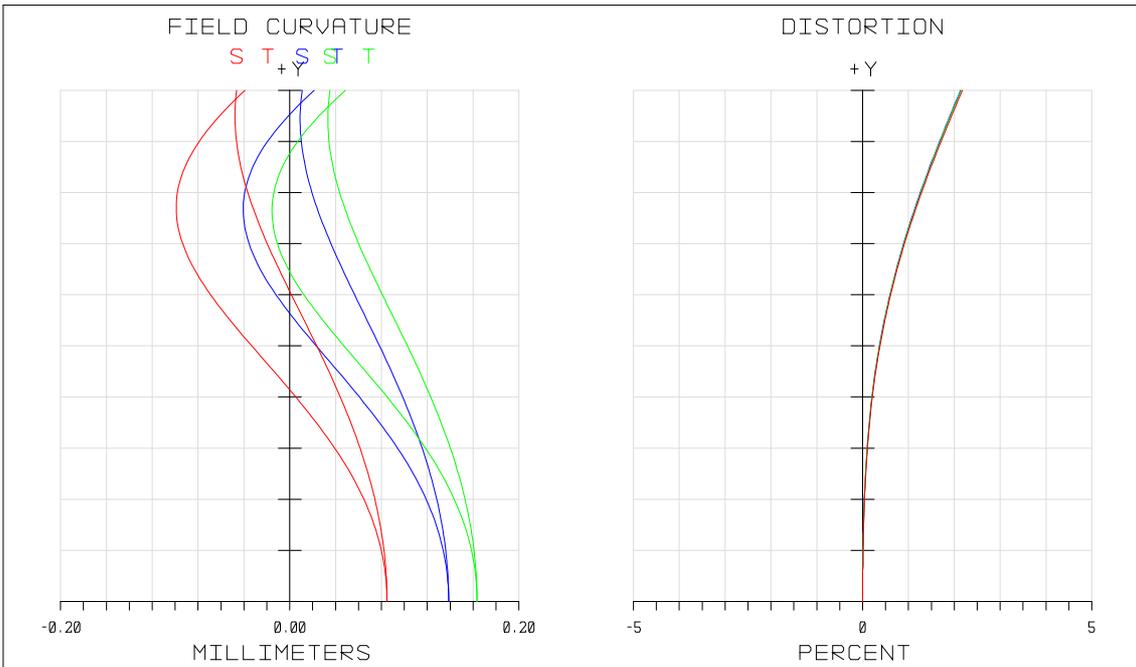


FIELD CURVATURE / F-TAN(THETA) DISTORTION

Z12
 WED JUN 21 2023
 MAXIMUM FIELD IS 6.070 MILLIMETERS
 WAVELENGTHS: 3.700 4.200 4.800

1100F4.0 ZOOM.ZMX
 CONFIGURATION 9 OF 12

EFL 300mm



FIELD CURVATURE / F-TAN(THETA) DISTORTION

Z12
 WED JUN 21 2023
 MAXIMUM FIELD IS 6.100 MILLIMETERS
 WAVELENGTHS: 3.700 4.200 4.800

1100F4.0 ZOOM.ZMX
 CONFIGURATION 11 OF 12

EFL 90mm