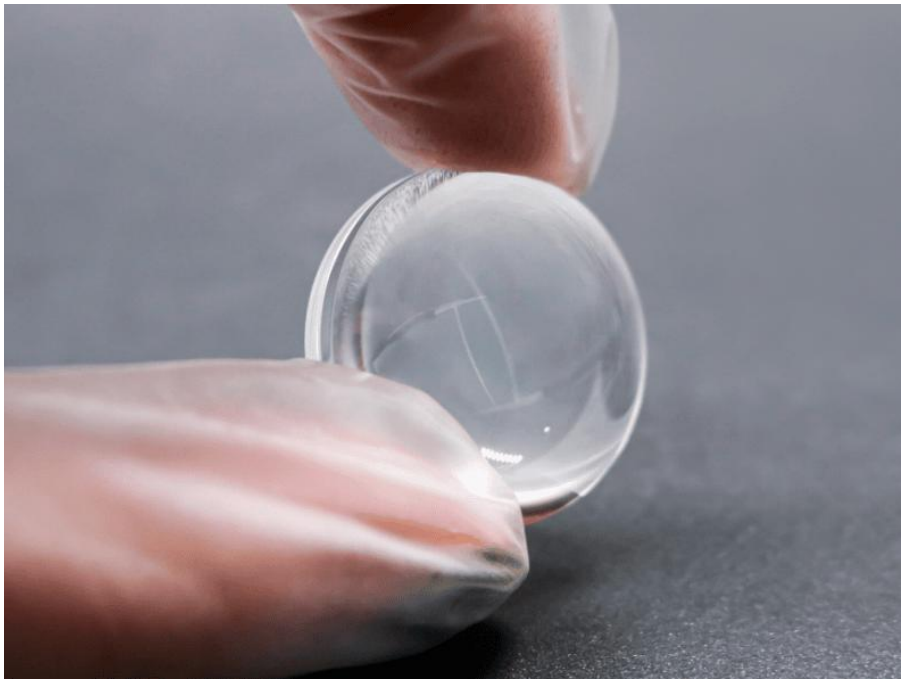
IR 抛光氟化钙 CaF2 平凸正透镜（直径 38.1mm 焦距 475mm)



描述

氟化钙在紫外到中红外（250nm~7um）之间都有很高的透射率，所以广泛被用于制造棱镜，透镜，窗片，氟化钙透镜具有低折射率，高激光损伤阈值，低同轴与径向应力双折射特性，适合于准分子激光器使用，或者集成于红外系统上。且氟化钙也备有低可溶性，也可抵抗恶劣环境。氟化钙的抛光面可以工作数年之久，氟化钙的硬度是氟化钡的两倍，而且抗热冲击能力更强。

产品特点

透射波长范围广， 低折射率，高透射率，高损伤阈值，低可溶性

产品型号

CAF38.1LENS475

应用领域

中红外QCL激光器 | 中红外激光光路搭建

核心参数

规格尺寸	焦距F.L.	曲率	透镜等级
38.1mm	475mm @ 5μm	190.35（±2%）	IR 平凸

详细参数

名称	参数
透射范围	0.13~10um
折射率	1.39908 at 5um
反射损耗	5.4% at 5um
吸收系数	$7.8\times10^{-4}cm^{-1}$@2.7um
吸收峰	35um
dn/dT	$-10.6\times10^{-6}/℃$
dn/du=0	dn/du=0
密度	3.18g/cc

熔点	1360℃
导热率	9.71$Wm^{-1}K^{-1}$
热膨胀	18.85×10^{-6}/℃
硬度	Knoop 158.3
比热容	854J $Kg^{-1}K^{-1}$
介电常数	6.76 at 1MHz
杨氏模量	75.8GPa
剪切模量	33.77GPa
体积模量	82.71GPa
弹性系数	C_{11}=164 ,C_{12}=53 ,C_{44}=33.7
表现弹性极限	36.54MPa
泊松比	0.26
溶解度	0.0017g/100g with，20 ℃
分子量	78.08

类型/结构	立方裂解
反射损耗	5.4% at 5um

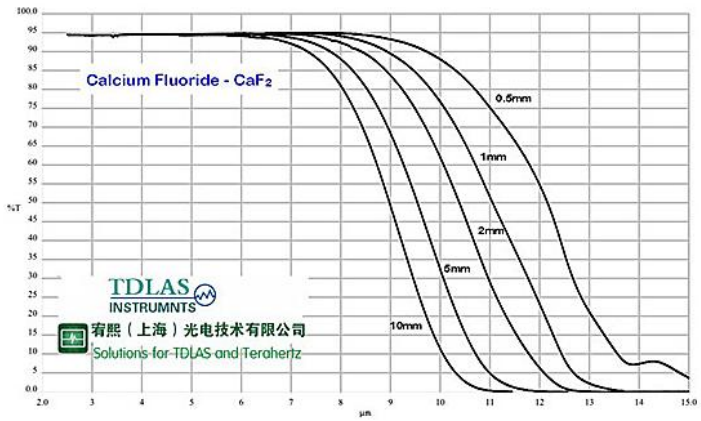
折射率:(No=Ordinary Ray 普通射线）

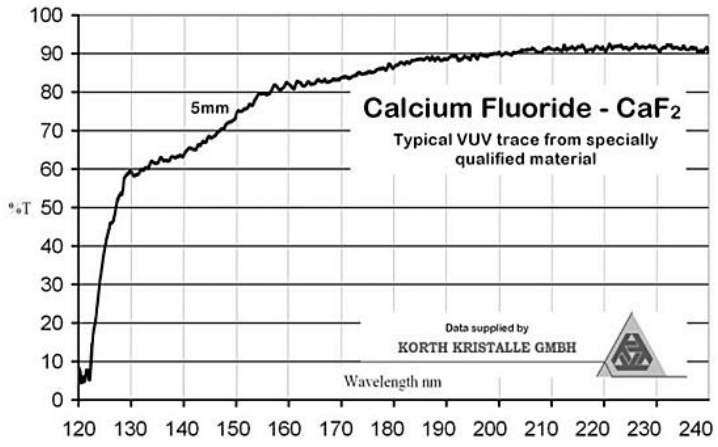
um	No	um	No	um	No
0.54	2.6754	0.58	2.6312	0.62	2.5994
0.66	2.5755	0.7	2.5568	0.74	2.5418
0.78	2.5295	0.82	2.5193	0.86	2.5107
0.90	2.5034	0.94	2.4971	0.98	2.4916
1.0	2.4892	1.4	2.4609	1.8	2.4496
2.2	2.4437	2.6	2.4401	3.0	2.4376
3.4	2.4356	3.8	2.4339	4.2	2.4324
4.6	2.4309	5.0	2.4295	5.4	2.4281
5.8	2.4266	6.2	2.4251	6.6	2.4235
7.0	2.4218	7.4	2.4201	7.8	2.4183

8.2	2.4163	8.6	2.4143	9.0	2.4122
9.4	2.4100	9.8	2.4077	10.2	2.4053
10.6	2.4028	11.0	2.4001	11.4	2.3974
11.8	2.3945	12.2	2.3915	12.6	2.3883
13.0	2.3850	13.4	2.3816	13.8	2.3781
14.2	2.3744	14.6	2.3705	15.0	2.3665
15.4	2.3623	15.8	2.3579	16.2	2.3534
16.6	2.3487	17.0	2.3438	17.4	2.3387
17.8	2.3333	18.2	2.3278		

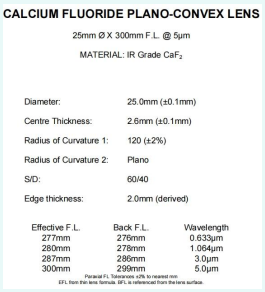
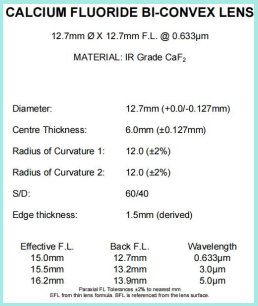
特性曲线

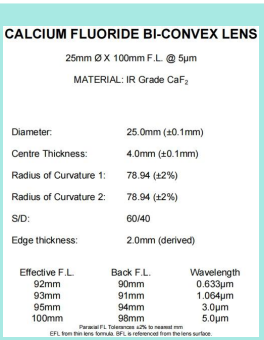
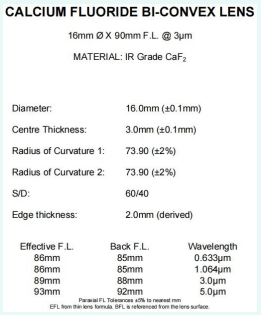
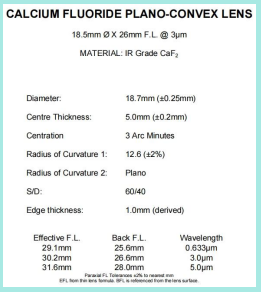
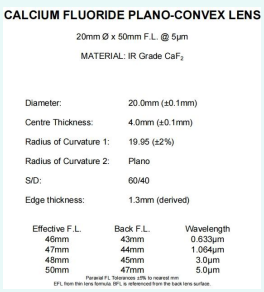
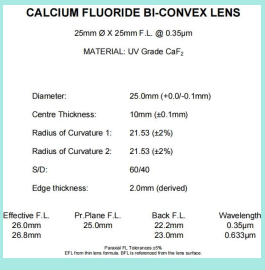
光谱透射图

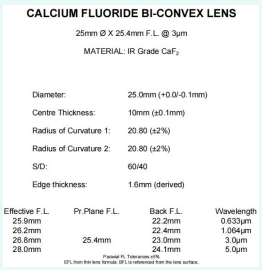
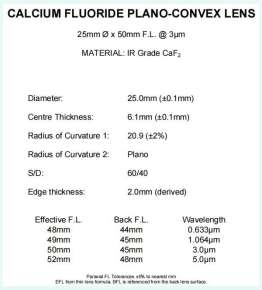
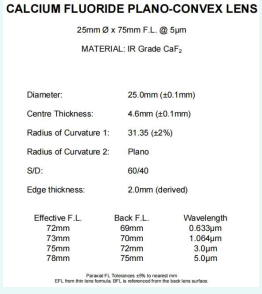


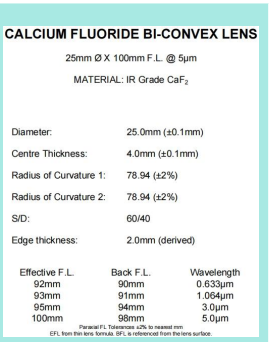
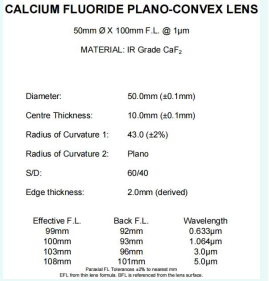
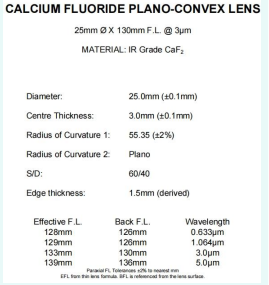
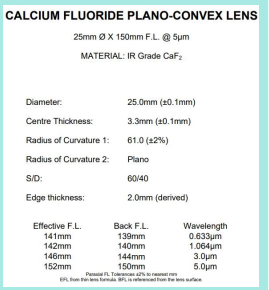


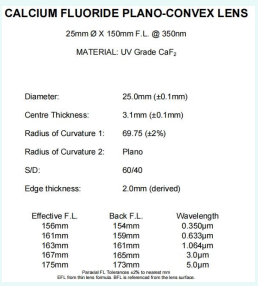
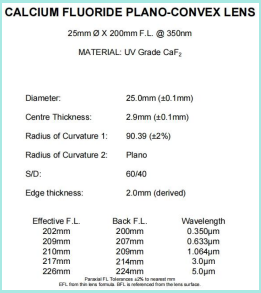
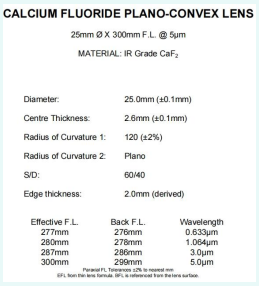
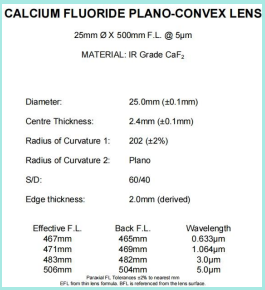
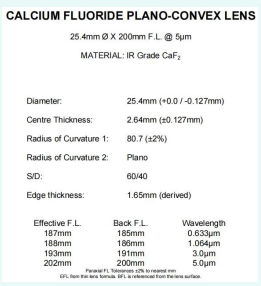
订购信息

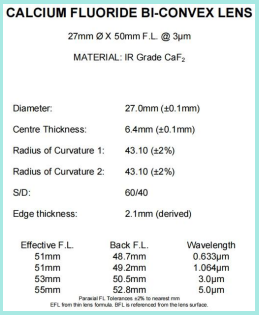
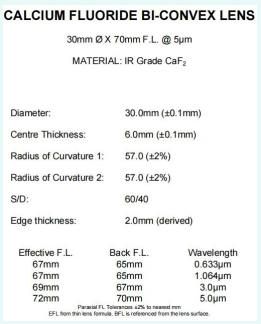
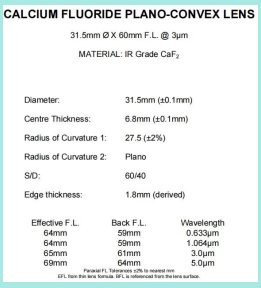
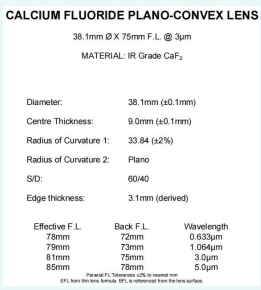
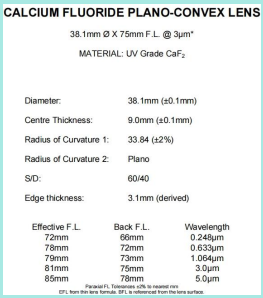
订购型号	规格	曲率	焦距	CaF2等级	参数
CAF12.7LENS10U	12.7mm Ø	10.16 (±2%)	10mm @ 300nm	UV 双凸	
CAF12.7LENS12	12.7mm Ø	12.0 (±2%)	12.7mm @ 5μm	IR 双凸	
CAF12.7LENS12U	12.7mm Ø	12.0 (±2%)	12mm @ 300nm	UV 双凸	

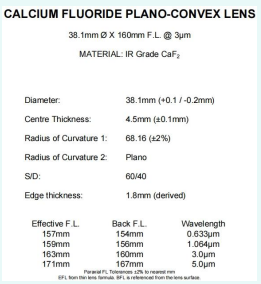
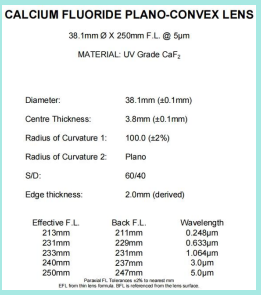
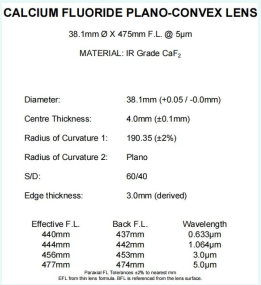
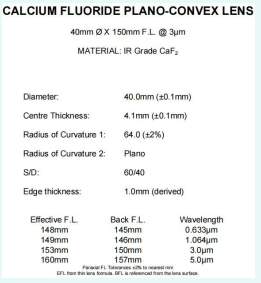
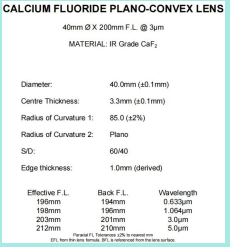
CAF12.7LENS100	12.7mm Ø	40.32 (±2%)	100mm @ 5μm	IR 平凸	
CAF16LENS90	16.0mm Ø	73.90 (±2%)	90mm @ 3μm	IR 双凸	
CAF18.5LENS26	18.5mm Ø	12.6 (±2%)	26mm @ 3μm	IR 平凸	
CAF20LENS50	20mm Ø	19.95 (±2%)	50mm @ 5μm	IR 平凸	
CAF25LENS25U	25mm Ø	21.53 (±2%)	25mm @ 350nm	UV 双凸	

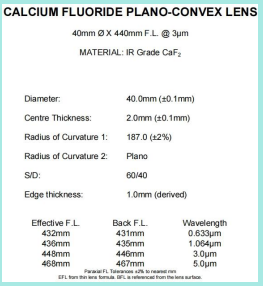
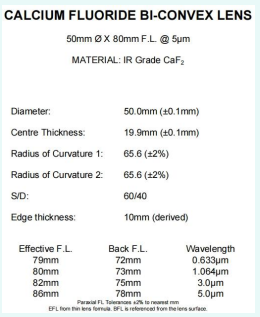
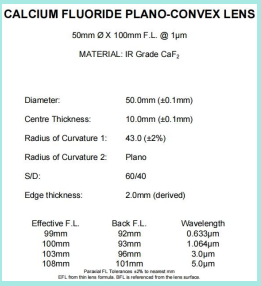
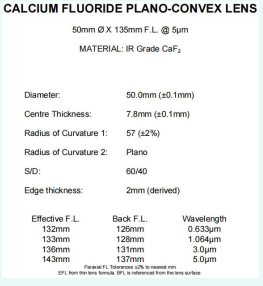
CAF25LENS25	25mm Ø	20.80 (±2%)	25.4mm @ 3μm	IR 双凸	
CAF25LENS50B	25mm Ø	39.1 (±2%)	50mm @ 5μm	IR 双凸	
CAF25LENS50	25mm Ø	20.9 (±2%)	50mm @ 5μm	IR 平凸	
CAF25LENS50U	25mm Ø	22.96 (±2%)	50mm @ 350nm	UV 平凸	
CAF25LENS75	25mm Ø	31.35 (±2%)	75mm @ 5μm	IR 平凸	

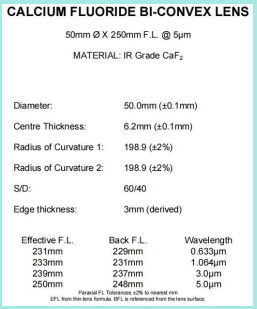
CAF25LENS100B	25mm Ø	78.94 (±2%)	100mm @ 3μm	IR 双凸	
CAF25LENS100	25mm Ø	43.73 (±2%)	100mm @ 3μm	IR 平凸	
CAF25LENS100U	25mm Ø	43.73 (±2%)	100mm @ 350nm	UV 平凸	
CAF25LENS130	25mm Ø	55.35 (±2%)	130mm @ 3μm	IR 平凸	
CAF25LENS150	25mm Ø	61.0 (±2%)	150mm @ 5μm	IR 平凸	

CAF25LENS150U	25mm Ø	69.75 (±2%)	150mm @ 350nm	UV 平凸	
CAF25LENS200U	25mm Ø	90.39 (±2%)	200mm @ 350nm	UV 平凸	
CAF25LENS300	25mm Ø	120.0 (±2%)	300mm @ 5µm	IR 平凸	
CAF25LENS500	25mm Ø	202.02 (±2%)	500mm @ 5µm	IR 平凸	
CAF25.4LENS200	25.4mm Ø	80.7 (±2%)	200mm @ 5µm	IR 平凸	

CAF27LENS50	27mm Ø	43.10 (±2%)	50mm @ 3μm	IR 双凸	
CAF30LENS70	30mm Ø	57.00 (±2%)	70mm @ 4μm	IR 双凸	
CAF31.5LENS60	31.5mm Ø	27.50 (±2%)	60mm @ 3μm	IR 平凸	
CAF38.1LENS75	38.1mm Ø	33.84 (±2%)	75mm @ 4.5μm	IR 平凸	
CAF38.1LENS75U	38.1mm Ø	33.84 (±2%)	66mm @ 248nm	UV 平凸	

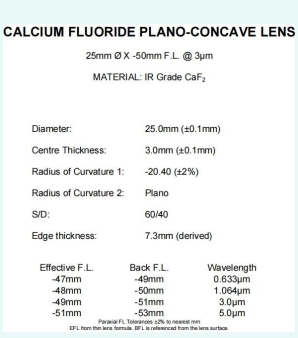
CAF38.1LENS160	38.1mm Ø	68.16 (±2%)	160mm @ 3µm	IR 平凸	
CAF38.1LENS250U	38.1mm Ø	100 (±2%)	215mm @ 248nm	UV 平凸	
CAF38.1LENS475	38.1mm Ø	190.35 (±2%)	475mm @ 5µm	IR 平凸	
CAF40LENS120	40mm Ø	50.25 (±2%)	120mm @ 3µm	UV 平凸	
CAF40LENS150	40mm Ø	64 (±2%)	150mm @ 3µm	IR 平凸	
CAF40LENS200	40mm Ø	85 (±2%)	200mm @ 3µm	IR 平凸	

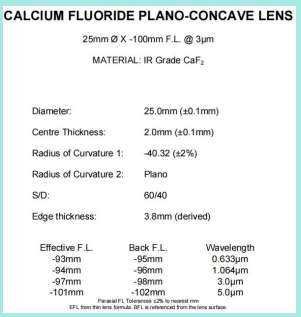
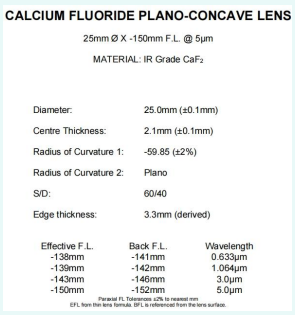
CAF40LENS330	40mm Ø	138 (±2%)	330mm @ 3μm	IR 平凸	
CAF40LENS440	40mm Ø	187 (±2%)	440mm @ 3μm	IR 平凸	
CAF50LENS80	50mm Ø	65.6 (±2%)	80mm @ 5μm	IR 平凸	
CAF50LENS100	50mm Ø	43.0 (±2%)	100mm @ 1μm	IR 双凸	
CAF50LENS135	50mm Ø	57.0 (±2%)	135mm @ 5μm	IR 平凸	

CAF50LENS250	50mm Ø	198.9 (±2%)	250mm @ 5μm	IR 双凸	

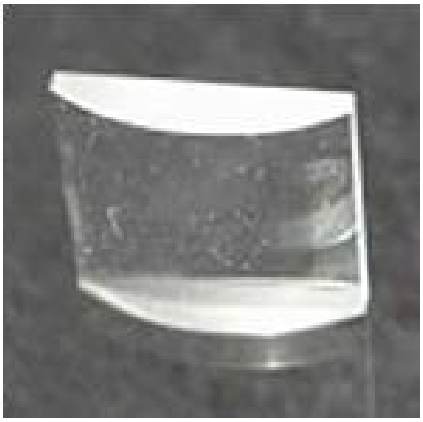
CaF2 负透镜

订购信息:

订购型号	规格	曲率	焦距	CaF2 等级	参数
CAF25LE NS-50	25mm Ø	-20.40 (±2%)	-50mm @ 3μm	IR 平凹	

CAF25LE NS-100	25mm Ø	-40.32 (±2%)	-100mm @ 3μm	IR 平凹	
CAF25LE NS-150	25mm Ø	-59.85 (±2%)	-150mm @ 5μm	IR 平凹	

CaF2 柱面透镜:



订购信息:

订购型号	规格	曲率	焦距	CaF2 等级
CAF25-25LENS25C	25mm x 25mm 平凸半圆柱	12.5（±2%）	25mm @ 3μm	IR 平凸
CAF25-25LENS350C	25mm x 25mm	150（±2%）	350mm @ 3μm	IR 平凸