

HERCULUX Chengdu HercuLux Photoelectric 恒坤光电 Technology Co.,Ltd **Product Approval**

Approval number:

Customer:

PN	Code	Product
HK-70@19-24-D9-20-1g-1	1. 01. 6735	SX 70@19-24° Lens
HK-70@19-36-D9-20-1g-1	1. 01. 6736	SX 70@19-36° Lens
HK-70@19-15-D9-20-1g-1	1. 01. 6837	SX 70@19-15° Lens
HK-70@19-60-D9-20-1g-1	1. 01. 81365	SX 70@19-60° Lens

Manufacturer: Chengdu HercuLux Photoelectric Technology Co.,Ltd



	Supplier co	onfirmation		Client cor	nfirmation	
Proposed		DATE	Qualified□			
Project manager		DATE	Unqualified□		DATE	
Audit		DATE	Audit		DATE	
Approved		DATE	Approved		DATE	
Stamp		DATE	Stamp		DATE	

(Confirmation of acceptance by both parties must be signed and sealed)

Factory: Chengdu Shuangliu District, Iot industrial park 2 road HercuLux Photoelectric Park

Phone: 028-85887727 (801) 028-85887990 (801) Fax: 028-85887730 www.hkoptics.com Sales Dept: Shenzhen Nanshan District Nanshan Cloud Valley Innovation Industrial Park Comprehensive Service Building,

TEL: 0755-2937 1541 FAX: 0755-2907 5140

^{*}Approval In duplicate, for both supplier and customer.

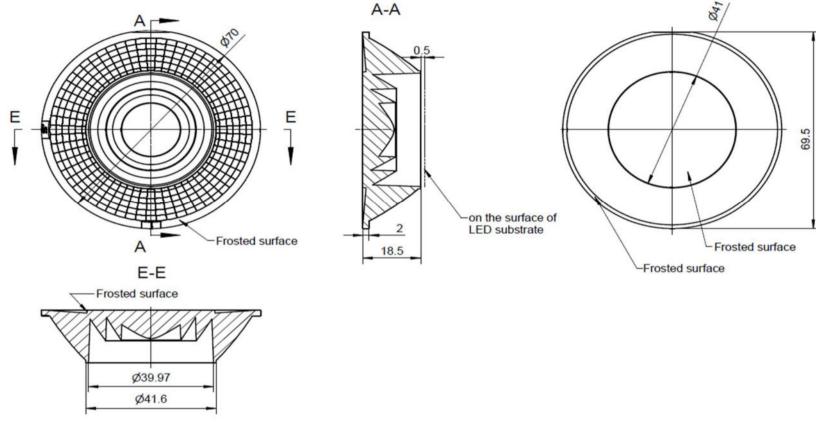


HERCULUX 恒坤光电 Product Approval

TEL: 0755-2937 1541 Date updated: 2019/5/31 FAX: 0755-2907 5140 www.hkoptics.com

Product Picture:	
PN:	HK-70@19-24-D9-20-1g-1
Size(L*W*H/Φ*H):	Ф:70mm; H:18.5mm
Material:	PC
T.C	\
Effiency:	`
Temperature(Topr):	-40°C to +120°C

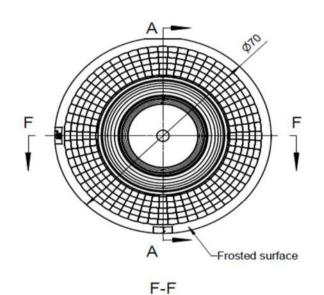


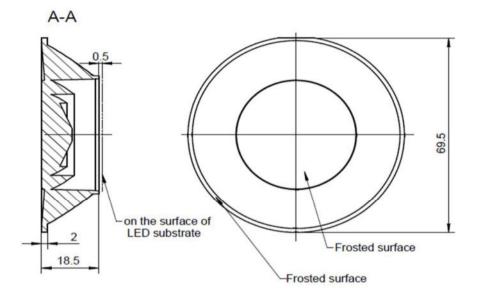


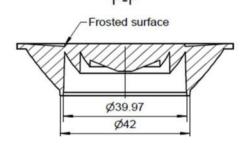
- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

Optical design						HK-70@19-24-D9-20-1g-1						
tructure desig			SX 70	@19-24°Lens		1.01.6735						
Review					umber o	f drawin	qty	we	ight			
Validation			Material:	PC	СДНК							









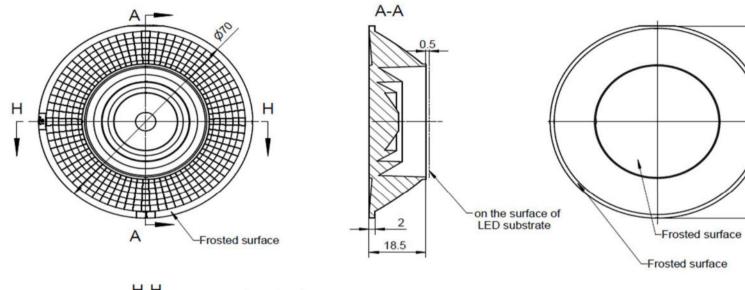
- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

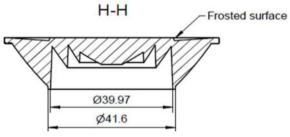
Optical design						HK-70@19-36-D9-20-1g-1						
tructure desig			SX 70	@19-36°Lens	ens 1.01.6736							
Review					umber o	f drawin	qty	we	ight			
Validation			Material:	PC		CDHK						

MT5 Tolerance	Basic size	<3	3∼10	24~65	65~140	140~250	250~	450 >	450				
	olerance valu	±0.1	±0.15	±0.35	±0.50	±0.80	±1.2	2 ±	2.0				



69.5



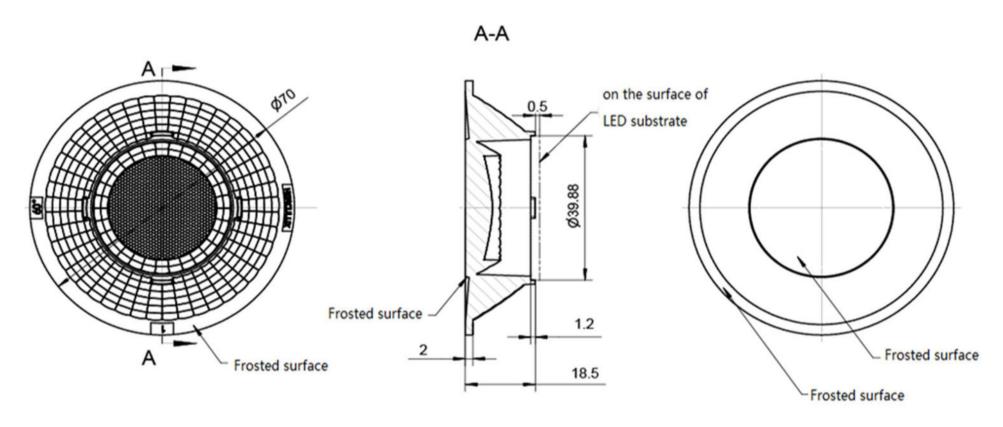


- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

Optical design						HK-70@19-15-D9-20-1g-1							
tructure desig			SX 70	@19-15°Lens	1.01.6837								
Review					umber of	f drawin	qty	we	ight				
Validation			Material:	PC		-	CDHK						

MT5 Tolerance	Basic size	<3	3∼10	24~65	65~140	140~250	250~	450 >	450				
	olerance valu	±0.1	±0.15	±0.35	±0.50	±0.80	±1.2	2 ±	2.0				

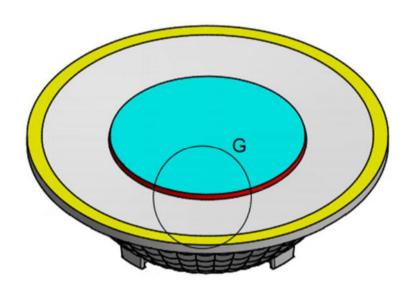


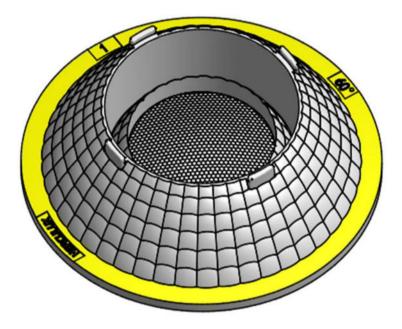


- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

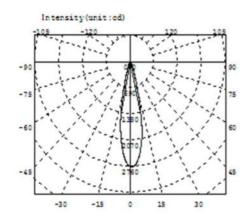
Optical design								HK-70@19-60-D9-20-1g-1							
tructure desig	1				SX 70	@19-60°Lens		1.01.81365							
Review							umber o	umber of drawin qty w							
Validation	ation				Material:	PC		CDHK							

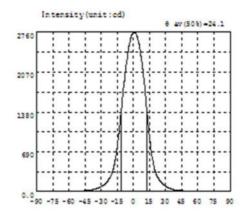












Intensity data: (deg , cd) C0-180

A	1	λ	1	λ	1	λ	1	Α	1	λ	1
-90.0	0.3439	-58.5	9.584	-27.0	124.6	4.5	2632	36.0	47.08	67.5	6.554
-88.5	0.3439	-57.0	10.22	-25.5	149.6	6.0	2496	37.5	39.64	69.0	5.977
-87.0	0.3316	-55.5	10.92	-24.0	180.6	7.5	2317	39.0	33.72	70.5	5.400
-85.5	0.3312	-54.0	11.77	-22.5	217.4	9.0	2098	40.5	29.11	72.0	4.746
-84.0	0.3436	-52.5	12.72	-21.0	268.6	10.5	1835	42.0	25.44	73.5	3.941
-82.5	0.3312	-51.0	13.81	-19.5	339.5	12.0	1545	43.5	22.37	75.0	3.296
-81.0	0.3706	-49.5	15.08	-18.0	438.0	13.5	1242	45.0	19.86	76.5	2.778
-79.5	0.4861	-48.0	16.53	-16.5	579.8	15.0	964.0	46.5	17.87	78.0	2.257
-78.0	0.6979	-46.5	18.23	-15.0	769.2	16.5	730.7	48.0	16.20	79.5	1.438
-76.5	1.431	-45.0	20.22	-13.5	999.8	18.0	551.9	49.5	14.80	81.0	0.731
-75.0	2.579	-43.5	22.67	-12.0	1259	19.5	420.2	51.0	13.61	82.5	0.578
-73.5	3.253	-42.0	25.46	-10.5	1536	21.0	319.2	52.5	12.61	84.0	0.520
-72.0	3.892	-40.5	28.84	-9.0	1804	22.5	255.6	54.0	11.72	85.5	0.568
-70.5	4.556	-39.0	32.94	-7.5	2052	24.0	208.2	55.5	10.92	87.0	0.597
-69.0	5.230	-37.5	38.06	-6.0	2274	25.5	170.6	57.0	10.21	88.5	0.614
-67.5	5.803	-36.0	44.61	-4.5	2466	27.0	140.8	58.5	9.602	90.0	0.672
-66.0	6.357	-34.5	52.83	-3.0	2613	28.5	117.0	60.0	9.012		
-64.5	7.005	-33.0	62.71	-1.5	2708	30.0	97.50	61.5	8.460		
-63.0	7.810	-31.5	74.13	0.0	2753	31.5	80.99	63.0	7.965		
-61.5	8.420	-30.0	87.79	1.5	2755	33.0	67.34	64.5	7.499		
-60.0	8.992	-28.5	104.4	3.0	2718	34.5	56.15	66.0	7.011		

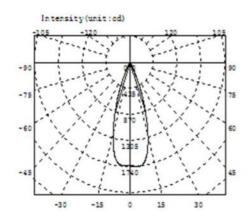
Current I: 0.1000A Power: 3.269W Voltage V: 32.70V PF: 1.000

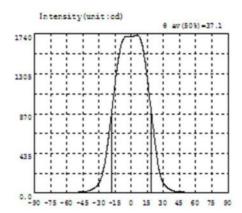
Optical Parameter (Distance=2.559m):

Diffuse angle: @(25%): 32.3deg@(50%): 24.1deg@(75%): 16.4deg@(50%): 24.1deg
Diffuse angle: @(25%): 32.3deg@(50%): 24.1deg@(75%): 16.6deg@(50%): 24.1deg
Imax=2759cd (C=0.0deg,G=1.0deg)
C0-180Plane Imax= 2759cd(G=1.0deg)

CO-180Plane IO= 2753cd







Intensity data: (deg , cd) C0-180

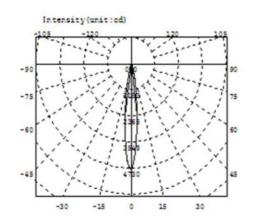
Α	1	λ	1	A	1	λ	I	Α	1	A	1
-90.0	0.3185	-58.5	7.270	-27.0	198.7	4.5	1727	36.0	41.68	67.5	4.602
-88.5	0.3818	-57.0	7.734	-25.5	270.7	6.0	1732	37.5	33.72	69.0	4.099
-87.0	0.3059	-55.5	8.256	-24.0	368.9	7.5	1715	39.0	27.85	70.5	3.652
-85.5	0.3819	-54.0	8.956	-22.5	487.2	9.0	1677	40.5	23.45	72.0	3.251
-84.0	0.3447	-52.5	9.721	-21.0	616.4	10.5	1608	42.0	20.26	73.5	2.804
-82.5	0.3689	-51.0	10.63	-19.5	750.3	12.0	1514	43.5	17.84	75.0	2.416
-81.0	0.3938	-49.5	11.53	-18.0	894.0	13.5	1399	45.0	15.86	76.5	1.999
-79.5	0.4492	-48.0	12.68	-16.5	1044	15.0	1260	46.5	14.29	78.0	1.608
-78.0	0.7129	-46.5	14.44	-15.0	1194	16.5	1112	48.0	12.95	79.5	1.227
-76.5	1.498	-45.0	16.14	-13.5	1336	18.0	961.5	49.5	11.86	81.0	0.6624
-75.0	1.883	-43.5	17.86	-12.0	1456	19.5	814.3	51.0	10.87	82.5	0.5003
-73.5	2.345	-42.0	20.66	-10.5	1555	21.0	671.5	52.5	10.01	84.0	0.3982
-72.0	2.789	-40.5	24.42	-9.0	1635	22.5	531.4	54.0	9.288	85.5	0.3949
-70.5	3.235	-39.0	29.02	-7.5	1684	24.0	398.5	55.5	8.527	87.0	0.3949
-69.0	3.697	-37.5	34.85	-6.0	1707	25.5	283.0	57.0	7.894	88.5	0.3835
-67.5	4.113	-36.0	42.69	-4.5	1715	27.0	204.6	58.5	7.328	90.0	0.3949
-66.0	4.564	-34.5	53.13	-3.0	1716	28.5	149.6	60.0	6.840		
-64.5	5.236	-33.0	66.83	-1.5	1713	30.0	112.0	61.5	6.329		
-63.0	5.862	-31.5	85.21	0.0	1714	31.5	85.29	63.0	5.872		
-61.5	6.309	-30.0	110.7	1.5	1716	33.0	66.33	64.5	5.425		
-60.0	6.761	-28.5	148.2	3.0	1724	34.5	52.24	66.0	5.015		

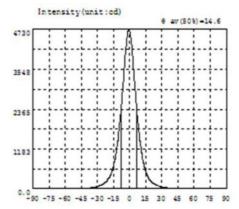
Current I: 0.1000A Power: 3.319W Voltage V: 33.20V PF: 0.000

Optical Parameter (Distance=2.559m):

CO-180Plane IO= 1714cd







Intensity data: (deg , cd) C0-180

λ	1	λ	1	λ	1	λ	1	Α	1	λ	1
-90.0	0.4512	-58.5	6.263	-27.0	109.7	4.5	3262	36.0	27.63	67.5	3.382
-88.5	0.5079	-57.0	6.762	-25.5	131.8	6.0	2654	37.5	23.01	69.0	3.039
-87.0	0.5985	-55.5	7.263	-24.0	159.5	7.5	2107	39.0	19.25	70.5	2.765
-85.5	0.7107	-54.0	7.831	-22.5	193.2	9.0	1632	40.5	16.49	72.0	2.496
-84.0	0.7326	-52.5	8.507	-21.0	241.8	10.5	1247	42.0	14.28	73.5	2.365
-82.5	0.6647	-51.0	9.293	-19.5	303.3	12.0	936.0	43.5	12.64	75.0	2.168
-81.0	0.8460	-49.5	10.11	-18.0	387.1	13.5	701.6	45.0	11.35	76.5	1.413
-79.5	0.8716	-48.0	10.95	-16.5	504.8	15.0	525.4	46.5	10.47	78.0	1.234
-78.0	1.228	-46.5	11.90	-15.0	669.3	16.5	403.8	48.0	9.751	79.5	1.187
-76.5	1.911	-45.0	13.02	-13.5	880.3	18.0	305.0	49.5	9.130	81.0	1.047
-75.0	2.124	-43.5	14.58	-12.0	1169	19.5	240.1	51.0	8.561	82.5	1.115
-73.5	2.307	-42.0	16.88	-10.5	1547	21.0	191.6	52.5	8.054	84.0	1.246
-72.0	2.567	-40.5	19.96	-9.0	2007	22.5	157.0	54.0	7.556	85.5	1.389
-70.5	2.886	-39.0	23.95	-7.5	2498	24.0	129.1	55.5	7.073	87.0	1.570
-69.0	3.213	-37.5	28.56	-6.0	3096	25.5	106.0	57.0	6.597	88.5	1.794
-67.5	3.488	-36.0	34.22	-4.5	3743	27.0	86.44	58.5	6.207	90.0	2.076
-66.0	3.940	-34.5	41.32	-3.0	4310	28.5	71.42	60.0	5.814		
-64.5	4.752	-33.0	50.24	-1.5	4661	30.0	58.81	61.5	5.472		
-63.0	5.159	-31.5	60.57	0.0	4697	31.5	48.23	63.0	5.059		
-61.5	5.466	-30.0	73.68	1.5	4390	33.0	39.67	64.5	4.261		
-60.0	5.842	-28.5	89.95	3.0	3850	34.5	33.15	66.0	3.679	II. II	

Current I: 0.1000A Power: 3.269W Voltage V: 32.70V PF: 1.000

Optical Parameter (Distance=2.410m):

Diffuse angle: @(25%): 22.6deg@(50%): 14.6deg@(75%): 8.6deg@(50%): 14.6deg

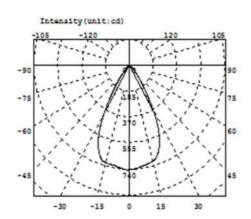
Diffuse angle: @(25%): 22.7deg@(50%): 14.7deg@(75%): 8.8deg@(50%): 14.7deg

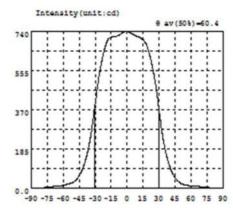
Imax=4724cd (C=0.0deg,G=-0.5deg)

CO-180Plane Imax= 4724cd(G=-0.5deg)

CO-180Plane IO= 4697cd







Intensity data: (deg , cd) C0-180

λ	I	λ	I	λ	I	Α	I	λ	I	Α	I
-90.0	0.7516	-58.5	16.61	-27.0	509.8	4.5	728.3	36.0	172.7	67.5	9.157
-88.5	0.9692	-57.0	19.36	-25.5	555.0	6.0	723.9	37.5	142.1	69.0	8.110
-87.0	1.365	-55.5	21.88	-24.0	594.6	7.5	718.9	39.0	116.2	70.5	7.165
-85.5	1.826	-54.0	23.45	-22.5	630.0	9.0	714.9	40.5	94.86	72.0	6.471
-84.0	2.336	-52.5	25.24	-21.0	660.1	10.5	713.1	42.0	77.17	73.5	5.801
-82.5	2.871	-51.0	28.54	-19.5	683.1	12.0	709.6	43.5	62.19	75.0	5.204
-81.0	3.358	-49.5	33.60	-18.0	699.7	13.5	704.9	45.0	50.02	76.5	4.621
-79.5	3.958	-48.0	40.45	-16.5	708.6	15.0	698.5	46.5	40.37	78.0	4.115
-78.0	4.508	-46.5	49.32	-15.0	712.2	16.5	690.0	48.0	32.85	79.5	3.664
-76.5	5.161	-45.0	60.29	-13.5	714.5	18.0	676.1	49.5	27.05	81.0	3.253
-75.0	5.850	-43.5	73.71	-12.0	715.8	19.5	655.5	51.0	22.75	82.5	2.910
-73.5	6.543	-42.0	90.13	-10.5	715.8	21.0	630.0	52.5	19.68	84.0	2.587
-72.0	7.432	-40.5	110.2	-9.0	718.8	22.5	598.2	54.0	17.40	85.5	2.231
-70.5	8.516	-39.0	134.8	-7.5	723.1	24.0	561.7	55.5	15.79	87.0	1.946
-69.0	9.544	-37.5	164.8	-6.0	727.5	25.5	522.3	57.0	14.45	88.5	1.763
-67.5	10.69	-36.0	200.3	-4.5	732.9	27.0	474.9	58.5	13.37	90.0	1.647
-66.0	11.55	-34.5	239.3	-3.0	737.5	28.5	423.0	60.0	12.51		
-64.5	12.15	-33.0	287.5	-1.5	738.4	30.0	359.4	61.5	11.88		
-63.0	12.91	-31.5	341.9	0.0	738.0	31.5	301.7	63.0	11.23		
-61.5	13.74	-30.0	399.9	1.5	736.9	33.0	251.2	64.5	10.44		
-60.0	14.92	-28.5	456.3	3.0	733.2	34.5	208.7	66.0	9.905		

Current I: 0.0900A Power: 3.330W Voltage V: 33.29V PF: 1.000

Optical Parameter (Distance=2.559m):

Equivalent Luminous flux: Φ eff= 732.3lm Efficiency: Eff=219.94lm/W

Diffuse angle: @ (25%): 72.0deg @ (50%): 60.4deg @ (75%): 49.8deg @ (50%): 60.4deg

Diffuse angle: @ (25%): 72.0deg @ (50%): 60.5deg @ (75%): 49.8deg @ (50%): 60.5deg

Imax=738.7cd (C=0.0deg, C=-2.0deg)

C0-180Plane Imax= 738.7cd (C=-2.0deg)

CO-180Plane IO= 738.0cd



			Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks
	diamet	er	70			69. 62	69.64	69.62			Test environment: In 20 °C -25 °C
1.Size	height	t1	18.5			18. 41	18.46	18.38			environment to achieve thermal equilibrium after the
	thickne	ess	2			2. 1	2.06	2.06			test.
				Gate	shear can	not affect th	ne appearar	nce of the la	amp		
				See	attachmen	t "Appearar	ce Inspecti	on Standar	ds"		
2.Appear	rance	atta	See achment bearance	E		No burr	No burr	No burr	No bu	r	OK
Quality			pection ndards"		١	No stains	No stains	No stains	No stai	ns	
3.Materia	al		•	PC	•		Color	Tra	nsparent		ОК
	Testing										
4.Optica	to the so	ource o	of the test,	if it is requ	ired to be	out of range ent, the lens	. According	to the heat fully tested	dissipation	n capa	uld be comparable ability of the lamp event the lens life.
I index	angle	angle					23.3°	23.6°			
	K-val	ue					4. 48	4. 42	//		
	Efficie	ency				85. 34%	85. 37%	85. 96%			
	Facula	See th	he signatu	re sample		`	1				
	ehensive ment						Qı	ualified			
Remarks: 1. Tool Number: V-Vernier Caliper 2D-Quadratic H- Height Gauge M-Tool Microscope P-Needle T- Thick Gauge R-Radius Gauge E-Visual. 2. Ambient temperature on						product siz	ze changes	with tem	*	Siz Siz Siz Siz Siz Siz Siz Siz	ze: 50mm ze: 100mm ze: 150mm ze: 200mm
the size of to the tab	the size of the product refer to the table on the right				0.1	10	20	30	40 (°C)	Siz	ze: 300mm

- 1. Wear clean gloves during lens assembly to prevent contamination of the lens surface.
- 2. Take the lens try to avoid touching the total reflection surface.
- 3. When the lens surface contamination, you can only gently wipe with soft cotton sticky neat neutral solvent, not allowed to wipe with industrial solvents.
- 4. The working temperature of the lens should be within the temperature limit of the lens material. Exceeding the temperature limit will cause damage to the lens and affect the service life of the lens.



			Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks
	diamet	er	70			69. 82	69.85	69.9			Test environment: In 20 °C -25 °C
1.Size	height	t1	18. 5			18. 6	18.54	18.62			environment to achieve thermal equilibrium after the
	thickne	ess	2			2. 04	2.02	2.01			test.
				Gate	shear can	not affect th	ne appearar	nce of the la	amp		
				See	attachmen	t "Appearar	ice Inspecti	on Standar	ds"		
2.Appear	rance	atta	See achment bearance	E		No burr	No burr	No burr	No burr		OK
Quality		Ins	pection ndards"		١	lo stains	No stains	No stains	No stains		
3.Materia	al			PC	•		Color	Tra	nsparent		OK
	Testing I	LED					D9	•			
4.Optica	to the so	ource actual	of the test,	if it is requ	ired to be	out of range ent, the lens	. According	to the heat fully tested	dissipation	n capa	uld be comparable ability of the lamp event the lens life.
I index	angle	9				37.4°	37. 5	38. 1			
	K-val	ue				2. 43	2. 39	2. 45			
	Efficie	ency				88. 47%	88. 59%	86. 10%			
	Facula	See tl	he signatu	re sample		`					
	ehensive ment						Qı	ualified			
					-	roduct size	e changes	with temp	erature t	able	
Remarks: 1. Tool Number: V-Vernier Caliper 2D-Quadratic H- Height Gauge M-Tool Microscope P-Needle T- Thick Gauge R-Radius Gauge E-Visual. 2. Ambient temperature on the size of the product refer to the table on the right			e on	Length change (mm)		10	20	30	* * *	Size: Size: Size:	50mm 100mm 150mm 200mm 250mm 300mm
Drogoutic	U										

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			Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks
	diamet	er	70			70.06	70.06	70.22			Test environment: In 20 °C -25 °C
1.Size	height	:1	18. 5			18. 67	18.66	18.71			environment to achieve thermal equilibrium after the
	thickne	ess	2			2. 12	2.14	2.18			test.
				Gate	shear can	not affect th	ne appearar	nce of the la	ımp		
				See	attachment	t "Appearar	ice Inspecti	on Standard	ds"		
2.Appear	ance		See achment pearance	E	1	No burr	No burr	No burr	No burr		OK
Quality		Ins	spection andards"		N	o stains	No stains	No stains	No stai	ns	SIX.
3.Materia	ıl			PC			Color	Tra	nsparent		OK
	Testing	ng LED D9									
4.Optica	to the so	ource actua	of the test,	if it is requ	ired to be o	out of range ent, the lens	. According	to the heat fully tested	dissipation	n capa	ald be comparable ability of the lamp event the lens life.
I index	angle	9		1			14.7°	14.5°			
	K-val	ue				7. 59	7. 49	7. 48	//		
	Efficie	ncy				86. 34%	86. 96%	85. 86%			
	Facula	See t	the signatu	re sample		`	•				
	hensive ment					•	Qı	ıalified			
Remarks	: Number: \	′-Verr	nier	Length change	0.9	roduct siz	e changes	with temp			e: 50mm
	D-Quadra			(IIIII	0.6					Siz	e: 100mm
	auge M-To pe P-Nee				0.5			*		Siz	e: 150mm
	uge R-Ra				0.4				→	← Siz	e: 200mm
Gauge E	auge E-Visual.				0.3				\rightarrow	K ─Siz	e: 250mm
	2. Ambient temperature on				0.2				→ →	Siz	e: 300mm
the size of the product refer to the table on the right			eter		0.1						
to the tab	ne on the	igni			0	10	20	30	40		
									(°C)		
Precautio	Precautions:										

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	•					,																
		;	Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks											
	diamet	er	70			69.94	69.93	69.95			Test environment: In 20 °C -25 °C											
1.Size	height	:1	18. 5			18.54	18.63	18.55			environment to achieve thermal											
	thickne	ess	2			2.04	2.08	2.07			equilibrium after the test.											
				Gate	shear can i	not affect th	e appearar	nce of the la	ımp													
				See	attachment	t "Appearan	ce Inspecti	on Standar	ds"													
2.Appear	rance	atta	See chment earance	E	1	No burr	No burr	No burr	No burr		OK											
Quality		Insp	pection ndards"	_	N	o stains	No stains	No stains	No stai	ns												
3.Materia	al		•	PC	•		Color	Tra	nsparent		OK											
	Testing I	ED					D9															
4.Optica	and the	o the source of the test, if it is required to be ound the actual conditions of the use environment FWHM						fully tested														
I index	angle	9					61.5°	60.9°	61.6°													
	K-val	ue																				
	Efficie	ncy															89. 94%	90. 15%	90. 22%	89. 64%		
	Facula	See th	ne signatu	re sample		•																
	hensive ment						Qı	ıalified														
Remarks: 1、Tool Number: V-Vernier Caliper 2D-Quadratic H- Height Gauge M-Tool Microscope P-Needle T- Thick Gauge R-Radius Gauge E-Visual. 2、Ambient temperature on the size of the product refer to the table on the right				Length change (mm)	0.9 s 0.8	roduct size	changes v	with temp	* •	Size Size Size Size Size	: 50mm : 100mm : 150mm : 200mm : 250mm : 300mm											
Drogoutio									(0)													

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PI	N	HK-70@19-24-D9-20-	1g-1	Product Name	SX 70@19-	24°Lens	5
Product	material	PC		Customer			
Package	diagram	Single Vac	cuum packa	ge Bo	x package		~
Product	packing	8	A/ Box	4	Box/Layer		
	3	13	Layer/Box	416	A/ Carton		
	NO.	Part No	Part name	Size	Dosage	Unit	Remarks
	1	2.07.0064	Blister box	23cm*21cm	52	BAG	
Deelseein	2	2.08.0001	PE film	30cm*30cm	52	PCS	
Packagin g	3	2.06.0005	Reel label paper	6.2cm*8cm	52	PCS	
Materials	4	2.06.0005	Box label paper	6.2cm*9.2cm	1	PCS	
	5	2.06.0003	big plate	46.8cm*42.8cm	14	PCS	
	6	2.06.0015	big flat carton	48cm*44cm*19cr	m 1	PCS	
Remarks		The loose packing is not subjec	ct to this specif	ication. Customer's	requirements shall	orevail	



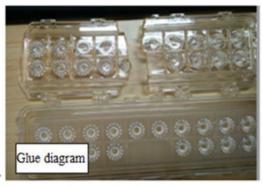
Special notice

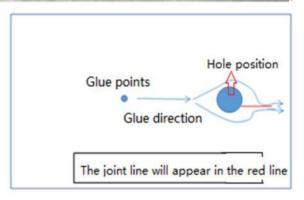
When gule pass through holes, columns and other structures, or part of the thin structure, will form a weld line. The product which uses multi-point injection welding line will appear because of the combination of sol, as shown below:

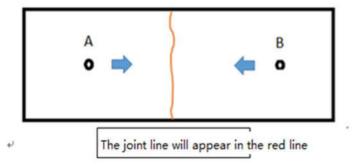
Syntneti











Please note:

The appearance of lines in the structure of the product as well as at the screw hole is a normal phenomenon, will not affect the actual use of the product, and can not be avoided at this stage.



Appearance inspection standards

1 Operating procedures

1.1.1Sampling standards, sampling plan and AQL

Test level : GB/T2828.1-2012The first part is according to the acceptance quality limit (AQL) retrieval batch inspection sampling plan, general inspection level Π level, CR class defect coefficient 0, MA defect rejection level AQL = 0.65, MI class defect rejection level AQL = 1.0; defect level please see 5.4.

2 Code table

Code	Code	Unit	Code	Code	Unit
	description			description	
N	Amount/pcs	pcs	D	Diameter	mm
L	Length	mm	Ħ	Depth	mm
W	Width	mm	DS	Distance	mm
S	Proportion	mm²	SS	Offset	mm

3 Test conditions

- 3.1 Sight distance and working hours: Sight distance should be 30-35cm, each side of the inspection time does not exceed 12s, the visual angle of 45-135 degrees;
- 3.2 Light: 2x40w cool white fluorescent lamp, the light source is 500-550mm away from the lens surface; in order to make the appearance defect can be correctly recognized, the illumination should be 500-1000Lux, and the observation time is 10 seconds.
 - 3.3 Visual inspection staff should be 1.0 (including corrected visual acuity) above, no color blindness, color weakness.

4 Appearance inspection standards

Test items	ludging atondard	Inspection equipment	Defec	t level	
restitems	Judging standard	Testing method	MI	MA	CR
	When start the machine and process, all products have to check the appearance of the sample, the appearance of the sample is divided into qualified samples and limited samples.				
Check the sample	1: Qualified sample refers to the appearance and structure standard of the product which recognized by the client, the sample size should be confirmed before mass production;	Sample comparison , visual			√

1		Ī	Ī	
	2: The limited sample refers to the limit of a particular exceptionally developed sample. Limit the sample only for its specific point of exception to confirm; The priority is higher than the other criteria in this table. When there is a limited sample, the limit sample shall prevail.			
Raw edge	Not allowed to affect the size and assembly	Visual, point card	√	
Scratch	1: Non-optical surface and non-exposed surface scratches should be visually insignificant and the length is less than 1/10 of the maximum surface size.	Visual, point card, calipers	√	
Fingerprint	Fingerprints are not allowed on all products	Visual	√	
Foreign objects, black spots, white spots	The product may not be attached to foreign objects, including oil, fiber, dregs of water gap and so on			√
Deformation	Insufficient filling shall not affect the appearance of the assembly and the exposed surfaces.	Visual, feeler		√
Poor ejection	Products may not appear bad ejection, including no convex top, thimble printed on the assembly surface shall not be higher than the product surface, non-assembled surface thimble height should not exceed the product size tolerances; thimble printing should be less than the product surface and no more than 0.3; thimble surface treatment should be consistent with the product side. Ejection strain: the optical surface and the appearance of the exposed surface after assembly are not allowed to have a strain, and the structural surface does not allow visual obvious strain.	Visual, point card	√	
Insufficient filling	Insufficient filling shall not affect the appearance of the assembly and the exposed surfaces, The signature sample shall prevail.	Visual, point card	√	
Shrink	When the entire surface of the product shrinks, the optical properties and dimensions must meet the requirements, and the visual will not significantly affect the appearance.Part shrink reference point defects	Visual, point card	√	
Flow marks、Welding line	 1 : Product does not allow the presence of flow marks and welding lines unless the structure can not be avoided; 2: The remaining flow marks shall not appear in the optical surface, a single L ≤ 10mm, no more than two 	Visual	✓	

Bubble	No bubbles are allowed	Visual		√	
Foreign objects, black spots, white spots	Not obvious or D ≤ 0.3mm black spots and foreign bodies in the area of 100x100mm not more than 1; Exceeded foreign matter black spots is judged bad.	Visual, point card	V		
Damaged	No damage is allowed	Visual			√
Cold glue	Optical surface may not have cold glue, non- optical surface cold glue should meet the visual is not obvious.	Visual	√		
	1: Do not affect the product size, shall not penetrate the optical surface, the cut should be smooth;				
Bad incision	2: Laser cutting products, the optical surface burns shall not occur after the processing is completed. Beading must not affect product installation	Visual			√
	3: Three molds and hot runner gate shall not appear residue.				
Scrub	Scrub surface should be uniform, off the scrub phenomenon should not be obvious , A single off scrub imprint requires D \leq 1 mm and no more than 1 area within a 50x50 mm area	Visual		√	