

HERCULUX Chengdu HercuLux Photoelectric 恒坤光电 Tochnology Control Technology Co.,Ltd

Product Approval

Approval number:

Customer:

Manufacturer: Chengdu HercuLux Photoelectric Technology Co.,Ltd

PN	Code	Product
HK-62@31-15-D9-20-1g-1	1. 01. 71155	HK-62@31-15° Lens
HK-62@31-24-D9-20-1g-1	1. 01. 71186	HK-62@31-24° Lens
HK-62@31-36-D9-20-1g-1	1. 01. 71187	HK-62@31-36° Lens
HK-62@31-60-D9-20-1g-1	1. 01. 81485	HK-62@31-60° Lens



	Supplier co	onfirmation	Client confirmation						
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.

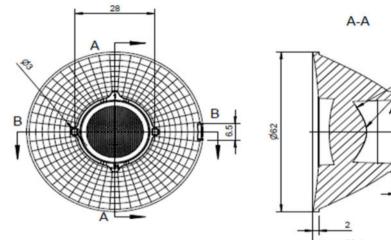


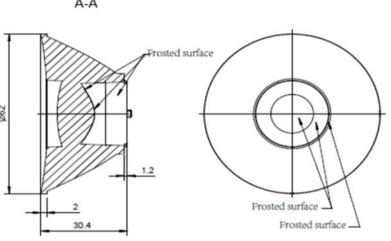
HERCULUX 恒坤光电 Product Approval

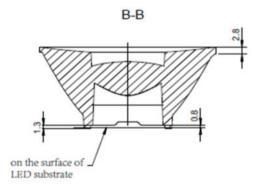
TEL: 0755-2937 1541 Date updated: 2020/7/28 FAX: 0755-2907 5140 www.hkoptics.com

Product Picture:	
PN:	HK-62@31-15-D9-20-1g-1
Size(L*W*H/Φ*H):	Ф:62mm; H:30.4mm
Material:	PMMA
Effiency:	\
Temperature(Topr):	-40°C to +80°C
FWHM:	15°/24°/36°/60°
Matched LES:	LED : D9







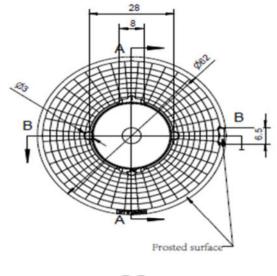


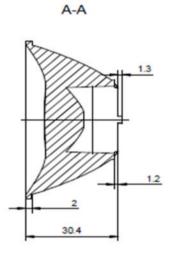
- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

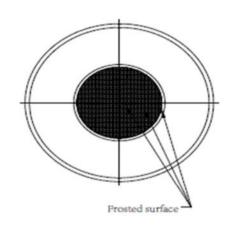
Optical design							HK-62@31-15-D9-20-1g-1						
tructure desig				HK-62	@31-15°Lens			1.01.71155					
Review						umber o	f drawin	qty	we	ight			
Validation				Material:	PMMA	CDHK							

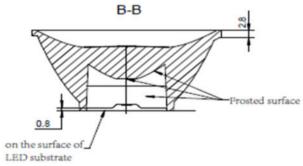
MT5 Basic s	ize	<3	3~10	24~65	65~140	140~2	250 250	~450	>4	50		
(mm) olerance	valu	±0.1	±0.15	±0.35	±0.50	±0.8	0 ±	1.2	±2.	0		







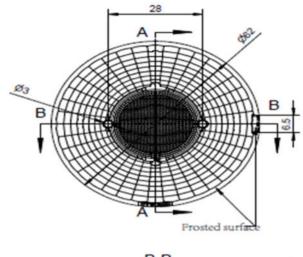


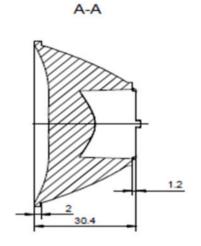


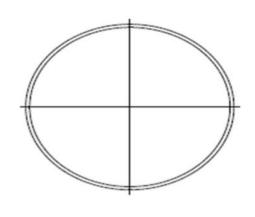
- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

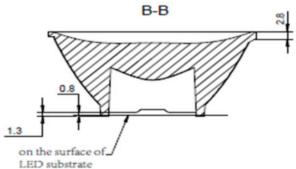
Optical design					HK-62	@31-24-D9-20	-1g-1	
tructure desig		HK-62	@31-24°Lens			1.01.71186		
Review				umber of	fdrawin	qty	we	ght
Validation		Material:	PMMA					









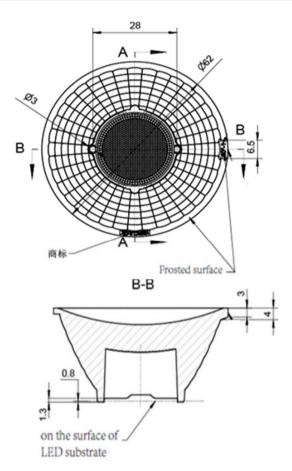


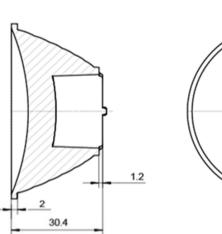
- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

Optical o	design								HK-62@31-36-D9-20-1g-1						
tructure desig						HK-62	@31-36°Lens			1.01.71187					
Revie	Review						umber o	f drawin	qty	we	ight				
Validation				Material:	PMMA										

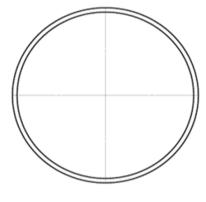
						-						
MT5 Tolerance	Basic size	<3	3~10	24~65	65~140	140~250	250~	~450	>450			
	olerance valu	±0.1	±0.15	±0.35	±0.50	±0.80	±1	.2	±2.0			







A-A

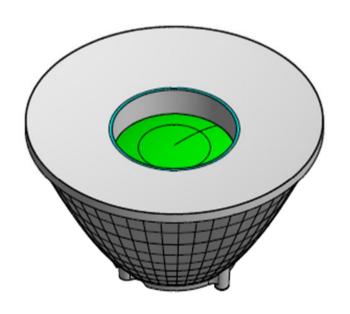


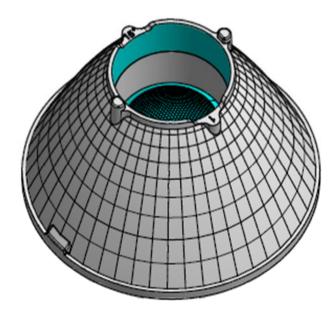
- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

Optical design							HK-62@31-60-D9-20-1g-1						
tructure desig				HK-62	@31-60°Lens			1.01.81485					
Review						umber o	f drawin	qty	we	ight			
Validation				Material:	PMMA		CDHK						

MT5 Tolerance	Basic size	<3	3∼10	24~65	65~140	140~	250 25	0~450	>4	50		
	olerance valu	±0.1	±0.15	±0.35	±0.50	±0.8	0	±1.2	±2	.0		

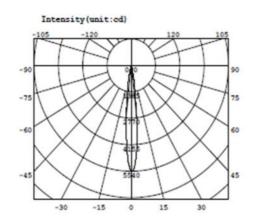


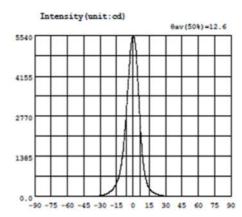




IES----







Intensity data: (deg , cd) C0-180

λ	I	λ	I	A	I	Α	I	λ	I	λ	I
-90.0	1.554	-58.5	8.336	-27.0	53.63	4.5	4063	36.0	13.35	67.5	5.695
-88.5	1.554	-57.0	8.749	-25.5	71.99	6.0	3035	37.5	12.27	69.0	5.236
-87.0	1.617	-55.5	9.194	-24.0	96.28	7.5	2070	39.0	11.55	70.5	4.597
-85.5	1.695	-54.0	9.733	-22.5	127.9	9.0	1352	40.5	11.11	72.0	4.056
-84.0	1.861	-52.5	10.33	-21.0	168.1	10.5	879.5	42.0	10.83	73.5	3.530
-82.5	1.910	-51.0	10.85	-19.5	215.9	12.0	590.3	43.5	10.58	75.0	3.160
-81.0	2.013	-49.5	11.00	-18.0	278.0	13.5	410.5	45.0	10.31	76.5	2.288
-79.5	2.180	-48.0	11.12	-16.5	258.0	15.0	282.4	46.5	10.06	78.0	1.825
-78.0	2.385	-46.5	11.30	-15.0	460.7	16.5	210.2	48.0	9.850	79.5	1.806
-76.5	2.557	-45.0	11.53	-13.5	603.7	18.0	158.6	49.5	9.691	81.0	1.750
-75.0	3.042	-43.5	11.90	-12.0	812.2	19.5	120.3	51.0	9.465	82.5	1.555
-73.5	3.464	-42.0	12.42	-10.5	1120	21.0	92.54	52.5	9.033	84.0	1.347
-72.0	3.995	-40.5	13.16	-9.0	1579	22.5	71.59	54.0	8.535	85.5	1.297
-70.5	4.607	-39.0	14.04	-7.5	2206	24.0	56.00	55.5	8.105	87.0	1.321
-69.0	5.247	-37.5	15.26	-6.0	2927	25.5	43.37	57.0	7.721	88.5	1.265
-67.5	5.843	-26.0	16.90	-4.5	2760	27.0	33.97	58.5	7.319	90.0	1.012
-66.0	6.402	-24.5	18.98	-3.0	4593	28.5	27.34	60.0	7.015		
-64.5	6.880	-33.0	21.91	-1.5	5242	30.0	22.67	61.5	6.763		
-63.0	7.252	-21.5	25.98	0.0	5528	31.5	19.31	63.0	6.559		
-61.5	7.559	-30.0	31.88	1.5	5425	33.0	16.71	64.5	6.371		
-60.0	7.921	-28.5	40.80	3.0	4948	34.5	14.72	66.0	6.060		

Electricity Parameter:

Current I: 0.1000A Power: 3.610W Voltage V: 36.09V PF: 1.000

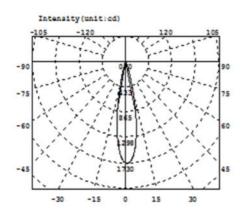
Optical Parameter (Distance=2.559m):

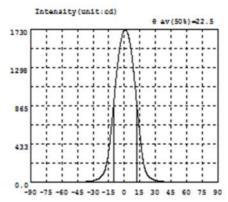
Equivalent Luminous flux: #eff = 443.31m Efficiency: Eff=122.821m/W

C0-180Plane I0= 5528cd

IES----







Intensity data: (deg , cd) C0-180

			<u> </u>								
λ	1	λ	1	λ	1	λ	1	λ	1	λ	1
-90.0	0.4971	-58.5	5.307	-27.0	31.71	4.5	1627	36.0	12.19	67.5	4.734
-88.5	0.5539	-57.0	5.489	-25.5	39.06	6.0	1533	37.5	10.74	69.0	4.768
-87.0	0.6337	-55.5	5.745	-24.0	49.34	7.5	1403	39.0	10.05	70.5	4.111
-85.5	0.8040	-54.0	6.108	-22.5	63.91	9.0	1246	40.5	9.602	72.0	3.527
-84.0	0.9621	-52.5	6.497	-21.0	84.67	10.5	1069	42.0	9.020	73.5	2.825
-82.5	1.130	-51.0	6.878	-19.5	115.7	12.0	886.3	43.5	8.594	75.0	2.382
-81.0	1.166	-49.5	7.226	-18.0	166.2	13.5	705.8	45.0	8.246	76.5	2.014
-79.5	1.334	-48.0	7.473	-16.5	245.8	15.0	537.2	46.5	7.975	78.0	1.835
-78.0	1.450	-46.5	7.684	-15.0	357.5	16.5	380.9	48.0	7.776	79.5	1.701
-76.5	1.669	-45.0	7.886	-13.5	503.1	18.0	247.4	49.5	7.540	81.0	1.418
-75.0	2.007	-43.5	8.191	-12.0	669.9	19.5	162.6	51.0	7.226	82.5	1.218
-73.5	2.422	-42.0	8.579	-10.5	851.8	21.0	112.2	52.5	6.851	84.0	1.177
-72.0	2.979	-40.5	9.083	-9.0	1035	22.5	82.12	54.0	6.442	85.5	1.217
-70.5	3.684	-39.0	9.698	-7.5	1215	24.0	62.33	55.5	6.013	87.0	1.004
-69.0	4.207	-37.5	10.20	-6.0	1378	25.5	48.26	57.0	5.599	88.5	0.8634
-67.5	4.511	-36.0	10.94	-4.5	1515	27.0	38.19	58.5	5.341	90.0	0.6077
-66.0	4.684	-34.5	12.14	-3.0	1615	28.5	30.96	60.0	5.163		
-64.5	4.811	-33.0	14.18	-1.5	1683	30.0	25.38	61.5	5.035		
-63.0	4.814	-31.5	17.09	0.0	1720	31.5	20.59	63.0	4.908		2
-61.5	4.992	-30.0	21.20	1.5	1723	33.0	16.68	64.5	4.790		
-60.0	5.158	-28.5	25.99	3.0	1691	34.5	14.02	66.0	4.855		

Electricity Parameter:

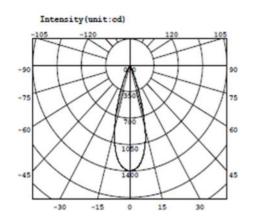
Current I: 0.1000A Power: 3.330W Voltage V: 33.29V PF: 1.000

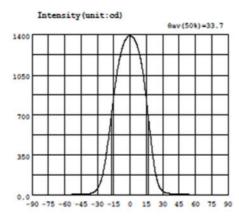
Optical Parameter (Distance=2.410m):

Diffuse angle: @(25%): 30.2deg@(50%): 22.5deg@(75%): 15.3deg@(50%): 22.5deg
Diffuse angle: @(25%): 30.2deg@(50%): 22.6deg@(75%): 15.4deg@(50%): 22.6deg
Imax=1726cd (C=0.0deg,G=1.0deg)
CO-180Plane Imax= 1726cd(G=1.0deg)

CO-180Plane IO= 1720cd







Intensity data: (deg , cd) C0-180

λ	I	A	I	λ	I	λ	I	λ	I	λ	I
-90.0	1.739	-58.5	6.013	-27.0	119.7	4.5	1356	36.0	14.53	67.5	4.343
-88.5	1.865	-57.0	6.360	-25.5	169.3	6.0	1323	37.5	12.65	69.0	4.149
-87.0	2.036	-55.5	6.702	-24.0	232.0	7.5	1278	39.0	11.32	70.5	3.890
-85.5	1.847	-54.0	7.167	-22.5	314.7	9.0	1218	40.5	10.23	72.0	3.686
-84.0	1.628	-52.5	7.603	-21.0	413.4	10.5	1147	42.0	9.382	73.5	3.393
-82.5	1.178	-51.0	7.915	-19.5	517.0	12.0	1062	43.5	8.812	75.0	3.004
-81.0	1.036	-49.5	8.218	-18.0	631.9	13.5	956.4	45.0	8.408	76.5	2.300
-79.5	1.566	-48.0	8.306	-16.5	749.7	15.0	835.4	46.5	8.258	78.0	1.401
-78.0	2.077	-46.5	8.443	-15.0	861.7	16.5	706.8	48.0	8.267	79.5	1.254
-76.5	2.709	-45.0	8.560	-13.5	969.5	18.0	581.7	49.5	8.280	81.0	1.304
-75.0	3.131	-43.5	8.748	-12.0	1065	19.5	459.5	51.0	8.120	82.5	1.424
-73.5	3.535	-42.0	9.147	-10.5	1146	21.0	338.0	52.5	7.813	84.0	1.977
-72.0	3.807	-40.5	9.812	-9.0	1216	22.5	241.3	54.0	7.307	85.5	1.961
-70.5	4.136	-39.0	11.19	-7.5	1277	24.0	165.6	55.5	6.729	87.0	1.905
-69.0	4.514	-27.5	13.12	-6.0	1321	25.5	112.7	57.0	6.145	88.5	1.791
-67.5	4.997	-36.0	16.47	-4.5	1351	27.0	74.30	58.5	5.768	90.0	1.913
-66.0	5.422	-34.5	21.21	-3.0	1374	28.5	49.62	60.0	5.637		
-64.5	5.765	-33.0	29.01	-1.5	1390	30.0	35.62	61.5	5.478		
-63.0	6.018	-31.5	40.35	0.0	1392	31.5	25.82	63.0	5.180		
-61.5	6.089	-20.0	57.39	1.5	1388	33.0	20.60	64.5	4.888		
-60.0	5.992	-28.5	84.36	3.0	1378	34.5	16.98	66.0	4.618		

Electricity Parameter:

Current I: 0.1000A Power: 3.450W Voltage V: 34.50V PF: 1.000

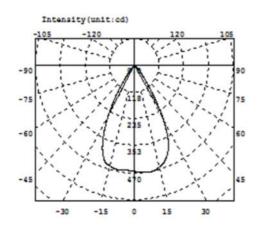
Optical Parameter (Distance=2.410m):

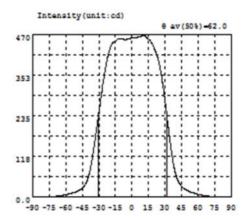
Diffuse angle: 8(25%): 42.7deg8(50%): 33.7deg8(75%): 24.5deg8(50%): 33.7deg
Diffuse angle: 8(25%): 42.7deg8(50%): 33.7deg8(75%): 24.5deg8(50%): 33.7deg
Imax=1393cd (C=0.0deg,G=-0.5deg)
CO-180Plane Imax= 1393cd(G=-0.5deg)

C0-180Plane I0= 1392cd

IES----







Intensity data: (deg , cd) C0-180

λ	I	λ	I	λ	1	λ	1	λ	1	λ	1
-90.0	1.468	-58.5	8.745	-27.0	313.3	4.5	461.5	36.0	123.3	67.5	3.359
-88.5	1.354	-57.0	9.913	-25.5	345.6	6.0	462.4	37.5	94.55	69.0	2.956
-87.0	1.140	-55.5	11.06	-24.0	373.5	7.5	464.0	39.0	72.45	70.5	2.675
-85.5	1.084	-54.0	12.09	-22.5	398.1	9.0	465.7	40.5	56.84	72.0	2.412
-84.0	1.095	-52.5	13.43	-21.0	416.8	10.5	465.9	42.0	45.37	73.5	2.138
-82.5	1.131	-51.0	15.14	-19.5	432.7	12.0	464.7	43.5	36.90	75.0	1.975
-81.0	1.175	-49.5	17.18	-18.0	443.0	13.5	460.7	45.0	30.69	76.5	1.826
-79.5	1.292	-48.0	19.38	-16.5	448.4	15.0	455.5	46.5	26.07	78.0	1.607
-78.0	1.440	-46.5	22.32	-15.0	451.1	16.5	451.1	48.0	22.74	79.5	1.371
-76.5	1.639	-45.0	26.35	-13.5	454.2	18.0	444.2	49.5	20.13	81.0	1.304
-75.0	1.802	-43.5	31.75	-12.0	457.7	19.5	434.3	51.0	17.79	82.5	1.266
-73.5	2.042	-42.0	39.19	-10.5	458.5	21.0	422.3	52.5	15.96	84.0	1.237
-72.0	2.299	-40.5	49.79	-9.0	456.9	22.5	409.3	54.0	14.48	85.5	1.248
-70.5	2.573	-39.0	64.88	-7.5	455.3	24.0	392.9	55.5	13.11	87.0	1.586
-69.0	2.880	-37.5	85.71	-6.0	454.7	25.5	371.2	57.0	11.51	88.5	1.663
-67.5	3.269	-36.0	112.6	-4.5	455.6	27.0	343.5	58.5	9.804	90.0	1.668
-66.0	3.673	-34.5	143.8	-3.0	457.1	28.5	310.0	60.0	8.247		
-64.5	4.699	-33.0	177.0	-1.5	458.2	30.0	275.1	61.5	6.899		
-63.0	5.499	-31.5	209.2	0.0	458.8	31.5	235.1	63.0	5.869		
-61.5	6.443	-30.0	246.3	1.5	460.2	33.0	194.6	64.5	5.077		
-60.0	7.487	-28.5	280.7	3.0	460.7	34.5	157.8	66.0	3.765		

Electricity Parameter:

Current I: 0.1000A Power: 3.550W Voltage V: 35.50V PF: 1.000

Optical Parameter (Distance=2.410m):

CO-180Plane IO= 458.8cd



			Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks
1.Size	diamet	er	62			61.89	61.94	61.83	61.9		Test environment: In 20 °C -25 °C environment to
1.0126	height	:1	30. 4			30.65	30.62	30.67	30.64		achieve thermal equilibrium after the test.
				Gate	shear can	not affect th	e appearar	nce of the la	amp		
				See	attachmen	t "Appearan	ce Inspecti	on Standar	ds"		
2.Appear	rance	atta	See chment earance	ent N		No burr No		No burr	No bu	rr	OK
Quality		Ins	pection ndards"	L	N	lo stains	No stains	No stains	No stains		O.C.
3.Materia	al			PMMA Color Transparent						OK	
	Testing	LED					LED: DS	9			
	to the so	ource o	nded size and power rating of the LED light source recommended for this lens should be co of the test, if it is required to be out of range. According to the heat dissipation capability of conditions of the use environment, the lens should be fully tested and tested to prevent the							ability of the lamp	
4.Optica	FWHI	M				See lig	ght distribut	ion curve			
I index	angle	Э				12.6°	12.7°	12.6°	12.7°		
	K-val	ue				12. 49	12.07	12. 37	12.07		
	Efficie	ency				85.68%	87. 40%	87. 61%	87. 40%		
	Facula	See th	ne signatu	re sample		,	•				
	ehensive ment					•	Qı	ualified			
Remarks	:			Length change		ባA produc	t size chan	iges with t	emperatu		
1、Tool I	Number: \		ier	(mm							ze: 50mm
	D-Quadra auge M-To				0.6						ze: 100mm
	pe P-Nee				0.5			*			ze: 150mm
	uge R-Ra	dius		0.4 0.3 Size: 200mm **Size: 250mm							
Gauge E	-visuai. ient tempe	erature	on		0.2		X				ze: 250mm ze: 300mm
the size of	of the prod	luct ref			0.1			-	—	- 31 <i>i</i>	.e. 300111111
to the tab	ole on the	rignt			0	10	20	30	40		
									(℃)		

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diamet	\$	Standard size	Upper Size limit	Lower	Test	Test	Test	Test	Jud		
diamet				size limit	result1	result2	result3	result4	gme nt	Remarks	
diameter		62			61. 91	61. 96	61. 96	91. 95		Test environment: In 20 ℃ -25 ℃ environment to	
height	1	30. 4			30. 44	30. 46	30. 36	30. 31		achieve thermal equilibrium after the test.	
			Gate	shear can	not affect th	e appearar	ice of the la	ımp			
			See	attachment	t "Appearan	ce Inspecti	on Standard	ds"			
ance	attad	chment	nt		No burr	No burr	No burr	No burr		OK	
	Insp	ection	J	N	o stains	No stains	No stains	No stai	ns	ÖK	
3.Material			PMM	4		Color	Tra	nsparent		OK	
Testing I	_ED		LED: D9								
to the so	ource o	ce of the test, if it is required to be out of range. According to the heat dissi						dissipatio	n capa	ability of the lamp	
FWHI	И				See lig	ıht distributi	on curve				
angle)					21.9	22. 2	22.8			
K-val	ue				5. 65	5.80	5.65	5. 51			
Efficie	ncy				93. 20%	93. 30%	92. 70%	93. 20%			
Facula	See th	e signatui	re sample		`						
hensive ment					•	Qı	alified				
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				es 0.8 —	10	t size chan	ges with t	40	Siz Siz Siz Siz Siz	ee: 50mm ee: 100mm ee: 150mm ee: 200mm ee: 250mm ee: 300mm	
	Testing I The reco to the so and the a FWHI Angle K-val Efficie Facula hensive ment : Number: V D-Quadra auge M-To pe P-Need uge R-Rad Visual. ent tempe f the prod	attau "Appy Insp Star I Testing LED The recomment to the source of and the actual of FWHM angle K-value Efficiency Facula See the hensive ment : Number: V-Vernic D-Quadratic Hauge M-Tool pe P-Needle T-uge R-Radius Visual. ent temperature of the product reference of the	Testing LED The recommended size ato the source of the test, and the actual conditions FWHM angle K-value Efficiency Facula See the signature hensive ment : Number: V-Vernier D-Quadratic H-auge M-Tool pe P-Needle T-uge R-Radius Visual. ent temperature on if the product refer	See attachment "Appearance Inspection Standards" I PMM/ Testing LED The recommended size and power rough to the source of the test, if it is requand the actual conditions of the use FWHM angle K-value Efficiency Facula See the signature sample hensive ment : Length change (mm) C-Quadratic H-auge M-Tool pe P-Needle T-uge R-Radius Visual. ent temperature on for the product refer	See attachment "Appearance Inspection Standards" I PMMA Testing LED The recommended size and power rating of the to the source of the test, if it is required to be cand the actual conditions of the use environment FWHM angle K-value Efficiency Facula See the signature sample hensive ment PMM Length changes 0.8 Changes 0.8 Changes 0.8 Changes 0.8 Changes 0.8 Change N-Radius Visual. ent temperature on if the product refer le on the right	See attachment "Appearance attachment "Appearance Inspection Standards" I PMMA Testing LED The recommended size and power rating of the LED light stothe source of the test, if it is required to be out of range and the actual conditions of the use environment, the lens FWHM See light stothe source of the test, if it is required to be out of range and the actual conditions of the use environment, the lens FWHM See light standards Facula See the signature sample See the signature sample Length changes 0.8 (mm) 0.7 PMMA product changes 0.8 (mm) 0.7 D-Quadratic Hauge M-Tool one P-Needle T-uge R-Radius Visual. Length changes 0.8 (mm) 0.7 0.6 0.5 0.4 0.9 0.1 0.1 0.1 0.1 0.2 0.1 0.3 0.2 0.1 0.1 0.3	See attachment "Appearance Inspection attachment "Appearance Inspection Inspection Standards" I PMMA Color Testing LED LED: Description of the LED light source record to the source of the test, if it is required to be out of range. According and the actual conditions of the use environment, the lens should be a see light distribution of the use environment of the source of the test, if it is required to be out of range. According and the actual conditions of the use environment, the lens should be a see light distribution of the use environment. The lens should be a see light distribution of the use the signature sample because the signature sample and the signature sample because the signature sample because the signature sample and the signature on the signature on the right because the signature on the right of the product reference on the right of th	See attachment "Appearance Inspection Standard attachment "Appearance Inspection Standards" No burr No burr No burr No burr	attachment "Appearance Inspection Standards" I PMMA Color Transparent Testing LED LED: D9 The recommended size and power rating of the LED light source recommended for this len to the source of the test, if it is required to be out of range. According to the heat dissipatio and the actual conditions of the use environment, the lens should be fully tested and tested FWHM See light distribution curve angle 22.1 21.9 22.2 22.8 K-value 5.65 5.80 5.65 5.51 Efficiency 93.20% 93.30% 92.70% 93.20% Facula See the signature sample Qualified PMMA product size changes with temperature on the right Color Transparent No burr N	See attachment "Appearance Inspection Standards" No burr No b	

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		St	tandard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks
1.Size	diamet	er	62			61. 9	61. 95	61. 97	61. 9		Test environment: In 20 °C -25 °C environment to
1.0126	height	1	30. 4			30. 5	30. 47	30. 5	30. 49		achieve thermal equilibrium after the test.
				Gate	shear can	not affect th	e appearar	nce of the la	ımp		
				See	attachmen	t "Appearan	ce Inspecti	on Standard	ds"		
2.Appear	rance		nment	-		No burr	No burr	No burr	No burr		ОК
Quality		Inspe	ection	on No		lo stains	No stains	No stains	No stains		ÖK
3.Materia	al			PMMA Color Transparent C							OK
	Testing	LED					LED: D9)			
4.Optica	to the so					out of range ent, the lens	. According	to the heat fully tested	dissipation	n capa	ability of the lamp
	K-val	_				33. 7	2. 90	33. 7	2. 90	_	
	Efficie	_				91. 52%	91. 28%	91. 52%	91. 28%	_	
	Facula		sianatui	re sample		91. 52/6	91. 20%	91. 52%	91. 20%		
Compre	ehensive	See the	Signatui	ie sample							
	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 Length changes 0.8 (mm) 0.7 0.6 0.5 0.5 0.4 0.2 0.3				n es 0.8 —	AA produc	t size chan	ges with t		Siz	ze: 50mm ze: 100mm ze: 150mm ze: 200mm ze: 250mm ze: 300mm	

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			Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks
1.Size	diamet	ter	62			61. 91	61. 93	61. 92	91. 95		Test environment: In 20 °C -25 °C environment to
1.0126	height	:1	30. 4			30. 65	30. 66	30. 67	30. 7		achieve thermal equilibrium after the test.
				Gate	shear can	not affect th	ne appearar	nce of the la	ımp		
		1		See	attachmen	t "Appearar	ice Inspecti	on Standar	ds"		
2.Appear	rance		See achment pearance	hment		No burr		No burr	No burr		OK
Quality		Ins	spection andards"	on No stains			No stains	No stains	No stains		OK .
3.Materia				PMMA Color Transparent OK							
	Testing	LED					LED: D	9			
4.Optica	to the so	recommended size and power rating of the LED light source recommended for this lens should be come source of the test, if it is required to be out of range. According to the heat dissipation capability of the actual conditions of the use environment, the lens should be fully tested and tested to prevent the WHM See light distribution curve							ability of the lamp		
I index	angle	e					61	61.5	61.4	_	
	K-val									_	
	Efficie	ency				93. 00%	92. 80%	92.00%	93. 00%		
	Facula	See t	the signatu	re sample							
	ehensive					I	Qı	ualified			
Judg	ment										
					PMN	/IA produc	t size chan	ges with t	emperati	ıre ta	able
				Length	1						
Remarks	i:			_	es 0.8 —					← Si:	ze: 50mm
	Number: V			(mm	0.7						ze: 100mm
	D-Quadra auge M-To				0.6						
	pe P-Nee				0.5			*			ze: 150mm
Thick Ga	uge R-Ra			0.4							
Gauge E	-Visual. ient tempe	ratur	a on	0.2							
	of the prod				0.1				→ -	Si	ze: 300mm
to the table on the right					0			1			
					0	10	20	30	40		
									(℃)		
			1								

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PI	N	HK-62@31-15-D9-20-	1g-1	Product Name	HK-62@31-	-15°Lens	S
Product	material	РММА		Customer			
Package	diagram	Single Vac	cuum packa	ge Box	x package		~
Product	packing	9	A/ Box	4	Box/Layer		
	3	9	Layer/Box	324	A/ Carton		
	NO.	Part No	Part name	Size	Dosage	Unit	Remarks
	1	2.07.0078	Blister box	23cm*21cm	36	BAG	
Dooleanin	2	2.08.0001	PE film	30cm*30cm	36	PCS	
Packagin g	3	2.06.0005	Reel label paper	6.2cm*8cm	36	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	10	PCS	
	6	2.06.0015	big flat carton	48cm*44cm*19cr	n 1	PCS	
Remarks		The loose packing is not subject	ct to this specif	ication. Customer's	requirements shall	prevail	



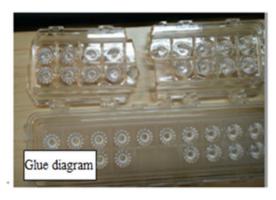
Special notice

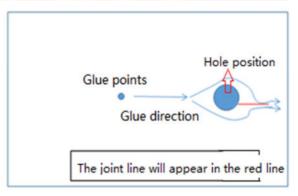
When gule pass through holes, columns and other structures, or part of the thin structure, will form a weld line. The product which uses multi-point injection welding line will appear because of the combination of sol, as shown below:

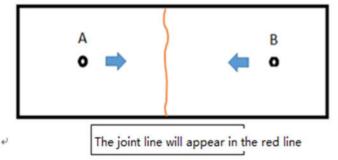
Syntneti











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	Ι	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 standard	Inspection equipment	Defec	Defect level		
rescitents	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 ≤ 1 mm and no more than 1 area within a 50x50 mm area	Visual		√	