

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

Product Approval

Approval number:

Customer:

Manufacturer: Chengdu HercuLux Photoelectric Technology Co.,Ltd

PN	Code	Product
HK-RG-45@21-15-D6-21-1g-1_A	1. 01. 12734	HK Moony 45@21-15° lens(D6) _A
HK-RG-45@21-24-D6-21-1g-1	1. 01. 12658	HK Moony 45@21-24° lens(D6)
HK-RG-45@21-36-D6-21-1g-1	1. 01. 12747	HK Moony 45@21-36° lens(D6)
HK-RG-45@21-50-D6-21-1g-1	1. 01. 12956	HK Moony 45@21-50° lens(D6)

Synthetic information: 1.07.81418_HK-166@03-0223-S



	Supplier co	onfirmation		Client cor	nfirmation	
Proposed		DATE	Qualified□		5.475	
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 http://www.herculux.cn/

Sales Dept: Shenzhen Nanshan District Nanshan Cloud Valley Innovation Industrial Park Comprehensive Service Building,

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

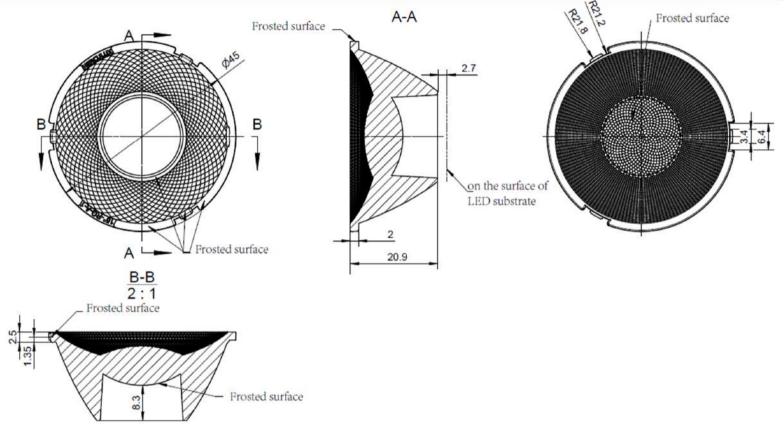
*Approval In duplicate, for both supplier and customer.



TEL: 0755-2937 1541 FAX: 0755-2907 5140 http://www.herculux.cn/ Date updated: 2022/5/13

Product Picture:	
PN:	HK-RG-45@21-15-D6-21-1g-1_A
Size(L*W*H/Φ*H):	Ф:45mm; H:20.9mm
Material:	PC
Effiency:	\
Temperature(Topr):	Material extreme temperature resistance : -40°C to +120°C long-term use temperature : -40°C to +90°C
FWHM:	15°、24°、36°、50°
Matched LES:	D6



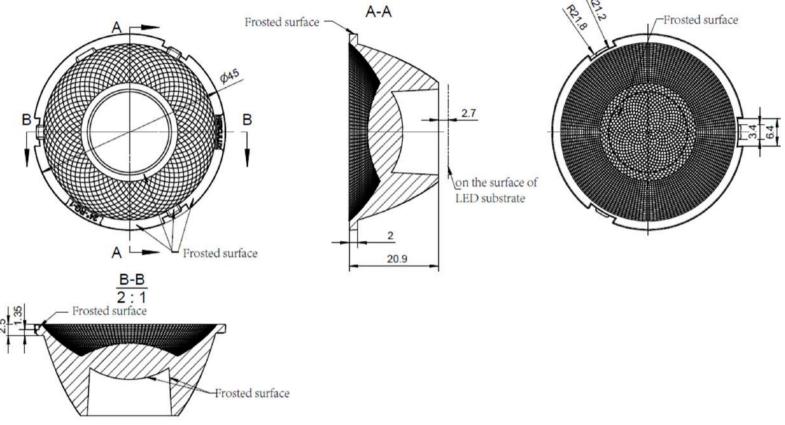


- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.
- *4. When the lamp adopts rubber ring for waterproofing: the roughness of the contact surface between the radiator and the rubber ring is required: Ra<3.2 μ m

	Optical	design						HK-RG-45@21-15-D6-21-1g-1_A					
	tructur	ructure desig				HK Moony 45			1.01.12734				
	Review					_A	umber of	f drawin	qty	wei	ight		
	Valid	ation				Material:	PC			CDHK			
^	250	250~	~450	>4	450								

MT5	Basic size	<3	3~10	10~24	24~65	65~140	140~250	250~450	>450	
Tolerance able(mm)	olerance valu	±0.1	±0.15	±0.20	±0.35	±0.50	±0.80	±1.2	±2.0	



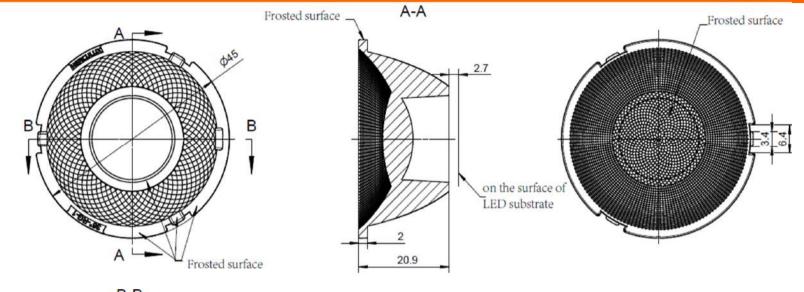


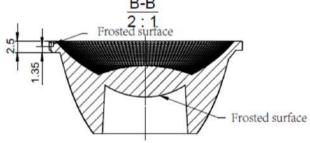
- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.
- *4. When the lamp adopts rubber ring for waterproofing: the roughness of the contact surface between the radiator and the rubber ring is required: Ra<3.2 μ m

_														
(Optical	design						ı	HK-RG-45@21-24-D6-21-1g-1					
i	ructur	e desig				HK Moony 45	5@21-24º lens(D6)		HK-RG-45@21-24-D6-21-1g-1 1.01.12658 er of drawin qty weight CDHK					
ľ	Rev	iow						umber of	of drawin qty weight					
L	nev	iew							or drawin qty weight					
	Valid	ation				Material:	PC	CDHK						
~	250	250~	~450	>	450									

MT5 Tolerance	Basic size	<3	3~10	10~24	24~65	65~140	140~250	250~450	>450	
	olerance valu	±0.1	±0.15	±0.20	±0.35	±0.50	±0.80	±1.2	±2.0	





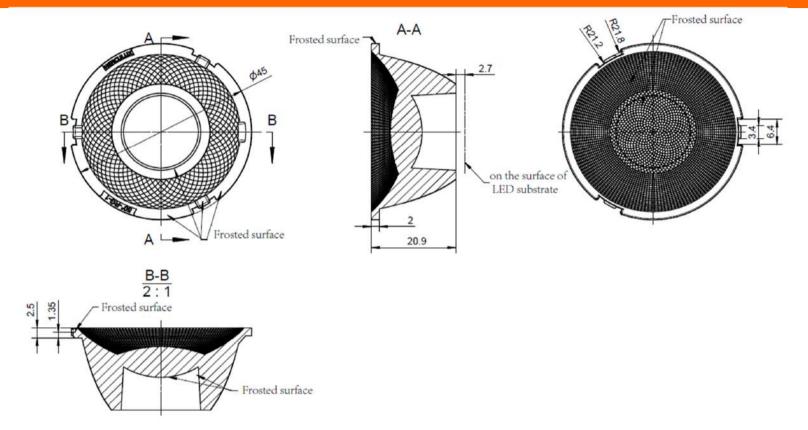


- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.
- *4. When the lamp adopts rubber ring for waterproofing: the roughness of the contact surface between the radiator and the rubber ring is required: Ra<3.2 μ m

	Optical	design							HK-RG-4	45@21-36-D6-	21-1g-1	
	tructur	e desig				HK Moony 4	5@21-36º lens(D6)		1.01.12747 ber of drawin qty weight			
	Rev	iew						umber o	er of drawin qty weight			
	Valida	ation				Material:	PC	CDHK				
^	~250	250^	~450	>4	450							

MT5 Tolerance	Basic size	<3	3~10	10~24	24~65	65~140	140~250	250~450	>450
	olerance valu	±0.1	±0.15	±0.20	±0.35	±0.50	±0.80	±1.2	±2.0



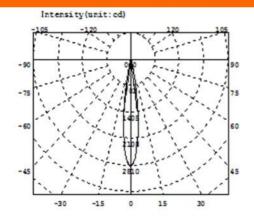


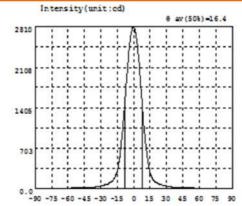
- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.
- *4. When the lamp adopts rubber ring for waterproofing: the roughness of the contact surface between the radiator and the rubber ring is required: Ra<3.2 μ m

	Optical	design						HK-RG-45@21-50-D6-21-1g-1				
	tructur	e desig				HK Moony 4	5@21-50º lens(D6)		1.01.12956			
	Rev	eview						umber of dra	win qty	wei	ight	
	Valid	ation			Material:	PC		CDHK				
^	~250	250~	~450	>4	150							

MT5 Tolerance	Basic size	<3	3~10	10~24	24~65	65~140	140~250	250~450	>450
	olerance valu	±0.1	±0.15	±0.20	±0.35	±0.50	±0.80	±1.2	±2.0







Intensity data: (deg , cd) C0-180

λ	1	Α	1	λ	1	A	1	A	1	Α	ı
-90.0	0.2486	-58.5	4.108	-27.0	54.65	4.5	2272	36.0	21.32	67.5	1.130
-88.5	0.2151	-57.0	4.667	-25.5	63.79	6.0	1931	37.5	18.63	69.0	0.8431
-87.0	0.2164		5.265	-24.0	74.23	7.5		39.0	16.38	70.5	
							1554				0.4347
-85.5	0.2285	-54.0	5.888	-22.5	86.84	9.0	1184	40.5	14.59	72.0	0.4774
-84.0	0.2838	-52.5	6.494	-21.0	103.2	10.5	860.1	42.0	12.89	73.5	0.4271
-82.5	0.5021	-51.0	7.155	-19.5	126.1	12.0	606.1	43.5	11.53	75.0	0.3885
-81.0	0.3698	-49.5	7.882	-18.0	161.6	13.5	418.0	45.0	10.34	76.5	0.3634
-79.5	0.4121	-48.0	8.674	-16.5	218.6	15.0	274.1	46.5	9.349	78.0	0.3621
-78.0	0.4239	-46.5	9.568	-15.0	304.5	16.5	196.1	48.0	8.456	79.5	0.3593
-76.5	0.4594	-45.0	10.50	-13.5	447.4	18.0	148.0	49.5	7.425	81.0	0.3616
-75.0	0.5579	-43.5	11.68	-12.0	653.9	19.5	117.4	51.0	6.539	82.5	0.3313
-73.5	0.7691	-42.0	13.16	-10.5	929.6	21.0	97.01	52.5	5.828	84.0	0.3051
-72.0	1.020	-40.5	14.84	-9.0	1261	22.5	82.51	54.0	5.186	85.5	0.2879
-70.5	1.284	-39.0	16.89	-7.5	1632	24.0	71.06	55.5	4.558	87.0	0.2600
-69.0	1.573	-37.5	19.31	-6.0	2002	25.5	61.13	57.0	4.003	88.5	0.2367
-67.5	1.875	-36.0	21.95	-4.5	2341	27.0	52.19	58.5	3.486	90.0	0.2949
-66.0	2.187	-34.5	25.23	-3.0	2606	28.5	44.26	60.0	3.016		
-64.5	2.540	-33.0	29.16	-1.5	2765	30.0	37.69	61.5	2.574		
-63.0	2.874	-31.5	33.92	0.0	2807	31.5	32.33	63.0	2.162		
-61.5	3.262	-30.0	39.75	1.5	2732	33.0	27.95	64.5	1.781		
-60.0	3.647	-28.5	46.69	3.0	2550	34.5	24.35	66.0	1.466		

Electricity Parameter:

Current I: 0.1000A Power: 3.250W Voltage V: 36.59V PF: 1.000

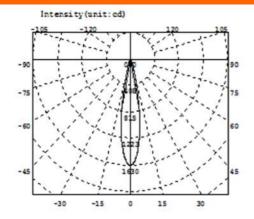
Optical Parameter (Distance=2.410m):

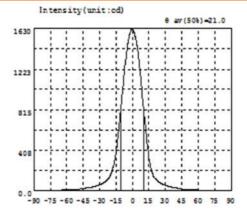
Equivalent Luminous flux: Φ eff= 326.7lm Efficiency: Eff=100.55lm/W

C0-180Plane I0= 2807cd

IES----







Intensity data: (deg , cd) C0-180

A	I	A	1	λ	1	A	I	Α	1	A	I
-90.0	0.2599	-58.5	5.317	-27.0	72.10	4.5	1435	36.0	33.52	67.5	0.6743
-88.5	0.3160	-57.0	6.181	-25.5	81.73	6.0	1306	37.5	29.64	69.0	0.5744
-87.0	0.3263	-55.5	7.219	-24.0	93.67	7.5	1148	39.0	26.07	70.5	0.5352
-85.5	0.3148	-54.0	8.310	-22.5	110.2	9.0	974.2	40.5	22.89	72.0	0.4513
-84.0	0.3030	-52.5	9.581	-21.0	133.8	10.5	798.0	42.0	19.86	73.5	0.3903
-82.5	0.3264	-51.0	10.97	-19.5	168.3	12.0	626.8	43.5	17.00	75.0	0.4348
-81.0	0.2419	-49.5	12.50	-18.0	216.1	13.5	470.0	45.0	14.57	76.5	0.3767
-79.5	0.3556	-48.0	14.19	-16.5	283.9	15.0	334.4	46.5	12.41	78.0	0.3639
-78.0	0.4115	-46.5	16.00	-15.0	383.4	16.5	241.3	48.0	10.61	79.5	0.3243
-76.5	0.4829	-45.0	18.08	-13.5	513.5	18.0	181.0	49.5	8.960	81.0	0.3390
-75.0	0.6169	-43.5	20.35	-12.0	666.5	19.5	140.9	51.0	7.548	82.5	0.1246
-73.5	0.8454	-42.0	22.84	-10.5	836.2	21.0	115.0	52.5	6.446	84.0	0.3305
-72.0	1.168	-40.5	25.55	-9.0	1013	22.5	97.72	54.0	5.323	85.5	0.3191
-70.5	1.715	-39.0	28.70	-7.5	1182	24.0	85.12	55.5	4.420	87.0	0.4190
-69.0	1.782	-37.5	32.12	-6.0	1333	25.5	75.03	57.0	3.652	88.5	0.2206
-67.5	2.075	-36.0	35.96	-4.5	1458	27.0	66.68	58.5	3.000	90.0	0.2271
-66.0	2.410	-34.5	40.42	-3.0	1551	28.5	59.34	60.0	2.471		
-64.5	2.828	-33.0	45.38	-1.5	1609	30.0	53.06	61.5	2.016		
-63.0	3.313	-31.5	50.84	0.0	1624	31.5	47.38	63.0	1.594		
-61.5	3.880	-30.0	56.96	1.5	1594	33.0	42.15	64.5	1.255		
-60.0	4.526	-28.5	63.99	3.0	1531	34.5	37.56	66.0	0.9285		

Electricity Parameter:

Current I: 0.1000A Power: 3.700W Voltage V: 32.50V PF: 1.000

Optical Parameter (Distance=2.410m):

Equivalent Luminous flux: \$\phi\$ eff= 307.3lm Efficiency: Eff=83.06lm/W

Diffuse angle: @ (25%): 28.9deg@ (50%): 21.0deg@ (75%): 13.9deg@ (50%): 21.0deg

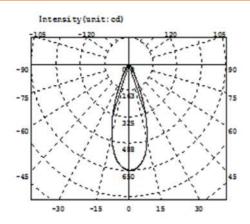
Diffuse angle: @ (25%): 28.9deg@ (50%): 21.0deg@ (75%): 13.9deg@ (50%): 21.0deg

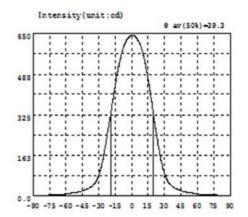
Imax=1624cd (C=0.0deg,G=0.0deg)

C0-180Plane Imax= 1624cd(G=0.0deg)

CO-180Plane IO= 1624cd

IES----





Intensity data: (deg , cd) C0-180

λ	1	A	T	λ	T	Α	ı	λ	1	A	Ţ
-90.0	0.7005	-58.5	6.723	-27.0	130.3	4.5	634.2	36.0	41.51	67.5	3.177
-88.5	0.6788	-57.0	7.612	-25.5	163.0	6.0	623.6	37.5	36.08	69.0	2.725
-87.0	0.7140		8.603	-24.0	196.6	7.5	609.8	39.0	31.72	70.5	2.336
-85.5	0.7372	-54.0	9.700	-22.5	236.2	9.0	592.7	40.5	28.07	72.0	2.003
-84.0	0.8142		10.89	-21.0	277.4	10.5	569.9	42.0	24.85	73.5	1.657
-82.5	0.9988		12.14	-19.5	318.4	12.0	541.3	43.5	22.07	75.0	1.381
-81.0	0.9229	-49.5	13.50	-18.0	359.6	13.5	507.5	45.0	19.68	76.5	1.131
-79.5	0.9651	-48.0	14.97	-16.5	400.6	15.0	469.4	46.5	17.60	78.0	1.025
-78.0	1.010	-46.5	16.67	-15.0	441.6	16.5	427.3	48.0	15.79	79.5	0.9480
-76.5	1.050	-45.0	18.60	-13.5	480.2	18.0	385.0	49.5	14.18	81.0	1.033
-75.0	1.173	-43.5	20.77	-12.0	515.0	19.5	339.5	51.0	12.63	82.5	0.9240
-73.5	1.403	-42.0	23.36	-10.5	545.6	21.0	293.6	52.5	11.48	84.0	0.8993
-72.0	1.332	-40.5	26.26	-9.0	573.1	22.5	252.9	54.0	10.29	85.5	0.8505
-70.5	2.069	-39.0	29.70	-7.5	594.6	24.0	212.9	55.5	9.160	87.0	0.8811
-69.0	2.486	-37.5	33.73	-6.0	611.4	25.5	174.6	57.0	8.119	88.5	0.8070
-67.5	2.944	-36.0	38.71	-4.5	624.9	27.0	140.8	58.5	7.162	90.0	0.9799
-66.0	3.446	-34.5	45.08	-3.0	634.1	28.5	111.9	60.0	6.275		
-64.5	3.984	-33.0	53.34	-1.5	641.4	30.0	88.93	61.5	5.487		
-63.0	4.573	-31.5	64.79	0.0	643.6	31.5	71.04	63.0	4.805		
-61.5	5.198	-30.0	80.87	1.5	643.5	33.0	57.96	64.5	4.186	Į.	
-60.0	5.903	-28.5	102.7	3.0	640.7	34.5	48.60	66.0	3.657		

Electricity Parameter:

Current I: 0.1000A Power: 3.230W Voltage V: 32.29V PF: 1.000

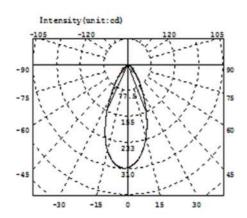
Optical Parameter (Distance=2.410m):

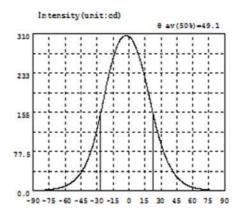
Equivalent Luminous flux: Φ eff= 324.1lm Efficiency: Eff=100.36lm/W

C0-180Plane I0= 643.6cd

IES----







Intensity data: (deg , cd) C0-180

Α	I	A	1	λ	1	A	1	A	1	λ	1
-90.0	0.3954	-58.5	10.45	-27.0	149.5	4.5	291.8	36.0	58.98	67.5	2.943
-88.5	0.3391	-57.0	12.07	-25.5	164.1	6.0	285.2	37.5	52.29	69.0	2.526
-87.0	0.3609	-55.5	13.91	-24.0	179.1	7.5	277.3	39.0	46.30	70.5	2.141
-85.5	0.3497	-54.0	16.00	-22.5	194.2	9.0	268.2	40.5	40.84	72.0	1.842
-84.0	0.3735	-52.5	18.39	-21.0	209.0	10.5	258.1	42.0	35.89	73.5	1.548
-82.5	0.4875	-51.0	21.09	-19.5	223.5	12.0	247.2	43.5	31.37	75.0	1.226
-81.0	0.7041	-49.5	24.16	-18.0	237.1	13.5	235.2	45.0	27.34	76.5	0.9207
-79.5	0.9342	-48.0	27.62	-16.5	249.9	15.0	222.4	46.5	23.82	78.0	0.6512
-78.0	1.251	-46.5	31.62	-15.0	261.4	16.5	209.1	48.0	20.74	79.5	0.4598
-76.5	1.580	-45.0	36.08	-13.5	271.9	18.0	195.4	49.5	18.02	81.0	0.3212
-75.0	1.963	-43.5	41.05	-12.0	280.9	19.5	181.2	51.0	15.63	82.5	0.3344
-73.5	2.326	-42.0	46.56	-10.5	288.7	21.0	167.2	52.5	13.52	84.0	0.2856
-72.0	2.759	-40.5	52.85	-9.0	294.9	22.5	153.3	54.0	11.68	85.5	0.3164
-70.5	3.200	-39.0	59.87	-7.5	299.8	24.0	140.0	55.5	10.08	87.0	0.2925
-69.0	3.722	-37.5	67.79	-6.0	303.3	25.5	127.0	57.0	8.686	88.5	0.3074
-67.5	4.306	-36.0	76.59	-4.5	305.6	27.0	114.9	58.5	7.456	90.0	0.3084
-66.0	4.991	-34.5	86.48	-3.0	306.6	28.5	103.5	60.0	6.394		
-64.5	5.789	-33.0	97.30	-1.5	306.2	30.0	93.02	61.5	5.478		
-63.0	6.723	-31.5	109.0	0.0	304.6	31.5	83.21	63.0	4.653		
-61.5	7.800	-30.0	121.7	1.5	301.5	33.0	74.29	64.5	3.991		
-60.0	9.029	-28.5	135.4	3.0	297.3	34.5	66.29	66.0	3.417		

Electricity Parameter:

Current I: 0.1000A Power: 3.299W Voltage V: 33.00V PF: 1.000

Optical Parameter (Distance=2.410m):

Equivalent Luminous flux: Φ eff= 253.01m Efficiency: Eff=76.701m/W

Diffuse angle: @(25%): 68.4deg@(50%): 49.1deg@(75%): 32.9deg@(50%): 49.1deg
Diffuse angle: @(25%): 68.6deg@(50%): 49.3deg@(75%): 33.2deg@(50%): 49.3deg
Imax=306.6cd (C=0.0deg,G=-2.5deg)
C0-180Plane Imax= 306.6cd(G=-2.5deg)

CO-180Plane IO= 304.6cd



		(Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks
	diamet	er	45			45. 04	44. 98	45. 04	44. 98		Test environment: In 20 °C -25 °C
1.Size	heigh	t	20.9			21. 14	21. 04	21. 14	21.04		environment to achieve thermal equilibrium after the
	thickne	ess	2			2. 08	2. 1	2. 08	2. 1		test.
				Gate	shear can i	not affect th	e appearar	nce of the la	amp		
				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 bu	rr	OK
Quality		Insp	pection ndards"		N	o stains	No stains	No stains	No stains		
3.Materia	al			PC	•		Color	Tra	nsparent		ОК
	Testing	LED					D6				
4.Optica	to the so	ource o	of the test,	if it is requ	ired to be c	out of range ent, the lens	. According	to the heat fully tested	t dissipatio	n capa	uld be comparable ability of the lamp event the lens life.
I index	angle	9				16. 4	16. 4	15. 9	16. 3		
	K-val	ue				8. 61	8. 43	8. 84	8. 42		
	Efficie	ency				83.8%	84. 3%	81.5%	81.7%		
	Facula	See th	e signatui	re sample		`					
	ehensive Iment					•	Qu	ıalified			
Remarks 1、Tool Caliper 2 Height G Microsco Thick Ga Gauge E 2、Amb the size o	s: Number: \ 'D-Quadra 'auge M-To ppe P-Nee auge R-Ra	tic H- ool dle T- dius erature luct refe	on	changes (mm)	0.8	oduct size	changes w	vith tempe	40 (°C)	** \$	Size: 50mm Size: 100mm Size: 150mm Size: 200mm Size: 250mm Size: 300mm

Precautions:

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		í	tand ard size	Upper Size Iimit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Test result5	Test result6	Test result7	Test result8	Jud gme nt	Remarks
	diam er		45			44.96	44.90	45.04	44.92	44.91	44.96	44.88	44.88		Test environment: In 20 °C -25 °C
1.Size	heig	ht 2	20. 9			20.90	20.96	21.06	20.92	20.97	20.97	20.99	20.97		environment to achieve thermal
	thic		2			1.92	1.94	1.98	1.95	1.94	1.95	1.98	2.00		equilibrium after the test.
		<u> </u>				Gate	shear ca	an not aff	ect the a	ppearand	ce of the	lamp			
										Inspectio					
0.4		Se attach t	men			No bu	ırr	No	burr	No	burr	1	No burr		
2.Appear ce Qualit	ty	Appe ce nspe	Э	E		No sta	ins	No s	stains	No s	tains	N	o stains		OK
3.Materia		Stand	lards		PC			Co	olor		Tra	<u>I</u> ansparen	t		OK
O.Wiatoria	sting	14							D	<u> </u> 6		орагоп			Oit
4.Optica	sour	ce of	the te	est, if it i	is requi		out of ra	nge. Acc ne lens sl	ording to nould be	the heat	dissipati ed and te	on capab	ility of th	e lam	mparable to the p and the actual s life.
I index	angl	angle				21	18. 9	20.3	20.5	19. 7	20. 2	21.3	19. 2		
	K-va	lu-				5. 98	5. 29	5. 32	5. 38	5. 84	5. 58	5. 15	6. 05		
	fici	en				79. 3%	79. 3%	79.8%	79. 3%	80. 4%	78. 8%	79. 3%	79. 6%		
	acu S	See th	ne sigi	nature s	ample	•	`								
Compred sive									Qua	lified					
Remarks						PC p	roduct	size cha	nges wit	th temp	erature	table			
1、Tool I				Len	-										
Vernier C					iges 0.7									Siz	e: 50mm
Quadration Gauge M				(m	im) 0.6						~			Size	e: 100mm
Microsco					0.5						N				e: 150mm
Needle T					0.4	-					*				
Gauge R	Sauge R-Radius 0.3								*					← Siz	e: 200mm
Gauge E		al.			0.2									K ─Siz	e: 250mm
2、Amb								.07						Size	e: 300mm
temperat					0.1										
size of th refer to th					0	_		10	-		22		10		
the right		ne on				0	-	10	20	IJ	30		40 C)		
Precautio	ons:												•		

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						T								
		Standa rd size	Upper Size Iimit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Test result5	Test result6	Test result7	Test result8	Jud gme nt	Remarks
	diamet er	45			45.02	44.96	44.89	44.98	45.05	45.00	44.97	44.99		Test environment: In 20 °C -25 °C
1.Size	height	20. 9			20.93	20.97	21.00	20.95	20.97	20.91	20.91	20.95		environment to achieve thermal
	thickn ess	2			2.00	2.02	2.05	2.03	2.05	2.06	2.04	2.07		equilibrium after the test.
		1		`	Gate	shear ca	n not aff	ect the a	npearar	nce of the	e lamp			
		_			See	attacnme	ent "App	earance	Inspecti	on Stand	iarus			
2.Appea		See schment opearan	E		No bu	ırr	No	burr	No	burr	١	No burr		OK
ce Quali	Ins	ce pection ndards"	_		No sta	ins	No s	tains	No s	stains	N	o stains		OK
3.Materia	al		1	PC			Co	olor		Tra	ınsparen	t		OK
	sting LE	l)6					
	Ū	e recommended size and power rating of the LED light source recommended for this lens should be comparable to the												
		of the te	est, if it is	require		out of rar	nge. Acc	ording to	the hea	ıt dissipa	tion cap	ability of	the la	mp and the actual
4.Optica	FWHM						See	light dist	ribution	curve				
lindex	angle				39.3	38.0	37.7	39.2	35.7	36.7	37.4	37.1		
	K-valu		1.99 2.11			2.11	2.13	2.02	2.21	2.20	2.17	2.17		
	ficien				81.2%	82.2%	82.2%	81.5%	81.5%	81.7%	82.2%	82.0%		
	acu See	the sign	nature sa	ample		`								
Compre		,e e.g.												
sive								Qua	alified					
iudame	ent I													
Remarks	٠.				PC p	roducts	ize cha	nges wi	th temp	erature	table			
1、Tool		· V-	Leng	th 0.8	1									
Vernier (chan	ges 0.7									Size	e: 50mm
Quadrati			(m	m) _{0.6}										
Gauge N	/I-Tool			0.5									S ize	e: 100mm
Microsco										X		—	Size	e: 150mm
Needle 7				0.4						X			← Size	e: 200mm
Gauge F				0.3	+			*						
Gauge E				0.2	+									e: 250mm
 Amb tempera 		ho		0.1			7					→	-Size	e: 300mm
size of th				0						-				
refer to t				3	0	1	0	20		30		40		
the right					-	-	-			33	(C)		
											•	-,		
Precaum	nns.													

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		Standa rd size	Upper Size limit	Lower size limit	Test re	esult1	Test result2	Test result3	Test result4	Jud gme nt	Remarks		
	diame er	t 45			44.	8	44. 85	44.8	44. 85		Test environment: In 20 °C -25 °C		
1.Size	heigh	t 20.9			21.	02	20. 96	21. 02	20.96		environment to achieve thermal		
	thick ess	n 2			2.0)8	2. 08	2.08	2.08		equilibrium after the test.		
					Gate s	hear ca	in not affect the a	appearance of the	e lamp				
					See a	ttachme	ent "Appearance	Inspection Stanc	lards"				
2.Appea	ran "A	See tachment Appearan	E		No bur		No burr	No burr	No burr		OK		
ce Qualit	In	ce spection andards"			No stair	ns	No stains	No stains	No stains		O.K		
3.Materia	al		-	PC			Color	Tra	insparent		OK		
	estina I	ting LE D6											
4.Optica		con					e lens should be				mp and the actual ens life.		
I index	angle					1	48. 1	49.6	49. 7				
	K-val	ue											
	ficie	n			65.	7%	65. 7%	64. 9%	65. 7%				
	_	ee the sigi	natura sa	mnle				Į.					
Compre		ce tric sign	nature se	iiipic									
sive							Qua	alified					
iudame	<u>ent</u>				PC nr	oduct «	size changes wi	th temperature	table				
Remarks			•	th 0.8	. C p.,	Juuces	one changes wi	in temperature	· tubic				
1、Tool				ges 0.7									
Vernier (Quadrati			(mı	n) _{0.6}					V	Size	e: 50mm		
Gauge M		igin								Size	e: 100mm		
Microsco				0.5				*	×-,	Size	e: 150mm		
Needle T				0.4						← Size	e: 200mm		
Gauge R				0.3			*				e: 250mm		
Gauge E				0.2	-								
temperat		the		0.1						Size	e: 300mm		
size of th				0				T	1				
refer to t	he table				0	1	.0 20	30	40				
the right									(°C)				
Precami	nne.												

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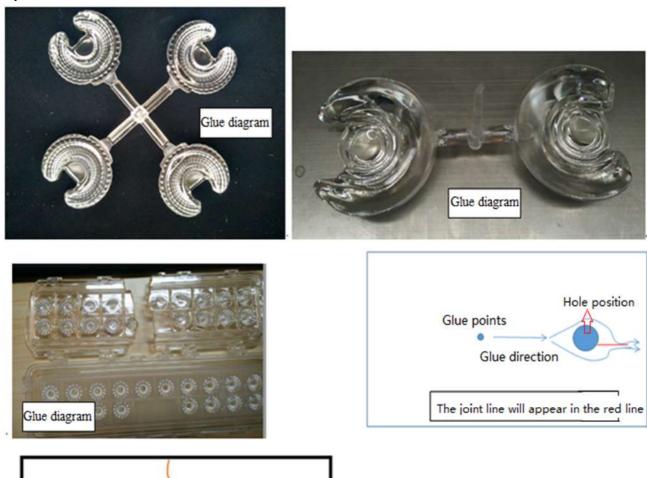
P	N	HK-RG-45@21-15-D6-21	-1g-1_A	Product Name	HK Moony 45@21-	-15º lens	(D6) _A
Product	material	PC		Customer			
Package	diagram	Single Vac	cuum packa	ge Bo	ox package		^
Product	packing	18	A/ Box	4	pcs/Layer		
	3	11	Layer/Box	792	A/ Carton		
	NO.	Part No	Part name	Size	Dosage	Unit	Remarks
	1	2.07.0066	Blister box	23cm*21cm	44	BAG	
Dookogin	2	2.08.0001	PE film	25cm*27cm	44	PCS	
Packagin g	3	2.06.0005	Reel label paper	62mm*42mm	44	PCS	
Materials	4	2.06.0005	Box label paper	62mm*70mm	1	PCS	
	5	2.06.0003	big plate	46cm*42cm	12	PCS	
	6	2.06.0011	big flat carton	48cm*44cm*37c	cm 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.

The joint line will appear in the red line



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	Н	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	t 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			√

	_	Ī	ī	1
	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		√	