

HERCULUX Chengdu HercuLux Photoelectric 恒坤光电 Tochnology Co. 14 1 Technology Co.,Ltd **Product Approval**

Approval number:

Customer:

Manufacturer: Chengdu HercuLux Photoelectric Technology Co.,Ltd

PN	Code	Product
HK-RG-50@24-15-D9-21-1g-1_ASM	1. 01. 12742. 10	HK Moony 50@24-15 Degree lens
HK-RG-50@24-15-D9-21-1g-1	1. 01. 12742_01	HK Moony 50@24-15 degree lens_01
HK-HG-21@14-0612-S	1. 01. 12626_02. 10	HK Dark 50@24-10 Degree Aw1_02
HK-HG-19@08-0613-S	1. 01. 12626_03. 10	HK Dark 50@24-10 Degree Cover_03





	Supplier o	confirm	ation	Client confirmation				
Proposed	Г	DATE		Qualified□				
Project manager	[DATE		Unqualified□		DATE		
Audit	Г	DATE		Audit		DATE		
Approved		DATE		Approved		DATE		
Stamp	Г	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.com/ Sales Dept: Shenzhen Nanshan District Nanshan Cloud Valley Innovation Industrial Park Comprehensive Service Building, 501-

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

*Approval In duplicate, for both supplier and customer.



Disclaimer

Please use this product within the permitted range and environment according to the structure and material of the product. If the usage exceeds the recommended value, please test and verify by yourself. If the product is damaged due to out-of-range use, our company will not be responsible for the warranty.

Product material:

Customized products: The specifications and models of materials used are subject to the agreement between the two parties.

Conventional products: As a product that we continuously research and improve, under the premise of ensuring the quality and availability of the product, our company reserves the right to change the material. If the material specification and model change, without prior notice.

product data:

The measurement data and dimensional tolerances of the 2D drawings in the product data sheet of this acknowledgement are for reference only, and the final size shall prevail in kind.

The measurement data presented in this acknowledgment is a performance test of the product based on our company's internal test conditions and quality requirements, and the reported data is a typical value of the average results of multiple measurements. Therefore, in some cases, the actual product may deviate from the data provided. We reserve the right to notify you in advance of this data.

Product changes and improvements:

Changes and improvements of customized products are subject to the agreement between the two parties in the contract or technical documents.

As the conventional products that we continue to research and improve, our company reserves the right to make technical changes to its products, and reserves the right to make changes to data resulting from improvements withou t prior notice.

Operation cautions:

- 1. Please wear clean gloves during product assembly to prevent product surface contamination.
- 2. Try to avoid touching the optical surface of the lens when taking the lens.
- 3. When the surface of the product is polluted, please wipe it gently with a soft cotton cloth dipped in analytically pure neutral solvent. It is forbidden to use industrial solvents (alcohol, isopropanol, acetone, ether, toluene, xylene, carbon tetrachloride, MMA monomerm, etc.) wipe.
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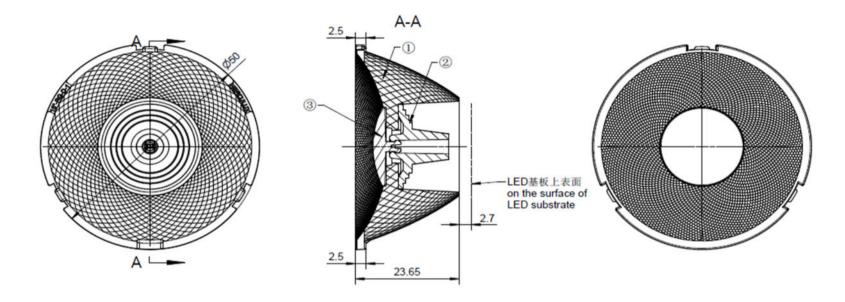


Basic product information

TEL: 0755-2937 1541 FAX: 0755-2907 5140 http://www.herculux.com/ Date updated: 2023/4/27

Product Picture:	
PN:	HK-RG-50@24-15-D9-21-1g-1_ASM
Size(L*W*H/Φ*H):	Ф:50mm; H:23.65mm
Material:	Components (PMMA, ceramic, PC (black))
Effiency:	\
Temperature(Topr):	Material extreme temperature resistance : -40°C to +120°C long-term use temperature : -40°C to +90°C
FWHM:	15°
Matched LES:	Real match D 9 luminous surface
Recommended power Usage:	No more than 15W



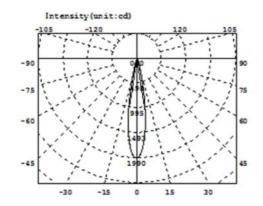


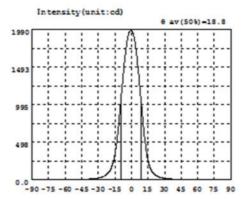
- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

	NO.	С	ode		Pr	oduct Na	ame	PN			Product	materia	1
	1	1. 01.	12742_01	HK Moony 50@24-15 degree lens_01			egree lens_01	HK-RG-50@24-15-D	9-21-1g-	-1	PC		
	2	1. 01. 12	626_02. 10	HK I	Oark 50@	24-10 De	egree Aw1_02	HK-HG-21@14-0612-S			ceramic		
ĺ	3	1. 01. 12	626_03. 10	HK Da	ark 50@2	4-10 Deg	gree Cover_03	Cover_03 HK-HG-19@08-0613-S			PC (olack)	
	ptical	l desig					HK-	RG-50@	924-15-D9-21	-1g-1_ <i> </i>	ASM		
	ructur	e desi					HK Moony !	50@24-15 Degree lens		1	.01.12742.1	.0	
İ	Rev	view						10.13	mber o	f drawi	qty	we	ight
	Valid	ation					Material:				CDHK		
^	~250	250	~450	>4	450								
0.	80	±	1.2	±2	2.0								

MT5 Tolerance Basic size <3 $3\sim10$ $10\sim24$ $24\sim65$ $65\sim140$ $140\sim250$ $250\sim450$ >450 table lerance val ±0.1 ±0.15 ±0.20 ±0.35 ±0.50 ±0.80 ±1.2 ±2.0												
Tolerance +0.1	ĺ		Basic size	<3	3~10	10~24	24~65	65~140	140~250	250~450	>450	
		Tolerance		_								
$ t_{able} t_{able} t_{able} t_{$				10.1	10.15	10.20	10.25	10.50	10.00	14.3	120	
		table	ierance vai	±0.1	±0.15	±0.20	±0.35	±0.50	±0.80	±1.2	±2.0	







Intensity data: (deg , cd) C0-180

λ	I	λ	I	λ	I	λ	1	λ	I	λ	I
-90.0	0.3503	-58.5	1.221	-27.0	31.08	4.5	1673	36.0	7.484	67.5	0.6672
-88.5	0.3501	-57.0	1.446	-25.5	39.99	6.0	1471	37.5	6.207	69.0	0.4549
-87.0	0.3826	-55.5	1.632	-24.0	51.23	7.5	1234	39.0	5.233	70.5	0.4446
-85.5	0.3708	-54.0	1.752	-22.5	67.17	9.0	985.4	40.5	4.286	72.0	0.3920
-84.0	0.5465	-52.5	2.018	-21.0	89.09	10.5	747.1	42.0	3.616	73.5	0.3625
-82.5	0.3937	-51.0	2.235	-19.5	120.5	12.0	541.9	43.5	3.031	75.0	0.3670
-81.0	0.3954	-49.5	2.263	-18.0	166.0	13.5	375.9	45.0	2.556	76.5	0.3805
-79.5	0.3770	-48.0	2.801	-16.5	232.7	15.0	246.6	46.5	2.176	78.0	0.3812
-78.0	0.4142	-46.5	3.194	-15.0	331.6	16.5	171.0	48.0	1.887	79.5	0.6167
-76.5	0.4950	-45.0	3.636	-13.5	476.8	18.0	121.6	49.5	1.619	81.0	0.3196
-75.0	0.5926	-43.5	4.273	-12.0	665.9	19.5	89.08	51.0	1.406	82.5	0.3051
-73.5	0.6694	-42.0	4.881	-10.5	897.4	21.0	66.46	52.5	1.234	84.0	0.2700
-72.0	0.7416	-40.5	5.643	-9.0	1147	22.5	50.96	54.0	1.127	85.5	0.2310
-70.5	0.7832	-39.0	6.565	-7.5	1392	24.0	39.49	55.5	1.006	87.0	0.2287
-69.0	0.8242	-37.5	7.732	-6.0	1610	25.5	31.07	57.0	0.9449	88.5	0.2676
-67.5	0.7459	-36.0	9.212	-4.5	1785	27.0	24.80	58.5	0.8955	90.0	0.1681
-66.0	0.9174	-34.5	10.98	-3.0	1906	28.5	19.83	60.0	0.8644		
-64.5	0.8491	-33.0	13.00	-1.5	1970	30.0	16.11	61.5	0.8284		
-63.0	0.9213	-31.5	16.07	0.0	1979	31.5	13.28	63.0	0.8124		
-61.5	1.026	-30.0	19.83	1.5	1931	33.0	10.93	64.5	0.7844		
-60.0	1.145	-28.5	24.80	3.0	1828	34.5	9.030	66.0	0.7319		

Electricity Parameter:

Current I: 0.1000A Power: 3.279W Voltage V: 32.79V PF: 1.000

Optical Parameter (Distance=2.410m):

Equivalent Luminous flux: Φ eff= 256.3lm Efficiency: Eff=78.17lm/W

CO-180Plane IO= 1979cd



			ndard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks
	diamet	er	50			50. 25	50. 27	50. 21	50. 26		Test environment: In 20 ℃ -25 ℃
1.Size	heigh	t 23	3. 65				23. 73	23. 68	23. 71		environment to achieve thermal equilibrium after the
	thickne	ess	2			2.04	2. 08	2. 04	2.01		test.
						not affect th			•		
				See a	attachment	t "Appearan	ce Inspecti	on Standar	ds"		
2.Appeai	rance	See attachn "Appear	nent	E	1	No burr	No burr	No burr	No bu	rr	OK
Quality		Inspec Standa	tion		N	o stains	No stains	No stains	No stai	ns	
3.Materia	al	Comp	onents	(PMMA, ce	eramic, PC	(black))	Color	Tra	nsparent		OK
4 Outing	to the p dissipati	arameters	s in the	product ba	sic information	confo ation table.	orm if it is requin s of the use	red to be ou	ut of range	. Acco	ording to the heat uld be fully tested
4.Optica I index	FWH	Л					ht distribut				
	angle	,				18.6	18. 1	18.8	18.8		
	K-val	ue				7. 77	7. 41	7. 77	7. 41		
	Efficie	ncy				63.44%	61. 54%	63. 44%	61.54%		
	Facula	See the s	signatuı	re sample		`					
	ehensive Iment						Qı	ualified			
					PC prod	luct size ch	anges wit	h tempera	ature tab	le	
Remarks		'-Vernier	С	ength _{0.8} hanges (mm) 0.6					*		Size: 50mm

- not wipe with industrial solvents (alcohol, isopropanol, acetone, ether, toluene, xylene, carbon tetrachloride, MMA Body, etc.).
- 4. The working temperature of the lens should be within the temperature resistance limit of the lens material. Exceeding the temperature resistance limit will cause the lens to crack or melt and affect the service life of the lens. It is recommended that the upper surface temperature of the LED colloid should be less than 120 degrees.



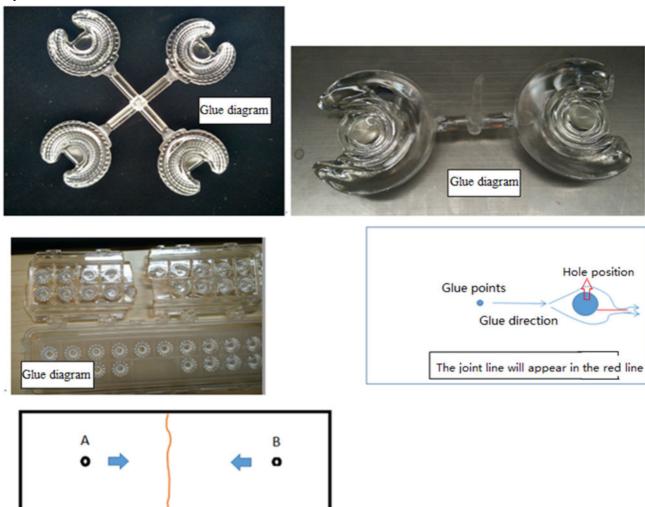
P	N	HK-RG-50@24-15-D9-21-	1g-1_ASM	Product Name	HK Moony 50@24	-15 Deg	ree lens		
Product	material	Components (PMMA, ceramic, PC (black))							
Package	diagram	Single Va	acuum packa	age B	ox package		>		
Product	packing	14	A/ Box	4	pcs/Layer				
		10	Layer/Box	560	A/ Carton				
	NO.	Part No	Part name	Size	Dosage	Unit	Remarks		
	1	2.07.0024-1	Blister box	23cm*21cm	40	BAG			
Packagin	2	2.08.0001	PE film	30cm*30cm	40	PCS			
g	3	2.06.0005	Reel label paper	6.2cm*8cm	40	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	n 11	PCS			
	6	2.06.0015	big flat carton	48cm*44cm*19c	cm 1	PCS			
Remarks		The loose packing is not subject	ct to this specif	ïcation. 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:

Syntheti



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	
resciteriis	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		I	Ī	İ	
	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, point card		√	
Insufficient filling	visual obvious strain. 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;	Visual		√	
	2: The remaining flow marks shall not appear in the optical surface, a single L \leq 10mm, no more than two				
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	V		
	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		√	



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Customer:

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PN	Code	Product
HK-RG-50@24-15-D9-21-1g-1_A	1. 01. 12743	HK Moony 50@24-15° lens(D9) _A
HK-RG-50@24-24-D9-21-1g-1	1. 01. 12724	HK Moony 50@24-24° lens(D9)
HK-RG-50@24-36-D9-21-1g-1	1. 01. 12748	HK Moony 50@24-36° lens(D9)
HK-RG-50@24-50-D9-21-1g-1	1. 01. 12958	HK Moony 50@24-50° lens(D9)



	Supplier	confirmatio	n		Client con	firmation	
Proposed		DATE DATE		Qualified□			
Project manager		DATE		Unqualified□		DATE	
Audit		DATE		Audit		DATE	
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Stamp		DATE DATE		Stamp		DATE	

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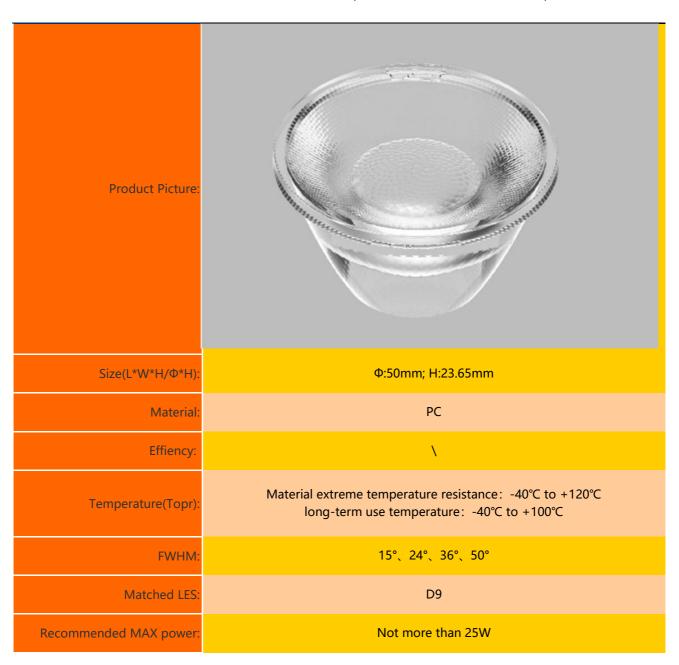
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- 4. The lens made of PC should not be exposed to direct sunlight in the storage and use environment. If the lens turns yellow or cracks due to long-term sunlight exposure, our company will not be responsible for the warranty.

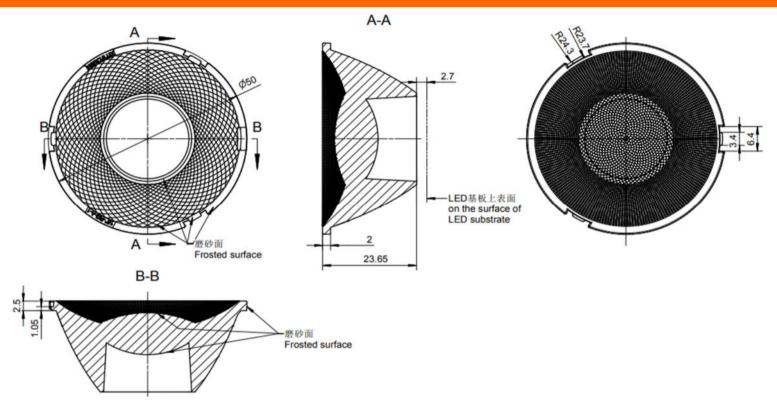


Basic product information

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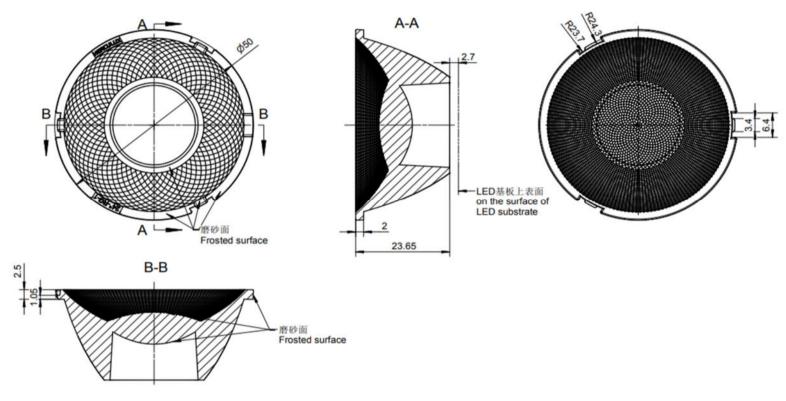


- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.
- *4. When the lamp adopts rubber ring for waterproofing: the roughness of the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

	Optical	design						Н	K-RG-50	0@24-15-D9-2	1-1g-1_	A
	tructur	ructure desig Review				HK Moony 50	@24-15º lens(D9)_A			1.01.12743		
ı	Pov	Review				1		umber of	f drawin	qty	wei	ight
ı	nev	iew										
	Valid	Validation			Material:	PC			CDHK			
) <i>~</i>	~250	250^	~450	>4	450							

							v	ilidation				iviateriar:	FC	CDIIK
MT5 Tolerance	Basic size	<3	3∼10	10~24	24~65	65~140	140~25	0 250	~450	>4	50			
	olerance valu	±0.1	±0.15	±0.2	±0.35	±0.50	±0.80	+	1.2	±2	.0			



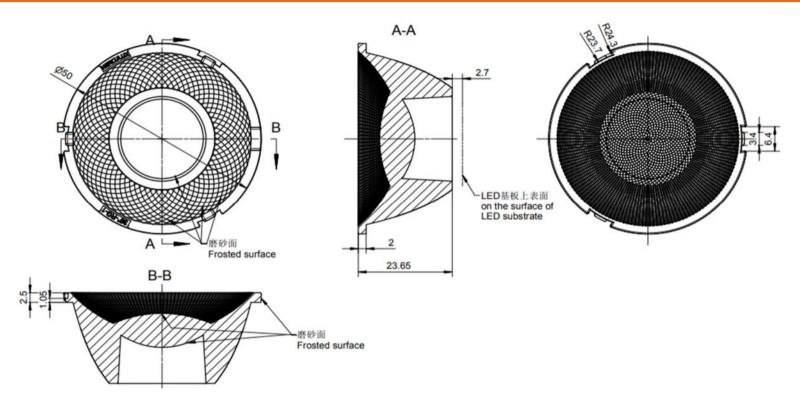


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- *4. When the lamp adopts rubber ring for waterproofing: the roughness of the contact surface between the radiator and the rubber ring is required: Ra<3.2µm

	Optical	design							HK-RG-5	50@24-24-D9-	21-1g-1	
	tructure	e desig				HK Moony 50	0@24-24º lens(D9)			1.01.12724		
r	Revi	iew						umber o	f drawin	qty	wei	ght
	Valida	alidation		Material:	PC		•	CDHK				
0^	~250	250~	~450	>4	450							
٠.	80 +1 2 +2 0											

							Vai	uation			iviateriai:	FC	CDITK
MT5 Tolerance	Basic size	<3	3~10	10~24	24~65	65~140	140~250	250~450	>450	0			
	olerance valu	±0.1	±0.15	±0.2	±0.35	±0.50	±0.80	±1.2	±2.0)			



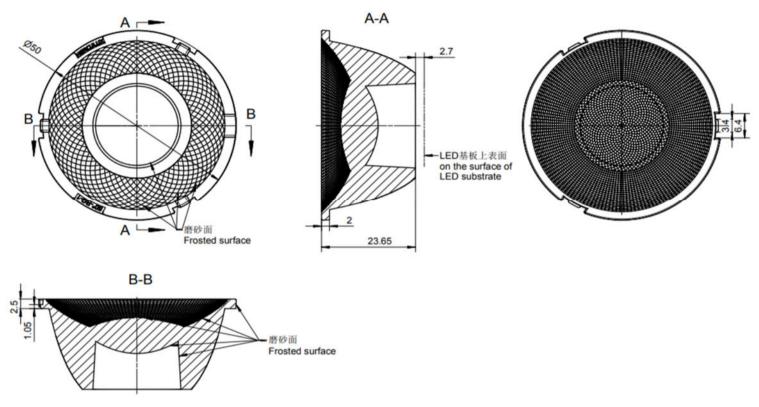


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	Optical	design							HK-RG-	50@24-36-D9-	21-1g-1	
	tructur	ure desig eview				HK Moony 50	0@24-36º lens(D9)			1.01.12748		
	Pov	Review					umber o	f drawin	qty	wei	ight	
	nev	Review										
	Valid	alidation		Material:	PC			CDHK				
)^	~250	250 250~450 >450										

								andation				widterial.	10	CBTIK
MT5 Tolerance	Basic size	<3	3∼10	10~24	24~65	65~140	140~25	50 250	~450	>45	50			
	olerance valu	±0.1	±0.15	±0.2	±0.35	±0.50	±0.80		1.2	±2.0	0			



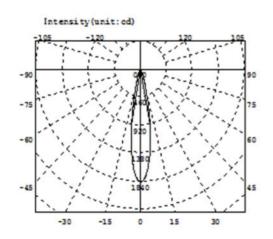


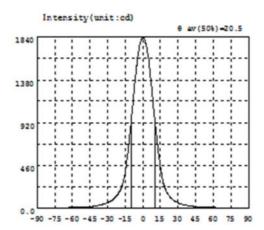
- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.
- *4. When the lamp adopts rubber ring for waterproofing: the roughness of the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

	Optical	design								HK-RG-	50@24-50-D9-	21-1g-1	
	tructur	ructure desig Review					HK Moony 50	0@24-50º lens(D9)			1.01.12958		
Į	Pov	Review						umber o	f drawin	qty	wei	ght	
ı	nev	Review											
	Valid	Validation			Material:	PC			CDHK				
)^	~250	250~	~450	>4	450								

							,	anuation				iviateriai:	FC	CDIIK
MT5 Tolerance	Basic size	<3	3∼10	10~24	24~65	65~140	140~2	50 250	~450	>4	50			
	olerance valu	±0.1	±0.15	±0.2	±0.35	±0.50	±0.80	<u>+</u>	1.2	±2.	.0			







Intensity data: (deg , cd) CO-180

λ	1	λ	I	A	I	A	I	λ	I	λ	1
-90.0	0.2260	-58.5	4.496	-27.0	77.89	4.5	1638	36.0	30.54	67.5	1.530
-88.5	0.2719	-57.0	5.140	-25.5	91.17	6.0	1487	37.5	26.40	69.0	1.224
-87.0	0.3167	-55.5	5.842	-24.0	107.0	7.5	1310	39.0	22.95	70.5	0.9945
-85.5	0.3487	-54.0	6.632	-22.5	126.6	9.0	1119	40.5	20.02	72.0	0.7690
-84.0	0.3801	-52.5	7.389	-21.0	151.1	10.5	927.8	42.0	17.57	73.5	0.5968
-82.5	0.3682	-51.0	8.201	-19.5	182.5	12.0	746.3	43.5	15.44	75.0	0.4415
-81.0	0.3575	-49.5	9.132	-18.0	226.1	13.5	581.2	45.0	13.67	76.5	0.4310
-79.5	0.3497	-48.0	10.29	-16.5	289.0	15.0	443.5	46.5	12.09	78.0	0.3544
-78.0	0.3618	-46.5	11.68	-15.0	382.2	16.5	328.0	48.0	10.76	79.5	0.3124
-76.5	0.4062	-45.0	13.25	-13.5	509.9	18.0	250.1	49.5	9.587	81.0	0.2792
-75.0	0.6037	-43.5	15.11	-12.0	669.8	19.5	197.1	51.0	8.475	82.5	0.2989
-73.5	0.8623	-42.0	17.26	-10.5	857.6	21.0	159.0	52.5	7.502	84.0	0.3329
-72.0	1.147	-40.5	19.88	-9.0	1055	22.5	130.6	54.0	6.651	85.5	0.4062
-70.5	1.389	-39.0	22.93	-7.5	1254	24.0	108.9	55.5	5.801	87.0	0.3501
-69.0	1.644	-37.5	26.50	-6.0	1440	25.5	91.27	57.0	5.139	88.5	0.3669
-67.5	1.935	-36.0	30.68	-4.5	1603	27.0	77.14	58.5	4.486	90.0	0.5382
-66.0	2.187	-34.5	35.71	-3.0	1727	28.5	65.64	60.0	3.869		
-64.5	2.534	-33.0	41.61	-1.5	1806	30.0	56.11	61.5	3.276		
-63.0	2.913	-31.5	48.67	0.0	1837	31.5	47.94	63.0	2.760		
-61.5	3.376	-30.0	56.98	1.5	1818	33.0	41.10	64.5	2.289		
-60.0	3.908	-28.5	66.73	3.0	1752	34.5	35.17	66.0	1.883		

Electricity Parameter:

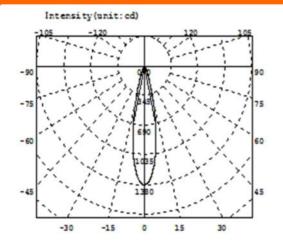
Current I: 0.1000A Power: 3.250W Voltage V: 36.59V PF: 1.000

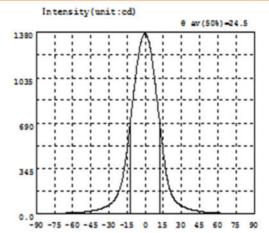
Optical Parameter (Distance=2.410m):

Equivalent Luminous flux: Φ eff= 337.21m Efficiency: Eff=103.781m/W

C0-180Plane I0= 1837cd







Intensity data: (deg , cd) CO-180

λ	I	λ	1	λ	I	λ	I	λ	1	Α	I
-90.0	0.2260	-58.5	5.344	-27.0	87.48	4.5	1245	36.0	34.10	67.5	1.044
-88.5	0.2383	-57.0	6.260	-25.5	102.7	6.0	1156	37.5	29.82	69.0	0.7688
-87.0	0.2614	-55.5	7.321	-24.0	122.9	7.5	1052	39.0	26.18	70.5	0.6931
-85.5	0.3166	-54.0	8.446	-22.5	150.8	9.0	937.6	40.5	23.08	72.0	0.5947
-84.0	0.3599	-52.5	9.735	-21.0	187.8	10.5	816.8	42.0	20.42	73.5	0.5505
-82.5	0.4029	-51.0	11.10	-19.5	238.1	12.0	694.2	43.5	18.11	75.0	0.4991
-81.0	0.4248	-49.5	12.59	-18.0	304.4	13.5	573.5	45.0	16.13	76.5	0.4728
-79.5	0.4597	-48.0	14.11	-16.5	389.0	15.0	462.8	46.5	14.25	78.0	0.4121
-78.0	0.4852	-46.5	15.79	-15.0	488.3	16.5	361.4	48.0	12.37	79.5	0.4175
-76.5	0.5477	-45.0	17.52	-13.5	601.0	18.0	274.3	49.5	10.69	81.0	0.3583
-75.0	0.6099	-43.5	19.96	-12.0	720.5	19.5	211.7	51.0	9.182	82.5	0.3390
-73.5	0.6938	-42.0	22.51	-10.5	844.0	21.0	165.5	52.5	7.842	84.0	0.2659
-72.0	0.9305	-40.5	25.52	-9.0	964.0	22.5	132.8	54.0	6.656	85.5	0.2337
-70.5	1.241	-39.0	28.93	-7.5	1075	24.0	109.5	55.5	5.602	87.0	0.2199
-69.0	1.556	-37.5	32.91	-6.0	1176	25.5	92.08	57.0	4.474	88.5	0.2420
-67.5	1.934	-36.0	37.53	-4.5	1261	27.0	78.77	58.5	3.899	90.0	0.1466
-66.0	2.340	-34.5	42.96	-3.0	1324	28.5	68.03	60.0	3.267		
-64.5	2.797	-33.0	49.19	-1.5	1361	30.0	58.99	61.5	2.685		
-63.0	3.278	-31.5	56.57	0.0	1371	31.5	51.16	63.0	2.205		
-61.5	3.857	-30.0	65.18	1.5	1355	33.0	44.63	64.5	1.775		
-60.0	4.549	-28.5	75.37	3.0	1313	34.5	38.99	66.0	1.395		

Electricity Parameter:

Current I: 0.1000A Power: 3.279W Voltage V: 32.79V PF: 1.000

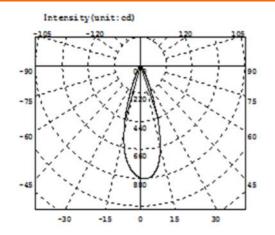
Optical Parameter (Distance=2.410m):

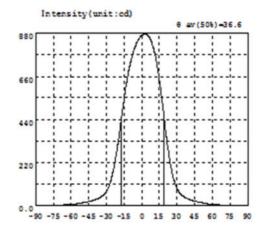
Equivalent Luminous flux: Φ eff= 333.9lm Efficiency: Eff=101.85lm/W

C0-180Plane I0= 1371cd

IES----







Intensity data: (deg , cd) C0-180

λ	I	λ	I	λ	1	λ	1	λ	1	λ	1
-90.0	0.3694	-58.5	5.273	-27.0	110.5	4.5	874.2	36.0	43.71	67.5	1.117
-88.5	0.3562	-57.0	6.279	-25.5	141.6	6.0	865.5	37.5	38.24	69.0	0.7751
-87.0	0.3801	-55.5	7.424	-24.0	180.9	7.5	849.6	39.0	33.75	70.5	0.5649
-85.5	0.3425	-54.0	8.665	-22.5	225.9	9.0	825.8	40.5	29.91	72.0	0.5773
-84.0	0.2922	-52.5	10.06	-21.0	281.4	10.5	794.4	42.0	26.72	73.5	0.5246
-82.5	0.1841	-51.0	11.58	-19.5	343.9	12.0	753.6	43.5	23.98	75.0	0.4880
-81.0	0.2959	-49.5	13.25	-18.0	409.1	13.5	703.7	45.0	21.20	76.5	0.4608
-79.5	0.3131	-48.0	15.01	-16.5	477.1	15.0	643.3	46.5	18.91	78.0	0.4894
-78.0	0.3860	-46.5	16.98	-15.0	542.1	16.5	575.8	48.0	16.71	79.5	0.4025
-76.5	0.4595	-45.0	19.02	-13.5	602.4	18.0	504.1	49.5	14.65	81.0	0.3476
-75.0	0.5213	-43.5	21.16	-12.0	656.4	19.5	428.3	51.0	12.76	82.5	0.0724
-73.5	0.5701	-42.0	23.55	-10.5	704.8	21.0	347.3	52.5	11.07	84.0	0.1407
-72.0	0.7505	-40.5	26.30	-9.0	744.4	22.5	282.5	54.0	9.504	85.5	0.3725
-70.5	0.8115	-39.0	29.44	-7.5	777.4	24.0	224.8	55.5	8.144	87.0	0.2860
-69.0	0.9480	-37.5	33.06	-6.0	804.8	25.5	176.4	57.0	6.787	88.5	0.4780
-67.5	1.170	-36.0	37.34	-4.5	827.2	27.0	138.4	58.5	5.619	90.0	0.5573
-66.0	1.518	-34.5	42.57	-3.0	845.0	28.5	108.8	60.0	4.792		
-64.5	2.074	-33.0	49.08	-1.5	859.8	30.0	86.82	61.5	3.702		
-63.0	2.719	-31.5	57.95	0.0	869.7	31.5	70.28	63.0	2.904		
-61.5	3.470	-30.0	69.90	1.5	876.0	33.0	58.76	64.5	2.182		
-60.0	4.311	-28.5	87.08	3.0	877.5	34.5	50.28	66.0	1.563		

Electricity Parameter:

Current I: 0.1000A Power: 0.2700W Voltage V: 2.700V PF: 1.000

Optical Parameter (Distance=2.559m):

Equivalent Luminous flux: Φ eff= 375.3lm Efficiency: Eff=1390.27lm/W

Diffuse angle: 0 (25%): 46.8deg0 (50%): 36.6deg0 (75%): 26.5deg0 (50%): 36.6deg

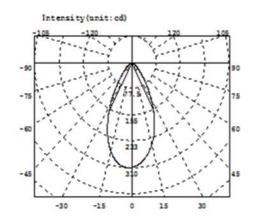
Diffuse angle: 0 (25%): 46.9deg0 (50%): 36.7deg0 (75%): 26.8deg0 (50%): 36.7deg

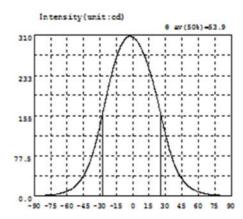
Imax=877.5cd (C=0.0deg,G=3.0deg)

C0-180Plane Imax= 877.5cd (G=3.0deg)

C0-180Plane I0= 869.7cd







Intensity data: (deg , cd) C0-180

Α	1	λ	1	λ	I	A	1	λ	I	λ	1
-90.0	0.3729	-58.5	9.928	-27.0	163.2	4.5	297.1	36.0	73.85	67.5	3.323
-88.5	0.3618	-57.0	11.62	-25.5	177.6	6.0	292.2	37.5	64.74	69.0	2.825
-87.0	0.3616	-55.5	13.57	-24.0	192.0	7.5	286.3	39.0	56.58	70.5	2.387
-85.5	0.3497	-54.0	15.81	-22.5	206.2	9.0	279.6	40.5	49.42	72.0	1.963
-84.0	0.3273	-52.5	18.40	-21.0	219.8	10.5	272.2	42.0	43.17	73.5	1.596
-82.5	0.3599	-51.0	21.35	-19.5	232.6	12.0	264.1	43.5	37.63	75.0	1.275
-81.0	0.4078	-49.5	24.75	-18.0	244.8	13.5	255.1	45.0	32.84	76.5	0.9696
-79.5	0.5334	-48.0	28.63	-16.5	256.1	15.0	245.4	46.5	28.58	78.0	0.7546
-78.0	0.7172	-46.5	33.17	-15.0	266.4	16.5	235.0	48.0	24.82	79.5	0.5395
-76.5	0.9914	-45.0	38.16	-13.5	275.6	18.0	223.9	49.5	21.47	81.0	0.4310
-75.0	1.238	-43.5	43.80	-12.0	283.8	19.5	212.0	51.0	18.61	82.5	0.3487
-73.5	1.686	-42.0	50.10	-10.5	291.0	21.0	199.5	52.5	16.15	84.0	0.3262
-72.0	2.102	-40.5	57.36	-9.0	296.8	22.5	186.4	54.0	13.97	85.5	0.3277
-70.5	2.544	-39.0	65.52	-7.5	301.5	24.0	173.0	55.5	12.03	87.0	0.3063
-69.0	3.044	-37.5	74.62	-6.0	304.9	25.5	159.2	57.0	10.35	88.5	0.2379
-67.5	3.603	-36.0	84.71	-4.5	307.0	27.0	145.4	58.5	8.872	90.0	0.3379
-66.0	4.264	-34.5	95.93	-3.0	308.0	28.5	132.0	60.0	7.603		
-64.5	5.075	-33.0	108.0	-1.5	307.9	30.0	119.0	61.5	6.467		4
-63.0	6.034	-31.5	120.9	0.0	306.7	31.5	106.4	63.0	5.480		
-61.5	7.143	-30.0	134.5	1.5	304.4	33.0	94.68	64.5	4.638		
-60.0	8.422	-28.5	148.7	3.0	301.2	34.5	83.85	66.0	3.937		

Electricity Parameter:

Current I: 0.1000A Power: 3.608W Voltage V: 36.09V PF: 1.000

Optical Parameter (Distance=2.410m):

Equivalent Luminous flux: Φ eff= 279.31m Efficiency: Eff=77.421m/W

C0-180Plane I0= 306.7cd



			01 1 1			- .	- .	- .	- ,	Judg			
			Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	men t	Remarks		
	diame	ter	50			50	50.01	50	50. 01		Test environment: In 20 $^{\circ}$ -25 $^{\circ}$		
1.Size	heig	ht	23.65			23. 87	23. 87	23.87	23. 87		environment to achieve thermal		
	thick	ness	2			2. 25	2.22	2. 25	2. 22		equilibrium after the test.		
				Gate	e shear can	can not affect the appearance of the lamp							
				See	attachmer	it "Appearar	nce Inspection	on Standard	s"				
2.Appeai			ttachment bearance	E	1	No burr	No burr	No burr	No burr		ок		
Quality			pection ndards"	L	N	o stains	No stains	No stains	No stai	ns	OK .		
3.Materia	al			PC			Color	Tra	nsparent		OK		
	Festing	LEC					D9						
4.Optica	the he	conform to the parameters in the product basic information table. if it is required to be out of range. According to the heat dissipation capability of the lamp and the actual conditions of the use environment, the lens should be fully tested and tested to prevent the lens life. See light distribution curve									•		
Tilldex	ang	-				20. 5	19. 7	19. 9	19.8				
	K-va	lue	_			5. 45	5. 92	6. 02	6. 06				
	(CD/I Effici					81.6%	82.1%	82. 1%	80.4%	_	$\overline{}$		
	-	1	ne signature	e sample		, .				<u>l</u>	_		
Comprel ve judgr	hensi					<u> </u>	Qualif	fied					
ve judgi	mont				PC produ	ct size cha	nges with t	temperatu	re table				
Remarks 1、Tool Vernier O Quadrati Gauge M Microsco Thick Ga Gauge E 2、Amb on the siz refer to the	Numbe Caliper : c H-He I-Tool ope P-N auge R- E-Visual vient ten ze of th	2D- ight leedle Radiu npera e prod	ch T- us ture duct	ength 0.9 nanges 0.8 (mm) 0.7 0.6 0.5 0.4 0.3 0.2 0.1 0	0	10	20	30	40 (°C)	Si Si Si Si	ze: 50mm ze: 100mm ze: 150mm ze: 200mm ze: 250mm ze: 300mm		

- 1. Please wear clean gloves during the lens assembly process to prevent the lens surface from being contaminated.
- Try to avoid touching the total reflection surface when taking the lens.
 The lens surface is contaminated. Only use a soft cotton cloth dipped in analytically pure neutral solvent to wipe gently. Do not wipe with industrial solvents (alcohol, isopropanol, acetone, ether, toluene, xylene, carbon tetrachloride, MMA Body,
- 4. The working temperature of the lens should be within the temperature resistance limit of the lens material. Exceeding the temperature resistance limit will cause the lens to crack or melt and affect the service life of the lens. It is recommended that the upper surface temperature of the LED colloid should be less than 120 degrees.



	Standar d 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
	50			49.94	49.95	49.93	49.95	49.96	49.95	49.90	49.92		environment:
height	23.65			23.57	23.56	23.58	23.63	23.60	23.60	23.60	23.64		In 20 ℃ -25 ℃
	2			1.96	1.94	1.96	2.01	1.96	2.01	1.95	1.96		environment to achieve
688	<u>I</u>		Gat	te shear	can not	affect th	ne appea	arance c	f the lar	np	<u>I</u>		thermal
			Se	e attach	ment "A	ppearar	nce Insp	ection S	tandard	s"			
ıran [_{"Δ} ,		E		No bu	rr	No	burr	No	burr	1	No burr		ОК
e II				No stai	ins	No s	tains	No s	tains	N	o stains		
al			PC			Co	olor		Tra	nsparer	nt		OK
sting L	E					ı	D9	ı					
dissipa and tes	ation capability of the lamp and the actual conditions of the use environment, the lens should be fully tested sted to prevent the lens life.												
				94 5	T			ĺ	ĺ	24.0	24.0	_	
K-		_											$\overline{}$
value			<u> </u>										$\overline{}$
	1	ature sar	nnle	82.2%	, 78.1%	80.5%	79.8%	80.8%	81.0%	78.6%	80.3%		
nen	e trie sigri	ature sar	пріс				Oual	ified					
ent							Quai	illeu					
Caliper ic H-He M-Tool ope P- T-Thick R-Radiu E-Visual oient ture on	2D- ight s l. the uct	changes (mm)	0.9 0.8 0.7 0.6 0.5 0.4 0.3					mperat	ure tal	2 → 2 → 3 → 3 → 3	Size: 2 Size: 2 Size: 2 Size: 2	100mn 150mn 200mn 250mn	า า า
	ran att hickness at thickness at the size of the size	d size diamet er 50 height 23.65 thickn 2 ran See attachment "Appearanc e Inspection Standards" al sting LE The size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the parameter dissipation capal and tested to present the size and ratto the size and ratto the size and ratto the size and ratto the size and ratto the size and ra	standar d size limit diamet er 50 height 23.65 thickn 2 See attachment "Appearanc e Inspection Standards" al sting LE The size and rated power to the parameters in the p dissipation capability of the and tested to prevent the FWHM angle FWHM angle Ficien acu See the signature sarmen acu See the signature sarmen See Number: V-Caliper 2D-ic H-Height M-Tool ope P-T-Thick R-Radius E-Visual. Dient ture on the ne product	Standar Size limit lim	Standard Size limit limit result1	Standard d size limit limit result1 result2 result2 diamet er 50	Size limit result1 result2 result3 res	Size Instruction Instruc	Standard Size Inst Tesult Tes	Standard Size Size Inst result1 result2 result3 result4 result4 result6 re	Standard Size Siz	Standard Size limit size lest lest result3 result4 result4 result6 result6 result6 result6 result6 result7 result7 result8 Starton Size Insit Fesult Size Insit Fesult	
- 1. Please wear clean gloves during the lens assembly process to prevent the lens surface from being contaminated.
- Try to avoid touching the total reflection surface when taking the lens.
 The lens surface is contaminated. Only use a soft cotton cloth dipped in analytically pure neutral solvent to wipe gently. Do not wipe with industrial solvents (alcohol, isopropanol, acetone, ether, toluene, xylene, carbon tetrachloride, MMA Body,
- 4. The working temperature of the lens should be within the temperature resistance limit of the lens material. Exceeding the temperature resistance limit will cause the lens to crack or melt and affect the service life of the lens. It is recommended that the upper surface temperature of the LED colloid should be less than 120 degrees.



					1	•		T.	T.			ı	T		
			ındar 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
	diame er	et ;	50			#####	#####	#####	#####	#####	#####	#####	#####		l est environment:
1.Size	heigh	ht 23	6. 65			#####	#####	#####	#####	#####	#####	#####	#####		In 20 ℃ -25 ℃
	thick ess		2			2.03	2.04	2.04	2.03	2.01	2.04	1.98	1.99		environment to achieve thermal
		•	•		Gat	e shear	can not	affect th	e appea	arance o	f the lar	np			
					See	e attachı	ment "A	ppearan	ce Insp	ection S	tandard	s"			
2.Appea	ıran 🛮 "	See attachr Appea	nent	E		No bu	rr	No	burr	No	burr	1	No burr		ОК
ce Quali	ity e	Inspe Standa	ction	J		No stai	ns	No s	tains	No s	tains	N	o stains		ÖK
3.Materi	al			F	PC			Co	lor		Tra	ınspareı	nt		OK
	esting	LE							D9						
4.Optic	the he	conform to the parameters in the product basic information table. if it is required to be out of range. According to the heat dissipation capability of the lamp and the actual conditions of the use environment, the lens should be fully tested and tested to prevent the lens life. FWHM See light distribution curve													
al index	FWH	IM				1	Se	ee light o	distributi	on curve	9	Ī	Ī		
	ang1 K-		_		_	36.6	36. 4	36. 5	37. 1	35.6	36. 1	36. 4			
	valu					2. 34	2. 35	2.37	2.33	2.46	2. 38	2. 36	2. 45		
	fici					81.2%	81.0%	81.4%	82.3%	81.6%	80.5%	80.3%	81.6%		
Сотрге		See the	signa	ature san	nple		`								
sive									Qual	ified					
Remarks 1、Tool Vernier (Quadrat Gauge N Microsco Needle Gauge E 2、Amb tempera size of th refer to t the right	Numb Calipe ic H-H M-Too ope P- T-Thic R-Rad E-Visu bient ture o the pro the tab	er 2D- leight I - ck ius al.		(0.9	produc	t size ch	anges		mperation 30		2 → 3 → 4 → 4	Size: Size:	100mn 150mn 200mn 250mn	1 1 1

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		Stand		Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks
	diamet	er 50			49.94	49. 93	49. 94	49. 93		Test environment: In 20 °C -25 °C
1.Size	heigh	t 23.6	55		23.66	23. 7	23. 66	23. 7		environment to achieve thermal
	thickn s	es 2			2.1	2.08	2. 1	2.08		equilibrium after the test.
				e shear car				<u> </u>		
			Se	e attachme	nt "Appeara	ance Insped	ction Stand	ards"		
2.Appear	ance	See attachmei 'Appearan		1	No burr	No burr	No burr	No bu	rr	ОК
Quality	Inspection Standards"				o stains	No stains	No stains	No stai	ns	GIV.
3.Materia						Color	Tra	insparent		ОК
	esting l	LEC				D9				
t	to the h	eat dissipates tested and		of the lamp	and the a		tions of the			range. According t, the lens should
	ang1e			53. 9	52. 2	54.6	53. 4			
	K-val	ue							_	
	(CD/LM Efficie				67. 23%	66. 51%	67. 95%	65. 78%		
	-		nature sample		`	001011	0,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	001.00		
Compreh ve judgn	nensi		<u>'</u>		<u> </u>	Q	ualified			
Remarks 1、Tool I Vernier C Quadratic Gauge M Microsco Thick Ga Gauge E 2、Amb temperat of the pro	: Number: Caliper 2 c H-Heig I-Tool pe P-Ne uge R-F -Visual. ient ure on tl	D-ght eedle T-Radius he size fer to	Length 0.9 changes 0.8 (mm) 0.7 0.6 0.5 0.4 0.3 0.2 0.1	uct size ch	anges with	h tempera	40 (°C)	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	size: 50mm size: 100mm size: 150mm size: 200mm size: 250mm size: 300mm	

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PI	N	HK-RG-50@24-15-D9-21	I-1g-1_A	Product Name	HK Moony 50@24-	15º lens	(D9) _A
Product	material			PC			
Package diagram		© □ \ Single Va	cuum packa	ge Bo	ox package		>
Product	packing	14	A/ Box	4	pcs/Layer		
		10	Layer/Box	560	A/ Carton		
	NO.	Part No	Part name	Size	Dosage	Unit	Remarks
	1	2.07.0024-1	Blister box	23cm*21cm	40	BAG	
Dookogin	2	2.08.0001	PE film	30cm*30cm	40	PCS	
Packagin g	3	2.06.0005	Reel label paper	6.2cm*8cm	40	PCS	
Materials	4	2.06.0005	Box label paper	6.2cm*9.2cm	1	PCS	
	5	2.06.0003	big plate	46.8cm*42.8cr	m 11	PCS	
	6	2.06.0015	big flat carton	48cm*44cm*19d	cm 1	PCS	
Remarks		The loose packing is not subje	ct to this specif	ïcation. Customer'	's requirements shall	prevail	

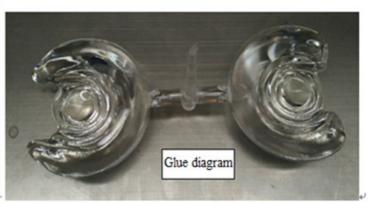


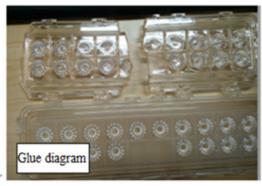
Special notice

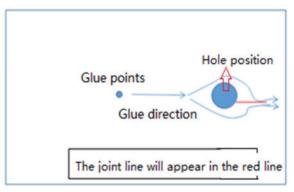
When gule pass through holes, columns and other structures, or part of the thin structure, will form a weld line. The product which uses multi-point injection welding line will appear because of the combination of sol, as shown below:

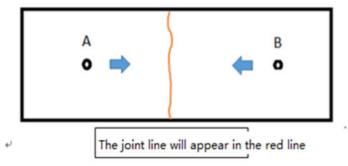
Syntneti











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 description	Unit	Code	Code description	Unit
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	level			
reschems	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	1	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	 Product does not allow the presence of flow marks and welding lines unless the structure can not be avoided; 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		√	