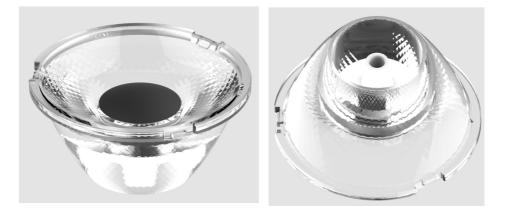


Approval number :

Customer :

Manufacturer : Chengdu HercuLux Photoelectric Technology Co.,Ltd

PN	Code	Product
HK-HG-50@24-10-D6-20-1g-1_ASM	1.01.12626.10	HK Dark 50@24-10 Degree lens
HK-HG-50@24-10-D6-20-1g-1	1.01.12626_01	HK Dark 50@24-10 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	confirmat	ion	Client confirmation				
Proposed		DATE		Qualified□		DATE		
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 ParkPhone : 028-85887727 (801)028-85887990 (801)Fax : 028-85887730http://www.herculux.com/Sales Dept: Shenzhen NanshanDistrict Nanshan Cloud Valley Innovation Industrial Park Comprehensive Service Building, 501-TEL: 0755-2937 1541FAX: 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:

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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.

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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.

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.



http://www.herculux.com/

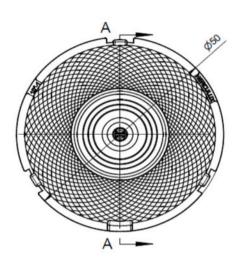
Date updated: 2023/4/14

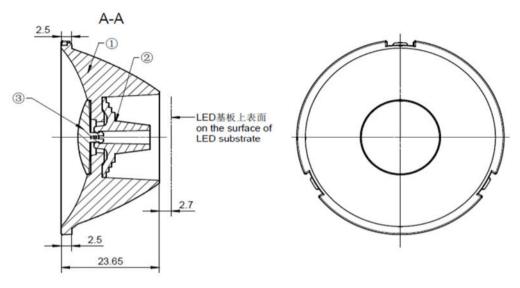
FAX: 0755-2907 5140

TEL: 0755-2937 1541

Product Picture:	<image/>
PN:	HK-HG-50@24-10-D6-20-1g-1_ASM
Size(L*W*H/Φ*H):	Ф:50mm; H:23.65mm
Material:	Components (PMMA, ceramic, PC (black))
Effiency:	N N
Temperature(Topr):	Material extreme temperature resistance : -40°C to +100°C long-term use temperature : -40°C to +80°C
FWHM:	10°
Matched LES:	Equipped with D6 light-emitting surface, measured light source CREE:1304
Recommended MAX power:	No more than 15W







				NO. Code				Prod	uct	Name	PN			duct erial	
				1	1.01.12626	_01	HK Dark 50@24-10 degree lens_01 H				HK-HG-50@24-10-D6-20-	1g-1	PMMA		
				2	1.01.12626_0	02.10	HK Dark 50@24-10 De			ee Aw1_02	HK-HG-21@14-0612-S		ceramic		
			3	1.01.12626_0	03.10	HK Dark	50@24-	10 Degr	ee Cover_03	HK-HG-19@08-0613-S		PC (black)			
	oft angle. o GB/T 14486 2008 MT5.			Optical design								HK-HG-50@24-10-D6-20-1g-1_ASM			
	efects.	0 2000 10113	<i>.</i> .	Structure design					HK Dark 50	HK Dark 50@24-10 Degree lens		1.01.12626.1	.0		
	•	s of the con	tact	F	Review							nber of dra	wi qty	weight	
e	d: Ra<3.2µr	n		Va	alidation					Material:			CDHK		
I	24~65	65~140	140~	~250	250 250~450			450		· · · · ·		-			
	±0.35	±0.50	±0.	.80	±1.2		±2	2.0							

Technical remark:

MT5

Tolerance

table

Basic size

lerance val

1. The 3D map is not indicated for rounded corners and draft angle.

2. The dimensional tolerances are not specified according to GB/T 14

3, The surface has no flash, shrinkage, bubbles and other defects.

<3

±0.1

*4. When the lamp adopts rubber ring for waterproofing: the roughn surface between the radiator and the rubber ring is required: Ra<3.2

10~24

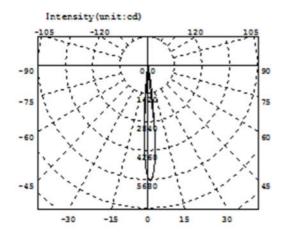
±0.20

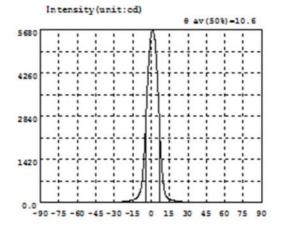
3~10

±0.15









Intensity data: (deg , cd) CO-180

λ	I	λ	I	λ	I	λ	I	λ	I	λ	I
-90.0	0.4745	-58.5	1.827	-27.0	12.89	4.5	4569	36.0	6.676	67.5	0.9984
-88.5	0.4866	-57.0	1.931	-25.5	15.26	6.0	3349	37.5	5.858	69.0	0.9537
-87.0	0.5437	-55.5	2.038	-24.0	18.43	7.5	2011	39.0	5.156	70.5	0.8990
-85.5	0.5996	-54.0	2.130	-22.5	23.12	9.0	1002	40.5	4.552	72.0	0.8736
-84.0	0.6444	-52.5	2.214	-21.0	29.84	10.5	482.0	42.0	4.027	73.5	0.7907
-82.5	0.7097	-51.0	2.303	-19.5	38.91	12.0	215.9	43.5	3.565	75.0	0.7687
-81.0	0.9579	-49.5	2.492	-18.0	50.00	13.5	135.7	45.0	3.211	76.5	0.7683
-79.5	0.7873	-48.0	2.689	-16.5	63.28	15.0	100.3	46.5	2.906	78.0	0.7689
-78.0	0.8460	-46.5	2.911	-15.0	79.51	16.5	80.99	48.0	2.632	79.5	0.7756
-76.5	0.9046	-45.0	3.121	-13.5	102.6	18.0	67.07	49.5	2.399	81.0	0.7473
-75.0	0.9689	-43.5	3.383	-12.0	139.1	19.5	54.47	51.0	2.319	82.5	0.7576
-73.5	1.107	-42.0	3.743	-10.5	210.2	21.0	42.83	52.5	2.014	84.0	0.7133
-72.0	1.265	-40.5	4.394	-9.0	341.6	22.5	32.99	54.0	1.860	85.5	0.6648
-70.5	1.362	-39.0	5.049	-7.5	657.2	24.0	25.24	55.5	1.674	87.0	0.6442
-69.0	1.423	-37.5	5.566	-6.0	1370	25.5	19.76	57.0	1.524	88.5	0.6220
-67.5	1.438	-36.0	5.895	-4.5	2486	27.0	16.18	58.5	1.382	90.0	0.5930
-66.0	1.459	-34.5	6.335	-3.0	3799	28.5	13.52	60.0	1.285		
-64.5	1.526	-33.0	7.100	-1.5	4920	30.0	11.62	61.5	1.178		
-63.0	1.612	-31.5	8.121	0.0	5542	31.5	10.03	63.0	1.147		
-61.5	1.698	-30.0	9.256	1.5	5660	33.0	8.644	64.5	1.098		
-60.0	1.769	-28.5	11.11	3.0	5340	34.5	7.587	66.0	1.053		

Electricity Parameter:

Current I:	0.1000A	Power:	3.580W
Voltage V:	35.79V	PF:	1.000

Optical Parameter (Distance=2.410m):

Equivalent Luminous	flux: Φ eff= 250.81m	Efficiency: Eff=70.07lm/W
Diffuse angle:	@(25%): 14.1deg@(50%):	10.6deg@(75%): 7.3deg @(50%): 10.6deg
Diffuse angle:	@(25%): 14.2deg@(50%):	10.7deg@(75%): 7.5deg @(50%): 10.7deg
Imax=5674cd (C=0.0d	leg,G=1.0deg)	CO-180Plane Imax= 5674cd(G=1.0deg)
		C0-180Plane IO= 5542cd

IES——

Sample parameter test rep

ドレビン HERCULUX 恒坤光电

		s	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	\setminus	Test environment: In 20 ℃ -25 ℃			
1.Size	heigh	t	23.65	\geq	\geq	23.79	23. 73	23.68	23.71	\sum	environment to achieve thermal			
	thickne	ess	2			2.04	2.08	2.04	2.01	\backslash	equilibrium after the 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.Appea	rance	attac	ee hment arance	E	1	No burr	No burr	No burr	No bu	rr	ОК			
Quality		Insp	ection dards"	L	Ν	o stains	No stains	No stains	No stai	ns	ÖK			
3.Materia	al	Co	omponent	s (PMMA, ce	eramic, PC ((black))	Color	Tra	nsparent		ОК			
	Testing I	ED				CREE 13	04 (black le	ens backing	j)					
4.Optica	heat dis	ssipatio			mp and the	e actual con d tested to p	ditions of th	ne use envi Iens life.			e. According to the s should be fully			
l index		_				10.6	, 		10 E					
	angle					22.70	10.7	10.5	10.5					
	K-val	-					22.56	22.82	22.55	-				
	Efficie					69.83%	69.27%	68.99%	69.27%					
<u></u>	Facula	See the	e signatu	re sample										
	ehensive Iment						Q	ualified						
Remarks: 1、Tool Number: V-Vernier Caliper 2D-Quadratic H- Height Gauge M-Tool Microscope P-Needle T- Thick Gauge R-Radius Gauge E-Visual. 2、Ambient temperature on the size of the product refer						oroduct siz	e changes	with tem	perature	+	Size: 50mm Size: 100mm Size: 150mm Size: 200mm Size: 250mm Size: 300mm			
	ole on the				0	10	20	30	40 (℃)					

1. Please wear clean gloves during the lens assembly process to prevent the lens surface from being contaminated.

2. 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, etc.).
 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

Packaging Information



PI	N	HK-HG-50@24-10-D6-20-1	g-1_ASM	Product Name	HK Dark 50@24-	10 Degre	ee lens		
Product	material	C	omponents (P	MMA, ceramic, PC	(black))				
Package diagram		Single Va	cuum packa	ege Bo	ox package	2	>		
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	11	PCS			
	6	2.06.0015	big flat carton	48cm*44cm*19c	m 1	PCS			
Remarks	s The loose packing is not subject to this specification. Customer's requirements shall prevail								

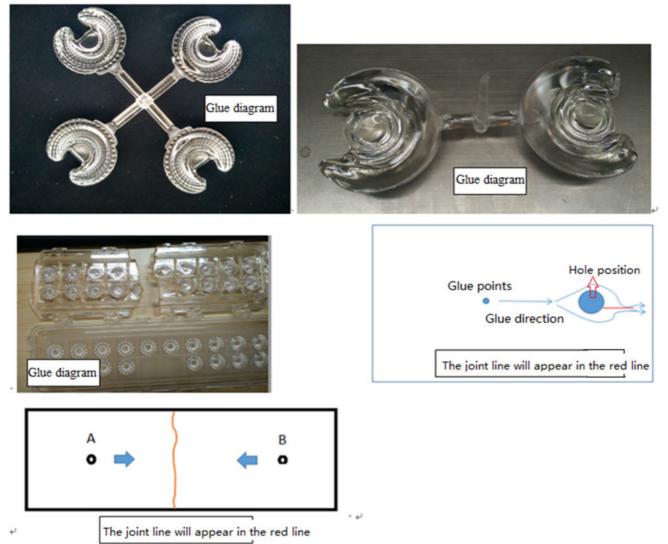


Annex I

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:

Synmeu



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	ludeing stondard	Inspection equipment Defect 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			V

	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	V	
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			V
Deformation	Insufficient filling shall not affect the appearance of the assembly and the exposed surfaces.	Visual, feeler		V
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	V	
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	V	
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 	Visual	V	
Bubble	more than two 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			\checkmark
Cold glue	Optical surface may not have cold glue, non- optical surface cold glue should meet the visual is not obvious.	Visual	\checkmark		
	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			V
	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 $D \le 1$ mm and no more than 1 area within a 50x50 mm area	Visual		V	



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

Approval number:

Customer:

Manufacturer:	Chengdu HercuLux Photoelectric Technology Co.,Ltd
---------------	---

PN	Code	Product
HK-HG-50@24-15-D9-21-1g-1	1.01.92006	HK Dark 50@24-15° lens
НК-НG-50@24-24-D9-21-1g-1	1.01.92007	HK Dark 50@24-24° lens
HK-HG-50@24-36-D9-21-1g-1	1.01.92062	HK Dark 50@24-36° lens
HK-HG-50@24-50-D9-21-1g-1	1.01.92150	HK Dark 50@24-50° lens



	Supplier co	onfirmation	Client confirmation						
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, lot 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



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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.

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.

第2页

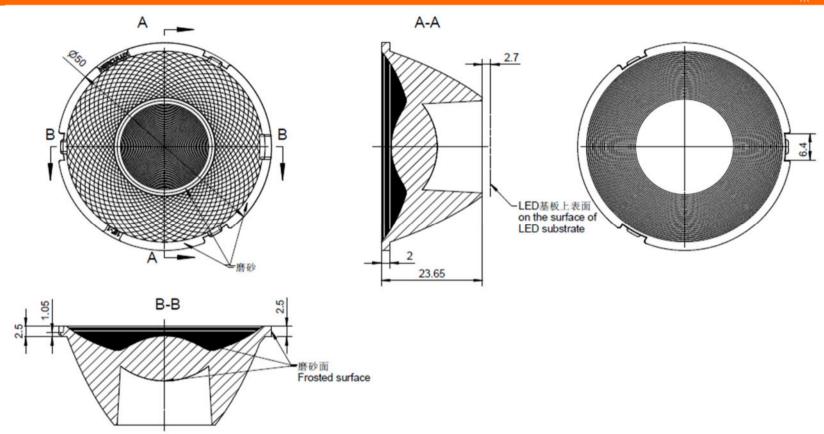


http://www.herculux.com/

Date updated: 2023/5/18

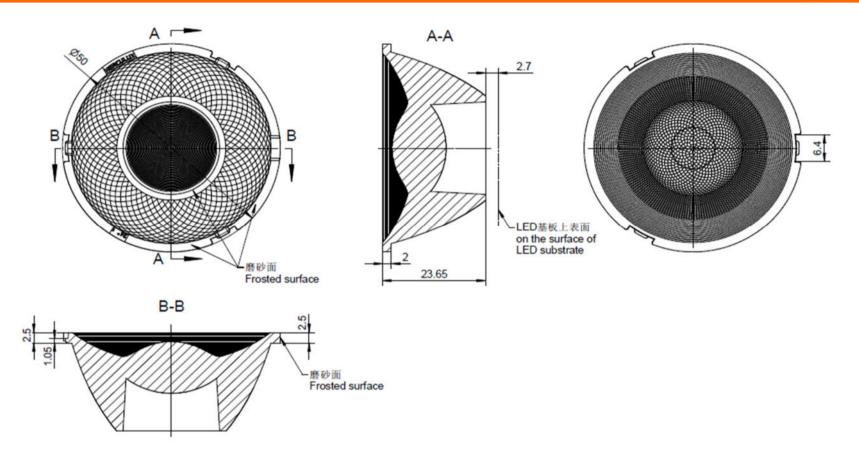
Product Picture:	
Size(L*W*H/Φ*H):	Ф:50mm; H:23.65mm
Material:	РММА
Effiency:	λ
Temperature(Topr):	Material extreme temperature resistance: -40°C to +100°C long-term use temperature: -40°C to +80°C
FWHM:	15°、24°、36°、50°
Matched LES:	D9
Recommended MAX power:	Not more than 25W





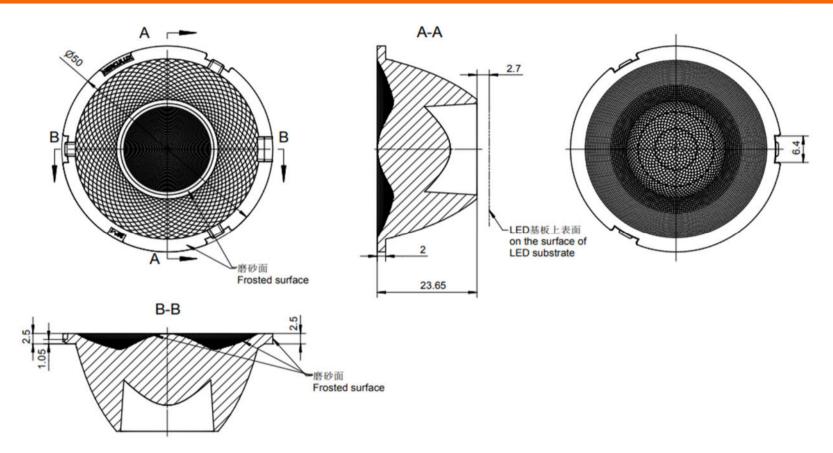
1. The 3D m	The 3D map is not indicated for rounded corners and draft angle.															HK-HG-50@24-15-D9-21-1g-1				
	. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5. , The surface has no flash, shrinkage, bubbles and other defects.											HK Dark	50@24-15º lens	1.01.92006						
*4. When th	ne lamp adop	ts rubber rin	g for waterp	roofing: the r	oughness of	the contact	Re	eview						mber of o	lrawi	qty	weigh	nt		
surface betv	ce between the radiator and the rubber ring is required: Ra<3.2 μ m					Val	Validation Mater		Material:	PMMA			CDHK							
MT5 Tolerance	Basic size	<3	3~10	10~24	24~65	65~140	140~250	250~	~450	>4	50	-	-	-						
	lerance val	±0.1	±0.15	±0.2	±0.35	±0.50	±0.80	±1	.2	±2	.0									





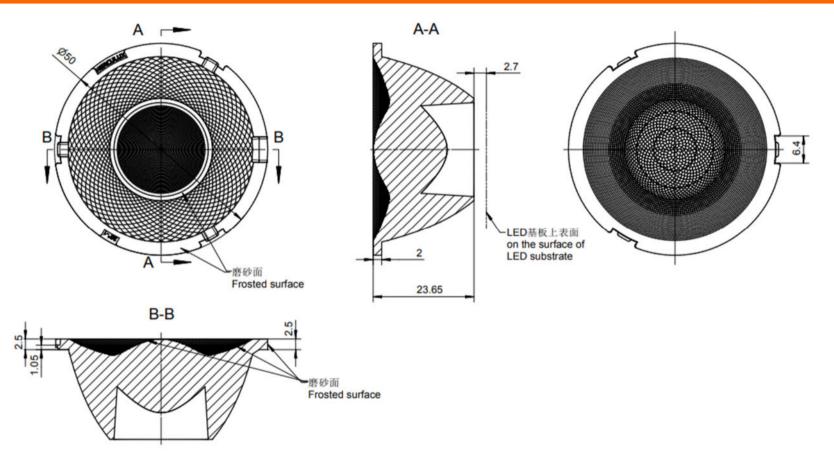
	. The 3D map is not indicated for rounded corners and draft angle.									Optical design			HK-HG-50@24-24-D9-21-1g-1				
	 The dimensional tolerances are not specified according to GB/T 14486 2008 MT5. The surface has no flash, shrinkage, bubbles and other defects. 										HK Dark	1.01.92007					
*4. When th	when the lamp adopts rubber ring for waterproofing: the roughness of the contact							view							ty	weight	
surface betw	ace between the radiator and the rubber ring is required: Ra<3.2 μm					Vali	/alidation Material		Material:	PMMA		C	онк				
MT5 Tolerance	Basic size	<3	3~10	10~24	24~65	65~140	140~250	250~4	450 >	450		•	-				
	lerance val	±0.1	±0.15	±0.2	±0.35	±0.50	±0.80	±1.2	2 ±	2.0							





1. The 3D m	. The 3D map is not indicated for rounded corners and draft angle.									Optical design						HK-HG-50@24-36-D9-21-1g-1				
	 The dimensional tolerances are not specified according to GB/T 14486 2008 MT5. The surface has no flash, shrinkage, bubbles and other defects. 											HK Dark 50@24-36º lens			1.01.92062					
*4. When th	ne lamp adopt	ts rubber rin	g for waterp	roofing: the r	oughness of	the contact	Re	eview							mber o	f drawi	qty	weight		
surface betw	face between the radiator and the rubber ring is required: Ra<3.2 μ m						Val	idation				Mater	Material: PMMA		СДНК					
MT5 Tolerance	Basic size	<3	3~10	10~24	24~65	65~140	140~250	250~	~450	>4	150				•					
	lerance val	±0.1	±0.15	±0.2	±0.35	±0.50	±0.80	±1	2	±2	.0									

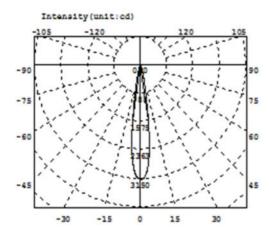


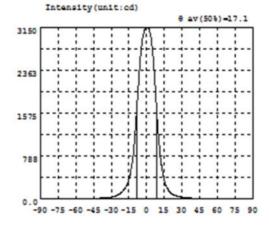


1. The 3D m	I. The 3D map is not indicated for rounded corners and draft angle.														HK-HG-50@24-50-D9-21-1g-1				
	 The dimensional tolerances are not specified according to GB/T 14486 2008 MT5. The surface has no flash, shrinkage, bubbles and other defects. 											HK Da	HK Dark 50@24-50º lens			1.01.92150			
*4. When th	ne lamp adop	ts rubber rin	g for waterp	roofing: the i	roughness of	the contact	R	eview							mber of dra	wi q	ty	weight	t
surface betw	ace between the radiator and the rubber ring is required: Ra<3.2 μ m					Val	idation				Material	Material: PMMA			СДНК				
MT5 Tolerance	Basic size	<3	3~10	10~24	24~65	65~140	140~250	0 250~	~450	>4	50								
	lerance val	±0.1	±0.15	±0.2	±0.35	±0.50	±0.80	±1	2	±2	.0								

CREE 1512







Intensity data: (deg , cd) CO-180

λ	I	λ	1	λ	I	λ	I	λ	I	λ	I
-90.0	0.8587	-58.5	8.046	-27.0	54.34	4.5	2813	36.0	21.78	67.5	5.309
-88.5	0.8361	-57.0	8.737	-25.5	66.10	6.0	2455	37.5	20.00	69.0	4.836
-87.0	0.8135	-55.5	9.420	-24.0	81.37	7.5	1966	39.0	18.55	70.5	4.380
-85.5	0.8017	-54.0	10.13	-22.5	101.5	9.0	1455	40.5	17.30	72.0	3.936
-84.0	0.7577	-52.5	10.89	-21.0	127.6	10.5	1023	42.0	16.31	73.5	3.472
-82.5	0.7813	-51.0	11.63	-19.5	163.5	12.0	703.3	43.5	15.33	75.0	3.028
-81.0	0.9172	-49.5	12.37	-18.0	210.4	13.5	487.6	45.0	14.53	76.5	2.577
-79.5	1.076	-48.0	13.13	-16.5	275.3	15.0	337.5	46.5	13.74	78.0	2.134
-78.0	1.258	-46.5	13.94	-15.0	370.7	16.5	241.2	48.0	12.99	79.5	1.734
-76.5	1.520	-45.0	14.79	-13.5	508.9	18.0	179.8	49.5	12.30	81.0	1.447
-75.0	1.838	-43.5	15.73	-12.0	714.2	19.5	136.6	51.0	11.69	82.5	1.219
-73.5	2.195	-42.0	16.87	-10.5	1021	21.0	107.3	52.5	11.09	84.0	1.038
-72.0	2.693	-40.5	18.20	-9.0	1440	22.5	86.36	54.0	10.49	85.5	0.9617
-70.5	3.235	-39.0	19.60	-7.5	1933	24.0	70.87	55.5	9.832	87.0	0.9465
-69.0	3.772	-37.5	21.40	-6.0	2408	25.5	58.53	57.0	9.194	88.5	0.9515
-67.5	4.337	-36.0	23.40	-4.5	2775	27.0	48.73	58.5	8.576	90.0	0.9717
-66.0	4.935	-34.5	26.10	-3.0	3001	28.5	40.99	60.0	7.990		
-64.5	5.493	-33.0	29.29	-1.5	3106	30.0	35.14	61.5	7.429		
-63.0	6.096	-31.5	33.45	0.0	3141	31.5	30.46	63.0	6.855		
-61.5	6.740	-30.0	38.49	1.5	3130	33.0	26.84	64.5	6.297		
-60.0	7.387	-28.5	45.36	3.0	3031	34.5	24.02	66.0	5.776		

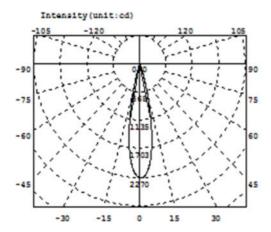
Electricity Parameter:

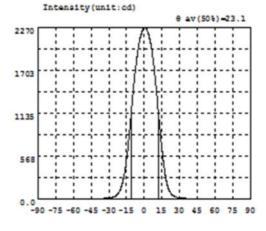
Current I:	0.1000A	Power:	0.2700W
Voltage V:	2.700V	PF:	1.000

Equivalent Luminous	s flux: 🕈 eff= 393.41m	Efficiency: Eff=1457.121m/W
Diffuse angle:	@ (25%): 23.0deg @ (50%):	17.1deg @(75%): 12.4deg @(50%): 17.1deg
Diffuse angle:	@(25%): 23.0deg@(50%):	17.1deg @(75%): 12.4deg @(50%): 17.1deg
Imax=3144cd (C=0.00	leg,G=0.5deg)	CO-180Plane Imax= 3144cd(G=0.5deg)
		C0-180Plane IO= 3141cd









Intensity data: (deg , cd) CO-180

λ	I	λ	1	λ	1	λ	1	λ	I	λ	1
-90.0	1.152	-58.5	7.598	-27.0	29.05	4.5	2123	36.0	13.26	67.5	5.236
-88.5	1.175	-57.0	8.033	-25.5	37.05	6.0	1999	37.5	12.23	69.0	4.829
-87.0	1.220	-55.5	8.337	-24.0	50.04	7.5	1835	39.0	11.44	70.5	4.473
-85.5	1.323	-54.0	8.701	-22.5	71.44	9.0	1627	40.5	10.90	72.0	4.109
-84.0	1.560	-52.5	9.062	-21.0	107.0	10.5	1389	42.0	10.50	73.5	3.830
-82.5	1.753	-51.0	9.257	-19.5	164.4	12.0	1136	43.5	10.24	75.0	3.522
-81.0	2.013	-49.5	9.341	-18.0	246.0	13.5	880.4	45.0	9.979	76.5	3.193
-79.5	2.254	-48.0	9.556	-16.5	366.1	15.0	651.0	46.5	9.786	78.0	2.810
-78.0	2.548	-46.5	9.679	-15.0	532.0	16.5	458.4	48.0	9.651	79.5	2.544
-76.5	2.908	-45.0	9.723	-13.5	739.1	18.0	293.7	49.5	9.480	81.0	2.208
-75.0	3.237	-43.5	9.886	-12.0	979.0	19.5	189.6	51.0	9.312	82.5	1.990
-73.5	3.532	-42.0	10.15	-10.5	1237	21.0	121.1	52.5	9.145	84.0	1.707
-72.0	3.904	-40.5	10.58	-9.0	1486	22.5	79.62	54.0	8.865	85.5	1.498
-70.5	4.271	-39.0	11.09	-7.5	1712	24.0	54.74	55.5	8.527	87.0	1.348
-69.0	4.647	-37.5	11.74	-6.0	1898	25.5	39.78	57.0	8.119	88.5	1.236
-67.5	5.038	-36.0	12.70	-4.5	2051	27.0	30.66	58.5	7.708	90.0	1.273
-66.0	5.368	-34.5	14.02	-3.0	2157	28.5	24.85	60.0	7.301		
-64.5	5.903	-33.0	15.56	-1.5	2228	30.0	20.95	61.5	6.814		
-63.0	6.304	-31.5	17.56	0.0	2262	31.5	18.34	63.0	6.443		
-61.5	6.809	-30.0	20.11	1.5	2253	33.0	16.25	64.5	6.043		
-60.0	7.243	-28.5	23.77	3.0	2207	34.5	14.47	66.0	5.575		

Electricity Parameter:

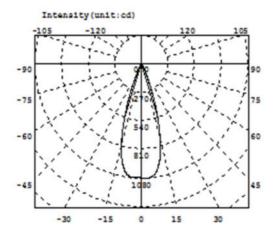
Current	I:	0.1000A	Power:	4.486W
Voltage	V:	44.90V	PF:	1.000

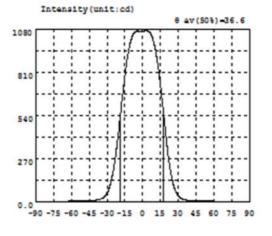
Equivalent Luminous	s flux: 4 eff= 400.41m	Efficiency: Eff=89.271m/W
Diffuse angle:	@(25%): 30.3deg@(50%):	23.1deg @(75%): 16.1deg @(50%): 23.1deg
Diffuse angle:	@ (25%): 30.3deg @ (50%):	23.1deg @(75%): 16.1deg @(50%): 23.1deg
Imax=2264cd (C=0.00	deg,G=0.5deg)	CO-180Plane Imax= 2264cd(G=0.5deg)
		C0-180Plane IO= 2262cd

IES——









Intensity data: (deg , cd) CO-180

λ	1	λ	I	λ	I	λ	1	λ	1	λ	I
-90.0	0.9265	-58.5	7.596	-27.0	122.0	4.5	1068	36.0	15.21	67.5	3.092
-88.5	0.9264	-57.0	7.637	-25.5	170.4	6.0	1058	37.5	12.83	69.0	2.585
-87.0	0.8926	-55.5	7.564	-24.0	232.0	7.5	1038	39.0	11.08	70.5	2.150
-85.5	0.8697	-54.0	7.428	-22.5	309.2	9.0	1004	40.5	9.804	72.0	1.809
-84.0	0.8474	-52.5	7.294	-21.0	398.7	10.5	955.7	42.0	8.851	73.5	1.509
-82.5	0.8826	-51.0	7.222	-19.5	496.9	12.0	892.0	43.5	8.119	75.0	1.299
-81.0	0.9727	-49.5	7.249	-18.0	597.9	13.5	810.5	45.0	7.560	76.5	1.105
-79.5	1.088	-48.0	7.453	-16.5	698.6	15.0	717.7	46.5	7.176	78.0	0.9467
-78.0	1.305	-46.5	7.850	-15.0	791.6	16.5	617.6	48.0	6.966	79.5	0.8508
-76.5	1.563	-45.0	8.408	-13.5	874.5	18.0	515.4	49.5	6.956	81.0	0.7748
-75.0	1.816	-43.5	9.161	-12.0	941.8	19.5	414.4	51.0	7.074	82.5	0.7781
-73.5	2.145	-42.0	10.19	-10.5	993.5	21.0	312.4	52.5	7.268	84.0	0.7923
-72.0	2.545	-40.5	11.56	-9.0	1031	22.5	231.3	54.0	7.433	85.5	0.8149
-70.5	3.033	-39.0	13.42	-7.5	1054	24.0	167.1	55.5	7.521	87.0	0.8461
-69.0	3.567	-37.5	15.96	-6.0	1066	25.5	116.5	57.0	7.432	88.5	0.8611
-67.5	4.172	-36.0	19.19	-4.5	1069	27.0	80.33	58.5	7.079	90.0	0.8496
-66.0	4.848	-34.5	23.85	-3.0	1067	28.5	55.66	60.0	6.496		
-64.5	5.511	-33.0	30.69	-1.5	1066	30.0	39.54	61.5	5.751		
-63.0	6.234	-31.5	41.33	0.0	1068	31.5	29.20	63.0	5.006		
-61.5	6.882	-30.0	57.93	1.5	1069	33.0	22.75	64.5	4.302		
-60.0	7.349	-28.5	84.79	3.0	1071	34.5	18.32	66.0	3.673		

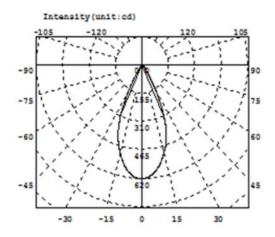
Electricity Parameter:

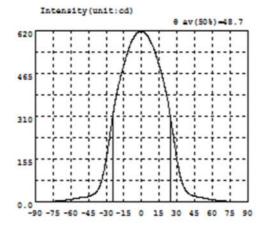
Current	I:	0.1000A	Power:	3.338W
Voltage	V:	33.40V	PF:	1.000

Equivalent Luminous	s flux: 4 eff= 414.91m	Efficiency: Eff=124.32lm/W
Diffuse angle:	@(25%): 44.9deg@(50%):	36.6deg @ (75%): 28.4deg @ (50%): 36.6deg
Diffuse angle:	@(25%): 44.9deg@(50%):	36.6deg @ (75%): 28.4deg @ (50%): 36.6deg
Imax=1071cd (C=0.00	leg,G=3.0deg)	CO-180Plane Imax= 1071cd(G=3.0deg)
		C0-180Plane IO= 1068cd

CREE 1512







Intensity data: (deg , cd) CO-180

λ	1	λ	I	λ	1	λ	I	λ	1	λ	1
-90.0	0.9152	-58.5	11.32	-27.0	238.7	4.5	603.3	36.0	51.58	67.5	5.205
-88.5	0.8928	-57.0	12.52	-25.5	281.8	6.0	592.8	37.5	41.03	69.0	4.587
-87.0	0.8712	-55.5	13.70	-24.0	323.1	7.5	580.4	39.0	33.83	70.5	4.071
-85.5	0.9031	-54.0	14.81	-22.5	361.4	9.0	567.7	40.5	28.86	72.0	3.498
-84.0	0.8272	-52.5	15.89	-21.0	394.0	10.5	553.3	42.0	25.45	73.5	2.930
-82.5	0.9203	-51.0	16.85	-19.5	422.5	12.0	532.5	43.5	23.08	75.0	2.338
-81.0	1.125	-49.5	17.81	-18.0	448.6	13.5	512.0	45.0	21.37	76.5	1.809
-79.5	1.516	-48.0	18.78	-16.5	473.9	15.0	490.2	46.5	20.00	78.0	1.340
-78.0	1.944	-46.5	19.81	-15.0	497.0	16.5	470.4	48.0	18.81	79.5	1.041
-76.5	2.487	-45.0	21.05	-13.5	518.5	18.0	445.4	49.5	17.68	81.0	0.8361
-75.0	3.011	-43.5	22.73	-12.0	539.9	19.5	418.3	51.0	16.58	82.5	0.7170
-73.5	3.662	-42.0	25.19	-10.5	558.5	21.0	389.4	52.5	15.46	84.0	0.6652
-72.0	4.206	-40.5	28.91	-9.0	575.5	22.5	356.2	54.0	14.29	85.5	0.6919
-70.5	4.814	-39.0	34.25	-7.5	588.6	24.0	316.3	55.5	13.00	87.0	0.7393
-69.0	5.386	-37.5	42.01	-6.0	599.5	25.5	275.3	57.0	11.71	88.5	0.7189
-67.5	6.051	-36.0	53.27	-4.5	608.8	27.0	233.1	58.5	10.40	90.0	0.8193
-66.0	6.642	-34.5	69.79	-3.0	614.0	28.5	190.4	60.0	9.210		
-64.5	7.343	-33.0	92.40	-1.5	617.0	30.0	150.6	61.5	8.151		
-63.0	8.241	-31.5	121.6	0.0	617.8	31.5	115.8	63.0	7.288		
-61.5	9.130	-30.0	157.5	1.5	614.8	33.0	87.84	64.5	6.476		
-60.0	10.13	-28.5	195.5	3.0	609.8	34.5	66.62	66.0	5.819		

Electricity Parameter:

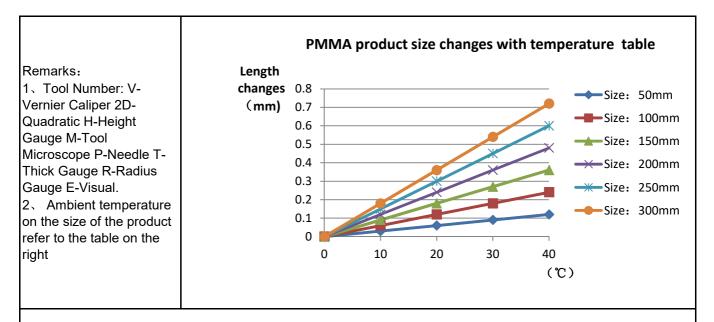
Current I:	0.1000A	Power:	3.299W
Voltage V:	33.00V	PF:	1.000

Equivalent Luminous	flux: Φ eff= 407.11m	Efficiency: Eff=123.411m/W
Diffuse angle:	@(25%): 59.9deg@(50%):	48.7deg @ (75%): 34.0deg @ (50%): 48.7deg
Diffuse angle:	@(25%): 59.9deg@(50%):	48.7deg @ (75%): 34.0deg @ (50%): 48.7deg
Imax=618.0cd (C=0.0	deg,G=-0.5deg)	CO-180Plane Imax= 618.0cd(G=-0.5deg)
		CO-180Plane IO= 617.8cd

Sample parameter test HK Dark 50@24-15° lens



			Standard size	Upper Size limit	Lowe size lir		Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks	
	diam	eter	50			/	49.96	50	49.96	49.95		Test environment	
1.Size	hei	ght	23.6				23.63	23. 52	23. 53	23. 53	\backslash	: In 20 ℃ - 25 ℃ environment to achieve thermal	
		thicknes 2 s					2.06	2.01	2.04	2.06		equilibrium after the test.	
				Gate sh	near car	n no	t affect the	appearanc	e of the lan	np			
				See at	tachme	nt "A	Appearance	e Inspectior	n Standards	5"			
2 Appearance attachi			See achment pearance	E		No burr		No burr	No burr	No bu	rr	ОК	
Quality		Ins	spection andards"			No	o stains	No stains	No stains	No stai	ns	ÖK	
3.Material				PMMA Color Transparent								ОК	
	Tes	sting L	.ED	D9									
	sho	ould c	onform to According t	the parame to the heat o	eters in t dissipati	he p ion (product bas capability o	sic informat f the lamp	the COB re ion table. if and the act ed to preve	it is requir ual conditio	ed to l ons of	be out of	
4.Optical index	F	WHN	A See	light distrib	ution cu	rve							
		angle			<u> </u>		17.1	17.3	17.3 17				
	K-value		D/LM			/	7.98	7.85	7.95	8.05			
	Ef	ficien	су				83.00%	83.50%	84.30%	85.00%			
	ŀ	acula	a				See the	e signature	sample				
Comprehe	ensive	judgi	ment	Qualified									



Precautions:

1. Please wear clean gloves during the lens assembly process to prevent the lens surface from being contaminated.

2. Try to avoid touching the total reflection surface when taking the lens.

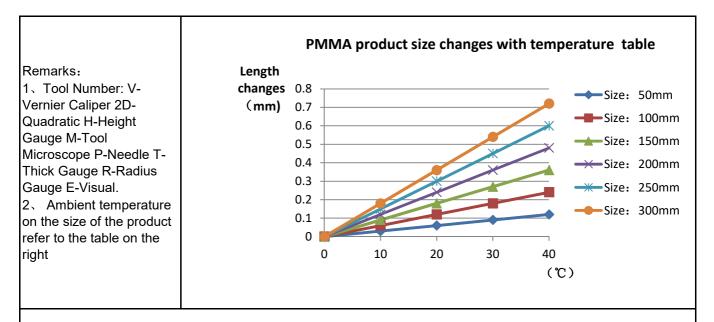
3. The lens surface is contaminated. Only use a soft cotton cloth dipped in analytically pure neutral solvent to wipe gently. Do not wipe with industrial solvents (alcohol, isopropanol, acetone, ether, toluene, xylene, carbon tetrachloride, MMA Body, etc.).

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.

Sample parameter test HK Dark 50@24-24° lens



			Standa size	d Upper Size limit	Lower size limi	rocu			Test resu It4			resu		Jud gme nt	Remarks
	diam	eter	50			50	50	50	50	50	50	50	50		Test environment
1.Size	hei	ght	23.6			24	24	24	24	24	24	24	24		: In 20 ℃ - 25 ℃ environment to achieve thermal
		hicknes 2 s				2	2	2.1	2.1	2.1	2	2.1	2	\backslash	equilibrium after the test.
		Gate shear can not affect the appearance of the lamp													
				See at	tachment	"Appe	arance	e Insp	ectio	n Star	ndard	s"			
2.Appearance Quality			achment			No bu	No burr		No burr		No burr		No bu	rr	ОК
Quality		Ins	spection andards"			No stai	ns	No s	tains	No s	tains	N	o stai	ns	ÖK
3.Material				PMMA Color Transparent							ОК				
	Tes	sting L	.ED	D9											
	sho	ould c	onform t According	ed power of th o the parame g to the heat o nment, the lea	eters in the	e produ n capal	ict bas pility o	sic inf of the	ormat lamp	ion ta and th	ible. if ne act	[:] it is r ual co	equir onditio	ed to ons of	be out of
4.Optical index	F	WHN	/ Se	e light distrib	ution curv	е									
		angle					23.1		22.5		22.4		22.8		
	K-val	ue (C	D/LM			Ę	5.66	5	5. 48	5	5. 50	5	5.47	/	
	Ef	ficien	су			89). 50%	90). 50%	89	. 00%	90). 00%		
	F	acula	a			S	ee the	e sign	ature	samp	ole				
Comprehe	ensive	judgr	ment					Qua	lified						



Precautions:

1. Please wear clean gloves during the lens assembly process to prevent the lens surface from being contaminated.

2. Try to avoid touching the total reflection surface when taking the lens.

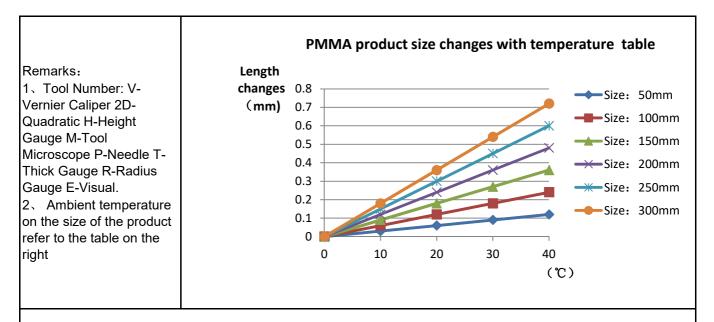
3. The lens surface is contaminated. Only use a soft cotton cloth dipped in analytically pure neutral solvent to wipe gently. Do not wipe with industrial solvents (alcohol, isopropanol, acetone, ether, toluene, xylene, carbon tetrachloride, MMA Body, etc.).

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.

Sample parameter test HK Dark 50@24-36° lens



			Standarc size	Upper Size limit	Lower size limit						Test resu It6	resu			Remarks
	diam	eter	50			49.9	49.9	49.9	49.9	49.8	49.9	49.8	49.8		Test environment
1.Size	hei	ght	23.6			23.6	23.6	23.5	23.5	23.5	23.6	23.5	23.5	\backslash	: In 20 ℃ - 25 ℃ environment to achieve thermal
	thic s		2			1. 98	1.97	2	2.02	1.99	2	2	2		equilibrium after the test.
				Gate shear can not affect the appearance of the lamp											
				See at	tachment '	'Appe	aranc	e Insp	ectio	n Star	ndard	s"			
2 Annearance			See achment bearance	Е		No burr		No burr		No burr		٩	No bur		ОК
Quality		Ins	spection andards"		N	lo stai	ns	No s	tains	No s	tains	No stai		ns	ÖK
3.Material				PMMA Color Transparent								ОК			
	Tes	ting L	.ED	D9											
	sho	ould c	onform to According	power of th the parame to the heat o ment, the le	eters in the dissipation	produ capal	ict bas pility c	sic inf of the	ormat lamp	tion ta and th	ible. if ne act	it is r ual co	equiro onditio	ed to ons of	be out of
4.Optical index	F	WHM	1 See	light distrib	ution curve	•									
		angle					36.6		36		35.4		36		
	K-val	ue (Cl	D/LM				2.5		2.6		2.6		2.6		
	Ef	ficien	cy			90). 00%	89	. 90%	91	. 00%	90	. 70%		
	F	acula	a			S	ee the	e sign	ature	samp	ole				
Comprehe	ensive	judgr	ment					Qua	lified						



Precautions:

1. Please wear clean gloves during the lens assembly process to prevent the lens surface from being contaminated.

2. Try to avoid touching the total reflection surface when taking the lens.

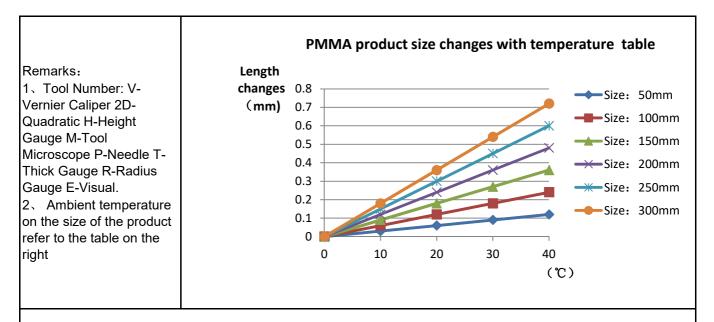
3. The lens surface is contaminated. Only use a soft cotton cloth dipped in analytically pure neutral solvent to wipe gently. Do not wipe with industrial solvents (alcohol, isopropanol, acetone, ether, toluene, xylene, carbon tetrachloride, MMA Body, etc.).

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.

Sample parameter test HK Dark 50@24-50° lens



1.Size			Standard size	Upper Size limit	Lower size lim		Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks
	diameter		50				49.98	49.98	50	49.98		Test environment
	height		23.6				23.61	23.65	23. 61	23.62	\backslash	: In 20 ℃ - 25 ℃ environment to achieve thermal
	thicknes s		2				2.12	2.05	2.07	2.12	\backslash	equilibrium after the test.
				Gate sh	near can	not	affect the	appearanc	e of the lan	np		
				See at	tachmen	nt "A	ppearance	e Inspectio	n Standards	6"		
2.Appeara	nce "Appeara Inspecti		achment	nce E on		N	o burr	No burr	No burr	No bu	rr	ОК
Quality			spection andards"			No	stains	No stains	No stains	No stai	ns	ÖK
3.Material				PMMA Color Transparent OF						ОК		
	Tes	Testing LED		D9								
	The size and rated power of the light-emitting surface (LES) of the COB recommended by the should conform to the parameters in the product basic information table. if it is required to be range. According to the heat dissipation capability of the lamp and the actual conditions of the environment, the lens should be fully tested and tested to prevent the lens life.						be out of					
4.Optical index	F	WHN	A See	See light distribution curve								
		angle					49.6	49.7	50.1	50.8		
	K-val	ue (C	D/LM					\searrow	$\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{$			
	Efficiency		су				0.85	0.86	0.84	0.855		
	Facula		a	See the signature sample								
Comprehensive judgment			ment					Qualified				



Precautions:

1. Please wear clean gloves during the lens assembly process to prevent the lens surface from being contaminated.

2. Try to avoid touching the total reflection surface when taking the lens.

3. 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, 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.

Packaging Information

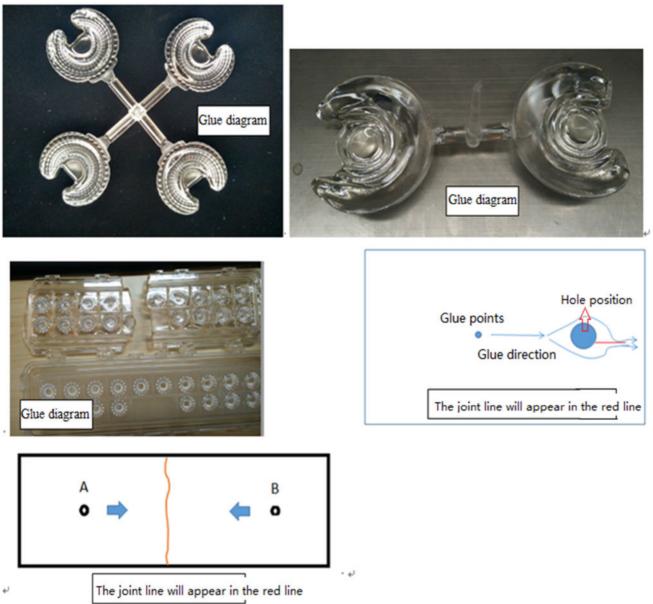


PN		HK-HG-50@24-15-D9-2	Product Name	HK Dark 50@	HK Dark 50@24-15° lens				
Product material		PMMA							
Package diagram		Single Vac	cuum packa	ge Box	x package	\geq	>		
Product	packing	14	A/ Box	4	pcs/Layer				
		10	Layer/Box	560	A/ Carton				
	NO.	Part No	Part name	Size	Dosage	Unit	Remarks		
	1	2.07.0024-1	Blister box	23cm*21cm	40	BAG			
Deelveein	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*42.8cm	11	PCS			
	6	2.06.0015	big flat carton	48cm*44cm*19cn	n 1	PCS			
Remarks	The loose packing is not subject to this specification. 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	de	Code escription	Unit
N	Amount/pcs	pcs	D	D)iameter	mm
L	Length	mm	Н		Depth	mm
W	Width	mm	DS	C	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

ľ	Tootitoma	Judging standard	Inspection equipment	Defect level		
	Test items		Testing method	МІ	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			V

	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	V	
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	v	
Fingerprint	Fingerprints are not allowed on all products	Visual	V	
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			V
Deformation	Insufficient filling shall not affect the appearance of the assembly and the exposed surfaces.	Visual, feeler		V
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.	Visual, point card	V	
	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.			
Insufficient filling	Insufficient filling shall not affect the appearance of the assembly and the exposed surfaces, The signature sample shall prevail.	Visual, point card	V	
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	V	
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	v	
lille	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		\checkmark	
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			\checkmark
Cold glue	Optical surface may not have cold glue, non- optical surface cold glue should meet the visual is not obvious.	Visual	\checkmark		
	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			V
	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 $D \le 1$ mm and no more than 1 area within a 50x50 mm area	Visual		V	