

Chengdu HercuLux Photoelectric Technology Co.,Ltd **Product Approval**

Approval number:

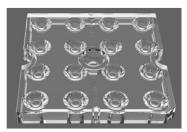
Customer:

Manufacturer: Chengdu HercuLux Photoelectric Technology Co.,Ltd

PN	Code	Product
HK-50@04-90-3030-#0-1g-16	1. 02. 81531	HK 16close1-90degree Road lam Lens
HK-50@05-60-3030-#0-1g-16	1. 02. 81532	HK 16close1-60degree Road lam Lens
HK-50@06-30-3030-#1-1g-16	1. 02. 81539	HK 16close1-30degree Road lam Lens







	Supplier c	onfirmation		Clien	t confirmation	
Proposed		DATE	Qualified□		5.1	
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)

 ${\it Factory:}\ Chengdu\ Shuangliu\ District,\ Iot\ industrial\ park\ 2\ road\ HercuLux\ Photoelectric\ Park$

Phone: 028-85887727 (801) 028-85887990 (801) Fax: 028-8588730 www.hkoptics.com
Sales Dept: Shenzhen Nanshan District Nanshan Cloud Valley Innovation Industrial Park Comprehensive Service Building, 501-505

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

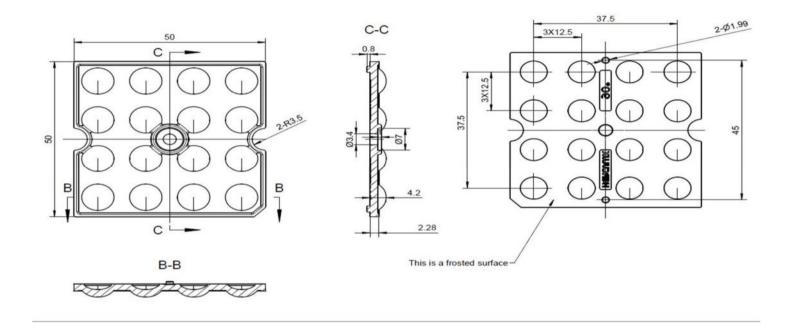
*Approval In duplicate, for both supplier and customer.



TEL: 0755-2937 1541 FAX: 0755-2907 5140 www.hkoptics.com Date updated: 2020/9/18

Product Picture:	
PN:	HK-50@XX-X-3030-#0-1g-16
Size(L*W*H/Φ*H):	L:50mm; W:50mm; H:Xmm
Material:	PMMA
Effiency:	\
Temperature(Topr):	-40°C to +80°C
FWHM:	90°,60°,30°
Matched LES:	3030



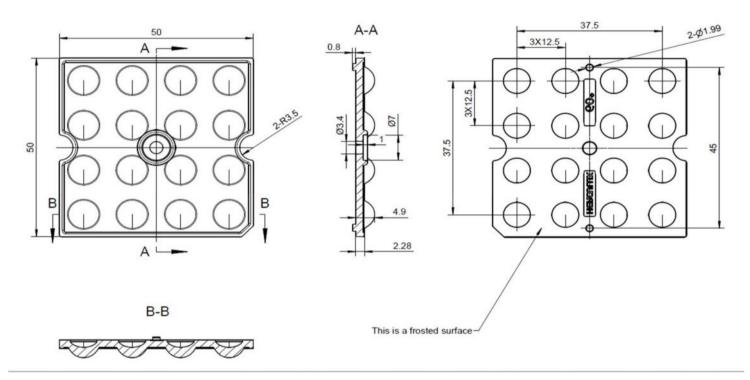


- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

	Optical	design						HK-50@04-90-3030-#0-1g-16					
	tructur	e desig				HK 16close1	-90degree Road lam Lens	1.02.81531					
	Rev	riew					20113	umber of drawin qty weigh			ight		
	Valid	ation				Material:	PMMA	CDHK					
^	~250	250~	~450	>	450								

					ation			iviateriai.	1 1411417 (CBTIK		
MT5	Basic size	<3	3~10	24~65	65~140	140~250	250~450	>450	0			
Tolerance table (mm)	olerance valu	±0.1	±0.15	±0.35	±0.50	±0.80	±1.2	±2.0	,			



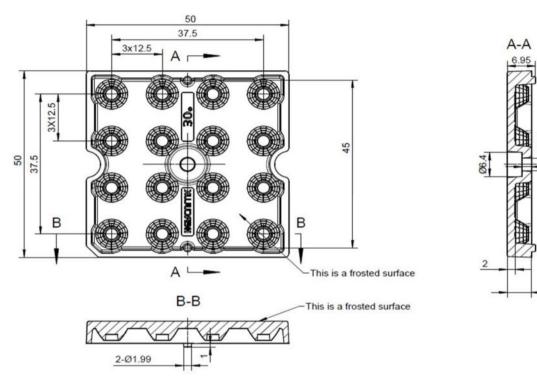


- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

	Optical	ptical design							HK-5	50@05-60-3030-#0)-1g-16	
	itructur	e desigi					HK 16close1	-60degree Road lam Lens	1.02.81532			
	Rev	iew						Lens	umber of dra	win qty	wei	ght
	Valid	ation					Material:	PMMA	CDHK			
^0	~250	50 250~450 >450										

MT5	Basic size	<3	3∼10	24~65	65~140	140~250	250~45	50 >	450	
Tolerance	olerance valu	±0.1	±0.15	±0.35	±0.50	±0.80	±1.2	1	2.0	





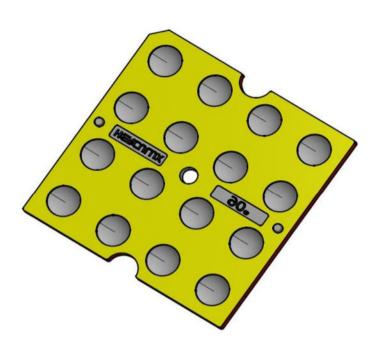
- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

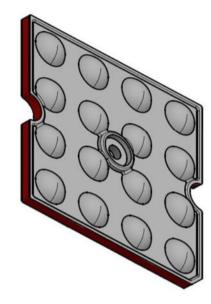
				HIV TOCIOSET-	-30degree Road lam Lens	m 1.02.81539 umber of drawin qty weigh				
					ECHS	umber of	f drawin	qty	wei	ght
				Material:	PMMA	CDHK				
~450	>4	450								
	~450	~450 > <i>t</i>	-450 >450	~450 >450		Material: PMMA	Material: PMMA	unber of drawin Material: PMMA	Material: PMMA CDHK	Material: PMMA CDHK

5.95

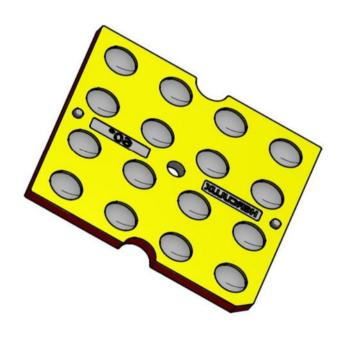
MT5 Tolerance	Basic size	<3	3~10	24~65	65~140	140~250	250~450	>450	
	olerance valu	±0.1	±0.15	±0.35	±0.50	±0.80	±1.2	±2.0	

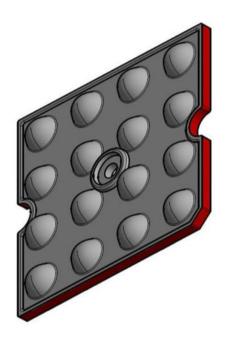




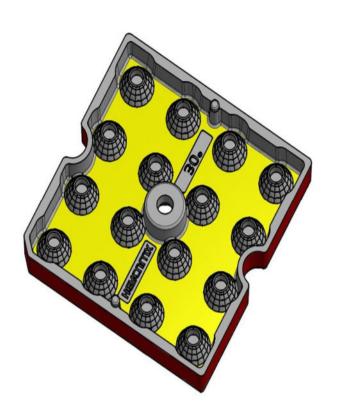


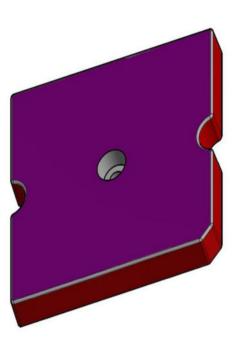


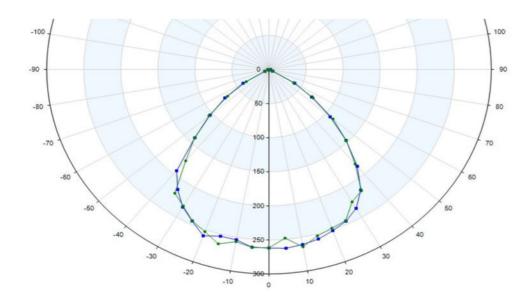


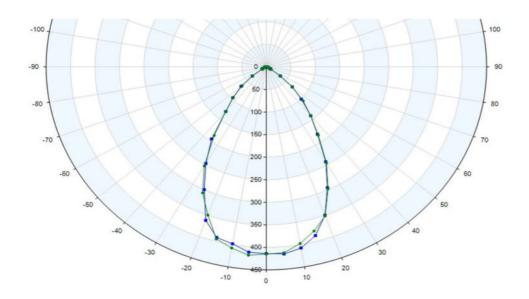




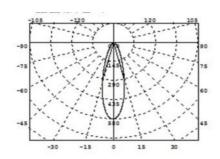


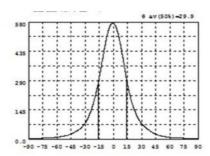












光强分布数据: (角度°,光强cd) C0-180

角度	光强	角度	光强	角度	光强	角度	光强	角度	光强	角度	光强
-90.0	1.468	-58.5	10.65	-27.0	103.6	4.5	530.3	36.0	50.25	67.5	6.489
-88.5	2.215	-57.0	11.55	-25.5	119.3	6.0	502.1	37.5	45.02	69.0	6.045
-87.0	2.692	-55.5	12.61	-24.0	137.4	7.5	468.3	39.0	39.78	70.5	5.668
-85.5	3.347	-54.0	13.78	-22.5	158.5	9.0	431.1	40.5	35.24	72.0	5.315
-84.0	3.728	-52.5	15.15	-21.0	182.5	10.5	390.9	42.0	31.20	73.5	4.973
-82.5	3.967	-51.0	16.56	-19.5	206.2	12.0	350.3	43.5	27.53	75.0	4.679
-81.0	4.206	-49.5	18.23	-18.0	237.4	13.5	305.5	45.0	24.35	76.5	4.417
-79.5	4.410	-48.0	20.15	-16.5	270.5	15.0	269.5	46.5	21.74	78.0	4.155
-78.0	4.569	-46.5	22.54	-15.0	306.1	16.5	236.8	48.0	19.45	79.5	3.936
-76.5	4.844	-45.0	25.22	-13.5	343.8	18.0	207.6	49.5	17.50	81.0	3.772
-75.0	5.197	-43.5	28.21	-12.0	382.8	19.5	181.7	51.0	15.78	82.5	3.513
-73.5	5.537	-42.0	31.64	-10.5	422.5	21.0	159.4	52.5	14.28	84.0	3.364
-72.0	5.897	-40.5	35.64	-9.0	461.3	22.5	140.3	54.0	12.96	85.5	3.058
-70.5	6.314	-39.0	40.06	-7.5	496.6	24.0	123.8	55.5	11.80	87.0	2.639
-69.0	6.798	-37.5	44.43	-6.0	527.2	25.5	109.4	57.0	10.78	88.5	2.246
-67.5	7.407	-36.0	49.20	-4.5	550.7	27.0	97.05	58.5	9.893	90.0	1.887
-66.0	8.467	-34.5	54.86	-3.0	566.5	28.5	86.40	60.0	9.137		
-64.5	8.232	-33.0	61.47	-1.5	574.2	30.0	77.03	61.5	8.631		
-63.0	8.515	-31.5	69.49	0.0	574.5	31.5	68.84	63.0	8.502		
-61.5	9.129	-30.0	78.95	1.5	567.0	33.0	61.69	64.5	7.739		8
-60.0	9.836	-28.5	90.35	3.0	552.3	34.5	55.57	66.0	7.068		

电学参数:

电流: 0.1000A 功率: 3.390W 电压: 33.90V 功率因数: 1.000

光学参数(测试距离2.410m):

等效光通量: Φ eff= 263.71m 光效: Eff=77.811m/W

最大光强扩散角: θ (25%):45.7° θ (50%):29.9° θ (75%):19.0° θ (50%):29.9° 中心光强扩散角: θ (25%):45.7° θ (50%):29.9° θ (75%):19.1° θ (50%):29.9° 最大光强Imax= 575.3cd (C=0.0°,G=-0.5°) C0-180平面Imax= 575.3cd(G=-0.5°)

CO-180平面IO= 574.5cd



			Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks		
	le	ength	50										
	W	idth	50								Test environment: In		
1.Size		ng column acing	45								20 °C -25 °C environment to achieve thermal equilibrium after the test.		
	Locat	ing post	1. 99								test.		
	thi	ckness	2. 28										
				Gate shea	ır can not	affect the ap	pearance o	of the lamp					
				See attac	hment "A	ppearance Ir	spection S	tandards"					
2.Appear	rance	See attad "Appea		E		No burr	No burr	No burr	No burr		ok		
Quality		Inspection S			ı	No stains		No stains	No stai	ns			
3.Materia			1	PMMA			Color	Tra	insparent		OK		
4 Ontino	The rec	of the test, if i	t is require	3030 and power rating of the LED light source recommended for this lens should be comparate equired to be out of range. According to the heat dissipation capability of the lamp and the use environment, the lens should be fully tested and tested to prevent the lens life. See light distribution curve									
4.Optica I index		ngle				Tocc iig		OIT GUIVE		_			
		-value											
		ciency		_									
	Facula	See the sign	l lature sam	ple		' 							
	ehensive ment			F			Qualified						
				Leng	rth	IMA produc	ct size chan	ges with to	emperatur	e tab	ile		
2D-Quad Tool Micr Gauge R 2、Amb	Number: \ Iratic H-He roscope P I-Radius G ient tempe	/-Vernier Cal eight Gauge I -Needle T-Th Gauge E-Visu erature on the to the table	M- nick al. e size		ges 0.8 -	10	20	30	* * * *	Size: Size: Size:	50mm 100mm 150mm 200mm 250mm 300mm		
Precaution	ecautions:												

Precautions:

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



				ı	T .	T		1			1			
			Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks			
	lengt	h	50											
	widt	h	50								Test environment: In			
1.Size	Locati colum spacin	n	45								20 °C -25 °C environment to achieve thermal equilibrium after the test.			
	Locati post	-	1. 99								iesi.			
	thickne	ess	2. 28											
				Gate	shear can	not affect th	e appearar	nce of the la	amp					
				See	attachmer	it "Appearan	ce Inspecti	on Standar	ds"					
2.Appear	ance		See achment pearance	E		No burr	No burr	No burr	No bui	r	OK			
Quality		Ins	spection andards"			No stains	No stains	No stains	No stair	าร	OIX .			
3.Materia	al			PMM	A		Color	Tra	nsparent		OK			
	Testing I			3030										
	to the so	ource	of the test,	d size and power rating of the LED light source recommended for this lens should be comparable he test, if it is required to be out of range. According to the heat dissipation capability of the lamp anditions of the use environment, the lens should be fully tested and tested to prevent the lens life										
4.Optica	FWHI	M				See lig	ht distribut	ion curve						
I index	angle	Э												
	K-val	ue		_										
	Efficie	ency		_										
	Facula	See 1	the signatu	re sample		•								
	ehensive ment						Qı	ualified						
				Lengt		MA produc	t size chang	ges with te	mperature	tabl	le			
Remarks		/ \ / ~		chang	ges 0.8 —				_	Size:	50mm			
	Number: \ D-Quadra			(mr	n) 0.7 -						100mm			
Height G	auge M-T	ool			0.5		500		× +	Size:	150mm			
	pe P-Nee luge R-Ra		.		0.4		N	-	→ ···	Size:	200mm			
Gauge E	•	uius			0.3 -			-	100		250mm			
2、Amb	ient tempe				0.1			-	-	Size:	300mm			
	of the proc ole on the		efer		0	10	20	30	40 (°C)					
Precautio	ons:													

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	,			,								
			Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks	
	lengt	h	50									
	widt	h	50								Test environment: In	
1.Size	Locati colum spacin	n	45								20 °C -25 °C environment to achieve thermal equilibrium after the test.	
	Locating post		1. 99								iesi.	
	thickness 2											
				Gate shear can not affect the appearance of the lamp								
				See	attachmen	t "Appearan	ce Inspecti	on Standar	ds"			
2.Appear	ance		See achment	E		No burr	No burr	No burr	No burr		OK	
Quality		Ins	pearance spection andards"	L	N	lo stains	No stains	No stains	No stai	ns	OK .	
3.Materia	al			PMM	A		Color	Tra	nsparent		OK	
	Testing I	LED					3030					
	to the so	ource	of the test,	ded size and power rating of the LED light source recommended for this lens should be comparable of the test, if it is required to be out of range. According to the heat dissipation capability of the lam conditions of the use environment, the lens should be fully tested and tested to prevent the lens lif								
4.Optica	FWHI	M				See lig	ight distribution curve					
I index	angle	9						/				
	K-val	ue										
	Efficie	ency							$\overline{}$			
	Facula		the signatu	re sample		· ·						
	ehensive ment		<u></u>				Q	ualified				
					PMMA	products	ize change	s with temp	perature t	able		
Remarks	: Number: \	/ \/or-	nior	Length	0.0							
	Number: N D-Quadra			(mm)	0.8				→ Siz		100000000	
Height G	auge M-T	ool		- TO-	0.6			-		e: 10		
	pe P-Nee		·		0.5			*	→ Siz			
Gauge E	uge R-Ra	dius			0.3			*	→ Siz		S. Control of the Con	
_	-visuai. ient tempe	eratur	e on		0.2				-₩-Siz			
	of the proc				0.1		-	+	312	e. 50	omm	
to the tab	ole on the	right			0	10	20	30 40	(C)			
Precautio	ons:											

- 1. Wear clean gloves during lens assembly to prevent contamination of the lens surface.
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Р	N	HK-50@04-90-3030-#0- HK-50@05-60-3030-#0- HK-50@06-30-3030-#1-	·1g-16	Product Name	HK 16c	lose1-90degree Road lam lose1-60degree Road lam lose1-30degree Road lam	Lens	
Product	material	PMMA		Customer				
Package	diagram	Single Va	cuum packa	age B	ox package	>		
Product	nacking	24	PC	S/B0X	4	BOX/Layer	15	Layer/BOX
Todact	packing	1440	PCS/B0X					
	NO.	Material Code	Ite	m name	Specification	Single box usage	Unit	Remarks
	1	2. 07. 0049	Plastic	blister box	23cm*21cm	60	PCS	
Packag	2	2. 08. 0001	Peme	embrane	25cm*27cm	60	PCS	
ing	3	2. 06. 0005	lnside l	abel paper	62mm*42mm	60	PCS	
Materi	4	2. 06. 0005	BOX la	bel paper	62mm*70mm	1	PCS	
als	5	2. 06. 0003	Large	e baffle	46cm*42cm	16	PCS	
	6	2. 06. 0011	Са	ırton	48cm*44cm*37cm	1	PCS	
	7							
Remarks		Scatter	ed packagi	ng is not su	bject to this sp	ecification		
organiz	ation:		proofread	ing:	To examine:	Approval:		



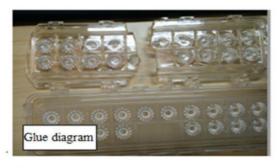
Special notice

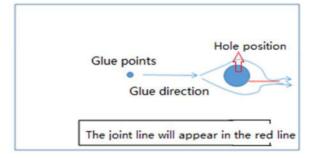
When gule pass through holes, columns and other structures, or part of the thin structure, will form a weld line. The product which uses multi-point injection welding line will appear because of the combination of sol, as shown below:

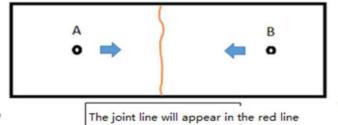
Syntheti











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.



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 II level, CR class defect coefficient 0, MA defect rejection level AQL = 0.65, MI class defect rejection level AQL = 1.0; defect level

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	Judging standard	Inspection equipment	Defect level				
restitents	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	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			√		

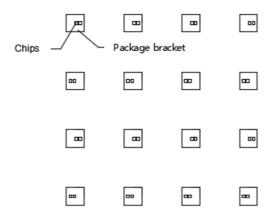
	The limited sample refers to the limit of a particular exceptionally developed sample.				
	Limit the sample only for its specific point of exception to confirm; The priority is higher than the other criteria in this table. When there is a limited sample, the limit sample shall prevail.				
Raw edge	Not allowed to affect the size and assembly	Visual, point card		√	
Scratch	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				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		√	
	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		√	
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		٧	
Flow marks、Welding	1 : Product does not allow the presence of flow marks and welding lines unless the structure can not be avoided;	Visual		√	
line	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	√		
	Do not affect the product size, shall not penetrate the optical surface, the cut should be smooth;				
Bad incision	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 $D \le 1$ mm and no more than 1 area within a 50x50 mm area	Visual		√	
	l		1		·



Description on the arrangement of light source suitable for SMD 3030 light source and body lens:

The chip position of most SMD 3030 light source packages in the market is not in the middle position. When fitting the body lens, it will affect the light distribution of the lens and cause the optical shape to shift. Therefore, when the light source plate is designed and arranged, the eccentric direction of the chip is arranged symmetrically, which can effectively reduce its influence on the light distribution. Sample layout proposal:

Example 1: as shown in the figure below, 16 chips in rows 1 and 3 are eccentric to the right, while those in rows 2 and 4 are eccentric to the left.



Example 2: as shown in the figure below, 16 chips in the first and second columns are eccentric to the right, while those in the third and fourth columns are eccentric to the left.

80	80	00	B
6 0	E D	00	co
6 0	E D	00	co
	- B	00	



HERCULUX Chengdu HercuLux Photoelectric Technology Co.,Ltd

Product Approval

Approval number:

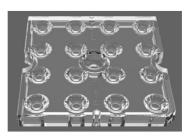
Customer:

Manufacturer: Chengdu HercuLux Photoelectric Technology Co.,Ltd

PN	Code	Product
HK-50@04-90-3030-#0-1g-16	1. 02. 81531	HK 16close1-90degree Road lam Lens
HK-50@05-60-3030-#0-1g-16	1. 02. 81532	HK 16close1-60degree Road lam Lens
HK-50@06-30-3030-#1-1g-16	1. 02. 81539	HK 16close1-30degree Road lam Lens







	Supplier o	confirmation		Client confirmation					
Proposed	DATE		Qualified□			5			
Project manager		DATE		Unqualified□		DATE			
Audit		DATE		Audit		DATE			
Approved		DATE		Approved		DATE			
Stamp		DATE		Stamp		DATE			

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

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

Phone: 028-85887727 (801) 028-85887990 (801) Fax: 028-85887730 www.hkoptics.com Sales Dept: Shenzhen Nanshan District Nanshan Cloud Valley Innovation Industrial Park Comprehensive Service Building, 501-505

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

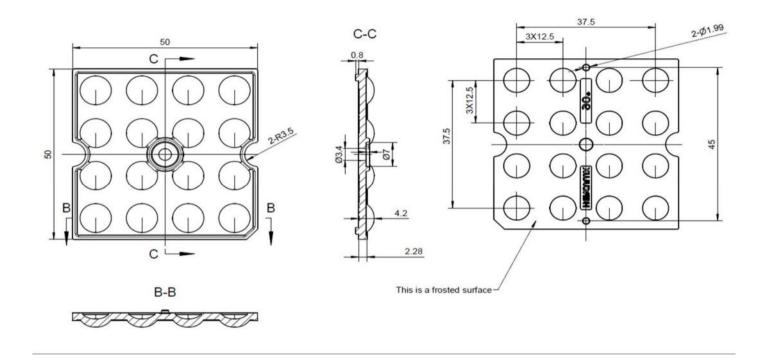
*Approval In duplicate, for both supplier and customer.



TEL: 0755-2937 1541 FAX: 0755-2907 5140 www.hkoptics.com Date updated: 2019/7/25

Product Picture:	
PN:	HK-50@XX-X-3030-#0-1g-16
Size(L*W*H/Φ*H):	L:50mm; W:50mm; H:Xmm
Material:	PC
Effiency:	\
Temperature(Topr):	-40°C to +80°C
FWHM:	90°,60°,30°
Matched LES:	3030



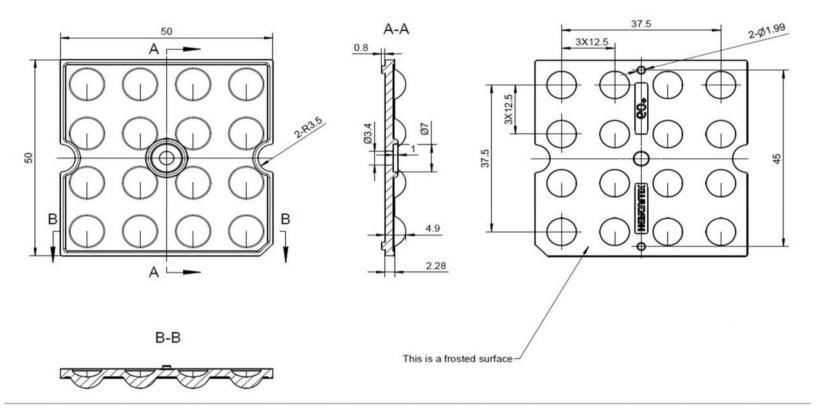


- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

	Optical	design							HK-50@04-90-3030-#0-1g-16				
	structure desig Review						HK 16close1	-90degree Road lam Lens					
							'		umber of drawin	qty	weight		
	Validation						Material:	PC		CDHK			
)^	~250 250~		~450	>4	450								

										 	_	
MT5 Tolerand	Basic size	<3	3~10	24~65	65~140	140~250	250~45	0 >	450			
	olerance valu	±0.1	±0.15	±0.35	±0.50	±0.80	±1.2	±	2.0			

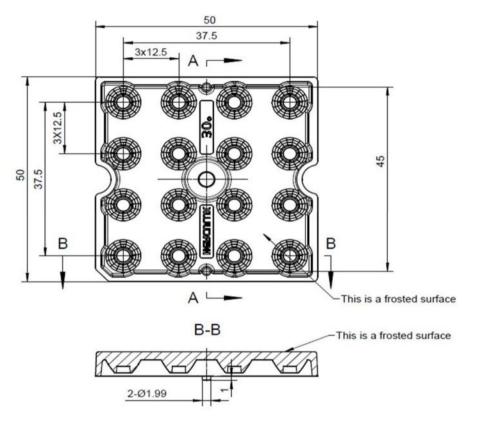


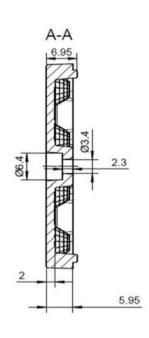


- 1. The 3D map is not indicated for rounded corners and draft angle.
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	Optical	design						HK-50@05-60-3030-#0-1g-16				
	tructure desig Review					HK 16close1	-60degree Road lam Lens					
							20.10	umber of drawin	qty	wei	ight	
	Validation					Material:	PC		CDHK			
۱^	~250 250~		~450	>/	450							





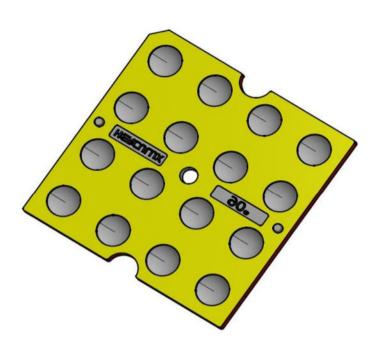


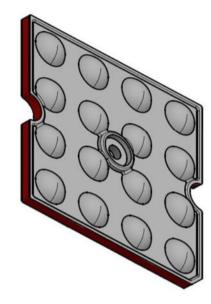
- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

	Optical	ical design							HK-50@06-30-3030-#1-1g-16					
	tructure o	e desig					HK 16close1	-30degree Road lam Lens	1.02.81539					
	· ·	iew							umber of drawin	qty	wei	ght		
	Valida	ation					Material:	PC		1.02.81539				
٦.	~ .2F0 2F0~			/	4F0									

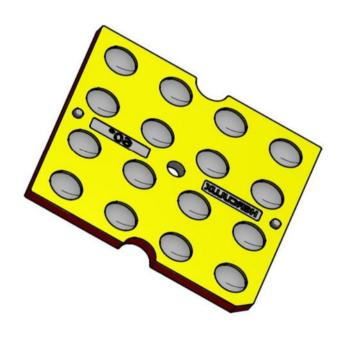
MT5 Tolerance	Basic size	<3	3∼10	24~65	65~140	140~250	250~450	>450
	olerance valu	±0.1	±0.15	±0.35	±0.50	±0.80	±1.2	±2.0

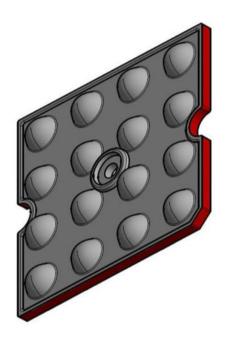






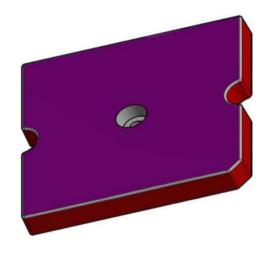


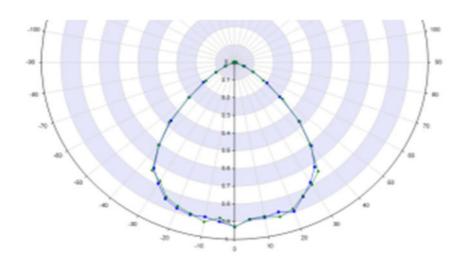


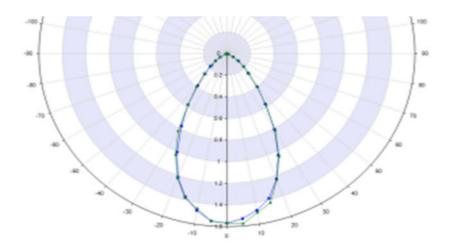




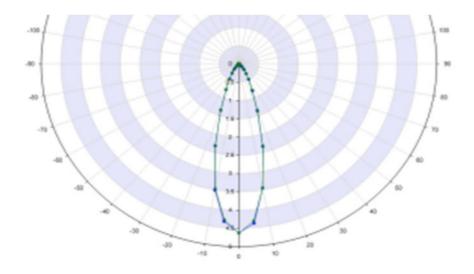














			Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks		
	le	ength	50										
	W	width									Test environment: In		
1.Size	Locating column spacing		45								20 °C -25 °C environment to achieve thermal equilibrium after the		
	Locat	ing post	1. 99								test.		
	thi	ckness	2. 28										
				Gate she	ar can not	affect the a	ppearance	of the lamp)				
				See atta	chment "A	ppearance I	nspection S	Standards"					
2.Appear	ance See attac					No burr	No burr	No burr	No bu	rr	OK		
Quality		Inspection S		_	1	No stains	No stains	No stains	No stai	ns	OK OK		
3.Materia	al			PC			Color	Tra	nsparent		OK		
		ing LED					3030						
	source o	ne recommended size and power rating of the LED light source recommended for this lens should burce of the test, if it is required to be out of range. According to the heat dissipation capability of the conditions of the use environment, the lens should be fully tested and tested to prevent the conditions.				the la	mp and the actual						
4.Optica I index	-	VHM		See light distribution curve									
Tindex		ngle											
	-	-value			_								
		ciency				ightharpoons							
	Facula	See the sign	ature samp	ole		`							
Compre	ehensive Iment						Qualified						
Remarks: 1. Tool Number: V-Vernier Caliper 2D-Quadratic H-Height Gauge M- Tool Microscope P-Needle T-Thick Gauge R-Radius Gauge E-Visual. 2. Ambient temperature on the size of the product refer to the table on the right				cha	PC ngth 1 nges nm) 0.8 0.6 0.4 0.2 0	product siz	ze changes	40	- Size: 100m - Size: 150m - Size: 200m	50m			
Precautions:													

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



			Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks					
	lengt	h	50													
	widtl	n	50								Test environment: In					
1.Size	Locati colum spacir	n	45								20 °C -25 °C environment to achieve thermal equilibrium after the test.					
	Locati post	-	1. 99								iesi.					
	thickne	ess	2. 28													
				Gate	shear can	not affect th	e appearar	nce of the la	amp							
			-	See	attachmen	t "Appearan	ce Inspecti	on Standar	ds"							
2.Appear Quality	attacl		See achment pearance E –			No burr	No burr	No burr	No burr		OK					
Quanty			spection indards"		N	lo stains	No stains	No stains	No stai	ns						
3.Materia	al			PC	ı		Color	Tra	nsparent		OK					
	Testing I	ED					3030	L								
	The recommended size and power rating of the LED light source recommended for this lens should be comparable to the source of the test, if it is required to be out of range. According to the heat dissipation capability of the lamp															
			conditions	of the use	environme				and tested	to pr	event the lens life.					
4.Optica I index	FWHN					See IIQ	ht distribut	ion curve		_						
	angle K-val	-						//								
	Efficie							/	//	_						
	Facula		he signatu	re sample		<u> </u>										
Compre	ehensive		o o.ga.a				0.	اعانات ما								
judg	ment		1				Qi	ualified								
1、Tool Caliper 2 Height G Microsco	Remarks: 1. Tool Number: V-Vernier Caliper 2D-Quadratic H- Height Gauge M-Tool Microscope P-Needle T- Thick Gauge R-Radius			Length change (mm	1 1	0.8 Size: 50mm										
Gauge E 2、Amb	-Visual. ient tempe	erature	e on		0.2			₫ →	150mm ←Size: 200mm							
the size of	of the prod	luct re			0	10 2	0 30	40								
to the tar	ole on the	right			· ·	10 2	0 50	(°C)	C.							
Precaution	ons:															

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			Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks	
	lengt	h	50			49. 96	49. 98	49. 99	50. 01			
	widt	h	50			49. 97	50. 03	50. 01	50. 03		Task and incompasts to	
1.Size	Locating column spacing		45			45. 01	45. 03	45	44. 99		Test environment: In 20 °C -25 °C environment to achieve thermal equilibrium after the	
		Locating post				1. 97	1. 98	1. 98	1. 96		test.	
	thickne	ess	2. 28			6. 01	6. 03	6. 03	6. 05			
		•	•	Gate	shear can	not affect th	ne appearar	nce of the la	amp			
				See	attachmen	t "Appearan	ce Inspecti	on Standar	ds"			
2.Appear	ance		See achment pearance E -		ı	No burr	No burr	No burr	No bu	rr	ОК	
Quality			spection andards"		N	o stains	No stains	No stains	No stai	ns		
3.Materia	al			PC	-		Color	Tra	nsparent		OK	
4.Optica	to the so	mmer ource o	of the test,	if it is requ	ired to be o	out of range ent, the lens	. According	to the hear	t dissipatio	n cap	uld be comparable ability of the lamp event the lens life.	
I index	angle	9										
	K-val	ue										
	Efficie	ency										
	Facula	See t	he signatu	re sample		`						
	ehensive ment						Qı	ualified				
Remarks	-			Length	1 7	duct size c	hanges wi					
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			e on	changes (mm) 0.8 Size: 50mm								
to the tab	ole on the	right			0	10 20	0 30	40 (℃)				

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Pl	N	HK-50@04-90-3030-#0- HK-50@05-60-3030-#0- HK-50@06-30-3030-#1-	-1g-16	Product Name	HK 16close	6close1-90degree Road lam Lens 6close1-60degree Road lam Lens 6close1-30degree Road lam Lens					
Product	material	PC Customer									
Package	diagram	Single Vacuum package Box package									
Product	packing 24		PC	CS/BOX	4	BOX/Layer	15	Layer/BOX			
Toduct	packing	1440	PC	CS/BOX							
	NO.	Material Code	Item name		Specification	ngle box usa	Unit	Remarks			
	1	2. 07. 0049	Plastic	blister box	23cm*21cm	60	PCS				
Packag	2	2. 08. 0001	Peme	embrane	25cm*27cm	60	PCS				
ing	3	2. 06. 0005	lnside 1	label paper	62mm*42mm	60	PCS				
Materi	4	2. 06. 0005	BOX la	abel paper	62mm*70mm	1	PCS				
als	5	2. 06. 0003	Large	e baffle	46cm*42cm	16	PCS				
	6	2. 06. 0011	Ca	arton	48cm*44cm*37cm	1	PCS				
	7										
Remarks		Scattered	packaging	is not subje	ect to this speci	fication					
organiza	ation:		proofread	ling:	To examine:	Approval:					



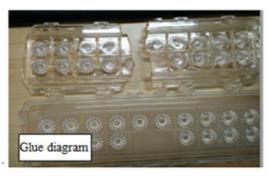
Special notice

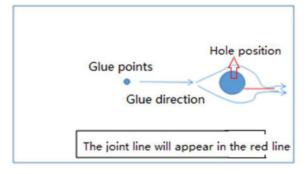
When gule pass through holes, columns and other structures, or part of the thin structure, will form a weld line. The product which uses multi-point injection welding line will appear because of the combination of sol, as shown below:

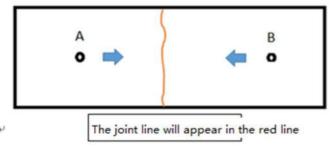
Syntheti











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.



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 II 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

- 3.1 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	Judging standard	Inspection equipment	Defec	t level	CR		
restitents	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	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			√		

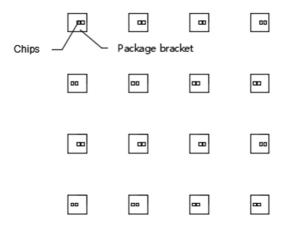
I			ì	l	
	2: The limited sample refers to the limit of a particular exceptionally developed sample. Limit the sample only for its specific point of exception to confirm; The priority is higher than the other criteria in this table. When there is a limited sample, the limit sample shall prevail.				
Raw edge	Not allowed to affect the size and assembly	Visual, point card		√	
Scratch	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				√
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	Visual, point card		√	
	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		√	
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		√	
inic	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	√		
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		
	Do not affect the product size, shall not penetrate the optical surface, the cut should be smooth;				
Bad incision	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		V	
L	<u> </u>			<u> </u>	1



Description on the arrangement of light source suitable for SMD 3030 light source and body lens:

The chip position of most SMD 3030 light source packages in the market is not in the middle position. When fitting the body lens, it will affect the light distribution of the lens and cause the optical shape to shift. Therefore, when the light source plate is designed and arranged, the eccentric direction of the chip is arranged symmetrically, which can effectively reduce its influence on the light distribution. Sample layout proposal:

Example 1: as shown in the figure below, 16 chips in rows 1 and 3 are eccentric to the right, while those in rows 2 and 4 are eccentric to the left.



Example 2: as shown in the figure below, 16 chips in the first and second columns are eccentric to the right, while those in the third and fourth columns are eccentric to the left.

