

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

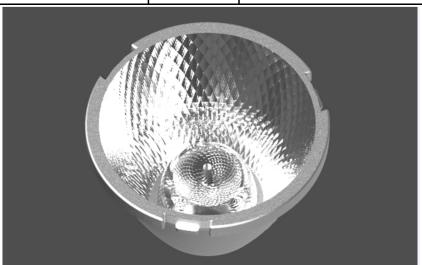
Product Approval

Approval number:

Customer:

Manufacturer: Chengdu HercuLux Photoelectric Technology Co.,Ltd

PN	Code	Product
HK-SZ-45@21-15-D6-2#-1g-1	1. 08. 92151	HK Gemini 45@21-15° Reflective Cup
HK-SZ-45@21-24-D6-2#-1g-1	1. 08. 92115	HK Gemini 45@21-24° Reflective Cup
HK-SZ-45@21-36-D6-2#-1g-1	1. 08. 02203	HK Gemini 45@21-36° Reflective Cup
HK-SZ-45@21-50-D6-2#-1g-1	1. 08. 02196	HK Gemini 45@21-50° Reflective Cup



	Supplier co	onfirmation			Client cor	nfirmation	
Proposed		DATE		Qualified□			
Project manager		DATE		Unqualified□		DATE	
Audit		DATE		Audit		DATE	
Approved		DATE		Approved		DATE	
Stamp		DATE		Stamp		DATE	

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

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

Phone: 028-85887727 (801) 028-85887990 (801) Fax: 028-85887730 http://www.herculux.com/

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

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

*Approval In duplicate, for both supplier and customer.

HERCULUX 恒坤光电

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 without prior notice.

Operation cautions:

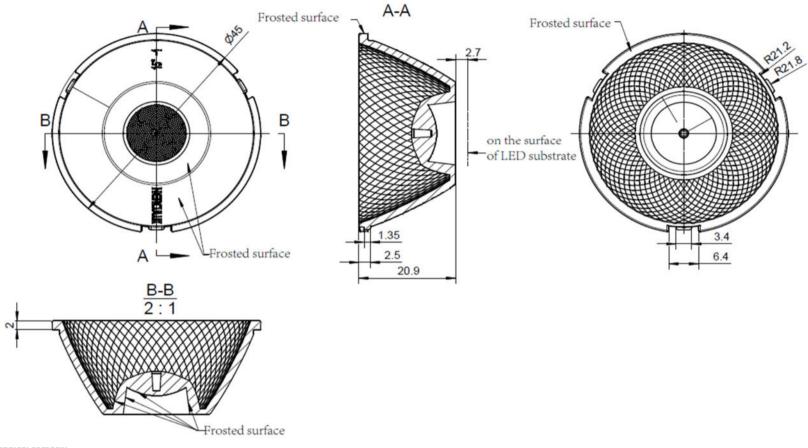
- 1. Please wear clean gloves during product assembly to prevent product surface contamination.
- 2. Try to avoid touching the optical surface of the lens when taking the lens.
- 3. When the surface of the product is polluted, please wipe it gently with a soft cotton cloth dipped in analytically pure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



TEL: 0755-2937 1541 FAX: 0755-2907 5140 http://www.herculux.com/ Date updated: 2022/12/27

Product Picture:	
Size(L*W*H/Φ*H):	Ф:45mm; H:20.9mm
Material:	PC semi-plating
Effiency:	\
Temperature(Topr):	Material extreme temperature resistance : -40°C to +120°C long-term use temperature : -40°C to +100°C
FWHM:	15°、24°、36°、50°
Matched LES:	D6
Recommended MAX power:	Not more than 20W





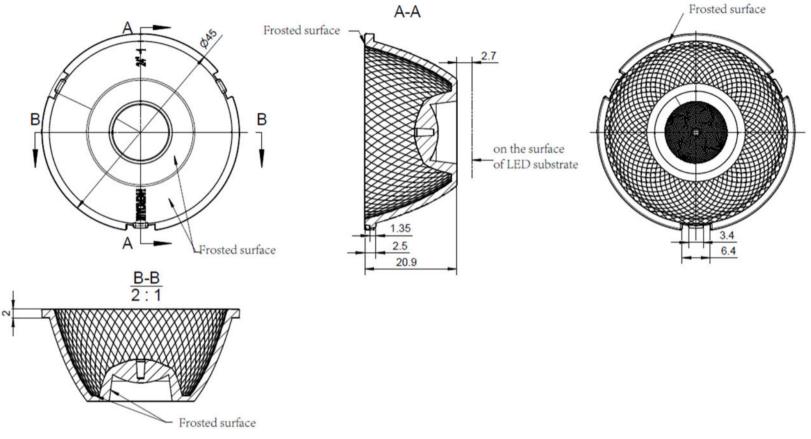
recnnical remark:

- 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<3.2µm

	Optical	desigr							5@21-15-D6-	2#-1g-	1
	tructure desig					HK Gemini 4	5@21-15°Reflective Cup		1.08.92151		
								ımber of drawiı	qty	we	ight
	nev	iew									
	Validation					Material:	PC semi-plating		CDHK		
)^	~250	250^	~450	>4	450						

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





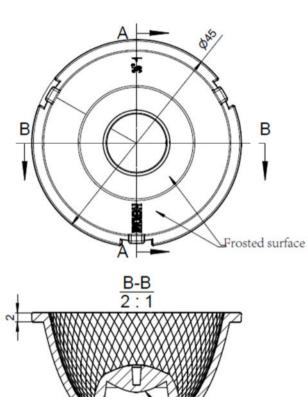
Technical remark:

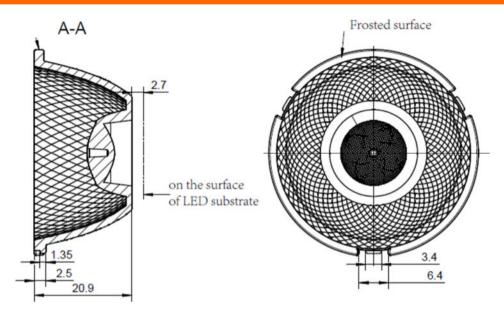
- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.
- *4. When the lamp adopts rubber ring for waterproofing: the roughness of the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

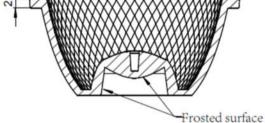
	Optical	desigr							HK-S	Z-45	@21-24-D6-	2#-1g-1	1
	tructure desig						HK Gemini 4	5@21-24°Reflective Cup			1.08.92115		
	Review							ımber of dra	wir	qty	wei	ight	
	ive	iew											
	Validation						Material:	PC semi-plating			CDHK		
)^	~250	250~	~450	>4	450								

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









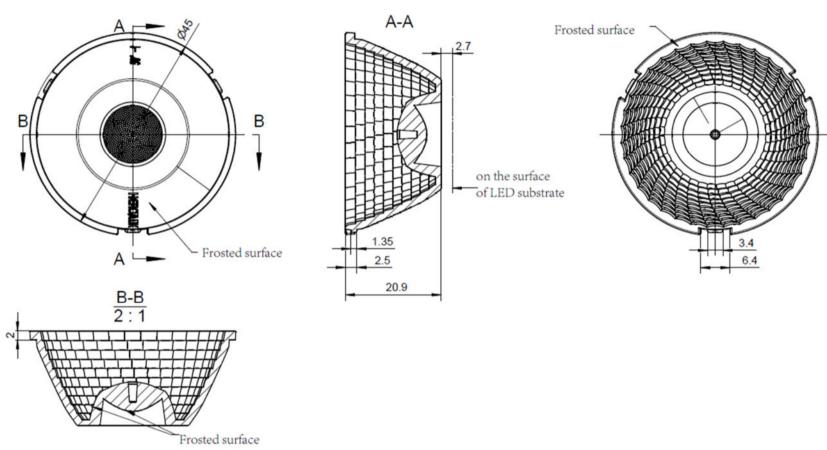
Technical remark:

- 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<3.2µm

Optical	ptical design								K-SZ-4	5@21-36-D6-2	2#-1g-:	1
ructure desig						HK Gemini 4	5@21-36°Reflective			1.08.02203		
Review							mber of	drawir	qty	we	ght	
Validation						Material:	PC semi-plating			CDHK		
~250	250~	~450	>4	150								

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





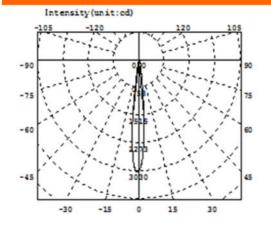
Tecnnicai remark:

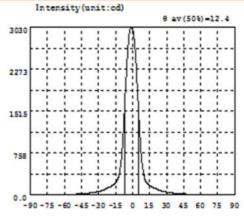
- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.
- *4. When the lamp adopts rubber ring for waterproofing: the roughness of the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

	Optical	design						HK-SZ-45@21-50-D6-2#-1g-1					
	tructure desig					HK Gemini 4	5@21-50°Reflective Cup			1.08.02196			
	Review							mber o	f drawir	qty	we	ight	
	Review												
	Validation					Material:	PC semi-plating			CDHK			
^	~250 250~		~450	>4	450								

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







λ	I	λ	1	Α	1	λ	I	λ	1	Α	1
-90.0	0.3277	-58.5	2.833	-27.0	76.60	4.5	1813	36.0	28.94	67.5	0.2878
-88.5	0.3384	-57.0	3.797	-25.5	88.40	6.0	1218	37.5	26.11	69.0	0.2782
-87.0	0.3266	-55.5	4.843	-24.0	100.8	7.5	735.0	39.0	24.21	70.5	0.2618
-85.5	0.3038	-54.0	6.053	-22.5	114.2	9.0	460.1	40.5	22.69	72.0	0.2825
-84.0	0.2927	-52.5	7.489	-21.0	129.0	10.5	297.2	42.0	17.87	73.5	0.2897
-82.5	0.1950	-51.0	9.097	-19.5	146.2	12.0	233.8	43.5	15.64	75.0	0.3120
-81.0	0.2614	-49.5	10.89	-18.0	165.0	13.5	194.1	45.0	13.64	76.5	0.3127
-79.5	0.2414	-48.0	12.85	-16.5	188.7	15.0	166.8	46.5	11.62	78.0	0.3265
-78.0	0.2646	-46.5	14.90	-15.0	219.9	16.5	146.5	48.0	9.740	79.5	0.3017
-76.5	0.2871	-45.0	16.92	-13.5	267.1	18.0	130.1	49.5	8.056	81.0	0.2873
-75.0	0.3068	-43.5	20.63	-12.0	351.1	19.5	115.8	51.0	6.562	82.5	0.2788
-73.5	0.3258	-42.0	24.28	-10.5	532.0	21.0	103.5	52.5	5.253	84.0	0.2587
-72.0	0.5795	-40.5	25.83	-9.0	861.9	22.5	91.50	54.0	4.158	85.5	0.2554
-70.5	0.3414	-39.0	28.14	-7.5	1402	24.0	79.86	55.5	3.168	87.0	0.2524
-69.0	0.3318	-37.5	31.21	-6.0	1997	25.5	68.80	57.0	2.311	88.5	0.2688
-67.5	0.2938	-36.0	35.05	-4.5	2530	27.0	59.46	58.5	1.551	90.0	0.1455
-66.0	0.2893	-34.5	39.46	-3.0	2893	28.5	51.93	60.0	1.016		
-64.5	0.3140	-33.0	44.28	-1.5	3029	30.0	46.08	61.5	0.5595		
-63.0	0.6905	-31.5	49.96	0.0	2991	31.5	41.29	63.0	0.3823		
-61.5	1.234	-30.0	57.14	1.5	2802	33.0	36.93	64.5	0.3590		
-60.0	1.932	-28.5	66.05	3.0	2366	34.5	32.66	66.0	0.3125	1	

Electricity Parameter:

Current I: 0.1000A Power: 3.578W Voltage V: 35.79V PF: 1.000

Optical Parameter (Distance=2.410m):

Equivalent Luminous flux: Φ eff= 270.6lm Efficiency: Eff=75.63lm/W

Diffuse angle: @(25%): 16.7deg@(50%): 12.4deg@(75%): 8.4deg @(50%): 12.4deg

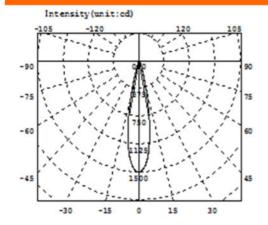
Diffuse angle: @(25%): 16.8deg@(50%): 12.4deg@(75%): 8.6deg @(50%): 12.4deg

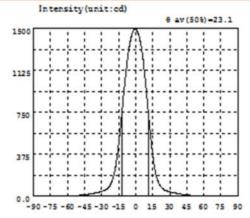
Imax=3029cd (C=0.0deg,G=-1.5deg)

C0-180Plane Imax= 3029cd(G=-1.5deg)

CO-180Plane IO= 2991cd







λ	1	λ	I	λ	I	λ	I	λ	I	λ	I
-90.0	0.2373	-58.5	1.109	-27.0	52.39	4.5	1357	36.0	22.40	67.5	0.3175
-88.5	0.2493	-57.0	1.575	-25.5	61.36	6.0	1258	37.5	19.60	69.0	0.2872
-87.0	0.2944	-55.5	2.124	-24.0	75.02	7.5	1128	39.0	16.97	70.5	0.2601
-85.5	0.3269	-54.0	2.722	-22.5	97.28	9.0	974.8	40.5	14.16	72.0	0.2966
-84.0	0.3585	-52.5	3.407	-21.0	131.9	10.5	810.9	42.0	11.11	73.5	0.3113
-82.5	0.5961	-51.0	4.369	-19.5	180.2	12.0	648.9	43.5	9.459	75.0	0.3420
-81.0	0.3339	-49.5	5.356	-18.0	247.8	13.5	497.8	45.0	7.919	76.5	0.3240
-79.5	0.2801	-48.0	6.531	-16.5	344.8	15.0	365.1	46.5	6.543	78.0	0.3354
-78.0	0.2506	-46.5	7.847	-15.0	466.8	16.5	255.0	48.0	5.385	79.5	0.2972
-76.5	0.2532	-45.0	9.325	-13.5	609.4	18.0	183.6	49.5	4.329	81.0	0.2728
-75.0	0.2466	-43.5	10.98	-12.0	763.8	19.5	132.9	51.0	3.374	82.5	0.2202
-73.5	0.2805	-42.0	13.84	-10.5	923.4	21.0	99.37	52.5	2.663	84.0	0.2390
-72.0	0.3194	-40.5	16.90	-9.0	1073	22.5	77.75	54.0	2.052	85.5	0.2554
-70.5	0.3582	-39.0	19.75	-7.5	1205	24.0	63.35	55.5	1.515	87.0	0.2786
-69.0	0.3746	-37.5	22.55	-6.0	1315	25.5	53.51	57.0	1.100	88.5	0.3092
-67.5	0.3727	-36.0	25.42	-4.5	1399	27.0	46.44	58.5	0.8387	90.0	0.1444
-66.0	0.3620	-34.5	28.59	-3.0	1456	28.5	40.66	60.0	0.7999		
-64.5	0.3346	-33.0	32.02	-1.5	1487	30.0	35.81	61.5	0.4976		
-63.0	0.4025	-31.5	35.65	0.0	1492	31.5	31.90	63.0	0.4188		
-61.5	0.5375	-30.0	40.46	1.5	1471	33.0	28.40	64.5	0.4005		
-60.0	0.7328	-28.5	45.92	3.0	1427	34.5	25.30	66.0	0.3449		

Electricity Parameter:

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

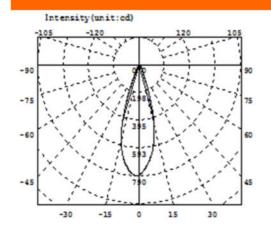
Optical Parameter (Distance=2.410m):

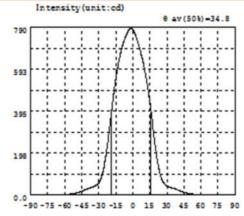
Equivalent Luminous flux: Φ eff= 289.31m Efficiency: Eff=89.59lm/W

Diffuse angle: @(25%): 31.0deg@(50%): 23.1deg@(75%): 15.9deg@(50%): 23.1deg
Diffuse angle: @(25%): 31.0deg@(50%): 23.1deg@(75%): 16.0deg@(50%): 23.1deg
Imax=1493cd (C=0.0deg,G=-0.5deg)
C0-180Plane Imax= 1493cd(G=-0.5deg)

C0-180Plane I0= 1492cd







λ	1	λ	1	λ	I	λ	I	λ	1	λ	I
-90.0	0.2712	-58.5	1.297	-27.0	95.74	4.5	717.0	36.0	29.68	67.5	0.2914
-88.5	0.2273	-57.0	1.646	-25.5	130.9	6.0	690.2	37.5	27.16	69.0	0.3229
-87.0	0.2273	-55.5	2.700	-24.0	176.9	7.5	659.5	39.0	23.98	70.5	0.3326
-85.5	0.2506	-54.0	3.757	-22.5	230.7	9.0	625.4	40.5	20.86	72.0	0.3354
-84.0	0.2622	-52.5	5.095	-21.0	293.4	10.5	585.7	42.0	17.62	73.5	0.3195
-82.5	0.2946	-51.0	6.733	-19.5	362.2	12.0	541.7	43.5	14.44	75.0	0.3031
-81.0	0.3148	-49.5	8.744	-18.0	428.5	13.5	491.8	45.0	11.63	76.5	0.2711
-79.5	0.3241	-48.0	11.09	-16.5	490.8	15.0	436.3	46.5	9.124	78.0	0.2533
-78.0	0.3079	-46.5	13.93	-15.0	547.7	16.5	372.7	48.0	6.998	79.5	0.2396
-76.5	0.3110	-45.0	16.99	-13.5	597.5	18.0	300.8	49.5	5.294	81.0	0.2437
-75.0	0.2703	-43.5	20.34	-12.0	639.8	19.5	236.9	51.0	3.948	82.5	0.2614
-73.5	0.2617	-42.0	23.63	-10.5	675.7	21.0	181.3	52.5	2.890	84.0	0.2767
-72.0	0.2454	-40.5	27.05	-9.0	706.1	22.5	133.7	54.0	2.074	85.5	0.3836
-70.5	0.2709	-39.0	30.16	-7.5	730.5	24.0	96.98	55.5	1.430	87.0	0.3162
-69.0	0.2807	-37.5	32.91	-6.0	751.6	25.5	72.30	57.0	1.009	88.5	0.3217
-67.5	0.4204	-36.0	35.67	-4.5	769.0	27.0	56.33	58.5	0.6981	90.0	0.3232
-66.0	0.3674	-34.5	38.76	-3.0	780.0	28.5	47.20	60.0	0.4518		
-64.5	0.3868	-33.0	42.56	-1.5	786.0	30.0	41.75	61.5	0.3440		
-63.0	0.4232	-31.5	47.93	0.0	778.1	31.5	38.05	63.0	0.3148		
-61.5	0.6117	-30.0	56.86	1.5	762.7	33.0	34.95	64.5	0.2916		
-60.0	0.8932	-28.5	71.97	3.0	742.2	34.5	32.19	66.0	0.2835		

Electricity Parameter:

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

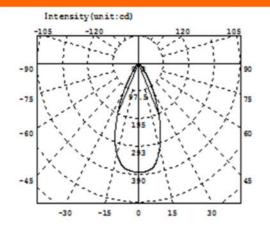
Optical Parameter (Distance=2.410m):

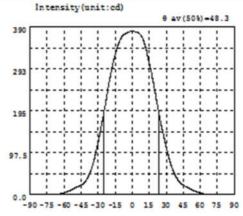
Equivalent Luminous flux: Φ eff= 291.1lm Efficiency: Eff=90.14lm/W

Diffuse angle: @(25%): 43.8deg@(50%): 34.8deg@(75%): 24.0deg@(50%): 34.8deg
Diffuse angle: @(25%): 44.0deg@(50%): 35.0deg@(75%): 24.4deg@(50%): 35.0deg
Imax=786.0cd (C=0.0deg,G=-1.5deg)
C0-180Plane Imax= 786.0cd (G=-1.5deg)

CO-180Plane IO= 778.1cd







λ	I	λ	I	λ	I	λ	I	λ	1	λ	I
-90.0	0.3390	-58.5	4.637	-27.0	162.2	4.5	377.2	36.0	55.07	67.5	0.5441
-88.5	0.3051	-57.0	6.194	-25.5	183.3	6.0	374.9	37.5	46.32	69.0	0.4564
-87.0	0.2605	-55.5	8.009	-24.0	204.4	7.5	371.5	39.0	39.05	70.5	0.3864
-85.5	0.2729	-54.0	9.994	-22.5	227.9	9.0	364.6	40.5	33.02	72.0	0.3249
-84.0	0.2838	-52.5	11.97	-21.0	251.4	10.5	353.5	42.0	27.48	73.5	0.3101
-82.5	0.3168	-51.0	13.83	-19.5	273.0	12.0	340.9	43.5	23.49	75.0	0.2775
-81.0	0.3374	-49.5	15.75	-18.0	292.4	13.5	322.6	45.0	21.10	76.5	0.2729
-79.5	0.3532	-48.0	17.72	-16.5	310.2	15.0	305.9	46.5	18.98	78.0	0.2860
-78.0	0.3342	-46.5	19.52	-15.0	325.8	16.5	288.0	48.0	17.02	79.5	0.2904
-76.5	0.3344	-45.0	21.65	-13.5	339.4	18.0	268.7	49.5	15.10	81.0	0.3083
-75.0	0.3234	-43.5	24.30	-12.0	350.9	19.5	247.8	51.0	13.14	82.5	0.3463
-73.5	0.2956	-42.0	28.23	-10.5	360.5	21.0	225.7	52.5	11.15	84.0	0.3430
-72.0	0.2886	-40.5	33.38	-9.0	367.7	22.5	203.2	54.0	9.061	85.5	0.3249
-70.5	0.3139	-39.0	40.05	-7.5	372.5	24.0	181.5	55.5	7.082	87.0	0.3289
-69.0	0.3889	-37.5	48.41	-6.0	374.7	25.5	161.6	57.0	5.399	88.5	0.3235
-67.5	0.5299	-36.0	58.75	-4.5	376.8	27.0	144.0	58.5	4.030	90.0	0.4249
-66.0	0.7186	-34.5	71.61	-3.0	378.6	28.5	127.1	60.0	2.925	-	
-64.5	1.035	-33.0	86.93	-1.5	380.2	30.0	110.0	61.5	2.038		
-63.0	1.631	-31.5	104.1	0.0	380.3	31.5	93.62	63.0	1.286		
-61.5	2.485	-30.0	122.5	1.5	379.7	33.0	78.85	64.5	0.8871		
-60.0	3.450	-28.5	142.1	3.0	378.6	34.5	65.75	66.0	0.6980		

Electricity Parameter:

Current I: 0.1000A Power: 3.660W Voltage V: 36.59V PF: 1.000

Optical Parameter (Distance=2.410m):

Equivalent Luminous flux: Φ eff= 273.1lm Efficiency: Eff=74.64lm/W

Diffuse angle: @(25%): 63.5deg@(50%): 48.3deg@(75%): 35.2deg@(50%): 48.3deg
Diffuse angle: @(25%): 63.5deg@(50%): 48.3deg@(75%): 35.2deg@(50%): 48.3deg
Imax=380.5cd (C=0.0deg,G=-0.5deg)
C0-180Plane Imax= 380.5cd (G=-0.5deg)

C0-180Plane I0= 380.3cd



		St	andard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks		
	diamet	er	45			44. 95	45	44. 94	44. 94		Test environment: In 20 °C -25 °C		
1.Size	heigh	t	20. 9			20. 96	20. 98	21	21.02		environment to achieve thermal equilibrium after the		
	thickne	ess	2			2	2. 04	2. 03	2. 03		test.		
						not affect th							
				See	attachment	: "Appearan	ce Inspecti	on Standard	ds"				
2.Appear	ance	Se attach "Appea	ment		١	No burr	No burr	No burr	No bu	rr	OK		
Quality		Inspe Stand	ction	J	N	o stains	No stains	No stains	No stains		51		
3.Materia	al			PC semi-plating Color Transparent						OK			
	Testing I	ED					CREE 130)4		J			
4.Optica	to the so	ource of tactual co	the test,	size and power rating of the LED light source recommended for this lens should be comparable test, if it is required to be out of range. According to the heat dissipation capability of the lamp itions of the use environment, the lens should be fully tested and tested to prevent the lens life. See light distribution curve									
I index	angle	,				12. 4	12. 7	12. 5	12.6				
	K-val	_				11. 22	10.80	11. 31	11. 00	_			
	Efficie					73. 84%	74. 60%	73. 84%	73. 84%				
	Facula		signatui	re sample		,	11.00%	10.01%	10.01%				
	ehensive ment		9				Qu	ıalified					
					PC produ	ıct size cha	nges with	temperat	ure table	<u> </u>			
Caliper 2 Height G Microsco Thick Ga Gauge E 2、Amb the size o	Number: V D-Quadra auge M-To pe P-Need uge R-Ra	tic H- pol dle T- dius erature or uct refer	c n	ength 0.8 hanges 0.6 0.4 0.2		10	20	30	* + *	Size: Size: Size:	50mm 100mm 150mm 200mm 250mm 300mm		

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		-	1	1	1			1			
		S	Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks
	diamet	er	45			44. 85	44. 67	44. 83	44. 88		Test environment: In 20 °C -25 °C
1.Size	heigh	t	20.9			21. 11	21. 04	21. 11	21. 05		environment to achieve thermal equilibrium after the
	thickne	ess	2			2.02	2. 04	2.06	2.02		test.
				Gate	shear can ı	not affect th	e appearar	nce of the la	ımp		
				See	attachment	: "Appearan	ce Inspecti	on Standar	ds"		
2.Appear	ance	attac	See chment earance	nent		No burr	No burr	No burr	No burr		OK
Quality		Insp	ection dards"	ı	N	o stains	No stains	No stains	No stains		ÖK
3.Materia	al			PC semi-plating Color Transparent							OK
	Testing I	_ED					CREE 130)4			
4.0-6	to the so	ource of actual c	f the test,	if it is requ	ired to be c	out of range ent, the lens	. According	to the heat fully tested	dissipation	n capa	ald be comparable ability of the lamp event the lens life.
4.Optica I index	angle	_				23. 1	23. 3	23. 3	23. 4	_	
	K-val						5. 14	5. 11	5. 01	_	
	Efficie	_				5. 17 74. 73%	74. 58%	75. 56%	76. 01%	_	
	Facula		e sinnatui	re sample		,	74. 56%	75.50%	70.01/0		
	ehensive ment	occ un	o oigilata				Qı	ualified			
	: Number: \ D-Quadra		er	changes	PC proc	duct size c	hanges wi	th temper		S ize	e: 50mm e: 100mm
Height Ga Microsco Thick Ga Gauge E- 2、 Ambi the size o	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			C	0.4	10	20	30		►Size ←Size ←Size	e: 100mm e: 150mm e: 200mm e: 250mm e: 300mm
									(℃)		

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(°C)

			Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme	Remarks
diamet	er	45			45. 1	45	45. 03	45. 07	nt	Test environment: In 20 °C -25 °C
heigh	t :	20. 9			21	20. 99	20. 99	21. 02		environment to achieve thermal
thickne	ess	2			2.09	2. 07	2. 07	2.08		equilibrium after the test.
			Gate	shear can i	not affect th	e appearar	ice of the la	ımp		
			See	attachment	: "Appearan	ce Inspecti	on Standard	ds"		
ance	attach	ment			No burr	No burr	No burr	No bu	rr	OK
	Inspe	ction		N	o stains	No stains	No stains	No stai	ns	OK .
al		<u></u>	PC semi-p	lating		Color	Tra	nsparent		ОК
						CREE 130	4			
to the so	ource of t actual co	the test,	if it is requ	ired to be o	out of range nt, the lens	. According should be t	to the heat fully tested	dissipatio	n capa	ability of the lamp
	_				_	* 				
	_									
	_									
		-i			75.51%	75.39%	74. 95%	74. 56%		
	See the	signatui	re sample							
ment						Qυ	alified			
				PC pro	duct size c	hanges wi	th temper	ature tal	ble	
D-Quadra auge M-To pe P-Neeo uge R-Ra -Visual. ient tempe of the prod	tic H- pol dle T- dius erature or luct refer	n	changes (mm) 0	0.6	10	20	30	*	Siz	ze: 50mm ze: 100mm ze: 150mm ze: 200mm ze: 250mm ze: 300mm
	heigh thicknee ance Testing I The reco to the so and	diameter height thickness ance Seattach "Appear Inspection Stand If the recommender to the source of the sour	height 20.9 thickness 2 See attachment "Appearance Inspection Standards" Il Testing LED The recommended size at to the source of the test, and the actual conditions FWHM angle K-value Efficiency Facula See the signature thensive ment : Number: V-Vernier D-Quadratic H-auge M-Tool pe P-Needle T-uge R-Radius-Visual. sient temperature on of the product refer	size Size limit diameter 45 height 20.9 thickness 2 Gate See attachment "Appearance Inspection Standards" If PC semi-part to the source of the test, if it is requand the actual conditions of the use FWHM angle K-value Efficiency Facula See the signature sample thensive ment : Number: V-Vernier D-Quadratic H-auge M-Tool pe P-Needle T-uge R-Radius -Visual. ient temperature on off the product refer	size Size limit size limit diameter 45	Size Size Imit Size Imit result1	size Size limit size limit result1 result2 diameter 45 45 45.1 45 height 20.9 21 20.99 thickness 2 2.09 2.07 Gate shear can not affect the appearance Inspection Standards" See attachment "Appearance Inspection Standards" No burr No burr No burr No stains No stains PC semi-plating Color Testing LED CREE 130 The recommended size and power rating of the LED light source record to the source of the test, if it is required to be out of range. According and the actual conditions of the use environment, the lens should be see light distributed angle See the signature sample thensive ment PC product size changes with the signature sample shensive ment Quality of the product refer of the prod	diameter 45 45. 1 45 45. 03 height 20.9 21 20.99 20.99 thickness 2 2.09 2.07 2.07 Gate shear can not affect the appearance of the less of the least and the actual conditions of the use environment, the lens should be fully tested to the source of the test, if it is required to be out of range. According to the heat and the actual conditions of the use environment, the lens should be fully tested to the source of the test, if it is required to be out of range. According to the heat and the actual conditions of the use environment, the lens should be fully tested to the source of the test, if it is required to be out of range. According to the heat and the actual conditions of the use environment, the lens should be fully tested to the source of the test, if it is required to be out of range. According to the heat and the actual conditions of the use environment, the lens should be fully tested to the source of the test, if it is required to be out of range. According to the heat and the actual conditions of the use environment, the lens should be fully tested to the source of the test, if it is required to be out of range. According to the heat and the actual conditions of the use environment, the lens should be fully tested to be out of range. According to the heat and the actual conditions of the use environment, the lens should be fully tested. FWHM See light distribution curve and the product size changes with temper the conditions of the use of the product refer to	size Size limit size limit result1 result2 result3 result4 diameter 45 45 45 45 45 03 45 07 height 20 9 21 20 99 20 99 21 02 thickness 2 2 2 20 9 20 7 2 07 2 08 Gate shear can not affect the appearance of the lamp See attachment "Appearance E No burr No burr No burr No burr No burr Testing LED CREE 1304 The recommended size and power rating of the LED light source recommended for this len to the source of the test, if it is required to be out of range. According to the heat dissipation and the actual conditions of the use environment, the lens should be fully tested and tested the source See light distribution curve angle 34	Standard size Size limit Size limit Fest Fe

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		St	andard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks
	diamet	er	45			44. 98	44. 96	45. 05	44. 98		Test environment: In 20 °C -25 °C
1.Size	heigh	t	20. 9			21. 09	21.04	21. 02	21. 02		environment to achieve thermal equilibrium after the
	thickne	ess	2			2.04	2. 06	2. 07	2. 09		test.
				Gate	shear can	not affect th	e appearar	nce of the la	amp		
				See	attachment	"Appearan	ce Inspecti	on Standar	ds"		
2.Appear	ance	attach	See tachment opearance		1	No burr		No burr	No burr		OK
Quality		Inspe Stand	ction	E	N	o stains	No stains	No stains	No stai	ns	OK .
3.Materia	ıl			PC semi-p	lating		Color	Tra	nsparent		ОК
	Testing LED						CREE 130)4			
4.0-6	to the so	ource of tactual co	nended size and power rating of the LED light source recommended for this lens should be conceed of the test, if it is required to be out of range. According to the heat dissipation capability of the use environment, the lens should be fully tested and tested to prevent the See light distribution curve						ability of the lamp		
4.Optica I index	angle	_				48. 3	48		50. 4		
	K-val	_				10. 3	10	43.0	50.4	_	
	Efficie	_				73. 78%	73. 78%	73. 78%	73. 78%		
	Facula		signatu	re sample		10.10%	10.10%	10.10%	10.10%		
	hensive ment		<u> </u>				Qı	ıalified			
Caliper 2 Height Ga Microsco Thick Ga Gauge Each 2 Ambi the size of	Number: V D-Quadra auge M-To pe P-Neeo uge R-Ra	tic H- col dle T- dius erature or luct refer	n	changes (mm)	PC pro 0.8 0.6 0.4 0.2 0 0	duct size c	hanges wi	ith temper	*	Size: Size: Size: Size: Size:	: 50mm : 100mm : 150mm : 200mm : 250mm : 300mm

riecaulions.

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PI	N	HK-SZ-45@21-15-D6-2	#-1g-1	Product Name	HK Gemini 45@21-1	I5°Refle	ctive Cup
Product	material	PC semi-plating		Customer			
Package	diagram	© → Single Vac	cuum packa	Be Bo	ox package	?	>
Product	nacking	18	A/ Box	4	pcs/Layer		
Floudet	packing	11	Layer/Box	792	A/ Carton		
	NO.	Part No	Part name	Size	Dosage	Unit	Remarks
	1	2. 07. 0066	Blister box	23cm*21cm	18	BAG	
	2	2. 08. 0001	PE film	25cm*27cm	18	PCS	
Packagin g Materials	3	2. 06. 0005	Reel label paper	62mm*42mm	18	PCS	
Materials	4	2. 06. 0005	Box label paper	62mm*70mm	1	PCS	
	5	2. 06. 0003	big plate	46cm*42cm	19	PCS	
	6	2. 06. 0011	big flat carton	48cm*44cm*37	cm 1	PCS	
Remarks		The loose packing is not subjec	et to this specif	ication. Customer	's requirements shall p	orevail	



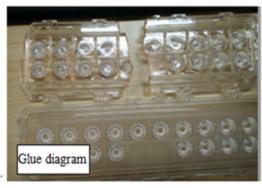
Special notice

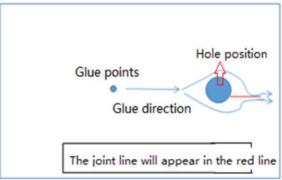
When gule pass through holes, columns and other structures, or part of the thin structure, will form a weld line. The product which uses multi-point injection welding line will appear because of the combination of sol, as shown below:

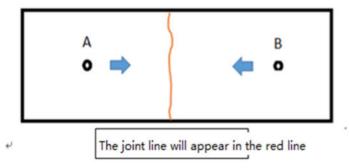
Syntneti











Please note:

The appearance of lines in the structure of the product as well as at the screw hole is a normal phenomenon, will not affect the actual use of the product, and can not be avoided at this stage.



Appearance inspection standards

1 Operating procedures

1.1.1Sampling standards, sampling plan and AQL

Test level : GB/T2828.1-2012The first part is according to the acceptance quality limit (AQL) retrieval batch inspection sampling plan, general inspection level Π level, CR class defect coefficient 0, MA defect rejection level AQL = 0.65, MI class defect rejection level AQL = 1.0; defect level please see 5.4.

2 Code table

Code	Code	Unit	Code	Code	Unit
	description			description	
N	Amount/pcs	pcs	D	Diameter	mm
L	Length	mm	Ι	Depth	mm
W	Width	mm	DS	Distance	mm
S	Proportion	mm²	SS	Offset	mm

3 Test conditions

- 3.1 Sight distance and working hours: Sight distance should be 30-35cm, each side of the inspection time does not exceed 12s, the visual angle of 45-135 degrees;
- 3.2 Light: 2x40w cool white fluorescent lamp, the light source is 500-550mm away from the lens surface; in order to make the appearance defect can be correctly recognized, the illumination should be 500-1000Lux, and the observation time is 10 seconds.
 - 3.3 Visual inspection staff should be 1.0 (including corrected visual acuity) above, no color blindness, color weakness.

4 Appearance inspection standards

Test items	ludging standard	Inspection equipment	Defec		
rescitents	Judging standard	Testing method	MI	MA	CR
	When start the machine and process, all products have to check the appearance of the sample, the appearance of the sample is divided into qualified samples and limited samples.				
Check the sample	1: Qualified sample refers to the appearance and structure standard of the product which recognized by the client, the sample size should be confirmed before mass production;	Sample comparison , visual			√

1		Ī	Ī	
	2: The limited sample refers to the limit of a particular exceptionally developed sample. Limit the sample only for its specific point of exception to confirm; The priority is higher than the other criteria in this table. When there is a limited sample, the limit sample shall prevail.			
Raw edge	Not allowed to affect the size and assembly	Visual, point card	√	
Scratch	1: Non-optical surface and non-exposed surface scratches should be visually insignificant and the length is less than 1/10 of the maximum surface size.	Visual, point card, calipers	√	
Fingerprint	Fingerprints are not allowed on all products	Visual	√	
Foreign objects, black spots, white spots	The product may not be attached to foreign objects, including oil, fiber, dregs of water gap and so on			√
Deformation	Insufficient filling shall not affect the appearance of the assembly and the exposed surfaces.	Visual, feeler		√
Poor ejection	Products may not appear bad ejection, including no convex top, thimble printed on the assembly surface shall not be higher than the product surface, non-assembled surface thimble height should not exceed the product size tolerances; thimble printing should be less than the product surface and no more than 0.3; thimble surface treatment should be consistent with the product side. Ejection strain: the optical surface and the appearance of the exposed surface after assembly are not allowed to have a strain, and the structural surface does not allow visual obvious strain.	Visual, point card	√	
Insufficient filling	Insufficient filling shall not affect the appearance of the assembly and the exposed surfaces, The signature sample shall prevail.	Visual, point card	√	
Shrink	When the entire surface of the product shrinks, the optical properties and dimensions must meet the requirements, and the visual will not significantly affect the appearance.Part shrink reference point defects	Visual, point card	√	
Flow marks、Welding line	 1 : Product does not allow the presence of flow marks and welding lines unless the structure can not be avoided; 2: The remaining flow marks shall not appear in the optical surface, a single L ≤ 10mm, no more than two 	Visual	✓	

Bubble	No bubbles are allowed	Visual		√	
Foreign objects, black spots, white spots	Not obvious or D ≤ 0.3mm black spots and foreign bodies in the area of 100x100mm not more than 1; Exceeded foreign matter black spots is judged bad.	Visual, point card	V		
Damaged	No damage is allowed	Visual			√
Cold glue	Optical surface may not have cold glue, non- optical surface cold glue should meet the visual is not obvious.	Visual	√		
	1: Do not affect the product size, shall not penetrate the optical surface, the cut should be smooth;				
Bad incision	2: Laser cutting products, the optical surface burns shall not occur after the processing is completed. Beading must not affect product installation	Visual			√
	3: Three molds and hot runner gate shall not appear residue.				
Scrub	Scrub surface should be uniform, off the scrub phenomenon should not be obvious , A single off scrub imprint requires D \leq 1 mm and no more than 1 area within a 50x50 mm area	Visual		√	