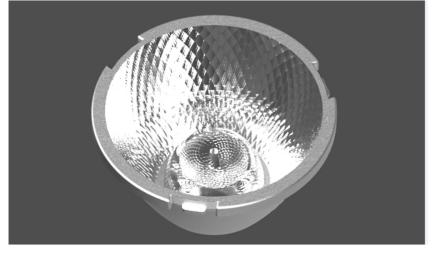


Approval number :

Customer :

Manufacturer : Chengdu HercuLux Photoelectric Technology Co.,Ltd

PN	Code	Product
HK-SZ-50@24-15-D9-2#-1g-1	1.08.02204	HK Gemini 50@24-15° Reflective Cup
HK-SZ-50@24-24-D9-2#-1g-1	1.08.02209	HK Gemini 50@24-24° Reflective Cup
HK-SZ-50@24-36-D9-2#-1g-1	1.08.02216	HK Gemini 50@24-36° Reflective Cup
HK-SZ-50@24-50-D9-2#-1g-1	1.08.02217	HK Gemini 50@24-50° Reflective Cup



	Supplier c	onfirmation	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 Nanshan District Nanshan Cloud Valley Innovation Industrial Park Comprehensive Service Building,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:

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

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

product data:

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

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

Product changes and improvements:

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

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

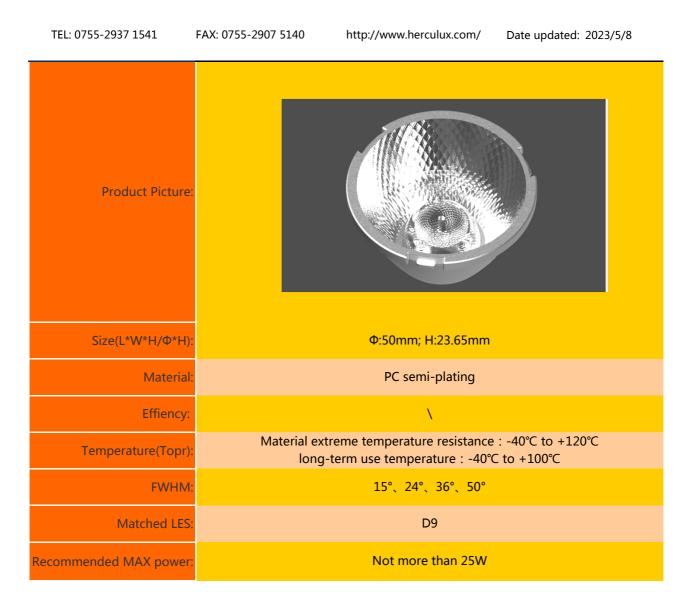
Operation cautions:

1. Please wear clean gloves during product assembly to prevent product surface contamination.

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

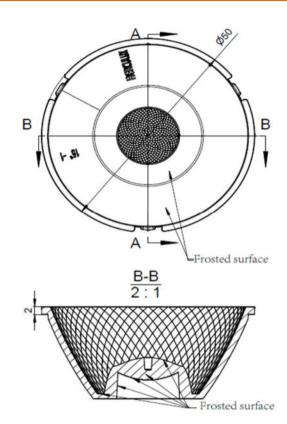
第 2 页

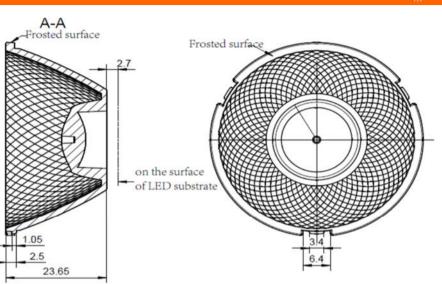




2D drawing

HERCULUX 個绅光电





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 14486 2008 MT5.

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

<3

±0.1

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

10~24

±0.20

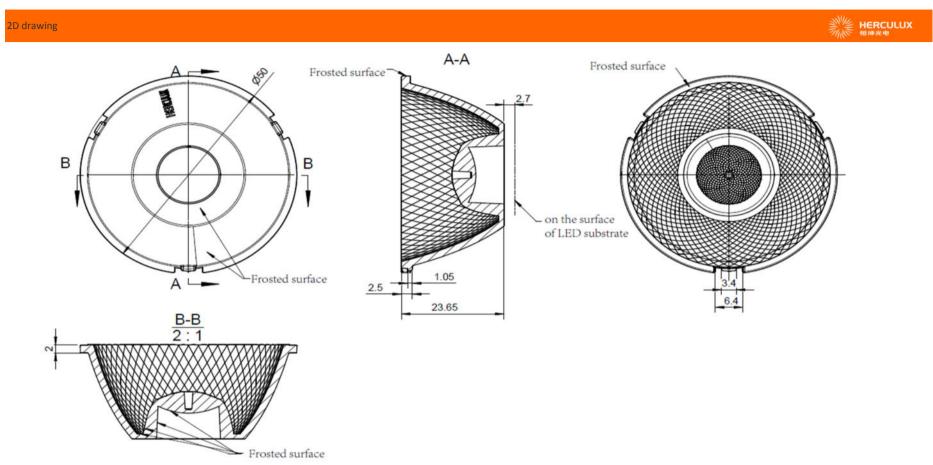
24~65

±0.35

3~10

±0.15

8	MT5.		Dptical	desigr								HK-SZ-50@24-15-D9-2#-1g-1			
			ructur	e desig					HK Gemini 50@24-15° Reflective Cup				1.08.02204		
e	contact surf	ace	Rev	view							mber o	f drawi	qty	we	ight
			Valid	ation							СДНК				
	65~140	140~	~250	250~	~450	>4	450		-		-				
	±0.50	±0	.80	±1	.2	±2	2.0								



Technicai 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 14486 2008 MT5.

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

<3

±0.1

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

10~24

±0.20

24~65

±0.35

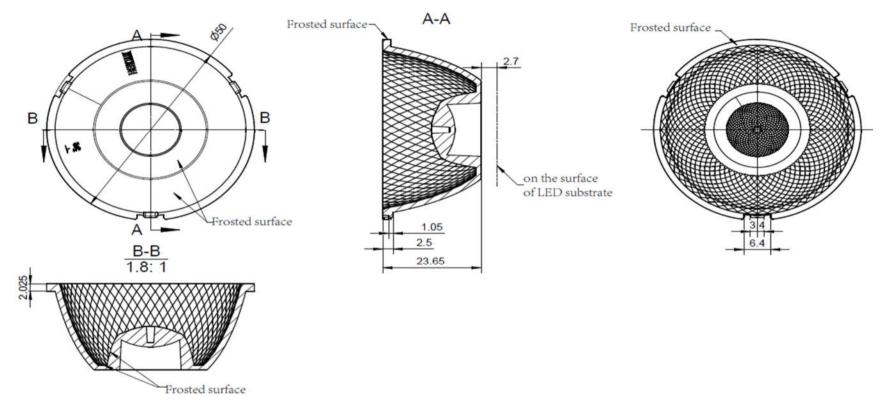
3~10

±0.15

2	MT5.		Dptical	l desigr					HK Gemini 50@24-24° Reflective Cup		н	IK-SZ-5	0@24-24-D9-	2#-1g-1
,	WIT 5.		ructur	e desig									1.08.02209	
e	contact surf	ace	Rev	view							mber o	of drawi	qty	weight
			Valid	lidation Material: PC semi-plat		PC semi-plating	СДНК							
	65~140	140~	~250	250~	~450	>	450		-		-			
	±0.50	±0	.80	±1	.2	±2	2.0							

2D drawing

HERCULUX 恒坤光电



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 14486 2008 MT5.

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

<3

±0.1

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

10~24

±0.20

3~10

±0.15

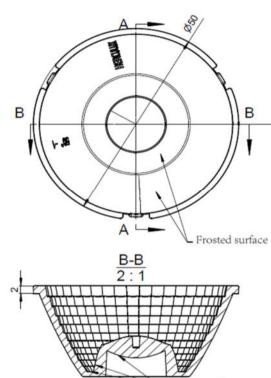
24~65

±0.35

<u>م</u>	MT5.		Dptical	desigr					HK Gemini 50@24-36° Reflective Cup			HK-SZ-50@24-36-D9-2#-1g-1					
	WIT5.		ructur	e desig									1.08.02216				
e	e contact surfa	ice	Rev	view					Material: PC semi-plating		mber o	f drawi	qty	weight			
			Valid	ation							СДНК						
	65~140	140~	~250	250~	~450	>	450		-		-						
	±0.50	±0	.80	±1	.2	±2	2.0										

2D drawing





-Frosted surface

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 14486 2008 M

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

<3

±0.1

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

10~24

±0.20

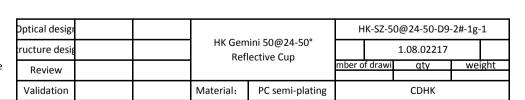
3~10

±0.15

24~65

±0.35

MT5.	Dptical design					HK-SZ-50@24-50-D9-2#-1g-1							
VII J.	ructure desig HK Gemini 50@24-50° Reflective Cup					1.08.02217							
contact surf	ace	Rev	riew							f drawi	qty	wei	ght
	Validation					Material: PC semi-plating		CDHK					
65~140	140~	~250	250~	~450	>4	450			-				
±0.50	±0	.80	80 ±1.2 ±2.		2.0								



A-A

1.05

2.5

23.65

Frosted surface

mm

2.7

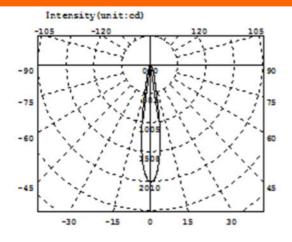
on the surface of LED substrate

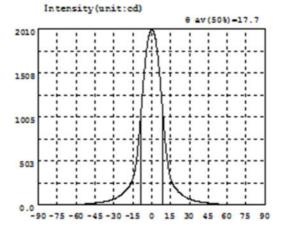
Frosted surface-

HK Gemini 50@24-15°Reflective Cup

CREE 1507







Intensity data: (deg , cd) CO-180

λ	I	λ	I	λ	I	λ	1	λ	I	λ	I
-90.0	0.3051	-58.5	2.504	-27.0	86.08	4.5	1737	36.0	38.75	67.5	0.3794
-88.5	0.2826	-57.0	3.654	-25.5	100.3	6.0	1537	37.5	34.27	69.0	0.3481
-87.0	0.2386	-55.5	4.931	-24.0	116.6	7.5	1285	39.0	30.38	70.5	0.3114
-85.5	0.2511	-54.0	6.282	-22.5	134.9	9.0	1016	40.5	27.02	72.0	0.2832
-84.0	0.2735	-52.5	7.868	-21.0	155.7	10.5	762.2	42.0	24.02	73.5	0.2649
-82.5	0.3114	-51.0	9.589	-19.5	179.7	12.0	554.0	43.5	20.71	75.0	0.2751
-81.0	0.3374	-49.5	11.49	-18.0	206.0	13.5	404.9	45.0	18.06	76.5	0.2882
-79.5	0.3681	-48.0	13.53	-16.5	244.7	15.0	299.1	46.5	15.78	78.0	0.3134
-78.0	0.3548	-46.5	15.76	-15.0	297.4	16.5	244.3	48.0	13.54	79.5	0.3446
-76.5	0.3231	-45.0	18.02	-13.5	381.5	18.0	206.4	49.5	11.52	81.0	0.3567
-75.0	0.2929	-43.5	20.56	-12.0	517.1	19.5	177.1	51.0	9.634	82.5	0.3261
-73.5	0.2542	-42.0	23.39	-10.5	717.7	21.0	153.5	52.5	7.933	84.0	0.2995
-72.0	0.1046	-40.5	26.64	-9.0	967.0	22.5	133.4	54.0	6.378	85.5	0.2721
-70.5	0.2935	-39.0	30.57	-7.5	1241	24.0	115.9	55.5	4.987	87.0	0.2500
-69.0	0.3134	-37.5	34.66	-6.0	1499	25.5	99.85	57.0	3.695	88.5	0.2468
-67.5	0.3628	-36.0	38.95	-4.5	1714	27.0	85.98	58.5	2.541	90.0	0.2224
-66.0	0.3774	-34.5	43.89	-3.0	1872	28.5	74.33	60.0	1.629		
-64.5	0.3937	-33.0	49.57	-1.5	1970	30.0	64.89	61.5	0.9248	-	
-63.0	0.4391	-31.5	56.47	0.0	2007	31.5	56.55	63.0	0.4406		
-61.5	0.9265	-30.0	64.57	1.5	1979	33.0	49.57	64.5	0.3977		
-60.0	1.596	-28.5	74.14	3.0	1891	34.5	43.79	66.0	0.4008		

Electricity Parameter:

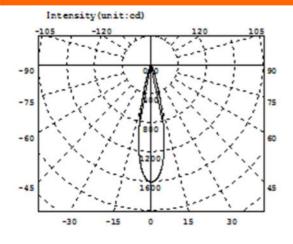
Current I:	0.1000A	Power:	3.368W
Voltage V:	33.70V	PF:	1.000

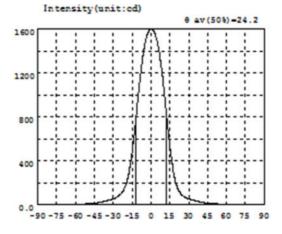
Equivalent Luminous	s flux: 4 eff= 321.21m	Efficiency: Eff=95.371m/W
Diffuse angle:	@(25%): 24.5deg@(50%):	17.7deg@(75%): 12.1deg@(50%): 17.7deg
Diffuse angle:	@(25%): 24.5deg@(50%):	17.7deg@(75%): 12.1deg@(50%): 17.7deg
Imax=2007cd (C=0.0d	leg,G=0.0deg)	CO-180Plane Imax= 2007cd(G=0.0deg)
		C0-180Plane IO= 2007cd

HK Gemini 50@24-24°Reflective Cup

CREE 1507

 HERCULUX ^{恒坤光电}





Intensity data: (deg , cd) CO-180

λ	1	λ	I	λ	I	λ	I	λ	I	λ	Ī
-90.0	0.4632	-58.5	2.334	-27.0	68.50	4.5	1503	36.0	32.00	67.5	0.3562
-88.5	0.3509	-57.0	3.025	-25.5	80.19	6.0	1422	37.5	26.72	69.0	0.3167
-87.0	0.3295	-55.5	3.692	-24.0	96.06	7.5	1310	39.0	22.33	70.5	0.3070
-85.5	0.3410	-54.0	4.516	-22.5	118.6	9.0	1176	40.5	19.03	72.0	0.3142
-84.0	0.3742	-52.5	5.656	-21.0	151.6	10.5	1018	42.0	16.46	73.5	0.3545
-82.5	0.3942	-51.0	6.933	-19.5	199.8	12.0	847.1	43.5	14.33	75.0	0.3607
-81.0	0.4135	-49.5	8.314	-18.0	266.6	13.5	677.7	45.0	12.24	76.5	0.3673
-79.5	0.4115	-48.0	9.607	-16.5	363.1	15.0	525.4	46.5	10.98	78.0	0.3544
-78.0	0.3774	-46.5	10.77	-15.0	480.5	16.5	396.6	48.0	9.851	79.5	0.3311
-76.5	0.3367	-45.0	11.95	-13.5	623.0	18.0	282.2	49.5	8.580	81.0	0.2857
-75.0	0.3085	-43.5	13.71	-12.0	786.5	19.5	205.4	51.0	7.167	82.5	0.2083
-73.5	0.2824	-42.0	15.81	-10.5	958.1	21.0	151.6	52.5	5.983	84.0	0.2503
-72.0	0.3050	-40.5	18.27	-9.0	1122	22.5	117.2	54.0	4.775	85.5	0.2653
-70.5	0.2764	-39.0	21.79	-7.5	1267	24.0	94.83	55.5	3.859	87.0	0.3226
-69.0	0.3853	-37.5	26.41	-6.0	1391	25.5	79.01	57.0	3.186	88.5	0.3598
-67.5	0.4217	-36.0	31.39	-4.5	1486	27.0	67.53	58.5	2.576	90.0	0.2224
-66.0	0.4311	-34.5	36.58	-3.0	1548	28.5	59.09	60.0	1.985		
-64.5	0.4418	-33.0	41.16	-1.5	1584	30.0	52.14	61.5	1.383		
-63.0	0.7082	-31.5	46.03	0.0	1599	31.5	46.75	63.0	0.8850		
-61.5	1.175	-30.0	51.68	1.5	1589	33.0	41.80	64.5	0.4811		
-60.0	1.720	-28.5	59.36	3.0	1557	34.5	37.07	66.0	0.3862		

Electricity Parameter:

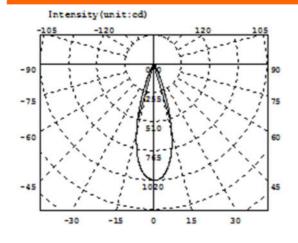
Current I:	0.1000A	Power:	3.559W
Voltage V:	35.59V	PF:	1.000

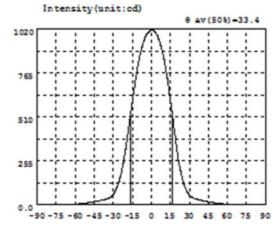
Equivalent Luminous	s flux: 4 eff= 345.21m	Efficiency: Eff=97.021m/W
Diffuse angle:	@(25%): 32.3deg@(50%):	24.2deg @(75%): 16.9deg @(50%): 24.2deg
Diffuse angle:	@(25%): 32.3deg@(50%):	24.2deg @(75%): 16.9deg @(50%): 24.2deg
Imax=1599cd (C=0.0d	leg,G=0.0deg)	CO-180Plane Imax= 1599cd(G=0.0deg)
		C0-180Plane IO= 1599cd

HK Gemini 50@24-36°Reflective Cup

CREE 1507







Intensity data: (deg , cd) CO-180

λ	I	λ	I	λ	I	λ	I	λ	I	λ	Ĭ
-90.0	0.4293	-58.5	3.072	-27.0	102.8	4.5	984.6	36.0	30.34	67.5	0.4365
-88.5	0.3846	-57.0	3.903	-25.5	135.6	6.0	957.0	37.5	27.84	69.0	0.4092
-87.0	0.4845	-55.5	4.802	-24.0	176.8	7.5	920.5	39.0	25.42	70.5	0.3701
-85.5	0.3944	-54.0	5.925	-22.5	228.1	9.0	876.3	40.5	23.18	72.0	0.3376
-84.0	0.4153	-52.5	7.282	-21.0	291.1	10.5	823.3	42.0	21.00	73.5	0.3266
-82.5	0.3916	-51.0	8.813	-19.5	364.0	12.0	759.3	43.5	17.96	75.0	0.3370
-81.0	0.3580	-49.5	10.52	-18.0	441.6	13.5	684.9	45.0	15.54	76.5	0.5030
-79.5	0.3372	-48.0	12.26	-16.5	522.2	15.0	602.8	46.5	13.82	78.0	0.3128
-78.0	0.3177	-46.5	14.09	-15.0	601.3	16.5	517.9	48.0	12.08	79.5	0.3706
-76.5	0.0787	-45.0	15.85	-13.5	677.5	18.0	435.8	49.5	10.29	81.0	0.3745
-75.0	0.3127	-43.5	18.30	-12.0	746.9	19.5	352.2	51.0	8.527	82.5	0.3503
-73.5	0.3455	-42.0	20.91	-10.5	812.3	21.0	273.5	52.5	6.905	84.0	0.3236
-72.0	0.3872	-40.5	23.28	-9.0	868.9	22.5	212.1	54.0	5.535	85.5	0.2933
-70.5	0.4158	-39.0	25.78	-7.5	914.2	24.0	162.7	55.5	4.390	87.0	0.2775
-69.0	0.4674	-37.5	28.26	-6.0	950.4	25.5	122.7	57.0	3.470	88.5	0.2896
-67.5	0.4769	-36.0	30.85	-4.5	977.1	27.0	92.79	58.5	2.676	90.0	0.2869
-66.0	0.5003	-34.5	34.19	-3.0	994.5	28.5	70.48	60.0	1.911		
-64.5	0.5452	-33.0	39.07	-1.5	1006	30.0	53.95	61.5	1.244		
-63.0	0.9103	-31.5	47.04	0.0	1012	31.5	43.32	63.0	0.7223		
-61.5	1.523	-30.0	59.56	1.5	1011	33.0	37.01	64.5	0.5044		
-60.0	2.288	-28.5	78.23	3.0	1003	34.5	33.26	66.0	0.4583		

Electricity Parameter:

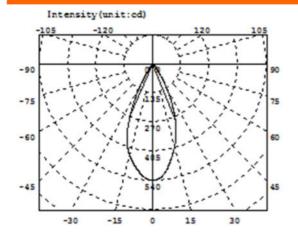
Current I:	0.1000A	Power:	3.559W
Voltage V:	35.59V	PF:	1.000

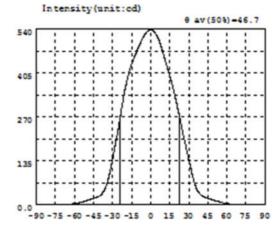
Equivalent Luminous	s flux: 4 eff= 359.71m	Efficiency: Eff=101.07lm/W
Diffuse angle:	@(25%): 43.2deg@(50%):	33.4deg@(75%): 23.6deg@(50%): 33.4deg
Diffuse angle:	@(25%): 43.2deg@(50%):	33.4deg @(75%): 23.7deg @(50%): 33.4deg
Imax=1013cd (C=0.00	leg,G=0.5deg)	CO-180Plane Imax= 1013cd(G=0.5deg)
		C0-180Plane IO= 1012cd

HK Gemini 50@24-50°Reflective Cup

CREE 1507







Intensity data: (deg , cd) CO-180

λ	I	λ	I	λ	I	λ	I	λ	I	λ	Ī
-90.0	0.3390	-58.5	3.867	-27.0	201.4	4.5	521.7	36.0	48.84	67.5	0.5191
-88.5	0.2824	-57.0	4.965	-25.5	236.0	6.0	509.6	37.5	37.84	69.0	0.4765
-87.0	0.2492	-55.5	6.249	-24.0	270.6	7.5	494.1	39.0	31.20	70.5	0.4249
-85.5	0.2396	-54.0	7.655	-22.5	305.8	9.0	475.1	40.5	26.59	72.0	0.3813
-84.0	0.2848	-52.5	9.268	-21.0	340.4	10.5	454.4	42.0	23.24	73.5	0.3327
-82.5	0.2963	-51.0	11.16	-19.5	368.7	12.0	434.8	43.5	21.03	75.0	0.2907
-81.0	0.3169	-49.5	13.13	-18.0	393.7	13.5	415.3	45.0	19.00	76.5	0.2842
-79.5	0.3473	-48.0	15.04	-16.5	415.4	15.0	394.5	46.5	17.09	78.0	0.2747
-78.0	0.3767	-46.5	16.94	-15.0	433.1	16.5	374.2	48.0	15.21	79.5	0.3096
-76.5	0.3539	-45.0	18.88	-13.5	448.5	18.0	353.0	49.5	13.31	81.0	0.3147
-75.0	0.3330	-43.5	20.77	-12.0	462.2	19.5	326.6	51.0	11.44	82.5	0.3463
-73.5	0.1798	-42.0	22.73	-10.5	476.4	21.0	300.8	52.5	9.677	84.0	0.3486
-72.0	0.2978	-40.5	25.85	-9.0	489.7	22.5	273.5	54.0	8.066	85.5	0.3448
-70.5	0.3037	-39.0	30.63	-7.5	502.8	24.0	245.0	55.5	6.573	87.0	0.3189
-69.0	0.3271	-37.5	37.51	-6.0	514.9	25.5	216.8	57.0	5.149	88.5	0.3021
-67.5	0.3743	-36.0	48.48	-4.5	524.6	27.0	189.6	58.5	3.973	90.0	0.4442
-66.0	0.5392	-34.5	63.77	-3.0	531.5	28.5	163.6	60.0	3.027		
-64.5	0.7897	-33.0	84.69	-1.5	536.3	30.0	137.2	61.5	2.083		
-63.0	1.252	-31.5	110.8	0.0	537.4	31.5	111.0	63.0	1.235		
-61.5	2.072	-30.0	140.9	1.5	536.0	33.0	86.55	64.5	0.8776		
-60.0	2.958	-28.5	172.6	3.0	530.3	34.5	65.15	66.0	0.6730		

Electricity Parameter:

Current I:	0.1000A	Power:	3.368W
Voltage V:	33.70V	PF:	1.000

Equivalent Luminous	s flux: Φ e	ff= 333.61m	Efficiency: Eff=99.06lm/W	
Diffuse angle:	@(25%): 60	.4deg@(50%):	46.7deg @(75%): 31.6deg @(50%): 46.7deg	P
Diffuse angle:	@(25%): 60	.4deg@(50%):	46.7deg @(75%): 31.6deg @(50%): 46.7deg	2
Imax=537.4cd (C=0.0	deg,G=0.0d	eg)	CO-180Plane Imax= 537.4cd(G=0.0deg)	
			C0-180Plane I0= 537.4cd	

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Sample parameter test rep HK Gemini 50@24-15°Reflective Cup

HERCULUX 恒坤光电

			andard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks
	diamet	er	50		\square	49.97	49.92	49.93	44.97	\bigwedge	Test environment: In 20 ℃ -25 ℃
1.Size	heigh	t 2	3.65			23.73	23. 72	23.77	23.73	\square	environment to achieve thermal
	thickne	SS	2	\searrow	\sum	2	1.99	2.08	2.04	\sum	equilibrium after the test.
				Gate	shear can	not affect th	e appearar	nce of the la	amp		
				See	attachment	t "Appearan	ce Inspecti	on Standar	ds"		
2.Appear	rance	Se attach	ment	-	1	No burr	No burr	No burr	No bu	rr	014
Quality		"Appea Inspea Standa	ction	E	N	lo stains	No stains	No stains	No stai	ins	OK
3.Materia	al			PC semi-	plating		Color	Tra	nsparent		OK
	Testing I	ED					CREE 150)7			
4.Optica	to the so	urce of tl ictual cor	ne test,	if it is requ	ired to be c	out of range ent, the lens	. According	to the hea fully tested	t dissipatio	on cap	uld be comparable ability of the lamp event the lens life.
l index	angle		17.1 17.6 17.1 17.6								
	K-val		_			6.25	6.34	6.25	6.34		
	Efficie	ncy				74.48%	73.55%	74.48%	73.55%	1	
		-	signatu	re sample		`					
	ehensive ment		- 0				Q	ualified			
Remarks				Length 0.8	- 8 -	uct size ch	anges wit	h tempera	ature tab	le	
1、Tool I Caliper 2	Number: V D-Quadra auge M-To	tic H-		(mm) 0.5 (0.5 0.5	5						Size: 50mm Size: 100mm
	pe P-Nee	dle T-		0.4 0.3			*	*			Size: 150mm Size: 200mm
Thick Ga	-	lius		0.2						Size: 250mm	
Thick Ga Gauge E 2、 Amb	-	rature or		0.2	1					 9	Size: 300mm
Thick Ga Gauge E 2、 Amb the size o	-Visual. ient tempe	rature or uct refer		0.2		10	20	30	40 (°C)	9	Size: 300mm

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 the upper surface temperature of the LED colloid should be less than 120 degrees.

Sample parameter test rep HK Gemini 50@24-24°Reflective Cup

HERCULUX 恒坤光电

		S	tandard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks	
	diamet	er	50		\sum	49.88	49.91	49.88	49.91	$\overline{\ }$	Test environment: In 20 ℃ -25 ℃	
1.Size	heigh	t	23.65	\geq	\sum	23.76	23. 79	23.76	23.79	\sum	environment to achieve thermal	
	thickne	ess	2	\searrow	\square	2.09	2.05	2.09	2.05	\setminus	equilibrium after the test.	
						not affect th t "Appearan	••					
2.Appear	ance	attac	ee hment arance	E	1	No burr	No burr	No burr	No bu	rr	ОК	
Quality		Inspe	ection dards"	L	N	lo stains	No stains	No stains	No stai	ns	ÖR	
3.Materia	al			PC semi-	plating		Color	Tra	nsparent		ОК	
	Testing I	ED					CREE 150)7				
4.Optica		actual co		e test, if it is required to be out of range. According to the heat dissipation capability of the lamp litions of the use environment, the lens should be fully tested and tested to prevent the lens life. See light distribution curve								
l index	angle	e				24.3	23.6	24.2	24.2			
	K-val	ue				4.59	4.78	4.62	4.63			
	Efficie	ncy				76.48%	74.78%	76.11%	76.33%			
		See the	e signatu	re sample		•						
	ehensive ment						Qı	ualified				
					PC pro	oduct size	changes w	/ith tempe	erature ta	ble		
Caliper 2 Height G Microsco Thick Ga Gauge E	Number: V D-Quadra auge M-To pe P-Neeo uge R-Ra	tic H- ool dle T- dius			0.7			*			Size: 50mm Size: 100mm Size: 150mm Size: 200mm Size: 250mm Size: 300mm	

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 rep HK Gemini 50@24-36°Reflective Cup

HERCULUX 恒坤光电

		S	Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks
	diamet	er	50			49.97	50	50.01	49.98	\sum	Test environment: I 20 ℃ -25 ℃
1.Size	heigh	t	23.65	\sum	\sum	23. 78	23.8	23.81	23.73	\sum	environment to achieve thermal equilibrium after the
	thickne	ess	2	\searrow		2.09	2.05	2.09	2.05	\backslash	test.
						not affect th			•		
2.Appear	rance	attac	See chment	E		No burr	No burr	No burr	No bu	rr	OK
Quality		Insp	earance ection dards"	Ц	N	o stains	No stains	No stains	No stai	ns	ОК
3.Materia	al			PC semi-p	olating		Color	Tra	nsparent		ОК
	Testing I	ED					CREE 150)7			
	The recor						According	to the heat	t dissinatio	n can	ability of the lamr
•	to the so and the a	ource of actual c	f the test,	if it is requ of the use		nt, the lens See lig	should be ht distributi	fully tested ion curve	and tested		event the lens life
4.Optica I index	to the so and the a FWHM angle	ource of actual c M	f the test,			nt, the lens See lig 33. 4	should be to the should be to the should be	fully tested ion curve 33. 2	and tested		
•	to the so and the a FWHM angle K-val	ource of actual c M e ue	f the test,			nt, the lens See lig 33. 4 2. 82	should be tht distributi 33. 1 2. 88	Second stress 33.2 2.86	and tested 33. 3 2. 87		
•	to the so and the a FWHM angle K-val Efficie	urce of actual c M e ue ncy	f the test, onditions	of the use		nt, the lens See lig 33. 4	should be to the should be to the should be	fully tested ion curve 33. 2	and tested		
lindex	to the so and the a FWHM angle K-val Efficie Facula	urce of actual c M e ue ncy	f the test, onditions			nt, the lens See lig 33. 4 2. 82	should be tht distributi 33. 1 2. 88	Second stress 33.2 2.86	and tested 33. 3 2. 87		
Compre	to the so and the a FWHM angle K-val Efficie	urce of actual c M e ue ncy	f the test, onditions	of the use		nt, the lens See lig 33. 4 2. 82	should be iht distributi 33. 1 2. 88 79. 47%	Second stress 33.2 2.86	and tested 33. 3 2. 87		
Compre judg Remarks	to the so and the a FWHM angle K-val Efficie Facula ehensive ment	Actual c A ue ncy See th	e signatu	of the use	PC pro	nt, the lens See lig 33. 4 2. 82	should be tht distributi 33. 1 2. 88 79. 47% Qu	fully tested ion curve 33. 2 2. 86 79. 03% ualified	and tested 33. 3 2. 87 78. 59%		-Size: 50mm
Compre judg Remarks 1、Tool Caliper 2 Height G	to the so and the a FWHM angle K-val Efficie Facula ehensive ment	Arrive of actual c Arrive of actual c Married of actual c ue ncy See the See the Col	e signatu	changes (mm)	PC pro	nt, the lens See lig 33. 4 2. 82 79. 25%	should be tht distributi 33. 1 2. 88 79. 47% Qu	fully tested ion curve 33. 2 2. 86 79. 03% ualified	and tested 33. 3 2. 87 78. 59%	able	event the lens life
Compre judg Remarks 1、Tool Caliper 2 Height G Microsco	to the so and the a FWHM angle K-val Efficie Facula ehensive ment S: Number: V 2D-Quadra cauge M-To ope P-Need	A-Vernie V-Vernie V-Vernie dic H- col	e signatu	cf the use	PC pro	nt, the lens See lig 33. 4 2. 82 79. 25%	should be tht distributi 33. 1 2. 88 79. 47% Qu	fully tested ion curve 33. 2 2. 86 79. 03% ualified	and tested 33. 3 2. 87 78. 59%		Size: 50mm
Compre judg Remarks 1、Tool Caliper 2 Height G Microsco Thick Ga	to the so and the a FWHM angle K-val Efficie Facula ehensive ment S: Number: V 2D-Quadra Sauge M-To ope P-Need auge R-Rad	A-Vernie V-Vernie V-Vernie dic H- col	e signatu	Length changes (mm)	PC pro	nt, the lens See lig 33. 4 2. 82 79. 25%	should be tht distributi 33. 1 2. 88 79. 47% Qu	fully tested ion curve 33. 2 2. 86 79. 03% ualified	and tested 33. 3 2. 87 78. 59%		Size: 50mm Size: 100mm Size: 150mm
Compre judg Remarks 1、Tool Caliper 2 Height G Microsco Thick Ga Gauge E 2、Amb the size o	to the so and the a FWHM angle K-val Efficie Facula ehensive ment S: Number: V 2D-Quadra Sauge M-To ope P-Need auge R-Rad	V-Vernie tic H- bol See th See th die T- dius	e signatu	cof the use	PC pro	nt, the lens See lig 33. 4 2. 82 79. 25%	should be tht distributi 33. 1 2. 88 79. 47% Qu	fully tested ion curve 33. 2 2. 86 79. 03% ualified	and tested 33. 3 2. 87 78. 59%		Size: 50mm Size: 100mm Size: 150mm Size: 200mm

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 the upper surface temperature of the LED colloid should be less than 120 degrees.

Sample parameter test rep HK Gemini 50@24-50°Reflective Cup

HERCULUX 恒坤光电

			Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks	
	diamet	er	50			50.01	50.01	50.01	50.01	\sum	Test environment: In 20 ℃ -25 ℃	
1.Size	heigh	t	23.65	\square	\geq	23.68	23.77	23.68	23. 77	\sum	environment to achieve thermal equilibrium after the	
	thickne	ess	2			2	1.99	2	1.99	\setminus	test.	
				Gate	shear can i	not affect th	e appearar	nce of the la	amp			
				See	attachment	"Appearan	ce Inspecti	on Standar	ds"			
2.Appear	ance	atta	See chment	F	1	No burr	No burr	No burr	No bu	rr	OK	
Quality		Ins	earance pection ndards"	E	N	o stains	No stains	No stains	No stai	ns	OK	
3.Materia	al			PC semi-p	lating		Color	Tra	nsparent		ОК	
	Testing I	ED					CREE 150)7				
4.Optica	and the a FWH	actual (M		e test, if it is required to be out of range. According to the heat dissipation capability of the lamp ditions of the use environment, the lens should be fully tested and tested to prevent the lens life. See light distribution curve								
l index	angle	Э		46.3 47.2 48.2 46.7								
	K-val	ue					/					
	Efficie	ency				77.96%	77.96%	77.73%	77.26%			
	Facula	See th	ne signatu	re sample		`						
	ehensive ment						Qı	ualified				
					PC pr	oduct size	changes v	with temp	erature t	able		
Remarks	Number: V	/-Verni tic H-	ier	Length changes (mm)	0.7						−Size: 50mm −Size: 100mm −Size: 150mm	

Please wear clean gloves during the lens assembly process to preven
 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 the upper surface temperature of the LED colloid should be less than 120 degrees.

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Packaging Information



P	N	HK-SZ-50@24-15-D9-2	#-1g-1	Product Name	HK Gemini 50@24-1	15°Refle	ctive Cup	
Product	material	PC semi-plating		Customer				
Package	diagram	Single Vacuum package Box package					~	
Product	nacking	14	A/ Box	4	pcs/Layer			
TTOddet	раскіну	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		
Deekesin	2	2.08.0001	PE film	30cm*30cm	40	PCS		
Packagin g Materials	3	2.06.0005	Reel label paper	6.2cm*4.2cm	u 40	PCS		
IVIALEITAIS	4	2.06.0005	Box label paper	7.6cm*6.2cm	1 1	PCS		
	5	2.06.0003	big plate	42cm*46.8cm	n 11	PCS		
	6	2.06.0001	big flat carton	42.8cm*46.8cm*	36cm 1	PCS		
Remarks	arks The loose packing is n		ct to this specil	fication. Customer	's requirements shall	prevail		

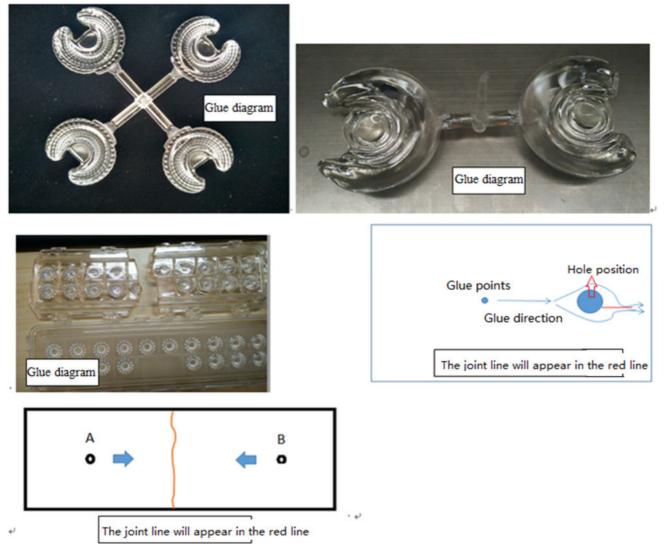


Annex I

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	Judging standard	Inspection equipment	Defect level		
		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	~	
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. Ejection strain: the optical surface and the appearance of the exposed surface after assembly are not allowed to have a strain, and the structural surface does not allow	Visual, point card	~	
Insufficient filling	visual obvious strain. Insufficient filling shall not affect the appearance of the assembly and the exposed surfaces, The signature sample shall prevail.	Visual, point card	 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	 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 extinct surface. a single loss of 40mm and 10mm and 10mm and 10mm and 10mm and 10mm and 10mm and 10mm. 	Visual	V	
	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		
Bad incision	1: Do not affect the product size, shall not penetrate the optical surface, the cut should be smooth;	Visual			
	2: Laser cutting products, the optical surface burns shall not occur after the processing is completed. Beading must not affect product installation				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	