

## HERCULUX Chengdu HercuLux Photoelectric 重坤光电 Technology Co.,Ltd Product Approval

Approval number :

Customer :

Manufacturer : Chengdu HercuLux Photoelectric Technology Co.,Ltd

PN	Code	Product
HK-DX-25@13-15-D4-21-1g-1	1.01.12885	HK Glareless25@13-15° lens
HK-DX-25@13-24-D6-21-1g-1	1.01.12886	HK Glareless25@13-24° lens
HK-DX-25@13-36-D6-21-1g-1	1.01.12887	HK Glareless25@13-36° lens
HK-DX-25@13-60-D6-21-1g-1	1.01.12888	HK Glareless25@13-60° lens



	Supplier	confirmatior	1		Client cor	nfirmation	
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.cn/Sales Dept: Shenzhen NansharDistrict Nanshan Cloud Valley Innovation Industrial Park Comprehensive Service Building, 501-505TEL: 0755-2937 1541FAX: 0755-2907 5140

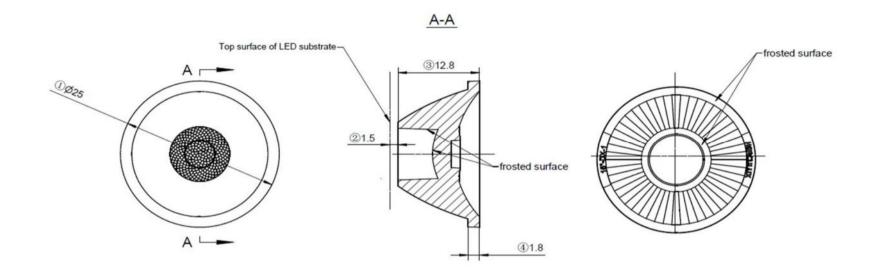
\*Approval In duplicate, for both supplier and customer.



TEL: 0755-2937 1541	FAX: 0755-2907 5140	http://www.herculux.cn/	Date updated: 2022/5/19
Product Pictu	re:		
Ρ	N:	HK-DX-25@13-15-D4-21-	-1g-1
Size(L*W*H/Φ*ŀ	H):	Ф:25mm; H:12.8mm	
Materi	al:	РС	
Effienc	y:	X	
Temperature(Top		extreme temperature resistanc ng-term use temperature : -40	
FWH	M:	15°、24°、36°、60°	
Matched LE	ES:	D4	

2D drawing

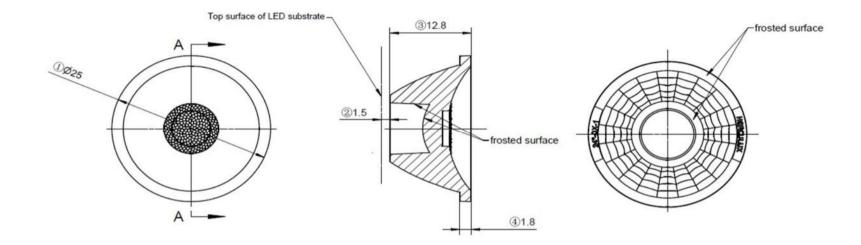
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#### Technical remark:

1. The 3D map is not indicated for rounded corners and draft angle.									Optical design					HK-DX-25@13-15-D4-21-1g-1			
<ol> <li>The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.</li> <li>The surface has no flash, shrinkage, bubbles and other defects.</li> <li>*4. When the lamp adopts rubber ring for waterproofing: the roughness of the contact surface between the</li> </ol>								itructure desig			HK Glarel	HK Glareless25@13-15°lens		1.01.12885			
								Review			qty			weight			
radiator and tl	he rubber ring is	s required: Ra<	:3.2μm				Γ	Validatio	on			Material:	PC		CDHK		
MT5 Tolerance	Basic size	<3	3~10	10~24	24~65	65~140	140~2	250 2	250~450	>4	150						
table (mm)	olerance valu	±0.1	±0.15	±0.2	±0.35	±0.50	±0.8	0	±1.2	±2	.0						

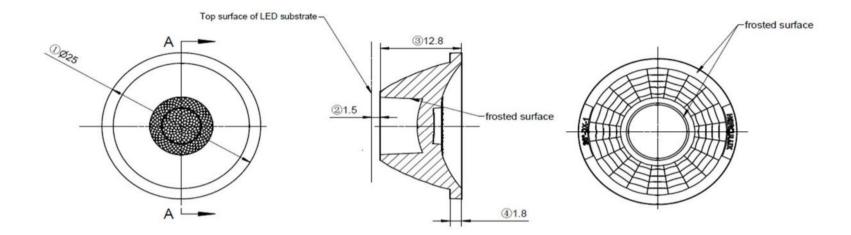
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	Technical	l remark:
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	p is not indicate	0			С	Optical d	design					HK-DX-25@13-24-D6-21-1g-1					
<ol> <li>The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.</li> <li>The surface has no flash, shrinkage, bubbles and other defects.</li> <li>When the lamp adopts rubber ring for waterproofing: the roughness of the contact surface between</li> </ol>								itructure desig			HK Glarel	HK Glareless25@13-24°lens		1.01.12886			
								Review							qty	weight	
the radiator a	and the rubber r	ing is required	: Ra<3.2µm				Γ	Validat	tion			Material:	PC		CDHK		
MT5 Tolerance	Basic size	<3	3~10	10~24	24~65	65~140	140~	250	250~450	>4	150						
table (mm)	olerance valu	±0.1	±0.15	±0.2	±0.35	±0.50	±0.8	30	±1.2	±2	2.0						

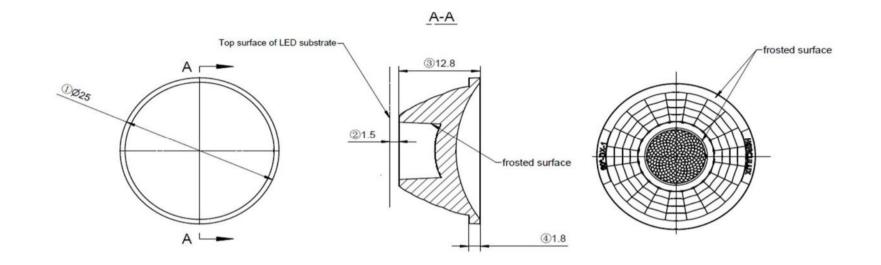
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1. The 3D map is not indicated for rounded corners and draft angle. 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.									ign					HK-DX-25@13-36-D6-21-1g-1			
3, The surface has no flash, shrinkage, bubbles and other defects. *4. When the lamp adopts rubber ring for waterproofing: the roughness of the contact surface between								itructure desig Review			HK Glarele	HK Glareless25@13-36°lens		1.01.12887			
														umber of drawin	qty	weight	
the radiator a	ind the rubber r	ing is required	: Ra<3.2µm				`	Validatio	n			Material:	PC		CDHK		
MT5 Tolerance	Basic size	<3	3~10	10~24	24~65	65~140	140~2	50 25	50~450	>4	150						
toberance         toberance <thtoberance< th="">         toberance         <thtoberance< th="">         toberance         <thtoberance< th=""> <thtoberance< th=""> <thtob< td=""><td>±0.80</td><td>)</td><td>±1.2</td><td>±2</td><td>0</td><td></td><td></td><td></td><td></td><td></td></thtob<></thtoberance<></thtoberance<></thtoberance<></thtoberance<>						±0.80	)	±1.2	±2	0							

2D drawing

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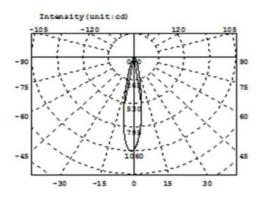
Technical r	emark:
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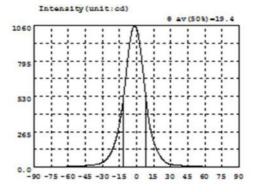
•	p is not indicate	0			Op	otical design	n					HK-DX-25@13-60-D6-21-1g-1					
<ol> <li>The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.</li> <li>The surface has no flash, shrinkage, bubbles and other defects.</li> <li>*4. When the lamp adopts rubber ring for waterproofing: the roughness of the contact surface between</li> </ol>								itructure desig Review			HK Glarele	HK Glareless25@13-60°lens		1.01.12888			
														qty	weight		
the radiator a	nd the rubber r	ing is required	l: Ra<3.2μm				`	Validation				Material:	PC		CDHK		
MT5 Tolerance	Basic size	<3	3~10	10~24	24~65	65~140	140~2	250 250	$\sim$ 450	>4	50						
table (mm)	olerance valu	±0.1	±0.15	±0.2	±0.35	±0.50	±0.80	) ±	1.2	±2.	.0						

HK Glareless25@13-15°lens

D4

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## Intensity data: (deg , cd) CO-180

λ	I	λ	I	A	I	λ	1	λ	1	A	1
-90.0	0.8535	-58.5	5.544	-27.0	55.03	4.5	800.2	36.0	14.36	67.5	2.813
-88.5	0.9047	-57.0	5.967	-25.5	69.04	6.0	685.3	37.5	13.61	69.0	2.591
-87.0	1.057	-55.5	6.401	-24.0	86.57	7.5	565.9	39.0	12.80	70.5	2.409
-85.5	1.185	-54.0	6.899	-22.5	108.6	9.0	457.3	40.5	11.63	72.0	2.238
-84.0	1.363	-52.5	7.437	-21.0	136.7	10.5	358.4	42.0	10.24	73.5	2.084
-82.5	1.518	-51.0	8.042	-19.5	172.4	12.0	286.7	43.5	9.065	75.0	1.938
-81.0	1.672	-49.5	8.693	-18.0	214.7	13.5	232.7	45.0	8.274	76.5	1.796
-79.5	1.852	-48.0	9.399	-16.5	265.9	15.0	189.6	46.5	7.742	78.0	1.630
-78.0	2.006	-46.5	10.31	-15.0	327.8	16.5	153.8	48.0	7.240	79.5	1.456
-76.5	2.184	-45.0	11.46	-13.5	404.6	18.0	124.1	49.5	6.780	81.0	1.272
-75.0	2.362	-43.5	12.57	-12.0	495.6	19.5	98.65	51.0	6.276	82.5	1.109
-73.5	2.539	-42.0	13.68	-10.5	602.5	21.0	77.16	52.5	5.810	84.0	0.9638
-72.0	2.741	-40.5	14.79	-9.0	718.2	22.5	59.37	54.0	5.428	85.5	0.7893
-70.5	2.997	-39.0	15.97	-7.5	834.5	24.0	45.38	55.5	5.063	87.0	0.6696
-69.0	3.242	-37.5	17.56	-6.0	931.5	25.5	35.05	57.0	4.752	88.5	0.6269
- 67.5	3.499	-36.0	19.46	-4.5	1005	27.0	28.04	58.5	4.446	90.0	0.5782
-66.0	3.746	-34.5	21.98	-3.0	1047	28.5	23.49	60.0	4.127	- Setting and	
-64.5	4.051	-33.0	25.29	-1.5	1056	30.0	20.37	61.5	3.869		
-63.0	4.353	-31.5	29.66	0.0	1034	31.5	18.12	63.0	3.662		
-61.5	4.771	-30.0	35.65	1.5	980.7	33.0	16.58	64.5	3.344		
- 60.0	5.138	-28.5	44.02	3.0	902.0	34.5	15.43	66.0	3.076		

## Electricity Parameter:

Current	I:	0.1000A	Power:	3.250W
Voltage	V:	32.50V	PF:	1.000

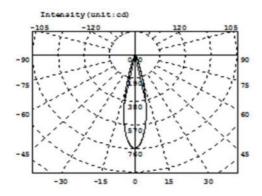
### Optical Parameter (Distance=2.559m) :

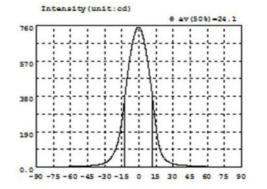
Equivalent Luminous	flux: 4	eff= 204.31m	Efficiency: Eff=62.86lm/W
Diffuse angle:	응 (25욱) :	29.0deg @(50%):	19.4deg@(75%): 12.6deg@(50%): 19.4deg
Diffuse angle:	@(25%):	29.4deg @(50%):	19.7deg@(75%): 13.0deg@(50%): 19.7deg
Imax=1057cd (C=0.0d	eg,G=-2.	Odeg)	CO-180Plane Imax= 1057cd(G=-2.0deg)

C0-180Plane IO= 1034cd

IES——







## Intensity data: (deg , cd) CO-180

A	I	λ	I	λ	I	λ	I	λ	1	λ	I
-90.0	0.7457	-58.5	3.987	-27.0	34.61	4.5	672.8	36.0	11.37	67.5	2.159
-88.5	0.8702	-57.0	4.285	-25.5	43.40	6.0	625.2	37.5	10.98	69.0	1.984
-87.0	1.016	-55.5	4.634	-24.0	54.85	7.5	569.4	39.0	10.58	70.5	1.823
-85.5	1.130	-54.0	4.991	-22.5	69.93	9.0	506.8	40.5	9.912	72.0	1.744
-84.0	1.220	-52.5	5.385	-21.0	89.25	10.5	438.6	42.0	8.811	73.5	1.653
-82.5	1.278	-51.0	5.820	-19.5	114.2	12.0	360.3	43.5	7.704	75.0	1.563
-81.0	1.370	-49.5	6.237	-18.0	147.2	13.5	280.4	45.0	7.071	76.5	1.491
-79.5	1.461	-48.0	6.692	-16.5	190.9	15.0	208.4	46.5	6.572	78.0	1.412
-78.0	1.540	-46.5	7.182	-15.0	250.2	16.5	146.9	48.0	6.158	79.5	1.428
-76.5	1.652	-45.0	7.701	-13.5	323.0	18.0	103.7	49.5	5.841	81.0	1.273
-75.0	1.753	-43.5	8.264	-12.0	399.4	19.5	75.85	51.0	5.522	82.5	1.174
-73.5	1.855	-42.0	8.901	-10.5	473.9	21.0	57.71	52.5	4.985	84.0	1.082
-72.0	1.954	-40.5	9.611	-9.0	543.3	22.5	45.00	54.0	4.437	85.5	1.034
-70.5	2.060	-39.0	10.42	-7.5	604.7	24.0	36.05	55.5	3.985	87.0	0.9755
-69.0	2.232	-37.5	11.41	-6.0	656.9	25.5	29.54	57.0	3.644	88.5	0.8623
- 67.5	2.426	-36.0	12.63	-4.5	698.0	27.0	24.74	58.5	3.406	90.0	0.7071
-66.0	2.614	-34.5	14.20	-3.0	728.8	28.5	21.08	60.0	3.180		
- 64 . 5	2.885	-33.0	16.32	-1.5	747.3	30.0	18.13	61.5	2.959		
-63.0	3.125	-31.5	19.21	0.0	750.9	31.5	15.79	63.0	2.770		
-61.5	3.415	-30.0	23.02	1.5	738.7	33.0	13.93	64.5	2.557		
- 60 . 0	3.696	-28.5	28.01	3.0	711.8	34.5	12.41	66.0	2.358		

## Electricity Parameter:

Current	I:	0.1000A	Power:	3.358W
Voltage	V:	33.59V	PF:	1.000

## Optical Parameter (Distance=2.410m):

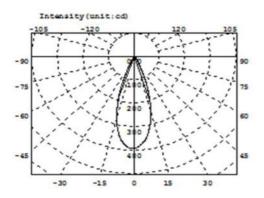
Equivalent Luminous	flux: 4	eff= 165.71m	Efficiency: Eff=49.37lm/W
Diffuse angle:	8 (25%) :	31.9deg @(50%):	24.1deg@(75%): 16.1deg@(50%): 24.1deg
Diffuse angle:	@(25%):	31.9deg @(50%):	24.1deg@(75%): 16.1deg@(50%): 24.1deg
Imax=751.4cd (C=0.0	deg,G=-0	.5deg)	C0-180Plane Imax= 751.4cd (G=-0.5deg)

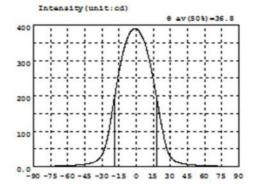
CO-180Plane IO= 750.9cd

HK Glareless25@13-36°lens

IES——







### Intensity data: (deg , cd) CO-180

A	I	A	I	λ	I	A	1	λ	1	A	1
-90.0	0.7796	-58.5	3.610	-27.0	59.25	4.5	371.0	36.0	12.92	67.5	2.066
-88.5	0.8482	-57.0	3.873	-25.5	78.39	6.0	361.4	37.5	11.34	69.0	1.893
-87.0	1.132	-55.5	4.160	-24.0	102.6	7.5	349.1	39.0	10.10	70.5	1.723
-85.5	0.9910	-54.0	4.485	-22.5	130.0	9.0	332.3	40.5	8.998	72.0	1.601
-84.0	0.8378	-52.5	4.834	-21.0	158.7	10.5	313.3	42.0	8.076	73.5	1.504
-82.5	0.9825	-51.0	5.228	-19.5	187.6	12.0	293.1	43.5	7.309	75.0	1.402
-81.0	1.084	-49.5	5.647	-18.0	212.9	13.5	269.6	45.0	6.702	76.5	1.320
-79.5	1.186	-48.0	6.057	-16.5	243.1	15.0	244.5	46.5	6.196	78.0	1.199
-78.0	1.287	-46.5	6.517	-15.0	269.8	16.5	218.2	48.0	5.755	79.5	1.097
-76.5	1.401	-45.0	7.050	-13.5	294.4	18.0	191.4	49.5	5.328	81.0	0.9491
-75.0	1.483	-43.5	7.686	-12.0	316.4	19.5	163.8	51.0	4.955	82.5	0.8566
-73.5	1.599	-42.0	8.588	-10.5	335.8	21.0	136.6	52.5	4.564	84.0	0.9981
-72.0	1.641	-40.5	9.617	-9.0	351.7	22.5	110.8	54.0	4.221	85.5	1.365
-70.5	1.894	-39.0	10.81	-7.5	364.7	24.0	86.85	55.5	3.915	87.0	1.018
- 69.0	2.054	-37.5	12.39	-6.0	375.6	25.5	65.30	57.0	3.653	88.5	0.7832
-67.5	2.256	-36.0	14.62	-4.5	383.3	27.0	48.01	58.5	3.406	90.0	0.6269
-66.0	2.469	-34.5	17.49	-3.0	388.2	28.5	35.70	60.0	3.174		
-64.5	2.725	-33.0	21.29	-1.5	390.2	30.0	27.27	61.5	2.959		
-63.0	2.921	-31.5	26.64	0.0	389.4	31.5	21.53	63.0	2.744		
-61.5	3.149	-30.0	34.34	1.5	385.7	33.0	17.79	64.5	2.534		
- 60.0	3.369	-28.5	45.08	3.0	379.3	34.5	15.02	66.0	2.276		

## Electricity Parameter:

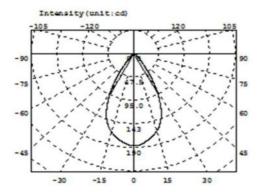
Current	I:	0.1000A	Power:	3.358W
Voltage	V:	33.59V	PF:	1.000

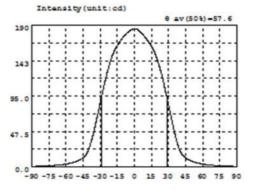
## Optical Parameter (Distance=2.410m):

Equivalent Luminous	flux: 4	eff= 166.31m	Efficiency: Eff=49.53lm/W
Diffuse angle:	응(25응) :	47.5deg @(50%):	36.8deg @ (75%): 25.6deg @ (50%): 36.8deg
Diffuse angle:	@ (25욱) :	47.6deg @(50%):	36.9deg@(75%): 25.6deg@(50%): 36.9deg
Imax=390.2cd (C=0.0	deg,G=-1	CO-180Plane Imax= 390.2cd (G=-1.5deg)	

C0-180Plane IO= 389.4cd

IES——





### Intensity data: (deg , cd) CO-180

A	I	A	I	A	I	A	1	A	1	A	I
-90.0	0.7118	-58.5	4.458	-27.0	107.1	4.5	182.1	36.0	41.00	67.5	2.529
-88.5	0.7342	-57.0	4.897	-25.5	116.8	6.0	179.8	37.5	32.38	69.0	2.307
-87.0	0.8024	-55.5	5.460	-24.0	126.0	7.5	177.2	39.0	25.30	70.5	2.083
-85.5	0.9041	-54.0	6.042	-22.5	134.4	9.0	174.4	40.5	20.26	72.0	1.892
-84.0	0.9624	-52.5	6.719	-21.0	141.9	10.5	171.4	42.0	16.67	73.5	1.763
-82.5	1.088	-51.0	7.509	-19.5	148.5	12.0	168.4	43.5	13.96	75.0	1.659
-81.0	1.213	-49.5	8.431	-18.0	154.1	13.5	165.1	45.0	11.95	76.5	1.544
-79.5	1.347	-48.0	9.524	-16.5	158.6	15.0	161.4	46.5	10.42	78.0	1.506
-78.0	1.460	-46.5	10.85	-15.0	162.6	16.5	157.2	48.0	9.178	79.5	1.344
-76.5	1.603	-45.0	12.44	-13.5	166.4	18.0	152.3	49.5	8.193	81.0	1.244
-75.0	1.747	-43.5	14.56	-12.0	169.7	19.5	146.2	51.0	7.300	82.5	1.145
-73.5	1.797	-42.0	17.46	-10.5	172.8	21.0	139.2	52.5	6.549	84.0	1.000
-72.0	1.913	-40.5	22.09	-9.0	175.6	22.5	131.5	54.0	5.920	85.5	0.9107
-70.5	2.120	-39.0	28.73	-7.5	178.1	24.0	122.7	55.5	5.320	87.0	0.7885
- 69.0	2.315	-37.5	36.65	-6.0	180.3	25.5	113.1	57.0	4.753	88.5	0.6850
- 67.5	2.542	-36.0	45.54	-4.5	182.3	27.0	103.1	58.5	4.339	90.0	0.6688
-66.0	2.767	-34.5	55.30	-3.0	183.8	28.5	92.68	60.0	3.925		
-64.5	2.983	-33.0	65.51	-1.5	184.7	30.0	82.11	61.5	3.461		
-63.0	3.229	-31.5	75.85	0.0	185.1	31.5	71.36	63.0	3.165		
-61.5	3.576	-30.0	86.41	1.5	184.9	33.0	60.86	64.5	2.936		
- 60 . 0	4.035	-28.5	96.99	3.0	183.8	34.5	50.53	66.0	2.721		

## Electricity Parameter:

Current I:	0.1000A	Power:	3.358W
Voltage V:	33.59V	PF:	1.000

## Optical Parameter (Distance=2.410m):

Equivalent Luminous	flux: 4 eff= 167.61m	Efficiency: Eff=49.93lm/W
Diffuse angle:	@(25%): 70.9deg@(50%):	57.6deg@(75%): 42.6deg@(50%): 57.6deg
Diffuse angle:	@(25%): 70.9deg @(50%):	57.6deg@(75%): 42.6deg@(50%): 57.6deg
Imax=185.1cd (C=0.0	deg,G=0.0deg)	C0-180Plane Imax= 185.1cd (G=0.0deg)
		C0-180Plane IO= 185.1cd

第 10 页

## Sample parameter test rep HK Glareless25@13-15°lens

# HERCULUX 恒坤光电

								-		-	-	-			
			Standard size	Upper Size limit	Lower size limit	Test result 1	Test result 2	Test result 3	Test result 4	Test result 5	Test result 6	Test result 7	Test result 8	Jud gme nt	Remarks
	diamet	er	25	/	$\overline{}$	25.08	25.09	25.06	25.08	25.04	25.02	25.06	25.06	$\overline{\ }$	Test environment: In 20 ℃ -25 ℃
1.Size	heigh	t	12.8	/		12.94	12.93	12.94	12.94	12.93	12.92	12.94	12.95	$\overline{\ }$	environment to achieve thermal
	thickne	SS	1.8		$\overline{}$	1.91	1.91	1.91	1.94	1.91	1.9	1.92	1.94		equilibrium after the test.
					Ga	ate shear	can not	affect th	e appeai	rance of	the lamp				
		See attachment "Appearance Inspection Standards"													
2.Appear	rance See No burr "Appearance E							No	burr	No	burr	١	lo burr		ок
Quality		Ins	pection ndards"	J		No sta	ins	No s	tains	No s	tains	N	o stains		ÖK
3.Materia	al			Р	С		Co	olor		Tra	insparen	t		ОК	
	Testing I								D4						
				be out of	range. A		to the he	eat dissip fully tes	ation ca	pability c tested to	of the larr prevent	np and th	e actual		o the source of the tions of the use
4.Optica	FWH	N						See lig	ht distrib	ution cu	rve	•			
l index	angle	e				19.4	19.6	20	19.6	19.6 19.3 19.5 19.5 19.4					
	K-val	ue				$\geq$									
	Efficie	ency				$\searrow$	$\searrow$								
	Facula	See t	he signatu	re sample	9		`								
	ehensive ment							Q	ualified						
Caliper 2 Height G Microsco Thick Ga Gauge E 2、 Amb the size o	PC product size changes with temperature table PC product size changes with temperature table Length 0.9 changes 0.8 (mm) 0.7 Size: 50mm Size: 100mm Size: 150mm Size: 200mm Size: 200mm Size: 300mm Size: 300mm (mm) 0.7 (mm)														

Precautions:

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

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

## Sample parameter test rep HK Glareless25@13-24°lens

# HERCULUX 恒坤光电

					-		-			-				
		Standard size	Upper Size limit	Lower size limit	Test result 1	Test result 2	Test result 3	Test result 4	Test result 5	Test result 6	Test result 7	Test result 8	Jud gme nt	Remarks
diamet	er	25			24.89	24.88	24.9	24.98	12.87	24.86	24.92	24.89	$\overline{\ }$	Test environment: In 20 ℃ -25 ℃
heigh	t	12.8	$\overline{}$	$\overline{}$	12.87	12.87	12.89	12.88	12.88	12.87	12.86	12.89	$\smallsetminus$	environment to achieve thermal
thickne	SS	1.8	/		1.86	1.8	1.86	1.86	1.87	1.83	1.84	1.86		equilibrium after the test.
	Gate shear can not affect the appearance													
				S	ee attach	nment "A	ppearan	ce Inspe	ction Sta	ndards"				
										lo burr		ок		
	Ins	spection	L		No sta	ins	No s	tains	No s	tains	N	o stains		ÖK
al			P	С			Co	olor		Tra	Insparen	t		ОК
-														
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 and the actual conditions of the use environment, the lens should be fully tested and tested to prevent the lens life.														
FWH	N						See lig	ht distrib	ution cu	ve				
angle	è				24.1	23.1	23.8	23.8	23.6	23.9	24.3	23.9		
K-val	ue				$\square$	$\frown$	$\sim$	$\square$	$\frown$	$\searrow$	$\frown$	$\square$		
Efficie	ncy				$\sim$	$\frown$	$\frown$	/	$\frown$	$\frown$	$\frown$	/		
Facula	See	the signatu	re sample	;		`								
							Q	ualified						
ment			76								-			
marks: Tool Number: V-Vernier iper 2D-Quadratic H- ght Gauge M-Tool roscope P-Needle T- ck Gauge R-Radius uge E-Visual. Ambient temperature on size of the product refer he table on the right														
	heigh thickne thickne rance al Testing I The reco test, if FWH angle K-val Efficie Facula ehensive ment S: Number: V 2D-Quadra auge M-To pe P-Need auge R-Ra cuige R-	rance       "Ap         Instruction       Standard         Testing LED       The recommendation         The recommendation       FWHM         angle       K-value         Efficiency       Facula         Facula       See         Sement       See	diameter     25       height     12.8       thickness     1.8       thickness     1.8       thickness     1.8       See attachment "Appearance Inspection Standards"       al     Testing LED       The recommended size a test, if it is required to       FWHM       angle       K-value       Efficiency       Facula       See the signatu       ehensive ment       S:       Number: V-Vernier 2D-Quadratic H- sauge M-Tool ope P-Needle T- auge R-Radius 5-Visual.       ient temperature on of the product refer	size     Size limit       diameter     25       height     12.8       thickness     1.8       thit     is required to be out of the product refer	Standard       Size       size	Standard       Size       size       result         diameter       25       24.89         height       12.87         thickness       1.8       12.87         thickness       1.8       1.86         Gate shear         see attach         rance       See         atachment       "Appearance       No bu         "Appearance       E       No sta         al       PC       Testing LED         The recommended size and power rating of the LED       The recommended size and power rating of the LED         The recommended size and power rating of the LED       E         The recommended size and power rating of the LED       E         The recommended size and power rating of the LED       E         The recommended size and power rating of the LED       E         The recommended size and power rating of the lens s       FWHM         angle       24.1         K-value       E         Efficiency       F         Facula       See the signature sample         ehensive       0.9         ment       0.9         S:       0.1         Number: V-Vernier       0.4	Standard       Size       size       result       result       result         diameter       25       24. 89       24. 88         height       12.87       12.87       12.87         thickness       1.8       1.86       1.8         Gate shear can not         See attachment         "Appearance       E       No burr         "Appearance       E       No stains         al       PC       Testing LED       The recommended size and power rating of the LED light so test, if it is required to be out of range. According to the here environment, the lens should be         FWHM       angle       24.1       23.1         K-value       Efficiency       Yes       PC         Facula       See the signature sample       Yes       Yes         ehensive ment       0.9       0.9       0.9         s:       Number: V-Vernier       0.9       0.9         Size       0.9       0.9       0.9       0.9         winth       0.9       0.9       0.9       0.9         size       0.9       0.9       0.9       0.9         winth       0.9       0.9       0.9       0.9         oth	Standard size       Size       size       result 1       result 2       result 1       result 2         diameter       25       24.89       24.88       24.9         height       12.8       12.87       12.87       12.87         thickness       1.8       1.86       1.8       1.86         Gate shear can not affect the See attachment "Appearance Inspection Standards"         No burr       No         And standards"         attachment "Appearance Inspection Standards"         See attachment "Appearance Inspection Standards"         No burr       No         attachment "Appearance Inspection Standards"         Rel No stains       No s         attachment "Appearance Inspection Standards"         Insertion Standards"         According to the LED light source record test, if it is required to be out of range. According to the heat dissip environment, the lens should be fully test for length Colspan="2">Conduct size changes with test of the LED light source record test, if it is required to be out of range. According to the heat dissip environment, the lens should be fully test for length Colspan="2">Conduct size changes with test of the LED light source record test of the LED li	Standard       Size       size       result       result	Standard       Size       size       result       result	Statutorul size       Size imit       size imit       size imit       result 1       result 2       result 3       result 4       result 5       result 6         diameter       25       24.89       24.88       24.9       24.98       12.87       24.86         height       12.8       12.87       12.87       12.89       12.88       12.87       1.88         thickness       1.8       1.86       1.8       1.86       1.86       1.87       1.83         Gate shear can not affect the appearance of the lamp See attachment "Appearance Inspection Standards"       No burr       No burr       No burr         "Appearance Inspection Standards"       PC       Color       Tra         Testing LED       D4         The recommended size and power rating of the LED light source recommended for this lens sl test, if it is required to be out of range. According to the heat dissipation capability of the lam environment, the lens should be fully tested and tested to prevent         FWHM       See light distribution curve angle       Qualified         Fracula       See the signature sample       O         PC product size changes with temperature table       Size: 50mm Size: 100mn Size: 200mn         Ougle product refer       0.9       0.9       Size: 200mn Size: 200mn Size: 200mn         Out a	Standard size       Size limit       size limit	Statuard       Size       size       size       result       result	Standards       Size imit       isize imit       result imit       result 1       result 2       result 3       result 4       result 5       result 6       result 7       result 8       result 7       result 7 <thresult 7       result 7       result 8       result 8       result 8</thresult 

recautions:

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

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

## Sample parameter test rep HK Glareless25@13-36°lens

# HERCULUX 恒坤光电

	-			r		-	-	-	-	-	-	-	-	-	-
			Standard size	Upper Size limit	Lower size limit	Test result 1	Test result 2	Test result 3	Test result 4	Test result 5	Test result 6	Test result 7	Test result 8	Jud gme nt	Remarks
	diamet	er	25		$\overline{\ }$	24.92	24.93	24.93	24.94	24.96	24.93	24.95	24.89	$\overline{\ }$	Test environment: In 20 ℃ -25 ℃
1.Size	heigh	t	12.8		$\overline{}$	12.94	12.92	12.92	12.92	12.9	12.89	12.89	12.9	$\overline{\ }$	environment to achieve thermal
	thickne	SS	1.8		$\overline{}$	1.83	1.9	1.92	1.92	1.91	1.9	1.91	1.9	$\overline{\ }$	equilibrium after the test.
					Ga	ate shear	can not	affect the	e appear	rance of	the lamp				
					S	ee attach	ment "A	ppearan	ce Inspe	ction Sta	ndards"				
2.Appear	ance	nce See attachment "Appearance Inspection Standards"		E		No bu	rr	No	burr	No burr		No burr			ОК
Quality				n		No stai	ins No sta		tains	No s	tains	N	o stains		
3.Materia	aterial PC Color Transparent					OK									
	Testing I								D4						
				be out of	range. A		to the he	eat dissip	ation ca	pability o	f the lam	np and th	e actual		o the source of the tions of the use
4.Optica	FWH	N								ution cur					
lindex	angle	ģ				36.8	35.1	35.8	35.5	35.5	35.6	36.2	35.8		
	K-val	ue		_		$\leq$	$\sim$	$\sim$	$\sim$	$\sum$	$\sim$	$\sum$	$\sum$		
	Efficie	ncy			$\sum$	$\sum$	$\sum$	$\leq$	$\sum$	$\sum$	$\sum$	$\sum$			
	Facula	Seet	the signatu	re sample	;		`								
	ehensive ment							Q	ualified						
Judg	ment							_	-						
Domorka						2	luct size	changes	with tem	perature	e table				
Remarks	: Number: V	/-Verr	nier		Length ( changes (					_	Size:	0.000			
Caliper 2	D-Quadra	tic H-	-		(mm) (	).7			/		Size:				
	auge M-T					0.6			/	X	Size:				
Microscope P-Needle T-				C	.4		1	~	-	Size:					
Thick Gauge R-Radius Gauge E-Visual.					.3	/	-	-	-	Size:					
2、 Ambient temperature on			e on			0.2			-	-	Size:	300mm			
	of the prod					0		-	1	_					
	ble on the					0	10	20	30	40					
										(°C)					
Dressutia															

Precautions:

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

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

## Sample parameter test rep HK Glareless25@13-60°lens

# HERCULUX 恒坤光电

	-							-	-		-		-			
			Standard size	Upper Size limit	Lower size limit	Test result 1	Test result 2	Test result 3	Test result 4	Test result 5	Test result 6	Test result 7	Test result 8	Jud gme nt	Remarks	
	diamet	er	25		$\overline{}$	24.95	24.93	24.97	24.95	24.92	24.94	24.99	24.94		Test environment: In 20 ℃ -25 ℃	
1.Size	Size height		12.8	/	$\overline{\ }$	12.85	12.83	12.82	12.85	12.8	12.83	12.86	12.84		environment to achieve thermal	
	thickne	SS	1.8	/	$\overline{}$	1.8	1.78	1.79	1.8	1.78	1.81	1.8	1.81	$\nearrow$	equilibrium after the test.	
					Ga	ate shear	can not	affect th	e appea	rance of	the lamp					
					S	ee attach	nment "A	ppearan	ce Inspe	ction Sta	ndards"					
2.Appear	rance	ce		attachment			No bu	ırr	No	No burr		No burr		lo burr		ОК
Quality		Ins	spection andards"			No stains		No s	stains No		tains	N	o stains			
3.Materia	al			Р	С			Co	olor		Tra	Insparen	t		OK	
	Testing								D4							
				be out of	range. A		to the he	eat dissip	ation ca	pability o	f the lam	np and th	e actual		o the source of the tions of the use	
4.Optica	FWH	N								ution cur						
l index	angle	Э				57.6 56.7		57.4	56.9	57.2 57.1		56.1 56.6				
	K-val	ue				$\frown$	$\frown$	$\searrow$	$\searrow$	$\frown$	$\searrow$	$\frown$	$\searrow$			
	Efficie	ency			$\sum$	$\sum$	$\geq$	$\geq$	$\sum$	$\geq$	$\sum$	$\geq$				
	Facula	See	the signatu	re sample	9		`									
	ehensive ment							Q	ualified							
Juug	ment					_										
Dever						2	duct size	changes	with ten	perature	e table					
Remarks	። Number: \	/_\/ori	nier		Length C changes C					_						
	D-Quadra		-			.7		Size: 50mm								
	auge M-T					0.6			/			100mm 150mm				
Microscope P-Needle T-						.4		1	~			200mm				
Thick Gauge R-Radius				C	0.3	1		-		Size:						
Gauge E-Visual.					0.2			-		Size:						
2、 Ambient temperature on the size of the product refer					L	0.1		+	-	_						
	ole on the					0	10	20	30	40						
										(°C)						

Precautions:

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

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

## Packaging Information



PN		HK-DX-25@13-15-D4-2	1-1g-1	Product Name	HK Glareless25	@13-15	°lens			
Product material		PC		Customer						
Package diagram		Single Va	coum packa	age Box	x package	2	>			
Product packing		44	A/ Box	4	4 pcs/Layer					
		18	Layer/Box	3168	A/ Carton					
	NO.	Part No	Part name	Size	Dosage	Unit	Remarks			
	1	2.07.0093	Blister box	23cm*21cm	72	BAG				
Packagin	2	2.08.0001	PE film	25cm*27cm	72	PCS				
g Materials	3	2.06.0005	Reel label paper	62mm*42mm	72	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*37c	m 1	PCS				
Remarks	The loose packing is not subject to this specification. Customer's requirements shall prevail									

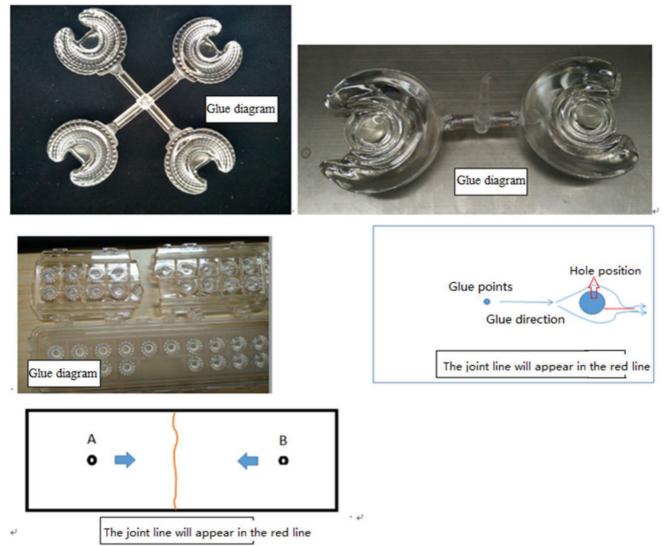


## Annex I

#### Special notice

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

Synmen



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  $\Pi$  level, CR class defect coefficient 0, MA defect rejection level AQL = 0.65, MI class defect rejection level AQL = 1.0; defect level please see 5.4.

2 Code table

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

### 3 Test conditions

3.1 Sight distance and working hours: Sight distance should be 30-35cm, each side of the inspection time does not exceed 12s, the visual angle of 45-135 degrees;

3.2 Light: 2x40w cool white fluorescent lamp, the light source is 500-550mm away from the lens surface; in order to make the appearance defect can be correctly recognized, the illumination should be 500-1000Lux, and the observation time is 10 seconds.

3.3 Visual inspection staff should be 1.0 (including corrected visual acuity) above, no color blindness, color weakness.

#### 4 Appearance inspection standards

Test items	ludging standard	Inspection equipment Defect level					
rescilents	Judging standard	Testing method	МІ	MA CI			
	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	<ol> <li>Product does not allow the presence of flow marks and welding lines unless the structure can not be avoided;</li> <li>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.</li> </ol>	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	$\checkmark$		
	1: Do not affect the product size, shall not penetrate the optical surface, the cut should be smooth;				
Bad incision	2: Laser cutting products, the optical surface burns shall not occur after the processing is completed. Beading must not affect product installation	Visual			V
	3: Three molds and hot runner gate shall not appear residue.				
Scrub	Scrub surface should be uniform, off the scrub phenomenon should not be obvious , A single off scrub imprint requires $D \le 1$ mm and no more than 1 area within a 50x50 mm area	Visual		V	