



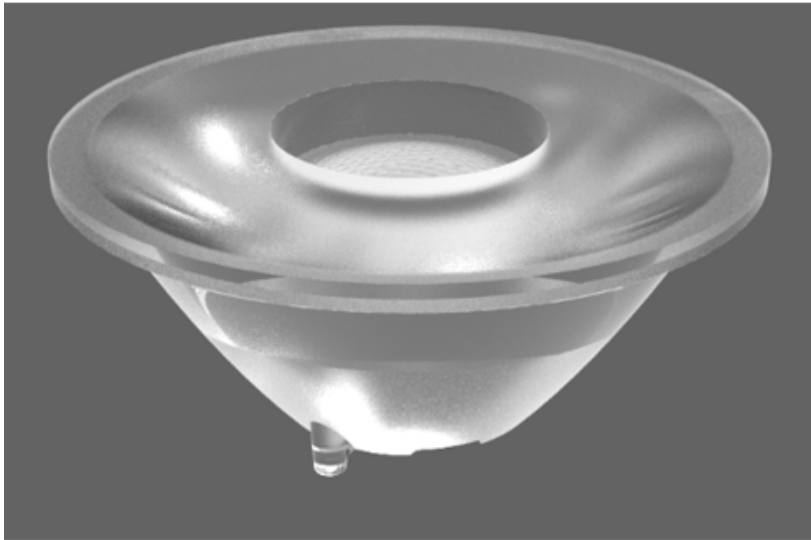
HERCULUX Chengdu HercuLux Photoelectric
 恒坤光电 Technology Co.,Ltd
Product Approval

Approval number : _____

Customer :

PN	Code	Product
HK-62@24-15-D9-20-1g-1	1. 01. 81439	XD 62@24-15° Lens

Manufacturer : Chengdu HercuLux Photoelectric Technology Co.,Ltd



Supplier confirmation				Client confirmation			
Proposed		DATE		Qualified <input type="checkbox"/>		DATE	
Project manager		DATE		Unqualified <input type="checkbox"/>		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

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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.



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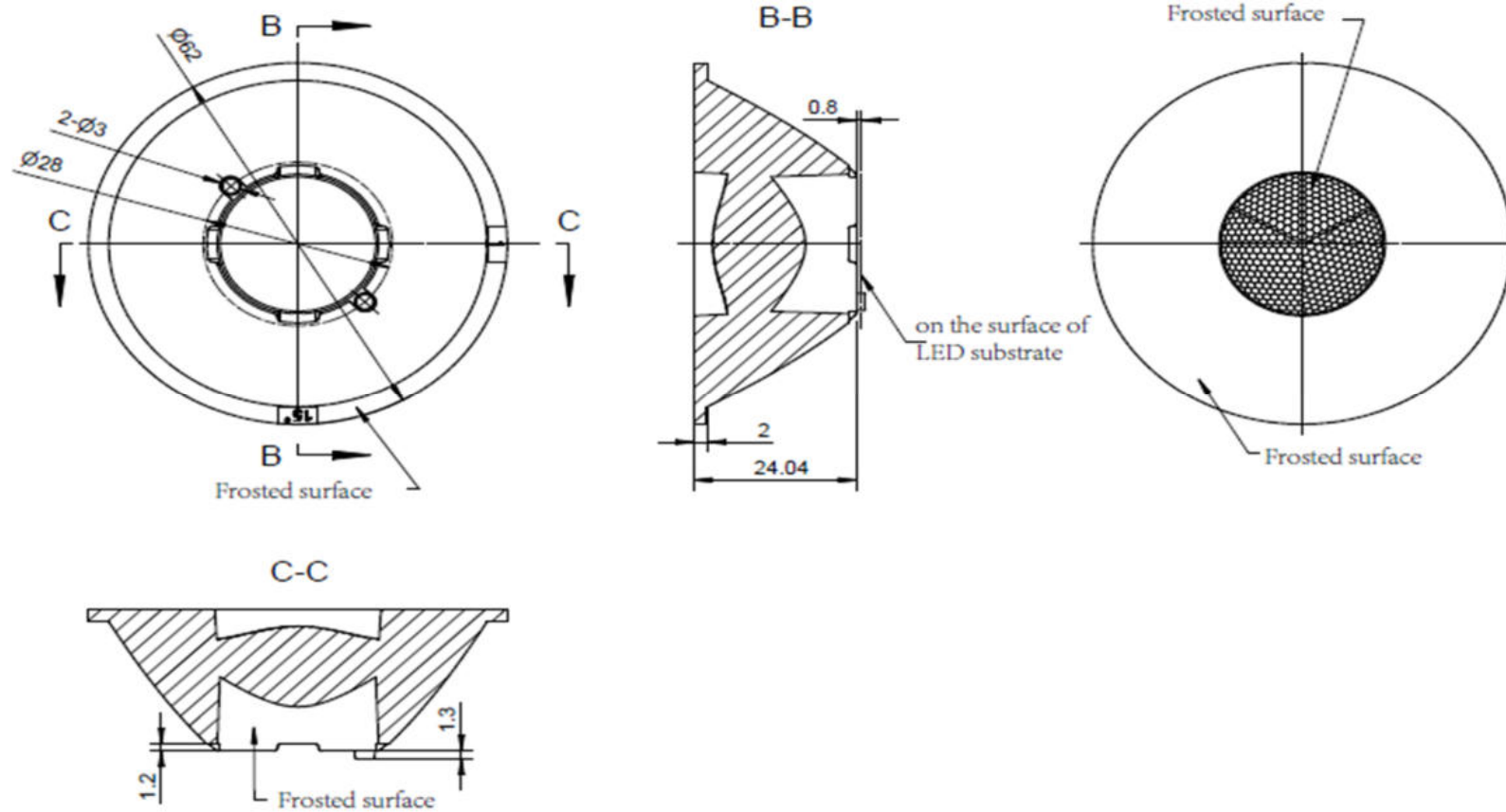
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Date updated: 2020/12/7

Product Picture:	
PN:	HK-62@24-15-D9-20-1g-1
Size(L*W*H/Φ*H):	Φ:62mm; H:24.04mm
Material:	PC
Efficiency:	\
Temperature(Topr):	-40°C to +120°C
FWHM:	15°
Matched LES:	CREE1840

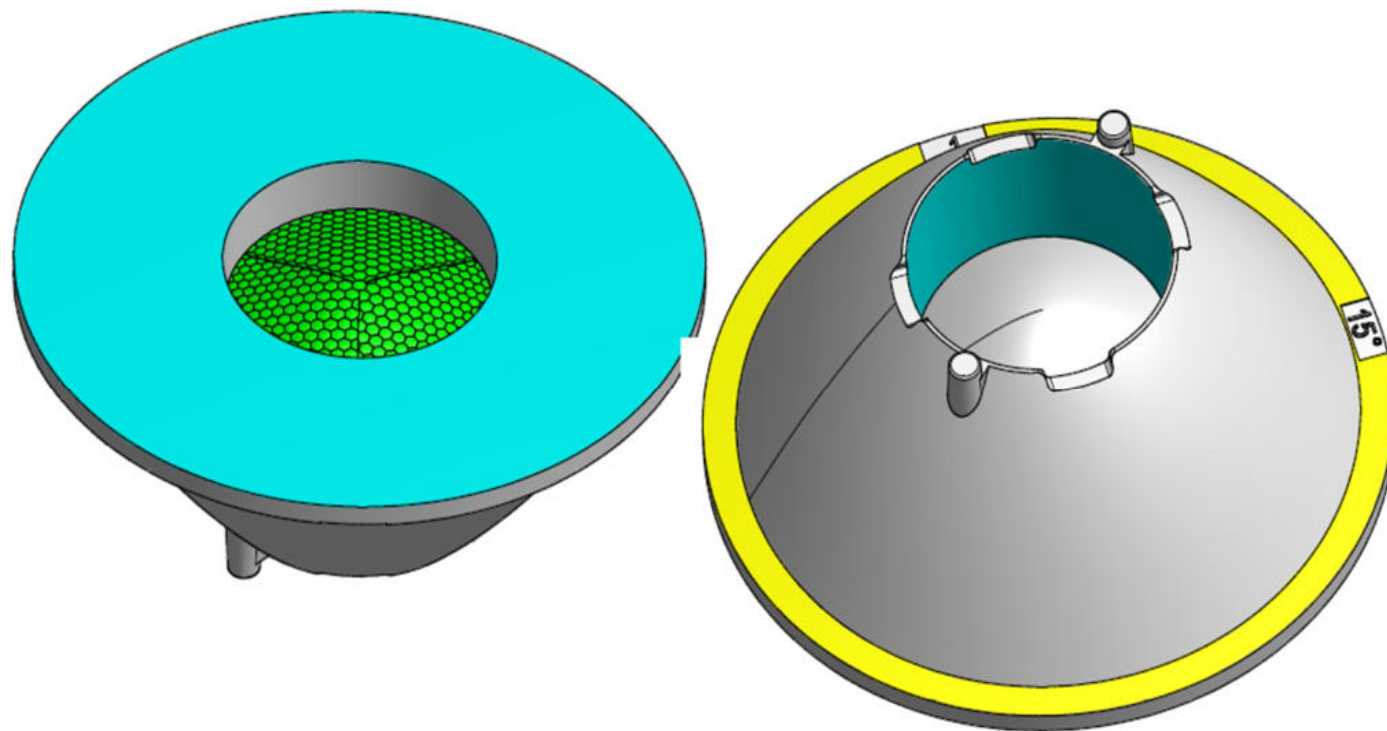


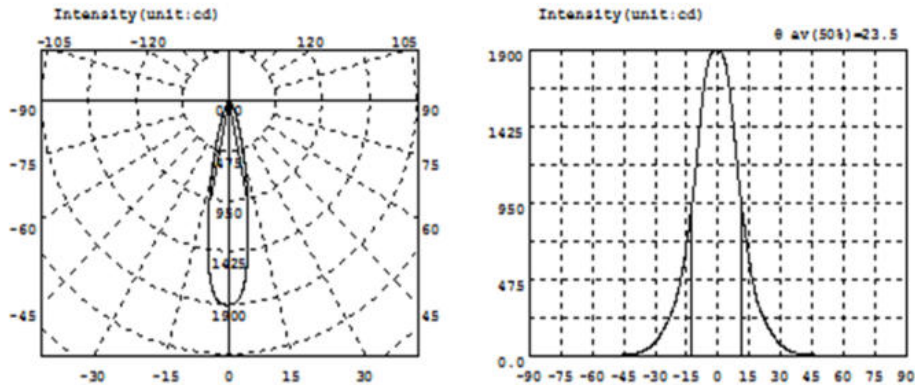
Technical remark:

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.

Optical design			XD 62@24-15°Lens		HK-62@24-15-D9-20-1g-1		
Structure design					1.01.81439		
Review					Number of drawing	qty	weight
Validation			Material:	PC	CDHK		

MT5 Tolerance table (mm)	Basic size	<3	3~10	24~65	65~140	140~250	250~450	>450	
	tolerance value	±0.1	±0.15	±0.35	±0.50	±0.80	±1.2	±2.0	





Intensity data: (deg , cd) CO-180

A	I	A	I	A	I	A	I	A	I	A	I
-90.0	1.541	-58.5	8.081	-27.0	148.6	4.5	1747	36.0	28.18	67.5	7.183
-88.5	1.565	-57.0	8.261	-25.5	182.6	6.0	1597	37.5	22.79	69.0	6.607
-87.0	1.552	-55.5	8.404	-24.0	219.7	7.5	1410	39.0	18.83	70.5	6.006
-85.5	1.570	-54.0	8.655	-22.5	264.3	9.0	1210	40.5	16.07	72.0	5.458
-84.0	1.801	-52.5	8.878	-21.0	316.8	10.5	1017	42.0	14.27	73.5	5.001
-82.5	1.993	-51.0	9.293	-19.5	382.5	12.0	856.9	43.5	13.12	75.0	4.629
-81.0	2.109	-49.5	9.786	-18.0	465.8	13.5	712.5	45.0	12.14	76.5	4.318
-79.5	2.404	-48.0	10.41	-16.5	572.8	15.0	580.8	46.5	11.39	78.0	4.083
-78.0	2.898	-46.5	11.21	-15.0	700.6	16.5	469.7	48.0	10.79	79.5	3.941
-76.5	3.352	-45.0	12.22	-13.5	840.8	18.0	378.2	49.5	10.34	81.0	3.930
-75.0	3.752	-43.5	13.31	-12.0	996.0	19.5	312.1	51.0	9.970	82.5	3.905
-73.5	4.258	-42.0	15.22	-10.5	1181	21.0	261.7	52.5	9.646	84.0	3.608
-72.0	4.752	-40.5	18.04	-9.0	1384	22.5	219.3	54.0	9.409	85.5	3.239
-70.5	5.338	-39.0	21.91	-7.5	1587	24.0	182.4	55.5	9.188	87.0	3.234
-69.0	5.934	-37.5	27.32	-6.0	1742	25.5	149.1	57.0	8.983	88.5	3.270
-67.5	6.507	-36.0	34.56	-4.5	1835	27.0	119.8	58.5	8.755	90.0	3.305
-66.0	6.928	-34.5	44.45	-3.0	1879	28.5	95.19	60.0	8.592		
-64.5	7.337	-33.0	57.16	-1.5	1897	30.0	74.99	61.5	8.394		
-63.0	7.515	-31.5	73.42	0.0	1888	31.5	58.41	63.0	8.220		
-61.5	7.757	-30.0	93.53	1.5	1884	33.0	45.49	64.5	7.998		
-60.0	7.908	-28.5	118.6	3.0	1840	34.5	35.59	66.0	7.687		

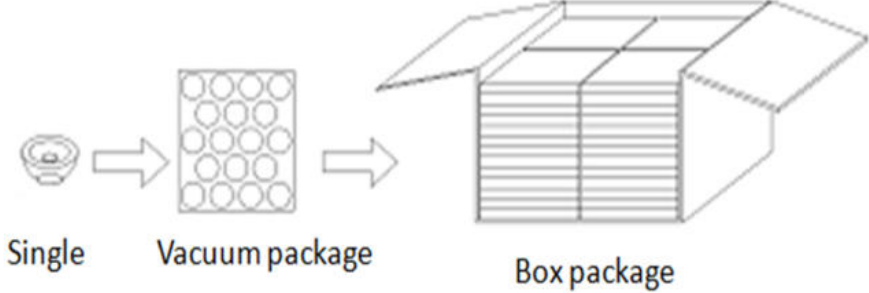
Electricity Parameter:

Current I: 0.2500A Power: 7.875W
 Voltage V: 31.20V PF: 1.000

Optical Parameter (Distance=2.559m):

Equivalent Luminous flux: Φ_{eff} = 466.1lm Efficiency: Eff = 59.20lm/W
 Diffuse angle: @ (25%): 34.2deg @ (50%): 23.5deg @ (75%): 16.0deg @ (50%): 23.5deg
 Diffuse angle: @ (25%): 34.3deg @ (50%): 23.5deg @ (75%): 16.1deg @ (50%): 23.5deg
 I_{max} = 1899cd (C=0.0deg, G=-1.0deg) CO-180Plane I_{max} = 1899cd (G=-1.0deg)
 CO-180Plane I_0 = 1888cd

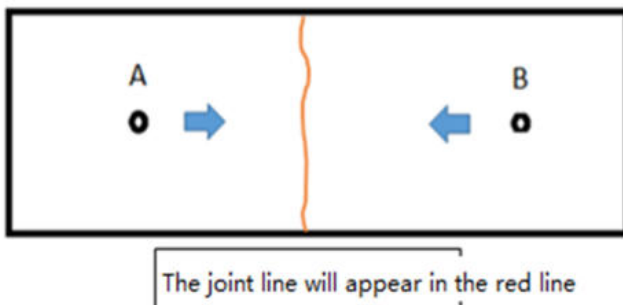
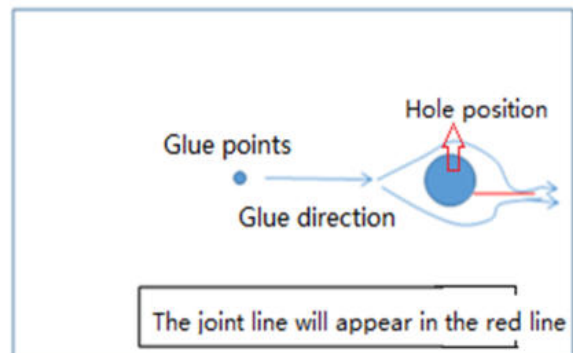
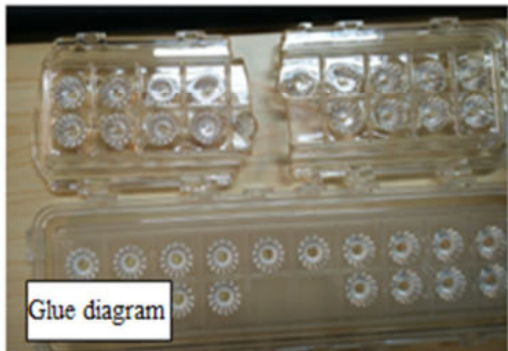
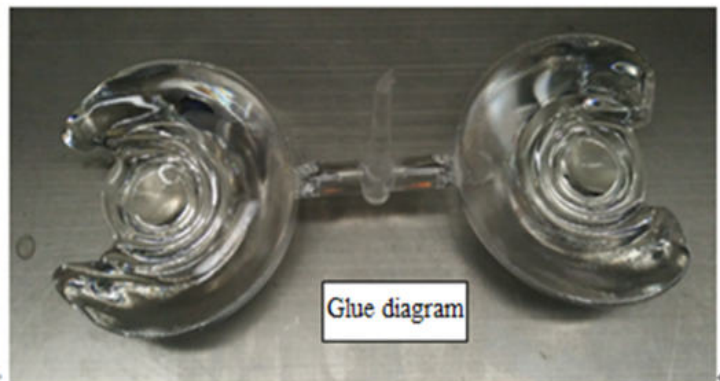
		Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Judgment	Remarks																														
1.Size	diameter	62			61.88	61.86	61.85	61.85		Test environment: In 20 °C -25 °C environment to achieve thermal equilibrium after the test.																														
	height	2			2.02	1.97	2	1.99																																
	thickness	24.04			24.09	24.1	24.09	24.05																																
	Gate shear can not affect the appearance of the lamp																																							
See attachment "Appearance Inspection Standards"																																								
2.Appearance Quality	See attachment "Appearance Inspection Standards"	E	No burr	No burr	No burr	No burr	No burr	No burr	OK																															
			No stains	No stains	No stains	No stains	No stains																																	
3.Material	PC				Color	Transparent			OK																															
4.Optical index	Testing LED	CREE1840																																						
	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.																																							
	FWHM	See light distribution curve																																						
	angle		23.2°	23.2°	23.4	23.3																																		
	K-value		4.25	4.13	4.18	4.20																																		
	Efficiency		85.85%	86.03%	85.93%	86.57%																																		
Facula	See the signature sample																																							
Comprehensive judgment	Qualified																																							
Remarks:	<p>1、 Tool Number: V-Vernier Caliper 2D-Quadratic H-Height Gauge M-Tool Microscope P-Needle T-Thick Gauge R-Radius Gauge E-Visual.</p> <p>2、 Ambient temperature on the size of the product refer to the table on the right</p>																																							
	<p style="text-align: center;">PC product size changes with temperature table</p> <table border="1"> <caption>Data for PC product size changes with temperature table</caption> <thead> <tr> <th>Temperature (°C)</th> <th>Size: 50mm</th> <th>Size: 100mm</th> <th>Size: 150mm</th> <th>Size: 200mm</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> </tr> <tr> <td>10</td> <td>0.05</td> <td>0.10</td> <td>0.15</td> <td>0.20</td> </tr> <tr> <td>20</td> <td>0.10</td> <td>0.20</td> <td>0.30</td> <td>0.40</td> </tr> <tr> <td>30</td> <td>0.15</td> <td>0.30</td> <td>0.45</td> <td>0.60</td> </tr> <tr> <td>40</td> <td>0.20</td> <td>0.40</td> <td>0.60</td> <td>0.80</td> </tr> </tbody> </table>										Temperature (°C)	Size: 50mm	Size: 100mm	Size: 150mm	Size: 200mm	0	0.00	0.00	0.00	0.00	10	0.05	0.10	0.15	0.20	20	0.10	0.20	0.30	0.40	30	0.15	0.30	0.45	0.60	40	0.20	0.40	0.60	0.80
Temperature (°C)	Size: 50mm	Size: 100mm	Size: 150mm	Size: 200mm																																				
0	0.00	0.00	0.00	0.00																																				
10	0.05	0.10	0.15	0.20																																				
20	0.10	0.20	0.30	0.40																																				
30	0.15	0.30	0.45	0.60																																				
40	0.20	0.40	0.60	0.80																																				
Precautions:	<p>1. Please wear clean gloves during the lens assembly process to prevent the lens surface from being contaminated.</p> <p>2. Try to avoid touching the total reflection surface when taking the lens.</p> <p>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.).</p> <p>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.</p>																																							

PN		HK-62@24-15-D9-20-1g-1		Product Name		XD 62@24-15°Lens	
Product material		PC		Customer			
Package diagram		 <p style="text-align: center;">Single Vacuum package Box package</p>					
Product packing		9		A/ Box		4	
		9		Layer/Box		324	
Packaging Materials		NO.	Part No	Part name	Size	Dosage	Unit
		1	2.07.0080	Blister box	23cm*21cm	36	BAG
		2	2.08.0001	PE film	30cm*30cm	36	PCS
		3	2.06.0005	Reel label paper	6.2cm*8cm	36	PCS
		4	2.06.0005	Box label paper	6.2cm*9.2cm	1	PCS
		5	2.06.0003	big plate	46.8cm*42.8cm	10	PCS
		6	2.06.0011	big carton	48cm*44cm*37cm	1	PCS
Remarks		The loose packing is not subject to this specification. Customer's requirements shall prevail					

Special notice

When glue 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:

Syntner



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

1.1.1 Sampling standards, sampling plan and AQL

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

2 Code table

Code	Code description	Unit	Code		Code description	Unit
N	Amount/pcs	pcs	D		Diameter	mm
L	Length	mm	H		Depth	mm
W	Width	mm	DS		Distance	mm
S	Proportion	mm ²	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	MI	MA	CR
Check the sample	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.	Sample comparison , visual			
	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;				

	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.	Visual, point card		√	
	Ejection strain: the optical surface and the appearance of the exposed surface after assembly are not allowed to have a strain, and the structural surface does not allow visual obvious strain.				
Insufficient filling	Insufficient filling shall not affect the appearance of the assembly and the exposed surfaces , The signature sample shall prevail.	Visual, point card		√	
Shrink	When the entire surface of the product shrinks, the optical properties and dimensions must meet the requirements, and the visual will not significantly affect the appearance.Part shrink reference point defects	Visual, point card		√	
Flow marks、Welding line	1 : Product does not allow the presence of flow marks and welding lines unless the structure can not be avoided;	Visual		√	
	2: The remaining flow marks shall not appear in the optical surface, a single L ≤ 10mm, no more than two				

Bubble	No bubbles are allowed	Visual		√	
Foreign objects, black spots, white spots	Not obvious or $D \leq 0.3\text{mm}$ black spots and foreign bodies in the area of 100x100mm not more than 1; Exceeded foreign matter black spots is judged bad.	Visual, point card	√		
Damaged	No damage is allowed	Visual			√
Cold glue	Optical surface may not have cold glue, non-optical surface cold glue should meet the visual is not obvious.	Visual	√		
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				
	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 $D \leq 1\text{ mm}$ and no more than 1 area within a 50x50 mm area	Visual		√	



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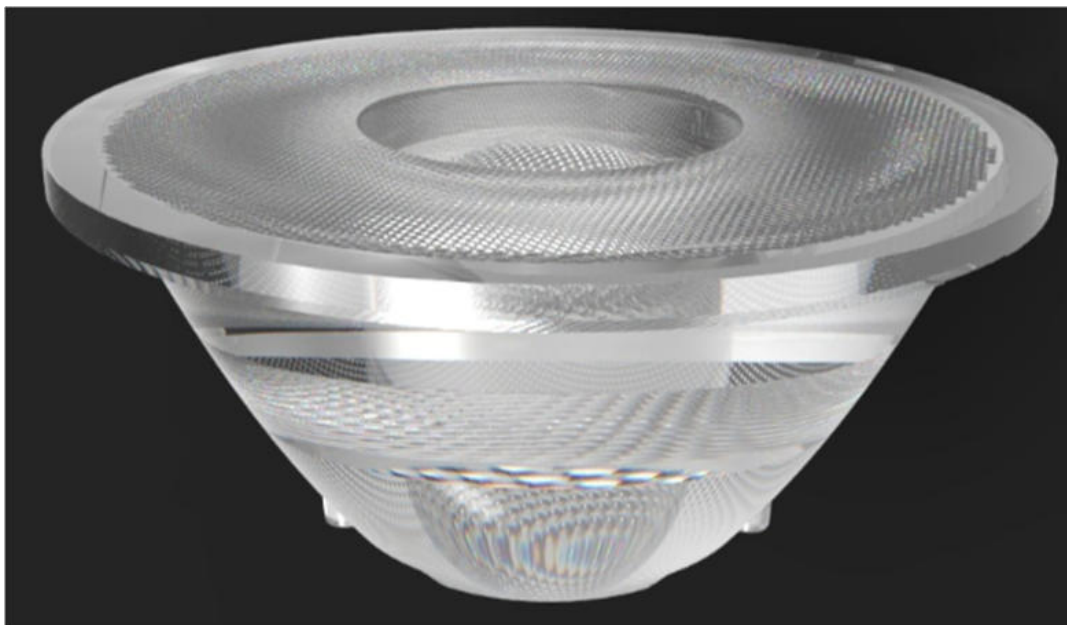
Product : XD Bach 62@24-24 degree lens

Material Code : 1.01.81561

PN : HK-62@24-24-D9-21-1g-1-BH

Synthetic information:1.07.81402_HK-257@02-0221-S

Manufacturer : Chengdu HercuLux Photoelectric Technology Co.,Ltd



Supplier confirmation				Client confirmation			
Proposed		DATE		Qualified <input type="checkbox"/>		DATE	
Project manager		DATE		Unqualified <input type="checkbox"/>			
Audit		DATE		Audit		DATE	
Approved		DATE		Approved		DATE	
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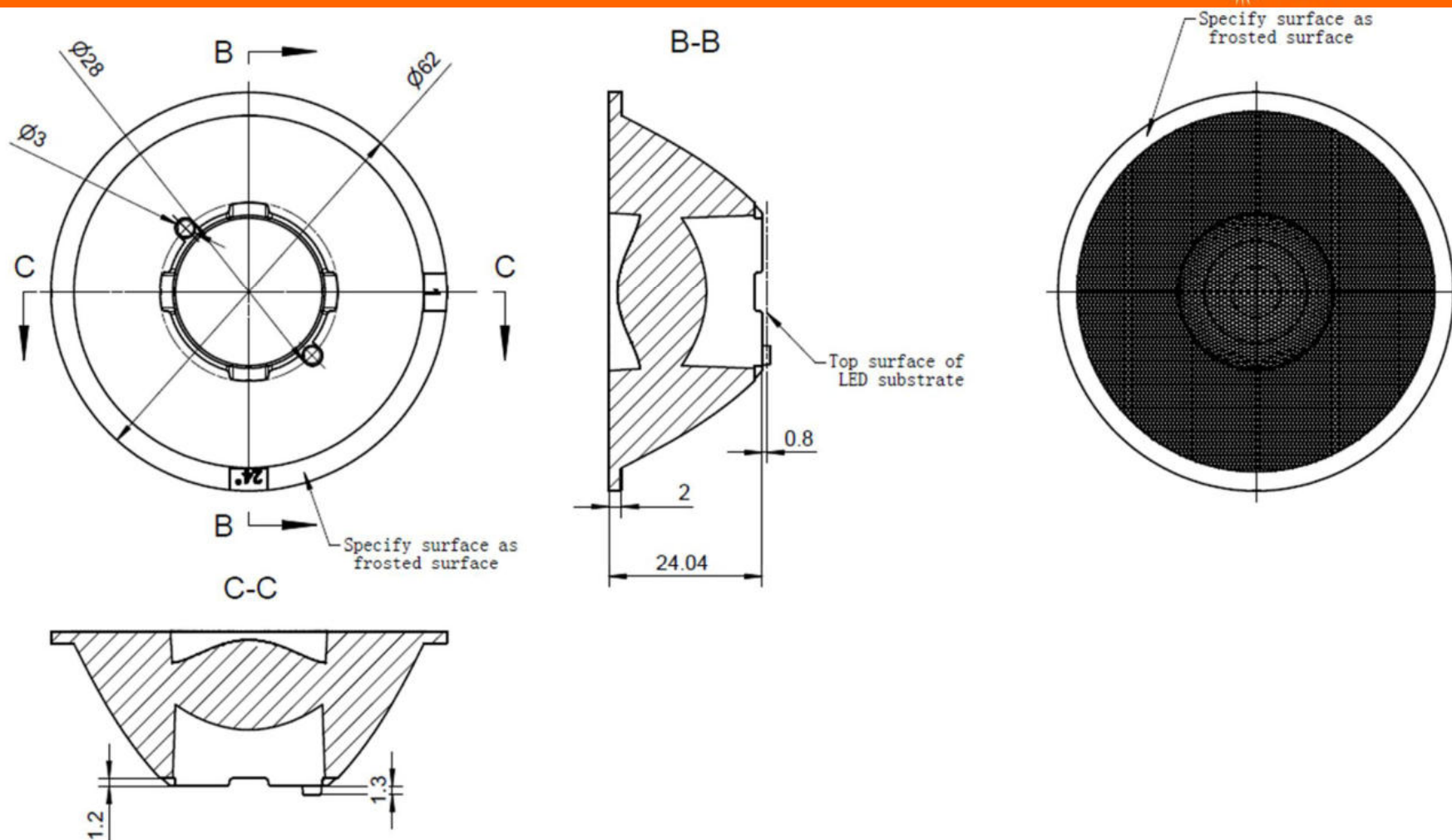
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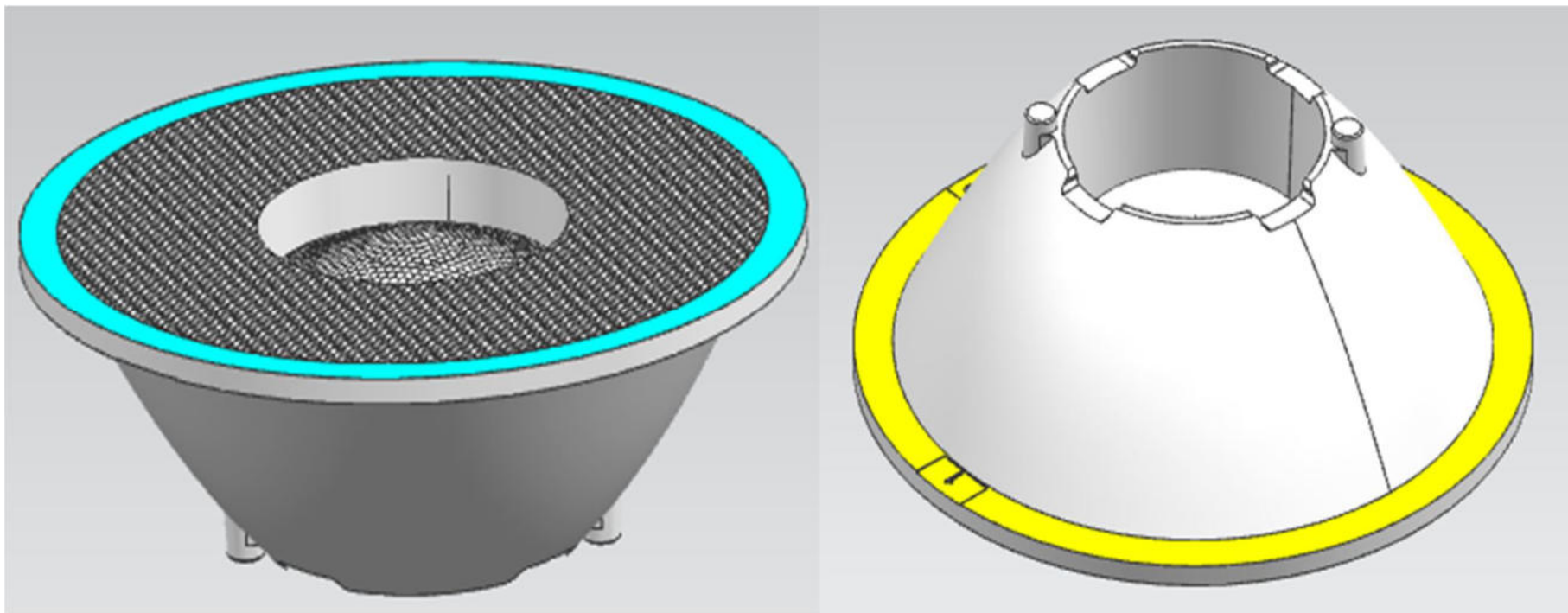
Product Picture:	
PN:	HK-62@24-24-D9-21-1g-1-BH
Size(L*W*H/Φ*H):	Φ:62mm; H:24mm
Material:	PC
Efficiency:	\
Temperature(Topr):	-40°C to +120°C
FWHM:	24°
Matched LES:	CREE1840

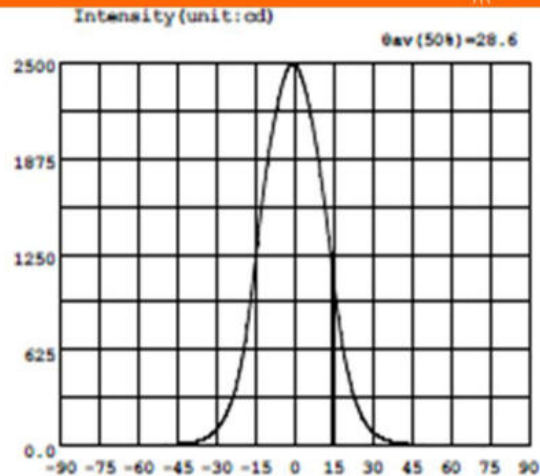
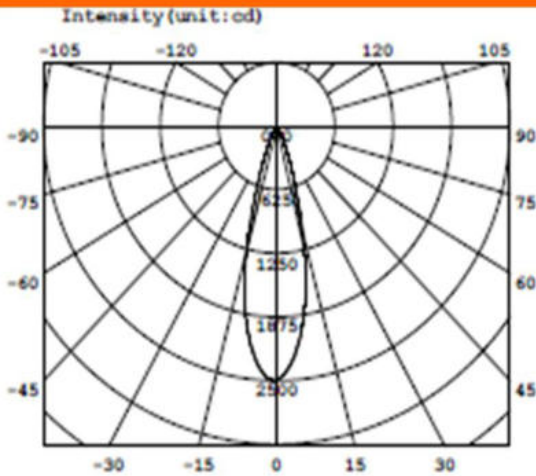


Technical Requirement:

1. The surface don't have any defects of flash, shrink and bubble.
2. The uncharted fillet and pattern draft subject to the 3D drawing.
3. The uncharted dimensional tolerance subject to the 3D drawing.

Optical Design			HK-62@24-24-D9-21-1g-1-BH	1.01.81561
Structure Design		XD Bach 62@24-24 degree lens	Pages	Qty
Assess			2	
Authorized		Material:PC		CDHK





Intensity data:(deg , cd) C0-180

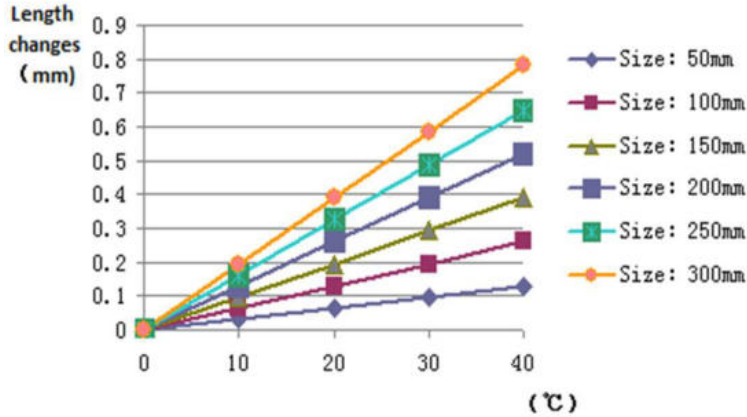
A	I	A	I	A	I	A	I	A	I	A	I
-90.0	0.3312	-58.5	7.393	-27.0	191.5	4.5	2287	36.0	34.13	67.5	3.540
-88.5	0.3439	-57.0	7.961	-25.5	244.6	6.0	2167	37.5	27.92	69.0	3.108
-87.0	0.3567	-55.5	8.478	-24.0	310.9	7.5	2025	39.0	23.34	70.5	2.697
-85.5	0.4074	-54.0	9.023	-22.5	397.8	9.0	1873	40.5	19.84	72.0	2.324
-84.0	0.4343	-52.5	9.597	-21.0	510.2	10.5	1698	42.0	17.25	73.5	1.954
-82.5	0.5360	-51.0	10.15	-19.5	649.6	12.0	1500	43.5	15.26	75.0	1.660
-81.0	0.6004	-49.5	10.91	-18.0	822.0	13.5	1283	45.0	13.63	76.5	1.316
-79.5	0.7315	-48.0	11.78	-16.5	1025	15.0	1065	46.5	12.43	78.0	0.9567
-78.0	1.091	-46.5	12.89	-15.0	1244	16.5	864.1	48.0	11.45	79.5	0.7790
-76.5	1.525	-45.0	14.37	-13.5	1469	18.0	688.5	49.5	10.57	81.0	0.7407
-75.0	1.891	-43.5	16.16	-12.0	1677	19.5	548.5	51.0	9.879	82.5	0.6896
-73.5	2.229	-42.0	18.54	-10.5	1858	21.0	435.9	52.5	9.221	84.0	0.6513
-72.0	2.636	-40.5	21.87	-9.0	2020	22.5	333.8	54.0	8.620	85.5	0.6609
-70.5	3.058	-39.0	26.17	-7.5	2162	24.0	262.3	55.5	8.038	87.0	0.6879
-69.0	3.544	-37.5	31.89	-6.0	2277	25.5	203.2	57.0	7.432	88.5	0.7261
-67.5	4.044	-36.0	39.70	-4.5	2380	27.0	156.3	58.5	6.829	90.0	0.8128
-66.0	4.594	-34.5	50.42	-3.0	2456	28.5	119.5	60.0	6.279		
-64.5	5.119	-33.0	65.13	-1.5	2487	30.0	91.36	61.5	5.692		
-63.0	5.707	-31.5	85.06	0.0	2488	31.5	69.81	63.0	5.137		
-61.5	6.267	-30.0	111.7	1.5	2452	33.0	53.97	64.5	4.587		
-60.0	6.840	-28.5	146.9	3.0	2381	34.5	42.46	66.0	4.084		

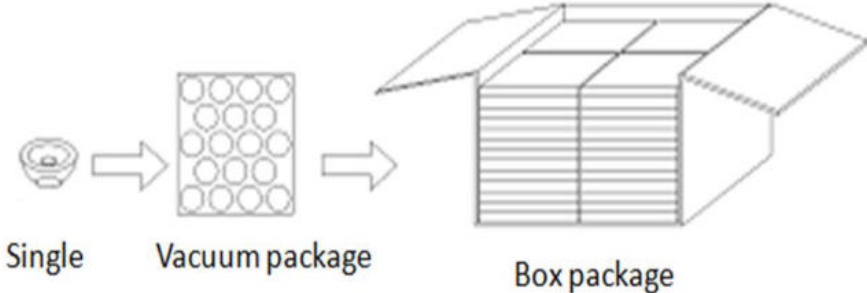
Electricity Parameter:

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

Optical Parameter(Distance=2.559m) :

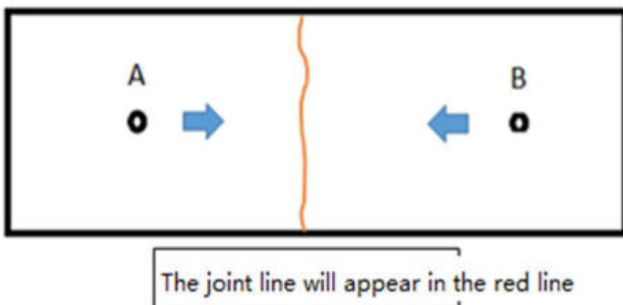
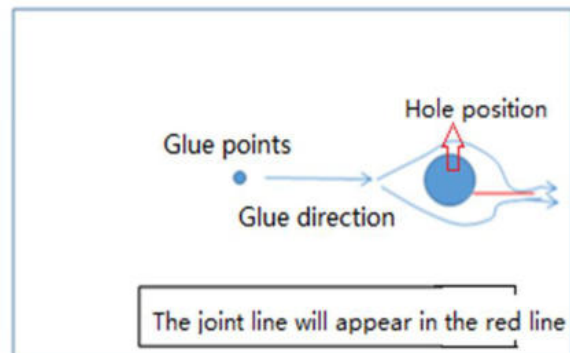
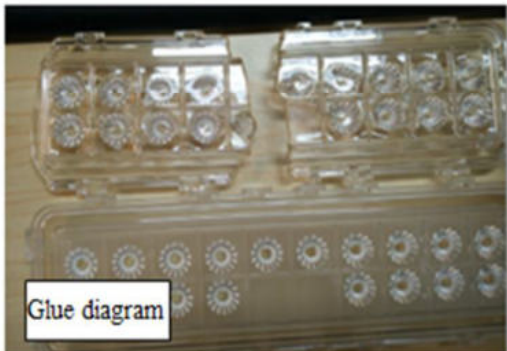
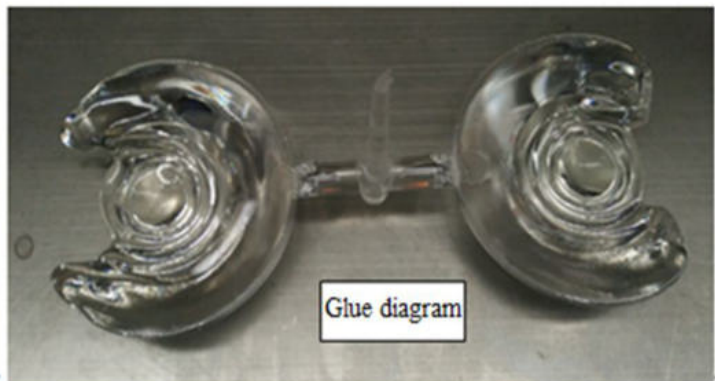
Equivalent Luminous flux: $\phi_{eff} = 690.4lm$ Efficiency: $Eff=213.75lm/W$
Diffuse angle: @(25%): 38.3deg @(50%): 28.6deg @(75%): 19.3deg @(50%): 28.6deg
Diffuse angle: @(25%): 38.3deg @(50%): 28.7deg @(75%): 19.4deg @(50%): 28.7deg
Imax=2494cd (C=0.0deg,G=-0.5deg) C0-180Plane Imax= 2494cd(G=-0.5deg)
C0-180Plane I0= 2488cd

		Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Judgment	Remarks																																										
1.Size	Locating column diameter	3			3.02	3	2.98	2.96	OK	Test environment: In 20 °C -25 °C environment to achieve thermal equilibrium after the test.																																										
	Positioning column spacing	28			27.9	27.86	27.86	27.82	OK																																											
	highly	24.04			23.84	23.84	23.84	23.86	OK																																											
	The largest diameter	62			61.68	61.69	61.62	61.62	OK																																											
	The thickness of	2			2.04	2.04	2.02	2	OK																																											
Gate shear can not affect the appearance of the lamp																																																				
See attachment "Appearance Inspection Standards"																																																				
2.Appearance Quality	See attachment "Appearance Inspection Standards"	E	No burr	No burr	No burr	No burr	OK																																													
			No stains	No stains	No stains	No stains																																														
3.Material	PC			Color	Transparent			OK																																												
4.Optical index	Testing LED	CREE1840																																																		
	FWHM	See light distribution curve																																																		
	Angle				28.1°	28.1°	27.9°	28.6°	OK																																											
	Efficiency				3.72	3.74	3.76	3.61	OK																																											
	K				83.31%	83.33%	83.15%	83.35%	OK																																											
Facula	See the signature sample																																																			
Comprehensive judgment	Qualified																																																			
Remarks:	<p>1、 Tool Number: V-Vernier Caliper 2D-Quadratic H-Height Gauge M-Tool Microscope P-Needle T-Thick Gauge R-Radius Gauge E-Visual.</p> <p>2、 Ambient temperature on the size of the product refer to the table on the right</p>																																																			
	<p style="text-align: center;">PC product size changes with temperature table</p>  <table border="1"> <caption>Data for PC product size changes with temperature table</caption> <thead> <tr> <th>Temperature (°C)</th> <th>50mm</th> <th>100mm</th> <th>150mm</th> <th>200mm</th> <th>250mm</th> <th>300mm</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> </tr> <tr> <td>10</td> <td>0.05</td> <td>0.08</td> <td>0.12</td> <td>0.15</td> <td>0.18</td> <td>0.22</td> </tr> <tr> <td>20</td> <td>0.10</td> <td>0.15</td> <td>0.20</td> <td>0.25</td> <td>0.30</td> <td>0.35</td> </tr> <tr> <td>30</td> <td>0.15</td> <td>0.20</td> <td>0.25</td> <td>0.30</td> <td>0.35</td> <td>0.40</td> </tr> <tr> <td>40</td> <td>0.20</td> <td>0.25</td> <td>0.30</td> <td>0.35</td> <td>0.40</td> <td>0.45</td> </tr> </tbody> </table>										Temperature (°C)	50mm	100mm	150mm	200mm	250mm	300mm	0	0.00	0.00	0.00	0.00	0.00	0.00	10	0.05	0.08	0.12	0.15	0.18	0.22	20	0.10	0.15	0.20	0.25	0.30	0.35	30	0.15	0.20	0.25	0.30	0.35	0.40	40	0.20	0.25	0.30	0.35	0.40	0.45
Temperature (°C)	50mm	100mm	150mm	200mm	250mm	300mm																																														
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40	0.20	0.25	0.30	0.35	0.40	0.45																																														
Precautions:	<p>1、 Wear clean gloves during lens assembly to prevent contamination of the lens surface.</p> <p>2、 Take the lens try to avoid touching the total reflection surface.</p> <p>3、 When the lens surface contamination, you can only gently wipe with soft cotton sticky neat neutral solvent, not allowed to wipe with industrial solvents.</p>																																																			

PN		HK-62@24-24-D9-21-1g-1-BH		Product Name		XD Bach 62@24-24 degree lens	
Product material		PC		Customer			
Package diagram		 <p style="text-align: center;">Single Vacuum package Box package</p>					
Product packing		9	A/box	4	Box/layer		
		9	Layer/the box	324	A/the box		
Packaging Materials	NO.	Material Code	Item name	Specification	Single box usage	Unit	Remarks
	1	2. 07. 0078	Blister box	23cm*21cm	36	PCS	
	2	2. 08. 0001	PE film	25cm*27cm	36	block	
	3	2. 06. 0005	Box label paper	62mm*42mm	36	zhang	
	4	2. 06. 0005	Box label paper	62mm*70mm	1	zhang	
	4	2. 06. 0003	The big plate	46cm*42cm	10	PCS	
	4	2. 06. 0011	The big carton	48cm*44cm*37cm	1	PCS	
Remarks		Scattered packaging is not restricted by this specification, the customer has the requirements of the customer shall prevail					

Special notice

When glue 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:



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 Sampling standards, sampling plan and AQL

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

2 Code table

Code	Code description	Unit	Code	Code description	Unit
N	Amount/pcs	pcs	D	Diameter	mm
L	Length	mm	H	Depth	mm
W	Width	mm	DS	Distance	mm
S	Proportion	mm ²	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	MI	MA	CR
Check the sample	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.	Sample comparison, visual			√
	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;				
	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 things, impurities	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.	Visual, point card		√	
	Ejection strain: the optical surface and the appearance of the exposed surface after assembly are not allowed to have a strain, and the structural surface does not allow visual obvious strain.				
Insufficient filling	Insufficient filling shall not affect the appearance of the assembly and the exposed surfaces , The signature sample shall prevail.	Visual, point card		√	
Shrink	When the entire surface of the product shrinks, the optical properties and dimensions must meet the requirements, and the visual will not significantly affect the appearance.Part shrink reference point defects	Visual, point card		√	
Flow marks, Welding line	1 : Product does not allow the presence of flow marks and welding lines unless the structure can not be avoided;	Visual		√	
	2: The remaining flow marks shall not appear in the optical surface, a single L ≤ 10mm, no more than two				
Bubble	No bubbles are allowed	Visual		√	
Foreign objects, black spots, white spots	Not obvious or D ≤ 0.3mm black spots and foreign bodies in the area of 100x100mm not more than 1; Exceeded foreign matter black spots is judged bad.	Visual, point card	√		
Damaged	No damage is allowed	Visual			√
Cold glue	Optical surface may not have cold glue, non-optical surface cold glue should meet the visual is not obvious.	Visual	√		
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				
	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 ≤ 1 mm and no more than 1 area within a 50x50 mm area	Visual		√	



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

Approval number :

Customer :

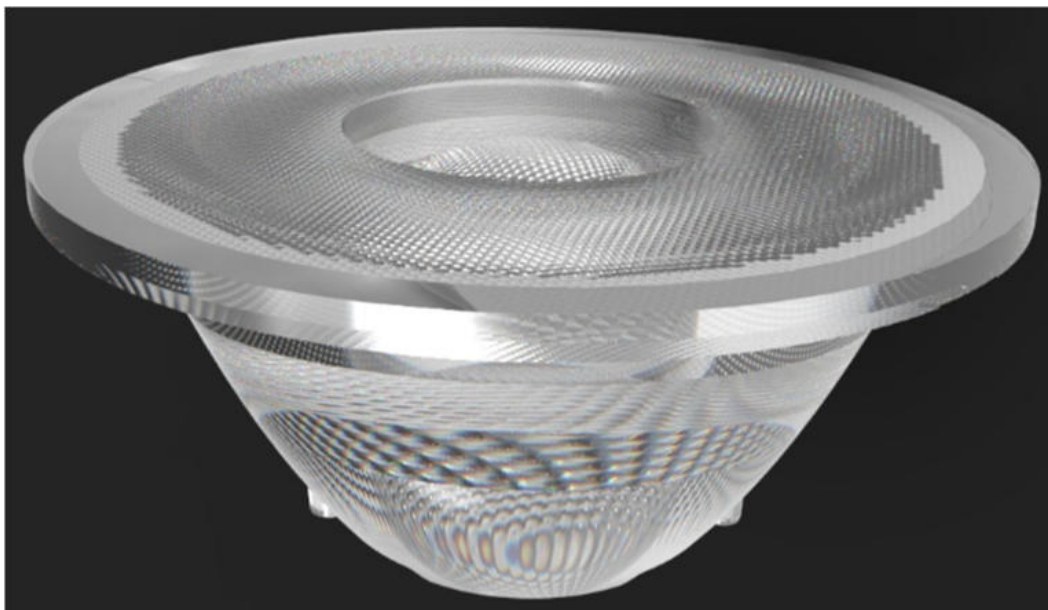
Product : XD Bach 62@24-36 degree lens

Material Code : 1.01.81562

PN : HK-62@24-36-D9-21-1g-1-BH

Synthetic information:1.07.81402_HK-257@02-0221-S

Manufacturer : Chengdu HercuLux Photoelectric Technology Co.,Ltd



Supplier confirmation				Client confirmation			
Proposed		DATE		Qualified <input type="checkbox"/>		DATE	
Project manager		DATE		Unqualified <input type="checkbox"/>			
Audit		DATE		Audit		DATE	
Approved		DATE		Approved		DATE	
Stamp		DATE		Stamp		DATE	

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

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

Phone : 028-85887727 (801) 028-85887990 (801)

Fax : 028-85887730

www.hkoptics.com

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

TEL: 0755-2937 1541

FAX: 0755-2907 5140

*Approval In duplicate , for both supplier and customer.



HERCULUX
恒坤光电

Product Approval

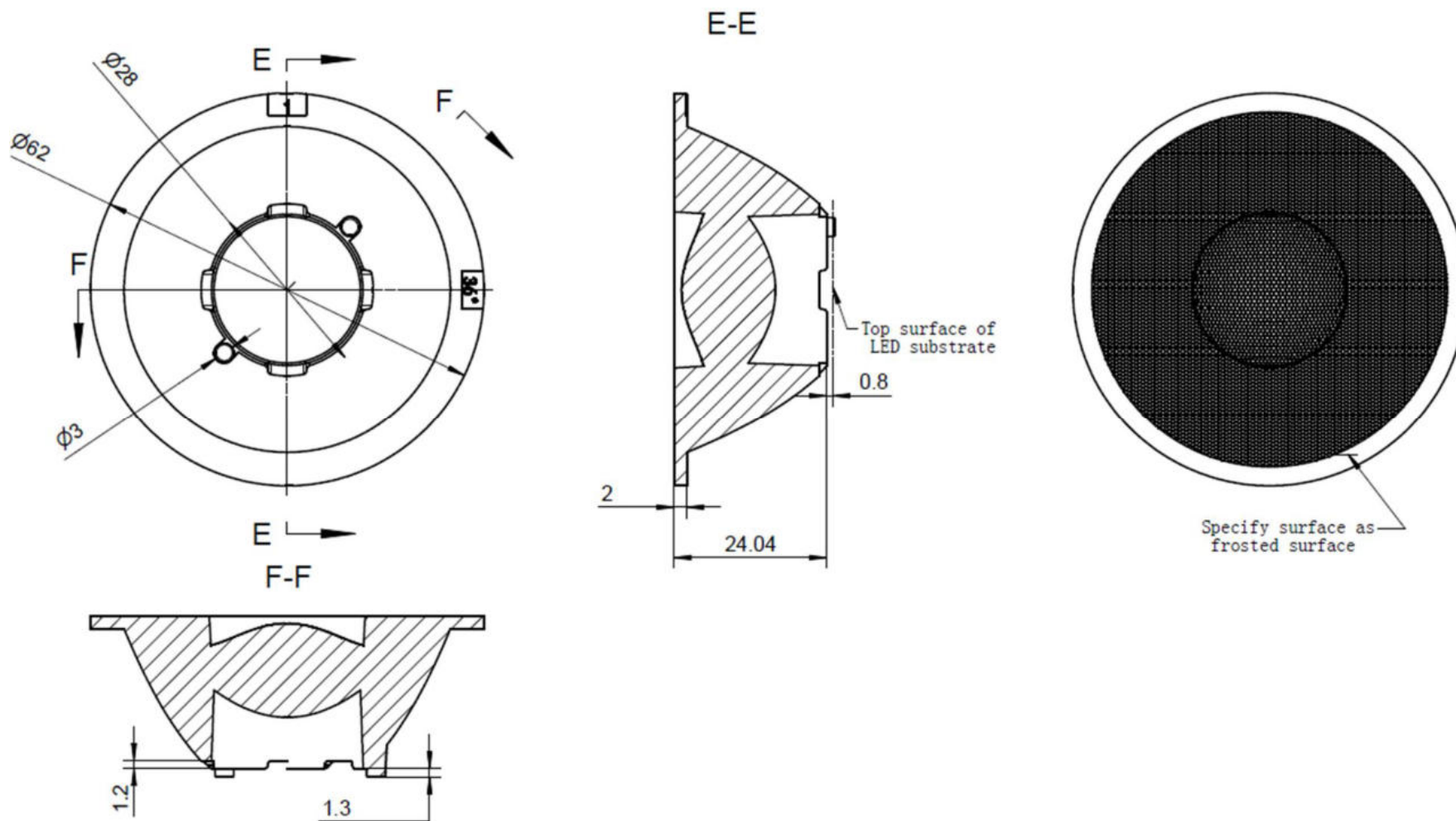
TEL: 0755-2937 1541

FAX: 0755-2907 5140

www.hkoptics.com

Date updated: 2020/12/7

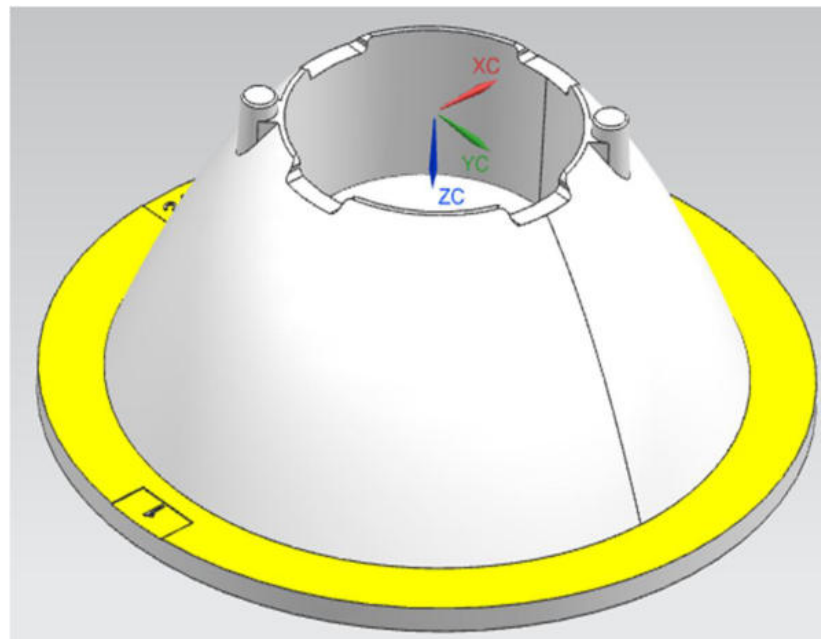
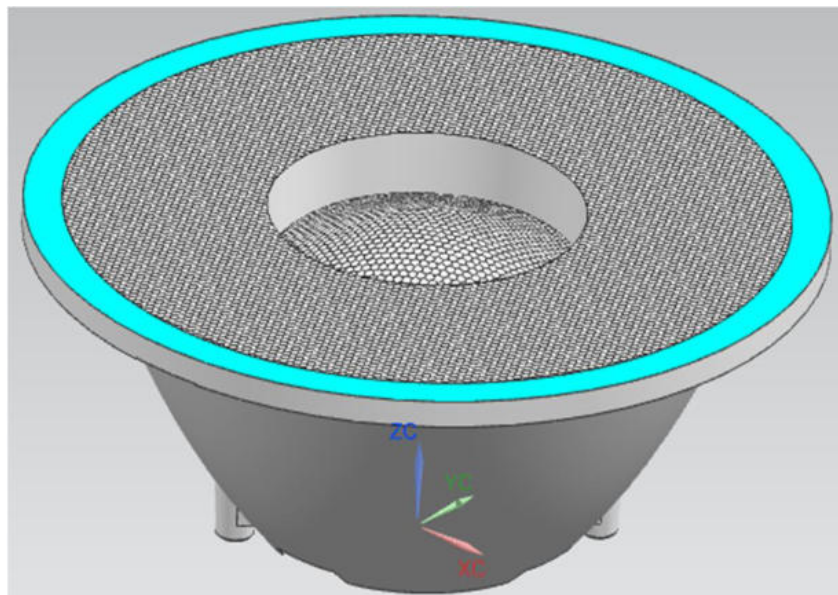
Product Picture:	
PN:	HK-62@24-36-D9-21-1g-1-BH
Size(L*W*H/Φ*H):	Φ:62mm; H:24mm
Material:	PC
Efficiency:	\
Temperature(Topr):	-40°C to +120°C
FWHM:	36°
Matched LES:	CREE1840

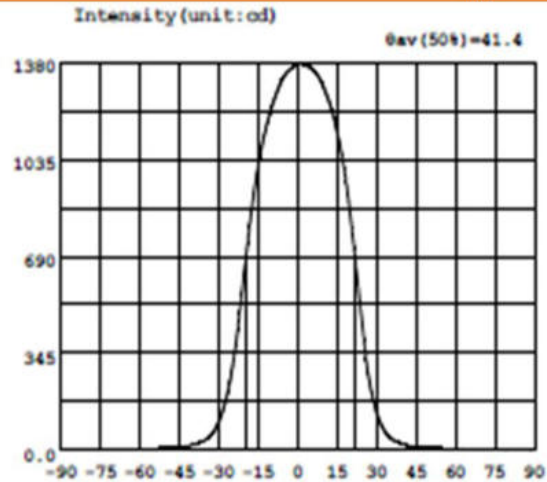
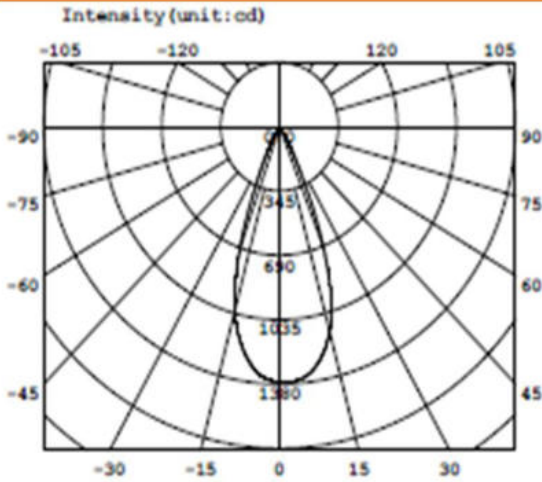


Technical Requirement:

1. The surface don't have any defects of flash, shrink and bubble.
2. The uncharted fillet and pattern draft subject to the 3D drawing.
3. The uncharted dimensional tolerance subject to the 3D drawing.

Optical Design			HK-62@24-36-D9-21-1g-1-BH	1.01.81562
Structure Design		XD Bach 62@24-36 degree lens	Pages	Qty
Assess			2	
Authorized		Material:PC		CDHK





Intensity data:(deg , cd) C0-180

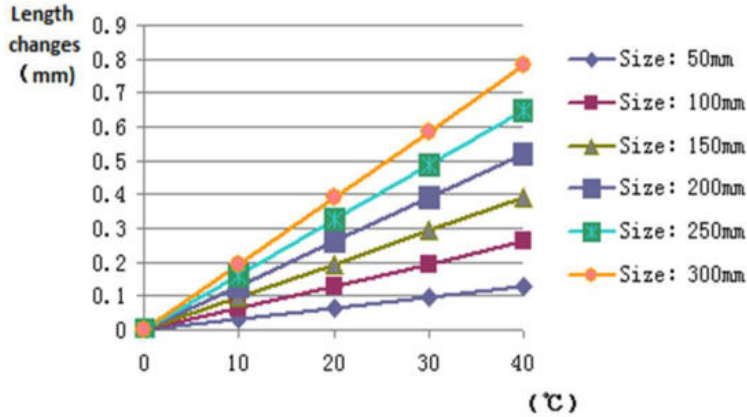
A	I	A	I	A	I	A	I	A	I	A	I
-90.0	0.2712	-58.5	6.376	-27.0	193.4	4.5	1363	36.0	38.72	67.5	4.216
-88.5	0.2600	-57.0	6.880	-25.5	260.5	6.0	1352	37.5	30.69	69.0	3.744
-87.0	0.2597	-55.5	7.358	-24.0	350.2	7.5	1335	39.0	25.03	70.5	3.287
-85.5	0.2938	-54.0	7.840	-22.5	460.2	9.0	1310	40.5	20.79	72.0	2.823
-84.0	0.3054	-52.5	8.291	-21.0	582.2	10.5	1277	42.0	17.61	73.5	2.431
-82.5	0.3294	-51.0	8.753	-19.5	705.4	12.0	1238	43.5	15.09	75.0	2.085
-81.0	0.3744	-49.5	9.303	-18.0	822.7	13.5	1190	45.0	13.08	76.5	1.766
-79.5	0.4418	-48.0	9.956	-16.5	928.6	15.0	1132	46.5	11.56	78.0	1.431
-78.0	0.5817	-46.5	10.84	-15.0	1016	16.5	1063	48.0	10.47	79.5	1.075
-76.5	0.9567	-45.0	12.04	-13.5	1089	18.0	978.2	49.5	9.678	81.0	0.8264
-75.0	1.389	-43.5	13.64	-12.0	1151	19.5	874.1	51.0	9.152	82.5	0.8526
-73.5	1.770	-42.0	15.69	-10.5	1203	21.0	753.1	52.5	8.709	84.0	0.8601
-72.0	2.111	-40.5	18.34	-9.0	1247	22.5	623.1	54.0	8.347	85.5	0.9152
-70.5	2.479	-39.0	21.77	-7.5	1287	24.0	492.2	55.5	7.962	87.0	1.035
-69.0	2.909	-37.5	26.21	-6.0	1319	25.5	366.9	57.0	7.566	88.5	1.171
-67.5	3.386	-36.0	32.25	-4.5	1341	27.0	260.3	58.5	7.152	90.0	1.272
-66.0	3.863	-34.5	41.14	-3.0	1355	28.5	187.9	60.0	6.682		
-64.5	4.350	-33.0	54.50	-1.5	1366	30.0	134.2	61.5	6.221		
-63.0	4.915	-31.5	74.47	0.0	1373	31.5	96.09	63.0	5.753		
-61.5	5.432	-30.0	102.9	1.5	1375	33.0	69.09	64.5	5.246		
-60.0	5.902	-28.5	142.8	3.0	1370	34.5	50.47	66.0	4.739		

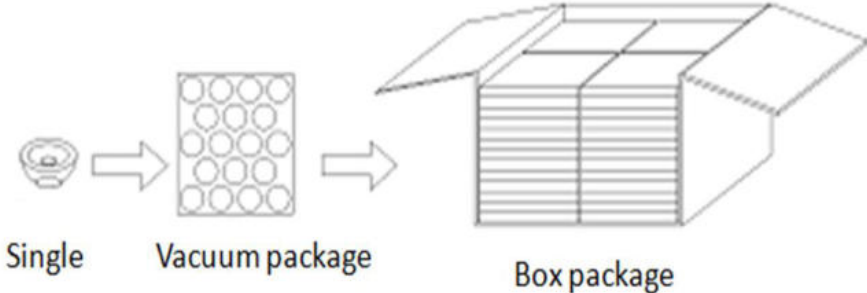
Electricity Parameter:

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

Optical Parameter(Distance=2.410m):

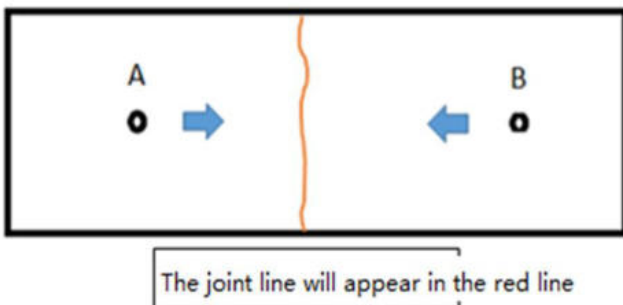
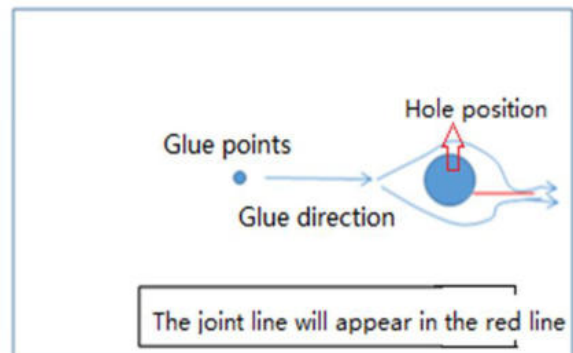
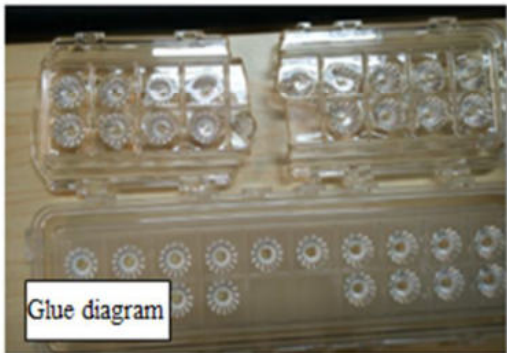
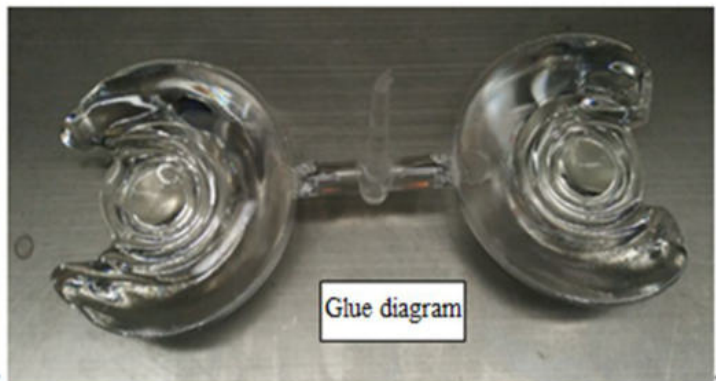
Equivalent Luminous flux: $\phi_{eff} = 636.9lm$ Efficiency: $Eff=195.98lm/W$
Diffuse angle: @ (25%): 49.8deg @ (50%): 41.4deg @ (75%): 31.7deg @ (50%): 41.4deg
Diffuse angle: @ (25%): 49.8deg @ (50%): 41.4deg @ (75%): 31.8deg @ (50%): 41.4deg
 $I_{max}=1375cd$ (C=0.0deg,G=1.0deg) C0-180Plane $I_{max}= 1375cd$ (G=1.0deg)
C0-180Plane $I_0= 1373cd$

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Facula	See the signature sample																																																			
Comprehensive judgment	Qualified																																																			
Remarks:	<p>1、 Tool Number: V-Vernier Caliper 2D-Quadratic H-Height Gauge M-Tool Microscope P-Needle T-Thick Gauge R-Radius Gauge E-Visual.</p> <p>2、 Ambient temperature on the size of the product refer to the table on the right</p>																																																			
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Temperature (°C)	50mm	100mm	150mm	200mm	250mm	300mm																																														
0	0.00	0.00	0.00	0.00	0.00	0.00																																														
10	0.02	0.05	0.08	0.12	0.18	0.22																																														
20	0.04	0.10	0.15	0.22	0.32	0.40																																														
30	0.06	0.15	0.22	0.32	0.48	0.60																																														
40	0.08	0.22	0.32	0.48	0.68	0.80																																														
Precautions:	<p>1、 Wear clean gloves during lens assembly to prevent contamination of the lens surface.</p> <p>2、 Take the lens try to avoid touching the total reflection surface.</p> <p>3、 When the lens surface contamination, you can only gently wipe with soft cotton sticky neat neutral solvent, not allowed to wipe with industrial solvents.</p>																																																			

PN		HK-62@24-36-D9-21-1g-1-BH		Product Name	XD Bach 62@24-36 degree lens		
Product material		PC		Customer			
Package diagram		 <p style="text-align: center;"> Single Vacuum package Box package </p>					
Product packing		9	A/box	4	Box/layer		
		9	Layer/the box	324	A/the box		
Packaging Materials	NO.	Material Code	Item name	Specification	Single box usage	Unit	Remarks
	1	2. 07. 0078	Blister box	23cm*21cm	36	PCS	
	2	2. 08. 0001	PE film	25cm*27cm	36	block	
	3	2. 06. 0005	Box label paper	62mm*42mm	36	zhang	
	4	2. 06. 0005	Box label paper	62mm*70mm	1	zhang	
	4	2. 06. 0003	The big plate	46cm*42cm	10	PCS	
	4	2. 06. 0011	The big carton	48cm*44cm*37cm	1	PCS	
Remarks	Scattered packaging is not restricted by this specification, the customer has the requirements of the customer shall prevail						

Special notice

When glue 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:



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 Sampling standards, sampling plan and AQL

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

2 Code table

Code	Code description	Unit	Code		Code description	Unit
N	Amount/pcs	pcs	D		Diameter	mm
L	Length	mm	H		Depth	mm
W	Width	mm	DS		Distance	mm
S	Proportion	mm ²	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	MI	MA	CR
Check the sample	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.	Sample comparison, visual			√
	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;				
	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 things, impurities	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.	Visual, point card		√	
	Ejection strain: the optical surface and the appearance of the exposed surface after assembly are not allowed to have a strain, and the structural surface does not allow visual obvious strain.				
Insufficient filling	Insufficient filling shall not affect the appearance of the assembly and the exposed surfaces , The signature sample shall prevail.	Visual, point card		√	
Shrink	When the entire surface of the product shrinks, the optical properties and dimensions must meet the requirements, and the visual will not significantly affect the appearance.Part shrink reference point defects	Visual, point card		√	
Flow marks, Welding line	1 : Product does not allow the presence of flow marks and welding lines unless the structure can not be avoided;	Visual		√	
	2: The remaining flow marks shall not appear in the optical surface, a single L ≤ 10mm, no more than two				
Bubble	No bubbles are allowed	Visual		√	
Foreign objects, black spots, white spots	Not obvious or D ≤ 0.3mm black spots and foreign bodies in the area of 100x100mm not more than 1; Exceeded foreign matter black spots is judged bad.	Visual, point card	√		
Damaged	No damage is allowed	Visual			√
Cold glue	Optical surface may not have cold glue, non-optical surface cold glue should meet the visual is not obvious.	Visual	√		
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				
	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 ≤ 1 mm and no more than 1 area within a 50x50 mm area	Visual		√	



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

Approval number : _____

Customer :

PN	Code	Product
HK-62@24-50-D14-21-1g-1	1. 01. 81559	XD 62@24-50° Lens

Manufacturer : Chengdu HercuLux Photoelectric Technology Co.,Ltd



Supplier confirmation				Client confirmation			
Proposed		DATE		Qualified <input type="checkbox"/>		DATE	
Project manager		DATE		Unqualified <input type="checkbox"/>		DATE	
Audit		DATE		Audit		DATE	
Approved		DATE		Approved		DATE	
Stamp		DATE		Stamp		DATE	

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

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

Phone : 028-85887727 (801) 028-85887990 (801)

Fax : 028-85887730

www.herculux.cn

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

Product Approval

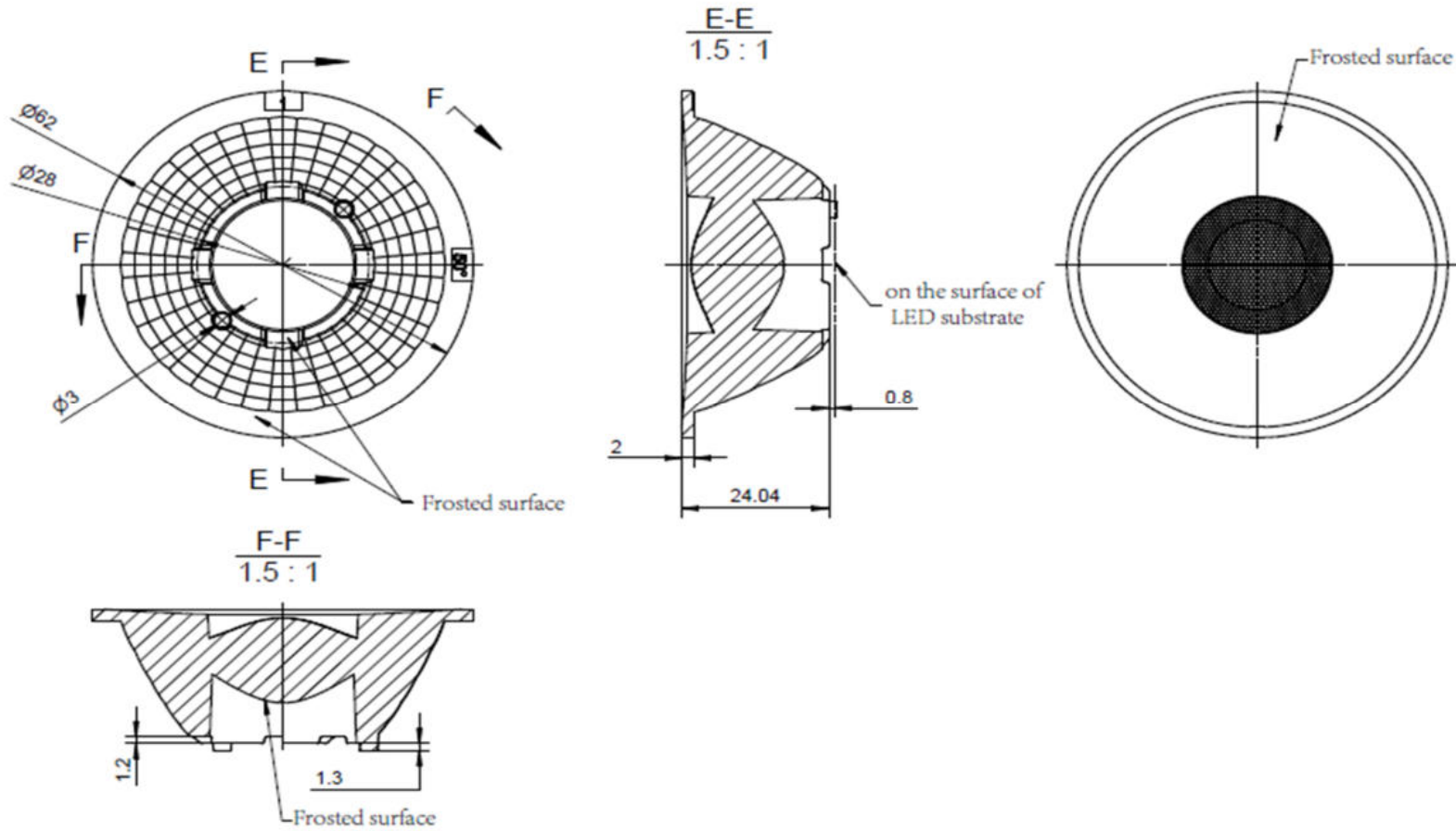
TEL: 0755-2937 1541

FAX: 0755-2907 5140

www.herculux.cn

Date updated: 2020/12/7

Product Picture:	
PN:	HK-62@24-50-D14-21-1g-1
Size(L*W*H/Φ*H):	Φ:62mm; H:24.04mm
Material:	PC
Efficiency:	\
Temperature(Topr):	-40°C to +120°C
FWHM:	50°
Matched LES:	CREE1840

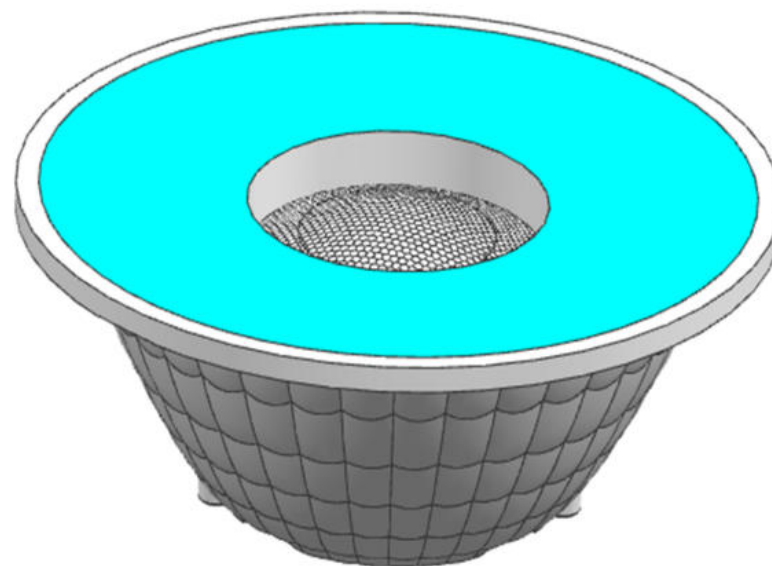
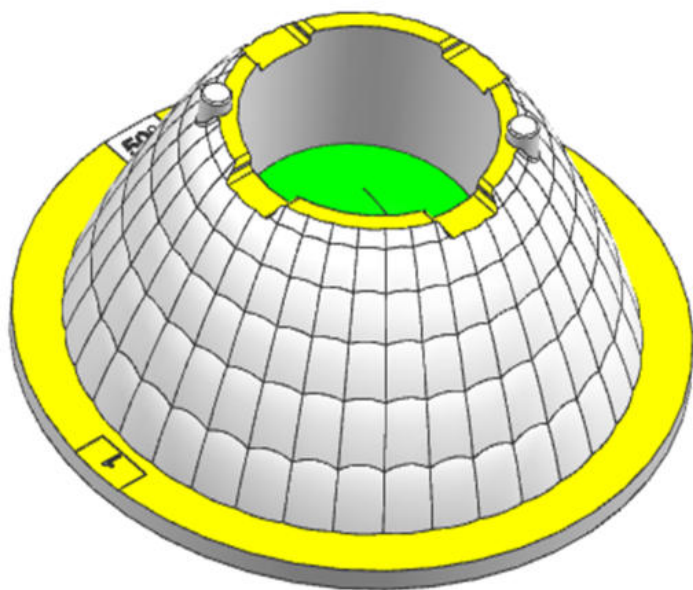


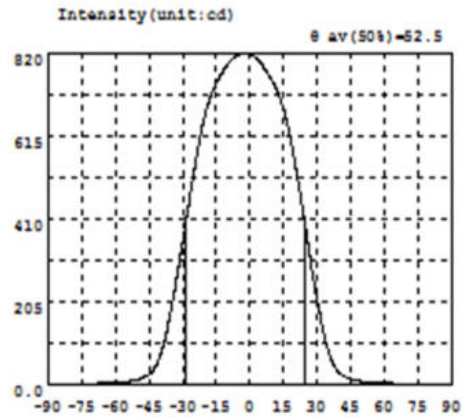
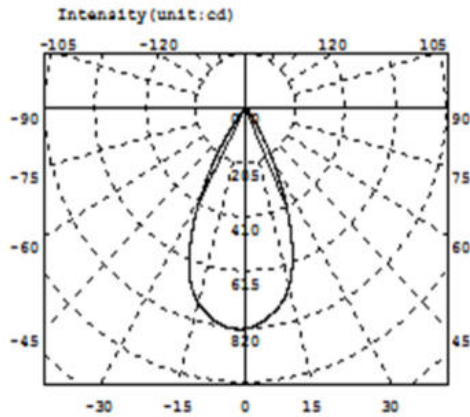
Technical remark:

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.

Optical design			XD 62@24-50°Lens		HK-62@24-50-D14-21-1g-1		
structure design					1.01.81559		
Review					number of drawin	qty	weight
Validation			Material:	PC	CDHK		

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





Intensity data: (deg , cd) C0-180

A	I	A	I	A	I	A	I	A	I	A	I
-90.0	0.2599	-58.5	7.811	-27.0	459.3	4.5	795.7	36.0	66.41	67.5	3.831
-88.5	0.2036	-57.0	8.339	-25.5	510.7	6.0	784.9	37.5	48.37	69.0	3.353
-87.0	0.2374	-55.5	9.034	-24.0	558.7	7.5	772.7	39.0	36.27	70.5	2.889
-85.5	0.3292	-54.0	9.942	-22.5	603.9	9.0	759.6	40.5	28.30	72.0	2.445
-84.0	0.4304	-52.5	11.26	-21.0	644.7	10.5	744.6	42.0	22.92	73.5	1.960
-82.5	0.4762	-51.0	13.12	-19.5	678.4	12.0	727.3	43.5	18.76	75.0	1.494
-81.0	0.6609	-49.5	15.68	-18.0	705.7	13.5	705.5	45.0	15.43	76.5	1.090
-79.5	1.094	-48.0	19.04	-16.5	728.0	15.0	679.2	46.5	12.93	78.0	0.8961
-78.0	1.616	-46.5	22.79	-15.0	746.2	16.5	647.1	48.0	11.20	79.5	0.8525
-76.5	2.192	-45.0	27.64	-13.5	761.7	18.0	607.8	49.5	9.935	81.0	0.7957
-75.0	2.719	-43.5	35.53	-12.0	775.4	19.5	563.8	51.0	8.994	82.5	0.7570
-73.5	3.122	-42.0	47.68	-10.5	787.8	21.0	516.4	52.5	8.291	84.0	0.7344
-72.0	3.652	-40.5	65.93	-9.0	798.5	22.5	466.4	54.0	7.775	85.5	0.7529
-70.5	4.151	-39.0	90.86	-7.5	807.1	24.0	414.2	55.5	7.330	87.0	0.7344
-69.0	4.663	-37.5	124.0	-6.0	813.3	25.5	360.7	57.0	6.896	88.5	0.7332
-67.5	5.181	-36.0	164.8	-4.5	817.1	27.0	303.3	58.5	6.463	90.0	0.7774
-66.0	5.649	-34.5	206.6	-3.0	818.9	28.5	254.6	60.0	6.052		
-64.5	6.104	-33.0	253.3	-1.5	818.6	30.0	208.2	61.5	5.645		
-63.0	6.518	-31.5	303.7	0.0	816.4	31.5	163.3	63.0	5.226		
-61.5	6.909	-30.0	353.8	1.5	812.1	33.0	122.8	64.5	4.778		
-60.0	7.333	-28.5	406.7	3.0	805.0	34.5	90.92	66.0	4.291		

Electricity Parameter:

Current I: 0.1000A Power: 3.240W
Voltage V: 32.40V PF: 1.000

Optical Parameter (Distance=2.410m):

Equivalent Luminous flux: $\Phi_{\text{eff}} = 600.41\text{lm}$ Efficiency: $\text{Eff} = 185.34\text{lm/W}$
Diffuse angle: @ (25%): 64.6deg @ (50%): 52.5deg @ (75%): 39.8deg @ (50%): 52.5deg
Diffuse angle: @ (25%): 64.6deg @ (50%): 52.5deg @ (75%): 40.0deg @ (50%): 52.5deg
 $\text{Imax} = 818.9\text{cd}$ (C=0.0deg, G=-2.0deg) C0-180Plane $\text{Imax} = 818.9\text{cd}$ (G=-2.0deg)
C0-180Plane $\text{I0} = 816.4\text{cd}$

	Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Judgment	Remarks
1.Size	diameter	62		61.76	61.79	61.82	61.77		Test environment: In 20 °C -25 °C environment to achieve thermal equilibrium after the test.
	height	2		2.14	2.12	2.15	2.07		
	thickness	24.04		23.89	23.87	23.87	23.9		
Gate shear can not affect the appearance of the lamp									
See attachment "Appearance Inspection Standards"									

2.Appearance Quality	See attachment "Appearance Inspection Standards"	E	No burr	No burr	No burr	No burr	OK
			No stains	No stains	No stains	No stains	

3.Material	PC	Color	Transparent	OK
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4.Optical index	Testing LED	CREE1840				
	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.					
	FWHM	See light distribution curve				
	angle		52.5	51.7	52.3	52.2
	K-value					
	Efficiency		83.22%	82.58%	82.29%	82.63%
Facula	See the signature sample					

Comprehensive judgment	Qualified
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Remarks:

1、 Tool Number: V-Vernier Caliper 2D-Quadratic H-Height Gauge M-Tool Microscope P-Needle T-Thick Gauge R-Radius Gauge E-Visual.

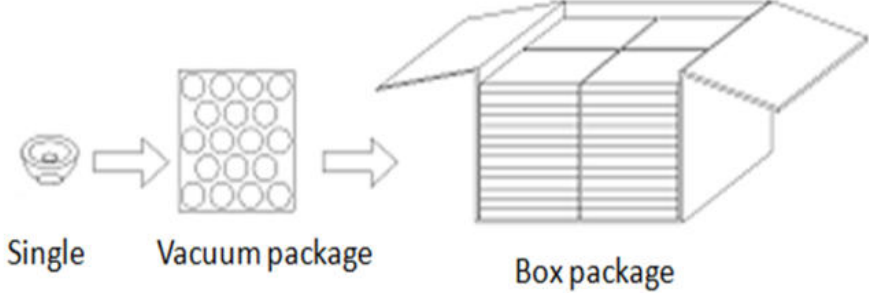
2、 Ambient temperature on the size of the product refer to the table on the right

PC product size changes with temperature table

Temperature (°C)	Size: 50mm	Size: 100mm	Size: 150mm	Size: 200mm
0	0.00	0.00	0.00	0.00
10	0.05	0.10	0.15	0.20
20	0.10	0.20	0.30	0.40
30	0.15	0.30	0.45	0.55
40	0.20	0.40	0.60	0.75

Precautions:

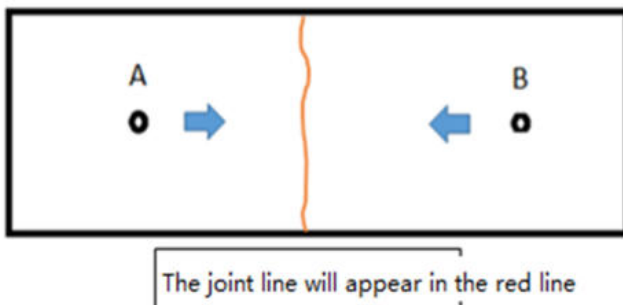
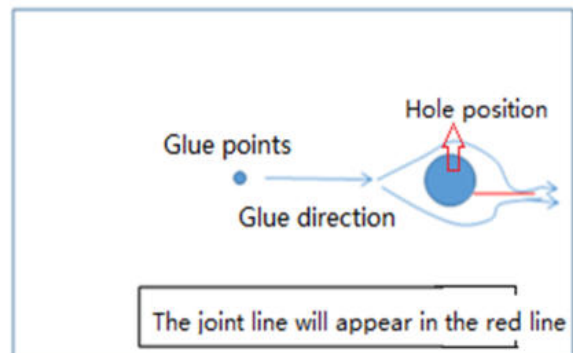
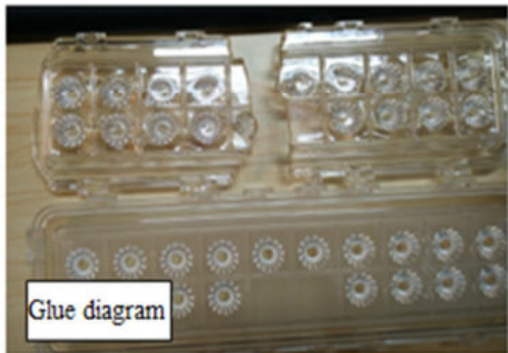
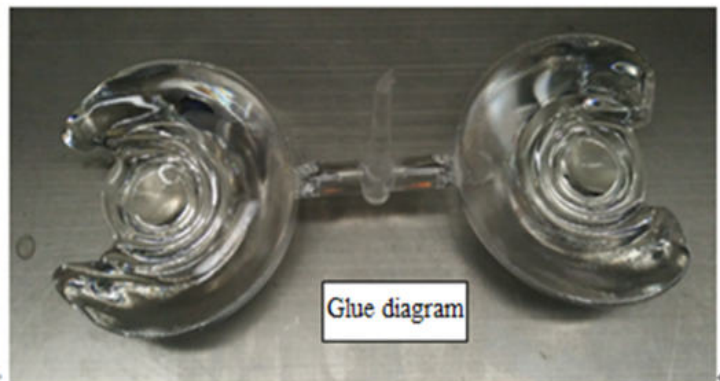
- Please wear clean gloves during the lens assembly process to prevent the lens surface from being contaminated.
- Try to avoid touching the total reflection surface when taking the lens.
- The lens surface is contaminated. Only use a soft cotton cloth dipped in analytically pure neutral solvent to wipe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

PN		HK-62@24-50-D14-21-1g-1		Product Name		XD 62@24-50°Lens	
Product material		PC		Customer			
Package diagram		 <p style="text-align: center;"> Single Vacuum package Box package </p>					
Product packing		9		A/ Box		4	
		9		Layer/Box		324	
Packaging Materials	NO.	Part No	Part name	Size	Dosage	Unit	Remarks
	1	2.07.0080	Blister box	23cm*21cm	36	BAG	
	2	2.08.0001	PE film	30cm*30cm	36	PCS	
	3	2.06.0005	Reel label paper	6.2cm*8cm	36	PCS	
	4	2.06.0005	Box label paper	6.2cm*9.2cm	1	PCS	
	5	2.06.0003	big plate	46.8cm*42.8cm	10	PCS	
	6	2.06.0011	big carton	48cm*44cm*37cm	1	PCS	
Remarks	The loose packing is not subject to this specification. Customer's requirements shall prevail						

Special notice

When glue 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:

Syntner



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

1.1.1 Sampling standards, sampling plan and AQL

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

2 Code table

Code	Code description	Unit	Code		Code description	Unit
N	Amount/pcs	pcs	D		Diameter	mm
L	Length	mm	H		Depth	mm
W	Width	mm	DS		Distance	mm
S	Proportion	mm ²	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	MI	MA	CR
Check the sample	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.	Sample comparison , visual			
	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;				

	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.	Visual, point card		√	
	Ejection strain: the optical surface and the appearance of the exposed surface after assembly are not allowed to have a strain, and the structural surface does not allow visual obvious strain.				
Insufficient filling	Insufficient filling shall not affect the appearance of the assembly and the exposed surfaces , The signature sample shall prevail.	Visual, point card		√	
Shrink	When the entire surface of the product shrinks, the optical properties and dimensions must meet the requirements, and the visual will not significantly affect the appearance.Part shrink reference point defects	Visual, point card		√	
Flow marks、Welding line	1 : Product does not allow the presence of flow marks and welding lines unless the structure can not be avoided;	Visual		√	
	2: The remaining flow marks shall not appear in the optical surface, a single L ≤ 10mm, no more than two				

Bubble	No bubbles are allowed	Visual		√	
Foreign objects, black spots, white spots	Not obvious or $D \leq 0.3\text{mm}$ black spots and foreign bodies in the area of $100 \times 100\text{mm}$ not more than 1; Exceeded foreign matter black spots is judged bad.	Visual, point card	√		
Damaged	No damage is allowed	Visual			√
Cold glue	Optical surface may not have cold glue, non-optical surface cold glue should meet the visual is not obvious.	Visual	√		
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				
	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 $D \leq 1\text{ mm}$ and no more than 1 area within a $50 \times 50\text{ mm}$ area	Visual		√	