

HERCULUX Chengdu HercuLux Photoelectric Technology Co.,Ltd

Product Approval

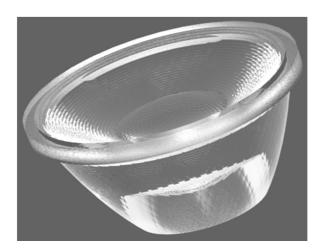
Approval number:

Customer:

Product: HK Dark 25@13-15°lens-M Material Code: 1.01.92131-M

PN: HK-HG-25@13-15-D4-21-1g-1-M

Manufacturer: Chengdu HercuLux Photoelectric Technology Co.,Ltd



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

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

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

Phone: 028-85887727 (801) 028-85887990 (801) Fax: 028-85887730 http://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

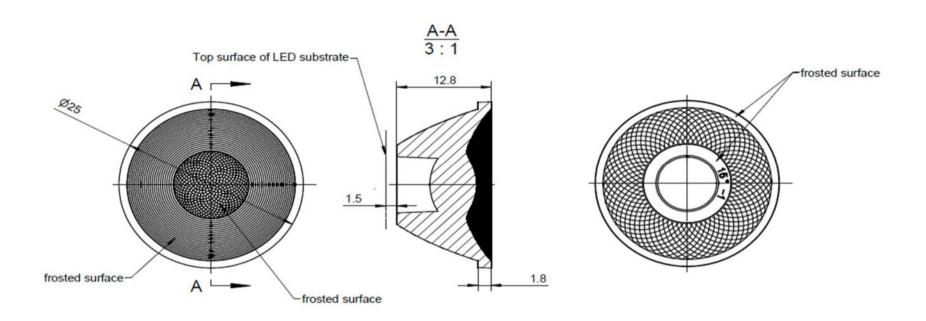
*Approval In duplicate, for both supplier and customer.



TEL: 0755-2937 1541 FAX: 0755-2907 5140 http://www.herculux.cn/ Date updated: 2022/5/30

Product Picture:	
PN:	HK-HG-25@13-15-D4-21-1g-1-M
Size(L*W*H/Φ*H):	Ф25mm*H12.8mm
Material:	PMMA
Effiency:	\
Temperature(Topr):	Material extreme temperature resistance : -40°C to +100°C long-term use temperature : -40°C to +80°C
FWHM:	15°
Matched LES:	D4



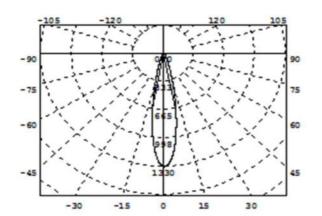


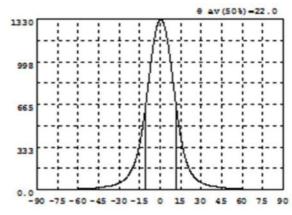
- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.
- *4. When the lamp adopts rubber ring for waterproofing: the roughness of the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

optical desig					HK-	HG-25@	@13-15-D4	-21-1g	-1-M
ructure desi			HK Dark 2	1.01.92131-M					
Review				1			qty	we	eight
Validation			Material:	aterial: PMMA			CDHK		

MT5 Tolerance	Basic size	<3	3~10	10~24	24~65	65~140	140~25	0 250^	~450	>450		
	lerance val	±0.1	±0.15	±0.2	±0.35	±0.50	±0.80	±1	2	±2.0		









								T				
			Standard size	Upper Size limit	Low size I	-	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks
	diamet	er	25				24.9	24.91	24.93	24.92		environment:
1.Size	heigh	t	12.8			/	12.73	12.7	12.75	12.7		In 20 ℃ -25 ℃
	thickne	ess	1.8			/ /	1.75	1.74	1.76	1.74	\setminus	environment to achieve thermal
				Gate she	ar can	not a	affect the a	ppearance	of the lamp	p		
				See atta	chmer	nt "Ap	pearance	Inspection	Standards"	ı		
2.Appear	ance		See achment pearance	E		Ν	lo burr	No burr	No burr	No bu	ırr	OK
Quality		Ins	spection andards"			N	o stains	No stains	No stains	No stai	ins	OK
3.Materia	al	PMMA Color Transparent OK								OK		
	Testing I	Testing LED CXM-4										
4.Optica		y of th			l cond	itions	of the use	environme	nge. Accordent, the lens			
Tilluex	angle	9					22. 2	22. 1	22. 1	22		
	Efficie	ency										
	Facula	See	the signatu	re sample			·					
	ehensive ment						<u> </u>	C	ualified			
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								changes with	*	e table Size: 50mm Size: 100mm Size: 150mm Size: 200mm Size: 250mm Size: 300mm		
Precautio	ne:											

- 1. Please wear clean gloves during the lens assembly process to prevent the lens surface from being contaminated.
- 2. Try to avoid touching the total reflection surface when taking the lens.
- 3. The lens surface is contaminated. Only use a soft cotton cloth dipped in analytically pure neutral solvent to wipe gently. Do not wipe with industrial solvents (alcohol, isopropanol, acetone, ether, toluene, xylene, carbon tetrachloride, MMA Body, etc.).
- 4. The working temperature of the lens should be within the temperature resistance limit of the lens material. Exceeding the temperature resistance limit will cause the lens to crack or melt and affect the service life of the lens. It is recommended that the upper surface temperature of the LED colloid should be less than 120 degrees.



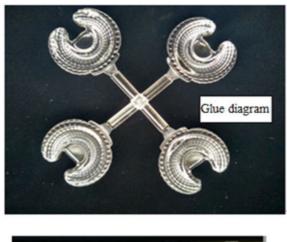
P	N	HK-HG-25@13-15-D4-21	-1g-1-M	Product Name	HK Dark 25@1	3-15°ler	ns-M
Product	material	PMMA		Customer			
Package	diagram	Single Vacu	um package	Boxpa	ackage	>	
Product	packing	44	A/ Box	4	Box/Layer		
	. 0	18	Layer/Box	3168	A/ Carton		
	NO.	Part No	Part name	Size	Dosage	Unit	Remarks
	1	2. 07. 0093	Blister box	23cm*21cm	72	BAG	
Packagin	2	2. 08. 0001	PE film	30cm*30cm	72	PCS	
g	3	2. 06. 0005	Reel label paper	6.2cm*8cm	72	PCS	
Materials	4	2. 06. 0005	Box label paper	6.2cm*9.2cm	1	PCS	
	5	2. 06. 0003	big plate	46.8cm*42.8cm	19	PCS	
	6	2. 06. 0011	big carton	46.8cm*42.8cm*36 m	^C 1	PCS	
Remarks		The loose packing is not subject	ct to this speci	fication. Customer's	requirements shall	prevail	



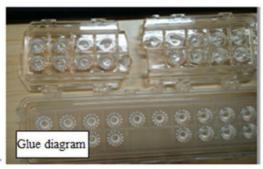
Special notice

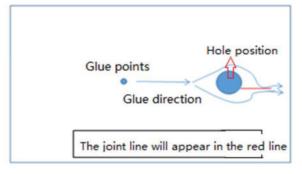
When gule pass through holes, columns and other structures, or part of the thin structure, will form a weld line. The product which uses multi-point injection welding line will appear because of the combination of sol, as shown below:

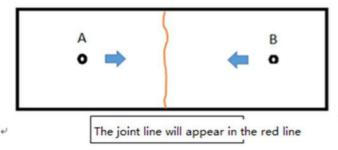
Syntheti











Please note:

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



Appearance inspection standards

1 Operating procedures

1.1.1Sampling standards, sampling plan and AQL

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

2 Code table

Code	Code	Unit	Code	Code	Unit
	description			description	
N	Amount/pcs	pcs	D	Diameter	mm
L	Length	mm	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 atondard	Inspection equipment	Defect level			
reschenis	Judging standard	Testing method	MI	MA	CR	
	When start the machine and process, all products have to check the appearance of the sample, the appearance of the sample is divided into qualified samples and limited samples.					
Check the sample	1: Qualified sample refers to the appearance and structure standard of the product which recognized by the client, the sample size should be confirmed before mass production;	Sample comparison , visual			√	

1		I	Ī	İ	
	2: The limited sample refers to the limit of a particular exceptionally developed sample. Limit the sample only for its specific point of exception to confirm; The priority is higher than the other criteria in this table. When there is a limited sample, the limit sample shall prevail.				
Raw edge	Not allowed to affect the size and assembly	Visual, point card		√	
Scratch	1: Non-optical surface and non-exposed surface scratches should be visually insignificant and the length is less than 1/10 of the maximum surface size.	Visual, point card, calipers		√	
Fingerprint	Fingerprints are not allowed on all products	Visual		~	
Foreign objects, black spots, white spots	The product may not be attached to foreign objects, including oil, fiber, dregs of water gap and so on				√
Deformation	Insufficient filling shall not affect the appearance of the assembly and the exposed surfaces.	Visual, feeler			√
Poor ejection	Products may not appear bad ejection, including no convex top, thimble printed on the assembly surface shall not be higher than the product surface, non-assembled surface thimble height should not exceed the product size tolerances; thimble printing should be less than the product surface and no more than 0.3; thimble surface treatment should be consistent with the product side. Ejection strain: the optical surface and the appearance of the exposed surface after assembly are not allowed to have a strain, and the structural surface does not allow	Visual, 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		√	
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 \leq 10mm, no more than two				
Bubble	No bubbles are allowed	Visual		√	

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



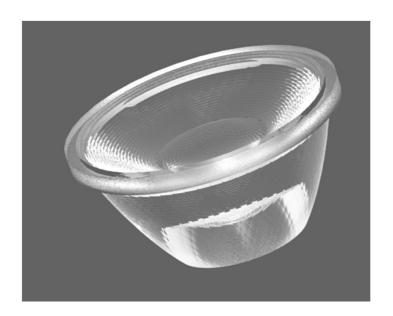
HERCULUX Chengdu HercuLux Photoelectric 恒坤光电 Technology Co.,Ltd Product Approval

Approval number:

Customer:

Manufacturer: Chengdu HercuLux Photoelectric Technology Co.,Ltd

PN	Code	Product
HK-HG-25@13-15-D4-21-1g-1	1. 01. 92131	HK Dark 25@13-15° lens
HK-HG-25@13-24-D4-21-1g-1	1. 01. 92022	HK Dark 25@13-24° lens
HK-HG-25@13-36-D4-21-1g-1	1. 01. 92065	HK Dark 25@13-36° lens
HK-HG-25@13-50-D4-21-1g-1	1.01.92005	HK Dark 25@13-50° lens



	Supplier confirmation			Client confirmation				
Proposed		DATE		Qualified□				
Project manager		DATE		Unqualified□		DATE		
Audit		DATE		Audit		DATE		
Approved		DATE		Approved		DATE		
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^{*}Approval In duplicate, for both supplier and customer.

HERCULUX 恒坤光电

Disclaimer

Please use this product within the permitted range and environment according to the structure and material of the product. If the usage exceeds the recommended value, please test and verify by yourself. If the product is damaged due to out-of-range use, our company will not be responsible for the warranty.

Product material:

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

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

product data:

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

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

Product changes and improvements:

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

As the conventional products that we continue to research and improve, our company reserves the right to make technical changes to its products, and reserves the right to make changes to data resulting from improvements without prior notice.

Operation cautions:

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

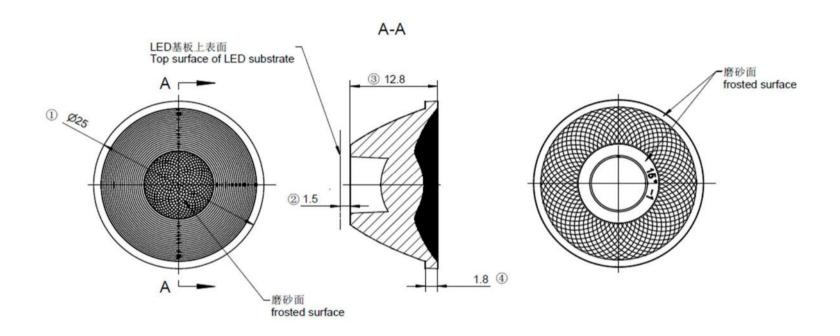


HERCULUX Product Approval

TEL: 0755-2937 1541 Date updated: 2023/2/7 FAX: 0755-2907 5140 http://www.herculux.com/

Product Picture:	
PN:	HK-HG-25@13-15-D4-21-1g-1
Size(L*W*H/Φ*H):	Φ25mm*H12.8mm
Material:	РММА
Effiency:	\
Temperature(Topr):	Material extreme temperature resistance: -40°C to +100°C long-term use temperature: -40°C to +80°C
FWHM:	15°、24°、36°、50°
Recommended maximum power:	8W



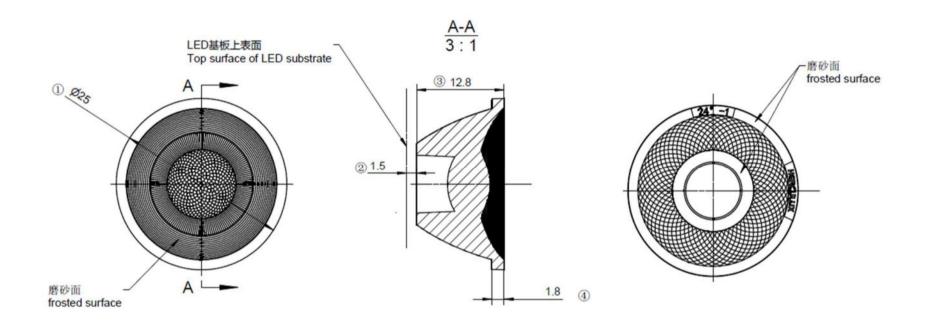


- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

tructure desig HK Dark 25@13-15°len	ns		1.01.92131				
Review	umb	ber of drawin	qty	we	ight		
Validation Material: PMMA	Material: PMMA CDHK						

MT5	Basic size	√ 2	3∼10	24~65	65~140	140~250	250	~450	>450	0		
Tolerance	Dasic size	\3	3 10	24 03	05 140	140 230	230	430	/ 450	U		
	aloranco valu	±0 1	±0.1E	±0.35	±0.50	±0.80		1 2	±2.0	,		
table (mm)	olerance valu	±0.1	±0.15	±0.35	±0.50	±0.80	_ I	1.2	±2.0	'		



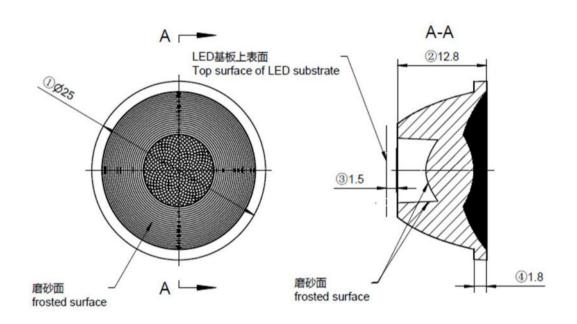


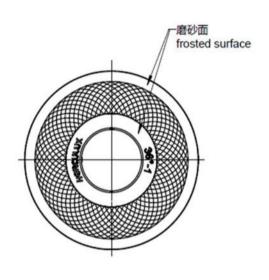
- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

Optical d	esign				H	HK-HG-2	25@13-24-D4-:	21-1g-1	L
tructure	desig		HK Dark	25@13-24°lens			1.01.92022		
Revie	w				umber of	f drawin	qty	we	ight
Validat	ion		Material:	PMMA		-	CDHK		

MT5 Tolerance	Basic size	<3	3∼10	24~65	65~140	140~250	250~	450 >	450				
	olerance valu	±0.1	±0.15	±0.35	±0.50	±0.80	±1.2	2 ±	2.0				





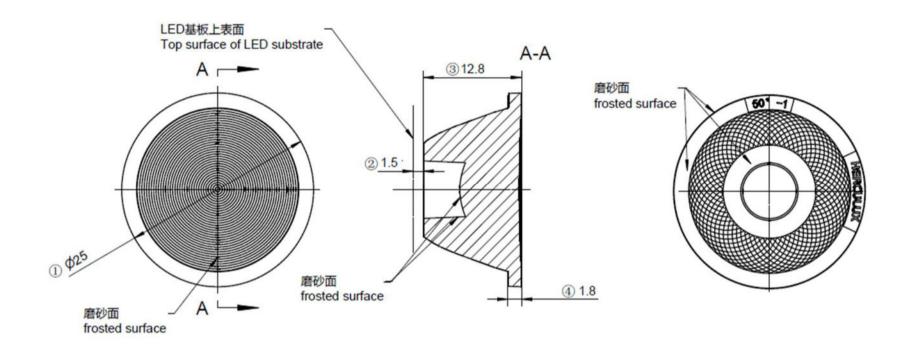


- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

Optical de	esign							HK-HG-2	25@13-36-D4-:	21-1g-1	
tructure o	desig				HK Dark	25@13-36°lens			1.01.92065		
Revie	w						umber o	f drawin	qty	we	ight
Validation					Material: PMMA CDHK						

MT5 Tolerance	Basic size	<3	3∼10	24~65	65~140	140~250	250~	450 >	450				
	olerance valu	±0.1	±0.15	±0.35	±0.50	±0.80	±1.2	2 ±	2.0				



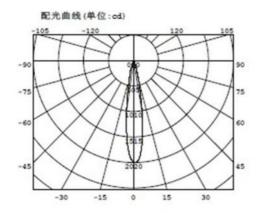


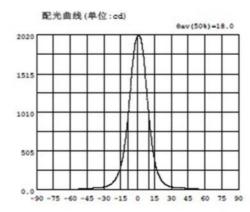
- 1. The 3D map is not indicated for rounded corners and draft angle.
- 2. The dimensional tolerances are not specified according to GB/T 14486 2008 MT5.
- 3, The surface has no flash, shrinkage, bubbles and other defects.

Optical design	1							HK-HG-	25@13-50-D4-	21-1g-1	
tructure desig					HK Dark	25@13-50°lens			1.01.92005		
Review							umber o	f drawin	qty	we	ight
Validation					Material:	PMMA			CDHK		
250 250	450	_	450								

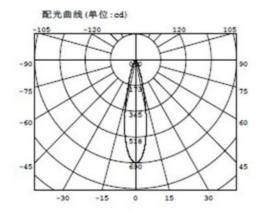
MT5	Basic size	<3	3~10	24~65	65~140	140~250	250~450	>450
Tolerance table (mm)	olerance valu	±0.1	±0.15	±0.35	±0.50	±0.80	±1.2	±2.0

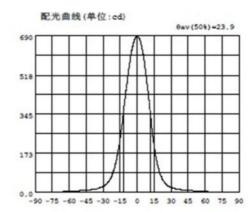




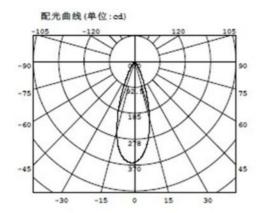


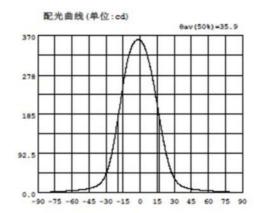




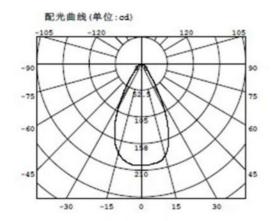


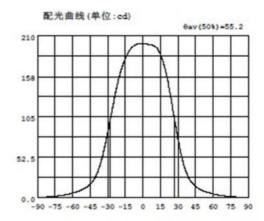














1.Size Size Size Iimit size Iimit result1 result2 result3 result4 gme Remarks diameter 25 24.9 24.91 24.93 24.92 Test environment: In 20 °C -25 °C environment to achieve thermal equilibrium after the test. thickness 1.8 1.75 1.74 1.76 1.74 Gate shear can not affect the appearance of the lamp See attachment See attachment No burr			Ct	Unnan	1	T4	T4	T4	T4	Jud		
1.Size diameter 25				Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	gme	Remarks
1. Size height 12.8 12.73 12.7 12.75 12.75 12.7 12.75 12.7 12.75 12.7 12.75 12.7 12.75 12.7 12.75 12.7 12.75 12.7 12.75 12.7 12.75 12.7 12.75 12.7 12.75 12.7 12.75 12.7 12.75 12.7 12.75 12.7 12.75 12.7 12.75 12.7 12.75 12.7 12.75 12.7 12.75											nt	
1. Size height 12.8 12.73 12.7 12.75 12.7		diamet	er	25			24.9	24.91	24.93	24.92		
1.Size height 12.8											$ \ $	
Testing LED Testing LED Thick gard the actual conditions of the use environment, the lens should be fully tested and tested to prevent the lens life. The angle 17-19 18 17-9 18.1 18.2 Comprehensive Judgment Comprehens											$\overline{}$	
Cate shear can not affect the appearance of the lamp See attachment "Appearance Inspection Standards" 2. Appearance Quality Testing LED Testing LED Testing LED 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 Facula See the signature sample Comprehensive judgment PMMA product size changes with temperature table Length changes 0.8 (mm) 0.7 (mm) 0.5 (mm) 0.5 (mm) 0.5 (mm) 0.7 (mm) 0.	1.Size	heigh	t	12.8			12.73	12.7	12.75	12.7	$ \setminus $	
Gate shear can not affect the appearance of the lamp See attachment "Appearance Inspection Standards" 2. Appearance Quality 3. Material PMMA Color Transparent OK Testing LED 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 or prevent the lens life. FWHM See light distribution curve FWHM See light distribution curve Index Angle Facula See the signature sample Comprehensive judgment PMMA product size changes with temperature table												•
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See attachment "Appearance Inspection Standards" 2. Appearance Quality Appearance Quality Appearance		thickne	ess	1.8			1.75	1.74	1.76	1.74	$ \ $	
See attachment "Appearance Inspection Standards" 2. Appearance Quality Appearance Quality Appearance					Cata	shoar oan	not offect th	o appearar	oo of the le	mn		
See attachment "Appearance Quality "Appearance Guality "Appearance Inspection Standards" 3. Material PMMA Color Transparent OK Testing LED D4 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 FWHM See light distribution curve Index 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 No stains No stains No stains No stains No stains No stains No stains No stains No stains Should be comparable to the source recommended for this lens should be comparable 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 Index 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 of the LED light Salary No stains No												
2. Appearance Quality attachment "Appearance Quality "Appearance Inspection Standards" No stains N					566	attacrimen	Трреаган		on Glandan	us		
Appearance Inspection Standards" No stains No			atta			ı	No burr	No burr	No burr	No bu	rr	
No stains No s	2.Appear Quality	ance			E							OK
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Testing LED 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. 4. Optica FWHM See light distribution curve Index Facula Facula See the signature sample Comprehensive judgment PMMA product size changes with temperature table Length changes O.8 (mm) O.7 Caliper 2D-Quadratic H- Height Gauge M-Tool Microscope P-Needle T- Thick Gauge R-Radius Gauge E-Visual. O.4 C. Ambient temperature on the size of the product refer to the table on the right Testing LED D4 The recommended size and power rating of the LED light source recommended for this lens should be comparable to the beat dissipation capability of the lamp and the actual conditions of the lamp and the actual conditions of the use environment, the lens should be fully tested and tested to prevent the lens life. See light distribution curve It a 17-19 It a 17-19 It a 18. 1 It a 18. 2 PMMA product size changes with temperature table Length Changes O.8 O.5 O.5 O.5 O.5 O.5 O.5 O.5	3.Materia	al			PMM	I A		Color	Tra	nsparent		OK
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. 4. Optica FWHM See light distribution curve Index Index Facula See the signature sample Comprehensive judgment PMMA product size changes with temperature table Length changes 0.8 (mm) 0.7 Caliper 2D-Quadratic Height Gauge M-Tool Microscope P-Needle T-Thick Gauge R-Radius Gauge R-Radius Gauge R-Radius Gauge R-Radius Gauge R-Visual. 2. Ambient temperature on the size of the product refer to the table on the right The recommended for this lens should be comparable to the eat dissipation capability of the lamp and the actual dissipation capability of the lamp and the actual dissipation capability of the lamp and the advanced and tested to prevent the lens life. See light distribution curve 18. 17. 9 18. 1 18. 2 Qualified PMMA product size changes with temperature table Length changes 0.8 (mm) 0.7 Size: 50mm Size: 50mm Size: 20mm Gauge E-Visual. 2. Ambient temperature on the size of the product refer to the table on the right			.ED			· ·						.
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A.Optica I index												
Index angle 17–19 18 17.9 18.1 18.2 K-value Efficiency 85% (white scaffold) 89% 90% 90% 91% Facula See the signature sample Comprehensive judgment PMMA product size changes with temperature table Length changes 0.8 (mm) 0.7 O.6 O.5 Microscope P-Needle T-Thick Gauge R-Radius Gauge R-Radius Gauge E-Visual. 2. Ambient temperature on the size of the product refer to the table on the right O.1 O.2 O.3 O.3 O.4 O.6 O.5 O.5 O.6 O.5 O.7 O.8 O.8 O.9 O.9 O.9 O.9 O.9 O.9	4 Optica			CONTUNIONS	or the use	CITVILOTITIE				and lested	to pre	event the lens me.
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 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 Remarks: 1. Tool Number: V-Vernier Changes 0.8 (mm) 0.7 0.6 0.5 0.7 0.8 0.9 0.9 0.8 0.9 0.9 0.9 0.9		angle)		17-19		`	<u> </u>		18. 2		
Facula See the signature sample Comprehensive judgment PMMA product size changes with temperature table Length changes 0.8 (mm) 0.7 O.6 O.5 Size: 50mm Size: 100mm 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 O.1 O.2 O.3 O.3 O.4 O.5 Size: 300mm O.7 O.6 O.5 O.7 O.6 O.5 O.7 O.6 O.5 O.7 O.7 O.7 O.8 O.9 O.9 O.9 O.9 O.9 O.9 O.9											_	
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PMMA product size changes with temperature table Length changes 0.8 (mm) 0.7 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 PMMA product size changes with temperature table Length changes 0.8 (mm) 0.7 0.6 0.5 0.4 0.5 0.4 0.3 0.2 0.1 0.7 0.6 0.7 0.7 0.8 Size: 50mm Size: 150mm Size: 250mm Size: 250mm Size: 300mm		Facula	See t	he signatu	re sample		,				<u>I</u>	
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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 0.6 0.5 0.7 0.4 0.8 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9				nier	(mm	·				<u> </u>	Siz	re• 100mm
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 0.3 0.4 0.3 0.5 Size: 200mm Size: 250mm 0.1 0.1 0.1 0.2 0.1 0.3 0.2 0.1 0.1 0.1 0.1 0.2 0.1 0.3 0.2 0.1 0.1 0.1 0.2 0.1 0.3 0.2 0.1 0.3 0.2 0.1 0.3 0.2 0.1 0.1 0.1 0.1 0.2 0.1 0.3 0.2 0.3 0.2 0.1 0.3 0.2 0.3 0.2 0.1 0.3 0.2 0.3 0.2 0.1 0.3 0.2 0.3 0.2 0.1 0.3 0.2 0.1 0.3 0.2 0.3 0.2 0.1 0.3 0.3 0.2 0.3 0.2 0.1 0.3 0.2 0.3 0.2 0.1 0.3 0.2 0.3 0.3 0.3 0.2 0.1 0.1 0.1 0.1 0.1 0.1 0.1										×		
Thick Gauge R-Radius Gauge E-Visual. 2. Ambient temperature on the size of the product refer to the table on the right 0.4 0.3 0.2 0.1 0.1 0.2 0.1 0.2 0.1 0.2 0.1 0.2 0.1 0.2 0.1 0.2 0.1 0.2 0.1 0.2 0.1 0.2 0.1 0.2 0.1 0.2 0.1 0.2 0.1 0.2 0.1 0.2 0.1 0.2 0.1 0.2 0.2 0.1 0.2 0.3 0.2 0.2 0.1 0.3 0.2 0.2 0.1 0.3 0.2 0.3 0.2 0.3 0.2 0.3 0.2 0.3 0.2 0.3 0.2 0.3 0.3 0.2 0.3 0.2 0.3 0.2 0.3 0.3 0.2 0.3 0.3 0.2 0.3 0.3 0.2 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3									*			
One of the product refer to the table on the right 0.2 One of the product refer to the table on the right 0.2 0.3 0.2 0.4 0.7 0.7 0.7 0.7 0.8 0.9 0.9 0.9 0.9 0.9 0.9 0.9	Thick Ga	uge R-Ra							X		— Siz	ze: 200mm
the size of the product refer to the table on the right 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.									1		 ≪Siz	ze: 250mm
to the table on the right 0 10 20 30 40 (°C)											S iz	ze: 300mm
0 10 20 30 40 (°C)				rer								
			J			_	10	20	30			
Precautions:										(℃)		
	Precautio	ons:										

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



							Ι			Jud	
			Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	gme nt	Remarks
	diamet	er	25			24.97	24.92	24.97	24.99	\setminus	To do continuo con la
1.Size	heigh	t	12.8			12.72	12.77	12.74	12.81		Test environment: In 20 °C -25 °C environment to achieve thermal equilibrium after the test.
	thickne	ess	1.8			1.74	1.79	1.77	1.76		ieat.
				Gate	shear can	not affect th	e appearar	nce of the la	ımp		
				See	attachment	t "Appearan	ce Inspecti	on Standar	ds"		
2.Appear	ance		See achment bearance	E	1	No burr	No burr	No burr	No bu	rr	OK
Quality		Ins	spection andards"	ı	N	o stains	No stains	No stains	No stai	ns	O.K
3.Materia	al			PMM	A		Color	Tra	nsparent		OK
	Testing I	LED					D4				
	The recommended size and power rating of the LED light source recommended for t to the source of the test, if it is required to be out of range. According to the heat dis and the actual conditions of the use environment, the lens should be fully tested and										ability of the lamp
4.Optica	FWHI	M				See lig	ght distribut	ion curve			
I index	angle	Э		22-26		24	23. 9	22.8	23		
	K-val	ue				1.49	1.51				
	Efficie	ency	85% (w	hite scaf	fold)	90%	90%	91%	91%		
	Facula	See t	he signatu	re sample		,					
	ehensive ment					_	Qı	ıalified			
					DNAN	A produc	t siza shan			+	hla
						iA produc	t size chan	ges with t	emperati	מופ נמ	ible
Remarks	i:			Length change							
1、Tool N	Number: V		ier	(mm							e: 50mm
	D-Quadra				0.6				- K		e: 100mm
	auge M-To pe P-Nee				0.5			*			e: 150mm
Thick Ga	uge R-Ra				0.4			X			te: 200mm
Gauge E					0.3					 Siz	e: 250mm
	ient tempe of the prod				0.1				→ -	Siz	e: 300mm
	ole on the				0						
					0	10	20	30	40 (℃)		
Precautio	ons:										

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- 4. The working temperature of the lens should be within the temperature limit of the lens material. Exceeding the temperature limit will cause damage to the lens and affect the service life of the lens.



			0, 1, 1			- .	T	- .	- .	Jud	
			Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	gme nt	Remarks
	diamet	er	25			24.93	24.91	24.91	24.92		
1.Size	heigh	t	12.8			12.74	12.73	12.74	12.74		Test environment: In 20 °C -25 °C environment to achieve thermal equilibrium after the test.
	thickn∈	ess	1.8			1.76	1.8	1.78	1.78		test.
				Gate	shear can	not affect th	ne appearar	nce of the la	amp		
				See	attachmen	t "Appearan	ice Inspecti	on Standar	ds"		
2.Appear	ance		See achment bearance	E	ı	No burr	No burr	No burr	No bu	rr	OK
Quality		Ins	pection indards"	1	N	o stains	No stains	No stains	No stai	ns	5
3.Materia	ıl			PMM	4		Color	Tra	nsparent		OK
	Testing I	_ED					D4				
4 Onting	to the so	ource actual	of the test,	if it is requ	ired to be o	out of range ent, the lens	. According	to the heat fully tested	t dissipatio	n capa	ald be comparable ability of the lamp event the lens life.
4.Optica I index	angle			32-37		33. 5	34	35.9	34. 2		
	K-val			02 01		55. 5	01	35.3	01.2	_	
	Efficie		85% (w	white scaf	fold)	88%	87%	87. 50%	86. 50%	_	$\overline{}$
	Facula	لــــــــــــــــــــــــــــــــــــــ	he signatu			\ \	<u> </u>				
	ehensive ment					I	Qu	ıalified			
					PMN	1A produc	t size chan	ges with t	emperatu	ıre ta	able
Caliper 2 Height Ga Microsco Thick Ga Gauge Each 2 Ambi the size of	Number: V D-Quadra auge M-To pe P-Neeo uge R-Rao	tic H- pol dle T- dius erature luct re	e on	Length change (mm	es 0.8 —	10	20	30		Siz	ze: 50mm ze: 100mm ze: 150mm ze: 200mm ze: 250mm ze: 300mm
Precautio	ons:										

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			Standard	Upper	Lower	Test	Test	Test	Test	Jud	Domonico	
			size	Size limit	size limit	result1	result2	result3	result4	gme nt	Remarks	
	diameter		diameter	25			24.96	25	24.98		24.97	
1.Size			height	12.8			12.75	12.77	12.78		12.75	
	height	1	thicknes s	1.8			1.79	1.8	1.79		1.78	
				Gate	shear can	not affect th	e appearar	nce of the la	amp			
				See	attachmen	t "Appearan	ce Inspecti	on Standar	ds"			
2.Appear	ance	See attachment "Appearance		ent		No burr	No burr	No burr	No bu	rr	OK	
Quality	Ins		spection andards"	_	N	No stains		No stains	No stains			
3.Materia	ıl			PMMA			Color	Tra	nsparent		OK	
	Testing I	.ED					D4					
4.Optica	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							ability of the lamp				
l index	angle			50-60			55 54.9 54 54.5					
				00 00			01. 3	71	34. 3	_		
		K-value Efficiency 82		82% (white scaffold)		0.40/	050/	94 20%	85. 50%			
Compre	Facula	See	ine signatu	signature sample `								
-	ment						Qι	ıalified				
						/IA produc	t size chan	ges with t	emperatu	ıre ta	able	
Caliper 2 Height Ga Microsco Thick Ga Gauge Each 2 Ambi the size of	Number: V D-Quadra auge M-To pe P-Neeo uge R-Rao	tic H- pol dle T- dius erature uct re	e on	Length change (mm	es 0.8 —	10	20	30	*	Siz	te: 50mm te: 100mm te: 150mm te: 200mm te: 250mm te: 300mm	
Precautic	ns:		1									

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PN		HK-HG-25@13-15-D4-21-1g-1		Product Name	HK Dark 25@13-15°len:		ens
Product	material	PMMA		Customer			
Package diagram		Single Vacuum package Box package					
Product	packing	44	A/ Box	4	Box/Layer		
	. 0	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	
Dookogin	2	2. 08. 0001	PE film	30cm*30cm	72	PCS	
Packagin g Materials	3	2. 06. 0005	Reel label paper	6.2cm*8cm	72	PCS	
Materials	4	2. 06. 0005	Box label paper	6.2cm*9.2cm	1	PCS	
	5	2.06.0003	big plate	46.8cm*42.8cm	19	PCS	
	6	2. 06. 0011	big carton	46.8cm*42.8cm*36cm*36cm*36cm*36cm*36cm*36cm*42.8cm*36cm*36cm*36cm*36cm*36cm*36cm*36cm*36	1	PCS	
Remarks	The loose packing is not subject to this specification. Customer's requirements shall prevail						

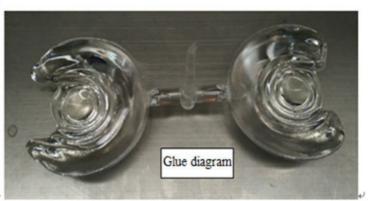


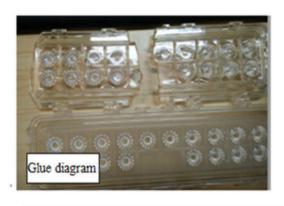
Special notice

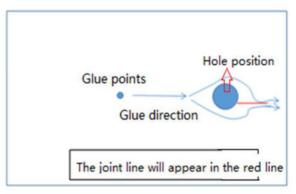
When gule pass through holes, columns and other structures, or part of the thin structure, will form a weld line. The product which uses multi-point injection welding line will appear because of the combination of sol, as shown below:

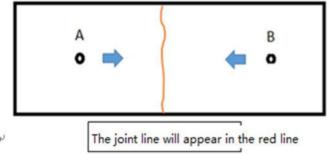
Syntneti











Please note:

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



Appearance inspection standards

1 Operating procedures

1.1.1Sampling standards, sampling plan and AQL

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

2 Code table

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

3 Test conditions

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

4 Appearance inspection standards

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

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

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