

Approval number :

Effective date of approval :

Customer :

Product : HK 4 in 1 90°High-Bay Lens

Material Code : 1.01.6868

PN: HK-50@10-90-5050-20-1g-4

Manufacturer : Chengdu HercuLux Photoelectric Technology Co.,Ltd



| | Supplier confirmation | | | Client confirmation | | | |
|--------------------|-----------------------|------|--|---------------------|--|--------|--|
| Proposed | | DATE | | Qualified□ | | D 4 75 | |
| Project manager | | DATE | | Unqualified□ | | DATE | |
| Audit | | DATE | | Audit | | DATE | |
| Approved | | DATE | | Approved | | DATE | |
| Stamp | | DATE | | Stamp | | DATE | |

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

Factory: Chengdu Shuangliu District, Iot industrial park 2 road HercuLux Photoelectric ParkPhone : 028-85887727 (801)028-85887990 (801)Fax : 028-85887730www.hkoptics.comSales Dept: Shenzhen NanshanDistrict Nanshan Cloud Valley Innovation Industrial Park Comprehensive Service Building,TEL: 0755-2937 1541FAX: 0755-2907 5140

*Approval In duplicate, for both supplier and customer.



FAX: 0755-2907 5140

TEL: 0755-2937 1541

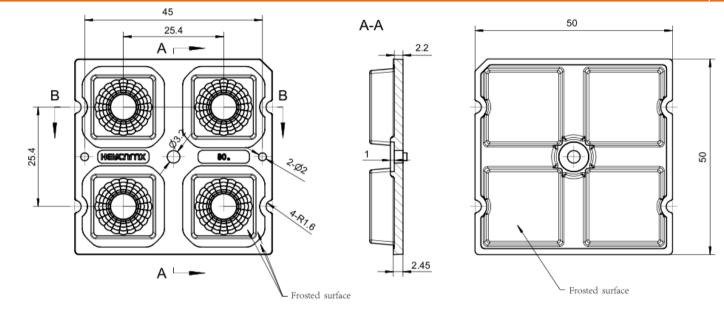
Product Picture:Image: Constraint of the second of the second

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Date updated: 2018/6/21

Product 2D drawings







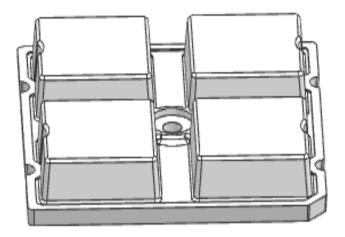


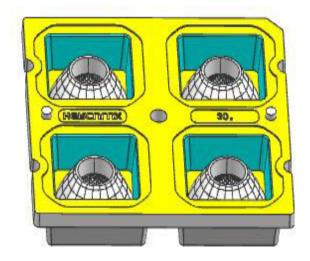
Technical Requirement:

- 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.

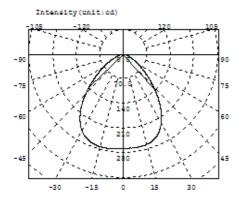
| ptical Design | 1 | | | HK-50@10-90-50 |)50-20-1g-4 | 1.01.6868 | |
|---------------|----------------|--|--------------------------------|----------------|-------------|-----------|--|
| ructure Desig | ructure Design | | HK 4 in 1 90° High-Bay Lens | Pages | Qty | Weight | |
| Assess | | | | 2 | | | |
| Authorized | | | Material:PC | СДНК | | | |

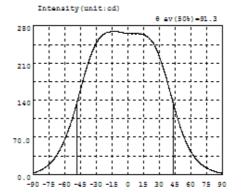












Intensity data:(deg , cd) CO-180

| A | I | Α | I | A | I | A | I | A | I | λ | I |
|--------|-------|-------|-------|-------|----------|------|-------|------|-------|------|-------|
| -90.0 | 3.095 | -58.5 | 72.57 | -27.0 | 256.1 | 4.5 | 265.1 | 36.0 | 185.9 | 67.5 | 23.35 |
| -88.5 | 3.772 | -57.0 | 80.28 | -25.5 | 259.6 | 6.0 | 265.6 | 37.5 | 175.6 | 69.0 | 20.58 |
| -87.0 | 4.654 | -55.5 | 88.44 | -24.0 | 262.6 | 7.5 | 265.2 | 39.0 | 164.1 | 70.5 | 18.17 |
| -85.5 | 5.777 | -54.0 | 97.14 | -22.5 | 264.5 | 9.0 | 265.6 | 40.5 | 153.6 | 72.0 | 15.92 |
| -84.0 | 6.904 | -52.5 | 106.4 | -21.0 | 266.4 | 10.5 | 265.4 | 42.0 | 142.9 | 73.5 | 13.90 |
| -82.5 | 8.350 | -51.0 | 116.3 | -19.5 | 268.0 | 12.0 | 264.5 | 43.5 | 131.8 | 75.0 | 12.15 |
| -81.0 | 9.947 | -49.5 | 126.5 | -18.0 | 268.7 | 13.5 | 263.9 | 45.0 | 121.0 | 76.5 | 10.54 |
| -79.5 | 11.72 | -48.0 | 137.2 | -16.5 | 2 69 .0 | 15.0 | 262.8 | 46.5 | 111.1 | 78.0 | 9.125 |
| -78.0 | 13.78 | -46.5 | 148.4 | -15.0 | 270.0 | 16.5 | 262.7 | 48.0 | 101.6 | 79.5 | 7.868 |
| -76.5 | 16.01 | -45.0 | 159.6 | -13.5 | 270.0 | 18.0 | 260.7 | 49.5 | 92.00 | 81.0 | 6.724 |
| -75.0 | 18.62 | -43.5 | 170.2 | -12.0 | 2 69 . 9 | 19.5 | 258.8 | 51.0 | 83.37 | 82.5 | 5.750 |
| -73.5 | 21.39 | -42.0 | 181.0 | -10.5 | 269.3 | 21.0 | 255.7 | 52.5 | 74.99 | 84.0 | 4.849 |
| -72.0 | 24.52 | -40.5 | 191.6 | -9.0 | 269.0 | 22.5 | 252.1 | 54.0 | 67.50 | 85.5 | 4.073 |
| -70.5 | 28.12 | -39.0 | 201.3 | -7.5 | 268.5 | 24.0 | 248.1 | 55.5 | 60.43 | 87.0 | 3.206 |
| - 69.0 | 32.07 | -37.5 | 210.6 | -6.0 | 268.1 | 25.5 | 242.5 | 57.0 | 54.01 | 88.5 | 2.653 |
| - 67.5 | 36.49 | -36.0 | 219.4 | -4.5 | 267.2 | 27.0 | 236.8 | 58.5 | 48.18 | 90.0 | 2.118 |
| -66.0 | 41.34 | -34.5 | 227.6 | -3.0 | 266.8 | 28.5 | 230.1 | 60.0 | 42.95 | | |
| -64.5 | 46.61 | -33.0 | 235.0 | -1.5 | 266.4 | 30.0 | 222.4 | 61.5 | 38.15 | | |
| -63.0 | 52.40 | -31.5 | 241.5 | 0.0 | 265.7 | 31.5 | 213.4 | 63.0 | 33.82 | | |
| -61.5 | 58.71 | -30.0 | 247.2 | 1.5 | 265.8 | 33.0 | 205.3 | 64.5 | 29.90 | | |
| - 60.0 | 65.33 | -28.5 | 252.0 | 3.0 | 266.0 | 34.5 | 196.3 | 66.0 | 26.47 | | |

Electricity Parameter:

| Current I: | 0.1000A | Power: | 2.180W |
|------------|---------|--------|--------|
| Voltage V: | 21.79V | PF: | 1.000 |

Optical Parameter(Distance=2.559m):

Equivalent Luminous flux: Φ eff= 583.81m Efficiency: Eff=267.811m/W Diffuse angle: 0(25%): 113.4deg0(50%): 91.3deg0(75%): 72.1deg0(50%): 91.3deg Diffuse angle: 0(25%): 113.9deg0(50%): 91.9deg0(75%): 73.2deg0(50%): 91.9deg Imax=270.0cd (C=0.0deg,G=-15.0deg) C0-180Plane Imax= 270.0cd (G=-15.0deg) C0-180Plane I0= 265.7cd

HK 4 in 1 90°High-Bay Lens Sample size test report



| | | | Standard size | Upper Size limit | Lower siz | e limit | Test result1 | Test result2 | Test result3 | Judgment |
|--|--|---|--|------------------|--------------|------------|---------------|--------------|---|-------------|
| | OW | | 50 | 50.15 | 49.8 | 5 | 50.06 | 50.04 | 50.05 | OK |
| 1.01 | S of loca | ting | 45 | 45.1 | 44.9 |) | 44.95 | 44.97 | 45.05 | OK |
| 1.Size | D of loca | iting | 2 | 2.05 | 1.9 | | 1.92 | 1.91 | 1.96 | OK |
| | TH | | 2.2 | 2.3 | 2 | | 2.04 | 2.03 | 2.04 | OK |
| | | | | Gate shear can | not affect t | he appe | arance of the | lamp | | |
| | | | See attachment "Appearance Inspection Standards" | | | | | | | |
| | | e attachment Appearance | _ | No bi | ırr | No burr | No burr | No burr | — ок | |
| Quality | | I | Inspection Standards" | E | No sta | iins | No stains | No stains | s No stains | |
| 3.Materia | al | | | PC | | | Color | Tra | nsparent | ОК |
| | Testing I | ED | D LUXEON 5050 | | | | | | | |
| | FWHM | | | | See ligh | t distribu | ution curve | | | |
| 4.Optica I index | Angle | | | | | 90.2° | 9 | 1.3° | | \nearrow |
| | Effiency | | | | | 92.40% | % 92 | .50% | | \nearrow |
| | Facula | See t | he signature sa | mple | | • | | | | |
| | ehensive Iment | | | | | C | Qualified | | | |
| Remarks 1、Tool Caliper 2 Height G Microsco Thick Ga Gauge E 2、Test °C -25 °C achieve t after the temperat | S: Number: V 2D-Quadra auge M-To pe P-Need auge R-Ra 2-Visual. environme tenvironme thermal eq test. (Amb ture on the uct refer to | tic H- col die T- dius nt: In ent to uilibriu ient size o | 20 um | th 1 | ct size cha | inges w | rith temperar | | Size: 50mm Size: 100mi Size: 150mi Size: 200mi Size: 250mi Size: 300mi | n n n |

 Wear clean gloves during lens assembly to prevent contamination of the lens surface.
 Take the lens try to avoid touching the total reflection surface.
 When the lens surface contamination, you can only gently wipe with soft cotton sticky neat neutral solvent, not allowed to wipe with industrial solvents.

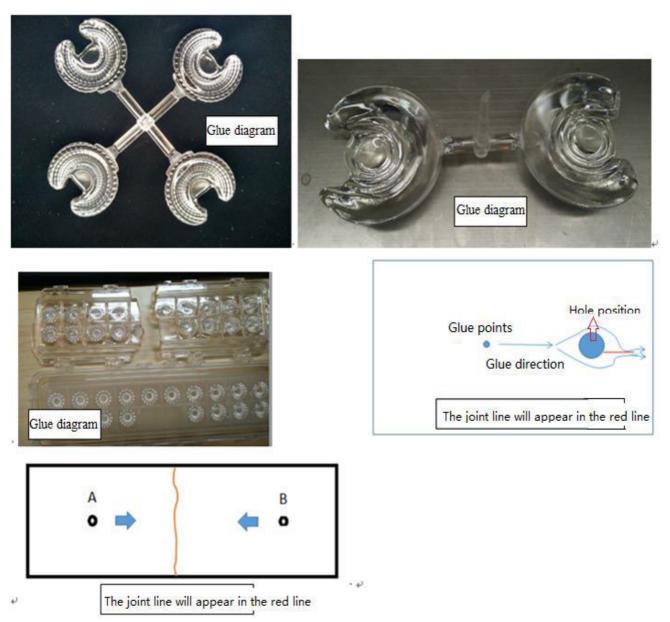
Packaging Information



| PI | N | HK-50@10-90-5050- | -20-1g-4 | Product Name | HK 4 in 1 90°H | igh-Bay I | _ens | | |
|-----------------|--|-------------------|--------------|-----------------|----------------|-----------|-------------|--|--|
| Product | material | PC | | Customer | | | | | |
| Package diagram | | | | Dackage | } | $^{<}$ | | | |
| Product | nacking | 12 | A/ Box | 4 | Box/Floor | | | | |
| TTOQUEL | packing | 14 | Floor/Carton | 672 | A/ Carton | | | | |
| | NO. | Part No | Part name | Size | Dosage | Unit | Remar ks | | |
| | 1 | 2.07.0049 | Blister box | 23cm*21cm | 56 | BAG | | | |
| | 2 | 2.08.0001 | PE film | 30cm*30cm | 56 | PCS | | | |
| Packagin | 3 | 2.06.0005 | Reel label | 6.2cm*8cm | 56 | PCS | | | |
| g Materials | 4 | 2.06.0005 | Box label | 6.2cm*9.2cm | 1 | PCS | | | |
| | 5 | 2.06.0003 | big plate | 46.8cm*42.8cm | 15 | PCS | | | |
| | 6 | 2.06.0001 | big carton | 46.8cm*42.8cm*3 | ⁶ 1 | PCS | | | |
| Remarks | Scattered packaging is not subject to this specification | | | | | | | | |

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:



Please note :

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



Appearance inspection standards

1 Operating procedures

1.1.1Sampling standards, sampling plan and AQL

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

2 Code table

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

3 Test conditions

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

3.2 Light: 2x40w cool white fluorescent lamp, chip should be from the lens surface 500-550mm, in order to make the bad appearance can be correctly found, the illumination should not be less than 500Lux ;

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

4 Appearance inspection standards

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

| | 2: The limited sample refers to the limit of a particular exceptionally developed sample. Limit the sample only for its specific point of exception to confirm; The priority is higher than the other criteria in this table. When there is a limited sample, the limit sample shall prevail. | | | |
|-------------------------------|---|------------------------------------|---|---|
| Raw edge | Not allowed to affect the size and assembly | Visual, point card | V | |
| Scratch | 1: Non-optical surface and non-exposed surface scratches should be visually insignificant and the length is less than 1/10 of the maximum surface size. | Visual, point card, calipers | V | |
| Fingerprint | Fingerprints are not allowed on all products | Visual | V | |
| Foreign things, impurities | The product may not be attached to foreign objects, including oil, fiber, dregs of water gap and so on | | | V |
| Deformation | Insufficient filling shall not affect the appearance of the assembly and the exposed surfaces. | Visual, feeler | | √ |
| 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 | V | |
| Insufficient filling | Insufficient filling shall not affect the appearance of the assembly and the exposed surfaces, The signature sample shall prevail. | Visual, point card | V | |
| Shrink | When the entire surface of the product shrinks, the optical properties and dimensions must meet the requirements, and the visual will not significantly affect the appearance.Part shrink reference point defects | Visual, point card | V | |
| 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 | V | |

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



Approval number :

Customer :

Product : HK 4 in 1 90° Lens

Material Code : 1.01.6868

PN: HK-50@10-90-5050-20-1g-4

Manufacturer : Chengdu HercuLux Photoelectric Technology Co.,Ltd



| | Supplier confirmation | | | | Client confirmation | | | |
|--------------------|-----------------------|------|--|--------------|---------------------|--------|--|--|
| Proposed | | DATE | | Qualified□ | | D.4.75 | | |
| Project manager | | DATE | | Unqualified□ | | DATE | | |
| Audit | | DATE | | Audit | | DATE | | |
| Approved | | DATE | | Approved | | DATE | | |
| Stamp | | DATE | | Stamp | | DATE | | |

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

Factory: Chengdu Shuangliu District, Iot industrial park 2 road HercuLux Photoelectric ParkPhone : 028-85887727 (801)028-85887990 (801)Fax : 028-85887730www.hkoptics.comSales Dept: Shenzhen NanshanDistrict Nanshan Cloud Valley Innovation Industrial Park Comprehensive Service Building,TEL: 0755-2937 1541FAX: 0755-2907 5140

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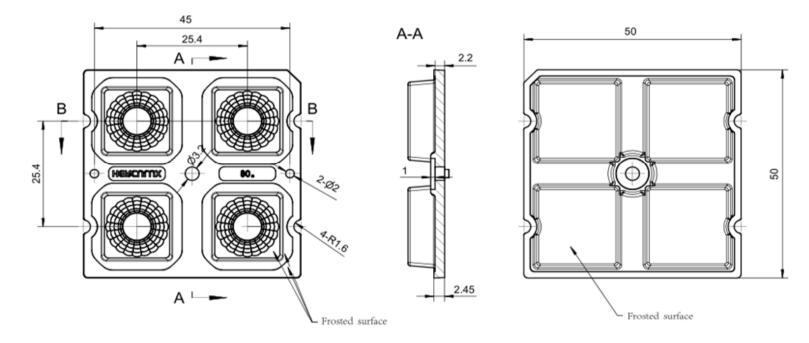
Product Picture:Image: Constraint of the state of the stat

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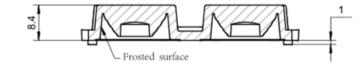
Date updated: 2018/12/17

Product 2D drawings





B-B



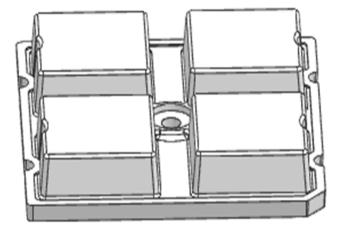
Technical Requirement:

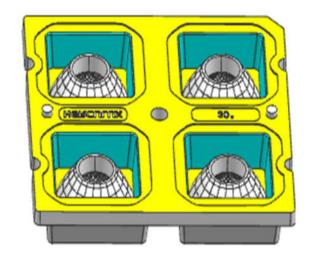
- 1. The surface don't have any defects of flash, shrink and bubble.
- 2. The uncharted fillet and pattern draft subject to the 3D drawing.
- 3. The uncharted dimensional tolerance subject to the 3D drawing.

| Optical Design | | HK 4 in 1 90° Lens | | HK-50@10- | -90-5050-20-1g-4 | 1.01.6868 |
|------------------|--|-----------------------|------|-----------|------------------|-----------|
| Structure Design | | | | Pages | Qty | Weight |
| Assess | | | Lens | | | |
| Authorized | | Material: F | PMMA | | CDHK | |

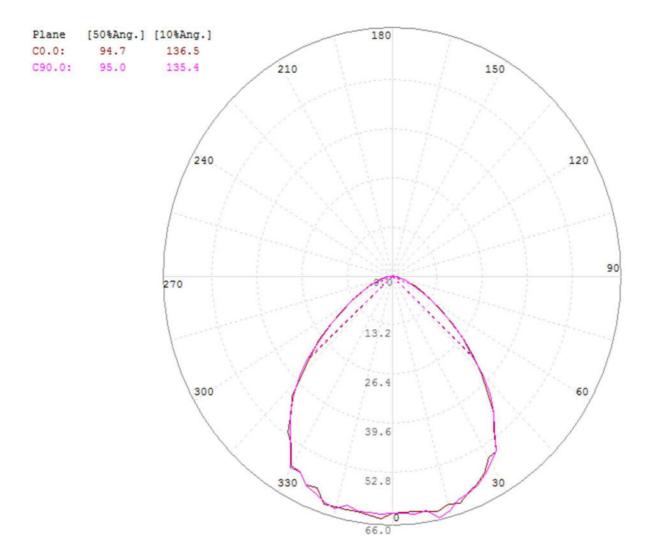
Image illustration











Sample size test report HK 4 in 1 90° Lens

HERCULUX ^{恒坤光电}

| | | | | | | 1 | | | | | 1 | |
|--|----------------------|--------------------------------------|----------------------|---------------------------------|---------------------|-----------------|-----------|--------------|-----------------|-----------------|------------------|--------------------------------------|
| | | | Standard size | Upper Size limit | Lower size limit | Test result1 | | est sult2 | Test result3 | Test result4 | Jud gme nt | Remarks |
| 1.Size | OW | | 50 | | | 50.06 | 50 | .04 | 50.05 | 50.04 | \bigwedge | Test environment: |
| | S of locating | | 45 | | | 44.95 | 44 | .97 | 45.05 | 44.97 | \bigwedge | In 20 ℃ -25 ℃ |
| | D of loca | iting | 2 | | | 1.92 | 1. | 91 | 1.96 | 1.91 | \bigwedge | environment to achieve thermal |
| | тн | | 2.2 | | | 2.04 | 2. | 03 | 2.04 | 2.03 | \square | equilibrium after the test |
| | | | | Gate she | ar can not | affect the | appear | rance | of the lamp |) | | |
| | | | | See atta | chment "A | ppearanc | e Inspe | ction | Standards" | | | |
| 2.Appearance | | nce See attachment "Appearance | | | | No burr | | burr | No burr | No burr No burr | | ок |
| Quality | Ap In | | spection andards" | | Ν | No stains | | stains | No stains | No stains | | |
| 3.Materia | ıl | | | PMMA | 4 | | Co | olor | Transparent Oł | | | ОК |
| | Testing | Testing LED LUXEON 5050 | | | | | | | | | | |
| | FWHM | | | See light distribution curve | | | | | | | | |
| 4.Optica I index | angle | | | | | | | / | | | | |
| | Efficiency | | | | | | \square | | / | \backslash | | |
| | Facula | See t | the signatu | re sample | | ` | | | | | | |
| | hensive ment | | | | | | | Q | ualified | | | |
| | | | | | РММА | product | size cł | hange | es with ter | nperatur | 9 | |
| | | | | Length table | | | | | | | | |
| Remarks | : Number: \ | /-Verr | nier | changes (mm) | | | | | - | Size: | 50mm | |
| Caliper 2 | D-Quadra | tic H- | | (1111) | 0.8 | | | | | Size: | | |
| | auge M-T pe P-Nee | | | 0.6 100mm 0.4 Size: 150mm | | | | | ı | | | |
| Thick Ga | uge R-Ra | | | | | | | | | | | |
| Gauge E-Visual. 2、 Ambient temperature on | | | | 0.2 Size: | | | | | | | | |
| the size of the product refer | | | | 0 | | | - | | 200mn | 1 | | |
| to the table on the right | | | | | 0 | 10 | 20 | 30 | 40 | | | |
| | | | | | | | | | (°C) | | | |
| | | | | | | | | | | | | |
| Precautio | ne. | | I | | | | | | | | | |
| | | ves di | uring lens a | assembly to | nrevent c | ontamina | ion of t | he ler | is surface | | | |

Wear clean gloves during lens assembly to prevent contamination of the lens surface.
 Take the lens try to avoid touching the total reflection surface.
 When the lens surface contamination, you can only gently wipe with soft cotton sticky neat neutral solvent, not allowed to wipe with industrial solvents.

Packaging Information

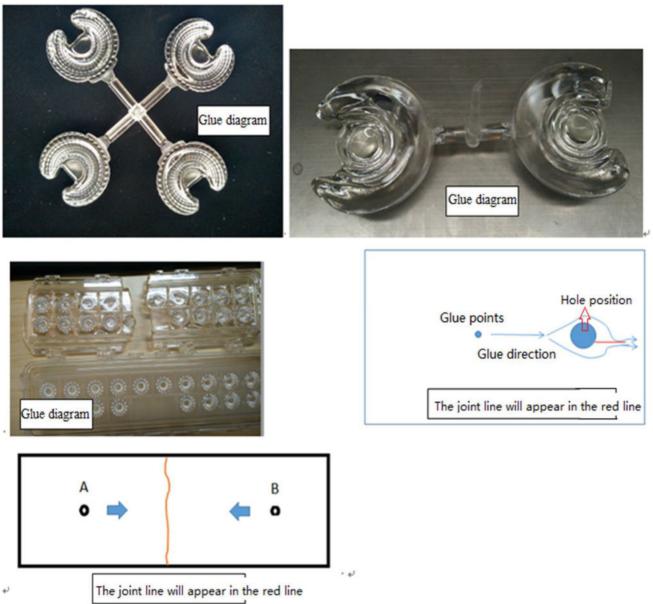


| PN HK-50@10-90-5050-20-1g-4 | |)-1g-4 | Product Name | HK 4 in 1 90° Lens | | | |
|-----------------------------|---|--------------|------------------|------------------------|-----------|------|---------|
| Product material | | РММА | | Customer | | | |
| Package diagram | | Single Vacuu | im package | Box pack | age | > | |
| Product packing | | 12 | A/ Box | 4 | Box/Floor | | |
| | | 14 | Floor/Carton | 672 | A/ Carton | | |
| | NO. | Part No | Part name | Size | Dosage | Unit | Remarks |
| | 1 | 2.07.0049 | Blister box | 23cm*21cm | 56 | BAG | |
| Packagin | 2 | 2.08.0001 | PE film | 30cm*30cm | 56 | PCS | |
| g Materials | 3 | 2.06.0005 | Reel label paper | 6.2cm*8cm | 56 | 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 | 15 | PCS | |
| | 6 | 2.06.0001 | big carton | 46.8cm*42.8cm*36 cm | 1 | PCS | |
| Remarks | The loose packing is not subject to this specification. Customer's requirements shall prevail (There are three layers of 24 bags for each layer and 5 bags for the top layer) | | | | | | |

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

3 Test conditions

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

3.2 Light: 2x40w cool white fluorescent lamp, the light source is 500-550mm away from the lens surface; in order to make the appearance defect can be correctly recognized, the illumination should be 500-1000Lux, and the observation time is 10 seconds.3.3 Visual inspection staff should be 1.0 (including corrected visual acuity) above, no color blindness, color weakness.

4 Appearance inspection standards

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

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

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