

# OPTICAL ENERGY DESIGN & DEVICES

HercuLux Optics focuses on the design and manufacture of optics for LED lighting, LED Automotive headlamp, UV LED precision light distribution, laser ultra-short-throw projector matching screen who is a modern high-tech enterprise that provides professional secondary light distribution solutions

Autumn 2022 Edition



## Chengdu HercuLux Photoelectric Technology Co., Ltd.

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Website



WeChat



Youtube



## Background of establishment:

HercuLux is a company dedicated to providing the most innovative optical solutions and related optical components in the field of energy optics, jointly funded by a team of experts who have been engaged in the field of optics, precision optical molds and precision optical injection molding for more than ten years with the background of Institute of Optoelectronics, Chinese Academy of Sciences.

## Registration scale:

RMB 30 million

## Main business:

Energy Optics Solutions and Optical Device Suppliers

## Application:

Mainly used for indoor lighting in shopping malls, hotels, offices, homes, etc; Used for outdoor lighting such as roads and advertisements; LED lights, stage lights, UV exposure machines, UV printing, and other supporting optical lenses and reflective cup products.



## National High tech Enterprise:

Established in 2013; Obtained the national high-tech enterprise qualification in 2014; Obtaining the national high-tech enterprise qualification in 2014 was the first enterprise in Sichuan to obtain the national high-tech enterprise qualification the following year after its establishment.

## Computer Software Copyright:

To ensure the perfect presentation of design theoretical values on actual products, HercuLux has independently developed specialized optical conversion software and injection molding analysis precision compensation software.

## Patents:

The company has applied for more than 330 patents and has obtained 222 patent authorizations, including 11 authorized invention patents, 106 utility model patents, 105 appearance patents, and is currently applying for 3 PCT patents.

## R & D capabilities:

The R&D team of the company is composed of a team of experts with a background in the Institute of Optoelectronics, Chinese Academy of Sciences. There are 32 R&D personnel, accounting for 26.45% of the total number of employees. Among them, there are 8 full-time optical design engineers, including one senior engineer, three master's, and four undergraduate students.





## INDOOR

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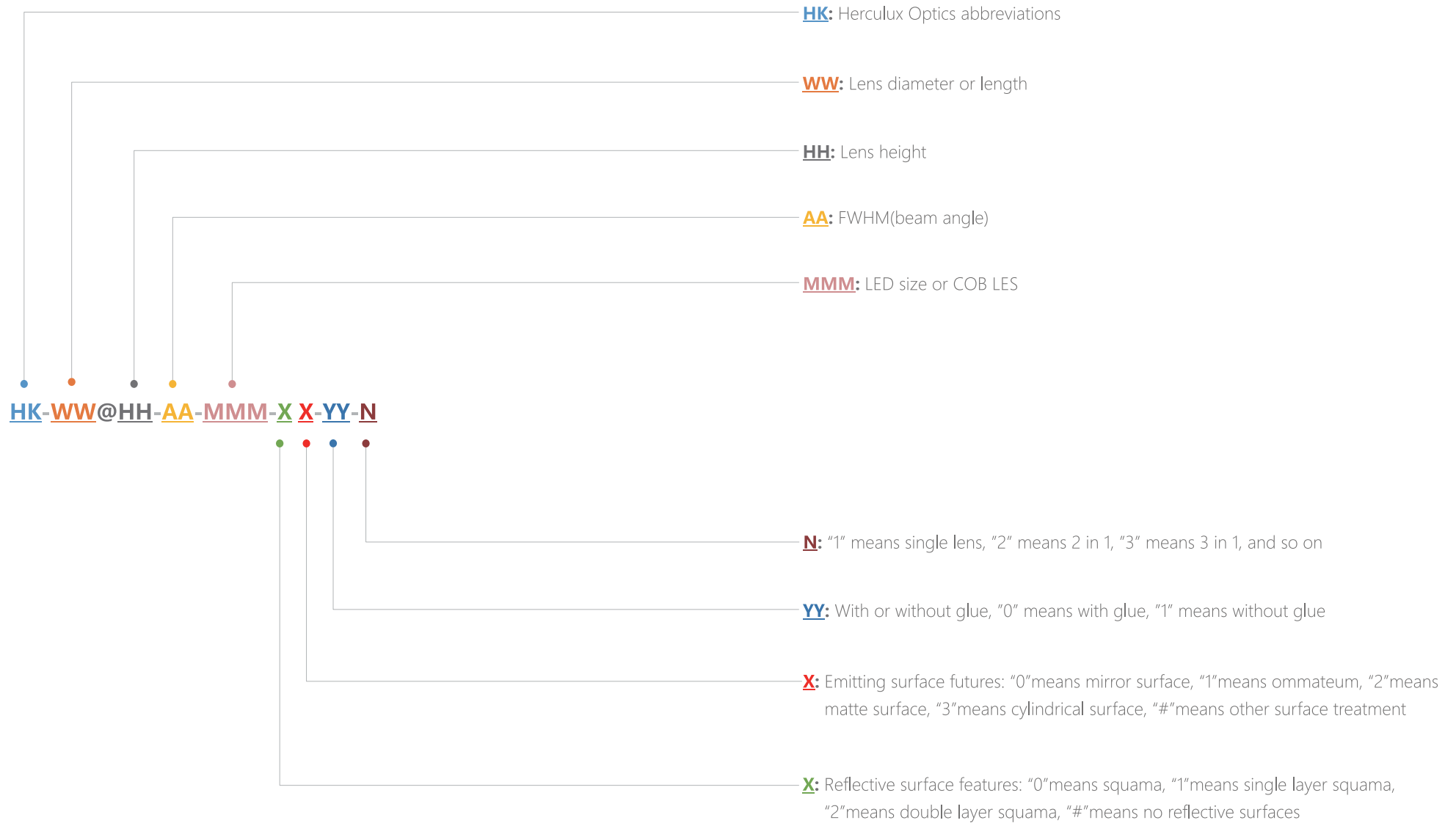
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# Products Code Rule



# KIRIN OPTICAL PLATFORM



**Meet the assembly standards of ZHAGA.** Interchangeable with solder free brackets such as BJB, with consistent outer diameter, screw positioning, and rotating interface.

|                                                                                                                                                                      |                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
|   |                                 |
| D35 COB HOLDER                                                                                                                                                       |                                 |
| Outer diameter                                                                                                                                                       | 35mm                            |
| Hight                                                                                                                                                                | 3.5mm                           |
| Screw hole distance                                                                                                                                                  | 25mm                            |
| Type                                                                                                                                                                 | 18                              |
| Matchable optics                                                                                                                                                     |                                 |
| Series                                                                                                                                                               | Optical diameter                |
| Dark series                                                                                                                                                          | D25/D30/D35/D45/D50/D55/D62/D68 |
| Glareless series                                                                                                                                                     | D25/D30/D35/D45/D50/D55/D62/D68 |
| Gemini series                                                                                                                                                        | D25/D30/D35/D45/D50/D55/D62/D68 |
| Moony series                                                                                                                                                         | D25/D30/D35/D45/D50/D55/D62/D68 |
| Peak series                                                                                                                                                          | D30/D35/D45/D50/D55/D62/D68     |
| Filmy series                                                                                                                                                         | D30/D35/D45/D50/D55/D62/D68     |
| V series                                                                                                                                                             | D30/D35/D45/D50/D55/D62/D68     |
| Rainbow series                                                                                                                                                       | D35/D45/D50/D55/D62/D68         |
| Zoom Module                                                                                                                                                          | D35/D45/D50                     |

Can buckle with the lens holder; Same COB holder can match different COB Substrate size and COB brand.

|                                                                                                                                                                         |                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
|   |                  |
| D24 COB HOLDER                                                                                                                                                          |                  |
| Outer diameter                                                                                                                                                          | 24mm             |
| Hight                                                                                                                                                                   | 3.4mm            |
| Screw hole distance                                                                                                                                                     | 19mm             |
| Type                                                                                                                                                                    | 6                |
| Matchable optics                                                                                                                                                        |                  |
| Series                                                                                                                                                                  | Optical diameter |
| Dark series                                                                                                                                                             | D25/D30/D35      |
| Glareless series                                                                                                                                                        | D25/D30/D35      |
| Gemini series                                                                                                                                                           | D25/D30/D35      |
| Moony series                                                                                                                                                            | D25/D30/D35      |
| Peak series                                                                                                                                                             | D25/D30/D35      |
| Filmy series                                                                                                                                                            | D30              |
| V series                                                                                                                                                                | D35              |

|                                                                                                                                                                         |                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
|   |                  |
| D50 COB HOLDER                                                                                                                                                          |                  |
| 外径                                                                                                                                                                      | 50mm             |
| 高度                                                                                                                                                                      | 5.2mm            |
| 螺丝孔距                                                                                                                                                                    | 35mm             |
| 种类                                                                                                                                                                      | 13               |
| Matchable optics                                                                                                                                                        |                  |
| Series                                                                                                                                                                  | Optical diameter |
| Dark series                                                                                                                                                             | D75/D83          |
| Glareless series                                                                                                                                                        | D75/D83          |
| Gemini series                                                                                                                                                           | D75/D83          |
| Moony series                                                                                                                                                            | D75/D83          |
| Peak series                                                                                                                                                             | D75/D83          |
| Filmy series                                                                                                                                                            | D75/D83          |
| V series                                                                                                                                                                | D75/D83          |
| Rainbow series                                                                                                                                                          | D75/D83          |
| Zoom Module                                                                                                                                                             | D75/D83          |

# LENS HOLDER

Twisting method, can be rotated with BJB solderless holder and other ZHAGA.

Black and white color will own different optical effect solderless holders.



Comparison of UGR parameters, Black Lens Holder VS White Lens Holder

Tested power: 10W, 683lm

| Sort                   | FWHM  | CD     | K Value | Lm    | Bared Light source | Efficiency |
|------------------------|-------|--------|---------|-------|--------------------|------------|
| With white lens holder | 22.6° | 5238cd | 5.81    | 897.1 | 969.8              | 92.50%     |
| With black lens holder | 21.9° | 5541cd | 6.37    | 869.2 |                    | 89.60%     |



|       |       |     |     |     |     |     |
|-------|-------|-----|-----|-----|-----|-----|
| X=2H  | Y=2H  | 5.0 | 5.8 | 5.3 | 6.2 | 6.5 |
|       | Y=3H  | 4.8 | 5.5 | 5.1 | 5.9 | 6.2 |
|       | Y=4H  | 4.7 | 5.4 | 5.1 | 5.7 | 6.1 |
|       | Y=6H  | 4.6 | 5.3 | 5.0 | 5.6 | 6.0 |
|       | Y=8H  | 4.6 | 5.2 | 5.0 | 5.6 | 6.0 |
|       | Y=12H | 4.6 | 5.2 | 5.0 | 5.6 | 6.0 |
| X=4H  | Y=2H  | 4.6 | 5.4 | 5.0 | 5.7 | 6.1 |
|       | Y=3H  | 4.4 | 5.0 | 4.9 | 5.4 | 5.8 |
|       | Y=4H  | 4.4 | 4.9 | 4.8 | 5.3 | 5.8 |
|       | Y=6H  | 4.3 | 4.8 | 4.8 | 5.2 | 5.7 |
|       | Y=8H  | 4.3 | 4.8 | 4.8 | 5.2 | 5.7 |
|       | Y=12H | 4.4 | 4.8 | 4.9 | 5.3 | 5.7 |
| X=8H  | Y=4H  | 4.2 | 4.6 | 4.7 | 5.1 | 5.5 |
|       | Y=6H  | 4.2 | 4.5 | 4.7 | 5.0 | 5.5 |
|       | Y=8H  | 4.3 | 4.6 | 4.8 | 5.1 | 5.6 |
|       | Y=12H | 4.4 | 4.7 | 5.0 | 5.2 | 5.8 |
| X=12H | Y=4H  | 4.1 | 4.5 | 4.6 | 5.0 | 5.5 |
|       | Y=6H  | 4.2 | 4.5 | 4.7 | 4.9 | 5.5 |
|       | Y=8H  | 4.3 | 4.5 | 4.8 | 5.0 | 5.6 |

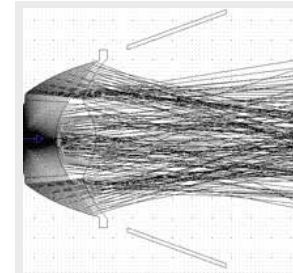
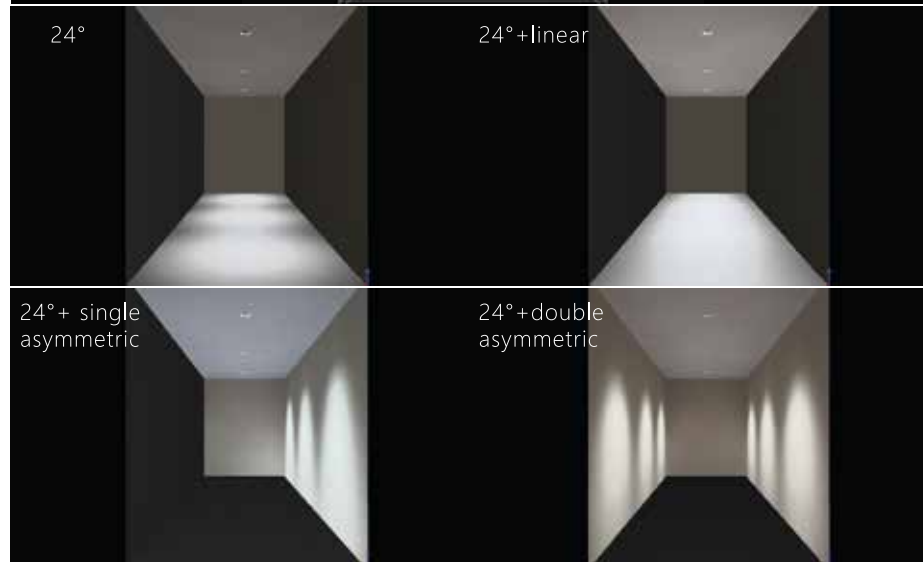
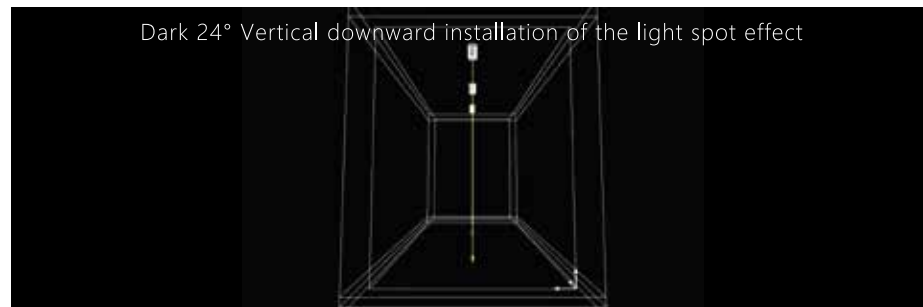
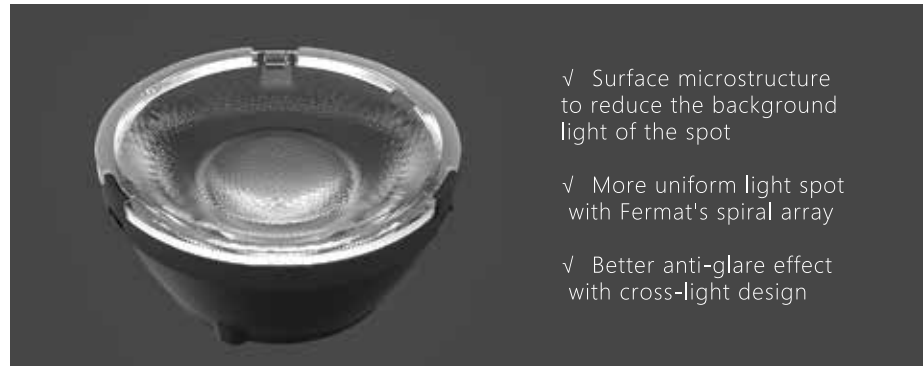


|       |       |     |     |     |     |     |
|-------|-------|-----|-----|-----|-----|-----|
| X=2H  | Y=2H  | 0.4 | 1.3 | 0.7 | 1.6 | 1.9 |
|       | Y=3H  | 0.3 | 1.0 | 0.6 | 1.4 | 1.7 |
|       | Y=4H  | 0.3 | 1.0 | 0.7 | 1.4 | 1.8 |
|       | Y=6H  | 0.5 | 1.1 | 0.9 | 1.5 | 1.9 |
|       | Y=8H  | 0.6 | 1.2 | 1.0 | 1.6 | 2.0 |
|       | Y=12H | 0.8 | 1.3 | 1.2 | 1.7 | 2.1 |
| X=4H  | Y=2H  | 0.1 | 0.8 | 0.5 | 1.2 | 1.5 |
|       | Y=3H  | 0.0 | 0.6 | 0.4 | 1.0 | 1.4 |
|       | Y=4H  | 0.1 | 0.6 | 0.6 | 1.1 | 1.5 |
|       | Y=6H  | 0.5 | 1.0 | 1.0 | 1.4 | 1.9 |
|       | Y=8H  | 0.7 | 1.1 | 1.2 | 1.6 | 2.1 |
|       | Y=12H | 1.0 | 1.4 | 1.5 | 1.9 | 2.4 |
| X=8H  | Y=4H  | 0.1 | 0.5 | 0.6 | 1.0 | 1.5 |
|       | Y=6H  | 0.7 | 1.0 | 1.2 | 1.5 | 2.0 |
|       | Y=8H  | 1.0 | 1.3 | 1.5 | 1.8 | 2.3 |
|       | Y=12H | 1.5 | 1.8 | 2.0 | 2.3 | 2.8 |
| X=12H | Y=4H  | 0.1 | 0.4 | 0.6 | 0.9 | 1.4 |
|       | Y=6H  | 0.7 | 1.0 | 1.3 | 1.5 | 2.0 |
|       | Y=8H  | 1.1 | 1.3 | 1.6 | 1.8 | 2.4 |

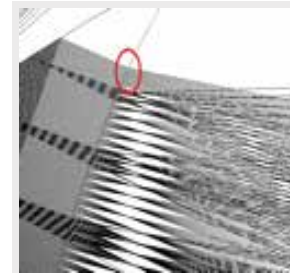


# DARK

A lens for the high-quality spot of the hotel's deep anti-glare wall washing spotlight



In the design process of the Dark series, the light on the reflective surface and the light on the refracting surface are cross-distributed to achieve the effect of deep anti-glare.



Based on the cross-light distribution design, coupled with the two-dimensional uniform light microstructure, the light spot can be softer, while the controllable light contributes relatively little to the background light, which makes the background light of the entire light spot



In order to achieve the best effect of the whole lamp, we will develop matching hoods on some lenses to make the optics of the lamp reach the best condition.

The unique optical design of the narrow beam angle makes the spot more concentrated while less glare.



Hotel wall washer spotlight, deep anti-glare structure



Better anti-glare effect with a small hole hood



Assembly size of small hole hood

| Lens Dia (mm) | Hood Height (mm) | Hood Small hole Dia (mm) | Distance from hole to Lens (mm) |
|---------------|------------------|--------------------------|---------------------------------|
| 25            | 13               | 17                       | 6                               |
| 30            | 16               | 19                       | 8                               |
| 35            | 16               | 23                       | 9                               |
| 45            | 21               | 29                       | 12                              |
| 50            | 24               | 35                       | 14                              |
| 55            | 25               | 38                       | 19                              |
| 62            | 30               | 46                       | 20                              |
| 68            | 32               | 48                       | 22                              |
| 75            | 35               | 52                       | 25                              |
| 83            | 40               | 65                       | 29                              |





## DARK 20@11 (3030)

φ: 19mm H: 11mm  
Material: PMMA  
FWHM: 15°/24°/36°/50°  
Efficiency: 91%



## DARK 20@12 (3535)

φ: 20mm H: 12mm  
Material: PMMA  
FWHM: 15°/24°/36°/50°  
Efficiency: 91%



## DARK 25@13

φ: 25mm H: 13mm  
Material: PMMA  
FWHM: 10°/15°/24°/36°/50°  
Efficiency: 91%



## DARK 30@16

φ: 30mm H: 16mm  
Material: PMMA  
FWHM: 10°/15°/24°/36°/50°  
Efficiency: 91%



## DARK 35@16

φ: 35mm H: 16mm  
Material: PMMA  
FWHM: 10°/15°/24°/36°/50°  
Efficiency: 91%



## DARK 45@21

φ: 45mm H: 21mm  
Material: PMMA  
FWHM: 10°/15°/24°/36°/50°  
Efficiency: 91%



## DARK 50@24

φ: 50mm H: 24mm  
Material: PMMA  
FWHM: 10°/15°/24°/36°/50°  
Efficiency: 91%



## DARK 55@25

φ: 55mm H: 25mm  
Material: PMMA  
FWHM: 10°/15°/24°/36°/50°  
Efficiency: 91%



## DARK 62@30

φ: 62mm H: 30mm  
Material: PMMA  
FWHM: 10°/15°/24°/36°/50°  
Efficiency: 93%



## DARK 68@32

φ: 68mm H: 32mm  
Material: PMMA  
FWHM: 10°/15°/24°/36°/50°  
Efficiency: 91%



## DARK 75@35

φ: 75mm H: 35mm  
Material: PMMA  
FWHM: 10°/15°/24°/36°/50°/70°  
Efficiency: 91%



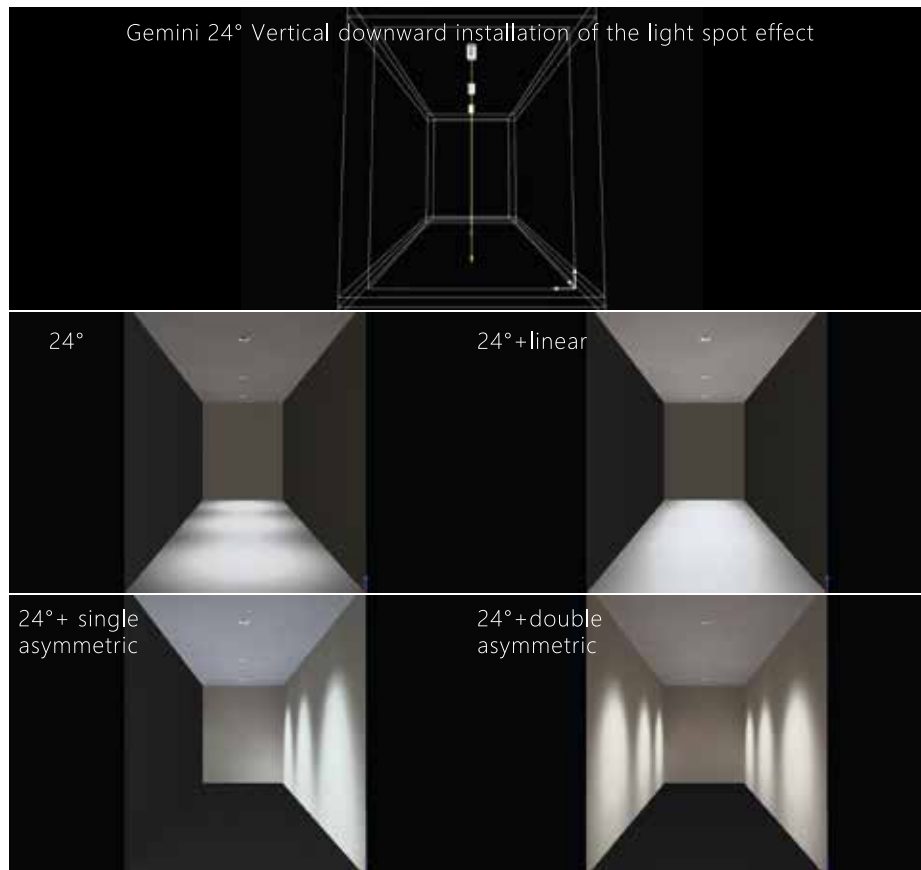
## DARK 83@40

φ: 83mm H: 40mm  
Material: PMMA  
FWHM: 10°/15°/24°/36°/50°/70°  
Efficiency: 91%

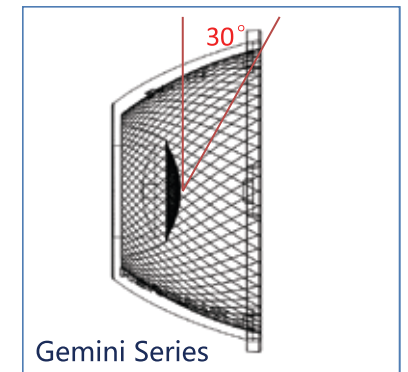
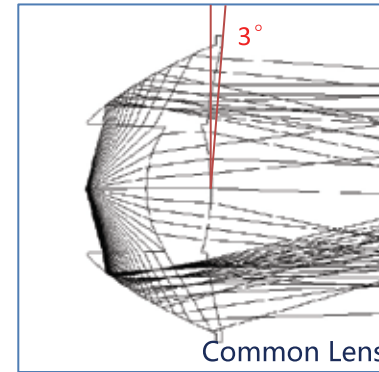


# GEMINI

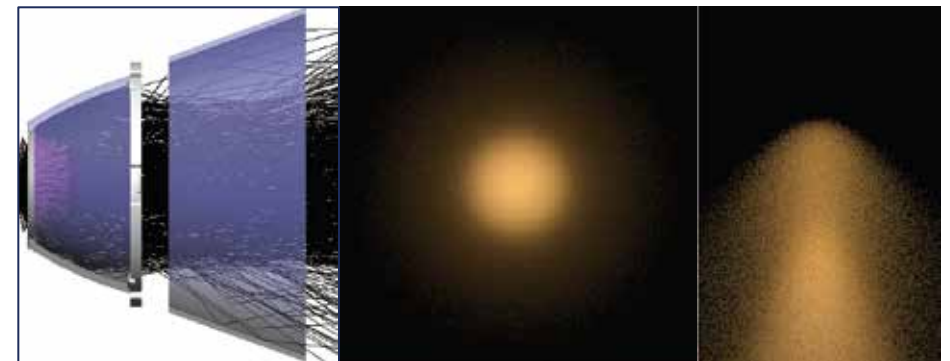
A reflector combined with a lens and a reflector

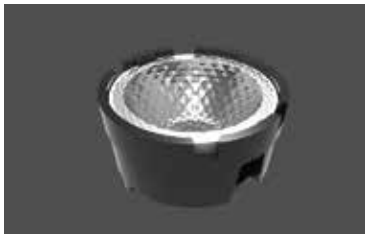


Comes with 30° anti-glare angle



Through the cross light distribution and the control of the proportion of the intermediate light, the wall washing light spot is also relatively clean.





## GEMINI 25@13

φ: 25mm H: 13mm  
Material: Vacuum Aluminum Plating PC  
FWHM: 18°/24°/36°/50°  
Efficiency: 80%



## GEMINI 35@16

φ: 35mm H: 16mm  
Material: Vacuum Aluminum Plating PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 80%



## GEMINI 30@16

φ: 30mm H: 16mm  
Material: Vacuum Aluminum Plating PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 80%



## GEMINI 45@21

φ: 45mm H: 21mm  
Material: Vacuum Aluminum Plating PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 80%



## GEMINI 50@24

φ: 50mm H: 24mm  
Material: Vacuum Aluminum Plating PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 80%



## GEMINI 55@25

φ: 55mm H: 25mm  
Material: Vacuum Aluminum Plating PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 80%



## GEMINI 62@30

φ: 62mm H: 30mm  
Material: Vacuum Aluminum Plating PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 80%



## **GEMINI 68@32**

φ: 68mm H: 32mm

Material: Vacuum Aluminum Plating PC

FWHM: 15°/24°/36°/50°

Efficiency: 80%



## **GEMINI 75@35**

φ: 75mm H: 35mm

Material: Vacuum Aluminum Plating PC

FWHM: 15°/24°/36°/50°

Efficiency: 80%



## **GEMINI 83@40**

φ: 83mm H: 40mm

Material: Vacuum Aluminum Plating PC

FWHM: 15°/24°/36°/50°

Efficiency: 80%



## A clean wall washer lens can match with CCT changing COB



## Lens+ White lens holder= high efficiency

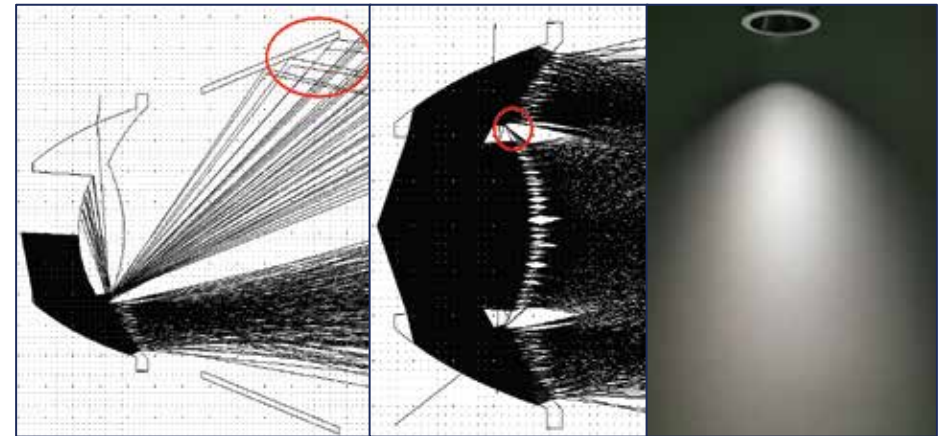


## Lens+ Black lens holder= more anti-glare



## Smooth surface treatment, more conducive to anti glare

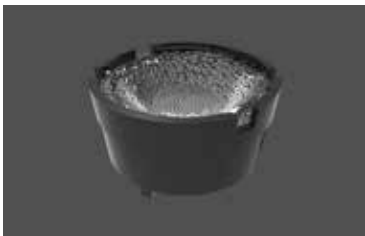
By strengthening the light on the receiving surface of the light emitting surface, this part of the light is forcibly cut off by the anti glare cover when passing through it, resulting in a clear cut-off line when washing the wall.



## CCT changing COB can be matched

The light is split and concentrated through the microstructure of the lens, so that the color mixing of the light spot is more uniform.





## MOONY 25@13

φ: 25mm H: 13mm  
Material: PC/PMMA  
FWHM: 18°/24°/36°/50°(developing)  
Efficiency: 88%



## MOONY 30@15

φ: 30mm H: 15mm  
Material: PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%



## MOONY 35@16

φ: 35mm H: 16mm  
Material: PC  
角度: 15°/24°/36°/50°  
Efficiency: 88%



## MOONY 45@21

φ: 45mm H: 21mm  
Material: PC  
角度: 15°/24°/36°/50°  
Efficiency: 88%



## MOONY 50@24

φ: 50mm H: 24mm  
Material: PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%



## MOONY 55@25

φ: 55mm H: 25mm  
Material: PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%



## MOONY 62@30

φ: 62mm H: 30mm  
Material: PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%



## MOONY 68@32

φ: 68mm H: 32mm  
Material: PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%



## MOONY 75@35

φ: 75mm H: 35mm  
Material: PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%



## MOONY 83@40

φ: 83mm H: 40mm  
Material: PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%



# GLARELESS

## A lens with anti-glare effect

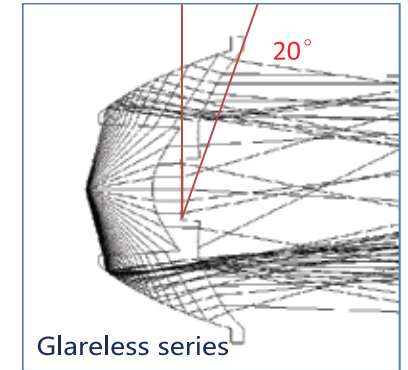
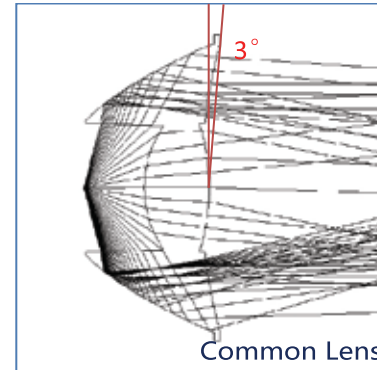


## Smooth the surface , more conducive to anti-glare

The light-emitting surface is smoothly treated, and there is no matte, sun-stripe and other structures, so that the light-emitting surface is no stray light and no glare.



## Comes with 20°anti-glare angle



## CCT changing COB can be matched

The reflective surface adopts calculus technology, so that the lens can match with CCT changing COB, and the spot is more uniform.



## Spot effect





## GLARELESS 25@13

φ: 25mm H: 13mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Efficiency: 88%



## GLARELESS 30@16

φ: 30mm H: 16mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Efficiency: 88%



## GLARELESS 35@16

φ: 35mm H: 16mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Efficiency: 88%



## GLARELESS 45@21

φ: 45mm H: 21mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Efficiency: 88%



## GLARELESS 50@24

φ: 50mm H: 24mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Efficiency: 88%



## GLARELESS 55@25

φ: 55mm H: 25mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Efficiency: 88%



## GLARELESS 62@30

φ: 62mm H: 30mm  
Material: PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%



## GLARELESS 72@22

φ: 72mm H: 22mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Efficiency: 88%



## GLARELESS 75@35

φ: 75mm H: 35mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Efficiency: 88%



## GLARELESS 83@40

φ: 83mm H: 40mm  
Material: PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%

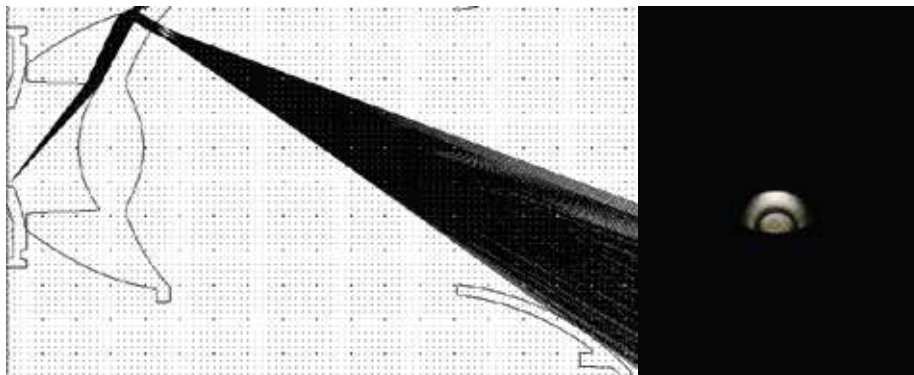


## A clean wall-washing and extremely deep anti-glare lens



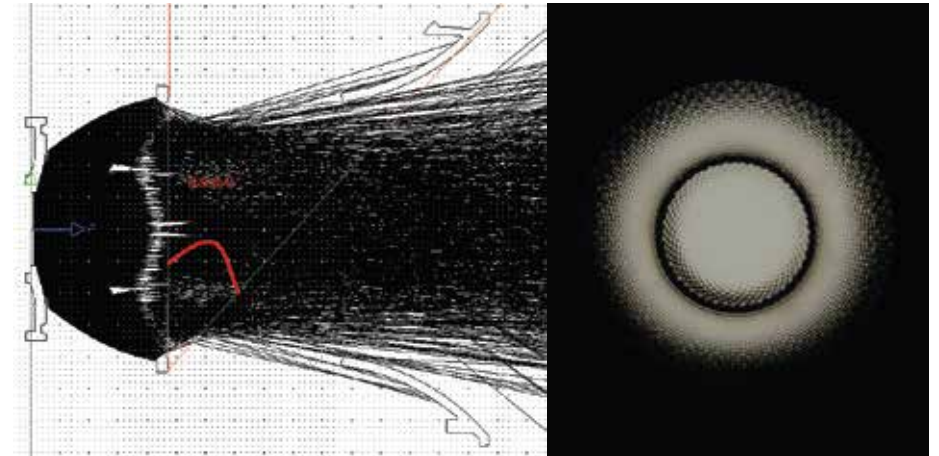
### Surface treatment, directional light control

Special treatment of the light in certain positions of the Peak series lens so that with the glare shield, some of the light just passes over the edge of the large opening of the glare shield, making it a more obvious cut-off line between light and dark when washing the wall.



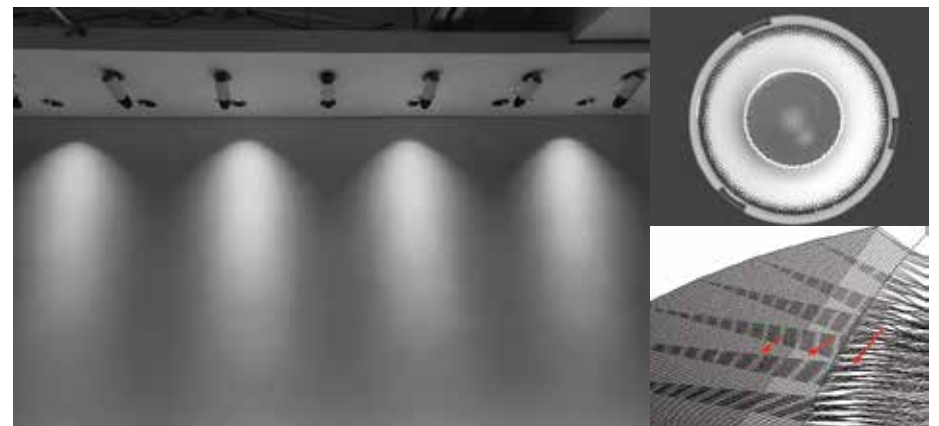
## Matching with light hood to achieve ultimate anti-glare

Adding microstructure on the surface of the lens makes the light cross-mix more evenly on the surface of the lens, and with the anti-glare cover developed by our company, the light spot of the wall washing is more even.



### More uniform light spot

The reflective surface treatment allows some of the light to cross-mix in multiple places within the lens and then mix again at the exit surface, resulting in a more uniform overall light spot.





#### **PEAK/ V version 25@13**

φ: 25mm H: 13mm  
Material: PMMA  
FWHM: 15°/24°/36°/50°  
(V version does not have 50 °)  
Efficiency: 90%



#### **PEAK/ V version 35@16**

φ: 35mm H: 16mm  
Material: PMMA  
FWHM: 15°/24°/36°/50°  
(V version does not have 50 °)  
Efficiency: 90%



#### **PEAK 30@15**

φ: 30mm H: 15mm  
Material: PMMA  
FWHM: 15°/24°/36°/50°  
Efficiency: 90%



#### **PEAK/ V version 40@19**

φ: 40mm H: 19mm  
Material: PMMA  
FWHM: 15°(developing)/24°/36°/50°  
(V version does not have 50 °)  
Efficiency: 90%



#### **PEAK/ V version 45@21**

φ: 45mm H: 21mm  
Material: PMMA  
FWHM: 15°/24°/36°/50°  
(V version does not have 50 °)  
Efficiency: 90%



#### **PEAK 55@25**

φ: 55mm H: 25mm  
Material: PMMA  
FWHM: 15°/24°/36°/50°  
Efficiency: 90%



#### **PEAK 68@32**

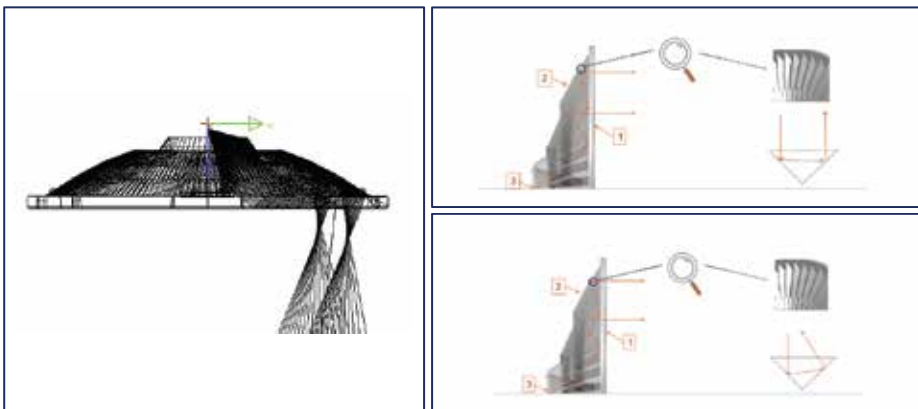
φ: 68mm H: 32mm  
Material: PMMA  
FWHM: 15°/24°/36°/50°  
Efficiency: 90%

## A lens as thin as a cicada wing



## Ultra-thin design

In the limited optical space, through triple total reflection technology, the optical path is increased to control lights effectively.



## Beautiful appearance

Combining calculus with three total reflections, the lens looks like a blooming flower, which is quite exquisite as the appearance of lamps.



## Triple total reflection technology: narrow angle can also match CCT changing COB





#### **FILMY 30@06**

φ: 30mm H: 6mm  
Material: PC  
FWHM: 10°/15°/24°/36°/60°  
Efficiency: 85%



#### **FILMY 45@09**

φ: 45mm H: 9mm  
Material: PC  
FWHM: 10°/15°/24°/36°/60°  
Efficiency: 85%



#### **FILMY 35@07**

φ: 35mm H: 7mm  
Material: PC  
FWHM: 10°/15°/24°/36°/60°  
Efficiency: 85%



#### **FILMY 50@10**

φ: 50mm H: 10mm  
Material: PC  
FWHM: 10°/15°/24°/36°/60°  
Efficiency: 85%



#### **FILMY 55@11**

φ: 55mm H: 11mm  
Material: PC  
FWHM: 10°/15°/24°/36°/60°  
Efficiency: 85%



#### **FILMY 62@13**

φ: 62mm H: 13mm  
Material: PC  
FWHM: 10°/15°/24°/36°/60°  
Efficiency: 85%



#### **FILMY 68@13**

φ: 68mm H: 13mm  
Material: PC  
FWHM: 10°/15°/24°/36°/60°  
Efficiency: 85%



### **FILMY 75@15**

φ: 75mm H: 15mm  
Material: PC  
FWHM: 10°/15°/24°/36°/60°  
Efficiency: 85%



### **FILMY 83@17**

φ: 83mm H: 17mm  
Material: PC  
FWHM: 10°/15°/24°/36°/60°  
Efficiency: 85%



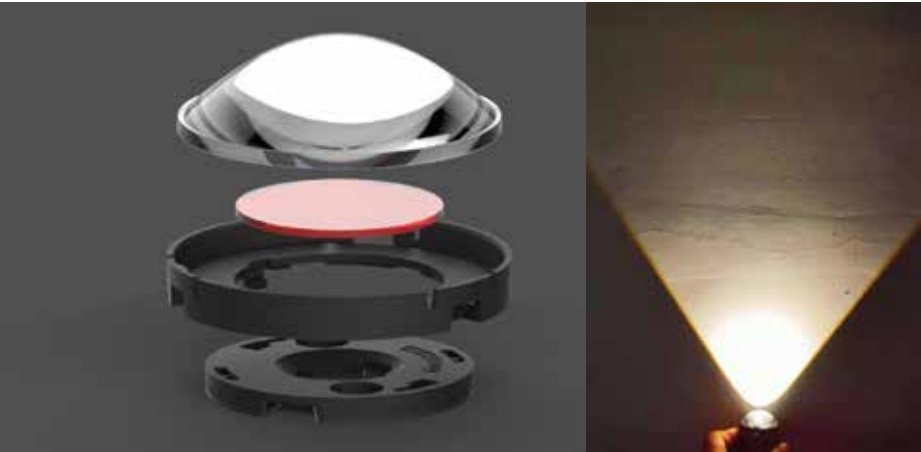
### **FILMY 90@18**

φ: 90mm H: 18mm  
Material: PC  
FWHM: 10°/15°/24°/36°/60°  
Efficiency: 85%



# RAINBOW

A lens like an eye.



**Aspherical design:**

Adjust the internal structure of the convex aspherical surface to make the light spot cut-off and uniform.



**Suitable for Kirin optical platform:**

The size is from 20-83mm. By using our customized lens holders, it can be assembled on our COB holders and realize a convenient replacement. it can also match with various COB brands through the corresponding COB holders.

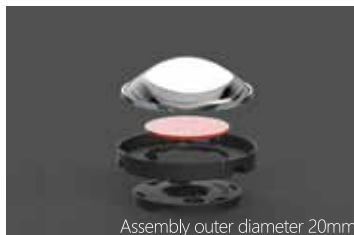
**Sunset effect:**

By adding color filter, the color of the light spot can be changed to achieve different lighting effects.

There are three sizes of sunset red color-changing filters, which can be applied to sunset lights, wall lights, atmosphere lights, etc. You can also customize different colors filters according to your own needs. The specific parameters of the color filters are as follows:

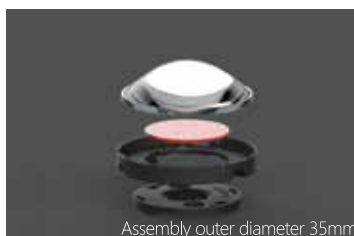
| Color filter | Size     | Color      | Matching optics                      | Matching COB holder |
|--------------|----------|------------|--------------------------------------|---------------------|
| 1.01.12912   | 17.8@1.1 | Sunset Red | Rainbow Lens D20/D25                 | D24 COB holder      |
| 1.01.12899   | 27@1.1   | Sunset Red | Rainbow Lens D35/D45/D50/D55/D62/D68 | D35 COB holder      |
| 1.01.12946   | 49.8@1.1 | Sunset Red | Rainbow Lens D83/D75                 | D50 COB holder      |





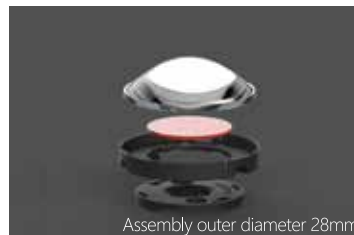
## RAINBOW 18@05

$\varphi$ : 18mm H: 5mm  
Material: PC  
FWHM: 75°  
Efficiency: 88%



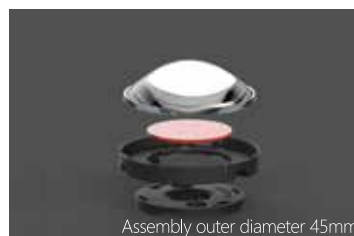
## RAINBOW 32@09

$\varphi$ : 32mm H: 9mm  
Material: PC  
FWHM: 75°  
Efficiency: 88%



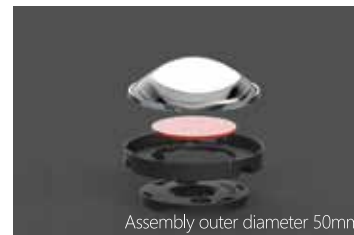
## RAINBOW 25@06

$\varphi$ : 25mm H: 6mm  
Material: PC  
FWHM: 75°  
Efficiency: 88%



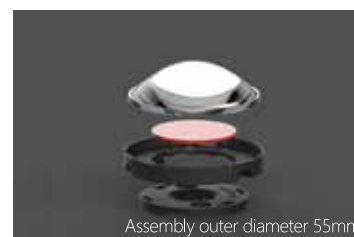
## RAINBOW 42@12

$\varphi$ : 42mm H: 12mm  
Material: PC  
FWHM: 75°  
Efficiency: 88%



## RAINBOW 47@15

$\varphi$ : 47mm H: 15mm  
Material: PC  
FWHM: 75°  
Efficiency: 88%



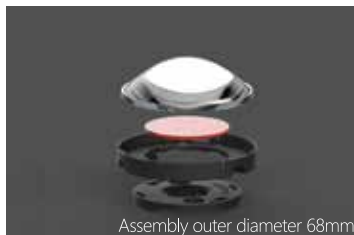
## RAINBOW 52@15

$\varphi$ : 52mm H: 15mm  
Material: PC  
FWHM: 75°  
Efficiency: 88%



## RAINBOW 58@16

$\varphi$ : 58mm H: 16mm  
Material: PC  
FWHM: 75°/95°  
Efficiency: 88%



## RAINBOW 64@19

$\varphi$ : 64mm H: 19mm

Material: PC

FWHM: 75°

Efficiency: 88%



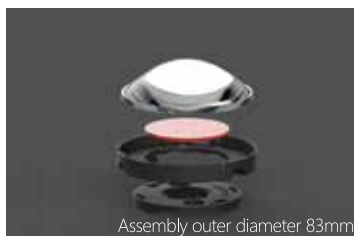
## RAINBOW 71@18

$\varphi$ : 71mm H: 18mm

Material: PC

FWHM: 75°

Efficiency: 88%



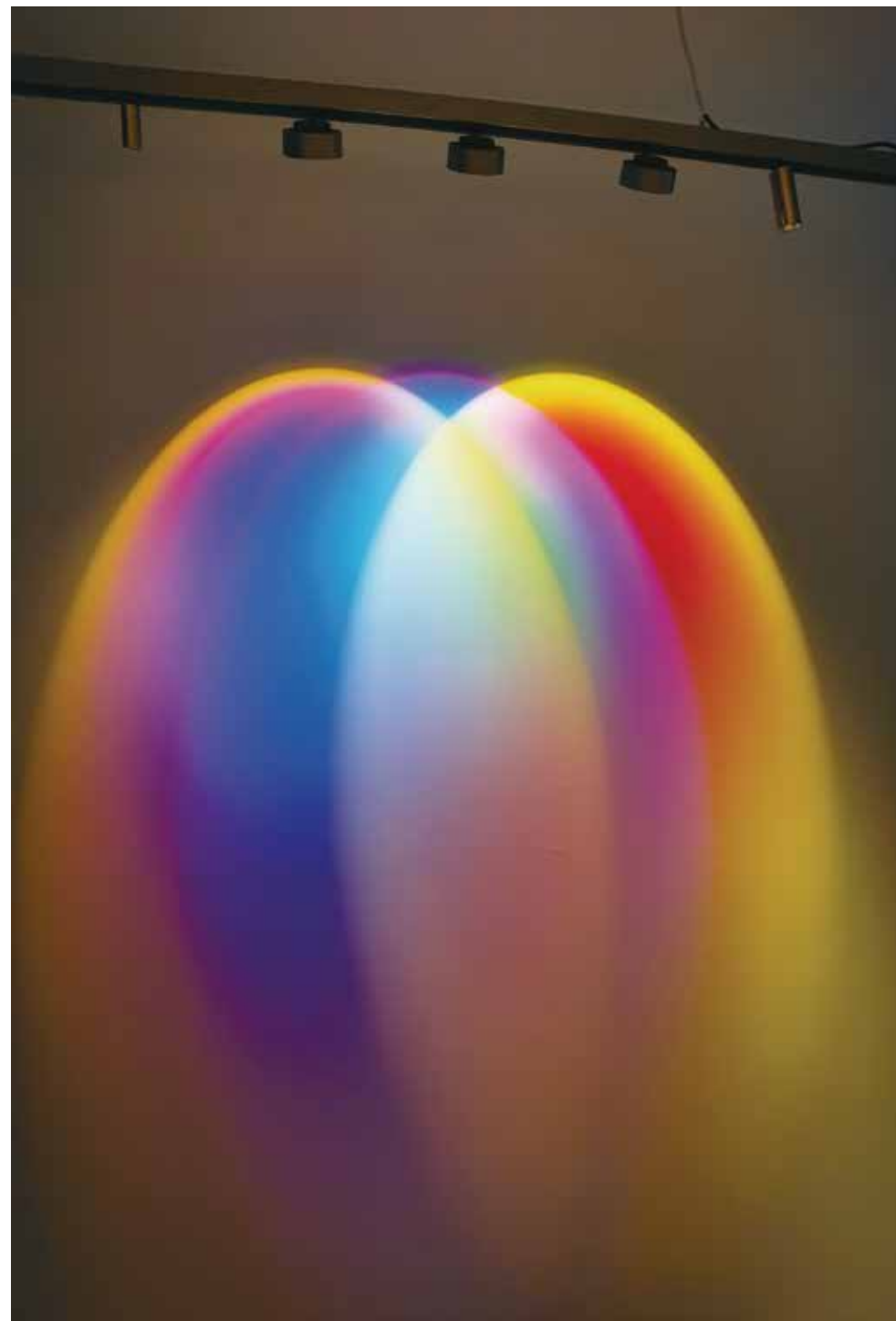
## RAINBOW 79@18

$\varphi$ : 79mm H: 18mm

Material: PC

FWHM: 80°

Efficiency: 88%



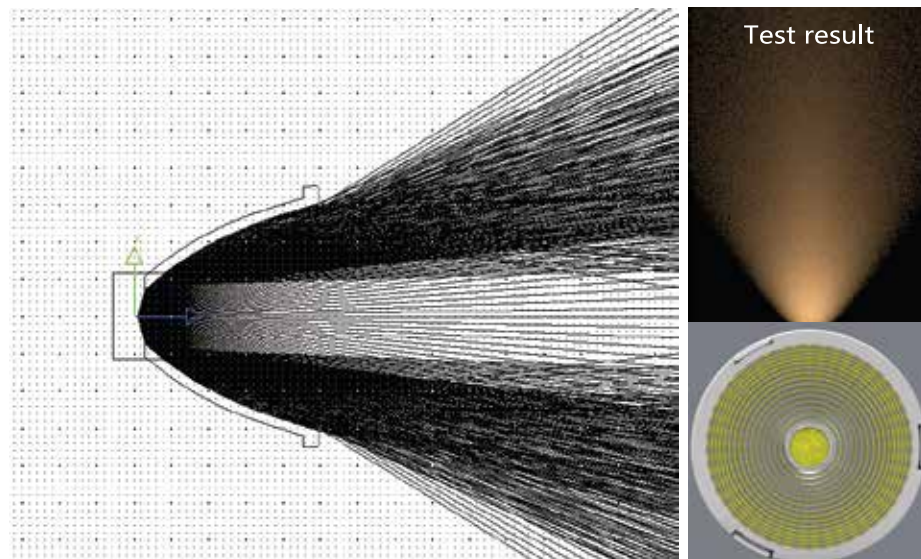
## V SERIES

### A reflector with anti-glare effect



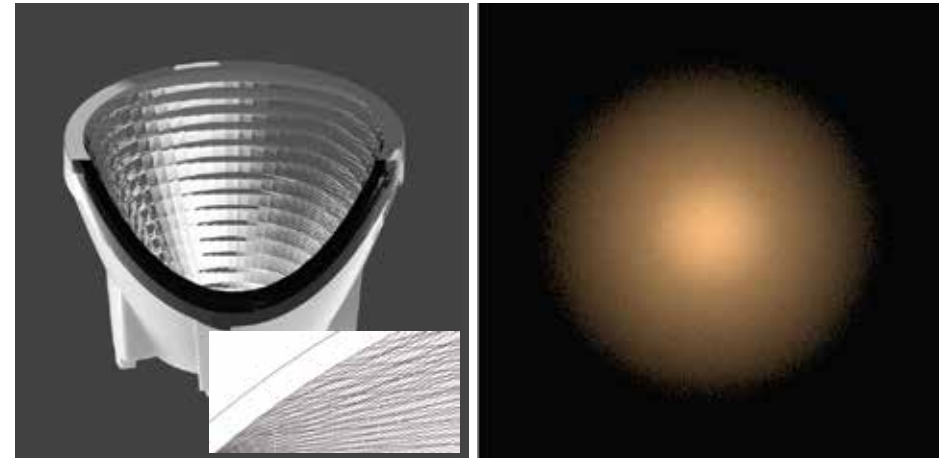
### Distribute lights appropriately

In order to uniform the wall-washing lights without delamination, for reflectors of different diameters, it's necessary to accurate the reflector's height, distribute the lights appropriately, and control the lights on the reflecting surface precisely.



### Uniform light spot

On the basis of rationally distributing the middle light and the reflective surface light, plus the scaly surface of the reflective surface, the light spot becomes more softer, and at the same time, the reflective surface light can be precisely controlled to avoid the phenomenon of delamination and dark areas.



### Spot contrast

#### Common reflector

The transition between the main spot and the side spot is uneven and there is a dark areas



#### HercuLux V series

The transition between the main spot and the side spot is uniform, no dark areas, and the edges are cut off



## V SERIES



### V 25@17

φ: 25mm H: 17mm  
Material: Vaccum Aluminum Plating PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%



### V 35@23

φ: 35mm H: 23mm  
Material: Vaccum Aluminum Plating PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%



### V 30@19

φ: 30mm H: 19mm  
Material: Vaccum Aluminum Plating PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%



### V 45@34

φ: 45mm H: 34mm  
Material: Vaccum Aluminum Plating PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%



### V 50@36

φ: 50mm H: 36mm  
Material: Vaccum Aluminum Plating PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%



### V 55@36

φ: 55mm H: 36mm  
Material: Vaccum Aluminum Plating PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%



### V 62@41

φ: 62mm H: 41mm  
Material: Vaccum Aluminum Plating PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%

## V SERIES



### V 68@45

φ: 68mm H: 45mm  
Material: Vacuum Aluminum Plating PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%



### V 75@47

φ: 75mm H: 47mm  
Material: Vacuum Aluminum Plating PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%



### V 83@60

φ: 83mm H: 60mm  
Material: Vacuum Aluminum Plating PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 88%



# ZOOM

## The main zoom product in the Kirin Optical Platform, zoom without changing sizes

The zoom module is composed of a lens, a lens holder, and a fixed holder, wherein the lens holder drives the lens to move back and forth in the fixed holder to realize the change of the focal length of the lens relative to the position of the LED, thereby realizing the change of the angle. In the zoom module development plan, the outer diameter is consistent with other dimensions of the Kirin Optical Platform. The total planned outer diameters are 25, 30, 35, 45, 50, 55, 62, 68, 75, 83, and 90.



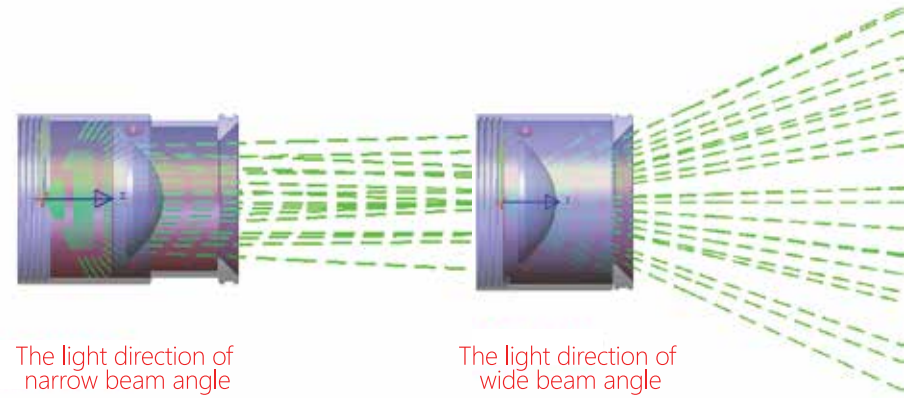
## Easy install

After the customer gets the zoom module, they only need to add a zoom connection structure and fix it on the lens holder with screws, that is, the module can be rotated on the Kirin Optical Platform holder, and the front part of the lamp can be completed by adding the lamp shell, and the structure is simple.



## Fermat microstructure design

The convex lens is partially designed with Fermat microstructure, which makes the overall light spot soft and cut off, and the transition light spot is more natural.



## Anti-glare effect

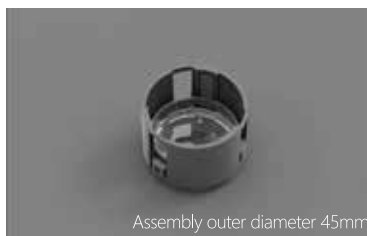
The zoom module has an anti-glare angle of 38° itself, and the anti-glare angle remains unchanged during the entire zooming process, so that the zoom module can achieve excellent anti-glare effect at all angles. The following pictures are the real shot effect of the small, medium and large angle.





## ZOOM 22@06

φ: 22mm H: 6mm  
Material: PC  
FWHM: 10°~45°  
Efficiency: /



## ZOOM 37@12

φ: 37mm H: 12mm  
Material: PC  
FWHM: 10°~45°  
Efficiency: /



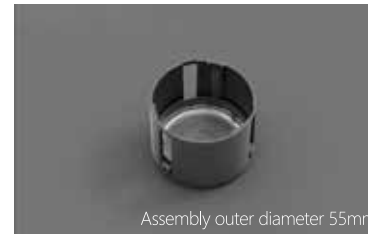
## ZOOM 27@08

φ: 27mm H: 8mm  
Material: PC  
FWHM: 10°~45°  
Efficiency: /



## ZOOM 42@13

φ: 42mm H: 13mm  
Material: PC  
FWHM: 10°~45°  
Efficiency: /



## ZOOM 47@15

φ: 47mm H: 15mm  
Material: PC  
FWHM: 10°~45°  
Efficiency: /



## ZOOM 54@16

φ: 54mm H: 16mm  
Material: PC  
FWHM: 10°~45°  
Efficiency: /



## ZOOM 65@19

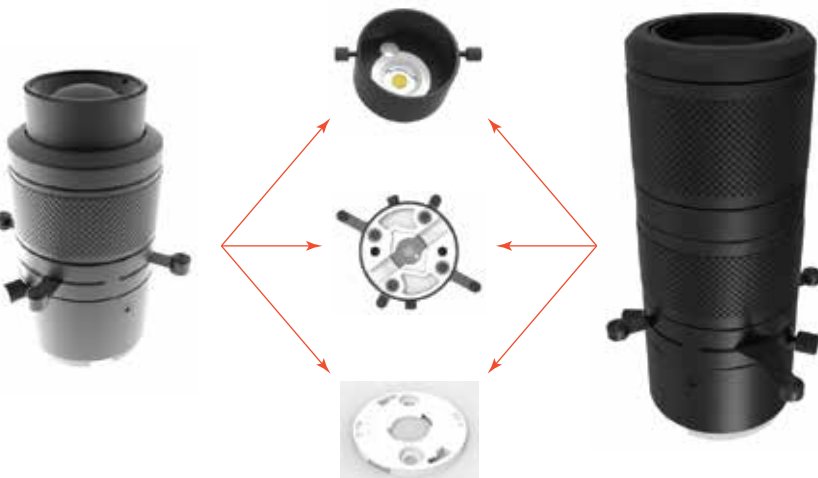
φ: 65mm H: 19mm  
Material: PC  
FWHM: 10°~45°  
Efficiency: /

# MAVIC&MAVIC PRO

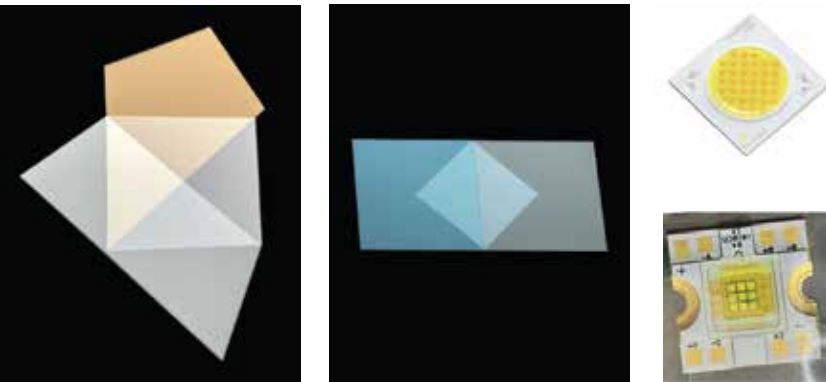
A lens with ultra small size and clean light spot.



Same base, consistent with the screw hole position of the Qilin platform D35 light source bracket.



Suitable for monochrome and bicolor light sources smaller than 6mm.



Can cut any shape and rotate 360 degrees.



High precision, showcasing more details.



# MAVIC&MAVIC PRO

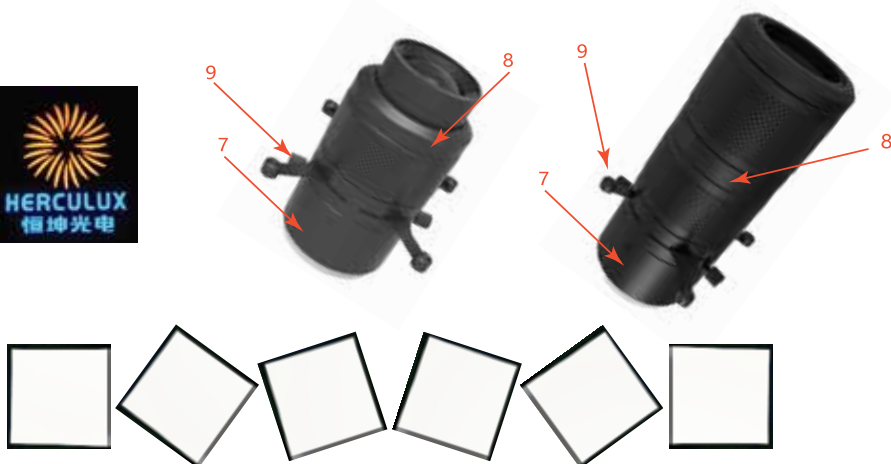
## Easy assembly and strong compatibility

- Step 1: Unscrew the screws and replace the conventional light source bracket 6.
- Step 2: Install component 7 directly onto the light source and lock the screws.
- Step 3: Install component 8 onto component 7, with the screws on the side of the screws.

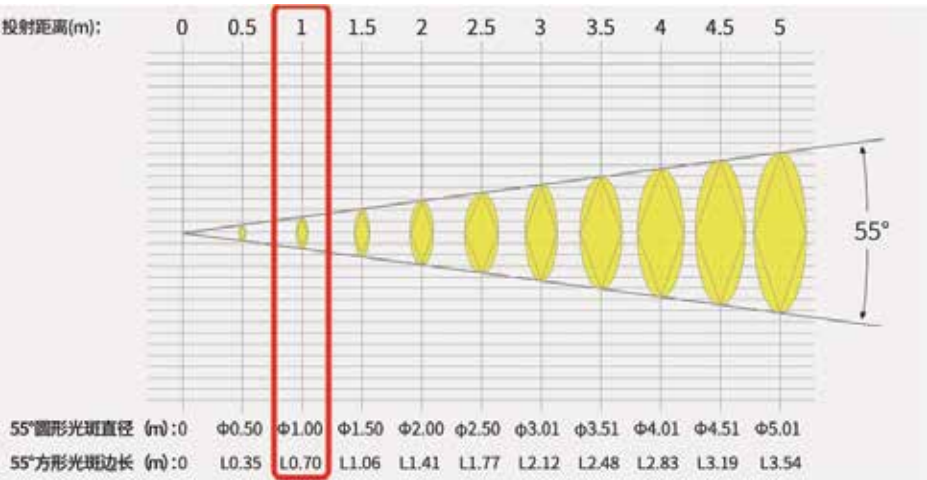


## The lens can rotate 360 degrees and can be used for logos

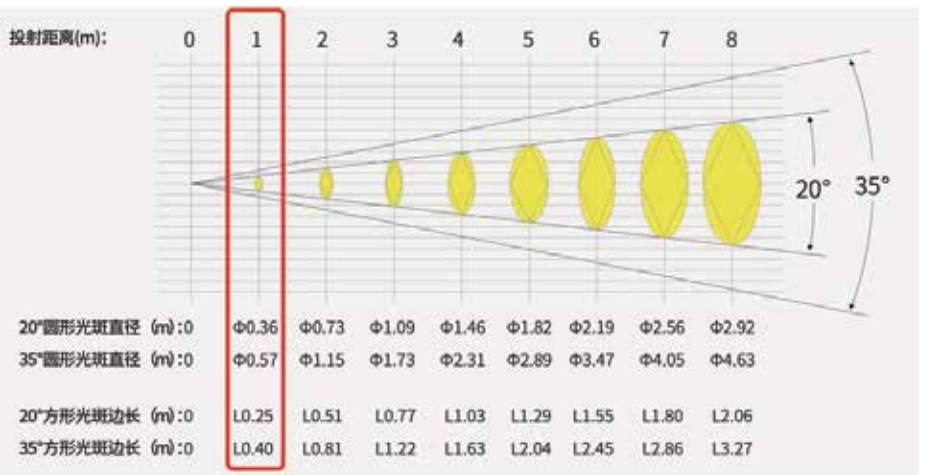
Loosen the hand screws 9 on both sides, and the lamp 8 can rotate 360° around accessory 7, making it flexible and adaptable to the needs of multiple views and angles. It can also be used for logo lights, and the logo sheet needs to be customized separately.



## Differences: Different projection ratios



Mavic : Circular spot diameter at 1 meter: 1 meter



Mavic Pro: Spot diameter at 1 meter: 0.36-0.57 meters.

The spot size of Mavic Pro is adjustable

# LIGHT HOOD

## Various types are choosable

Small hole hood, oblique hole hood, flat hood, wall washing hood Various forms of hoods, switch at will. The installation method is the same,can be switched at will.



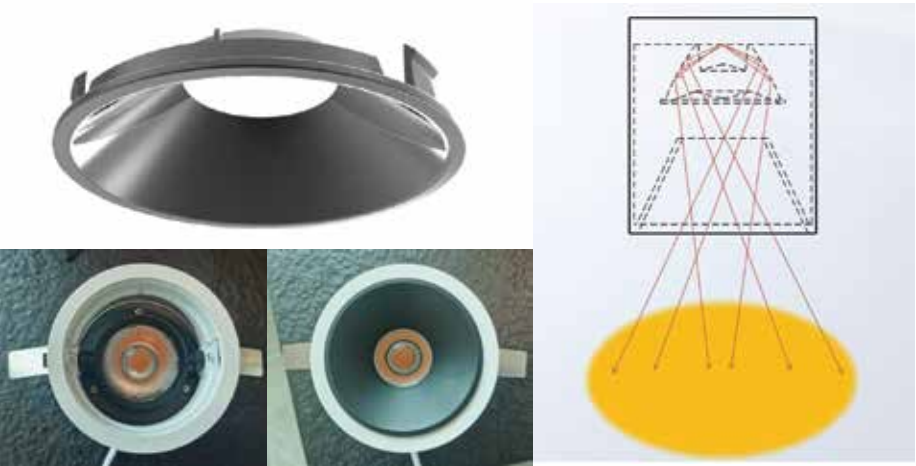
## Multiple colors available and customizable

There are currently four colors available: bright black, bright gold, bright silver, and matte black. Customization of other colors is also acceptable.



## Small Hole Hood

The cross-light design principle makes the light output hole of the lamp smaller than the optical diameter. With the small hole hood, it can be hidden deeper, the glare can be better controlled, and the optical efficiency has little effect, and the light spot effect can be guaranteed. The small hole hood perfectly solves the phenomenon of butterfly spots when deflecting the wall and washing the wall.

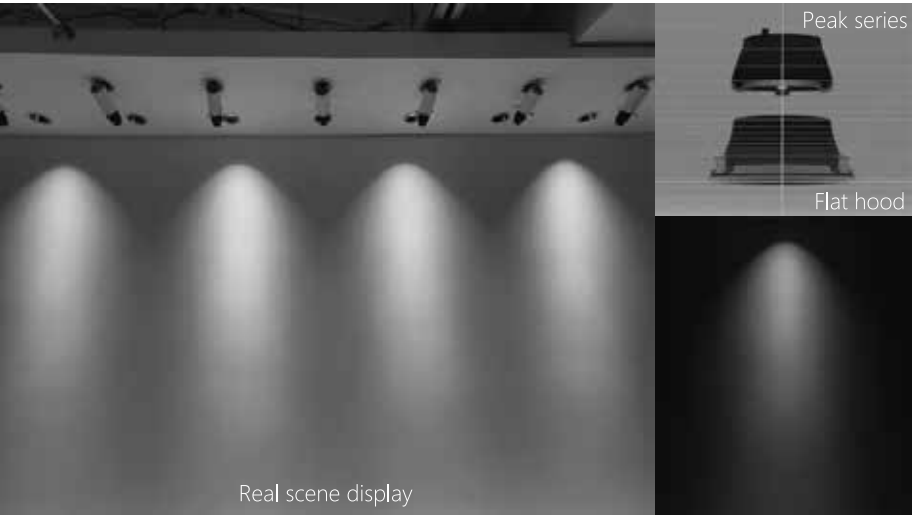


| Types & Color                                                           | Size                    | Distance between light-hood & lens | Small hole Diameter | Adaptable lens                     | Adaptable filter                                                         |
|-------------------------------------------------------------------------|-------------------------|------------------------------------|---------------------|------------------------------------|--------------------------------------------------------------------------|
| Oblique:<br>Matte Black/ Bright Black/<br>Bright Gold/ Bright Silver    | D: 33.5mm<br>H: 10.68mm | h: 5.2mm                           | /                   | Dark25/Gemini25/<br>Moony25/Peak25 | Single asymmetric/<br>Double asymmetric/<br>Linear spot/<br>Matte filter |
|                                                                         | D: 50mm<br>H: 9.65mm    | h: 12mm                            | /                   | Dark30/Gemini30/<br>Moony30/Peak30 |                                                                          |
|                                                                         | D: 50mm<br>H: 17.89mm   | h: 5.2mm                           | /                   | Dark35/Gemini35/<br>Moony35/Peak35 |                                                                          |
|                                                                         | D: 68mm<br>H: 23.45mm   | h: 5mm                             | /                   | Dark35/Gemini35/<br>Moony35/Peak35 |                                                                          |
|                                                                         | D: 68mm<br>H: 25mm      | h: 5.17mm                          | /                   | Dark45/Gemini45/<br>Moony45/Peak45 |                                                                          |
|                                                                         | D: 70mm<br>H: 28mm      | h: 5.2mm                           | /                   | Dark50/Gemini50/<br>Moony50/Peak50 |                                                                          |
|                                                                         | D: 100mm<br>H: 36.3mm   | h: 7mm                             | /                   | Dark55/Gemini55/<br>Moony55/Peak55 |                                                                          |
|                                                                         | D: 100mm<br>H: 37mm     | h: 8mm                             | /                   | Dark62/Gemini62/<br>Moony62/Peak62 |                                                                          |
|                                                                         | D: 145mm<br>H: 50.9mm   | h: 8mm                             | /                   | Dark68/Gemini68/<br>Moony68/Peak68 |                                                                          |
|                                                                         | D: 145mm<br>H: 52.07mm  | h: 10mm                            | /                   | Dark75/Gemini75/<br>Moony75/Peak75 |                                                                          |
|                                                                         | D: 68mm<br>H: 20.77mm   | h: 9mm                             | d: 23mm             | Dark35/Gemini35/<br>Moony35/Peak35 |                                                                          |
|                                                                         | D: 68mm<br>H: 17.77mm   | h: 12.4mm                          | d: 29mm             | Dark45/Gemini45/<br>Moony45/Peak45 |                                                                          |
| Small hole:<br>Matte Black/ Bright Black/<br>Bright Gold/ Bright Silver |                         |                                    |                     |                                    |                                                                          |
|                                                                         |                         |                                    |                     |                                    |                                                                          |

# LIGHT HOOD

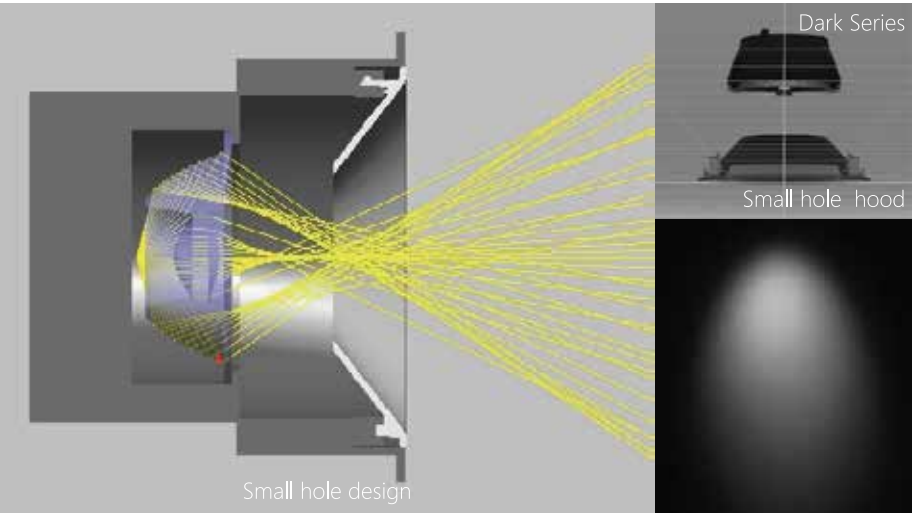
## Peak series lens & Flat hood

Kirin Optical Platform Peak series lens with flat hood Wall washing is clean, without delamination, and the light spot is uniform.

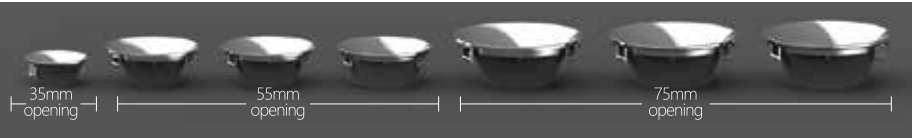


## Dark series lens & Small hole hood

Kirin Optical Platform Dark series lens with small hole hood Uniform light spot, deeper anti-glare.



## Flat Hood Matching Information Sheet



| MN                 | 1.07.23184 | 1.07.23141 | 1.07.23142 | 1.07.23190 | 1.07.23161 | 1.07.23217 | 1.07.23083                       |
|--------------------|------------|------------|------------|------------|------------|------------|----------------------------------|
| Flat Hood Diameter | 33.5       | 50         | 50         | 50         | 68         | 68         | 68                               |
| Peak Diameter      | PEAK 20@10 | PEAK 25@13 | PEAR 30@15 | PEAK 35@16 |            | PEAK 40@19 | PEAK 45@21                       |
| 15°                |            |            |            | 1.01.23222 |            |            | 1.01.23307(D6)                   |
| 24°                | 1.01.23154 | 1.01.13050 | 1.01.13021 | 1.01.12962 |            | 1.01.23216 | 1.01.12657(D6)<br>1.01.23096(D9) |
| 36°                | 1.01.23163 | 1.01.23143 | 1.01.23139 | 1.01.13016 |            |            | 1.01.23067(D6)<br>1.01.23137(D9) |
| 50°                |            |            |            | 1.01.23212 |            |            | 1.01.23319(D6)<br>1.01.23319(D9) |

## Small Hole Hood Matching Information Sheet

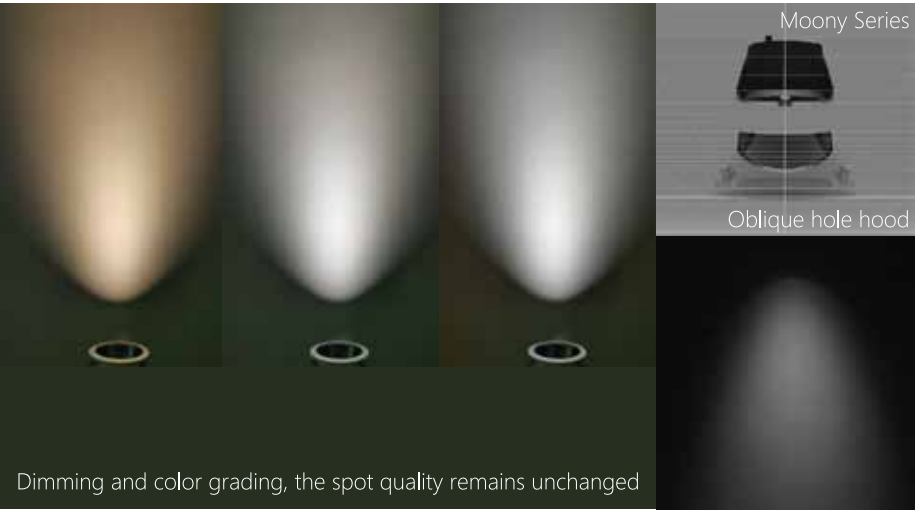


|                        |            |            |            |            |                 |                 |            |            |            |            |            |
|------------------------|------------|------------|------------|------------|-----------------|-----------------|------------|------------|------------|------------|------------|
| Hood Diameter          | 33.5       | 50         | 50         | 68         | 68              | 68              | 70         | 100        | 90         | 100        | 145        |
| Hood MN                | 1.07.12752 | 1.07.12663 | 1.07.12745 | 1.07.02471 | 1.07.92058 (D6) | 1.07.12764 (D9) | 1.07.23079 | 1.07.12670 | 1.07.12813 | 1.07.12665 | 1.07.12731 |
| Matching Dark Diameter | 25         | 30         | 35         | 35         | 45              | 45              | 50         | 55         | 62         | 62         | 68         |

# LIGHT HOOD

## Dark / Moony & Oblique hole hood

Kirin Optical Platform Moony/Dark series lenses with oblique hole hood, The edge of the spot is cut off cleanly and the transition is even.

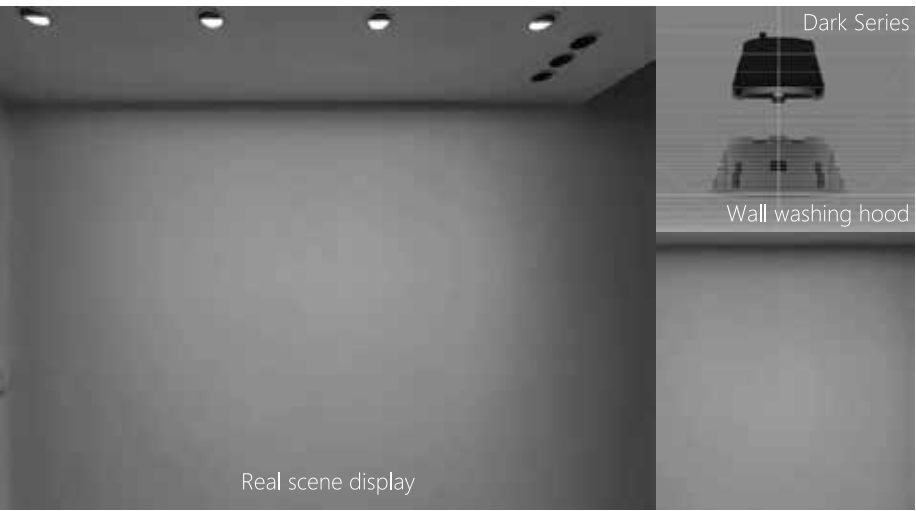


## Oblique Hole Hood Matching Information Sheet

|                              |            |            |            |            |            |            |            |            |
|------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Hood Diameter                | 50         | 68         | 68         | 70         | 100        | 100        | 145        | 145        |
| Hood MN                      | 1.07.92096 | 1.07.02440 | 1.07.02335 | 1.07.92097 | 1.07.92135 | 1.07.92104 | 1.07.92118 | 1.07.92102 |
| Matching Dark/Moony diameter | 35         | 35         | 45         | 50         | 55         | 62         | 68         | 75         |

## Dark series lens & Wall washing hood solution

Kirin Optical Platform Dark series lenses with wall washing hood, The entire wall has uniform brightness and the skyline is clear.

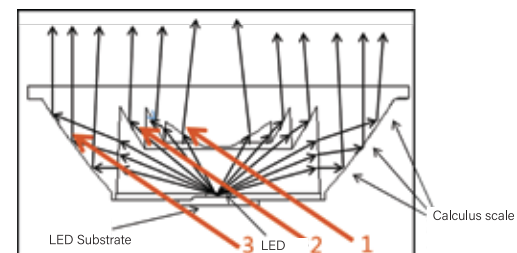


## Recommended Wall Washing Hood Solution

|                      |                         |                            |                         |                         |
|----------------------|-------------------------|----------------------------|-------------------------|-------------------------|
|                      | 35 Opening scheme       | 55 Opening scheme          | 75 Opening scheme       | 95 Opening scheme       |
| Wall Washing Hood MN | 1.07.23206 /1.07.23206  | 1.07.23295_A /1.07.23295_B | 1.07.23130              | 1.01.23310              |
| Recommended optics   | Dark D25-15° 1.01.92131 | Dark D35-15° 1.01.91997    | Dark D45-15° 1.01.91887 | Dark D50-15° 1.01.92006 |

## Principle

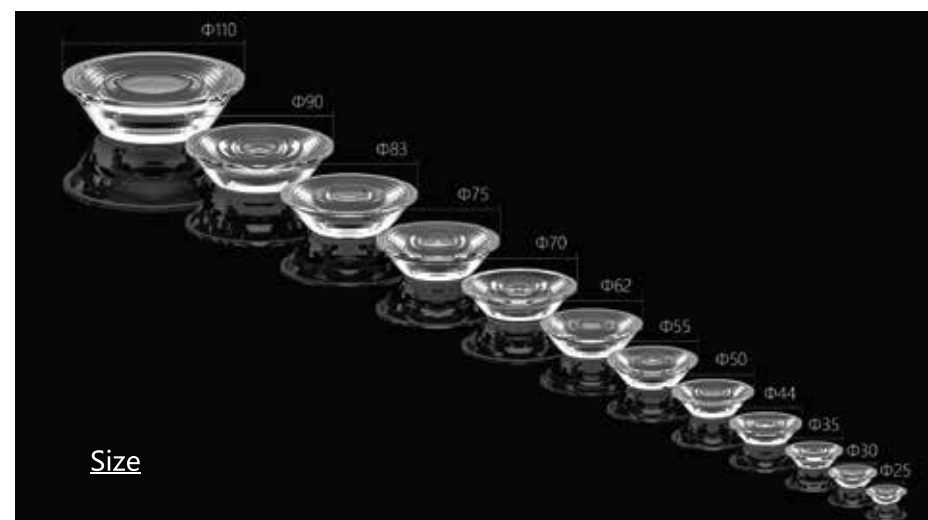
Photon Lens designed by one refracting surface and several fully reflecting surfaces, can control the light distribution well by lower lens height.



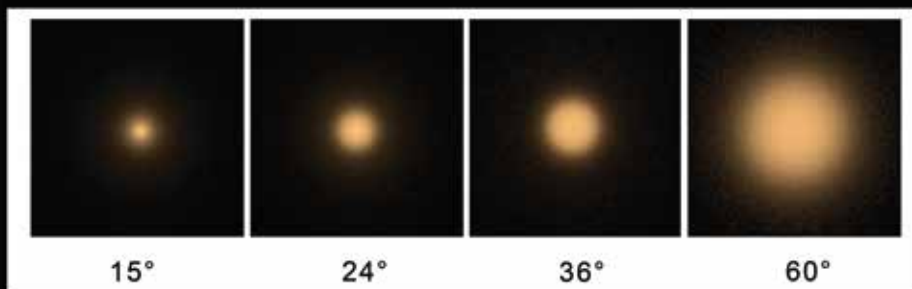
## Why can make the light distribution well by lower lens height?

Area 1 is refracting surface, control the light from the middle of the LED, to control the small beam angle; Area 2 are fully reflecting surfaces, little far away from the COB, control some long lights to be small beam angle; Area 3 are periphery fully reflecting surfaces, control the outermost lights also the best lights, can make smaller beam angle and make a clear edge light spot

To sum up, the lens of the Photon series divides the light of the light source into several parts, and then optimizes each part. In the case of light spot cut-off, the central light intensity is high.



Size





## PHOTON 25@07

φ: 25mm H: 6.7mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Wall wash: 15°/24°/36°/60°  
Efficiency: 85%



## PHOTON 44@11

φ: 44mm H: 11.3mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Wall wash: 15°/24°/36°/60°  
Color mixing: 15°/24°/36°/60°  
Efficiency: 85%



## PHOTON 30@08

φ: 30mm H: 8mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Efficiency: 85%



## PHOTON 50@14

φ: 50mm H: 14mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Color mixing: 15°/24°/36°/60°  
Efficiency: 85%



## PHOTON 35@10

φ: 35mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Wall wash: 15°/24°/36°/60°  
Color mixing: 15°/24°/36°/60°  
Efficiency: 85%



## PHOTON 55@15

φ: 55mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Efficiency: 85%



## PHOTON 62@18

φ: 62mm H: 17.5mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Efficiency: 85%



## PHOTON 83@22

φ: 83mm H: 22mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Efficiency: 85%



## PHOTON 70@19

φ: 70mm H: 18.5mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Efficiency: 85%



## PHOTON 90@22

φ: 90mm H: 23.2mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Efficiency: 85%



## PHOTON 75@21

φ: 75mm H: 21.5mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Efficiency: 85%



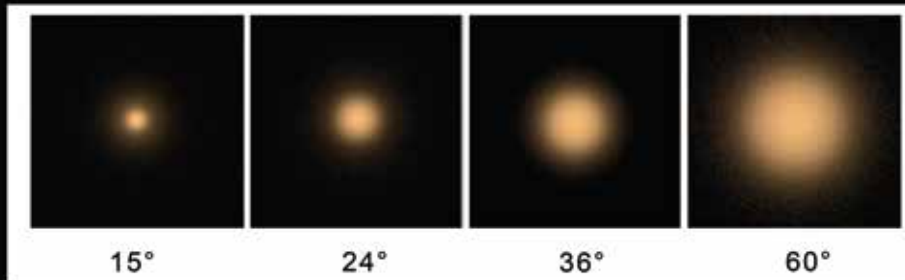
## PHOTON 110@32

φ: 110mm H: 32mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Efficiency: 85%

## Facula shape



## Commercial lighting application





### KA 35@16

φ: 35mm H: 16mm  
Material: PC/PMMA  
FWHM: 10°/15°/24°/36°/50°  
Efficiency: 90%



### KA 43@19

φ: 43mm H: 19mm  
Material: PC/PMMA  
FWHM: 10°/15°/24°/36°/60°  
Efficiency: 90%



### KA 40@20

φ: 40mm H: 20mm  
Material: PC/PMMA  
FWHM: 15°/24°/36°/60°  
Efficiency: 90%



### KA 45@21

φ: 45mm H: 21mm  
Material: PMMA  
FWHM: 15°/24°/36°/60°  
Efficiency: 90%



### KA 50@25

φ: 50mm H: 25mm  
Material: PMMA  
FWHM: 12°/15°/24°/36°/45°/60°  
Efficiency: 90%



### KA 55@24

φ: 55mm H: 24mm  
Material: PMMA  
FWHM: 15°/24°/36°/60°  
Efficiency: 90%



### KA 62@31

φ: 62mm H: 31mm  
Material: PMMA  
FWHM: 15°/24°/36°/45°/60°  
Efficiency: 90%



### KA 66@36

φ: 66mm H: 36mm  
Material: PMMA  
FWHM: 15°/24°/36°/60°  
Efficiency: 90%



### KA 72@33

φ: 72mm H: 33mm  
Material: PMMA  
FWHM: 12°/15°/20°/24°/36°/60°  
Efficiency: 90%



### KA 69@30

φ: 69mm H: 30mm  
Material: PMMA  
FWHM: 15°/24°/36°/60°  
Efficiency: 90%



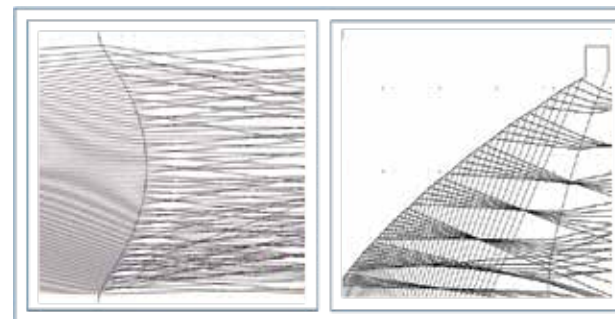
### KA 75@31

φ: 75mm H: 31mm  
Material: PMMA  
FWHM: 10°/15°/24°/36°/60°  
Efficiency: 92%





## Product Characteristics

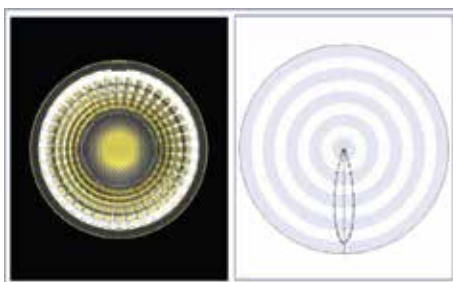


Using calculus total reflection combined with local directional differential technology, while the color temperature and brightness of the light source change, the angle and color of the light spot are not affected.

Using the principle of calculus lens, the reflected light is differentiated to effectively mix light. Add a surface differential structure to the incident and exit convex surfaces, so that the transmitted light is evenly distributed, and the color is uniform.

## Principle of Design

The reflecting surface of the lens uses the principle of differential and integration. The light emitted by the light source is differentiated by a large number of scales, and the light source is divided into several sub-light sources (differential). Each sub-light source is presented separately on the illumination light field, and by rearranging and overlapping the centers, rotating and superimposing (integration), the light of different color temperatures is cross-distributed to achieve a mixed light effect. Differential redistribution of the light source not only makes the light more finely distributed and achieves a good light mixing effect, but also the brightness of the light emitting surface is uniform and even. The area reduces the glare of the lens.



The transmission surface of the lens is arranged in a microstructure and a function array to control the intermediate light reasonably, and then the light from the light source is differentiated and superimposed in an orderly manner, thereby solving the problem of uneven mixing of light transmitted through the lens.

## Chameleon Series, Size: 55@21, 24° Lens Spot





**CHAMELEON 35@16**

φ: 35mm H: 16mm  
Material: PC/PMMA  
FWHM: 24°/36°/60°  
Efficiency: 90%



**CHAMELEON 43@19**

φ: 43mm H: 19mm  
Material: PC/PMMA  
FWHM: 24°/36°/60°  
Efficiency: 90%



**CHAMELEON 55@24**

φ: 55mm H: 24mm  
Material: PMMA  
FWHM: 24°/36°/60°  
Efficiency: 90%



**CHAMELEON 62@31**

φ: 62mm H: 31mm  
Material: PMMA  
FWHM: 24°/36°/60°  
Efficiency: 90%



**CHAMELEON 44@20**

φ: 44mm H: 20mm  
Material: PC  
FWHM: 24°/36°/60°  
Efficiency: 90%



**CHAMELEON 55@21**

φ: 55mm H: 21mm  
Material: PMMA  
FWHM: 24°/36°/60°  
Efficiency: 90%



**CHAMELEON 72@33**

φ: 72mm H: 33mm  
Material: PMMA  
FWHM: 24°/36°/60°  
Efficiency: 90%

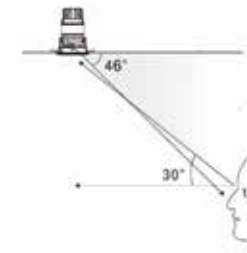


**CHAMELEON 75@31**

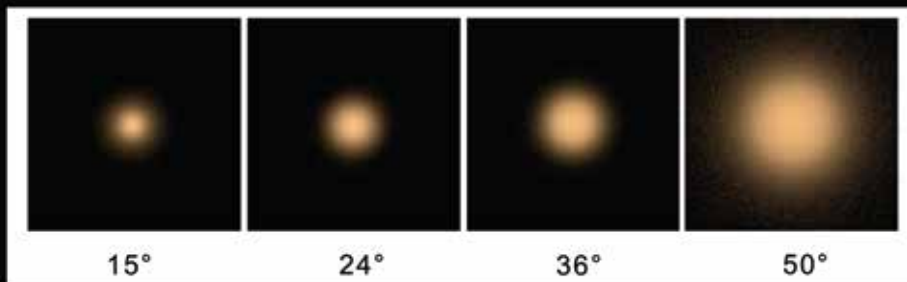
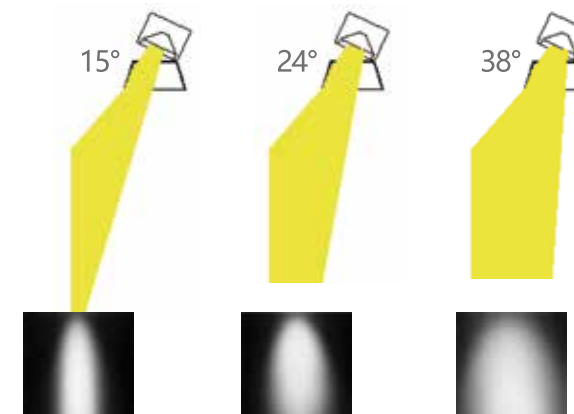
φ: 75mm H: 31mm  
Material: PMMA  
FWHM: 24°/36°/60°  
Efficiency: 90%

## Introduction

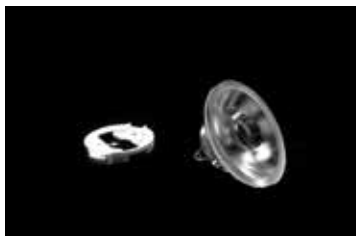
The Max shielding angle of the LED lamp is  $46^\circ$ , can avoid the glare effectively. The most accepted shielding angle of the human visual area always more than  $30^\circ$ , the other light in this area will occur the glare. So when the shielding angle of the LED lamp more than  $30^\circ$ , will control the light out the area to decrease glare.



The polarized light wash wall lamp should have the drift angle, normally have the problem of stratified facula because of the antiglare visor interfered the facula. Hercu-Lux Black Hole family special designed for the hotel, considered the effect of the front ring of the antiglare visor before designing, can distribute the light effectively, even when the customer replacing the front ring, the facula will transit uniformly.



# BLACK HOLE



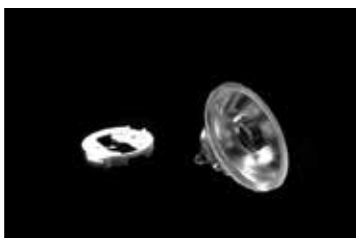
## BLACK HOLE 28@14

φ: 28mm H: 14mm  
Material: PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 85%



## BLACK HOLE 45@24

φ: 45mm H: 24mm  
Material: PC  
FWHM: 7°/10°/24°/34°/50°  
Efficiency: 85%



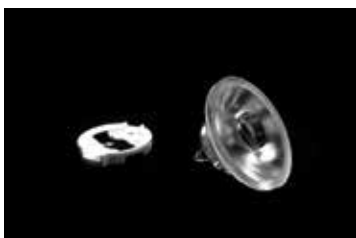
## BLACK HOLE 30@15

φ: 30mm H: 15mm  
Material: PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 85%



## BLACK HOLE 50@24

φ: 50mm H: 24mm  
Material: PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 85%



## BLACK HOLE 35@18

φ: 35mm H: 18mm  
Material: PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 85%

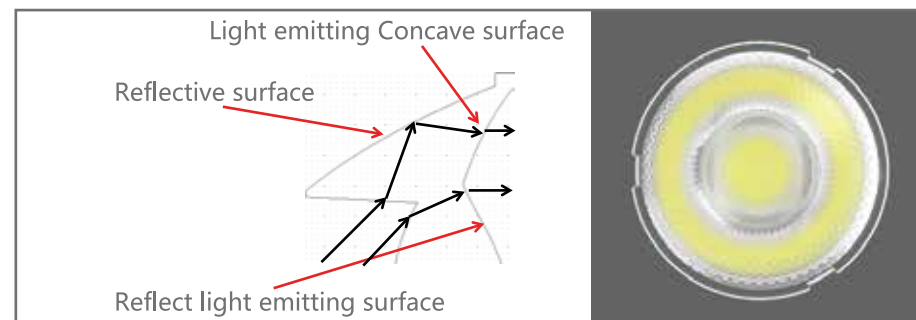


## BLACK HOLE 62@24

φ: 62mm H: 24mm  
Material: PC  
FWHM: 15°/24°/36°/50°  
Efficiency: 85%

### High efficiency (90%)

Zooming is achieved by properly distributing the ratio of reflected and refracted light during zooming, rather than actively losing light to achieve it, thereby achieving high efficiency.



### Short stroke

Beam angle of the intermediate refracted light is designed larger in a shorter stroke so that the Min and Max beam angles stroke difference are in a shorter range.



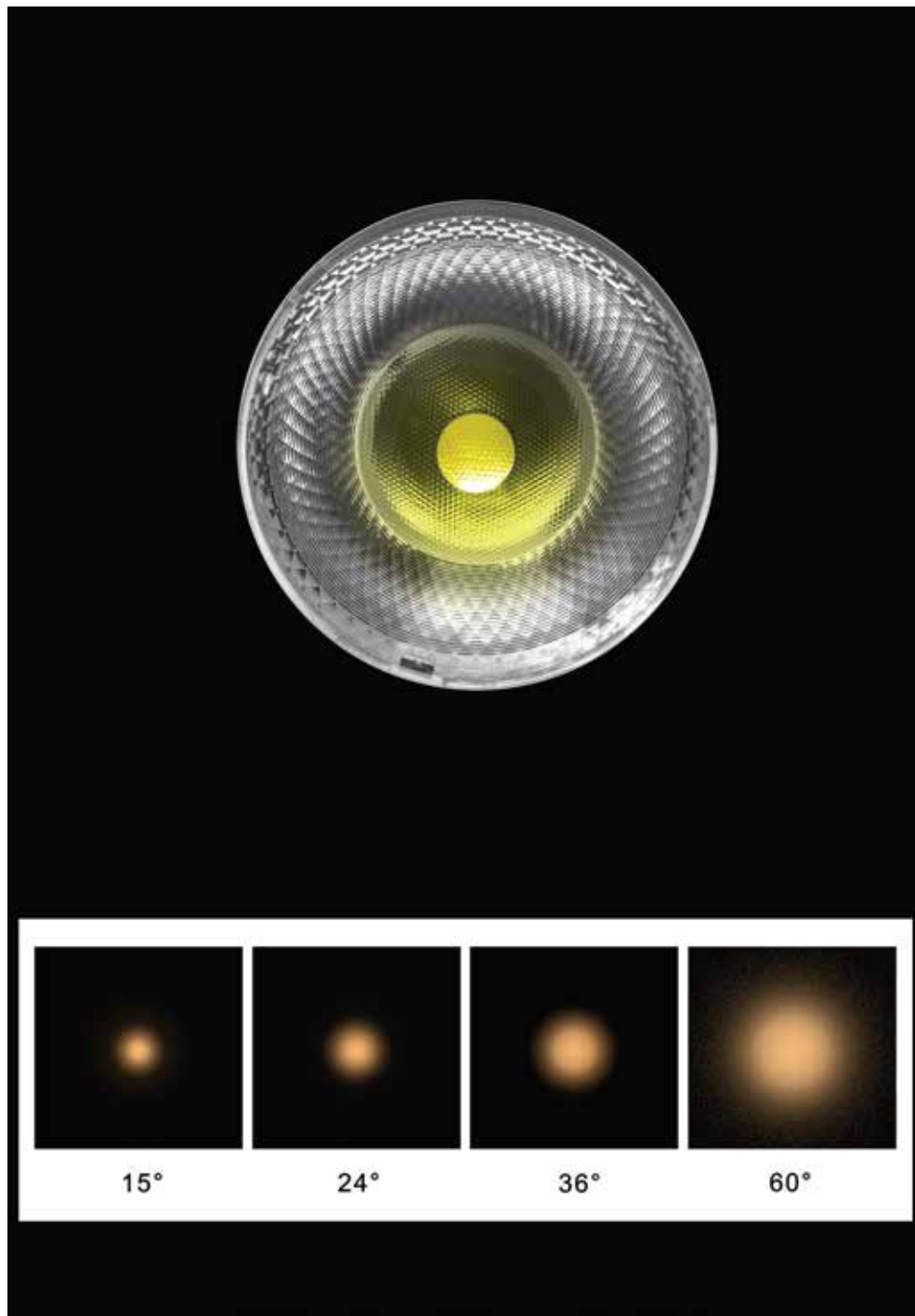
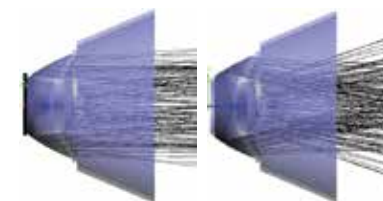
### Nice cutoff and fulfilled spot center (strong zoom capability):

The spot cutoff is generated by the intermediate refracted light; considering the overall zooming effect, the cutoff is made moderate by adding an appropriate compound eye to optimize the spot edge on the refracting light exit surface.

Innovatively adding a two-dimensional uniform light microstructure to the surface of the lens, so that the light intensity is softened, the central light intensity can be guaranteed; Especially for the wide beam angle central spot, it has a certain compensation effect, making the center of the wide beam angle spot full.

### Better anti-glare effect

In the process of zooming, the main light of the narrow beam angle is emitted along the optical axis direction, while the main light is deflected away from the hood at a wide beam angle, only very little light reaches the hood regardless of the beam angles. So the new lens can be matched with a deeper anti-glare cover to achieve a better anti-glare effect comparing to conventional KA.





## INFINITY 35@15-15\_36

φ: 35mm H: 15mm  
Material: PMMA  
FWHM: 15°~36°  
Efficiency: 90%~92%



## INFINITY 35@14-35\_60

φ: 35mm H: 14mm  
Material: PMMA  
FWHM: 35°~60°  
Efficiency: 90%~92%



## INFINITY 55@25-15\_36

φ: 55mm H: 25mm  
Material: PMMA  
FWHM: 15°~36°  
Efficiency: 90%~92%



## INFINITY 55@23-35\_60

φ: 55mm H: 23mm  
Material: PMMA  
FWHM: 35°~60°  
Efficiency: 90%~92%



## INFINITY 45@20-15\_36

φ: 45mm H: 20mm  
Material: PMMA  
FWHM: 15°~36°  
Efficiency: 90%~92%



## INFINITY 45@18-35\_60

φ: 45mm H: 18mm  
Material: PMMA  
FWHM: 35°~60°  
Efficiency: 90%~92%



## INFINITY 62@28-15\_36

φ: 62mm H: 28mm  
Material: PMMA  
FWHM: 15°~36°  
Efficiency: 90%~92%



## INFINITY 62@26-35\_60

φ: 62mm H: 26mm  
Material: PMMA  
FWHM: 35°~60°  
Efficiency: 90%~92%



**INFINITY 72@33-15\_36**

φ: 72mm H: 33mm  
Material: PMMA  
FWHM: 15°~36°  
Efficiency: 90%~92%



**INFINITY 72@29-35\_60**

φ: 72mm H: 29mm  
Material: PMMA  
FWHM: 35°~60°  
Efficiency: 90%~92%



**INFINITY 75@34-15\_36**

φ: 75mm H: 34mm  
Material: PMMA  
FWHM: 15°~36°  
Efficiency: 90%~92%



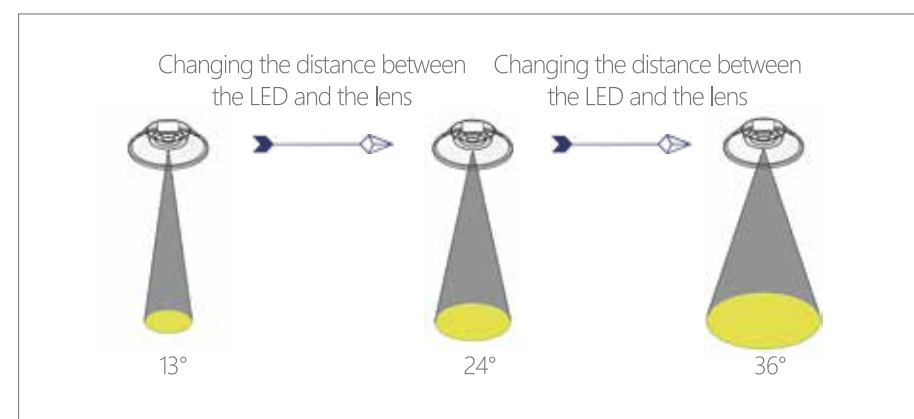
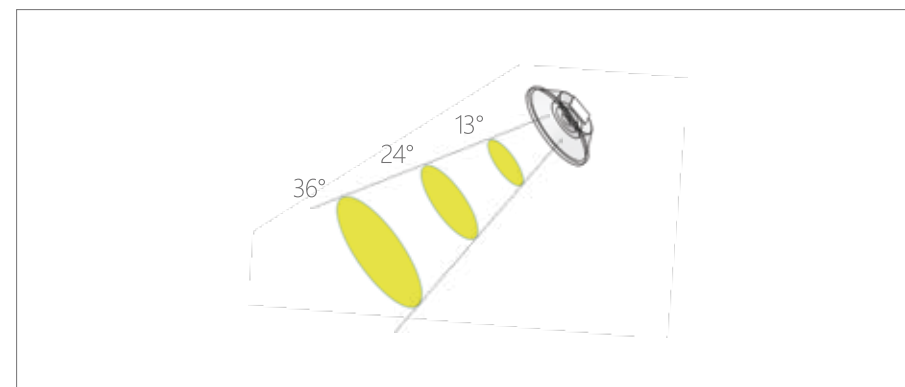
**INFINITY 75@30-36\_60**

φ: 75mm H: 30mm  
Material: PMMA  
FWHM: 35°~60°  
Efficiency: 90%~92%



## Introduction

Different with the traditional convex lens, the focus family can keep the same efficiency when zooming. By the special optical designing, each reflection surfaces have the same uniform energy to achieve good uniformity without the dark in the middle.



## Product characteristics

Fresnel lens has unique optical properties, which can change the optical angle and the size of the spot by changing the distance between light source and lens.



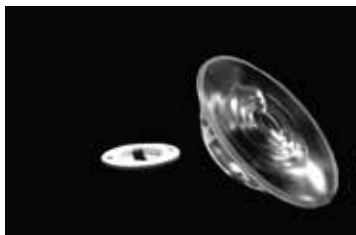
15°



24°

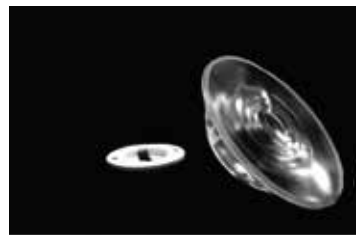


36°



## FOCUS 35@10

φ: 35mm H: 10mm  
Material: PC  
FWHM: 13°~36°  
Efficiency: 85%



## FOCUS 44@13

φ: 44mm H: 13mm  
Material: PC  
FWHM: 13°~36°  
Efficiency: 85%



## FOCUS 50@14

φ: 50mm H: 14mm  
Material: PC  
FWHM: 13°~38°  
Efficiency: 85%



## FOCUS 62@17

φ: 62mm H: 17mm  
Material: PC  
FWHM: 13°~36°  
Efficiency: 85%



## FOCUS 72@20

φ: 72mm H: 20mm  
Material: PC  
FWHM: 13°~36°  
Efficiency: 85%



## FOCUS 75@19

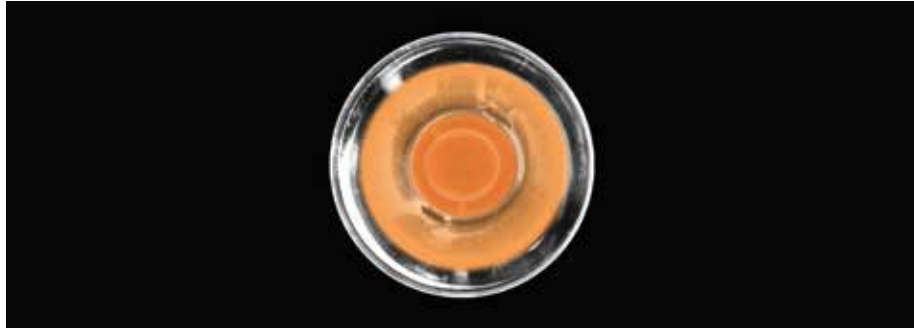
φ: 75mm H: 19mm  
Material: PC  
FWHM: 13°~38°  
Efficiency: 85%



## FOCUS 90@24

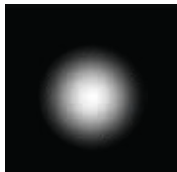
φ: 90mm H: 24mm  
Material: PC  
FWHM: 13°~38°  
Efficiency: 85%

## Lens front view



## Facula shape

Polaroid Filter A:  
25°



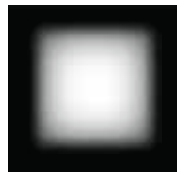
Polaroid Filter B:  
36°



Polaroid Filter C:  
25°×25°



Polaroid Filter D:  
36°×36°



Polaroid Filter E:  
25°×36°



Polaroid Filter F:  
10°×25°



Polaroid Filter G:  
10°×36°



Polaroid Filter H:  
4°×36°

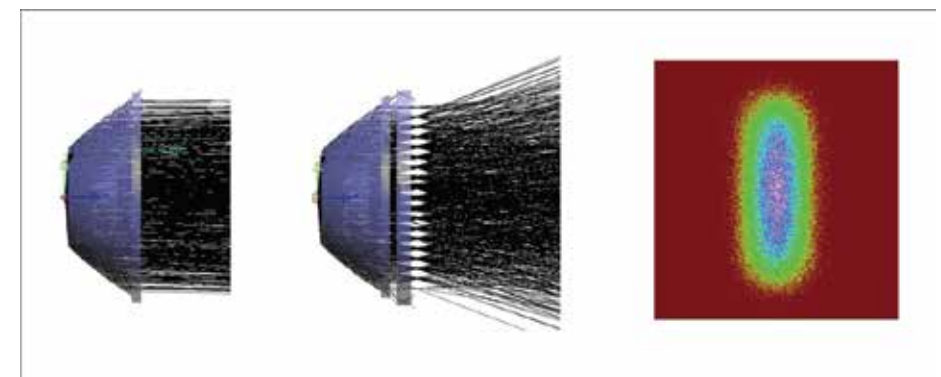
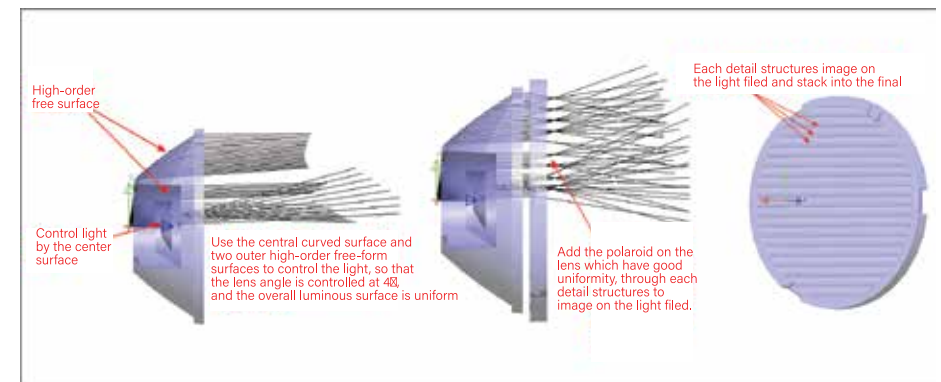


## Introduction

Polaroid means using the normally narrow beam angle circle optics to achieve different beam angle, different shape of the facula. Main application is the partial lighting in the art exhibition, not only can achieve different facula requirements, but also can decrease the cost effectively.

## Principle

Redistributing the collimating light by each tiny structures to achieve different beam angle and different shape optics, then mixed to achieve different target facula.





## POLAROID 30@11

φ: 30mm H: 11mm  
Material: PC  
FWHM: 6°  
Efficiency: 90%



## POLAROID 35@21

φ: 35mm H: 21mm  
Material: PC  
FWHM: 7°  
Efficiency: 90%



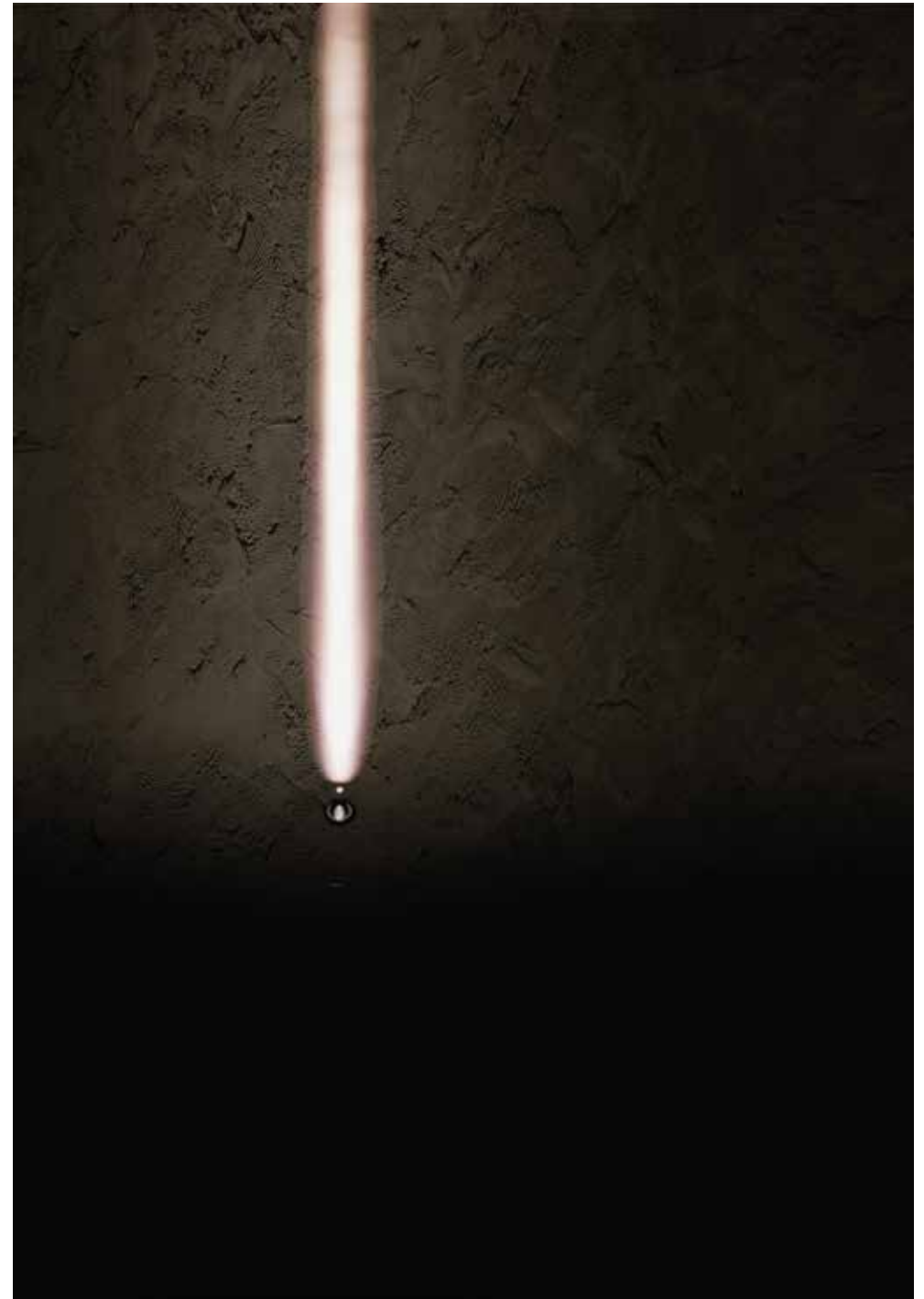
## POLAROID 40@15

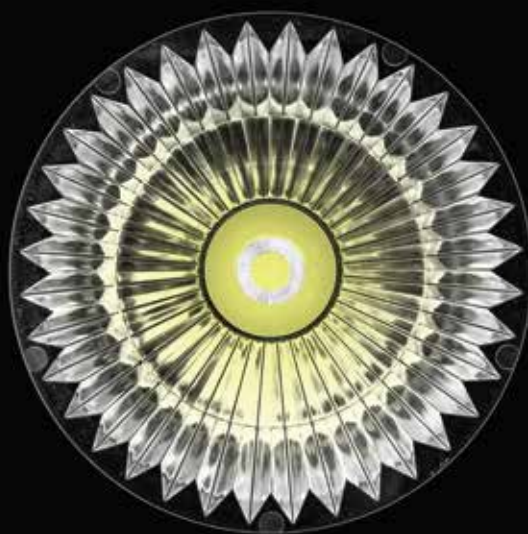
φ: 40mm H: 15mm  
Material: PC  
FWHM: 4° / 6.9°  
Efficiency: 90%



## POLAROID 50@18

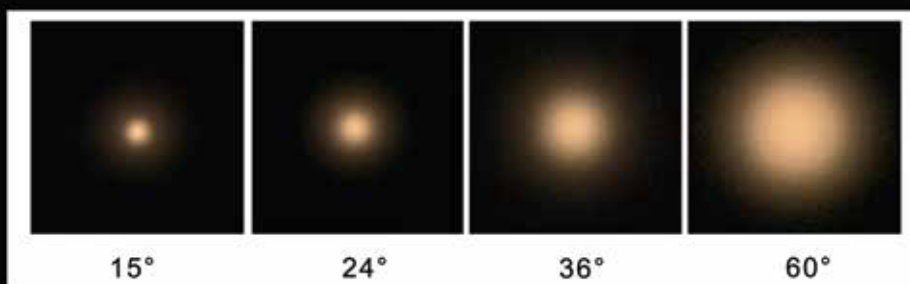
φ: 50mm H: 18mm  
Material: PC  
FWHM: 3°  
Efficiency: 90%





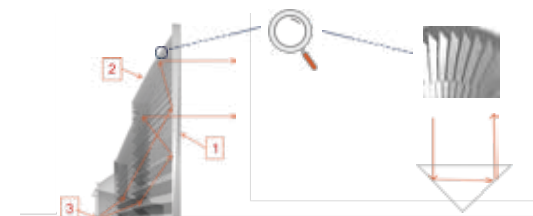
**SUNFLOWER: HK-45@08-XX-7070-20-1g-1**

φ: 45mm H: 8mm Material: PC Efficiency: 88% FWHM: 15°/24°/36°/60°

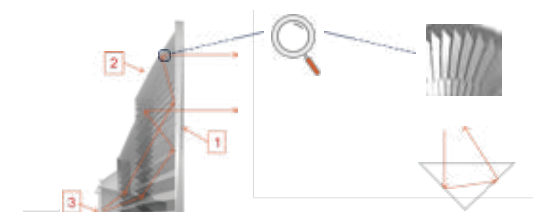


## Design Principle

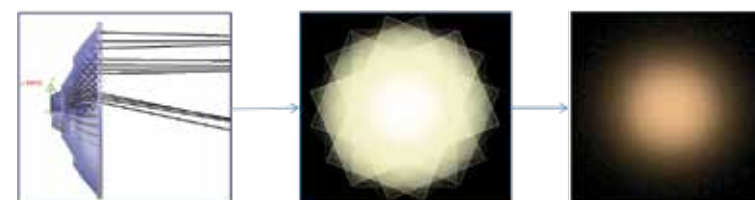
Triple-Reflection technology is a great innovation based on Calculus technology, greatly reduced the lens height compare with the original calculus lens, let the light reflect three times inside the lens, make sure get good light distribution with lower height lens.

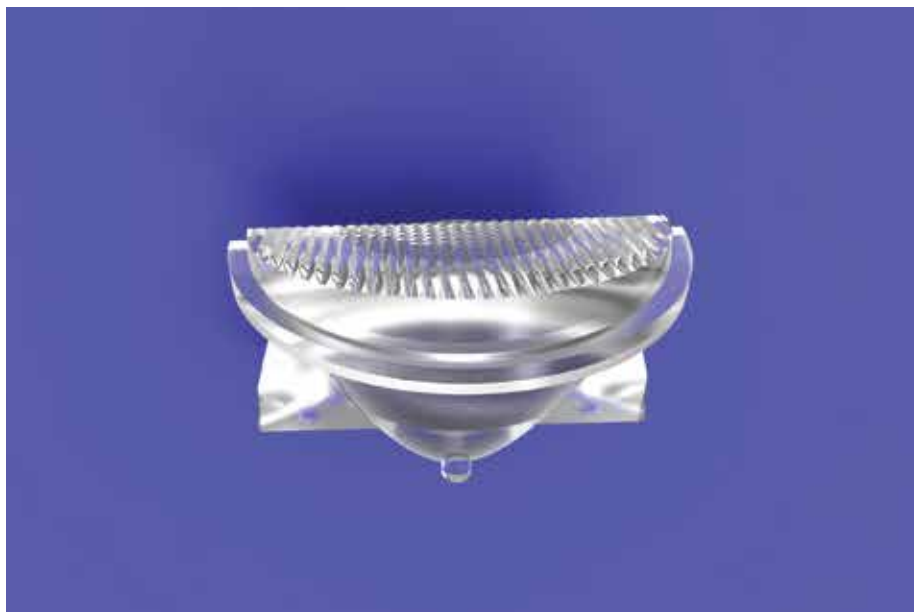


Graphic 1 is a fully reflecting surface and a optical emitting surface, light from graphic 3(LED) fully reflected to graphic 2(included angle) by the surface 1, then totally reflect two times in the included angle, at last all lights emit out from surface 1 by total three times reflection.



The reflect surfaces of included angle 2 are all fully reflecting surface, control the lens angle by adjust the surface shape. Ultrathin thickness 8mm, thinner than thinner, save more space for designer. Application: MR16/GU10/Downlight/Par20.

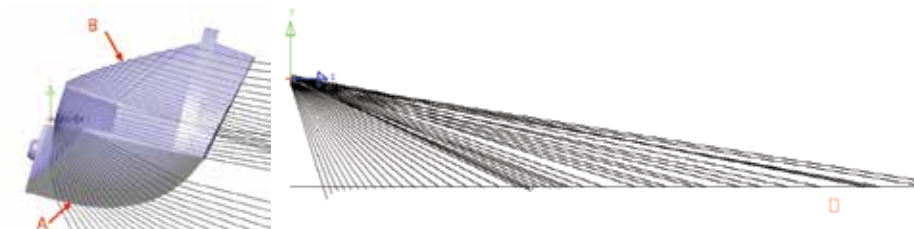




## Product characteristics

High wall washing height, uniform light spot, high efficiency, applicable to low-pole lighting such as indoor wall washing and outdoor guardrail lights.

## Light distribution



Using a combined light distribution, the optics at the top and bottom of the wall can be separated. The optical part of the lens is separated into part A (transmission type) and part B (total reflection type). The two parts are combined with light distribution to achieve wall washing lighting. The combination of the transmissive surface and the reflective surface makes the wall wash height high, close to the wall, and wide horizontal distance.

## Structure design

The structure of the lens is matched with the design method of the lens, and the holder design has its own anti-glare function. (Due to the inconsistency of different lamps, HercuLux can provide design reference for the holder)



### WATERFALL 35@23

φ: 35mm      H: 23mm  
Material: PMMA  
Efficiency: 80%

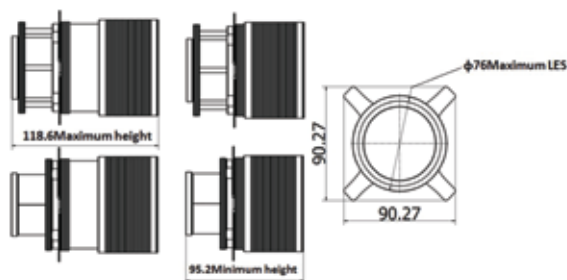


### WATERFALL 47@38

φ: 47mm      H: 38mm  
Material: PMMA  
Efficiency: 80%



### Structure diagram

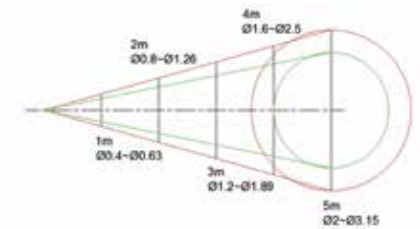


### Introduction

This product consists of triple lens plus special structure. By moving the front and center lenses, the product can be made into circular patches of different sizes with clear or blurred borders.

## TRANSFORMERS

At the same time, through four inserts, the product can also freely adjust the circular spot to the following types of light spots.



### Instructions

Transformers, its initial form is as follows:



At this moment, turn left and right respectively 1, 2 , Get the following pattern:



Pulling the part pointed by arrow 1 can change the sharpness of the spot boundary;  
Pulling the part pointed by arrow 2 changes the spot size.  
At the same time plug four inserts; Spin can change the spot shape arbitrarily, as the following example shows:

Insert the initial state as the right, A circular spot.

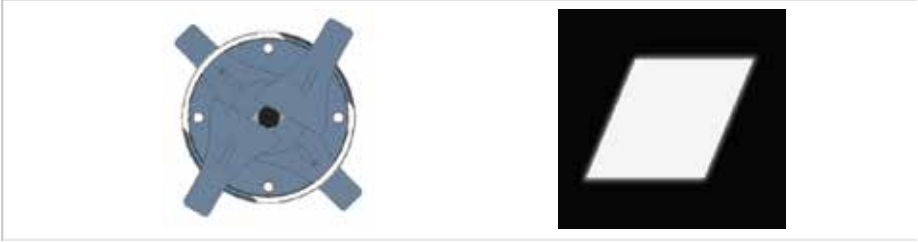


# TRANSFORMERS

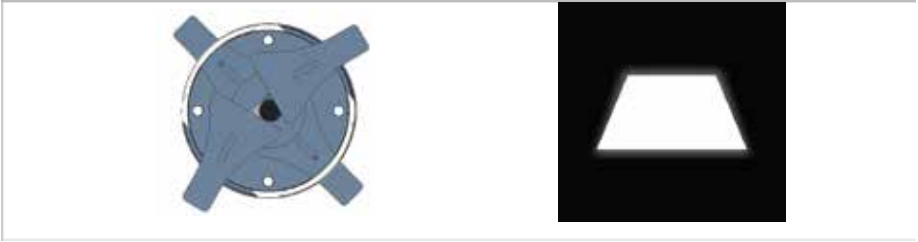
Changing the position of the insert, the circular spot will change to a rectangular spot as shown below.



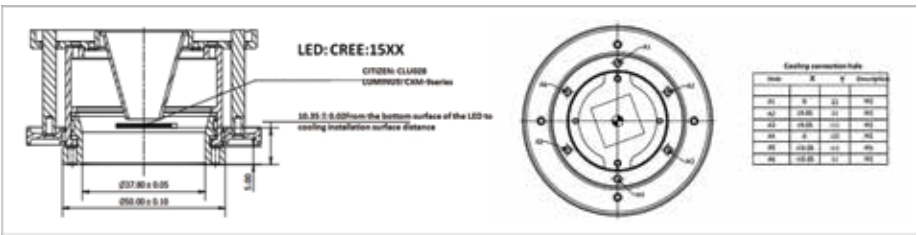
Change the position of the insert, as shown below, the circular spot will become a parallelogram spot.



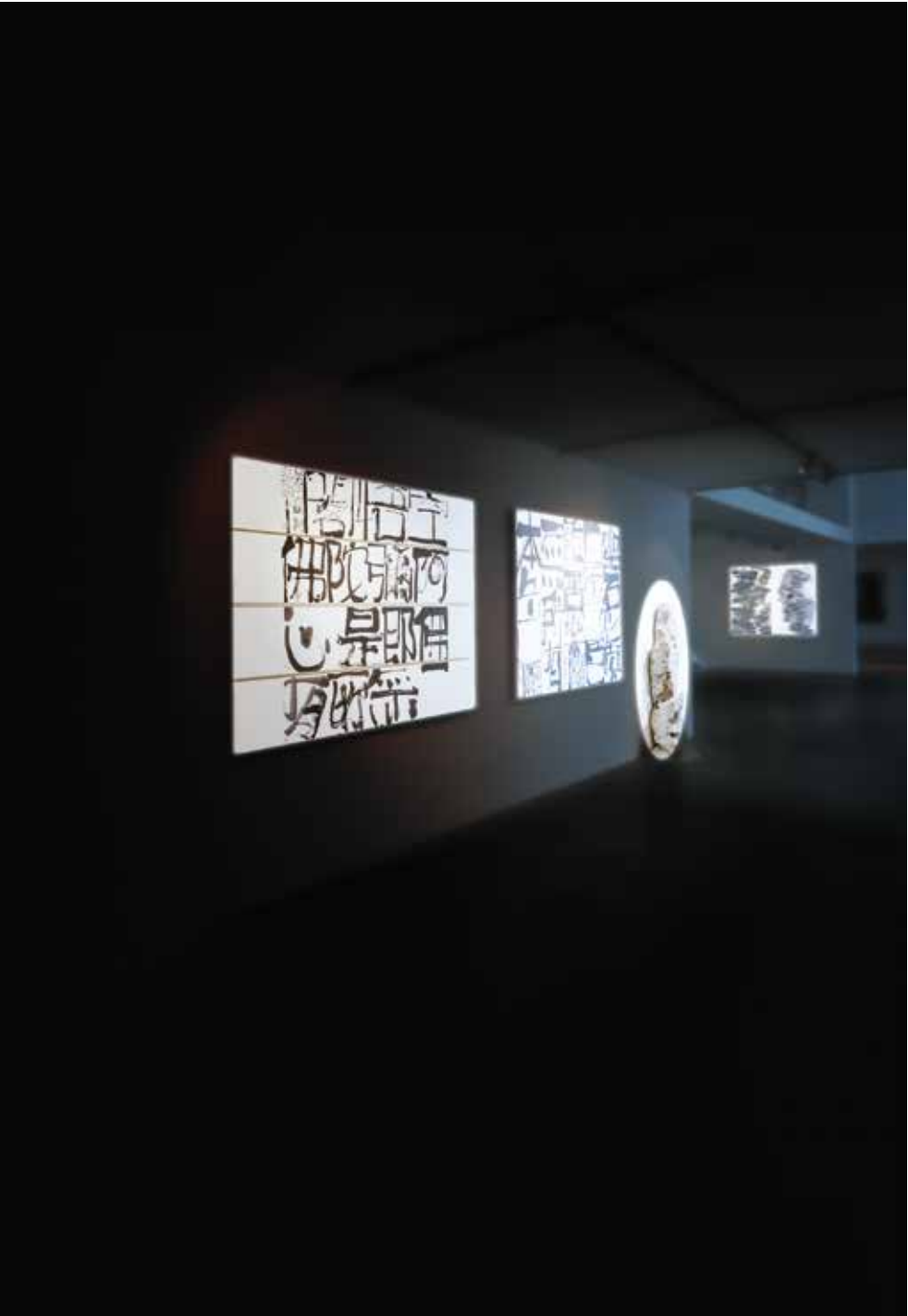
Change the insert position, as shown below, the circular spot will become a trapezoidal spot.



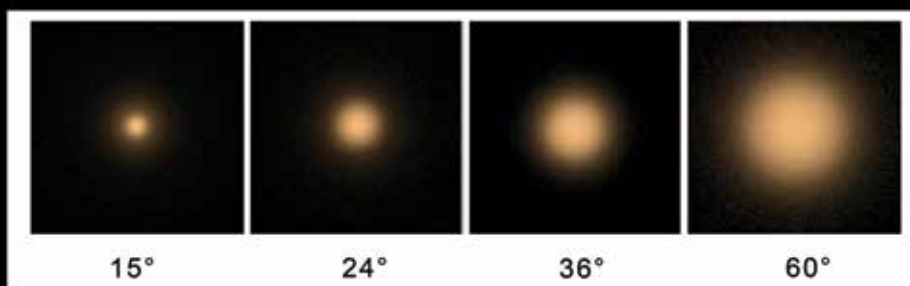
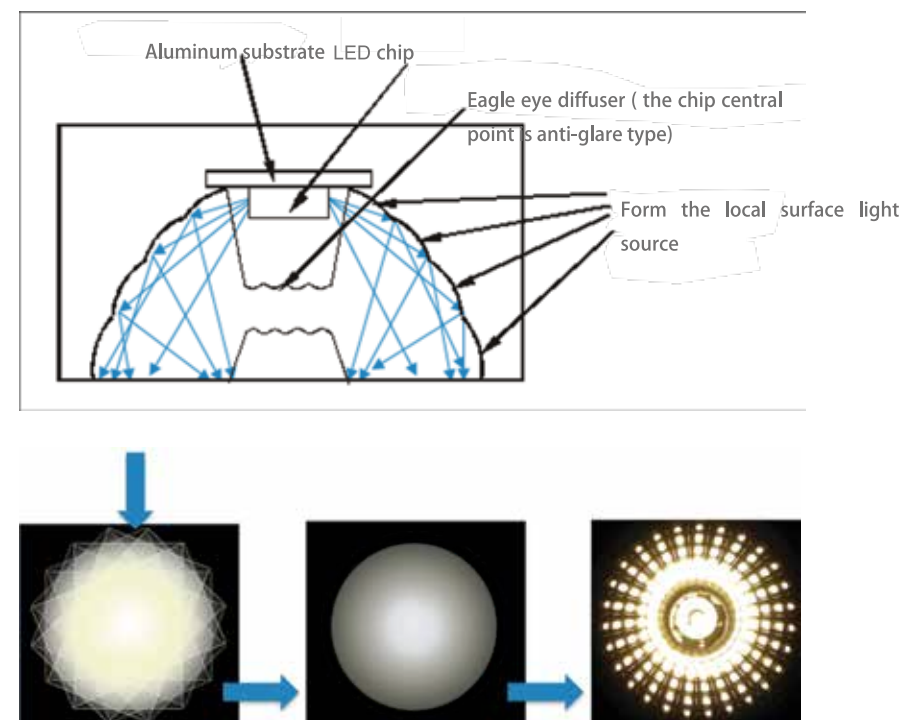
## Cooling installation size



When customers create cooling base, the remaining size can be customized, in addition to the size marked on the map for a fixed size. Application: Museum lighting, Art exhibition lighting or lighting used in special application.



## Principle



Make segmentation differential process for the wave surface of several scale light sources. In this way, the light source will be cut into several sub-light sources. (differential calculus for light source);

Each sub-light source forms sub-facula on the light field. The centers coincide with each other, rotate and overlay (differential calculus of light field) and form a lighting field with uniform color;

The light received by each scale would be consistent or with uniform change. In this way, the glaring surface of lens would have the same brightness and prevent dazzling.



## DIAMOND 35@12.4

φ: 35mm H: 12.4mm  
Material: PMMA  
FWHM: 24°/38°  
Efficiency: 92%



## DIAMOND 44@18

φ: 44mm H: 18mm  
Material: PMMA  
FWHM: 24°/38°  
Efficiency: 92%



## DIAMOND 35@17

φ: 35mm H: 17.2mm  
Material: PMMA  
FWHM: 15°/24°/38°/60°  
Efficiency: 92%



## DIAMOND 44@20

φ: 44mm H: 20mm  
Material: PC  
FWHM: 15°/24°/36°/60°  
Efficiency: 90%



## DIAMOND 43@22.8

φ: 43mm H: 22.8mm  
Material: PMMA  
FWHM: 15°/24°/36°/60°/90°/120°  
Efficiency: 92%



## DIAMOND 46@24

φ: 46mm H: 24mm  
Material: PMMA  
FWHM: 10°  
Efficiency: 92%

# DIAMOND



## DIAMOND 52@25

φ: 52mm H: 25mm

Material: PMMA

FWHM: 15°/24°/36°

Efficiency: 92%



## DIAMOND 55@21

φ: 55mm H: 21mm

Material: PMMA

FWHM: 15°/24°/36°/60°

Efficiency: 90%



## DIAMOND 62@22

φ: 62mm H: 22mm

Material: PMMA

FWHM: 30°/38°/60°/90°

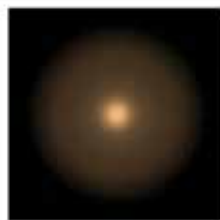
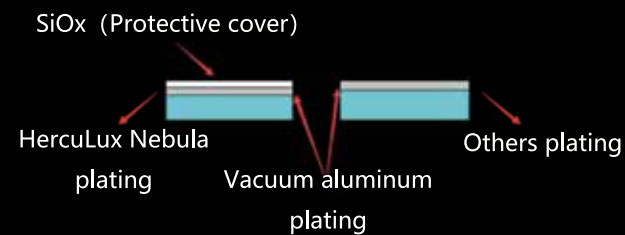
Efficiency: 92%



## Features



Own Buckle and  
Supporting holder



15°



24°



36°

### 1、Assembly:

Easy assembling own buckle design and supporting holder design, easy for assembling and precise positioning

### 2、Flexible replacement:

Easy Changing By special buckle and supporting holder and holder design, can easy change the reflector to get different beam angle in project site;

### 3、Coating technology:

SiOx plating Automotive-grade reflective glass vacuum Plating technology of aluminum and SiOx, separate air and the aluminum plating, Superior anti-corrosion performance, can pass NaOH Alkali solution testing.



## NEBULA 44@20

φ: 44mm H: 20mm

Material: Vacuum Aluminum Plating PC

FWHM: 15°/24°/36°

Efficiency: 90%



## NEBULA 75@54

φ: 75mm H: 54mm

Material: Vacuum Aluminum Plating PC

FWHM: 15°/24°/36°

Efficiency: 90%



## NEBULA 50@35

φ: 50mm H: 35mm

Material: Vacuum Aluminum Plating PC

FWHM: 15°/24°/36°

Efficiency: 90%



## NEBULA 95@64

φ: 95mm H: 64mm

Material: Vacuum Aluminum Plating PC

FWHM: 15°/24°/36°

Efficiency: 90%



## NEBULA 69@46

φ: 69mm H: 46mm

Material: Vacuum Aluminum Plating PC

FWHM: 15°/24°/36°

Efficiency: 90%

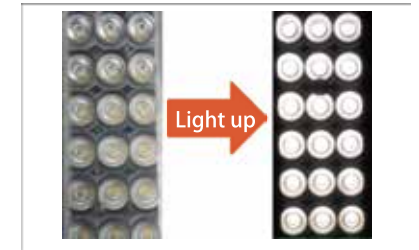
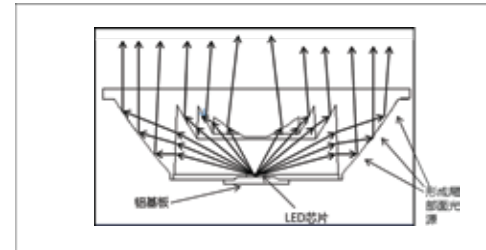


Adapted the calculus and Fresnel technology,  
have good effect although the short height assemble  
and lower UGR importantly.

## LIGHTNING

### Principle

Adapted the calculus and Fresnel technology, have good effect although the short height assemble, and lower UGR importantly.



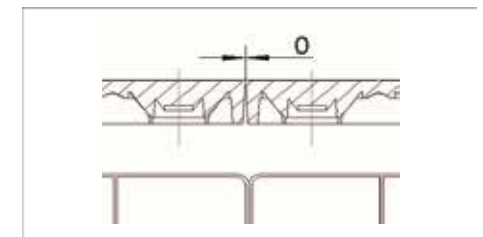
### Appearance

HercuLux adopted the calculus and Fresnel technology, make the lens looked beautiful, the scales' space create the similar effect like the grid when lighting, and the surface brightness is more downy. Own technology, enough patents.

### Structure

1、Injecting the glue from the module front surface, upper is bigger than the under, can achieve the lens zero clearance assembled.

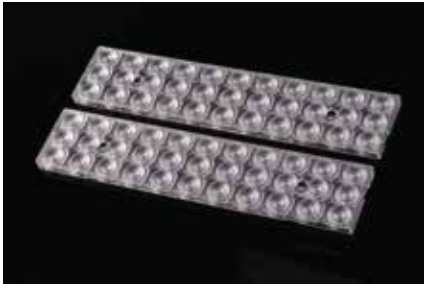
2、Optical PC material, enough heat and weather resistance, UL-94: V2; UV cut : f1.



### UGR

UGR In our optical designing experience, the better angle for the office lighting is 80°, lower UGR





## LIGHTNING

HK-286@10-XX-3030-22-1g-33

Size: L:286mm W:61mm

FWHM: 30°/60°/80°

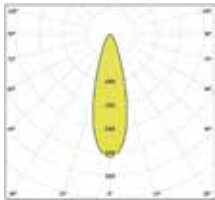
Material: PC

Efficiency: 86%

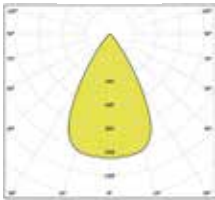
Application: Linear Light

Lens by LED:

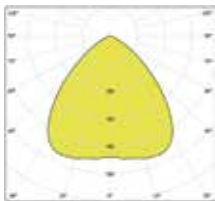
SMD 3030/2835



30°



60°



80°



## LIGHTNING

HK-286@10-XX-3030-22-1g-3

Size: L:286mm W:61mm

FWHM: Asymmetric/Double asymmetric

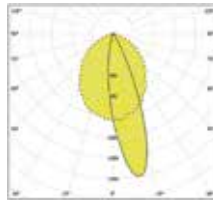
Material: PC

Efficiency: 86%

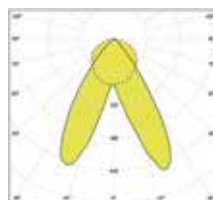
Application: Linear Light

Lens by LED:

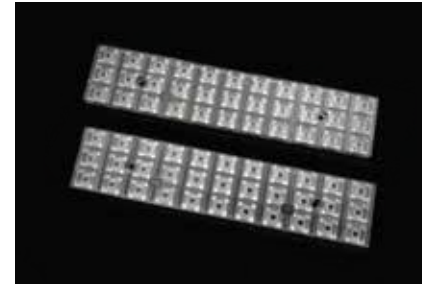
SMD 3030/2835



Asymmetric



Double asymmetric



## LIGHTNING

HK-286@08-XX-3030-22-1g-33

Size: L:286mm W:61mm

FWHM: 30°/60°/80°

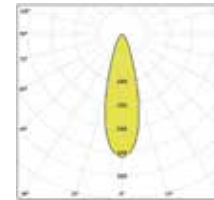
Material: PMMA

Efficiency: 88%

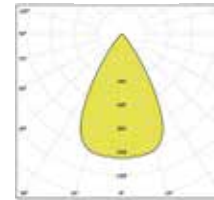
Application: Linear Light

Lens by LED:

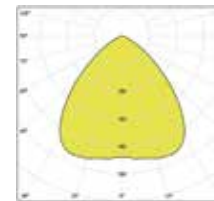
SMD 3030/2835



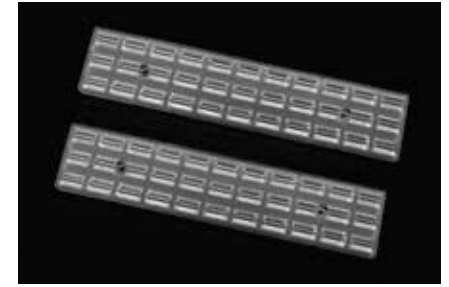
30°



60°



80°



## LIGHTNING

HK-286@08-XX-3030-22-1g-33

Size: L:286mm W:61mm

FWHM: Asymmetric/Double asymmetric

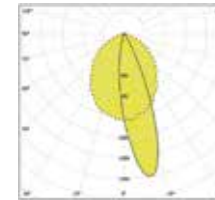
Material: PMMA

Efficiency: 88%

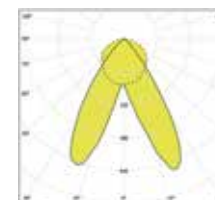
Application: Linear Light

Lens by LED:

SMD 3030/2835



单偏



双偏



COMET

HK-45@13-XX-3030-22-1g-1

Size:  $\Phi$ : 45 mm H: 13.3mm

FWHM: 30°

Material: PC

Efficiency: 88%

Application: PAR16、Down Light

Lens by LED:

Copy COB: 6PCS 3030 , 6PCS 2835



COMET

HK-51@16-XX-3030-22-1g-1

Size:  $\Phi$ : 51.3 mm H: 16.3mm

FWHM: 25°/40°

Material: PC

Efficiency: 88%

Application: PAR20、Down Light

Lens by LED:

Copy COB: 6PCS 3030 , 6PCS 2835



COMET

HK-73@20-XX-3030-22-1g-1

Size:  $\Phi$ : 73.3 mm H: 20.3mm

FWHM: 25°/40°

Material: PC

Efficiency: 88%

Application: PAR30、Down Light

Lens by LED:

Copy COB: 6PCS 3030 , 6PCS 2835



COMET

HK-83@24-XX-3030-22-1g-1

Size:  $\Phi$ : 94.2 mm H: 24mm

FWHM: 25°/40°

Material: PC

Efficiency: 88%

Application: PAR38、Down Light

Lens by LED:

Copy COB: 6PCS 3030 , 6PCS 2835

# CUSTOMIZED SOLUTIONS

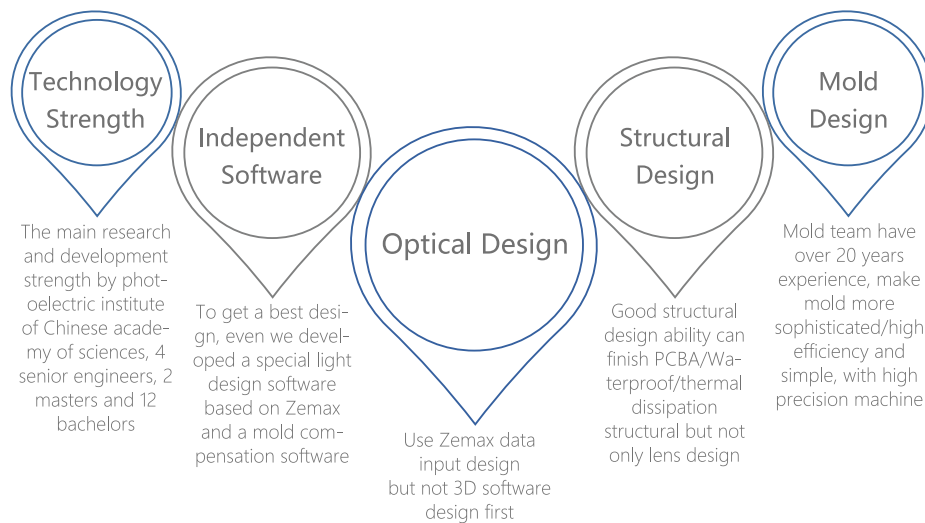
In addition to the standard mold products introduced in the catalogue, HercuLux can also provide customized solution services. With a professional design team and a complete industrial chain, tailor-made for customers, seeking the best solution for the project.

## Extended Polynomial Lens

The Extended Polynomial surface shape is defined by:

$$z = \frac{cr^2}{1 + \sqrt{1 - (1+k)c^2r^2}} + \sum_{i=1}^N A_i E_i(x, y).$$

HercuLux adopts imaging optical design software: Zemax to do data input level design to achieve more accurate chip level design.



and use Light tools or Tracpro to test and then adjust, can get more sophisticated high-order free-form surface

**Quick response for Design:** Optical design → Structural design → Optical simulation → Mold assess → Injection molding analysis

Optical design, structural design, mold design, injection molding production, quality inspection, HercuLux has a complete industrial chain to ensure that optical products can be independently controlled in each link, so that product quality, appearance, performance and other aspects are the best state!

## Custom Process

**Kindly provide detail requirements:**

1. Lens size requirement; 2. Optical requirement(FWHM),Target IES will be better; 3. Lens Efficiency; 4. Assembly drawing sharing; 5. LED; 6. Material: PC or PMMA; 7. Application; 8. Other special information.

**Optical Design Report:**

Our R&D will process to optical designing according to your optical requirement, designing in 2-5 days and we will share you the design report.

**Structure Design:**

If you are satisfied with the optical report, we could process to structure designing. Please kindly provide the assembly drawing, structure drawing and any file is helpful for us to design structure.

**Structure Confirm:**

Confirm the structure (Step file): 1. Whether the lens structure conflict with the PCB; 2. Whether the lens structure conflict with the Lamp's structure; 3. Whether the lens structure conflict with the component location; 4. etc.

**Quotation:**

Quotation for Mold and product: 1. It depends on the mold size and its complexity; 2. Quotation includes Test Mold fee and Final Mold fee and price for unit product. (Test Mold is not absolutely necessary, it is according to the complexity of the mold.)

**Customer PO Arrangement:**

After you confirm the quotation, please kindly share your PO.

**PI and Payment Arrangement:**

We will arrange PI and we process to payment issue. After payment is done, we will process to mold production.

**Mold Production:**

We need 30-35 working days to produce the mold, then will send you the samples which mold produce when the mold finished.

**Confirm The Samples:**

Whether the samples is same with the optical design and structure design.

**Mass Production:** If the samples checking is OK, Procedure as below, 1. Your mass order; 2. Our PI arrangement; 3. Your payment arrangement; 4. Mass production.

Self-built 20000 m<sup>2</sup> HercuLux park



Complete mold processing chain with a constant temp precision processing area



More than 100 precision injection machines



Self-built PC Vacuum Aluminum Plating workshop, One Spraying Production Line, Two Vacuum Plating Machine, 100000 Level Purification Workshop

