

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

Spring 2023 Edition

Chengdu HercuLux Photoelectric Technology Co., Ltd.



Website



WeChat



Youtube

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HERCULUX
LED Optics

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:

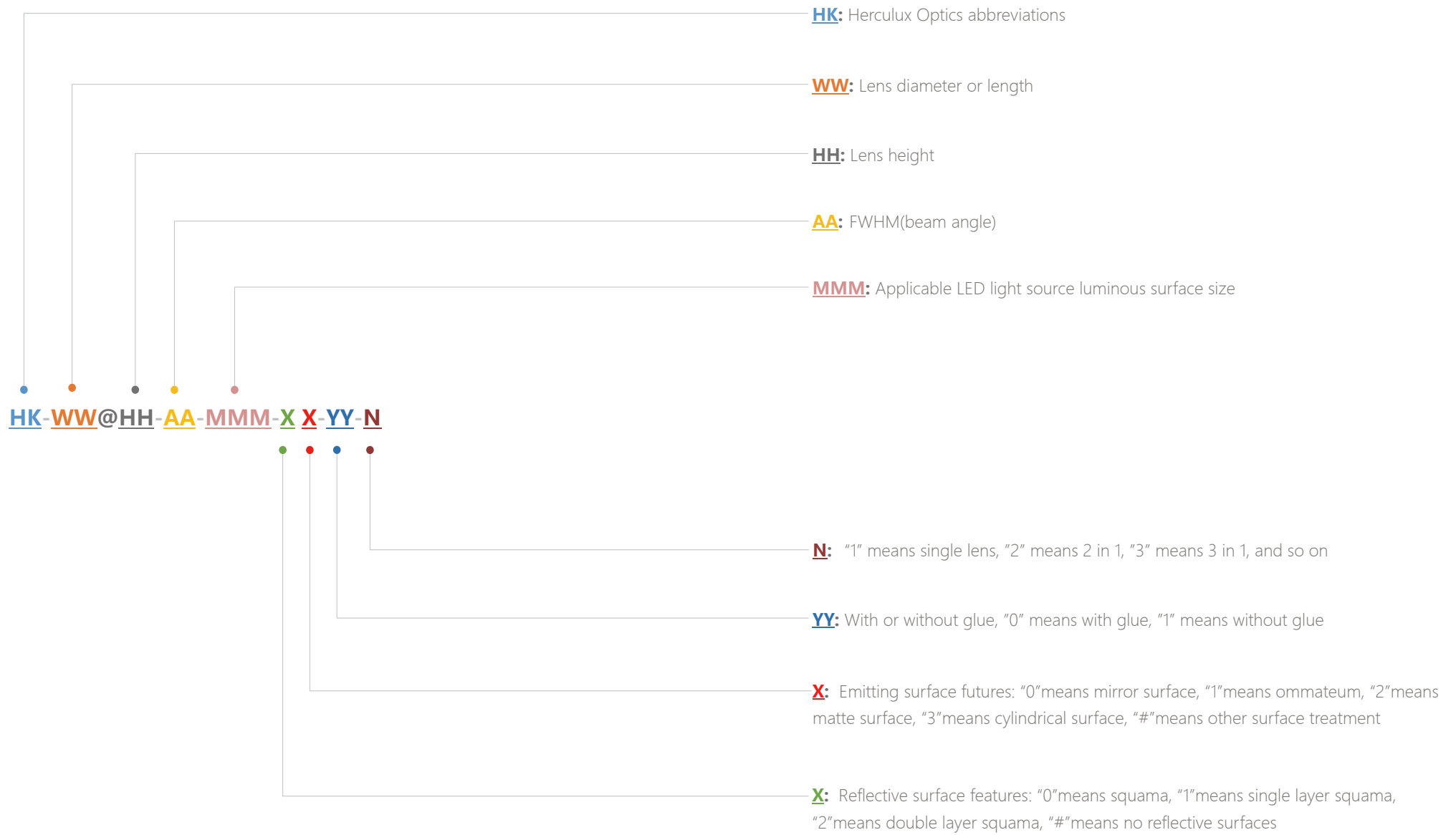
The company has applied for more than 330 patents and has obtained 222 patent authorizations, including 11 authorized invention patents, 106 utility model patents, 105 appearance patents, and is currently applying for 3 PCT patents.

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.



Products Code

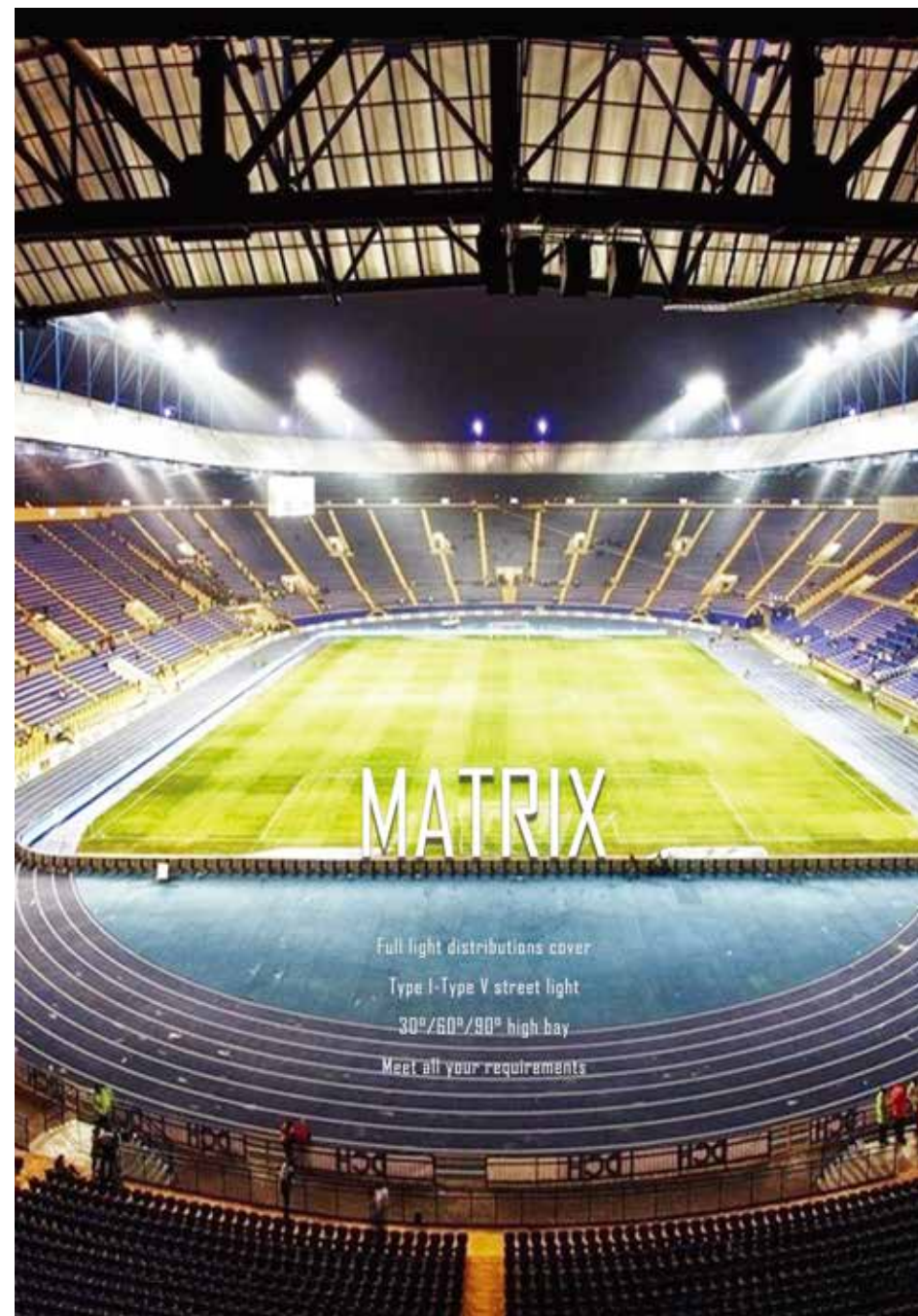
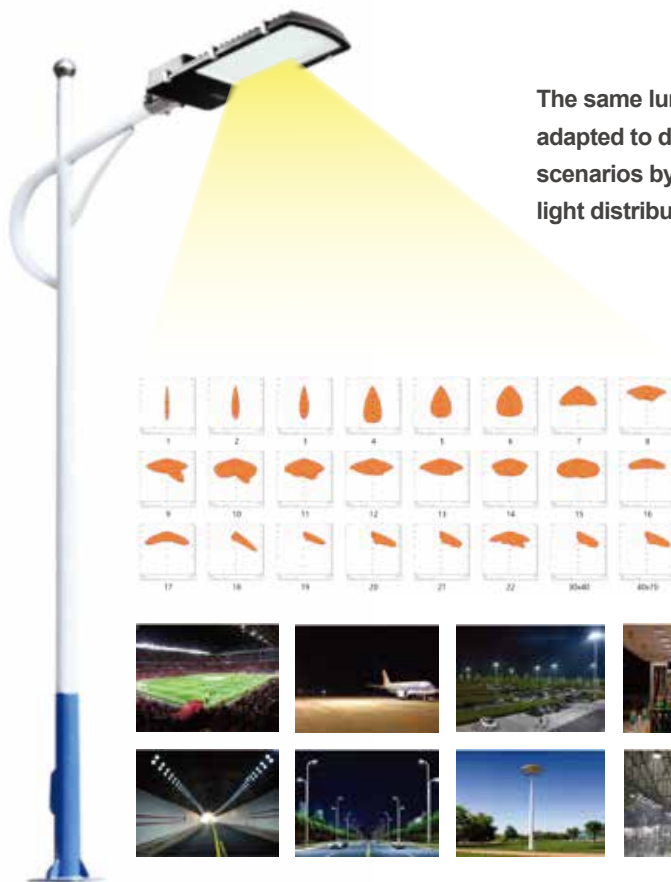


Why develop a matrix optical platform?

Standardized module,
which flexible selection of the number of
modules according to the luminaire power.



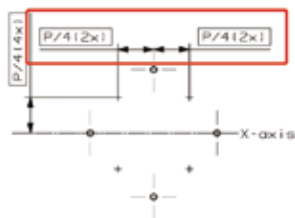
The same luminaire can be
adapted to different application
scenarios by selecting different
light distribution.



Why develop a matrix optical platform?

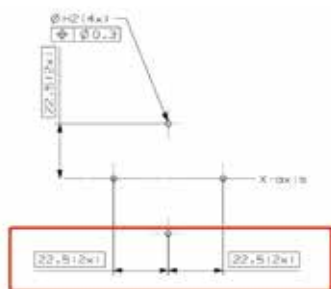
3.3.1.1.3 Position of light emitting elements

The LED Module have 4 light emitting elements. The centers of the LEDs of these light emitting elements should be positions indicated by the crosses in Figure 3-4 with values of dimensions defined in Table 3-1. The shape and size of the light emitting elements is not restricted.



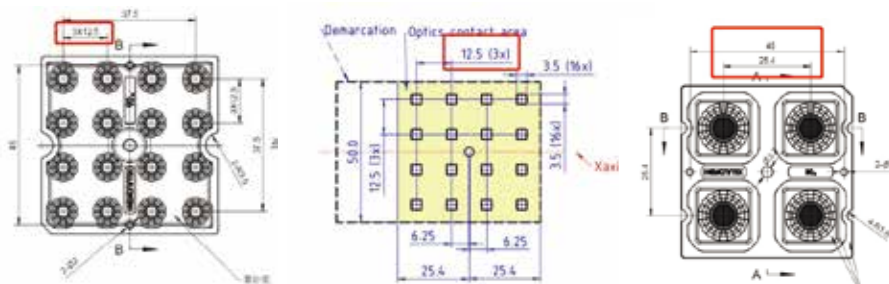
3.3.1.1.1 Optics alignment features

The LED Modules shall have 4 holes for Optics alignment and positions and sizes of holes shall comply with the definitions in Figure 3-2 with values of dimensions defined in Table 3-1.

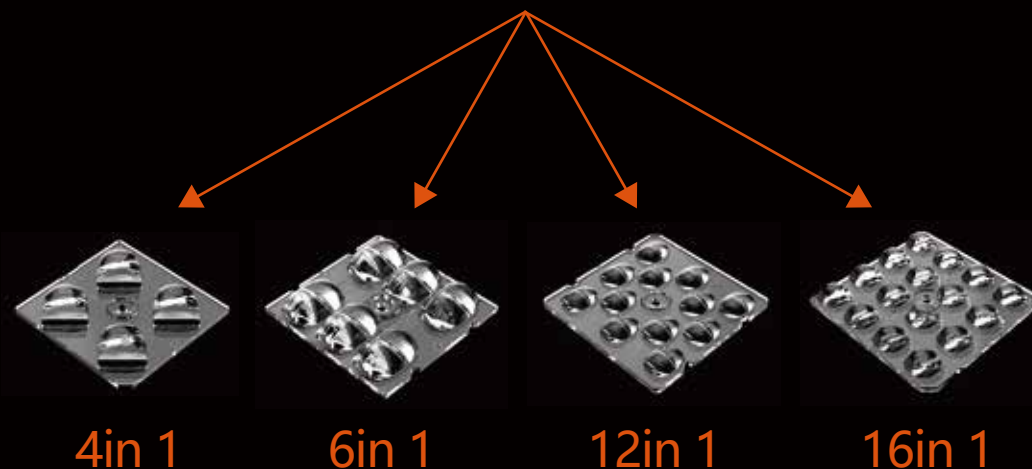


(*Figure 3-2 × Positioning holes on Class 2-DA LED modules)

The LED, as well as the position of the positioning columns need to meet the **EU ZHAGA standard**



Matrix optical platform



Over 100 types of light distributions

Uniform overall dimensions: 50mm*50mm Uniform installation size: 45mm

Matrix added light distribution:

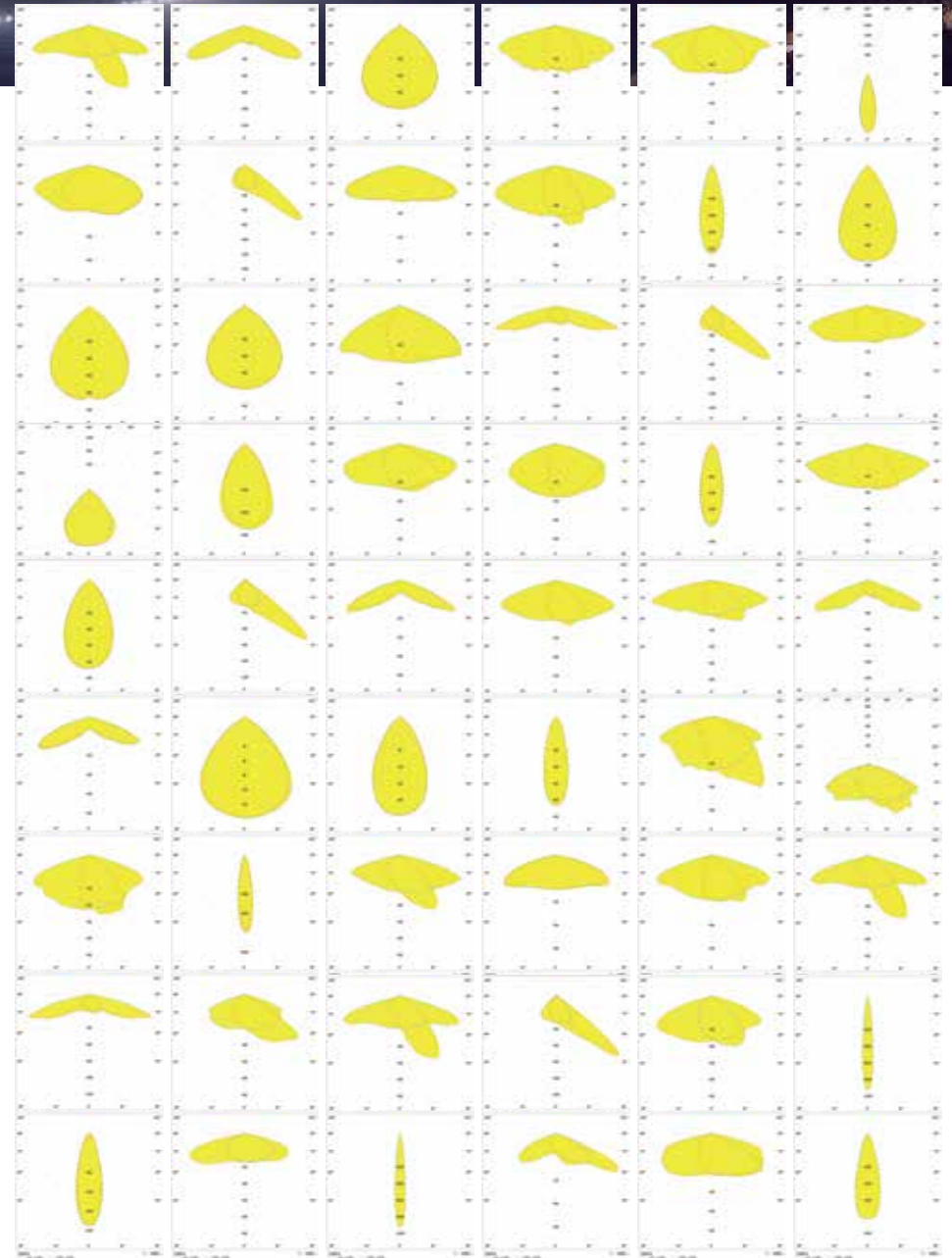
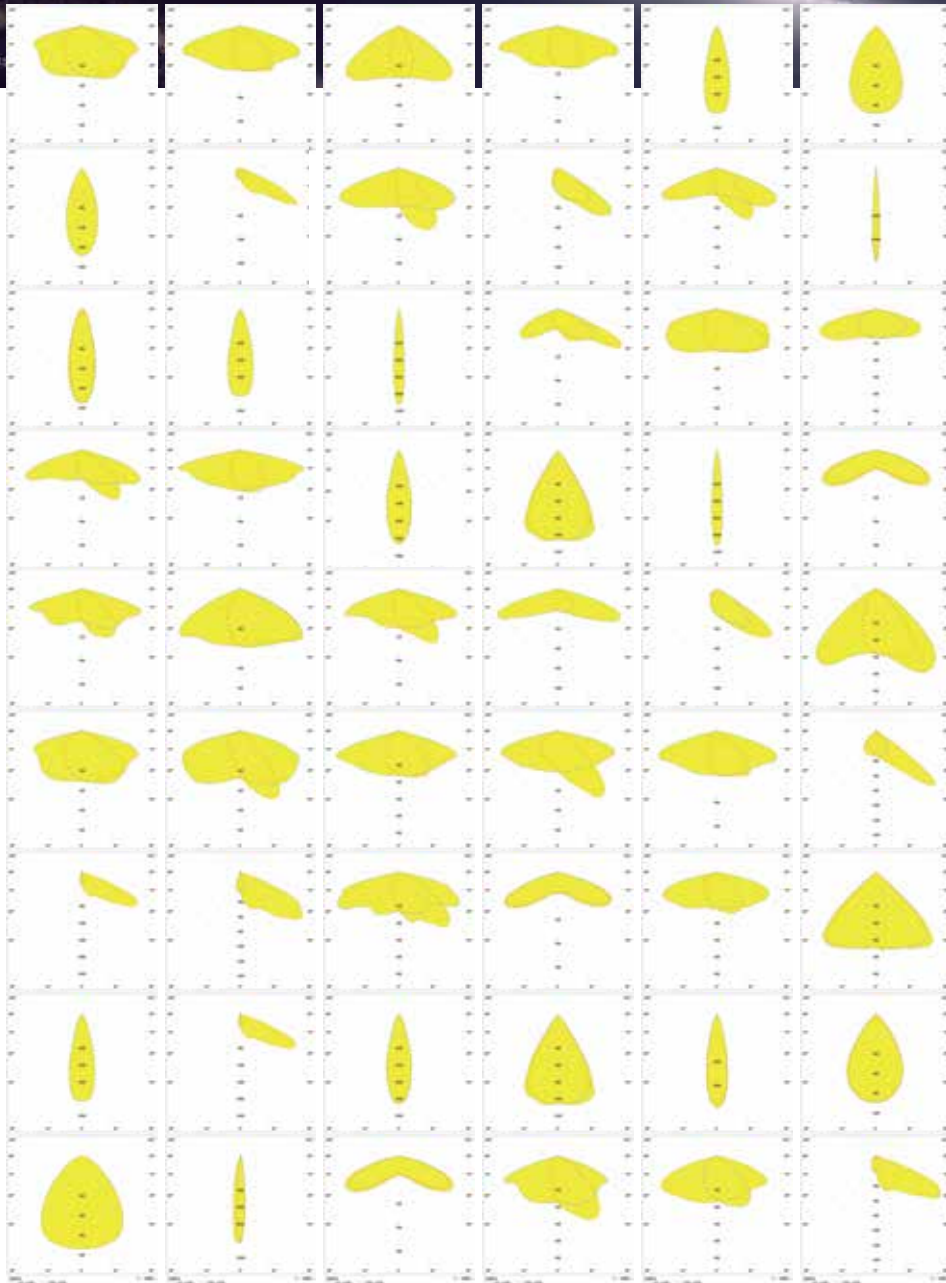


4 in 1, matching 7070 light source




8 in 1, matching 5050 light source

Matrix Optical Platform Light Distribution Diagram



MATRIX 4 in 1 Lens


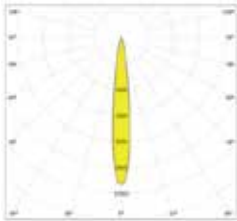

The Matrix lens has the following features:


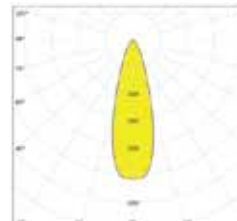
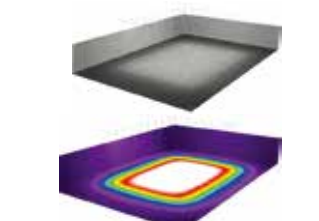
1. ZHAGA Standard: The position of the LED and the positioning column meet the EU ZHAGA standard. 
2. Lens Overall size: 50X50mm; Positioning column distance: 45mm
3. LED Compatibility: 3535 LED / 5050 LED / 7070 LED
4. Light Distribution Type: More than 40 light distribution types have been developed, and will continue to develop new type in depth for different application scenarios.
5. Applications: Roads, Tunnels, Stadiums, Docks, Industrial workshop, etc.


Light distribution type:


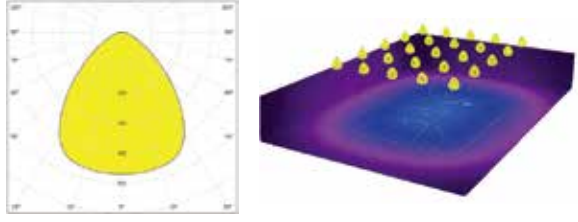
10°	25°	30°	45°
50°	60°	90°	TYPE I
TYPE II	TYPE II M C	TYPE III	TYPE IV
TYPE V	22×100°	JKR	TYPE II M
TYPE II S	9°	40×60°	TYPE II M BRA


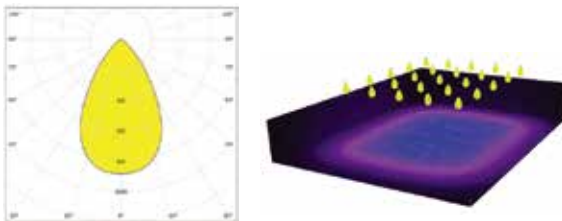



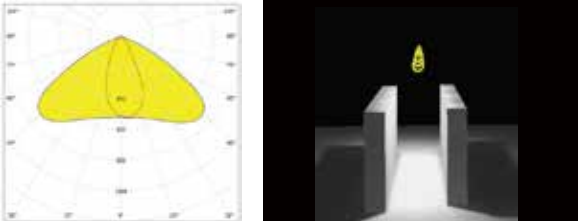
Mold NO.	1.01.81540		
Part NO.	HK-50@12-10-3535-02-1g-4_PC HK-50@12-10-3535-02-1g-4_PMMA		
Material	PC/PMMA		
Efficiency	90% (PC) /93% (PMMA) without glass		
LED	3535 LED		
Light distribution type	10°		
		Height	25m
		Mode	Four corner arrangement lights
		Court uniformity	0.7

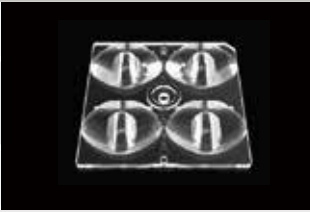
Mold NO.	1.01.6866		
Part NO.	HK-50@10-30-5050-20-1g-4_PC HK-50@10-30-5050-20-1g-4_PMMA		
Material	PC/PMMA		
Efficiency	90% (PC) /93% (PMMA) without glass		
LED	3535/5050 LED		
Light distribution type	30°		
		Height	12m
		Mode	Lighting on top
		Court uniformity	0.7

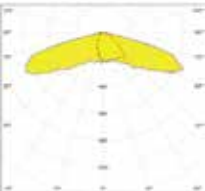
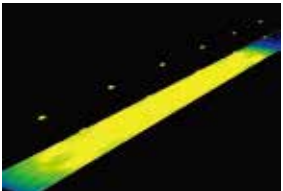
Mold NO.	1.01.23105						
Part NO.	HK-50@10-45-5050-20-1g-4_PC HK-50@10-45-5050-20-1g-4_PMMA						
Material	PC/PMMA						
Efficiency	90% (PC) /93% (PMMA) without glass						
LED	3535/5050 LED						
Light distribution type	45°						
 <table border="1"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Lighting on top</td> </tr> <tr> <td>Court uniformity</td> <td>0.7</td> </tr> </table>			Height	12m	Mode	Lighting on top	Court uniformity
Height	12m						
Mode	Lighting on top						
Court uniformity	0.7						

Mold NO.	1.01.6868						
Part NO.	HK-50@10-90-5050-20-1g-4_PC HK-50@10-90-5050-20-1g-4_PMMA						
Material	PC/PMMA						
Efficiency	90% (PC) /93% (PMMA) without glass						
LED	3535/5050 LED						
Light distribution type	90°						
 <table border="1"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Lighting on top</td> </tr> <tr> <td>Court uniformity</td> <td>0.7</td> </tr> </table>			Height	12m	Mode	Lighting on top	Court uniformity
Height	12m						
Mode	Lighting on top						
Court uniformity	0.7						


Mold NO.	1.01.6867						
Part NO.	HK-50@10-60-5050-20-1g-4_PC HK-50@10-60-5050-20-1g-4_PMMA						
Material	PC/PMMA						
Efficiency	90% (PC) /93% (PMMA) without glass						
LED	3535/5050 LED						
Light distribution type	60°						
 <table border="1"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Lighting on top</td> </tr> <tr> <td>Court uniformity</td> <td>0.75</td> </tr> </table>			Height	12m	Mode	Lighting on top	Court uniformity
Height	12m						
Mode	Lighting on top						
Court uniformity	0.75						

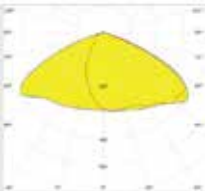
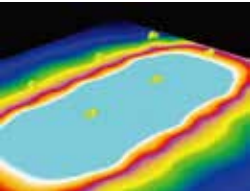
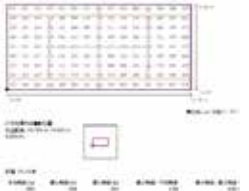
Mold NO.	1.02.6860						
Part NO.	HK-50@09-120X50-5050-#0-1g-4_PC HK-50@09-120X50-5050-#0-1g-4_PMMA						
Material	PC/PMMA						
Efficiency	90% (PC) /93% (PMMA) without glass						
LED	3535/5050 LED						
Light distribution type	TYPE I 120X50°						
 <table border="1"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Top cloth lamp</td> </tr> <tr> <td>Corridor uniformity</td> <td>0.6</td> </tr> </table>			Height	12m	Mode	Top cloth lamp	Corridor uniformity
Height	12m						
Mode	Top cloth lamp						
Corridor uniformity	0.6						

Mold NO.	1.02.23259	
Part NO.	HK-JZ-50@09-150X73-5050-00-1g-4-PMMA HK-JZ-50@09-150X73-5050-00-1g-4-PC	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	XW TYPE I 150X73°	

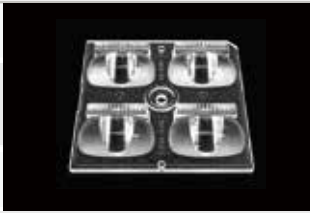
		Proportion	3:1
		Road width	15m (6 lanes)
		Mode	Double row symmetry
		Lighting type	ME4a

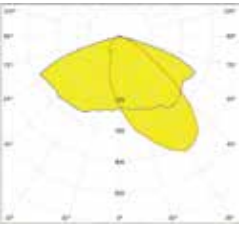
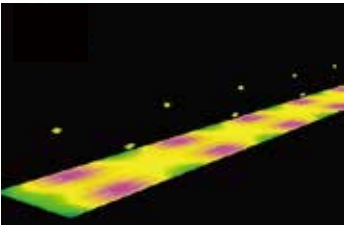
The illumination uniformity of the simulated road can reach more than 0.8


Mold NO.	1.02.23231	
Part NO.	HK-JZ-50@10-130X84-5050-00-1g-4-PMMA HK-JZ-50@10-130X84-5050-00-1g-4-PC	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	TYPE III 130X84°	

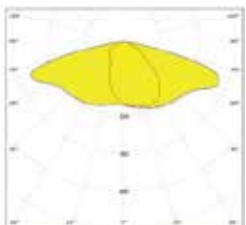
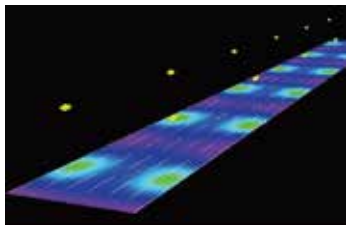
		
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The uniformity of simulated illumination of tennis court can reach above 0.8

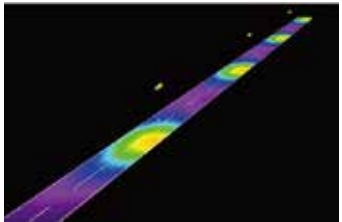
Mold NO.	1.02.23192	
Part NO.	HK-JZ-50@09-145X53-5050-#0-1g-4-PMMA HK-JZ-50@09-145X53-5050-#0-1g-4-PC	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	ME TYPE III 145X53°	

		Proportion	3.5:1
		Road width	22.5m (6 lanes)
		Mode	Double row symmetry
		Lighting type	ME4a

Mold NO.	1.02.6861	
Part NO.	HK-50@09-150X65-5050-#0-1g-4_PC HK-50@09-150X65-5050-#0-1g-4_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	TYPE II 150X65°	


		Proportion	3.5:1
		Road width	22.5m (6 lanes)
		Mode	Double row symmetry
		Lighting type	ME4a

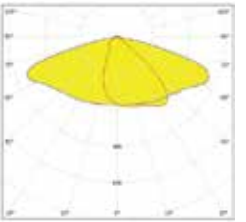
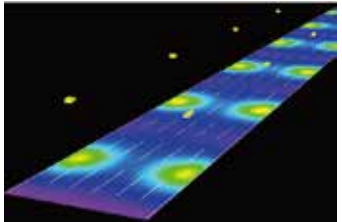
Mold NO.	1.02.23191	
Part NO.	HK-JZ-50@09-163X76-5050-#0-1g-4_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	SCL TYPE III 163X76°	

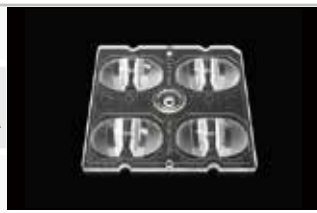
		Proportion	5.5:1
		Road width	7m (2 lanes)
		Mode	Single-sided lower arrangement
		Lighting type	ME4

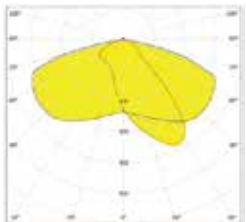
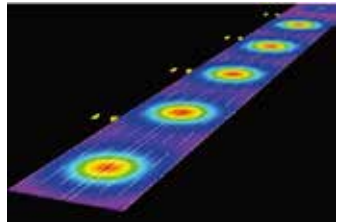
Mold NO.	1.01.91957	
Part NO.	HK-50@08-150X70-5050-#0-1g-4_PMMA HK-50@08-150X70-5050-#0-1g-4_PC	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	TYPE II -M-C 150X70°	


		Proportion	4:1
		Road width	7m (2 lanes)
		Mode	Unilateral
		Lighting type	ME4a

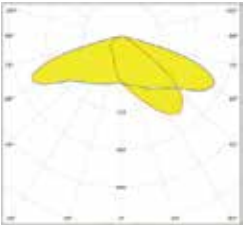
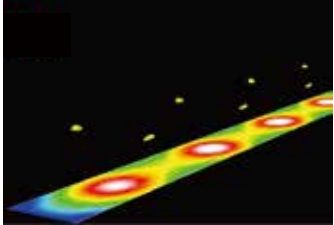
Mold NO.	1.01.92061	
Part NO.	HK-50@09-150X65-5050-#0-1g-4_PMMA HK-50@09-150X65-5050-#0-1g-4_PC	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	TYPE II -M-BRA 150X65°	

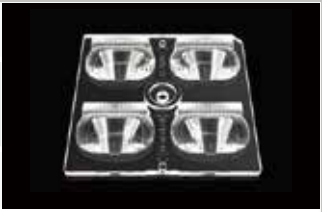
		Proportion	3.5:1
		Road width	22.5m (6 lanes)
		Mode	Bidirectional symmetry
		Lighting type	ME1

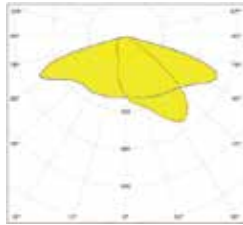
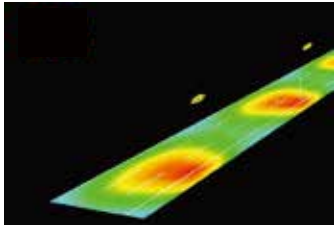
Mold NO.	1.02.81629	
Part NO.	HK-50@08-150X50-5050-#0-1g-4_T2-2_PC HK-50@08-150X50-5050-#0-1g-4_T2-2_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	TYPE II -S-2 150X50°	


		Proportion	3.5:1
		Road width	21m (6 lanes)
		Mode	Medial strip
		Lighting type	ME2

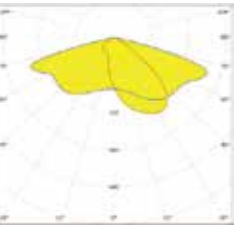
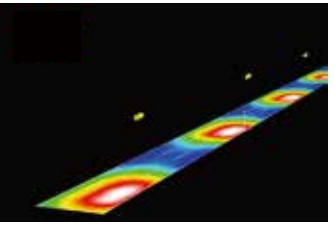
Mold NO.	1.02.23189	
Part NO.	HK-JZ-50@10-60X148-5050-#0-1g-4_PMM	
Material	PC/PMMA	
Efficiency	93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	WIDE2 TYPE II 60X148°	

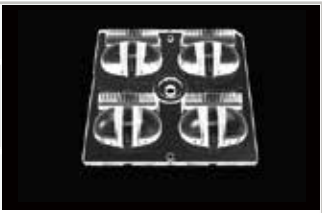
		Proportion	3.2:1
		Road width	14m (4 lanes)
		Mode	Double row symmetry
		Lighting type	ME2

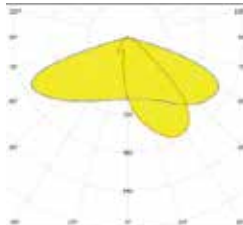
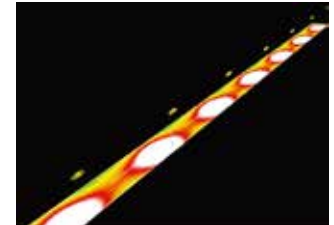
Mold NO.	1.02.23247	
Part NO.	HK-JZ-50@08-55X148-5050-00-1g-4_PMMA	
Material	PC/PMMA	
Efficiency	93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	ME-WIDE1 TYPE II 55X148°	


		Proportion	3.6:1
		Road width	10m (3 lanes)
		Mode	Unilateral
		Lighting type	ME3a

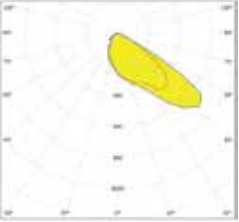
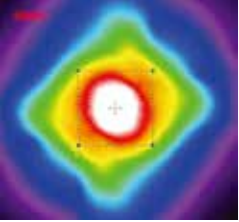
Mold NO.	1.02.23195	
Part NO.	HK-JZ-50@08-56X150-5050-#0-1g-4_PMMA	
Material	PC/PMMA	
Efficiency	93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	LM1 TYPE II 56X150°	


		Proportion	4:1
		Road width	10.5m (3 lanes)
		Mode	Unilateral
		Lighting type	ME3a

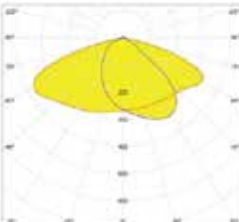
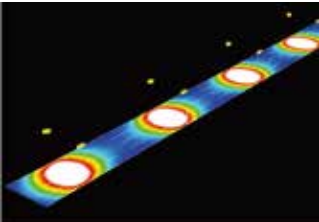
Mold NO.	1.02.23223	
Part NO.	HK-JZ-50@09-148X59-5050-#0-1g-4_PMMA	
Material	PMMA	
Efficiency	96% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	TYPE II 148X59°	


		Proportion	2.78:1
		Road width	7m (2 lanes)
		Mode	Single-sided lower arrangement
		Lighting type	ME4

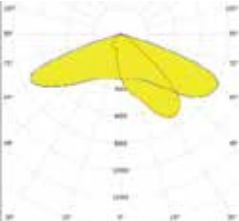

Mold NO.	1.02.23268	
Part NO.	HK-JZ-50@09-40X60-5050-00-1g-4_PMMA	
Material	PC/PMMA	
Efficiency	93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	PX 40X60°	


		Height	6m
		Mode	Diagona arrangement otlights Height
		Uniformity of sidewalks	0.65

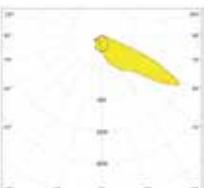
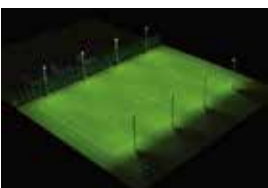

Mold NO.	1.02.71053	
Part NO.	HK-50@09-150X60-5050-#0-1g-4 T2S_PC HK-50@09-150X60-5050-#0-1g-4 T2S_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	TYPE II -S 150X60°	

		Proportion	3.75:1
		Road width	14m (4 lanes)
		Mode	Symmetry
		Lighting type	ME1


Mold NO.	1.02.23281	
Part NO.	HK-JZ-50@10-144X54-5050-00-1g-4_PMMA	
Material	PMMA	
Efficiency	96% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	TYPE II -S 144×54°	

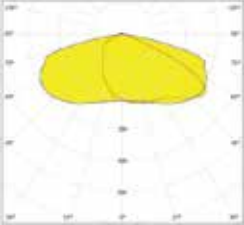
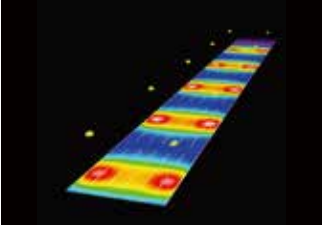
		Proportion	2.78:1
		Road width	7m (2 lanes)
		Mode	Single-sided lower arrangement
		Lighting type	ME4


Mold NO.	1.02.23126	
Part NO.	HK-JZ-50@11-90X25-5050-00-1g-4-PMMA HK-JZ-50@11-90X25-5050-00-1g-4-PC	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	FS3/FN TYPE III 90X25°	

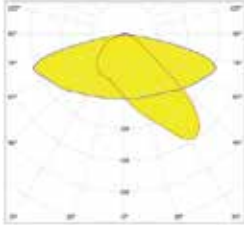
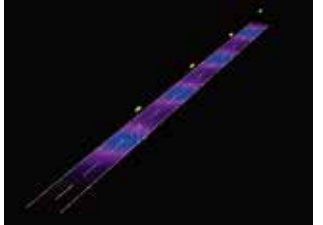
		
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The illumination uniformity of the simulated scene can reach 0.7

Mold NO.	1.02.6862	
Part NO.	HK-50@09-150X60-5050-#0-1g-4_PC HK-50@09-150X60-5050-#0-1g-4_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	TYPE III 150X60°	


		Proportion	4:1
		Road width	22.5m (6 lanes)
		Mode	Double row symmetry
		Lighting type	ME1

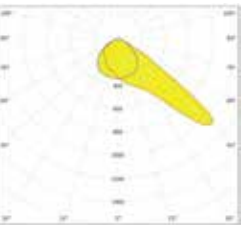
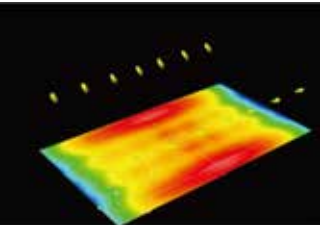
Mold NO.	1.02.92017	
Part NO.	HK-50@09-150X50-5050-#0-1g-4_PC HK-50@09-150X50-5050-#0-1g-4_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	TNB TYPE III-M 150X50°	

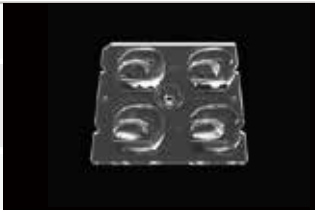
		Proportion	5:1
		Road width	7m (4 lanes)
		Mode	Unilateral
		Lighting type	ME4a

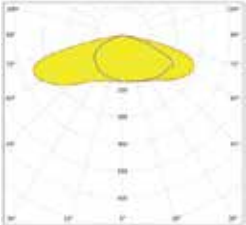

Mold NO.	1.02.71229	
Part NO.	HK-50@09-150X70-5050-#0-1g-4_T3M_PC HK-50@09-150X70-5050-#0-1g-4_T3M_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	TYPE III_M 150X70°	


		Proportion	4.5:1
		Road width	7m (2 lanes)
		Mode	Unilateral
		Lighting type	ME4a

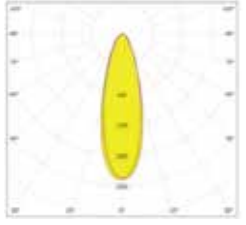

Mold NO.	1.02.92148	
Part NO.	HK-50@10-22X100-5050-#0-1g-4	
Material	PC	
Efficiency	90% (PC) without glass	
LED	3535/5050 LED	
Light distribution type	22x100°	


		Height	7m
		Mode	bilateral symmetry
		Uniformity of the court	0.7

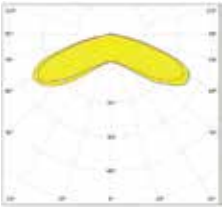
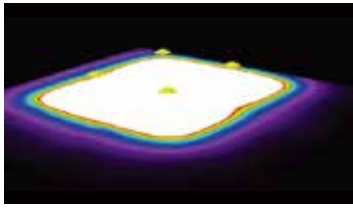
Mold NO.	1.02.6863	
Part NO.	HK-50@09-140X30-5050-#0-1g-4_PC HK-50@09-140X30-5050-#0-1g-4_PMMA	
Material	PC/PMMA	
Efficiency	89% (PC) /92% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	TYPE IV 140X30°	

		Proportion	8.75:1
		Road width	11.25m (3 lanes)
		Mode	Unilateral
		Lighting type	DKE3

Mold NO.	1.02.71066	
Part NO.	HK-50@10-25-3535-20-1g-4_PC HK-50@10-25-3535-20-1g-4_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535 LED	
Light distribution type	25°	

		Height	12m
		Mode	Lighting on top
		Court uniformity	0.7

Mold NO.	1.02.6864	
Part NO.	HK-50@09-148-5050-#0-1g-4_PC HK-50@09-148-5050-#0-1g-4_PMMA	
Material	PC/PMMA	
Efficiency	89% (PC) /92% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	VSM TYPE V 148°	

		Proportion	3:1
		illumination uniformity	0.7

Mold NO.	1.02.02568	
Part NO.	HK-50@10-22X138-5050-#0-1g-4_PMMA	
Material	PMMA	
Efficiency	92% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	TYPE III -VS 22x138°	


		Height	11m
		Mode	Four corner arrangement lights
		Court uniformity	0.7

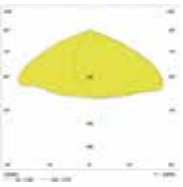
Mold N0.	1.01.71067	NEW 
Part N0.	HK-50@09-50-3535-20-1g-4-PC HK-50@09-50-3535-20-1g-4-PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	5050 LED	
Light distribution type	50°	

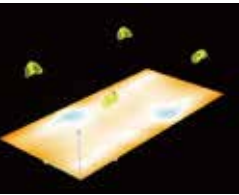


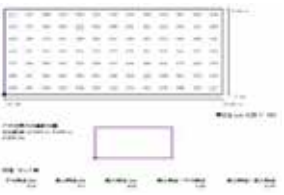


Height	12m
Mode	Lighting on top
Court uniformity	0.7


Mold N0.	1.02.23231	NEW 
Part N0.	HK-JZ-50@10-130X84-5050-00-1g-4-PC HK-JZ-50@10-130X84-5050-00-1g-4-PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	5050 LED	
Light distribution type	TYPE II	




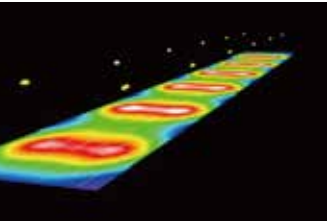




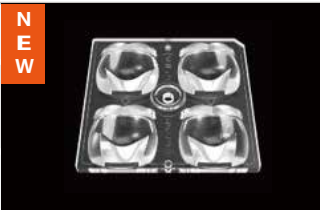
The simulated illumination uniformity of the tennis court can reach above 0.8

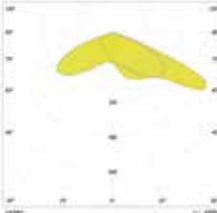
Mold N0.	1.02.33550	NEW 
Part N0.	HK-JZ-50@10-100X60-5050-#0-1g-4-PC HK-JZ-50@10-100X60-5050-#0-1g-4-PMMA	
Material	PC	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	5050 LED	
Light distribution type	TYPE II	

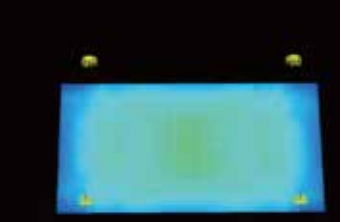






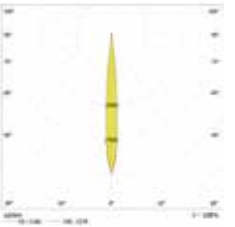
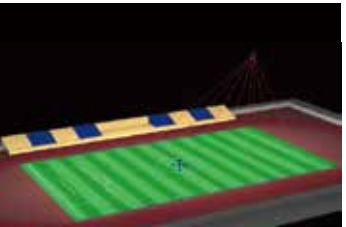
Way 1.				
(All lighting performance requirements are met.)				
L _a [cd/m ²]	U0	U1	T1 [%]	SR
1.55	0.53	0.90	10	0.63
2.130	2.040	2.070	5.10	2.050
✓	✓	✓	✓	✓



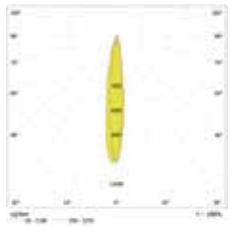
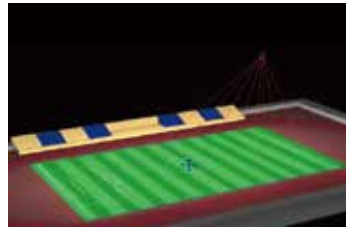
Mold N0.	1.02.02568	NEW 
Part N0.	HK-50@10-22X138-5050-#0-1g-4-PC HK-50@10-22X138-5050-#0-1g-4-PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	5050 LED	
Light distribution type	TYPE III -VS 22×138°	



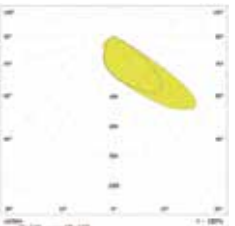





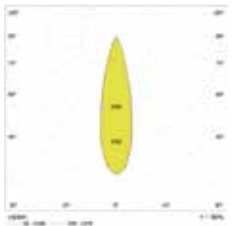
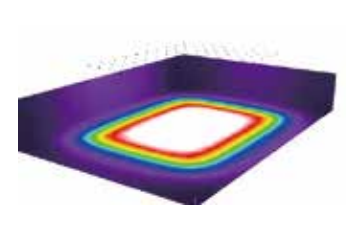



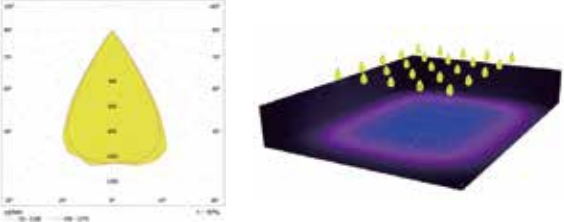
Height	12m
Mode	Four corner arrangement lights
Court uniformity	0.95

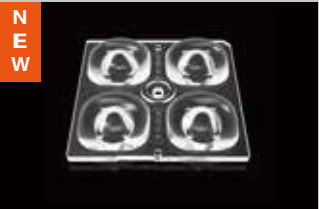
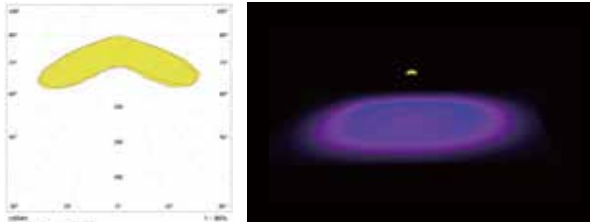
Mold NO.	1.01.23414	 					
Part NO.	HK-JZ-50@16-10-3535-02-1g-4-A-PC HK-JZ-50@16-10-3535-02-1g-4-A-PMMA						
Material	PC/PMMA						
Efficiency	90% (PC) /93% (PMMA) without glass						
LED	3535 LED						
Light distribution type	9°						
  <table border="1"> <tr> <td>Height</td> <td>25m</td> </tr> <tr> <td>Mode</td> <td>Four corner arrangement lights</td> </tr> <tr> <td>Court uniformity</td> <td>0.7</td> </tr> </table>			Height	25m	Mode	Four corner arrangement lights	Court uniformity
Height	25m						
Mode	Four corner arrangement lights						
Court uniformity	0.7						


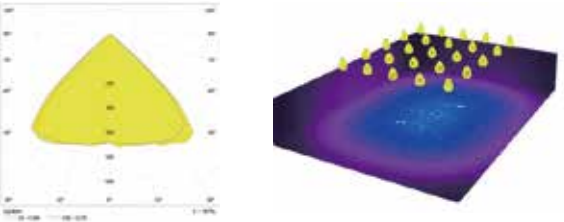
Mold NO.	1.01.23447	 					
Part NO.	HK--JZ-50@14-SA10-3535-03-1g-4-PC HK--JZ-50@14-SA10-3535-03-1g-4-PMMA						
Material	PC/PMMA						
Efficiency	90% (PC) /93% (PMMA) without glass						
LED	3535 LED						
Light distribution type	10°						
  <table border="1"> <tr> <td>Height</td> <td>25m</td> </tr> <tr> <td>Mode</td> <td>Four corner arrangement lights</td> </tr> <tr> <td>Court uniformity</td> <td>0.7</td> </tr> </table>			Height	25m	Mode	Four corner arrangement lights	Court uniformity
Height	25m						
Mode	Four corner arrangement lights						
Court uniformity	0.7						

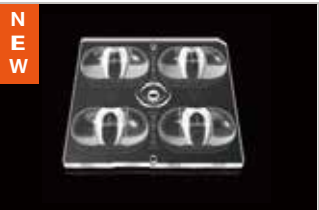
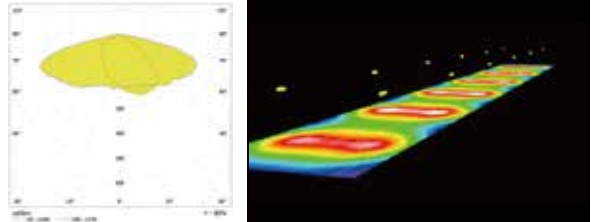
Mold NO.	1.02.23422	 					
Part NO.	HK-JZ-50@09-40X60-5050-00-1g-4-R-PC HK-JZ-50@09-40X60-5050-00-1g-4-R-PMMA						
Material	PC/PMMA						
Efficiency	90% (PC) /93% (PMMA) without glass						
LED	5050 LED						
Light distribution type	40X60°						
  <table border="1"> <tr> <td>Height</td> <td>5m</td> </tr> <tr> <td>Mode</td> <td>Lights on the same side of the sidewalk</td> </tr> <tr> <td>Light uniformity</td> <td>0.65</td> </tr> </table>			Height	5m	Mode	Lights on the same side of the sidewalk	Light uniformity
Height	5m						
Mode	Lights on the same side of the sidewalk						
Light uniformity	0.65						

Mold NO.	1.01.33585	 					
Part NO.	HK-JZ-50@16-25-7070-00-1g-4_PC HK-JZ-50@16-25-7070-00-1g-4_PMMA						
Material	PC/PMMA						
Efficiency	90% (PC) /93% (PMMA) without glass						
LED	7070 LED						
Light distribution type	25°						
  <table border="1"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Lighting on top</td> </tr> <tr> <td>Court uniformity</td> <td>0.7</td> </tr> </table>			Height	12m	Mode	Lighting on top	Court uniformity
Height	12m						
Mode	Lighting on top						
Court uniformity	0.7						

Mold N0.	1.02.33584	NEW 						
Part N0.	HK-JZ-50@14-60-7070-#0-1g-4_PC HK-JZ-50@14-60-7070-#0-1g-4_PMMA							
Material	PC/PMMA							
Efficiency	90% (PC) /93% (PMMA) without glass							
LED	7070 LED							
Light distribution type	60°							
		<table border="1"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Upper cloth lamp</td> </tr> <tr> <td>Court uniformity</td> <td>0.75</td> </tr> </table>	Height	12m	Mode	Upper cloth lamp	Court uniformity	0.75
Height	12m							
Mode	Upper cloth lamp							
Court uniformity	0.75							

Mold N0.	1.02.33579	NEW 						
Part N0.	HK-JZ-50@09-145X145-7070-#0-1g-4_PC HK-JZ-50@09-145X145-7070-#0-1g-4_PMMA							
Material	PC/PMMA							
Efficiency	90% (PC) /93% (PMMA) without glass							
LED	7070 LED							
Light distribution type	TYPE V							
		<table border="1"> <tr> <td>Scenario application</td> <td>high-pole lamp</td> </tr> <tr> <td>Height</td> <td>15m</td> </tr> <tr> <td>Uniformity</td> <td>0.5</td> </tr> </table>	Scenario application	high-pole lamp	Height	15m	Uniformity	0.5
Scenario application	high-pole lamp							
Height	15m							
Uniformity	0.5							

Mold N0.	1.02.33583	NEW 						
Part N0.	HK-JZ-50@10-90-7070-#0-1g-4_PC HK-JZ-50@10-90-7070-#0-1g-4_PMMA							
Material	PC/PMMA							
Efficiency	90% (PC) /93% (PMMA) without glass							
LED	7070 LED							
Light distribution type	90°							
		<table border="1"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Upper cloth lamp</td> </tr> <tr> <td>Court uniformity</td> <td>0.7</td> </tr> </table>	Height	12m	Mode	Upper cloth lamp	Court uniformity	0.7
Height	12m							
Mode	Upper cloth lamp							
Court uniformity	0.7							

Mold N0.	1.02.33552	NEW 																								
Part N0.	HK-JZ-50@08-150X80-7070-#0-1g-4-PC HK-JZ-50@08-150X80-7070-#0-1g-4-PMMA																									
Material	PC/PMMA																									
Efficiency	90% (PC) /93% (PMMA) without glass																									
LED	7070 LED																									
Light distribution type	TYPE II																									
		<table border="1"> <tr> <td colspan="4">way 1.</td> </tr> <tr> <td colspan="4">(All lighting performance requirements are met.)</td> </tr> <tr> <td>E_{av} (lx/m²)</td> <td>UG</td> <td>UI</td> <td>SR</td> </tr> <tr> <td>≥ 1.50</td> <td>0.53</td> <td>0.90</td> <td>10</td> </tr> <tr> <td>≥ 1.50</td> <td>≥ 0.40</td> <td>≥ 0.70</td> <td>≤ 10</td> </tr> <tr> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </table>	way 1.				(All lighting performance requirements are met.)				E_{av} (lx/m ²)	UG	UI	SR	≥ 1.50	0.53	0.90	10	≥ 1.50	≥ 0.40	≥ 0.70	≤ 10	✓	✓	✓	✓
way 1.																										
(All lighting performance requirements are met.)																										
E_{av} (lx/m ²)	UG	UI	SR																							
≥ 1.50	0.53	0.90	10																							
≥ 1.50	≥ 0.40	≥ 0.70	≤ 10																							
✓	✓	✓	✓																							

MATRIX 4 in 1 Reflector

The Matrix lens has the following features:

2x2 reflector design, with low glare performance, excellent control of backward light.

1. ZHAGA Standard: The position of the LED and the positioning column meet the EU ZHAGA standard.
2. Lens Overall size: 50X50mm; Positioning column distance: 45mm
3. LED Compatibility: 3535 LED / 5050 LED
4. Light Distribution Type: More than 4 light distribution types have been developed, and will continue to develop new type in depth for different application scenarios.
5. Application: Suitable for sports lighting and stadium lighting.


Light distribution type:

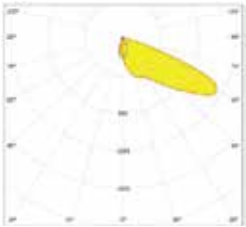
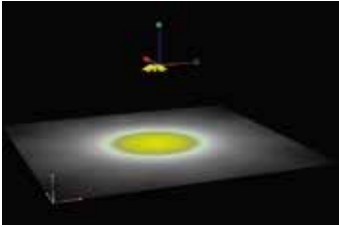
40X70°	50X40°	30X40°
TYPE II		




Mold NO.	1.08.13012											
Part NO.	HK-50@11-30X40-5050-00-1g-4											
Material	Vaccum Aluminum Plating PC											
Efficiency	87% without glass											
LED	3535/5050 LED											
Light distribution type	30X40°											
		<table border="1"> <tr> <td>Height</td> <td>15m</td> </tr> <tr> <td>U0 TA (min/Ave)</td> <td>0.8</td> </tr> <tr> <td>U0 TA (min/max)</td> <td>0.63</td> </tr> <tr> <td>U0 PA (min/Ave)</td> <td>0.86</td> </tr> <tr> <td>U0 PA (min/max)</td> <td>0.72</td> </tr> </table>	Height	15m	U0 TA (min/Ave)	0.8	U0 TA (min/max)	0.63	U0 PA (min/Ave)	0.86	U0 PA (min/max)	0.72
Height	15m											
U0 TA (min/Ave)	0.8											
U0 TA (min/max)	0.63											
U0 PA (min/Ave)	0.86											
U0 PA (min/max)	0.72											
适用于四角布灯的区域照明												

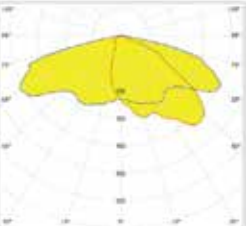
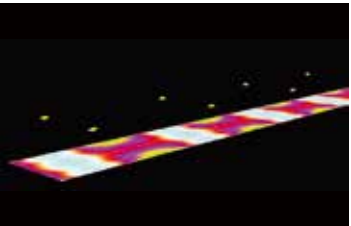
Mold NO.	1.08.13008							
Part NO.	HK-50@11-40X70-5050-00-1g-4							
Material	Vaccum Aluminum Plating PC							
Efficiency	88% without glass							
LED	3535/5050 LED							
Light distribution type	40X70°							
		<table border="1"> <tr> <td>Height</td> <td>20m</td> </tr> <tr> <td>U0 TA (min/Ave)</td> <td>0.73</td> </tr> <tr> <td>U0 TA (min/max)</td> <td>0.53</td> </tr> </table>	Height	20m	U0 TA (min/Ave)	0.73	U0 TA (min/max)	0.53
Height	20m							
U0 TA (min/Ave)	0.73							
U0 TA (min/max)	0.53							

Mold NO.	1.08.13011	
Part NO.	HK-50@11-50X40-5050-00-1g-4	
Material	Vaccum Aluminum Plating PC	
Efficiency	88% without glass	
LED	3535/5050 LED	
Light distribution type	50X40°	

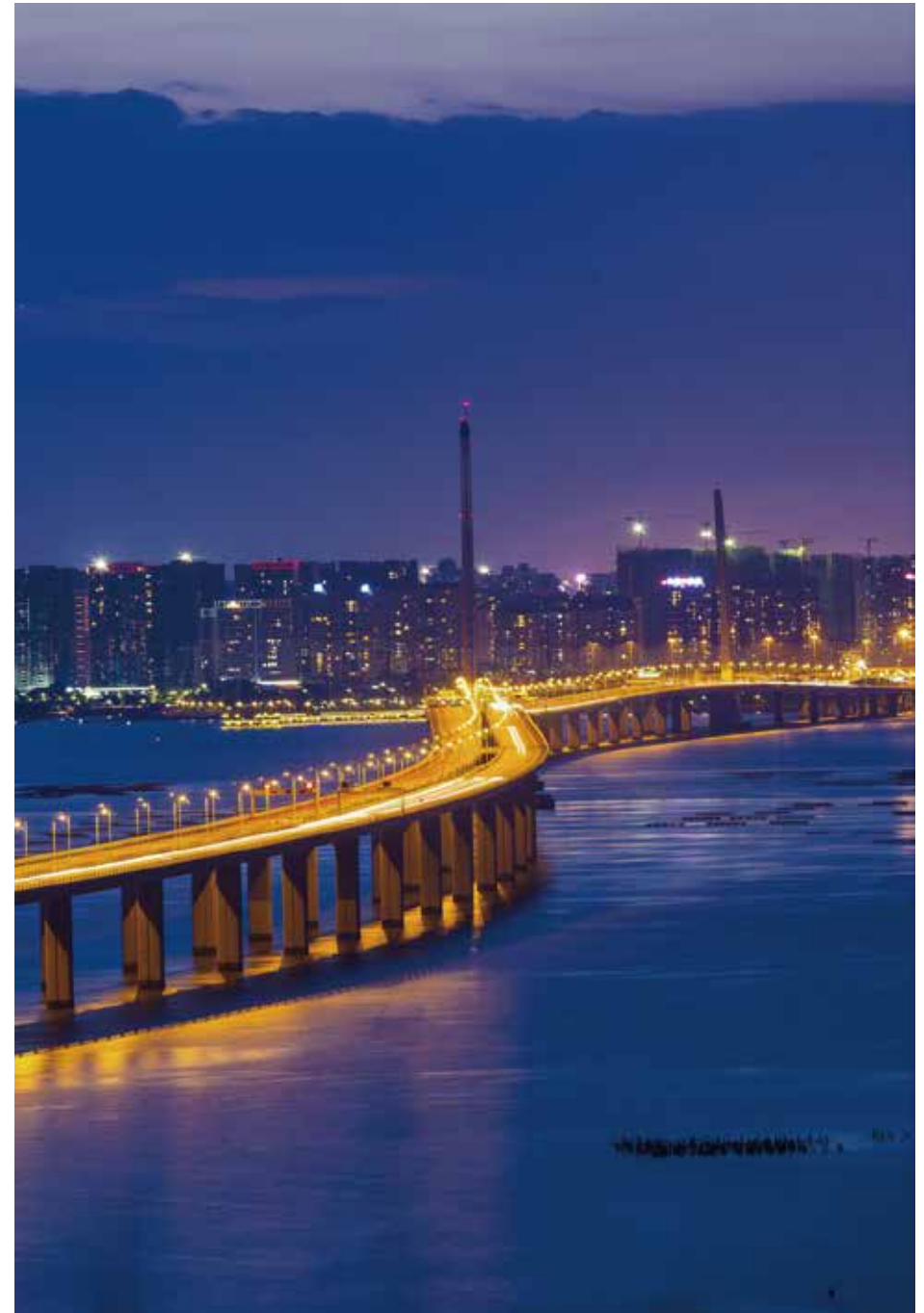



Height	15m
UO	0.6

Mold NO.	1.08.13031	
Part NO.	HK-50@11-150X60-5050-00-1g-4	
Material	Vaccum Aluminum Plating PC	
Efficiency	86% without glass	
LED	3535/5050 LED	
Light distribution type	TYPE3 150X60°	

Proportion	4:1
Road width	22.5m (6 lanes)
Mode	Symmetry
Illumination level	ME2



MATRIX 6 in 1


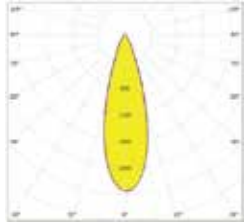
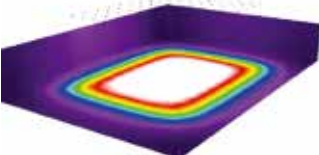
The Matrix lens has the following features:


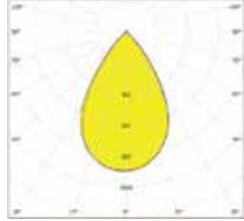
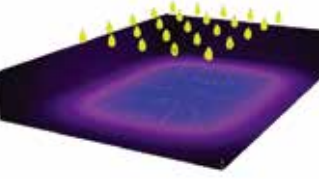
1. Lens Overall size: 50X50mm; Positioning column distance: 45mm
2. LED Compatibility: 3535 LED / 5050 LED
3. Light Distribution Type: 15 light distribution types have been developed, and will continue to develop new type in depth for different application scenarios.
4. Applications: Roads, Tunnels, Stadiums, Docks, Industrial workshop, etc.


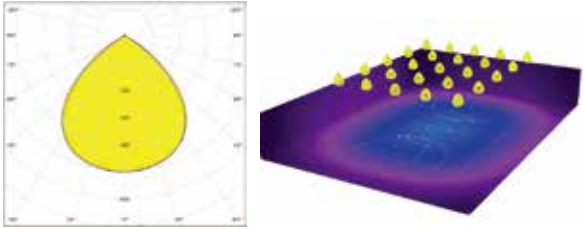
Light distribution type:


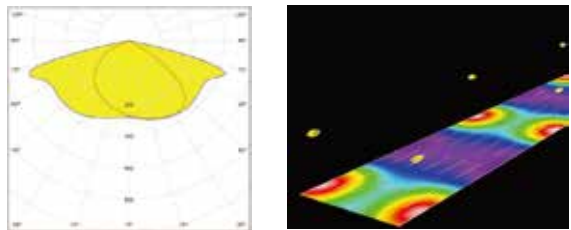
30°	60°	90°	TYPE II M
TYPE IV S	22×100°	TYPE III M	TYPE I
TYPE V	TYPE II S	TYPE III S	80×150°
120×48°			

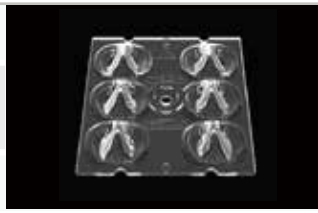
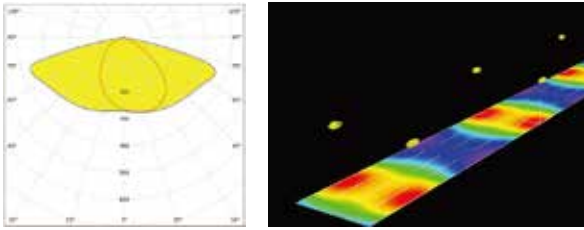


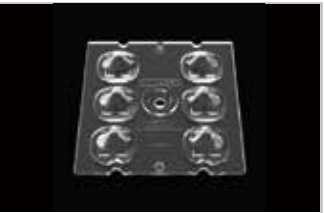
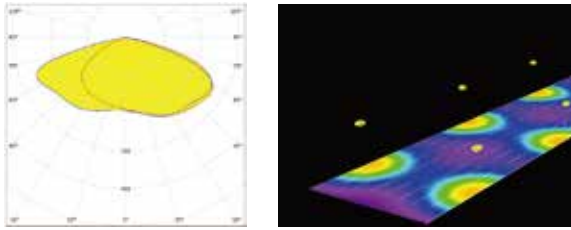
Mold NO.	1.01.91890							
Part NO.	HK-50@10-30-5050-20-1g-6_PC HK-50@10-30-5050-20-1g-6_PMMA							
Material	PC/PMMA							
Efficiency	90% (PC) /93% (PMMA) without glass							
LED	3535/5050 LED							
Light distribution type	30°							
 		<table border="1"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Upper cloth lamp</td> </tr> <tr> <td>Court uniformity</td> <td>0.7</td> </tr> </table>	Height	12m	Mode	Upper cloth lamp	Court uniformity	0.7
Height	12m							
Mode	Upper cloth lamp							
Court uniformity	0.7							

Mold NO.	1.02.91812							
Part NO.	HK-50@08-60-5050-#0-1g-6_PC HK-50@08-60-5050-#0-1g-6_PMMA							
Material	PC/PMMA							
Efficiency	90% (PC) /93% (PMMA) without glass							
LED	3535/5050 LED							
Light distribution type	60°							
 		<table border="1"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Upper cloth lamp</td> </tr> <tr> <td>Court uniformity</td> <td>0.7</td> </tr> </table>	Height	12m	Mode	Upper cloth lamp	Court uniformity	0.7
Height	12m							
Mode	Upper cloth lamp							
Court uniformity	0.7							

Mold NO.	1.02.91813	
Part NO.	HK-50@07-90-5050-#0-1g-6_PC HK-50@07-90-5050-#0-1g-6_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	90°	
		
Height		12m
Mode		Lighting on top
Court uniformity		0.7

Mold NO.	1.02.91827	
Part NO.	HK-50@07-96X155-5050-#0-1g-6_PC HK-50@07-96X155-5050-#0-1g-6_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	TYPE III_M 96X155°	
		
Proportion		4.5:1
Road width		22.5m (6 lanes)
Mode		Double row symmetry
Lighting type		ME3a

Mold NO.	1.02.91815	
Part NO.	HK-50@07-80X156-5050-#0-1g-6_PC HK-50@07-80X156-5050-#0-1g-6_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	TYPE II -M 80X156°	
		
Proportion		4:1
Road width		15m (4 lanes)
Mode		Double row symmetry
Lighting type		ME2

Mold NO.	1.02.91891	
Part NO.	HK-50@07-120X148-5050-#0-1g-6_PC HK-50@07-120X148-5050-#0-1g-6_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	TYPE IV 120X148°	
		
Proportion		3.5:1
Road width		30m (8 lanes)
Mode		Double row symmetry
Lighting type		ME3a

Mold N0.	1.02.91911	
Part N0.	HK-50@09-20X100-5050-#0-1g-6_PC	
Material	PC	
Efficiency	90% (PMMA) without glass	
LED	3535/5050 LED	
Light distribution type	20X100°	

		Height	7m
		Mode	Bilateral symmetry
		Court uniformity	0.7

Mold N0.	1.02.12725		NEW
Part N0.	HK-50@09-150x50-5050-#0-1g-6_PC HK-50@09-150x50-5050-#0-1g-6_PMMA		
Material	PC/PMMA		
Efficiency	90% (PC) /93% (PMMA) without glass		
LED	5050 LED		
Light distribution type	TYPE III-M		

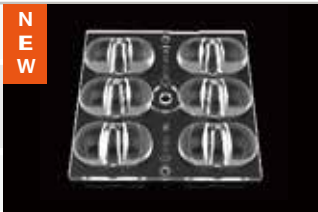
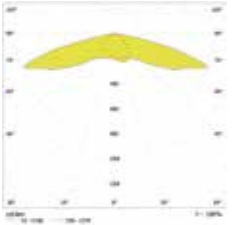
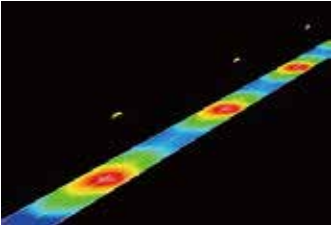
		Proportion	4.375:1
		Road width	7m (2 lanes)
		Mode	Unilateral cloth lamp
		Lighting type	ME2

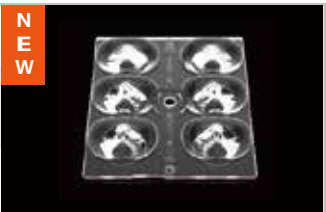
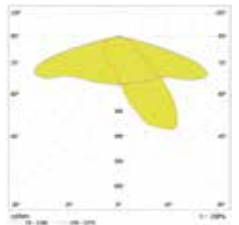
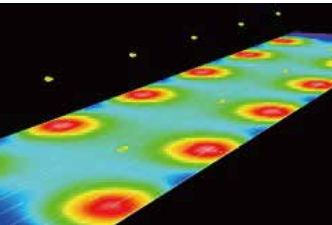
Mold N0.	1.02.23094		NEW
Part N0.	HK-JZ-50@09-70X150-5050-#0-1g-6_PC HK-JZ-50@09-70X150-5050-#0-1g-6_PMMA		
Material	PC/PMMA		
Efficiency	90% (PC) /93% (PMMA) without glass		
LED	5050 LED		
Light distribution type	TYPEII-M-CUTOFF		


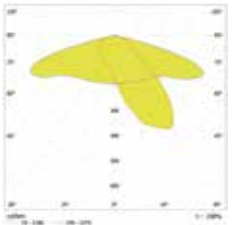
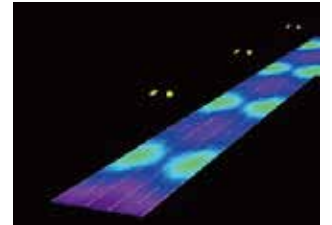
		Proportion	3.5:1
		Road width	22.5m (6 lanes)
		Mode	Double row symmetry
		Lighting type	ME2


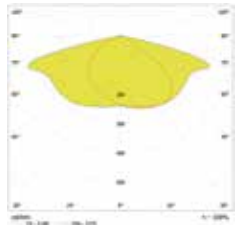
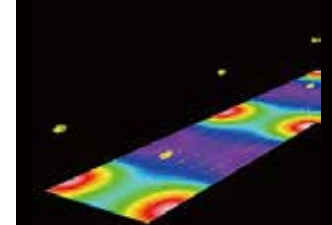
Mold N0.	1.02.23078		NEW
Part N0.	HK-JZ-50@06-150-5050-#0-1g-6_PC HK-JZ-50@06-150-5050-#0-1g-6_PMMA		
Material	PC/PMMA		
Efficiency	85% (PC) /88% (PMMA) without glass		
LED	5050 LED		
Light distribution type	TYPE V		

		Height	10m
		Mode	middle arrangement lights
		Court uniformity	0.5

Mold NO.	1.02.33511	NEW	
Part NO.	HK-JZ-50@09-100X152-5050-#0-1g-6_PC HK-JZ-50@09-100X152-5050-#0-1g-6_PMMA		
Material	PC/PMMA		
Efficiency	90% (PC) /93% (PMMA) without glass		
LED	5050 LED		
Light distribution type	TYPE II -M		
		Proportion	5:1
		Road width	7m (2 lanes)
		Mode	Unilateral cloth lamp
		Lighting type	Temporarily no illumination distribution

Mold NO.	1.02.33514	NEW	
Part NO.	HK-JZ-50@08-50X142-5050-#0-1g-6_PC HK-JZ-50@08-50X142-5050-#0-1g-6_PMMA		
Material	PC/PMMA		
Efficiency	90% (PC) /93% (PMMA) without glass		
LED	5050 LED		
Light distribution type	TYPE III - S		
		Proportion	3.2:1
		Road width	42m (10 lanes)
		Mode	bilateral symmetry
		Lighting type	ME1

Mold NO.	1.02.33512	NEW	
Part NO.	HK-JZ-50@08-45X150-5050-00-1g-6_PC HK-JZ-50@08-45X150-5050-00-1g-6_PMMA		
Material	PC/PMMA		
Efficiency	90% (PC) /93% (PMMA) without glass		
LED	5050 LED		
Light distribution type	TYPE II -S		
		Proportion	3.5:1
		Road width	14.4m (4 lanes)
		Mode	Medial strip
		Lighting type	ME2

Mold NO.	1.02.91827	NEW	
Part NO.	HK-50@07-96X155-5050-#0-1g-6_PC HK-50@07-96X155-5050-#0-1g-6_PMMA		
Material	PC/PMMA		
Efficiency	90% (PC) /93% (PMMA) without glass		
LED	5050 LED		
Light distribution type	TYPE III -M		
		Proportion	4.5:1
		Road width	22.5m (6 lanes)
		Mode	bilateral symmetry
		Lighting type	ME3a

MATRIX 8 in 1


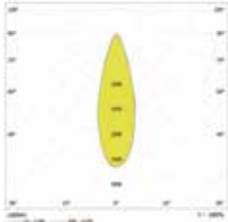
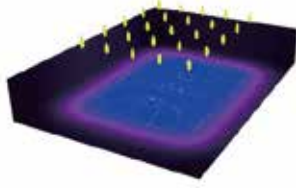
The Matrix lens has the following features:


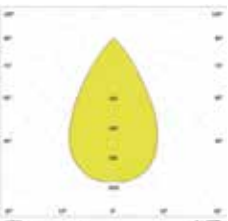
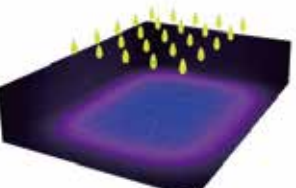
1. Lens Overall size: 50X50mm; Positioning column distance: 45mm
2. LED Compatibility: 3535 LED / 5050 LED
3. Light Distribution Type: 5 light distribution types have been developed, and will continue to develop new type in depth for different application scenarios.
4. Application occasions: roads, tunnels, stadiums, docks, industrial factories.



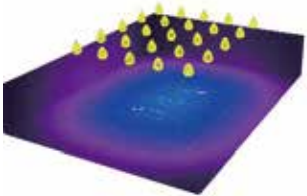
Light distribution type:

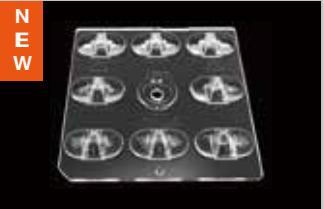
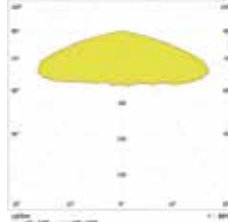
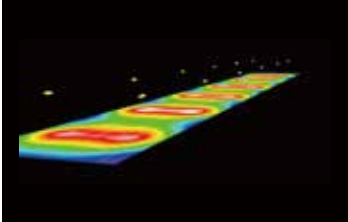
30°	60°	90°	TYPE II
TYPE II M	TYPE III S	TYPE IV S	TYPE V

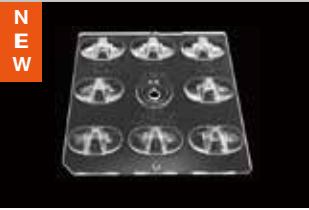
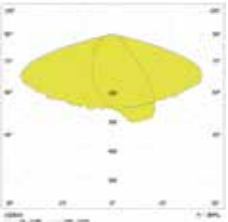
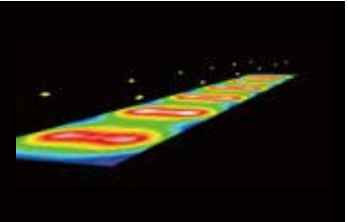


Mold NO.	1.01.33516	<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); background-color: orange; color: white; padding: 2px 5px; font-weight: bold;">NEW</div>  </div>					
Part NO.	HK-JZ-50@10-30-5050-20-1g-8_PC HK-JZ-50@10-30-5050-20-1g-8_PMMA						
Material	PC/PMMA						
Efficiency	90% (PC) /93% (PMMA) without glass						
LED	5050 LED						
Light distribution type	30°						
<div style="display: flex; align-items: center;">   <table border="1" style="background-color: #1a3d54; color: white; margin-left: 20px;"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Lighting on top</td> </tr> <tr> <td>Court uniformity</td> <td>0.75</td> </tr> </table> </div>		Height	12m	Mode	Lighting on top	Court uniformity	0.75
Height	12m						
Mode	Lighting on top						
Court uniformity	0.75						

Mold NO.	1.02.33517	<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); background-color: orange; color: white; padding: 2px 5px; font-weight: bold;">NEW</div>  </div>					
Part NO.	HK-JZ-50@08-60-5050-#0-1g-8_PC HK-JZ-50@08-60-5050-#0-1g-8_PMMA						
Material	PC/PMMA						
Efficiency	90% (PC) /93% (PMMA) without glass						
LED	5050 LED						
Light distribution type	60°						
<div style="display: flex; align-items: center;">   <table border="1" style="background-color: #1a3d54; color: white; margin-left: 20px;"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Lighting on top</td> </tr> <tr> <td>Court uniformity</td> <td>0.75</td> </tr> </table> </div>		Height	12m	Mode	Lighting on top	Court uniformity	0.75
Height	12m						
Mode	Lighting on top						
Court uniformity	0.75						

Mold NO.	1.02.33518	NEW							
Part NO.	HK-JZ-50@07-90-5050-#0-1g-8_PC HK-JZ-50@07-90-5050-#0-1g-8_PMMA								
Material	PC/PMMA								
Efficiency	90% (PC) /93% (PMMA) without glass								
LED	5050 LED								
Light distribution type	90°								
  <table border="1" data-bbox="709 584 1052 803"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Lighting on top</td> </tr> <tr> <td>Court uniformity</td> <td>0.75</td> </tr> </table>		Height	12m	Mode	Lighting on top	Court uniformity	0.75		
Height	12m								
Mode	Lighting on top								
Court uniformity	0.75								

Mold NO.	1.02.33479	NEW																										
Part NO.	HK-JZ-50@06-150-5050-#0-1g-8_PC HK-JZ-50@06-150-5050-#0-1g-8_PMMA																											
Material	PC/PMMA																											
Efficiency	90% (PC) /93% (PMMA) without glass																											
LED	5050 LED																											
Light distribution type	TYPE V																											
  <table border="1" data-bbox="1809 643 2070 744"> <thead> <tr> <th colspan="5">Way 1 (All lighting performance requirements are met.)</th> </tr> <tr> <th>L_a [lx/m²]</th> <th>UGR</th> <th>LR</th> <th>Ti [%]</th> <th>SR</th> </tr> </thead> <tbody> <tr> <td>1.55</td> <td>0.53</td> <td>0.00</td> <td>10</td> <td>0.63</td> </tr> <tr> <td>≥ 1.50</td> <td>≤ 0.45</td> <td>≥ 0.70</td> <td>≤ 10</td> <td>≥ 0.50</td> </tr> <tr> <td></td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </tbody> </table>		Way 1 (All lighting performance requirements are met.)					L _a [lx/m²]	UGR	LR	Ti [%]	SR	1.55	0.53	0.00	10	0.63	≥ 1.50	≤ 0.45	≥ 0.70	≤ 10	≥ 0.50		✓	✓	✓	✓		
Way 1 (All lighting performance requirements are met.)																												
L _a [lx/m²]	UGR	LR	Ti [%]	SR																								
1.55	0.53	0.00	10	0.63																								
≥ 1.50	≤ 0.45	≥ 0.70	≤ 10	≥ 0.50																								
	✓	✓	✓	✓																								

Mold NO.	1.02.33484	NEW																										
Part NO.	HK-JZ-50@07-70X150-5050-#0-1g-8_PC HK-JZ-50@07-70X150-5050-#0-1g-8_PMMA																											
Material	PC/PMMA																											
Efficiency	90% (PC) / 93% (PMMA) without glass																											
LED	5050 LED																											
Light distribution type	TYPE II																											
  <table border="1" data-bbox="709 1340 1038 1441"> <thead> <tr> <th colspan="5">Way 1 (All lighting performance requirements are met.)</th> </tr> <tr> <th>L_a [lx/m²]</th> <th>UGR</th> <th>LR</th> <th>Ti [%]</th> <th>SR</th> </tr> </thead> <tbody> <tr> <td>1.55</td> <td>0.53</td> <td>0.00</td> <td>10</td> <td>0.63</td> </tr> <tr> <td>≥ 1.50</td> <td>≤ 0.45</td> <td>≥ 0.70</td> <td>≤ 10</td> <td>≥ 0.50</td> </tr> <tr> <td></td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </tbody> </table>		Way 1 (All lighting performance requirements are met.)					L _a [lx/m²]	UGR	LR	Ti [%]	SR	1.55	0.53	0.00	10	0.63	≥ 1.50	≤ 0.45	≥ 0.70	≤ 10	≥ 0.50		✓	✓	✓	✓		
Way 1 (All lighting performance requirements are met.)																												
L _a [lx/m²]	UGR	LR	Ti [%]	SR																								
1.55	0.53	0.00	10	0.63																								
≥ 1.50	≤ 0.45	≥ 0.70	≤ 10	≥ 0.50																								
	✓	✓	✓	✓																								



MATRIX 12 in 1


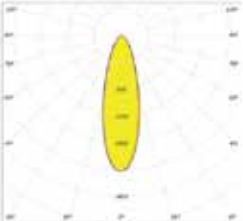
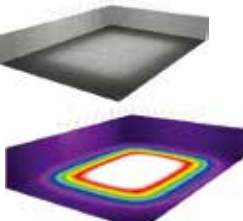
The Matrix lens has the following features:


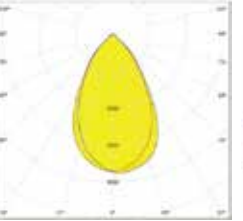
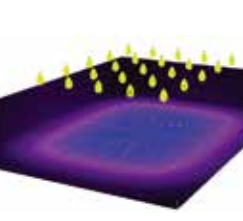
1. Lens Overall size: 50X50mm; Positioning column distance: 45mm
2. LED Compatibility: 3030 LED / 3535 LED
3. Light Distribution Type: 10 light distribution types have been developed, and will continue to develop new type in depth for different application scenarios.
4. Application occasions: roads, tunnels, stadiums, docks, industrial factories .

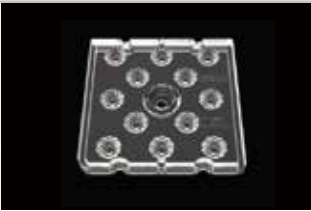
Light distribution type:

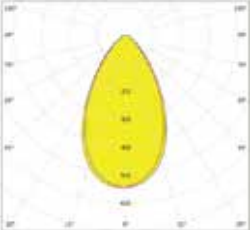
30°	60°	90°	TYPE III
TYPE II M	TYPE III S	TYPE IV S	TYPE II M COTTOFF
TYPE V	22×100°	TYPE II	50×140°

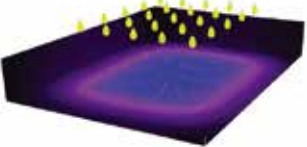


Mold NO.	1.02.91804							
Part NO.	HK-50@06-30-3030-20-1g-12_PC HK-50@06-30-3030-20-1g-12_PMMA							
Material	PC/PMMA							
Efficiency	90% (PC) /93% (PMMA) without glass							
LED	3030/3535 LED							
Light distribution type	30°							
 		<table border="1"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Lighting on top</td> </tr> <tr> <td>Court uniformity</td> <td>0.7</td> </tr> </table>	Height	12m	Mode	Lighting on top	Court uniformity	0.7
Height	12m							
Mode	Lighting on top							
Court uniformity	0.7							


Mold NO.	1.02.91748							
Part NO.	HK-50@05-60-3030-#0-1g-12_PC HK-50@05-60-3030-#0-1g-12_PMMA							
Material	PC/PMMA							
Efficiency	90% (PC) /93% (PMMA) without glass							
LED	3030/3535 LED							
Light distribution type	60°							
 		<table border="1"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Lighting on top</td> </tr> <tr> <td>Court uniformity</td> <td>0.75</td> </tr> </table>	Height	12m	Mode	Lighting on top	Court uniformity	0.75
Height	12m							
Mode	Lighting on top							
Court uniformity	0.75							

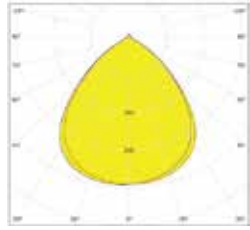
Mold NO.	1.01.91964	
Part NO.	HK-50@05-60-3030-#0-1g-12_PC HK-50@05-60-3030-#0-1g-12_PMMA	
Material	PMMA	
Efficiency	93% (PMMA) without glass	
LED	3030/3535 LED	
Light distribution type	60°	

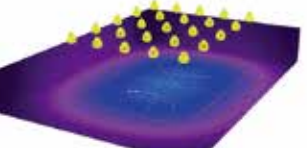




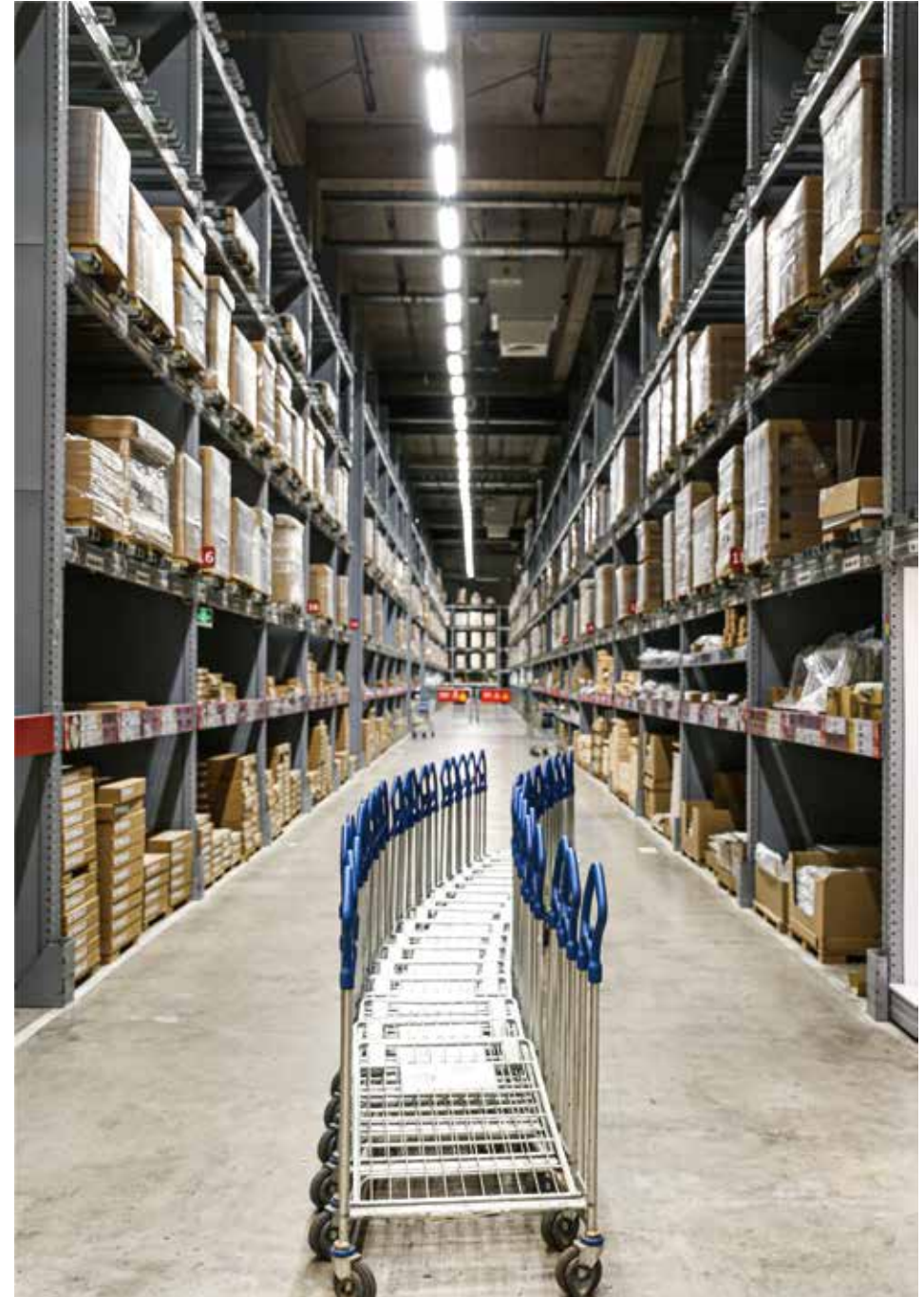
Height	12m
Mode	Lighting on top
Court uniformity	0.75

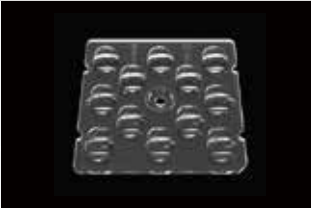
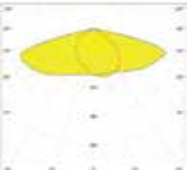
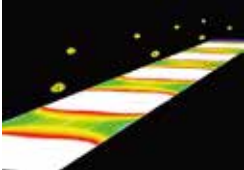
Mold NO.	1.02.91741	
Part NO.	HK-50@05-90-3030-#0-1g-12_PC HK-50@05-90-3030-#0-1g-12_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) / 93% (PMMA) without glass	
LED	3030/3535 LED	
Light distribution type	90°	


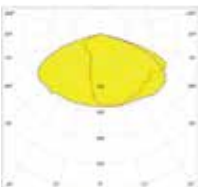





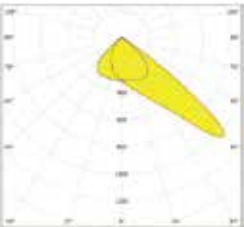
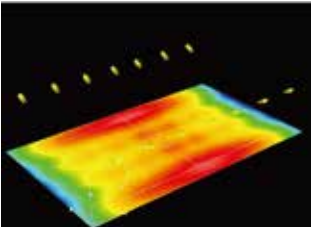



Height	12m
Mode	Lighting on top
Court uniformity	0.7

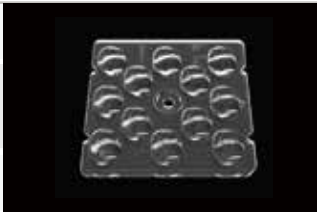


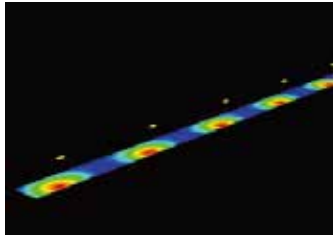
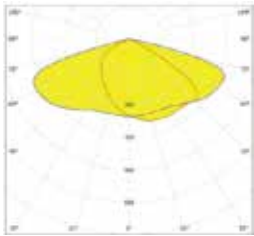
Mold NO.	1.02.91669									
Part NO.	HK-50@04-160X90-3030-#0-1g-12_PC HK-50@04-160X90-3030-#0-1g-12_PMMA									
Material	PC/PMMA									
Efficiency	90% (PC) /93% (PMMA) without glass									
LED	3030/3535 LED									
Light distribution type	TYPE II 160X90°									
 		<table border="1"> <tr> <td>Proportion</td> <td>3:1</td> </tr> <tr> <td>Road width</td> <td>24m (6 lanes)</td> </tr> <tr> <td>Mode</td> <td>Double row symmetry</td> </tr> <tr> <td>Lighting type</td> <td>ME4a</td> </tr> </table>	Proportion	3:1	Road width	24m (6 lanes)	Mode	Double row symmetry	Lighting type	ME4a
Proportion	3:1									
Road width	24m (6 lanes)									
Mode	Double row symmetry									
Lighting type	ME4a									
<p>The light distribution has strong versatility, and is suitable for many roads with bilateral lights (symmetric lights or cross lights). The pole height is 8m~15m, The distance to height ratio is 1:3 to 1:4.5, which can meet the requirements of the road</p>										

Mold NO.	1.02.91793	
Part NO.	HK-50@05-90-3030-#0-1g-12_PC HK-50@05-90-3030-#0-1g-12_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3030/3535 LED	
Light distribution type	TYPE IV 50X140°	
  		<p>It can be used as a large-scale parking lot lamp, and the illumination uniformity can reach more than 0.6</p>

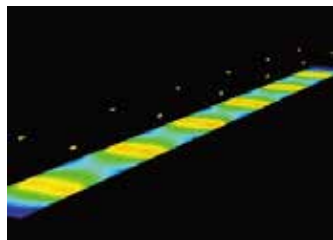
Mold NO.	1.02.92105							
Part NO.	HK-50@07-22X100-3030-#0-1g-12_PC HK-50@07-22X100-3030-#0-1g-12_PMMA							
Material	PC/PMMA							
Efficiency	90% (PC) / 93% (PMMA) without glass							
LED	3030/3535 LED							
Light distribution type	22X100°							
 		<table border="1"> <tr> <td>Height</td> <td>7m</td> </tr> <tr> <td>Mode</td> <td>Bilateral symmetry</td> </tr> <tr> <td>Court uniformity</td> <td>0.7</td> </tr> </table>	Height	7m	Mode	Bilateral symmetry	Court uniformity	0.7
Height	7m							
Mode	Bilateral symmetry							
Court uniformity	0.7							

Mold NO.	1.02.92172					
Part NO.	HK-50@05-135-3030-#0-1g-12_PC HK-50@05-135-3030-#0-1g-12_PMMA					
Material	PC/PMMA					
Efficiency	90% (PC) /93% (PMMA) without glass					
LED	3030/3535 LED					
Light distribution type	TYPE V 135°					
 		<table border="1"> <tr> <td>Proportion</td> <td>3:1</td> </tr> <tr> <td>illumination uniformity</td> <td>0.5</td> </tr> </table>	Proportion	3:1	illumination uniformity	0.5
Proportion	3:1					
illumination uniformity	0.5					

Mold NO.	1.02.91756	
Part NO.	HK-50@05-156X75-3030-#0-1g-12_PC HK-50@05-156X75-3030-#0-1g-12_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3030/3535 LED	
Light distribution type	TYPEIII 156X75°	


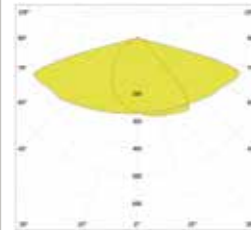
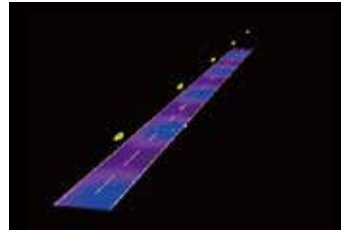


Proportion	4:1
Road width	12m (4 lanes)
Mode	Bilateral symmetry
Lighting type	ME5



Proportion	3:1
Road width	24m (6 lanes)
Mode	Double row symmetry
Lighting type	ME4a


It can be applied to the branch road requirements of single-side lighting, and can also be used for main roads and secondary roads with double-sided lighting

Mold NO.	1.02.91859									
Part NO.	HK-50@05-150X75-3030-#0-1g-12_PC HK-50@05-150X75-3030-#0-1g-12_PMMA									
Material	PC/PMMA									
Efficiency	90% (PC) /93% (PMMA) without glass									
LED	3030 LED									
Light distribution type	lumileds 3030									
		<table border="1"> <tr> <td>Proportion</td> <td>4:1</td> </tr> <tr> <td>Road width</td> <td>7m (2 lanes)</td> </tr> <tr> <td>Mode</td> <td>Single Row</td> </tr> <tr> <td>Lighting type</td> <td>ME4a</td> </tr> </table>	Proportion	4:1	Road width	7m (2 lanes)	Mode	Single Row	Lighting type	ME4a
Proportion	4:1									
Road width	7m (2 lanes)									
Mode	Single Row									
Lighting type	ME4a									
										



MATRIX 16 in 1


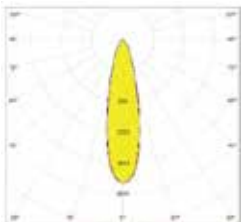
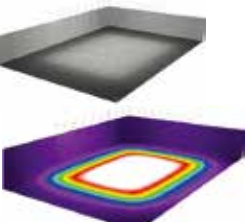
The Matrix lens has the following features:

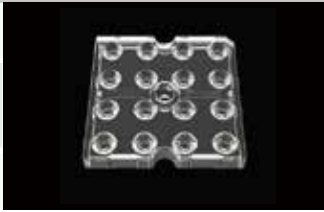
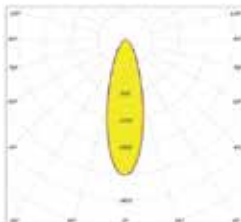
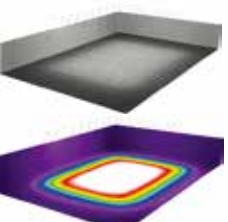
1. ZHAGA Standard: The position of the LED and the positioning column meet the EU ZHAGA standard. 
2. Lens Overall size: 50X50mm; Positioning column distance: 45mm
3. LED Compatibility: 3030 LED / 3535 LED
4. Light Distribution Type: More than 10 light distribution types have been developed, and will continue to develop new type in depth for different application scenarios.
5. Applications: Roads, Tunnels, Stadiums, Docks, Industrial workshop, etc.

Light distribution type:

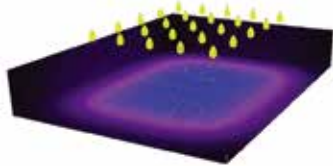
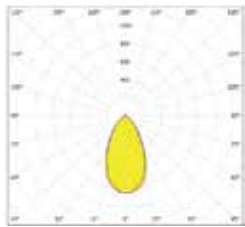
20°	30°	60°
90°	22×100°	TYPE II S
TYPE III S	TYPE IV S	TYPE V



Mold NO.	1.02.91931							
Part NO.	HK-50@07-20-3030-20-1g-16-PMMA HK-50@07-20-3030-20-1g-16-PC							
Material	PC/PMMA							
Efficiency	90% (PC) /93% (PMMA) without glass							
LED	3030/3535 LED							
Light distribution type	20°							
 		<table border="1"> <tbody> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Lighting on top</td> </tr> <tr> <td>Court uniformity</td> <td>0.75</td> </tr> </tbody> </table>	Height	12m	Mode	Lighting on top	Court uniformity	0.75
Height	12m							
Mode	Lighting on top							
Court uniformity	0.75							

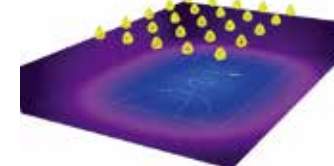
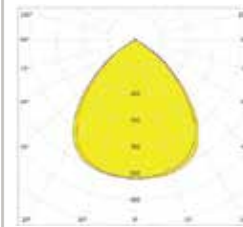
Mold NO.	1.02.81539							
Part NO.	HK-50@06-30-3030-#1-1g-16_PMMA HK-50@06-30-3030-#1-1g-16_PC							
Material	PC/PMMA							
Efficiency	90% (PC) /93% (PMMA) without glass							
LED	3030/3535 LED							
Light distribution type	30°							
 		<table border="1"> <tbody> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Lighting on top</td> </tr> <tr> <td>Court uniformity</td> <td>0.75</td> </tr> </tbody> </table>	Height	12m	Mode	Lighting on top	Court uniformity	0.75
Height	12m							
Mode	Lighting on top							
Court uniformity	0.75							

Mold NO.	1.02.81532	
Part NO.	HK-50@05-60-3030-#0-1g-16_PMMA HK-50@05-60-3030-#0-1g-16_PC	
Material	PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/3030 LED	
Light distribution type	60°	



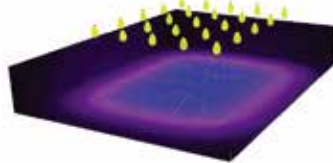
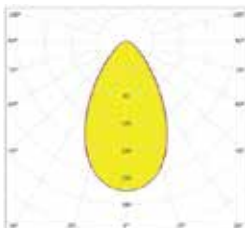
Height	12m
Mode	Lighting on top
Court uniformity	0.75

Mold NO.	1.02.81531	
Part NO.	HK-50@04-90-3030-#0-1g-16_PMMA HK-50@04-90-3030-#0-1g-16_PC	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/3030 LED	
Light distribution type	90°	



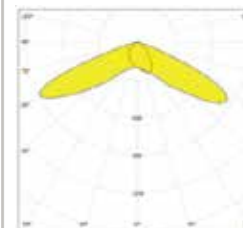
Height	12m
Mode	Lighting on top
Court uniformity	0.7

Mold NO.	1.01.91965	
Part NO.	HK-50@06-60-3030-20-1g-16-PMMA HK-50@06-60-3030-20-1g-16-PC	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA) without glass	
LED	3535/3030 LED	
Light distribution type	60°	




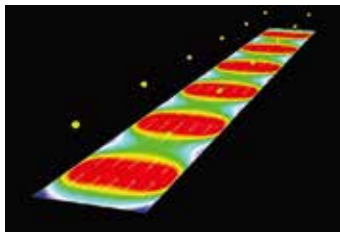
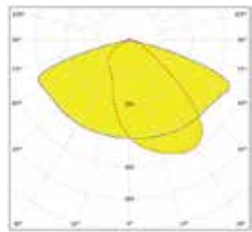
Height	12m
Mode	Lighting on top
Court uniformity	0.75

Mold NO.	1.02.81524	
Part NO.	HK-50@05-140X70-3030-#0-1g-16_PC HK-50@05-140X70-3030-#0-1g-16_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) / 92% (PMMA) without glass	
LED	3030 LED	
Light distribution type	TYPE I 140X70°	



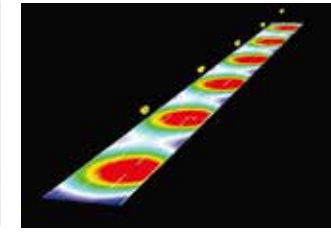
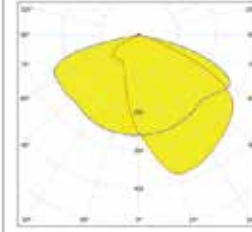
Proportion	3:1
Road width	7m (2 lanes)
Mode	Single-sided lower arrangement
Lighting type	Can meet high lighting uniformity

Mold NO.	1.02.81599	
Part NO.	HK-50@05-70X150-3030-#0-1g-16_PC HK-50@05-70X150-3030-#0-1g-16_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /92% (PMMA) without glass	
LED	3535/3030 LED	
Light distribution type	TYPE II 70X150°	



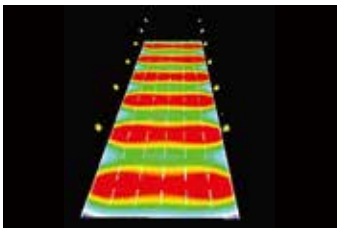
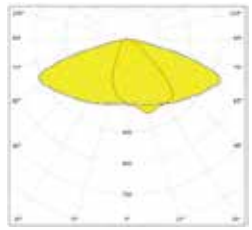
Proportion	3.5:1
Road width	22m (5 lanes)
Mode	Symmetry
Lighting type	ME1

Mold NO.	1.02.81542	
Part NO.	HK-50@04-150X80-3030-#0-1g-16_PC HK-50@04-150X80-3030-#0-1g-16_PMMA	
Material	PC/PMMA	
Efficiency	9%(PC)/92% (PMMA) without glass	
LED	3535/3030 LED	
Light distribution type	TYPE I 140X70°	




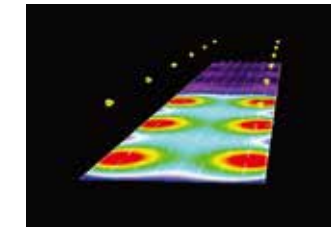
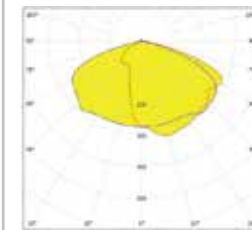
Proportion	3.5:1
Road width	11.25m (3 lanes)
Mode	Unilateral
Lighting type	ME2

Mold NO.	1.02.23252	
Part NO.	HK-JZ-50@07-150X70-3030-#0-1g-16	
Material	PMMA	
Efficiency	92% (PMMA) without glass	
LED	3535/3030 LED	
Light distribution type	ME TYPE II 150X70°	

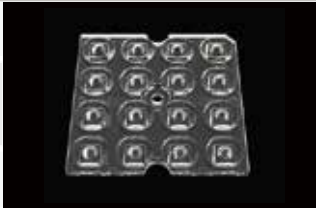
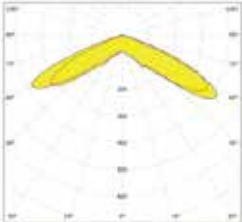
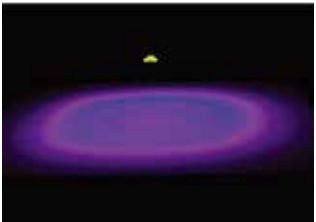


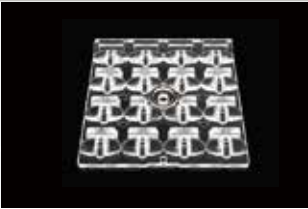
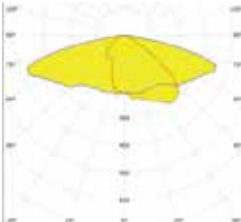

Proportion	3.5:1
Road width	22m (6 lanes)
Mode	Symmetry
Lighting type	ME1


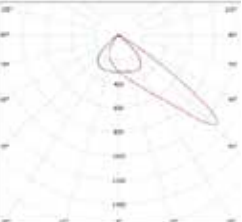
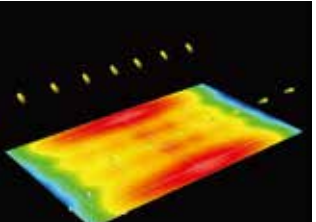
Mold NO.	1.02.81598	
Part NO.	HK-50@04-50X140-3030-#0-1g-16_PC HK-50@04-50X140-3030-#0-1g-16_PMMA	
Material	PC/PMMA	
Efficiency	89%(PC) /90% (PMMA) without glass	
LED	3535/3030 LED	
Light distribution type	TYPE IV 50X140°	



Proportion	3.5:1
Road width	28m (8 lanes)
Mode	Symmetry
Lighting type	ME1

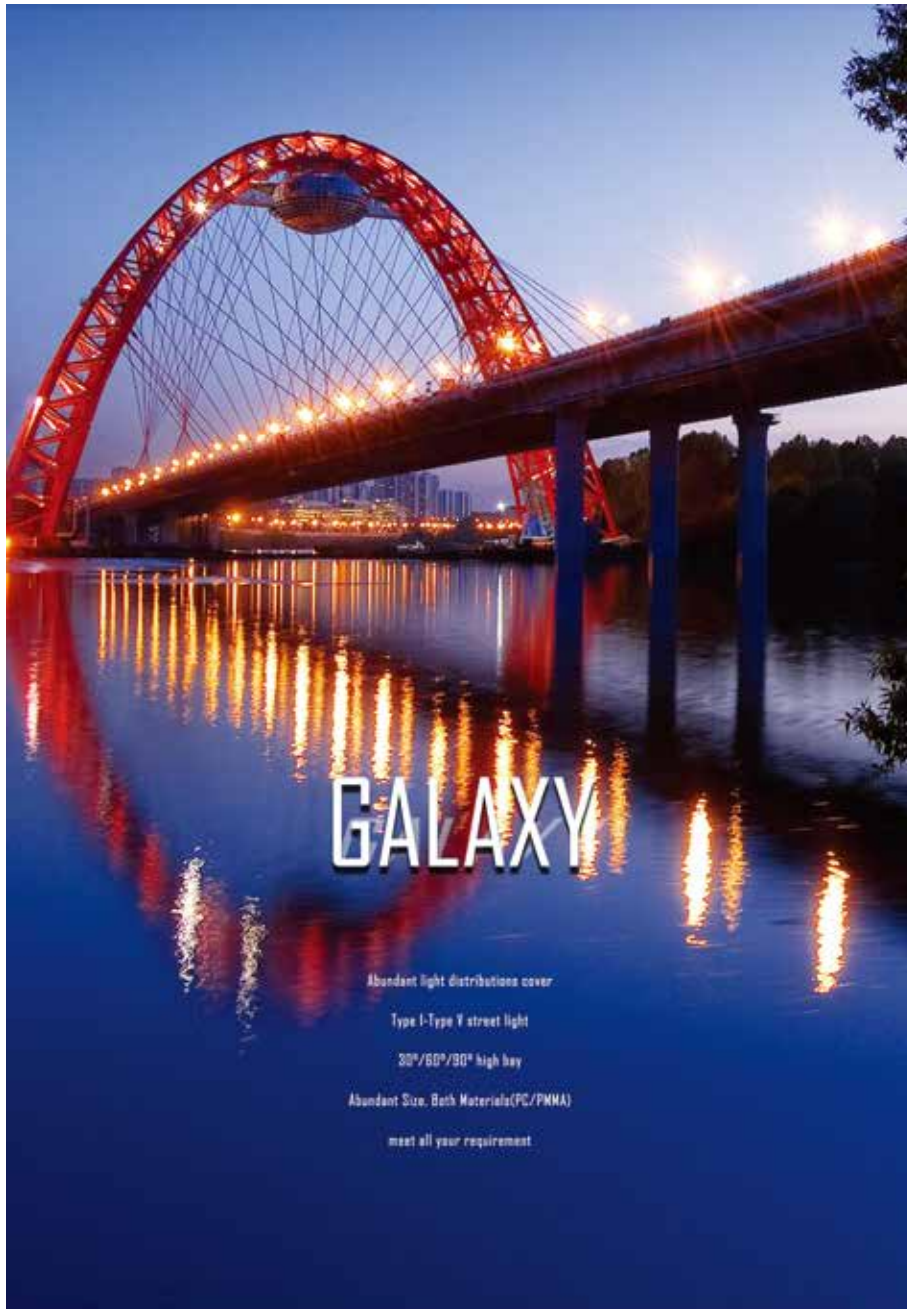
Mold NO.	1.02.81525		
Part NO.	HK-50@04-140X140-3030-#0-1g-16_PC HK-50@04-140X140-3030-#0-1g-16_PMMA		
Material	PC/PMMA		
Efficiency	90% (PC) / 92% (PMMA) without glass		
LED	3030/3535 LED		
Light distribution type	TYPE V 140X140°		
		Height	high-pole lamp
		Height	15m
		Uniformity	0.5


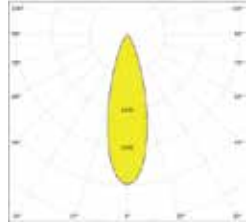
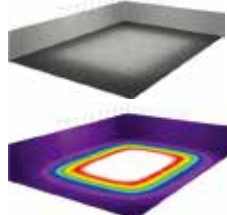
Mold NO.	1.02.23271		
Part NO.	HK-JZ-50@05-157X70-3030-00-1g-16_PMMA		
Material	PC/PMMA		
Efficiency	92% (PMMA) without glass		
LED	3030/3535 LED		
Light distribution type	SCL TYPE II-M 157X70°		
		Proportion	5.5:1
		Road width	7m (2 lanes)
		Mode	Single-sided lower arrangement
		Lighting type	ME4


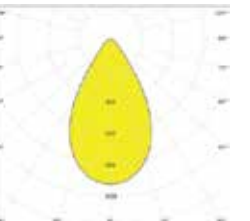
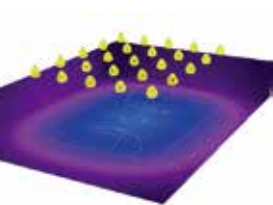
Mold NO.	1.02.92106		
Part NO.	HK-50@06-22X100-3030-#0-1g-16_PC HK-50@06-22X100-3030-#0-1g-16_PMMA		
Material	PC/PMMA		
Efficiency	90% (PC) / 93% (PMMA) without glass		
LED	3030/3535 LED		
Light distribution type	22X100°		
		Height	7m
		Mode	Bilateral symmetry
		Court uniformity	0.7


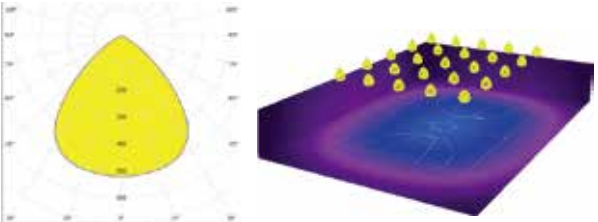


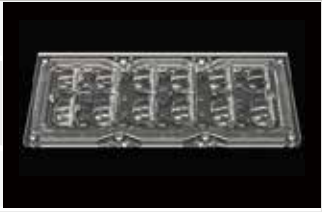
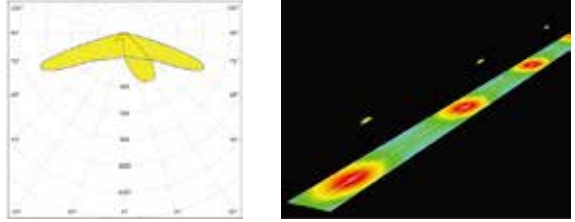
GALAXY 12 in 1


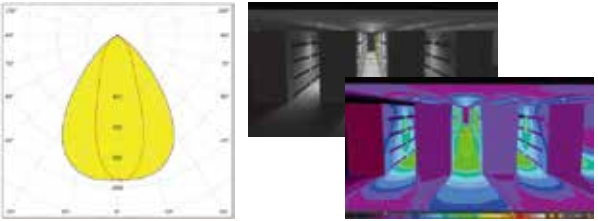



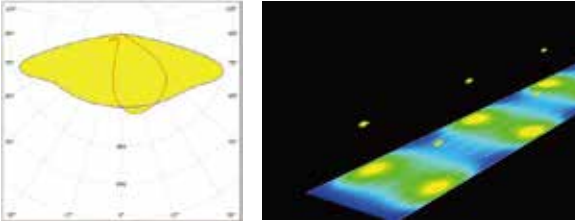
Mold NO.	1.01.81454							
Part NO.	HK-173@12-30-5050-20-1g-12_PC HK-173@12-30-5050-20-1g-12_PMMA							
Material	PC/PMMA							
Efficiency	90% (PC) /93% (PMMA)							
LED	3535/5050 LED							
Light distribution type	30°							
		<table border="1"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Lighting on top</td> </tr> <tr> <td>Court uniformity</td> <td>0.7</td> </tr> </table>	Height	12m	Mode	Lighting on top	Court uniformity	0.7
Height	12m							
Mode	Lighting on top							
Court uniformity	0.7							

Mold NO.	1.01.81455							
Part NO.	HK-173@10-60-5050-#0-1g-12_PC HK-173@10-60-5050-#0-1g-12_PMMA							
Material	PC/PMMA							
Efficiency	90% (PC) /93% (PMMA)							
LED	3535/5050 LED							
Light distribution type	60°							
		<table border="1"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Lighting on top</td> </tr> <tr> <td>Court uniformity</td> <td>0.7</td> </tr> </table>	Height	12m	Mode	Lighting on top	Court uniformity	0.7
Height	12m							
Mode	Lighting on top							
Court uniformity	0.7							

Mold NO.	1.01.81456							
Part NO.	HK-173@09-90-5050-#0-1g-12_PC HK-173@09-90-5050-#0-1g-12_PMMA							
Material	PC/PMMA							
Efficiency	90% (PC) /93% (PMMA)							
LED	3535/5050 LED							
Light distribution type	90°							
		<table border="1"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Lighting on top</td> </tr> <tr> <td>Court uniformity</td> <td>0.7</td> </tr> </table>	Height	12m	Mode	Lighting on top	Court uniformity	0.7
Height	12m							
Mode	Lighting on top							
Court uniformity	0.7							

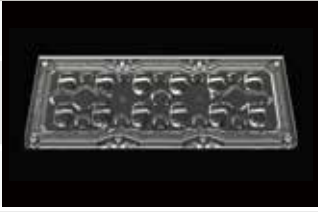
Mold NO.	1.02.81489									
Part NO.	HK-173@11-50X148-5050-#0-1g-12_PC HK-173@11-50X148-5050-#0-1g-12_PMMA									
Material	PC/PMMA									
Efficiency	90% (PC) /93% (PMMA)									
LED	3535/5050 LED									
Light distribution type	TYPE II 50°X148°									
		<table border="1"> <tr> <td>Proportion</td> <td>4:1</td> </tr> <tr> <td>Road width</td> <td>7m (2 lanes)</td> </tr> <tr> <td>Mode</td> <td>Unilateral</td> </tr> <tr> <td>Lighting type</td> <td>0.6</td> </tr> </table>	Proportion	4:1	Road width	7m (2 lanes)	Mode	Unilateral	Lighting type	0.6
Proportion	4:1									
Road width	7m (2 lanes)									
Mode	Unilateral									
Lighting type	0.6									

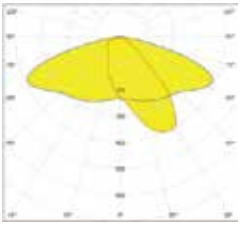
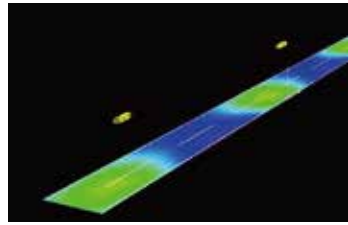
Mold NO.	1.02.81467							
Part NO.	HK-173@10-40X80-5050-#0-1g-12_PC HK-173@10-40X80-5050-#0-1g-12_PMMA							
Material	PC/PMMA							
Efficiency	90% (PC) /93% (PMMA)							
LED	3535/5050 LED							
Light distribution type	TYPE I 40°X80°							
		<table border="1"> <tr> <td>Height</td> <td>2.2m</td> </tr> <tr> <td>Mode</td> <td>Light distribution in the middle of the aisle</td> </tr> <tr> <td>Ground uniformity</td> <td>0.9</td> </tr> </table>	Height	2.2m	Mode	Light distribution in the middle of the aisle	Ground uniformity	0.9
Height	2.2m							
Mode	Light distribution in the middle of the aisle							
Ground uniformity	0.9							

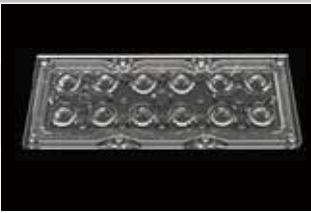
Mold NO.	1.02.81415									
Part NO.	HK-173@12-60X150-5050-#0-1g-12_PC HK-173@12-60X150-5050-#0-1g-12_PMMA									
Material	PC/PMMA									
Efficiency	90% (PC) / 93% (PMMA)									
LED	3535/5050 LED									
Light distribution type	TYPE III 60°X150°									
		<table border="1"> <tr> <td>Proportion</td> <td>4:1</td> </tr> <tr> <td>Road width</td> <td>22.5m (6 lanes)</td> </tr> <tr> <td>Mode</td> <td>Bidirectional symmetry</td> </tr> <tr> <td>Lighting type</td> <td>ME3a</td> </tr> </table>	Proportion	4:1	Road width	22.5m (6 lanes)	Mode	Bidirectional symmetry	Lighting type	ME3a
Proportion	4:1									
Road width	22.5m (6 lanes)									
Mode	Bidirectional symmetry									
Lighting type	ME3a									

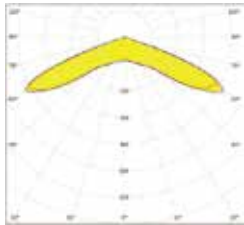
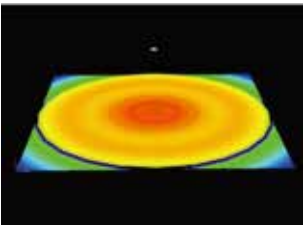
Mold NO.	1.02.81482	
Part NO.	HK-173@10-30X140-5050-#0-1g-12_PC HK-173@10-30X140-5050-#0-1g-12_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA)	
LED	3535/5050 LED	
Light distribution type	TYPE IV 30°X140°	

		Height	11m
		Mode	Four corner arrangement lights
		Court uniformity	0.95

Mold NO.	1.02.91696	
Part NO.	HK-173@09-42X150-5050-#0-1g-12_PC	
Material	PC	
Efficiency	90%	
LED	3535/5050 LED	
Light distribution type	TYPE II 42°X150°	

		
		TNB Road

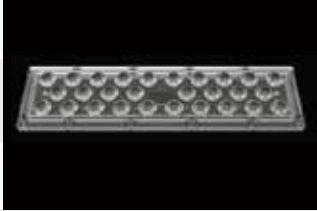
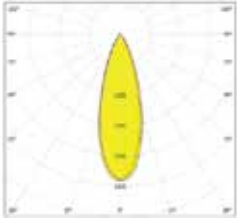
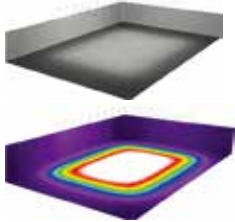
Mold NO.	1.02.81453	
Part NO.	HK-173@08-140-5050-#0-1g-12_PC HK-173@08-140-5050-#0-1g-12_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA)	
LED	3535/5050 LED	
Light distribution type	TYPE V 140°	

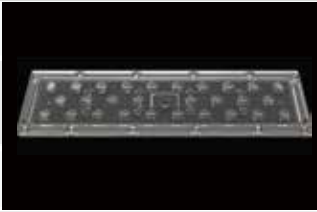
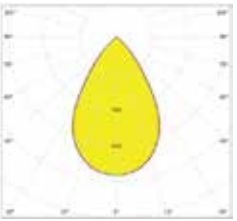
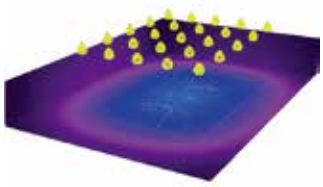
		Height	25m
		Mode	Center layout light
		Square uniformity	0.8




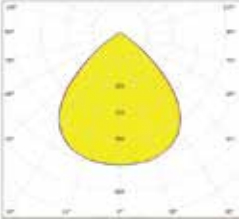
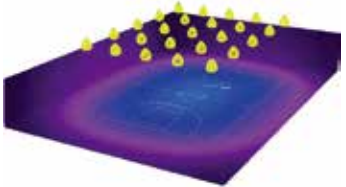
GALAXY 28 in 1

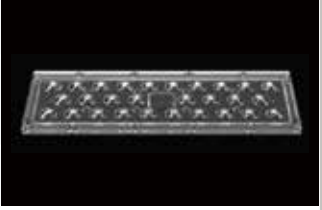


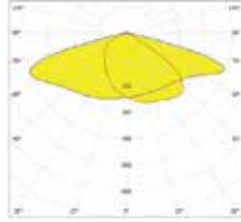
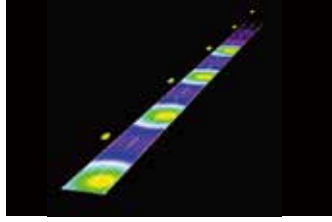
Mold NO.	1.01.81472		
Part NO.	HK-260@11-30-5050-20-1g-28_PC HK-260@11-30-5050-20-1g-28_PMMA		
Material	PC/PMMA		
Efficiency	90% (PC) /93% (PMMA)		
LED	3535/5050 LED		
Light distribution type	30°		
		Height	12m
		Mode	Lighting on top
		Court uniformity	0.7

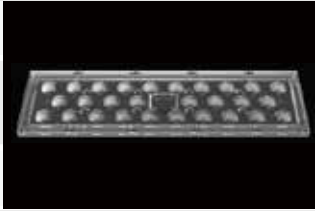
Mold NO.	1.01.81448		
Part NO.	HK-260@09-60-5050-#0-1g-28_PC HK-260@09-60-5050-#0-1g-28_PMMA		
Material	PC/PMMA		
Efficiency	90% (PC) /93% (PMMA)		
LED	3535/5050 LED		
Light distribution type	60°		
		Height	12m
		Mode	Lighting on top
		Court uniformity	0.7

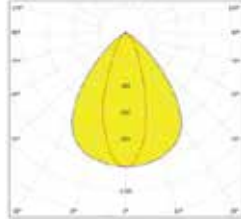

Mold NO.	1.01.81447	
Part NO.	HK-260@07-90-5050-#0-1g-28_PC HK-260@07-90-5050-#0-1g-28_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA)	
LED	3535/5050 LED	
Light distribution type	90°	

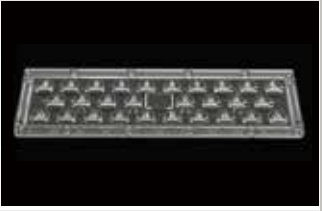
		Height	12m
		Mode	Lighting on top
		Court uniformity	0.7

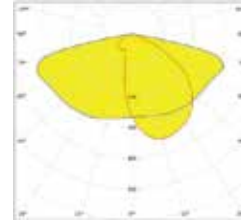
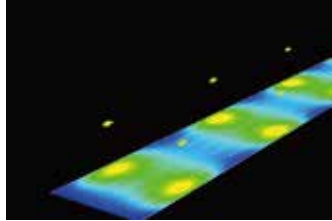
Mold NO.	1.02.81420	
Part NO.	HK-260@08-150X80-5050-#0-1g-28_PC HK-260@08-150X80-5050-#0-1g-28_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA)	
LED	3535/5050 LED	
Light distribution type	TYPE II_M 150°X80°	


		Proportion	4.5:1
		Road width	7m (2 lanes)
		Mode	Unilateral
		Lighting type	ME3a

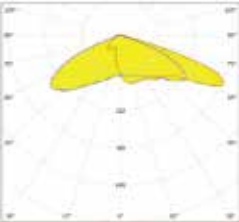

Mold NO.	1.02.81480	
Part NO.	HK-260@10-40X80-5050-00-1g-28_PC HK-260@10-40X80-5050-00-1g-28_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA)	
LED	3535/5050 LED	
Light distribution type	TYPE I 40°X80°	


		Height	7m
		Mode	Top cloth lamp
		Corridor uniformity	0.9

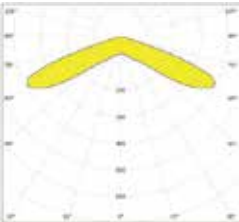
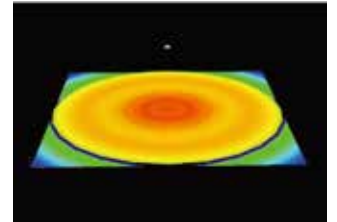
Mold NO.	1.02.81498	
Part NO.	HK-260@10-65X152-5050-#0-1g-28_PC HK-260@10-65X152-5050-#0-1g-28_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA)	
LED	3535/5050 LED	
Light distribution type	TYPE III 65°X152°	

		Proportion	4:1
		Road width	22.5m (6 lanes)
		Mode	Bidirectional symmetry
		Lighting type	ME3a

Mold NO.	1.02.81492	
Part NO.	HK-260@10-30X140-5050-#0-1g-28_PC HK-260@10-30X140-5050-#0-1g-28_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA)	
LED	3535/5050 LED	
Light distribution type	TYPE IV 30°X140°	

		Height	11m
		Mode	Four corner arrangement lights
		Court uniformity	0.9

Mold NO.	1.02.81465	
Part NO.	HK-260@08-140-5050-#0-1g-28_PC HK-260@08-140-5050-#0-1g-28_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) /93% (PMMA)	
LED	3535/5050 LED	
Light distribution type	TYPE V 140°	

		Height	25m
		Mode	Center layout light
		Square uniformity	0.8




GALAXY 56 in 1




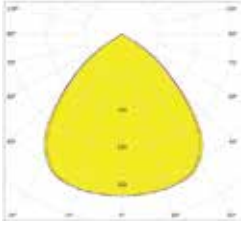
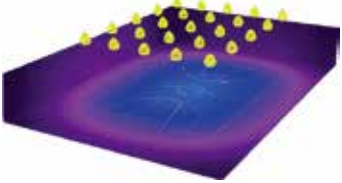
Mold NO.	1.01.81428	
Part NO.	HK-260@09-30-3030-20-1g-56	
Material	PC	
Efficiency	90% (PC)	
LED	3030/3535 LED	
Light distribution type	30°	

Height	12m
Mode	Lighting on top
Court uniformity	0.7


Mold NO.	1.01.81425	
Part NO.	HK-260@07-60-3030-#0-1g-56	
Material	PC	
Efficiency	90% (PC)	
LED	3030/3535 LED	
Light distribution type	60°	

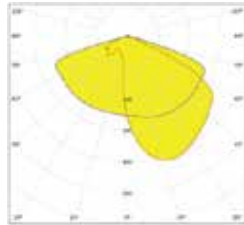
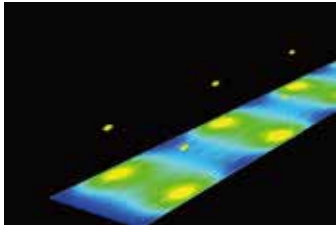
Height	12m
Mode	Lighting on top
Court uniformity	0.7

Mold NO.	1.02.81426	
Part NO.	HK-260@07-90-3030-#0-1g-56	
Material	PC	
Efficiency	90% (PC)	
LED	3030/3535 LED	
Light distribution type	90°	





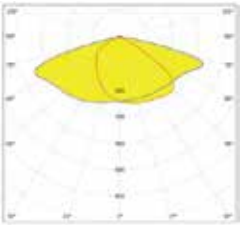
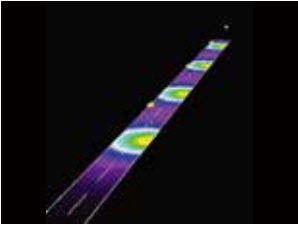
Height	12m
Mode	Lighting on top
Court uniformity	0.7

Mold NO.	1.02.81574	
Part NO.	HK-260@07-63X150-3030-20-1g-56_PC	
Material	PC	
Efficiency	90%	
LED	3030/3535 LED	
Light distribution type	TYPE III 63°X150°	

Proportion	3.5:1
Road width	22.5m (6 lanes)
Mode	Bidirectional symmetry
Lighting type	ME2

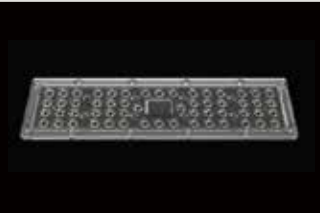
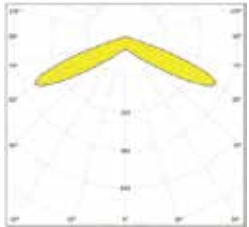
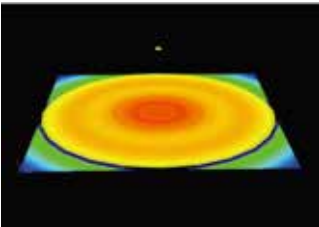
Mold NO.	1.02.81419	
Part NO.	HK-260@07-150X80-3030-#0-1g-56	
Material	PC	
Efficiency	90%	
LED	3030/3535 LED	
Light distribution type	TYPE II 150°X80°	

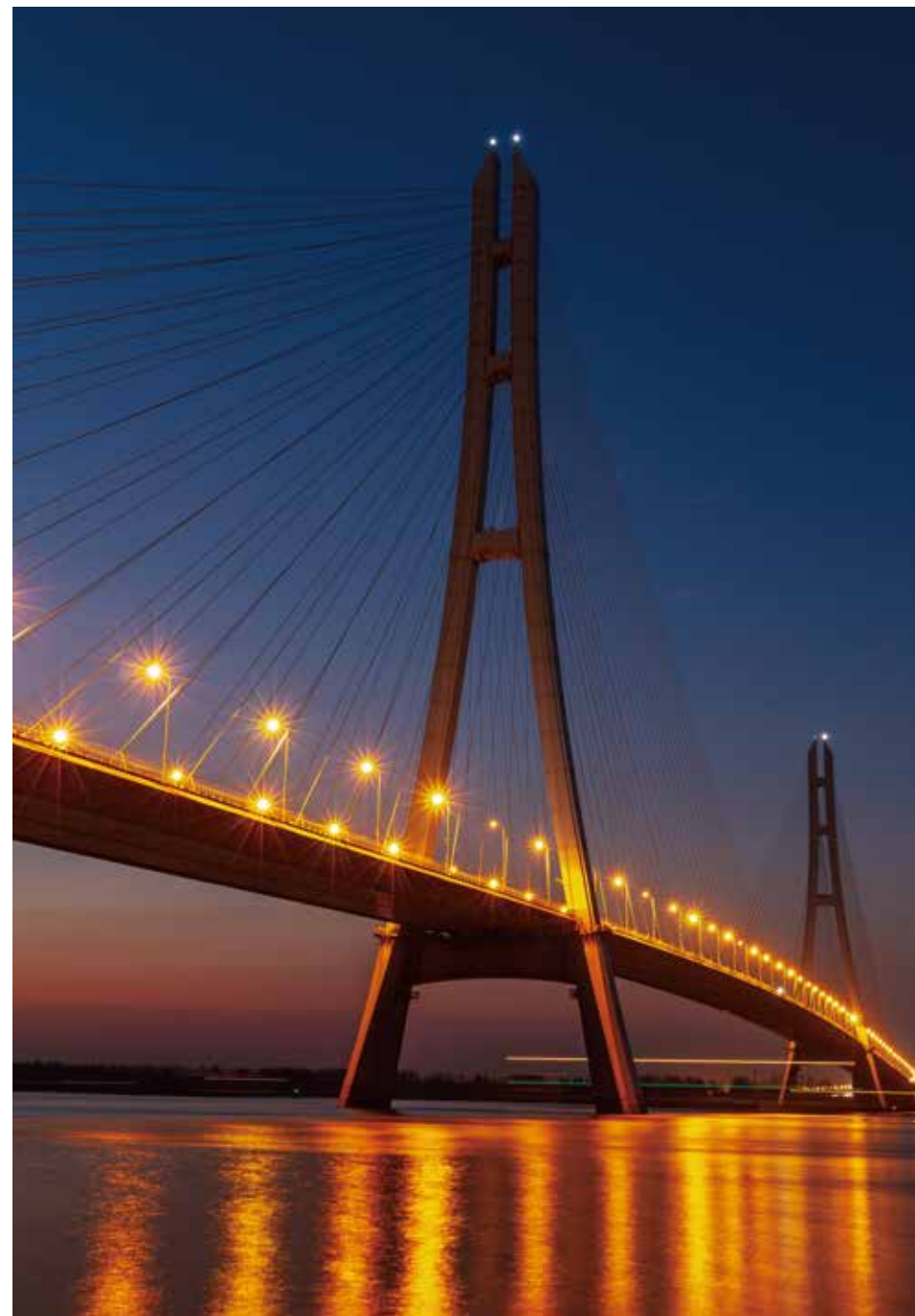



Proportion	5:1
Road width	7m (2 lanes)
Mode	Unilateral
Lighting type	ME4b



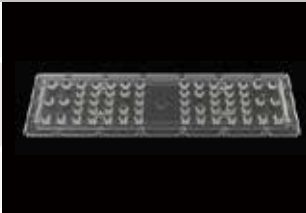
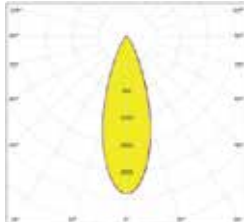
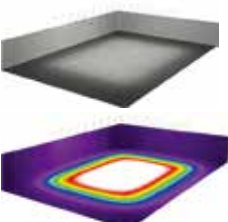
Mold NO.	1.02.81633							
Part NO.	HK-260@07-13X138-3030-#0-1g-56_PC							
Material	PC							
Efficiency	90%							
LED	3030/3535 LED							
Light distribution type	TYPE IV 13°X138°							
		<table border="1"> <tr> <td>Height</td> <td>11m</td> </tr> <tr> <td>Mode</td> <td>Four corner arrangement lights</td> </tr> <tr> <td>Court uniformity</td> <td>0.9</td> </tr> </table>	Height	11m	Mode	Four corner arrangement lights	Court uniformity	0.9
Height	11m							
Mode	Four corner arrangement lights							
Court uniformity	0.9							


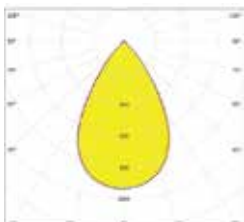
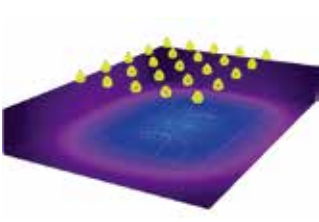
Mold NO.	1.02.81424							
Part NO.	HK-260@07-138-3030-#0-1g-56_PC							
Material	PC							
Efficiency	90%							
LED	3030/3535 LED							
Light distribution type	TYPE V 138°							
		<table border="1"> <tr> <td>Height</td> <td>25m</td> </tr> <tr> <td>Mode</td> <td>Center layout light</td> </tr> <tr> <td>Square uniformity</td> <td>0.8</td> </tr> </table>	Height	25m	Mode	Center layout light	Square uniformity	0.8
Height	25m							
Mode	Center layout light							
Square uniformity	0.8							



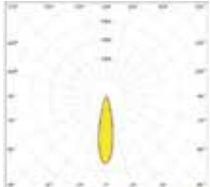
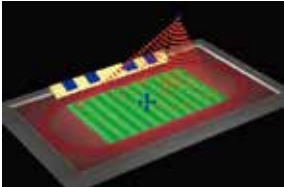
GALAXY 60 in 1



Mold NO.	1.01.91883							
Part NO.	HK-252@09-36-3030-20-1g-60							
Material	PC							
Efficiency	90% (PC)							
LED	3030/3535 LED							
Light distribution type	36°							
		<table border="1"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Lighting on top</td> </tr> <tr> <td>Court uniformity</td> <td>0.7</td> </tr> </table>	Height	12m	Mode	Lighting on top	Court uniformity	0.7
Height	12m							
Mode	Lighting on top							
Court uniformity	0.7							

Mold NO.	1.01.91884							
Part NO.	HK-252@07-60-3030-#0-1g-60							
Material	PC							
Efficiency	90% (PC)							
LED	3030/3535 LED							
Light distribution type	60°							
		<table border="1"> <tr> <td>Height</td> <td>12m</td> </tr> <tr> <td>Mode</td> <td>Lighting on top</td> </tr> <tr> <td>Court uniformity</td> <td>0.7</td> </tr> </table>	Height	12m	Mode	Lighting on top	Court uniformity	0.7
Height	12m							
Mode	Lighting on top							
Court uniformity	0.7							

Mold NO.	1.01.91882	
Part NO.	HK-252@09-24-3030-20-1g-60	
Material	PC	
Efficiency	90% (PC)	
LED	3030/3535 LED	
Light distribution type	24°	

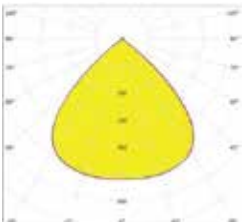
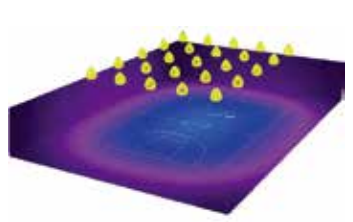
It can be used for stadium lighting, plaza lighting, wharf lighting, etc

Mold NO.	1.02.91803	
Part NO.	HK-252@07-150X70-3030-#0-1g-60	
Material	PC	
Efficiency	90% (PC)	
LED	3030/3535 LED	
Light distribution type	TYPE II 150°X70°	



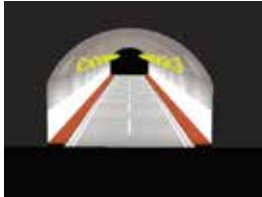

Proportion	3.5:1
Road width	22.5m (6 lanes)
Mode	Double row symmetry
Lighting type	ME4a

Mold NO.	1.01.91885	
Part NO.	HK-252@07-90-3030-#0-1g-60	
Material	PC	
Efficiency	90% (PC)	
LED	3030/3535 LED	
Light distribution type	90°	

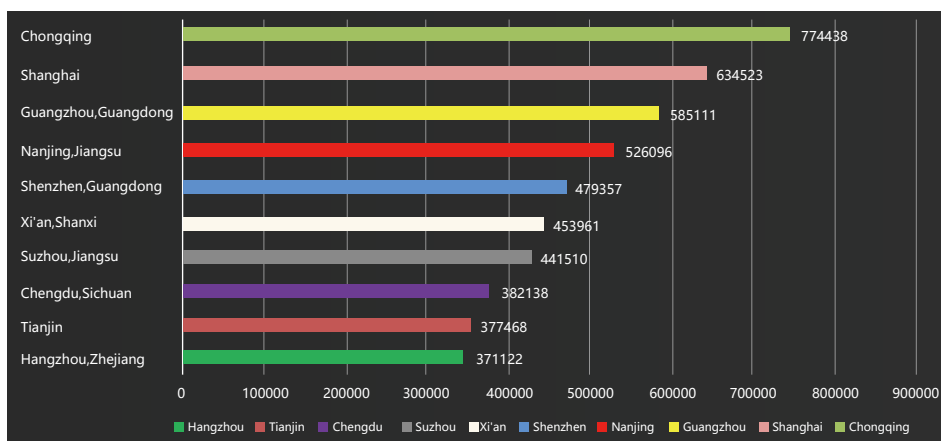
Height	12m
Mode	Lighting on top
Court uniformity	0.7

Mold NO.	1.01.91886	
Part NO.	HK-252@07-135X100-3030-#0-1g-60_PC HK-252@07-135X100-3030-#0-1g-60_PMMA	
Material	PC/PMMA	
Efficiency	90% (PC) / 93% (PMMA)	
LED	5050/3535 LED	
Light distribution type	135°X100°	


Used for tunnel lighting, which can achieve high uniformity requirements

Let's start with some data



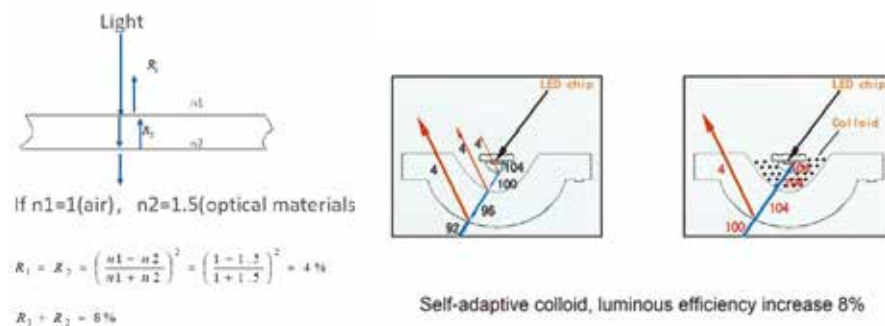
According to the information from the Ministry of Housing and Urban-Rural Development, if we add up the street lights in the 10 largest cities in China, there are a total of 5 million street lights, each of which is calculated at 150W and lights up for 12 hours a day.

The annual electricity consumption is $5000000 \times 0.15 \times 12 \times 365 = 3285000000$ KW/h. In the case of thermal power generation, it needs to consume 1095000 tons of anthracite, and the corresponding carbon dioxide emission is **3413115** tons.

After using the Hengkun adaptive colloid technology, the carbon dioxide emission can be reduced to $3413115 \times 0.08 = 273049$ tons (excluding the carbon dioxide produced by the saved 8 points of lighting materials)

Air zero interval-Adaptive colloid technology

When light passes through two materials with different reflectivity, different reflections will occur, resulting in loss of light energy. This loss is about 8%, so the efficiency of a common lens is 90-92%



Conventional optical VS Dispensing optical

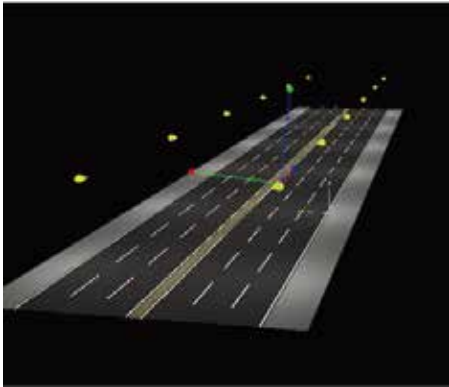
According to the calculation of lighting 12 hours a day, the annual power saving of a single lamp is 35KW/h. Assuming that there are 100,000 lamps in the city, the total electricity saving is 3,500,000 KW/h. If one kilogram of standard coal generates 3 kWh of electricity, It can save 1,166 tons of coal every year. According to the best anthracite 95% efficiency standard, the carbon emissions of 3,117kg per ton can save

3,634 tons of carbon emissions.

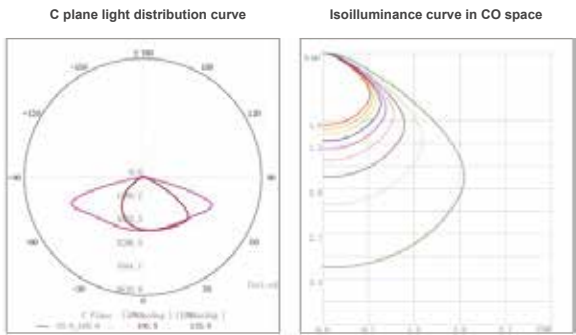
	Constant light flux	Power	consumption/year
Using dispensing technology	17000	100W	438KW/h
Not using dispensing technology	17000	108W	473.04KW/h

Real road data

Light source parameters		Lamp parameters	
Nominal luminous flux of light source (lm) : 17092.0001m	Nominal luminous flux of lamp (lm) : 17092.246	Downward luminous flux and proportion: 16817.7361m 98.39%	Luminaire energy efficiency ratio(1m/w): 169.903
Nominal power of light source (W) :	Nominal power of lamp (%) : 100.00	Upward luminous flux and proportion: 274.5101m 1.61%	
Light source rated voltage (V) :	Luminaire energy efficiency ratio (1mw) : 169.903	76°Flashing area (m2) :	Maximum Strong Light(cd): 8830.859
Measured power of light source (w) : 100.800	Maximum bright light (cd) : 8830.859	Not suitable for glare: 0.000	
Number of light sources in the lamp: 1	Maximum light intensity (*) : C=295.0 Y=72.0	IES classification: Type IV	
Measured electrical parameters of light source (V,A,PF) : 22.3.0.465	Rate peak angle (50% Imax) : L=35.5, R=78.1	Long axis classification: Very Short	
Light source size (w*L*H) : 0.05a*0.050a*0.000m	Diffusion angle (10% Imax) : 156.4 (*)	Cutoff light classification: Cutoff	



In urban road lighting, most roads have wider sidewalks or side roads. We simulate and compare a practical case of Liyang Optoelectronics. The road is a two-way 6-lane with an isolation belt, and there are 4M sidewalks on each side. It is a typical urban expressway. In this road, we use 100W lamps to meet the road ME2 illuminance standard, the sidewalk S1 level.



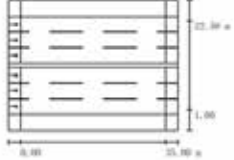
The light efficiency of Liyang street lamp using Herculux photoelectric dispensing technology is actually 170LM /W, and the light flux reaches 17000LM at 100W.

Street cross-section

Sidewalk 2	(width: 4.000m)
road 2	(width: 11.250m, Number of running paths: 3, 柏油: R3, q0: 0.070)
Island of separation 1	(width: 1.000m, height: 0.000m)
road 1	(width: 11.250m, Number of running paths: 3, 柏油: R3, q0: 0.070)
Sidewalk 1	(width: 4.000m)

Maintenance factor: 0.90

Lamp arrangement




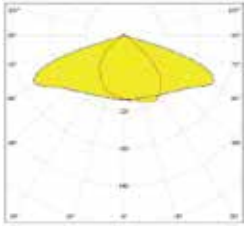
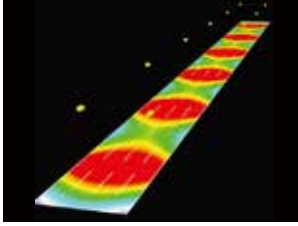
List of Assessment Scopes

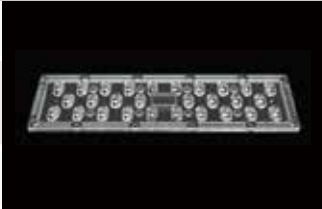
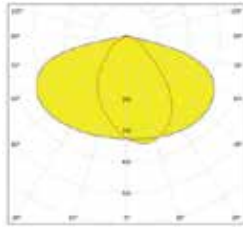
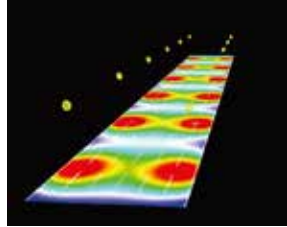
<p>2 Evaluation area Road 2</p> <p>Length: 35.000m, Width: 11.250m</p> <p>Grid: 12×9</p> <p>Appurtenant street environment factors: Road 2</p> <p>Tar: R3, Q0: 0.070</p> <p>Selected Illumination Level: ME2</p>	<p>(All photometric requirements have been met)</p> <table border="1"> <thead> <tr> <th>Calculated actual data:</th> <th>Average brightness [cd/m²]</th> <th>U0</th> <th>U1</th> <th>T1 [%]</th> <th>Peripheral illuminance coefficient</th> </tr> </thead> <tbody> <tr> <td>Data set by level:</td> <td>1.54</td> <td>0.73</td> <td>0.88</td> <td>10</td> <td>0.84</td> </tr> <tr> <td>Satisfied/ not satisfied:</td> <td>≥1.50</td> <td>≥0.40</td> <td>≥0.70</td> <td>≥10</td> <td>≥0.50</td> </tr> </tbody> </table>	Calculated actual data:	Average brightness [cd/m²]	U0	U1	T1 [%]	Peripheral illuminance coefficient	Data set by level:	1.54	0.73	0.88	10	0.84	Satisfied/ not satisfied:	≥1.50	≥0.40	≥0.70	≥10	≥0.50
Calculated actual data:	Average brightness [cd/m²]	U0	U1	T1 [%]	Peripheral illuminance coefficient														
Data set by level:	1.54	0.73	0.88	10	0.84														
Satisfied/ not satisfied:	≥1.50	≥0.40	≥0.70	≥10	≥0.50														
<p>3 Evaluation area Sidewalk 1</p> <p>Length: 35.000m, Width: 4.000m</p> <p>Grid: 12×3</p> <p>Appurtenant street environment factors: Sidewalk 1</p> <p>Selected Illumination Level: S1</p> <p>Additional ES illumination level (hemispheric illumination): ES4</p>	<p>(All photometric requirements have been met)</p> <p>(Some photometric requirements are not met)</p> <table border="1"> <thead> <tr> <th>Calculated actual data:</th> <th>Minimum illumination [lx]</th> <th>Minimum illuminance [lx]</th> <th>Minimum illuminance (half-cylindrical illuminance)</th> </tr> </thead> <tbody> <tr> <td>Data set by level:</td> <td>18.03</td> <td>8.64</td> <td>3.19</td> </tr> <tr> <td>Satisfied/ not satisfied:</td> <td>≥15.00</td> <td>≥5.00</td> <td>≥3.00</td> </tr> </tbody> </table>	Calculated actual data:	Minimum illumination [lx]	Minimum illuminance [lx]	Minimum illuminance (half-cylindrical illuminance)	Data set by level:	18.03	8.64	3.19	Satisfied/ not satisfied:	≥15.00	≥5.00	≥3.00						
Calculated actual data:	Minimum illumination [lx]	Minimum illuminance [lx]	Minimum illuminance (half-cylindrical illuminance)																
Data set by level:	18.03	8.64	3.19																
Satisfied/ not satisfied:	≥15.00	≥5.00	≥3.00																
<p>4 Evaluation area Sidewalk 1</p> <p>Length: 35.000m, Width: 4.000m</p> <p>Grid: 12×3</p> <p>Appurtenant street environment factors: Sidewalk 1</p> <p>Selected Illumination Level: S1</p> <p>Additional ES illumination level (hemispheric illumination): ES4</p>	<p>(All photometric requirements have been met)</p> <p>(Some photometric requirements are not met)</p> <table border="1"> <thead> <tr> <th>Calculated actual data:</th> <th>Minimum illumination [lx]</th> <th>Minimum illuminance [lx]</th> <th>Minimum illuminance (half-cylindrical illuminance)</th> </tr> </thead> <tbody> <tr> <td>Data set by level:</td> <td>18.03</td> <td>8.64</td> <td>3.17</td> </tr> <tr> <td>Satisfied/ not satisfied:</td> <td>≥15.00</td> <td>≥5.00</td> <td>≥3.00</td> </tr> </tbody> </table>	Calculated actual data:	Minimum illumination [lx]	Minimum illuminance [lx]	Minimum illuminance (half-cylindrical illuminance)	Data set by level:	18.03	8.64	3.17	Satisfied/ not satisfied:	≥15.00	≥5.00	≥3.00						
Calculated actual data:	Minimum illumination [lx]	Minimum illuminance [lx]	Minimum illuminance (half-cylindrical illuminance)																
Data set by level:	18.03	8.64	3.17																
Satisfied/ not satisfied:	≥15.00	≥5.00	≥3.00																

If we use a non-dispersing lamp in the same situation, the required power is 108W. In this case, we not only need to increase the energy consumption by 8%, but also need to match a higher drive power for the 8% luminous flux, larger heat dissipation area and corresponding lamp weight. Therefore, we not only reduce energy consumption by 8%, but also save 8% in lighting materials, achieving a 16% reduction in energy consumption and in line with the concept of sustainable development.

TURBINE



Mold NO.	1.02.92130									
Part NO.	HK-173@08-150X100-5050-#0-0g-12									
Material	PC									
Efficiency	98% (PC)									
LED	5050 LED									
Light distribution type	LUXEON 5050 ROUND									
		<table border="1"> <tr> <td>Proportion</td> <td>3.5:1</td> </tr> <tr> <td>Road width</td> <td>14m (4 lanes)</td> </tr> <tr> <td>Mode</td> <td>Double row symmetry</td> </tr> <tr> <td>Lighting type</td> <td>ME4b</td> </tr> </table>	Proportion	3.5:1	Road width	14m (4 lanes)	Mode	Double row symmetry	Lighting type	ME4b
Proportion	3.5:1									
Road width	14m (4 lanes)									
Mode	Double row symmetry									
Lighting type	ME4b									

Mold NO.	1.02.02514									
Part NO.	HK-260@09-150X70-5050-#0-0g-28-V									
Material	PC									
Efficiency	98% (PC)									
LED	5050 LED									
Light distribution type	LUXEON 5050 ROUND									
		<table border="1"> <tr> <td>Proportion</td> <td>3.5:1</td> </tr> <tr> <td>Road width</td> <td>22.5m (6 lanes)</td> </tr> <tr> <td>Mode</td> <td>Double row symmetry</td> </tr> <tr> <td>Lighting type</td> <td>ME2</td> </tr> </table>	Proportion	3.5:1	Road width	22.5m (6 lanes)	Mode	Double row symmetry	Lighting type	ME2
Proportion	3.5:1									
Road width	22.5m (6 lanes)									
Mode	Double row symmetry									
Lighting type	ME2									

Mold NO.	1.02.71179									
Part NO.	HK-260@09-150X70-5050-#0-0g-28									
Material	PC									
Efficiency	98% (PC)									
LED	5050 LED									
Light distribution type	LUXEON 5050 ROUND									
		<table border="1"> <tr> <td>Proportion</td> <td>3.5:1</td> </tr> <tr> <td>Road width</td> <td>20m (6 lanes)</td> </tr> <tr> <td>Mode</td> <td>Double row symmetry</td> </tr> <tr> <td>Lighting type</td> <td>ME2</td> </tr> </table>	Proportion	3.5:1	Road width	20m (6 lanes)	Mode	Double row symmetry	Lighting type	ME2
Proportion	3.5:1									
Road width	20m (6 lanes)									
Mode	Double row symmetry									
Lighting type	ME2									

CUSTOMIZED SOLUTIONS

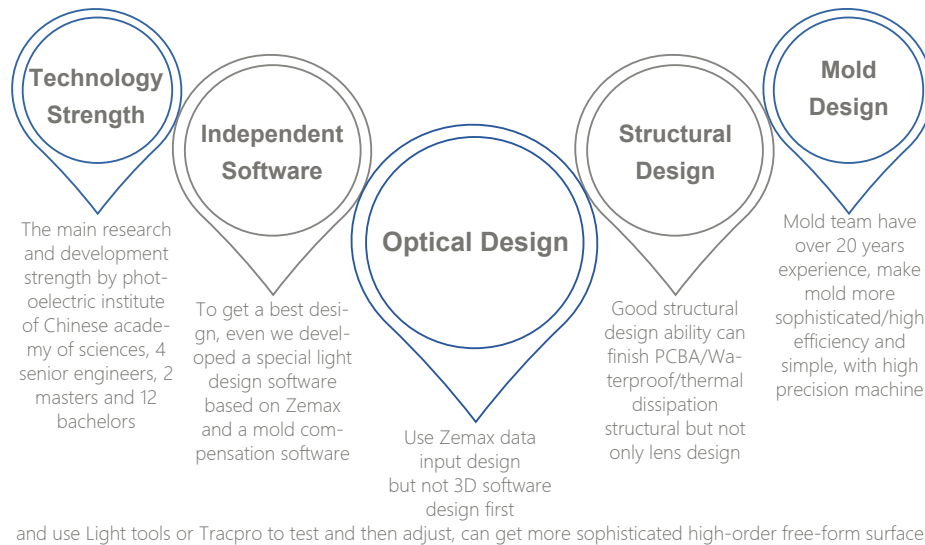
In addition to the standard mold products introduced in the catalogue, HercuLux can also provide customized solution services. With a professional design team and a complete industrial chain, tailor-made for customers, seeking the best solution for the project.

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.



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 m² HercuLux park



More than 100 precision injection machines



Complete mold processing chain with a constant temp precision processing are



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

