LED high bay light

HIGH TEMPERATURE SERIES

Designed to use for:

- Paper factory
- Manufacturing areas
- Warehouse
- Unloading/ loading areas
- Car dealer showroom
- Airport concourse
- Convention center
- Food factory

Silring
LED osvetlenie

<25 UGR

warranty 7 Years

IK10

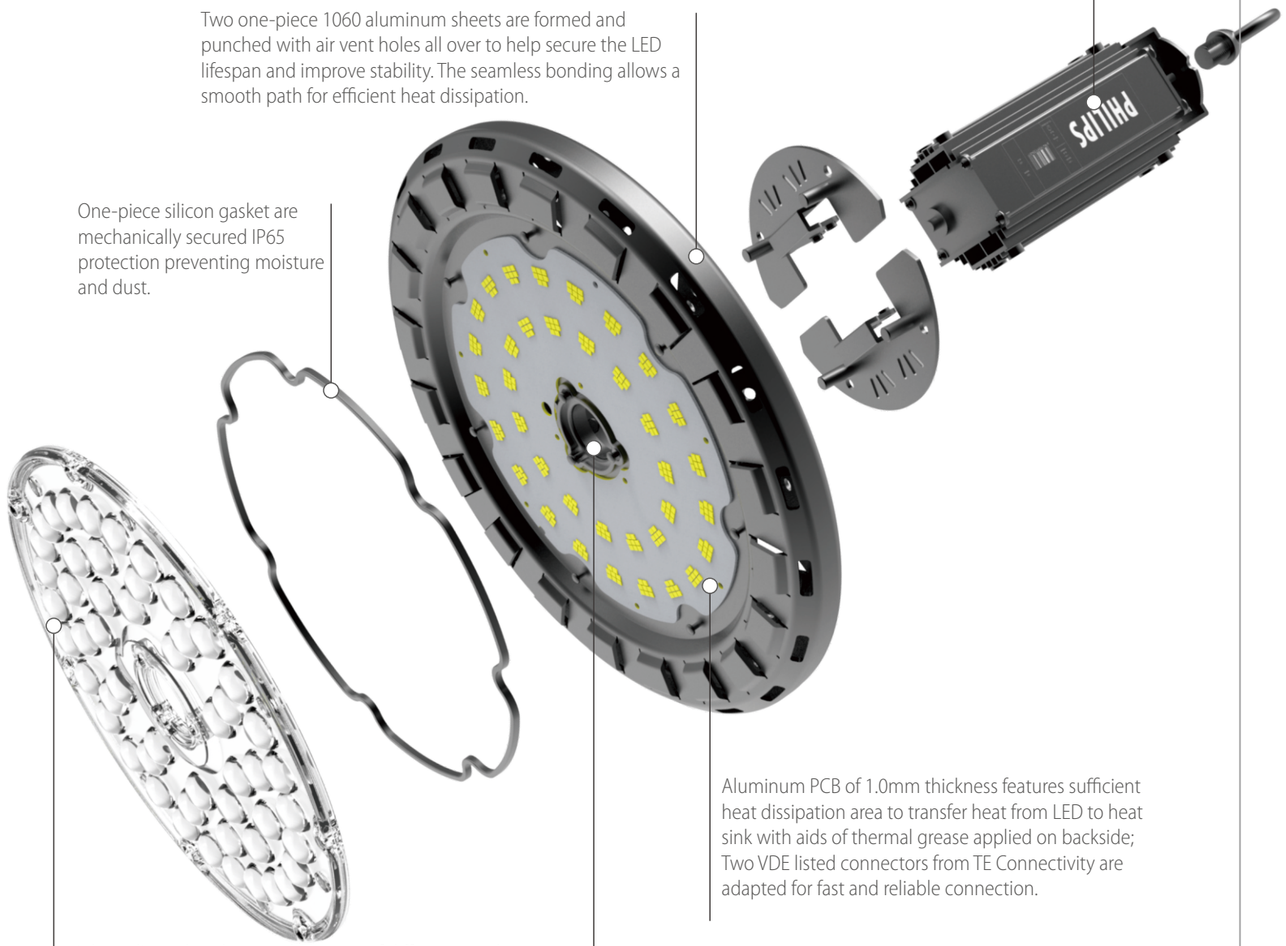
IP65

EXPLOSIVE VIEW

IP67 High performance driver from Philips with 4KV surge protection embedded. The unique heat dissipation design of driver itself prolong the lifespan into 100,000hrs operating at 55deg ambient temperature.

Two one-piece 1060 aluminum sheets are formed and punched with air vent holes all over to help secure the LED lifespan and improve stability. The seamless bonding allows a smooth path for efficient heat dissipation.

One-piece silicon gasket are mechanically secured IP65 protection preventing moisture and dust.



Aluminum PCB of 1.0mm thickness features sufficient heat dissipation area to transfer heat from LED to heat sink with aids of thermal grease applied on backside; Two VDE listed connectors from TE Connectivity are adapted for fast and reliable connection.

High quality polycarbonate shatter proof diffuser provides assurances and safety in the work places with low UGR value. Frosted veil, clear veil and optics in 60deg/90deg veil are compatible to be replaced with each other for different applications.

The donut-shape hole in center immensely assist air convention to permit air flow as much as possible.

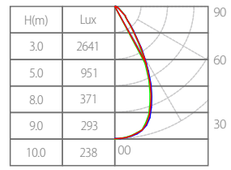
SPECIFICATIONS

Operating temperature range	-40ºC to +45ºC -40ºC to +70ºC (consult sales for warranty terms)
Driver vendor	Philips
LEDs vendor	Philips
Smart control options	Occupancy sensor 1-10V dimming
Material	Structure: Extruded AL1060 Finish: Sand blasting and anodized Lens: Polycarbonate
Color	Matte black
Mounting options	Suspended / wall mounted
IP grade	IP65
IES/ LDT file	Available

LIGHT DISTRIBUTION CURVE -5000K

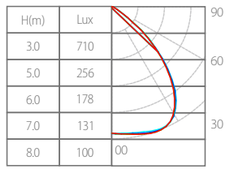
150w-60deg

H(m)	Lux
3.0	2641
5.0	951
8.0	371
9.0	293
10.0	238



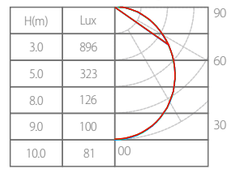
150w-90deg

H(m)	Lux
3.0	710
5.0	256
6.0	178
7.0	131
8.0	100

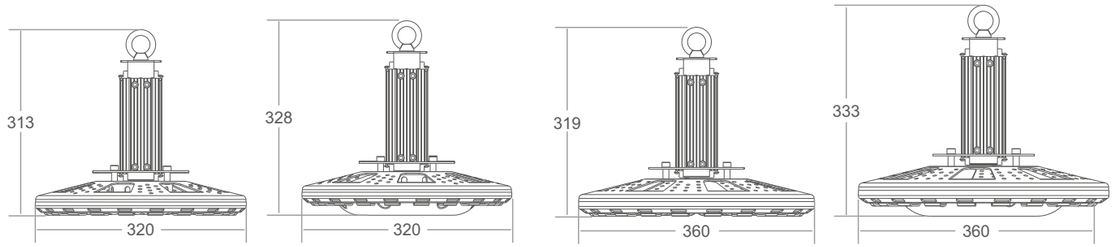


150w-120deg

H(m)	Lux
3.0	896
5.0	323
8.0	126
9.0	100
10.0	81



OUTLINE DRAWING(MM)



PRODUCT PARAMETER

	Part No.	Power	Voltage	CRI	PF	Lumen output @4000K
150 lm/W	FK-90	90W	220-240 VAC	>70	> 0.98	13500 lm
150 lm/W	FK-150	150W	220-240 VAC	>70	> 0.98	22500 lm
140 lm/W	FK-90	90W	220-240 VAC	>80	> 0.98	12600 lm
140 lm/W	FK-150	150W	220-240 VAC	>80	> 0.98	21000 lm

STYLISH DESIGN

Says who that industrial lights all look dull and tedious? Gone are the days of Halide Metal Discharge lights with hardly no variation. Adding vitality in your workplace, the **high temperature** series' possess refined details throughout. The matte black finish adds a concise style to any places giving your space a modern vibe with a sleek, contemporary edge.

Perfect solution for high temperature working places

7 YEAR WARRANTY
Operating temperature -40°C~45°C

3 YEAR WARRANTY
Operating temperature -40°C~70°C

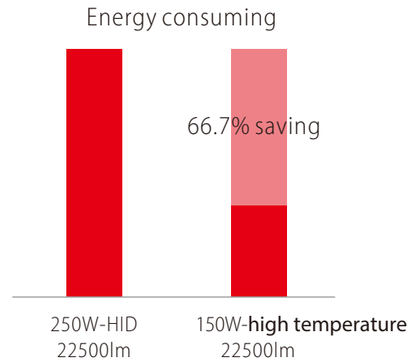
FEATURES AND BENEFITS

Branded LED components

High performance LED components from LUMINLEDS provide the reliable product in practice. With **9000** hours LM80 report, a light decay curve is shown and the lifespan of 50000hrs to L70 can be secured.

Higher efficacy 150lm/W

Thanks to the effort of our engineer's trying different combination to achieve a higher efficacy, **Hight temperature** high bay light are designed to reach the limit of energy saving. With the well-chosen LEDs and high performance heat sink, a 150lm/W high efficiency are available.



Gentle beam without dazzling

The optional frosted Polycarbonate veil in domed shape diffuse the dazzling light and shed a gentle beam creating a harmonious lighting environment; while the clear veil guarantees a sufficient illumination without compromising light loss.

Variety of optics

High Temperature highbay light provide high performance optics system with practical light patterns for massive applications, which is ideal to directly replace 150W, 250W and 400W HID in any places. Taking Polycarbonate as materials, varies application scenario such as food factory can be fulfilled with adequate lumen and minimized stray light.

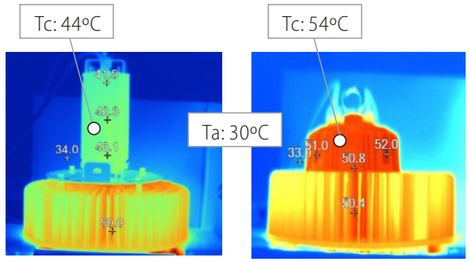
HEAT MANAGEMENT

As per rule-of-thumb, 99% failures of highbay light are caused by drivers. In practical use, even branded drivers could encounter problems due to impropriate design --- mainly inadequate contact between driver and switch box which will lead to the compromise on heat convection. Philips' top notch IP67 driver, featured with outstanding performance of heat management itself, is designed to sit vertically 15mm above heatsink to guarantee the safety distance for heat dissipation.

Remarkable long lifespan (driver)

Ta: 55ºC Tc: 70ºC	Ta: 70ºC Tc: 85ºC
100,000 hours	40,000 hours

Case temperature comparison

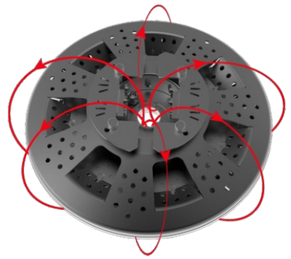


Philips HB driver 150W Mxxxx HBx-165W

Case temperature of Philips driver is 10deg lower than that of Hxxx series from Mxxx tested in the same condition. Proven itself to be a better solution for long time use.

Omnidirectional natural convection

The high performance of **high temperatures** series high bay light is attributable to the omnidirectional nature of air vents all over heat sink . With assistance of those, air streams are able to enter and exit from all directions and convection could bring heats efficiently and fast.



Innovative donut-shape heat sink

As is well-known, the heat dissipation ability of heat sink is surely one of the critical criteria that determine the lifespan of luminaire. The **high temperatures** series heat sink feature the innovative design with a donut-shape hole in center to avoid heat accumulation of driver and LED arrays. Meanwhile, it also permits as much air flow as possible to help with heat transfer.

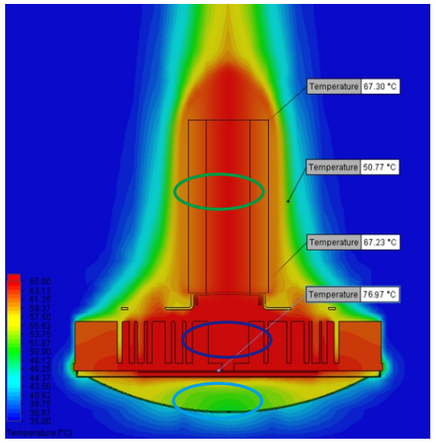
HEAT MANAGEMENT

Thermal test

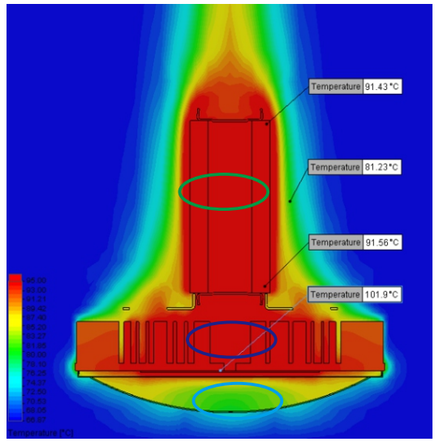
Numerous tests have been carried out in **company** to verify the duration and reliability of lighting fixtures especially industrial lights. Among all tests, the Temperature Raising Test is a crucial segment that could determines if the heat sink performs good enough in heat management to ensure a long lifespan.

As per the Thermal Test of **high temperature** high bay lights, the temperature difference between LED solder pad and heatsink could maintain within 3 degrees even at 70deg ambient temperature. Obviously the patented design of sufficient heat radiating area and air vents all over remarkably helps to extend the service life of LED lamp and driver.

Below are data obtained after the 150W **high temperature** highbay light being lit-on over 4 hours till the temperature stabilized.



Ambient Temperature: 45ºC



Ambient Temperature: 70ºC

	Position	Temperature value	Position
	Driver	66.5ºC	95ºC
	Heat sink	76.9ºC	105ºC
	LED solder pad	80ºC	130ºC

	Position	Temperature value	Position
	Driver	91.5ºC	95ºC
	Heat sink	101.9ºC	105ºC
	LED solder pad	105ºC	130ºC

APPLICATION _ EXHIBITION HALLS

To ensure that all exhibits are shown to their best advantage, neither the room nor the exhibit lighting should interfere with the visual task: There should be no shadows or patterns of light on walls or ceiling. The **high temperature** LED highbay light is designed to equip with glare control domed veil to diffuse the dazzling light and shed a gentle beam which makes sure all the light stripes could be ruled out for exhibition walls.

EN 12464-1 requirement

Ē m	U o	UGR L	Ra
300	0.4	22	80

● 150W **HT** highbay

Luminaire Data

Model name	FK-IL150
Luminous flux (Luminaries)	21480lm
Luminaire wattage	150.9W
Ra	>80
Qty. being used	110pcs

Total energy consumption: 16599W

Luminaire data

● 400W HID light

Luminaire Data

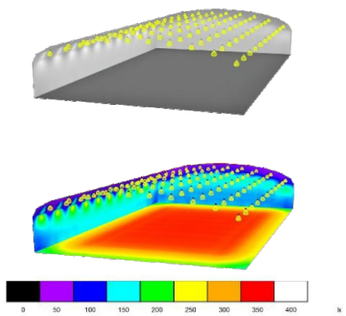
Model name	HPK238
Luminous flux (Luminaries)	22425lm
Luminaire wattage	429W
Ra	>80
Qty. being used	110pcs

Total energy consumption: 42900W

Simulation data

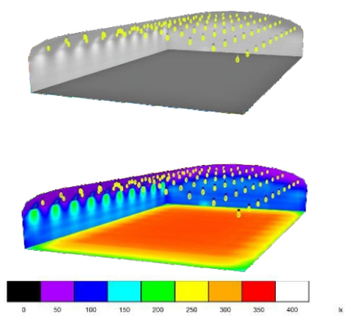
Simulation output

Eav [lx]	305
Emin [lx]	167
Emax [lx]	341
U0	0.548
UGR	22
Emin / emax	0.490



Simulation output

Eav [lx]	299
Emin [lx]	155
Emax [lx]	331
U0	0.518
UGR	22
Emin / emax	0.468



OUTPERFORM TRADITIONAL HID LIGHTING FIXTURES

Gone are the days of dreary looking industrial lights with high maintenance cost and low efficiency, not to mention the massive pollution to our planet. Today our UFO highbay lights featured with cutting edge LED technology pave the way leading to a green, healthy and high productive lighting environment for various applications.

COMPARISON TABLE

	LED High Temperature	HID lighting fixture
Weight	3.5 kg	9 kg
Dimension	D360*H319mm	D480*H650mm
Qty in 40ft container	1200pcs	1000pcs
Maintenance	Every 3 or 4 years	Every 1 or 2 years
Installation time	Less than 7 min	Over 30min
Efficacy	150lm/W standard	70-80lm/W
Lifetime	100000hrs	2 years