12 OSLON® Square HighBay Whites

IHB-OG12-xxxx-SC221-WIR200.

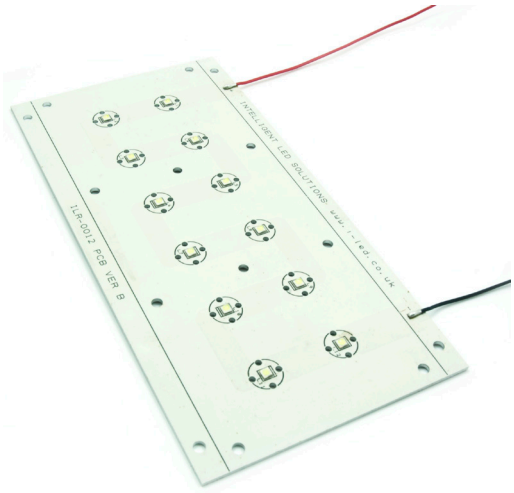
Product Overview

Each HighBay contains 12 OSLON Square LEDs, which can be driven from 100mA-1800mA depending on the colour temperature, while OSRAM's latest power chip technology remains efficient even at the highest drive currents. A low thermal resistance of 7 K/W ensures cool running and a highly efficient product. HighBays are compact, powerful LED light sources built on aluminium substrates for optimal thermal management. Available with 200mm wires as standard.

Colour Combination	Works For
Deep Blue + Hyper Red	Leafy greens such as lettuce and basil
Deep Blue + Hyper Red + Far Red	Leafy greens such as basil and aids in seed germination, stem elongation and leaf expansion
Deep Blue + Hyper Red + Yellow + Green	Flowering plants where biomass is the goal
White	Whites are added when the end application has no daylight, and these products offer the only source of useable wavelengths.

Applications

- Horticultural lighting
- General Lighting
- Decorative Lighting
- Task Lighting
- Retail and Entertainment Lighting
- Flood Lighting



Technical Features

- HighBays contain 12 OSRAM Opto Semiconductor OSLON® Square LEDs with high efficacy
- Up to 50,000 Hour lifetime to 70% of original brightness
- Mounting holes using M3 screws allows easy installation
- Size (L x W x H): 173x87x3.85mm
- HighBays can be linked together to produce longer chains.
- Current range 100mA to 1800mA depending on colour
- A secondary Lens can be fitted – check options in Lens and Reflector section
- Suitable Heasinks available – check options in Heatsink section
- Matching Power Supplies available - check options in Power Supply section
- Suitable Thermal Interface Material available – check options in Thermal Interface Material section

*This datasheet should be read in conjunction with the relevant OSRAM Opto Semiconductors data on the LEDs used

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Important Information and Precautions

- The HighBay's LEDs, when powered up, is very bright. Thus it is advised that you do not look directly at it. Turn the HighBay away from you and do not shine into the eyes of others.
- Do not operate HighBay's with a Power Supply with unlimited current. Connection to constant voltage Power
- Supplies that are not current limited may cause the HighBay to consume current above the specified maximum and cause failure or irreparable damage.
- HighBay's, when operated, can reach high temperatures thus there is risk of injury if they are touched.
- DO NOT HOT PLUG ON LED SIDE OF POWER SUPPLY.
- DO NOT TOUCH or PUSH on the LED as this can cause irreparable damage.

Product Options

IHS Part Number	Dominant Wavelength*	Typical Wattage at 700mA	Forward Voltage at § 700mA	Flux † at 700mA	Radiance Angle	Relevant OSRAM LED Data
IHB-OG12-HW90-SC221-WIR200.	Hot White	2700K	33.6V	2280lm	120° (±60°)	GW CSSRMx.CM
IHB-OG12-WM80-SC221-WIR200.	Warm White	3000K	33.6V	3000lm	120° (±60°)	GW CSSRMx.EM
IHB-OG12-NW80-SC221-WIR200.	Neutral White	4000K	33.6V	3240lm	120° (±60°)	GW CSSRMx.EM
IHB-OG12-SW80-SC221-WIR200.	Street White	5700K	33.6V	3240lm	120° (±60°)	GW CSSRMx.EM
IHB-OG12-UL70-SC221-WIR200.	Ultra White	6500K	33.6V	3720lm	120° (±60°)	GW CSSRMx.PM

*Due to the special conditions of the manufacturing processes of LEDs, the typical data of technical parameters can only reflect statistical figures and do not necessarily correspond to the actual parameters of each single product which could differ from the typical data.
§ Tolerance +/- 10%
† Measured with 20mS 700mA pulse at 85˚c

Micromoles

IHS PART NUMBER	PAR (400-700nm)	Photon Flux (240-790nm)	DIN5031-10 (400-725nm)	McCree (400-700nm)	McCree 300-800nm)
IHB-OG12-HW90-SC221-WIR200.	35.28umol/s	38.64umol/s	23.64YPF umol/s	31.56YPF umol/s	32.16YPF umol/s
IHB-OG12-WM80-SC221-WIR200.	44.28umol/s	47.64umol/s	29.04YPF umol/s	39.48YPF umol/s	40.20YPF umol/s
IHB-OG12-NW80-SC221-WIR200.	46.32umol/s	48.00umol/s	30.24YPF umol/s	40.56YPF umol/s	40.92YPF umol/s
IHB-OG12-SW80-SC221-WIR200.	47.52umol/s	49.68umol/s	31.56YPF umol/s	40.68YPF umol/s	41.04YPF umol/s
IHB-OG12-UL70-SC221-WIR200.	52.92umol/s	54.36umol/s	35.28YPF umol/s	44.64YPF umol/s	45.00YPF umol/s

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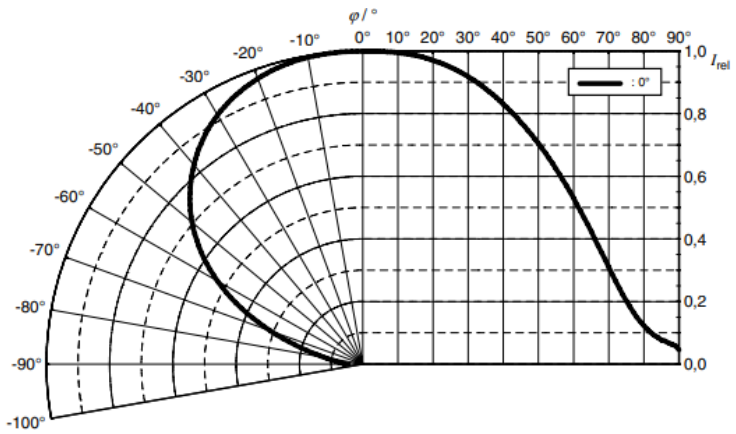
Minimum and Maximum Ratings

IHS Part Number	Operating Temperature at Tc-Point [°C]*	Storage Temperature [°C]*	Maximum Forward Current per chip [mA]*	Reverse Voltage [Vdc]*
IHB-OG12-HW90-SC221-WIR200.	70°C max	- 40 to 110°C	1800mA max	Not designed for reverse voltage
IHB-OG12-WM80-SC221-WIR200.	70°C max	- 40 to 110°C	1800mA max	Not designed for reverse voltage
IHB-OG12-NW80-SC221-WIR200.	70°C max	- 40 to 110°C	1800mA max	Not designed for reverse voltage
IHB-OG12-SW80-SC221-WIR200.	70°C max	- 40 to 110°C	1800mA max	Not designed for reverse voltage
IHB-OG12-UL70-SC221-WIR200.	70°C max	- 40 to 110°C	1800mA max	Not designed for reverse voltage

* Exceeding maximum ratings for operating and storage temperature will reduce expected life time or destroy the LED module. Exceeding maximum ratings for operating voltage will cause hazardous overload and will likely destroy the LED module. The temperature of the LED module must be measured at the Tc-Point according to EN60598-1 in a thermally constant status with a temperature sensor or a temperature sensitive label.

Radiation of single LED



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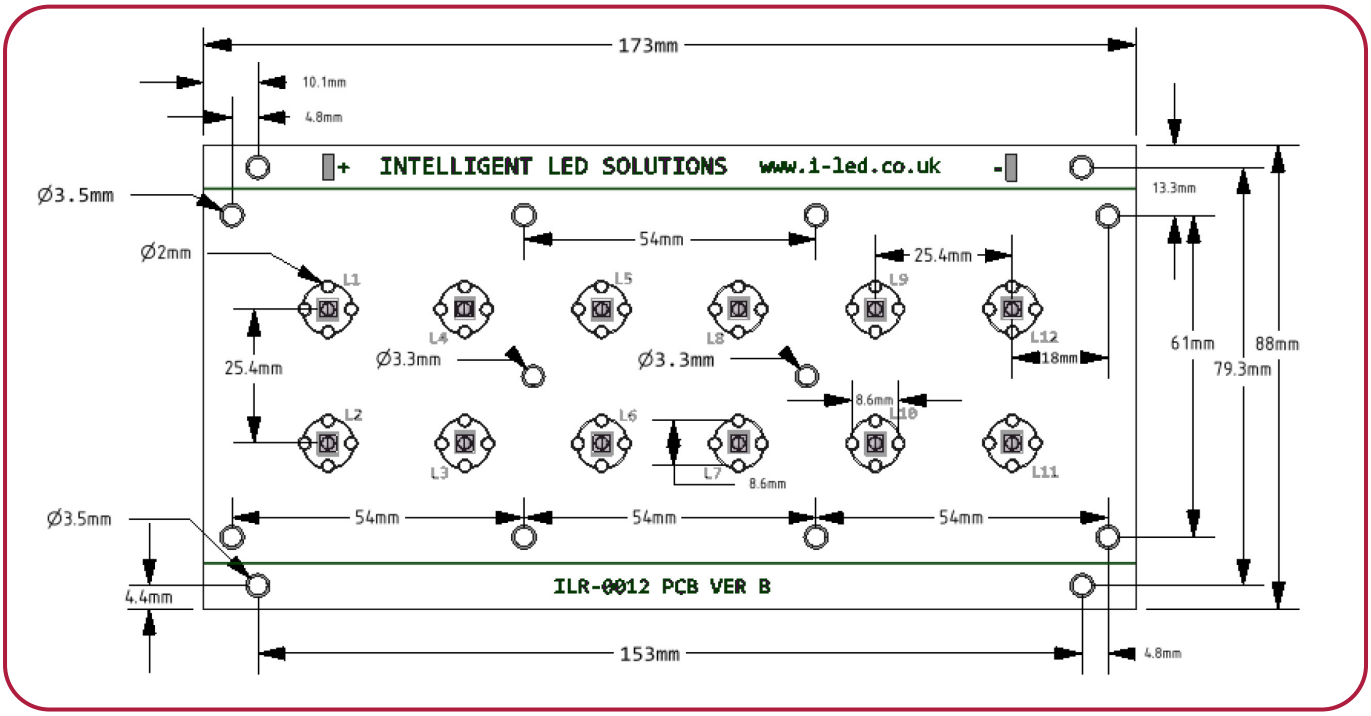
Technical Drawing with Cables (mm)



3D drawing files are available on request from IHS. Please call or email

12 OSLON Square HighBay Lens and Reflector Options

LEDiL precision-engineered Lenses and Reflectors allow for rapid deployment of all types of light fixtures, including street lights, wall-wash, high-bay, sconces, emergency beacons, parking garage/low-bay, MR and AR down lights, and dock lights. Precision engineered for maximum efficiency and durability, LEDiL Lenses and Reflectors are released alongside the latest product releases from our LED suppliers. You select the best LED for the application; choose LEDiL and you're selecting the best optical solution as well.

IHS PART NUMBER	Beam	Size	Height	Family	FWHM	Material	Colour	Fastening
CS14130_HB-IP-2X5-W	Wide	173x71mm	11.4mm	High Bay	60	PMMA	Clear	Pin, Screw
CS14263_HB-IP-2X6-WWW	Wide	173x71mm	11.4mm	High Bay	100	PMMA	Clear	Pin, Screw
CS14597_HB-IP-2X6-O	Oval	173x71mm	11.4mm	High Bay	30+115	PMMA	Clear	Pin, Screw
CS14891_HB-IP-2X6-M	Medium	173x71mm	11.4mm	High Bay	25	PMMA	Clear	Pin, Screw
CS14895_HB-IP-2X6-RS	Spot	173x71mm	11.4mm	High Bay	20	PMMA	Clear	Pin, Screw
CS15445_HB-IP-2X6-WWW-PC	Wide	173x71mm	11.4mm	High Bay	100	PC	Clear	Pin, Screw
CS16188_HB-IP-2X6-O-PC	Oval	173x71mm	11.4mm	High Bay	30+115	PC	Clear	Pin, Screw

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12 OSLON Square HighBay Heatsink Options

IHS has recently introduced a series of Aluminium Alloy Heatsinks to be used with our standard range of PowerStars and PowerClusters. These Heatsinks are supplied with fixing screws for the light engine and for fixing to a base plate. They also come with Thermal Interface Material (TIM) attached to the top surface. More versions will be introduced over the coming months and we are also happy to manufacture custom Heatsinks to your request.

IHS Product	Drive Current	No Heatsink, in free air	ILA-HSINK-84X190X50MM
OSLON 12 HighBay	350mA		
	500mA		
	700mA		
	1050mA		
	1400mA		
	1800mA		

KEY

- Operates under the recommended IHS junction temperature
- Operates under the recommended LED maximum junction temperature
- Not suitable for use
- Heatsink not designed for use with this product

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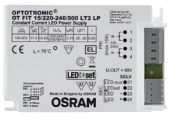
12 OSLON Square HighBay Power Supply Options

IHS has a comprehensive range of standard Power Supplies. The table below shows the total number of IHS products each Power Supply can drive. Additional Power Supplies are being introduced so please call us or check our website for the latest offering.

IHS Driver Part No.	Rating Watts	Current	Output Voltage per LED Driver	
IZC035-008F-5065C-SA	8W	350mA	3-36V	
IZC035-017F-0067A-SA	17W	350mA	6-48V	
IZC035-018T-9500A-SX	18W	350mA	15-52V	
IZC050-018T-9500A-SX	18W	500mA	9-36V	
IZC070-035F-0067C-SA	35W	700mA	9-48V	
IZC045-040A-9266C-SA	40W	450mA	30-89V	
IZC095-040M-9067C-SAL	40W	950mA	25.2-42V	
IZCVAR-040M-9020C-SAL	40W	350mA, 500mA, 600mA, 700mA, 900mA, 1050mA	350mA 2-100V, 500mA 2-80V, 600mA 2-67V, 700mA 2-57V,900mA 2-45V, 1050mA 2-40V	
OTi-DALI-10/220-240/700-NFC	10W	150-700mA	2.5-45V	
OT-FIT-25/220-240/700-LT2-LP	25W	300-700mA	15-50V	
OT-FIT-30/220-240/700-CS-G2	30W	500-700mA	23-42V	
OTE-35/220-240/700-PC	35W	700mA	27-50V	

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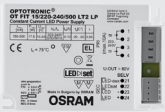
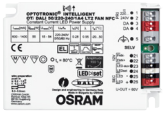
IHS Driver Part No.	Rating Watts	Current	Output Voltage per LED Driver	
OT-FIT-40/220-240/1A0-LT2-LP	40W	500-1050mA	15-50V	
OTi-DALI-50/220...240/1A4-LT2-FAN-NFC	50W	600-1400mA	15-54V	
OT-FIT-55/220-240/1A0-NFC-L	55W	440-1050mA	20-51V	

* Please take notice of the colour temperature, warmer HighBays perform can not be driven at 1000mA please look at Minimum and Maximum tables (page 2)

Thermal Interface Material Options

IHS have produced a range of High-performance, cost effective Thermal Interface Materials to match perfectly their standard products.

Our product fills the air pockets between the two surfaces, forming a continuous layer to conduct heat away from the LED to the Heatsink.

IHS offer our TIM in three options – double sided adhesive, single sided adhesive and non adhesive.

Product	Non Adhesive	Single Sided Adhesive	Double Sided Adhesive
2x6 High Bay	ILA-TIM-HB-173X87MM-0A	ILA-TIM-HB-173X87MM-1A	ILA-TIM-HB-173X87MM-2A

Other sizes are available, including customised parts

Assembly Information

- In order to optimise the thermal management, the metal surface needs to be clean (dirt and oil free) and planar for the best contact with the LED module. A thermal grease or heat transfer material is highly recommended.

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Safety Information

- The LED module itself and all its components must not be mechanically stressed.
- Assembly must not damage or destroy conducting paths on the circuit board.
- The mounting of the module is carried out by attaching it at the mounting holes. Metal mounting screws must be insulated with synthetic washers to prevent circuit board damage and possible short circuiting.
- To avoid mechanical damage to the connecting cables, the boards should be attached securely to the intended substrate. Heavy vibration should be avoided.
- Observe correct polarity!
- Depending on the product, incorrect polarity will lead to emission of red or no light. The module can be destroyed! Pay attention to standard ESD precautions when installing the HighBay.
- The HighBay, as manufactured, have no conformal coating and therefore offer no inherent protection against corrosion.
- Damage by corrosion will not be accepted as a materials defect claim. It is the user's responsibility to provide suitable protection against corrosive agents such as moisture and condensation and other harmful elements.
- For outdoor usage, housing is definitely required to protect the board against environmental influences. The design of the housing must correspond to the IP standards in the application. It is also the responsibility of the user to ensure any housing or modifications keep the Tc junction temperature to within stated ranges.
- To also ease the luminaire/installation approval, electronic control gear for LED or LED modules should carry the CE mark and be ENEC certified. In Europe the declarations of conformity must include the following standards: CE: EC 61374-2-13, EN 55015, IEC 61547 and IEC 61000-3-2 - ENEC: 61374-2-13 and IEC/EN 62384.
- The evaluation of eye safety occurs according to the standard IEC 62471:2006 ("photobiological safety of lamps and lamp systems"). Within the risk grouping system of this CIE standard, the LED specified in this data sheet falls into the class moderate risk" (exposure time 0.25s). Under real circumstances (for exposure time, eye pupils, observation distance), it is assumed that no endangerment to the eye exists from these devices. As a matter of principle, however, it should be mentioned that intense light sources have a high secondary exposure potential due to their blinding effect. As is also true when viewing other bright light sources (e.g. headlights), temporary reduction in visual acuity and afterimages can occur, leading to irritation, annoyance, visual impairment and even accidents, depending on the situation.

For further information please contact IHS

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

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