Hyperion 1750
Greenhouse LED Grow Light

Product Datasheet

CE RoHS compliant IP66

Key Features

- Up to 2000 µmol/s light output
- Up to 45% energy saving
- Up to 3.2 µmol/joule efficiency (spectrum dependent)
- A range of standard & tailor-made spectrums.
- Replaceable components
- Upgradeable PCB (spectrum or efficacy)
- Low shading: 0.1m²/unit. Install directly on trellis
- High water and dust protection. IP68 rated fan, IP67 rated driver, IP66 rated fixture
- Standard 5 year/25,000hr warranty

Key Benefits

- Best ROI with long warranty and user replaceable components/upgradeable PCB, to extend usable lifespan
- One-for-one replacement for existing 1000W HPS fixtures.
- Fewer units required per install than competitor LED fixtures
- Less overall shading than competitor fixtures
- Lower installation costs
- Greater flexibility for lighting design and positioning

Summary Description

Plessey's Hyperion 1750 LED Horticultural Grow light fixture is designed to provide plants with Photosynthetically Active Radiation (PAR). This is achieved by supplementing or replacing natural daylight with an LED generated light spectrum proven to enhance plant growth rates and yields. The product is suitable for large scale commercial greenhouses, hydroponic and research installations.

The fixture is constructed from die cast aluminium with a corrosion resistant white powder coating. The light engine is an array of state of the art LEDs arranged to maximize output and uniformity.

Specification Summary

Value	Data
Input Voltage	200 – 480V AC@ 50/60 Hz
Input Current	1.7 Amps(1)
Power Consumption	470 - 700W
Power Factor	>0.95
Inrush current (Startup)	50A (twidth=1250µS measured @ 50% Ipeak)
Wavelength Range	450 nm to 730 nm
Working Temperature	0° to 35°C
Fixture Temperature	50°C(2)
PPF + NIR	1,500-2000 µmol/s
Efficacy	2.5 – 3.2 µmol/j
Warranty	Up to 5 years/25000 hrs
Fixture Weight	18.95kg(3)

(1) @ 400V AC Input Voltage
(2) @ 25°C Ambient
(3) Based on standard bracket specification. Alternative designs will vary

The values in the table above are provided as typical values, and not a performance claim specific to any individual product. Performance will be dependent on spectrum and customer specific options.

Photosynthetic Photon Flux and connected electrical load are subject to tolerance of +/- 10%. For the purposes of this document Photosynthetic Photon Flux is measured between 380nm – 780nm with each wavelength weighted equally.

The Hyperion 1750 has been tested by an accredited independent laboratory to LM-79-08, (BS) EN 13032-4:2015 and CIE S025:2015 test standards. Information can be supplied upon request.

Standard Spectrums

High Red Spectrum

LED Colour	Wavelength	%
Far Red	730nm	2
Red	660nm	93
Blue	460 nm	5

High Red Hybrid Spectrum

LED Colour	Wavelengtł	%
Red	660 nm	95
Blue	480nm	5

High Red + White

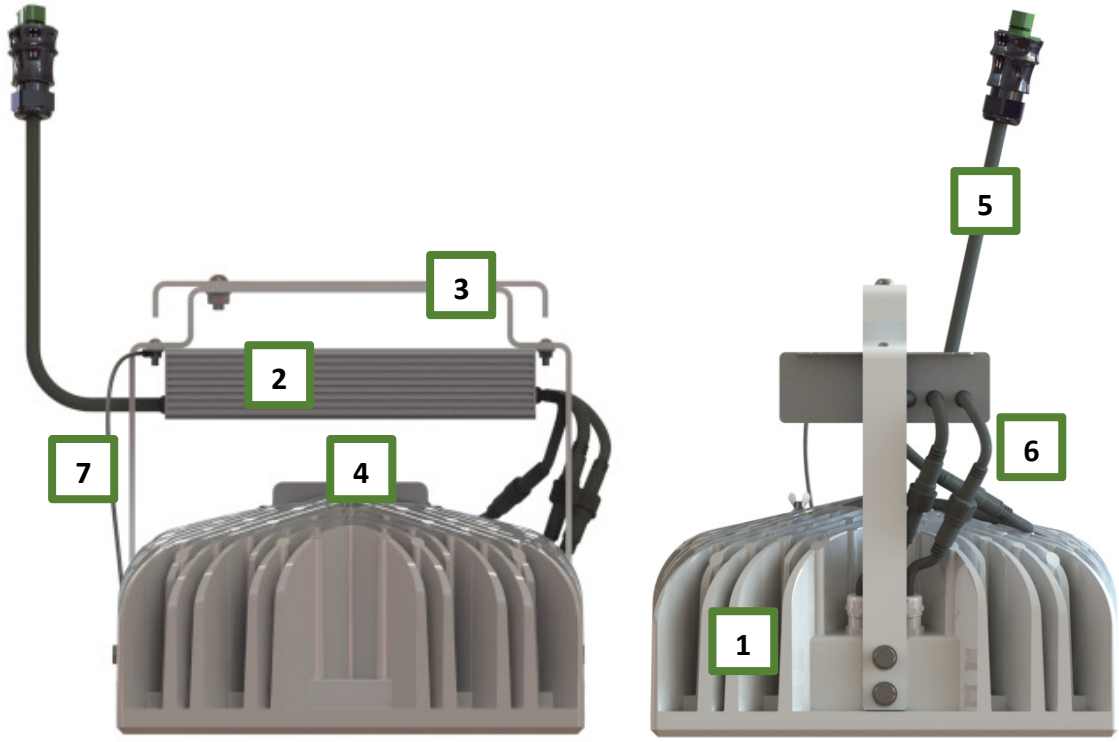
LED Colour	Wavelength	% PPF
Far Red	730nm	2
Red	660nm	88
White	460-730mn	5
Blue	460 nm	5

High Red + High White

LED Colour	Wavelength	% PPF
Far Red	730nm	4
Red	660nm	84
White	460-730mn	10
Blue	460 nm	2

Bespoke spectrums available to order

Fixture Components

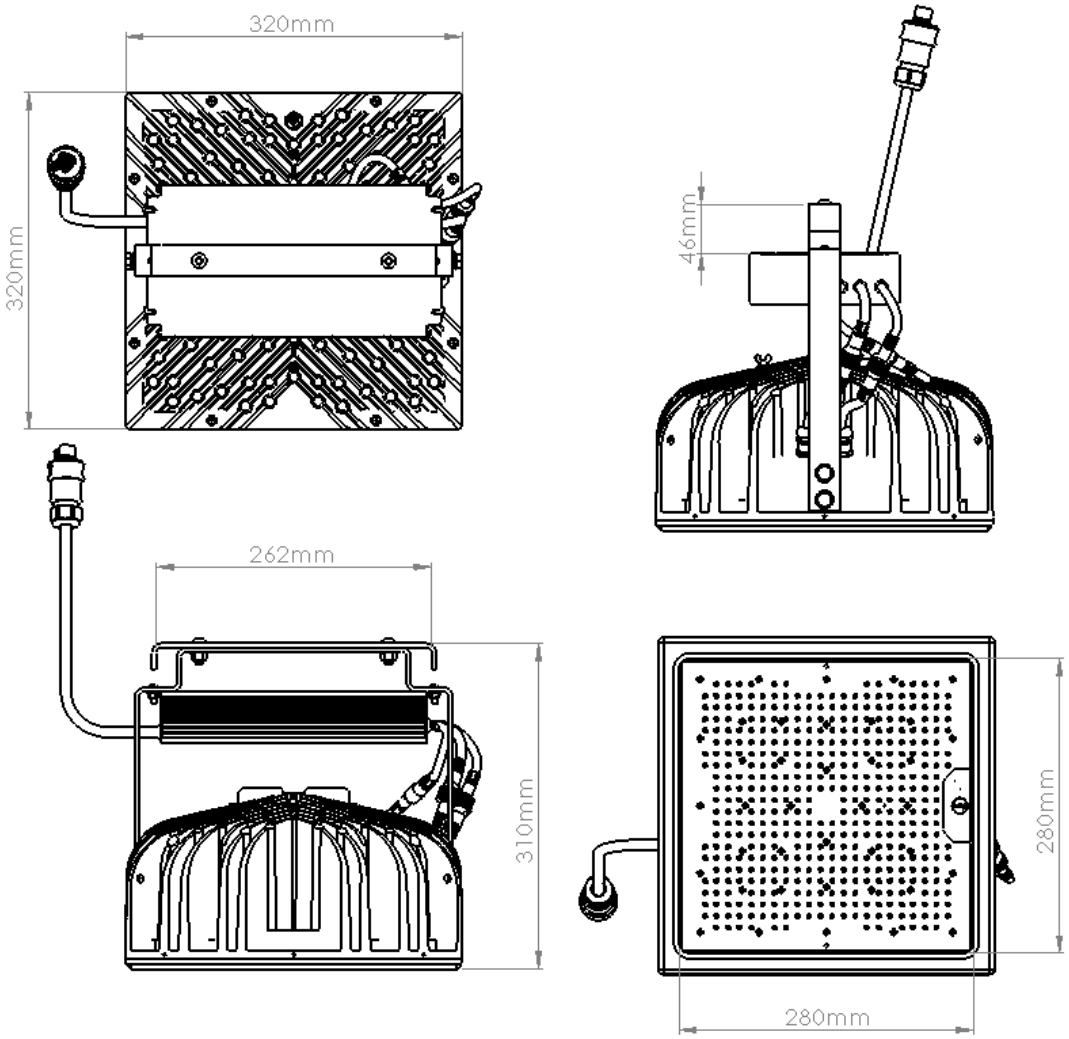


1. Hyperion heatsink and light engine assembly.
2. User replaceable driver assembly.
3. Fixture bracket with mounting hook.
4. User replaceable IP68 rated fan with power cable.
5. Main supply input cable with green or black male Wieland connector. Supply power cables need to be fitted with matching Wieland female connector (green or black).
6. Driver output power, fan supply and control cables. Control cables allow feedback to monitor fan status and dim driver to 1000 µmol/s if fan should fail.
7. Driver earth harness.

Dimensions

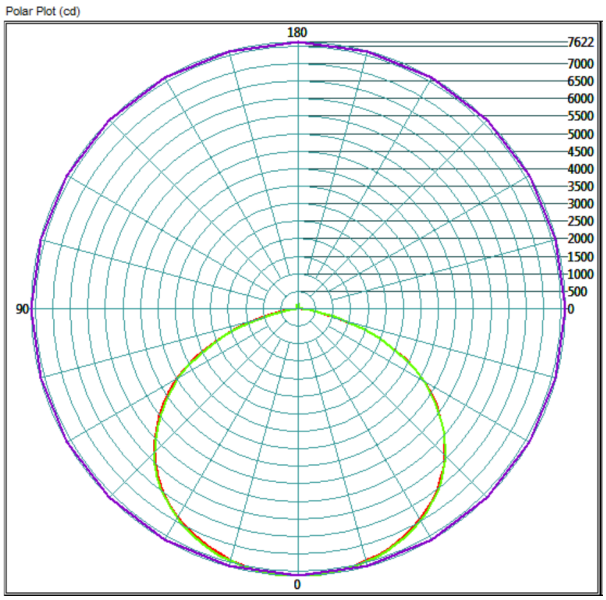
Mounting brackets can be supplied to fit any trellis dimensions and to meet any clearance requirements for greenhouse screens.

Image below outlines standard bracket and fixture dimensions:



Standard mains input cable length 500mm. Alternative lengths can be provided on request.

Polar Light Distribution Plot



Mechanical Installation

The Hyperion fixture is suitable for installing on greenhouse trellis and other fixed surfaces. Check with greenhouse installers and engineers that the integrity of the structure can withstand the overall and point load brought to bear by the installation of this fixture (for specific information please refer to user manual).

Plessey engineers can design a suitable hanging bracket to suit any trellis/screen requirements within the customer's greenhouse. The image below shows a typical hanging strap arrangement suitable for use with rectangular section trellis profiles:

Electrical Installation

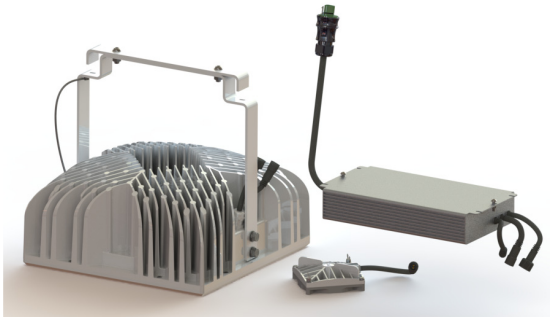
The Hyperion grow light is supplied with an external driver which is mounted on the hanging bracket supplied with the fixture. The fixture has been optimized to run on a two phase input from a 3 phase 400V supply. However, the product can operate within a wide range of supply voltages.

The fixture is prewired with a Wieland male connector for attaching to the greenhouse lighting supply wiring as per the customers requirement. See image opposite. For new Installations Plessey recommends the Wieland (Green) 96.032.4055.7. For HPS replacement a Wieland (Black) 96.032.4053.1 maybe more suitable.

The greenhouse lighting supply wiring should be terminated with the corresponding connector which is Wieland RST20i3 400v 3 pole female connector (green) to plug into the driver. Wieland part no. 96.031.4055.7 or 96.031.4053.1 if using the Wieland (Black) connector system. See image opposite.

Fan/Driver replacement

The Hyperion's fan and driver units are easily user replaceable in the event of failure.



Should the fan fail, the temperature change in the PCB will be detected and the driver automatically dimmed to 1000 µmol/s. The change in brightness of the unit will indicate that the fan needs replacement.

Replacement fan units can be supplied with each order.

Driver failure can manifest itself in a number of ways. Refer to the Hyperion User Manual for fault diagnosis to determine if driver replacement is required.

⚠ Safety ⚠

The Hyperion fixture does not radiate harmful wavelengths of light but like many high power artificial lights, users should not look directly at the fixture whilst the light is on.

Care must be taken when assembling, fitting or handling to prevent personal injury or damage to the product. This light fitting must be installed by a competent person in accordance with the local Building and Electrical Regulations

Plessey cannot accept any liability for loss, damage or premature failure resulting from inappropriate use. Plessey can advise on installation requirements including how to achieve the desired amount of light and uniformity.

Maintaining Warranty

In order to maintain the product warranty, the following information must be observed. Please refer to Hyperion Grow Lights Warranty Document and User Manual.

Cleaning / Maintenance

- Depending on environment dust can collect in the metal heatsinks and fan over a period of time. This should be removed periodically by a low pressure air / water jet, appropriate PPE should be worn.
- It is recommended that the lenses be cleaned every 3 months. Lenses can be wiped clean with a damp cloth or hosed down. The unit should not be submerged.
- This fixture has a user replaceable fan and driver. If you experience a failure or problem with any other part of your product please contact Plessey Customer Service for Assistance.

Important Information

- The Ingress Protection of any termination performed by the client must preserve the ingress protection of the fixture in order to maintain product warranty.
- It is important in large installations that the pairs of phases are swapped and evenly distributed throughout the installation to avoid overloading one phase of the supply.
- Once installed and connected to the fixed wring system the product can be switched on with no further commissioning.

Disposal

When the light fitting comes to the end of its life please do not dispose of it within the general waste, please recycle where facilities exist. When you need to dispose of this fitting, check with your distributor or local authority for suitable options. New regulations require the recycling of Waste from Electrical and Electronic Equipment (European “WEEE Directive” effective August 2005—UK WEEE Regulations effective 2nd January 2007). Environment Agency Registered Producer: WEE/MM3672AA.

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