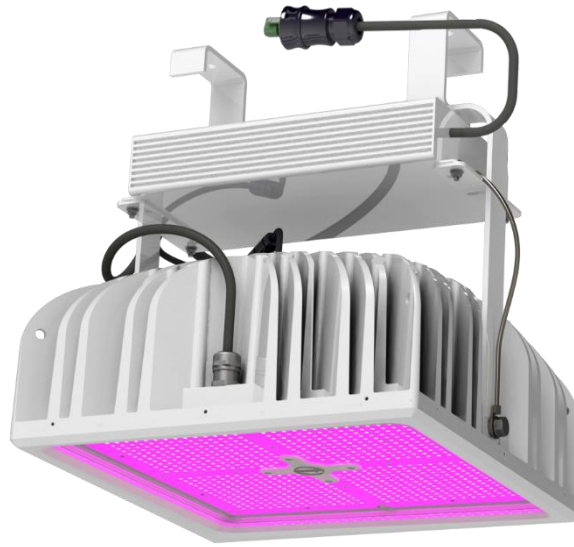


Hyperion 1750

Greenhouse LED Grow Light

Advanced Product Datasheet



Key Features

- Up to 1750 $\mu\text{mol/s}$ light output. Equivalent to 1000w HPS grow lights.
- Up to 40% energy saving.
- Up to 2.6 $\mu\text{mol/joule}$ efficiency (spectrum dependent).
- A range of standard & tailor-made spectrums.
- Low shading: 0.1024m²/unit. Install on trellis.
- 130° beam angle.
- IP68 rated fan (dust tight and prolonged immersion). User replaceable.
- Unit continues to operate at 1000 $\mu\text{mol/s}$ in unlikely event of fan failure.
- IP66 rated fixture & driver (power wash).
- 5 year/25,000hr warranty.

Key Benefits

- Fewer units per install than competitor LED fixtures.
- Less overall shading than competitor fixtures.
- Lower installation costs.
- Greater flexibility for lighting design and positioning.
- Even light distribution possible between 5m poles.
- Better ROI than competitors with long warranty on fixture and components.

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 greenhouse replacement, hydroponic and research installations.

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

Summary Data

| Value | Data |
|---------------------|-------------------------|
| Input Voltage | 400 - 440v AC@ 50/60 Hz |
| Power Consumption | 680 - 700W |
| Power Factor | 0.95 |
| Amps | c1.66 Amps |
| Inrush current | 50A @ 1100µS |
| Wavelength Range | 450 nm to 730 nm |
| Working Temperature | -20° to 30°C |
| Tcase (Max) | 70°C |
| PPF | >1,650 µmol/s @ 25°C |
| Efficacy | 2.4 – 2.6 µmol/joule |
| Warranty | Up to 5 years/25000 hrs |
| Fixture Weight | 19.7kg |

Standard Spectrums

| High Red Spectrum 2.6 µmol/joule | | | High Red + White 2.5 µmol/joule | | |
|-------------------------------------|------------|-----|------------------------------------|------------|-----|
| LED Colour | Wavelength | % | LED Colour | Wavelength | % |
| Far Red | 730nm | 1.5 | Far Red | 730nm | 1.5 |
| Red | 660nm | 94 | Red | 660nm | 93 |
| Blue | 460nm | 4.5 | Blue | 460nm | 2 |
| | | | White | 460-730nm | 3.5 |

Bespoke spectrums available to order

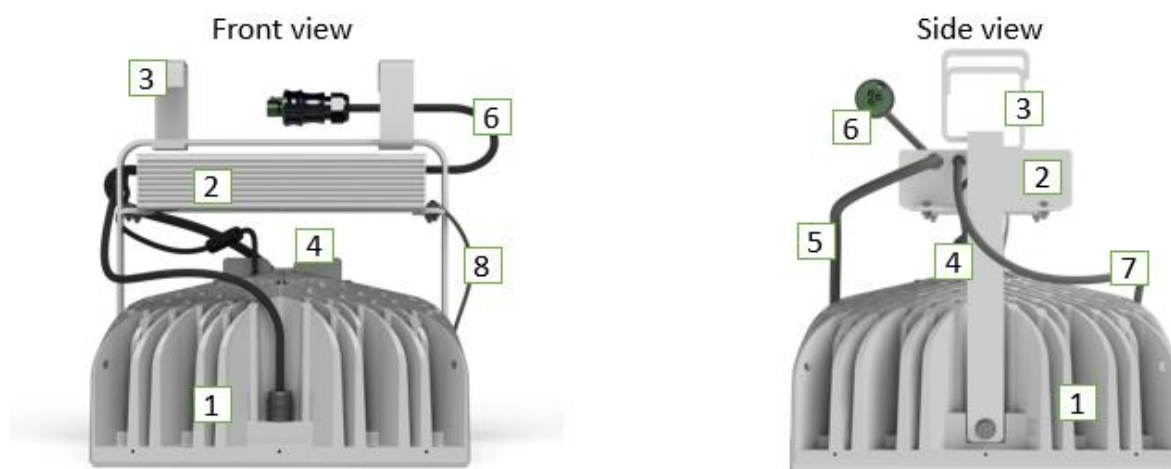
Product Labelling / Compliance

CE, UL (Pending), RoHS, IP68, IP66.

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 it is on.

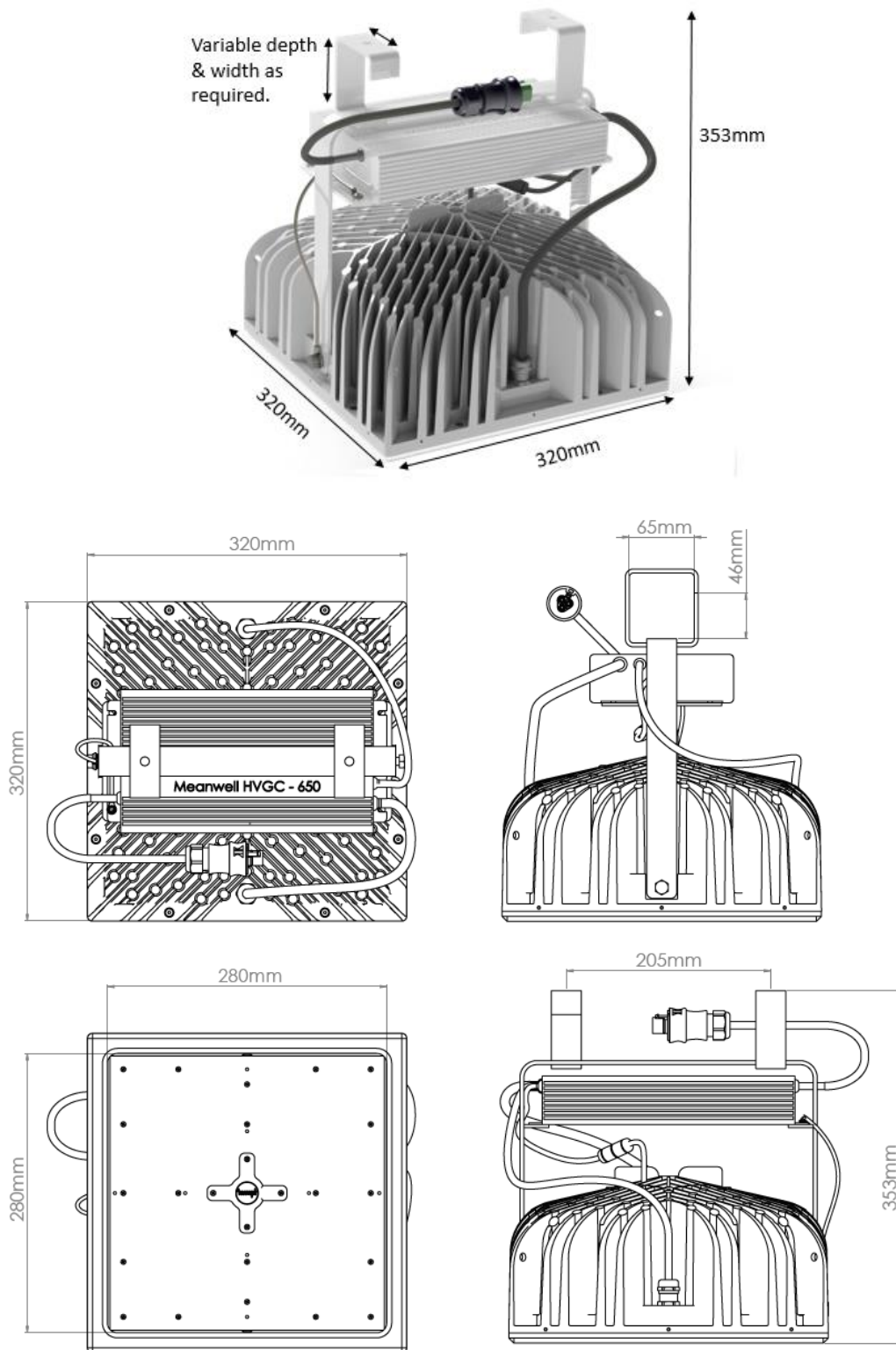
Fixture Components



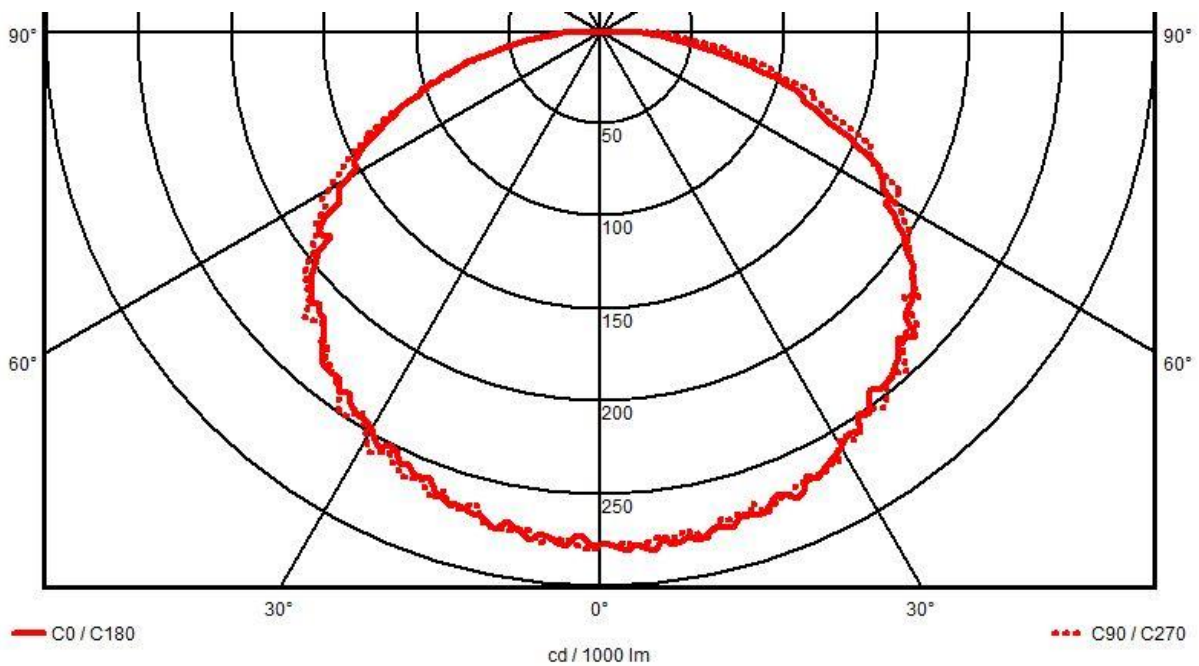
1. Hyperion fixture/lamp
2. Driver assembly mounted on mounting hook
3. Fixture bracket arm with mounting hook
4. User replaceable IP68 rated fan with power cable
5. Fixture to driver cable
6. Power input cable with male Wieland plug. Power supply cables need to be fitted with matching Wieland RST2013 400v 3 pole female connector (green). Wieland part no. 96.031.4055.7
7. Control cable to monitor fan status and dim driver to 1000 $\mu\text{mol/s}$ if fan fails
8. Driver earth cable

Dimensions

Mounting brackets can be supplied to fit any trellis dimensions and requirements for space between the driver and any greenhouse screens.



Radiation Plot – 130 Degree beam angle



Reflector

As an option, Hyperion can be fitted with a reflector on any of the 4 sides of the unit.

The reflector can be attached to units at the edges of an installation to reflect the light back into the main lit area, avoiding light spilling outside the glasshouse or into a different compartment/area. This helps maintain light uniformity over the whole lit area

Fig 1. Reflector technical drawing with dimensions and position of fixing screws (x3)

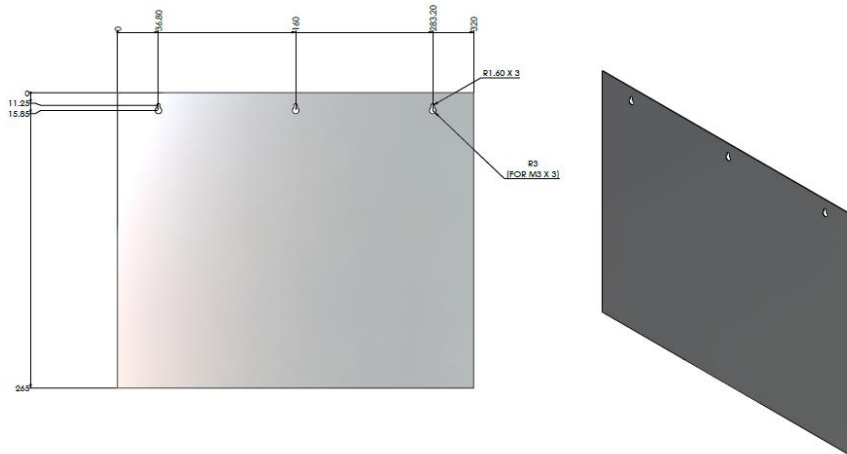
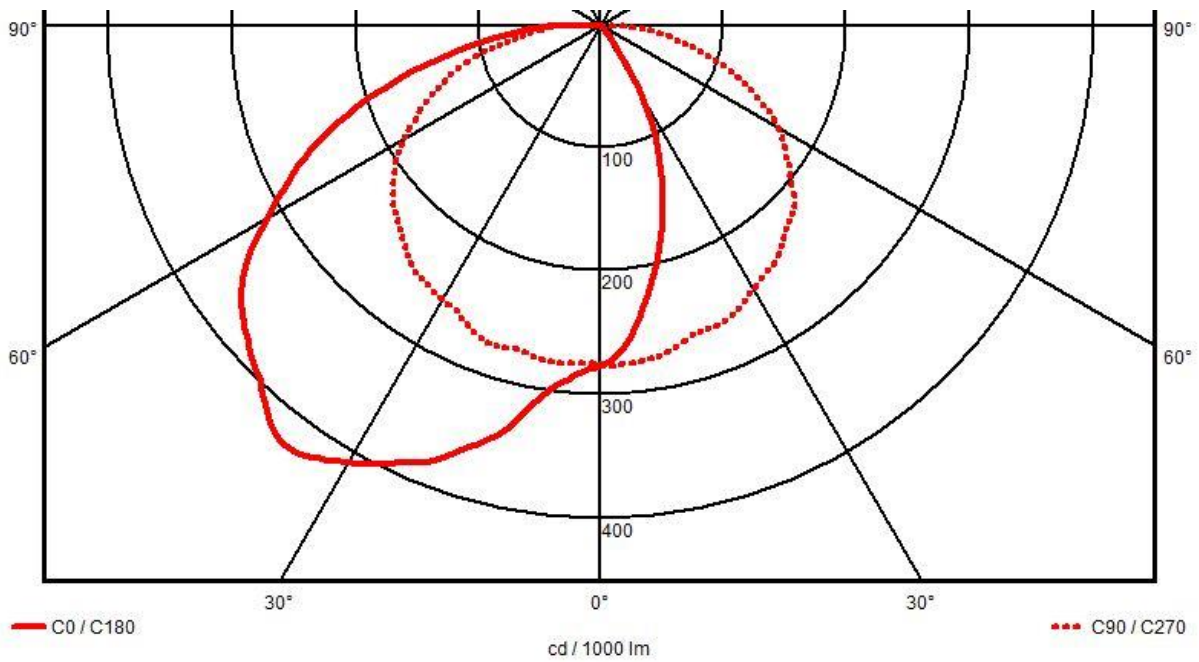


Fig 2. Light distribution curve (LDC) diagram for Hyperion with and without reflector



Order Codes

| Order Item | Spectrum | Description | Order Code |
|------------------|------------------|---|-----------------|
| Hyperion fixture | High Red | Fixture plus bracket with 415v driver | PHH24S5700A |
| | High Red + white | Fixture plus bracket with 415v driver | PHH64S5700A |
| | Bespoke | Fixture plus bracket with 415v driver | Contact Plessey |
| Reflector | All | For light uniformity at installation edge | HYPREFLECTOR |
| Fan | All | Replacement fan assembly | HYPFAN |

Mechanical Installation

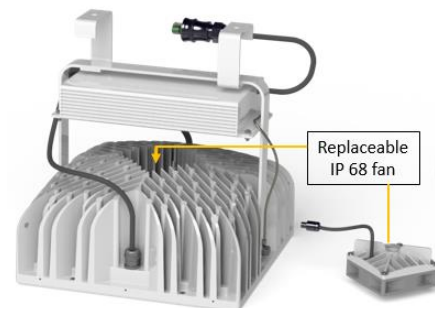
The Hyperion fixture is suitable for installing on greenhouse trellis and other fixed surfaces. Check with greenhouse installers and engineers that the integrity of the structure can withstand the overall and point load brought to bear by the installation of this fixture.

The standard bracket assembly is designed to drop and locate onto 60mm trellis cross sections. If the installation structure is different or has obstacles such as energy/ light screens then customized solutions are available.

Fan replacement

The Hyperion's fan unit is 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 $\mu\text{mol/s}$. The change in brightness of the unit will indicate that the fan needs replacement.

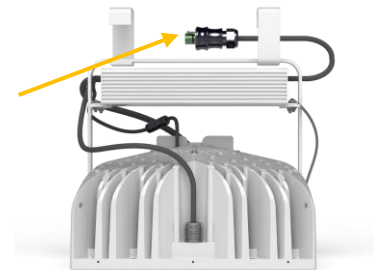


Replacement fan units can be supplied with each order. To replace a fan, simply turn off the fixture and isolate the supply. Firmly pull on the tabs forming part of the fan guard and the fan unit will release from the heatsink body. Work the fan clear of the heatsink and release the connector. Installation of a replacement fan is a reverse of the above procedure.

Electrical Installation

The Hyperion grow light is supplied with an external driver which is mounted on the hanging bracket supplied with the fixture. The driver requires a two phase input from a 3 phase 415V supply.

The fixture is prewired with a Wieland male connector for attaching to the greenhouse lighting supply wiring. See image opposite.



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. See image opposite.



For new build large installations, it is recommended that a pluggable wiring system is pre-installed. Pre-made lengths of power cable with a female connector are available. Wieland part number 96.232.1035.7 through to 96.232.8035.7 (8x variants from 1m to 8m) See image opposite for an example of a pre-made cable.



Plessey can assist installers with cabling determinations and supply requirements.

⚠ 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.

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 only a replacement fan and driver. If you experience a failure or problem with 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 wiring 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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