Introduction

The comprehensive range of Hella marine Deck Floodlights represents superior technology, high performance and durability.

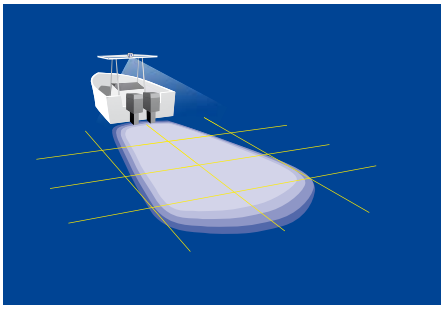
Features include advanced lens and reflector designs for homogeneous light output, stainless steel mounting components and impact resistant housings for reliable operation at sea.

Reflector systems used in Hella marine Deck Floodlights

The Paraboloid Deck Floodlights

A conventional deck floodlight has a light reflector in the mathematically defined shape of a paraboloid. The reflector captures the light of the bulb and reflects it initially focused parallel in the form of far-reaching pencil beam pattern. The specific light distribution pattern is then produced by the optical lenses and prisms in the profiled cover lens to achieve a precise distribution pattern.

Paraboloid reflector with profiled cover lens

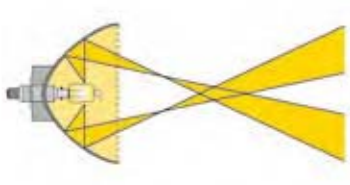


Modern FF (Free Form) Deck Floodlights

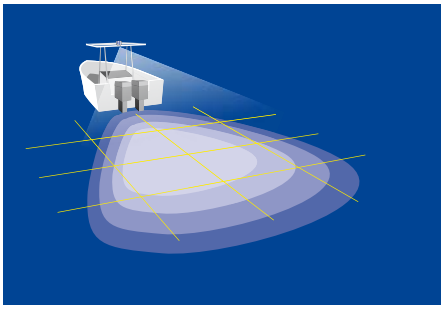
In contrast to the paraboloid based technology, the task of the cover lens of distributing the light is integrated into the surface of the reflector which is shaped as a Free Form. The computer-calculated FF reflector produces the required beam pattern. The optical pattern still present in the cover lens enhances the uniformity of the light beam.

Advantages of FF technology:

- Small FF reflectors capture more light from the bulb and achieve a large working area.
- Much larger beam scattering can be realised for extremely wide beam patterns.
- The more homogeneous illumination means more pleasant working light with soft transitions at the edges without harsh contrasts.



Free Form reflector



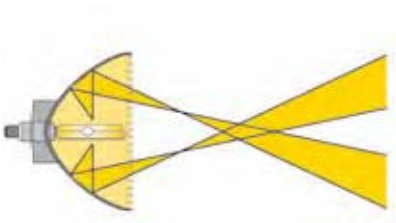
Introduction

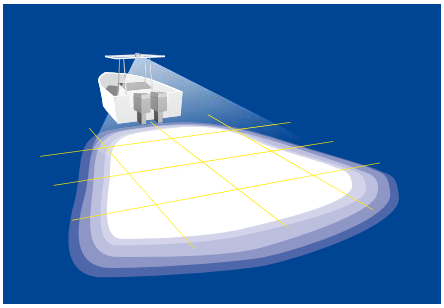
Xenon Gas Discharge (HID) Technology

HID Deck Floodlights differ from traditional bulb versions in that, instead of light being created by passing current through a filament to make it glow, light is created by an arc in a tube filled with a mixture of xenon gas and metal salts. The light arc is shock proof as there is no filament to break.
A compact 12V or 24V DC electronic ballast is used to ignite the HID bulb and provide constant levels of light output, even if the vessel's voltage supply fluctuates by up to 10%.

The advantages of using Xenon Gas Discharge (HID) deck floodlights in comparison to halogen versions include:

- 2.5 times the luminous flux (light output) and 35% less power consumption.
- Increased luminance results in a brighter and larger illumination of working areas.
- Light spectrum is similar to daylight – for natural colour reproduction of the environment.
- Vibration resistant light arc instead of a fragile filament.
- Service life up to five times longer – reduced expenditure for bulb replacement.
- Constant brightness – independent of fluctuations of up to 10% in the supply voltage.
- Only 42W power consumption – less strain on the vessel's power supply.





Free Form reflector with Gas Dischage (HID)

Important information concerning mounting and operation of Xenon Gas Discharge (HID) technology.

- HID deck floodlights are supplied with a wiring harness, relay and fuse. The startup current of 20A (for 12V) or 10A (for 24V) requires a relay under all circumstances. A 20A fuse is required for 12V systems, a 15A fuse for 24V systems.
- Complete the electrical connection only with wiring harness supplied. When extending the wiring harness, sufficient cross section must be ensured. The internal resistance of the electrical connection (including relay, fuse and earth lead) between ballast and battery, must not exceed 150Ω (for 12V) or 300Ω (for 24V) under all circumstances. If the resistance is higher, the current of 20A (for 12V) or 10A (for 24V) required for ignition of the light arc cannot be reached. Inefficient ignition use can cause damage to the electronic ballast.
- Ignition problems can occur when a number of Xenon lamps are started simultaneously. This can result in damage to the electronic ballasts. For this reason it is strongly recommended to activate the lamps sequentially with a short time delay of approximately 5-20 seconds depending on the vessels electrical system.