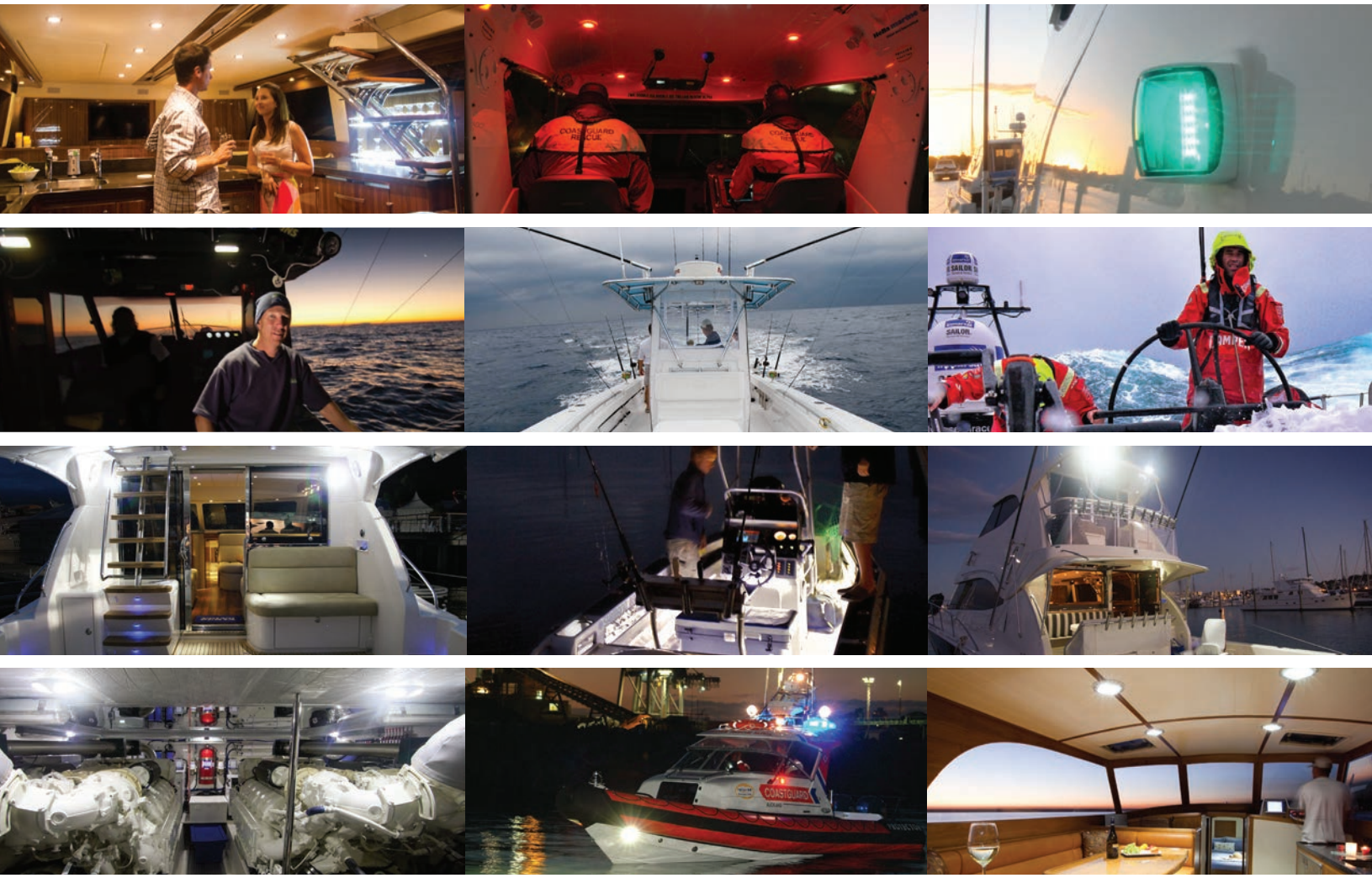
Hella marine

Vision and Innovation

USA Product Catalog

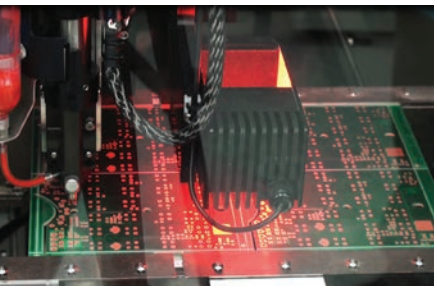


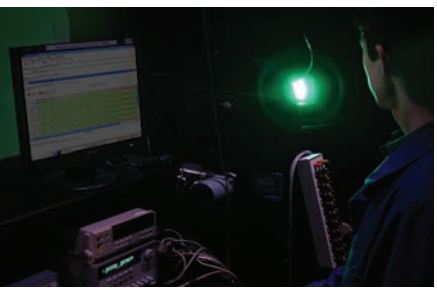
World leading LED technology. Power saving and ultra durable.

www.hellamarine.com

Vision and Innovation

Hella marine, Auckland, New Zealand.





Welcome to the Hella marine catalogue, your complete guide to advanced lighting solutions engineered for energy efficiency, safety and reliability.

Founded in 1925 by HELLA in Lippstadt, Germany, Hella marine is now headquartered in Auckland, New Zealand, a country with a rich maritime history, world class boat building and yacht racing success.

Combining this passion for the ocean with decades of LED product design expertise, Hella marine lamps are 'Fit and Forget' by design, offering complete peace of mind and enduring Safety at Sea.

Through ongoing R&D, innovative design and use of high quality materials Hella marine continues to set benchmarks for extremely reliable and highly efficient products.

Today Hella marine is a globally recognized and trusted brand with LED navigation and high performance lighting systems available in over 60 countries through the global HELLA network and specialist marine distributors.

ISO 9001
BUREAU VERITAS
Certification
Nº 201297

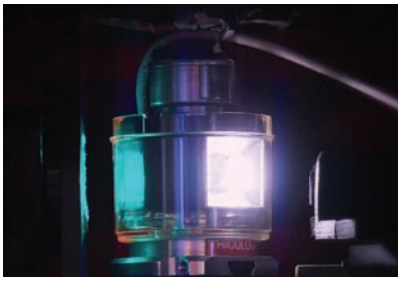
Hella marine is certified to the international quality standard ISO 9001:2008 for:

'The Design and Manufacture of Marine Navigation Lighting, General Lighting, LED Based Lighting and Associated Electronic Control Units.
The Design and Manufacture of Automotive Lighting and Signalling Equipment, General Lighting, Optical Products and Plastic Components.'

The Hella marine Advantage

At sea, power is often a scarce resource. Highly efficient and durable LED lighting has a substantial role to play in conserving energy and enhancing a vessel without sacrificing functionality or compromising safety.

Our vision is to provide world leading products that set benchmarks for quality, reliability, safety and energy efficiency while satisfying customer expectations for outstanding service and support. Hella marine 'Fit and Forget' LED lighting is firmly established as the solution of choice that meets long term reliability and economic considerations for astute owners and operators.

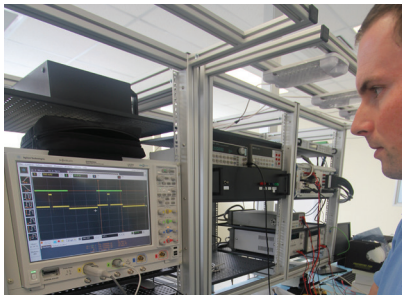


Class Leading Efficiency

Combining efficient LED sources with advanced optic technology, Hella marine LED products deliver more light output per watt than incandescent based lamps with significant energy savings.
Ultra low heat signatures reduce heat onboard and prevent damage to surrounding materials.

IP 67 - Completely Sealed

Preventing moisture from corroding internal LED electronics is vital for long term durability in the harsh marine environment.
Hella marine products are completely sealed and purpose designed for interior or exterior use, wet or dry.

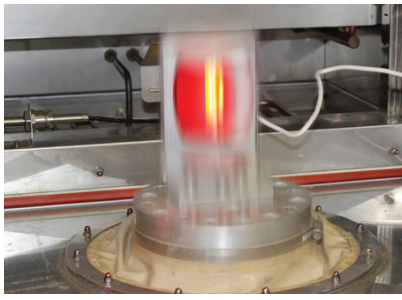


Heavy Duty Grilamid Lens

Many Hella marine LED products utilise Grilamid, a high performance polyamide manufactured in Switzerland, as a heavy duty lens material. Grilamid is a revolutionary transparent plastic with exceptionally high impact strength and resistance to UV and chemical damage.

Electromagnetic Compatibility (EMC)

All Hella marine products are designed to suppress electromagnetic interference, complying with the emission and immunity limits prescribed in international standards.
This protects the radio, communication, navigation and other electrical equipment onboard from possible interference with our products.



Outstanding UV and Impact Resistance

Hella marine lamps utilise advanced impact resistant polymers that will not yellow or deteriorate in the harsh marine environment.

5 Year Warranty

All Hella marine LED based lighting products carry a Five Year Warranty providing peace of mind that the product will stand the test of time.
For more information visit: http://www.hellamarine.com/en/about/warranty/

5 Year LED Warranty

Warranty - Standing behind the product

Hella marine LED based lighting products carry a Five-Year Warranty from end user purchase covering faults in materials, components or workmanship, with the exceptions as stated below:

Hella marine NaviLED TRIO Tri Color LED navigation lamps carry a Seven-Year Warranty

Hella marine HID (Xenon) and Halogen based Deck Floodlights carry a One-Year Warranty.

Hella marine bulb based interior and exterior lamps and products listed in the accessories section of this catalogue carry a One-Year Warranty.

In the unlikely event that you should experience a confirmed warranty related problem with your purchase, Hella marine will, at its discretion, either repair, replace or refund the purchase price of the product.

Warranty services may be obtained by returning the product within the warranty period to the Hella dealer where the product was originally purchased.

This warranty is in addition to and does not preclude any other rights or remedies available to the consumer under any local legislation related to the provision of goods or services.

This warranty does not cover:

1. Claim/s as a result of normal wear and tear or of any modifications and / or alterations to the product in any shape or form.
2. Claim/s as a result of non-compliance of the assembly, service and operating instructions and/or any unfit or improper use.
3. Any expenses incurred in the process of making the claim.

Contents

IP Degrees of Protection Definition

IP stands for Ingress Protection, the IP degrees of protection are determined by DIN 40050 part 9.
This standard exists to specify the exact protection of electrical equipment against penetration by solid foreign matter, including dust and water. The exact degree of protection is achieved by various tests.

E.g.; The IP rating of the 8517 series deck floodlight is listed as IP 6K 9K.
This means dust tight and protected from high pressure cleaning.

IP 6K 9K

First numeral
– Protection against the ingress of solid foreign objects (table 1)

Second numeral
– Protection against the ingress of water (table 2)

Table 1:
Protection against the ingress of solid foreign objects (including dust)

X.....	not tested
0.....	not protected
1.....	solid foreign objects ∅ ≥ 50 mm
2.....	solid foreign objects ∅ ≥ 12.5 mm
3.....	solid foreign objects ∅ ≥ 2.5 mm
4.....	solid foreign objects ∅ ≥ 1.0 mm
5 and 5K.....	dust protected
6 and 6K.....	dust tight

Table 2:
Protection against the ingress of water

X.....	not tested
0.....	not protected
1.....	vertical dripping
2.....	dripping (inclined 15°)
3.....	spraying
4.....	splashing
4K.....	same with increased pressure
5.....	jetting
6.....	powerful jetting
6K.....	same at increased pressure
7.....	temporary immersion
8.....	continuous immersion
9K.....	high pressure/steam jet cleaning

Navigation Lamp Requirements and Technology

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International Standards

Hella marine navigation lamps comply with the International Regulations for Prevention of Collisions at Sea (IMO COLREG 72).

This IMO compliance, together with supplementary national or regional requirements, is listed with each navigation lamp series throughout the catalogue.

Approval types:

IMO COL REG 72

Complies with IMO (International Maritime Organization) requirements under the International Regulations for the Prevention of Collisions at Sea. (IMO COLREG 72) IMO COLREG 72 forms the international basis for legal navigation lighting on vessels.

Approved under the Marine Equipment Directive (MED) 96/98/EC last modified by directive 2008/67/EC for use throughout Europe in all EC member states for both pleasure and commercial vessels.

RCD

Suitable for vessels compliant with RCD (Recreational Crafts and Personal Watercraft Directive) 2013/53/EU. RCD promotes a single set of EU safety and technical requirements for new recreational vessels less than 24m in length within the European Community.

USCG

Complies with USCG (United States Coast Guard) requirements.
Lamps carry a marking for minimum visible distance in nautical miles, e.g. USCG 2 NM.

ABYC A-16

Complies with ABYC (American Boat and Yacht Council) Navigation Lamp Standard A-16.

Certifying bodies:

BSH

Approved by the German BSH (Bundesamt für Seeschifffahrt und Hydrographie) and carry BSH type approval numbers.
BSH was formerly called DHI (Deutsches Hydrographisches Institut).

RINA

Approved by the Italian RINA (Registro Italiano Navale) authority.

Lamps requirements by vessel length

For vessels less than 50 meters in length overall, IMO COLREG 72 describes the following minimum visible distances for navigation lamps.
Supplementary national or regional requirements approvals may also apply.

Vessels 0-12 meters / 0-40 feet in length:

White, Red, Green All Round lamps	2 NM
Masthead lamp,	2 NM
Port and Starboard lamps,	1 NM
Stern lamp,	2 NM
Tri Color lamp, (Sailing vessels under sail only)	2 NM

Vessels 12-20 meters / 40-65 feet in length:

White, Red, Green All Round lamps,	2 NM
Masthead lamp,	3 NM
Port and Starboard lamps,	2 NM
Stern lamp,	2 NM
Tri Color lamp, (Sailing vessels under sail only)	2 NM

Vessels 20-50 meters / 65-150 feet in length:

White, Red, Green All Round lamps,	2 NM
Masthead lamp,	5 NM
Port and Starboard lamps,	2 NM
Stern lamp,	2 NM

Wheelmark Approval

The Wheelmark for navigation lights symbolises conformity with the Marine Equipment Directive (MED) 96/98/EC, which calls upon IMO COLREG 1972 and the norms EN 14744 (European standard for navigation lights on inland and sea-going vessels) and EN 60945 (Maritime navigation and radiocommunication equipment and systems).

Wheelmark certified Hella marine LED navigation lamps are approved throughout Europe in all EC member states for both pleasure and commercial vessels.

Wheelmark approvals replace the previously required certificates of the national authorities with the aim of ensuring that the equipment meets a common standard of safety and performance valid in every member state of the EU.

A predominant safety requirement of EN 14744 for LED navigation lights is the monitoring and control of light output deviations caused by service life conditions. The Hella marine solutions are

Either; Sophisticated self control and diagnostic electronics integrated into the navigation lamp. The electronics check and measure each lamp ensuring light intensity, and consequently the lamp's visibility performance, permanently correspond to the visibility requirements of the norm for ongoing safety and reliability at sea.

Or: An integrated electronic timer recording the operating hours of a lamp. The timer will indicate 'service mode' by flashing the lamp once thousands of hours of operation have been reached.

The MED certification of Hella marine lamps can be recognized by the symbol of a ship's wheel (Wheelmark) engraved onto the top section of the shroud, and also onto the top section of the lens.

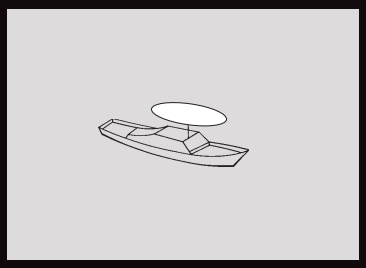
The MED lists statutory equipment carried and used on ships which are registered under the flags of the European Union member states which have to meet the international conventions developed by the International Maritime Organisation (IMO).

IMO COLREG 72 Lights and Visibility - Powerboats

IMO COLREG requirements for navigation lighting on powerboats less than 50m LOA (Length Overall).

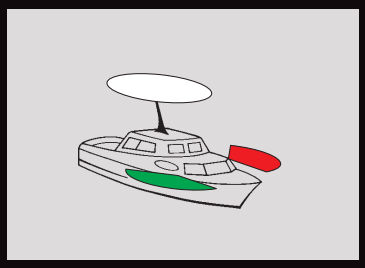
Note - Sailboats under motor adopt the rules for Powerboats.

Powerboats up to 7m. Max 7 knots



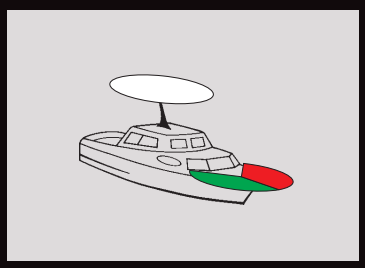
1 All Round White lamp

Powerboats up to 12m where Masthead and Stern lamps cannot be mounted



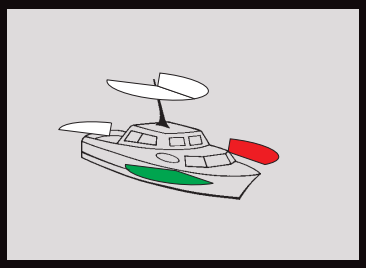
1 All Round White lamp
1 Port lamp
1 Starboard lamp

Powerboats up to 12m where Masthead and Stern lamps cannot be mounted



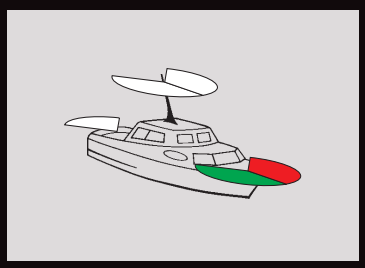
1 All Round White lamp
1 Bi-Color lamp

Powerboats up to 20m



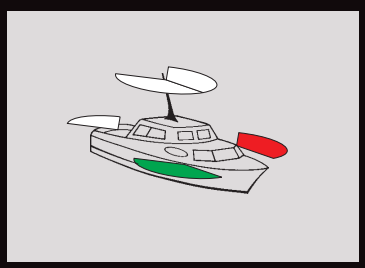
1 Masthead lamp
1 Port lamp
1 Starboard lamp
1 Stern lamp

Powerboats up to 20m



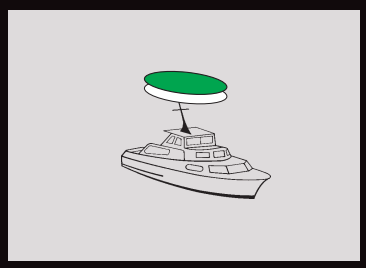
1 Masthead lamp
1 Bi-Color lamp
1 Stern lamp

Powerboats up to 50m



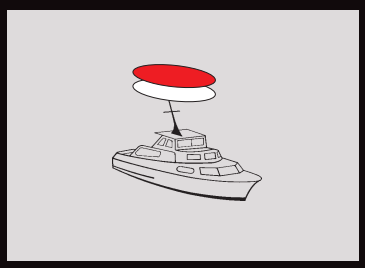
1 Masthead lamp
1 Port lamp
1 Starboard lamp
1 Stern lamp

A vessel less than 50m engaged in trawling



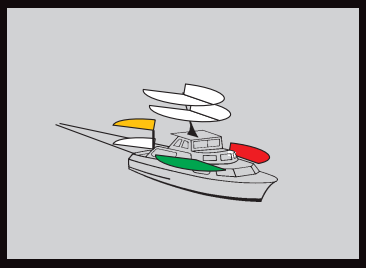
1 All Round Green lamp
1 All Round White lamp
mounted above one another

A vessel less than 50m engaged in fishing, other than trawling



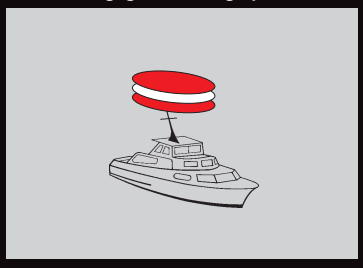
1 All Round Red lamp
1 All Round White lamp
mounted above one another

Powerboats towing with a tow length of less than 200m



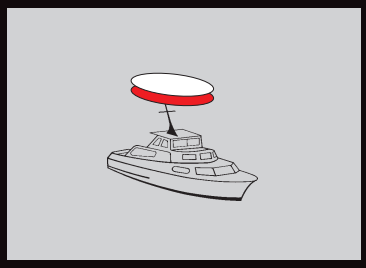
In addition to Port, Starboard and Stern lamps
1 Towing lamp mounted above the stern lamp
2 Masthead lamps in a vertical line
(When the tow length exceeds 200m, three Masthead lamps in a vertical line)

A vessel engaged in diving operations



1 All Round Red lamp
1 All Round White lamp
1 All Round Red lamp
mounted above one another

A vessel engaged in pilotage duty



In addition to Port, Starboard, Masthead and Stern lamps
1 All Round White lamp
1 All Round Red lamp
mounted above one another

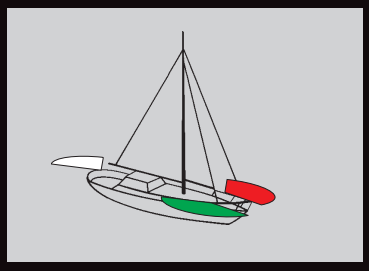
IMO COLREG 72 Lights and Visibility - Sailboats

Hella marine

IMO COLREG requirements for navigation lighting on sailboats less than 50m LOA (Length Overall).

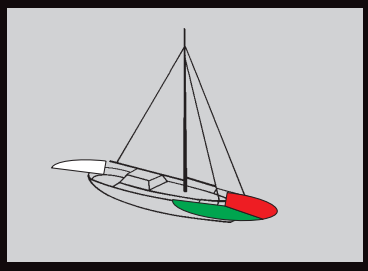
Note - Sailboats under motor adopt the rules for Powerboats.

Sailboats up to 20m under sail



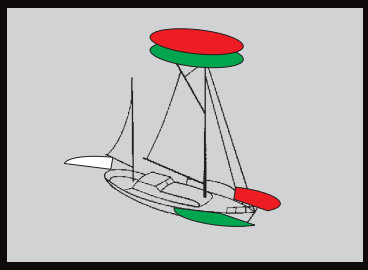
1 Port lamp
1 Starboard lamp
1 Stern lamp

Sailboats up to 20m under sail



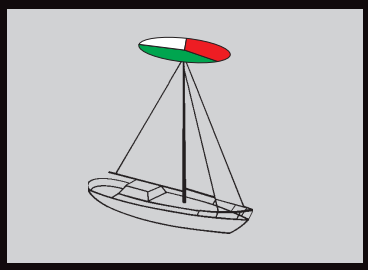
1 Bi-Color lamp
1 Stern lamp

Sailboats more than 20m under sail



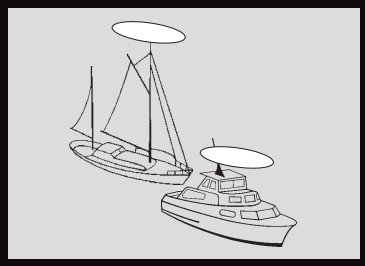
1 All Round Red lamp above
1 All Round Green lamp
1 Port lamp
1 Starboard lamp
or 1 Bi-Color lamp
1 Stern lamp

Sailboats up to 20m under sail



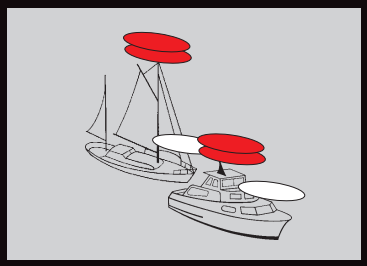
1 Tri-Color lamp

Sailboats and Powerboats less than 50m at anchor



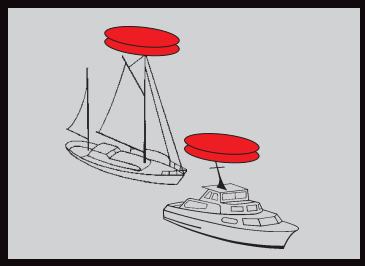
1 All Round White lamp

Sailboats and Powerboats more than 12m grounded



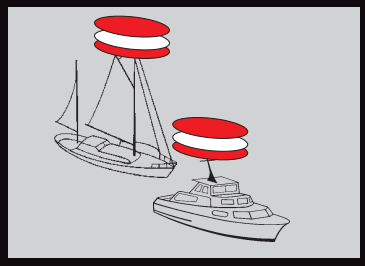
1 All Round White lamp
2 All Round Red lamps
mounted above one another

Sailboats and Powerboats more than 12m not under command (NUC)



In addition to Port, Starboard and Stern lamps
2 All Round Red lamps
mounted above one another

Sailboats and Powerboats more than 12m manoeuvring with difficulty (RAM)



In addition to Port, Starboard and Stern lamps
1 All Round Red lamp
1 All Round White lamp
1 All Round Red lamp
mounted above one another

LED Navigation Quick Reference

	Series Name / Series Number	Visible Distance	COLREG Max. length	Vessel type	Approvals / Certifying Bodies	Installation Surface	Light Color	Power Consumption	Pg.
	NaviLED PRO 9900 Port	2 NM	50M	Yacht & Powerboat	COLREG, USCG, RINA, BSH A-16, WHEELMARK, RCD	Vertical	Red	< 2W	17
	NaviLED PRO 9900 Port	3 NM	50M plus	Powerboat	COLREG, USCG, RINA, A-16, RCD	Vertical	Red	< 2W	17
	NaviLED Compact 0520 Port	2 NM	50M	Yacht & Powerboat	COLREG, USCG, RINA A-16, BSH, RCD	Vertical	Red	< 1W	21
	NaviLED Deck Mt 0620 Port	2 NM	50M	Yacht & Powerboat	COLREG, USCG, RINA A-16, RCD	Horizontal	Red	< 1W	22
	NaviLED PRO 9908 Starboard	2 NM	50M	Yacht & Powerboat	COLREG, USCG, RINA, BSH A-16, WHEELMARK, RCD	Vertical	Green	< 2W	17
	NaviLED PRO 9908 Starboard	3 NM	50M plus	Powerboat	COLREG, USCG, RINA A-16, RCD	Vertical	Green	< 2W	17
	NaviLED Compact 0520 Starboard	2 NM	50M	Yacht & Powerboat	COLREG, USCG, RINA A-16, BSH, RCD	Vertical	Green	< 1W	21
	NaviLED Deck Mt 0620 Starboard	2 NM	50M	Yacht & Powerboat	COLREG, USCG, RINA A-16, RCD	Horizontal	Green	< 1W	22
	NaviLED PRO 9909 Stern	2 NM	50M	Yacht & Powerboat	COLREG, USCG, RINA, BSH A-16, WHEELMARK, RCD	Vertical	White	< 2W	17
	NaviLED PRO 9909 Stern	3 NM	50M plus	Powerboat	COLREG, USCG, RINA A-16, RCD	Vertical	White	< 2W	17
	NaviLED Compact 0520 Stern	2 NM	50M	Yacht & Powerboat	COLREG, USCG, RINA A-16, BSH, RCD	Vertical	White	< 2W	21
	NaviLED Compact 0520 Towing	2 NM	50M	Yacht & Powerboat	COLREG, USCG, RINA A-16, BSH, RCD	Vertical	White	< 2W	21
	NaviLED PRO 9940 Masthead	3 NM	20M	Powerboat & Yachts under motor	COLREG, USCG, RINA, BSH A-16, WHEELMARK, RCD	Vertical	White	< 2.5W	17
	NaviLED PRO 9940 Masthead	5 NM	50M	Powerboat & Yachts under motor	COLREG, USCG, WHEELMARK, RCD	Vertical	White	4W	17
	NaviLED PRO 9941 Bi Color	2 NM	50M	Yacht & Powerboat	COLREG, USCG, A-16, WHEELMARK, RCD	Vertical	Red / Green	< 2W	17
	NaviLED Trio 0650 Tri Color	2 NM	20M	Yacht	COLREG, USCG, A-16, BSH, RCD	Horizontal	R G W White	< 3.5W Sailing < 1.5W Anchor	15
	NaviLED 360 0960 White	2 NM	50M	Yacht & Powerboat	COLREG, USCG, A-16, WHEELMARK, RCD	Horizontal	White	< 1.5W	19
	NaviLED 360 9910 White	2 NM	50M	Yacht & Powerboat	COLREG, USCG, RINA A-16, RCD	Horizontal	White	< 1.5W	19
	NaviLED 360 White Red Green	2 NM	50M	Yacht & Powerboat	COLREG, USCG, RINA A-16, BSH, RCD	Horizontal	W R G	< 1.5W	19

LED Navigation Lamps

Hella marine

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LED Navigation Lamps

LED Navigation Lamp Technology

Hella marine LED based navigation lamps provide power saving, highly visible and ultra durable lighting for reliability and safety at sea.

Ultra Low Power Consumption
Combining efficient LED light sources with advanced optic technology, Hella marine LED products deliver more light output per watt than traditional bulb lamps and thus provide considerable power saving.
Hella marine NaviLED PRO navigation lamps use less than 10% of the power required to run a 25W incandescent bulb navigation lamp certified to the same visible distance.

No bulbs, No maintenance. Ultra long service life
Hella marine LED technology has no filaments to break, thus making the LED lamps extremely shock and vibration resistant for reliable illumination and safety.
Our engineering teams have developed a unique range of highly demanding tests to lift product reliability to new standards.

Safe and highly visible
Advanced LED navigation lamp optics deliver optimal horizontal and vertical light distribution according to international standards. They provide enhanced visibility compared to bulb navigation lamps. Cut-off angles are ultra precise, clearly indicating a vessel's movement and heading.

IP 67 COMPLETELY SEALED

Fully sealed for life
Each Hella marine LED lamp is a completely sealed opto-electronic device. Proven design, precision engineering, and the use of high impact acrylic materials ensures superior resistance to water, impact, UV and general wear and tear.

HD GRILAMID LENS

UV RESISTANT

Superior Lens and Optic Materials
All Hella marine LED Navigation lamps feature extra thick lenses - providing a long term lighting solution and environmentally friendly choice.
Taking ultra durable LED Navigation lighting to a new level, Hella marine specifies Grilamid, a high performance polyamide manufactured in Switzerland, as a standard or optional lens choice.
Grilamid is a revolutionary transparent plastic with an exceptionally high impact strength and resistance to UV and chemical damage.

Pre-wired with marine cable
Hella marine LED lamps are pre-wired with quality marine specification tinned cable. The cable is completely sealed to the lamp body providing time saving at installation and reliable electrical connection.

LED Multivolt

Multivolt technology for durability and safety
Advanced Multivolt circuitry provides a uniform level of intensity for reliable and safe illumination across a range of DC inputs such as 9-33 volts.
Multivolt LED lamps can be connected to 12 or 24 volt systems without modification, providing full light performance and automatic compensation for low battery voltages and voltage drop over long cables and connections. Multivolt LED lamps are also reverse polarity and spike protected for enhanced durability even under severe voltage fluctuations.

CE

Electromagnetic Compatibility (EMC)
All Hella marine products are designed to suppress electromagnetic interference, complying with the emission and immunity limits prescribed in international standards. This protects the radio, communication, navigation and other electrical equipment onboard from possible interference with our products. Where applicable, Hella marine products carry CE marking for European Union legislation, and the C-Tick mark for Australian & New Zealand requirements.

C-Tick RCM

C-Tick is the Australian & New Zealand EMC compliance mark administered by the Australian Communications and Media Authority (ACMA) & Radio Spectrum Management (RSM) New Zealand, and will be transitioning to the RCM mark by 1st March, 2016. Hella marine products will remain compliant to these requirements throughout the transition period and beyond.

NAVILED® TRIO

LED Tri Color with Anchor navigation lamp.
Advanced materials and state of the art technology for reliability, efficiency and Safety at Sea

Ultra low current draw. Power saving on board
Port, Starboard and Stern functions draw less than 3.5W combined.
The Anchor lamp draws less than 1.5W for substantial power saving compared to the 25W consumed by incandescent Tri Color lamps.

Fully sealed for life. IP 67 Certified
Completely sealed, impervious to saltwater and contaminants.

Safe and highly visible
Hella marine lens and optics technology ensures ultra precise horizontal and vertical cut-off angles, clearly indicating a vessel's movement and heading.

Ultra durable materials. Ultra long service life
Proven Hella marine LED technology combines with durable materials to provide outstanding resistance to vibration, impact and shock loads. Relentless test programs have helped lift product reliability to new standards for ongoing performance and safety in the most demanding conditions.

Unique installation and removal system
The NaviLED Trio installs on a unique 316 stainless steel mounting shaft for a secure attachment and reliable electrical connections.

CE
IMO COL REG 72
BSH
USCG
ABYC A-16
RCD

Windex Adaptor Nut
Machined 316 stainless steel adaptor nut to install a Windex directly onto the LED Tri Color mounting shaft.

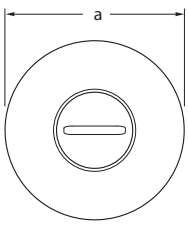
M12 (Mounting Shaft) to 5/16UNC. Female to female.

Part Number
958 988-402

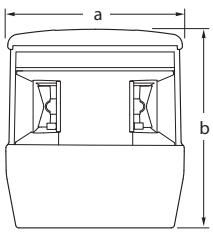
Packaging for aftermarket presentation

LED | IP 67 COMPLETELY SEALED | 9-33V MULTIVOLT™ | HD GRILAMID LENS | CE | RCM | UV RESISTANT | 7 YR WARRANTY

Housing Material	UV resistant, high impact nylon
Lens Material	UV resistant, ultra heavy duty Grilamid
Mounting Shaft	316 stainless steel
Minimum Visible Distance	2 Nautical Mile (Yacht)
Cable	Pre-wired with 400mm of triple core marine cable
Operating Voltage	Multivolt 9-33V DC
Voltage Protection	Spike protected to +500 volts Reverse polarity protected to -700 volts
Power Consumption	Port, Starboard and Stern - Less than 3.5W combined All Round White / Anchor - Less than 1.5W
Degree of Protection	IP 67 - Completely Sealed
Weight	400g (including cable)
Approvals	BSH, IMO COLREG, USCG, ABYC, RCD



Top Profile



Side Profile

Dimensions
a = 85mm / 3.35"
b = 95mm / 3.74"

LED Multivolt

LED Tri Color with Anchor Lamp

Visibility	Part Number
2 NM	980 650-001

NAVILED® PRO

Ultra durable LED navigation lamps for enhanced safety.
Proven worldwide on commercial and recreational vessels

Ultra low current draw
NaviLED PRO lamps use less than 10% of the power required to run a bulb navigation lamp. Port, Starboard and Stern lamps consume less than 3.2 watts combined.

No maintenance. Ultra long service life
Hella marine LED technology has no filaments to break making NaviLED PRO lamps extremely shock and vibration proof for proven reliability and safety in demanding conditions.

Multivolt 9-33V DC
Advanced electronics ensure reliable illumination and lamp protection even under severe voltage fluctuations and low battery voltages.

Safe and highly visible
Hella marine optics deliver 100% correct light output and enhance visibility compared to bulb navigation lamps.
Wheelmark/MED versions incorporate self diagnostic technology for long term reliability and safety.

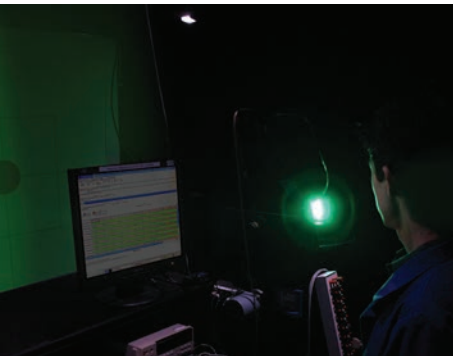
Fully sealed for life. IP 67 certified
Each NaviLED PRO lamp is a completely sealed unit. High impact housings ensure durability from waves and impact. Ultra heavy duty BSH versions use high-tech Grilamid lens to offer superior strength in extreme conditions.

Pre-wired with 2.5m of twin core marine cable
High quality cable assemblies for time saving, completely sealed installations.

Internationally certified
Meets the requirements of COLREG, USCG, ABYC A-16, RINA, BSH, RCD, Wheelmark.

Sealed light engine clips into mounting shroud for an ultra secure attachment.

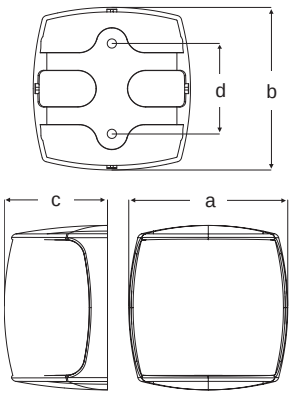
Rear of lamp without shroud.
Pre-wired with twin core marine cable



NaviLED PRO Photometric Testing

NaviLED PRO series lamps have ultra precise horizontal and vertical cut-off angles to clearly indicate a vessel's movement and heading.
Every individual NaviLED PRO lamp is photometrically verified in production by a sophisticated goniometer to ensure compliance with the intensity and cut-off requirements of international navigation lamp standards. After passing photometric testing, a unique serial number is laser engraved onto the lens. This serial number is referenced to individual test reports which are electronically archived by Hella marine, ensuring international navigation lamp standards are consistently met.

Material Description	Hi impact acrylic lens or Ultra heavy duty Grilamid lens (MED versions only)
Minimum Visible Distance	2 Nautical Mile (Yachts and Powerboats) 3 Nautical Mile (Powerboats only)
Cable	Pre-wired with 2.5m of twin core marine cable
Operating Voltage	Multivolt 9-33V DC
Voltage Protection	Spike protected to +500 volts Reverse polarity protected to -700 volts
Power Consumption	Port, Starboard and Stern - Less than 3.2W combined. Masthead - Less than 2.5W
Degree of Protection	IP 67 - Completely Sealed
Weight	150g (including cable)
Approvals	Wheelmark, IMO COLREG, USCG, ABYC A-16 RINA, BSH, RCD



Dimensions
a = 87mm / 3.43”
b = 90mm / 3.54”
c = 57mm / 2.25”
d = 50mm / 1.97”

Port *Starboard* *Stern* *Masthead*

LED Multivolt 2 Nautical Mile Powerboat and Yacht Lamps

Lamp Type	Visibility	Black Shroud	White Shroud
Port	2 NM	959 **900**-001	959 **900**-011
Starboard	2 NM	959 **908**-001	959 **908**-011
Stern	2 NM	959 **909**-001	959 **909**-011

LED Multivolt 3 Nautical Mile Powerboat Lamps

Lamp Type	Visibility	Black Shroud	White Shroud
Port	3 NM	959 **900**-201	959 **900**-211
Starboard	3 NM	959 **908**-201	959 **908**-211
Stern	3 NM	959 **909**-201	959 **909**-211
Masthead**	3 NM	959 **940**-201	959 **940**-211

**** for Powerboats and Sailing Yachts under Motor**

Port *Starboard* *Stern* *Bi-Color* *Masthead*

NaviLED PRO Wheelmark lamps are type approved and certified according to the Marine Equipment Directive 96/98/EC for inland waterways and the open sea in Europe. A Grilamid lens is standard for superior strength in extreme conditions.
Each single-function NaviLED PRO Wheelmark lamp is equipped with a sophisticated self diagnostic control.
Port and Starboard Grilamid lens versions appear clear when the lamps are OFF.

HD GRILAMID LENS

LED Multivolt 2 Nautical Mile Powerboat and Yacht Lamps

Lamp Type	Visibility	Black Shroud	White Shroud
Port	2 NM	959 **900**-601	959 **900**-611
Starboard	2 NM	959 **908**-601	959 **908**-611
Stern	2 NM	959 **909**-601	959 **909**-611
Bi-Color	2 NM	959 **941**-001	959 **941**-011

LED Multivolt 3 and 5 Nautical Mile Powerboat Lamps

Lamp Type	Visibility	Black Shroud	White Shroud
Masthead**	3 NM	959 **940**-601	959 **940**-611
Masthead**	5 NM	959 **940**-401	959 **940**-411

**** for Powerboats and Sailing Yachts under Motor**

NAVILED® 360

LED efficiency and precision optics for reliable and highly visible all round lighting

With less than 1.5W of power consumption, NaviLED 360 lamps draw a fraction of the energy required to run a conventional 2 nautical mile incandescent lamp.

No maintenance. Ultra long service life
Hella marine LED technology has no filaments to break making NaviLED lamps extremely shock and vibration proof for reliability and safety in demanding conditions.

Multivolt 9-33V DC
Advanced electronics ensure reliable illumination and lamp protection even under severe voltage fluctuations and low battery voltages.
Sealed within the base or aluminium pole, the Multivolt drive circuitry provides reverse polarity, spike and over-voltage protection for long life and reliable operation.

Safe and highly visible
Hella marine optics deliver 100% correct light output and enhance visibility compared to bulb navigation lamps.

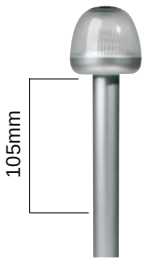
Fully sealed for life. IP 67 Certified
Each NaviLED lamp is a completely sealed unit, highly UV and corrosion resistant.

Pre-wired with marine cable
Quality twin core marine cable assemblies are used on all lamps ensuring time saving, completely sealed installations.

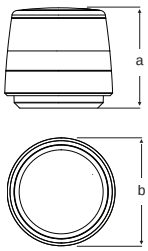
Internationally certified
Meets the requirements of COLREG, BSH, USCG, ABYC A-16, RINA, RCD

LED | IP 67 COMPLETELY SEALED | 9-33V MULTIVOLT™ | CE | UV RESISTANT | 5 YR WARRANTY

Note -
The electronics to drive and protect a NaviLED 360 pole lamp are contained on a circuit board inside the aluminium tube that is sealed by heavy duty heat shrink insulation.
This circuit board assembly measures 105mm from the bottom of the lamp's aluminium base.



Material Description	UV resistant, enhanced impact acrylic lens
	Anodized aluminium lamp base and pole
Minimum Visible Distance	2 Nautical Mile
Cable	Pre-wired with twin core marine cable
Operating Voltage	Multivolt 9-33V DC
Voltage Protection	Spike protected to +500 volts
	Reverse polarity protected to -500 volts
Power Consumption	< 1.5W
Degree of Protection	IP 67 - Completely Sealed
Weight	Surface Mount - 150g (including cable)
	12" / 305mm Fold down pole mount - 300g (including cable)
Approvals	IMO COLREG, USCG, RINA, ABYC A-16, BSH, RCD



Dimensions
a = 56mm / 2.20”
b = 60mm / 2.36”

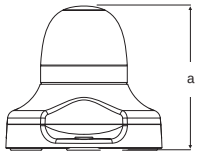
LED Multivolt

2 Nautical Mile Anchor Lamps with compact surface mount base

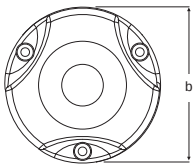
Light Color	Visibility	Black Base	White Base
White	2 NM	980 **960**-001	980 **960**-011

HD GRILAMID LENS

Ultra compact and robust surface mount design with no visible fastenings once installed.



Dimensions
a = 83mm / 3.27”
b = 90mm / 3.54”



LED Multivolt

2 Nautical Mile All Round Lamps with surface mount base

Light Color	Visibility	Black Base	White Base
White	2 NM	980 **910**-001	980 **910**-011
Red	2 NM	980 **910**-401	980 **910**-411
Green	2 NM	980 **910**-201	980 **910**-211

Robust surface mount with three mounting holes.

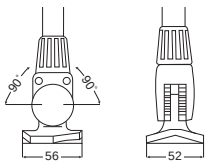
LED Multivolt

2 Nautical Mile Anchor Lamps with fixed pole mount

Overall Length	Visibility	Black Base	White Base
8” / 204mm	2 NM	959 **910**-011	959 **910**-111

Robust fixed pole mount with two counter-sunk holes.

959 **910**-011



LED Multivolt

2 Nautical Mile Anchor Lamps with fold down pole mount

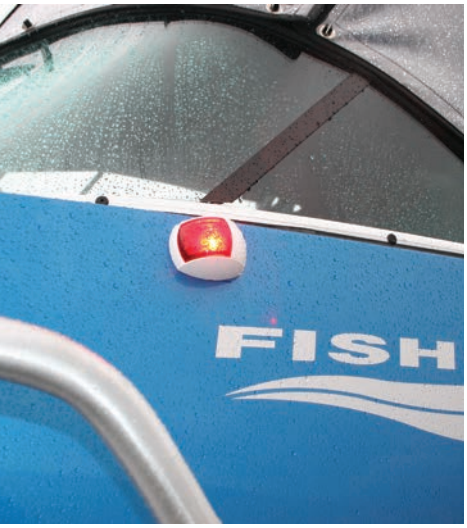
Overall Length	Visibility	Black Base	White Base
12” / 305mm	2 NM	959 **910**-621	959 **910**-721
20” / 500mm	2 NM	959 **910**-661	959 **910**-761
24” / 610mm	2 NM	959 **910**-631	959 **910**-731
34” / 850mm	2 NM	959 **910**-651	959 **910**-751
40” / 1016mm	2 NM	959 **910**-641	

Lamp pole can be adjusted through 180 degrees and secured with locking collar.
Removable wedge for different surface cambers.

959 **910**-621

NAVILED® Compact

Compact LED navigation lamps.
Attractive, power saving and proven reliability



Designed and manufactured in New Zealand, NaviLED lamps save power onboard and provide outstanding durability.

LED | IP 67 COMPLETELY SEALED | 9-33V MULTIVOLT™ | 8-28V MULTIVOLT™ | UV RESISTANT | 5 YR WARRANTY | CE

Ultra low current draw
NaviLED lamps use less than 10% of the power required to run a bulb navigation lamp of the same visible distance.

No bulbs, No maintenance. Ultra long service life
Hella marine LED technology has no filaments to break making NaviLED lamps extremely shock and vibration proof for reliability and safety in demanding conditions.

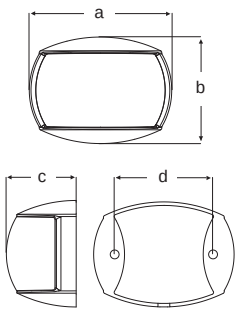
Multivolt DC
Advanced electronics ensure reliable illumination and lamp protection even under severe voltage fluctuations and low battery voltages.

Fully sealed for life. IP 67 Certified
Each NaviLED lamp is a completely sealed unit.
High impact housings ensure durability from waves and impact.

Pre-wired with marine cable
Single core (120mm) or twin core (2.5m) sheathed marine cable assemblies available. Ensures time saving, completely sealed installations.

Sealed light engine clips into mounting shroud for an ultra secure attachment.

Rear of lamp clipped into shroud. Single core marine cable.



Dimensions
a = 71mm / 2.80”
b = 53mm / 2.09”
c = 33mm / 1.30”
d = 50 mm / 1.97”

Material Description	UV resistant, enhanced impact resistant acrylic lens High impact shroud
Minimum Visible Distance	2 Nautical Mile (Yachts and Powerboats)
Cable	Pre-wired with marine cable
Operating Voltage	Port, Starboard and Stern Lamps Multivolt 9-33V DC Towing Lamps Multivolt 8-28V DC
Voltage Protection	Spike protected to +500 volts Reverse polarity protected to -700 volts
Power Consumption	Port and Starboard less than 2W combined Stern less than 2W, Towing less than 2W
Degree of Protection	IP 67 - Completely Sealed
Weight	60g (including 120mm single core cable)
Approvals	IMO COLREG, USCG, RINA, ABYC A-16, BSH, RCD

IMO COL REG 72 | USCG | RINA | ABYC A-16 | RCD

Single Lamps (with 120mm of single core marine cable)

Packaging for aftermarket presentation

OEM bulk packages available on request

LED Multivolt

2 Nautical Mile Powerboat and Yacht Lamps - *Colored outer lens*

Lamp Type	Visibility	Black Shroud	White Shroud
Port	2 NM	980 **520**-001	980 **520**-011
Starboard	2 NM	980 **520**-201	980 **520**-211
Towing	2 NM	980 **520**-601	980 **520**-611

NaviLED® with Colored outer lens

LED Multivolt

2 Nautical Mile Powerboat and Yacht Lamps - *Clear outer lens*

Lamp Type	Visibility	Black Shroud	White Shroud
Port	2 NM	980 **520**-101	980 **520**-111
Starboard	2 NM	980 **520**-301	980 **520**-311
Stern	2 NM	980 **520**-501	980 **520**-511

NaviLED® with Clear outer lens

Twin Pack Lamps - Port and Starboard (with 120mm of single core marine cable)

Packaging for aftermarket presentation

LED Multivolt

2 Nautical Mile Powerboat and Yacht Lamps - *Colored outer lens*

Lamp Type	Visibility	Black Shroud	White Shroud
Port & Starboard	2 NM	980 **520**-801	980 **520**-811

NaviLED® with Colored outer lens

LED Multivolt

2 Nautical Mile Powerboat and Yacht Lamps - *Clear outer lens*

Lamp Type	Visibility	Black Shroud	White Shroud
Port & Starboard	2 NM	980 **520**-901	980 **520**-911

NaviLED® with Clear outer lens

NAVILED®

Deck Mount

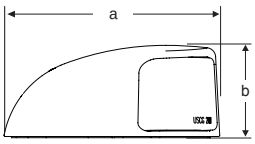
Compact deck mount LED navigation lamps.
Attractive, power saving and proven reliability

Material Description	UV resistant, enhanced impact resistant acrylic lens High impact shroud
Minimum Visible Distance	2 Nautical Mile (Yachts and Powerboats)
Cable	Pre-wired with 500mm of twin core marine cable
Operating Voltage	Multivolt 9-33V DC
Voltage Protection	Spike protected to +500 volts Reverse polarity protected to -700 volts
Power Consumption	Port and Starboard less than 2W combined
Degree of Protection	IP 67 - Completely Sealed
Weight	75g (including cable)
Approvals	IMO COLREG, USCG, RINA, ABYC A-16, RCD

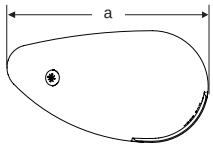
CE · IMO COL REG 72 · USCG · RINA · ABYC A-16 · RCD

LED · IP 67 COMPLETELY SEALED · 9-33V MULTIVOLT™ · CE · UV RESISTANT · 5 YR WARRANTY

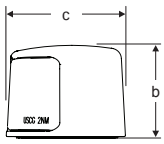
Dimensions:
a = 90.0mm / 3.54”
b = 38.5mm / 1.52”
c = 50.0mm / 1.97”



Starboard from starboard side



Starboard from top



Starboard from bow


Shroud


Optic Assembly

Twin Pack Lamps - Port and Starboard

Packaging for aftermarket presentation

LED Multivolt **2 Nautical Mile Powerboat and Yacht Lamps - *Colored outer lens***

Lamp Type	Visibility	Black Shroud	White Shroud
Port & Starboard	2 NM	980 **620**-801	980 **620**-811

LED Multivolt **2 Nautical Mile Powerboat and Yacht Lamps - *Clear outer lens***

Lamp Type	Visibility	Black Shroud	White Shroud
Port & Starboard	2 NM	980 **620**-901	980 **620**-911

Bulb Navigation Lamps

Hella marine

Vision and Innovation

2010 Series All Round White / Anchor Lamps

Anchor lamps in a wide range of pole lengths and base types.
Featuring heavy duty anodized aluminium poles and impact resistant bases.

IMO COL REG 72 | USCG | RCD | ABYC A-16

Material Description	UV and impact resistant plastic housing and lens. Anodized aluminium poles
Minimum Visible Distance	2 Nautical Mile
Bulb	12V/10W Ba15s or 12V/10W SV8.5 included
Installation	Horizontal surface mount. Includes stainless steel screws
Degree of Protection	IP X6
Approvals	IMO COLREG, USCG, ABYC A-16, RCD

995 002-131

995 002-001

995 002-031

995 002-151

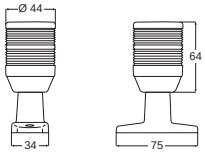
995 003-021

OEM bulk packages available on request

2 Nautical Mile All Round White / Anchor lamps with fixed mount

Voltage	Overall Length	Black Base	White Base
12V	4" / 102mm	995 002-001	995 002-131
12V	8" / 204mm	995 002-011	995 002-141

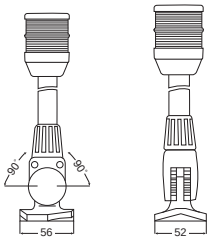
Robust fixed mount with two counter-sunk holes.



2 Nautical Mile All Round White / Anchor lamps with fold down pole mount

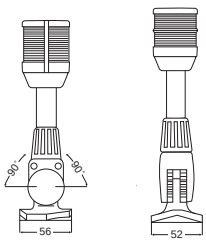
Voltage	Overall Length	Black Base	White Base
12V	8" / 204mm	995 002-021	995 002-151
12V	12" / 305mm	995 002-051	995 002-181
12V	20" / 508mm	995 002-031	995 002-161
12V	24" / 610mm	995 002-321	995 002-121

Lamp pole can be adjusted through 180 degrees and secured at desired angle with locking collar. Removable wedge for installation onto different surface cambers.



2 Nautical Mile Masthead / Anchor lamps with fixed mount

Voltage	Overall Length	Black Base	White Base
12V	4" / 102mm	995 003-001	995 003-041



2 Nautical Mile Masthead / Anchor lamps with fold down pole mount

Voltage	Overall Length	Black Base	White Base
12V	8" / 204mm	995 003-021	995 003-061
12V	20" / 508mm	995 003-031	995 003-071

2010 Series Spare Parts

12V / 10W Bulb
H83100001

12V / 5W Bulb (Masthead / Anchor lamps)
H83100011

2492 Series All Round White / Anchor Lamps

Hella marine

2492 Series Surface Mount All Round White Lamps

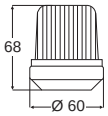
These All Round White / Anchor Lamps are saltwater proof, non-magnetic and internationally approved.
Available as a single unit for installation directly to horizontal surfaces or on a pole with a Plug-in base.

IMO COL REG 72 | USCG | RCD | ABYC A-16

Packaging for aftermarket presentation

OEM bulk packages available on request

Material Description	UV and impact resistant plastic housing and lens
Minimum Visible Distance	2 Nautical Mile
Bulb	12V / 10W BA15s included
Installation	Horizontal surface mount. Includes stainless steel screws
Degree of Protection	IP 54
Approvals	IMO COLREG, USCG, ABYC A-16, RCD



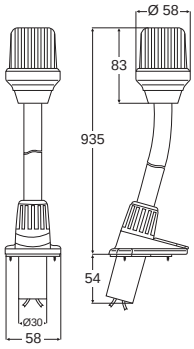
2 Nautical Mile All Round White / Anchor Lamps

Lamp Type	Voltage	Black Housing	White Housing
All Round / Anchor	12V	002 **492**-201	002 **492**-211

2492 Series All Round White Lamps with Plug-in base

Pole plugs into lamp base and is fixed into position with locking collar. A rubber cap covers the hole when the pole is removed.
Stainless steel contacts.

Housing Description	UV and impact resistant plastic housing and lens. Anodized aluminium pole
Minimum Visible Distance	2 Nautical Mile
Bulb	12V / 10W BA15s included
Installation	Horizontal surface mount. Pre-wired with 100mm of cable. Includes stainless steel screws.
Degree of Protection	IP 54
Approvals	IMO COLREG, USCG, ABYC A-16, RCD



2 Nautical Mile Plug-in All Round White / Anchor

Lamp Type	Voltage	Overall Length	Black Housing	White Housing
All Round / Anchor	12V	38" / 965mm	002 **492**-221	002 **492**-241

2492 Series Bulb

12V / 10W Bulb

H83035101

3562 Series Navigation Lamps

Compact and proven navigation lamps for yachts and powerboats. Saltwater resistant and nonmagnetic, 3562 series lamps feature a 'snap lock' housing allowing bulbs to be changed without tools.

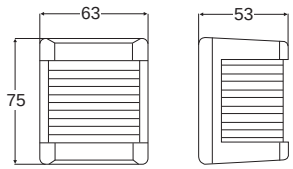
IMO COL REG 72 | USCG | ABYC A-16 | RCD

Material Description	UV and impact resistant plastic housing and lens
Minimum Visible Distance	Masthead and Stern 2 Nautical Miles
	Port and Starboard 1 Nautical Mile
Bulb	12V / 10W SV8.5 included
Installation	Vertical surface mount.
Cable Entry	Through base plate with rubber grommet
Degree of Protection	IP 54
Approvals	IMO COLREG, USCG, ABYC A-16, RCD

Packaging for aftermarket presentation

1 Nautical Mile Powerboat and Yacht Lamps

Lamp Type	Voltage	Black Housing	White Housing
Port	12V	003 **562**-035	003 **562**-135
Starboard	12V	003 **562**-025	003 **562**-125
Bi-Color	12V	003 **562**-045	003 **562**-145



2 Nautical Mile Powerboat and Yacht Lamps

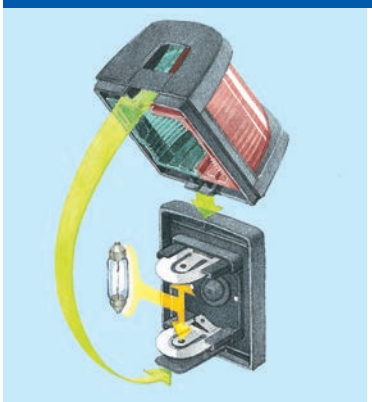
Lamp Type	Voltage	Black Housing	White Housing
Stern	12V	003 **562**-015	003 **562**-115

2 Nautical Mile Powerboat Lamps

Lamp Type	Voltage	Black Housing	White Housing
Masthead**	12V	003 **562**-005	003 **562**-105

**** for Powerboats and Sailing Yachts under Motor**

3562 Series Spare Bulb



Bulbs

12V / 10W
H83205001

24V / 10W
H83205011

Mounting Base
For horizontal surfaces.
Black 005 **799**-001

2984 Series Navigation Lamps

Hella marine

Internationally approved navigation lamps. Non-magnetic and saltwater resistant. Housing 'snaps' to base without screws.
2984 series lamps feature a vertically hanging bulb and contacts in the upper area of each lamp to prevent corrosion.

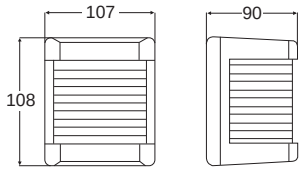
IMO COL REG 72 | USCG | BSH | ABYC A-16 | RCD

Material Description	UV and impact resistant plastic housing and lens
Minimum Visible Distance	Port and Starboard 2 NM, Stern 2 NM, Masthead 3 NM
Bulb	12V / 25W included
Installation	Vertical surface mount.
Cable Entry	Through base plate with rubber grommet
Degree of Protection	IP 55
Approvals	IMO COLREG, BSH, USCG, ABYC A-16, RINA, RCD

Packaging for aftermarket presentation

2 Nautical Mile Powerboat and Yacht Lamps

Lamp Type	Voltage	Black Housing	White Housing
Port	12V	002 984-335	002 984-385
Starboard	12V	002 984-345	002 984-395
Bi-Color	12V	002 984-315	002 984-365
Stern	12V	002 984-325	002 984-375

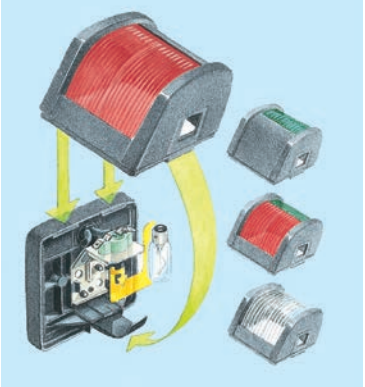


3 Nautical Mile Powerboat Lamps

Lamp Type	Voltage	Black Housing	White Housing
Masthead**	12V	002 984-305	002 984-355

** for Powerboats and Sailing Yachts under Motor

2984 Series Spare Bulbs



Bulbs

12V / 25W
003 488-301

24V / 25W
003 488-311

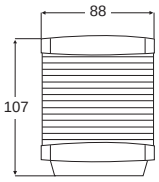
2984 Series Tri Color and All Round Lamps

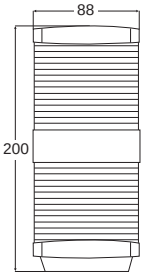
Tri Color and all round lamps.
The lamp housing features a bayonet lock for easy bulb change.

IMO COL REG 72 | USCG | BSH | ABYC A-16 | RCD




Material Description	UV and impact resistant plastic housing and lens
Minimum Visible Distance	Port and Starboard 2 NM, Stern 2 NM, All Round White / Anchor 2 NM
Bulb	12V BAY15d included
Installation	Horizontal surface mount.
Cable Entry	Through base plate with rubber grommet
Degree of Protection	IP 55
Approvals	IMO COLREG, BSH, USCG, ABYC A-16, RINA, RCD





Packaging for aftermarket presentation

2 Nautical Mile Tri Color Lamp

Lamp Type	Voltage	Black Housing
Tri Color	12V	002 984-535
Tri Color / Anchor Lamp	12V	002 984-601

2 Nautical Mile All Round Lamps

Lamp Type	Voltage	Black Housing	White Housing
All Round White / Anchor	12V	002 984-505	002 984-565
All Round Red	12V	002 984-525	
All Round Green	12V	002 984-515	

2984 Series Spare Bulbs

Bulb 12V	Wattage	Part Number
Tri Color lamp	25W	003 488-301
Tri Color with Anchor lamp	25W	003 488-301
	10W	003 488-121

Bulb 24V	Wattage	Part Number
Tri Color lamp	25W	003 488-311
Tri Color with Anchor lamp	25W	003 488-311
	10W	003 488-131

Bulb 12V	Wattage	Part Number
All Round White / Anchor	10W	003 488-121
All Round Red	25W	003 488-301
All Round Green	25W	003 488-301

Bulb 24V	Wattage	Part Number
All Round White / Anchor	10W	003 488-131
All Round Red	25W	003 488-311
All Round Green	25W	003 488-311

LED Floodlights

Hella marine

Vision and Innovation

The Hella marine Advantage

‘Fit and Forget’ LED Reliability.

Hella marine LED floodlights provide efficient, power saving and ultra durable illumination for reliability and safety at sea.

Low Power Consumption.
Combining efficient LED light sources with advanced optic technology, Hella marine LED products deliver more light output per watt than traditional bulb lamps and provide considerable energy savings.
As an example, Hella marine Sea Hawk XL lamps consume less than 25% of the power required to run a 55W H3 incandescent bulb floodlight (e.g. Hella marine 7118 series)

No bulbs, No maintenance. Long service life.
Hella marine LED technology has no filaments to break, making the lamps extremely shock and vibration resistant for reliable illumination and safety.

Low heat signature for improved safety.
All Hella marine LED lamps feature a low heat signature due to their low power consumption. This provides many safety and installation advantages as the risks of heat damage caused by traditional halogen lamps are eliminated.

System Lumens Performance (SLP) versus Raw LED Lumens.
Rather than referencing Raw LED Lumens, Hella marine specifies the System Lumen Performance of the complete Lamp- or Luminaire system.

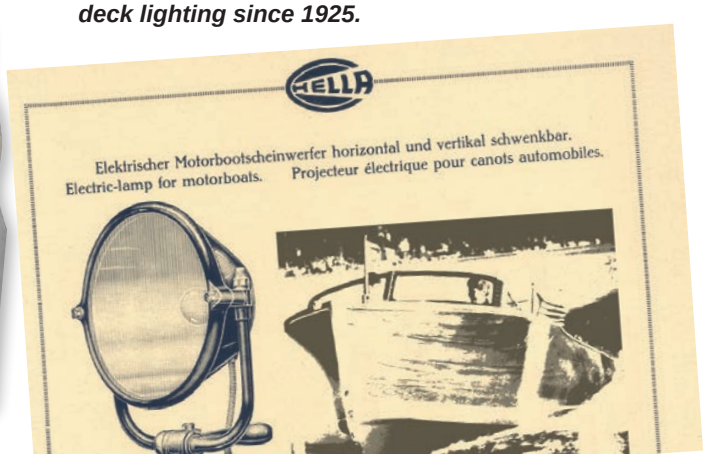
System Lumens state the actual light performance at standard operating voltage and factors in losses physically inherent in the optical system and well as the efficiency of the electronic LED drive circuit.

By stating the System Lumen Performance, Hella marine proudly communicates the true performance expected from each lamp*.

**small, but to the human eye unnoticeable differences are common from lamp to lamp due to variances in the LED manufacturing yield.*

Hard working HypaLUME for the most demanding commercial applications.

Hella marine has been an international pioneer of high quality deck lighting since 1925.



The future of efficient and durable deck lighting is LED based. Compared to traditional halogen lamps, the energy saving and improved reliability benefits on offer with quality LED technology are significant.

Hella marine LED Mega Beam lamps illuminate cockpit and deck areas with crisp white light consuming only 13W of power. This represents significant savings compared to the 55W consumed by 12V halogen floodlights.

These power savings are possible due to highly efficient LEDs and optics that provide considerably more light output per watt than halogen floodlights.

Lens and optic engineering play an important role to efficiently capture and spread the available light onto working surfaces without glare or eye strain.

Advanced Sea Hawk Technology.

Advances in the luminous efficiency of LEDs has opened doors to the development of a new and unique class of Hella marine LED floodlighting.

The Sea Hawk series offers durable, lightweight and efficient ‘class leading’ performance. Reliability and strength is enhanced by high performance Grilamid selected for the lens of all lamps.

The housings of Sea Hawk-R and XL lamps are injection moulded from ‘Non-metal’ thermally conductive polymer that is highly resistant to degradation, even under harsh UV.

Utilising thermal polymer eliminates the requirement for an external aluminium heat sink in this class of floodlight, removing potential surface deterioration and material corrosion risks associated with coated aluminium in the harsh marine environment.

‘Fit and Forget’ LED Reliability

Five Year Warranty
Hella marine LED Floodlights carry a Five Year Warranty providing peace of mind that the product will stand the test of time.

Fully sealed for life
Each Hella marine LED lamp is a completely sealed opto-electronic device. Proven design, precision engineering, and the use of ultra durable materials ensures superior resistance to water, impact, UV radiation and general wear and tear.

Class Leading Efficiency
Combining efficient LED sources with advanced optic technology, Hella marine LED products deliver more light output per watt than incandescent based lamps with significant energy savings.

‘Non-metal’ Thermally Conductive Housing
Sea Hawk-R and Sea Hawk-XL housings are injection moulded from a revolutionary thermally conductive polymer that is highly resistant to degradation, even under harsh UV.
This advanced material draws heat away from internal electronics for reliable long-term operation.
Utilising thermal polymer eliminates the requirement for a aluminium housing, removing potential surface deterioration and corrosion risks associated with coated metal in the harsh marine environment.

Superior Lens Materials
Many Hella marine LED floodlights utilise Grilamid, a high performance polyamide manufactured in Switzerland, as a heavy duty lens material.
Grilamid is a revolutionary new transparent plastic with an exceptionally high impact strength and resistance to UV and chemical damage.

Multivolt technology for durability and safety
Advanced Multivolt circuitry provides a uniform level of intensity for reliable and safe illumination across a range of DC inputs such as 9-33 volts.
Multivolt LED lamps can be connected to 12 or 24 volt systems without modification, providing full light performance and automatic compensation for low battery voltages and voltage drop over long cables and connections. Multivolt LED lamps are also reverse polarity and spike protected for enhanced durability even under severe voltage fluctuations.

Materials withstand harsh environments
Advanced UV resistant polymers that will not yellow or become brittle, even after years of exposure.

Electromagnetic Compatibility (EMC)
All Hella marine products are designed to suppress electromagnetic interference, complying with the emission and immunity limits prescribed in international standards. This protects the radio, communication, navigation and other electrical equipment on board from possible interference with our products. Where applicable, Hella marine products carry CE marking for European Union legislation, and the C-Tick mark for Australian & New Zealand requirements.

C-Tick is the Australian & New Zealand EMC compliance mark administered by the Australian Communications and Media Authority (ACMA) & Radio Spectrum Management (RSM) New Zealand, and will be transitioning to the RCM mark by 1st March, 2016. Hella marine products will remain compliant to these requirements throughout the transition period and beyond.

C-Tick RCM

	Series Name	Dimensions mm	Installation Type	Lumens	Beam Angle	Peak Lux @ 3M	Peak Lux @ 6M	Power Consumption	Weight (including cable)	Page No.
	Sea Hawk Spread	136 x 53	Bracket	200	50° Spread	33 Lux	8 Lux	<3W 0.25A@12V	250g	35
	Sea Hawk Recess - Spread	176 x 50	Recess	200	50° Spread	33 Lux	8 Lux	<3W 0.25A@12V	125g	35
	New! Sea Hawk-R Spread White Light	136 x 53	Bracket	550	50° Spread	80 Lux	20 Lux	7W 0.58A@12V	250g	37
	Sea Hawk-XL Spread White Light	170 x 68	Bracket	750	40° Spread	100 Lux	25 Lux	12W High 2W Low 1.0A@12V	450g	39
	New! Sea Hawk-XLR Spread White Light	170 x 68	Bracket	1300	40° Spread	200 Lux	119 Lux	18W High 2W Low 1.50A@12V	450g	41
	Module 70 Gen 3	83 x 110	Bracket	800	40° Spread	260 Lux	65 Lux	13W 1.08A@12V	500g	43
	Mega Beam Gen 3	110 x 145	Bracket	800	40° Spread	260 Lux	65 Lux	13W 1.08A@12V	750g	43

	Series Name	Dimensions mm	Installation Type	Lumens	Beam Angle	Peak Lux @ 5M	Peak Lux @ 10M	Power Consumption	Weight (including cable)	Page No.
	New! Power Beam	144 x 130	Bracket	3100	40° Spread	480 Lux	120 Lux	43W 3.58A@12V	1.4 Kg	45
	New! AS 5000	160 x 170	Bracket	5000	44° Spread	760 Lux	190 Lux	60W 5A@12V	2.6 Kg	47
	New! HypaLUME	504 x 380	Bracket	20000	60° Spread	2240 Lux	560 Lux	240W 10A@24V	13.3 Kg	49

PRACTICAL SAILOR
This product has been tested and recommended by Practical Sailor the independent consumer magazine for sailors. For more information, go to www.practical-sailor.com
2013 EDITORS' CHOICE

LED Sea Hawk

3w 200 Lumen

A new class of ultra efficient, compact and lightweight LED lamps

LED | IP 67 COMPLETELY SEALED | HD GRILAMID LENS | 9-33V MULTIVOLT™ | CORROSION PROOF HOUSING | CE | C-Tick | UV RESISTANT | 5 YR WARRANTY

Completely sealed and lightweight, Sea Hawk lamps offer compact and durable illumination.

Class leading efficiency

Advanced optics deliver 200 lumens of highly effective crisp white light for an ultra low energy consumption of less than 3W, (<0.25A@12V).

Fully sealed and salt water durable

Sea Hawk lamps are IP 67 and feature a high performance Grilamid lens for superior strength and resistance to impact and UV.
Tinned marine cable is pre-wired to each lamp for absolute water tightness and reliable electrical connections.
A polished 316 stainless steel bracket allows easy adjus ent. Friction mounts hold the lamp steady without the need to adjust fastenings.

Multivolt 9-33V DC

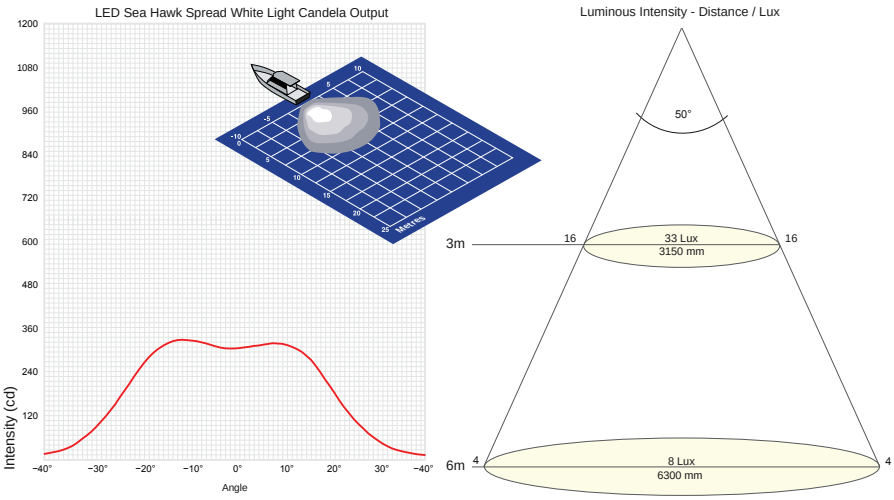
Advanced electronics ensure reliable illumination and lamp protection even under severe voltage fluctuations and low battery voltages.

Engineered light patterns

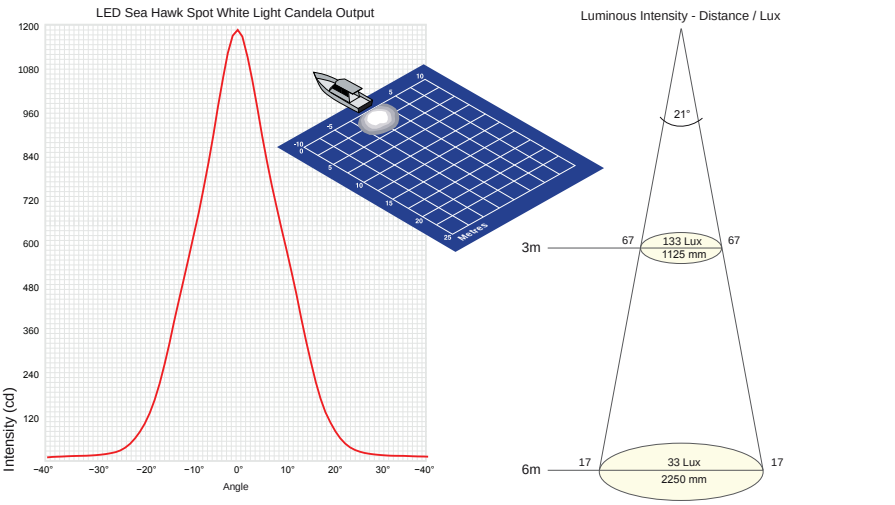
Precision optics provide two light pattern options. Spread lamps are suited for illuminating cockpits and transom areas with a close range, wide spread of light. Spot lamps offer a narrower and more concentrated light pattern for applications such as spreader lighting on yacht masts.

Sea Hawk bracket mount versions contain friction mounts and can be easily adjusted up and down without tools.

Sea Hawk Candela and Lux performance. Spread.



Sea Hawk Candela and Lux performance. Spot

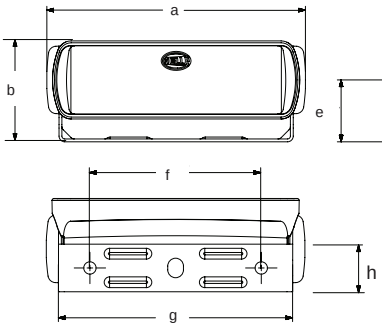


Packaging for aftermarket presentation

Material Description	UV and impact resistant plastic
	Heavy duty Grilamid lens
Bracket	Polished 316 stainless steel
Color Temperature	5500K (White) 1600K (Red)
Cable	Pre-wired with 2.5m of twin core marine cable
Operating Voltage	White Lamps Multivolt 9-33V DC. Red Lamps 12V DC
Degree of Protection	IP 67 - Completely Sealed
Power Consumption	<3W (<0.25A@12V / <0.13A@24V)
Weight	Bracket mount 250g (including cable)
	Recess mount 125g (including cable)
Light Output	White Lamps - 200 lumens
Approvals	CE, C-Tick, ISO 8846 (Ignition Protection)

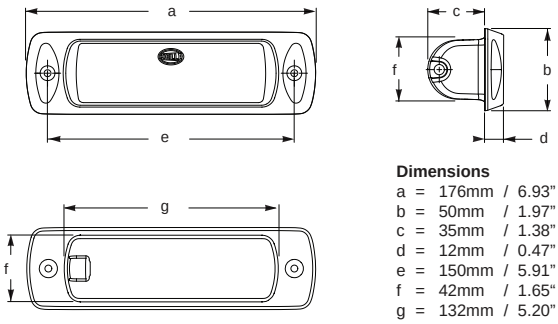
ISO IGNITION PROTECTED

Bracket Mount Dimensions



Dimensions
a = 136mm / 5.35"
b = 53.0mm / 2.08''
c = 49.0mm / 1.93"
d = 46.0mm / 1.81"
e = 32.5mm / 1.28"
f = 90.0mm / 3.54"
g = 123mm / 4.84"
h = 25.0mm / 0.98"

Recess Mount Dimensions



Dimensions
a = 176mm / 6.93"
b = 50mm / 1.97"
c = 35mm / 1.38"
d = 12mm / 0.47"
e = 150mm / 5.91"
f = 42mm / 1.65"
g = 132mm / 5.20"

Red Sea Hawk lamps offer maximum night vision preservation.
Ocean racers, professional sports fisherman and commercial operators recognise the 'non glare' night vision preserving advantages of red Sea Hawk lamps together with their energy saving and durability.

Sea Hawk Bracket Mount

LED Multivolt

White Light LED Floodlights - Spread

Voltage	Housing Color	Part Number
9-33V DC	Black Housing	980 **670**-301
9-33V DC	White Housing	980 **670**-311

LED Multivolt

White Light LED Deck Lamps - Spot

Voltage	Housing Color	Part Number
9-33V DC	Black Housing	980 **670**-201
9-33V DC	White Housing	980 **670**-211

Red Light LED Floodlights - Spread

Voltage	Housing Color	Part Number
12V DC	Black Housing	980 **670**-341
12V DC	White Housing	980 **670**-351

Sea Hawk Recess Mount

LED Multivolt

White Light LED Floodlights - Spread

Voltage	Housing Color	Part Number
9-33V DC	Black Housing	980 **747**-101
9-33V DC	White Housing	980 **747**-111

LED Multivolt

White Light LED Deck Lamps - Spot

Voltage	Housing Color	Part Number
9-33V DC	Black Housing	980 **747**-001
9-33V DC	White Housing	980 **747**-011

LED Sea Hawk-R

7w 550 Lumen

Compact, high performance LED floodlights

Future technology has been applied to the successful Sea Hawk series for class leading efficiency and guaranteed durability.

Hi-tech materials

Sea Hawk-R housings are 'Non-metal', injection moulded from a revolutionary thermally conductive polymer that is highly resistant to degradation, even under harsh UV.

This advanced material draws heat away from internal electronics for reliable long-term operation. Utilising thermal polymer eliminates the requirement for an aluminium housing in this class of floodlight, removing potential surface deterioration and material corrosion risks associated with coated metal in the harsh marine environment.

The lens is precision moulded from high performance Grilamid for strength and durability.

Multivolt 9-33V DC

Advanced electronics ensure reliable illumination and lamp protection even under severe voltage fluctuations and low battery voltages.

Engineered light pattern

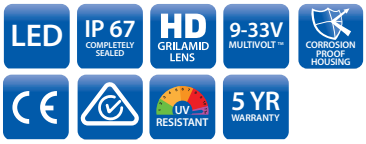
Sophisticated optics deliver a broad and even illumination without glare or harsh point sources. Specifically developed to illuminate a wide, close-range spread over a cockpit, foredeck or working area.

Pre-wired with twin core marine cable

High quality sealed cable assemblies for time saving, completely sealed installations.

Designed and manufactured in New Zealand

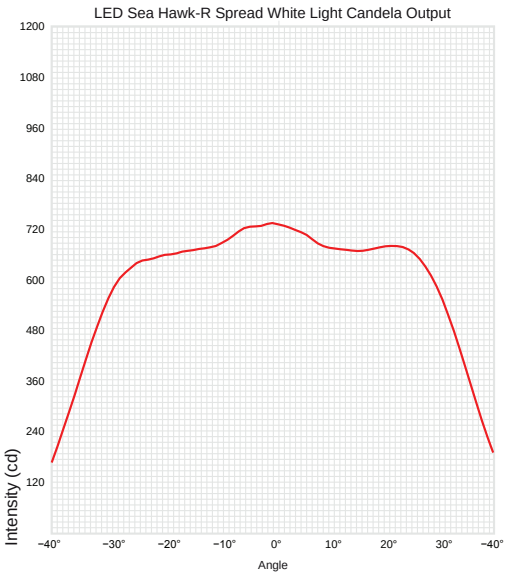
Sea Hawk lamps carry a 5 year warranty.

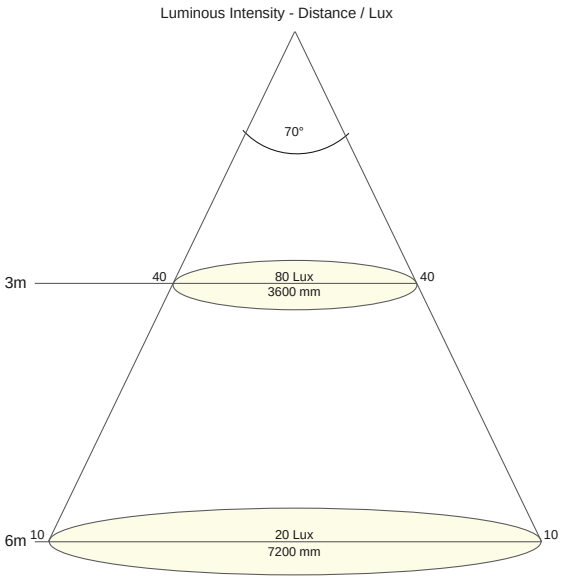


Friction mounts allow adjus ent without tools.

Completely sealed lamp and cable entry. Polished 316 stainless steel bracket.

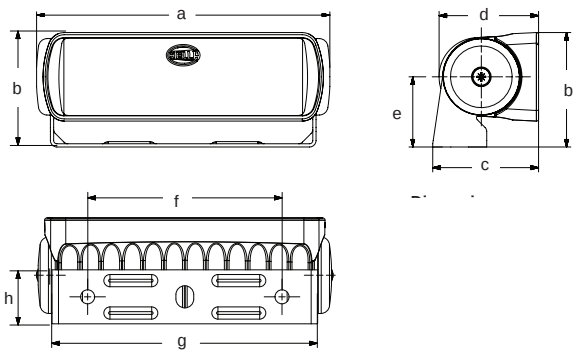
Sea Hawk-R Candela and Lux performance.





Packaging for
aftermarket presentation

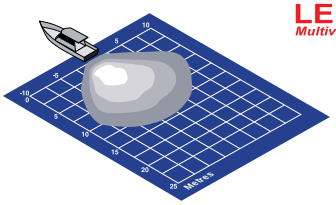
Material Description	'Non metal' thermally conductive polymer housing
	Heavy duty Grilamid lens
Bracket	Polished 316 stainless steel
Color Temperature	5000K (White)
Cable	Pre-wired with 0.5m of twin core marine cable
Operating Voltage	Multivolt 9-33V DC
Degree of Protection	IP 67 - Completely Sealed
Power Consumption	7W (0.58A@12V / 0.29A@24V)
Weight	250g (including cable)
Light Output	550 lumens (White)
Approvals	CE, RCM



Dimensions

a = 136mm / 5.35"
b = 53.0mm / 2.08''
c = 49.0mm / 1.93"
d = 46.0mm / 1.81"
e = 32.5mm / 1.28"
f = 90.0mm / 3.54"
g = 123mm / 4.84"
h = 25.0mm / 0.98"

Sea Hawk-R Bracket Mount



LED Multivolt

White Light LED Floodlights - Spread

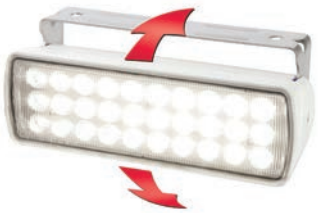
Voltage	Housing Color	Part Number
9-33V DC	Black Housing	980 **573**-011
9-33V DC	White Housing	980 **573**-021

Qualitec Design Award 2013

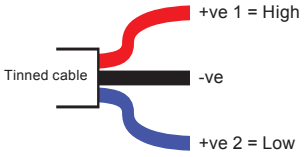
LED Sea Hawk-XL

12w 750 Lumen

High performance LED floodlights with dual brightness function



Friction mounts allow adjustment without tools.



Two-Step high/low intensity via ON-OFF-ON switch.

Completely sealed lamp and cable entry. Polished 316 stainless steel bracket.

'Fit and forget' for a long service life
Each lamp is completely sealed and every aspect, material and component is carefully chosen to ensure longevity in the most demanding offshore conditions without compromise.

Hi-tech materials
The lens is precision moulded from high performance Grilamid for strength and durability.
The housings are injection moulded from a revolutionary corrosion proof, thermally conductive ceramic polymer that is highly resistant to degradation, even under harsh UV.
This advanced material draws heat away from internal electronics for reliable long-term operation.
Utilising thermal polymer eliminates the requirement for an external aluminium heat sink in this class of floodlight, removing potential surface deterioration and material corrosion risks associated with coated aluminium in the harsh marine environment.

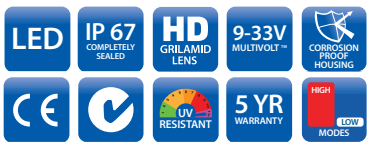
Integrated Dimming
A unique high/low light intensity function is standard with every lamp.

Engineered light patterns
Sophisticated optics deliver a broad and even illumination without glare or harsh point sources. Spread lamps illuminate a wide, close-range spread over a cockpit, foredeck or working area. Spot lamps provide a narrower, more concentrated illumination suitable for yacht masts or to determine objects in the water during low speed docking.

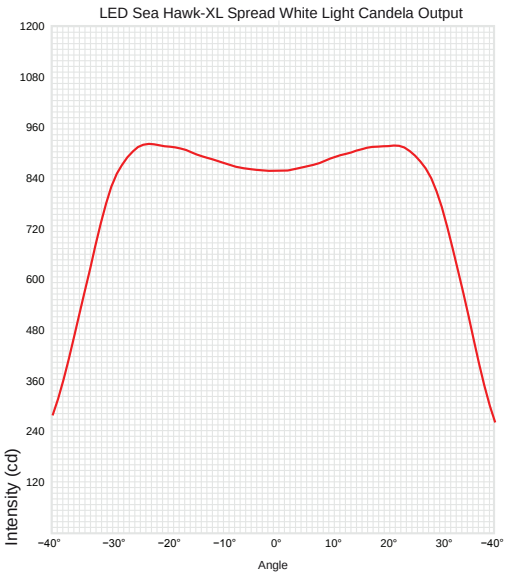
Multivolt 9-33V DC
Advanced electronics ensure reliable illumination and lamp protection even under severe voltage fluctuations and low battery voltages.

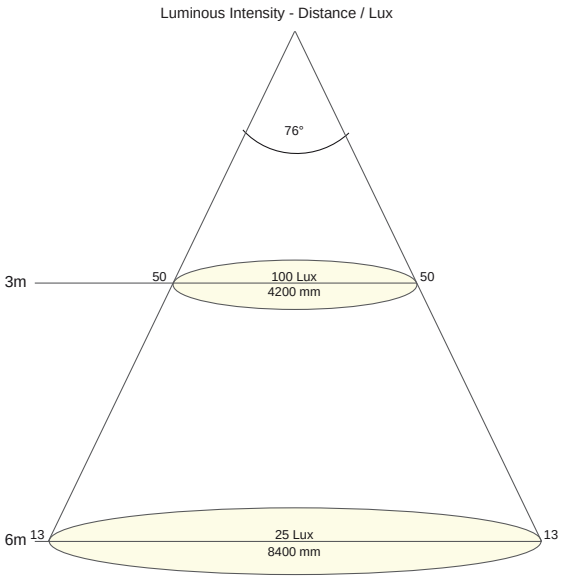
Pre-wired with three core marine cable
High quality sealed cable assemblies for time saving, completely sealed installations.

Designed and manufactured in New Zealand
Sea Hawk lamps carry a 5 year warranty.



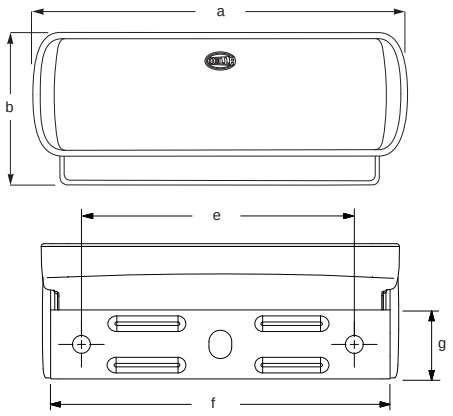
Sea Hawk XL Candela and Lux performance. Spread.





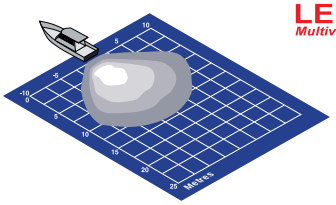
Packaging for aftermarket presentation

Material Description	'Non metal' Thermally conductive polymer housing
	Heavy duty Grilamid lens
Bracket	Polished 316 stainless steel
Color Temperature	5500K (White)
Cable	Pre-wired with 0.5m of triple core marine cable
Operating Voltage	Multivolt 9-33V DC
Degree of Protection	IP 67 - Completely Sealed
Power Consumption	High Intensity Mode 12W (1.00A@12V / 0.50A@24V)
	Low Intensity Mode 2W (0.17A@12V / 0.08A@24V)
Weight	450g (including cable)
Light Output	750 lumens (White)
Approvals	CE, C-Tick



Dimensions
a = 170mm / 6.69"
b = 68mm / 2.68"
c = 58mm / 2.28"
d = 55mm / 2.17"
e = 120mm / 4.72"
f = 154mm / 6.06"
g = 30mm / 1.18"

Sea Hawk-XL Bracket Mount

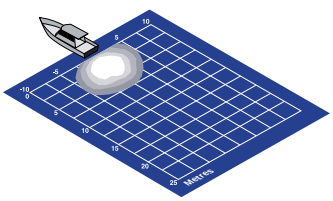


LED Multivolt

White Light LED Floodlights - Spread

Voltage	Housing Color	Part Number
9-33V DC	Black Housing	980 **950**-001
9-33V DC	White Housing	980 **950**-011

Sea Hawk-XL Bracket Mount



LED Multivolt

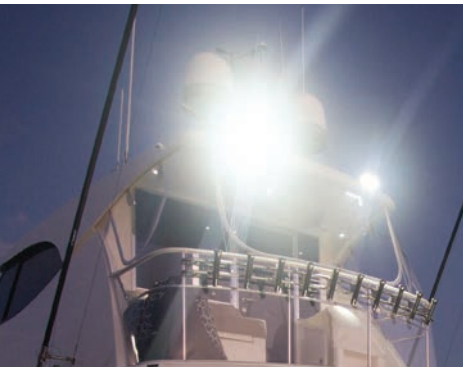
White Light LED Deck Lamps - Spot

Voltage	Housing Color	Part Number
9-33V DC	Black Housing	980 **950**-201
9-33V DC	White Housing	980 **950**-211

LED Sea Hawk-XLR

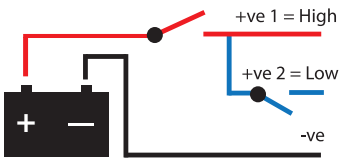
18w 1300 Lumen

Next level technology offering incredible intensity



Riviera 63FB www.riviera.com.au

Friction mounts allow adjustment without tools.



Two-Step high/low intensity options.

Completely sealed lamp and cable entry.
Polished 316 stainless steel bracket.

Our brightest Sea Hawk to date !
1300 lumens of crisp, white, darkness-busting illumination with all the proven Sea Hawk durability and efficiency advantages.

Engineered light patterns
Advanced optical systems deliver incredible illumination without glare. Spread lamps illuminate a wide, close-range spread over a cockpit, foredeck or working area. Spot lamps provide a narrower, more concentrated illumination for tuna towers, yacht masts or for forward facing lighting on a variety of applications.

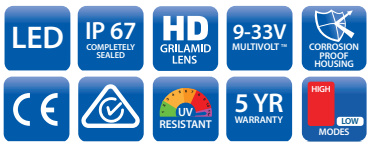
Unique Corrosion Proof Housing
Rather than cast and machined from aluminium then protective coated, Sea Hawk XLR housings are precision injection moulded from thermally conductive ceramic polymer.
This advanced material draws heat from internal electronics for reliable long-term operation and eliminates the need for an aluminium housing in this class of floodlight, removing corrosion risks in the harsh marine environment.

Integrated Dimming
High/low light intensity functions are standard with every lamp.

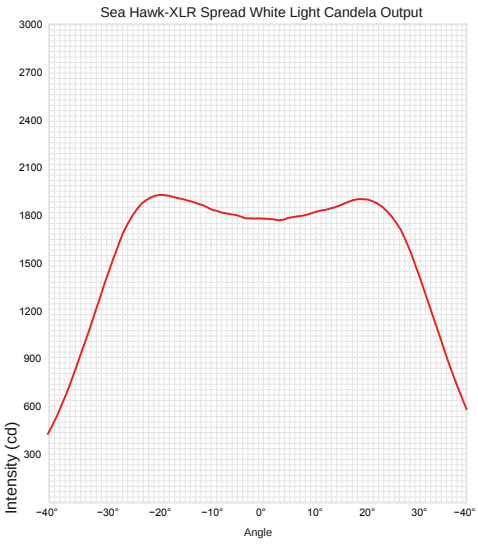
Multivolt 9-33V DC
Advanced electronics ensure reliable illumination and lamp protection even under severe voltage fluctuations and low battery voltages.

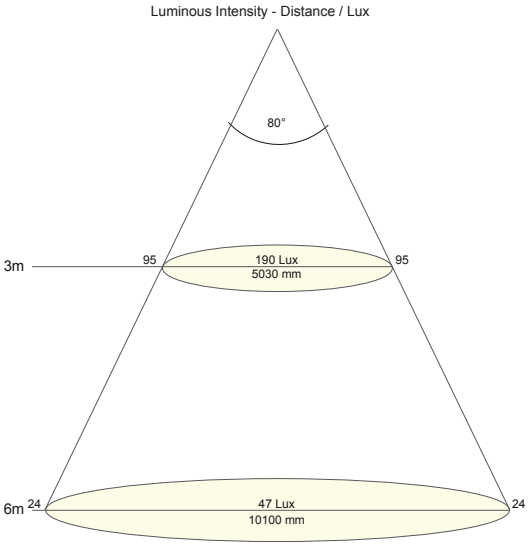
Pre-wired with marine cable
High quality sealed cable assemblies for time saving, completely sealed installations.

Designed and manufactured in New Zealand
Sea Hawk lamps carry a 5 year warranty.



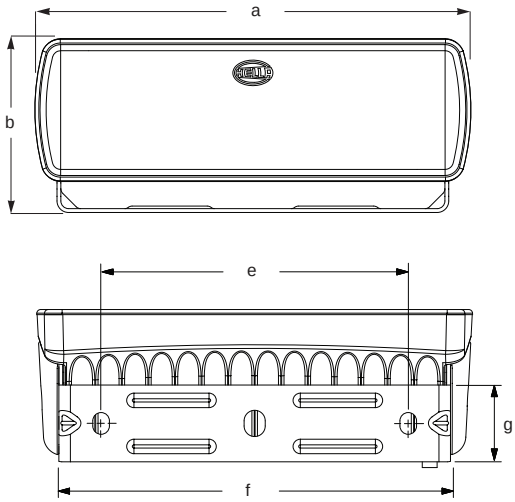
Sea Hawk XLR Candela and Lux performance. Spread.



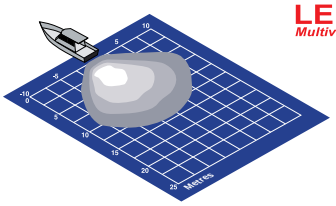


Packaging for aftermarket presentation

Material Description	'Non metal' Thermally conductive polymer housing
	Heavy duty Grilamid lens
Bracket	Polished 316 stainless steel
Color Temperature	5000K (White)
Cable	Pre-wired with 0.5m of triple core marine cable
Operating Voltage	Multivolt 9-33V DC
Degree of Protection	IP 67 - Completely Sealed
Power Consumption	High Intensity Mode 18W (1.5A@12V / 0.75A@24V)
	Low Intensity Mode 2W (0.17A@12V / 0.08A@24V)
Weight	450g (including cable)
Light Output	1300 lumens
Approvals	CE, RCM



Dimensions
a = 170mm / 6.69"
b = 68mm / 2.68"
c = 58mm / 2.28"
d = 55mm / 2.17"
e = 120mm / 4.72"
f = 154mm / 6.06"
g = 30mm / 1.18"

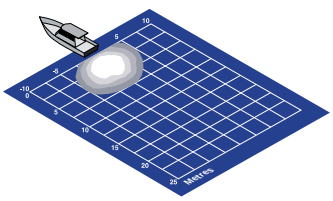


Sea Hawk-XLR Bracket Mount

LED Multivolt

White Light LED Floodlights - Spread

Voltage	Housing Color	Part Number
9-33V DC	Black Housing	980 740-001
9-33V DC	White Housing	980 740-011



Sea Hawk-XLR Bracket Mount

LED Multivolt

White Light LED Deck Lamps - Spot

Voltage	Housing Color	Part Number
9-33V DC	Black Housing	980 740-201
9-33V DC	White Housing	980 740-211

LED Mega Beam and LED Module 70

13w 800 Lumen

Now offering 800 lumens of crisp white illumination

Evolution 552 www.evolutionboats.com.au

Close range floodlights with the energy saving advantages of Hella marine LED technology.

Multivolt 9-30V DC
Advanced electronics ensure reliable illumination and lamp protection even under severe voltage fluctuations and low battery voltages.

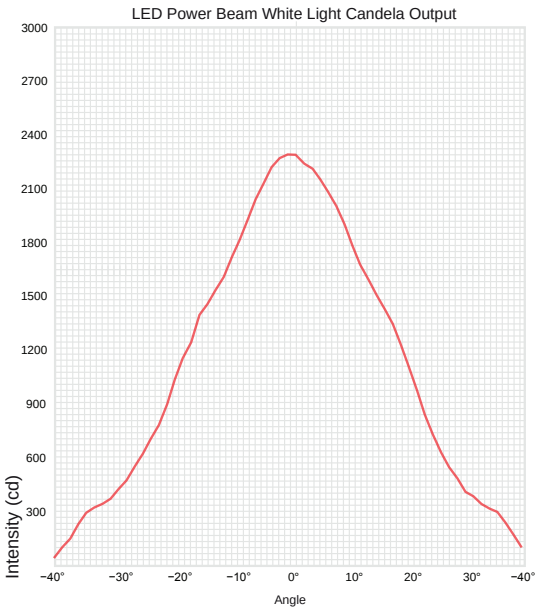
Pre-wired with marine cable
High quality sealed cable assemblies for time saving, completely sealed installations.

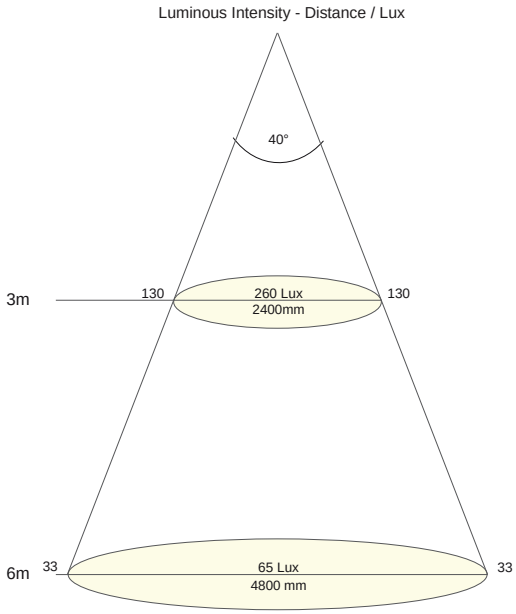
Designed and manufactured in Austria
LED Mega Beam and Module 70 lamps carry a 5 year warranty.

LED | IP 67 COMPLETELY SEALED | 9-30V MULTIVOLT™ | CE | UV RESISTANT | 5 YR WARRANTY

- Completely sealed housing & cable entry
- Pre-wired with marine cable

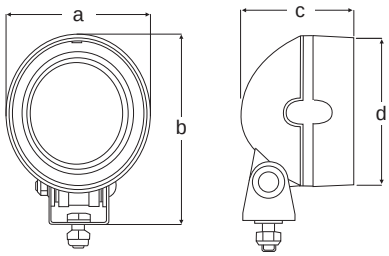
Module 70 Candela and Lux performance.





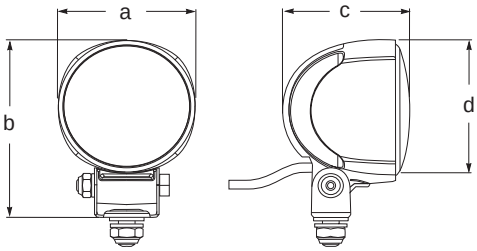
Material Description	UV and impact resistant plastic front housing
	Die cast aluminium body, Glass lens
Bracket	316 stainless steel
Color Temperature	6500K
Cable	Pre-wired with 2.0m of twin core marine cable
Operating Voltage	Multivolt 9-30V DC
Degree of Protection	IP 67 - Completely Sealed
Power Consumption	13W (<1.08A@12V / <0.54A@24V)
Weight	Mega Beam: 750g (including cable)
	Module 70: 500g (Including cable)
Light Output	800 lumens
Approvals	CE

Packaging for aftermarket presentation



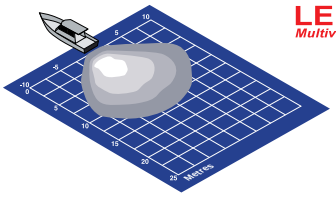
Mega Beam

Dimensions
a = 110mm / 4.33”
b = 145mm / 5.70”
c = 83mm / 3.27”
d = 120mm / 4.72”



Module 70

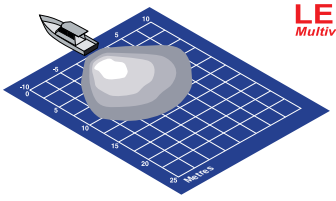
Dimensions
a = 83mm / 3.27”
b = 110mm / 4.33”
c = 74mm / 2.91”
d = 83mm / 3.27”



LED Multivolt

LED Mega Beam Deck Floodlights

Voltage	Housing Color	Part Number
9-30V DC	White Housing	996 136-341
9-30V DC	Black Housing	996 136-351



LED Multivolt

LED Module 70 Deck Floodlights

Voltage	Housing Color	Part Number
9-30V DC	White Housing	996 276-471
9-30V DC	Black Housing	996 276-452

LED Power Beam

43w 3100 Lumen

Powerful illumination in a low profile and compact housing

Bright white widespread illumination with all the energy saving and proven durability advantages of Hella marine LED technology.

Multivolt 9-33V DC
Advanced electronics ensure reliable illumination and lamp protection even under severe voltage fluctuations and low battery voltages.

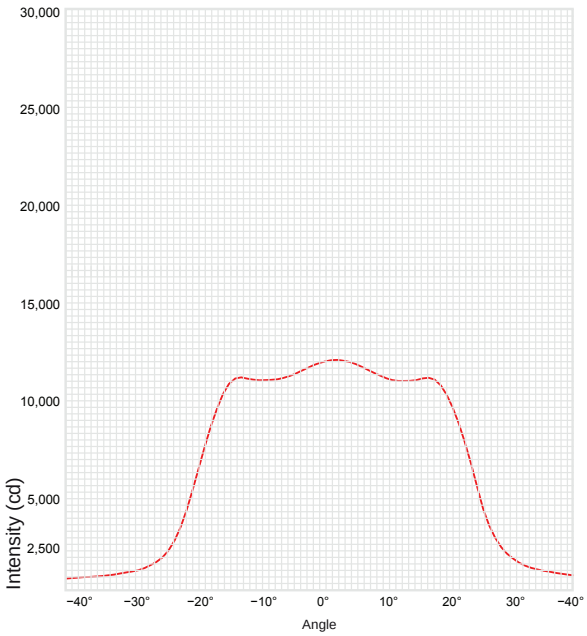
Pre-wired with marine cable
High quality sealed cable assemblies for time saving, completely sealed installations.

Designed and manufactured in Austria
Power Beam lamps carry a 5 year warranty.

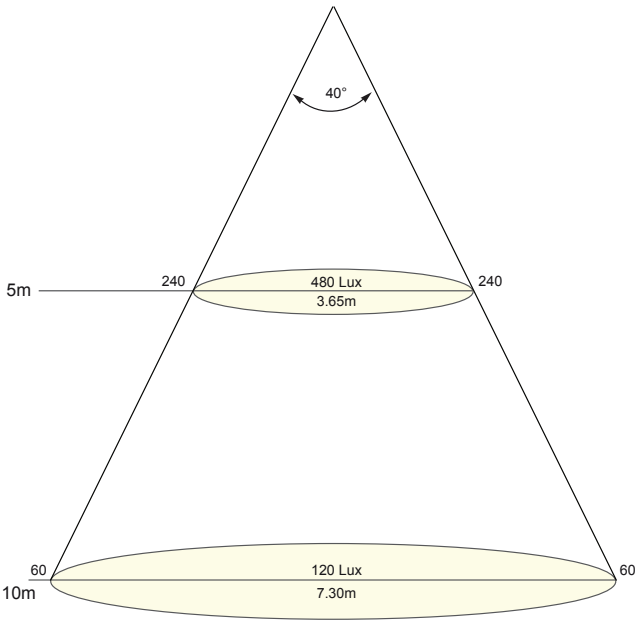
LED | IP 67 COMPLETELY SEALED | 9-33V MULTIVOLT™ | CE | UV RESISTANT | 5 YR WARRANTY

Power Beam Candela and Lux performance.

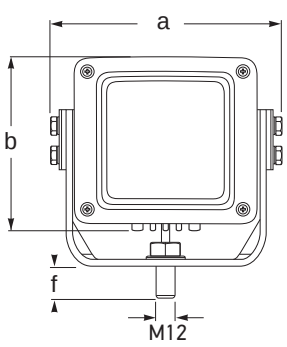
PB 3000 Wide Beam Floodlight Candela Output



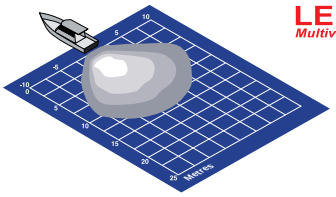
Luminous Intensity - Distance / Lux



Housing Material	Die cast aluminium body
Lens Material	Hi impact resistant acrylic
Bracket	316 stainless steel
Color Temperature	5700K (Daylight White)
Cable	Pre-wired with 2000mm cable
Operating Voltage	Multivolt 9-33V DC
Degree of Protection	IP 6K9K - Completely Sealed
Power Consumption	43W (3.58A@12V / 1.79A@24V)
Operating Temperature	-40°C to + 50°C
Weight	1.4 Kg (including cable)
Light Output	3100 lumens
Approvals	CE, CISPR25 Class 5



Dimensions:
a = 144mm / 5.67”
b = 108mm / 4.25”
c = 110mm / 4.33”
d = 130mm / 5.12”
e = 88mm / 3.46”
f = 20mm / 0.79”



LED Multivolt

Power Beam Deck Floodlights

Voltage	Housing Color	Part Number
9-33V DC	Black Housing	996 **192**-021

Accessory

Description	Part Number
100W 24V IP 67 AC-DC Power Supply	910 **345**-041

Dimensions
L 200mm / 7.87”
W 68mm / 2.68”
H 40mm / 1.58”

AS 5000 LED

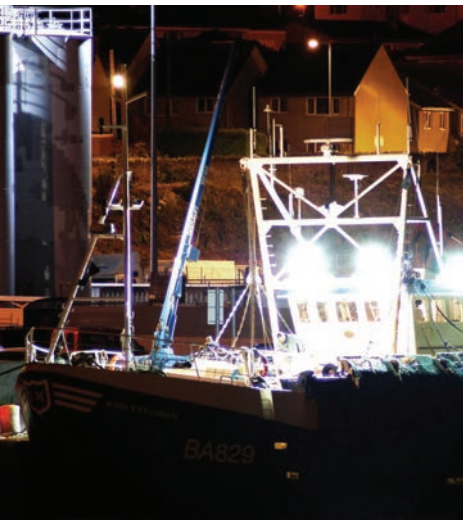
60w 5000 Lumen

Heavy duty lighting for the harshest environments

High Performance

Ultra Durable

No compromise



Hella marine AS 5000 LED floodlights are precision engineered to perform without failure, season after season.

Every aspect, material and component has been carefully selected to ensure longevity in the most demanding environments.
Relentless Hella marine 'test to destruction' development programmes help lift product reliability to new levels. AS 5000 lamps endure the worst of vibration, shock and high impact torture tests.

Powerful and efficient
With over 5000 lumens, AS 5000 lamps offer highly effective illumination with a power consumption of only 60W (5A@12V and 2.5A@24V DC).

Fully sealed and salt water durable
Each lamp is a completely sealed IP 6K 9K unit, impervious to moisture and contaminants. The housing features a unique bonded non-stick coating that will not corrode, discolor, peel or flake even under harsh UV and is highly resistant to cleaning chemicals.

Benchmark light distribution
Hella's optical engineering expertise provides highly effective illumination for working vessels. Wide or narrow light beam patterns offer a crisp white 'close to daylight' 5700K color temperature. Working under this color of light reduces the fatigue and eye strain sometimes caused by warmer color halogen lighting.

Multivolt 9-33V DC
Advanced electronics ensure reliable illumination and lamp protection even under severe voltage fluctuations and low battery voltages.
A reduced power mode activates below 11.6V to prevent battery drain when lights are on but the charging system may not be operating.

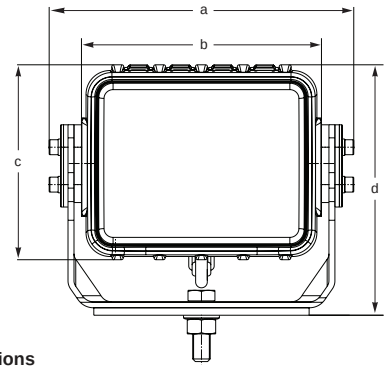
Durable in extreme temperature
Tested to operate effectively from –40° to +50° Celsius. Integrated thermal protection ensures longevity of the electrical components at the most extreme operating temperatures.

Long term secure installation
A sturdy 316 stainless steel bracket firmly holds the lamp to withstand harsh vibration and impact.

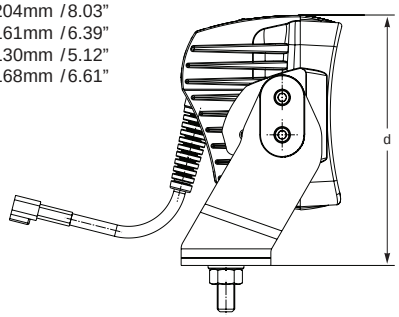
Designed and manufactured in Australia
Hella marine AS 5000 lamps carry a 5 year warranty.

Completely sealed lamp and cable assembly.

The 316 stainless steel adjustable bracket holds the lamp to withstand harsh vibration and impact.

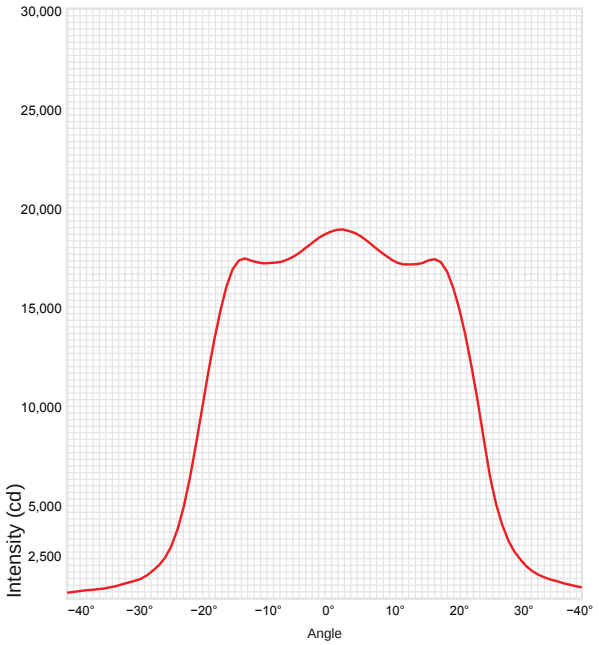


Dimensions
a = 204mm /8.03”
b = 161mm /6.39”
c = 130mm /5.12”
d = 168mm /6.61”

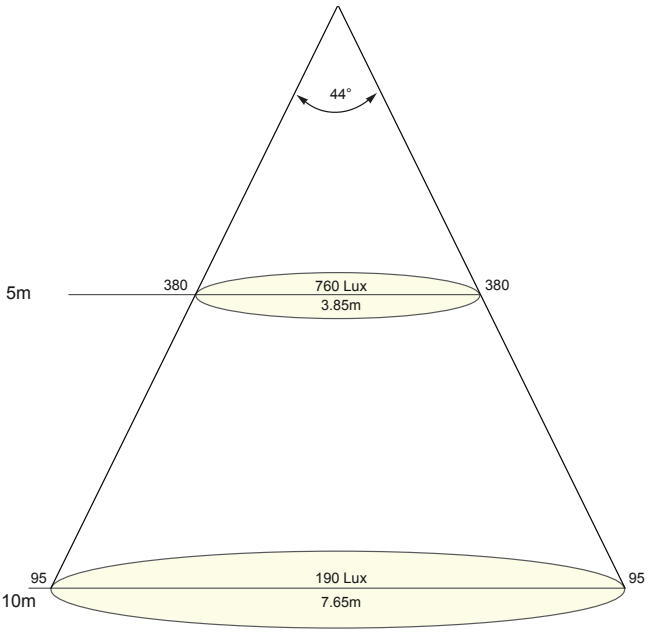


Housing Material	Die cast aluminium body. Non-stick surface coating
Lens Material	Heavy duty Grilamid
Bracket	316 stainless steel
Color Temperature	5500K (White)
Cable	Pre-wired with twin core marine cable with 2 pin DT connector.
Operating Voltage	Multivolt 9-33V DC
Degree of Protection	IP 6K9K - Completely Sealed
Power Consumption	60W (5A@12V / 2.5A@24V)
Operating Temperature	-40°C to + 50°C
Weight	2.6 Kg (including cable)
Light Output	5000 lumens
Vibration Rating	750Hz at 3.2mm
Shock Rating	200G
Approvals	CE, C-Tick, CISPR25 Class 2, ISO13766:2006

AS 5000 Wide Beam Floodlight Candela Output



Luminous Intensity - Distance / Lux



LED Multivolt

White Light LED Floodlight - Wide Beam

Voltage	Housing Color	Part Number
9-33V DC	Black Housing	011 **293**-081

LED Multivolt

White Light LED Floodlight - Narrow Beam

Voltage	Housing Color	Part Number
9-33V DC	Black Housing	011 **293**-091

Accessory

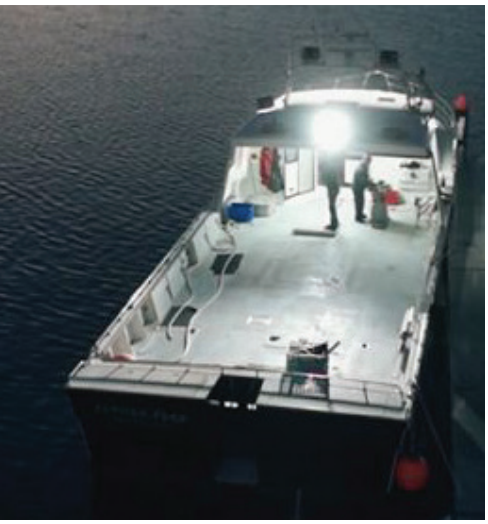
Description	Part Number
100W 24V IP 67 AC-DC Power Supply	910 **345**-041

Dimensions
L 200mm / 7.87”
W 68mm / 2.68”
H 40mm / 1.58”

HypaLUME

240w 20,000 Lumen

20,000+ LUMENS OF PURE POWER



One HypaLUME providing ample illumination on a 25m work boat.

Heavy duty 316 stainless steel bracket allows vertical angle adjus ent.

A quantum technology leap for commercial vessels, HypaLUME is Hella marine's most powerful floodlight.

Hypa-Performance
The powerful optical system generates over 20,000 lumens for a mere 240W consumption (10A@24V) offering class leading efficacy.
With this impressive output, HypaLUME provides usable light comparable to a 400W metal halide for significantly less energy consumption.

Engineered reliability
Completely sealed (IP6K9K) housings are impervious to moisture and contaminants.
HypaLUME development programs have endured arduous torture tests of harsh vibration, impact, thermal shock, deluge testing, EMC bursts, accelerated corrosion and harsh chemical exposure.

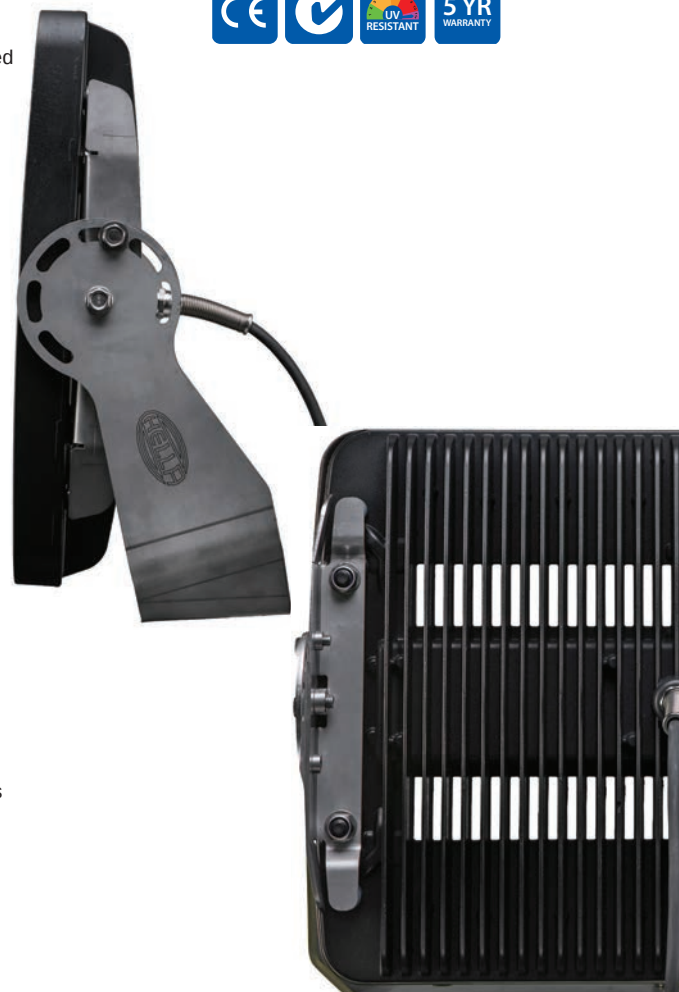
Proven durable materials
Heavy duty Grilamid is specified for the lens material due to advantages in UV and chemical resistance and exceptionally high impact resistance.
The unique heat-sink housing features a bonded non-stick coating that will not corrode, discolor, peel or flake.

Benchmark working light color
The wide reaching beam pattern offers crisp white 'close to daylight' 5700K color temperature. Working under this color of light reduces the fatigue and eye strain sometimes caused by warmer color halogen lighting.

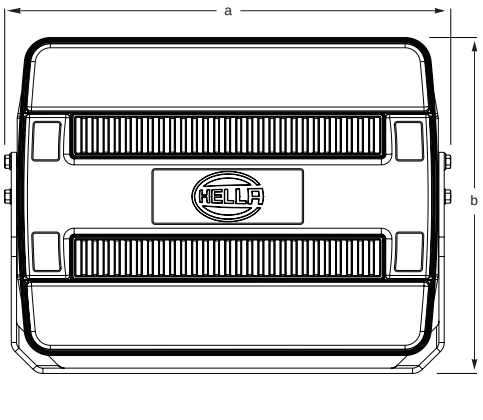
Reliable in extreme conditions
Tested to operate from –40° to +50° Celsius with no decrease in output, HypaLUME provides utmost reliability in the most extreme operating temperatures.

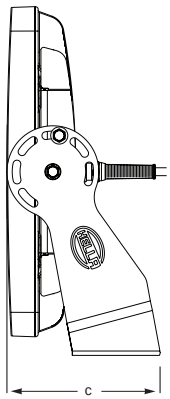
Secure installation
A heavy duty 316 stainless steel bracket firmly grips the HypaLUME to withstand harsh vibration and impact while also providing vertical angle adjustment.

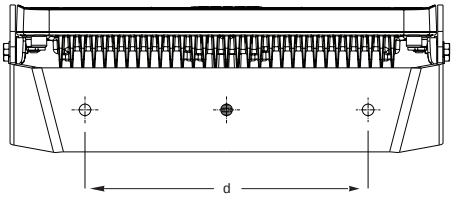
Designed and manufactured in Australia
HypaLUME lamps carry a 5 year warranty.



Housing Material	Die cast aluminium body. Non-stick surface coating
Lens Material	Heavy duty Grilamid
Bracket	316 stainless steel
Color Temperature	5700K (Daylight White)
Cable	Pre-wired with 1.8m of twin core marine cable
Operating Voltage	Multivolt 18-52V DC
Degree of Protection	IP 6K 9K - Completely Sealed
Power Consumption	240W (10A@24V)
Operating Temperature	-40°C to + 50°C
Weight	13.3 Kg (including cable)
Light Output	20000 lumens
Vibration Rating	750Hz at 3.2mm
Approvals	CE, C-Tick, CISPR25 Class 2, ISO13766:2006

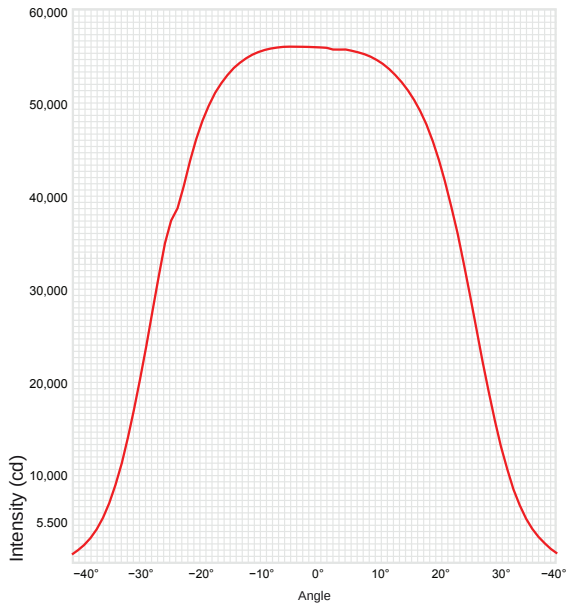




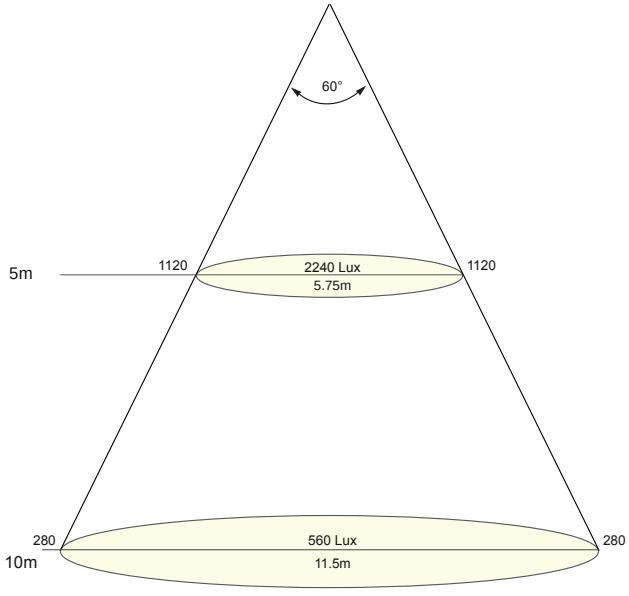


Dimensions
a = 504mm /19.84”
b = 380mm /14.96”
c = 167mm / 6.58”
d = 320mm /12.60”

HypaLUME® Floodlight Candela Output



Luminous Intensity - Distance / Lux



LED Multivolt

White Light LED Floodlight - Close Beam

Voltage	Housing Color	Part Number
18-52V DC	Black Housing	011 **872**-121

7118 Series Halogen

Off White Housing - Structured Lens

7118 Series

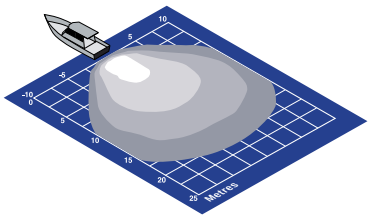
Fiber reinforced housing and Free Form reflector for close range homogeneous illumination.

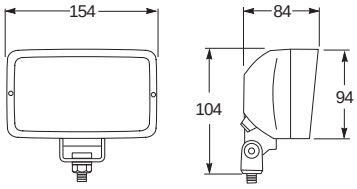
- Hella 'Free Form' reflector technology
- Sealed cable entry gland and pre-wired cable option
- Extended front edge for lens protection
- 316 Stainless steel mounting hardware

Black Housing - Structured Lens

Material Description	UV and impact resistant plastic housing
Bulb	12V / 55W H3 bulb included
Mounting	Upright mounting
Cable Entry	Sealed cable entry gland pre-wired twin core marine cable.
Degree of Protection	IP X4
Maximum Output	12V / 55W or 24V / 70W

Note - Not suitable for 100W bulbs





Sealed cable entry gland with nut option. Pre-wired with 220mm of twin core marine cable.

Replacement Bulb Type -

PK22s
12V / 55W (002 090-131)
24V / 70W (002 090-251)

7118 Series Halogen Deck Floodlights

Voltage	Housing Color	Lens	Cable Entry	Part Number
12V	Off White	Structured Lens	Cable Gland	007 **118**-051
12V	Black	Structured Lens	Cable Gland	007 **118**-091

Bracket

Stainless steel bracket for stabilized mounting in areas subject to vibration.
130 **261**-00

Replacement Bulb Type -

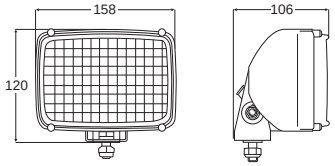
PK22s
12V / 55W (002 090-131)
24V / 70W (002 090-251)

8541 Series Halogen

8541 Series

Wide spread close range illumination with double Free Form reflector. White fiber reinforced plastic housing with extended front edge to protect lens.

- Twin Hella 'Free Form' reflector technology
- Triple the light output compared to conventional lamps of the same size
- Large 145 x 83mm light aperture
- Extended front edge for lens protection
- 316 Stainless steel mounting hardware

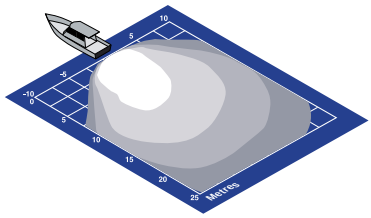


Replacement Bulb Type -

PK22s
12V / 55W (002 090-131)
24V / 70W (002 090-251)

Housing Description	UV and impact resistant plastic housing
Bulb	2 x 12V / 55W H3 bulbs included
Mounting	Upright mounting
Cable Entry	Pre-wired with 110mm of cable
Degree of Protection	IP 54
Maximum Output	2 x 12V / 55W or 2 x 24V / 70W

Note - Not suitable for 100W bulbs



8541 Series Halogen Deck Floodlight		
Voltage	**Housing Color**	**Part Number**
12V	White Housing	998 **541**-001

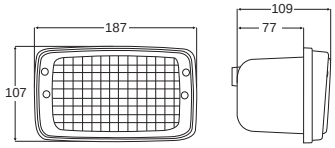
Bracket

Stainless steel bracket for stabilized mounting in areas subject to vibration.
130 **261**-001

8542 Series - Flush Mount

Wide spread close range illumination with double Free Form reflector. Flush mount fiber reinforced plastic housing with extended front edge to protect lens.

- Twin Hella 'Free Form' reflector technology
- Triple the light output compared to conventional deck lamps of the same size
- Extended front edge for lens protection
- Large 145 x 83mm light aperture
- 7° upwards or downwards inclination

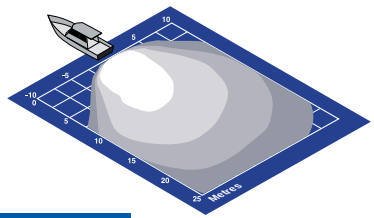


Replacement Bulb Type -

PK22s
12V / 55W (002 090-131)
24V / 70W (002 090-251)

Housing Description	UV and impact resistant plastic housing
Bulb	2 x 12V / 55W H3 bulbs included
Mounting	Recess Mount. Pre-wired with 250mm of cable
Degree of Protection	IP 54
Maximum Output	2 x 12V / 55W or 2 x 24V / 70W

Note - Not suitable for 100W bulbs



8542 Series Flush Mount Halogen Deck Floodlight		
Voltage	**Housing Color**	**Part Number**
12V	White Housing	998 **542**-001

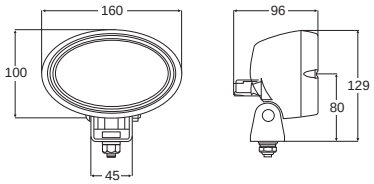
51

6361 Series Halogen

6361 Oval 100 Series

White fiber reinforced housing and Free Form reflector for close range homogeneous illumination. Sturdy housing design for use under heavy duty conditions.

- Extended front edge for lens protection
- Glass lens bonded with reflector to be dust and moisture resistant
- 316 Stainless steel mounting hardware
- Sealed cable entry via threaded gland with nut
- Suitable for applications subject to heavy vibration
- Upright or pendant mounting. Can be rotated through 180°



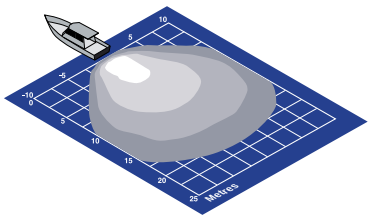
Replacement Bulb Type -

PK22s
12V / 55W (002 090-131)
24V / 70W (002 090-251)

Sealed cable entry gland with nut.
Pre-wired with 300mm of twin core marine cable.

Housing Description	UV and impact resistant plastic housing
Bulb	12V / 55W or 24V / 70W H3 bulb included
Mounting	Upright mounting
Cable Entry	Pre-wired with 300mm of cable
Degree of Protection	IP 6K 9K
Maximum Output	12V / 55W or 24V / 70W

Note - Not suitable for 100W bulbs



6361 Series Halogen Deck Floodlights		
Voltage	**Housing Color**	**Part Number**
12V	White Housing	996 **361**-131
24V	White Housing	996 **361**-391

Bracket

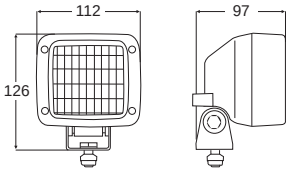
Stainless steel bracket for stabilized mounting in areas subject to vibration.
130 **261**-001

8517 Series Halogen

8517 Series

White fiber reinforced housing and Free Form reflector for close range homogeneous illumination.

- Hella 'Free Form' reflector technology
- Compact design
- Illuminates large areas of deck or superstructure
- Glass lens bonded with reflector to be dust and moisture resistant
- Sealed cable entry via 2 pin plug
- 316 Stainless steel mounting hardware

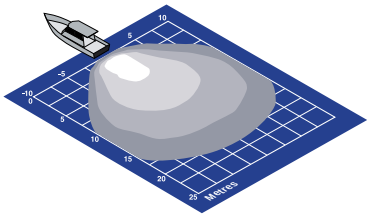


Replacement Bulb Type -

PK22s
12V / 55W (002 090-131)
24V / 70W (002 090-251)

Housing Description	UV and impact resistant plastic housing
Bulb	12V / 55W H3 bulb included
Mounting	Upright mounting
Cable Entry	2 PIN AMP connector (AMP 180923)
Degree of Protection	IP 6K 9K
Maximum Output	12V / 55W or 24V / 70W

Note - Not suitable for 100W bulbs



8517 Series Halogen Deck Floodlights			Bracket
Voltage	**Housing Color**	**Part Number**	
12V	White Housing	99**8 517**-001	Stainless steel bracket for stabilized mounting in areas subject to vibration. 13**0 261**-001

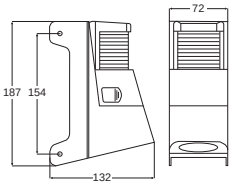
8505 and 8504 Series Masthead / Floodlight Combination Lamps

8505 Series

Deck Floodlight and Masthead Lamp combined in one robust housing.
Suitable for vessels less than 12m in length.

CE IMO COL REG 72 USCG RINA ABYC A-16

Features:
- 2 Nautical Mile Masthead lamp
- Hella marine 'Free Form' reflector technology
- Flexible mounting arms for mounting on a variety of mast profiles
- Halogen reflector lamp (12V / 20W) with cover for moisture protection
- All metal parts are stainless steel
- Bulb replaces via opening in the cover
- Black or White fiber reinforced housing



Housing Description	UV and impact resistant plastic housing
Bulbs	12V / 10W SV8.5 and 12V / 20W GX5.3 bulbs included
Mounting	Navigation lamp requires wiring through grommet on back plate Floodlight pre-wired with 110mm of cable Housing arms flex to fit around mast profile
Degree of Protection	IP X4
Approvals	IMO COLREG, USCG, ABYC A-16, RINA(I)
Maximum Output	Deck lamp 12V / 20W

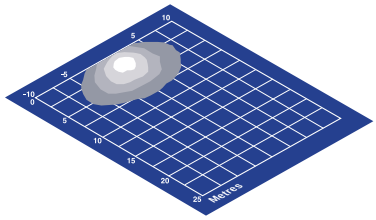
Replacement Bulb Type -

Masthead SV8.5
12V / H83205001

Floodlight GX5.3
12V / 998 **529**-001

8505 Series Masthead / Floodlight Lamps

Voltage	Housing Color	Part Number
12V	Black Housing	998 **505**-001
12V	White Housing	998 **505**-011

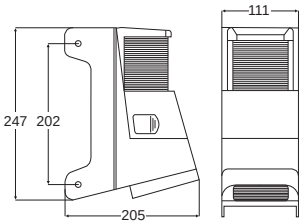


8504 Series

Deck Floodlight and Masthead Lamp combined in one robust housing.
Suitable for vessels less than 20m in length.

BSH IMO COL REG 72 USCG CE RINA ABYC A-16

Features:
- 3 Nautical Mile Masthead lamp
- Hella 'Free Form' reflector technology
- Flexible mounting arms for mounting on a variety of mast profiles
- Illuminates large areas of deck or superstructure
- Glass lens bonded with reflector to be dust and moisture resistant
- Covered bulbs for moisture protection
- All metal parts are stainless steel
- Black fiber reinforced housing



Housing Description	UV and impact resistant plastic housing
Bulbs	12V / 10W BAY15d and 12V / 55W H3 bulbs included
Mounting	Navigation lamp and Deck Floodlight require separate wiring Housing arms flex to fit around mast profile
Degree of Protection	IP X4
Approvals	IMO COLREG, BSH, USCG, ABYC A-16, RINA(I)
Maximum Output	Deck lamp 12V / 55W or 24V / 70W

Note - Not suitable for 100W bulbs

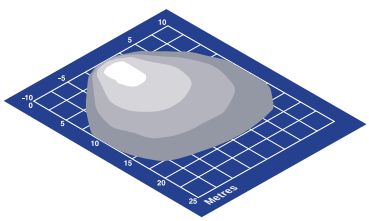
Replacement Bulb Type -

Masthead BAY15d
12V / 003 **488**-301
24V / 003 **488**-311

Floodlight PK22s
12V / H83135051
24V / H83135211

8504 Series Masthead / Floodlight Lamp

Voltage	Housing Color	Part Number
12V	Black Housing	998 **504**-001
12V	White Housing	998 **504**-011

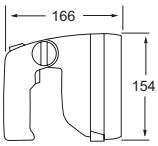


8502 Series Halogen Lights

8502 Series - Powerful Twin Beam Hand Held Search Light

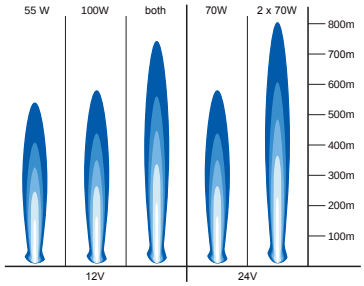
Hella marine hand held search lights are vital tools for night sailing and landing maneuvres.

- Two reflectors and two halogen bulbs on separate switches
- 55W bulb for close range. 100W bulb for long range. (12V Version)
- 2 x 70W bulbs. (24V Version)
- Trigger switch integrated into the grip allows morse code operation
- Extended front edge for protection of the glass lens



Housing Description	Shock and vibration resistant plastic High gloss aluminium reflector
Bulbs	1 x 12V / 55W H3 bulb included 1 x 12V / 100W H3 bulb included 2 x 24V / 70W H3
Installation	Spiral cable with cigarette lighter plug Extended length 3.5m
Degree of Protection	IP X6K

Illumination Distance



Deck mount base
998 **519**-001 (63150)

8502 Series Hand Held Search Light

Voltage	Housing Color	Part Number
12V	Black Housing	998 **502**-001

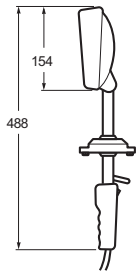
Replacement Bulb Type - PK22s

12V / 55W	H83135051
12V / 100W	H83135111
24V / 70W	H83135211

8502 Series - Powerful Twin Beam Fixed Mount Search Light

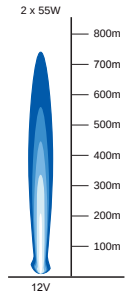
Designed for installations through cabin roofs.

- Two reflectors and two halogen bulbs with a single switch on handle
- Two 12V / 55W or 24V / 70W bulbs
- 360° rotation. 30° vertical adjustment
- Extended front edge for protection of the glass lens



Housing Description	Shock and vibration resistant plastic High gloss aluminium reflector
Bulbs	2 x 12V / 55W H3 bulbs included 2 x 24V / 70W H3
Installation	Pre-wired with 350mm of cable Grommet sealed. O-ring included
Degree of Protection	IP X6K

Illumination Distance



8502 Series Fixed Mount Search Light

Voltage	Housing Color	Part Number
12V	Black Housing	998 **502**-021

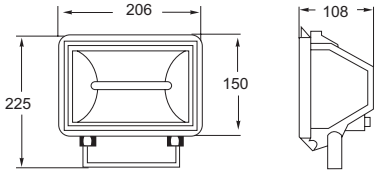
Replacement Bulb Type - PK22s

12V / 55W	H83135051
24V / 70W	H83135211

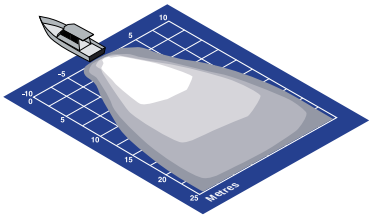
H169 Series Halogen

AC Halogen Deck Floodlight

- Glass lens bonded with reflector to be dust and moisture resistant
- Illuminates large areas of deck or superstructure
- 316 Stainless steel mounting components
- Suitable for applications subject to heavy vibration



Housing Description	Die cast and powder coated aluminium housing
Bulb	120V / 500W included
Mounting	Surface Mount. Bracket included.
Degree of Protection	IP X4
Maximum Output	120V / 500W



AC Halogen Deck Floodlight

Voltage	Housing Color	Part Number
120V	White Housing	H16980001

Waiheke Island, New Zealand

LED Interior and Exterior Lighting

Hella marine

Vision and Innovation

LED Interior and Exterior Lighting

LED Technology

Hella marine LED interior, exterior and courtesy lamps provide efficient, power saving and ultra durable illumination for reliability and safety at sea.

Ultra Low Power Consumption
Combining efficient LED light sources with advanced optic technology, Hella marine LED products deliver more light output per watt than traditional bulb lamps and thus provide considerable energy savings.
As an example, Hella marine DuraLed heavy duty 36 LED lamps use less than 15% of the power required to run a 60W fluorescent lamp, yet provide a considerably wider, whiter and more intense light pattern.

Ultra low heat signature for improved safety
All Hella marine LED lamps feature an ultra low heat signature due to their low power consumption. This provides many safety and installation advantages as the risks of heat damage caused by traditional halogen lamps are completely eliminated.
Hella marine LED lamps can be installed almost anywhere onboard, directly onto timber, fabrics and lightweight composite materials.

No bulbs, No maintenance. Ultra long service life
Hella marine LED technology has no filaments to break, thus making the LED lamps extremely shock and vibration resistant for reliable illumination and safety.
Our engineering team has developed a unique range of highly demanding tests to lift product reliability to new standards.

IP 67 COMPLETELY SEALED

Fully sealed for life
Each Hella marine LED lamp is a completely sealed opto-electronic device.
Proven design, precision engineering, and the use of high impact acrylic materials ensures superior resistance to water, impact, UV and general wear and tear.

UV RESISTANT

Pre-wired with marine cable
Hella marine LED lamps are pre-wired with quality marine specification tinned cable. The cable is completely sealed to the lamp body providing time saving at installation and reliable electrical connection.

LED Multivolt

Multivolt technology for durability and safety
Advanced Multivolt circuitry provides a uniform level of intensity for reliable and safe illumination across a range of DC inputs such as 8-28 volts or 9-33 volts.
Multivolt LED lamps can be connected to 12 or 24 volt systems without modification, providing full light performance and automatic compensation for low battery voltages, and voltage drop over long cables and connections. Multivolt LED lamps are also reverse polarity and spike protected for enhanced durability even under severe voltage fluctuations.

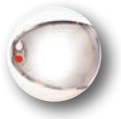
CE

Electromagnetic Compatibility (EMC)
All Hella marine products are designed to suppress electromagnetic interference, complying with the emission and immunity limits prescribed in international standards. This protects the radio, communication, navigation and other electrical equipment onboard from possible interference with our products. Where applicable, Hella marine products carry CE marking for European Union legislation, and the C-Tick mark for Australian & New Zealand requirements.

C-Tick

C-Tick is the Australian & New Zealand EMC compliance mark administered by the Australian Communications and Media Authority (ACMA) & Radio Spectrum Management (RSM) New Zealand, and will be transitioning to the RCM mark by 1st March, 2016. Hella marine products will remain compliant to these requirements throughout the transition period and beyond.

RCM

	Series Name / Series Number	Outside Diameter	Installation Type	Cut out Diameter	Beam Angle	Peak Lux @ 1M	Peak Lux @ 2M	Power Consumption	Incandescent Equivalent*	Page No.
	Ponui 0770 & 0771	70mm	Surface	n/a	32° Spread	105 Lux White	28 Lux White	< 0.8W < 0.07A@12V	10W Halogen	71
	Rakino 9599 & 0956	75mm	Recess	50mm	32° Spread	105 Lux White	28 Lux White	< 0.8W < 0.07A@12V	10W Halogen	73
	Rakino 9599 & 0956	75mm	Recess	50mm	15° Spot	370 Lux White	92.5 Lux White	< 0.8W < 0.07A@12V	10W Halogen	73
	EuroLED 95 0940	95mm	Recess	73mm	30° Spread	380 Lux Warm white	95 Lux Warm white	< 4.0W < 0.33A@12V	20W Halogen	75
	EuroLED 115 0820 & 0828	115mm	Recess & Surface	90mm	36° Spread	385 Lux Warm white	96 Lux Warm white	< 4.0W < 0.33A@12V	20W Halogen	77
	EuroLED 130 9820, 9950/51	130mm	Surface	n/a	32° Spread	475 Lux White	119 Lux White	4.0W 0.33A@12V	20W Halogen	81
	EuroLED 150 0630 & 0631	150mm	Recess & Surface	124mm	32° Spread	475 Lux White	119 Lux White	4.0W 0.33A@12V	20W Halogen	79
	Surface Mount 0881 Interior	285x25mm	Surface	n/a	42° Spread	205 Lux White	51 Lux White	< 3.0W <0.25A@12V	20W Halogen 7W Fluorescent	89
	DuraLed 12 9700 & 0704	140x65mm	Surface	n/a	120° Spread	60 Lux White	15 Lux White	< 2.5W <0.20A@12V	20W Halogen 7W Fluorescent	91
	DuraLed 20 0608	177x100mm	Surface	n/a	64° Spread	390 Lux White	97.5 Lux White	< 4.0W <0.33A@12V	20W Halogen 11W Fluorescent	93
	DuraLed 36 9037	177x100mm	Surface	n/a	64° Spread	600 Lux White	150 Lux White	< 7.0W <0.51@12V	35W Halogen 14W Fluorescent	93
	DuraLed 50 0604	220x96mm	Surface	n/a	64° Spread	780 lux White	195 Lux White	< 10.0W <0.80A@12V	50W Halogen 18W Fluorescent	93

Riviera 63 Enclosed FB www.riviera.com.au

Welcome to the future of ultra efficient illumination

Hella marine LED lighting products are sophisticated opto-electronic devices designed for durable, energy efficient, maintenance free operation. Quantum leaps in the luminous intensity of LEDs per watt have allowed marine lighting systems to develop significantly to effectively illuminate a vessel's interior.

Quality LED lighting provides many significant advantages over traditional filament based sources. Significantly reduced power consumption, increased reliability, reduction in radiated heat and attractive ambient effects are all benefits of modern LED lighting systems. The following are key considerations when selecting LED lighting for marine interior and exterior applications.

Power saving on board

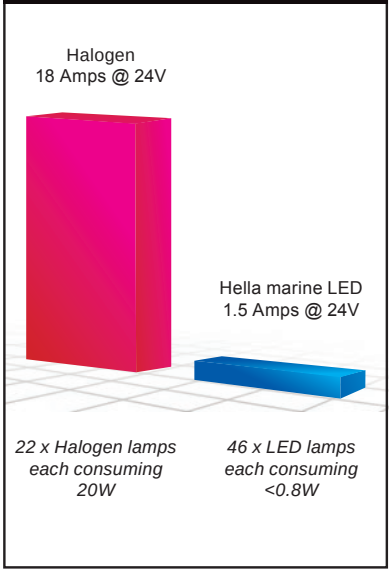
The single most influential driver for LED technology on most yachts and powerboats is the considerable power saving on offer compared to incandescent lamps. Lighting systems are a major part of a vessel's electrical architecture where consumption can be dramatically reduced. The opportunity to save hundreds of amp hours is available now.

As a recent example, the entire Hella marine LED downlighting system specified for a Riviera 43ft flybridge sportfisher draws less than 2 Amps. To illuminate the same interior layout with halogen lamps would have totalled over 18 Amps. The reduction in cable size and weight together with the safety aspects of an almost zero heat signature was also highly beneficial.
The majority of the lamps specified for the Riviera 43 system are the Rakino warm white downlights. Each lamp consumes less than 0.8W yet produces the light equivalent to a 10W halogen lamp. Such efficiency is class leading.

Hella marine reliability

Due to their solid state nature, LEDs do not have filaments to break, however LEDs do require precise current regulation and voltage protection to provide long term reliability.
For LED lighting manufacturers, many design and engineering milestones are required to produce durable products that provide ongoing performance in marine applications.
Hella marine LED products feature several key advantages such as completely sealed housings, sealed cable entries, effective

LED vs Halogen current draw comparison on Riviera 43FB



electronic protection, shock, vibration and impact resistant components that all contribute towards outstanding reliability. Compared to incandescent lighting, where a filament inside a bulb may break at any moment, Hella marine LED lighting is 'fit and forget'.

Many LED lamp manufacturers claim operating lifetimes of 50,000 or 100,000 hours, however in many cases these claims are generalized. The high power LED devices are often too new to have been thoroughly tested for such periods. These lifetime estimates are often based on LED component specifications from the device manufacturer rather than the life of the complete lamp in a marine installation.

In the harsh marine environment, salt air corrosion to circuit boards, light degradation due to excessive heat, vibration fatigue, shock loads, voltage fluctuations and low battery voltages all contribute to reduce the operating life of LED lamps without thorough engineering and electronic protection. The supplier's warranty policy, integrity and track record is often a more accurate benchmark on the lifetime and quality of the LED lamp under consideration.

Color Temperature and Rendering

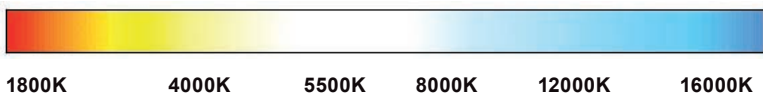
LEDs once had a reputation for appearing 'cold' and 'blue' due to there phosphorous coating heritage. However today's high efficacy devices can rival traditional incandescent light sources for color and ambience.

When selecting LED interior lighting, color temperature is an important consideration. Color temperature is measured in Kelvin and describes the effect of heating an object until it glows incandescently. The emitted radiation, and apparent color changes in proportion to the temperature; envisioned when considering hot metal in a forge that glows red, then orange, and then white as the temperature increases.

Hella marine describes higher color temperatures (>5000K or more) as 'cool' white, and lower color temperatures (<3500 K range) as 'warm white'. 'Neutral white' is in the 4200K range. Cool white is recommended for visual tasks, work areas such as engine rooms, and exterior lighting. Warm white light is suggested for interior spaces as it adds life and vibrancy to people and objects, is considered more flattering to skin tones or fabrics, and makes food look fresh and attractive.

These color choices should only be an approximate consideration however. Cool white will accentuate blue and green hues in certain fabrics and surfaces, and where there are stainless steel or gel coat surfaces. Lighting designers may specify cool white for

Color temperature examples



1850 K	Candle
2800 K	Halogen G4 Bulb (Incandescent lamp)
3000 K	Hella marine Warm White LED Downlight
5000 K	Hella marine White LED Downlight
5200 K	Hella marine White EuroLED lamp
6500 K	Hella marine LED Mega Beam Floodlight
6500 K	Daylight

White light

Warm white light

Enhancing interiors with attractive color matched illumination.

Hella marine offers highly efficient LED lamps with color temperatures in the warm white range of 3000K, or white range of 5000K.
Specialist LED selection and quality control ensures the color temperature and color rendering performance is matched across similar series. The result is a uniform color temperature and ambience throughout a vessel when different lamps are installed.

galley areas and warm white where there is an abundance of varnished timber work instead of high gloss gel coat surfaces.

Light Output

For an effective comparison of the different products from marine LED manufacturers, many factors must be considered. The best lamp for a given application is no longer the one that solely meets a style requirement. Today, power consumption, efficiency, output and beam angle must be considered together with light color, shape, and the aesthetics and finish of the housing itself.
The following performance data is worth considering -

Luminous Flux

Measured in Lumens (lm), luminous flux describes the total quantity of light produced from a lamp. The higher the lumen count, the more intense the light output.

Luminous intensity

Measured in Candela (cd), luminous intensity is the luminous flux at a particular angle from the light source. Peak candela occurs at 0 degrees, i.e. directly below a lamp.

Illuminance

Measured in Lux (lx), Illuminance is equal to luminous flux divided by the illuminated area. One lux is equal to one lumen per square meter.

Luminous Flux (Lumens) / Area
= Illuminance (Lux).
or
Illuminance (Lux) x Area
= Luminous Flux (Lumens)

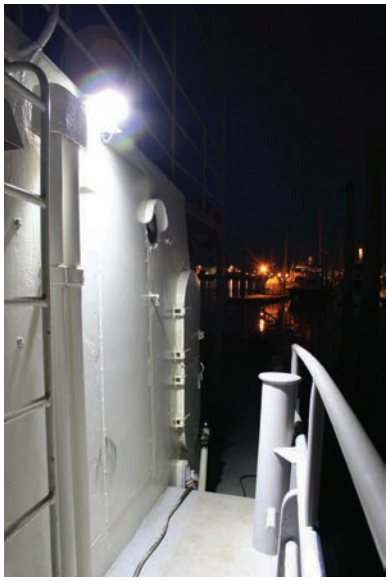
If both the area to be illuminated and the desired level of illumination are known, the total number of lumens required can be calculated. Divide the total lumens by the output of the LED lamp under consideration to determine the number of fixtures required to deliver the desired light output.

E.g., A powerboat salon of 10 square meters and the desired illumination level is 120 Lux, a total of 1200 lumens are required.
If the LED lamp under consideration has a luminous flux of 80 lumens, 15 lamps will be required (1200 / 80 = 15).

For further comparisons it is wise to consider the beam angle of an LED lamp, and the lux levels available at varying distances from the device. Narrow light beams may provide effective intensity directly under the fitting, but may not evenly illuminate an interior as the light may be too narrow with many shadows between effectively lit areas.

Hella marine Light Performance Diagrams

No formula exists for lighting designers to directly correlate the luminous flux of the LED component used or the power consumption of the LED device to the performance of the entire LED luminaire. While the lumen output of the LED does describe how much luminous flux is generated, it does not indicate how effectively that light is distributed.
The Hella marine light performance diagrams show output and spread in two formats. The Candela curves show peak candela across a range of angles and illustrate the light pattern and peak intensity according to the scale used. (A uniform scale for all diagrams is used to aid product comparisons)
The Lux charts show the spread of light, calculated first from the candela curve by determining the angle where half of the peak candela output occurs.

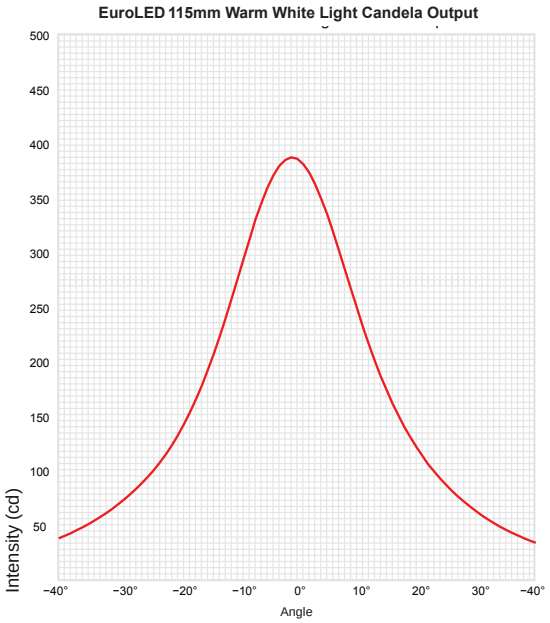


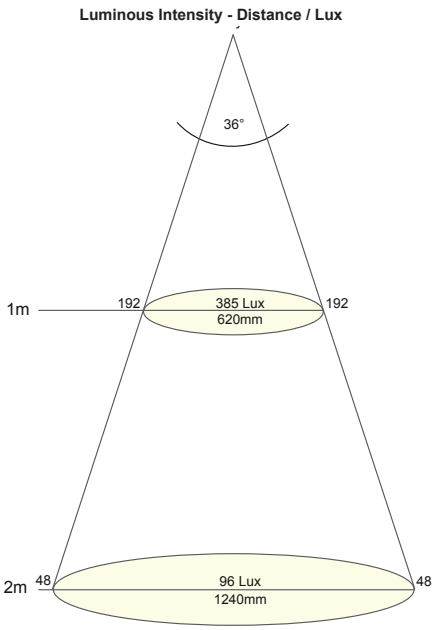
In Fig 1 below, peak candela is 385cd (measured at 0 degrees). Half of this output (192.5cd) occurs at +/- 18.0 degrees, thus the lamp has a spread of 36 degrees. While there will be light beyond these angles, the majority of light will occur inside the range shown.
The lux data shows how much light is cast upon a surface at a given distance. The diagrams indicate peak lux (at 0 degrees), lux at the specified angle and the approximate length of surface area that will be illuminated inside the range shown.

Recommended Lux Values

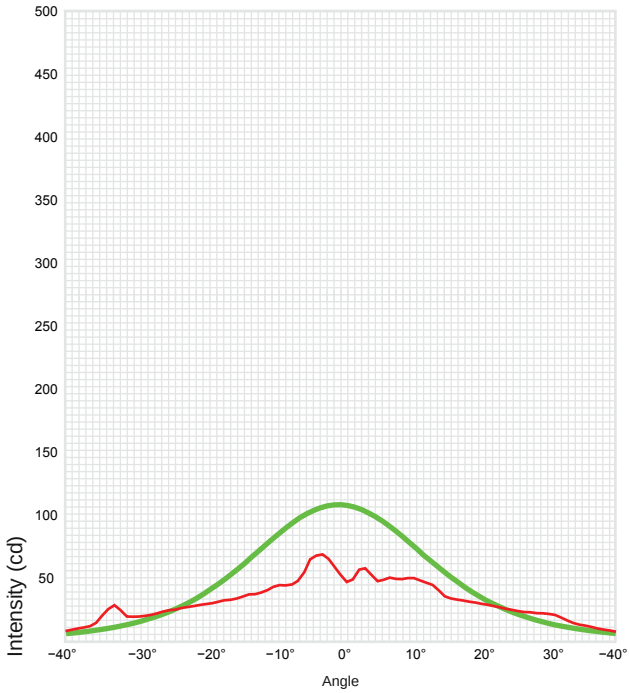
Area	Lux
Engine room	200-250
Galley surfaces	150-250
Heads	150-200
Salon	100-150
Companionway	70-100
Cabins	70-100
Flybridge	70-100
Cockpit	70-100

Fig 1. **Hella marine EuroLED 115 series Warm White LED Downlight Candela and Lux performance**





Hella marine Rakino series LED downlight (Spread)
Compared to 8508 series halogen downlight.



LED Downlight
Power consumption
0.8 Watts

Halogen Downlight
Power consumption
10 watts

Southstar 37 www.salthouseboats.com

Efficacy

Like efficiency, the efficacy of an LED lamp is the amount of light it produces per unit of electrical power it consumes (lumens per watt). The higher the lumens per watt, the higher the efficiency.

E.g. A single Hella marine Rakino white downlight consumes less than 0.8W and produces around 80 lumens. 80 / 0.8 = 100 lumens per watt.

It may also be an interesting comparison to divide the luminous flux of a lamp by its cost to derive lumens per dollar. The more lumens per dollar (*flux per bucks*), the more light for your investment.
Also, it is important to determine that the efficacy of the LED lamp is measured as the devices total efficacy, not the efficacy of only the LED(s) employed. Power consumed to run an electronic power supply driving and controlling the LED(s) is always a contributor to the lamps total consumption.

Heat reduction and thermal management

With the power saving benefits of efficient LED based devices also comes heat reduction benefits. The sometimes dangerously high temperatures of 10W and 20W halogen lamps onboard can be eliminated with high efficiency LED technology. This allows boat builders and designers a wide scope of installation possibilities where the air cavity behind incandescent lamps, traditionally reserved for cooling, is no longer required. Efficient LED lamps can be mounted into solid surfaces and composite structures without risk of fire or heat damage to surrounding materials.

Well engineered thermal management is essential for long-term durability. A common misconception is that LED's do not generate heat. LEDs consume power and some of this power is also converted into heat, even in the most energy efficient LEDs. In contrast to incandescent lamps however LED's like to 'run cold'. As a rule of thumb, the hotter an LED runs the faster it will degrade. A lower, and in extreme cases much lower light performance will result.

High performance LED's do generate heat, which needs to be coupled to surfaces designed to efficiently transport the heat away from the LED itself. LEDs that overheat, meaning the junction temperature of the LED rises above a set threshold, will permanently degrade and significantly reduce their luminous efficacy.

A noticeably 'hot to touch' exterior surface of a high output LED interior lamp provides some indication that the light output of the device will deteriorate within a few hundred hours. Hella marine LED lamps will operate 'cool' or 'slightly warm' to the touch after many hours of operation.

Riviera 43FB www.riviera.com.au

EuroLED series Lens and Optic engineering

Precision engineered lens and optic combinations on powerful single LED lamps such as the 0630 and 0631 series EuroLED lamps are essential for efficient performance.
The optics work to efficiently capture and distribute light from a highly intense single point source and provide a wide and uniform light pattern without glare or eye discomfort.

Hella marine thermal management expertise, coupled with proven optics and electronic design, ensures the long term durability with minimal degradation over many years of service.

Lens and Optic Technology

To maximise the ever increasing efficacy of advanced LEDs, efficient optic design is essential to capture and spread the available light and to evenly illuminate areas on board.

Unlike incandescent light sources, LED devices begin with a directional light pattern. The goal for optics designers, working an application such as interior down lighting, is to create optics and lens patterns that produce an effective spread of homogeneous illumination throughout the interior. This even spread of light is often more important than how intense a lamp looks when viewed straight on.
All Hella marine LED lamps use efficient optics, lens designs or Free-Form reflector technology to accurately capture and distribute large percentages of available light from the LED source(s).

Examples include:
- Oblong LED step lamps with a 30 degree down angle light beam to illuminate the tread of steps and stairs without dazzle from the lamps themselves.
- Round LED courtesy lamps providing attractive uniform light patterns via an efficient optic and lens with embedded glass spheres for minimum light losses.

Tiara 4200 www.tiarayachts.com

- EuroLED lamps employ a finely machined optic and lens combination to provide an even spread of bright white light with minimum light losses.

Lens, Optic Technology and Eye Safety

To take advantage of the ever increasing efficacy of the most advanced LEDs, efficient optic design is essential to capture and spread the available luminous flux emitted by the LED and to evenly illuminate areas.

With significant advances of LED brightness, eye safety considerations are increasingly important. It is essential for high power LEDs to be coupled with optic designs that protect the eye's retina from possible damage when viewed directly.

It is desirable for the entire lens area of a lamp to be evenly illuminated via an efficient optic rather than using a multiple of LEDs without any optic. Easily visible LEDs inside a luminaire without any optic or lens protection can cause significant eye discomfort if viewed directly.

Costs

Quality LED interior and exterior lamps have shifted lighting systems from an incandescent bulb based inside a housing or reflector to complex engineered optoelectronics devices. These devices now incorporate advanced drive circuits, spike and over voltage protection, optics, lenses, plus the LED source itself.
As a result, the added features and benefits of effective LED lighting do carry higher costs compared to incandescent lamps. However, for many applications the substantial power savings, long term reliability and improved safety advantages are a convincing value proposition for astute owners and operators.

Riviera 63FB www.riviera.com.au

Night Vision
- Why red light does not affect our night vision.

The human eye contains two types of receptors, the rods and the cones. Rods and cones have an increased sensitivity to frequency bands at different ends of the visual spectrum.
Rods are largely responsible for our day time and color vision and have an increased sensitivity towards the red band of the visual spectrum. Cones are responsible for our night vision capability and have an increased sensitivity towards the blue, shorter wavelength band of the visual spectrum.
For this reason red light will not affect the sensitivity of the cones and with that our night vision is not affected by the use of red light in the cabin.

The Hella marine Advantage

‘Fit and Forget’ LED Reliability.

Hella marine heavy duty lamps.

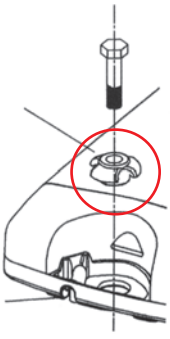
Efficient and reliable LED lighting for engine rooms, machinery spaces, anchor lockers, storage areas, decks and more. Advanced optic and lens combinations provide wide spread illumination supported by sophisticated electronic protection and robust, completely sealed housings.
Hella marine LED products are the proven ‘Fit and Forget’ choice for illuminating commercial and recreational vessels.

CE

ISO IGNITION PROTECTED

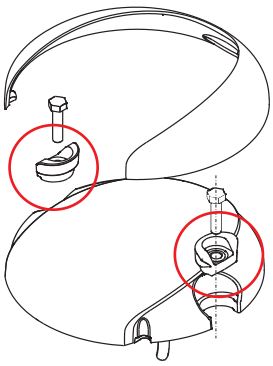
DuraLed and EuroLED 130 series design and installation

Purpose designed for surface mount installations, heavy duty fastening load is taken up by pairs of robust nylon bushs to eliminate possible stress on lamp housings.



DuraLED

Completely sealed housings with robust mounting system.



EuroLED

Flexi-spot

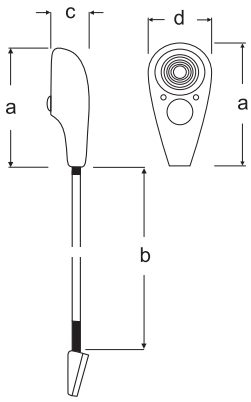
Energy saving chart table lighting for interior applications

Energy efficient lighting for a variety of interior applications including chart table and navigation area lighting, berth lighting and adjustable reading lights.
Available in single red or white LED light or dual color red and white LED versions with integrated dimming via a rotary switch built into the head.

LED | 9-31V MULTIVOLT™ | CE | UV RESISTANT | 5 YR WARRANTY

CE

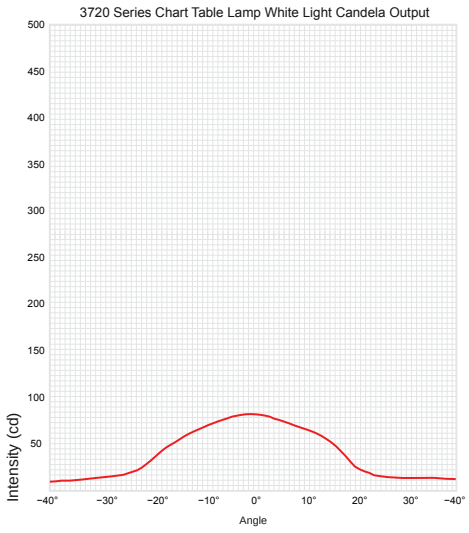
Housing Description	UV and impact resistant plastic
Arm material	Single color - Coated steel arm
	Dual color red/white - 316 stainless steel arm
Cable	Pre-wired with 120mm of twin core cable
Operating Voltage	Multivolt 9-31V DC
Power Consumption	< 2W (<0.16A@12V / <0.08A@24V)
Degree of Protection	IP 53
Weight	150mm - 130g (including cable)
	400mm - 230g (including cable)
Approvals	CE

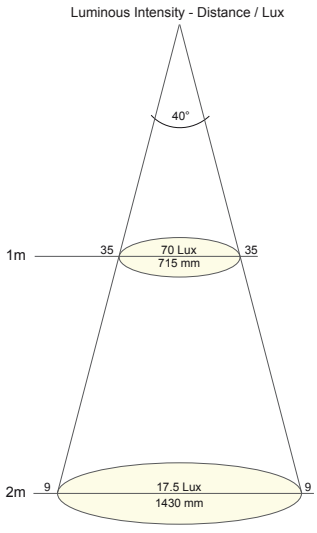


Dimensions
a = 104mm / 4.09”
b = 150mm / 5.91”
400mm / 15.75”
c = 36mm / 1.42”
d = 46mm / 1.81”

Dual color LED chart table lamps feature a rotary dial for on/off red/white light control and dimming.

3720 Series Chart Table Candela and Lux performance. White light.





Packaging for aftermarket presentation

LED Multivolt | CLEAR LENS

White / Red Light Chart Table LED Lamps

Shaft Length	Black Cover
6” / 150 mm	343 **720**-522
16” / 400 mm	343 **720**-622

LED Multivolt | CLEAR LENS

White Light Chart Table LED Lamps

Shaft Length	Black Cover	White Cover
6” / 150 mm	343 **720**-022	343 **720**-012
16” / 400 mm	343 **720**-122	343 **720**-112

LED Multivolt | CLEAR LENS

Red Light Chart Table LED Lamps

Shaft Length	Black Cover	White Cover
6” / 150 mm	343 **720**-052	343 **720**-042
16” / 400 mm	343 **720**-152	343 **720**-142

Ponui

Quality brass reading lamps with efficient LED technology and timeless styling

Riviera 43FB www.riviera.com.au

Timeless brass housings combine with energy efficient Hella marine LED technology in a range of attractive and 'cool to touch' reading lamps.

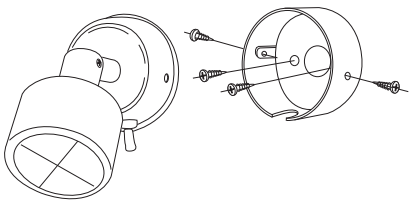
Power consumption is less than 0.8W per lamp. (<0.07A@12V / <0.03A@24V) Hella marine optics provide a uniform distribution of light without glare or eye strain.

A further benefit of the low power consumption is the 'cool to touch' lamp surface, effectively reducing the risks associated with high temperature incandescent reading lamps on board.

The light color exactly matches an equivalent Hella marine Rakino or Waiheke series LED lamp for consistent illumination and coordinated ambience throughout a vessel.

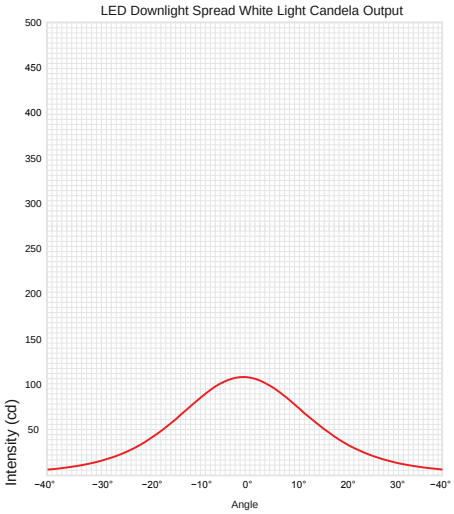
Surface finish options include bright chrome, satin nickle chrome or gold plated brass. The brass arm and knuckle offers adjustable swing and pitch to achieve optimum light angles.

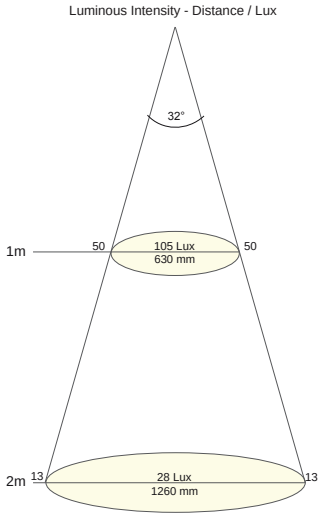
LED | IP 67 COMPLETELY SEALED | UV RESISTANT | 5 YR WARRANTY



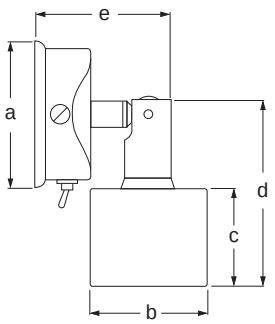
- Bulkhead mount via plastic mounting cup
- Lamp is pre-wired with marine cable

LED Reading Lamp Candela and Lux performance. White light.





Lens Material	UV resistant enhanced impact acrylic
Lamp Body Material	Brass
Lamp Body Surface Finish	Bright Chrome, Satin Nickle Chrome or Gold Plated
Color Temperature	5000K (White) / 3000K (Warm White)
Dimming	Dimmed via Hella marine 2 Group Dimmer 998 **572**-001
Cable	Pre-wired with single core marine cable.
Operating Voltage	12V DC or 24V DC
Power Consumption	< 0.8W (<0.07A@12V / <0.03A@24V)
Degree of Protection	Completely sealed light engine
Weight	250g (including cable)



Dimensions:
a = 70 mm / 2.76”
b = 55 mm / 2.17”
c = 36 mm / 2.42”
d = 75 mm / 2.95”
e = 65 mm / 2.56”

Ponui

0770 Series Reading Lamps

White Light LED Reading Lamps with Switch

Voltage	Surface Finish & Material	Part Number
12V DC	Bright Chrome Brass	980 **770**-201
12V DC	Satin Chrome Brass	980 **770**-211
12V DC	Gold Plated Brass	980 **770**-221
24V DC	Bright Chrome Brass	980 **770**-301
24V DC	Satin Chrome Brass	980 **770**-311
24V DC	Gold Plated Brass	980 **770**-321

0771 Series Reading Lamps

Warm White Light LED Reading Lamps with Switch

Voltage	Surface Finish & Material	Part Number
12V DC	Bright Chrome Brass	980 **771**-201
12V DC	Satin Chrome Brass	980 **771**-211
12V DC	Gold Plated Brass	980 **771**-221
24V DC	Bright Chrome Brass	980 **771**-301
24V DC	Satin Chrome Brass	980 **771**-311
24V DC	Gold Plated Brass	980 **771**-321

Rakino

Compact LED downlights offering class leading efficiency and reliability

Formula Icon 54 www.formulacruisers.co.nz

Completely sealed with an ultra low power consumption of less than 0.8W, Hella marine Rakino series LED downlights offer class leading efficiency and highly effective illumination.

The lamps also run very cool due to their low current draw to provide substantial power saving benefits compared to incandescent lighting.

Advanced Hella marine lens and optic designs provide intense light without glare or eye strain. Two beam angle options are available, a 15° Spot or 32° Spread beam.

The Spot lamp (Peak light angle at 15°) is ideal for installations where the first surface requiring illumination is 1 meter or more from the lamp. Spread lamps (Peak light angle at 32°) are ideal for softer light where the first surface to be illuminated is less than 1 meter from the lamp.

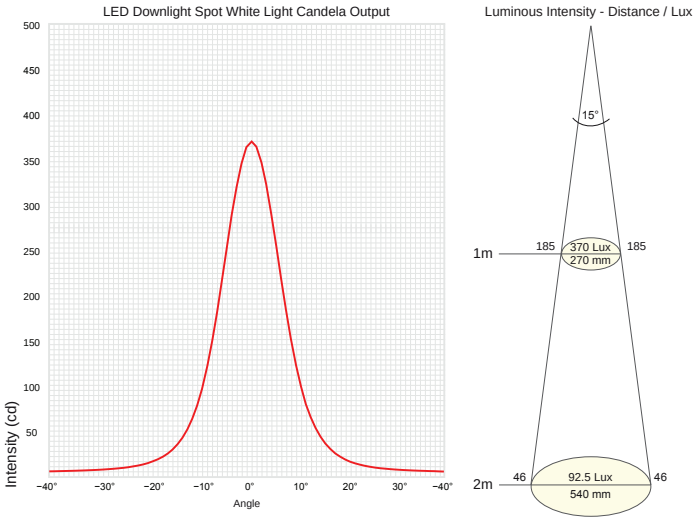
Each lamp is completely sealed and can be installed almost anywhere on board, interior or exterior, wet or dry. The ultra low heat signature will not cause damage to surrounding materials.

Available in 12V or 24V DC versions, these LED lamps can be dimmed and controlled with the Hella marine Dimmer (99**8 572**-001).

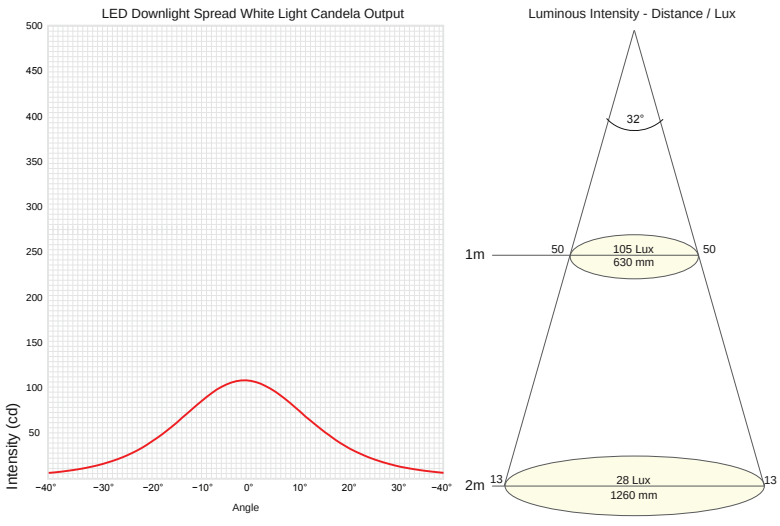
LED | IP 67 COMPLETELY SEALED | UV RESISTANT | 5 YR WARRANTY

- Completely sealed housing
- Pre-wired with marine cable

LED Downlight Candela and Lux performance. White light. Spot.

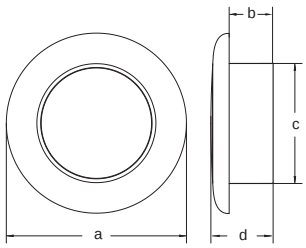


LED Downlight Candela and Lux performance. White light. Spread.



Packaging for aftermarket presentation

Lens Material	UV resistant enhanced impact acrylic
Rim Material	UV resistant plastic. 316 stainless steel
Color Temperature	5000K (White) / 3000K (Warm White)
Dimming	Dimmed via Hella marine Dimmer 99**8 572**-001
Cable	Pre-wired with 120mm of single core marine cable
Operating Voltage	12V DC or 24V DC
Power Consumption	< 0.8W (<0.07A@12V / <0.03A@24V)
Degree of Protection	IP 67 - Completely Sealed
Mounting	Stainless steel screws included
Weight	45g (including cable)



Dimensions

a = 75.0 mm / 2.95” with plastic rim
72.0 mm / 2.83” with stainless steel rim
b = 18.5 mm / 0.73”
c = 50.0 mm / 1.97”
d = 27.0 mm / 1.06”

Rakino

Spread Pattern **Spot Pattern**

White Light LED Downlights - Spread

Voltage	Rim Finish	Part Number
12V DC	Polished stainless rim	959 **599**-051
12V DC	White plastic rim	959 **599**-001
24V DC	Polished stainless rim	959 **599**-151
24V DC	White plastic rim	959 **599**-101

White Light LED Downlights - Spot

Voltage	Rim Finish	Part Number
12V DC	Polished stainless rim	959 **599**-551
12V DC	White plastic rim	959 **599**-501
24V DC	Polished stainless rim	959 **599**-651
24V DC	White plastic rim	959 **599**-601

Warm White Light LED Downlights - Spread

Voltage	Rim Finish	Part Number
12V DC	Polished stainless rim	959 **596**-051
12V DC	White plastic rim	959 **596**-001
24V DC	Polished stainless rim	959 **596**-151
24V DC	White plastic rim	959 **596**-101

Warm White Light LED Downlights - Spot

Voltage	Rim Finish	Part Number
12V DC	Polished stainless rim	959 **596**-551
12V DC	White plastic rim	959 **596**-501
24V DC	Polished stainless rim	959 **596**-651
24V DC	White plastic rim	959 **596**-601

EuroLED 95

Energy efficient LED downlights providing exceptional light output and screw or spring clip mounting options

Riviera 56FB www.riviera.com.au

Hella marine 95mm LED downlights harness state of the art LED technology to provide illumination comparable to 20W incandescent lamps for a fraction of the power consumption.

Completely sealed for interior and exterior installations, wet or dry, EuroLED 95mm lamps are the durable choice with class leading efficiency.

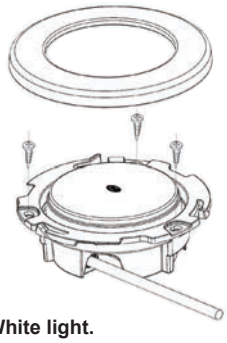
Power consumption is less than 4.0W (<0.33A@12V / <0.17A@24V) offering significant reductions in energy use and heat generation when compared to incandescent lighting.

Advanced Hella marine optic engineering provides a wide spread of uniform illumination without glare or eye strain. Precise LED selection ensures class leading color rendering with interior enhancing color temperatures in white (5000K) or warm white (3000K).

EuroLED 95mm lamps require no remote drivers or control wires, simply connect the positive and negative cables to 12V or 24V DC systems. Each lamp operates on an input voltage between 10-33V DC and can also be PWM dimmed and controlled via the Hella marine Dimmer (99**8 572**-001).

EuroLED downlights offer class leading 'fit and forget' Hella marine technology with impressive illumination.

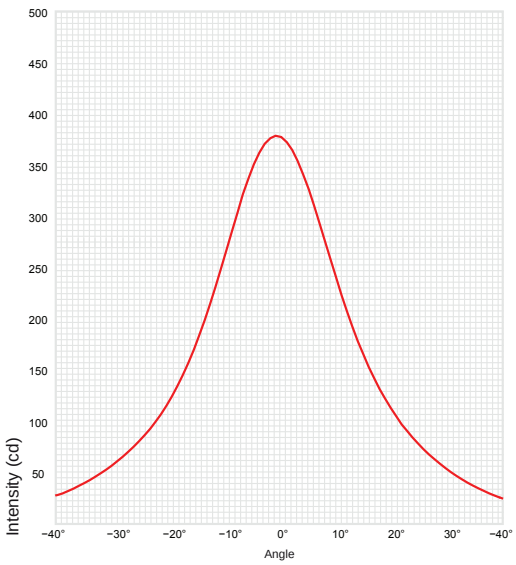
LED | IP 67 COMPLETELY SEALED | 10-33V MULTIVOLT™ | CE | UV RESISTANT | 5 YR WARRANTY



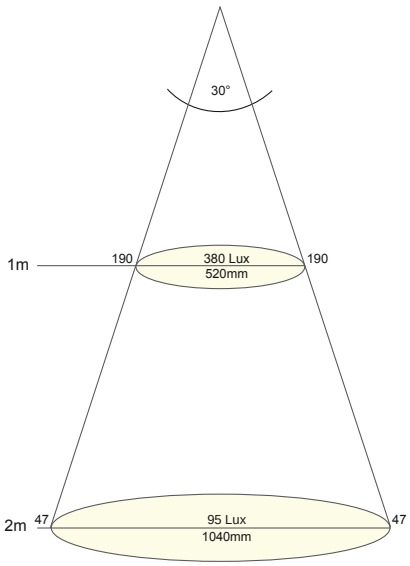
- Completely sealed housing
- Pre-wired with marine cable
- Screw or spring clip mounting

LED Downlight Candela and Lux performance. Warm White light.

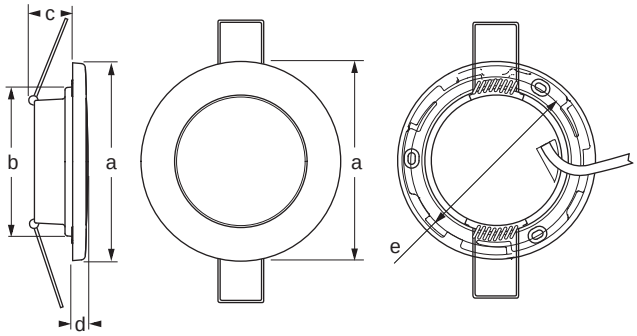
EuroLED 95mm Warm White Light Candela Output



Luminous Intensity - Distance / Lux



Lens material	UV resistant enhanced impact acrylic
Rim material	UV resistant plastic. 316 stainless steel.
Color Temperature	5000K (White) 3000K (Warm White)
Dimming	PWM. e.g. Via Hella marine 99**8 572**-001
Cable	Pre-wired with 500mm twin core marine cable.
Operating Voltage	10-33V DC
Power Consumption	< 4.0W (<0.33A@12V / <0.17A@24V)
Degree of Protection	Completely Sealed
Weight	145g (Screw mount version, including cable)
Installation	Recess mount. Screw or Spring Clip options.
Approvals	CE, C-Tick



Dimensions

a = 95.0 mm / 3.75" with plastic rim
97.0 mm / 3.82" with stainless steel rim
b = 72.0 mm / 2.84"
c = 25.0mm / 0.98" with screw mounting
28.0 mm / 1.10" with spring clips
d = 9.0mm / 0.35"
e = 82.0mm / 3.23" PCD

EuroLED 95

Screw Mount

LED Multivolt

White Light LED Downlights

Voltage	Rim Finish	Part Number
10-33V DC	White plastic rim	980 940-002
10-33V DC	Polished stainless steel rim	980 940-012

LED Multivolt

Warm White Light LED Downlights

Voltage	Rim Finish	Part Number
10-33V DC	White plastic rim	980 940-102
10-33V DC	Polished stainless steel rim	980 940-112

Spring Clip Mount

LED Multivolt

White Light LED Downlights

Voltage	Rim Finish	Part Number
10-33V DC	White plastic rim	980 940-202
10-33V DC	Polished stainless steel rim	980 940-212

LED Multivolt

Warm White Light LED Downlights

Voltage	Rim Finish	Part Number
10-33V DC	White plastic rim	980 940-302
10-33V DC	Polished stainless steel rim	980 940-312

EuroLED 115

Energy efficient LED downlights include spacer ring and switch options for versatility

Belize 52 www.belizemotoryachts.com.au

Completely sealed 115mm downlights feature a wide spread of illumination with class leading color rendering and interior enhancing color temperatures in white or warm white.

Power consumption is less than 4.0W (<0.33A@12V / <0.17A@24V) offering illumination comparable to 20W halogen lighting with substantial power saving and heat reduction.

Sophisticated lens and optic designs provide intense white light without glare or eye strain. Peak beam angle is a wide 36° and the light pattern is very uniform.

EuroLED 115mm lamps require no remote drivers or control wires, simply connect the positive and negative cables to 12V or 24V DC systems. Each lamp operates on an input voltage between 10-33V DC and can also be PWM dimmed and controlled via the Hella marine Dimmer (99**8 572**-001).

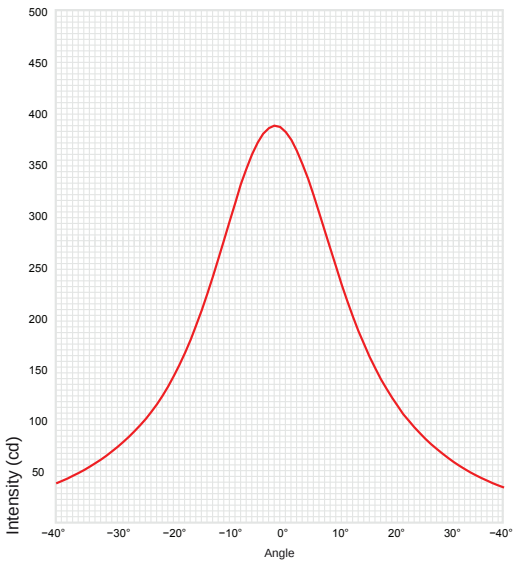
Pre-wired with quality twin core marine tinned cable, each lamp is completely sealed and features a shallow 22mm mounting depth. EuroLED lamps can be installed almost anywhere on board, interior or exterior, wet or dry. The low heat signature will not cause damage to surrounding materials.

EuroLED downlights offer class leading 'fit and forget' Hella marine technology with impressive illumination.

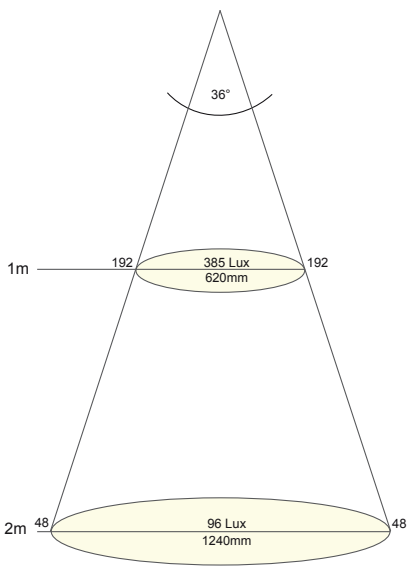
- Completely sealed housing
- Pre-wired with marine cable

LED Downlight Candela and Lux performance. Warm White light.

EuroLED 115mm Warm White Light Candela Output

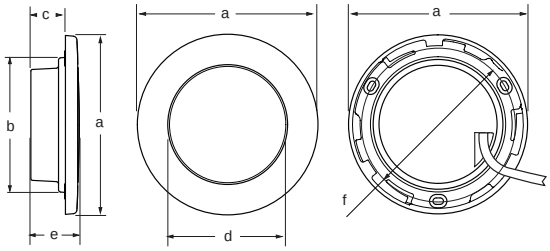


Luminous Intensity - Distance / Lux



Lens material	UV resistant enhanced impact acrylic
Rim material	UV resistant plastic. 316 stainless steel.
Color Temperature	5000K (White) 3000K (Warm White)
Dimming	PWM. eg Via Hella marine 998 **572**-001
Cable	Pre-wired with 500mm twin core marine cable.
Operating Voltage	10-33V DC
Power Consumption	< 4.0W (<0.33A@12V / <0.17A@24V)
Degree of Protection	Completely Sealed
Weight	170g (including cable)
Installation	Recess or Surface Mount via spacer.
Approvals	CE, C-Tick

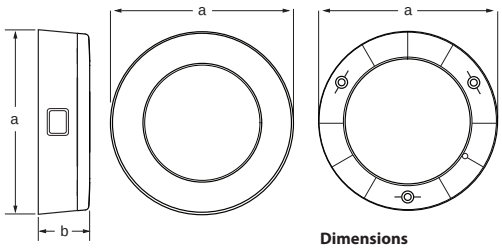
Lamp



Dimensions

a = 115.0 mm / 4.53″ with plastic rim
116.5 mm / 4.59″ with stainless steel rim
b = 90.0 mm / 3.54″
c = 22.0 mm / 0.87″
d = 77.0mm / 3.03″
e = 31.5mm / 1.24″
f = 100.0mm / 3.94″ PCD

Lamp with Spacer and Switch



Dimensions

a = 120.0mm / 4.72″
b = 31.5mm / 1.24″

EuroLED 115

Screw Mount

A white surface mount spacer ring is included with each lamp.

LED Multivolt

White Light LED Downlights

Voltage	Rim Finish	Part Number
10-33V DC	White plastic rim	980 **820**-002
10-33V DC	Polished stainless steel rim	980 **820**-012

LED Multivolt

Warm White Light LED Downlights

Voltage	Rim Finish	Part Number
10-33V DC	White plastic rim	980 **820**-102
10-33V DC	Polished stainless steel rim	980 **820**-112

Surface Mount with Switch

A white surface mount spacer with switch is included.

LED Multivolt

White Light LED Downlights

Voltage	Rim Finish	Part Number
10-33V DC	White plastic rim	980 **828**-002
10-33V DC	Polished stainless steel rim	980 **828**-012

LED Multivolt

Warm White Light LED Downlights

Voltage	Rim Finish	Part Number
10-33V DC	White plastic rim	980 **828**-102
10-33V DC	Polished stainless steel rim	980 **828**-112

EuroLED TOUCH 150

Energy efficient LED lighting featuring advanced color and dimming control at the touch of a button

Southstar 37 www.salthouseboats.com

Hella marine touch technology makes lighting control beautifully simple.

Touch the red pad for red light, the white pad for white light. Hold a finger on the pad for two seconds and the lamp will cycle through increasing / decreasing intensity levels until the maximum / minimum intensity is achieved. Release at the intensity level required.

Dual color EuroLED lamps may also be remotely operated from multiple points via momentary switches. Holding an external switch for two seconds will synchronise the lamps to the same color and/or intensity level.
Light levels are stored by the lamps circuitry, even when a vessel's batteries are turned off. The lamp will turn on at the color intensity previously set, regardless of power interruption.

Glare diffusion without light loss is key with any LED lamp to maintain efficiency and safety. Significant eye strain can result from periods of looking directly into a powerful LED point source. Hella marine lens technology provides a safe and uniform light pattern, without glare or discomfort.

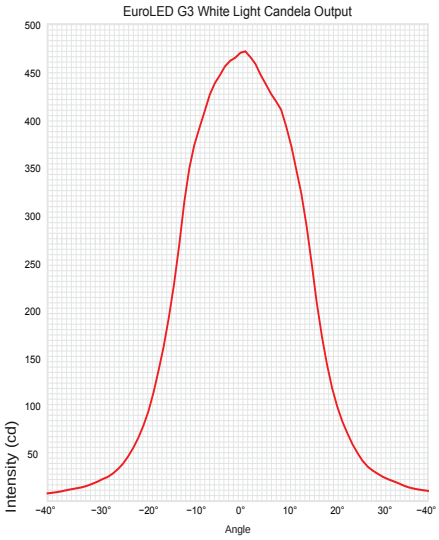
Each EuroLED is completely sealed, highly impact and shock resistant for an ultra long service life. Multivolt electronics provide consistent illumination and protection across a range of voltages from 9-33 DC, even under severe voltage fluctuations, low battery voltages and long cable runs.

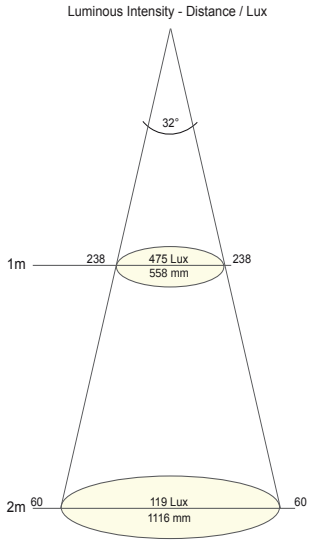
EuroLED Touch technology provides durable, energy saving illumination for a wide range of commercial and recreational applications.

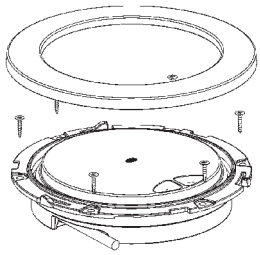
LED | IP 67 COMPLETELY SEALED | 9-33V MULTIVOLT™ | CE | UV RESISTANT | 5 YR WARRANTY

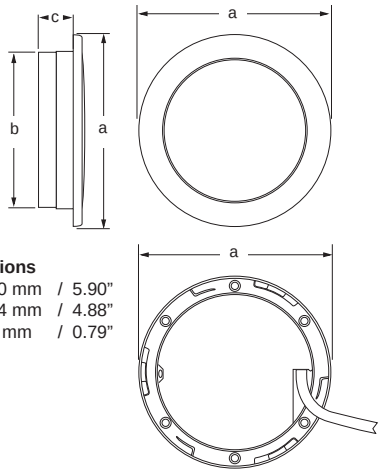
- Completely sealed housing
- Pre-wired with marine cable

EuroLED Touch 150mm Candela and Lux performance. White light.









Dimensions
a = 150 mm / 5.90”
b = 124 mm / 4.88”
c = 20 mm / 0.79”

Lens Material	UV resistant enhanced impact acrylic
Rim Material	UV resistant plastic. 316 stainless steel
Color Temperature	4200K (White) 3000K (Warm White)
Cable	Pre-wired with 500mm of twin core or triple core marine cable
Operating Voltage	Multivolt 9-33V DC
Power Consumption	4.0W (0.33A@12V / 0.17A@24V)
Degree of Protection	Completely Sealed
Weight	245g (including cable)
Installation	Recess mount
Approvals	CE, C-Tick

Dual color EuroLED Touch 150 lamps with dimming and remote momentary switch control.
Touch the pad for ON/OFF or hold finger on the pad to cycle through dimming levels.

A white surface mount spacer ring is included with each lamp.

LED Multivolt

White / Red Light EuroLED Touch 150 Lamps

Voltage	Rim Finish	Part Number
9-33V DC	White plastic rim	980 **630**-002
9-33V DC	Polished stainless steel rim	980 **630**-012

LED Multivolt

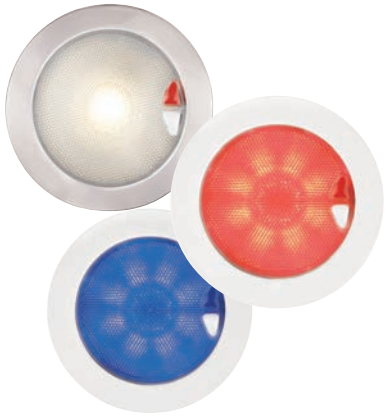
Warm White / Red Light EuroLED Touch 150 Lamps

Voltage	Rim Finish	Part Number
9-33V DC	White plastic rim	980 **630**-102
9-33V DC	Polished stainless steel rim	980 **630**-112

LED Multivolt

White / Blue Light EuroLED Touch 150 Lamps

Voltage	Rim Finish	Part Number
9-33V DC	White plastic rim	980 **630**-202
9-33V DC	Polished stainless steel rim	980 **630**-212



Single color EuroLED Touch 150 lamps without dimming or momentary switch control.
Touch the white pad for ON, touch the black pad for OFF.

A white surface mount spacer ring is included with each lamp.

LED Multivolt

White Light EuroLED Touch 150 Lamps

Voltage	Rim Finish	Part Number
9-33V DC	White plastic rim	980 **630**-502
9-33V DC	Polished stainless steel rim	980 **630**-512

LED Multivolt

Warm White Light EuroLED Touch 150 Lamps

Voltage	Rim Finish	Part Number
9-33V DC	White plastic rim	980 **630**-602
9-33V DC	Polished stainless steel rim	980 **630**-612

Single color EuroLED 150 lamps.

A white surface mount spacer ring is included with each lamp.

LED Multivolt

White Light EuroLED 150 Lamps

Voltage	Rim Finish	Part Number
9-33V DC	White plastic rim	980 **631**-502
9-33V DC	Polished stainless steel rim	980 **631**-512

LED Multivolt

Warm White Light EuroLED 150 Lamps

Voltage	Rim Finish	Part Number
9-33V DC	White plastic rim	980 **631**-602
9-33V DC	Polished stainless steel rim	980 **631**-612

EuroLED TOUCH 130

Easy to install surface mount LED lighting with color and dimming control at the touch of a button

Rayglass Protector 11m www.rayglass.co.nz

EuroLED Touch lamps provide red / white, blue / white or white only light control via completely sealed touch sensitive technology.

Touch the color pad for red or blue light, the white pad for white light. On the dual color versions, hold a finger on the pad for more than two seconds and the lamp will cycle through four dimming levels. Release at the intensity required.

Dual color EuroLED Touch lamps may also be remotely operated by momentary switches. Holding one of the external switches for two seconds will synchronise the lamps to the same color and/or intensity level.

Light levels are stored by the lamps circuitry, even when a vessel's batteries are turned off. The lamp will always turn on at the color intensity previously set, regardless of power interruption.
EuroLED current draw is 4W on white and less than 1.5W on red or blue to provide significant power savings.

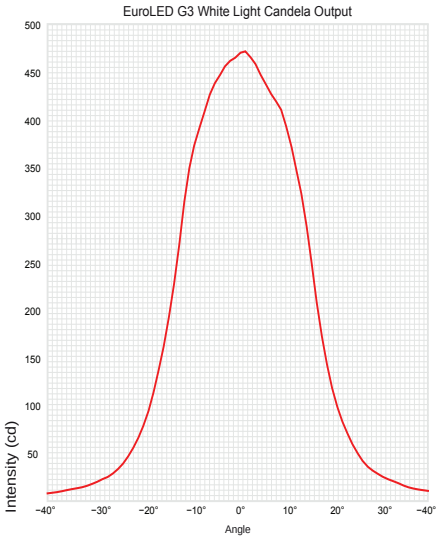
Advanced Hella marine optic technology provides a safe and uniform light pattern, without glare or discomfort.

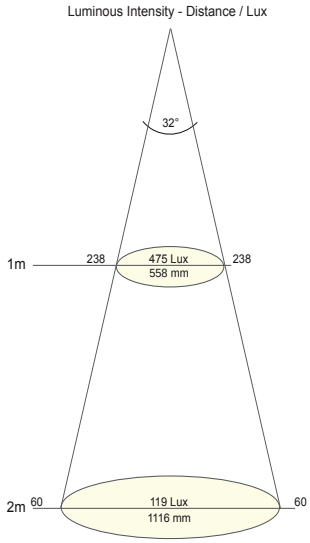
Each lamp is completely sealed, highly impact and shock resistant, for an ultra long service life. Multivolt circuitry provides consistent illumination across a range of voltages from 9-33 DC, even under severe voltage fluctuations.

EuroLED provide durable, energy saving lighting for a wide range of commercial and recreational applications.

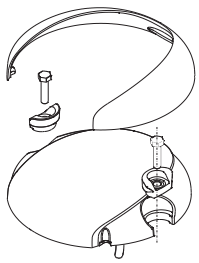
LED | IP 67 COMPLETELY SEALED | 9-33V MULTIVOLT | CE | UV RESISTANT | 5 YR WARRANTY

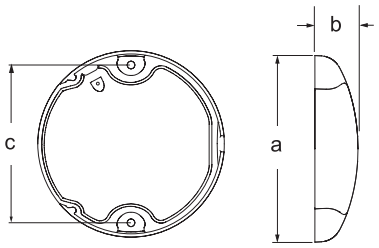
EuroLED Touch 130mm Candela and Lux performance. White light.





- Completely sealed housing
- Pre-wired with marine cable
- Mounting bushs eliminate torque loads
- Nylon shroud clips onto lamp body





Dimensions
a = 129.5mm / 5.10”
b = 29.5mm / 1.16”
c = 110mm / 4.33”

Lens Material	UV resistant enhanced impact acrylic
Shroud Material	Heavy duty nylon
Color Temperature	5000K (White)
Cable	Pre-wired with 2.5m of twin core marine cable
Operating Voltage	Multivolt 9-33V DC
Power Consumption	4.0W (0.33A@12V / 0.17A@24V)
Operating Temperature	-40°C to +60°C / -40°F to 140°F
Degree of Protection	IP 6K6 6K7 - Completely Sealed
Weight	290g (including cable)
Installation	Surface mount with robust bush mount
Approvals	CE, C-Tick
	ISO 8846 (Ignition Protection)

EuroLED Spacer Rings

Black spacer 959 **952**-002
White spacer 959 **952**-012

Packaging for
aftermarket presentation

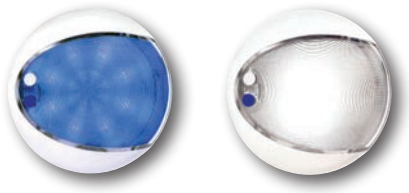
Dual color EuroLED Touch 130 lamps with dimming and remote momentary switch control. Touch the pad for ON/OFF or hold finger to cycle through dimming levels.

LED Multivolt **White / Red Light EuroLED 130 Touch Lamps**

Voltage	Shroud Color	Part Number
9-33V DC	White Shroud	959 **950**-121
9-33V DC	Black Shroud	959 **950**-111

LED Multivolt **White / Blue Light EuroLED 130 Touch Lamps**

Voltage	Shroud Color	Part Number
9-33V DC	White Shroud	959 **951**-121
9-33V DC	Black Shroud	959 **951**-111



Single White EuroLED Touch 130 lamps without dimming or momentary switch control. Touch the white pad for ON, touch the black pad for OFF.

LED Multivolt **Single White Light EuroLED 130 Touch Lamps**

Voltage	Shroud Color	Part Number
9-33V DC	White Shroud	959 **950**-521
9-33V DC	Black Shroud	959 **950**-511

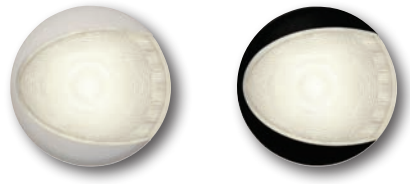
Single White or Warm White EuroLED 130 lamps.

LED Multivolt **White Light EuroLED 130 Lamps**

Voltage	Shroud Color	Part Number
9-33V DC	White Shroud	959 **820**-521
9-33V DC	Black Shroud	959 **820**-511

LED Multivolt **Warm White Light EuroLED 130 Lamps**

Voltage	Shroud Color	Part Number
9-33V DC	White Shroud	959 **820**-321
9-33V DC	Black Shroud	959 **820**-301



Easy Fit

Compact and stylish LED courtesy lighting for interior and exterior applications

Light is radiated downward at an angle of 30° making these lamps ideal for illuminating on board areas such as steps, stairs, toe kicks, storage areas, companion ways, deck fittings, signs and switches.

Multivolt electronics ensure constant light output in 12V or 24V DC systems. Easy Fit series lamps are completely sealed, shock and vibration resistant and represent reliable 'fit and forget' technology.

Each lamp is pre-wired with 120mm of marine tinned cable and supplied with stainless steel screws.

LED | IP 67 COMPLETELY SEALED | 12/24 DUALVOLT | CE | UV RESISTANT | 5 YR WARRANTY

- Completely sealed housing
- Pre-wired with marine cable

Packaging for aftermarket presentation

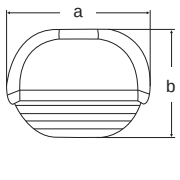
Mounting with screws.
Push on plastic cap versions.

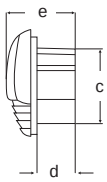
Mounting with screws.
Stainless steel cap versions

Mounting without screws.
Push on plastic cap versions only.

Note - Plastic lamp covers cannot be removed easily once clipped into place.

Lens Material	UV resistant enhanced impact acrylic
Cap Material	Black, white, chrome plated plastic, polished 316 stainless steel
Cable	Pre-wired with 120mm of twin core marine cable
Operating Voltage	Multivolt 12 / 24V DC
Power Consumption	0.5W (<0.04A@12V / <0.02A@24V)
Degree of Protection	Completely Sealed
Weight	Stainless Cap - 30g (including cable)
	Plastic Cap - 15g (including cable)
Approvals	CE, C-Tick





Dimensions
a = 45mm / 1.77”
b = 31.5mm / 1.24”
c = 25.4mm / 1.00”
d = 14mm / 0.55”
e = 22.7mm / 0.89”

LED Multivolt White Light Easy Fit LED Step Lamps

Voltage	Cap Finish	Part Number
12 / 24V DC	Chrome plated plastic cap	998 **560**-001
12 / 24V DC	White plastic cap	998 **560**-011
12 / 24V DC	Black plastic cap	998 **560**-111
12 / 24V DC	Polished stainless steel cap	998 **560**-161

LED Multivolt Warm White Light Easy Fit LED Step Lamps

Voltage	Cap Finish	Part Number
12 / 24V DC	Chrome plated plastic cap	998 **560**-401
12 / 24V DC	White plastic cap	998 **560**-411
12 / 24V DC	Black plastic cap	998 **560**-421
12 / 24V DC	Polished stainless steel cap	998 **560**-451

LED Multivolt Blue Light Easy Fit LED Step Lamps

Voltage	Cap Finish	Part Number
12 / 24V DC	Chrome plated plastic cap	998 **560**-041
12 / 24V DC	White plastic cap	998 **560**-051
12 / 24V DC	Black plastic cap	998 **560**-151
12 / 24V DC	Polished stainless steel cap	998 **560**-171

LED Multivolt Red Light Easy Fit LED Step Lamps

Voltage	Cap Finish	Part Number
12 / 24V DC	Chrome plated plastic cap	998 **560**-201
12 / 24V DC	White plastic cap	998 **560**-211
12 / 24V DC	Black plastic cap	998 **560**-221
12 / 24V DC	Polished stainless steel cap	998 **560**-251

Accessories to suit 8560 series

994 **554**-211
Polished 316 Stainless Steel Cap and Mounting Screw Kit.

Slim Line Courtesy

Energy efficient round or square LED courtesy lighting for interior and exterior applications

Hella marine Slim Line LED courtesy lamps can be installed almost anywhere on board.

Advanced lens technology provides an even spread of soft light without glare or eye strain. Each lamp is completely sealed, highly shock, impact and vibration resistant, perfectly suited for the demanding marine environment.

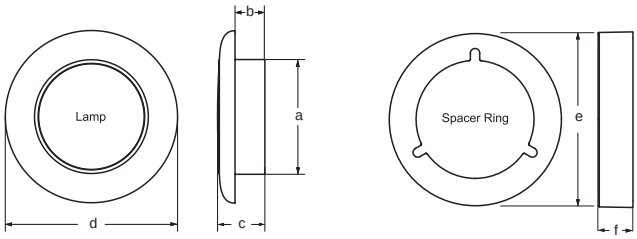
Hella marine LED courtesy lamps run very cool due to their low current draw of less than 0.5W (less than 0.04A@12V). This provides safer installation into light weight materials where the heat of incandescent lamps may cause damage to the surrounding structure.

LED | IP 67 COMPLETELY SEALED | UV RESISTANT | 5 YR WARRANTY

- Completely sealed housing
- Pre-wired with marine cable

Packaging for aftermarket presentation

Lens Material	UV resistant enhanced impact acrylic
Rim Material	UV resistant plastic. 316 stainless steel
Dimming	Dimmed via Hella marine Dimmer 998 **572**-001
Cable	Pre-wired with 120mm of single core marine cable
Operating Voltage	12V DC or 24V DC
Power Consumption	< 0.5W (<0.042A@12V / <0.02A@24V)
Degree of Protection	IP 67 - Completely Sealed
Mounting	Stainless steel screws included
Weight	50g (including cable)



Dimensions
a = 50.0 mm / 1.97”
b = 13.0 mm / 0.51”
c = 21.0 mm / 0.83”
d = 75.0 mm / 2.95” with plastic rim
72.0 mm / 2.83” with stainless steel rim
e = 75.0 mm / 2.95”
f = 15 .0 mm / 0.59”

WHITE LIGHT ROUND* LED LAMPS

Rim Finish	12V Part Number	24V Part Number
Polished stainless steel rim	980 **500**-521	980 **501**-521
White plastic rim	980 **500**-541	980 **501**-541
Black plastic rim	980 **500**-551	980 **501**-551

WARM WHITE ROUND* LED LAMPS

Rim Finish	12V Part Number	24V Part Number
Polished stainless steel rim	980 **500**-721	980 **501**-721
White plastic rim	980 **500**-741	980 **501**-741
Black plastic rim	980 **500**-751	980 **501**-751

Blue Light Round LED Courtesy Lamps

Rim Finish	12V Part Number	24V Part Number
Polished stainless steel rim	980 **502**-221	980 **503**-221
White plastic rim	980 **502**-241	980 **503**-241
Black plastic rim	980 **502**-251	980 **503**-251

Red Light Round LED Courtesy Lamps

Rim Finish	12V Part Number	24V Part Number
Polished stainless steel rim	980 **507**-221	980 **508**-221
White plastic rim	980 **507**-241	980 **508**-241
Black plastic rim	980 **507**-251	980 **508**-251

Surface Mounting Accessories

Black Spacer 959 **993**-102
White Spacer 959 **993**-112

Oblong Step and Courtesy lamps

Energy efficient LED courtesy lighting for interior or exterior applications

Hella marine oblong LED lamps are offered as either dedicated step lamps or general courtesy illumination with equal vertical spread.

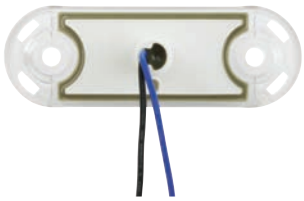
Step lamps carry engineered optics to direct light downwards at 30 degrees safely illuminating deck and step tread surfaces without shining into the eyes.

Completely sealed and ultra durable, Hella marine LED lamps may be installed on a vessel's interior or interior, wet or dry.

Polished 316 stainless steel bezels are included with each part number. Black and white plastic end caps are also included.

Satin and gold plated 316 stainless steel bezels are offered as optional accessories.

LED | IP 67 COMPLETELY SEALED | CE | UV RESISTANT | 5 YR WARRANTY



- Completely sealed housing
- Pre-wired with marine cable

2 x white and 2 x black end caps are included with each lamp.

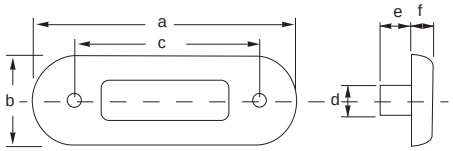
Accessories

Polished 316 Stainless Steel Rim
99**8 019**-001

Gold Plated 316 Stainless Steel Rim
99**8 019**-011

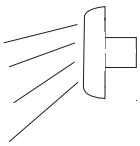
Satin 316 Stainless Steel Rim
95**9 685**-061

Lens Material	UV resistant enhanced impact acrylic
Cap Material	316 stainless steel
Cable	Pre-wired with 120mm of twin core marine cable
Operating Voltage	Multivolt 12 / 24V DC
Power Consumption	0.5W (<0.04A@12V / <0.02A@24V)
Degree of Protection	Completely Sealed
Weight	25g (including cable)
Approvals	CE, C-Tick



Dimensions
a = 84 mm / 3.31”
b = 29 mm / 1.14”
c = 58 mm / 2.28”
d = 10 mm / 0.39” Ø
e = 10 mm / 0.39”
f = 9 mm / 0.35”

Step Lamps



Step Lamps
Peak light is directed down at 30 degrees.

2 x white and 2 x black end caps are included with each lamp.

LED Multivolt **White Light LED Step Lamps**

Rim Finish	Voltage	Part Number
Polished stainless steel rim	12 / 24V DC	980 **868**-401

LED Multivolt **Warm White Light LED Step Lamps**

Rim Finish	Voltage	Part Number
Polished stainless steel rim	12 / 24V DC	980 **868**-501

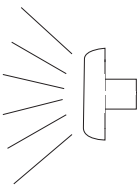
LED Multivolt **Blue Light LED Step Lamps**

Rim Finish	Voltage	Part Number
Polished stainless steel rim	12 / 24V DC	980 **868**-701

LED Multivolt **Red Light LED Step Lamps**

Rim Finish	Voltage	Part Number
Polished stainless steel rim	12 / 24V DC	980 **868**-601

Courtesy Lamps



Courtesy Lamps
Light is directed up and down.

2 x white and 2 x black end caps are included with each lamp.

LED Multivolt **White Light LED Step Lamps**

Rim Finish	Voltage	Part Number
Polished stainless steel rim	12 / 24V DC	980 **869**-301

LED Multivolt **Warm White Light LED Step Lamps**

Rim Finish	Voltage	Part Number
Polished stainless steel rim	12 / 24V DC	980 **869**-401

LED Multivolt **Blue Light LED Step Lamps**

Rim Finish	Voltage	Part Number
Polished stainless steel rim	12 / 24V DC	980 **869**-601

LED Multivolt **Red Light LED Step Lamps**

Rim Finish	Voltage	Part Number
Polished stainless steel rim	12 / 24V DC	980 **869**-501

Surface Strip

Surface mount strip lamps for easy and versatile interior, exterior or courtesy lighting.

1720 Matt Watson Signature www.stabicraft.com
12V Courtesy intensity white under gunnels

Featuring a completely sealed 10mm profile and class leading efficiency for a wide range of illumination tasks,

The range offers two intensity levels. ***Interior Intensity*** lamps (<3W) provide a wide spread of powerful illumination in white (5000K) or warm white (3000K) and are recommended as a viable alternative to 7W fluorescent or 10W incandescent based lamps.

The ***Courtesy Intensity*** range (<1.5W) provides soft and uniform courtesy light pattern in white, warm white, blue or red. The low profile design offers an effortless, surface mount installation almost anywhere onboard.

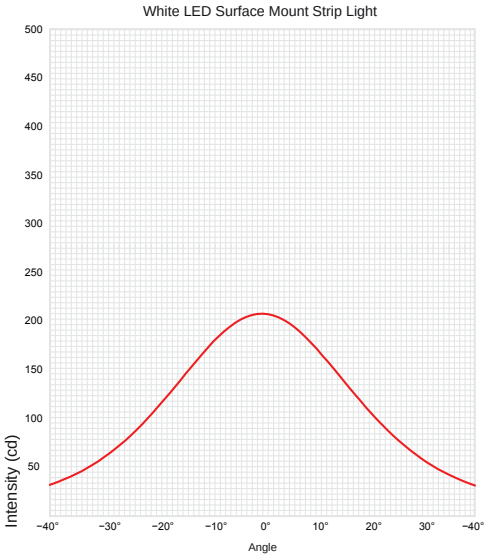
Purpose designed for the harsh marine environment, surface mount strip lamps are salt water durable and thoroughly tested to withstand high levels of vibration, impact, and shock loads.

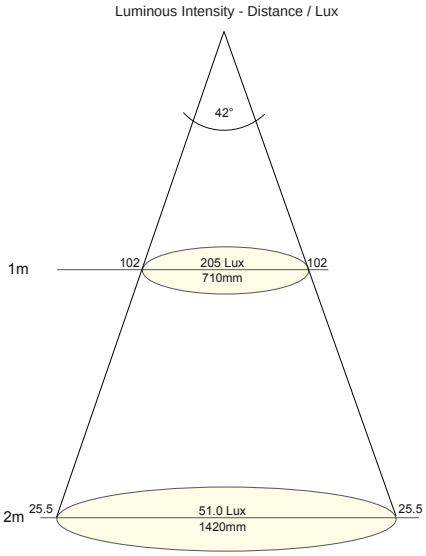
Engineered optics harness and distribute available light without glare, harsh point sources or eye strain. The result is highly effective illumination with minimal energy use.

Quality twin core marine cable is sealed into each lamp for absolute water tightness, reliable electrical connections and ongoing reliability.

- Completely sealed housing
- Pre-wired with marine cable

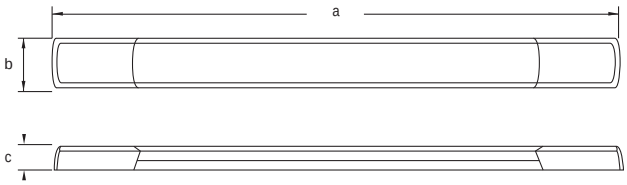
Surface Strip Interior Intensity Candela and Lux performance. White light.





Packaging for
aftermarket presentation

Lens Material	UV resistant enhanced impact acrylic
Color Temperature	5000K (White) 3000K (Warm White)
Dimming	Hella marine Dimmer 998 **572**-001
Cable	Pre-wired with 500mm of twin core cable
Operating Voltage	12V DC or 24V DC
Power Consumption	Interior Intensity < 3.0W (<0.25A@12V / <0.16A@24V)
	Courtesy Intensity < 1.5W (<0.125A@12V / <0.06A@24V)
Degree of Protection	Completely Sealed
Installation	Surface Mount
Weight	75g (including cable)



Dimensions

a = 285 mm / 11.22”
b = 25.0 mm / 1.0”
c = 10.0 mm / 0.39”

<3W Interior Intensity Surface Mount Lamps

White Light LED Lamps

Voltage	End Cap Color	Part Number
12V DC	White	980 **881**-002
24V DC	White	980 **881**-102

Warm White Light LED Strip Lamps

Voltage	End Cap Color	Part Number
12V DC	White	980 **881**-202
24V DC	White	980 **881**-302

<1.5W Courtesy Intensity Surface Mount Lamps

White Light LED Strip Lamps

Voltage	End Cap Color	Part Number
12V DC	White	980 **881**-012
24V DC	White	980 **881**-112

Warm White Light LED Strip Lamps

Voltage	End Cap Color	Part Number
12V DC	White	980 **881**-212
24V DC	White	980 **881**-312

Blue Light LED Strip Lamps

Voltage	End Cap Color	Part Number
12V DC	White	980 **881**-402
24V DC	White	980 **881**-502

Red Light LED Strip Lamps

Voltage	End Cap Color	Part Number
12V DC	White	980 **881**-602
24V DC	White	980 **881**-702

Accessories to suit 0881 series

958 **000**-011
45° Mounting Bracket.
White.

DuraLed®

Ultra wide, even illumination from energy efficient and robust LED lamps

Riviera 43FB www.riviera.com.au

Completely sealed, compact LED lamps featuring highly efficient LED technology and an ultra wide spread of light.

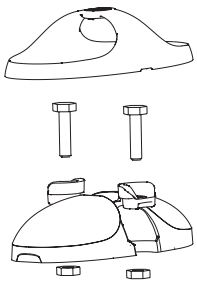
Power consumption is low at less than 2.5W (less than 0.20A@12V) yet light performance is comparable to an 8W fluorescent tube lamp.

DuraLed 12 LED lamps feature precision machined optics to purposely disperse light in a very wide spread pattern.
The result is LED technology ideal for engine room illumination, under decks, and to throw light into confined spaces and cavities on a wide range of vessels.

A robust bush mount system secures the surface mount lamp and takes up the torque loads of fastenings.

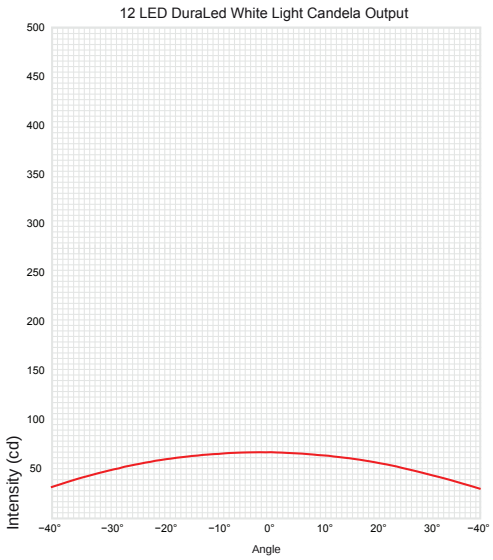
DuraLed lamps are thoroughly proven for harsh environments and represent outstanding class leading energy efficiency and maintenance free 'fit and forget' technology.

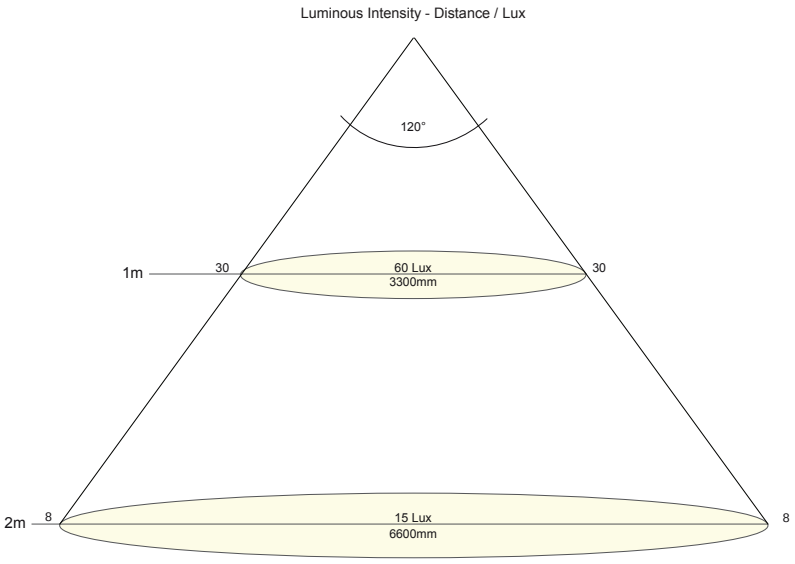
LED | IP 67 COMPLETELY SEALED | 12/24 DUALVOLT | CE | UV RESISTANT | 5 YR WARRANTY



- Completely sealed housing
- Pre-wired with marine cable
- Mounting bushs eliminate torque loads
- Nylon shroud clips onto lamp body

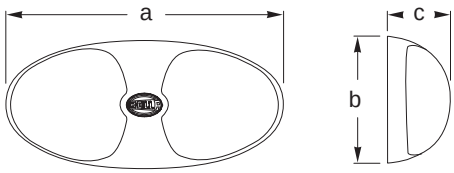
DuraLed 12 LED Candela and Lux performance. White light.





Lens Material	UV resistant, enhanced impact acrylic
Shroud Material	Heavy duty nylon
Color Temperature	5000K (White) / 3000K (Warm White)
Cable	Pre-wired with 500mm of twin core marine cable
Operating Voltage	12/24V DC
Power Consumption	< 2.5W (<0.20A@12V / <0.10A@24V)
Operating Temperature	-40°C to +60°C / -40°F to 140°F
Degree of Protection	IP 67 - Completely Sealed
Weight	115g (including cable)
Installation	Surface mount with robust bush mount
Approvals	CE, C-Tick, ISO 8846 (Ignition Protection)

Packaging for aftermarket presentation



Dimensions
a = 140 mm / 5.51”
b = 65.0 mm / 2.56”
c = 32.0 mm / 1.26”

DuraLed®

LED Multivolt

White Light DuraLed 12 LED Lamps

Voltage	Shroud Color	Part Number
12 / 24V DC	White Shroud	959 **700**-101
12 / 24V DC	Black Shroud	959 **700**-121

LED Multivolt

Warm White Light DuraLed 12 LED Lamps

Voltage	Shroud Color	Part Number
12 / 24V DC	White Shroud	959 **700**-701
12 / 24V DC	Black Shroud	959 **700**-711

Lamps with Heavy Duty Switch

LED Multivolt

White Light DuraLed 12 LED Lamps with Switch

Voltage	Shroud Color	Part Number
12 / 24V DC	White Shroud with switch	980 **704**-001
12 / 24V DC	Black Shroud with switch	980 **704**-021

LED Multivolt

Warm White Light DuraLed 12 LED Lamps with Switch

Voltage	Shroud Color	Part Number
12 / 24V DC	White Shroud with switch	980 **704**-501
12 / 24V DC	Black Shroud with switch	980 **704**-521

DuraLed®

Heavy duty marine lamps offer outstanding light intensity, class leading efficiency and proven durability

Powerful white light for heavy duty applications and a safe, energy efficient and reliable alternative to incandescent and fluorescent lighting.

Designed for engine rooms, storage lockers, lazarettes and many heavy duty applications where reliability must not be compromised. Advanced Hella marine lens and optic engineering ensures a wide spread of light without glare or harsh point sources.

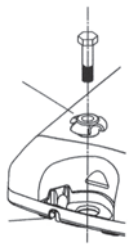
Product reliability is second to none, proven worldwide in thousands of highly demanding applications. Each lamp is a completely sealed design, highly impact resistant and shock resistant, ensuring an ultra long service life.

DuraLed lamps are surface mounted and feature a unique installation system where the fastening load is taken up by a heavy duty nylon bush to eliminate possible stress on the lamp housing.

Hella marine Multivolt circuitry provides constant illumination and circuit protection from 9-33V DC, even under severe voltage fluctuations. Spike protection, reverse polarity protection and over voltage protection are all built-in benefits of the sophisticated electronics inside each lamp.

LED | IP 67 COMPLETELY SEALED | 9-33V MULTIVOLT™ | CE | UV RESISTANT | 5 YR WARRANTY

- Completely sealed housing and cable entry
- Pre-wired with marine cable



Completely sealed unit with robust bush mounts.

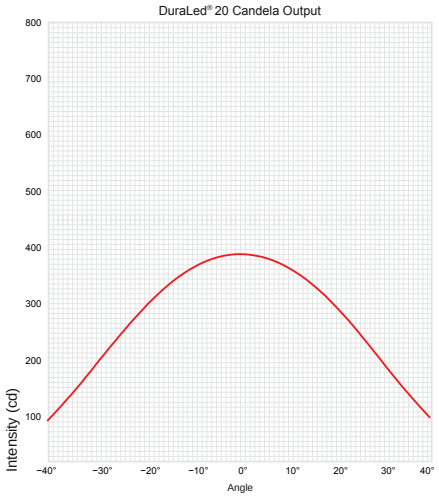
20 and 36 LED DuraLed packaging option for aftermarket presentation

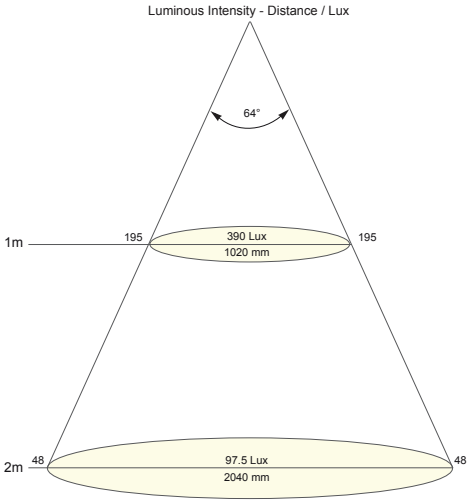
Lens Material	UV resistant, enhanced impact acrylic
Color Temperature	5000K (Cool White)
Cable	Pre-wired with 2.5m of twin core marine cable
Operating Voltage	9-33V DC
Voltage Protection	Spike protected to +500 volts Reverse polarity protected to -700 volts
Power Consumption	20 LED < 4W (<0.33A@12V / <0.17A@24V) 36 LED < 7W (<0.51A@12V / <0.28A@24V) 50 LED < 10W (<0.80A@12V / <0.39A@24V)
Operating Temperature	-40°C to +60°C / -40°F to 140°F
Degree of Protection	IP 67 - Completely Sealed
Weight	20 and 36 LED 345g (including cable) 50 LED 450g (including cable)
Installation	Surface mount with robust bush mount
Approvals	CE, C-Tick, ISO 8846 (Ignition Protection)

CE C-Tick

ISO IGNITION PROTECTED

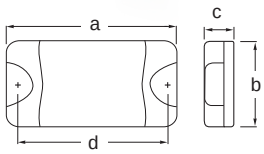
DuraLed 20 LED





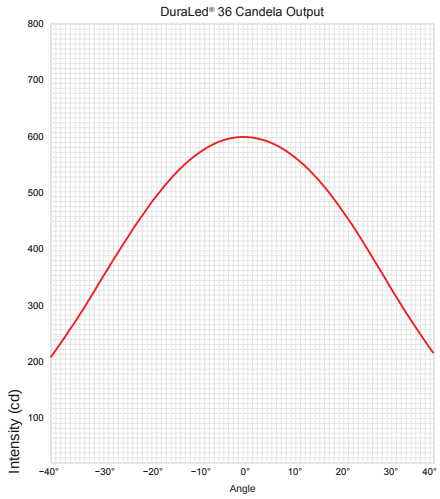
LED Multivolt **DuraLed 20 LED White Light Lamps**

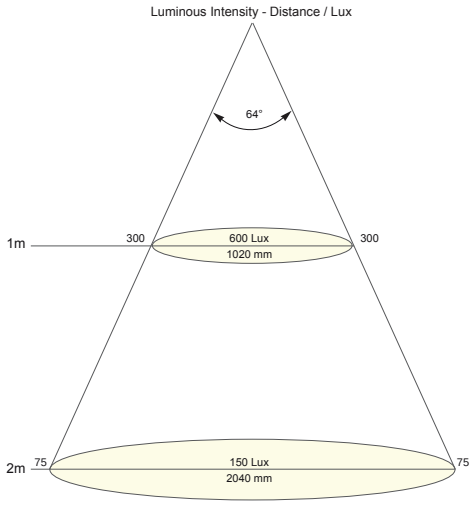
Voltage	Packaging	Part Number
9-33V DC	Carton	980 **608**-001
9-33V DC	Blister	980 **608**-002



Dimensions
a = 177mm / 6.97”
b = 100mm / 3.94”
c = 30mm / 1.18”
d = 148mm / 5.83”

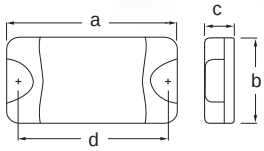
DuraLed 36 LED





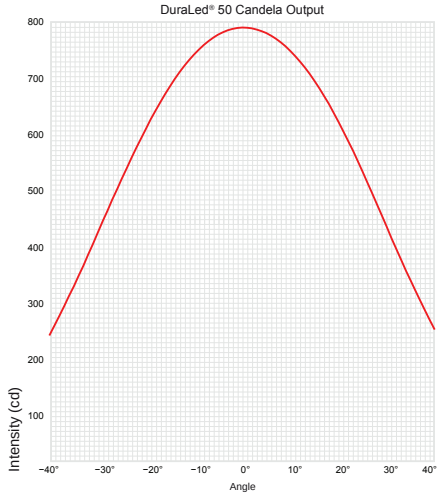
LED Multivolt **DuraLed 36 LED White Light Lamps**

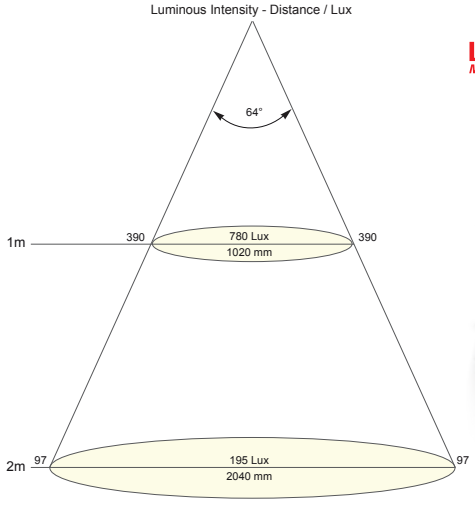
Voltage	Packaging	Part Number
9-33V DC	Carton	959 **037**-521
9-33V DC	Blister	959 **037**-522



Dimensions
a = 177mm / 6.97”
b = 100mm / 3.94”
c = 30mm / 1.18”
d = 148mm / 5.83”

DuraLed 50 LED





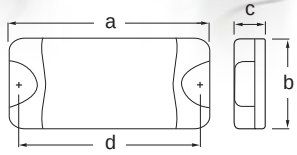
LED Multivolt **DuraLed 50 LED White Light Lamp**

Voltage	Packaging	Part Number
9-33V DC	Carton	980 **604**-011

LED Multivolt **DuraLed 50 LED White/Red Light Lamp**

Voltage	Packaging	Part Number
9-33V DC	Carton	980 **604**-061*

*30xWhite 20xRed LEDs



Dimensions
a = 220mm / 8.66”
b = 96mm / 3.78”
c = 31mm / 1.22”
d = 193mm / 7.60”

DuraLed®

LED Multi-flash Signal Lamps

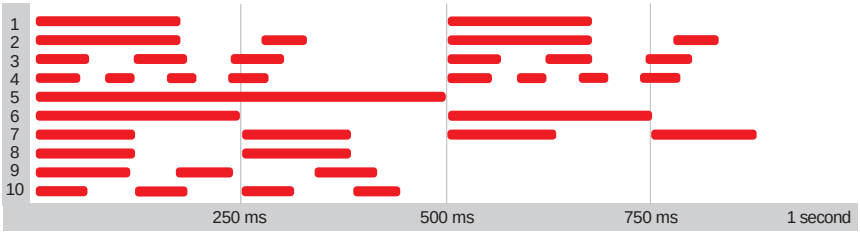
LED 360º Multi-flash Signal Lamps

Multi-purpose 360º signal lamps featuring an ultra heavy duty clear Grilamid® lens, 10 programmable flash modes and the ability to be synchronised to flash alternately or in unison.

Each lamp is a completely sealed unit. Proven design, precision engineering and the use of high impact acrylic materials ensure superior resistance to water, impact, UV and wear and tear.

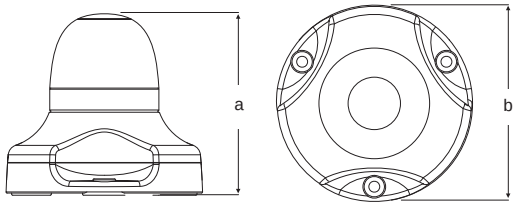
Advanced Multivolt™ circuitry provides reliable illumination across a range of DC inputs from 9-33 volts even during low battery voltages and voltage drop over long cable runs.

LED | IP 67 COMPLETELY SEALED | 9-33V MULTIVOLT™ | CE | UV RESISTANT | 5 YR WARRANTY



Material Description	Ultra heavy duty Grilamid® lens
Minimum Visible Distance	2 Nautical Mile
Cable	Pre-wired with .5m of multi core cable
Operating Voltage	Multivolt 9-33V DC
Voltage Protection	Spike protected to +500 volts
	Reverse polarity protected to -500 volts
Power Consumption	<5W (<0.42A@12V / <0.021A@24V (Continuously on)
	Less in flash modes
Degree of Protection	IP 67 - Completely Sealed
Weight	150g (including cable)
Approvals	CE, C-Tick

Dimensions
a = 83mm / 3.27”
b = 90mm / 3.54”



LED Multivolt

360º Multi-flash Signal Lamps

Light Color	Black Base
White	980 **911**-001
Green	980 **911**-201
Red	980 **911**-401
Amber	980 **911**-601
Blue	980 **911**-701

DuraLed®

LED Multi-flash Signal Lamps

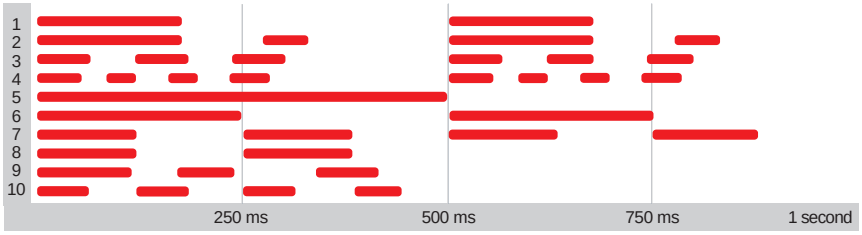
Ultra durable emergency lighting and signal warning panel lamps

Multi-flash signal lamps provide 10 programmable flash modes and the ability to be synchronised to flash alternately or in unison.

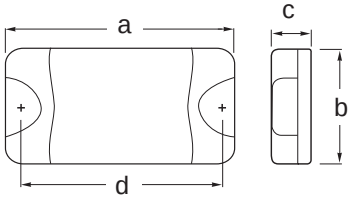
Advanced Multivolt™ circuitry provides reliable illumination across a range of DC inputs from 9-33 volts even during low battery voltages and voltage drop over long cable runs.

Each lamp is a completely sealed unit. Proven design, precision engineering, and the use of high impact acrylic materials ensure superior resistance to water, impact, UV and wear and tear.

LED | IP 67 COMPLETELY SEALED | 9-33V MULTIVOLT™ | CE | UV RESISTANT | 5 YR WARRANTY



Lens Material	UV resistant, enhanced impact acrylic
Cable	Pre-wired with 2.5m of multi core cable
Operating Voltage	9-33V DC
Voltage Protection	Spike protected to +500 volts Reverse polarity protected to -700 volts
Power Consumption	< 9W (<0.75A@12V / <0.375A@24V (Continuously on) Less in flash modes
Operating Temperature	-40°C to +60°C / -40°F to 140°F
Degree of Protection	IP 67 - Completely Sealed
Weight	345g (including cable)
Installation	Surface mount with robust bush mount
Approvals	CE, C-Tick



Dimensions
a = 177mm / 6.97”
b = 100mm / 3.94”
c = 30mm / 1.18”
d = 148mm / 5.83”

LED Multivolt

DuraLed Multi-flash Signal Lamps

Light Color	Black Base
White	959 037-911
Green	959 037-811
Red	959 037-011
Amber	959 037-111
Blue	959 037-611

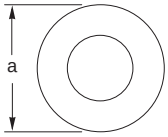
Livewell Lamps

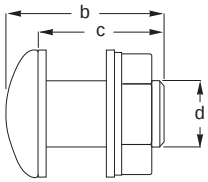
Sealed LED lamps specifically designed for illuminating live bait tanks

Completely sealed, power saving LED Livewell / Baitwell lamps are designed for installation into live bait tanks with wall thicknesses up to 26mm.
Supplied with a plastic nut and rubber gaskets for a watertight seal, installation is swift and secure into often inaccessible locations.

LED | IP 67 COMPLETELY SEALED | UV RESISTANT | 5 YR WARRANTY

Housing Description	Heavy duty polycarbonate
Installation	Pre-wired with 120mm of cable
Operating Voltage	12V DC
Power Consumption	0.5W (< 0.04A@12V / < 0.02A@24V)
Degree of Protection	IP 67 - Completely Sealed
Mounting	Single hole
	Rubber gaskets included
Weight	75g (including cable)





Dimensions

a = 50.0 mm / 1.97”
b = 49.0 mm / 1.93”
c = 40.0 mm / 1.57”
d = 26.0 mm / 1.02”

Packaging for aftermarket presentation

White Light LED Livewell Lamp

Voltage	Lens Color	Part Number
12V	Clear	998 **543**-051

Blue Light LED Livewell Lamp

Voltage	Lens Color	Part Number
12V	Clear	998 **543**-031

Amber Light LED Livewell Lamp

Voltage	Lens Color	Part Number
12V	Amber	998 **543**-001

Red Light LED Livewell Lamp

Voltage	Lens Color	Part Number
12V	Red	998 **543**-021

Bulb Interior Lamps and Accessories

Hella marine

Vision and Innovation

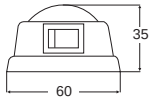
Fluorescent Lamps

CE

Transistorized Fluorescent Tube Lamps

The combination of advanced electronics and efficient compact fluorescent tubes ensures lower power consumption than incandescent lamps for the same light output.

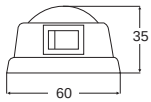
Further benefits include:
- Flicker free noiseless operation
- Homogeneous spread of light
- Vibration and shock resistance
- Reliable ignition even at extremely low temperatures
- Prevention of early blackening of the fluorescent tube
- Reverse polarity protection
- ON / OFF switch integrated into housing
- Interference suppressed to VDE 0879



7372 Series

Housing Description	Impact resistant plastic
Light Source	TL8 Fluorescent tube included
Installation	6.3mm flat-plug connectors

Fluorescent Tube Interior Lamps			Light output comparison
Voltage / Wattage	**Length**	**Part Number**	
12V / 8W	440mm	007 **372**-002	Compact 8W fluorescent tube produces light output equivalent to a 40W incandescent bulb.
24V / 8W	440mm	007 **372**-012	



7373 Series

Housing Description	Impact resistant plastic
Light Source	TL8 Fluorescent tube included
Installation	6.3mm flat-plug connectors

Fluorescent Tube Interior Lamps			Light output comparison
Voltage / Wattage	**Length**	**Part Number**	
12V / 7W	255mm	007 **373**-002	Compact 7W fluorescent tube produces light output equivalent to a 40W incandescent bulb.
24V / 7W	255mm	007 **373**-012	

Fluorescent Tube Interior Lamps			Light output comparison
Voltage / Wattage	**Length**	**Part Number**	
12V / 8W	285mm	007 **373**-032	Compact 8W fluorescent tube produces light output equivalent to a 40W incandescent bulb.
24V / 8W	285mm	007 **373**-042	

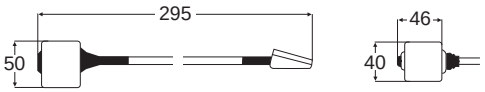
Fluorescent Tube Interior Lamps			Light output comparison
Voltage / Wattage	**Length**	**Part Number**	
12V / 11W	355mm	007 **373**-062	Compact 11W fluorescent tube produces light output equivalent to a 75W incandescent bulb.
24V / 11W	355mm	007 **373**-072	

Chart Reading Lamps

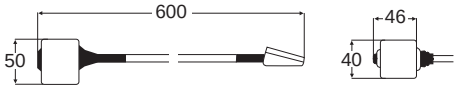
4532 Series

Adjustable lamps for navigation areas.
An ON/OFF switch is integrated into the lamp head.
A red lens is included for optional 'non glaring' night illumination.

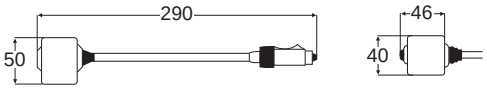
Housing Description	Plastic
Bulb	12V / 5W BA9s included
Installation	Pre-wired with 100mm of cable
Maximum Output	6W



295mm Fixed mounting



600mm Fixed mounting



290mm Cigarette lighter plug

4532 Series Halogen Interior Lamps

Voltage	Arm Length	Part Number
12V	296mm	004 **532**-171
12V	600mm	004 **532**-161
12V	290mm (Cigarette)	004 **532**-021

12V / 5W Bulb
H83010011

Spare Red Lens
128922011

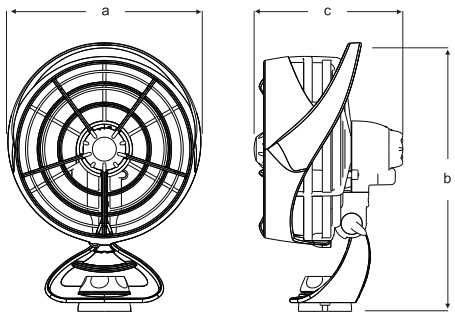
Oscillating Fans

Two Speed “Turbo 2.0” Oscillating Fans

Highly regarded Hella marine Turbo fans are strengthened by the arrival of the Turbo 2.0 series.

Now featuring an oscillating function to deliver refreshingly cool air circulation on board, Turbo 2.0 fans continue with Hella’s benchmark quiet operation, low power consumption and proven durable materials.

- Quality German motor for quiet operation
- Low power consumption <4W (<0.33A@12V)
- High / Low fan speed control
- On / Off oscillation control
- Safety blade guard front and rear
- Side, upright or pendant mounting
- Pre-wired with 1.8m / 6ft of cable



Dimensions
a = 181mm / 7.13”
b = 252mm / 9.92”
c = 139mm / 5.47”

Material Description	Impact resistant plastic
Switch	Integrated 2 stage rotary
Output	Speed 1: 70 liter / sec.
	Speed 2: 95 liter / sec.
Power Consumption	<4W (<0.33A@12V)
Installation	Pre-wired with 1.8m / 6ft of cable

Two Speed Oscillating Fan "Turbo 2.0"

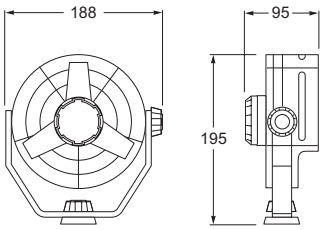
Voltage	Housing Color	Part Number
12V	Black Housing	003 **366**-002
12V	White Housing	003 **366**-022

Two Speed “Turbo” Fans

Internationally respected Hella Turbo fans may be turned and pivoted in all directions and locked into position.

- Quality German motor for quiet operation
- 150mm diameter fan blade with guard
- High air moving capacity with low power consumption
- Two speed switch in front of the blade guard
- Side, upright or pendant mounting

Material Description	Impact resistant plastic
Switch	Integrated 2 stage rotary
Output	Speed 1: 70 liter / sec.
	Speed 2: 95 liter / sec.
Power Consumption	6.5W
Installation	Pre-wired with 1.4m / 4.6ft of cable



Two Speed Fan "Turbo"

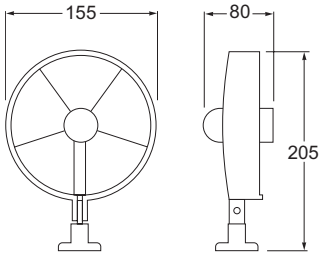
Voltage	Housing Color	Part Number
12V	Black Housing	003 **361**-002
12V	White Housing	003 **361**-022
24V	Black Housing	003 **361**-012

Single Speed “Jet” Fan

Economy fan with similar styling to the popular “Turbo” models.
Can be turned and pivoted in all directions, and locked in position.

- 130mm diameter fan blade with guard.
- Switch in front of the blade guard.
- Side, upright or pendant mounting.

Material Description	Impact resistant plastic
Switch	ON/OFF switch
Output	40 liters / sec.
Power Consumption	3.5W
Installation	Pre-wired with 1.4m / 4.6ft of cable



Single Speed Fan "Jet"

Voltage	Housing Color	Part Number
12V	Black Housing	006 **239**-022
12V	White Housing	006 **239**-032

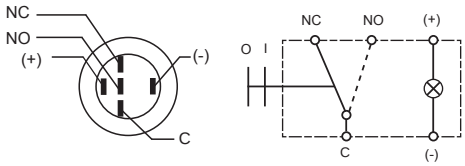
Stainless Steel Switches

8455 Series Push Button Switches

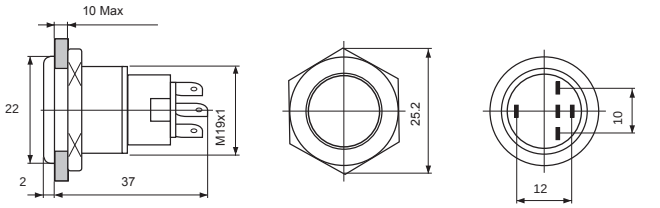
Stylish, exterior durable, stainless steel switches featuring an attractive ring of LED light.

Manufactured from 304 stainless steel, these through panel mount switches are IP67 rated when installed and ideal for switching lighting or installing into custom switch panels.
The light rings may be wired to show power to a system or signal circuit activation.
The range also includes matching stainless steel warning buzzers with LED light rings.

Button Material	304 Stainless Steel
Body Material	304 Stainless Steel
Contact Material	Silver Alloy
Terminal Type	5 Pin (2.8 x 0.5mm) switches 2 screws for buzzer
Panel Thickness	1~ 10mm
Operating Temp	-20°C~ +55°C
Insulation Resistance	≥ 1000mΩ
Contact Resistance	≤ 50mΩ
Max. Switch Rating	5A
Degree of Protection	IP 67 for switches IP 50 for buzzer
Buzzer sound intensity	>80dB (1m)

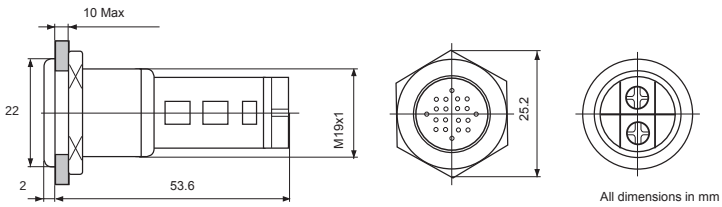


Switch



All dimensions in mm

Buzzer



All dimensions in mm

Stainless Steel Switches with LED Ring - Latching

Light Color	Voltage	Operation	Part Number
Red	12V DC	On / Off	958 **455**-001
Blue	12V DC	On / Off	958 **455**-011
Red	24V DC	On / Off	958 **455**-101
Blue	24V DC	On / Off	958 **455**-111

Stainless Steel Switches with LED Ring - Momentary

Light Color	Voltage	Operation	Part Number
Red	12V DC	Momentary	958 **455**-201
Blue	12V DC	Momentary	958 **455**-211
Red	24V DC	Momentary	958 **455**-301
Blue	24V DC	Momentary	958 **455**-311

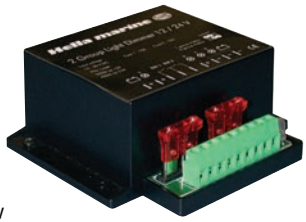
Stainless Steel Buzzers with LED Ring

Light Color	Voltage	Operation	Part Number
Red	12V DC	Buzzer	958 **456**-001
Red	24V DC	Buzzer	958 **456**-101

8572 Series - 2 Group Light Dimmer

Features:

- Precise dimming control for 1 or 2 light groups
- Voltage regulation & 'soft-start' bulb protection
- Low voltage battery protection
- 12V and 24V DC



The Hella marine 2 Group Light Dimmer provides precise dimming control for one or two separate light groups, and sophisticated voltage regulation with a 'soft-start' feature to lengthen the life of a filament bulbs. The dimmer also provides low voltage protection against deep battery discharge.

When batteries are charged voltage can rise to 14.4V on 12V systems or 28.8V on 24V systems, this can shorten the life of bulbs.
The 2 Group Dimmer increases bulb life through sophisticated internal voltage regulation, ensuring the lighting circuit voltage does not rise above 12V or 24V. As halogen bulbs also have a high inrush current on start up, the 2 Group Dimmer features 'soft-start' to further lengthen bulb life.

The dimmers low voltage protection also protects against deep battery discharge. Lights will turn off automatically when battery voltage is lower than 9V on a 12V system or lower than 18V on a 24V system. Lights can be switched on again when the battery is charged and reaches 12V or 24V respectively.

Max. Load	200W at 12V and 400W at 24V
Max. Load Per group	100W at 12V and 200W at 24V
Input Voltage Range	8 - 30V DC
System Voltage	12V or 24V DC
Number of Groups	2
Switches Per Group	Unlimited
Switch Type	Momentary normally open
Weight	140 grams
Protections	Overload, Temperature, Low voltage
Fuse	2 x 10A

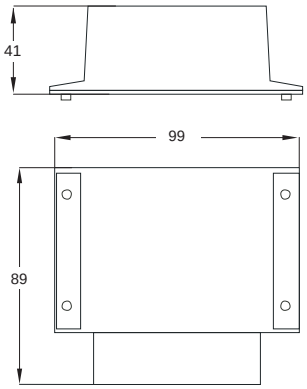


Diagram 1

Controlling both groups with one switch.

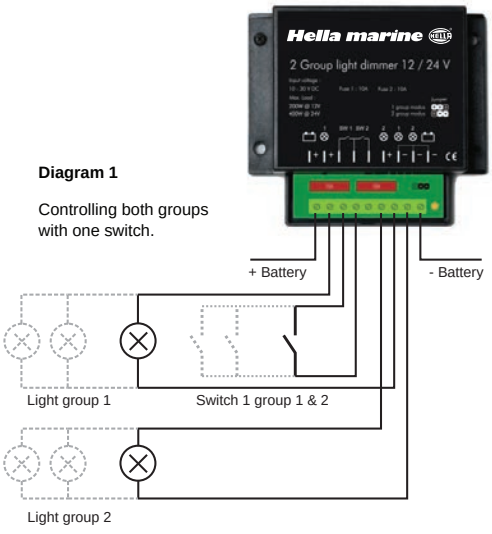
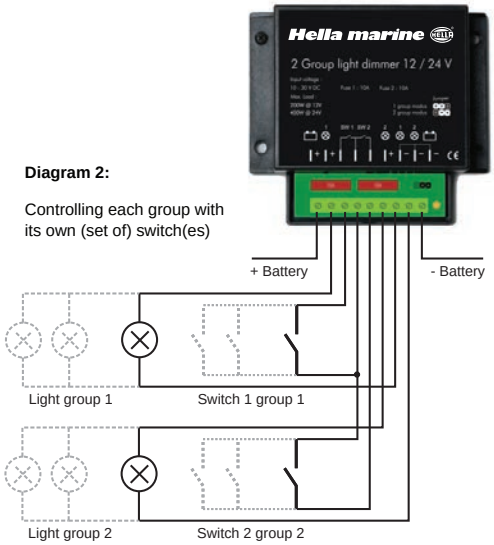


Diagram 2:

Controlling each group with its own (set of) switch(es)



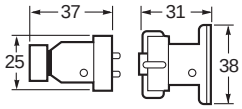
2 Group Light Dimmer

Part Number

998 **572**-001

Plugs and Sockets

Water Resistant Plugs and Sockets



Chrome brass plugs and sockets for exterior or interior installations.
Socket includes plastic cap.
Plug suitable for cable up to 6.5mm diameter.

Material Description	Chrome brass housings. Brass contacts
Maximum Load	22A at 12V
Installation	Screw terminals

Water Resistant Plugs and Sockets

Description	Part Number
2 Pin	002 **620**-801
3 Pin	002 **807**-801
4 Pin	002 **957**-801

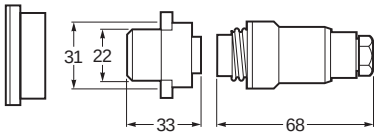
Chrome Brass Deck Glands - Ensures waterproof cable entry.

Cable Diameter	Gland dimensions	Part Number
Cables up to 8mm dia.	18mm high x 32mm base diameter	004 **208**-001
Cables up to 12mm dia.	18mm high x 38mm base diameter	004 **209**-001

Waterproof Plugs and Sockets

Watertight plastic plugs and sockets for exterior or interior installations.
Socket includes plastic cap.
Plug suitable for cable up to 8.0mm diameter.

Material Description	Impact resistant plastic housing Silver contacts.
Degree of Protection	IP 67
Maximum Load	2 to 4 pin; 16A at 12V, 7 pin; 10A at 12V
Installation	2 to 4 pin: Screw terminals 7 pin; Solder terminals
Mounting	2 to 4 pin; Flush mounting 7 pin; Surface mounting



Waterproof Plugs and Sockets

Description	Part Number
2 Pin Plug and Socket	006 **801**-801
3 Pin Plug and Socket	006 **803**-801
4 Pin Plug and Socket	006 **805**-801
7 Pin Plug and Socket	006 **807**-801

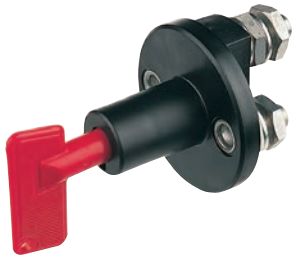
Mounting Ring
For surface mounting of the socket.
Includes stainless steel screws and rubber gasket

Part Number

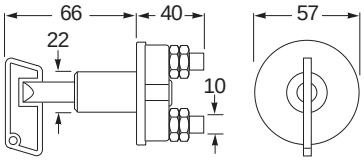
006 **798**-001

2843 Series - 50 Amp Battery Master Switch

Positive or negative cable can be switched as required. Key can be removed in the OFF position, current interrupted.



Housing Description	Impact resistant plastic
Cable Connection	2 screw terminals, M10
Degree of Protection	IP X4
Max. load	12V / max. 1000A (10 seconds) 24V / max. 500A (10 seconds) (compliant with VDA 72750)

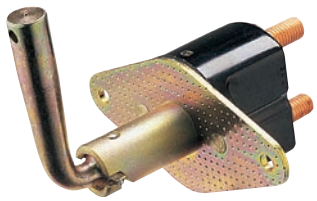


50 Amp Battery Master Switch

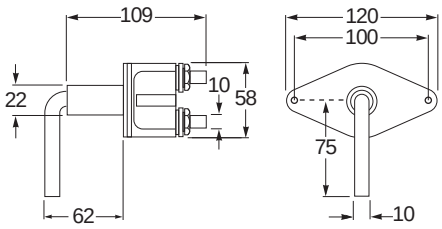
Part Number	Spare Key Number
002 **843**-011	706 **729**-011

1559 Series - 100 Amp Battery Master Switch

Heavy duty switch for high loads.
Key can be removed in the OFF position.
Positive or negative cable can be switched as required.



Housing Description	Impact resistant plastic Steel key and mounting plate
Cable Connection	2 screw terminals, M10
Degree of Protection	IP X4
Max. Load	12V / 24V max. 2500A (10 seconds)
Max. Continuous Load	12V / 24V max. 100A (compliant with VDA 72750)



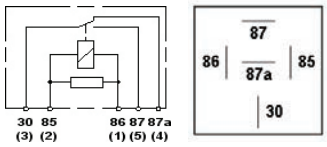
100 Amp Battery Master Switch

Part Number	Spare Key Number
001 **559**-001	042 **991**-001

Relays

Mini 20/40 Amp SPDT Potted with Resistor

Nominal Voltage	12V
Must Operate Voltage	8.0V
Must Release Voltage	1.0V
Coil Resistance	87Ω Including Suppression.
Contact Material	$AgSnO_2$

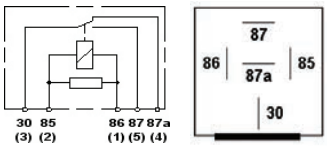


Mini 20/40 Amp SPDT Sealed with Resistor -40 to +125°C

931 **680**-011	Boxed
931 **680**-017	Bulk

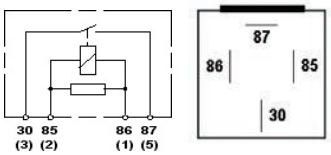
Mini 20/40 Amp SPDT with Resistor with Bracket -40 to +85°C

933 **332**-181	Boxed
933 **332**-187	Bulk



70 Amp SPST with Bracket & Resistor

Nominal Voltage	12V
Must Operate Voltage	8.0V
Must Release Voltage	1.3V
Coil Resistance	87Ω Including Suppression.
Contact Material	$AgSnO_2$

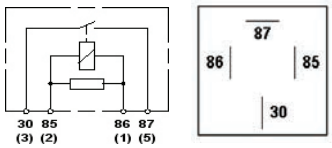


70 Amp SPST with Bracket & Resistor -40 to +125°C

007 **793**-041	Boxed
007 **793**-047	Bulk

70 Amp SPST with Resistor

Nominal Voltage	12V
Must Operate Voltage	8.0V
Must Release Voltage	1.3V
Coil Resistance	87Ω Including Suppression.
Contact Material	$AgSnO_2$

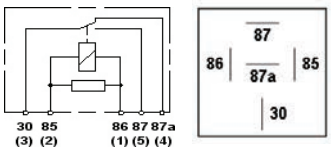


70 Amp SPST with Resistor -40 to +125°C

007 **793**-031	Boxed
007 **793**-037	Bulk

Mini 20/40 Amp SPDT with Resistor, without Bracket

Nominal Voltage	12V
Must Operate Voltage	8.0V
Must Release Voltage	1.0V
Coil Resistance	87Ω Including Suppression.
Contact Material	$AgSnO_2$

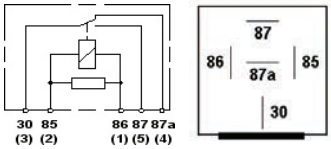


Mini 20/40 Amp SPDT with Resistor without Bracket -40 to +125°C

007 **794**-321	Boxed
007 **794**-327	Bulk

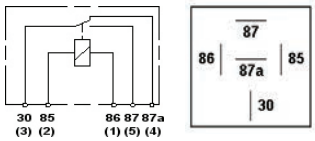
Mini 20/40 Amp SPDT with Resistor with Bracket -40 to +125°C

007 **794**-301	Boxed
007 **794**-307	Bulk



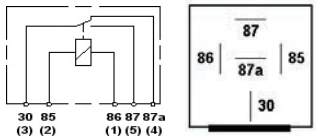
Mini 20/40 Amp SPDT with and without Bracket

Nominal Voltage	12V
Must Operate Voltage	8.0V
Must Release Voltage	1.0V
Coil Resistance	85Ω
Contact Material	$AgSnO_2$



Mini 20/40 Amp SPDT without Bracket

933 **332**-051	Boxed
933 **332**-057	Bulk

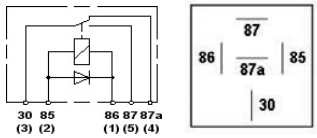


Mini 20/40 Amp SPDT with Bracket

933 **332**-011	Boxed
933 **332**-017	Bulk

Mini 20/40 Amp SPDT with Diode

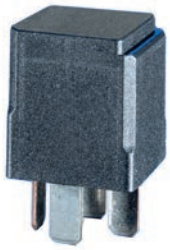
Nominal Voltage	12V
Must Operate Voltage	8.0V
Must Release Voltage	1.0V
Coil Resistance	100Ω Including Suppression.
Contact Material	$AgSnO_2$



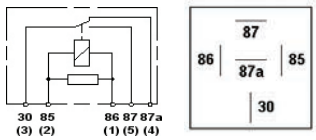
Mini 20/40 Amp SPDT with Diode -40 to +125°C

007 **794**-041	Boxed
007 **794**-047	Bulk

Mini 10/20 Amp SPDT with Resistor



Nominal Voltage	24V
Must Operate Voltage	17.0V
Must Release Voltage	3.5V
Coil Resistance	243Ω Including Suppression.
Contact Material	$AgSnO_2$

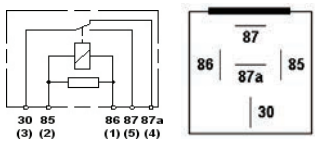


Mini 10/20 Amp SPDT with Resistor without Bracket -40 to +125°C

007 **903**-001	Boxed
007 **903**-007	Bulk

Mini 10/20 Amp SPDT with Resistor with Bracket -40 to +85°C

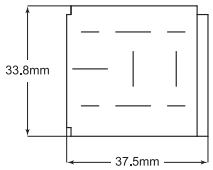
933 **332**-161	Boxed
933 **332**-167	Bulk



Relays

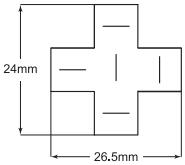
Mini 5- or 9-Terminal Bracket Mount Connector Block

Mini 5- or 9-Terminal Bracket Mount Connector Block	
H84526001	Single Pack
003526001	Pack of 250



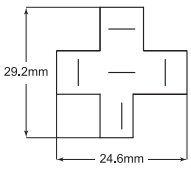
Mini 5-Terminal Wire Harness Connector

Mini 5-Terminal Wire Harness Connector	
H84989021	Single Pack
H84989027	Pack of 50
U84989027	Pack of 3000



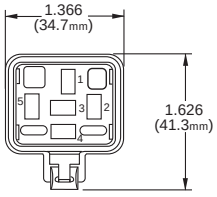
High Current 70A 4-Terminal Wire Harness Connector

High Current 70A 4-Terminal Wire Harness Connector	
H84703001	Single Pack
H84703007	Pack of 50
U84703007	Pack of 2100



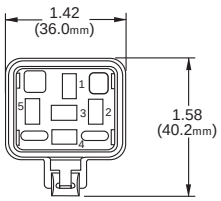
ISO Mini Weatherproof Relay Connector with 12” Leads

ISO Mini Weatherproof Relay Connector with 12” Leads	
H84709001	Single Pack

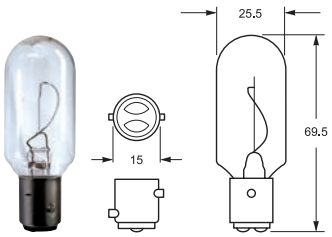


ISO Mini Weatherproof Relay Connector Kit - Relay Socket

ISO Mini Weatherproof Relay Connector with 12” Leads	
H84709011	Single Pack

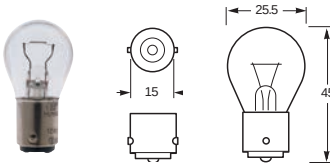


Bulbs for Navigation and Interior Lamps



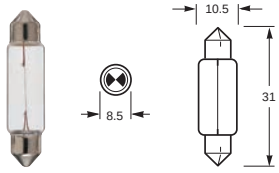
Navigation Lamp Bulbs. BAY15d Base

Part Number	Voltage	Wattage	Base
003 488-121	12	>10/12	BAY15d
003 488-301	12	25/30	BAY15d
003 488-131	24	>10/12	BAY15d
003 488-311	24	25/30	BAY15d



Navigation Lamp and Interior Lamp Bulbs. BA15s Base

Part Number	Voltage	Wattage	Base	ECE Category
H83035081	12	5	BA15s	R 5W
H83035091	24	5	BA15s	R 5W
H83035101	12	10	BA15s	R 10W
H83035111	24	10	BA15s	R 10W
H83035011	12	18	BA15s	R
H83035021	24	18	BA15s	R
H83035031	12	21	BA15s	P 21W
H83035041	24	21	BA15s	P 21W



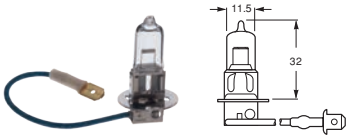
Navigation Lamp and Interior Lamp Bulbs. SV8.5 Base

Part Number	Voltage	Wattage	Base	ECE Category
H83205001	12	10	SV8.5	K
H83205011	24	10	SV8.5	K
H83100001	12	10	SV8.5	
H83100011	12	5	SV8.5	C 5 W
H83100021	24	5	SV8.5	C 5 W

Bulbs for Deck Floodlights and Interior Lamps

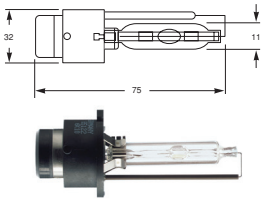
Deck Floodlamp Bulb. GX5.3s Base

Part Number	Voltage	Wattage	Base
998 529-001	12	20	GX5.3



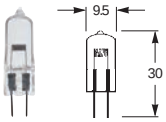
Deck Floodlamp and Search Light Bulbs. PK22s 9s Base. H3

Part Number	Voltage	Wattage	Base	ECE Category
H83135051	12	55	PK22s	H3
H83135211	24	70	PK22s	H3
H83135111	12	100	PK22s	H3



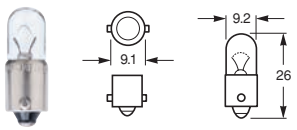
Deck Floodlamp and Search Light Xenon capsules. D2S

Part Number	Voltage	Wattage	Base	ECE Category
H83075001	12/24	35	P32d-2	D2S



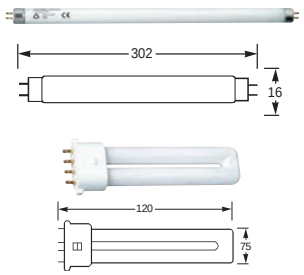
Halogen Interior Lamp Bulbs. G4 Base

Part Number	Voltage	Wattage	Base
H83010041	12	5	G4
H83105031	12	10	G4
H83010031	12	20	G4
H83105041	24	20	G4
H83105051	24	10	G4



Halogen Interior Lamp Bulbs. BA9s Base

Part Number	Voltage	Wattage	Base	ECE Category
H83010001	12	20	BA9s	
H83010011	12	5	BA9s	
H83050041	12	4	BA9s	T 4 W
H83050051	24	4	BA9s	T 4 W
H83050001	12	6	BA9s	



Compact Fluorescent Tubes. TL8 and 2G7 Base

Part Number	Wattage	Base	Luminous Flux
002 296-111	8	TL8	400 lm
H83955001	7	2G7	400 lm
H83955011	9	2G7	600 lm
H83955021	11	2G7	900 lm

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