

Interior/Exterior Lighting

The Tread Lightly Caravan (TLC) is a travelling classroom to teach our children environmental awareness, jam-packed with lots of fun and interactive exhibits.

HELLA energy efficient LED lighting systems were chosen to complement the Tread Lightly message of leaving the smallest environmental footprint.



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LED LIGHTING TECHNOLOGY - ENERGY EFFICIENT CRISP WHITE LIGHT

HELLA LED based luminaires are sophisticated opto-electronic devices designed to be highly energy efficient and durable, and are a future-proof, low 'Cost-of-Ownership' solution.



“In depth design and engineering know how is required to produce durable products with reliable performance year after year.”

LED based lighting is fast advancing to becoming the logical solution for the cost conscious operator who considers 'Cost-of-Ownership' rather than just the initial purchase price. To design efficient LED luminaires, many factors need to be considered. The LED itself, optics, optic materials, thermal design and drive electronics. These are among the many factors that add up to result in an efficient and durable luminaire.

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 as much of the luminous flux emitted by the LED as possible. An evenly illuminated surface area is evidence of competent optic design. With significant advances in LED brightness, eye safety considerations are increasingly important. For interior lights it is essential for high power LEDs to be coupled with optic designs that protect the eye's retina. It is desirable for a large portion of the lens area of a luminaire to be evenly illuminated via an efficient optic rather than using a bundle of LEDs without any optic. Easily visible LEDs inside a luminaire without any optic or lens protection can cause a degree or even significant eye discomfort if viewed directly.

A recent US Department of Energy (DOE) report warns of poorly designed LED luminaires, associating low frequency 'Flicker' with the possibility to trigger epileptic attacks in parts of the population that are susceptible.

Well designed LED lighting systems do carry a higher initial price compared to many other lamps now on offer. For most applications, higher efficiency and long term reliability of a competently designed and manufactured LED luminaire is a convincing Value Proposition.

Heat and Thermal Management

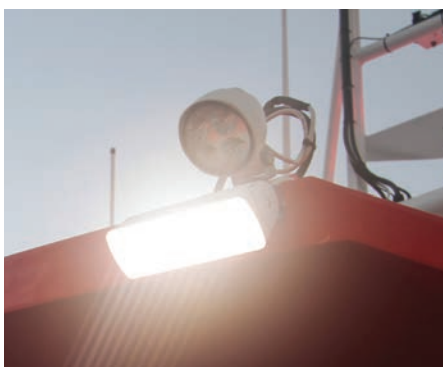
Competent and well engineered thermal management is essential for the long-term durability of HELLA LED luminaires. A common misconception is that LEDs do not generate heat. LEDs consume power and some of this power is also converted to heat, even in the most energy efficient LEDs.

In contrast to incandescent lamps however, LEDs do not like to 'run hot'. As a rule of thumb the hotter an LED runs, the faster it will degrade and in extreme cases result in a much lower light performance and shorter service life.

A noticeably 'hot to touch' exterior surface of a high power LED interior lamp provides some indication that the light output of the device will deteriorate fast, sometimes within a few hundred hours. Well engineered LED devices will operate 'cool' or 'warm' to the touch after many hours of operation. HELLA has many years of technical expertise in developing good thermal designs, when matched with superior optics and electronic design it ensures the long term durability of all our LED lighting products with minimal degradation over many years of service.

Highly efficient white LED luminaires are becoming a solution that make ecological and economic sense for an ever increasing range of applications.





Reliability

Due to the solid state nature of LEDs there are no filaments to break, however LEDs do require precise current control, overvoltage and spike protection to avoid any premature damage.

For LED luminaire designers and manufacturers, in depth design and engineering know how is required to produce durable products with reliable performance year after year.

Considerations such as hermetically sealed housings, sealed cable entries, effective electronic protection, shock, vibration and impact resistant components all contribute towards long term reliability. Compared to incandescent lighting, where a filament inside a bulb may break at any moment, HELLA LED lighting is designed as a reliable Fit and Forget solution.

Colour Temperature and Rendering

LED based lighting has had a reputation for appearing 'cold' and 'blue' due to their phosphorous coating technology.

However today's high efficacy devices can rival traditional incandescent light sources for colour and ambience. When selecting LED interior lighting, colour temperature is an important consideration.

1850K	Candle
2800K	Halogen Bulb (Incandescent Lamp)
2500-3200K	Warm White LED
4600K-5600K	Crisp White LED
6500K	Daylight

Colour temperature is measured in Kelvin and describes the effect of heating an object until it glows incandescently. The emitted radiation, and apparent colour 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 describes higher colour temperatures (4600K to 5600K) as 'crisp white' and lower colour temperatures as 'warm white'.

'Neutral white' is considered around 4200K range. Crisp white is recommended for visual tasks, work areas and exterior lighting.

Warm white is suggested for interior spaces as it adds life and vibrancy to people and objects. It is considered more flattering to skin tones or fabrics and makes food look fresh and attractive.

NEW DIMMABLE LOGOS WHAT DO THEY MEAN?

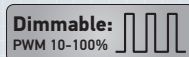
Logos used throughout the Interior/Exterior section to help quick referencing of important product features are explained below.



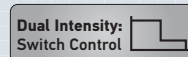
Light intensity is reduced as the DC input voltage is reduced below the lamps specified operating voltage.



Light intensity is controlled through the lamp's own internal circuitry via in-built buttons, an external DC power source and a standard switch. See specific lamp instructions for further information.



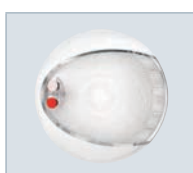
Light intensity is adjusted between 10-100% using a high frequency PWM (pulse width modulation) DC power supply, with adjustable duty cycle control.



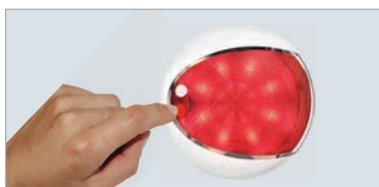
Light intensity can be switched between 100% and a lower level factory pre-set value, usually via an additional cable input supplied with the lamp using a positive feed from the DC power supply within the lamps operating voltage range.

EuroLED® White/Red Touch Lamp

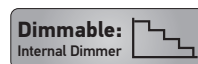
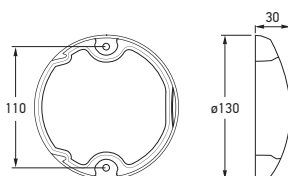
Dual colour EuroLED® touch lamps with dimming and momentary switch control. Touch the white or red pads for on/off, hold finger to cycle through dimming levels. Provides ultra long service life and is shock and vibration proof. Clear lens.




P/N 2JA 959 950-021



EuroLED Touch™ red night light function shown.



Part Number	BLACK SHROUD	WHITE SHROUD	
	2JA 959 950-011	2JA 959 950-021	WHITE/RED
Mounting	Two hole surface mount with mounting bushes supplied.		
Voltage	Multivolt™ for optimum brightness at input voltage from 9 to 33 volts.		
Power Consumption	White: 4W Red: 1.5W		
Protection	Reverse polarity and transient spike circuit protection. IP 6K6 (Protection against dust and high-pressure water jets) IP 6K7 (Protection against temporary water immersion)		
Cable Length	Pre-wired with 2.5m of sheathed multi-core cable.		
Accessories	95995200 95995201	Mounting spacer - Black Mounting spacer - White	
Compliance	CE  Z208		
See page 68 for EuroLED® accessories.			



P/N 95995200

P/N 95995201

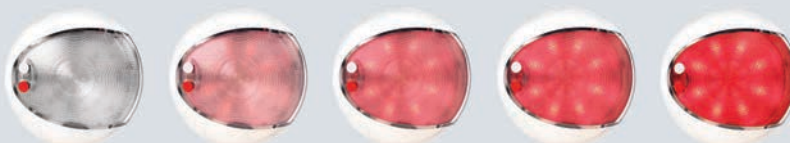
EuroLED®

Advanced LED lamps with touch sensitive switching.
Power saving and ultra durable.

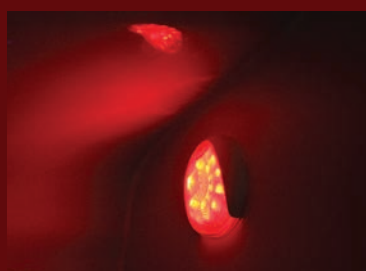
Lighting control is beautifully simple. Touch the colour pad for red light and the white pad for white light. On the dual colour versions, hold your finger on the pad for more than two seconds and the lamp will cycle through four dimming levels. Release your finger on the light level required.

Dual colour EuroLED® Touch lamps can also be remotely operated from multiple points with 'off the shelf' ON/OFF/ON momentary switches. Holding one of the external switches for two seconds will synchronise the lamps to the same dimming level.

Light levels are 'remembered' by the lamps circuitry, even when a vehicle's batteries are turned off.



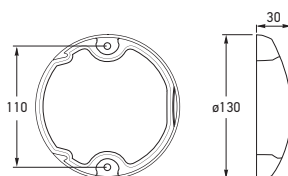
Designed and manufactured in New Zealand, EuroLED® Touch lamps provide red/white, or white only light using the latest completely sealed touch sensitive technology.



The lamp will always turn on at the colour intensity previously set, regardless of power interruption.


EuroLED® Touch power consumption is 4W on white (0.33A @ 12V) and less than 1.5W on red (less than 0.125A @ 12V) to provide significant power savings.

The durability of EuroLED® Touch lamps is outstanding. Each lamp is completely waterproof, impact and shock resistant, for an ultra long service life. Multivolt™ circuitry provides optimum brightness across a range of input voltages from 9-33 DC, even under severe voltage fluctuations.



EuroLED® White Touch Lamp

White single LED lamp with touch switching and clear lens. Touch the white pad to turn on and the black pad to turn off. Provides ultra long service life and is shock and vibration proof.

Part Number	BLACK SHROUD	WHITE SHROUD	
	2JA 959 950-551	2JA 959 950-561	WHITE
Mounting	Two hole surface mount with mounting bushes supplied.		
Voltage	Multivolt™ for optimum brightness at input voltage from 9 to 33 volts.		
Power Consumption	4W		
Protection	Reverse polarity and transient spike circuit protection. IP 6K6 (Protection against dust and high-pressure water jets) IP 6K7 (Protection against temporary water immersion)		
Cable Length	Pre-wired with 2.5m of sheathed multi-core cable.		
Accessories	95995200 95995201	Mounting spacer - Black Mounting spacer - White	
Compliance	CE  Z208		
See page 68 for EuroLED® accessories.			



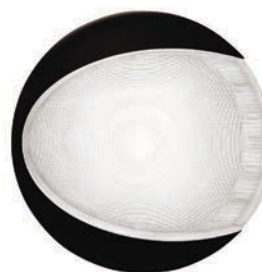
P/N 2JA 959 950-561



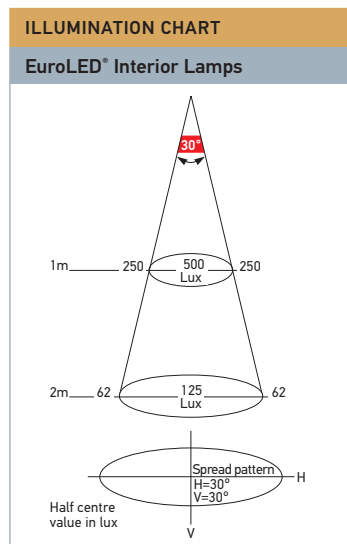
Part Number	95982050	WHITE
Mounting	Two hole surface mount with mounting bushes supplied.	
Voltage	Multivolt™ for optimum brightness at input voltage from 9 to 33 volts.	
Power Consumption	4W	
Protection	Reverse polarity and transient spike circuit protection. IP 6K6 (Protection against dust and high-pressure water jets) IP 6K7 (Protection against temporary water immersion)	
Cable Length	Pre-wired with 2.5m of sheathed multi-core cable.	
Accessories	95995200 95995201	Mounting spacer - Black Mounting spacer - White
Compliance	CE Z208	

EuroLED® Lamp

White single LED lamp with clear lens. Provides ultra long service life and is shock and vibration proof. Includes a black and a white rim. No switching or dimming.



INTERIOR/EXTERIOR



Illumination Charts Explained

Our light performance charts show luminance and spread in an easy to read format. At the top is the spread, with the boundary threshold being defined as half the peak luminance. While there is light beyond the indicated angles, the majority of light will be inside the cone shown.

The difference between lux (luminance) and lumen (luminous flux) is that lux takes into account the area over which the luminous flux is spread. Accordingly the lux figure decreases with distance. Most interior lamps will be installed at around the 2 - 2.5 metre height.

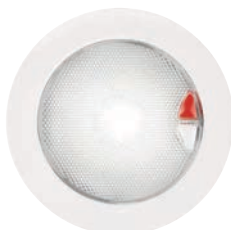
As a guideline, some 40 - 100 lux is required for corridors and passageways, around 300 lux for reading and 500 - 800 lux for offices.

The spread pattern may not be designed symmetrical so the spread horizontally (H) and vertically (V) are given.

Luminance is additive, meaning overlapping light patterns or multiple lamps lighting the same surface add their luminance.

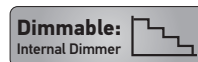
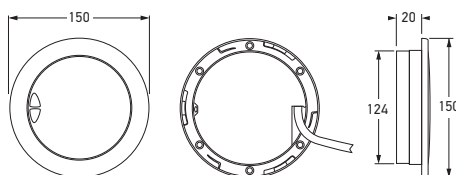
EuroLED® Touch 150 Downlights - Dual Colour

Dual colour EuroLED® touch lamps with dimming and momentary switch control. Touch the white pad for on/off, hold finger on the pad to cycle through dimming levels. Provides ultra long service life and is shock and vibration proof. Clear lens.



Red function

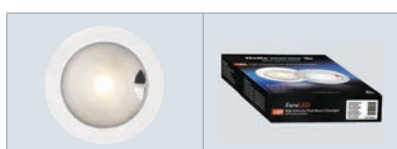
Packaging



Part Number	WHITE PLASTIC RIM	POLISHED STAINLESS STEEL RIM	
	2JA 980 630-001	2JA 980 630-011	WHITE/RED
	2JA 980 630-101	2JA 980 630-111	WARM WHITE/RED
Mounting	Recess mount, 124mm hole.		
Voltage	Multivolt™ for optimum brightness at input voltage from 9 to 33 volts.		
Power Consumption	White: 4W Red: 1.5W		
Protection	Reverse polarity and transient spike circuit protection. Sealed against dust and water ingress.		
Cable Length	Pre-wired with 0.5m of sheathed multi-core cable.		
Compliance	CE Z208		

EuroLED® Touch 150 Downlights - Single Colour

White single LED lamp with touch switching and clear lens. Touch the white pad to turn on and the black pad to turn off. No dimming. Provides ultra long service life and is shock and vibration proof.



P/N 2JA 980 630-601

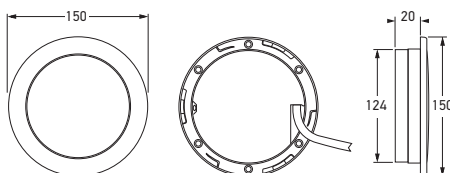
Packaging



Sealed cable entry



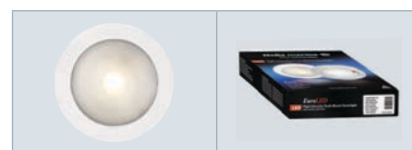
Part Number	WHITE PLASTIC RIM	POLISHED STAINLESS STEEL RIM	
	2JA 980 630-501	2JA 980 630-511	WHITE
	2JA 980 630-601	2JA 980 630-611	WARM WHITE
Mounting	Recess mount, 124mm hole.		
Voltage	Multivolt™ for optimum brightness at input voltage from 9 to 33 volts.		
Power Consumption	4W		
Protection	Reverse polarity and transient spike circuit protection. Sealed against dust and water ingress.		
Cable Length	Pre-wired with 0.5m of sheathed multi-core cable.		
Compliance	CE Z208		



Part Number	WHITE PLASTIC RIM	POLISHED STAINLESS STEEL RIM	
	2JA 980 631-501	2JA 980 631-511	WHITE
	2JA 980 631-601	2JA 980 631-611	WARM WHITE
Mounting	Recess mount, 124mm hole.		
Voltage	Multivolt™ for optimum brightness at input voltage from 9 to 33 volts.		
Power Consumption	4W		
Protection	Reverse polarity and transient spike circuit protection. Sealed against dust and water ingress.		
Cable Length	Pre-wired with 0.5m of sheathed multi-core cable.		
Compliance	CE Z208		

EuroLED® 150 Downlights

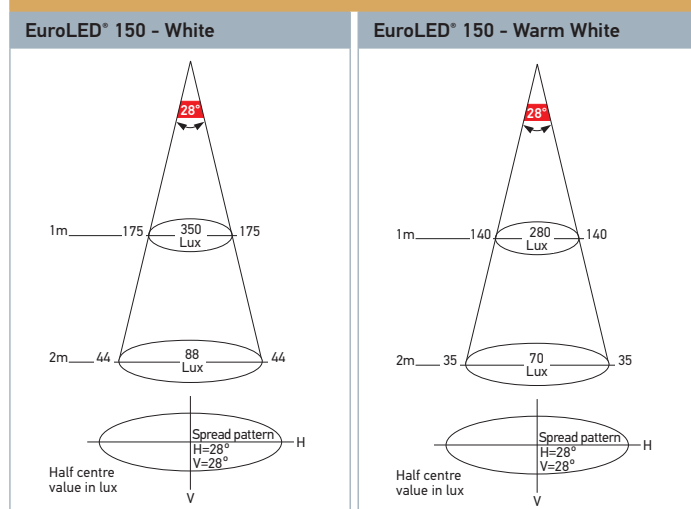
White single LED lamp with clear lens.
Provides ultra long service life and is shock and vibration proof. No switching or dimming.



P/N 2JA 980 631-601

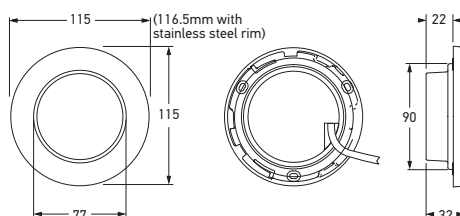
Packaging

ILLUMINATION CHARTS



EuroLED® 115 Downlights - With White Spacer

Round LED high intensity downlights offering class leading efficiency and durability. Supplied with white or polished stainless steel rim to suit.




Dimmable:
PWM 10-100%

Power Supply
**MULTI
VOLT**



P/N 2JA 980 820-101

Sealed cable entry

Part Number	WHITE PLASTIC RIM	POLISHED STAINLESS STEEL RIM	
	2JA 980 820-001	2JA 980 820-011	WHITE
	2JA 980 820-101	2JA 980 820-111	WARM WHITE
Mounting	Recess mount, 90mm hole. Surface mount via optional spacer.		
Voltage	Multivolt™ for optimum brightness at input voltage from 10 to 33 volts.		
Power Consumption	4.5W		
Protection	Reverse polarity and transient spike circuit protection. Sealed against dust and water ingress.		
Cable Length	Pre-wired with 0.5m of sheathed multi-core cable.		
Compliance	CE  Z208		

See page 197 for a HELLA PWM based dimmer unit.

EuroLED® 115 Downlights - With White Spacer and Switch

Round LED high intensity downlights offering class leading efficiency and durability. Supplied with white or polished stainless steel rim to suit.


Dimmable:
PWM 10-100%

Power Supply
**MULTI
VOLT**



P/N 2JA 980 828-111

Packaging

Part Number	WHITE PLASTIC RIM	POLISHED STAINLESS STEEL RIM	
	2JA 980 828-001	2JA 980 828-011	WHITE
	2JA 980 828-101	2JA 980 828-111	WARM WHITE
Mounting	Recess mount. Surface mount via spacer.		
Voltage	Multivolt™ for optimum brightness at input voltage from 10 to 33 volts.		
Power Consumption	4.5W		
Protection	Reverse polarity and transient spike circuit protection. Sealed against dust and water ingress.		
Cable Length	Pre-wired with 0.5m of sheathed multi-core cable.		
Compliance	CE  Z208		

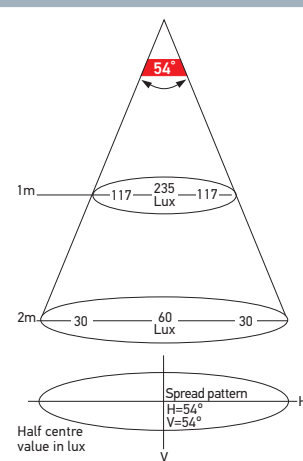
See page 197 for a HELLA PWM based dimmer unit.



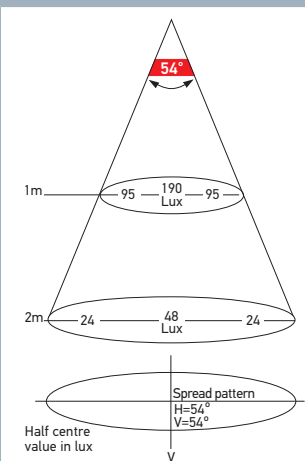
EuroLED® 115 Downlights with switch, expanded view.

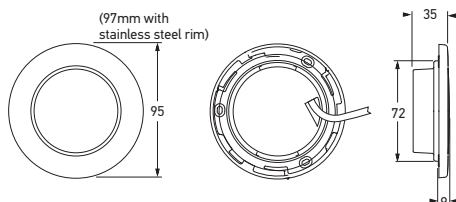
ILLUMINATION CHART

EuroLED® 115 - White



EuroLED® 115 - Warm White





EuroLED® 95 Downlights - Recess Mount

Round LED high intensity downlights offering class leading efficiency and durability. Supplied with white or polished stainless steel rim to suit.

Part Number	WHITE PLASTIC RIM	POLISHED STAINLESS STEEL RIM	
	2JA 980 940-001	2JA 980 940-011	WHITE
	2JA 980 940-101	2JA 980 940-111	WARM WHITE

Mounting Recess mount, 72mm hole. Screw mount.

Voltage Multivolt™ for optimum brightness at input voltage from 10 to 33 volts.

Power Consumption 4W

Protection Reverse polarity and transient spike circuit protection. Sealed against dust and water ingress.

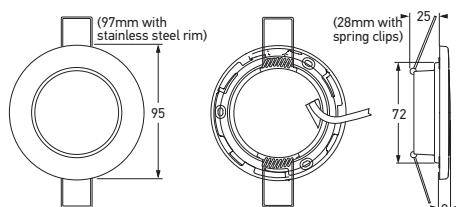
Cable Length Pre-wired with 0.5m of sheathed multi-core cable.

Compliance CE Z208

See page 197 for a HELLA PWM based dimmer unit.



P/N 2JA 980 940-111 Packaging



EuroLED® 95 Downlights - Recess Mount With Spring Clip

Round LED high intensity downlights offering class leading efficiency and durability. Supplied with white or polished stainless steel rim to suit.

Part Number	WHITE PLASTIC RIM	POLISHED STAINLESS STEEL RIM	
	2JA 980 940-201	2JA 980 940-211	WHITE
	2JA 980 940-301	2JA 980 940-311	WARM WHITE

Mounting Recess mount, 72mm hole. Spring clip.

Voltage Multivolt™ for optimum brightness at input voltage from 10 to 33 volts.

Power Consumption 4W

Protection Reverse polarity and transient spike circuit protection. Sealed against dust and water ingress.

Cable Length Pre-wired with 0.5m of sheathed multi-core cable.

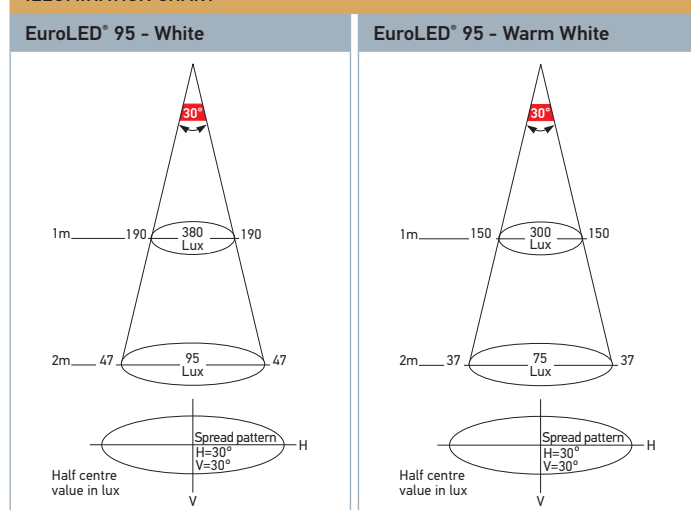
Compliance CE Z208

See page 197 for a HELLA PWM based dimmer unit.



P/N 2JA 980 940-311 Packaging

ILLUMINATION CHART

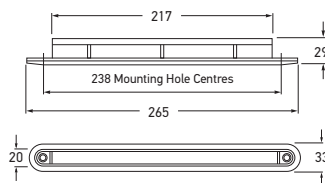


LED White Interior/Exterior Strip Lamp

White LED interior lamp with clear UV resistant acrylic lens. Ideal for steps, interior or exterior courtesy lighting and storage areas.



P/N 2641HB



Dimmable:
Analog DC Input

Part Number	12 VOLT	24 VOLT	
	2641-12V	2641-24V	WHITE
	2641HB	2641HB-24V	HIGH BRIGHTNESS WHITE
Mounting	Recess mount.		
Power Consumption	<2W		
Protection	Reverse polarity protection. IP 6K7 (Protection against dust and temporary water immersion) IP 6K9K (Protection against dust and high-pressure/steam jet cleaning)		
Cable Length	Pre-wired with 2.5m of sheathed multi-core cable.		
Spare Part	9GD 959 155-507	Gasket	
See page 197 for a HELLA analog based dimmer unit.			

LED Interior/Exterior Strip Lamp

LED lamp with clear UV impact resistant lens and attractive stainless steel cover. Stainless steel bezel features a unique internal tab lock for secure attachment and no visible fastenings.



P/N 2651WW

Shown expanded



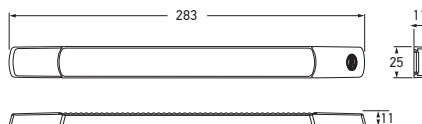
Dimmable:
Analog DC Input

Part Number	12 VOLT	24 VOLT	
	2651	2651-24V	WHITE
	2651WW	2651WW-24V	WARM WHITE
Mounting	Recess mount.		
Power Consumption	<2W		
Protection	Reverse polarity protection. IP 6K7 (Protection against dust and temporary water immersion) IP 6K9K (Protection against dust and high-pressure/steam jet cleaning)		
Cable Length	Pre-wired with 2.5m of sheathed multi-core cable.		
See page 197 for a HELLA analog based dimmer unit.			

ILLUMINATION CHARTS

P/Ns 2641/2641-24V	P/Ns 2641HB/2641HB-24V	P/Ns 2651/2651-24V	P/Ns 2651WW/2651WW-24V

Dimmable:
Analog DC Input



Part Number	12 VOLT	24 VOLT	
	2652	2652-24V	WHITE
	2652WW	2652WW-24V	WARM WHITE

Mounting Surface mount.

Power Consumption <3W

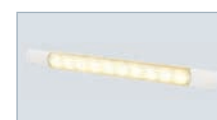
Protection Reverse polarity protection.
IP 6K7 (Protection against dust and temporary water immersion)
IP 6K9K (Protection against dust and high-pressure/steam jet cleaning)

Cable Length Pre-wired with 2.5m of sheathed multi-core cable.

See page 70 for surface mount strip lamp screw caps.
See page 197 for a HELLA analog based dimmer unit.

LED Interior/Exterior Strip Lamp - Surface Mount

LED lamp featuring a soft white colour temperature and diffused lens for an evenly spread light. Fully sealed for complete protection against water and dust ingress.

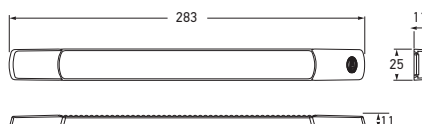


P/N 2652WW



Ultra slim design.

Dimmable:
Analog DC Input



Part Number	12 VOLT	24 VOLT	
	2JA 980 881-402	2JA 980 881-502	BLUE
	2JA 980 881-602	2JA 980 881-702	RED

Mounting Surface mount.

Power Consumption <2W

Protection Reverse polarity protection.
IP 6K7 (Protection against dust and temporary water immersion)
IP 6K9K (Protection against dust and high-pressure/steam jet cleaning)

Cable Length Pre-wired with 0.5m of sheathed multi-core cable.

See page 70 for surface mount strip lamp screw caps.
See page 197 for a HELLA analog based dimmer unit.

LED Courtesy Strip Lamp - Surface Mount

These LED courtesy surface mount strip lamps feature a shallow 11mm profile and completely sealed housings. Available in blue and red colour variants.

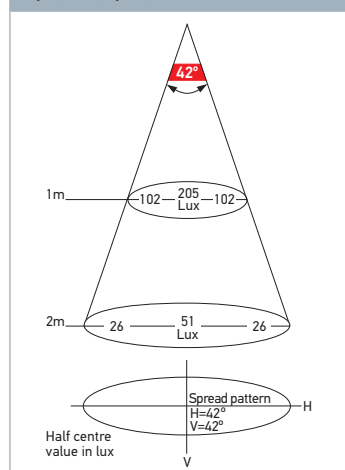


P/N 2JA 980 881-602

INTERIOR/EXTERIOR

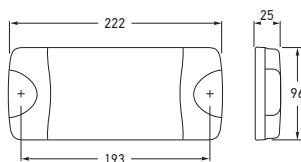
ILLUMINATION CHART


P/Ns 2652/2652-24V



DuraLED® Combi-S White 50 LED Lamp

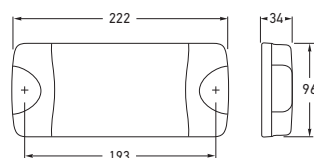
White high brightness LED lamp with Grilamid® lens. Exceptional light output, incorporating high efficacy electronics and LEDs resulting in low power consumption (<12 watts) and low heat. Spread light is suitable for general area lighting. Lens manufactured from Grilamid® clear nylon which features high UV and chemical resistance, and high impact strength. The lamp is fully sealed against dust and moisture ingress.




Part Number	98060450	SPREAD
Mounting	Two hole surface mount with mounting bushes supplied.	
Voltage	Multivolt™ for optimum brightness at input voltages from 9 to 33 volts.	
Power Consumption	<12W	
Protection	Reverse polarity and transient spike circuit protection. IP 6K7 (Protection against dust and temporary water immersion) IP 6K9K (Protection against dust and high-pressure/steam jet cleaning)	
Cable Length	Pre-wired with 2.5m of sheathed multi-core cable.	
Lens Material	Grilamid®	
Compliance	CE  Z208	
See page 66 for DuraLED® accessories.		

DuraLED® Combi White 50 LED Lamp

White high brightness LED lamp with Grilamid® lens. Exceptional light output, incorporating high efficacy electronics and LEDs resulting in low power consumption (<12 watts) and low heat. Spread light is suitable for general area lighting. Lens manufactured from Grilamid® clear nylon which features high UV and chemical resistance, and high impact strength. The lamp is fully sealed against dust and moisture ingress.



	WHITE LENS	CHARCOAL LENS	
Part Number	98060420	98060421	SPREAD
	98060400	98060403	WIDE SPREAD
Mounting	Two hole surface mount with mounting bushes supplied.		
Voltage	Multivolt™ for optimum brightness at input voltages from 9 to 33 volts.		
Power Consumption	<12W		
Protection	Reverse polarity and transient spike circuit protection. IP 6K6 (Protection against dust and high-pressure water jets) IP 6K7 (Protection against dust and temporary water immersion)		
Cable Length	Pre-wired with 2.5m of sheathed multi-core cable.		
Accessories	98071900 98071901	Mounting spacer - Black Mounting spacer - White	
Lens Material	Grilamid®		
Compliance	CE  Z208		

INTERIOR/EXTERIOR



P/N 98060403



P/N 98071900

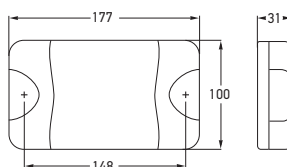


P/N 98071901

Suitable for all DuraLED® Combi lamps, see page 66.

ILLUMINATION CHARTS

P/N 98060450	P/Ns 98060420/...21	P/Ns 98060400/...03
<p>76°</p> <p>1m — 250 — 500 Lux — 250 —</p> <p>2m — 62 — 125 Lux — 62 —</p> <p>Spread pattern H=76° V=76°</p> <p>Half centre value in lux</p>	<p>35°</p> <p>1m — 900 — 1800 Lux — 900 —</p> <p>2m — 225 — 450 Lux — 225 —</p> <p>Spread pattern H=35° V=35°</p> <p>Half centre value in lux</p>	<p>52°</p> <p>1m — 600 — 1200 Lux — 600 —</p> <p>2m — 150 — 300 Lux — 150 —</p> <p>Spread pattern H=52° V=20°</p> <p>Half centre value in lux</p>



Part Number	WHITE LENS	CHARCOAL LENS	
	95903730	95903731	PENCIL
	95903740	95903741	NARROW
	95903720	95903721	SPREAD

Mounting Two hole surface mount with mounting bushes supplied.

Voltage Multivolt™ for optimum brightness at input voltages from 9 to 33 volts.

Power Consumption <9W

Protection Reverse polarity and transient spike circuit protection.
IP 6K6 (Protection against dust and high-pressure water jets)
IP 6K7 (Protection against dust and temporary water immersion)

Cable Length Pre-wired with 2.5m of sheathed multi-core cable.

Lens Material Grilamid®

Compliance CE Z208

See page 66 for DuraLED® accessories.

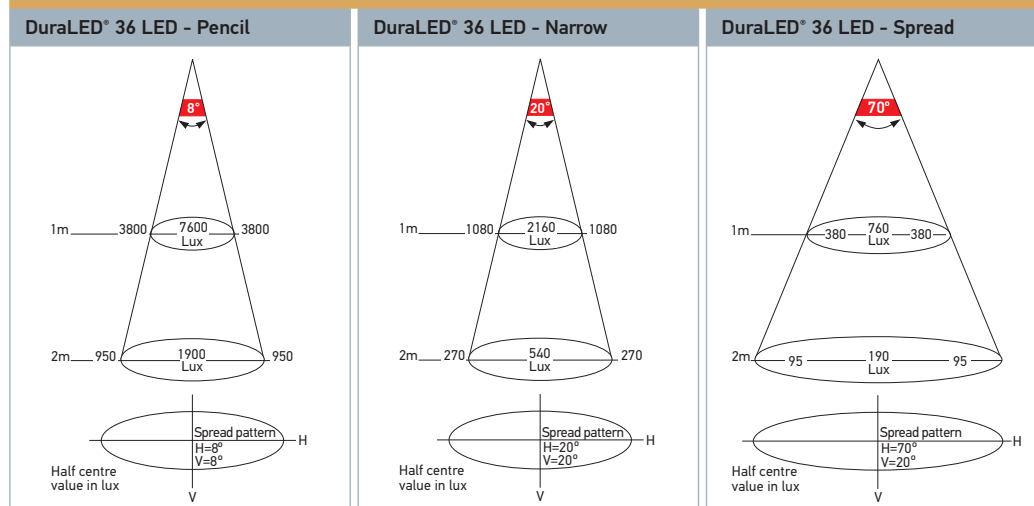
DuraLED® White 36 LED Lamp

White high brightness LED lamp with Grilamid® lens. Exceptional light output, incorporating high efficacy electronics and LEDs resulting in low power consumption (<9 watts) and low heat. Lens manufactured from Grilamid® clear nylon which features high UV and chemical resistance, and high impact strength. The lamp is fully sealed against dust and moisture ingress.



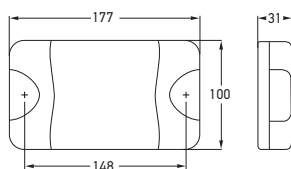
P/N 9593721

ILLUMINATION CHARTS



DuraLED® 20 LED Wide Spread Lamp

White high brightness LED lamp. Exceptional light output, incorporating high efficacy electronics and LEDs resulting in low power consumption (<5 watts) and low heat. The lamp is fully sealed against dust and moisture ingress.

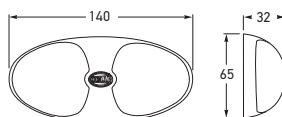


Part Number	98060801	WHITE
Mounting	Two hole surface mount with mounting bushes supplied.	
Voltage	Multivolt™ for optimum brightness at input voltages from 9 to 33 volts.	
Power Consumption	5W	
Protection	Reverse polarity and transient spike circuit protection. IP 6K6 (Protection against dust and high-pressure water jets) IP 6K7 (Protection against dust and temporary water immersion)	
Cable Length	Pre-wired with 2.5m of sheathed multi-core cable.	
Compliance	CE Z208	

See page 66 for DuraLED® accessories.

DuraLED® White 12 LED Wide Spread Lamp

White high brightness LED lamp. Exceptional light output, incorporating high efficacy electronics and LEDs resulting in low power consumption (<3 watts) and low heat. The lamp is fully sealed against dust and moisture ingress.

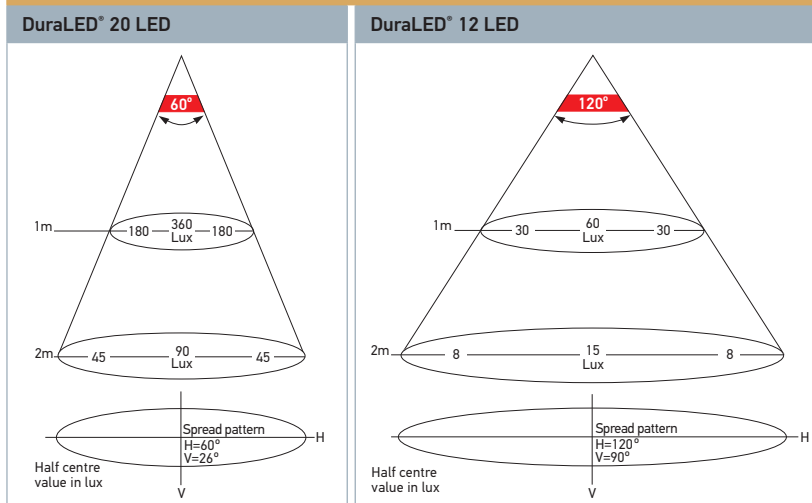


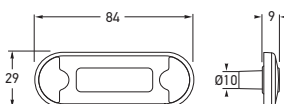
Part Number	95970010 95970400 (Includes switch)	WHITE
Mounting	Two hole surface mount with mounting bushes supplied.	
Voltage	Multivolt™ for optimum brightness in 12 and 24 volt systems.	
Power Consumption	<3W	
Protection	Reverse polarity and transient spike circuit protection. Fully sealed against dust, high-pressure washing and temporary water immersion.	
Cable Length	Pre-wired with 2.5m of sheathed multi-core cable.	
Compliance	CE Z208	



P/N 95970400

ILLUMINATION CHARTS





Part Number	98085510	WHITE
	98085515	WARM WHITE
	98085525	AMBER
	98085535	RED
	98085540	BLUE
	98085550	GREEN
Mounting	Two hole surface mount.	
Voltage	Multivolt™ for optimum brightness in 12 and 24 volt systems.	
Power Consumption	<0.5W	
Protection	Reverse polarity protection. IP 6K7 (Protection against dust and temporary water immersion) IP 6K9K (Protection against dust and high-pressure/steam jet cleaning)	
Cable Length	Pre-wired with 0.5m of sheathed multi-core cable.	
Lens Material	Grilamid®	
Compliance		

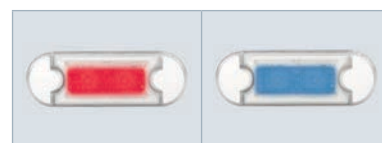
DuraLED® Surface Mount Courtesy Lamp - Low Profile

These LED courtesy lamps feature a shallow 9mm profile and completely sealed housing. Available in a range of colours. Optic appears clear until illuminated.



P/N 98085515

P/N 98085525



P/N 98085535

P/N 98085540



P/N 98085550

RIMS		
Part Number	Colour	Material
95968500	POLISHED	316 STAINLESS STEEL
95968502	GOLD PLATED	
95968506	SATIN CHROME PLATED	

SCREW CAPS		
Part Number	Colour	Quantity
9.2310.09-BULK	BLACK	PACK OF 4
9.2310.10-BULK	RED	
9.2310.11-BULK	WHITE	
9.2310.12-BULK	BLUE	
9.2310.13-BULK	GREEN	
9.2310.14-BULK	YELLOW	
9.2310.15-BULK	AMBER	
9.2310.16-BULK	GREY	

Pack sizes of 50 available upon request.

DuraLED® Surface Mount Courtesy Lamp Accessories

Accessory rims and screw caps for the LED surface mount courtesy lamp family.



P/N 95968506

P/N 95968502

P/N 95968500



P/N 9.2310.09-BULK

P/N 9.2310.11-BULK



9.2310.10-BULK

9.2310.12-BULK

9.2310.13-BULK

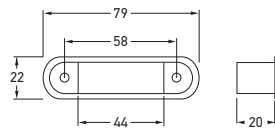
9.2310.14-BULK

9.2310.15-BULK

9.2310.16-BULK

LED Narrow Rim Rectangular Courtesy Lamp

Narrow rim flush mount courtesy lamp with either white, red, amber, green or blue LEDs.



Part Number	12/24 VOLT	
	95951040 (Clear lens)	WHITE
	95951015 (Clear lens)	GREEN
	95951025 (Clear lens)	BLUE
Voltage	Multivolt™ for optimum brightness in 12 and 24 volt systems.	
Compliance	CE Z208	

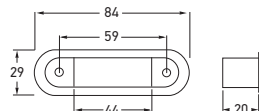


Part Number	12 VOLT	24 VOLT	
	95951031 (Red lens)	95951033 (Red lens)	RED
	95951001 (Amber lens)	95951006 (Amber lens)	AMBER
Mounting	Recess mount.		
Power Consumption	<1W		
Protection	Reverse polarity protection. IP 6K6 (Protection against dust and high-pressure water jets) IP 6K7 (Protection against dust and temporary water immersion)		
Cable Length	Pre-wired with 120mm of cable.		

See page 67 and 70 for spare parts and accessories. See page 197 for a HELLA analog based dimmer unit.

LED Wide Rim Rectangular Courtesy Lamp

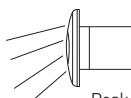
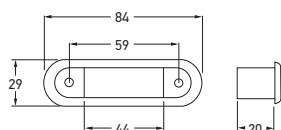
Wide rim flush mount courtesy lamp with either white, red, amber, green or blue LEDs.



Part Number	12/24 VOLT	
	95951080 (Clear lens)	WHITE
	95951095 (Clear lens)	GREEN
	95951065 (Clear lens)	BLUE
Voltage	Multivolt™ for optimum brightness in 12 and 24 volt systems.	
Compliance	CE Z208	



	12 VOLT	24 VOLT	
Part Number	95951071 (Red lens)	95951073 (Red lens)	RED
	95951051 (Amber lens)	95951053 (Amber lens)	AMBER
Mounting	Recess mount.		
Power Consumption	<1W		
Protection	Reverse polarity protection. IP 6K6 (Protection against dust and high-pressure water jets) IP 6K7 (Protection against dust and temporary water immersion)		
Cable Length	Pre-wired with 120mm of cable.		
See page 67 and 70 for spare parts and accessories. See page 197 for a HELLA analog based dimmer unit.			



Peak light output is projected down at 30°

LED Wide Rim Rectangular Courtesy Step Lamp

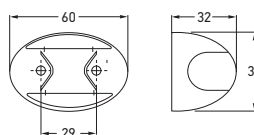
Wide rim, flush mount, courtesy step lamp with either white, red, green or blue LEDs. Optic appears clear until illuminated.

Part Number	12/24 VOLT (CLEAR LENS)	
	95968080	WHITE
	95968070	RED
	95968090	GREEN
	95968060	BLUE
Mounting	Recess mount.	
Voltage	Multivolt™ for optimum brightness in 12 and 24 volt systems.	
Power Consumption	<1W	
Protection	Reverse polarity protection. IP 6K6 (Protection against dust and high-pressure water jets) IP 6K7 (Protection against dust and temporary water immersion)	
Cable Length	Pre-wired with 120mm of cable.	
Compliance	CE Z208	

See page 67 and 70 for spare parts and accessories.



P/N 95968060

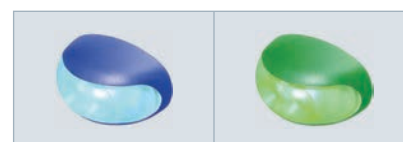


DuraLED® Surface Mount Courtesy Lamp

Blue, white or green LED courtesy lamps. Optic appears clear until illuminated.

Part Number	WHITE	
	95963046	
	95963025	BLUE
Part Number	GREEN	
	95963055	
Mounting	Two hole surface mount.	
Voltage	Multivolt™ for optimum brightness in 12 and 24 volt systems.	
Power Consumption	<1W	
Protection	Reverse polarity protection. IP 6K6 (Protection against dust and high-pressure water jets) IP 6K7 (Protection against dust and temporary water immersion)	
Cable Length	Pre-wired with 0.5m of cable.	
Compliance	CE Z208	

See page 67 for spare parts and accessories.

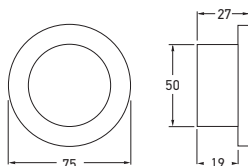


P/N 95963025

P/N 95963055

LED High Intensity Courtesy Lamps

Round LED high intensity courtesy lamps for interior and exterior use. Includes a black and a white plastic rim (as shown). Additional rims and housings are available as spare parts.



Dimmable:
Analog DC Input



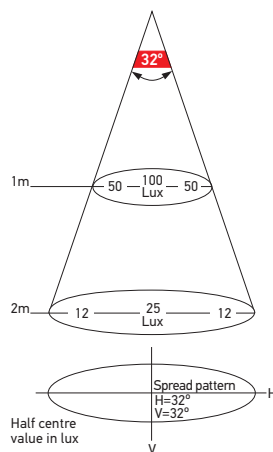
P/N 95959606

	12 VOLT	24 VOLT	
Part Number	95959908	95959918	WHITE
	95959606	95959616	WARM WHITE
Mounting	Recess mount with 50mm diameter hole.		
Power Consumption	1W		
Protection	Reverse polarity protection. Fully sealed against dust, high-pressure washing and temporary water immersion.		
Cable Length	Pre-wired with 120mm of cable.		

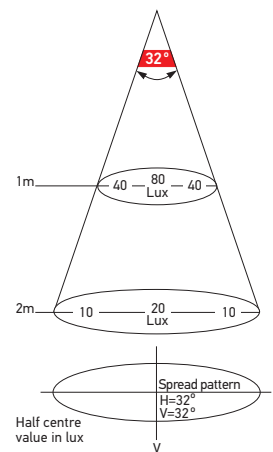
See page 197 for a HELLA analog based dimmer unit.

ILLUMINATION CHARTS

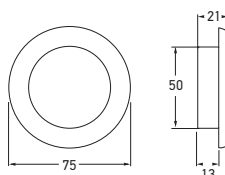
P/N 95959908/...918 - White



P/N 95959606/...616 - Warm White



Dimmable:
Analog DC Input



Part Number	12 VOLT	24 VOLT	
	98050001	98050101	WHITE
	98050021	98050121	WARM WHITE
	98050741	98050841	DEEP RED
	98050721	98050821	RED
	98050761	98050861	ORANGE
	98050701	98050801	AMBER
	98050201	98050301	GREEN
	98050241	98050341	CYAN
	98050221	98050321	BLUE

Mounting Recess mount with 50mm diameter hole.

Power Consumption 1W

Protection Reverse polarity protection.
Fully sealed against dust, high-pressure washing and temporary water immersion.

Cable Length Pre-wired with 120mm of cable.

Each lamp includes a black and a white plastic rim. Additional rims and housings are available as spare parts.
See page 197 for a HELLA analog based dimmer unit.

LED Round Courtesy Lamps - Clear Lens

Attractive, energy efficient round LED courtesy lamps for interior and exterior use. Available in nine exciting colours with a range of different rim finishes. Optic appears clear until illuminated.



P/N 98050001



P/N 98050021

P/N 98050741

P/N 98050721



P/N 98050761

P/N 98050701

P/N 98050201



P/N 98050241

P/N 98050221

ROUND RIMS - SINGLE		
Part Number	Colour	Material
95950520	BLACK	PLASTIC
95950531	WHITE	
95950550	POLISHED	316 STAINLESS STEEL
95950552	GOLD PLATED	
95950556	SATIN CHROME PLATED	

ROUND HOUSING		
Part Number	Colour	Material
95999310	BLACK	PLASTIC
95999311	WHITE	

Housing does not suit high intensity courtesy lamps.



P/N 95999310

P/N 95950550

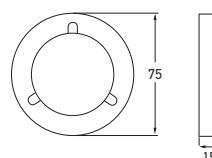
P/N 95950552

P/N 95950556

P/N 95950531

Round Courtesy Lamp Accessories

Spare rims and housings for the round courtesy lamp family. One rim is required per lamp.

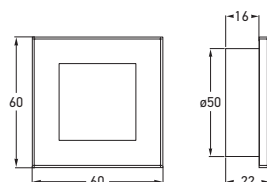


LED High Intensity Courtesy Lamps

Square LED high intensity courtesy lamps for interior and exterior use. Includes a black and a white plastic rim (as shown). Additional rims and housings are available as spare parts.



P/N 98059704

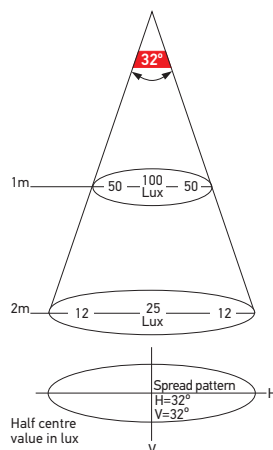


Dimmable:
Analog DC Input

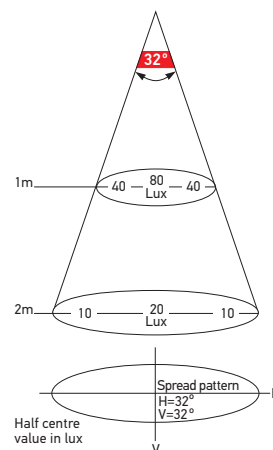
	12 VOLT	24 VOLT	
Part Number	98059604	98059614	WHITE
	98059704	98059714	WARM WHITE
Mounting	Recess mount with 50mm diameter hole.		
Power Consumption	1W		
Protection	Reverse polarity protection. Fully sealed against dust, high-pressure washing and temporary water immersion.		
Cable Length	Pre-wired with 120mm of cable.		
See page 197 for a HELLA analog based dimmer unit.			

ILLUMINATION CHARTS

P/N 98059604/...614 - White

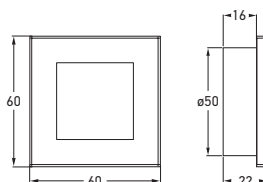


P/N 98059704/...714 - Warm White



Square Courtesy lamps

Dimmable:
Analog DC Input



Part Number	12 VOLT	24 VOLT	
	98058001	98058101	WHITE
	98058021	98058121	WARM WHITE
	98058741	98058841	DEEP RED
	98058721	98058821	RED
	98058761	98058861	ORANGE
	98058701	98058801	AMBER
	98058201	98058301	GREEN
	98058241	98058341	CYAN
	98058221	98058321	BLUE

Mounting	Recess mount, 50mm diameter hole.
Power Consumption	1W
Protection	Reverse polarity protection. Fully sealed against dust, high-pressure washing and temporary water immersion.
Cable Length	Pre-wired with 120mm of cable.

Each lamp includes a black and a white plastic rim. Additional rims and housings are available as spare parts. See page 197 for a HELLA analog based dimmer unit.

LED Square Courtesy Lamps - Clear Lens

Attractive, energy efficient square LED courtesy lamps for interior and exterior use. Available in nine exciting colours with a range of different rim finishes. Optic appears clear until illuminated.



P/N 98058001



P/N 98058021

P/N 98058741

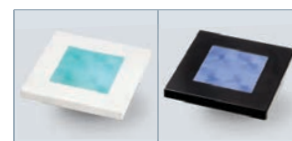
P/N 98058721



P/N 98058761

P/N 98058701

P/N 98058201



P/N 98058241

P/N 98058221

SQUARE RIMS - SINGLE		
Part Number	Colour	Material
98058520	BLACK	PLASTIC
98058531	WHITE	
98058501	CHROME PLATED	
98058502	GOLD PLATED	
98058503	SATIN CHROME PLATED	

SQUARE HOUSING		
Part Number	Colour	Material
95999360	BLACK	PLASTIC
95999354	WHITE	



P/N 95999360

P/N 98058503

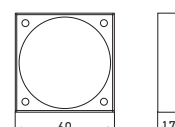
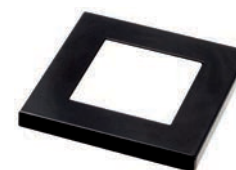
P/N 98058502

P/N 98058501

P/N 98058531

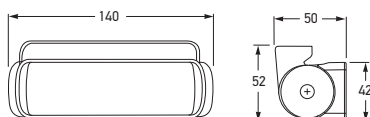
Square Courtesy Lamp Accessories


Spare rims and housings for the square courtesy lamp family. One rim is required per lamp.



DuraLED® WL200 Work Lamp

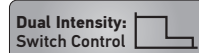
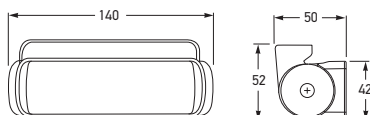
LED universal work lamp with low profile stainless steel bracket. Lamp may be mounted upright or pendant and may be adjusted vertically up or down. Totally sealed against dust and moisture and with a tough, chemical resistant Grilamid® lens. Option of two light patterns, narrow or spread.




Part Number	NARROW	SPREAD	
	98067020	98067030	WHITE
Mounting	Upright or pendant.		
Voltage	Multivolt™ for optimum brightness at input voltages from 9 to 33 volts.		
Power Consumption	3W		
Max. Light Output	200lm		
Protection	Reverse polarity and voltage spike protection. IP 6K7 (Protection against dust and temporary water immersion) IP 6K9K (Protection against dust and high-pressure/steam jet cleaning)		
Cable Length	Pre-wired with 2.5m of sheathed multi-core cable.		
Lens Material	Grilamid®		
Compliance	CE  Z208		

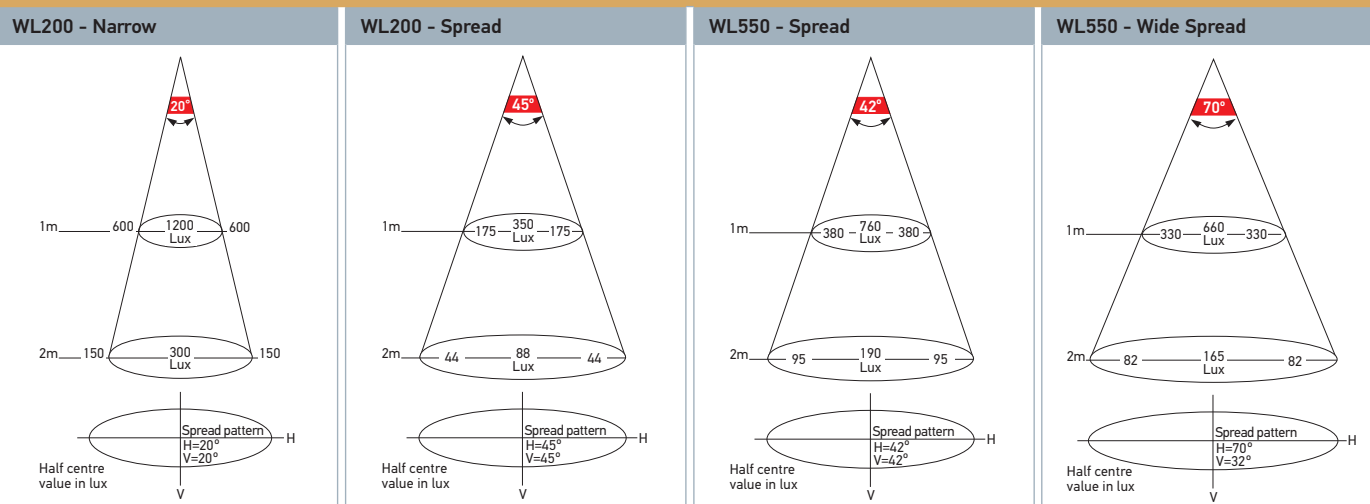
DuraLED® WL550 Work Lamp


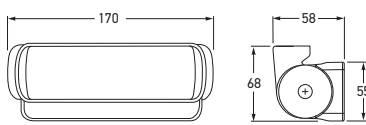

LED universal work lamp with low profile stainless steel bracket. Lamp may be mounted upright or pendant and may be adjusted vertically up or down. Totally sealed against dust and moisture and with a tough, chemical resistant Grilamid® lens. Option of two light patterns, spread or wide spread.



Part Number	SPREAD	WIDE SPREAD	
	98057310	98057300	WHITE
Mounting	Upright or pendant.		
Voltage	Multivolt™ for optimum brightness at input voltages from 9 to 33 volts.		
Power Consumption	7W		
Max. Light Output	550 lm		
Protection	Reverse polarity and voltage spike protection. IP 6K7 (Protection against dust and temporary water immersion) IP 6K9K (Protection against dust and high-pressure/steam jet cleaning)		
Cable Length	Pre-wired with 2.5m of sheathed multi-core cable.		
Lens Material	Grilamid®		
Compliance	CE  Z208		

ILLUMINATION CHARTS



Dual Intensity: Switch Control 			
Power Supply	30 LED	Lens Material	Bracket
MULTI VOLT		GMD	STAINLESS STEEL
			
Part Number	NARROW	SPREAD	
	98095023	98095003	WHITE
	98095033	98095014	WARM WHITE
Mounting	Upright or pendant.		
Voltage	Multivolt™ for optimum brightness at input voltages from 9 to 33 volts.		
Power Consumption	High intensity mode: 12W (1A@12V/0.50A@24V) Low intensity mode: 2W (0.17A@12V/0.08A@24V)		
Max. Light Output	750lm		
Protection	Reverse polarity and voltage spike protection. IP 6K7 (Protection against dust and temporary water immersion) IP 6K9K (Protection against dust and high-pressure/steam jet cleaning)		
Cable Length	Pre-wired with 2.5m of sheathed multi-core cable.		
Lens Material	Grilamid®		
Compliance	CE 		

DuraLED® WL750 Work Lamp

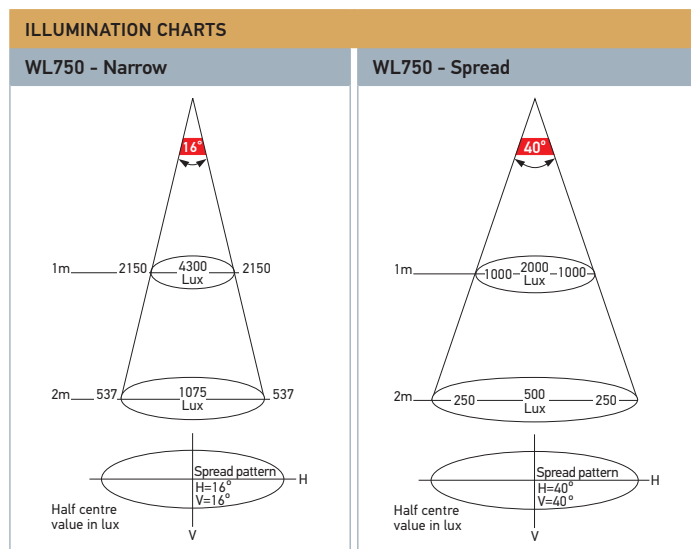
Featuring an integrated dual intensity circuit, a high level of spike protection and energy efficient Multivolt™ technology, the innovative DuraLED® WL750 will appeal for applications where energy efficiency and reliability is a must. Features a tough, chemical resistant Grilamid® lens, a highly impact resistant Swiss-made crystal clear polyamide with superior tolerance to chemical and long term harsh UV exposure, as well as technologically advanced thermally conductive non-metal housing.



Friction mounts; easy adjustment without tools.

Completely sealed lamp/cable entry. Marine grade stainless steel bracket.

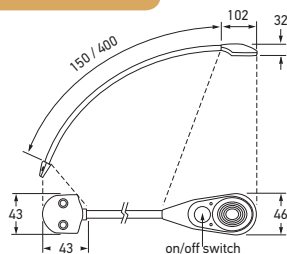
INTERIOR/EXTERIOR



www.landreiziger.nl

LED Flexible Map Reading Lamp

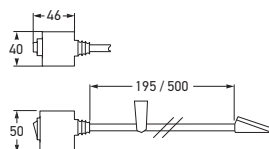
LED map reading light featuring a strong flexible shaft and an on/off switch on the lamp head. Low power consumption.



Part Number	2638	150MM
	2639	400MM
Mounting	Screw mount.	
Voltage	Multivolt™ for optimum brightness at input voltage from 9 to 31 volts.	
Power Consumption	2.4W	
Protection	Reverse polarity protection. IP 53 (Protection against dust and water spray)	
Cable Length	Pre-wired with 150mm of cable.	
Compliance	CE	
Suitable for interior use only.		

Halogen Map Reading Lamp

Flexible black arm. Lamp head has an integral rocker on/off switch and is fitted with a clear diffuser lens for glare-free illumination. Pillar or dash mounting.



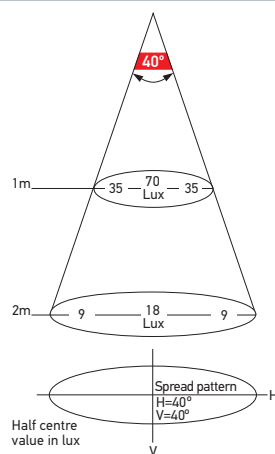
Part Number	2633	295MM
	2636	600MM
Mounting	Screw mount.	
Power Consumption	5W	
Bulbs to Suit	12V 24V	YL125 HL247
Spare Parts	9EL 128 922-011 128 922 02	Red lens Clear lens



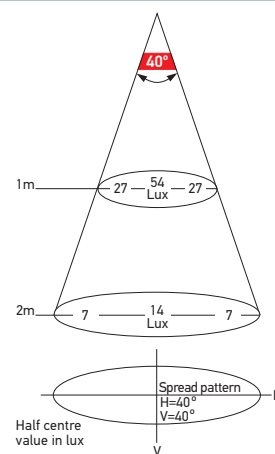
INTERIOR/EXTERIOR

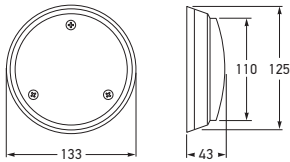
ILLUMINATION CHARTS

P/Ns 2638/2639



P/Ns 2633/2636

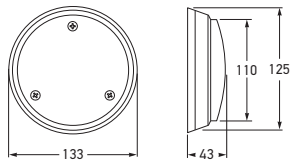




Part Number	2610		WHITE RIM
	2611		CHROME RIM
Bulbs to Suit	12V	K1210	
	24V	K2410	
Spare Part	2.9800.08	Clear lens	



P/N 2611



Part Number	2617		WHITE RIM
Bulbs to Suit	12V	K1210	
	24V	K2410	
Spare Part	2.9800.08	Clear lens	

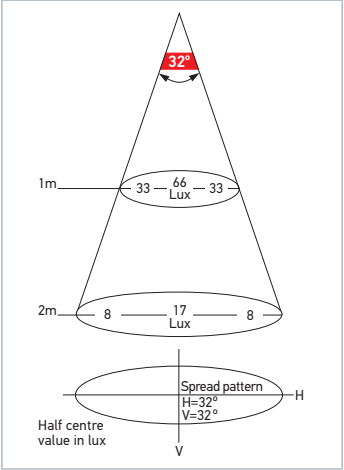


Interior Lamp - Polycarbonate Base with Switch

Complete with on/off switch. Suitable for insulated earth circuits.

ILLUMINATION CHART

P/Ns 2610/2611/2617

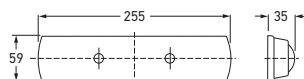


Fluorescent Lamp - 7 Watt

High quality, fully suppressed fluorescent interior lamp with impact resistant lens, on/off switch and compact fluorescent tube 7W.



P/N 9.2642.02



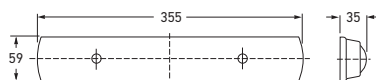
Part Number	2642	12 VOLT
	2642-24V	24 VOLT
Power Consumption	4W @ 12V, 8W @ 24V	
Spare Parts	9.2642.01	Clear lens
	9.2642.02	Compact fluorescent twin tube 7W white
RF Suppression	Suppression Class K in accordance with VDE 0871 Class B and VDE 0879 Part 3.	

Fluorescent Lamp - 11 Watt

High quality, fully suppressed fluorescent interior lamp with impact resistant lens, on/off switch and compact fluorescent tube.



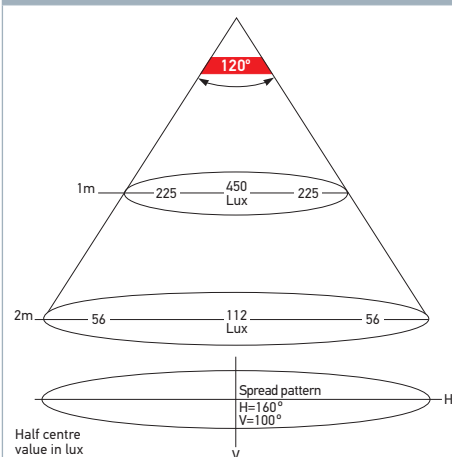
P/N 9.2643.02



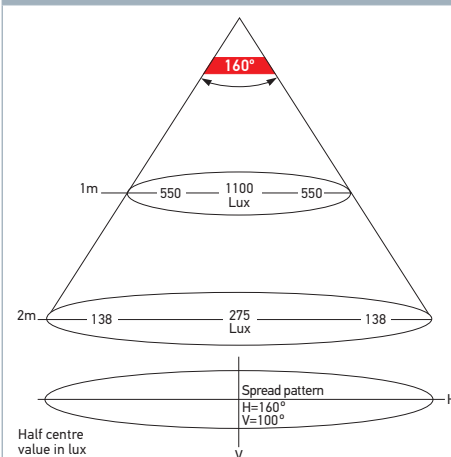
Part Number	2643	12 VOLT
	2643-24V	24 VOLT
Power Consumption	7W @ 12V, 14W @ 24V	
Spare Parts	9.2643.01	Clear lens
	9.2643.02	Compact fluorescent twin tube 11W white
RF Suppression	Suppression Class K in accordance with VDE 0871 Class B and VDE 0879 Part 3.	

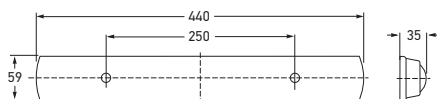
ILLUMINATION CHARTS

P/Ns 2642/2642-24V



P/Ns 2643/2643-24V





Part Number	2644	12 VOLT
	2644-24V	24 VOLT
Power Consumption	5W @ 12V, 10W @ 24V	
Spare Parts	9.2644.01 TL8W/336J	Clear lens Compact fluorescent tube 8W white
RF Suppression	Suppression Class K in accordance with VDE 0871 Class B and VDE 0879 Part 3.	

Fluorescent Lamp - 8 Watt

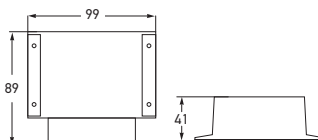
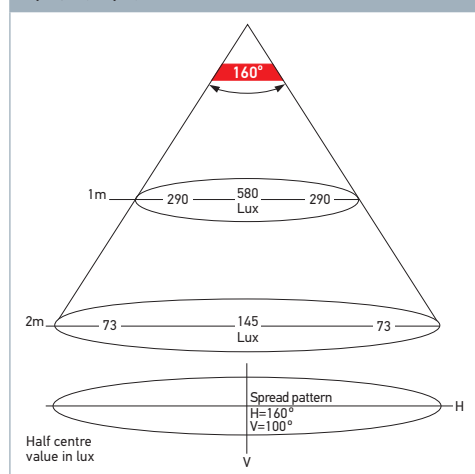
High quality, fully suppressed fluorescent interior lamp with impact resistant lens, on/off switch and compact fluorescent tube.



P/N TL8W/336J

ILLUMINATION CHART

P/Ns 2644/2644-24V



Part Number	5XA 998 572-001	
Maximum Load	12V 24V	2 x 100W 2 x 200W
Input Voltage Range	8 - 30V DC	
System Voltage	Suitable for 12 or 24V systems.	
Number of Groups	2	
Switches Per Group	Unlimited	
Switch Type	Normally open momentary switch.	
Protection	Overload, Temperature, Low voltage.	
Fuse	2 x 10A	
Compliance	CE	

2 Group Light Dimmer

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 bulb. Suitable for selected HELLA PWM based LED and bulb lamps. The dimmer also provides low voltage protection against deep battery discharge.

