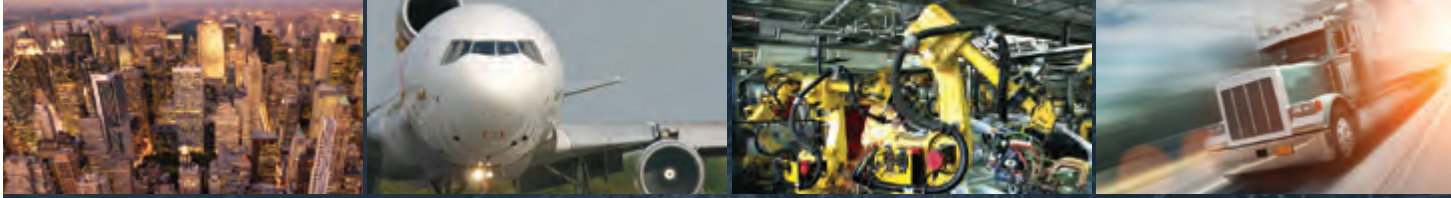


Industrial LED lighting solutions
Product catalogue

**Energy efficient solutions, without
compromising performance**

EATON

Powering Business Worldwide



Energizing a world that demands more.

We deliver:

- **Electrical solutions** that use less energy, improve power reliability and make the places we live and work safer and more comfortable
- **Hydraulic and electrical solutions** that enable machines to deliver more productivity without wasting power
- **Aerospace solutions** that make aircraft lighter, safer and less costly to operate, and help airports operate more efficiently
- **Vehicle drivetrain and powertrain solutions** that deliver more power to cars, trucks and buses, while reducing fuel consumption and emissions

Discover today's Eaton.

Powering business worldwide

As a global power management company, we help customers worldwide manage the power needed for buildings, aircraft, trucks, cars, machinery and businesses.

Eaton's innovative technologies help customers manage electrical, hydraulic and mechanical power more reliably, efficiently, safely and sustainably.

We provide integrated solutions that help make energy, in all its forms, more practical and accessible.

With 2014 sales of \$22.6 billion, Eaton has approximately 100,000 employees around the world and sells products in more than 175 countries.

Eaton.com

EATON

Powering Business Worldwide

Eaton's range of industrial LED luminaires offer a reliable, energy efficient solution without compromising on the performance required in an industrial environment.

Why LED?

Operating life

Rated lifetime of up to 120,000 hours, with virtually maintenance-free operation

Robust and nearly maintenance free

Shock and vibration resistant solid-state devices have no filaments or glass components that could break, greatly reducing the risk of premature failure

Energy-efficient

In comparison with HID or incandescent lamps, LEDs are up to 50% more efficient

Start and re-start time

Immediate start, provides instant and full illumination; no delay or restart time as with fluorescent or HID lamps

High light quality

Better colour rendering and optimised colour temperature; no UV/IR radiation

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This versatile industrial LED luminaire is ideally suited to all industrial and warehouse applications. It is offered with a choice of lumen packages controlled by open area, rack aisle or narrow distribution reflector options and is designed to accommodate different mounting heights and installation methods resulting in a luminaire system that can be tailored to virtually any application.

The variable length housing accommodates integral control gear and sensor controls when necessary. Energy savings can be further enhanced by the use of occupancy detection, dimmable control gear and/or switching arrangements to minimise electricity consumption. These are benefits over traditional discharge lamps where controls are limited. The highly efficient LED multi-die arrays deliver excellent performance and efficacy, combined with the excellent thermal management and driver compatibility the LEDs deliver a long, virtually maintenance free, 50,000 plus hours LED life at L70.

- IP65 rugged construction - ideal for cold stores down to -30°C , though equally suited in ambient up to $+30^{\circ}\text{C}$
- Instant white light, no re-strike or run up delay are distinct advantages over HID solutions
- No lamp changes provides virtually maintenance free operation, long LED life, ~ 5.7 years operating 24/7
- Compact and robust die cast and extruded aluminium housing
- Racking aisle or open area optic choice to maximise spacing and uniformity
- Variable mounting heights, ideal for warehouse racking and marshalling areas - suitable from 2.5m to 14m+
- Choice of lumen packages from multi-die LED arrays
- 5000K cool white multi-die LED technology with 65 CRI or 80 CRI options
- Emergency versions available with two optic choices to suit mounting heights up to 25m

High-bay luminaires

Litex LED

Lamp and control gear options

- 1, 2, 3 or 4 multi-die LED arrays
- 5000K cool white
- 65 CRI or 80 CRI
- 700mA drive current with HF, DALI or 1-10V

Materials

- Die cast and extruded aluminium housing components in white RAL9016 powder coat finish
- Clear TPa polycarbonate lens
- Aluminium reflectors
- Internal gear tray - mild steel in white RAL9016 powder coat finish

Installation notes

- Multi-function brackets supplied allow trunking mount, drop rod or chain suspension
- Quick fit surface mount bracket available as an accessory
- Fused as standard
- For operation in ambient temperatures of -30°C to +30°C
- Emergency versions must be operated in an ambient of +5°C to +25°C to keep the batteries within operating temperatures
- 2m lead supplied fitted to luminaire head at the gear area end
- Installations utilising the 'rack optic' should be installed with the length of the luminaire running parallel with the length of the aisle
- Sensor versions available - "S" version is IP20 rated and suits up to 12m mounting height, "D" version is IP65 rated and suitable for up to 5m mounting height
- Be aware of breaker ratings and cabling for inrush current on LED products.

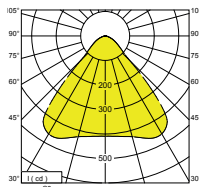
Options

- Integral emergency options available with 2 optics for different mounting heights:
- 'EL' prefix for up to 9m, 'ELH' prefix for 9 to 25m
- HF fixed output and DALI or 1-10V dimmable control gear options to maximise energy efficiency
- Racking aisle, wide open area and narrow distribution reflector choices
- Project specific optics can be developed where appropriate
- PIR Occupancy Sensors:
- "S" sensor is IP20 rated and suits operation down to -40°C ideal for cold store applications, suits up to 12m mounting height. "D" sensor is IP65 rated and ideal for mounting heights of up to 5m
- Choice of up to 4 multi-die LEDs, all driven at 700mA

Specification

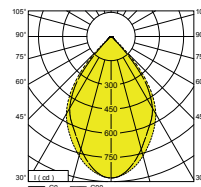
To specify state: High performance Linear LED luminaire, 1/2/3/4 LEDs, extruded aluminium housing with white RAL9016 powder coat finish, Wide/Narrow/Rack reflector and clear polycarbonate optical lens, suitable for surface or suspended mounting (ideal for cold stores), as Eaton's Litex LED range part no _____

Photometric Data



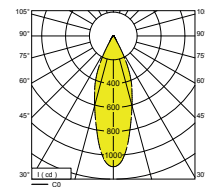
Litex LED - Wide Optic

SHR nom: 1:1.25
SHR max: 1:1.3



Litex LED - Narrow Optic

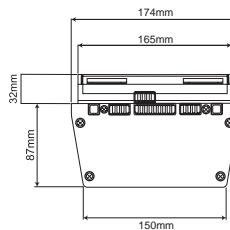
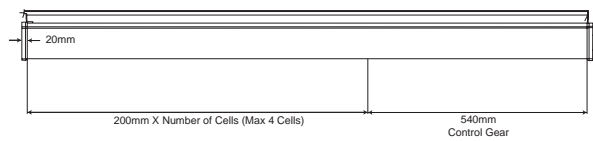
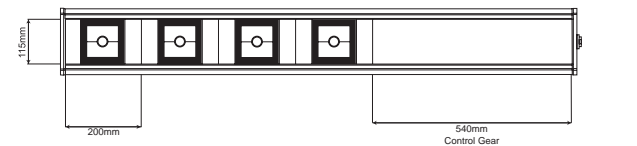
SHR nom: 1:1.25
SHR max: 1:1.26



Litex LED - Rack Optic

SHR nom: 1:0.5
SHR max: 1:0.72

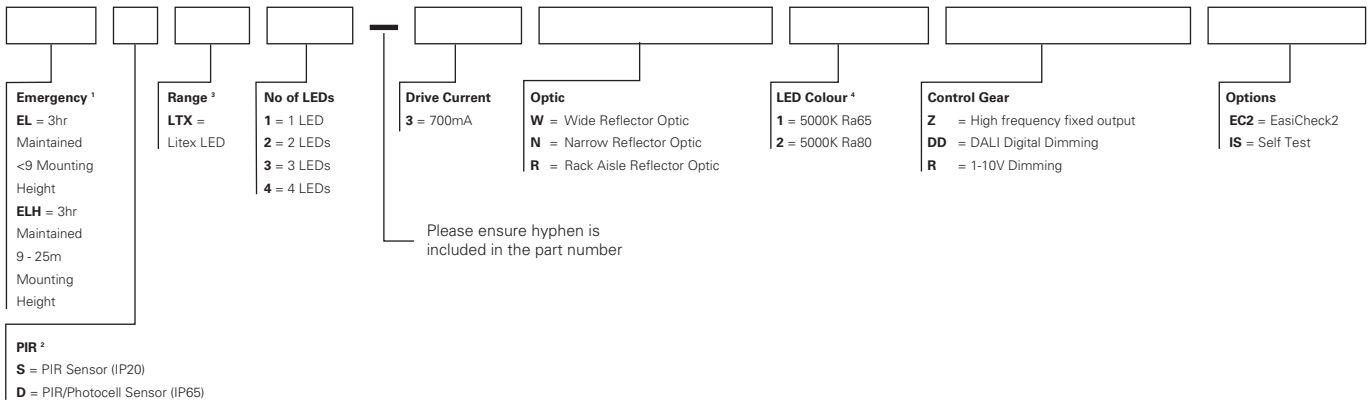
Dimensions



Weight (kg)

1 Chip:	6.7
2 Chip:	7.7
3 Chip:	8.7
4 Chip:	9.7

Catalogue numbers



- Emergency versions have a dedicated LED activated in emergency mode with a choice of 2 optics to suit the mounting height
- The 'S' prefix PIR switching sensor is IP20 rated and therefore will effect the overall IP rating of the luminaire, operates down to -30°C
The 'D' prefix sensor is IP65 rated and suitable for up to 5m mounting heights, operating temperature 0°C to +30°C
- All standard luminaires are IP65 rated - also refer to note 2
- Alternative colour temperature and CRI options may be considered - this will be to special order
Note: Higher CRI variants will have a reduced lumen output

Luminaire example

Lamp Option	Colour Finish	Optic	Cat No	Description
2 x LED	White	Wide	LTX2-3W1Z	Litex LED 2 LED, 700mA, Wide Reflector, 5000K 65CRI, HF Control Gear

Performance data (5000°K, 65 CRI LED)

LED Quantity	Circuit Watts (W)	Lumen Output and Efficacy					
		Wide (lm)	Llm/cW	Narrow (lm)	Llm/cW	Rack (lm)	Llm/cW
1	39	4020	103.0	3866	99.1	3572	91.5
2	83	8035	96.8	7729	93.1	7139	86.0
3	124	12044	97.1	11585	93.4	10700	86.3
4	166	16055	96.7	15440	93.0	14267	85.9

Performance data (5000°K, 80 CRI LED)

LED Quantity	Circuit Watts (W)	Lumen Output and Efficacy					
		Wide (lm)	Llm/cW	Narrow (lm)	Llm/cW	Rack (lm)	Llm/cW
1	39	3468	88.9	3335	85.5	3080	78.9
2	83	6933	83.5	6670	80.3	6158	74.2
3	124	10392	83.8	9995	80.6	9232	74.6
4	166	13858	83.5	13320	80.2	12310	74.2



High-bay luminaires

Linergy LED



Eaton's commitment to supplying innovative energy innovative products is the driving force behind Linergy LED. Linergy LED follows in the tradition of our highly efficient large space luminaires which have the performance and flexibility for today's multi-use, multi occupancy locations.

Offering both a range of lumen outputs and light distribution, Linergy LED variants can be used seamlessly alongside each other to give a complete solution in complex spaces.

High lumen outputs and corresponding class leading efficacies, when combined with occupancy and daylight sensors, offer the real possibility of substantial energy savings for the end user.

Three light distribution models, Wide Area, Narrow and Rack, means the highest utilisation of light where it is most effective.

- Utilisation of LED Light Engine technology allows for an increased energy efficiency - up to 115Llm/cW
- Excellent light transmission and LED source obscurity from opal diffuser
- Enhanced Capital Allowance (ECA) compliance across the complete range
- Three reflector options allowing complete flexibility for the required application
- Integral emergency available which allows mounting to a maximum height of 20m
- Low, mid and high bay integral programmable occupancy detector variants available to maximise performance and coverage
- DALI dimming options available for increased comfort, lighting control and energy savings
- Wire guard option for increased security in environments where impact resistance is needed

Lamp and control gear options

- High efficacy linear LED light engines
- >80 CRI 4000°K
- Energy efficient control gear as standard
- DALI dimmable options available

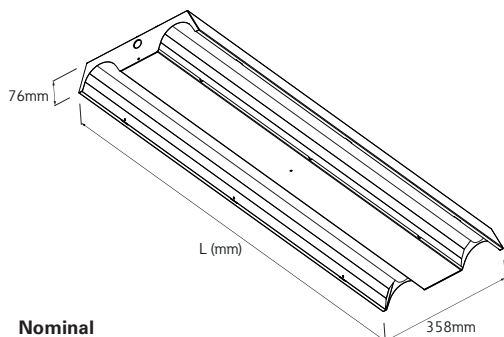
Materials

- Body – full box steel construction powder coated in RAL 9016 white finish
- Reflectors – faceted finish (wide area) and satin finish (narrow and rack) zero iridescence anodised aluminium
- Wire guard – heavy duty zinc plated steel, 25mm grid size

Installation notes

- Suitable for ceiling, conduit, chain, rod and trunking mounting
- Quick fit mounting brackets to fix to mounting surface
- Supplied with diffuser and light engines pre-fitted, no need to remove during installation
- Access flap on the rear of housing to aid wiring during installation
- Fused as standard
- Wire guard is a retrofit accessory secured by screws, hangs for ease of maintenance

Dimensions



Nominal Lengths	Length (L)
4'	1142mm
6'	1704mm



Integral Emergency and Sensor Option

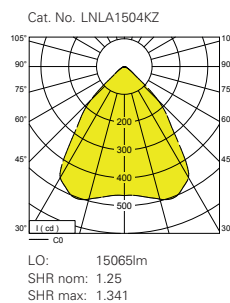
Options

- Fully integral emergency conversion, 3 hour duration
- Emergency versions available with automatic test functionality as an option, reducing maintenance costs and offers ease of compliance with testing requirements
- Suitable for use on defined escape routes
- Wide Area, Narrow and Rack reflector options provide efficient utilisation for specific applications
- Lighting control options including integrated occupancy and daylight detectors for mounting up to 16m
- We offer a range of product support contracts to aid commissioning, reduce your maintenance costs, comply with legislative test requirements and increase the lifespan of your lighting equipment

Specification

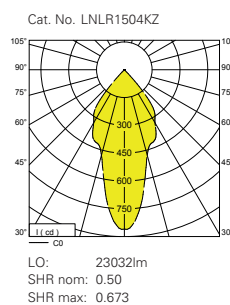
To specify state: Surface mounted, LED high/low bay luminaire, of full box welded construction with post coat powder paint finish, high performance faceted/satin reflectors for Wide Area/Narrow/Rack with high output light engines and integrated emergency sensor/wire guard options, as Eaton's Linery LED range, part no. _____

Photometric data



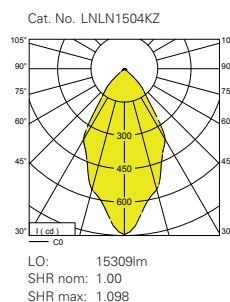
Utilisation factors / TM5

Reflectances			Room Index								
C	W	F	0.75	1.0	1.25	1.5	2.0	2.5	3.0	4.0	5.0
70	50	20	69	79	85	90	95	99	102	105	107
70	30	20	63	73	79	84	91	95	98	102	105
70	10	20	58	68	75	80	87	92	95	100	103
50	50	20	67	77	83	87	93	96	98	101	103
50	30	20	62	72	78	83	89	93	95	99	101
50	10	20	58	67	74	79	85	90	93	97	99
30	50	20	66	75	81	85	90	93	95	98	100
30	30	20	61	71	77	81	87	90	93	96	98
30	10	20	57	67	73	78	84	88	91	94	96
0	0	0	55	65	71	75	81	84	87	90	92
BZ-class			2	2	2	2	2	2	2	2	2



Utilisation factors / TM5

Reflectances			Room Index								
C	W	F	0.75	1.0	1.25	1.5	2.0	2.5	3.0	4.0	5.0
70	50	20	67	77	84	88	95	99	101	105	107
70	30	20	60	70	78	83	90	94	98	102	104
70	10	20	55	66	73	78	86	91	94	99	102
50	50	20	65	75	81	86	92	95	98	101	103
50	30	20	59	69	76	81	88	92	95	99	101
50	10	20	55	65	72	77	84	89	92	96	99
30	50	20	64	73	79	83	89	92	95	97	99
30	30	20	59	68	75	79	86	89	92	95	98
30	10	20	55	64	71	76	83	87	90	94	96
0	0	0	53	62	69	73	79	83	86	89	91
BZ-class			2	2	2	2	2	2	2	2	2



Utilisation factors / TM5

Reflectances			Room Index								
C	W	F	0.75	1.0	1.25	1.5	2.0	2.5	3.0	4.0	5.0
70	50	20	70	80	86	90	96	100	102	105	108
70	30	20	64	74	80	85	91	96	99	102	105
70	10	20	59	69	76	81	88	92	95	100	103
50	50	20	69	78	84	88	93	96	99	102	103
50	30	20	63	73	79	83	89	93	96	99	101
50	10	20	59	69	75	80	86	90	93	97	100
30	50	20	67	76	81	85	90	93	95	98	100
30	30	20	62	72	77	82	87	91	93	96	98
30	10	20	59	68	74	78	84	88	91	94	97
0	0	0	57	66	72	76	81	85	87	90	92
BZ-class			2	2	2	2	2	2	2	2	2

High-bay luminaires

Linergy LED

Emergency operation

Linergy LED has the option of an integral emergency built centrally into the body of the luminaire. Utilising the efficient Eaton optical system, capital and installation costs are reduced with class leading spacing's achievable. Two variants allow for maximised utilisation in the space, up to 10m mounting height and up to 20m mounting height.

For applications to 10m mounting height, the optic distribution is a square footprint allowing the designer scope for achieving compliance with reduced quantities of emergency points.

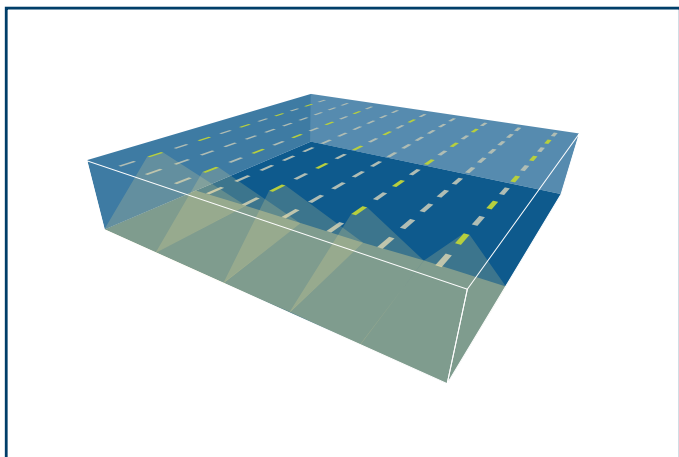
Applications with mounting heights above this, up to 20m, the optic is utilised to be elongated in one plane. This allows optimum spacing, following the linear installation direction.

For application mounting heights of up to 10m the standard variant should be used, the prefix is 'ELL'. Emergency operation for mounting heights up to 20m, the prefix 'ELH' should be used. See the catalogue numbers for more detail.

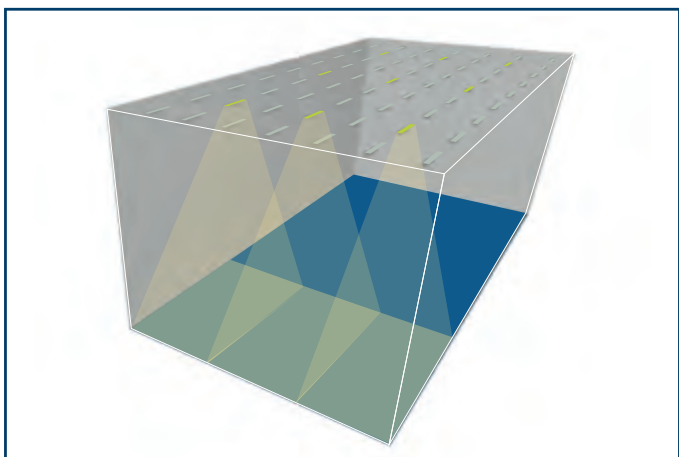
Detection

Energy saving is key to sustainable buildings and businesses. By adopting a clear strategy for managing the occupancy and absence of a space, significant savings may be achieved in energy usage. Application dependent, savings against constant illumination can be up to 70%.

Standard high frequency PIRs have a daylight linking function, with thresholds determinable by the user, as well as a switching function. In DALI luminaires, the PIRs have a daylight linking function, with thresholds determinable by the user, as well as a full dimming function.



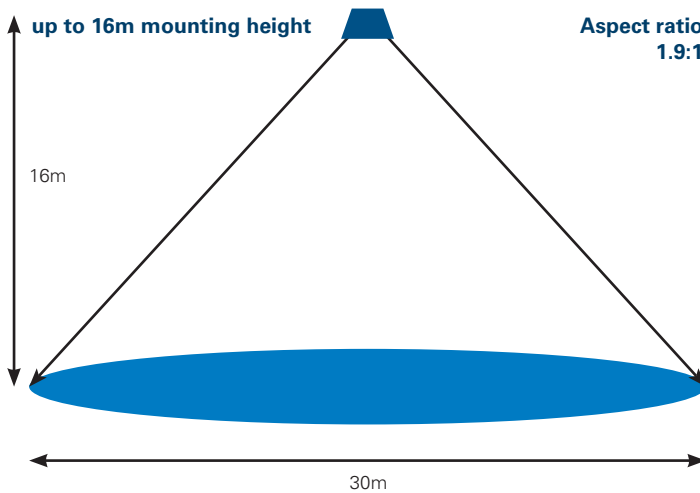
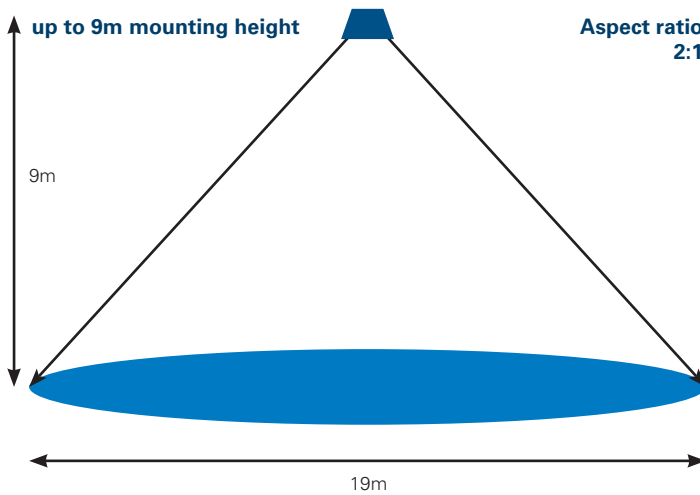
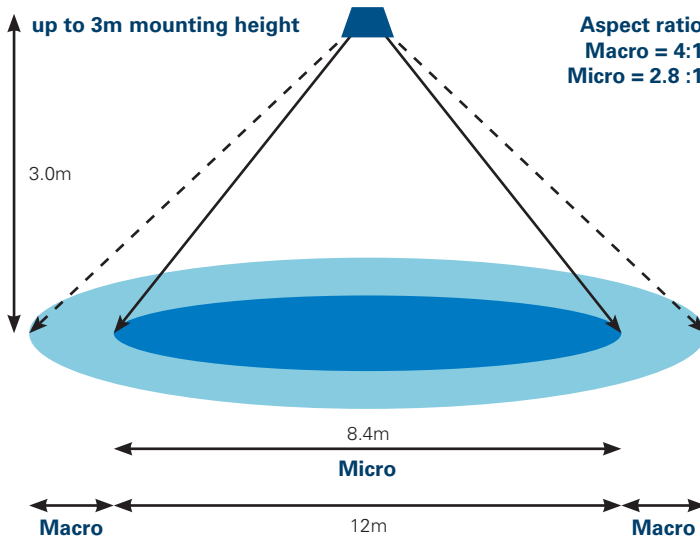
10m mounting height - square distribution



20m mounting height - elongated linear distribution

Mounting heights

Linery LED offers three standard options for PIR detection mounting heights. Up to 3 meters, 9 meters and 16 meters. The 3m detector boasts a high sensitivity Micro detection range. The aspect ratios and coverage are shown on the diagrams to aid in scheme design.



High-bay luminaires

Linergy LED

Accessories

Catalogue Numbers

Description	Cat No
Wire guard - 1200lm	LNLWG4
Wire guard - 1800lm	LNLWG6
Infrared user controller	LCSQC
Infrared programmer	LCSQS
Digital 2 way programmer	LCSQSP
Rear mounting brackets	LNLMB

Luminaire efficacy

Variant	Lumen output	Wattage (w)	Llm/cW
Wide Area			
LNLA1504KZ	15065	144	104.62
LNLA2254KZ	22785	210	108.5
Narrow			
LNLN1504KZ	15309	144	106.31
LNLN2254KZ	23032	210	109.68
Rack			
LNLR1504KZ	14808	135	109.69
LNLR2254KZ	22960	198	115.96



Digital 2 way programmer



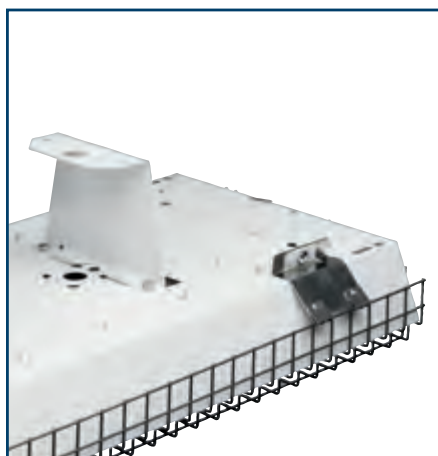
Infrared programmer



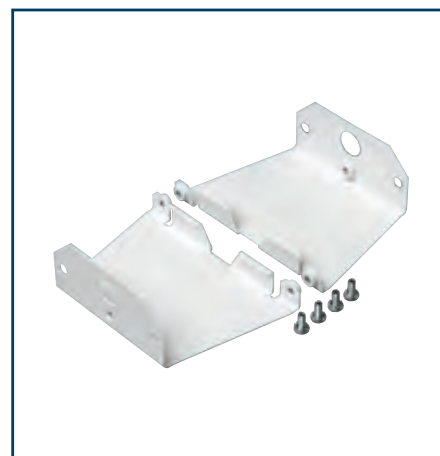
Infrared user controller



Wire guard



Mounting bracket detail



Rear mounting brackets

Catalogue numbers

Lumen Output (lm)	Optic	Cat No.	Weight (Kg)	Emergency Cat No.	Weight (Kg)
Standard Luminaires					
1200mm	Wide Area Reflector	LNLA1504KZ	5.5	ELLNLA1504KZ	6.2
1800mm	Wide Area Reflector	LNLA2254KZ	8.1	ELLNLA2254KZ	9.0
1200mm	Narrow Reflector	LNLN1504KZ	5.5	ELLNLN1504KZ	6.2
1800mm	Narrow Reflector	LNLN2254KZ	8.1	ELLNLN2254KZ	9.0
1200mm	Rack Reflector	LNLR1504KZ	5.7	ELLNLR1504KZ	6.4
1800mm	Rack Reflector	LNLR2254KZ	8.2	ELLNLR2254KZ	9.1

Emergency Luminaire - for mounting heights up to 20m

1200mm	Wide Area Reflector	-	-	ELHLNLA1504KZ	6.2
1800mm	Wide Area Reflector	-	-	ELHLNLA2254KZ	9.0
1200mm	Narrow Reflector	-	-	ELHLNLN1504KZ	6.2
1800mm	Narrow Reflector	-	-	ELHLNLN2254KZ	9.0
1200mm	Rack Reflector	-	-	ELHLNLR1504KZ	6.4
1800mm	Rack Reflector	-	-	ELHLNLR2254KZ	9.1

Luminaire with switching high level sensor (up to 16m mounting height)

1200mm	Wide Area Reflector	ULNLA1504KZ	5.7	ELHULNLA1504KZ	6.4
1800mm	Wide Area Reflector	ULNLA2254KZ	8.5	ELHULNLA2254KZ	9.4
1200mm	Narrow Reflector	ULNLN1504KZ	5.7	ELHULNLN1504KZ	6.4
1800mm	Narrow Reflector	ULNLN2254KZ	8.5	ELHULNLN2254KZ	9.4
1200mm	Rack Reflector	ULNLR1504KZ	5.9	ELHULNLR1504KZ	6.6
1800mm	Rack Reflector	ULNLR2254KZ	8.6	ELHULNLR2254KZ	9.5

Luminaire with switching medium level sensor (up to 9m mounting height)

1200mm	Wide Area Reflector	MLNLA1504KZ	5.7	ELMLNLA1504KZ	6.4
1800mm	Wide Area Reflector	MLNLA2254KZ	8.5	ELMLNLA2254KZ	9.4
1200mm	Narrow Reflector	MLNLN1504KZ	5.7	ELMLNLN1504KZ	6.4
1800mm	Narrow Reflector	MLNLN2254KZ	8.5	ELMLNLN2254KZ	9.4
1200mm	Rack Reflector	MLNLR1504KZ	5.9	ELMLNLR1504KZ	6.6
1800mm	Rack Reflector	MLNLR2254KZ	8.6	ELMLNLR2254KZ	9.5

Luminaire with switching low level sensor (up to 3m mounting height)

1200mm	Wide Area Reflector	CLNLA1504KZ	5.7	ELCLNLA1504KZ	6.4
1800mm	Wide Area Reflector	CLNLA2254KZ	8.5	ELCLNLA2254KZ	9.4
1200mm	Narrow Reflector	CLNLN1504KZ	5.7	ELCLNLN1504KZ	6.4
1800mm	Narrow Reflector	CLNLN2254KZ	8.5	ELCLNLN2254KZ	9.4
1200mm	Rack Reflector	CLNLR1504KZ	5.9	ELCLNLR1504KZ	6.6
1800mm	Rack Reflector	CLNLR2254KZ	8.6	ELCLNLR2254KZ	9.5

For DALI dimming option, replace part number character **Z** with **DD**, e.g. LNLA1504**Z** becomes LNLA1504**KDD**



IP20

EanCheck™



High-bay luminaires

IHB



IHB series LED luminaires are engineered to provide maintenance-free performance while delivering long life and high lumen performance - making them an efficient and reliable high bay solution.

IHB series LED luminaires are the perfect replacement for 250W - 1500W+ HID and 2-10 lamp T8, T12 and T5HO fluorescent high bay fixtures.

Designed for locations requiring continuous and consistent light levels, requiring frequent on/off switching of lights and areas that are inaccessible for maintenance.

- High efficacy: up to 117 lm/W
- Light colour 5000 K / 80 CRI
- Up to 67% energy savings over traditional HID fixtures
- Complete portfolio replaces 250W - 1000W, enables the replacement of conventional HID floodlights from 250W up to 1000W respective fluorescent light fittings from 4 up to 10 T5 lamps
- Typical customer payback of 1-3 years and lower total cost of ownership compared to HID and fluorescent lighting
- Versatile mounting options
- Optional 0-10V dimming capabilities
- Operating ambient: -40°C to +60°C*

Lamp options

- High power LED 145 W - 582 W, power factor $\cos \varphi > 0.9$
- Rated voltage: 100 - 277 V AC 127 - 250 V DC
- 5000 K / Ra 80
- Rated luminous flux 16,900 lm - 67,600 lm
- Light distribution: wide-angle (narrow-angle on request)
- Lifetime 120,000 h at $t_a = +25^\circ\text{C}$ / 65,000 h at $t_a = +55^\circ\text{C}$

Materials

- Housing - anodised aluminium, grey
- Protective cover: borosilicate glass, polycarbonate on request
- Permissible ambient temperature from -40°C up to $+60^\circ\text{C}$

Installation notes

- Suspension mount: pendant, jack chain or aircraft cable

Options

- Dimming control gear can provide further energy saving for appropriate applications
- Clear protective cover in tempered glass as standard; polycarbonate or opaque on request

Specification

To specify state: High bay LED luminaire, anodised aluminium housing, grey, wide-angle (narrow-angle on request), dimmable, zero maintenance, reduced energy consumption, part no.

Technical data

	IHB16L/UNV1	IHB24L/UNV1	IHB32L/UNV1
Permissible ambient temperature	-40 °C up to +60 °C	-40 °C up to +60 °C	-40 °C up to +60 °C
Lifetime fixtures	120,000 h at $t_a = +25^\circ\text{C}$ 65,000 h at $t_a = +40^\circ\text{C}$	120,000 h at $t_a = +25^\circ\text{C}$ 65,000 h at $t_a = +40^\circ\text{C}$	120,000 h at $t_a = +25^\circ\text{C}$ 65,000 h at $t_a = +40^\circ\text{C}$
Rated voltage	100 - 277 V AC; 127 - 250 VDC	100 - 277 V AC; 127 - 250 VDC	100 - 277 V AC; 127 - 250 VDC
Frequency	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz
Power	145 W	216 W	289 W
Circuit	Electronic driver	Electronic driver	Electronic driver
Light source	LED	LED	LED
Light colour	5000 K / Ra 80	5000 K / Ra 80	5000 K / Ra 80
Optic	Wide-angle (narrow-angle on request)	Wide-angle (narrow-angle on request)	Wide-angle (narrow-angle on request)
Rated luminous flux of the luminaire	16,900 lm	25,350 lm	33,800 lm
Dimensions (L x W x H)	478 x 339 x 108 mm	478 x 517 x 108 mm	478 x 695 x 108 mm
Terminals	L, N, PE, max. 1 x 2.5 mm ² Terminals for dimmer, 2 x 2.5 mm ² max.	L, N, PE, max. 1 x 2.5 mm ² Terminals for dimmer, 2 x 2.5 mm ² max.	L, N, PE, max. 1 x 2.5 mm ² Terminals for dimmer, 2 x 2.5 mm ² max.
Enclosure colour	Grey	Grey	Grey
Enclosure material	Anodised aluminium	Anodised aluminium	Anodised aluminium
Weight	7.7 kg	12.3 kg	16.3 kg
Protective cover / protective bowl	Tempered glass, clear 1)	Tempered glass, clear 1)	Tempered glass, clear 1)

	IHB48L/UNV1	IHB64L/UNV1
Permissible ambient temperature	-40 °C up to +60 °C	-40 °C up to +60 °C
Lifetime fixtures	120,000 h at $t_a = +25^\circ\text{C}$ 65,000 h at $t_a = +40^\circ\text{C}$	120,000 h at $t_a = +25^\circ\text{C}$ 65,000 h at $t_a = +40^\circ\text{C}$
Rated voltage	100 - 277 V AC; 127 - 250 VDC	100 - 277 V AC; 127 - 250 VDC
Frequency	50 - 60 Hz	50 - 60 Hz
Power	436 W	582 W
Circuit	Electronic driver	Electronic driver
Light source	LED	LED
Light colour/CRI	5000 K / Ra 80	5000 K / Ra 80
Optic	Wide-angle (narrow-angle on request)	Wide-angle (narrow-angle on request)
Rated luminous flux of the luminaire	50,700 lm	67,600 lm
Dimensions (L x W x H)	478 x 1053 x 108 mm	478 x 1407 x 108 mm
Terminals	L, N, PE, max. 1 x 2.5 mm ² Terminals for dimmer, 2 x 2.5 mm ² max.	L, N, PE, max. 1 x 2.5 mm ² Terminals for dimmer, 2 x 2.5 mm ² max.
Enclosure colour	Grey	Grey
Enclosure material	Anodised aluminium	Anodised aluminium
Weight	24.5 kg	33.6 kg
Protective cover / protective bowl	Tempered glass, clear 1)	Tempered glass, clear 1)

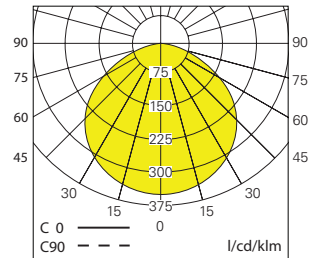
1) Opaque cover and cover in polycarbonate on request
Additional mounting material on request

High-bay luminaires

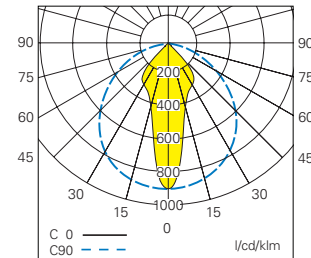
IHB

Photometric data

Polar curve wide-angle
IHB16L . 64L LED

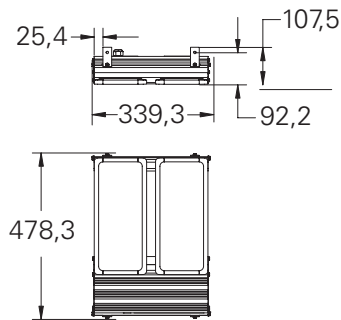


Polar curve narrow-angle
IHB16L . 64L LED
(on request)

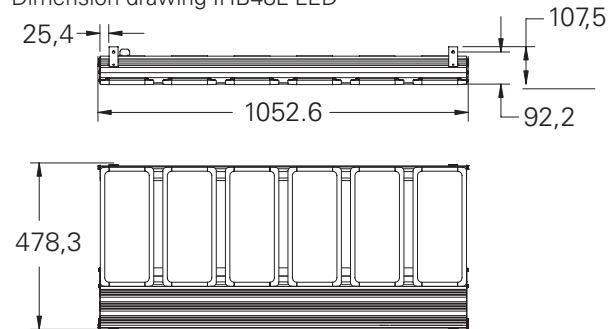


Dimensions

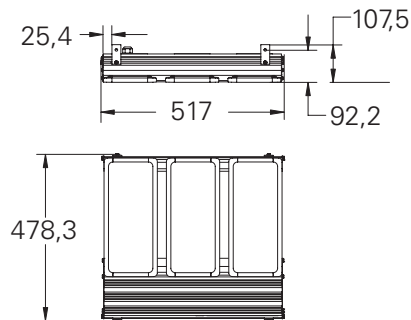
Dimension drawing IHB16L LED



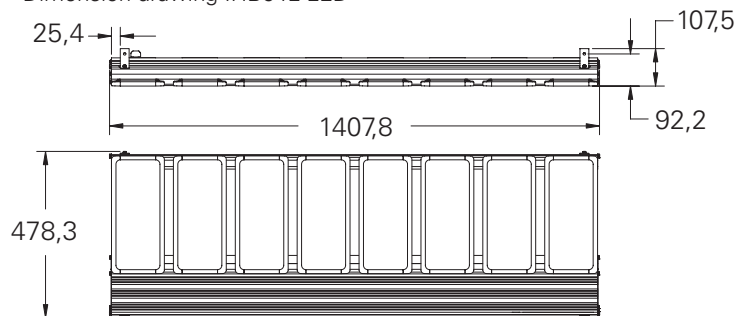
Dimension drawing IHB48L LED



Dimension drawing IHB24L LED

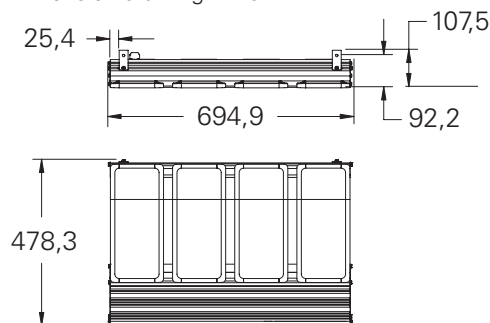


Dimension drawing IHB64L LED



Dimensions in mm

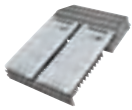
Dimension drawing IHB32L LED



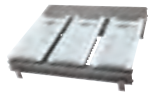
Ordering details

Type *)	Lamp / illuminant	No. of LED modules	Rated luminous flux of the luminaire	Weight	Order No.
IHB16L/UNV1DCE	LED system 145 W	2	16,900 lm	7.7 kg	IHB16L UNV1DCE
IHB24L/UNV1DCE	LED system 216 W	3	25,350 lm	12.3 kg	IHB24L UNV1DCE
IHB32L/UNV1DCE	LED system 289 W	4	33,800 lm	16.3 kg	IHB32L UNV1DCE
IHB48L/UNV1DCE	LED system 436 W	6	50,700 lm	24.5 kg	IHB48L UNV1DCE
IHB64L/UNV1DCE	LED system 582 W	8	67,600 lm	33.6 kg	IHB64L UNV1DCE

*) IHB8L/UNV1 with one LED module (8,450 lm, 71 W) on request



IHB16L



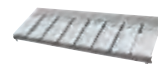
IHB24L



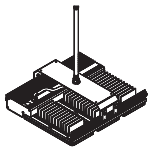
IHB32L



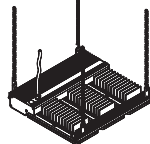
IHB48L



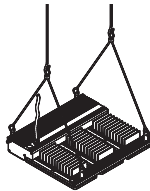
IHB64L



Suspension set for pendant mounting



Suspension set with Jack chain



Suspension set with aircraft cable

Mounting accessories

Type	Description	Type of mounting	Order No.
IHBP1 KIT	Suspension set (8L to 32L)	¾" pendant mount	IHBP1 KIT
IHBP2 KIT	Suspension set (48L to 64L)	¾" pendant mount	IHBP2 KIT
IHBJ1 KIT	Suspension set 48"	Jack chain	IHBJ1 KIT
IHBJ2 KIT	Suspension set 72"	Jack chain	IHBJ2 KIT
IHBJ3 KIT	Suspension set 96"	Jack chain	IHBJ3 KIT
IHBJ4 KIT	Suspension set 120"	Jack chain	IHBJ4 KIT
IHBJ5 KIT	Suspension set 144"	Jack chain	IHBJ5 KIT
IHBA1 KIT	Suspension set 40"	Aircraft cable	IHBA1 KIT
IHBA2 KIT	Suspension set 80"	Aircraft cable	IHBA2 KIT
IHBA3 KIT	Suspension set 120"	Aircraft cable	IHBA3 KIT
IHBA4 KIT	Suspension set 180"	Aircraft cable	IHBA4 KIT

Additional mounting material on request



High-bay luminaires

Champ PVM



Champ® Pro PVM LED Series Luminaires are designed to provide full-spectrum, crisp, white light with custom IES Type I, III and V distribution. Nine versions of the Champ Pro PVM LED are available, providing ideal solutions for a wide range of applications.

- Instant illumination and restrike
- Dimmable by control input 0-10 V
- Wide temperature range from -40 °C up to +65 °C (depends from Type)
- Redundancy in drivers with multiple series circuits connected to each driver to avoid complete loss of illumination
- Energy-efficient technology with up to 124 lm/W - up to 77% energy savings over HID fixtures
- Contains no mercury or other hazardous substances
- Shock and vibration resistant solid-state luminaires have no filaments or glass components that could break - greatly reduces the risk of premature failure

Lamp options

- High power LED 29 W - 232 W, power factor $\cos \varphi > 0.9$
- Rated voltage: 100 - 277 V AC; 108 - 250 V DC
- 5000 K / Ra 70; 3000 K / Ra 80 on request
- Rated luminous flux 3515 lm - 26531 lm
- 3 types of light distribution: wide-, narrow- & assymetric-angle
- Lifetime 200,000 h at $t_a = +25\text{ °C}$ / 60,000 h at $t_a = +65\text{ °C}$

Enclosure

- Modular designed housing - copper-free aluminium with epoxy-powder coating in grey and black
- Protective cover: heat- and impact resistant glass
- Degree of protection IP66
- Permissible ambient temperature from -40 °C up to $+65\text{ °C}$

Options

- Dimming control gear can provide further energy saving for appropriate applications

Installation notes

- 4 top mounting modules for pole-, wall- and ceiling mounting
- Cable adaptor for pole mounting modules
- Mounting bracket in combination with ceiling top mounting module

Specification

To specify state: High performance multi die LED pendant light fitting, powder-coated aluminium housing, custom type I, III and V optics for better output, zero maintenance and reduced energy consumption, part no. _____



Technical data

	PVM 3L - 11L LED	PVM 13L - 17L LED	PVM 20L - 25L LED
Permissible ambient temperature	-40 °C up to +65 °C	-40 °C up to +55 °C	-40 °C up to +55 °C
Lifetime fixtures	200,000 h at $t_a = +25\text{ °C}$ 60,000 h at $t_a = +65\text{ °C}$	170,000 h at $t_a = +25\text{ °C}$ 60,000 h at $t_a = +55\text{ °C}$	170,000 h at $t_a = +25\text{ °C}$ 60,000 h at $t_a = +55\text{ °C}$
Rated voltage	100 - 277 V AC; 108 - 250 V DC	100 - 277 V AC; 108 - 250 V DC	100 - 277 V AC; 108 - 250 V DC
Frequency	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz
Power	1)	1)	1)
Power factor $\cos \varphi$	>0.9	>0.9	>0.9
Circuit	Electronic driver	Electronic driver	Electronic driver
Protection class	I	I	I
Lamp / Illuminant	LED system, scope of delivery	LED system, scope of delivery	LED system, scope of delivery
Light colour/CRI	5000 K / Ra 70; 3000 K / Ra 80 on request	5000 K / Ra 70; 3000 K / Ra 80 on request	5000 K / Ra 70; 3000 K / Ra 80 on request
Rated luminous flux of the luminaire	1)	1)	1)
Dimensions (L x W x H)	280 x 295 x 230 mm	381 x 381 x 197 mm	381 x 381 x 274 mm
Terminals	L, N, PE, max. 1 x 2.5 mm ² dimmer, 2 x 2.5 mm ² max.	L, N, PE, max. 1 x 2.5 mm ² dimmer, 2 x 2.5 mm ² max	L, N, PE, max. 1 x 2.5 mm ² dimmer, 2 x 2.5 mm ² max
Enclosure colour	Grey/black	Grey/black	Grey/black
Enclosure material	Copper-free aluminium with epoxy-powder coating	Copper-free aluminium with epoxy-powder coating	Copper-free aluminium with epoxy-powder coating
Weight	8.1 kg	16.3 kg	20.0 kg
Degree of protection accd. to EN 60529	IP66	IP66	IP66
Protective cover / protective bowl	Heat- and impact resistant glass 2)	Heat- and impact resistant glass 2)	Heat- and impact resistant glass 2)

1) See Ordering details on page "Champ PVM" on page 19

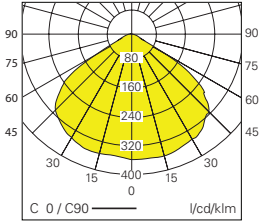
2) Opaque cover and version in polycarbonate on request

High-bay luminaires

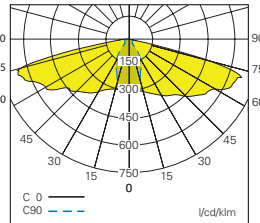
Champ PVM

Photometric data

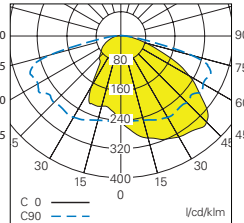
Polar curve PVM LED type V



Polar curve PVM LED type I

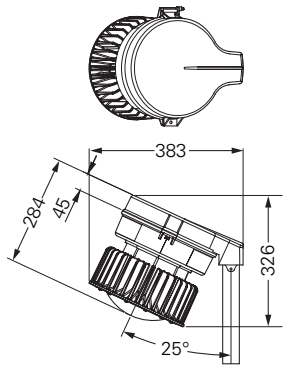


Polar curve PVM LED type III

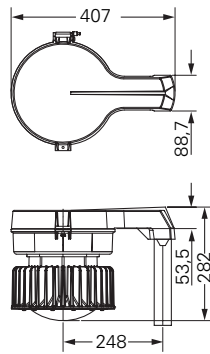


Dimensions

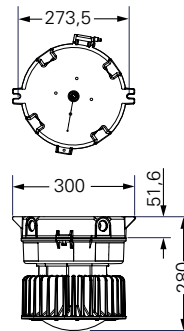
With top mounting module JM5



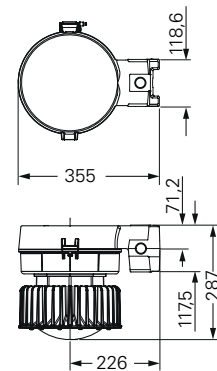
With top mounting module PM5



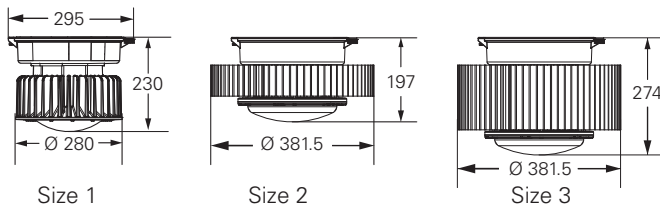
With top mounting module CM20



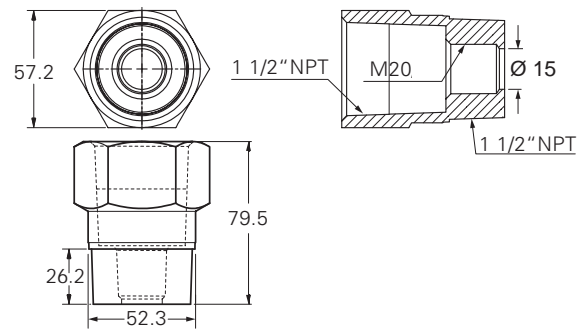
With top mounting module TWM20



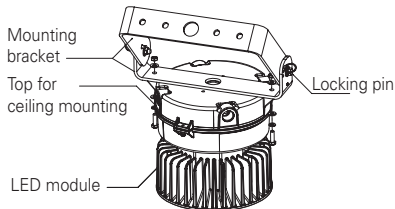
Lamp module



Cable adaptor for pole mounting JGA5520



Mounting bracket S812



Dimensions in mm

Ordering details



Housing Size 1



Housing Size 2



Housing Size 3



Type	Lamp / Illuminant	Rated luminous flux of the luminaire	Weight	Cable gland / thread	Screw plug	Enclosure type	Order No.
PVM LED Lamp module with LEDs (without top mounting module, please order separately)							
PVM 3L LED	LED System 29 W type V	3,515 lm	8.1 kg	–	–	1	1 2404 400
PVM 5L LED	LED System 43 W type V	5,335 lm	8.1 kg	–	–	1	1 2407 746
PVM 7L LED	LED System 55 W type V	7,260 lm	8.1 kg	–	–	1	1 2407 745
PVM 9L LED	LED System 85 W type V	9,226 lm	8.1 kg	–	–	1	1 2409 889
PVM 11L LED	LED System 113 W type V	11,440 lm	8.1 kg	–	–	1	1 2408 233
PVM 13L LED	LED System 130 W type V	13,266 lm	16.3 kg	–	–	2	1 2429 488
PVM 17L LED	LED System 168 W type V	18,793 lm	16.3 kg	–	–	2	1 2430 349
PVM 21L LED	LED System 196 W type V	22,110 lm	20.0 kg	–	–	3	1 2430 452
PVM 25L LED	LED System 232 W type V	26,531 lm	20.0 kg	–	–	3	1 2430 455
PVM 3L LED	LED System 29 W type I	3,360 lm	8.1 kg	–	–	1	1 2414 505
PVM 5L LED	LED System 43 W type I	5,045 lm	8.1 kg	–	–	1	1 2414 517
PVM 7L LED	LED System 55 W type I	6,844 lm	8.1 kg	–	–	1	1 2414 526
PVM 9L LED	LED System 85 W type I	8,823 lm	8.1 kg	–	–	1	1 2414 534
PVM 11L LED	LED System 113 W type I	10,730 lm	8.1 kg	–	–	1	1 2414 542
PVM 13L LED	LED System 130 W type I	12,842 lm	16.3 kg	–	–	2	1 2430 347
PVM 17L LED	LED System 168 W type I	18,195 lm	16.3 kg	–	–	2	1 2430 450
PVM 21L LED	LED System 196 W type I	21,404 lm	20.0 kg	–	–	3	1 2430 453
PVM 25L LED	LED System 232 W type I	25,685 lm	20.0 kg	–	–	3	1 2430 456
PVM 3L LED	LED System 29 W type III	3,309 lm	8.1 kg	–	–	1	1 2414 508
PVM 5L LED	LED System 43 W type III	4,468 lm	8.1 kg	–	–	1	1 2414 518
PVM 7L LED	LED System 55 W type III	6,741 lm	8.1 kg	–	–	1	1 2407 564
PVM 9L LED	LED System 85 W type III	8,618 lm	8.1 kg	–	–	1	1 2414 535
PVM 11L LED	LED System 113 W type III	10,660 lm	8.1 kg	–	–	1	1 2414 543
PVM 13L LED	LED System 130 W type III	12,493 lm	16.3 kg	–	–	2	1 2430 348
PVM 17L LED	LED System 168 W type III	17,699 lm	16.3 kg	–	–	2	1 2430 451
PVM 21L LED	LED System 196 W type III	20,822 lm	20.0 kg	–	–	3	1 2430 454
PVM 25L LED	LED System 232 W type III	24,987 lm	20.0 kg	–	–	3	1 2430 457
PVM LED top mounting module, (without lamp module, please order separately)							
JM5 ¹⁾	Top mounting module for 1½" pole mounting, 25°		1.6 kg	1 x 3/4" thread	–	–	22 250
PM5	Top mounting module for 1½" pole mounting, straight		2.0 kg	1 x 3/4" thread	–	–	00 080
CM20	Top mounting module for M20 ceiling mounting		1.3 kg	4 x M20 thread	4 x M20	–	1 1843 088
TWM20	Top mounting module for M20 wall mounting		2.0 kg	4 x M20 thread	4 x M20	–	1 1832 237
S812	Mounting bracket (can only be used with top mounting module CM20)		1.0 kg	–	–	–	1 2268 927
JGA (cable adaptor 1½" for pole mounting)							
JGA5520	Adapter 1½" for top mounting module JM5 and PM5 for insertion of a cable gland M 20		0.45 kg	1x M20 thread	–	–	11826774

¹⁾ only for PVM 3L-11L

Scope of delivery without fixing accessories, if not stated otherwise. Metal cable glands see main catalogue part 2: 2.3.12 ff
Further mounting material on request



General purpose industrial

Tufflite LED



Tufflite LED is a versatile general purpose, IP66 rated, luminaire. It is supplied with fast fit mounting clips for ease of installation avoids the need to drill the housing. Options include; 3hour combined non-maintained emergency functionality, dimmable control gear and integrated lighting controls options to maximise energy savings, user comfort and control.

Linear LED light engines and efficient control gear provide class leading performance; they are protected by a GRP base and polycarbonate diffuser with a high impact resistance rating of IK08.

With a comprehensive range of lumen outputs across 3 luminaire lengths, Tufflite LED delivers choice and flexibility to suit a wide range of applications such as warehousing, plant rooms, carparks, loading/storage spaces and assembly areas where high ingress protection and robust construction are required.

- Nominal 4', 5' and 6' formats, in narrow and wide housings, ideal for both new and retro fit applications
- Impact and heat resistant opal polycarbonate diffuser and GRP base housing construction, IK08 rated, and secured with anti-tamper diffuser clips
- Deep poured continuous polyurethane gasket to maintain IP66 rating
- Class leading LED luminaire performance and efficacy with lumen packages to match and exceed traditional fluorescent technology with reduced energy consumption
- Integrated lighting control options to maximise energy saving, user comfort and control
- Integral 3hr combined non-maintained functionality option
- Fast fix stainless steel mounting clips for rapid installation. (No need to drill the housing avoiding a potential ingress path)

Light engine and control gear

- High efficacy linear LED light engines
- >80CRI, 4000°K
- Energy efficient high frequency control gear as standard
- DALI dimmable control gear option

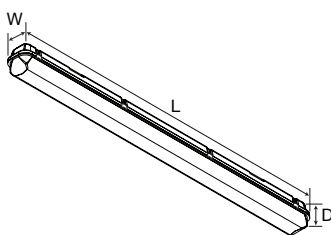
Materials

- Body – Polyester GRP in RAL7035 grey with integrated gear tray supports and deep poured polyurethane gasket
- Diffuser – UV stabilised fire retardant polycarbonate
- Diffuser clips – Polyamide - offering strength and integral locking screw function
- Gear tray – Sheet steel, white finish
- Mounting brackets – Stainless steel (grade 501)

Installation notes

- Surface/suspension mount rear brackets supplied, removing the need to drill the housing base
- 20mm cable entry holes at each end, supplied complete with sealing plugs
- Terminal block with 2x2.5mm² cable capacity per termination
- Through wiring kits available.
- Geartray hangs on the body for ease of install, locates in final position with tool free clips
- Simple to use diffuser clips, 4 of which have security screws to lock them in the closed position as an anti-tamper feature and ensures access only through tooled entry to the luminaire.
- This luminaire is IP66 rated, this rating only applies when the luminaire is installed observing the correct orientation and must not be positioned in direct sunlight.
In exterior applications it is recommended the luminaires are protected under a canopy or cover, the housing is not suitable for mounting with the base directly on a vertical surface in the horizontal orientation. Please refer to the installation leaflet for further details.

Dimensions



Cat No	W (mm)	D (mm)	L (mm)
TXL4N254KZ	101	101	1282
TXL4N344KZ	101	101	1282
TXL4N474KZ	101	101	1282
TXL4W644KZ	145	101	1282
TXL5N274KZ	101	101	1578
TXL5N364KZ	101	101	1578
TXL5N514KZ	101	101	1578
TXL5W554KZ	145	101	1578
TXL5W754KZ	145	101	1578
TXL5W904KZ	145	101	1578
TXL6N534KZ	101	101	1840
TXL6W954KZ	145	101	1840
TXL6W1124KZ	145	101	1840

Catalogue numbers

Type	L(mm)	W(mm)	D(mm)	Fixing Centres (mm)	Weight (kg)			
					HF	HF Em	DALI	DALI Em
4' single	1282	101	101	800	3.05	3.40	3.15	3.50
4' twin	1282	145	101	800	4.27	4.62	4.35	4.70
5' single	1578	101	101	1100	3.75	4.10	3.95	4.30
5' twin	1578	145	101	1100	5.35	5.70	5.30	5.60
6' single	1840	101	101	1540	4.85	5.20	5.10	5.40
6' twin	1840	145	101	515/1545	6.45	6.80	6.70	7.10

For DALI dimming option, replace part number character Z with DD, e.g. TFP504KZ becomes TFP504KDD

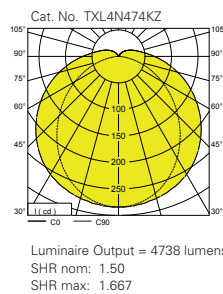
Options

- DALI dimming option
- Intelligent light and energy management options:
- End mounted IP65 rated sensor with switching or dimming function, with/without photocell
- 'Corridor Function' control available to special order with the 'CO' suffix
- Fully integral combined non-maintained emergency, 3 hour duration. Suitable for use on defined escape routes.
- We offer a range of product support contracts to aid commissioning, reduce your maintenance costs, comply with legislative test requirements and maximise the lifespan of your lighting equipment.

Specification

To specify state: General purpose IP66 rated luminaire with GRP base and reeded opal polycarbonate light controller, secured by tamper resistant hinged latches and removable geartray retained by tool free clips, as Eaton's Tufflite LED range, part no. _____

Photometric Data



Utilisation factors / TM5

Reflectances	Room Index										
	C	W	F	0.75	1.0	1.25	1.5	2.0	2.5	3.0	4.0
70	50	20	54	62	69	74	81	86	90	94	98
70	30	20	46	54	62	67	75	80	84	90	93
70	10	20	41	48	56	61	69	75	79	85	90
50	50	20	52	59	66	70	77	81	84	89	92
50	30	20	45	52	59	64	71	76	80	85	88
50	10	20	40	47	54	59	66	72	76	81	85
30	50	20	49	56	62	67	73	77	80	83	86
30	30	20	43	50	57	61	68	72	76	80	83
30	10	20	39	46	52	57	64	69	72	77	81
0	0	0	36	42	48	53	59	63	67	71	74
BZ-class	5	5	5	5	5	5	5	5	5	5	5

Chemical Resistance

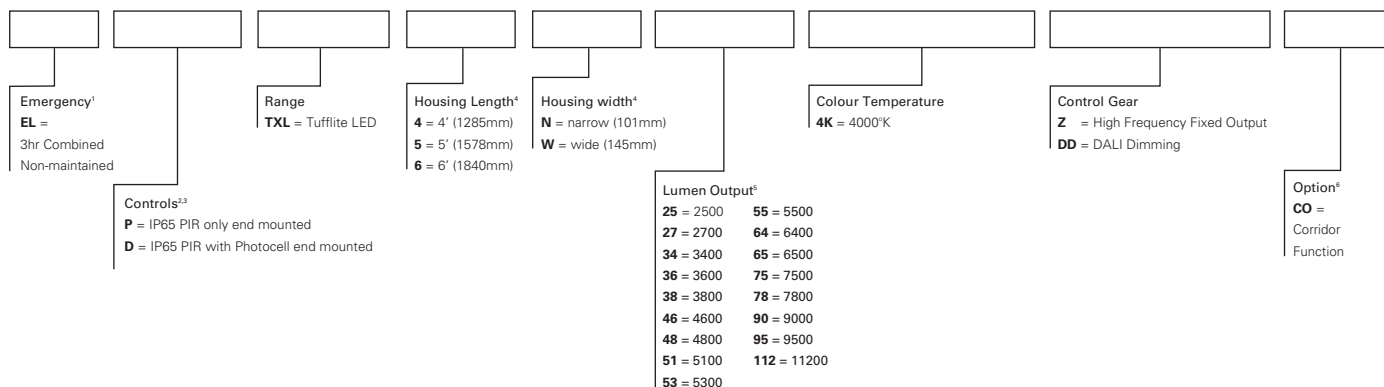
Chemical Agent	Tufflite LED	Chemical Agent	Tufflite LED
Acetic acid 10%	●	Chlorine liquids (vapours)	×
Acetone	×	Chloroform	×
Alcoholic beverages	●	Chromic acid	×
Aluminium sulphate	●	Citric acid 20%	●
Ammonia 5%	×	Copper sulphate	●
Aniline	×	Diesel-naphtha oil	○
Arsenic acid 20%	○	Ethyl alcohol	●
Benzene	×	Ethyl chloride	×
Bencylic alcohol	×	Ethyl ether	×
Benzyl	×	Food oils and fats	×
Bromine	×	Formic acid 10%	○
Calcium chloride	●	Glycerine	●
Calcium nitrate	●	Hexane	○
Carbon tetrachloride	×	Iodine	×
Carbonic acid	×	Iron chloride	●
Caustic potash	×	Isopropyl alcohol	○
Cement	●	Lubricating oil	●
Chlorhydric acid 1-5%	○	Magnesium sulphate	●

● Resistant ○ Relatively Resistant × Non-Resistant

General purpose industrial

Tufflite LED

Catalogue numbers



- Emergency versions use a dedicated LED which operates only when in emergency mode
- The 'P' prefix sensor is a switching PIR only for use on fixed output control gear (unless inconjunction with DD and CO for Corridor Function)
The 'D' prefix sensor is a switching PIR with photocell, the control gear option dictates the sensor type i.e:
Switching with a threshold sensor for HF gear, DALI digital dimming gear uses a regulating photocell version
- 'P' and 'D' prefix sensors are mounted in the end of the luminaire, they are IP20 rated and suitable for upto 5m mounting heights
- Please refer to the dimension table and diagram for exact dimensions
- The lumen output values are not all available in all lengths, please refer to HF catalogue listing
- 'Corridor Function' is a Tridonic specific option available with their dimmable control gear, this 'CO' suffix must be added to ensure the correct drives is used. Add the 'CO' after the DD suffix.

Luminaire example

Cat No	Description
ELDTXL5W754KDD	Tufflite LED 5' 4000K, DALI, with integral combined non-maintained emergency functionality and fitted with end mounted IP65 PIR/photocell DALI sensor



Twin width housing



Narrow width housing



Single lamp rear quick fit bracket and tamper proof clip



Twin lamp rear quick fit bracket and tamper proof clip

Catalogue numbers

Cat No	Description	Lumen Output (lm)	Circuit Watts (W)	Efficacy (Llm/cW)
Standard Fixed Output				
TXL4N254KZ	Tufflite LED 2500 4000K HF 1.2m single	2540	21.4	118.8
TXL4N344KZ	Tufflite LED 3400 4000K HF 1.2m single	3433	29.9	115.0
TXL4N474KZ	Tufflite LED 4700 4000K HF 1.2m single	4707	42.0	112.0
TXL4W644KZ	Tufflite LED 6400 4000K HF 1.2m twin	6400	57.5	111.5
TXL5N274KZ	Tufflite LED 2700 4000K HF 1.5m single	2792	22.6	123.6
TXL5N364KZ	Tufflite LED 3600 4000K HF 1.5m single	3618	29.8	121.4
TXL5N514KZ	Tufflite LED 4800 5100K HF 1.5m single	5154	45.0	114.7
TXL5W554KZ	Tufflite LED 5500 4000K HF 1.5m twin	5514	44.6	123.6
TXL5W754KZ	Tufflite LED 7500 4000K HF 1.5m twin	7518	63.3	118.8
TXL5W904KZ	Tufflite LED 9000 4000K HF 1.5m twin	9033	79.2	114.1
TXL6N534KZ	Tufflite LED 5300 4000K HF 1.8m single	5304	42.9	123.5
TXL6W954KZ	Tufflite LED 9500 4000K HF 1.8m twin	9571	82.9	115.4
TXL6W1124KZ	Tufflite LED 11200 4000K HF 1.8m twin	11200	100.7	111.2

For Emergency versions please add the **EL** prefix, e.g. TXL5N554KZ becomes **ELTXL5N554KZ**

For Emergency versions the circuit watts will increase by 1.5W to account for the charging circuit

For DALI dimmable options please replace the **Z** suffix with **DD** e.g. TXL5N554KZ becomes TXL5N554K**DD**

Refer to the Catalogue number matrix for other options

For further information contact our technical support and application department on 01302 303240 or email lighting@cooper-ls.com



Batten fit sensors (IP20 rated)

General purpose industrial

Crompack LED



The all new Crompack LED delivers a comprehensive range of linear LED luminaires incorporating a range of lumen outputs across 3 luminaire lengths. Options include dimmable control gear and a range of integrated controls options to maximise energy savings.

Available with 3 hour combined non-maintained emergency functionality delivering excellent spacing and uniformity.

The simple 2 part housing facilitates quick and simple installation, a first fix plate allows mechanical mounting and electrical connections to be made, the optic unit then connects on a plug and socket and snap fits to the base, with 2 retained screws adding additional integrity to the installation ensuring tool access only.

Optical control and performance generate high efficacies and deliver ECA compliance.

- Excellent light transmission and LED source obscurity from the reeded opal diffuser
- Nominal 4', 5' and 6' length formats, ideal for both new installations and retro fit applications
- The range offers luminaire lumen outputs of up to 10500lm delivering high efficacies of up to 133Llm/cW
- High efficiency LED strip technology and driver combinations, with purpose designed optics and thermal management, maximise the LED and control gear life and performance
- Long LED life and no lamps to change significantly reduce maintenance costs, particularly in 24/7 operations and inaccessible areas
- Integrated controls options providing occupancy detection and daylight harvesting to maximise energy saving, user comfort and control
- Integral 3hr combined non-maintained functionality variants
- First fix base and plug and socket housing connection for rapid installation

Lamps and control gear options

- High efficacy linear LED light engines
- >80CRI, 4000°K
- High frequency control gear as standard
- DALI dimmable control gear option

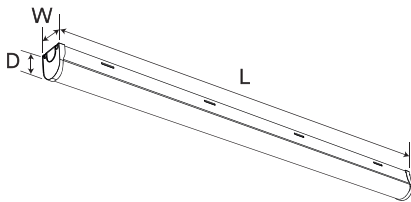
Materials

- First fix plate and heatsink – steel, powder coated in RAL9016 white finish
- End caps – injection moulded ABS, UV stabilised and fire retardant, colour matched white finish
- Emergency/controls cover pod - injection moulded ABS, UV stabilised and fire retardant, colour matched white finish
- Diffuser – UV stabilised opal polycarbonate

Installation notes

- Suitable for direct fix, trunking, conduit or chain/wire suspension
- BESA entry points central and at 600mm centres (one of the 600mm BESA cable entry holes may be covered on some versions, the 4 fixing holes around the cable entry hole remain accessible)
- Terminal block with 2 x 2.5mm² wire capacity per termination
- Plug and socket connection between first fix plate and optic unit for rapid installation
- 20mm conduit entry feature in both ends with clearance feature that can be removed in the end cap (Note: end mounted 'batten fit' sensor options would use the cable entry at one end)
- Integral emergency and sensor versions have a longer housing though the major mounting features remain the same in the first fix plate

Dimensions



Nominal Lengths	Length (mm)		W (mm)	H (mm)	Weight (Kg)	
	Standard	Emergency/Controls			Standard	Emergency
4'	1163	1318	62	76	1.9	2.4
5'	1463	1618	62	76	2.3	2.8
6'	1728	1883	62	76	2.7	3.2

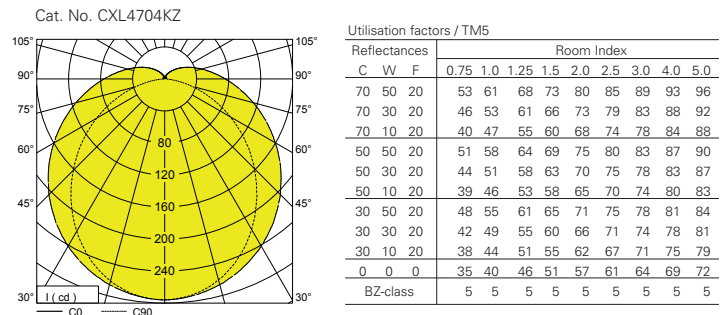
Options

- Intelligent light and energy management options:
- Integrated mini-sensor with PIR and photocell to suit DALI control gear
- End mounted 'batten fit' sensor with switching or dimming function, with/without photocell
- 'Corridor Function' control available to special order with the 'CO' suffix
- Fully integral self-contained 3 hour duration emergency option
- Lumen packages and length options to suit the application

Specification

To specify state: Linear LED batten with steel channel profile with durable powder coat RAL9016 white finish and reeded opal polycarbonate diffuser. Embossed snap-fit feature optical unit with plug and socket connection and screw-secured colour matched and textured ABS end caps (optional integral controls and emergency functionality), as Eaton's Crompack LED, part no. _____

Photometric Data



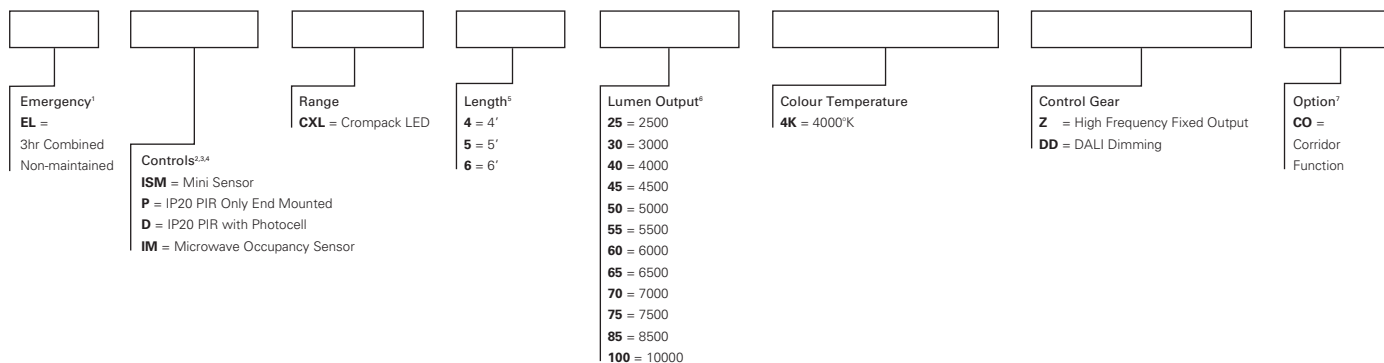
LOR: 1.00
ULOR: 0.12
DLOR: 0.88

SHR nom: 1.50
SHR max: 1.63

General purpose industrial

Crompack LED

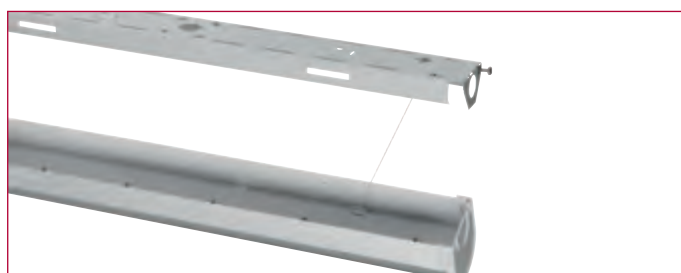
Catalogue numbers



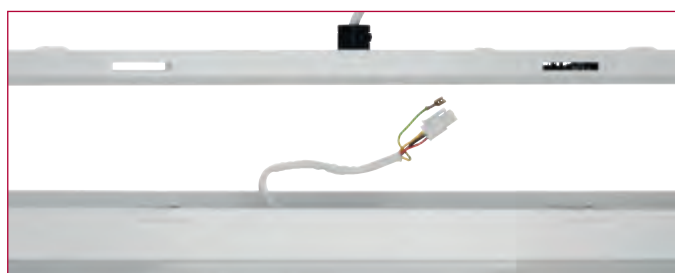
- 1 Emergency versions use a dedicated LED which operates only when in emergency mode
- 2 The 'P' prefix sensor is a switching PIR only for use on fixed output control gear (unless in conjunction with DD and CO for Corridor Function)
 The 'D' prefix sensor is a switching PIR with photocell, the control gear option dictates the sensor type i.e:
 Switching with a threshold sensor for HF gear, DALI digital dimming gear uses a regulating photocell version
- 3 'P' and 'D' prefix sensors are mounted in the end of the luminaire and suitable for upto 5m mounting heights
- 4 ISM mini head sensor for use with DALI control gear only, also suits BUS Loop Communication - see Lighting Solution Controls page 457
- 5 The length character gives the generic luminaire length, please refer to the dimension table for exact dimensions
- 6 The lumen output values are not all available in all lengths, please refer to HF catalogue listing
- 7 'Corridor Function' is a Tridonic specific option available with their dimmable control gear, this 'CO' suffix must be added to ensure the correct drives is used. Add the 'CO' after the DD suffix.

Luminaire example

Cat No	Description
ELISM CXL5454KDD	Crompack LED 5' 4500lm, 4000K, DALI with integral mini sensor and integral 3hr combined non-maintained emergency functionality



First fix backplate with optical unit suspended on safety cords



Rapid fit plug and socket



End mounted PIR/photocell



Lighting control sensor and integral emergency LED

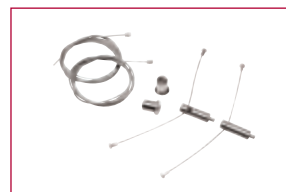
Catalogue numbers

Cat No	Description	Lumen Output (lm)	Circuit Watts (W)	Efficacy (Llm/cW)
Standard Fixed Output				
CXL4254KZ	Crompack LED 2500 4000K HF 1.2m	2550	22.1	115.4
CXL4304KZ	Crompack LED 3000 4000K HF 1.2m	3050	28.1	108.5
CXL4404KZ	Crompack LED 4000 4000K HF 1.2m	3900	36.6	106.6
CXL4454KZ	Crompack LED 4500 4000K HF 1.2m	4500	44.2	101.8
CXL4504KZ	Crompack LED 5000 4000K HF 1.2m	5000	43.4	115.2
CXL4604KZ	Crompack LED 6000 4000K HF 1.2m	5950	57.5	103.5
CXL4704KZ	Crompack LED 7000 4000K HF 1.2m	6900	70.4	98.0
CXL5404KZ	Crompack LED 4000 4000K HF 1.5m	4000	31.8	125.8
CXL5454KZ	Crompack LED 4500 4000K HF 1.5m	4300	35.8	120.1
CXL5504KZ	Crompack LED 5000 4000K HF 1.5m	5100	43.2	118.1
CXL5604KZ	Crompack LED 6000 4000K HF 1.5m	6000	55.6	107.9
CXL5704KZ	Crompack LED 7000 4000K HF 1.5m	7200	71.2	101.1
CXL6554KZ	Crompack LED 5500 4000K HF 1.8m	5700	53.1	107.3
CXL6654KZ	Crompack LED 6500 4000K HF 1.8m	6400	62.2	102.9
CXL6754KZ	Crompack LED 7500 4000K HF 1.8m	7400	69.2	101.2
CXL6854KZ	Crompack LED 8500 4000K HF 1.8m	8500	81.4	104.4
CXL61004KZ	Crompack LED 10000 4000K HF 1.8m	10300	106.5	96.7
Emergency Fixed Output				
ELCXL4254KZ	Crompack LED 2500 4000K HF 1.2m Emergency	2550	23.2	109.9
ELCXL4304KZ	Crompack LED 3000 4000K HF 1.2m Emergency	3050	29.2	104.5
ELCXL4404KZ	Crompack LED 4000 4000K HF 1.2m Emergency	3900	37.7	103.4
ELCXL4454KZ	Crompack LED 4500 4000K HF 1.2m Emergency	4500	45.3	99.3
ELCXL4504KZ	Crompack LED 5000 4000K HF 1.2m Emergency	5000	44.5	112.4
ELCXL4604KZ	Crompack LED 6000 4000K HF 1.2m Emergency	5950	58.6	101.5
ELCXL4704KZ	Crompack LED 7000 4000K HF 1.2m Emergency	6900	71.5	96.5
ELCXL5404KZ	Crompack LED 4000 4000K HF 1.5m Emergency	4000	32.9	121.6
ELCXL5454KZ	Crompack LED 4500 4000K HF 1.5m Emergency	4300	36.9	116.5
ELCXL5504KZ	Crompack LED 5000 4000K HF 1.5m Emergency	5100	44.3	115.1
ELCXL5604KZ	Crompack LED 6000 4000K HF 1.5m Emergency	6000	56.7	105.8
ELCXL5704KZ	Crompack LED 7000 4000K HF 1.5m Emergency	7200	72.3	99.6
ELCXL6554KZ	Crompack LED 5500 4000K HF 1.8m Emergency	5700	54.2	105.2
ELCXL6654KZ	Crompack LED 6500 4000K HF 1.8m Emergency	6400	63.3	101.1
ELCXL6754KZ	Crompack LED 7500 4000K HF 1.8m Emergency	7400	70.3	99.6
ELCXL6854KZ	Crompack LED 8500 4000K HF 1.8m Emergency	8500	82.5	103.0
ELCXL61004KZ	Crompack LED 10000 4000K HF 1.8m Emergency	10300	107.6	95.7

For DALI dimming option, replace part number character **Z** with **DD**, eg. CXL5454K**Z** becomes CXL5454K**DD**

For further information contact our technical support and application department on 01302 303240 or email lighting@cooper-ls.com

Cat No	Description	Weight (kg)
SWKITP15SY	Suspension Wire Kit, 1.5m, Short Yoke (Pair)	0.1



IP20





For a wide range of applications where flexibility needs to be married to performance, the Caius range offers a complete solution. Caius combines practical attributes with contemporary clean lines and form. Although at home in most interior applications, Caius offers ingress protection to IP65 so suits a wide range of locations. Caius gives a highly efficient design solution, minimising installation points.

High output LED sets offer high levels of efficacy combined with class leading emergency operation helping to reduce the number of installed points whilst maintaining compliant lighting designs.

- Polycarbonate lens and ABS body for durability
- TPa material means compliance with the requirements for escape routes
- Opal diffuse lens for homogenous light output
- Choice of two complimentary body sizes
- Fully integral emergency versions
- Microwave option
- Corridor control function option (DALI/ DSI version)
- IP65 dust tight and water jet proof
- Balanced looks maximize the efficiency and output of Caius
- Installation friendly design reduces on site costs

Light source and control gear options

- LED – high output, high efficiency LED chip set optimized for maximum efficiency
- Energy efficient LED drivers - high frequency as standard
- DALI/ DSI options

Materials

- Body – ABS structurally strong and impact resistant
- Lens – TPa Polycarbonate opal

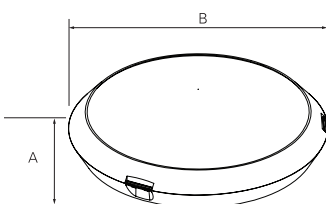
Installation notes

- Terminal block with a 2 x 2.5mm² cable capacity per termination

Options

- Fully integrated LED emergency conversion, 3 hour duration
- Microwave sensor inbuilt option
- Corridor function control option (only available on DALI/ DSI versions)
- Suitable for use on defined escape routes
- We offer a range of product support contracts to aid commissioning, reduce your maintenance costs, comply with legislative test requirements and increase the lifespan of your lighting equipment

Dimensions

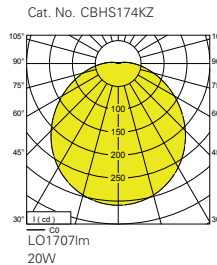


Variant	A (mm)	B (mm)
Small	125	350
Large	135	430

Specification

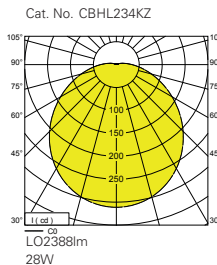
To specify state: Surface mounted luminaire, IP65 with polycarbonate lens and ABS construction body. White trim with 3 / 4 point closures. High efficiency LED and fully integrated emergency gear, as Eaton's Caius range, part no. _____

Photometric Data



Utilisation factors / TM5

Reflectances			Room Index								
C	W	F	0.75	1.0	1.25	1.5	2.0	2.5	3.0	4.0	5.0
70	50	20	56	64	71	77	84	88	92	96	100
70	30	20	49	56	64	69	77	82	86	92	95
70	10	20	43	51	58	64	71	77	82	88	92
50	50	20	54	62	68	73	80	84	87	92	94
50	30	20	47	55	62	67	74	79	83	88	91
50	10	20	42	50	57	62	69	75	79	84	88
30	50	20	52	59	66	70	76	80	83	87	90
30	30	20	46	53	60	65	71	76	79	84	87
30	10	20	42	49	55	60	67	72	76	81	84
0	0	0	39	46	52	57	63	68	71	76	79
BZ-class			5	5	5	5	5	5	5	5	5



Utilisation factors / TM5

Reflectances			Room Index								
C	W	F	0.75	1.0	1.25	1.5	2.0	2.5	3.0	4.0	5.0
70	50	20	56	64	71	77	84	88	92	96	100
70	30	20	48	56	64	69	77	82	86	92	95
70	10	20	43	50	58	63	71	77	82	88	92
50	50	20	54	62	68	73	80	84	87	92	94
50	30	20	47	55	62	67	74	79	83	88	91
50	10	20	42	49	57	62	69	75	79	84	88
30	50	20	52	59	66	70	76	80	83	87	90
30	30	20	46	53	60	65	71	76	79	84	87
30	10	20	42	49	55	60	67	72	76	81	85
0	0	0	39	46	52	57	63	68	71	76	79
BZ-class			5	5	5	5	5	5	5	5	5



Captive diffuser and LED board for ease of installation

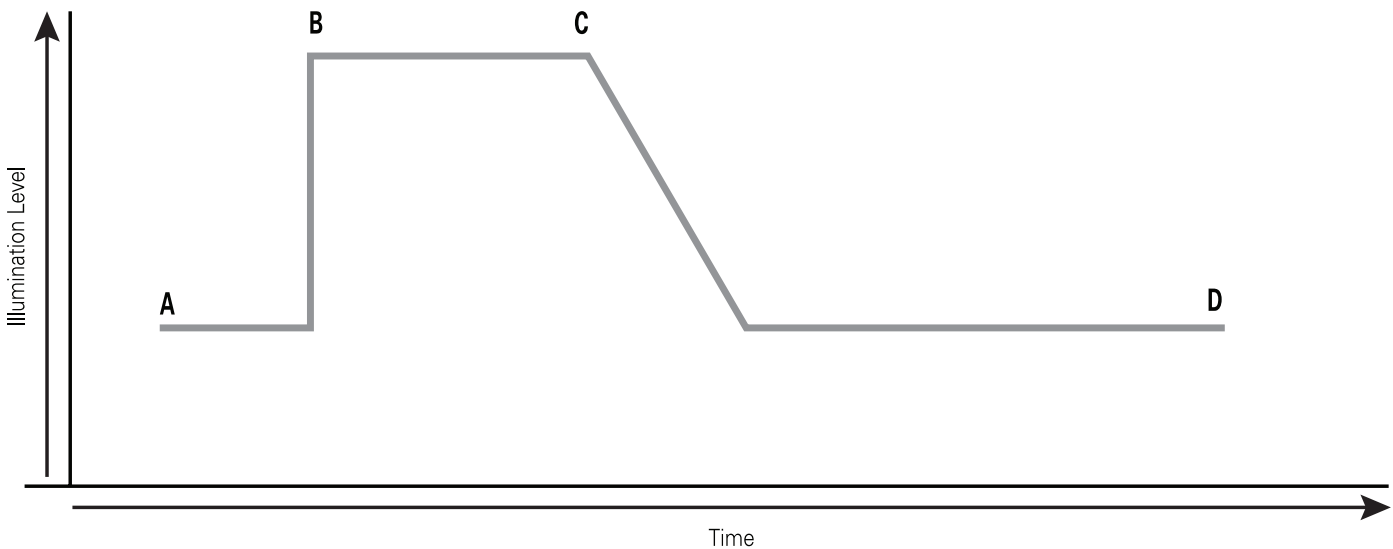
General purpose industrial

Caius

Corridor function

Caius is available with a DALI/ DSI corridor function option for applications where comfort, wayfinding and safety are considerations. Typically used in transit areas, corridor function allows the safe passage of people by utilizing local detection to switch products on rapidly either adjacent to detection, or in some cases ahead of the direction of movement. Caius can be used to trigger this by means of the optional built in Microwave detector or by linking to remotely mounted devices.

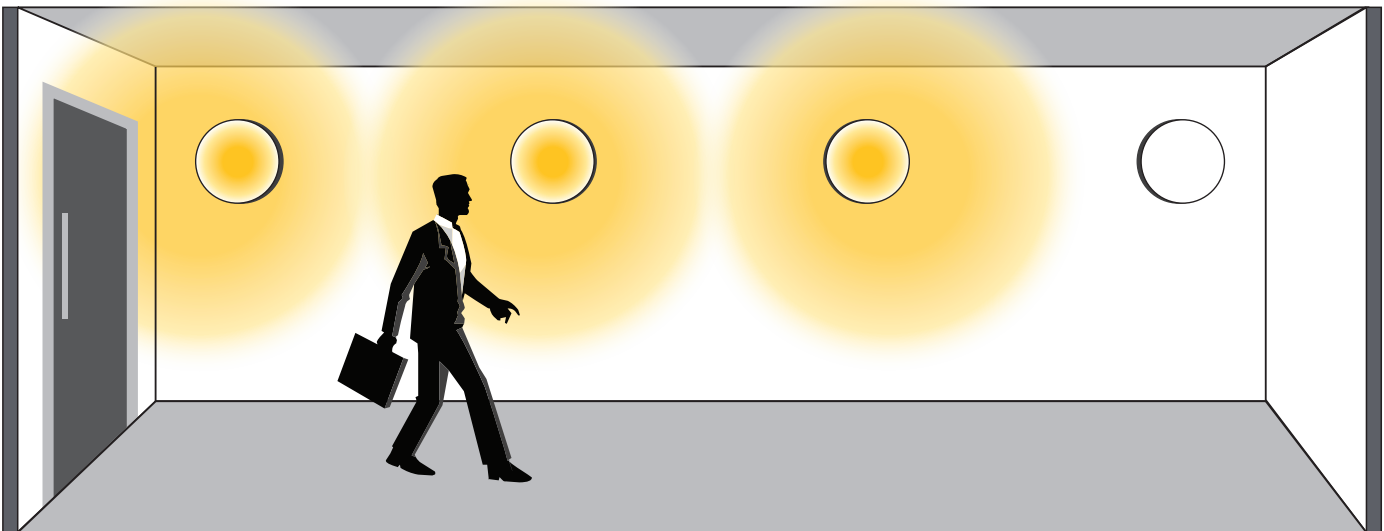
Operation



- A - Set-back illumination level - typically 10%
- B - Presence detected - rapid rise to full illuminance level
- C - Gradual dimming after presence no longer detected
- D - Set-back illumination level

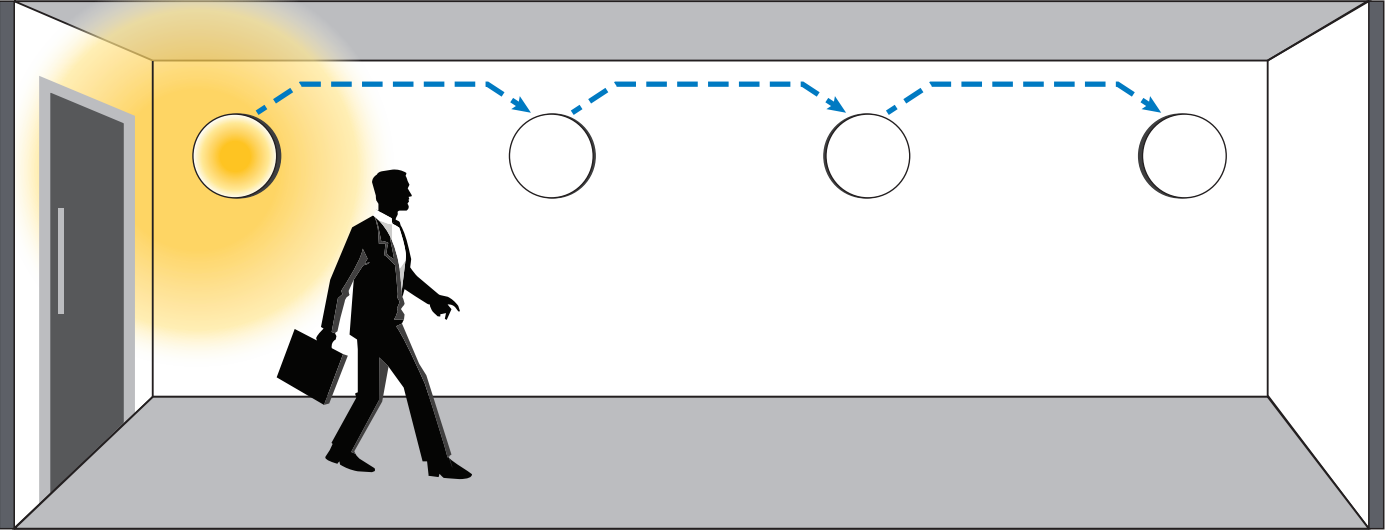
Corridor function - individual internal control

In this scenario, each luminaire is individually controlled and offers a 'pathway' effect as progress is made along a route. Gradual dimming takes place as the individual leaves the detection zone.



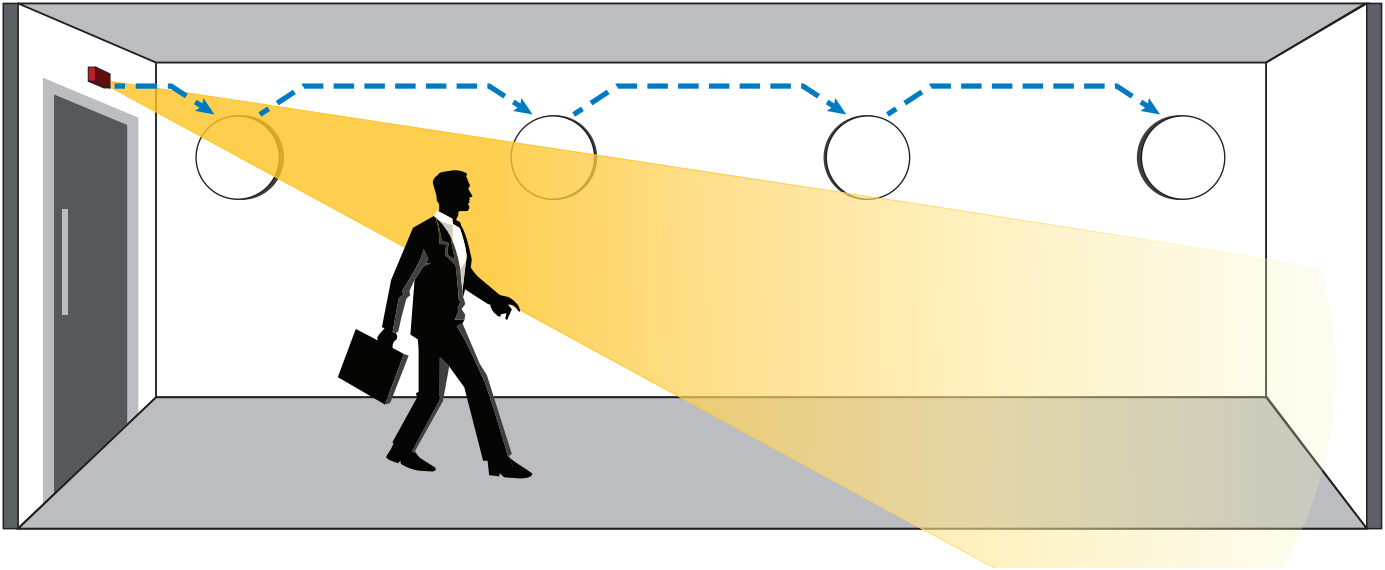
Corridor function – single internal microwave in master / slave configuration

In this scene, an individual luminaire operates as a master and other slaves are linked. All luminaires operate at the same time.



Corridor function – remote detection control

Remote device may also be used to control luminaires in corridor function. This may be appropriate where the detection position and luminaire position may not be the same.



Catalogue numbers

Variant	Cat No	Lumen Output	Wattage (W)	Llm/ cW	Weight (kg)	Em Cat No	Weight (kg)
Small	CBHS174KZ	1707	20	85.3	1.3	ELCBHS174KZ	2.2
Large	CBHL234KZ	2388	28	85.2	1.9	ELCBHL234KZ	2.8

For DALI Dimming option replace character **Z** with **DD**, e.g. CBHS174KZ becomes CBHS174KDD

Emergency versions also available with automatic test functionality, e.g. EasiCheck 2

For corridor function, add the suffix **CO**, e.g. CBHS174KDD becomes CBHS174KDDCO

Note - corridor function is only available as an option on DALI products, not on HF variants



Floodlight and exterior

Champ PFM/NPFM



Champ® Pro PFM/NPFM Series Floodlights are designed to provide full-spectrum, crisp, white light. Eight versions of the Champ PFM/NPFM LED are available, providing ideal solutions for a wide range of applications.

- Instant illumination and restrike
- Wide temperature range from -40 °C up to +65 °C (depending on model)
- Redundancy in drivers with multiple series circuits connected to each driver to avoid complete loss of illumination
- Energy-efficient technology with up to 112 lm/W - up to 65 % energy savings over HID fixtures
- Contains no mercury or other hazardous substances
- Shock- and vibration-resistant solid-state luminaires have no filaments or glass components that could break - greatly reduces the risk of premature failure

Lamp options

- High power LED 28 W - 531 W, power factor $\cos \varphi > 0.9$
- Rated voltage: 100 - 277 V AC (NPFM 120 - 277 V AC), 108 - 250 V DC
- 5000 K / Ra 70; 3000 K / Ra 80 on request
- Rated luminous flux 3189 lm - 53890 lm
- 2 types of light distribution
- Lifetime 150,000 h at $t_a = +25^\circ\text{C}$ / 50,000 h at $t_a = +65^\circ\text{C}$ (NPFM 60,000 h at $t_a = +55^\circ\text{C}$)

Enclosure

- Housing - light alloy with powder coating, grey
- Protective cover: borosilicate glass, Opaque cover and cover in polycarbonate on request
- Degree of protection IP66
- Permissible ambient temperature from -40°C up to $+65^\circ\text{C}$ (NPFM -40°C up to $+55^\circ\text{C}$)

Installation notes

- Compact enclosure for difficult installations
- Easy installation by swivel bracket
- Full-frame yoke - designed to utilise the SFA6 slipfitter and SWB6 wall mount bracket, making it ideal to retrofit or new installations

Specification

To specify state: High performance multi die LED floodlights, powder-coated aluminium housing, 8 types from 28 W up to 531 W, zero maintenance and reduced energy consumption, part no. _____



Technical data

	PFM 3L - 13L	NPFM 25L	NPFM 50L
Permissible ambient temperature	-40°C up to $+65^\circ\text{C}$	-40°C up to $+55^\circ\text{C}$	-40°C up to $+55^\circ\text{C}$
Lifetime fixtures	50,000 h at $t_a = +55^\circ\text{C}$ / 150,000 h at $t_a = +25^\circ\text{C}$	60,000 h at $t_a = +40^\circ\text{C}$ 100,000 h at $t_a = +25^\circ\text{C}$	60,000 h at $t_a = +40^\circ\text{C}$ 100,000 h at $t_a = +25^\circ\text{C}$
Rated voltage	100 - 277 V AC / 108 - 250 V DC	120 - 277 V AC 127 - 250 V DC	120 - 277 V AC 127 - 250 V DC
Frequency	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz
Power factor $\cos \varphi$	≥ 0.9	> 0.9	> 0.9
Circuit	Electronic driver	Electronic driver	Electronic driver
Protection class	I	I	I
Lamp / Illuminant	LED system 28 - 112 W	LED system 263 W	LED system 531 W
Light colour / CR	5000 K / R_a 70; 3000 K / R_a 80 on request	5000 K / R_a 70	5000 K / R_a 70
Optic	Wide-angle (narrow-angle on request)	Wide-angle (narrow-angle on request)	Wide-angle (narrow-angle on request)
Dimensions (L x W x H)	394 x 178 x 305 mm	533 x 204 x 406 mm	533 x 204 x 825 mm
Terminals	L, N and PE; 2 x 4 mm ²	L, N and PE; 2 x 4 mm ²	L, N and PE; 2 x 4 mm ²
Enclosure colour	Grey	Grey	Grey
Enclosure material	Light alloy with powder coating	Light alloy with powder coating	Light alloy with powder coating
Weight	13.9 kg (PFM3L - PFM7L) / 14.5 kg (PFM9L - PFM13L)	23.6 kg	48.1 kg
Cable gland / gland plates / enclosure drilling	Thread 2 x M20 x 1.5, 1 x M20 plugged, or thread 2 x M25 x 1.5, 1 x M25 plugged ¹⁾	2 x M20 x 1.5, 1 x M20 plugged, or 2 x M25 x 1.5, 1 x M25 plugged ¹⁾	2 x M20 x 1.5, 1 x M20 plugged, or 2 x M25 x 1.5, 1 x M25 plugged ¹⁾
Type of mounting	Mounting bracket	Mounting bracket	Mounting bracket
Degree of protection accd. to EN 60529	IP66	IP66	IP66
Protective cover / protective bowl	Borosilicate glass ²⁾	Borosilicate glass ²⁾	Borosilicate glass ²⁾

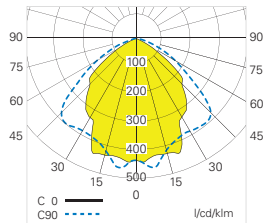
¹⁾ see ordering details ²⁾ Opaque cover and cover in polycarbonate on request

Floodlight and exterior

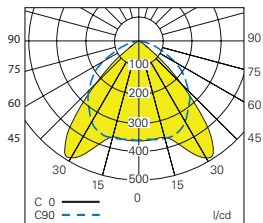
Champ PFM/NPFM

Photometric data

Polar curve PFM 3L - 13L

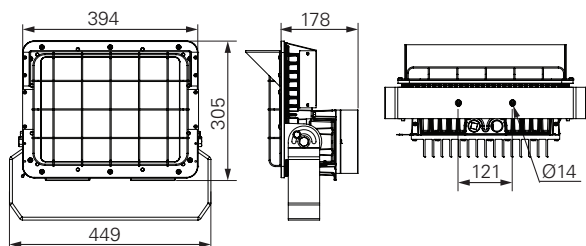


Polar curve NPFM 25L /50L

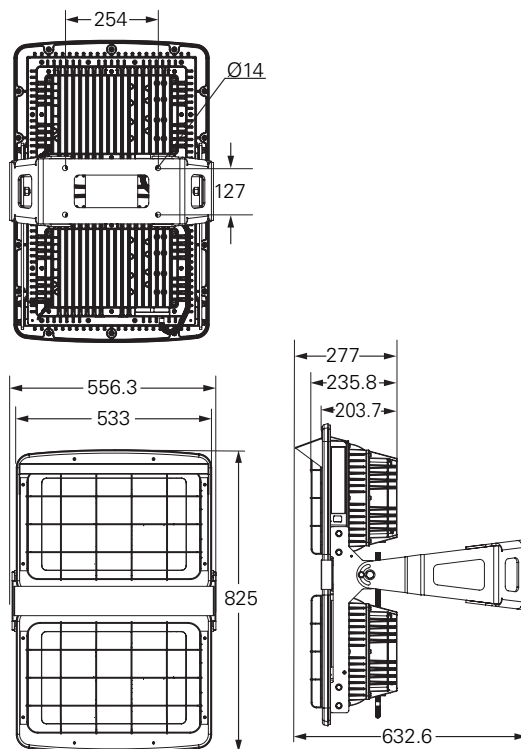


Dimensions

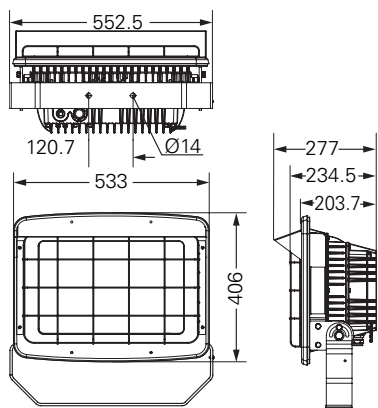
PFM 3L - 13L



NPFM 50L



NPFM 25L



Dimensions in mm

Weight and dimensions

PFM 3L bis PFM 7L

Dimensions (L x W x H)	394 x 178 x 305 mm
Weight	13.9 kg

PFM 9L bis PFM 13L

Dimensions (L x W x H)	394 x 178 x 305 mm
Weight	14.4 kg

NPFM 25L

Dimensions (L x W x H)	533 x 204 x 406 mm
Weight	23.6 kg

NPFM 50L

Dimensions (L x W x H)	553 x 204 x 825 mm
Weight	48.1 kg

Ordering details



Type	Lamp / illuminant	Rated luminous flux of the luminaire	Cable gland/thread	Screw plug	Order No.
PFM 3L - 13L LED					
PFM 3L CY/UNV1 76 M20	LED system 28 W ¹⁾	3,189 lm	2 x M20, metal thread	1 x M20	1 2565 533
PFM 5L CY/UNV1 76 M20	LED system 45 W ¹⁾	5,183 lm	2 x M20, metal thread	1 x M20	1 2565 534
PFM 7L CY/UNV1 76 M20	LED system 62 W ¹⁾	7,095 lm	2 x M20, metal thread	1 x M20	1 2565 536
PFM 9L CY/UNV1 76 M20	LED system 79 W ¹⁾	9,132 lm	2 x M20, metal thread	1 x M20	1 2565 537
PFM 11L CY/UNV1 76 M20	LED system 99 W ¹⁾	11,107 lm	2 x M20, metal thread	1 x M20	1 2565 538
PFM 13L CY/UNV1 76 M20	LED system 112 W ¹⁾	13,100 lm	2 x M20, metal thread	1 x M20	1 2565 539
PFM 3L CY/UNV1 76 M25	LED system 28 W ¹⁾	3,189 lm	2 x M25, metal thread	1 x M25	1 2565 540
PFM 5L CY/UNV1 76 M25	LED system 45 W ¹⁾	5,183 lm	2 x M25, metal thread	1 x M25	1 2565 541
PFM 7L CY/UNV1 76 M25	LED system 62 W ¹⁾	7,095 lm	2 x M25, metal thread	1 x M25	1 2565 542
PFM 9L CY/UNV1 76 M25	LED system 79 W ¹⁾	9,132 lm	2 x M25, metal thread	1 x M25	1 2565 543
PFM 11L CY/UNV1 76 M25	LED system 99 W ¹⁾	11,107 lm	2 x M25, metal thread	1 x M25	1 2565 544
PFM 13L CY/UNV1 76 M25	LED system 112 W ¹⁾	13,100 lm	2 x M25, metal thread	1 x M25	1 2564 387



NPFM 25L					
NPFM 25L CY/UNV1 76 M25	LED system 263 W ¹⁾	26,240 lm	2 x M25, metal thread, 1 x M25 cable gland Ø 10 - 16 mm	1 x M25	1 2433 691



NPFM 50L					
NPFM 50L CY/UNV1 76 M25	LED system 531 W ¹⁾	53,890 lm	2 x M25, metal thread, 1 x M25 cable gland Ø 10 - 16 mm	1 x M25	1 2442 808

¹⁾ Scope of delivery

Accessories



Type	Content	Part-No.	Order No.
SFA6	Slip fitter 2" for pole mounting	2049	3 2346 001 002

Metal cable glands see catalogue part 2: 2.3.12 ff
Further mounting accessories on request

Floodlight and exterior

Gladiator LED



The Gladiator LED luminaire offers an energy saving alternative to traditional light sources for amenity area and perimeter lighting applications. The twin multi-die LED arrays deliver a long 50,000 hour life and eliminate the need for lamp changes, minimising through life operating and maintenance costs, saving 39% in energy over an equivalent 42W CFL variant. The provision for automatic dusk to dawn operation via an optional photocell variant allows automatic security lighting whilst avoiding wasted energy during daylight hours.

The robust cast aluminium base and polycarbonate lens offer good impact resistance ideally suited to commercial applications. Installation is made easy with integrated features such as the side mount cable gland or rear BESA cable entry options.

- Low energy LED solution, 39% less energy consumed than typical 42W CFL equivalent product
- Long, 50,000 hour LED life to L70, typically 10-12 years commercial operation with no lamp changes can dramatically reduce maintenance costs
- Robust, die cast aluminium base with conduit entries provides rigid base ideal on uneven walls
- Attractive, curved profile, polycarbonate diffuser has high impact resistance, ideal for public spaces and commercial applications
- IP65 rated, dust tight and jet proof housing construction, ideal for exterior use and ease of cleaning
- Photocell option for dusk 'til dawn operation enables automatic safety/security illumination whilst preventing wasted energy during daylight hours
- The LED solution offers the benefit of instant white light, no run up delay and good visual acuity over HID lamp options

Lamp options

- 2 x multi-die LED arrays
- 5000K cool white
- 65CRI
- 700mA drive current, fixed output, >0.9pf LED driver

Materials

- Base - pressure die cast aluminium black finish
- Lens / cover - polycarbonate, self coloured black cover and clear prismatic optic section

Options

- Integral photocell option provides further energy saving through automatic dusk to dawn operation
- Add 'PC' suffix to the catalogue number for the photocell option
- Integral emergency conversion, 3 hour duration (Operates both LEDs in emergency mode)

Installation notes

- Suitable for wall mounting
- BESA entry features on back plate
- 20mm conduit entry on both sides for through wiring
- Fused terminal block with 2 x 2.5mm² cable capacity per termination
- Hinged diffuser secured by captive screws

Specification

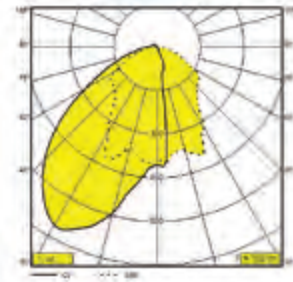
To specify state: Robust wall mounted LED area lighting luminaire, dust tight and water jet proof to IP65, with die cast aluminium base and polycarbonate lens / cover assembly including clear prismatic refractor and optional photocell as Eaton's Gladiator LED range, part no. _____

Catalogue numbers

Lamp Rating	Cat No	Weight (kg)
2 x 13W LED	GLR-2L-CW	1.7
2 x 13W LED	GLR-2L-CWPC	1.8
Emergency		
2 x 13W LED	EBGLR-2L-CW	2.1
2 x 13W LED	EBGLR-2L-CWPC	2.2

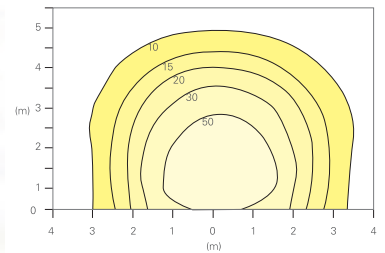
Photometric data

Cat No: GLR-2L-CW

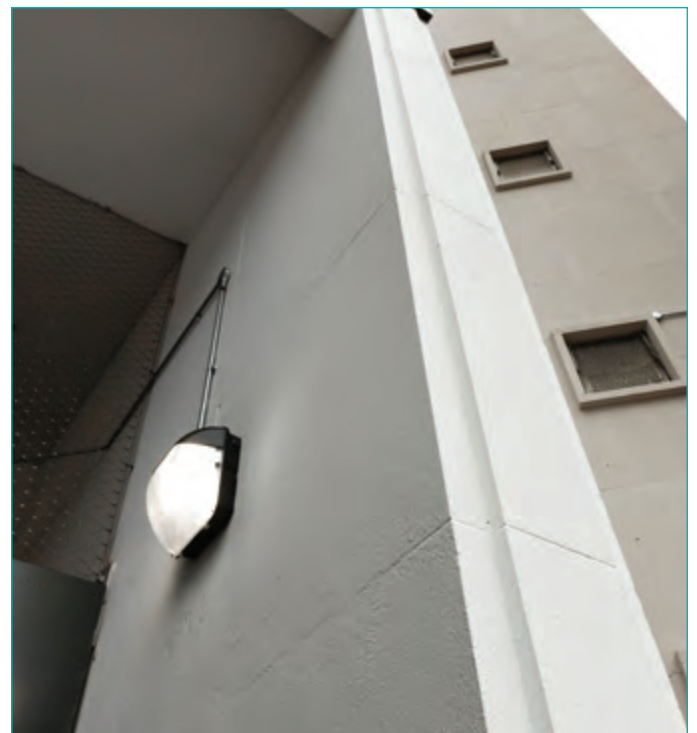
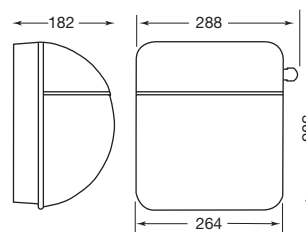


LOR: 1.00
ULOR: 0.04
DLOR: 0.96

Cat No: GLR-2L-CW mounted at 3m



Dimensions



Floodlight and exterior

Galaxy LED



Galaxy LED is a low energy solution to a varied range of applications. High efficiency is a key part of its appeal and with a wide range of outputs, is ideal in a multitude of applications.

Galaxy LED is rated to IP65, dust tight and low pressure water jet proof, with a robust die-cast aluminium body.

- High efficacy LED
- Die-cast aluminium construction for a long durable life
- IP65 dust tight and water jet proof for stay clean operation
- Inbuilt inclinometer aids aim and set up
- Outstanding optical performance reduces installed points
- Supplied with three core 1m flying lead
- 10W and 30W versions are available with integrated PIR as an option

LED options

- Five lumen packages
- >70 CRI
- L70 30,000 hours
- 5000°K cool white

Materials

- Body - Die-cast aluminium powder coated black
- Lens - Toughened glass
- Reflector - High purity, high reflectance, anodised aluminium
- Stirrup - Steel powder coated in black finish

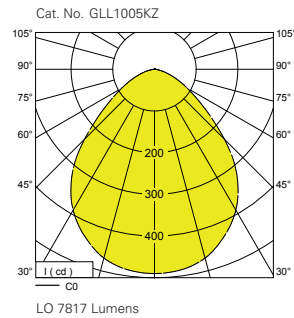
Installation notes

- Suitable for column, wall and floor mounting
- Stirrup bolts directly to vertical surface for area floodlighting or to floor for façade lighting
- 3 way
- Aimed by slackening side bolts and positioning angle using inclinometer on stirrup
- Front lens secured by latching clip
- Supplied complete with 1m 3 core 1mm² lead

Specification

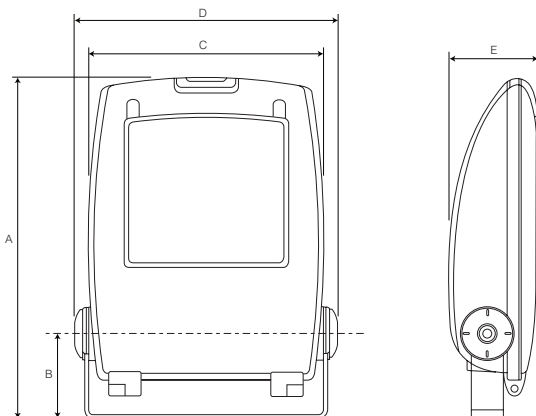
To specify state: Die cast aluminium floodlight, with symmetrical reflector and toughened safety glass. Finished in black paint finish and dust tight and water jet proof to IP65, as Eaton's Galaxy LED range, part no. _____

Photometric Data



Galaxy LED with PIR Sensor

Dimensions



	A	B	C	D	E
GLL105KZ (10W)	220	83	147	172	55
GLL105KZPIR (10W + PIR)	220	83	147	172	106
GLL305KZ (30W)	314	78	218	243	80
GLL305KZPIR (30W + PIR)	314	78	218	243	131
GLL505KZ (50W)	395	103	291	321	106
GLL1005KZ (100W)	456	119	336	380	112
GLL2005KZ (200W)	620	195	432	482	158

Catalogue numbers

Part No	With PIR	Lumen Output	Wattage	Llm/cW	Weight (kg)	Weight + PIR (kg)
GLL105KZ	GLL105KZPIR	838	11.85	70.70	1.10	1.22
GLL305KZ	GLL305KZPIR	2655	32.80	81.30	2.97	2.99
GLL505KZ	-	4410	51.50	85.50	5.21	-
GLL1005KZ	-	7817	101.40	77.10	7.32	-
GLL2005KZ	-	17495	220.00	79.30	14.08	-







LED Flood presents the market with a high performance revelation in exterior LED area lighting.

Up to five cool white 5000°K LED arrays are integrated into the robust die-cast aluminium housing, with the purpose designed reflector delivering a range of lumen packages to suit the application. The thermal mass and design of the housing provides excellent thermal management in conjunction with the appropriate drive current to maximise LED output and ensure a long operational life with minimal maintenance and eliminating the need for lamp changes.

LEDs also provide the benefit of instant white light with no restrike delay and reduced consumed energy over traditional HID lamps.

- Long, 50,000+ hour LED life to L70, typically 10-12 years commercial operation with no lamp changes can dramatically reduce maintenance costs
- Robust, die-cast aluminium base with adjustable fixing bracket to suit wall or column mount installations
- IP65 rated construction, ideal for exterior use and ease of cleaning

Floodlight and exterior

LED Flood

Lamp options

- Multi-die LED arrays
- 5000°K cool white
- 65 CRI
- 700mA drive current, fixed output, >0.9pf LED driver

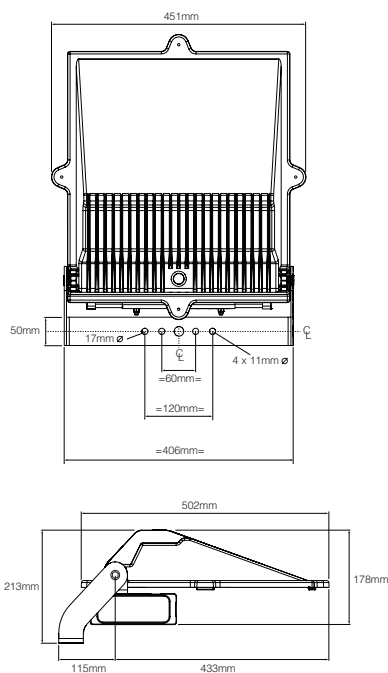
Materials

- Housing - Die cast aluminium in black textured powder coated finish
- Reflectors - High purity, high reflectance, anodised aluminium
- Lens - Toughened glass
- Mounting Bracket - Heavy gauge steel in black textured powder coat finish
- IP65 Gearbox - Anodised aluminium

Installation notes

- Supplied with mounting bracket suitable for vertical or horizontal surfaces and column mounting
- Gearbox is direct mounted to the luminaire head

Dimensions



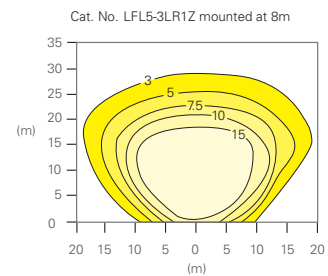
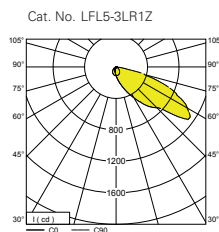
Options

- Photocell option for dusk 'til dawn operation enables automatic safety/security illumination whilst preventing wasted energy during daylight hours (to special order)
- Dimming control gear can provide further energy saving for appropriate applications
- Remote gearbox option allows low level or interior installation of the control gear (to special order)

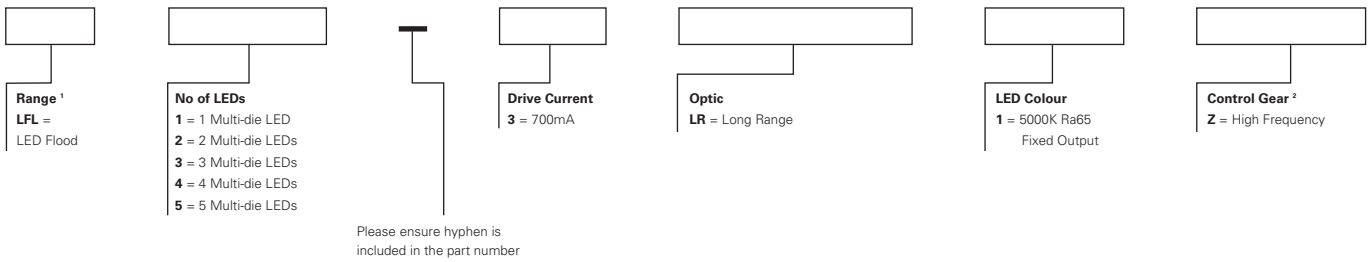
Specification

To specify state: High performance multi die LED Floodlight, die-cast aluminium housing, anti-light pollution low glare floodlight, with asymmetric reflector, finished in textured black with close coupled control gear enclosure as Eaton's LED Flood range, part no. _____

Photometric data



Catalogue numbers



Notes

1 All standard luminaires are IP65 rated with close coupled gear box

2 Dimmable options to special order

- Remote gear box to special order
- Photocell option to special order

Part No.	Lumen Output	Wattage	Llm/cW	Weight (kg)
LFL1-3LR1Z	3155	39	75.98	8.0
LFL2-3LR1Z	6218	83	79.92	8.5
LFL3-3LR1Z	9327	124	79.92	8.5
LFL4-3LR1Z	12436	166	79.92	9.5
LFL5-3LR1Z	15546	194	79.92	9.5



With the advancement in our industry-leading AccuLED Optics™ system, the next generation Navion LED area, site and roadway luminaire offers an expanded selection of optical distributions to provide the configurability and superior performance required for outdoor applications.

The Navion luminaire provides uniform, glare-free, energy-efficient light for commercial, industrial and municipal parking lots as well as roadway applications. UL/cUL listed for wet locations, IP66 enclosure rating available.

The five housing configurations of the Navion luminaire allow scalability from 2,582 to 33,732 delivered lumens.

- 16 optical distributions available
- Standard 4000K CCT with a minimum 70 CRI
- Tool-less entry; hinged removable power door for easy maintenance
- Rugged die-cast aluminum construction
- IP66-rated LED light squares
- Operating temperature range of -40°C to 40°C
- 3G vibration rated
- 60,000+ hour rated life
- Dimming occupancy sensor (optional)
- House side shield (optional)

Configuration flexibility

The Navion luminaire is built around LED technology and designed to accommodate ongoing improvements in LED chips and drivers, making it the ideal solution for both current and future lighting requirements.

The Navion luminaire is offered in 16 optical packages to meet the exact needs of the illuminated area.



Lamp options

- 4000°K warm white, 70 CRI as standard
- Optional 6000K CCT and 3000K CCT
- >0.9pf LED driver

Materials

- Extruded aluminum heat sink scaled to lumen package
- Rugged, die-cast aluminum housing
- Housing finished in super durable TGIC polyester powder coat paint, 2.5mm nominal thickness for superior protection against fade and wear.

Installation notes

- Four-bolt/two-bracket slipfitter with cast-in pipe stop and built-in incremental 2.5° leveling steps are standard.
- Fixed-in-place bird guard seals around 1-1/4" or 2" mounting arms.
- Tool-less entry, hinged removable power tray door for easy maintenance.

Performance

Lumen Multiplier

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

Lumen Maintenance

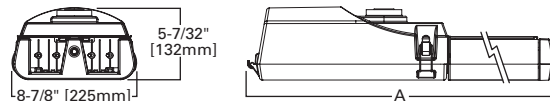
Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Theoretical L70 (Hours)
25°C	> 94%	> 350,000
40°C	> 93%	> 250,000
50°C	> 90%	> 170,000

Power Consumption (Watts)

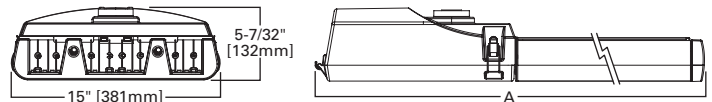
Number of Light Squares	Drive Current		
	530mA	700mA	1A
1	30	38	56
2	54	72	107
3	80	105	157
4	105	138	213
6	159	210	315

Dimensions

1, 2 or 3 Light Squares

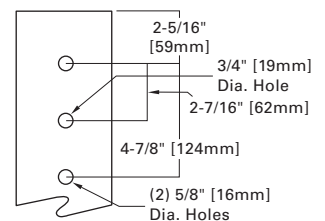


4 or 6 Light Squares

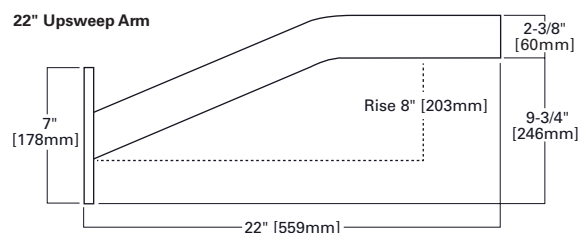


Number of Light Squares	"A" Length
1	21-1/2" (546mm)
2	27-5/8" (701mm)
3	33-5/8" (854mm)
4	27-5/8" (704mm)
6	33-5/8" (854mm)

Arm Drilling Type "M"

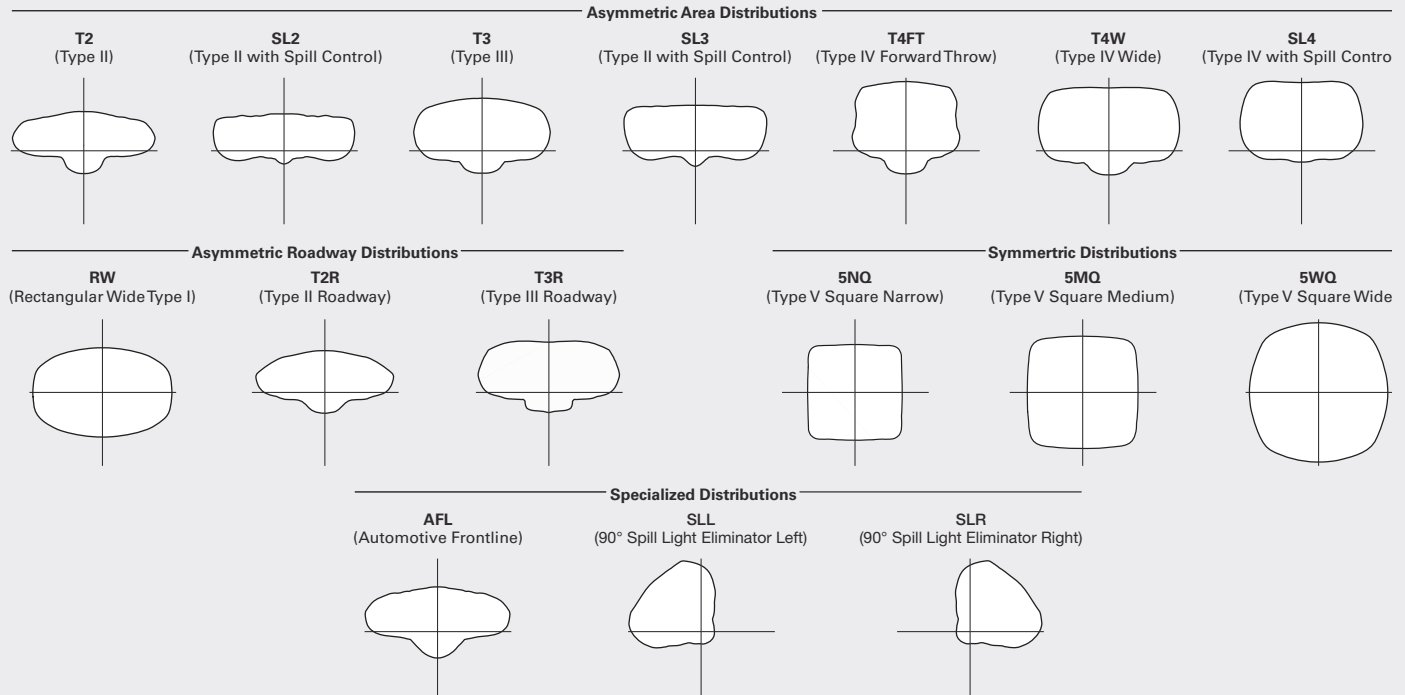


Optional Arm



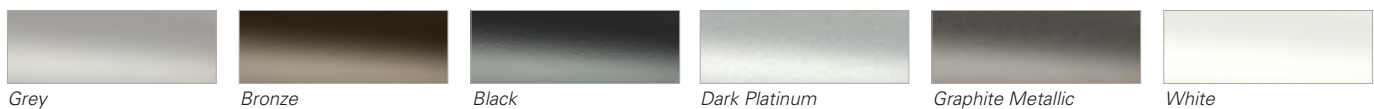
Optical distributions

The Navion luminaire has a choice of seven asymmetric area, three asymmetric roadway, three symmetric and three specialized distributions.



Finish

Five-stage super TGIC paint resists extreme weather conditions while providing optimal color and gloss retention. It's available in standard grey or optional bronze, black, dark platinum, graphite metallic or white.



Optional features



Occupancy Sensor
The optional motion sensor reduces energy use for site lighting applications.



IP66 Rating
Housing is available with IP66 rating for dust and water.

Catalogue numbers

Add '-CE' suffix to order CE marked versions. Sample number: NAV-AE-01-E-UNV-T3-10K-AI-AP-CE

Product Family ¹	Light Engine	Number of Light Squares ²	Driver	Voltage	Distribution	Surge Protection
NAV=Navion	AE=1A Drive Current	01=1 02=2 03=3 04=4 06=6	E=Non-Dimming D=Dimming	UNV=Universal 120-277V 347=347V 480=480V ³	T2=Type II T2R=Type II Roadway T3=Type III T3R=Type III Roadway T4FT=Type IV Forward Throw T4W=Type IV Wide 5NQ=Type V Narrow 5MQ=Type V Square Medium 5WQ=Type V Square Wide SL2=Type II w/Spill Control SL3=Type III w/Spill Control SL4=Type IV w/Spill Control SLL=90° Spill Light Eliminator Left	SLR=90° Spill Light Eliminator Right RW=Rectangular Wide Type I AFL=Automotive Front Line SL2=Type II w/Spill Control SL3=Type III w/Spill Control SL4=Type IV w/Spill Control SLL=90° Spill Light Eliminator Left SLR=90° Spill Light Eliminator Right RW=Rectangular Wide Type I AFL=Automotive Frontline

Options (Add as Suffix)	Color
2L=Two Circuits ⁵ 7030=70 CRI / 3000K ⁶ 7060=70 CRI / 6000K ⁶ 530= Drive Current Factory Set to 530mA ⁷ 700= Drive Current Factory Set to 700mA ⁷ IP66=IP66 Rated HA=50°C High Ambient L90=Optics Rotated 90° Left R90=Optics Rotated 90° Right CE=CE Marking ⁹	AP=Grey (Standard) BZ=Bronze BK=Black DP=Dark Platinum GM=Graphite Metallic WH=White

Accessories (Order Separately)		
OA1223=10kV Surge Module Replacement OA/RA1013=Photocontrol Shorting Cap OA/RA1014=NEMA Photocontrol - 120V OA/RA1016= NEMA Photocontrol - Multi-Tap OA/RA1027= NEMA Photocontrol - 480V OA/RA1201=NEMA Photocontrol - 347V MA1010-XX=Single Tenon Adapter for 3-1/2" O.D. Tenon	MA1011-XX=2@180° Tenon Adapter for 3-1/2" O.D. Tenon MA1012-XX=3@120° Tenon Adaptor for 3-1/2" O.D. Tenon MA1013-XX=4@90° Tenon Adapter for 3-1/2" O.D. Tenon MA1014-XX=2@90° Tenon Adapter for 3-1/2" O.D. Tenon MA1015-XX=2@120° Tenon Adapter for 3-1/2" O.D. Tenon MA1016-XX=3@90° Tenon Adapter for 3-1/2" O.D. Tenon MA1017-XX=Single Tenon Adapter for 2-3/8" O.D. Tenon	MA1018-XX=2@180° Tenon Adapter for 2-3/8" O.D. Tenon MA1019-XX=3@120° Tenon Adapter for 2-3/8" O.D. Tenon MA1045-XX=4@90° Tenon Adapter for 2-3/8" O.D. Tenon MA1048-XX=2@90° Tenon Adapter for 2-3/8" O.D. Tenon MA1049-XX=3@90° Tenon Adapter for 2-3/8" O.D. Tenon FSIR-100=Wireless Configuration Tool for Motion Sensor 16 LS/HSS=Field Installed House Side Shield 17 A15=15" Straight Arm 18

Notes:

- DesignLights Consortium™ Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
- Standard 4000K CCT and minimum 70 CRI.
- Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
- Consult factory for driver surge protection values.
- Low-level output varies by number of light squares specified. Consult factory. 2L is not available with MS/X, MS/DIM, DIMRF-LW or DIMRF-LN in combination with 347V or 480V. 2L is available in 4 and 6 light square configurations. No terminal block with 2L options.
- Use dedicated IES files for 3000K and 6000K when performing layouts. These files are published on the Navion luminaire product page on the website.
- 1 Amp standard. Use dedicated IES files for 530mA and 700mA when performing layouts. These files are published on the Navion luminaire product page on the website.
- Only available with dimming driver.
- CE is not available with the DIMRF, MS, MS/X, MS/DIM, PER or PER7 options. Available in 120-277V only.
- Sensor mounted externally. Must specify dimming driver. Consult factory for more information.
- Sensor mounted externally. Available in 4 or 6 light square configurations. Replace "X" with number of squares in low output mode. For ON/OFF operation, replace "X" with "0". Maximum two squares in low output mode. Not available with dimming driver. No terminal block with ON/OFF sensor.
- 22" upsweep arm. Round pole adapter and mounting hardware included, "M" drill pattern.
- Round pole adapter and mounting hardware included, "M" drill pattern.
- Only for use with SL2, SL3, SL4 and AFL distributions. The light square trim plate is painted black when the HSS option is selected.
- LumaWatt wireless sensors are factory installed only requiring network components RF-EM-1, RF-GW-1 and RF-ROUT-1 in appropriate quantities. See www.eaton.com/lighting for LumaWatt application information. Not available with PER7, PER, FADC or 2L options.
- This tool enables adjustment of parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Eaton for more information.
- One required for each light square.
- Replace XX with paint color.



Floodlight and exterior

Galleon™ LED



The Galleon™ LED luminaire delivers a new level of performance and versatility for commercial area, site and roadway applications. Incorporating industry-leading, patented optics, the Galleon LED luminaire offers a choice of 16 specialized optical distributions that deliver superior control and maximize light levels.

With a choice of 30 lumen packages, the Galleon LED luminaire allows scalability from 3,000 to over 53,000 delivered lumens. The 4000K/70 CRI is standard, with 6000K/70 CRI and 3000K/70 CRI options available.

In addition to delivering superior performance, the Galleon LED luminaire is designed for low maintenance, long life and low cost of ownership. The LED components and fixture housing are IP66 rated, which provides years of reliable operation with minimal service requirements.

- Choice of 16 high-efficiency, patented AccuLED Optics™
- L90, 60,000 hours at 40°C (per IESNA TM-21)
- Standard in 4000K CCT and min 70 CRI, optional 3000K and 6000K
- 40°C to 40°C operating range, optional 50°C high ambient
- 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation
- IP66 rated housing and LED light squares
- 3G vibration rated
- Pole, mast-arm or wall-mounted configurations
- Five-year warranty

Configuration flexibility

The Galleon LED luminaire is available in one to 10 Light Squares. As the number of Light Squares increases, the luminaire width increases proportionally.



Lamp options

- 4000°K warm white, 70 CRI as standard
- Optional 6000K CCT and 3000K CCT
- >0.9pf LED driver

Materials

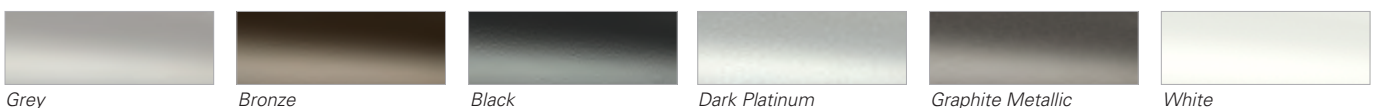
- Extruded aluminum driver enclosure
- Heavy-wall die-cast aluminum end caps
- Housing finished in super durable TGIC polyester powder coat paint, 2.5mm nominal thickness for superior protection against fade and wear.

Installation notes

- Extruded aluminum arm includes internal bolt guides allowing for easy positioning of fixture during assembly
- Designed for pole or wall mounting
- When mounting two or more luminaires at 90° or 120° apart, the EA extended arm may be required
- Round pole top adapter included
- For wall mounting, specify wall mount bracket option

Finish

Five-stage super TGIC paint resists extreme weather conditions while providing optimal color and gloss retention. It's available in standard grey or optional bronze, black, dark platinum, graphite metallic or white.



Performance

Lumen Multiplier

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

Lumen Maintenance

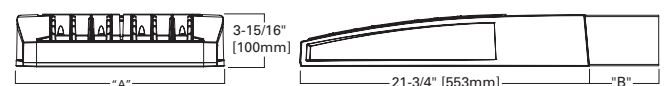
Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Theoretical L70 (Hours)
25°C	> 94%	> 350,000
40°C	> 93%	> 250,000
50°C	> 90%	> 170,000

Power consumption (watts)

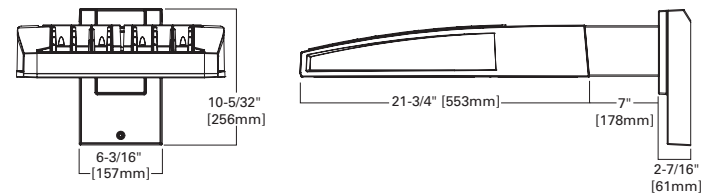
Number of Light Squares	Drive Current		
	530mA	700mA	1A
1	30	38	56
2	54	72	107
3	80	105	157
4	105	138	213
5	130	176	264
6	159	210	315
7	184	243	370
8	209	276	421
9	234	314	475
10	259	348	528

Dimensions

Pole Mount



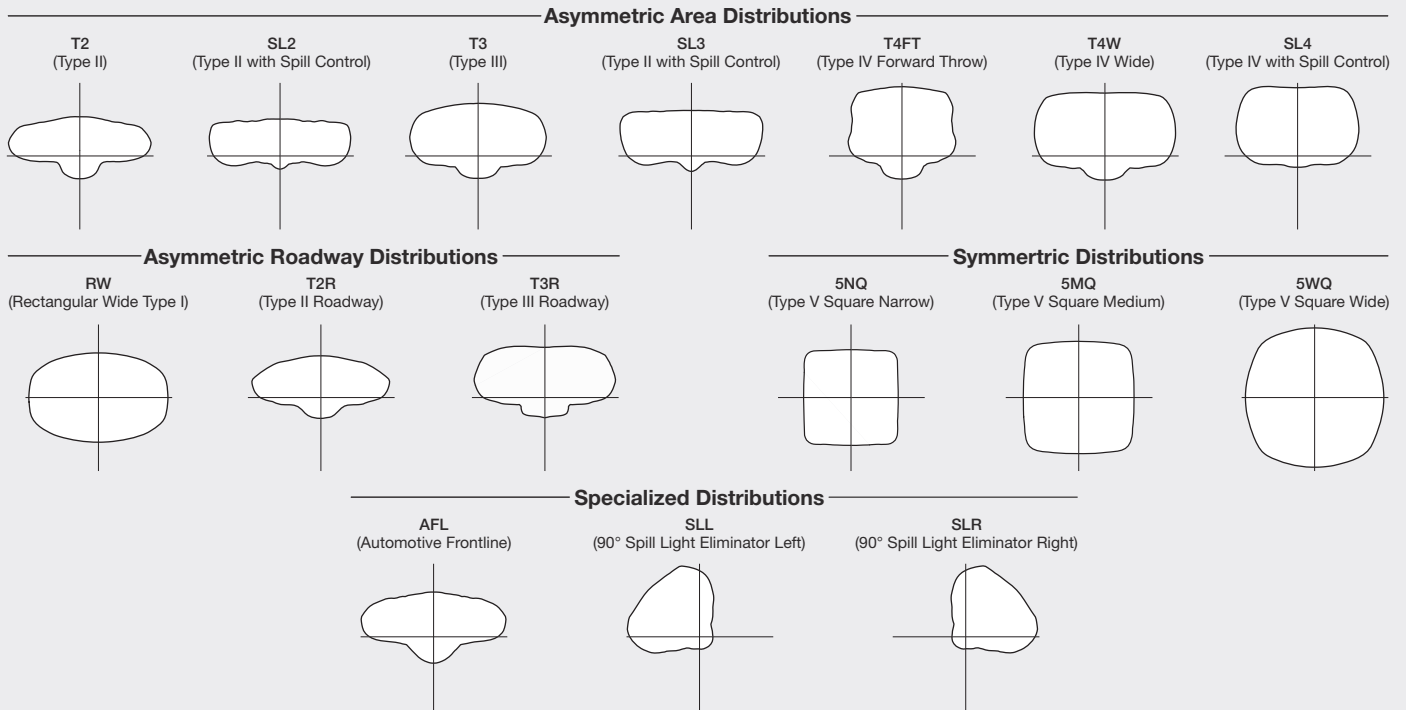
Wall Mount



Number of Light Squares	"A" Width	"B" Standard Arm Length	"B" Optional Arm Length 1	Approximate Weight
1-4	394mm	178mm	254mm	15kg
5-6	549mm	178mm	254mm	20kg
7-8	702mm	178mm	330mm	24.5kg
9-10	857mm	178mm	406mm	28.6kg

Optical distributions

The Galleon LED luminaire has a choice of seven asymmetric area, three asymmetric roadway, three symmetric and three specialized distributions.

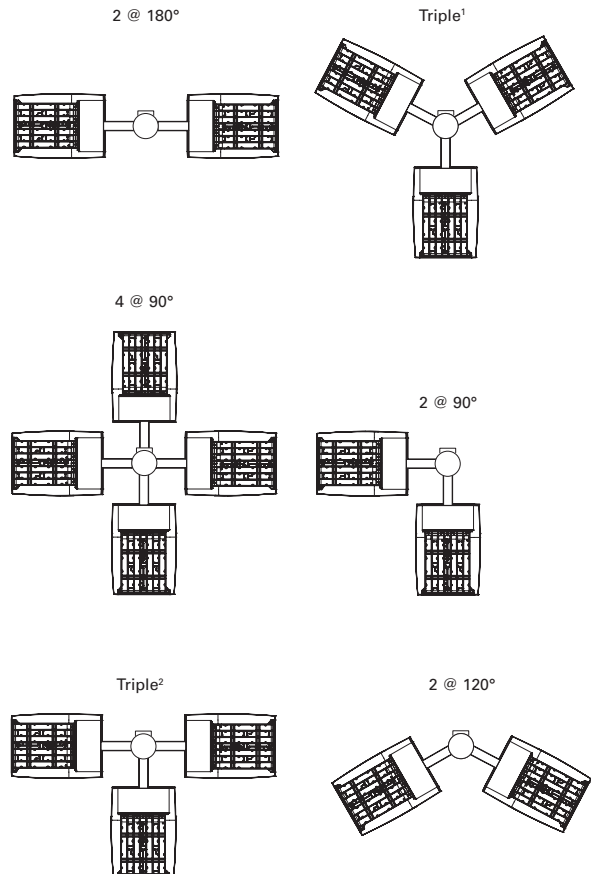


Pole Mounting Configurations

The standard Galleon LED luminaire configuration is designed to mount to a round or square pole. When mounting two or more fixtures at 90° or 120° apart, a longer Extended Arm (EA) may be required. Please reference the table below to determine when the Extended Arm is required and designate "EA" in the catalog logic.

Arm Mounting Requirements

Configuration	90° Apart	120° Apart
GLEON-AE-01	7" Arm (Standard)	7" Arm (Standard)
GLEON-AE-02	7" Arm (Standard)	7" Arm (Standard)
GLEON-AE-03	7" Arm (Standard)	7" Arm (Standard)
GLEON-AE-04	7" Arm (Standard)	7" Arm (Standard)
GLEON-AE-05	10" Extended Arm (Required)	7" Arm (Standard)
GLEON-AE-06	10" Extended Arm (Required)	7" Arm (Standard)
GLEON-AE-07	13" Extended Arm (Required)	13" Extended Arm (Required)
GLEON-AE-08	13" Extended Arm (Required)	13" Extended Arm (Required)
GLEON-AE-09	16" Extended Arm (Required)	16" Extended Arm (Required)
GLEON-AE-10	16" Extended Arm (Required)	16" Extended Arm (Required)



NOTES: 1. Round poles are 3 @ 120°. Square poles are 3 @ 90°. 2. Round poles are 3 @ 90°.

Catalogue numbers

Add 'CE' suffix to order CE marked versions. Sample number: GLEON-AE-04-LED-E1-T3-GM-700-CE

Product Family ¹	Light Engine	Number of Light Squares ²	Lamp Type	Voltage	Distribution	Color	Mounting
GLEON=Galleon	AE=1A Drive Current	01=1 02=2 03=3 04=4 05=5 06=6 07=7 08=8 09=9 10=10	LED=Solid State Light Emitting Diodes	E1=120-277V 347=347V ³ 480=480V ^{3,4}	T2=Type II T2R=Type II Roadway T3=Type III T3R=Type III Roadway T4FT=Type IV Forward Throw T4W=Type IV Wide 5NQ=Type V Narrow 5MQ=Type V Square Medium 5WQ=Type V Square Wide SL2=Type II w/Spill Control SL3=Type III w/Spill Control SL4=Type IV w/Spill Control SLL=90° Spill Light Eliminator Left SLR=90° Spill Light Eliminator Right RW=Rectangular Wide Type I AFL=Automotive Frontline	AP=Grey BZ=Bronze BK=Black DP=Dark Platinum GM=Graphite Metallic WH=White	[Blank]=Arm for Round or Square Pole EA=Extended Arm 5 MA=Mast Arm Adapter 6 WM=Wall Mount

Options (Add as Suffix)

2L=Two Circuits ^{2,8}
 7030=70 CRI 3000K ⁹
 8030=80 CRI 3000K ¹⁰
 7050=70 CRI 5000K ¹⁰
 7060=70 CRI 6000K ⁹
 530=Drive Current Factory Set to 530mA ¹¹
 700=Drive Current Factory Set to 700mA ¹¹
 HA=50°C High Ambient ^{8,12}
 L90=Optics Rotated 90° Left
 R90=Optics Rotated 90° Right
 MT=Factory Installed Mesh Top
 TH=Tool-less Door Hardware
 LCF=Light Square Trim Plate Painted to Match Housing ²³
 HSS=Factory Installed House Side Shield ²⁴
 CE=CE Marking ²⁵

Accessories (Order Separately)

OA/RA1016=NEMA Photocontrol Multi-Tap - 105-285V
 OA/RA1027=NEMA Photocontrol - 480V
 OA/RA1201=NEMA Photocontrol - 347V
 OA/RA1013=Photocontrol Shorting Cap OA/RA1014=120V Photocontrol
 MA1252=10kV Surge Module Replacement
 MA1036-XX=Single Tenon Adapter for 2-3/8" O.D. Tenon
 MA1037-XX=2@180° Tenon Adapter for 2-3/8" O.D. Tenon
 MA1197-XX=3@120° Tenon Adapter for 2-3/8" O.D. Tenon
 MA1188-XX=4@90° Tenon Adapter for 2-3/8" O.D. Tenon
 MA1189-XX=2@90° Tenon Adapter for 2-3/8" O.D. Tenon
 MA1190-XX=3@90° Tenon Adapter for 2-3/8" O.D. Tenon
 MA1191-XX=2@120° Tenon Adapter for 2-3/8" O.D. Tenon
 MA1038-XX=Single Tenon Adapter for 3-1/2" O.D. Tenon
 MA1039-XX=2@180° Tenon Adapter for 3-1/2" O.D. Tenon
 MA1192-XX=3@120° Tenon Adapter for 3-1/2" O.D. Tenon
 MA1193-XX=4@90° Tenon Adapter for 3-1/2" O.D. Tenon
 MA1194-XX=2@90° Tenon Adapter for 3-1/2" O.D. Tenon
 MA1195-XX=3@90° Tenon Adapter for 3-1/2" O.D. Tenon
 FSIR-100=Wireless Configuration Tool for Occupancy Sensor ²⁶
 GLEON-MT1=Field Installed Mesh Top for 1-4 Light Squares
 GLEON-MT2=Field Installed Mesh Top for 5-6 Light Squares
 GLEON-MT3=Field Installed Mesh Top for 7-8 Light Squares
 GLEON-MT4=Field Installed Mesh Top for 9-10 Light Squares
 LS/HSS=Field Installed House Side Shield ^{24,27}

1. DesignLights Consortium™ Qualifi ed. Refer to www.designlights.org Qualifi ed Products List under Family Models for details.
2. Standard 4000K CCT and minimum 70 CRI.
3. Requires the use of a step down transformer when combined with MS/DIM, MS/X or DIMRF.
4. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
5. May be required when two or more luminaires are oriented on a 90° or 120° drilling pattern. Refer to arm mounting requirement table.
6. Factory installed.
7. 2L is not available with MS, MS/X or MS/DIM at 347V or 480V. 2L in AE-02 through AE-04 requires a larger housing, normally used for AE-05 or AE-06. Extended arm option may be required when mounting two or more fixtures per pole at 90° or 120°. Refer to arm mounting requirement table.
8. Not available with LumaWatt wireless sensors.
9. Extended lead times apply. Use dedicated IES files for 3000K and 6000K when performing layouts. These files are published on the Galleon luminaire product page on the website.
10. Extended lead times apply. For 8030, factor 7030 IES files x .92 (8% lumen loss). For 7050, use 7060 IES files.
11. 1 Amp standard. Use dedicated IES files for 530mA and 700mA when performing layouts. These files are published on the Galleon luminaire product page on the website.
12. 50°C lumen maintenance data applies to 530mA and 700mA drive currents.
13. Consult factory for more information.
14. Utilizes internal step down transformer when 347V or 480V is selected.
15. The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Eaton for more information.
16. Not available with HA option.
17. Approximately 22' detection diameter at 8' mounting height.
18. Approximately 40' detection diameter at 20' mounting height.
19. Approximately 60' detection diameter at 40' mounting height.
20. Approximately 100' detection diameter at 40' mounting height.
21. Replace X with number of Light Squares operating in low output mode.
22. LumaWatt wireless sensors are factory installed only requiring network components RF-EM-1, RF-GW-1 and RF-ROUT-1 in appropriate quantities. See www.eaton.com/lighting for LumaWatt application information.
23. Not available with house side shield (HSS).
24. Only for use with SL2, SL3, SL4 and AFL distributions. The Light Square trim plate is painted black when the HSS option is selected.
25. CE is not available with the DIMRF, MS, MS/X, MS/DIM, P, R or PER7 options. Available in 120-277V only.
26. This tool enables adjustment of parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Eaton for more information.
27. One required for each Light Square.






AG Bulkhead is a competitively priced exterior emergency bulkhead that does not compromise on quality.

The compact and tough die cast construction, vandal resistant diffuser, IP65 weatherproof rating and time saving installation features make AG Bulkhead excellent value for money for a variety of applications, from public buildings and car parks to industrial facilities. A high output mains version, using an 11W CFL lamp, allows this versatile luminaire to also be used for the general lighting of circulation areas, both exterior and interior, such as stairwells. A useful semi-recessing trim plate enhances the appearance of the AG range when mounted into canopies or in corridors.

- BSI kitemarked for peace of mind
- ICEL registered with verified light performance
- Competitive and versatile range
- Weatherproof, heavy duty vandal resistant construction
- Matching 11W PL mains version
- Tamper resistant diffuser ideal for public areas
- Self-contained, slave, and addressable testing options
- Available in self-contained, AC/DC and AC mains slave versions
- Supplied with lamp
- Long life 50,000 hour LED version available (self-contained only)

Lamp options

- 8W T5 fluorescent, 3500°K - G5 cap 
- 11W TC-S compact fluorescent, 3500°K - G23 cap
- High output 16 LED strip

Materials

- Base - die cast aluminium, powder coated in RAL9016 finish
- Diffuser - opal polycarbonate
- Geartray - steel, powder coated in RAL9016 finish
- Recessing trim plate - steel, powder coated in RAL9016 finish
- Batteries (self-contained versions) - NiCd

Installation notes

- Suitable for ceiling or wall mounting
- BESA entry drill-out on rear
- 20mm conduit entry on each end, with blanking plugs
- Geartray hinged, retained in closed position by single screw
- Diffuser retained by allen key security screws
- Supplied complete with lamp

Options

- Maintained and non-maintained operation, 3 hour duration
- EasiCheck addressable testing (Fluorescent only)
- Central system slave versions (Fluorescent only)
- Semi-recessing trim plate accessory
- Matching mains only version (1x11W TC-S compact fluorescent)

Specification

Self contained - To specify state: BSI Kitemarked and ICEL registered, IP65 vandal resistant self-contained emergency luminaire, die cast aluminium base with BESA drill-out, 2 x conduit entries with blanking plugs, hinged geartray with plug and socket terminal block and tamper resistant opal diffuser, as AG Bulkhead range, part no. _____

Self-test/Slave - To specify state: Intelligent self-testing/Central system compatible slave, IP65 vandal resistant emergency luminaire, die cast aluminium base with BESA drill-out, 2 x conduit entries with blanking plugs, hinged geartray with plug and socket terminal block and tamper resistant opal diffuser, as AG Bulkhead range, part no. _____

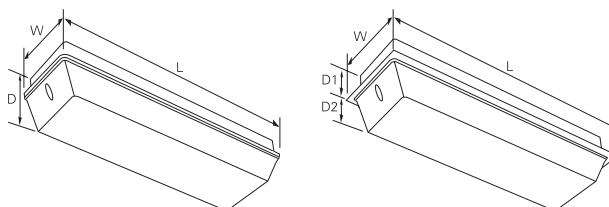
Accessories

Description	Cat No	Weight (kg)
Legend Kit		
European Format Self-Adhesive Legend Kit	LEXSAM	0.05
ISO7010 Format Self-Adhesive Legend Kit	LEXSAM-ISO	0.05
Trim plate		
Semi-recess plate	AG8FM	0.1

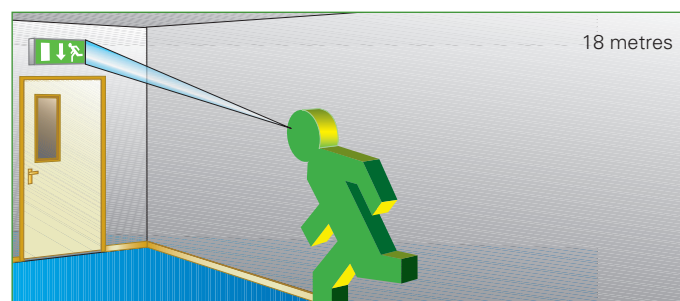
Photometric data

Luminaire Type	Mounting height (m)	Escape route 2m wide 1 lux min					Open (anti-panic) area 0.5 lux min			
		1	2	3	4	5	1	2	3	4
Self-contained										
NM	2.5	1.8	5.6	4.7	1.5	2.0	5.4	4.4	1.6	
	3.0	1.4	5.5	4.6	1.1	1.9	5.5	4.6	1.6	
	4.0	-	-	-	-	1.6	5.5	4.6	1.3	
M	2.5	1.5	5.2	4.2	1.2	1.8	5.1	4.2	1.5	
	3.0	0.9	4.9	4.1	0.7	1.7	5.2	4.3	1.5	
	4.0	-	-	-	-	1.2	5.0	4.2	1.0	
Slave										
AC/DC	2.5	2.5	7.0	5.8	2.1	2.5	6.6	5.3	2.0	
	4.0	1.5	6.6	5.7	1.2	2.4	7.0	5.8	2.0	
	6.0	-	-	-	-	-	-	-	-	
AC/AC	2.5	3.0	8.0	6.0	2.2	2.8	9.8	7.0	1.5	
	4.0	2.3	7.8	6.6	1.8	2.7	10.8	8.4	1.7	
	6.0	-	6.8	5.6	-	2.4	11.8	9.9	1.4	
LED										
Self-contained										
M	2.5	2.6	7.1	6.5	2.4	3.4	7.4	7.0	2.8	
	2.8	2.6	7.2	6.7	2.4	3.5	8.0	7.3	2.9	
	3.0	2.6	7.3	6.8	2.4	3.5	8.5	7.5	2.9	
	4.0	2.2	7.4	6.1	2.0	3.4	9.4	8.5	3.0	

Dimensions



Options	L (mm)	W (mm)	D1 (mm)	D2 (mm)	Cut out (mm)
Surface mounted	390	110	90	-	-
Semi-recessed	430	150	27	63	380 x 102



Catalogue numbers

System Mode	Cat No	Weight (kg)
Non Maintained 3Hr	AG83ICEL	1.8
Non Maintained 3Hr EasiCheck	AG83EC	1.8
Non Maintained 3Hr EasiCheck 2	AG83EC2	1.8
Maintained 3Hr	AG83MICEL	1.9
Maintained 3Hr EasiCheck	AG83MEC	1.9
Maintained 3Hr EasiCheck 2	AG83MEC2	1.9
230V CeaGuard Slave	AG8230CG	0.9
230V AC Mains Slave	AG8230	1.5
230V AC Mains Slave EasiCheck	AG8230EC	1.6
50V AC/DC Central System Slave	AG850	1.5
110V AC/DC Central System Slave	AG8110	1.5
Mains Only 230V (non emergency 11W PL)	AG1111	0.9
LED		
Maintained/ Non maintained 3Hr	AGL3M	1.5





 Fire exit
Keep clear



Double sided exit sign



Single sided i-P65



Single sided i-P65 with legend

i-P65 is a high specification competitively priced emergency LED bulkhead utilising the latest LED and optic technology to provide an attractive, good quality, functional luminaire for indoor and outdoor use. Boasting numerous features and benefits, the i-P65 can be used to provide escape route lighting, single sided exit sign or optional double sided exit sign with a common look and feel where aesthetics are a primary concern.

The i-P65 has been designed for ease of installation, reduced power consumption, minimal maintenance, reducing the TCO (total cost of ownership) with a compact attractive appearance. The innovative optic design used in the i-P65, developed and produced by Eaton, efficiently utilises light from the LED source to provide uniform lighting distribution. For both escape route and open area anti-panic emergency lighting applications, performance is improved and electrical power consumption is reduced.

- Versatile multi-functional use (escape, open area and exit sign use)
- Low power consumption reducing cost of ownership
- Ease of installation, reducing installation time and cost
- Excellent spacing reducing the quantity of fittings required
- 60,000 hour life LED for reduced maintenance
- Self-contained, slave, self-test and addressable testing options

Lamp and control gear options

- 2 x High power 1W white LED
- Consumption (Maintained) - 6.9VA/5W
- Consumption (Non-Maintained) - 3.6VA/2.5W

Materials

- Luminaire Body - polycarbonate
- Gear Tray - polycarbonate
- Battery - NiMh 4 cell (self contained version)

Installation notes

- Suitable for ceiling or wall surface mount
- Outboard fixings for improved IP integrity
- First fix base with heavy duty connector capable of accepting 2 x 2.5mm² cables
- Touch safe components when gear tray removed
- BESA box entry on rear, 20mm conduit entry on ends and sides
- Plug in gear tray
- To prevent unauthorised access, a tool is required to remove diffuser and internal components

Options

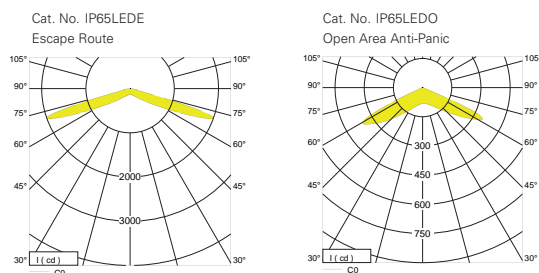
- Maintained luminaire can be operated in non-maintained mode
- Intellem Self test
- EasiCheck addressable test system
- Central Slave versions
- CEAG Slave versions
- Optional ISO7010 or Euro pictogram exit legends
- Temperature controlled battery heater kit for optimised performance in low ambient temperatures
- We offer a range of product support contracts to aid commissioning, reduce your maintenance costs, comply with legislative test requirements and increase the lifespan of your lighting equipment

Specification

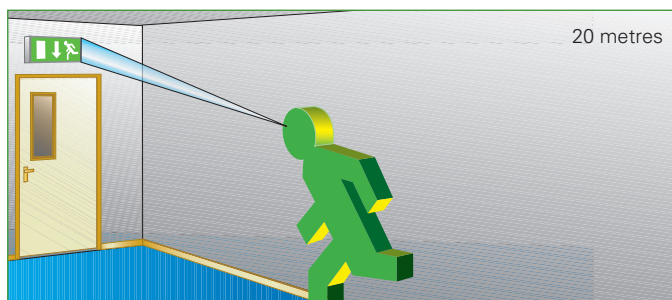
Self-contained - To specify: High performance LED self contained emergency luminaire with two 1W LED to give 20m escape route, with plug in gear tray and NiMh Battery, as i-P65 range, part no. _____

Self-test/Addressable test - To specify: High performance LED intelligent self testing/central system compatible slave emergency luminaire with two 1W LED to give 20m escape route, with plug in gear tray, as i-P65 range, part no. _____

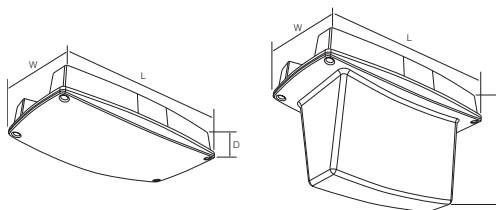
Photometric data



Mode	Mounting height (m)	Lux level directly under	Beam spread options			
Escape optic (Asymmetric)		Escape Route 2m wide 1 lux min				
Self contained	2.5	2.7	-	-	17.1	7.8
	2.8	2.2	-	-	18.6	8.4
	3.0	1.9	-	-	19.6	8.6
Open Area optic (Symmetric)		Open (anti-panic) area 0.5 lux min				
Self contained	2.5	1.7	5.3	10.5	10.5	5.3
	2.8	1.4	5.7	11.5	11.5	5.7
	3.0	1.2	5.9	12.2	12.2	5.9
	4.0	0.67	4.9	12.5	12.5	4.9
Open Area optic (Symmetric)		Open area 1.0 lux min				
Self contained	2.5	1.7	4.3	9.4	9.4	4.3
	2.8	1.4	3.3	9.3	9.3	3.3
	3.0	1.2	3.2	9.2	9.2	3.2

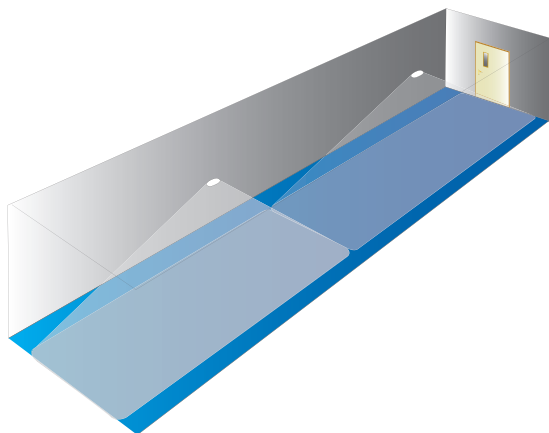


Dimensions

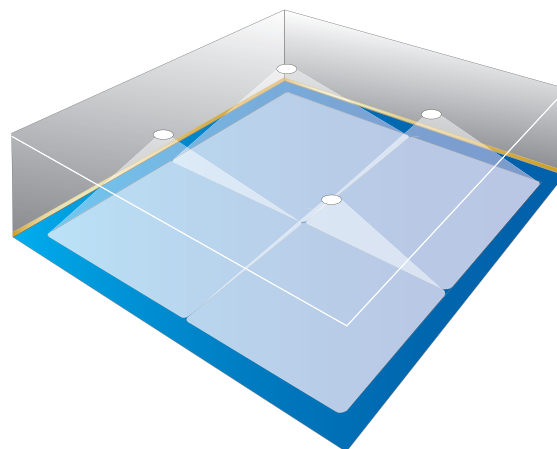


	L (mm)	W (mm)	D (mm)
Single Sided Exit Sign	263	142	55
Double Sided Exit Sign	263	142	165

Escape route (asymmetric - 1 lux)



Open area (symmetric - 0.5 lux)



Catalogue numbers

System Mode	Cat No	Weight (kg)
Maintained 3hr open area *	IP65LEDO3H	0.7
Maintained 3hr escape route *	IP65LEDE3H	0.7
Maintained 3hr open area Intellem Self test *	IP65LEDO3HIS	0.7
Maintained 3hr escape route Intellem Self test *	IP65LEDE3HIS	0.7
Maintained 3hr open area EasiCheck 2 *	IP65LEDO3HEC2	0.7
Maintained 3hr escape route EasiCheck 2 *	IP65LEDE3HEC2	0.7
230V Mains Slave open area *	IP65LEDO230	0.5
230V Mains Slave escape route *	IP65LEDE230	0.5
230V Mains Slave open area EasiCheck *	IP65LEDO230EC	0.5
230V Mains Slave escape route EasiCheck *	IP65LEDE230EC	0.5
230V CEAG Slave open area *	IP65LEDO230CG	0.5
230V CEAG Slave escape route *	IP65LEDE230CG	0.5
110V Slave open area*	IP65LEDO110	0.5
110V Slave escape route*	IP65LEDE110	0.5
Single side legend panels		
European format single side legend kit	IP65LEG	0.05
ISO7010 single side legend kit	IP65LEG7010	0.05
Double side exit sign		
Maintained 3hr *	IP65LEDEX3H	0.8
Maintained 3hr Intellem Self test *	IP65LEDEX3HIS	0.8
Maintained 3hr EasiCheck 2 *	IP65LEDEX3HEC2	0.8
230V Mains Slave *	IP65LEDEX230	0.6
230V Mains Slave EasiCheck *	IP65LEDEX230EC	0.6
230V CEAG Slave *	IP65LEDEX230CG	0.6
Double side legend panels		
ISO7010 double side legend kit	IP65DBLLEG7010	0.05
European format double side legend kit	IP65DBLLEG	0.05
Options		
Low temperature battery heater †	IP65CONDHEAT	0.1

* (not including pictogram)

† Allows luminaire to be used in low ambient temperatures



Emergency

Zetalite 3



Zetalite 3 is the first LED luminaire designed specifically for optimal performance from an LED light source. The result is exceptional performance, stunning uniformity and low energy usage at a traditional 8W bulkhead price point.

Zetalite 3 is suitable for use as an escape route, open area anti-panic emergency lighting and external over door lighting to provide safe egress from buildings. In addition to emergency lighting, Zetalite 3 is also suitable for use as an exit sign with the application of the optional stick on legend kit.

- Versatile multi-functional use (escape, open area anti-panic and exit signage)
- Exit sign viewing distance of up to 20 metres
- IP65 ingress protection suitable for indoor and outdoor applications
- Low power consumption reducing cost of ownership
- Configurable as maintained or non-maintained operation
- 3 year warranty for peace of mind
- 50,000 hour life LED (L80) for reduced maintenance
- One product fulfils all project needs
- "Honeycomb" drilling matrix on base to allow alignment with existing fixing points for ease of retro fit

Lamp options

- 12 x 0.25W white LED

Power consumption

- Maintained mode (link in) 5VA/4W
- Non-maintained mode (link removed) 3.5VA/2.3W

Materials

- Luminaire Body - flame retardant ABS
- Luminaire Lens - clear polycarbonate
- Battery - NiCd

Installation notes

- Surface ceiling or wall mount
- BESA entry drilling template on rear
- Cable entry on top, sides and rear
- Two part assembly for ease of installation
- Lens snap-fits into position

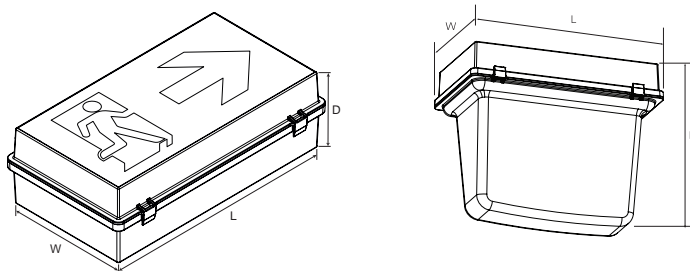
Options

- Luminaire can be operated in maintained or non-maintained mode
- Use either as emergency luminaire or exit sign

Specification

Self-contained – To specify: IP65 self-contained emergency luminaire with 12x0.25W LEDs, suitable for use as an emergency luminaire or escape exit sign by application of a stick on legend, NiCd Battery, as per Zetalite 3 range, part no. _____

Dimensions

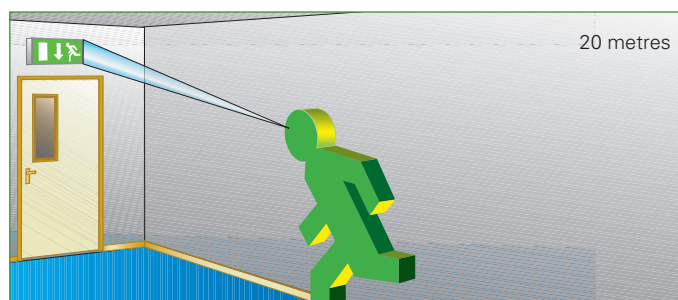


	L (mm)	W (mm)	D (mm)
Single Sided Exit Sign	209	118	65
Double Sided Exit Sign	209	118	172

Photometric data

Mode	Mounting height (m)	Escape route 2m wide 1 lux min						Open (anti-panic) area 0.5 lux min			
		Lux level directly under	1m	2m	3m	4m	5m	0.5L	0.5L	0.5L	0.5L
Self-contained											
M	2.5	4.5	2.9	7.5	7.1	2.8	3.4	8.1	7.9	2.8	
	2.8	3.8	2.9	7.8	7.4	2.9	3.5	8.5	8.3	2.9	
	3.0	3.4	3.1	8.0	7.6	3.0	3.5	8.7	8.6	3.0	
	4.0	2.0	2.6	8.5	8.2	2.6	3.4	9.8	9.6	2.6	
	5.0	1.3	2.0	8.1	8.0	2.0	3.4	10.5	10.4	2.0	

Maximum viewing distance



Catalogue numbers

System Mode	Cat No	Weight (kg)
Maintained/Non maintained 3Hr	ZEL3ICEL	0.45
Single side legend panels		
European format self adhesive legend kit	ZELLEK	0.05
ISO7010 format self adhesive legend kit	ZELLEK-ISO	0.05
Double side exit sign		
Maintained/Non maintained 3Hr*	ZEL3ICELDB	0.65
Double side legend panels		
European format double side legend kit	ZELLEKDB	0.05
ISO7010 format double side legend kit	ZELLEKDB-ISO	0.05

Note: Zetalite 3 is not provided with a switched input and therefore cannot be used in switched maintained mode with a remote supply to transfer between maintained and non-maintained mode.

* (not including Exit legend)





Z-BS Self Testing
AC/DC Systems



Loadstar
AC/DC Systems



Loadstar Economy
AC/DC



Loadstar
AC/AC Systems



Loadstar Compact
AC/AC



Switch Tripping
Units



Central battery system based emergency lighting is ideal for medium to large installations. For projects where central control and testing is desirable, a central battery system is a viable and cost effective alternative to self-contained emergency lighting products. The main advantages of central battery systems over self-contained systems are:

- Testing and maintenance is much easier to carry out
- Battery replacement is much quicker and less disruptive
- Battery life is generally 10 years or more
- Luminaires can be centrally controlled
- High light levels can easily be achieved
- The emergency lighting system can be completely unobtrusive

Eaton manufactures a wide range of central battery emergency lighting systems.

Loadstar

The cost effective Loadstar range consists of AC/AC static inverter systems and a comprehensive range of traditional AC/DC systems, including compact economy ranges designed for use in smaller installations, all compatible with Eaton's Easichk testing system.

ZB-S

The higher specification ZB-S system provides a dependable supply of power to safety and exit luminaires, as well as testing itself automatically and individually monitoring each CG-S luminaire (up to 20 per circuit), all using the power supply cable alone.

Bespoke systems to suit the exact requirements of the specifier are also available.

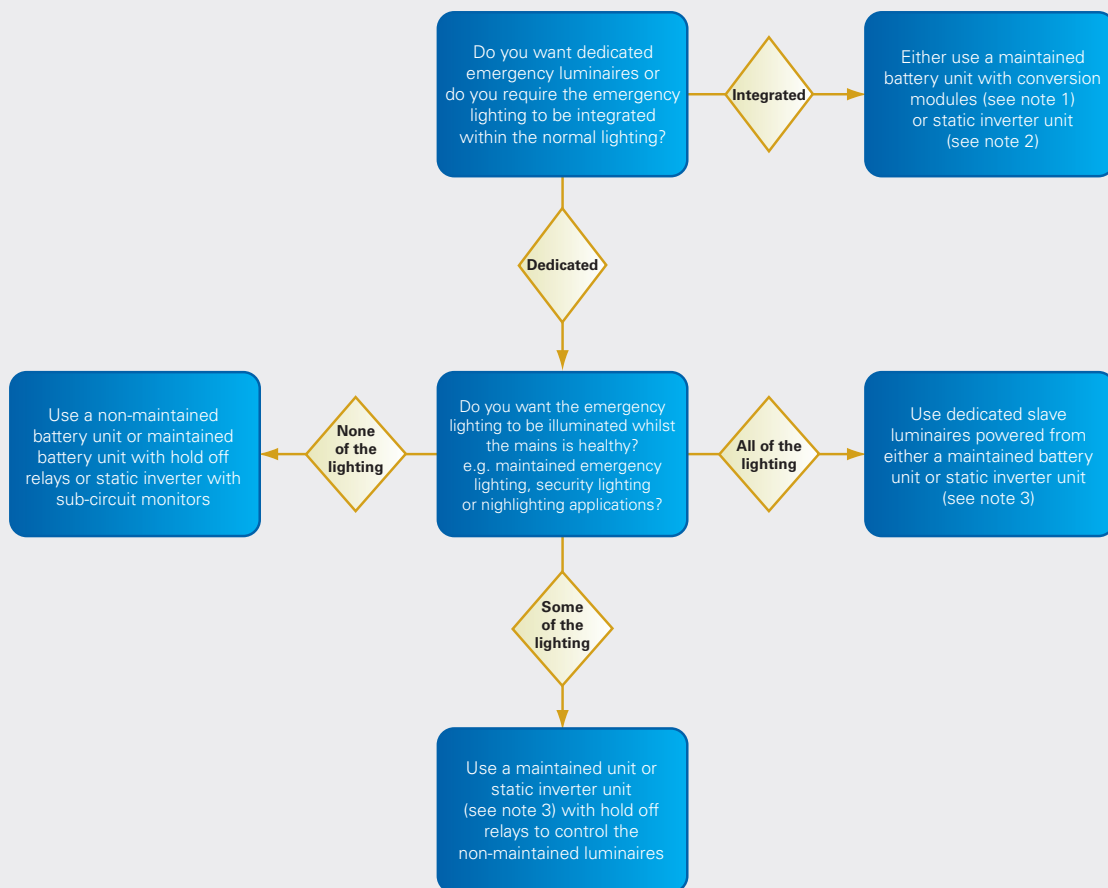
Central battery systems

Central battery systems

Type of system

There are numerous different combinations of central battery system type and the correct choice depends as much on customer preference as on design criteria. The selection chart below gives some general guidance. Should you wish to discuss a proposed system type for a particular application, our technical department is available to provide assistance.

Contact the Central System Technical Sales department, Tel: 01302 303317



Notes

1. Conversion modules are designed to be incorporated into a conventional mains luminaire. During normal conditions the luminaire operates at full brightness (using the normal switched mains supply and conventional control gear). In emergency conditions the luminaire continues to operate at reduced brightness (with the emergency lamp being powered from the conversion module instead of the conventional control gear). Conversion modules are ideal for use with mains luminaires which have louvres with a sharp cut off angle, or for projects where the mains luminaires have multiple tubes, but only one tube is required to be illuminated during emergency conditions.
2. Static inverters provide mains voltage output during both normal and emergency conditions. They are designed to run conventional mains fittings at full brightness even in emergency conditions. Static inverters are ideal for projects with large open areas, or hazardous areas requiring higher than normal emergency lighting levels, or for powering compact fluorescent luminaires where there is often insufficient space within the fitting to accommodate a conversion module.
3. Static inverter systems operate the emergency luminaires at full brightness throughout the emergency autonomy period, which usually results in significantly improved luminaire spacing for mains slave luminaires compared with an equivalent low voltage AC/DC unit. In addition, the combination of higher supply voltage and the resultant reduced input current reduces installation costs by allowing the use of smaller distribution cables than would be required with a lower voltage AC/DC system.

Intelligent lighting controls



Eaton's Intelligent Lighting System (ILS) is one of the most advanced lighting and energy management systems available today. System intelligence is built into every luminaire, monitoring and reacting to occupancy, pre-selected light levels and changes in ambient daylight levels. Absence functionality is incorporated to maximise energy saving and controls factor compliance with building regulations.

The result is a highly efficient and intelligent system, which is easily re-configured as room layout or usage changes, via a simple hand-held infra-red programmer. Importantly, ILS fully considers the human dimension. Luminaires communicate with each other, allowing selected fittings to switch on together offering a pleasant, safe and correctly illuminated environment. A handy infra-red override unit also provides local control for individuals on a temporary basis. Whatever the application, ILS delivers automatic energy savings combined with outstanding flexibility.

- Energy saving - typically between 50% and 70%
- Occupancy detection, daylight linking and constant illumination
- Absence functionality (manual on, auto off) maximises energy saving and compliance with building regulations and ECA control factors
- Flexible programming via a hand-held unit
- Luminaire communication for high light quality via BUS communication loop
- User infra-red override facility for local control
- Simple to install and set up
- Easy to re-configure when office layout changes
- Groups can be created and controlled together
- Choice of standard 50mm 'cube' or mini head sensor to best suit the chosen luminaire or application
- Designed for use with DALI dimming control gear (DSI or Analogue 1-10V versions to special order)

Lighting controls

Lighting controls

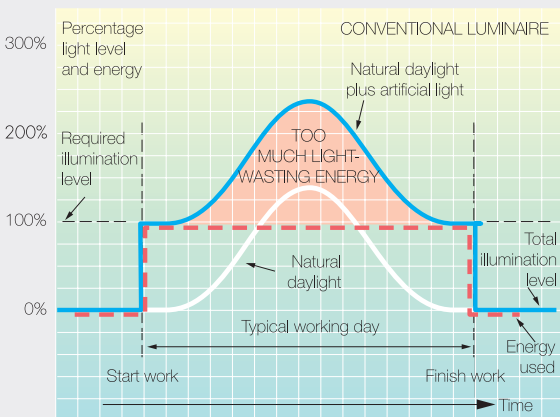
Daylight linking

Natural daylight can often provide either sufficient or a significant contribution to workplace illumination, particularly in the 5 metre area next to windows known as the window zone. Potential savings due to daylight alone are typically between 50% and 70%, dependent on the size, position and compass direction of windows. However, most people will not turn off the lights and the perceived difference between 100% on and switched off appear to be large. Additionally, turning the lights off will affect everybody, including some who may still require illumination.

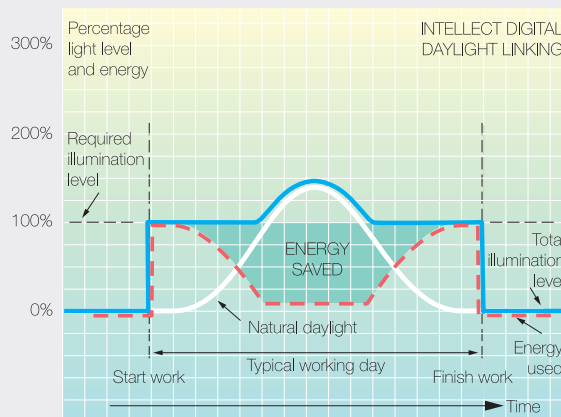
ILS overcomes this by having a built-in light sensitive cell that monitors daylight levels and adjusts lamp output accordingly, so that the pre-set light level is maintained. As daylight becomes available, the luminaires react by dimming the lamps, continuing

until minimum output is reached. With continuing or sustained daylight availability, the luminaires can be instructed to stay on and continue to operate at low levels of output, or switch off after a timed period. If daylight decreases, lamps are automatically brightened to maintain the pre-selected light level.

Each luminaire reacts independently, to take into account that the further away from the window it is installed, the influence of daylight decreases. ILS automatically compensates for light received from other luminaires and the use of window blinds or curtains. It also has a built in time delay so that it is unaffected by temporary changes in level due to reflections or clouds passing over the sun. The luminaire provides light according to the actual conditions directly beneath it.



Using a conventional luminaire, artificial light is needed at the start and end of the day, but provides too much light for most of the day (because of daylight) thus wasting energy



ILS daylight linking feature reduces light output and energy used but ensures that the installation has enough light

Absence function

Absence detection, as it is often referred to, requires the user to manually demand the lights on, usually by means of a simple wall switch. This can result in further energy savings as the luminaires will only be switched on when they are needed, regulate accordingly during operation, then switch off following the pre set time delay after the sensor last detected occupancy.

Absence is now an acknowledged energy saver and has been integrated into recommendations for many energy related incentive schemes. The manual 'on' command can be activated by a number of inputs.

Presence / absence detection

ILS can also be programmed to turn on the luminaire while people are present, but off shortly after they leave, using a passive infra-red (PIR) presence detection system fitted within each luminaire.

PIR detectors have a sophisticated lens which divides the area into three dimensional zones. Crossing from one zone to another triggers the device. Generally, the closer the person is to the PIR, the closer the zones and therefore a smaller movement is needed to trigger the device.

ILS uses a 360° lens which has a high zone density immediately beneath the luminaire to detect small movements, ensuring the luminaire remains lit when reading or writing at a desk. Further away, larger movements are required. As luminaires are usually spaced less than 3 metres apart, people are almost always working in detection zones of high sensitivity.

Illumination control

The problem with most conventional lighting systems is that:

- They deliver a fixed illumination level
- They are expensive to reconfigure if the layout or use changes
- They cannot be dimmed if the light level is higher than required
- They cannot be brightened if more light is required

These problem areas are solved by using ILS luminaires, as they can be set to operate at any light output within their range, either individually or as a whole.

This is set up using the infra-red master programmer, to provide illumination that achieves the recommended level to perform general or specific tasks. Light levels can be accurately set, as the programmer can instruct each luminaire to operate at any value setting between minimum and maximum output of the ballast.

If the usage of an area changes on a long term basis, the master programmer can be used to quickly re-configure the pre-set level. The luminaires will then continue to react automatically to changes in ambient daylight and compensate for lamp ageing, to maintain the set level.

Luminaire communication system

Most commercially available presence detection luminaires act independently and turn off if no one is directly under them.

Whilst providing energy savings, it can lead to intimidating circumstances. In addition, individual luminaires generally do not provide the correct illumination level or adequate uniformity.

Staff working late could be left sitting in a pool of light, surrounded by intimidating darkness or have to negotiate a dark corridor, where luminaires only switch on as the person passes under them.

ILS solves this problem by enabling luminaires to communicate with each other. Every luminaire can be programmed with up to 4 of 100 available address numbers. When a luminaire is activated, by detecting presence beneath it, a signal is sent out via the 2 wire communication BUS to every other luminaire.

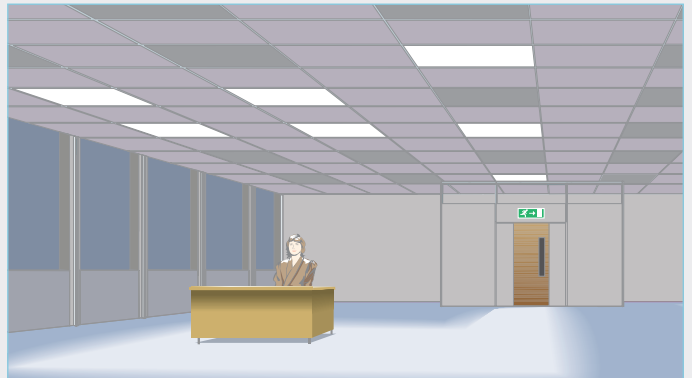
Any sharing the same address number will switch on. As a result selected surrounding luminaires can be instructed to remain on, along with chosen luminaires on a notional walkway or by doors. This ensures the correct level of illumination and recommended uniformity wherever people are working, along with essential circulation lighting.

An additional feature is common zone addresses. Any luminaire can have a common zone address allocated, as one of the 4 addresses. If designated with a common zone address, that luminaire will switch on or stay illuminated if any other luminaire on the BUS is activated. This feature is useful to instruct selected areas, e.g. stairway luminaires to stay on if any person is in the building. Additionally 2 corridor zones can be created to activate a corridor or area triggered by another occupied space.

As building layout or usage is changed, the address numbers allocated to any luminaire can be simply re-programmed via the infra-red master programmer, effortlessly accommodating the ever increasing churn rate experienced in commercial buildings.



Luminaires which don't communicate cause small pools of light surrounded by intimidating darkness



ILS luminaires communicate with each other, providing a pleasant, safe and energy saving environment

Stand-alone ILS luminaires

The stand alone version of the ILS range shares the same basic lighting and energy management functionality, of occupancy detection, daylight linking and constant illumination in every luminaire. Infra-red programming and override provides flexibility with re-configuration easily performed as requirements change.

As the stand-alone versions don't communicate with each other, a special background light feature prevents lone room occupants being stranded in a pool of light surrounded by darkness, whilst maintaining a high quality, gently lit environment and good uniformity. Particularly suited to refurbishment projects, this system provides advanced energy management and value for money.

- Competitive energy management package
- Energy saving - typically between 50% and 70%
- Occupancy detection, daylight linking and constant illumination
- Background light feature
- Easy to set-up via simple I.R. programming
- Each detector acts independently

For further information contact our technical support and application department on +44 (0)1302 303240 or email lighting@cooper-ls.com

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