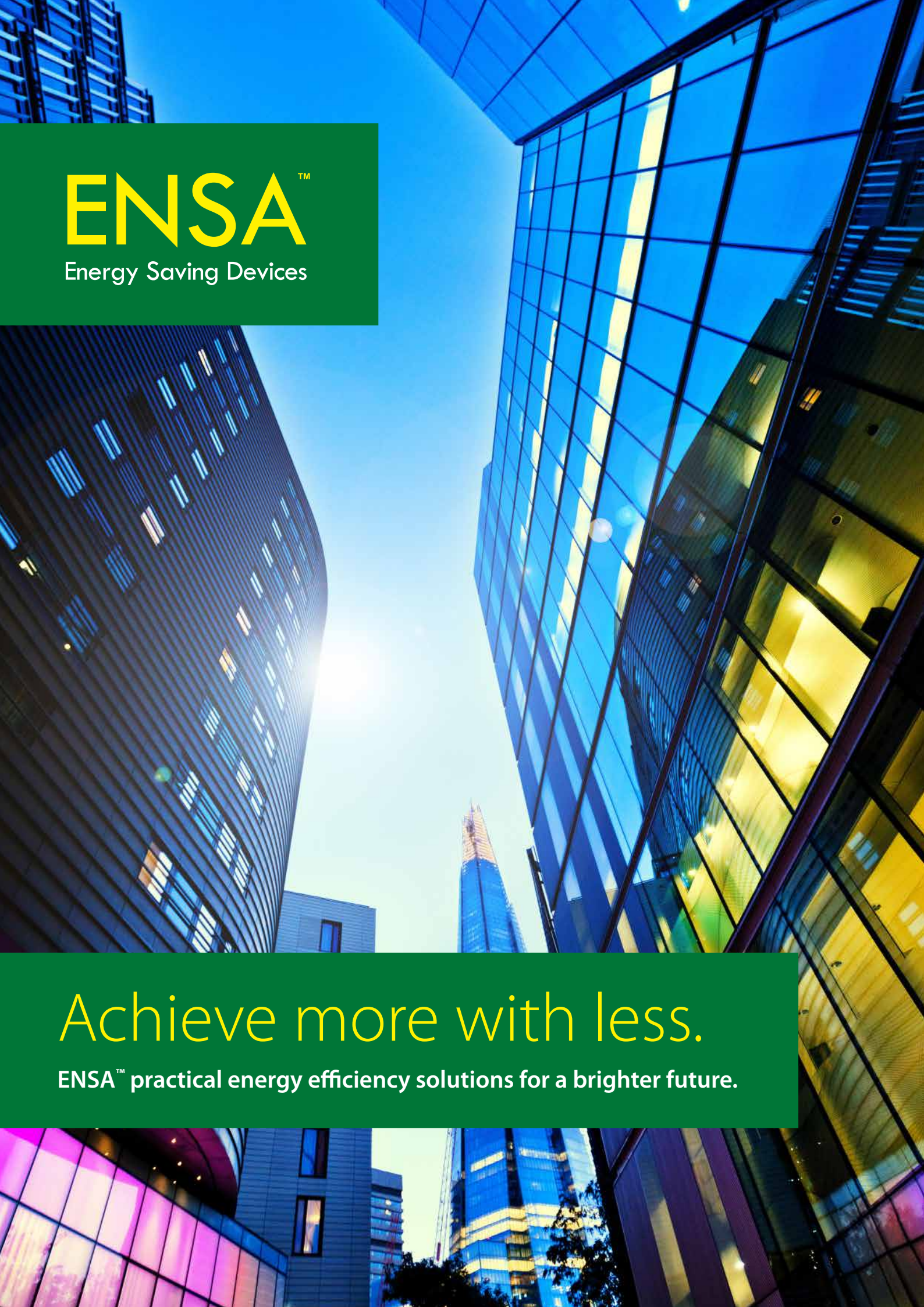


ENSA™

Energy Saving Devices

Achieve more with less.

ENSA™ practical energy efficiency solutions for a brighter future.

At no time in history has energy efficiency been more important.

The International Energy Agency states that lighting represents almost 20% of global electricity consumption. As energy demand increases with the rising global population, becoming energy efficient is vital in creating a sustainable and prosperous future for all.

ENSA™ Energy Saving Devices

We believe energy efficiency is key to creating a richer society, with happier and safer communities, and more productive workplaces. ENSA is dedicated to delivering energy efficiency to enhance the quality of life of future generations.

ENSA is committed to building healthier environments through energy efficiency. By using less, we aim to achieve more: reducing energy consumption & pollution, minimising harm to the environment and saving on precious natural resources. With ENSA products, you are choosing:

- Efficient lights that reduce energy consumption & harmful emissions.
- Lights with exceptional service life that minimise waste from re-lamping.
- Recyclable lights that do not contain toxic materials such as mercury.

Practical energy efficiency solutions

At ENSA, we understand the complexities of lighting upgrades. Production interruptions, equipment hire, increased operational expenses, and labour costs make it essential for upgrades to be reliable and perform as intended from day one.

The ENSA LED lighting and energy saving devices range comprises practical energy efficiency solutions, designed for fast installation, power consumption reduction and improved lighting performance.

The ENSA range includes industrial grade fixtures such as high bays, street lighting, flood lighting and canopy lighting. It features a wide range of lights, such as LED tubes, downlights and panel lights, that are ready for commercial, shop fit-out and residential applications.

Products also include backup battery LED lights for emergency lighting and intelligent lighting and sensors to compound your energy saving.

LED lighting is the lighting technology for the future and ENSA is at the forefront of the field. Our products incorporate the latest in LED lighting technology to ensure each light offers excellent efficiency, light quality and service life.

To see our full product range, case studies or to find a reseller, please visit: **www.ensalife.com**

Professional LED High Bay Lighting

LHB-A Series: Aluminium reflector high bays in 80W, 120W, 160W and 200W models

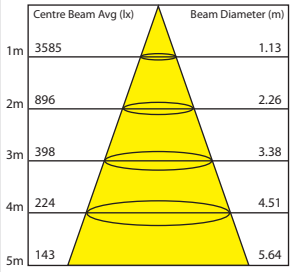
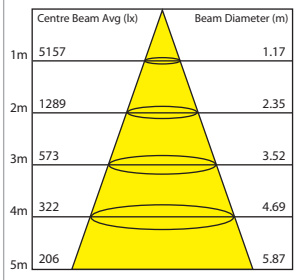
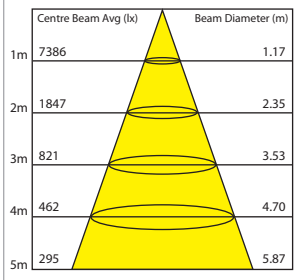
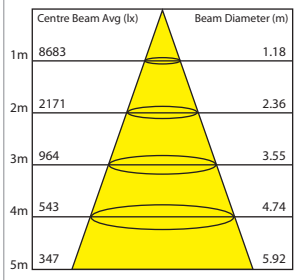
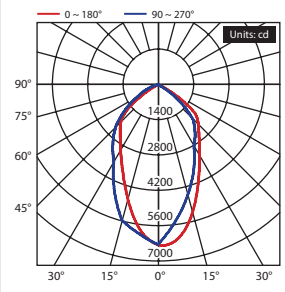
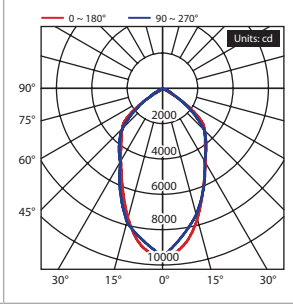
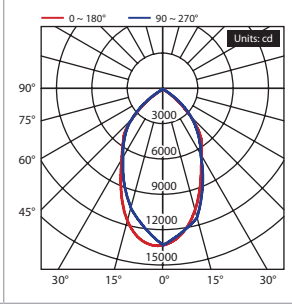
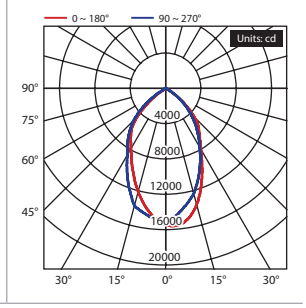
The ENSA™ LHB-A Series of professional LED high bay lighting comprises energy efficient bay lighting built for demanding industrial and commercial environments. Each model features an innovative aluminium heatsink for optimal heat dissipation and Samsung LEDs for reliability and performance. The series is ideal for exhibition halls, manufacturing facilities, warehouses, large retail and more.

The LHB-A series is also compatible with the ENSA-MS5, the microwave motion sensor switch designed for high bay use.

- High efficiency, low energy use LED high bay light
- Effective lighting in high ceiling environments up to 15m
- Excellent colour rendering, LED lifepsan and light output
- Superior build quality and thermal management
- Standard in 6500K cool white with 60° beam angle
- Includes aluminium reflector and mounting eyelet

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LHB-A80	LHB-A120	LHB-A160	LHB-A200
Product Image				
Seres Name	LHB-A Series: Professional LED High Bay Lights			
Optical				
Light Output	8500lm	12500lm	16000lm	20000lm
Luminous Efficacy	105lm/W	105lm/W	100lm/W	100lm/W
Colour Temperature	6500K			
Colour Rendering Index	> 80			
Beam Angle	60°			
Light Decay	<3% at 6,000 hours			
Rated Lifespan	50,000 hours			
Electrical				
Power Consumption	80W	120W	160W	200W
Input Voltage	100 ~ 240VAC			
Power Factor	> 0.95			
Dimmable	N/A			
General				
Ingress Protection	IP20			
Plug / Socket / Base	3-pin AC plug			
Reflector / Diffuser	Aluminium reflector / Frosted diffuser			
Housing Adjustments	N/A			
Operating Environment	-20° ~ 40°C			
Dimensions	Ø461 x 418mm		Ø468 x 483mm	
Photometry				
Illuminance at a Distance				
Luminous Light Distribution				

Ordering Information

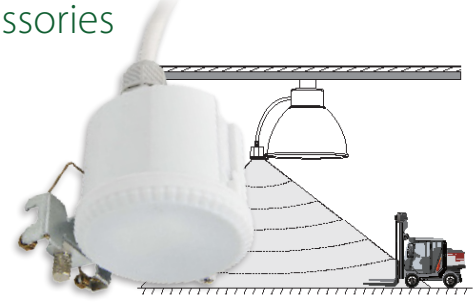
Type		Series	Wattage		Colour Temperature
LHB	-	A	80 (80W) 120 (120W) 160 (160W) 200 (200W)	-	CW (Cool white)

LHB-A120-CW: 120W LED High Bay in Cool White

Additional Accessories

The **ENSA-MS5** high bay microwave motion sensor is purpose built for use with high ceilings.

It mounts directly to the high bay reflector, up to 15m in height to achieve a ground detection area of Ø8m.



Professional LED High Bay Lighting

LHB-C Series: Professional high bay lighting in 100W, 150W and 200W models

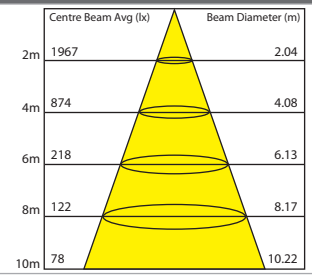
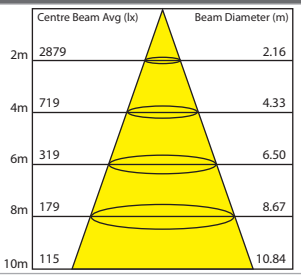
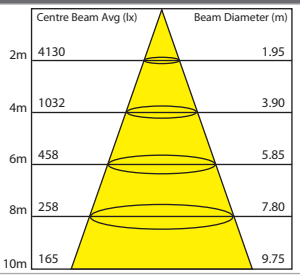
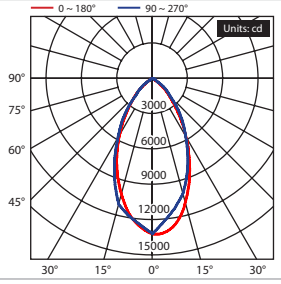
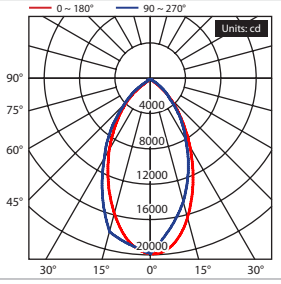
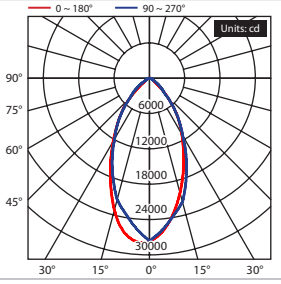
The ENSA™ LHB-C series of professional high bay lights are built to deliver energy efficient lighting to industrial and commercial environments. They are also weather-resistant, making them ideal for outdoors installations and events.

The LHB-C series delivers ideal lighting conditions in areas with high ceilings up to 12m, such as warehouses, manufacturing facilities and exhibition halls, with a high luminous efficacy for optimal power consumption. Each light has a compact, robust aluminium body and comes in 5500K cool white colour temperature.

- 100W, 150W and 200W industry-ready LED high bay
- Compact and robust: no additional reflector required
- Efficient heatsink cooling technology
- Standard in 5500K cool white with 60° beam angle
- Durable IP65 weather resistant rating
- High 130lm/W luminous efficacy for energy efficiency

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LHB-C100-C	LHB-C150-C	LHB-C200-C
Product Image			
Series Name	LHB-C Series: Professional LED High Bay Series		
Optical			
Light Output	13000lm	19500lm	26000lm
Luminous Efficacy	130lm/W		
Colour Temperature	5500K		
Colour Rendering Index	>80		
Beam Angle	60°		
Light Decay	<3% at 6,000 hours		
Rated Lifespan	50,000 hours		
Electrical			
Power Consumption	100W	150W	200W
Input Voltage	180 ~ 305VAC		
Power Factor	> 0.9		
Dimmable	N/A		
General			
Ingress Protection	IP65		
Plug / Socket / Base	3-pin AC plug		
Reflector / Diffuser	Aluminium / Polycarbonate		
Housing Adjustments	N/A		
Operating Environment	-20 ~ 40°C		
Dimensions	Ø290 x 170mm	Ø340 x 180mm	Ø400 x 194mm
Photometry			
Illuminance at a Distance			
Luminous Light Distribution			

Ordering Information

Type		Series	Wattage		Colour Temperature
LHB	-	C	100 (100W) 150 (150W) 200 (200W)	-	C (Cool white)

LHB-C150-C: 150W LED High Bay in Cool White

Food Grade LED High Bay Lighting

LHB-D Series: Professional high bay lighting in 100W/150W/200W, suitable for food processing

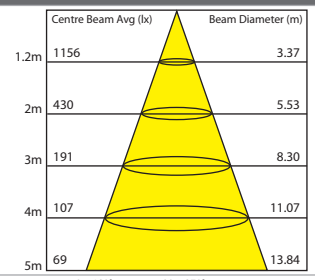
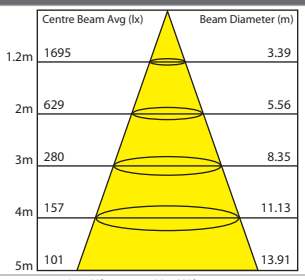
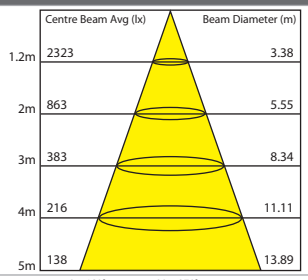
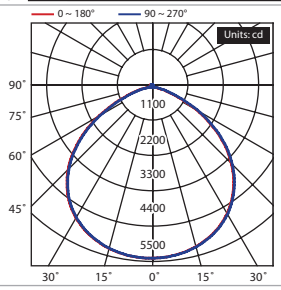
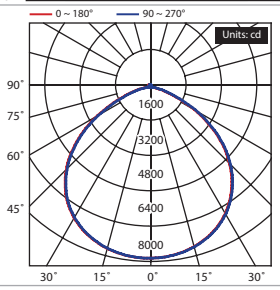
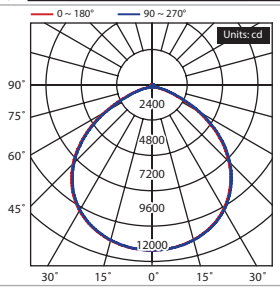
The ENSA™ LHB-D series of professional high bay lights deliver energy efficient lighting to industrial and commercial environments. This light is certified for food preparation environments with its easily cleaned, glass-free & screw-free design.

The LHB-D series delivers perfect lighting conditions with a high luminous efficacy for optimal power consumption. Features a powder coated, weather/corrosion-resistant design, making them suitable for outdoor usage. Excels in tall ceiling environments at around 5m height, including warehouses, manufacturing areas, food preparation factories, building lobbies and more.

- 100W, 150W & 200W food industry certified LED high bay
- Efficient heatsink cooling technology
- Suitable for food processing environments - No glass or exposed screws & smooth non-toxic surface is easy to clean
- In 4000K natural & 5700K cool white with 120° beam angle
- Highly durable IP69K weather resistance - steam cleanable
- High 135lm/W luminous efficacy for energy efficiency
- Prismatic reflector sold separately (not required)

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LHB-D100-N/C	LHB-D150-N/C	LHB-D200-N/C
Product Image			
Series Name	LHB-D Series: Food Grade LED High Bay Series		
Optical			
Light Output	13500lm	20250lm	27000lm
Luminous Efficacy	135lm/W		
Colour Temperature	4000K / 5700K		
Colour Rendering Index	>70 / >80		
Beam Angle	120°		
Light Decay	<5% at 9,000 hours		
Rated Lifespan	54,000 hours		
Electrical			
Power Consumption	100W	150W	200W
Input Voltage	100 ~ 277VAC / 277 ~ 480VAC		
Power Factor	> 0.93		
Dimmable	N/A		
General			
Ingress Protection	IP69K		
Plug / Socket / Base	3-pin AC plug		
Reflector / Diffuser	Aluminium / Polycarbonate		
Housing Adjustments	N/A		
Operating Environment	-10 ~ 40°C		
Dimensions	Ø490 x 183mm		
Certifications	NSF, ETL, DLC, SAA, iPart, Veet		
Photometry			
Illuminance at a Distance			
Luminous Light Distribution			

Ordering Information

Type		Series	Wattage		Colour Temperature
LHB	-	D	100 (100W) 150 (150W) 200 (200W)	-	N (Natural white) C (Cool white)

LHB-C200-C: 200W LED High Bay in Cool White

Additional Accessories

The optional prismatic reflector creates a more even distribution of light, sending light out in all directions.

Recommended for installations at lower ceiling heights.

High Power LED Flood Lighting

LFL-D Series: Large format flood lighting in 240W, 360W, 480W, 720W, 960W models

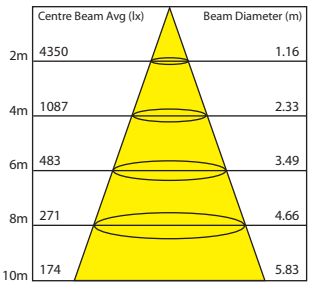
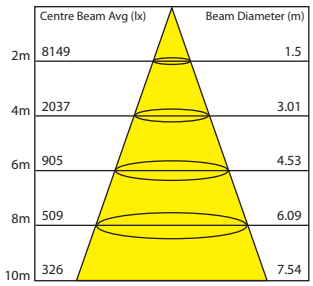
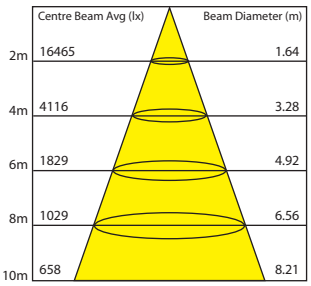
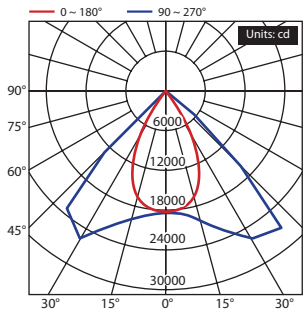
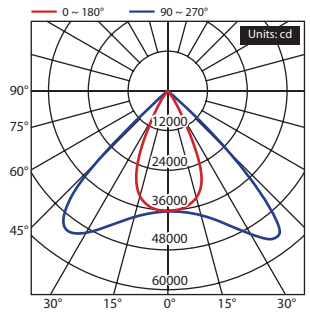
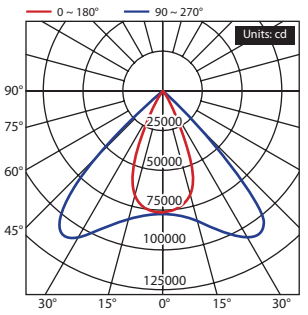
The ENSA™ LFL-D series of high-power LED flood lights delivers exceptional lighting performance in a robust, weather resistant package. Available in 240W, 360W, 480W, 720W, 960W models with a wide 100° beam angle.

The LFL-D series flood lights are ideal for high power lighting in commercial and industrial environments including stadiums, car parks, building sites, security lighting, signage illumination and more. Each light has a robust powder coated, IP65 rated, aluminium body and tempered glass front for superior light transmittance.

- High luminous efficacy LED flood lighting (130lm/W)
- Available in 3000K warm white and 5000K cool white
- IP65 weather resistant, suitable for outdoor applications
- Wide 100° beam angle, ideal for general purpose lighting
- Efficient replacement for halogen and metal-halide floods
- 360° adjustable two-point fastened mounting bracket

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LFL-D240	LFL-D360	LFL-D480	LFL-D720	LFL-D960
Product Image					
Series Name	LFL-D Series Commercial High Power LED Flood Lights				
Optical					
Luminous Flux	31200lm	46800lm	62400lm	93600lm	124800lm
Luminous Efficacy	130lm/W				
Colour Temperature	3000K / 5000K				
Colour Rendering Index	> 80				
Beam Angle	60 x 100°				
Light Decay	<15% at 20,000 hours				
Rated Lifespan	50,000 hours				
Electrical					
Power Consumption	240W	360W	480W	720W	960W
Input Voltage	100 ~ 240VAC				
Dimmable	N/A				
General					
Ingress Protection	IP65				
Plug / Socket / Base	3-pin AC plug				
Reflector / Diffuser	Aluminium reflector / Glass LED lens front				
Housing Adjustments	360° adjustable housing				
Operating Environment	-20° ~ 50°C				
Dimensions	435 x 341 x 190mm	618 x 341 x 200mm	579 x 442 x 201mm	833 x 442 x 201mm	1090 x 442 x 201mm
Weight	11.3kg	15.0kg	19.2kg	30.0kg	36.0kg
Photometry					
Illuminance at a Distance	 LFL-D240-C (240W, cool white)		 LFL-D480-C (480W, cool white)		 LFL-D960-C (960W, cool white)
Luminous Light Distribution	 LFL-D240-C (240W, cool white)		 LFL-D480-C (480W, cool white)		 LFL-D960-C (960W, cool white)

Ordering Information

Type		Series	Wattage		Colour Temperature
LFL	-	D	240 ~ 960 (240W ~ 960W)	-	C (Cool white) W (Warm white)

LFL-D240-C: 240W LED High Power Flood Light in Cool White

Professional LED Flood Lighting

LFL-B Series: High performance floods in 20W, 30W, 50W, 70W, 100W, 150W and 200W models

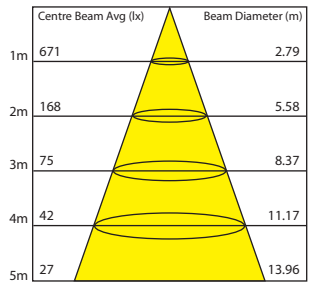
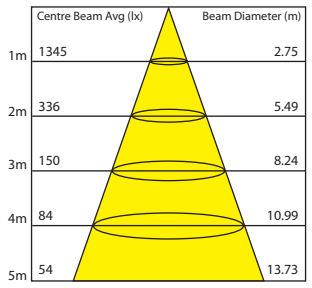
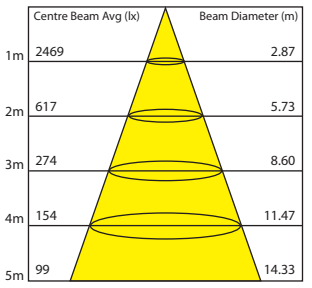
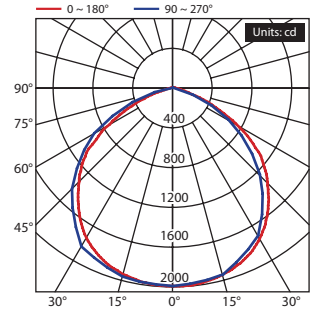
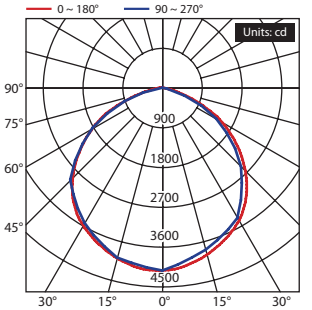
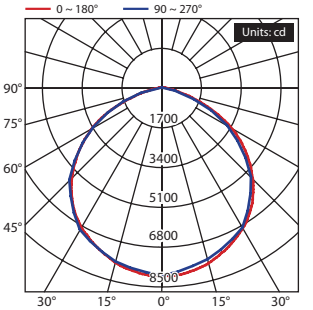
The ENSA™ LFL-B series of high-power LED flood lights delivers exceptional lighting performance in a robust, weather resistant package. Available in 20W, 30W, 50W, 70W, 100W, 150W and 200W models with a wide 100° beam angle.

Ideal for general purpose lighting in commercial and industrial environments including parking lots, building sites, security lighting, sporting fields, signage and more. LFL-B series floods feature a slim, lightweight design with a U-shape adjustable bracket, making them easy to mount. Each light sports a powder coated, IP65 rated, aluminium body and heatsink for excellent thermal conductivity; a tempered glass front for superior light transmittance; and UV resistant ASA plastic bolt caps.

- High luminous efficacy LED flood lighting (110lm/W)
- Available in 3000K warm white and 5000K cool white
- IP65 weather resistant, suitable for outdoor applications
- Wide 100° beam angle, ideal for general purpose lighting
- Efficient replacement for halogen and metal-halide floods
- 180° adjustable two-point fastened mounting bracket

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LFL-B20	LFL-B30	LFL-B50	LFL-B70	LFL-B100	LFL-B150	LFL-B200
Product Image							
Series Name	LFL-B Series Commercial LED Flood Lights						
Optical							
Luminous Flux	2200 lm	3300 lm	5500 lm	7700 lm	11000 lm	16500 lm	22000 lm
Luminous Efficacy	110lm/W	110lm/W	110lm/W	110lm/W	110lm/W	110lm/W	110lm/W
Colour Temperature	3000K / 5000K						
Colour Rendering Index	> 80						
Beam Angle	100°						
Light Decay	<15% at 20,000 hours						
Rated Lifespan	50,000 hours						
Electrical							
Power Consumption	20W	30W	50W	70W	100W	150W	200W
Input Voltage	100 ~ 240VAC						
Dimmable	N/A						
General							
Ingress Protection	IP65						
Plug / Socket / Base	3-pin AC plug						
Reflector / Diffuser	Aluminium reflector / glass front						
Housing Adjustments	180° adjustable housing						
Operating Environment	-20° ~ 50°C						
Dimensions	216 x 152 x 40mm	226 x 167 x 40mm	310 x 220 x 50mm	355 x 245 x 55mm	402 x 295 x 60mm	430 x 330 x 60mm	470 x 360 x 60mm
Weight	0.78kg	1.10kg	1.70kg	2.75kg	3.90kg	5.10kg	6.30kg
Photometry							
Illuminance at a Distance							
	LFL-B50-C (50W, cool white)			LFL-B100-C (100W, cool white)		LFL-B200-C (200W, cool white)	
Luminous Light Distribution							
	LFL-B50-C (50W, cool white)			LFL-B100-C (100W, cool white)		LFL-B200-C (200W, cool white)	

Ordering Information

Type		Series	Wattage		Colour Temperature
LFL	-	B	20 ~ 200 (20W ~ 200W)	-	C (Cool white) W (Warm white)

LFL-B150-C: 150W LED Flood Light in Cool White

Commercial LED Sensor Flood Lighting

LFL-C Series: Passive infrared motion sensor floods in 20W, 30W and 50W models

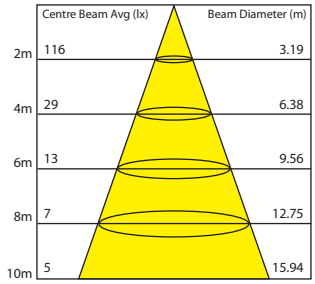
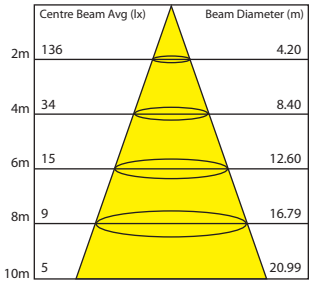
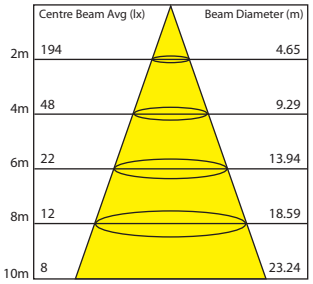
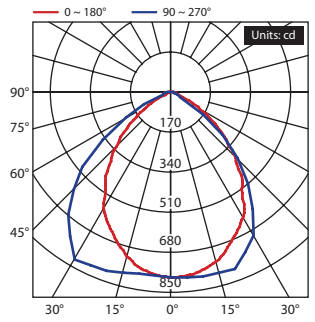
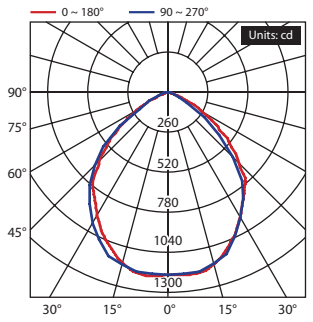
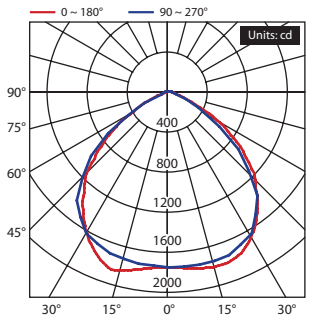
The LFL-C Series combines efficient LED flood lighting with customisable motion-sensing technology to compound your energy savings. Available in three wattages, each model this series is equipped with an adjustable 12m passive infrared (PIR) motion sensor, an ambient light detection for dusk/dawn switching, and an adjustable on/off delay timer. Each of these can be configured so the sensor light delivers maximum energy efficiency, safety and performance.

Models also feature a metal-body, IP65 rated weather resistant chassis, making them well suited for general purpose and security lighting in both commercial and domestic applications.

- Sensor flood light models detect up to 12m in a 140° arc
- Adjust detection sensitivity & on-time delay (5s ~ 5min)
- Durable metal IP65 rated weather resistant chassis
- Wide 120° beam angle; diffuser minimises LED glare
- Adjustable U-shape mount with over 180° of motion
- Available in 5000K cool white with 85lm/W light output

Contact your local ENSA™ supplier for full warranty details.

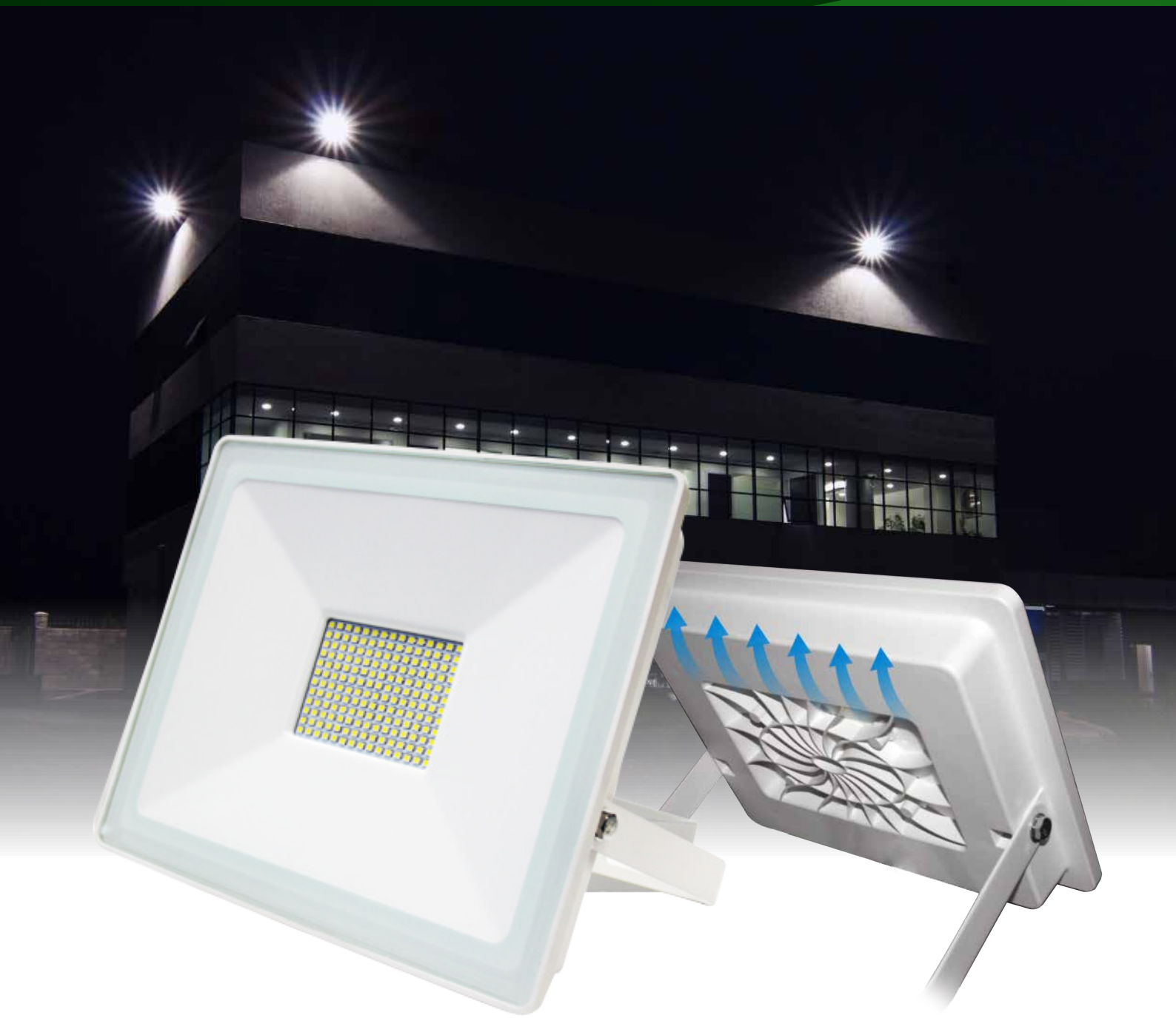
Series Specifications

Model	LFL-C20 -CS	LFL-C30-CS	LFL-C50-CS
Product Image			
Series Name	LFL-C Series Commercial LED Sensor Flood Lights		
Optical			
Light Output	1700lm	2550lm	4250lm
Luminous Efficacy	85lm/W		
Colour Temperature	5000K		
Colour Rendering Index	>70		
Beam Angle	120°		
Light Decay	< 4% at 6,000 hours		
Rated Lifespan	50,000 hours		
Electrical			
Power Consumption	20W	30W	50W
Input Voltage	100 ~ 240VAC		
Power Factor	> 0.9		
Dimmable	N/A		
General			
Motion Sensor	PIR: 140° arc up to 12m range		
Sensor Calibration	Ambient light detection, motion sensitivity and on-time delay (5s ~ 5min)		
Ingress Protection	IP65		
Plug / Socket / Base	3-pin AC plug		
Reflector / Diffuser	Aluminium reflector / Tempered glass front		
Housing Adjustments	+180° angle adjustable U-shape bracket / Fully adjustable PIR sensor stalk		
Operating Environment	-20° ~ 50°C		
Dimensions	182 x 150 x 52mm	230 x 195 x 65mm	230 x 195 x 65mm
Photometry			
Illuminance at a Distance			
Luminous Light Distribution			

Ordering Information

Type		Series	Wattage		Colour Temperature		Sensor
LFL	-	C	20 (20W) 30 (30W) 50 (50W)	-	C	(Cool white)	S

LFL-C30-CS: 30W LED Sensor Flood Light in Cool White



Residential LED Flood Lighting

LFL-E Series: Affordable flood lighting available in 50W, in cool white colour temperature

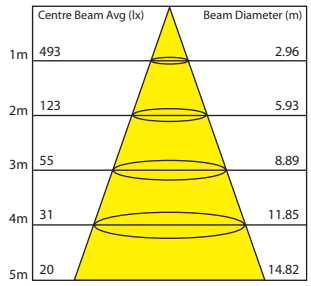
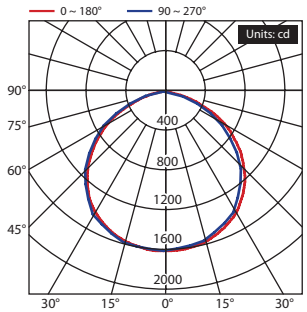
The ENSA™ LFL-E Series LED flood lighting delivers reliable, energy efficient and cost effective flood lighting, ideal for use in residential and light commercial environments.

Available in 50W in cool white colour temperature, LFL-E Series models are best suited for general purpose lighting, in security lighting applications, for signage illumination and more. Lights feature a white plastic-coated aluminium IP65 weather rated housing, with tempered glass front and simple 180° U-bracket for easy mounting.

- High luminous efficacy LED flood lighting (90lm/W)
- Available in 5000K cool white colour temperature
- IP65 weather resistant, suitable for outdoor applications
- Wide 100° beam angle, ideal for general purpose lighting
- Efficient replacement for halogen and metal-halide floods
- 180° adjustable mounting bracket for easy installation

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LFL-E50-C
Product Image	
Series Name	LFL-E Series LED Flood Light
Optical	
Luminous Flux	4500lm
Luminous Efficacy	90lm/W
Colour Temperature	5000K
Colour Rendering Index	> 80
Beam Angle	100°
Light Decay	< 15% at 15,000 hours
Rated Lifespan	30,000 hours
Electrical	
Power Consumption	50W
Input Voltage	200 ~ 240VAC
Power Factor	> 0.9
Dimmable	N/A
General	
Ingress Protection	IP65
Plug / Socket / Base	3-pin AC plug
Reflector / Diffuser	Aluminium reflector / tempered glass front
Housing Adjustments	180° adjustable housing
Operating Environment	-20° ~ 50°C
Dimensions	270 x 256 x 34mm
Weight	1.38kg
Photometry	
Illuminance at a Distance	
Luminous Light Distribution	

Ordering Information

Type		Series	Wattage		Colour Temperature
LFL	-	E	50 (50W)	-	C (Cool white)

LFL-E50-C: 50W LED Flood Light in Cool White

Professional LED Street Lighting

LSL-A Series: Modular LED street light design in 50W, 100W, 150W and 200W models

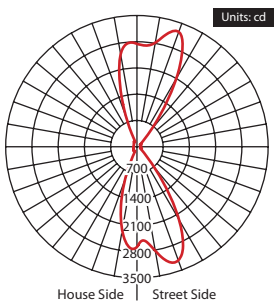
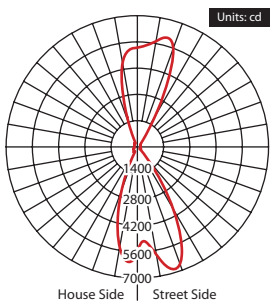
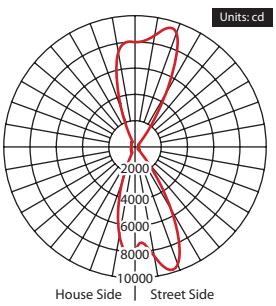
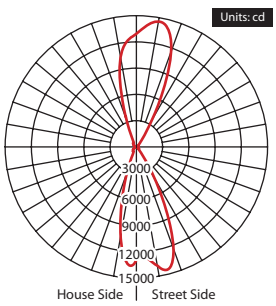
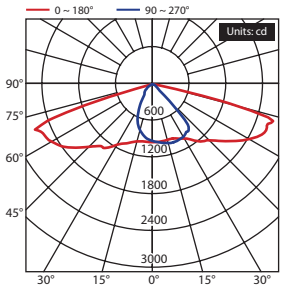
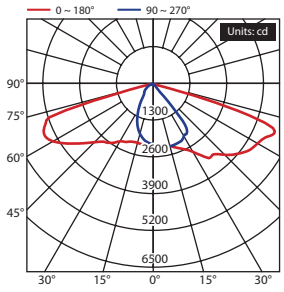
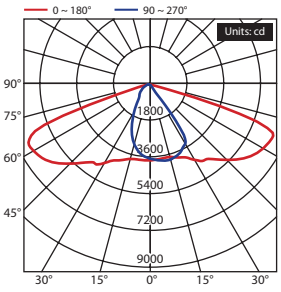
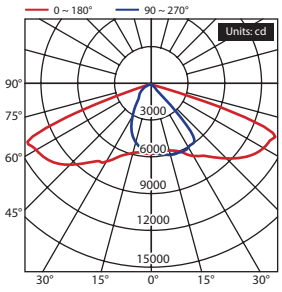
The ENSA™ LSL-A series features all-weather, high efficiency LED street lights, with superior light distribution, colour rendering and vertical illumination when compared to traditional HPS lamps. With an innovative, modular design, the LSL-A series offers a variety of models suitable for all road types, parks, squares and more.

Each street light utilises Philips Lumileds to deliver long lasting, high efficiency lighting. Each light has a batwing light distribution that concentrates light upon roads and walkways, reducing street light glare and light spill into homes/private property.

- High efficiency, all-weather, low energy use street light.
- Effective light distribution with 140° x 60° beam angle.
- Up to 100lm/W performance with Philips Lumileds LEDs.
- Each street light model includes in-line surge protection.
- Available in 4500K natural white colour temperature.
- IP65 dust and weather resistant for external use.

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LSL-A50 (Special Order)	LSL-A100	LSL-A150 (Special Order)	LSL-A200
Product Image				
Series Name	LSL-A Series Professional LED Street Lights			
Optical				
Light Output	5000lm	10000lm	15000lm	20000lm
Luminous Efficacy	100lm/W			
Colour Temperature	3000K / 4500K / 6000K			
Colour Rendering Index	> 80			
Beam Angle	140° x 60°			
Light Decay	<3% at 6,000 hours			
Rated Lifespan	50,000 hours			
Electrical				
Power Consumption	50W	100W	150W	200W
Input Voltage	100 ~ 277VAC			
Power Factor	> 0.95			
Dimmable	N/A			
General				
Ingress Protection	IP65			
Plug / Socket / Base	No plug			
Reflector / Diffuser	N/A			
Housing Adjustments	Adjustable pole fitting: Ø57 ~ 63mm			
Operating Environment	-45° ~ 50°C / 10~90%RH			
Dimensions	485 x 330 x 90mm	590 x 330 x 90mm	690 x 330 x 90mm	770 x 330 x 90mm
Photometry				
Street Light Distribution				
Luminous Light Distribution				

Ordering Information

Type		Series	Wattage		Colour Temperature
LSL	-	A	50 (50W) 100 (100W) 150 (150W) 200 (200W)	-	CW (Cool white) NW (Natural white) WW (Warm white)

LSL-A150-NW: 150W LED Street Light in Natural White

Motion Activated Solar LED Street Lighting

SSL-A Series: Motion activated LED street light with solar battery in 8W, 15W & 40W models

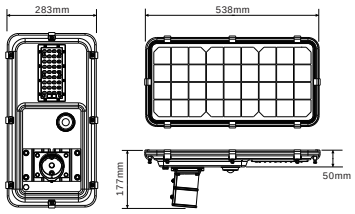
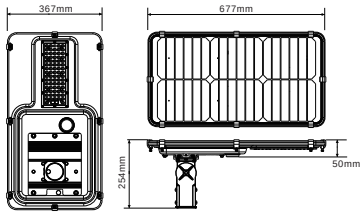
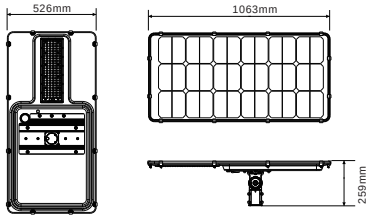
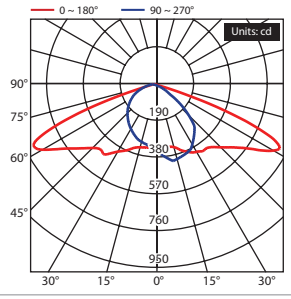
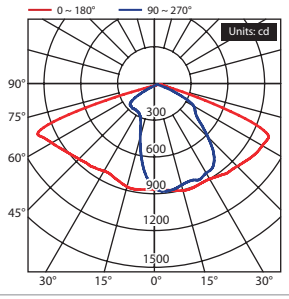
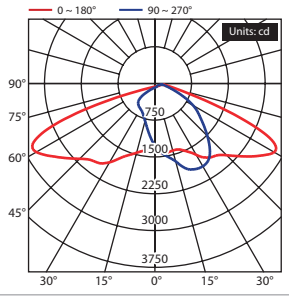
The ENSA™ SSL-A series features motion-activated, solar-charged LED street lights, designed to easily deliver lighting to any outdoor location. These pole-mounted lights provide good coverage with a wide 150° beam angle in natural white colour. Features an adjustable motion sensor that can be set to always activated the LED at night, or only when motion is detected.

These lights are fully self-sufficient, not requiring any external cabling. This makes them excellent for use in remote locations such as rural roads, power stations & construction sites, as well as general use in streets, parks, schools, farms and more.

- Self-sufficient, motion-activated light with solar battery.
- Effective light distribution with 140° x 60° beam angle.
- Outstanding energy efficiency at 160lm/W performance.
- Adjustable PIR/microwave motion sensor for efficiency.
- Monocrystalline silicon solar panel with internal battery.
- Approx. 12 hour operating time from full battery charge.
- Available in 4500K natural white colour temperature.
- IP66 dust and weather resistant for external use.

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	SSL-A8PN	SSL-A15MN	SSL-A40MN
Product Image			
Series Name	SSL-A Series Motion Activated Solar LED Street Lights		
Optical			
Light Output	1243lm	2445lm	6947lm
Luminous Efficacy	160lm/W		
Colour Temperature	4500K		
Beam Angle	150° x 70°		
Electrical			
Power Consumption	8W	15W	40W
Input Voltage	12VDC		
Operating Time	From full charge: >12 hours (full power) / >120 hours (intelligent mode)		
Dimmable	10% ~ 100%		
Solar Panel			
Panel Type	Monocrystalline silicon		
Panel Wattage	17.5W	30W	75W
Panel Conversion Rate	≥17%		
Detection			
Motion Detection	Adjustable PIR motion sensor	Microwave motion sensor	Microwave motion sensor
General			
Ingress Protection	IP66		
Plug / Socket / Base	No plug		
Reflector / Diffuser	N/A		
Pole Diameter	Ø50~60mm		
Housing Adjustments	Adjustable pole fitting: 4m ~ 6m		
Operating Environment	-10° ~ 60°C / 10~90%RH		
Dimensions	538 x 177 x 283mm	677 x 254 x 367mm	1063 x 259 x 526mm
Photometry			
Dimensions			
Luminous Light Distribution			

Ordering Information

Type		Series	Wattage
SSL	-	A	8PN (8W, PIR sensor) 15MN (15W, MW sensor) 40MN (40W, MW sensor)

SSL-A40MN: 40W Motion Activated Solar LED Street Light in Natural White

Professional LED Canopy Lighting

LCL-B Series: Surface or recessed mount canopy lights in 50W, 100W and 150W models

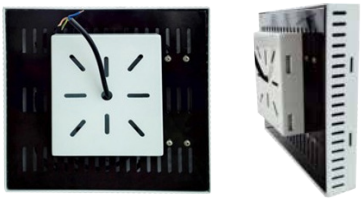
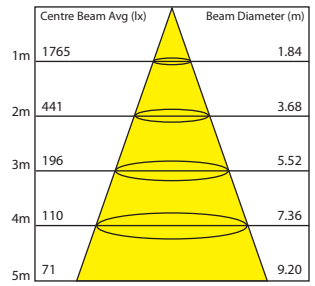
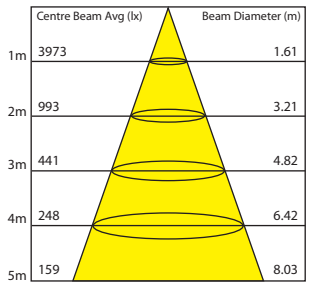
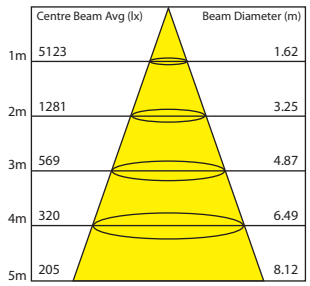
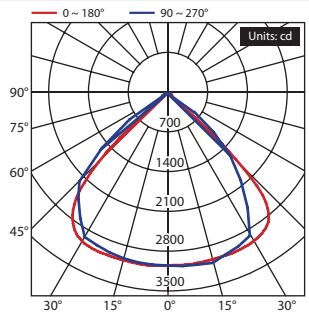
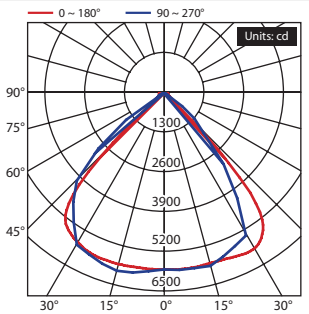
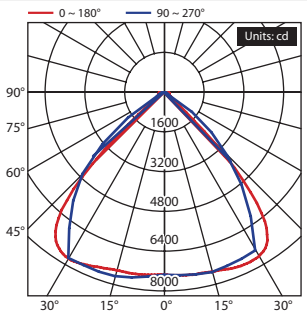
ENSA™ professional LED canopy light series is comprised of energy efficient fixtures purpose built for low-bay or canopy lighting applications. Lights include mounting components for both surface mount or recessed mount applications.

Each light in the series features an IP65 dust/water ingress protection rating making them perfect for demanding lighting applications such as in petroleum stations, car parks & car washes, industrial lighting and more. This series utilises high quality Samsung and Epistar LEDs for high-intensity light output and long LED lifespan.

- Efficient replacements for high intensity discharge lamps.
- Square light pattern with 90° x 90° beam angle.
- High quality LEDs with up to 30,000 hrs rated lifespan.
- Lights include kits for surface and recessed mounting.
- Available in natural white colour temperature (4500K).
- IP65 dust and weather resistant for external use

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LCL-B50 (Special Order)	LCL-B100 (Special Order)	LCL-B150
Product Image			
Series Name	LCL-B Series Professional LED Canopy Lights		
Optical			
Light Output	5500lm	10500lm	15500lm
Luminous Efficacy	>100lm/W	>100lm/W	>100lm/W
LED Package	Epistar	Samsung	Samsung
Colour Temperature	4500K		
Colour Rendering Index	>80		
Beam Angle	90° x 90°		
Light Decay	<3% at 6,000 hours		
Rated Lifespan	30,000 hours		
Electrical			
Power Consumption	50W	100W	150W
Input Voltage	100 ~ 240VAC		
Power Factor	>0.90	>0.95	>0.95
Dimmable	N/A		
General			
Ingress Protection	IP65		
Plug / Socket / Base	3-pin AC plug		
Reflector / Diffuser	Individual clear acrylic LED lens (PMMA)		
Housing Adjustments	Surface mount and recessed mount kit included		
Operating Environment	-20° ~ 45°C / 15~90% humidity		
Dimensions	300 x 300 x 89mm (surface) / 400 x 400 x 90mm (recessed, 320 x 320mm cutout size)		
Photometry			
Illuminance at a Distance			
Luminous Light Distribution			

Ordering Information

Type		Series	Wattage		Colour Temperature
LCL	-	B	50 (50W) 100 (100W) 150 (150W)	-	N (Natural white)

LCL-B150-N: 150W Surface or Recessed Mount LED Canopy Light in Natural White

Professional LED Panel Lighting

LPL-A series: Low unified glare rating panel lighting in 36W and 48W models

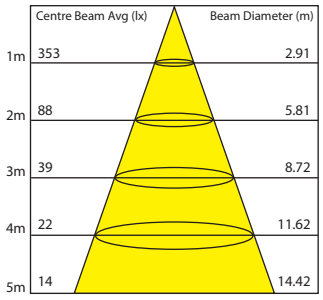
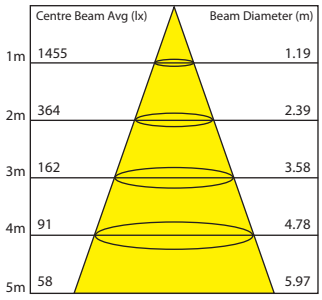
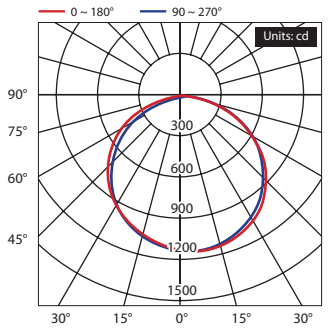
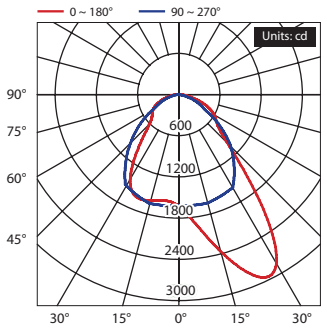
ENSA™ LED panel lights are for replacing traditional tube lighting and are best suited for office and business, in medical and educational environments, in conference rooms, and more. These convenient and efficient lights have a standard rectangular profile (1200 x 300mm) and can be easily recessed in tiled ceilings, surface mounted or suspension mounted.

Each ENSA™ LED panel light features a low Unified Glare Rating, providing a pleasing light that isn't distracting or detrimental to workplace productivity. They are the efficient LED upgrade solution for fluorescent tube troffers.

- Minimalist, stylish & efficient 9mm thick LED panel light.
- Recessed, suspension & surface mounting options.
- Available in cool white and natural white colour temp.
- Low UGR: Create pleasing, low glare, well lit spaces.
- 30,000hrs LED lifespan & <3% light decay over 6,000hrs.
- Designed to easily replace fluorescent troffer fixtures.

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LPL-A36	LPL-A48
Product Image		
Series Name	LPL-A Series Professional LED Panel Lights	
Optical		
Light Output	3300lm	4300lm
Luminous Efficacy	92lm/W	90lm/W
Colour Temperature	4000K / 6000K	
Colour Rendering Index	>80	
Beam Angle	110°	90°
Light Decay	<3% at 6,000 hours	
Rated Lifespan	>30,000 hours	
Electrical		
Power Consumption	36W	48W
Input Voltage	100 ~ 240VAC	
Power Factor	> 0.95	
Dimmable	N/A	
General		
Ingress Protection	IP20	
Plug / Socket / Base	3-pin AC plug with external driver	
Reflector / Diffuser	Frosted diffuser with UGR <22	Frosted diffuser with UGR <19
Housing Adjustments	Recessed (standard) / Hanging (optional) / Surface (optional)	
Operating Environment	-20°C ~ 40°C	
Dimensions	295 x 1195 x 9mm	
Photometry		
Illuminance at a Distance		
Luminous Light Distribution		

Accessories

Model	LPL-AS	LPL-AH
Product Image		
Type	Surface mount kit	Hanging mount kit
Components	4 x matte white aluminium panels, includes fasteners	Lockable steel cable tethers, includes clips & fasteners

Ordering Information

Type		Series	Wattage		Colour Temperature
LPL	-	A	36 (36W) 48 (48W)	-	CW (Cool white) NW (Natural white)

LPL-A36-CW: 36W LED Panel Light in Cool White

Intelligent Sensor LED Batten Lighting

LEDBTS Series: 18W and 36W sensor battens in standard 600mm & 1200mm models

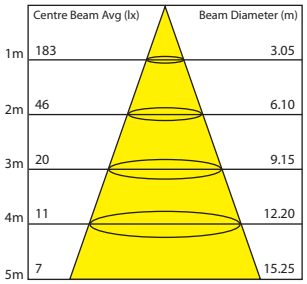
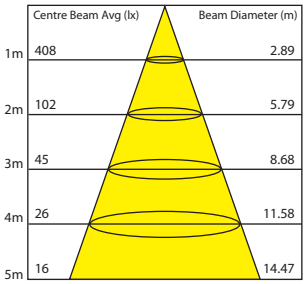
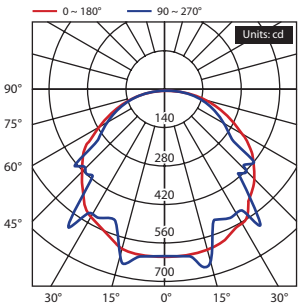
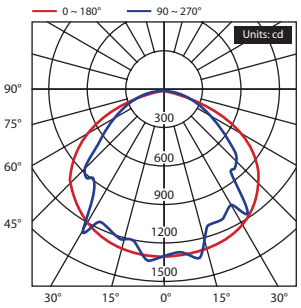
The ENSA™ LED batten light series comprises truly customisable energy efficient lighting solutions that deliver unparalleled control over your lighting, without the need for a complex management system.

Each LED batten uses a fully-configurable ambient light sensor, 5.8GHz microwave motion sensor and light on-timer in tandem, achieving impressively low total energy consumption when compared to traditional twin-batten fluorescent tubes. They are perfect for areas with intermittent people traffic such as in stairwells, corridors, underpasses, multi-storey car parks and more.

- Tailor your light use to further compound energy savings.
- Adjustable light & motion sensing with on-time control.
- Sensor can detect motion through glass and thin walls.
- Built tough housing: IP65 dust and weather resistant.
- Control standby mode: completely off or half brightness.
- Long lifespan LED lighting: rated for up to 50,000 hours.

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LEDBT18WS	LEDBT36WS
Product Image		
Series Name	LEDBTS Series: Standard LED Smart Batten	
Optical		
Light Output	1350lm	3240lm
Luminous Efficacy	75lm/W	90lm/W
Colour Temperature	6000K	
Colour Rendering Index	> 70	
Beam Angle	140°	
Light Decay	< 15% at 20,000 hours	
Rated Lifespan	> 50,000 hours	
Electrical		
Power Consumption	18W	36W
Input Voltage	220 ~ 240VAC (50Hz)	
Power Factor	> 0.9	
Dimmable	N/A	
Detection		
Ambient Light Sensor	3 ~ 2000lx (adjustable)	
Motion Detection	360° Microwave (5.8GHz) / 8m radius (adjustable)	
On-Time Delay	10s ~ 12min (adjustable)	
Standby Light Modes	Off (0% brightness) / Dimmed (50% brightness)	
General		
Ingress Protection	IP65	
Plug / Socket / Base	Internal terminal block	
Reflector / Diffuser	Clear polycarbonate diffuser / Metal clips	
Operating Environment	-20° ~ 50°C	
Dimensions	600 x 86 x 65mm	1200 x 95 x 80mm
Photometry		
Illuminance at a Distance		
Luminous Light Distribution		

Ordering Information

Type	Wattage	Features
LEDBT	18W (18W) 36W (36W)	S (Sensor batten)

LEDBT36WS: 36W LED Intelligent Batten Light

Intelligent LED Batten Lighting & Backup

LEDBTWS2 / SE Series: 18W and 36W battens in standard or battery backup models

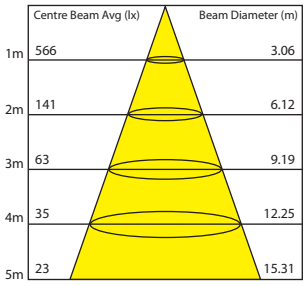
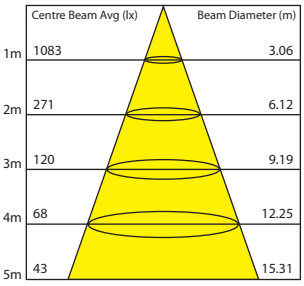
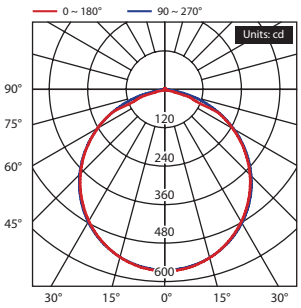
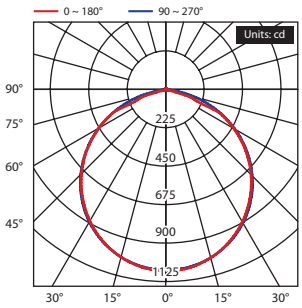
The ENSA™ LED batten light series comprises customisable energy efficient lighting solutions that deliver control over your lighting, without the need for a complex management system. Models are available as standard sensor batten lights or as an emergency sensor batten light fitted with an emergency backup battery for over 2 hours light uptime.

Similar to the non-emergency range, the intelligent emergency battens feature three smart ways to customise your lighting. Non-emergency models (S2 series) feature an integrated daylight & microwave motion sensor, whereas emergency models (SE series) include a microwave motion sensor with 2-stage dimming.

- Tailor your light use to further compound energy savings.
- Adjustable light-use controls such as on-time delay.
- Sensor can detect motion through glass and thin walls.
- Built tough housing: IP65 dust and weather resistant.
- Emergency lighting models are AS2293.3 approved.
- Easy access TEST button for emergency light testing.

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LEDBT18WS2	LEDBT36WS2	LEDBT18WSE	LEDBT36WSE
Product Image				
Series Name	LEDBTS2 Series: Standard LED Batten		LEDBTSE Series: Battery Backup LED Batten	
Optical				
Light Output	1600lm	3000lm	1600lm	3000lm
Luminous Efficacy	88lm/W	83lm/W	88lm/W	83lm/W
Colour Temperature	6000K			
Colour Rendering Index	> 80			
Beam Angle	120°			
Light Decay	< 15% at 10,000 hours			
Rated Lifespan	35,000 hours			
Electrical				
Power Consumption	18W	36W	18W	36W
Input Voltage	220 ~ 240VAC (50 ~ 60Hz)			
Power Factor	>0.9			
Battery Backup	N/A		12V 1500mAh NiMH >120min use	12V 2500mAh NiCad >120min use
Emergency Power Output	N/A		6W (default)	10W (default)
Control				
Ambient Light Threshold	2000lx / 50lx / 15lx / 5lx (adjustable)		N/A	
Motion Detection	360° 5.8GHz Microwave Sensor with 8m max. radius (adjustable)			
On-Time Delay	5s / 30s / 90s / 180s (adjustable)			
Dimmed Brightness	N/A		20% / 40% / 60% / 75% (adjustable)	
Dimming Timeout	N/A		0s / 90s / 180s / ∞s	
Dimming Description	Turn off		Turn off / Time delay / Always on	
General				
Ingress Protection	IP65			
Plug / Socket / Base	Internal terminal block			
Installation Materials	Mounting clips, wall screws & plugs,			
Reflector / Diffuser	Frosted diffuser			
Operating Environment	-25° ~ 40°C			
Dimensions	655 x 108 x 85mm	1260 x 108 x 85mm	655 x 108 x 85mm	1260 x 108 x 85mm
Photometry	18W models		36W models	
Illuminance at a Distance				
Luminous Light Distribution				

Ordering Information

Type	Wattage	Features
LEDBT	18W (18W) 36W (36W)	S2 (Non-emergency sensor batten) SE (Emergency sensor batten)

LEDBT36WSE: 36W LED Sensor Batten with Backup Battery

Intelligent LED Oyster Lighting with Backup

LOL-A Series: 16W LED oyster lights in standard and intelligent models - in warm or cool white

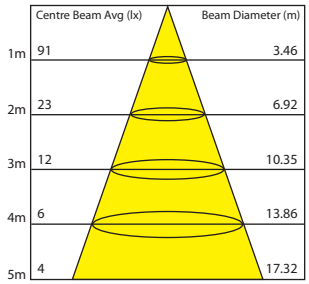
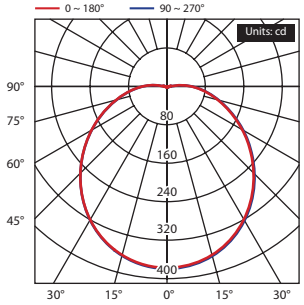
The LOL-A oyster light series delivers efficient lighting to any environment, indoors or outdoors. Available in warm or cool white colour temperatures as a standard light, with an intelligent sensor or with an intelligent sensor plus emergency backup battery.

The series features a wide 120° beam coverage and a frosted diffuser to reduce glare. The intelligent oyster light models feature three smart ways to customise your lighting with a fully-configurable ambient light sensor, 5.8GHz microwave motion sensor and light on-timer in tandem. This makes them the perfect lighting solution for areas with intermittent traffic such as in apartment complexes, stairwells, walkways, campuses and more.

- Tailor your light use to further compound energy savings.
- Adjustable light-use controls such as on-time delay.
- Sensor can detect motion through glass and thin walls.
- Robust IP66/IK10 weather & vandal resistant housing.
- Modern design with frosted diffuser and white surround.
- Long lifespan LED lighting: rated for up to 30,000 hours.

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LOL-A16-x	LOL-A16-xS	LOL-A16-xSE
Product Image			
Series Name	LOL-A Series: LED Oyster Lights	LOL-A Series: LED Sensor Oyster Lights	LOL-A Series: LED Sensor Emergency Oyster Lights
Optical			
Light Output	1200lm		
Luminous Efficacy	75lm/W		
Colour Temperature	3000K / 5000K		
Colour Rendering Index	> 80		
Beam Angle	120°		
Light Decay	< 15% at 10,000 hours		
Rated Lifespan	30,000 hours		
Electrical			
Power Consumption	16W		
Input Voltage	220 ~ 240VAC (50Hz)		
Power Factor	> 0.9		
Dimmable	N/A		
Battery Backup	N/A	N/A	3.7V 1500mAh NiMH >300min uptime at 1.2W
Emergency Brightness	N/A	N/A	20% sensing / 100% on detection
Detection			
Ambient Light Sensor	N/A	< 3 ~ 2000lx (adjustable)	< 5 ~ 2000lx (adjustable)
Motion Detection	N/A	360° Microwave (5.8GHz) / 8m radius (adjustable)	
On-Time Delay	N/A	10s ~ 12min (adjustable)	10s ~ 10min (adjustable)
Standby Light Modes	N/A	N/A	20% brightness
General			
Ingress Protection	IP66		
Vandal Resistance	IK10		
Plug / Socket / Base	Internal terminal block		
Reflector / Diffuser	Frosted diffuser		
Operating Environment	-20° ~ 50°C		
Dimensions	Ø300 x 95mm		
Photometry			
Illuminance at a Distance			
Luminous Light Distribution			

Ordering Information

Type		Wattage		Colour Temperature	Features
LOL	-	A16 (16W)	-	W (Warm white) C (Cool white)	S (Sensor) SE (Sensor & backup battery)

LOL-A16-CSE: 16W LED Sensor Oyster Light in Cool White with Sensor & Backup Battery

Professional T8 LED Tube Lighting

LTU-A Series: High performance LED tubes in 600mm, 1200mm and 1500mm models

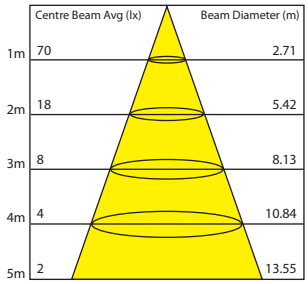
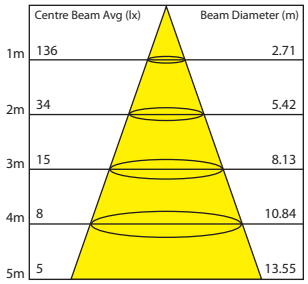
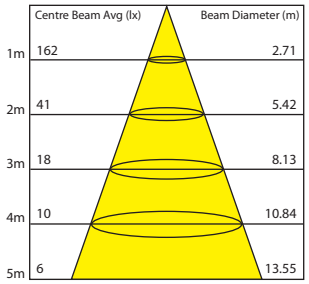
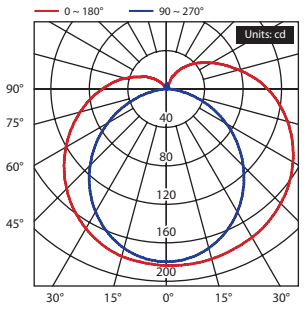
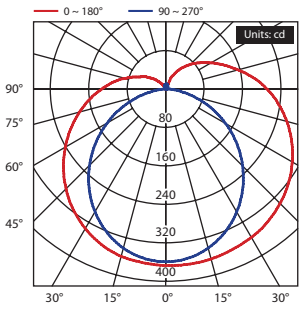
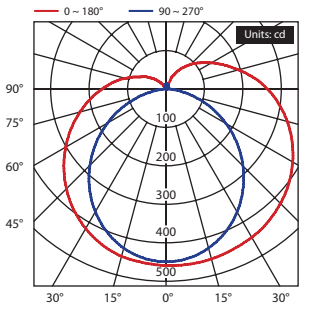
The ENSA™ LED tube light series is designed to reduce your fluorescent tube lighting costs by a minimum of 50% and are available in 600mm (2ft), 1200mm (4ft) and 1500mm (5ft) lengths. LTU-A series tubes are more than just energy efficient options to conventional fluorescents. They also deliver better quality & longer lasting light with no UV, they do not require a magnetic or electronic ballast, they turn on/off instantly with no warm up period, they do not fade or flicker, and are 100% recyclable with no mercury or toxic materials.

Each tube features an AC input at one end only and is supplied with an LED starter to replace fluorescent tube fuses.

- Cut your energy use in half by switching to LED tubes.
- High luminous efficacy for optimal return on investment.
- Long lifespan LED lighting: rated for up to 50,000 hours.
- Retrofit or replace: ideal for carparks, offices and more.
- Polycarbonate for low risk of shock (standard model only).
- Supplied with replacement LED starter.

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LTU-A9	LTU-A18	LTU-A22
Product Image			
Series Name	LTU-A Series T8 LED Tube Lights		
Optical			
Light Output	900lm	1800lm	2200lm
Luminous Efficacy	100lm/W		
Colour Temperature	6000K		
Colour Rendering Index	> 80		
Beam Angle	140°		
Light Decay	< 3% at 6,000 hours		
Rated Lifespan	> 50,000 hours		
Electrical			
Power Consumption	9W	18W	22W
Input Voltage	100 ~ 240VAC		
Power Factor	> 0.9		
Dimmable	N/A		
Detection			
Motion Detection	N/A		
On-Time Delay	N/A		
Standby Light Modes	N/A		
General			
Plug / Socket / Base	T8 size / G13 base		
Reflector / Diffuser	Frosted diffuser		
Housing Construction	Polycarbonate		
Operating Environment	-35° ~ 55°C		
Dimensions	Ø26 x 588mm	Ø26 x 1198mm	Ø26 x 1498mm
Photometry			
Illuminance at a Distance			
Luminous Light Distribution			

Ordering Information

Type		Series	Wattage		Colour Temperature
LTU	-	A	9 (9W) 18 (18W) 22 (22W)	-	CW (Cool white)

LTU-A18-CW: 18W LED Tube Light in Cool White

T8 LED Motion Sensor Tube Lighting

LTU-C Series: Motion sensor LED tubes in 600mm & 1200mm lengths (2ft/4ft)

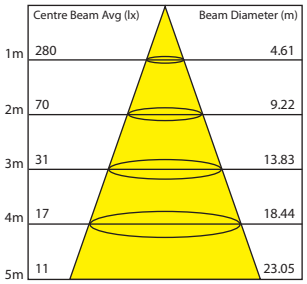
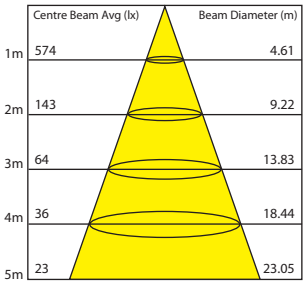
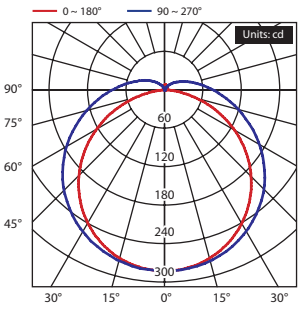
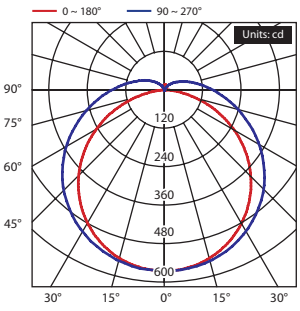
Compound your LED energy savings by choosing ENSA™ Intelligent LED Tube Lighting which are not only 50% more energy efficient than conventional fluorescents, but utilise motion sensor technology to achieve impressively low total energy consumption. This makes them the perfect energy efficient light for areas with intermittent people traffic such as in apartment complexes, stairwells, walkways, university campuses and more.

LTU-C series tubes do not require a magnetic or electronic ballast, and each tube features an AC input at one end only and is supplied with an LED starter to replace fluorescent tube fuses. *(see installation diagrams)*

- Cut your energy use in half by switching to LED tubes.
- 360° passive infrared motion detection up to 8m radius.
- 60s delay after last detected motion, then dims to 30%.
- High luminous efficacy for optimal return on investment.
- Long lifespan LED lighting: rated for up to 50,000 hours.
- Supplied with replacement LED starter.

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LTU-C9-CS	LTU-C18-CS
Product Image		
Series Name	LTU-C Series T8 LED Motion Sensor Tube Lights	
Optical		
Light Output	750lm	1800lm
Luminous Efficacy	83lm/W	100lm/W
Colour Temperature	6000K	
Colour Rendering Index	> 80	
Beam Angle	120°	
Light Decay	< 15% at 20,000 hours	
Rated Lifespan	> 50,000 hours	
Electrical		
Power Consumption	9W	18W
Input Voltage	85 ~ 265VAC	85 ~ 265VAC
Power Factor	> 0.92	
Dimmable	Yes	
Detection		
Motion Detection	8m radius	
On-Time Delay	60s	
Standby Light Mode	30% brightness	
General		
Plug / Socket / Base	T8 size / G13 base	
Reflector / Diffuser	Frosted diffuser	
Housing Construction	Polycarbonate & aluminium	
Operating Environment	-25° ~ 40°C	
Dimensions	Ø26 x 600mm	Ø26 x 1200mm
Photometry		
Illuminance at a Distance		
Luminous Light Distribution		

Ordering Information

Type		Series	Wattage		Colour Temperature	Other Features
LTU	-	C	9 (9W) 18 (18W)	-	C (Cool white)	S (Sensor)

LTU-C18-CS: 18W LED Tube Light in Cool White with PIR Motion Sensing

Linkable LED Strip Lighting

LEDBR Series: 13W in two colour temperatures, with surface & right angle brackets

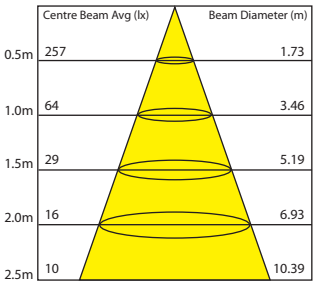
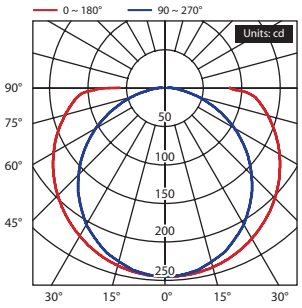
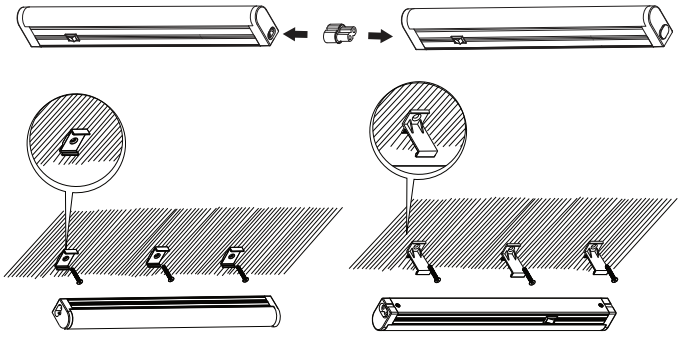
The ENSA™ LED linkable strip light range offers energy efficient lighting in a uniquely versatile, slim package. Connect three LED strip lights together for a maximum 3.5m length LED light strip.

Each linkable strip light comes standard with light connectors, connector safety caps, and surface mount and right angle mount clips. The simple mounting clips enable implementation of the linkable strip light across a wide variety of applications including shelf and cabinet lighting, accent lighting, recessed wall-wash lighting and more.

- Unique, energy efficient linkable LED strip lighting.
- Connect up to 3 lights together; easy on/off switch.
- 78lm/W luminous efficacy & 30,000 hours service life.
- Available in 3000K warm white and 6500K cool white.
- Right angle & surface clips enable rapid light installation.
- Wide 135° beam angle and >80 colour rendering index.

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LEDBR13W
Product Image	
Series Name	LEDBR Series: Linkable LED Lighting
Optical	
Light Output	1050lm
Luminous Efficacy	78lm/W
Colour Temperature	3000K / 6500K
Colour Rendering Index	> 80
Beam Angle	135°
Light Decay	<10% at 6,000 hours
Rated Lifespan	> 30,000 hours
Electrical	
Power Consumption	13.5W
Input Voltage	220 ~ 240VAC (50 ~ 60Hz)
Power Factor	> 0.5
Dimmable	N/A
General	
Plug / Socket / Base	3-pin AC plug
Reflector / Diffuser	Frosted diffuser
Housing Construction	Polycarbonate & aluminium
Operating Environment	-25° ~ +40°C
Dimensions	1170 x 25 x 35mm
Photometry	
Illuminance at a Distance	
Luminous Light Distribution	
Diagrams	
Mounting Options	

Ordering Information

Type	Wattage	Colour Temperature
LEDBR	13W (13.5W)	3K (Warm white) 65K (Cool white)

LEDBR13W65K: 13W LED Linkable Strip Light in Cool White

Premium Adjustable Body LED Downlights

LEDDLR Series: Tilt/rotate adjustable circlular downlights in 20W, 38W and 60W models

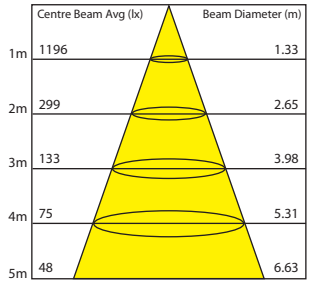
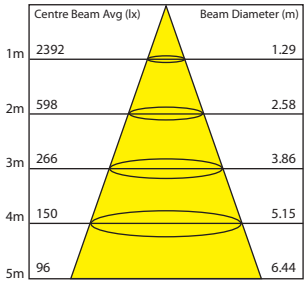
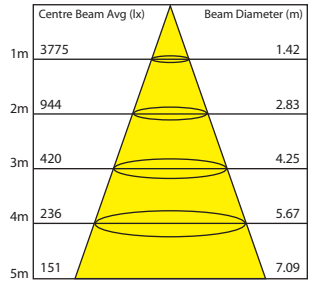
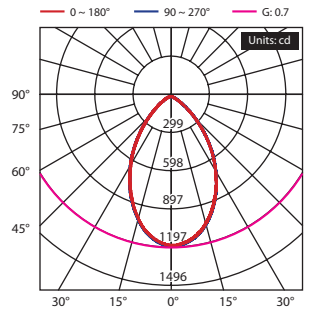
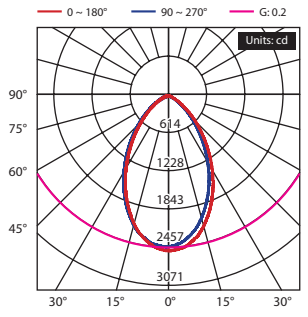
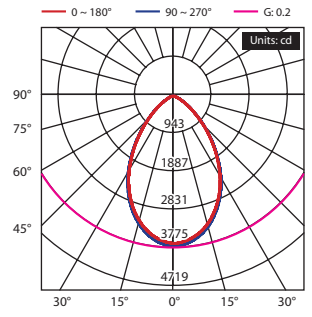
Choose the ENSA™ premium range of adjustable LED downlights for the best in light output, service life, colour rendering accuracy and more. Available in cool and warm white colour temperatures, these downlights utilise high quality Samsung LEDs to provide a minimum of 95lm/W luminous efficacy and up to 50,000 hours rated LED lifespan.

Each downlight in the range can rotate 350° and tilt up to 60°, coupled with a 60° beam angle, these lights are perfect for versatile spot or key lighting in retail spaces, showrooms, foyers, office environments and more.

- Excellent alternative to halogen and metal-halide lamps.
- Ideal for use in shopfitting applications & large fitouts.
- Versatile: 350° rotation and 60° tilt adjustable housing.
- Minimalist, bevelled white gimble downlight surround.
- Samsung LEDs for optimal performance & lifespan.
- Hole cut size: Ø165mm (20W, 38W) and Ø215mm (60W).

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LEDDL20WxKR	LEDDL38WxKR	LEDDL60WxKR
Product Image			
Series Name	LEDDLR Series: Premium Adjustable Series LED Downlights		
Optical			
Light Output	1890lm	3640lm	6300lm
Luminous Efficacy	95lm/W	96lm/W	105lm/W
Colour Temperature	3000K / 5500K		
Colour Rendering Index	> 80		
Beam Angle	60°		
Light Decay	30% at 25,000 hours		
Rated Lifespan	> 50,000 hours		
Electrical			
Power Consumption	20W	38W	60W
Input Voltage	85 ~ 265VAC		
Power Factor	> 0.9		
Dimmable	N/A		
General			
Plug / Socket / Base	3-pin AC plug with external driver		
Reflector / Diffuser	Frosted diffuser		
Housing Adjustments	Tilt 60°/ Rotate 350°		
Operating Environment	-20°C ~ 40°C		
Dimensions	Ø195 x 175mm		Ø250 x 144mm
Hole Cut Size	Ø165mm		Ø215mm
Photometry			
Illuminance at a Distance			
Luminous Light Distribution			

Ordering Information

Type	Wattage	Colour Temperature	Other Features
LEDDL	20W (20W) 38W (38W) 60W (60W)	3K (Warm white) 5K (Cool white)	R (Round)

LEDDL20W3KR: 20W Round Adjustable Downlight in Warm White

Premium Adjustable Body LED Downlights

LEDDLS Series: Tilt adjustable rectangular downlights in 20W, 38W and 48W models

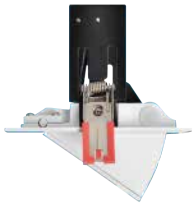
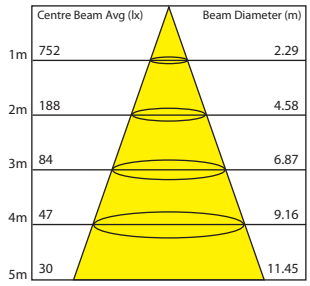
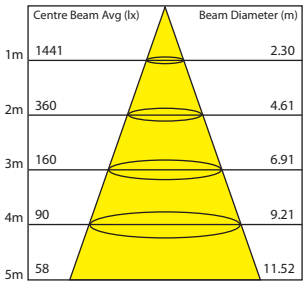
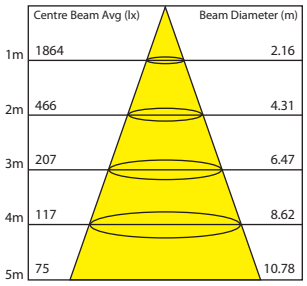
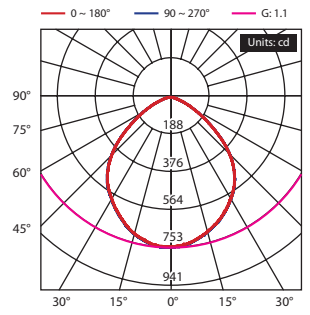
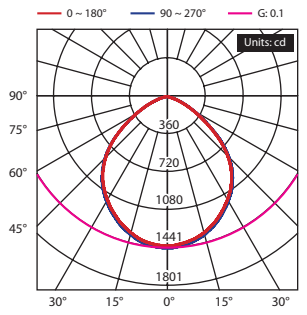
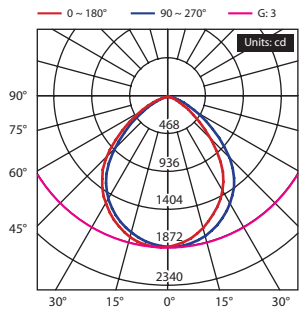
Choose the ENSA™ premium range of adjustable LED downlights for the best in light output, service life, colour rendering accuracy and more. Available in cool and warm white colour temperatures, these downlights utilise high quality Samsung LEDs to provide a minimum of 98lm/W luminous efficacy and up to 50,000 hours rated LED lifespan.

Each downlight in the range can tilt up to 60° and features a wide beam angle of 120°. Their rectangular shape and light distribution makes them ideal for bay lighting, signage illumination and wall highlighting, especially in retail environments.

- Excellent alternative to halogen and metal-halide lamps.
- Ideal for use in shopfitting applications & large fit-outs.
- Samsung LEDs for optimal performance & lifespan.
- Minimalist, bevelled white gimble downlight surround.
- 60° tilt adjustable & frosted diffuser for glare reduction.
- Uniform hole cut size across range: 227 x 130mm.

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LEDDL20WxKS	LEDDL38WxKS	LEDDL48WxKS
Product Image			
Series Name	LEDDLS Series: Premium Rectangular Adjustable Series LED Downlights		
Optical			
Light Output	1950lm	3750lm	4760lm
Luminous Efficacy	98lm/W	99lm/W	100lm/W
Colour Temperature	3000K / 5500K		
Colour Rendering Index	>80		
Beam Angle	120°		
Light Decay	30% at 25,000 hours		
Rated Lifespan	> 50,000 hours		
Electrical			
Power Consumption	20W	38W	48W
Input Voltage	85 ~ 265VAC		
Power Factor	> 0.9		
Dimmable	No		
General			
Plug / Socket / Base	3-pin AC plug with external driver		
Reflector / Diffuser	Frosted diffuser		
Housing Adjustments	Tilt 60°		
Operating Environment	-20°C ~ 40°C		
Dimensions	240 x 145 x 135mm		
Hole Cut Size	227 x 130mm		
Photometry			
Illuminance at a Distance			
Luminous Light Distribution			

Ordering Information

Type	Wattage	Colour Temperature	Other Features
LEDDL	20W (20W) 38W (38W) 48W (48W)	3K (Warm white) 5K (Cool white)	S (Rectangular)

LEDDL20W5KS: 20W Rectangular Adjustable Downlight in Cool White

Premium Fixed Body LED Downlights

LEDDLRD Series: Dimmable downlights in 20W, 36W and 48W, in two colour temperatures

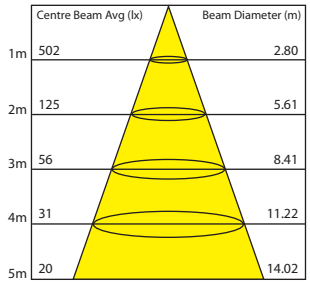
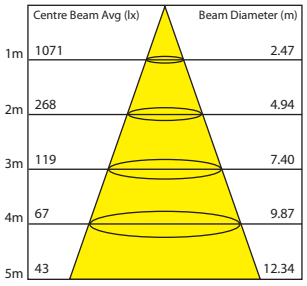
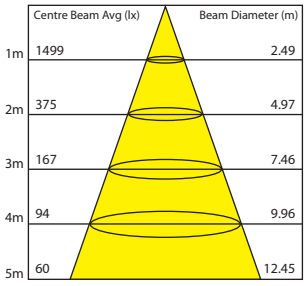
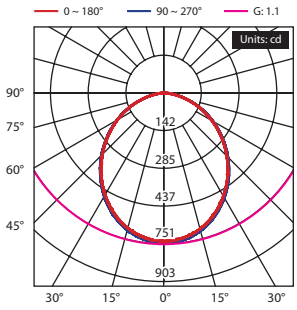
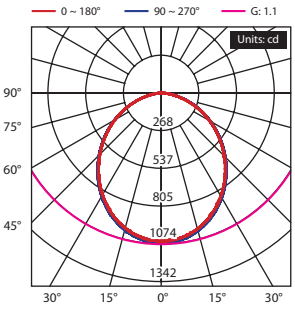
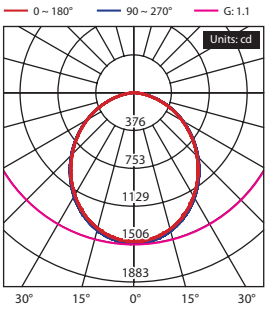
Choose the ENSA™ premium range of fixed LED downlights for the best in light output, service life, colour rendering accuracy and more. Available in cool and warm white colour temperatures, these downlights utilise high quality Samsung LEDs to provide a minimum of 92lm/W luminous efficacy and up to 50,000 hours rated LED lifespan.

With a 100° beam angle and circular light distribution, these lights are designed to provide evenly distributed, high quality light perfect for general purpose illumination in store fit-outs, galleries, residential and office environments and more.

- 100lm/W high efficiency, low energy use LED downlights.
- 6" and 8" total diameter, suitable for retrofit installations.
- Excellent colour rendering, lifepsan and light output.
- Minimalist, bevelled white gimble downlight surround.
- Each downlight model features TRIAC dimming.
- Hole cut size: Ø165mm (20W, 36W) and Ø205mm (48W).

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LEDDL20WxK6RD	LEDDL36WxK6RD	LEDDL48WxK8RD
Product Image			
Series Name	LEDDLRD Series: Premium Fixed Dimmable Series LED Downlights		
Optical			
Light Output	1835lm	3370lm	4600lm
Luminous Efficacy	92lm/W	94lm/W	96lm/W
Colour Temperature	3000K / 5500K		
Colour Rendering Index	> 80		
Beam Angle	100°		
Light Decay	30% at 25,000 hours		
Rated Lifespan	>50,000 hours		
Electrical			
Power Consumption	20W	36W	48W
Input Voltage	100 ~ 240VAC		
Power Factor	> 0.9		
Dimmable	Yes (TRIAC)		
General			
Plug / Socket / Base	3-pin AC plug with external driver		
Reflector / Diffuser	Frosted diffuser		
Housing Adjustments	N/A		
Operating Environment	-20 ~ +40°C		
Dimensions	Ø195x 56mm		Ø245 x 54mm
Hole Cut Size	Ø165mm		Ø205mm
Photometry			
Illuminance at a Distance			
Luminous Light Distribution			

Ordering Information

Type	Wattage	Colour Temperature	Other Features
LEDDL	20W (20W) 36W (38W) 48W (48W)	3K (Warm white) 5K (Cool white)	6 / 8 (Ø inches) R (Round) D (Dimmable)

LEDDL48W5K8RD: 48W Round Fixed Dimmable Downlight in Cool White

Commercial Adjustable Body LED Downlights

LDL-BD Adjustable Series: Available in six dimmable models, in two colour temperatures

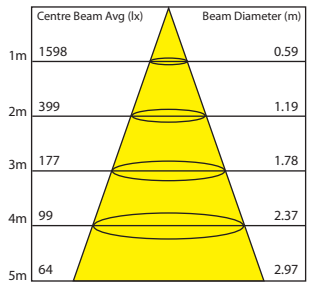
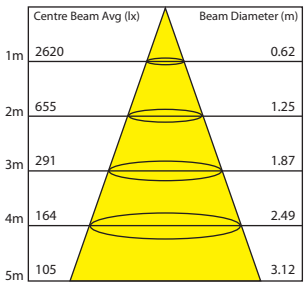
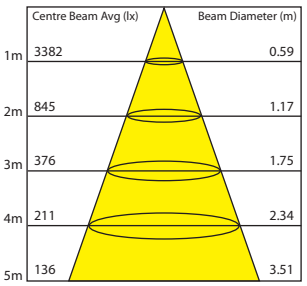
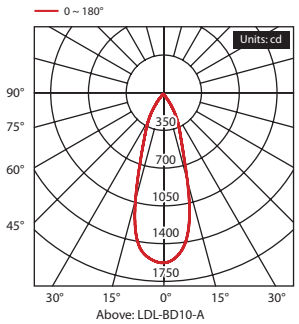
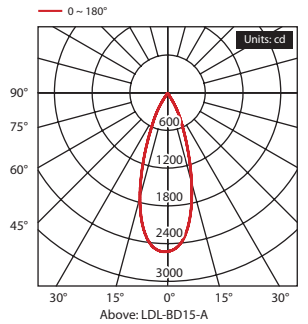
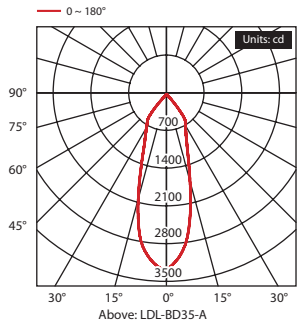
Available in a wide range of wattages and hole cut sizes to suit your installation needs, the ENSA™ LDL-BD adjustable commercial downlight series delivers energy efficient, dimmable downlights for every application. With focused beam angles across the range, LDL-BD adjustable series downlights provide concentrated light distribution, ideal for key and spot lighting.

Each downlight can be tailored to your specifications, featuring an adjustable housing with 40° of lateral tilt (±20°). The series is available in 3000K warm white and 6000K cool white models with an average luminous efficacy of 70lm/W across the range.

- Available in 10W, 12W, 15W, 25W, 35W and 45W models.
- Average beam angle of 35°, ideal for spot & key lighting.
- Dimmable, energy efficient replacement for halogens.
- Rounded, white gimble surround & clear glass diffuser.
- Lateral tilt adjustable housing ±20° from origin.
- Hole cut sizes ranging from Ø75mm ~ Ø160mm.

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LDL-BD10-A	LDL-BD12-A	LDL-BD15-A	LDL-BD25-A	LDL-BD35-A	LDL-BD45-A
Product Image						
Series Name	LDL-BD Series: Adjustable Dimmable LED Downlights					
Optical						
Light Output	700lm	800lm	1050lm	1800lm	2600lm	3200lm
Luminous Efficacy	70lm/W	68lm/W	70lm/W	72lm/W	74lm/W	71lm/W
Colour Temperature	3000K / 6000K					
Colour Rendering Index	> 80					
Beam Angle	30°	35°	35°	35°	35°	45°
Light Decay	< 30% at10,000 hours					
Rated Lifespan	>35,000 hours					
Electrical						
Power Consumption	10W	12W	15W	25W	35W	45W
Input Voltage	100 ~ 240VAC					
Power Factor	> 0.9					
Dimmable	Yes					
General						
Plug / Socket / Base	3-pin AC plug with external driver					
Reflector / Diffuser	Clear diffuser					
Housing Adjustments	-20° ~ +20° Lateral tilt					
Operating Environment	-20 ~ +40°C					
Dimensions	Ø95 x 81mm	Ø110 x 88mm	Ø119 x 103mm	Ø142 x 118mm	Ø180 x 129mm	Ø193 x 129mm
Hole Cut Size	Ø75mm	Ø80mm	Ø90mm	Ø110mm	Ø145mm	Ø160mm
Photometry						
Illuminance at a Distance	 Above: LDL-BD10-A		 Above: LDL-BD15-A		 Above: LDL-BD35-A
Luminous Light Distribution	 Above: LDL-BD10-A		 Above: LDL-BD15-A		 Above: LDL-BD35-A

Ordering Information

Type		Series	Wattage		Housing Style	Colour Temperature
LDL	-	BD	10 (10W) 12 (12W) 15 (15W) 25 (25W) 35 (35W) 45 (45W)	-	A (Adjustable)	C (Cool white) W (Warm white)

LDL-BD45-AW: 45W Dimmable Adjustable LED Downlight in Warm White

Recessed Adjustable Body LED Downlights

LDL-BC Series: Available in 10W and 12W dimmable models, in two colour temperatures

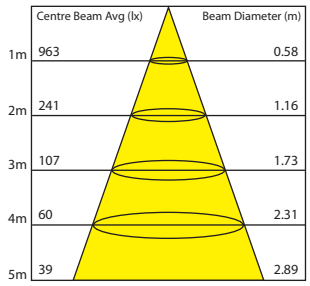
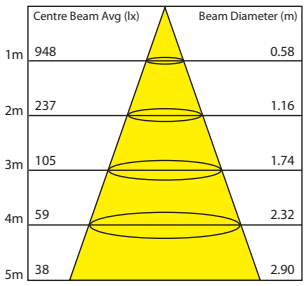
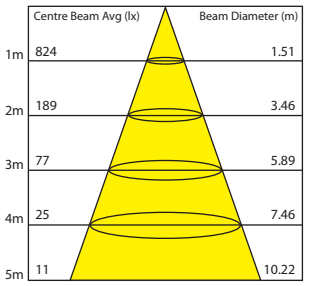
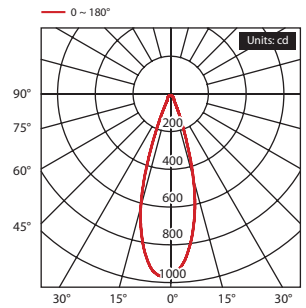
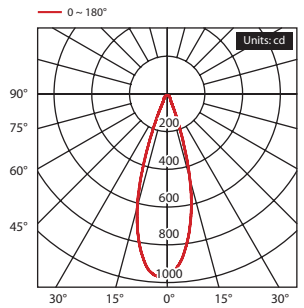
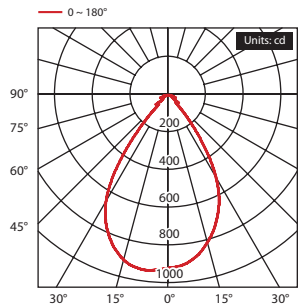
The ENSA™ LDL-BC series comprises a unique range of downlights, available in standard lens and recessed lens models. Standard lens models offer a concentrated circular light distribution with 60° beam angle. All models are dimmable.

Designed to be discreet, recessed lens models have the lens front positioned away from the light opening. Combined with their 20° narrow beam angle and tilt-adjustable housing, they subtly cast light that is free of glare when viewed from almost all angles. Light openings for recessed models are available in circle and elliptical openings.

- Tilt adjustable LED downlights in 10W and 12W models.
- Dimmable, energy efficient replacement for halogens.
- Lateral tilt adjustable housing ±20° from origin.
- Flat-surface, low-profile white gimble (recessed models).
- Simple, stylish bevelled white gimble (standard models).
- Hole cut size: Ø80mm (10W) and Ø70mm (12W).

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LDL-BC10-A1	LDL-BC10-A2	LDL-BC12-A
Product Image			
Series Name	LDL-BC Deep-Recessed Adjustable Dimmable LED Downlights		LDL-BC Adjustable Dimmable LED Downlights
Optical			
Light Output	650lm		900lm
Luminous Efficacy	65lm/W		75lm/W
Colour Temperature	3000K / 6000K		
Colour Rendering Index	> 80		
Beam Angle	20°		60°
Light Decay	< 30% at 10,000 hours		
Rated Lifespan	>35,000 hours		
Electrical			
Power Consumption	10W		12W
Input Voltage	100 ~ 240VAC		
Power Factor	> 0.9		
Dimmable	Yes		
General			
Plug / Socket / Base	3-pin AC plug with external driver		
Reflector / Diffuser	Ellipse shape; deep recessed 'invisible' lens	Circle shape; deep recessed 'invisible' lens	Clear lens/diffuser
Housing Adjustments	-20° ~ +20° Lateral Tilt		
Operating Environment	-20 ~ +40°C		
Dimensions	Ø92 x 92mm		Ø100 x 90mm
Hole Cut Size	Ø80mm		Ø70mm
Photometry			
Illuminance at a Distance			
Luminous Light Distribution			

Ordering Information

Type		Series	Wattage		Housing Style	Colour Temperature	Other
LDL	-	BC	10 (10W) 12 (12W)	-	A (Adjustable)	C (Cool white) W (Warm white)	1 ~ 9 (Identifier)

LDL-BC10-AC2: 10W Dimmable Adjustable LED Downlight in Cool White

Commercial Fixed Body LED Downlights

LDL-BD Fixed Series: Available in four dimmable models, in two colour temperatures

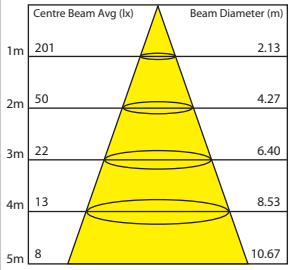
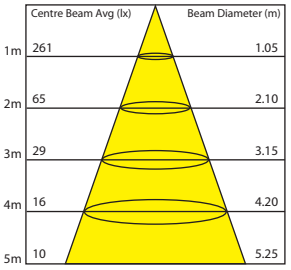
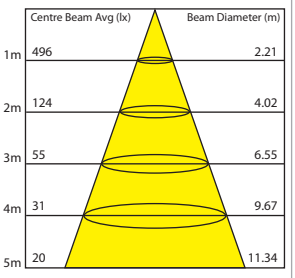
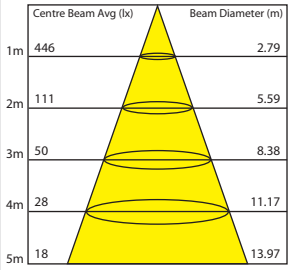
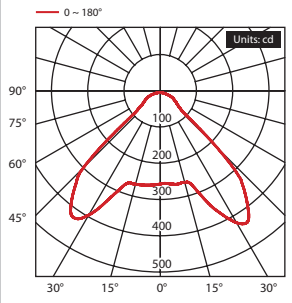
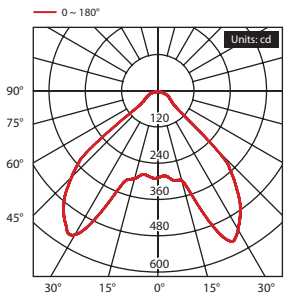
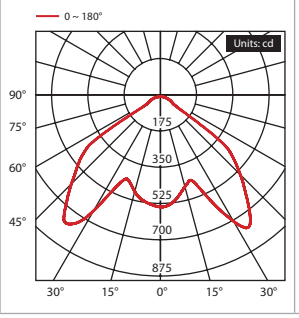
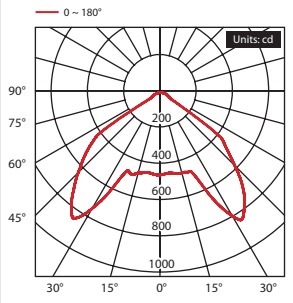
Available in a wide range of wattages and hole cut sizes to suit your installation needs, the ENSA™ LDL-BD fixed commercial downlight series delivers energy efficient, dimmable downlights for every application.

LDL-BD fixed series downlights are an affordable, energy efficient upgrade for existing halogen downlights. They are available in a variety of hole cut sizes and beam angles, and come in 3000K warm white and 6000K cool white colour temperatures. Each downlight in the series is dimmable and features a simple and stylish white gimble surround and partially frosted diffuser.

- Available in 9W, 15W, 20W, and 30W models.
- Average luminous efficacy of 74lm/W across the range.
- Dimmable, energy efficient replacement for halogens.
- Recessed, white gimble with partially frosted diffuser.
- Long life LEDs with 35,000 hours rated service life.
- Hole cut sizes ranging from Ø95mm ~ Ø195mm.

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LDL-BD9-F	LDL-BD15-F	LDL-BD20-F	LDL-BD30-F
Product Image				
Series Name	LDL-BD Series: Fixed Dimmable LED Downlights			
Optical				
Light Output	700lm	1100lm	1500lm	2100lm
Luminous Efficacy	78lm/W	74lm/W	75lm/W	70lm/W
Colour Temperature	3000K / 6000K			
Colour Rendering Index	> 80			
Beam Angle	95°	36°	75°	108°
Light Decay	< 30% at 10,000 hours			
Rated Lifespan	>35,000 hours			
Electrical				
Power Consumption	9W	15W	20W	30W
Input Voltage	100 ~ 240VAC			
Power Factor	> 0.9			
Dimmable	Yes			
General				
Plug / Socket / Base	3-pin AC plug with external driver			
Reflector / Diffuser	Partially frosted diffuser			
Housing Adjustments	N/A			
Operating Environment	-20 ~ +40°C			
Dimensions	Ø105 x 48mm	Ø140 x 60mm	Ø190 x 60mm	Ø230 x 72mm
Hole Cut Size	Ø95mm	Ø120mm	Ø165mm	Ø195mm
Photometry				
Illuminance at a Distance				
Luminous Light Distribution				

Ordering Information

Type		Series	Wattage		Housing Style	Colour Temperature
LDL	-	BD	9 (9W) 15 (15W) 20 (20W) 30 (30W)	-	F (Fixed)	C (Cool white) W (Warm white)

LDL-BD9-FW: 9W Dimmable Fixed LED Downlight in Warm White

Ultra Thin & Surface Mount LED Downlights

LDL-D Series: Available 12W, 18W and 24W models, in two colour temperatures

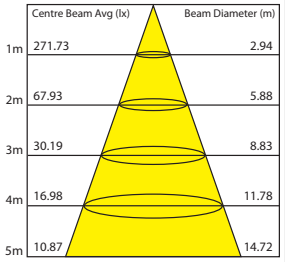
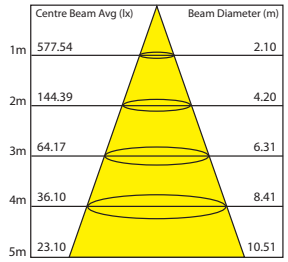
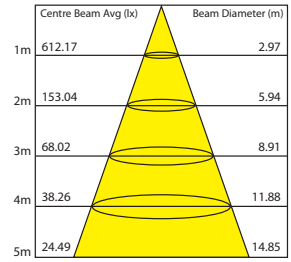
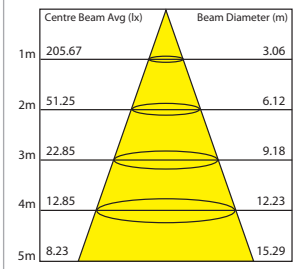
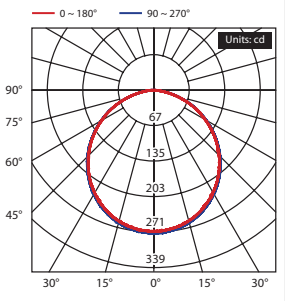
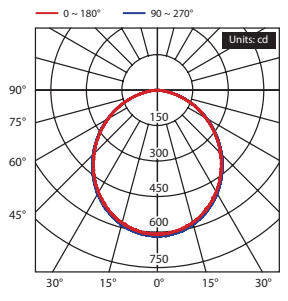
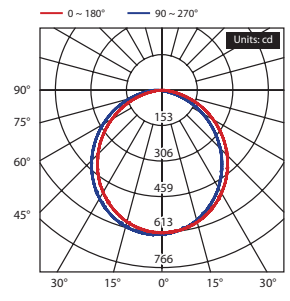
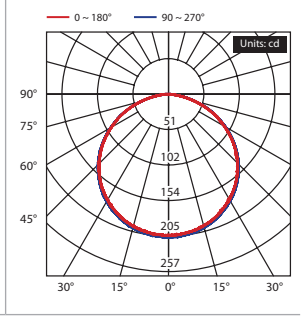
The ENSA™ LDL-D Series features ultra thin LED downlights in two distinct housing styles. Available in surface mount or ultra-thin recessed mount, LDL-D Series downlights offer stylish & efficient general purpose lighting in warm and cool white colour temperatures.

With a profile of as little as 15mm, ultra-thin housing downlights (LDL-DT) can be installed in tight wall or ceiling cavities. Surface mount models (LDL-DS) offer an elegant lighting fixture with a simple U-bracket for easy installation.

- Available in ultra-thin recessed & surface mount designs.
- 70lm/W LED performance, available in 3000K & 6000K.
- Frosted diffuser for low-glare, pleasing LED lighting.
- >80 colour rendering & 35,000 hours rated LED lifespan.
- Variety of hole cut sizes: Ø155mm, Ø205mm, Ø280mm.
- Includes mounting kits with screws & wall plugs.

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LDL-DT12	LDL-DT18	LDL-DT24	LDL-DS12
Product Image				
Series Name	LDL-D Series: Ultra Thin & Surface Mount LED Downlights			
Optical				
Light Output	840lm	1260lm	1680lm	840lm
Luminous Efficacy	70lm/W			
Colour Temperature	3000K / 6000K			
Colour Rendering Index	> 80			
Beam Angle	110°			
Rated Lifespan	>35,000 hours			
Electrical				
Power Consumption	12W	18W	24W	12W
Input Voltage	85-265VAC			
Power Factor	> 0.5			
Dimmable	No			
General				
Plug / Socket / Base	No plug, external driver			
Reflector / Diffuser	Frosted diffuser			
Housing Adjustments	N/A			
Operating Environment	-30 ~ +50°C			
Dimensions	Ø170 x 15mm	Ø225 x 20mm	Ø300 x 20mm	Ø170 x 35mm
Hole Cut Size	Ø155mm	Ø205mm	Ø280mm	N/A
Photometry				
Illuminance at a Distance				
Luminous Light Distribution				

Ordering Information

Type	Housing	Wattage		Colour Temperature
LDL-D	T (Ultra Thin)	12 (12W) 18 (18W) 24 (24W)	-	W (Warm white) C (Cool white)
	S (Surface)	12 (12W)		W (Warm white) C (Cool white)

LDL-DT24-W: 24W Ultra Thin Downlight in Warm White

Commercial Fixed Body LED Cabinet Lights

LDL-BA Series: Available in two styles and two colour temperatures

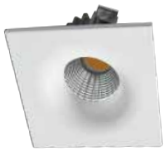
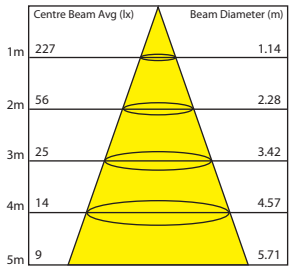
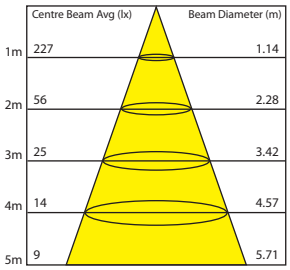
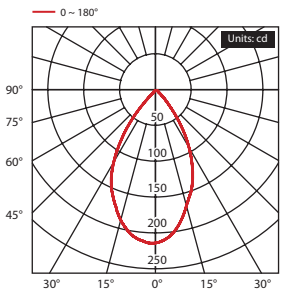
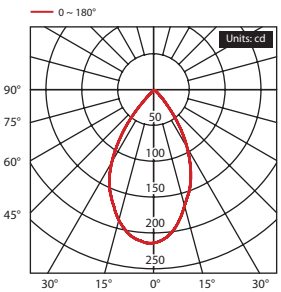
The commercial fixed LED cabinet light range from ENSA™ comprises small and efficient LED fixtures available in two styles and hole cut sizes to suit your installation needs.

The LDL-BA series features uniquely packaged LED cabinet lights, with six individual lights operating on a single transformer. This makes them ideal in showrooms and stores for shelf and display case illumination. They are available in square or round design, in cool and warm white colour temperatures.

- Set of six dimmable LED cabinet lights with single driver.
- Spot 45° beam angle for concentrated light distribution.
- 200lm light output, equivalent to 15W halogen.
- Ideal energy efficient lighting replacement for halogens.
- Long life LEDs: minimum 35,000 hours rated service life.
- Hole cut sizes ranging from Ø28mm ~ Ø38mm.

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LDL-BA3-F1	LDL-BA3-F2
Product Image		
Series Name	LDL-BA Series: LED Cabinet Lights	
Optical		
Light Output	200lm	
Luminous Efficacy	67lm/W	
Colour Temperature	3000K / 6000K	
Colour Rendering Index	> 80	
Beam Angle	45°	
Light Decay	< 3% at 6,000 hours	
Rated Lifespan	>35,000 hours	
Electrical		
Power Consumption	3W per light (6 pcs total)	
Input Voltage	100 ~ 240VAC	
Power Factor	> 0.9	
Dimmable	Yes	
General		
Plug / Socket / Base	3-pin AC plug with external driver	
Reflector / Diffuser	Clear reflector lens	
Housing Adjustments	N/A	
Operating Environment	-20 ~ +40°C	
Dimensions	Ø44 x 42mm	Ø50 x 38mm
Hole Cut Size	Ø28mm	Ø38mm
Photometry		
Illuminance at a Distance		
Luminous Light Distribution		

Ordering Information

Type		Series	Wattage		Housing Style	Colour Temperature	Other
LDL	-	BA	3 (3W)	-	F (Fixed)	C (Cool white) W (Warm white)	1~2 (Identifier)

LDL-BA3-FW1: 3W Dimmable Fixed LED Downlight in Warm White

Residential Fixed Body LED Downlights

LDL-BB / A Series: Variety of styles and wattages, in multiple colour temperatures

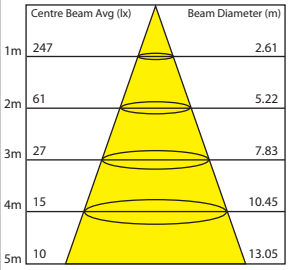
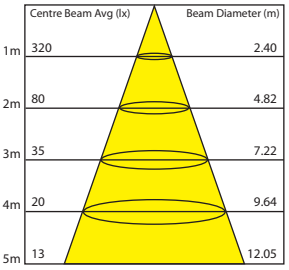
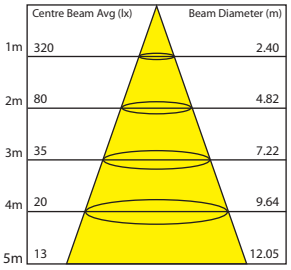
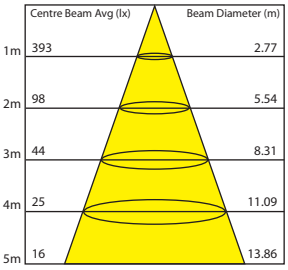
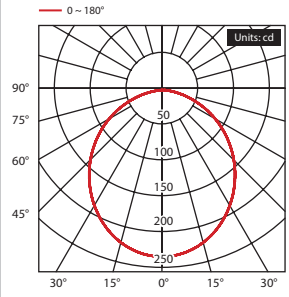
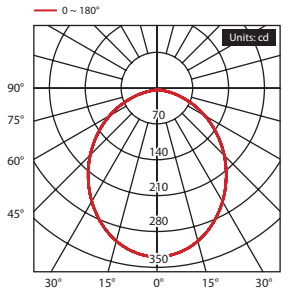
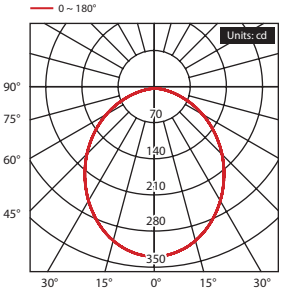
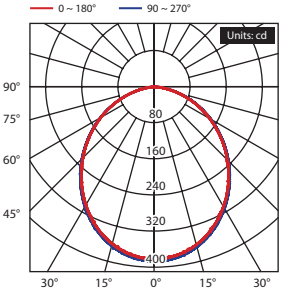
The residential fixed LED downlight range from ENSA™ comprises small and efficient LED fixtures in variety of styles, wattages and hole cut sizes to suit your installation needs.

The LDL-BB and LDL-A series downlights are small form factor LED fixtures available in flat and bevelled gimble styles, in cool and warm white colour temperatures. The LDL-BB13-FM downlights feature both warm and cool white LEDs which allows you to cycle through three colour temperatures - warm white (3000K), natural white (4500K) and cool white (6000K).

- LDL-BB series: Bevelled or flat style dimmable downlights.
- LDL-BB13-FM series: 3 switchable colour temperatures.
- LDL-A series: Bevelled style 85lm/W LED downlights.
- Ideal energy efficient lighting replacement for halogens.
- Long life LEDs: minimum 30,000 hours rated service life.
- Hole cut sizes ranging from Ø75mm ~ Ø150mm.

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LDL-BB10-F	LDL-BB10-F(2)	LDL-BB12-F	LDL-BB13-FM	LDL-A12
Product Image					
Series Name	LDL-BB Series Dimmable LED Downlights				LDL-A Series Fixed
Optical					
Light Output	700lm	800lm	850lm	845lm	1020lm
Luminous Efficacy	70lm/W	80lm/W	71lm/W	65lm/W	85lm/W
Colour Temperature	3000K / 6000K			(x3) Switchable	3000K / 6500K
Colour Rendering Index	> 80			> 75	> 75
Beam Angle	120°	120°	95°	100°	110°
Light Decay	< 3% at 6,000 hours	< 30% at 10,000 hours	< 3% at 6,000 hours	< 10% at 10,000 hours	< 3% at 6,000 hours
Rated Lifespan	>35,000 hours			> 30,000 hours	
Electrical					
Power Consumption	10W	10W	12W	13W	12W
Input Voltage	100 ~ 240VAC				
Power Factor	> 0.9				
Dimmable	Yes			Yes (TRIAC)	N/A
General					
Plug / Socket / Base	3-pin AC plug with external driver				
Reflector / Diffuser	Frosted diffuser				
Housing Adjustments	N/A				
Operating Environment	-20 ~ +40°C				
Dimensions	Ø90 x 45mm	Ø115 x 58mm	Ø110 x 50mm	Ø110 x 50mm	Ø175 x 68mm
Hole Cut Size	Ø75mm	Ø90mm	Ø90mm	Ø90mm	Ø150mm
Photometry					
Illuminance at a Distance	 LDL-BB10-F	 LDL-BB12-F	 LDL-BB13_FM	 LDL-A12	
Luminous Light Distribution	 LDL-BB10-F	 LDL-BB12-F	 LDL-BB13_FM	 LDL-A12	

Ordering Information

Type		Series	Wattage		Housing Style	Colour Temperature	Other	
LDL	-	BB	10 (10W) 12 (12W) 13 (13W)	-	F (Fixed)	C (Cool white) W (Warm white) M (Multi-coloured)	I (Integrated Driver)	1~9 (Identifier)
		A			N/A	CW (Cool white) WW (Warm white)	N/A	N/A

LDL-BB10-FW: 10W Dimmable Fixed LED Downlight in Warm White

LED Retrofit Bulb Lighting

LBL-B Series: Available in a variety of styles and wattages, in two colour temperatures

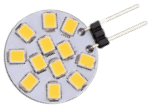
Available in a variety of base fixtures, input voltages, wattages and colour temperatures, the LBL series of LED retrofit bulbs provides an easy path to energy efficient, long life LED illumination. They are available in G4, G9, E14, E27 and E40 bases.

LBL-BA series G4 and LBL-BB series G9 base lights are ideal replacements for halogen lamps and are used in cabinet lights, designer fittings, RV & caravan lamps, in bathrooms & kitchens and more. The LBL-BC series E14 base lights replace small fittings such as those found in appliance lighting, whereas the much larger LBL-BD (E27 base) and BE (E40 base) series lights are heavy duty LED replacements for inefficient lamp post bulbs and metal-halide high bay bulbs.

- Replacement bulbs for a wide range of base fixtures.
- Improve energy efficiency & save on relamping costs.
- 30,000 hours rated service life and high colour accuracy.
- Power flexible: Includes 12VDC and 240VAC input models.

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	LBL-BA3-1	LBL-BA3-2	LBL-BA3-3	LBL-BA2	LBL-BB5-1	LBL-BB5-2
Product Image						
Series Name	LBL-BA Series G4 Base LED Bulbs				LBL-BB Series G9 Base LED Bulbs	
Optical						
Light Output	200lm	200lm	300lm	140lm	360lm	550lm
Luminous Efficacy	67lm/W	67lm/W	100lm/W	70lm/W	65lm/W	100lm/W
Colour Temperature	3000K / 6000K					
Colour Rendering Index	>80					
Beam Angle	360°			180°	360°	
Light Decay	<15% at 10,000 hours					
Rated Lifespan	30,000 hours					
Electrical						
Power Consumption	3W			2W	5.5W	
Input Voltage	12VDC	240VAC	12VDC	12VDC	240VAC	240VAC
Power Factor	>0.4	>0.4	>0.4	>0.4	>0.6	>0.5
Dimmable	N/A					
General						
Construction / Material	Silicon base		Ceramic base	Plastic base	Silicon base	Ceramic base
Plug / Socket / Base	G4 bi-pin				G9 bi-pin	
Operating Environment	-20 ~ +40°C					
Dimensions	Ø15 x 43mm	Ø16 x 43mm	Ø15 x 44mm	20 x 30mm	Ø17 x 61mm	Ø15 x 60mm

Model	LBL-BC1	LBL-BD36	LBL-BE120
Product Image			
Series Name	LBL-BC Series E14 Base Retrofit Bulbs	LBL-BD Series E27 Base Retrofit Bulbs	LBL-BE Series E40 Base Retrofit Bulbs
Optical			
Light Output	120lm	3600lm	12000lm
Luminous Efficacy	80lm/W	100lm/W	
Colour Temperature	3000K / 6000K		
Colour Rendering Index	>80		
Beam Angle	360°		
Light Decay	<15% at 10,000 hours		
Rated Lifespan	30,000 hours		
Electrical			
Power Consumption	1.5W	36W	120W
Input Voltage	220 ~ 240VAC	85 ~ 265VAC	
Power Factor	>0.80	>0.95	
Dimmable	N/A		
General			
Construction / Material	Glass / Ceramic	Aluminium / Polycarbonate	
Plug / Socket / Base	E14 screw	E27 screw	E40 screw
Operating Environment	-20 ~ +40°C		
Dimensions	Ø23 x 50mm	Ø93 x 222mm	Ø120 x 354mm

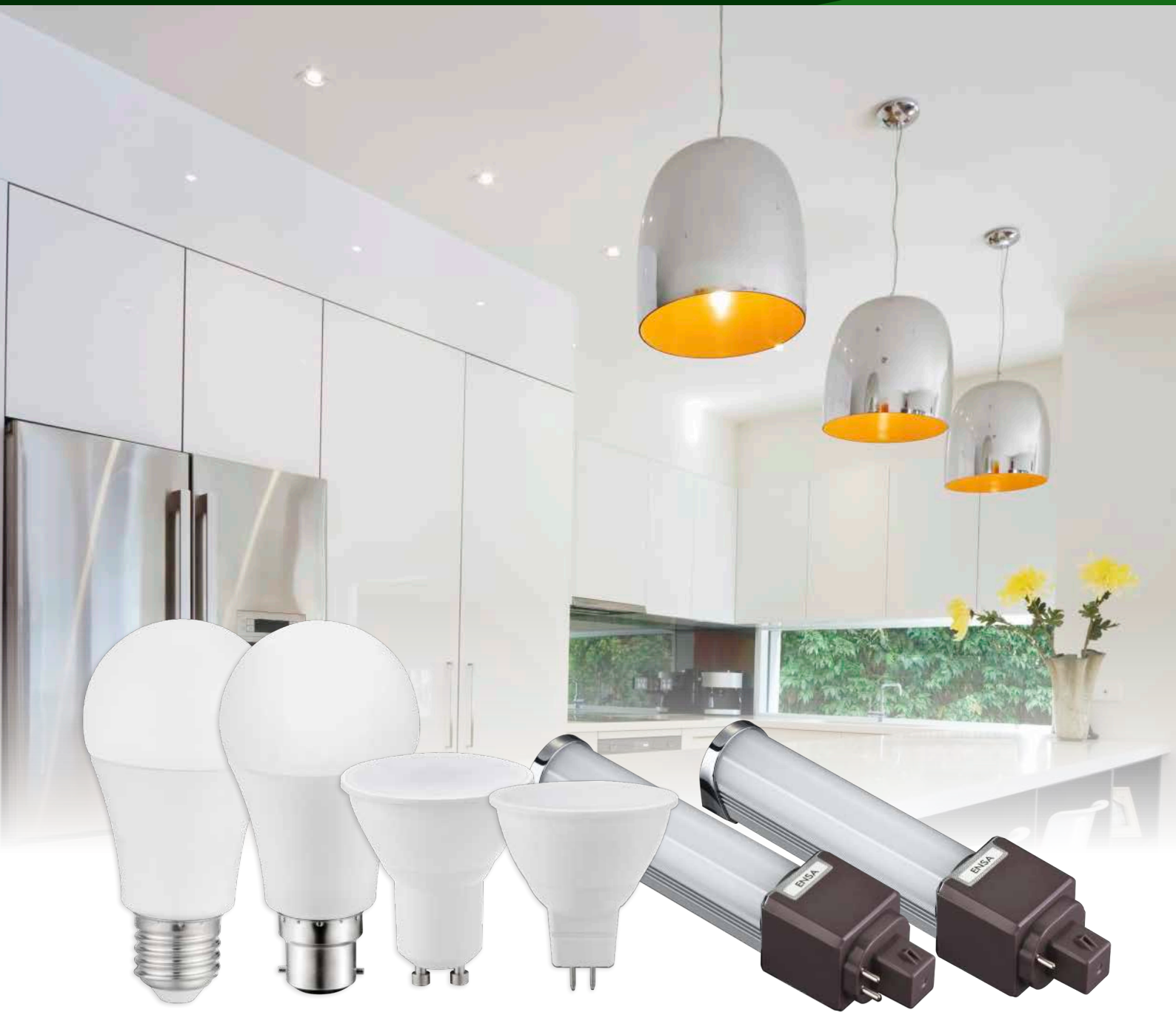
Ordering Information

Type		Series	Wattage		Colour Temperature	Other
LBL	-	BA BB	2 (2W) 3 (3W) 5 (5.5W)	-	C (Cool white) W (Warm white)	1~9

LBL-BA3-W2: 3W G4 Base LED Retrofit Bulb in Warm White

Type		Series	Wattage		Colour Temperature
LBL	-	BC BD BE	1 (1.5W) 36 (36W) 120 (120W)	-	C (Cool white) W (Warm white)

LBL-BD36-C: 36W E27 Base LED Retrofit Bulb in Cool White



LED Retrofit Globe Lighting

LEDBL / GL Series: Variety of wattages in E27, B22, GU10, GU5.3 and PL G24 style fittings

The ENSA™ LED light globe series provides a variety of energy efficient LED bulbs, ideal for replacing shorter-lifespan, higher energy use incandescent, halogen and compact fluorescent bulbs. They are a perfect lighting solution for general purpose illumination.

Each ENSA™ LED light globe features a frosted diffuser to remove harsh LED glare, is available in cool & warm white temperatures and comes with a 10 year return-to-base warranty (excludes PL G24 lights, visit *www.ensalife.com* for full warranty terms)

This series is available in a variety of wattages and base fittings to handle all types of lighting upgrades. Form factors include standard light bulb replacements available in E27 screw base and B22 bayonet fitting; MR16 downlight bulb replacements in GU5.3 12V bi-pin fitting and GU10 240V bayonet fitting; and PL style fluorescent replacements in 2-pin & 4-pin variations.

Contact your local ENSA™ supplier for full warranty details.

Series Specifications

Model	BL6WE27	BL9WE27	BL11WE27	BL6WB22	BL9WB22	BL11WB22
Product Image						
Series Name	E27 Screw LED Globe Series			B22 Bayonet LED Globe Series		
Optical						
Light Output	485lm	795lm	1025lm	485lm	795lm	1025lm
Luminous Efficacy	75lm/W	84lm/W	93lm/W	75lm/W	84lm/W	93lm/W
Colour Temperature	3000K / 6500K					
Colour Rendering Index	>80					
Beam Angle	160°					
Light Decay	<10% at 6,000 hours					
Rated Lifespan	30,000 hours					
Electrical						
Power Consumption	6.5W	9.5W	11W	6.5W	9.5W	11W
Input Voltage	220 ~ 240VAC					
Power Factor	>0.5					
Dimmable	N/A					
General						
Construction / Material	Aluminium & plastic					
Plug / Socket / Base	E27			B22		
Operating Environment	-25° ~ +40°C					
Dimensions	Ø60 x 107mm					

Model	GL5WMR	GL5WGU	G24D10W	G24Q10W
Product Image				
Series Name	MR16 LED Downlight Series		G24 LED PL Light Series	
Optical				
Light Output	410lm		960lm	
Luminous Efficacy	75lm/W		>90lm/W	
Colour Temperature	3000K / 6500K		3000K / 5500K	
Colour Rendering Index	>80		>80	
Beam Angle	105°		145°	
Light Decay	<10% after 6,000 hours		<15% after 20,000 hours	
Rated Lifespan	30,000 hours		32,000 hours	
Electrical				
Power Consumption	5.5W		10W	
Input Voltage	12VDC	220 ~ 240VAC	85 ~ 265VAC	
Power Factor	>0.5		>0.9	
Dimmable	N/A		N/A	
General				
Construction / Material	Aluminium & polycarbonate			
Plug / Socket / Base	GU5.3	GU10	G24D 2-pin / 180° rotatable base	G24Q 4-pin / 180° rotatable base
Operating Environment	-25° ~ +40°C		-20° ~ 65°C / 80%RH (max)	
Dimensions	Ø51 x 50mm	Ø56 x 50mm	35 x 35 x 181mm	

Ordering Information

Type	Wattage	Base Fitting	Colour Temperature
LEDBL	6W (6.5W) 9W (9.5W) 11W (11W)	E27 (E27 Screw) B22 (B22 Bayonet)	3K (Warm white) 65K (Cool white)
LEDGL	5W (5.5W)	GU (GU10 Bayonet) MR (GU5.3 Bi-pin)	3K (Warm white) 65K (Cool white)

LEDBL6WE2765K: 6.5W LED Globe with E27 Base in Cool White

Type	Base Fitting	Wattage	Colour Temperature
LEDG24	D (2-pin) Q (4-pin)	10W (10W)	3K (Warm white) 5K (Cool white)

LEDG24Q10W3K: 10W LED PL Light with 4-pin Base in Warm White

Intelligent Motion Sensor & Dusk/Dawn Switches

ENSA-MS/PS/LC Series: Microwave motion, PIR motion & light sensors in a variety of styles

The ENSA™ intelligent energy saving switch series comprises a wide range of automated, smart switches that use a variety of different sensors to control light use. This innovative combination of sensors ensures your lights will only turn on when you need them to, saving you on power costs and reducing the impact on the environment.

Each intelligent switch features adjustable light sensing, movement sensing and on-timer delay so you may tailor light use to your exact specifications. The range includes models with 5.8GHz microwave or passive infrared (PIR) for movement sensing.

Once installed, the switch's daylight sensor measures ambient light levels. If light levels fall below the set limit, the motion sensor is activated. Upon detecting motion, the switch will turn the connected light on. When movement is no longer detected, the switch's adjustable on-timer delay will keep the light on for a designated period of time. Once this delay has expired, the switch turns the light off automatically.

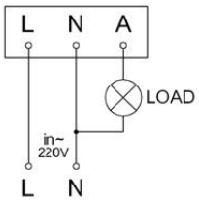
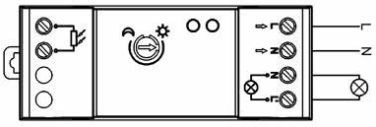
Contact your local ENSA™ supplier for full warranty details.

Sensor Switches | Series Specifications

Model	ENSA-PS1	ENSA-PS2	ENSA-PS3	ENSA-MS1	ENSA-MS2	ENSA-MS3	ENSA-MS6
Product Image							
Daylight Sensor	•	•	•	•	•	•	•
Passive Infrared Sensor	•	•	•				
Microwave Sensor				•	•	•	•
On-timer Delay	•	•	•	•	•	•	•
Electrical							
Input Voltage	220 ~ 240VAC 50Hz						
Power Consumption (Sensing Mode)	0.5W	0.4W	0.5W	0.9W	0.9W	0.2W	0.9W
Max. Rated Load (Resistive/Inductive)	1200W / 300W	2000W / 1000W	800W /400W	500W / 200W	1200W / 300W	1200W / 300W	1200W / 300W
Detection Adjustments							
Daylight Sensing	3 ~ 2000 Lux						
Motion Detection Area	180° arc	360° rectangle	360° circle	360° circle	360° circle	180° arc	180° arc
Motion Detection Range	12m	4 x 20m	6m	2 ~ 8m	1 ~ 8m	1 ~ 8m	5 ~ 15m
Motion Detection Speed	0.6 ~ 1.5m/s						
On-timer Delay	10s ~ 7min	10s ~ 30min	10s ~ 15min	5s ~ 10min	10s ~ 12min	10s ~ 12min	3s ~ 12min
General							
Ingress Protection	IP65	IP20	IP20	Indoor use only	IP20	IP44	IP65
Operating Environment	-20 ~ 40°C / <93% Relative humidity						
Mounting Type	Wall/ceiling	Ceiling	Recessed ceiling	Wall/ceiling	Ceiling	Wall/ceiling	Wall/ceiling
Rec. Installation Height	1.8 ~ 2.5m	4 ~ 10m	2.2 ~ 4m	1.8 ~ 3.5m	1.5 ~ 3.5m	1.5 ~ 3.5m	1.5 ~ 3.5m
Dimensions	80 x 120 x 50mm	100 x 100 x 50mm	Ø50 x 65mm	40 x 60 x 25mm	Ø100 x 40mm	100 x 75 x 85mm	80 x 120 x 50mm

* Sensors switches must be installed by a licensed electrician.

Dusk / Dawn Switches | Series Specifications

Model	ENSA-LC1	ENSA-LC3
Product Image		
Electrical		
Input Voltage	220 ~ 240VAC 50Hz	
Dimming Range	5 ~ 50 Lux	2 ~100 Lux
Rated Current	10A	20A
General		
Ingress Protection	IP44	IP65 (photocell only)
Operating Environment	-20 ~ 40°C / <93% Relative humidity	
Recommended Install	Place above light	Switchboard enclosure/cabinet
Dimensions	Ø82 x 108mm	35 x 66 x 90mm (1m cable)
Diagrams		
Dimensions		

* Sensors switches must be installed by a licensed electrician.

2 Channel Mains Voltage Receiver (433.92MHz)

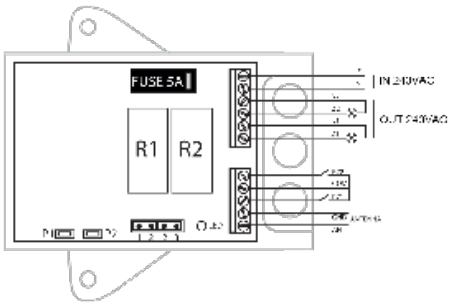
ENSA-RS Series: Trigger lights automatically by connecting to universal transmitters

Automate your LED lighting with the ENSA-RS1 2 channel 240VAC mains voltage RF receiver. With a maximum rated load of up to 1000W, you can integrate wireless triggering for a large number of lights via this receiver. The receiver shell is IP55 rated and suitable for external use.

The ENSA-RS1 includes two keyfobs for light control. The receiver can also be triggered by up to 128 universal transmitters. This includes wireless passive infrared detectors, beam/curtain detectors and door/window reed switches. This makes the ENSA-RS1 ideal for effective security lighting applications.

Contact your local ENSA™ professional for more information on universal wireless detector integration. Wireless transmitters are optional and sold separately.

Wireless Receiver | Series Specifications

Model	ENSA-RS1
Product Image	
Frequency	433.92MHz fixed code
Range (LoS)	100m
Programmable Outputs	2 relay outputs (latched or timed)
Maximum Codes	128
Electrical	
Input Voltage	240VAC 50 ~ 60Hz
Maximum Rated Load	1000W
General	
Ingress Protection	IP55
Included Remotes	2
Operating Environment	-20 ~ 55°C
Diagram	
Wiring Diagram	

Universal Transmitters | Additional Information

The ENSA-RS1 can be configured to have up to 128 universal transmitters. It is compatible with a wide range of wireless sensors, including:

- **Wireless reed & roller shutter reed switches:** Ideal for trigger lights on open/close, garages, sheds, warehouses, halls, on windows etc.
- **Passive infrared detectors:** Standard pet immune, ceiling mount and solar powered external sensors; perfect for triggering lights on general motion detection. Great for energy saving in intermittent people traffic areas.
- **Infrared beam presence detector:** Ideal for wireless curtain beam detection, eg: gates, walkways, corridors, fences, etc.

Daylight Harvesting Control Systems

Harvest ambient light to maximise your energy efficiency and power savings

As the cost of energy rises, more builders and architects are incorporating natural light as a primary source of illumination in modern buildings. Using natural light is an excellent way to increase energy efficiency and can create more comfortable living and work spaces.

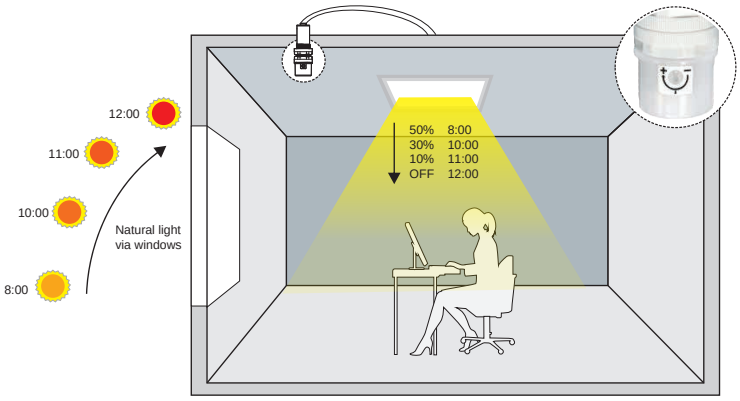
ENSA™ daylight harvesting control systems are designed to take full advantage of the natural light sources in your building to deliver optimal lighting performance and reductions in power costs. Implement automated lighting controls that dim or turn off your artificial lighting in response to available daylight in the space.

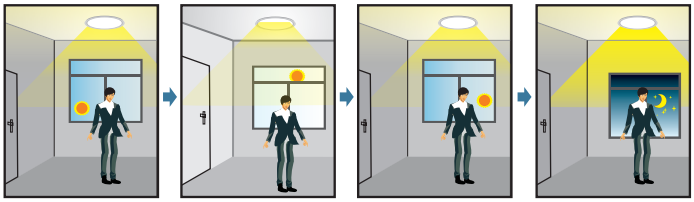
- Boost your efficiency by maximising use of natural light.
- Add daylight harvesting to any dimmable lighting system.
- Set target light levels to automate light dimming.
- Compatible with most 0~10V dimmable LED drivers.

Contact your local ENSA™ supplier for full warranty details.

Daylight Harvesting Light Sensor

The ENSA daylight sensors can be set to dim or brighten your lights to achieve a predetermined light level. This is performed easily via a potentiometer on the sensor.





As ambient light levels rise and fall during the day, the ENSA-LC2 controls the brightness of artificial lights to reach target light levels set via the potentiometer sensor.

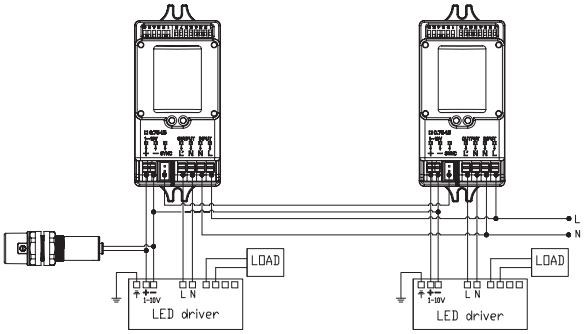
Model	ENSA-LC2
Product Image	
Electrical	
Input Voltage	1 ~ 10VDC
Dimming Range	1 ~ 100%
Max. Current Sink	50mA (maximum)
General	
Ingress Protection	IP20
Operating Environment	0° ~ 45°C
Installation Height	4m
Dimensions	Ø22 x 70mm (800mm cable)
Diagrams	
Dimensions	

Integrating Motion Detection

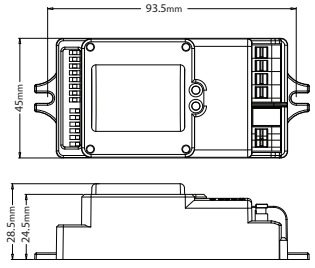
The ENSA-LC2 can be augmented by an ENSA-MS7 microwave motion sensor to include motion detection control and standby dimming, alongside daylight harvesting control.

If the ENSA-LC2 detects sufficient ambient light levels, controlled lights remain off, regardless of motion detected by the ENSA-MS7.

When ambient light levels fall below the set target, the ENSA-MS7 switches the light on upon detecting movement. If ambient light levels are below the set target, after the last detected motion the ENSA-MS7 will switch off after a standby period. The standby delay period and standby brightness levels are configurable on the ENSA-MS7.



Model	ENSA-MS7
Product Image	
Electrical	
Input Voltage	220 ~ 240VAC 50 ~ 60Hz
Power Consumption	0.5W (standby) / 1W (operation)
Max. Rated Load	1200W (resistive) / 800W (inductive)
Detection Adjustments	
Daylight Sensing	2lx / 5lx / 10lx / 25lx / 50lx / 100lx / Disabled
Motion Detection Range	Ø16m x 15m
Motion Detection Angle	150° (wall) or 360° (ceiling)
Motion Detection Speed	0.5 ~ 3.0m/s
Detection Sensitivity	100% / 75% / 50% / 10%
On-timer Delay	10s / 30s / 90s / 3min / 20min / 30min
Stand-by Period	0s / 5s / 5min / 10min / 30min / 60min / Disabled
Stand-by Dimming	10% / 20% / 30% / 50%
General	
Ingress Protection	IP20
Operating Environment	-35° ~ 70°C
Installation Height	Max. 15m
Dimensions	94 x 45 x 29mm
Diagrams	



Guide to ENSA Range

Helping compare lighting technologies and defining colour temperature

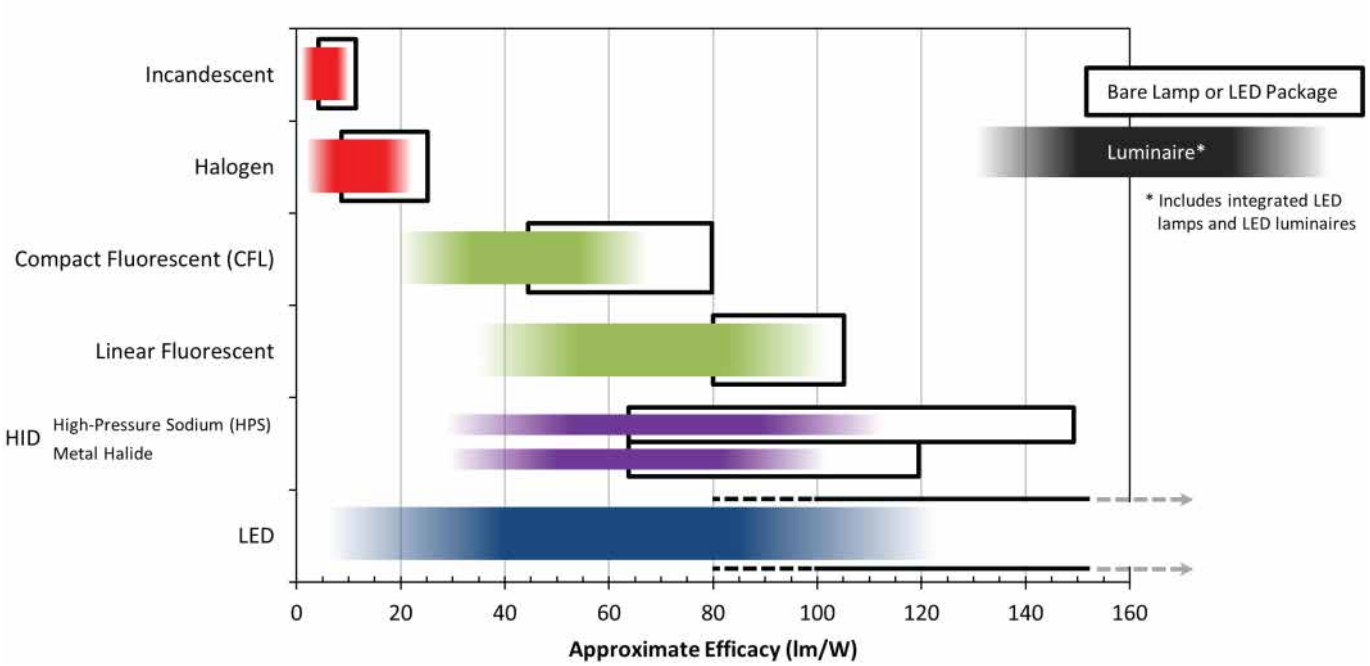
Information presented is intended as a guide only. While care is taken to ensure accuracy, actual results may vary.

Comparing Lighting Technologies

Shown below are an approximate range of luminous efficacy for different lighting technologies. This graph details initial lamp luminous efficacy only and doesn't compare technological advantages such as instant on/off, colour accuracy, robustness, etc.

When comparing lighting technologies, you should also consider:

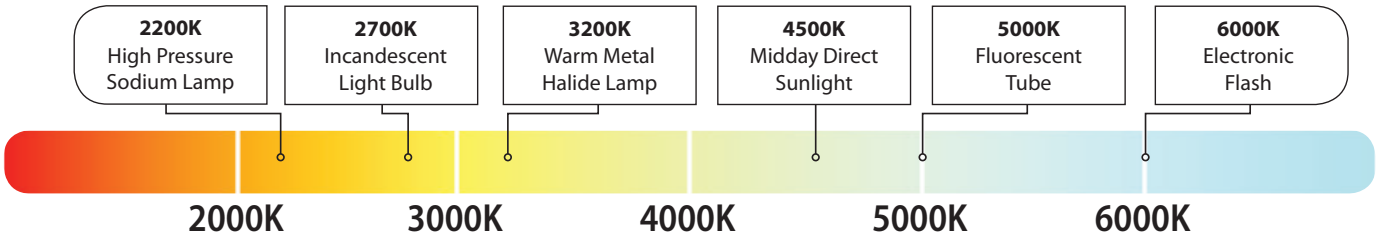
- **Lumen depreciation:** How efficient will the light be as it progresses towards end of life?
- **Application efficacy:** How efficient is the optical system (reflectors, lenses) at delivering light in the intended purpose?
- **System design:** Is performance is hindered by driver losses or poor heat dissipation? Does the lamp require a ballast?



Approximate range of efficacy for various common light sources, as of January 2013. The black boxes show the efficacy of bare conventional lamps or LED packages, which can vary based on construction, materials, wattage, or other factors. The shaded regions show luminaire efficacy, which considers the entire system, including driver, thermal, and optical losses. Of the light source technologies listed, only LED is expected to make substantial increases in efficacy in the near future. US Department of Energy (March, 2013)

Defining Colour Temperature

The ENSA LED lighting range is available in a number of colour temperatures to suit your needs. Below is a reference scale charting existing light sources and their colour temperature. Use this chart as an approximate guide when selecting from our LED lighting range.



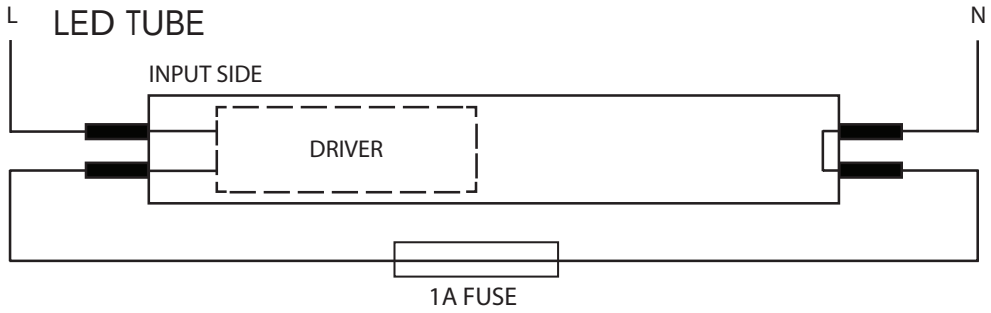
ENSA LED Tube Light Installation Guide

Please note that this guide applies only to fluorescent light fixtures fitted with standard Magnetic Ballasts. Installation in lighting fixtures using Electronic Ballasts or non-standard magnetic ballasts will require rewiring by a qualified electrician.

1. Turn off power at the light switch and leave the light off for at least 10 minutes to cool down.
2. Remove the fluorescent tube and fluorescent starter from the light fixture, disposing of them accordingly.
3. Replace the fluorescent starter with the included "LED STARTER" fuse included with the LED tube light.
4. Fit the new LED tube light into the light fixture and turn on the light switch to test.

Wiring diagrams below are a reference only. All installations should be carried out by a qualified electrician.

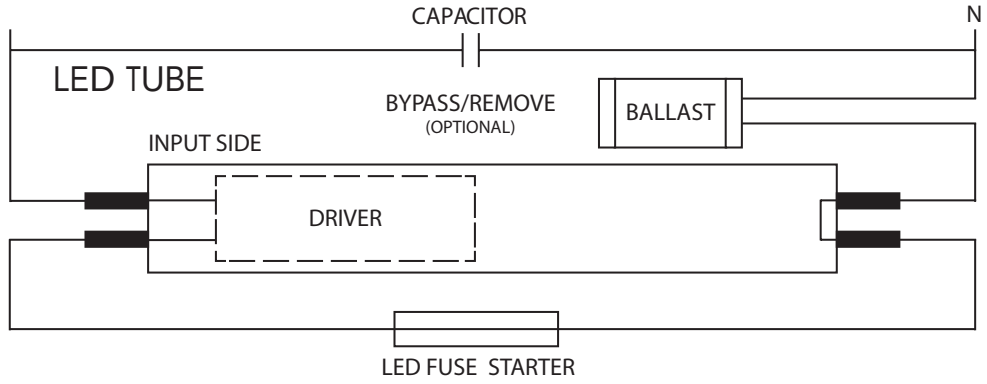
Installation Method 1 - New Installation



Notes

- To avoid potentially damaging short circuit, wire as per the diagram left.
- FOR SAFETY REASONS: You **MUST** add 1A Fuse as per the diagram.

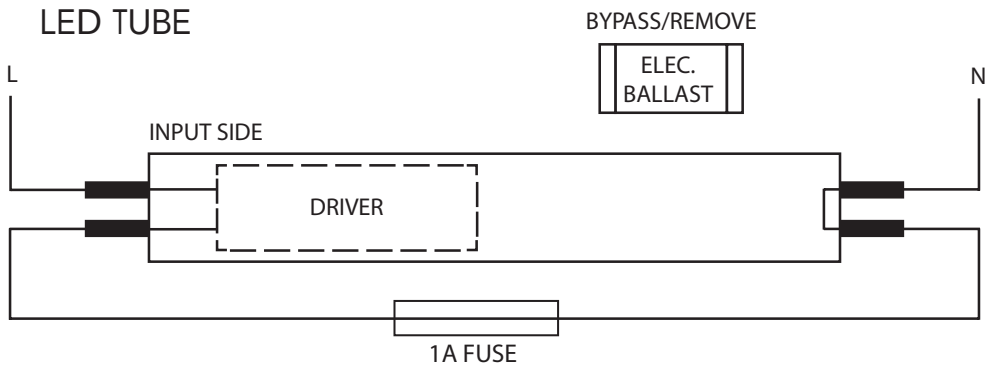
Installation Method 2 - Magnetic Ballast Retrofit Installation



Notes

- Bypassing/removing the magnetic ballast and capacitor will increase energy savings and assist with power factor.
- Starter **MUST** be changed to LED fuse starter.

Installation Method 3 - Electronic Ballast Retrofit Installation



Notes

- The electronic ballast **MUST** be removed or bypassed.
- FOR SAFETY REASONS: You **MUST** add 1A Fuse as per the diagram.

Glossary

Color Rendering
A general expression for the effect of a light source on the color appearance of objects.

Color Rendering Index (CRI)
A measure of the degree of color shift objects undergo when illuminated by the light source as compared with those same objects when illuminated by a reference source of comparable color temperature. The reference source has a CRI of 100.

Correlated Color Temperature (CCT)
The absolute temperature of a blackbody whose chromaticity most nearly resembles that of the light source. Usually specified in Kelvin (K). The lower the Kelvin temperature, the warmer the light feels, or appears.

Diffuser
An object with irregularities on a surface causing scattered reflections.

Digital Addressable Lighting Interface (DALI)
A digital communications protocol for controlling and dimming lighting fixtures, originally developed in Europe.

Driver
An electronic circuit that converts input power into a current source — a source in which current remains constant despite fluctuations in voltage. An LED driver protects LEDs from normal voltage fluctuations, overvoltages, and voltage spikes.

Efficacy
The light output of a light source divided by the total electrical power input to that source, expressed in lumens per watt (lm/W).

Halogen Lamp
A type of incandescent lamp that has a small amount of a halogen such as iodine or bromine added. The addition of the halogen aims to increase the lifespan and clarity of the tungsten filament creating the light.

Heat Sink
A part of the thermal system that conducts or convects heat away from sensitive components, such as LEDs and electronics.

High Intensity Discharge (HID) Lamps
A type of electrical gas-discharge lamp which products light by means of electric arc in a tube filled with gas & metal salts. Types of HID lamps include high-pressure sodium (HPS), mercury-vapour, metal halide, ceramic metal-halide & xenon short arc.

Illuminance
The intensity of light falling on a surface area. If measured in square meters, the unit of illuminance is lux (lx).

Incandescent Lamp
A type of lamp that produces light by heating a filament wire to a hot temperature by passing an electric current through it.

Kelvin Temperature
Term and symbol (K) used to indicate the comparative color appearance of a light source when compared to a theoretical blackbody. Yellowish incandescent lamps are 3000K. Fluorescent light sources range from 3000K to 7500K and higher.

Light Emitting Diode (LED)
A Light Emitting Diode (LED) is a solid-state semiconductor device that converts electrical energy directly into light.

Lumen
The SI unit of luminous flux, equal to the amount of light emitted per second in a unit solid angle of one steradian from a uniform source of one candela.

Lumen Depreciation
Describes the percentage of light lost relative to the initial lumen output.

Luminous Flux
Luminous flux is the measure of the perceived power of light, adjusted to reflect the varying sensitivity of the human eye to different wavelengths of light

Lux (lx)
The SI unit of illuminance, or luminous flux incident on a unit area, frequently defined as one lumen per square meter (lm/m2).

Power Factor
The active power divided by the apparent power (i.e., product of the rms input voltage and rms input current of a driver).

Thermal Resistance (K/W)
The property of a material's ability to conduct heat.

Unified Glare Rating (UGR)
The number defining glare using luminance of a lamp divided by the background visible luminance of a room. Ranging from 5 to 40, lower numbers mean less glare.

Watt (W)
The unit of electrical power as used by an electrical device during its operation. Many lamps come with rating in watts to indicate their power consumption.

Join us in bringing energy efficiency to the world.

By becoming an ENSA practical energy efficiency solutions authorised reseller. If you are interested in distributing ENSA LED lighting and energy saving devices, visit **www.ensalife.com** for more information.

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