A row of tall, modern streetlights illuminating a park at night. The lights are tall, slender, and emit a bright white glow. They are set against a dark blue night sky with silhouettes of trees and a city skyline in the background. The foreground shows a paved walkway and a grassy area.

ENSA™

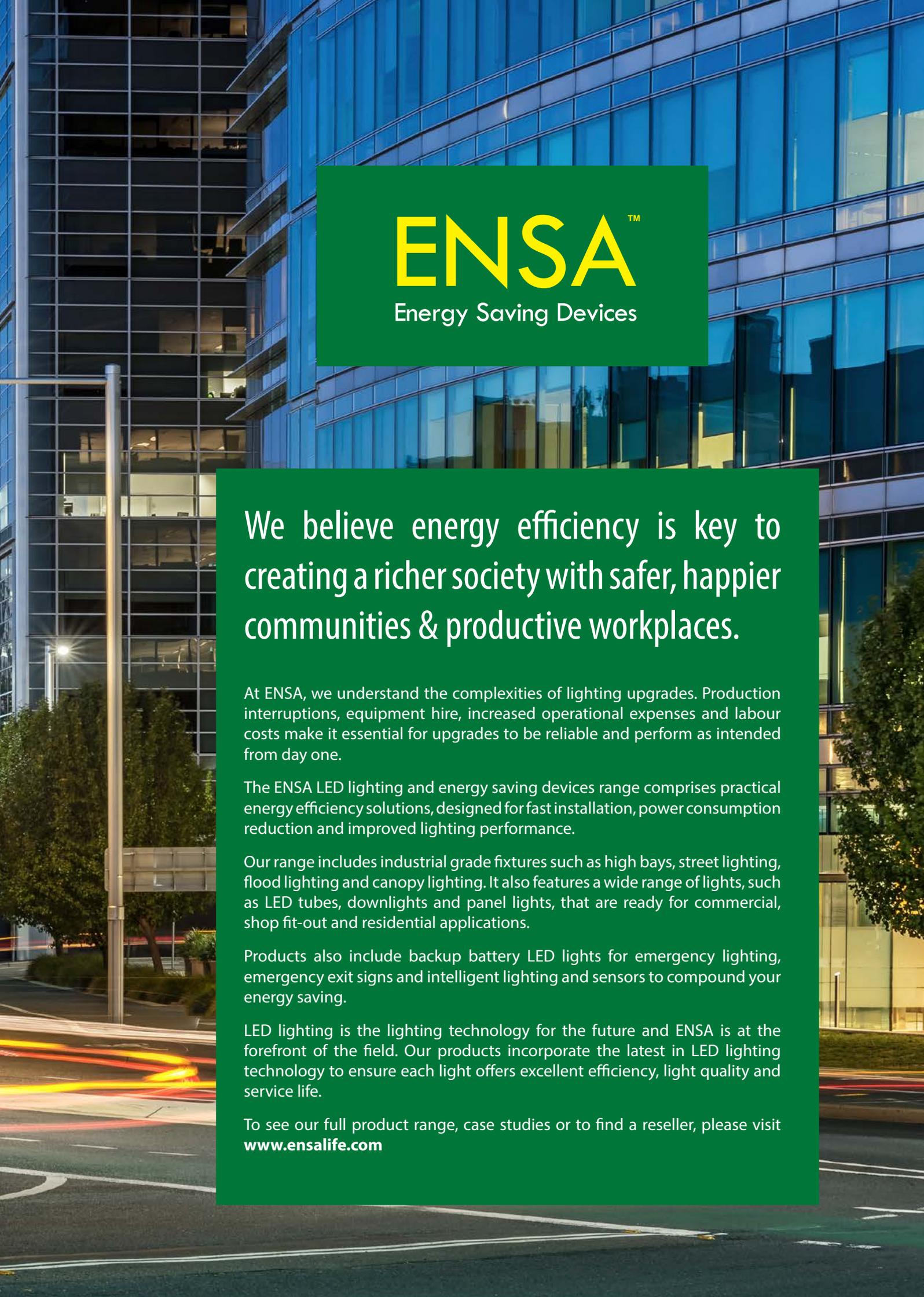
Energy Saving Devices

Achieve more using less.

ENSA™ practical energy efficiency solutions for a brighter future.

2023 Edition





ENSATM

Energy Saving Devices

We believe energy efficiency is key to creating a richer society with safer, happier communities & productive workplaces.

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.

Our range includes industrial grade fixtures such as high bays, street lighting, flood lighting and canopy lighting. It also 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, emergency exit signs 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



ENSA™ Product Solutions Guide



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High Bay Lighting

Professional high bay lighting ideal for industry, warehousing and more.



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Flood Lighting

High power residential, commercial and industrial grade LED flood lighting.



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Street Lighting

Modular LED street lighting for roads, walkways, public and remote areas.



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Solar LED lights for self-sustaining lighting in almost any outdoors location



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Panel Lighting

Minimalist fluorescent troffer replacements for use in the office or workplace.



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Intelligent Lighting

Smart sensor-equipped oyster & batten lights with battery backup for emergency.



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Tube & Link Lighting

Energy efficient LED tubes with option for microwave sensor models.



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Retrofit Lighting

Wide range of energy efficient easy replacement LED bulbs and globes.



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Motion sensor switches with microwave & PIR motion detection & dusk/dawn switches.



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Transmitters/Receivers

Mains voltage transmitter/receiver devices and light activation via external sensors.



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Glossary

Alphabetical list of terms and definitions relating to LED lighting.



Commercial LED High Bay Lighting

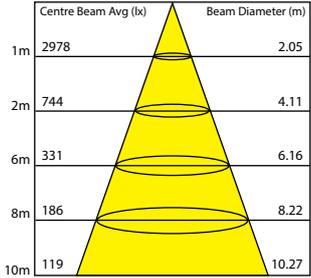
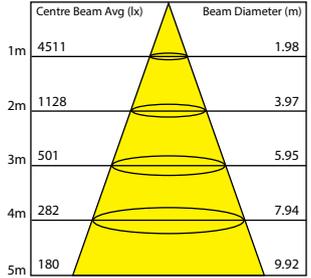
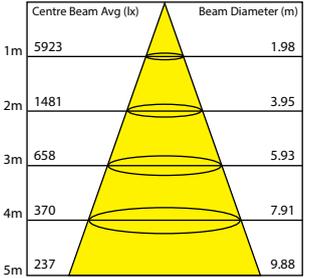
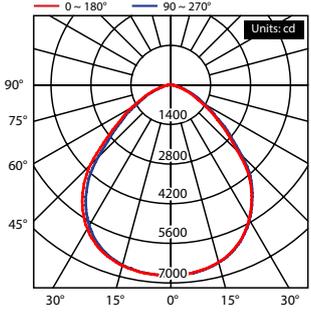
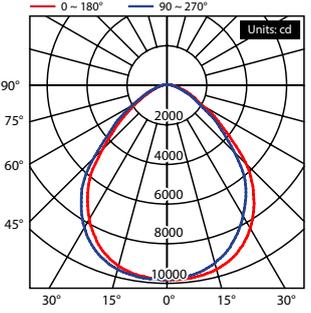
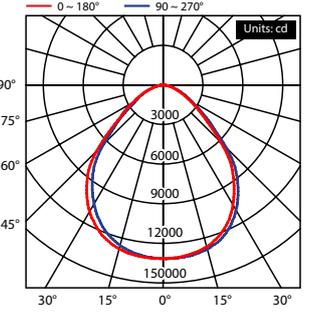
LHB-D Series: Commercial chain mount high bay lighting in 100W, 150W and 200W models

The ENSA™ LHB-D high bay series delivers energy efficient lighting to industrial and commercial environments at an economic price point. They are also weather-resistant, making them ideal for outdoors installations and events.

The LHB-D 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 5700K cool white colour temperature.

- 100W, 150W and 200W industry-ready LED high bay light
- High 130lm/W luminous efficacy for energy efficiency
- Includes G1/2" thread hook for chain mount & safety cable
- 180° U-bracket and G1/2" pole mount (optional)
- Compact and robust: no additional reflector required
- Efficient heatsink cooling technology, IP66 weather rated
- Available in 5700K cool white colour temperature
- Available in 60°, 90° and 120° beam angles

Series Specifications

Model	LHB-D100	LHB-D150	LHB-D200																																				
Product Image																																							
Series Name	LHB-D Series: Commercial LED High Bay Series																																						
Optical																																							
Light Output	13000lm	19500lm	26000lm																																				
Luminous Efficacy	130lm/W																																						
Colour Temperature	5700K (cool hite)																																						
Colour Rendering Index	>80																																						
Beam Angle	90° (standard) / 120°	90° (standard) / 120°	60° / 90° (standard) / 120°																																				
Rated Lifespan	50,000 hours																																						
Electrical																																							
Power Consumption	100W	150W	200W																																				
Input Voltage	100~277VAC																																						
Power Factor	> 0.93																																						
Dimmable	N/A																																						
General																																							
Ingress Protection	IP66																																						
Plug / Socket / Base	3-pin AC plug																																						
Reflector / Diffuser	Aluminium / Polycarbonate																																						
Housing Adjustments	G1/2" thread																																						
Operating Environment	-20 ~ 40°C																																						
Dimensions	Ø300 x 155mm	Ø330 x 155mm	Ø390 x 155mm																																				
Photometry																																							
Illuminance at a Distance	 <table border="1"> <thead> <tr> <th>Centre Beam Avg (lx)</th> <th>Beam Diameter (m)</th> </tr> </thead> <tbody> <tr><td>2978</td><td>2.05</td></tr> <tr><td>744</td><td>4.11</td></tr> <tr><td>331</td><td>6.16</td></tr> <tr><td>186</td><td>8.22</td></tr> <tr><td>119</td><td>10.27</td></tr> </tbody> </table>	Centre Beam Avg (lx)	Beam Diameter (m)	2978	2.05	744	4.11	331	6.16	186	8.22	119	10.27	 <table border="1"> <thead> <tr> <th>Centre Beam Avg (lx)</th> <th>Beam Diameter (m)</th> </tr> </thead> <tbody> <tr><td>4511</td><td>1.98</td></tr> <tr><td>1128</td><td>3.97</td></tr> <tr><td>501</td><td>5.95</td></tr> <tr><td>282</td><td>7.94</td></tr> <tr><td>180</td><td>9.92</td></tr> </tbody> </table>	Centre Beam Avg (lx)	Beam Diameter (m)	4511	1.98	1128	3.97	501	5.95	282	7.94	180	9.92	 <table border="1"> <thead> <tr> <th>Centre Beam Avg (lx)</th> <th>Beam Diameter (m)</th> </tr> </thead> <tbody> <tr><td>5923</td><td>1.98</td></tr> <tr><td>1481</td><td>3.95</td></tr> <tr><td>658</td><td>5.93</td></tr> <tr><td>370</td><td>7.91</td></tr> <tr><td>237</td><td>9.88</td></tr> </tbody> </table>	Centre Beam Avg (lx)	Beam Diameter (m)	5923	1.98	1481	3.95	658	5.93	370	7.91	237	9.88
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Luminous Light Distribution																																							

Ordering Information

Type	Series	Wattage	Colour Temperature	Beam Angle	
LHB	-	D	100 (100W)	C (Cool white)	60 (60°, 200W only)
			150 (150W)		90 (90°)
			200 (200W)		120 (120°)
LHB-D150-C90: 150W LED High Bay in Cool White (90°)					

Additional Accessories

The optional **180° U-bracket mount** and **G1/2" pole mount** open up more installation opportunities for the LHB-D series.





Food Grade LED High Bay Lighting

LHB-F Series: Professional food grade high bays in 100W, 150W and 200W models

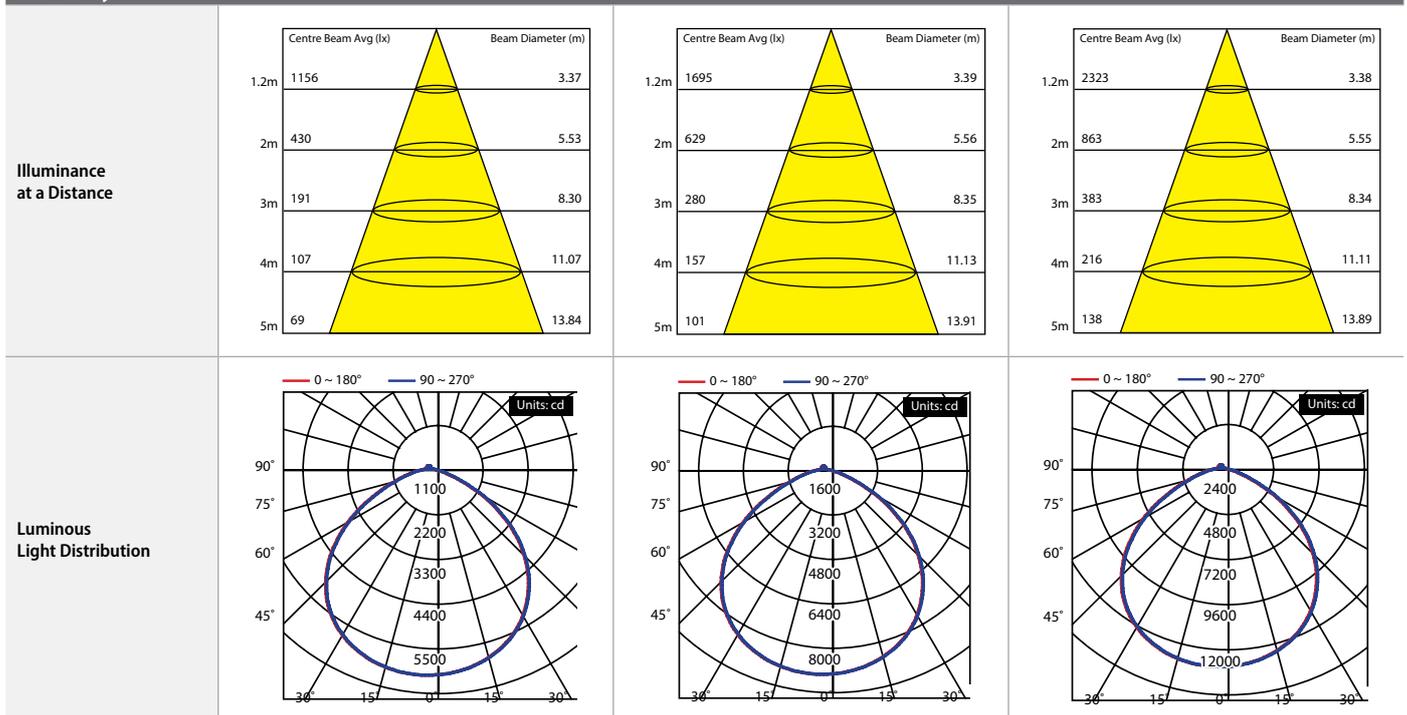
The ENSA™ LHB-F series of professional high bay lights deliver energy efficient lighting to industrial and commercial environments. These lights are purpose-built for food prep environments and are easily cleaned with an IP69K rated body.

The LHB-F series delivers superb lighting performance with high luminous efficacy of 135lm/W. Models feature a powder coated, corrosion resistant heatsink with a smooth surface that reduces build up of dust and simplifies routine cleaning. Luminaires are free of glass to ensure safe practices when installed in food preparation environments.

- Food preparation LED high bays in 100W, 150W & 200W
- In 4000K natural & 5700K cool white with 120° beam angle
- Suitable for food processing environments - no glass, smooth non-toxic surface & easy to clean
- Highly durable IP69K weather resistance - steam cleanable
- High 135lm/W luminous efficacy for energy efficiency
- Series is IPART approved for use in the NSW ESS
- Prismatic reflector available (sold separately)

Series Specifications

Model	LHB-F100	LHB-F150	LHB-F200
Product Image			
Series Name	LHB-F 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			



Ordering Information

Type	Series	Wattage	Colour Temperature
LHB	-	F	100 (100W) 150 (150W) 200 (200W)
			N (Natural white) C (Cool white)
LHB-F200-C: 200W LED High Bay in Cool White			



Professional High Power LED Flood Lighting

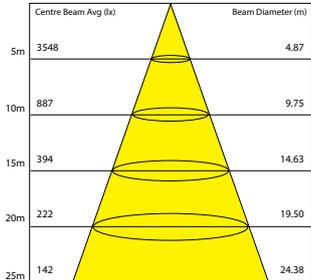
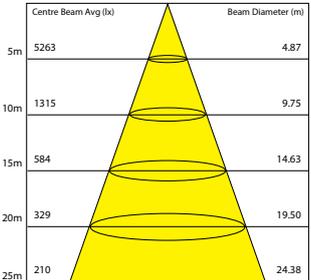
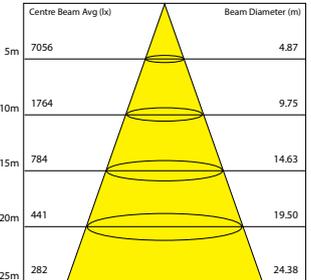
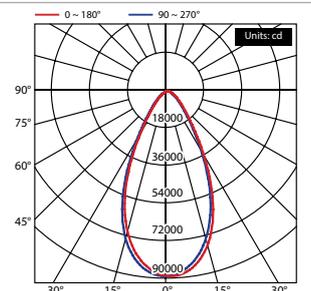
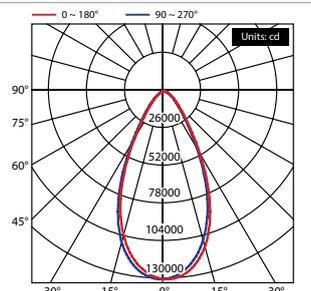
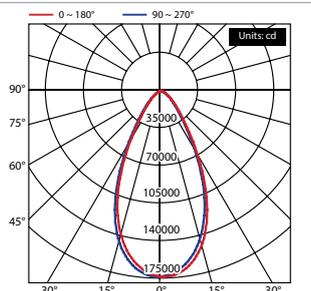
LFL-F Series: Adjustable flood lighting in 480W, 720W, 960W, 1200W & 1440W models

Combining innovative lighting design and leading energy efficiency, ENSA™ LFL-F Series LED flood lights deliver large scale lighting solutions without compromise. Lights feature precision adjustment controls with modular LED units that rotate and tilt to enable precision light aiming and smooth installation.

LFL-F Series lighting solutions also sport 165lm/W, low lumen-depreciation LEDs to increase lifespan and reduce required maintenance. They have been installed in sports lighting applications and in large outdoor production & carpark facilities.

- Best in performance LED lighting efficiency at 165lm/W
- Unique rotate & tilt modules for precision adjustment
- 360° LED module rotation and 140° tilt adjustment
- Reinforced mounting bracket with multiple mount points
- High performance, long lifespan Lumileds LED package
- High quality Meanwell driver, DALI dimmable optional
- Available in a variety of beam angles as per application
- IP66 weather rated, powder-coated aluminium chassis

Series Specifications

Model	LFL-F480	LFL-F720	LFL-F960	LFL-F1200	LFL-F1440
Product Image					
Series Name	LFL-F Series LED Flood Light				
Optical					
Luminous Flux	79,200lm	118,800lm	158,400lm	190,000lm	237,600lm
Luminous Efficacy	165lm/W				
LED Package	Lumileds (62pcs/module)				
LED Testing	LM80 / TM21 (available on request)				
Colour Temperature	6500K cool white				
Colour Rendering Index	> 70				
Beam Angle Options	60° (standard) / 30°, 90°, 120° (optional)				
Rated LED Lifespan	50,000 hours				
Electrical					
Power Consumption	480W	720W	960W	1200W	1440W
Input Voltage	90 ~ 305VAC, 50/60Hz				
Power Factor	> 0.95				
Dimming Technology	DALI (optional)				
General					
Ingress Protection	IP66				
Driver Package	Meanwell LED driver, 3-pin AC plug				
Reflector / Diffuser	Aluminium heatsink, Polycarbonate lens				
Housing Adjustments	360° rotate & 140° tilt (modules)				
Operating Environment	-40° ~ 60°C				
Dimensions	536 x 165 x 579mm	691 x 202 x 579mm	846 x 202 x 579mm	1001 x 277 x 579mm	1156 x 277 x 579mm
Net Weight	12.0kg	15.8kg	19.9kg	24.2kg	26.5kg
Effective Projected Area	0.20m ²	0.35m ²	0.44m ²	0.58m ²	0.64m ²
Windage (Class 15, 42~51m/s)	Load	34.0kg	43.5kg	53.0kg	63.0kg
	Pole Bearing	46.0kg	59.3kg	72.9kg	87.2kg
Photometry					
Illuminance at a Distance					
	LFL-F480-C (480W, 60°)	LFL-F720-C (720W, 60°)	LFL-F960-C (960W, 60°)		
	Luminous Light Distribution				
LFL-F480-C (480W, 60°)		LFL-F720-C (720W, 60°)	LFL-F960-C (960W, 60°)		

Ordering Information

Type	Series	Wattage	Colour Temperature	Beam Angle
LFL	-	F	C (Cool white)	(60° standard)
				30D (30°)
				90D (90°)
				120D (120°)



Professional High Power LED Flood Lighting

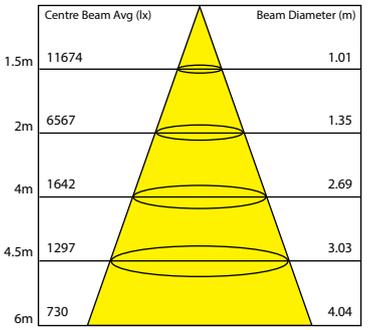
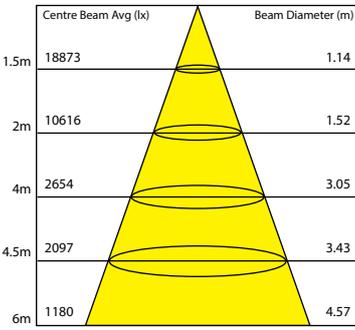
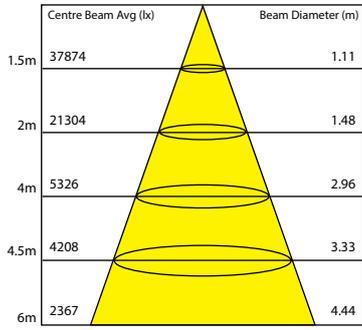
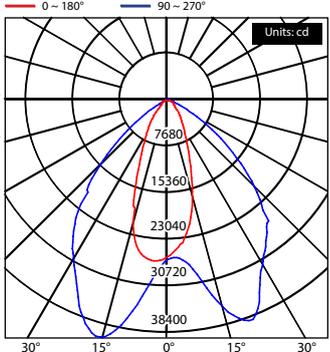
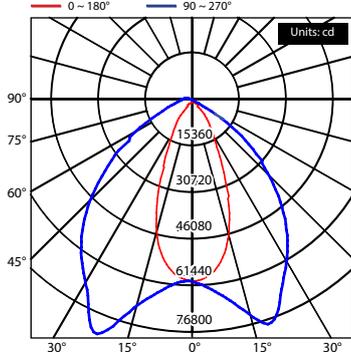
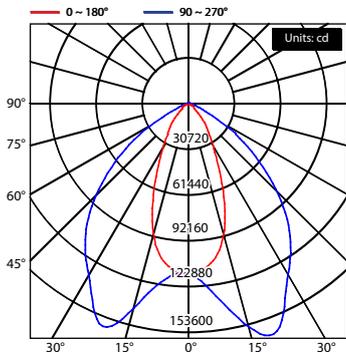
LFL-G2 Series: LED flood lighting with U-shape bracket in 240W, 360W, 480W, 720W & 960W

ENSA™ LFL-G2 Series LED flood lights are a flexible range of large scale lighting solutions. These high power lights feature dual bracket & light tilt adjustment for a smooth installation process, and are ideal in sports lighting applications and in large outdoor production and carpark facilities.

LFL-G Series flood lights are incredibly reliable with a rated lifespan up to 100,000 hours, and have versatile dimming options with both DALI and DMX control standards.

- High performance 160lm/W LED lighting efficiency
- Incredible light output at up to 153,600 lumens
- Wide 60° x 100° beam angle, ideal for high installs
- 90° LED module tilt and 180° adjustable U-bracket
- High performance, long lifespan 5050 SMD LED package
- Optional dimming controlled via DALI & DMX standards
- Independent power box with efficient heat dissipation
- IP67 weather rated and IK10 vandal resistance

Series Specifications

Model	LFL-G240-C2	LFL-G360-C2	LFL-G480-C2	LFL-G720-C2	LFL-G960-C2
Product Image					
Series Name	LFL-G2 Series LED Flood Lights				
Optical					
Luminous Flux	38,400lm	51,200lm	76,800lm	115,200lm	153,600lm
Luminous Efficacy	160lm/W				
LED Package	5050 SMD LEDs (120pcs/module)				
Colour Temperature	5000K cool white				
Colour Rendering Index	> 80				
Beam Angle	60° x 100°				
Rated LED Lifespan	100,000 hours				
Electrical					
Power Consumption	240W	360W	480W	720W	960W
Input Voltage	100 ~ 277VAC				
Power Factor	> 0.95				
Dimming Technology	DALI / DMX (optional)				
General					
Ingress Protection	IP67				
Vandal Protection	IK10				
Driver Package	Meanwell LED driver, 3-pin AC plug				
Reflector / Diffuser	Polycarbonate lens				
Housing Adjustments	90° light tilt, 180° U-bracket tilt				
Operating Environment	-20° ~ 55°C				
Dimensions (without bracket)	460 x 230 x 75mm	690 x 230 x 75mm	460 x 460 x 75mm	690 x 460 x 75mm	690 x 690 x 75mm
Net Weight	12.5kg	14.5kg	18kg	24.5kg	35.5kg
Photometry					
Illuminance at a Distance	 <p>LFL-G240-C2 (240W, cool white)</p>	 <p>LFL-G480-C2 (480W, cool white)</p>	 <p>LFL-G960-C2 (960W, cool white)</p>		
	 <p>LFL-G240-C2 (240W, cool white)</p>	 <p>LFL-G480-C2 (480W, cool white)</p>	 <p>LFL-G960-C2 (960W, cool white)</p>		
	<p>— 0 ~ 180° — 90 ~ 270°</p> <p>Units: cd</p>				



Professional LED Flood Lighting

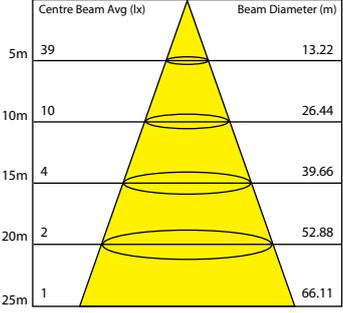
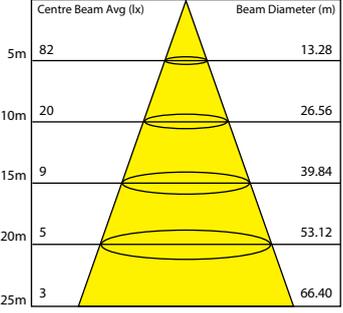
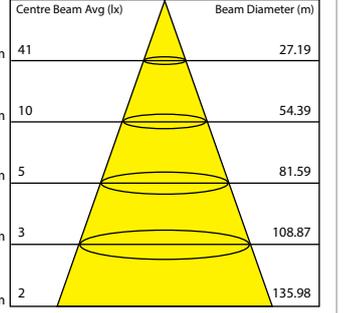
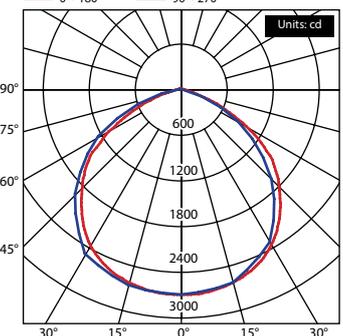
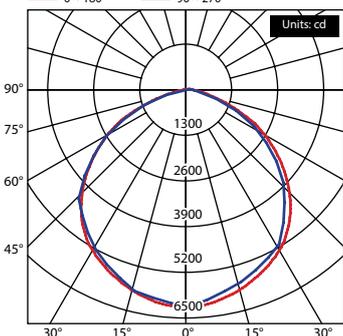
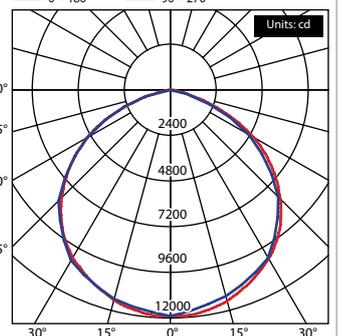
LFL-B2 Series: High performance floods in 20W, 30W, 50W, 80W, 100W, 150W & 200W models

The ENSA™ LFL-B2 series of high-power LED flood lights delivers exceptional lighting performance in a robust, weather resistant package. Available in 20W, 30W, 50W, 80W, 100W, 150W and 200W models with a wide 120° 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 & UV resistant ASA plastic bolt caps.

- High luminous efficacy LED flood lighting (150lm/W)
- Available in 3000K warm & 5000K cool white colour temp.
- Wide 120° beam angle, ideal for general purpose lighting
- High performance Lumiled LEDs & Mean Well driver
- IP65 weather resistant, suitable for outdoor applications
- 180° adjustable two-point fastened mounting bracket

Series Specifications

Model	LFL-B20-C2/W2	LFL-B30-C2/W2	LFL-B50-C2/W2	LFL-B80-C2	LFL-B100-C2	LFL-B150-C2	LFL-B200-C2
Product Image							
Series Name	LFL-B2 Series Commercial LED Flood Lights						
Optical							
Luminous Flux	3000lm	4500lm	7500lm	12000lm	15000lm	22500lm	30000lm
Luminous Efficacy	150lm/W						
Colour Temperature	3000K (warm white) / 5000K (cool white)						
Colour Rendering Index	> 70						
Beam Angle	120°						
Light Decay	<3% at 6,000 hours						
Rated Lifespan	50,000 hours						
Electrical							
Power Consumption	20W	30W	50W	80W	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	-30° ~ 50°C						
Dimensions	216 x 152 x 40mm	226 x 167 x 40mm	310 x 220 x 50mm	354 x 245 x 55mm	402 x 295 x 60mm	430 x 330 x 60mm	470 x 360 x 60mm
Weight	0.78kg	1.10kg	2.10kg	3.70kg	4.70kg	N/A	7.12kg
Photometry							
Illuminance at a Distance	 <p>LFL-B50-C2 (50W, cool white)</p>		 <p>LFL-B100-C2 (100W, cool white)</p>		 <p>LFL-B200-C (200W, cool white)</p>		
	 <p>LFL-B50-C2 (50W, cool white)</p>		 <p>LFL-B100-C2 (100W, cool white)</p>		 <p>LFL-B200-C (200W, cool white)</p>		

Ordering Information

Type	Series	Wattage	Colour Temperature	Series		
LFL	-	B	20 ~ 200 (20W ~ 200W)	-	C (Cool white) W (Warm white*)	2 Series 2

LFL-B100-C2: 100W LED Flood Light in Cool White



LED Sensor Flood Lighting

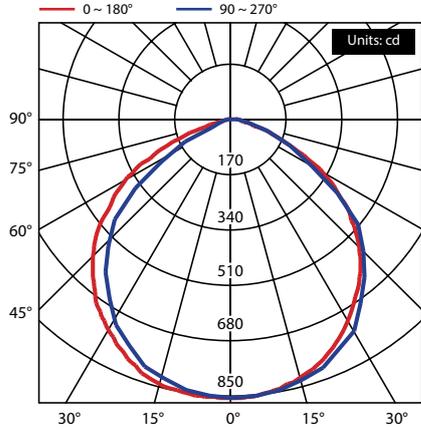
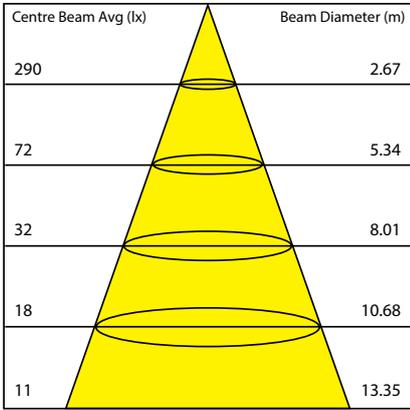
LFL-C2 Series: Passive infrared motion sensor LED flood lights in 20W, 30W & 50W models

The LFL-C2 Series combines efficient LED flood lighting with customisable motion-sensing technology to compound your energy savings. Available in 20W, 30W & 50W with adjustable ambient light sensitivity, on-time delay and passive infrared (PIR) motion detection to deliver energy efficient lighting and ideal for security and general purpose lighting.

The LFL-C2 Series is built with a metal, IP65 rated weather resistant chassis, making them suitable for outdoor lighting in residential, commercial and industrial applications.

- Available in 5000K cool white with 120lm/W light output
- Effective light distribution with 120° beam angle
- Adjustable PIR detection up to 12m with a 140° arc.
- Adjustable on-time delay (5s ~ 5min)
- Adjustable U-shape mount with over 180° of motion
- Adjustable PIR bracket (180° panning with 90°~90° tilt)

Series Specifications

Model	LFL-C20-CS2-5	LFL-C30-CS2-5	LFL-C50-CS2-5												
Product Image															
Series Name	LFL-C2 Series LED Sensor Flood Lights														
Optical															
Light Output	2400lm	3600lm	6000lm												
Luminous Efficacy	120lm/W														
Colour Temperature	5000K														
Colour Rendering Index	>80														
Beam Angle	120°														
Light Decay	<30% at 35,000 hours														
Rated Lifespan	35,000 hours														
Electrical															
Power Consumption	20W	30W	50W												
Input Voltage	100 ~ 240VAC														
Power Factor	> 0.95														
Dimmable	N/A														
General															
Ambient Sensor	2~2000lx (adjustable)														
Motion Sensor	PIR: 140° arc up to 12m range (horizontally), Ø6m range (ceiling)														
Sensor Calibration	Adjustable motion sensitivity and on-time delay (5s ~ 5min) - <i>Sensor mode cannot be disabled</i>														
Ingress Protection	IP65														
Plug / Socket / Base	Bare wire, unterminated														
Reflector / Diffuser	Aluminium reflector / Tempered glass front														
Housing Adjustments	+180° angle adjustable U-shape bracket / Fully adjustable PIR sensor stalk Adjustable PIR sensor bracket (180° panning, 90°~90° tilt)														
Operating Environment	-20° ~ 50°C														
Dimensions	204 x 206 x 38mm	253 x 236 x 40mm	312 x 279 x 46mm												
Photometry															
Illuminance at a Distance	<table border="1"> <thead> <tr> <th>Centre Beam Avg (lx)</th> <th>Beam Diameter (m)</th> </tr> </thead> <tbody> <tr> <td>290</td> <td>2.67</td> </tr> <tr> <td>72</td> <td>5.34</td> </tr> <tr> <td>32</td> <td>8.01</td> </tr> <tr> <td>18</td> <td>10.68</td> </tr> <tr> <td>11</td> <td>13.35</td> </tr> </tbody> </table> <p>LFL-C20-CS2-5 (20W)</p>		Centre Beam Avg (lx)	Beam Diameter (m)	290	2.67	72	5.34	32	8.01	18	10.68	11	13.35	 <p>LFL-C20-CS2-5 (20W)</p>
	Centre Beam Avg (lx)	Beam Diameter (m)													
290	2.67														
72	5.34														
32	8.01														
18	10.68														
11	13.35														
 <p>LFL-C20-CS2-5 (20W)</p>															

Ordering Information

Type	Series	Wattage	Colour Temperature	Sensor	Series
LFL	- C2	20 (20W) 30 (30W) 50 (50W)	- C (Cool white)	S (PIR Sensor)	2 (Series 2)
LFL-C20-CS2-5: 20W LED Sensor Flood Light in Cool White					



Professional LED Street & Area Lighting

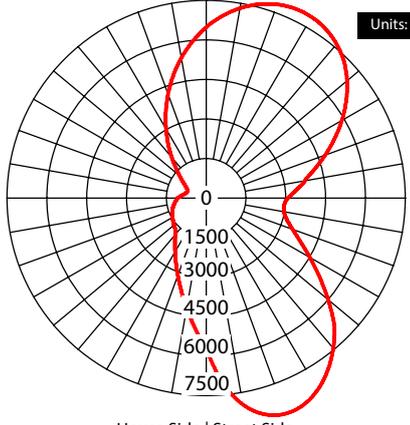
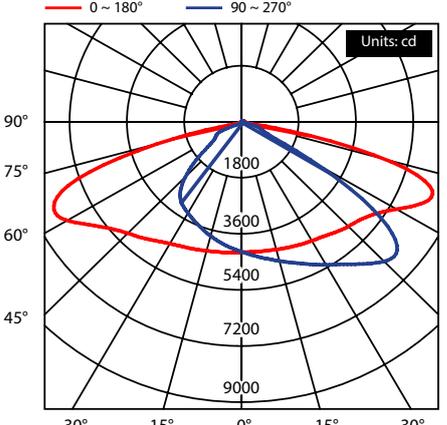
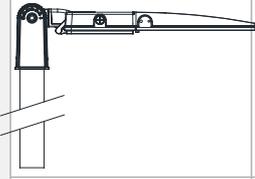
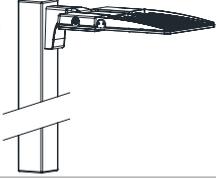
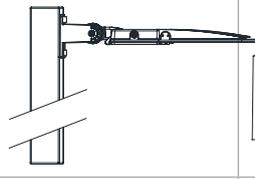
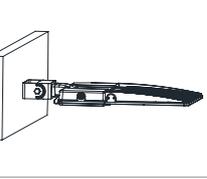
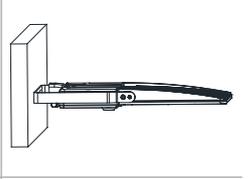
LSL-B Series: Street and area lighting available in 150W and 200W

The ENSA™ LSL-B Series comprises versatile LED lights with a variety of mounting and sensor options to deliver high performance street & area lighting. These luminaires offer impressive lighting with high energy efficiency in a robust slimline housing. LSL-B Series lights feature a wide range of mounting solutions to fit to a multitude of installation scenarios. Models also feature the option for built-in dusk/dawn switching & motion detection by passive infrared or microwave sensors.

LSL-B Series lights are ideal for illumination in street lighting applications, in area lighting for public spaces and for general purpose lighting in a variety of commercial and industrial building environments.

- High luminous efficacy up to 135lm/W
- Includes in-line surge protection for up to 20KV
- Batwing or square distribution for street & area lighting
- Robust IP66/IK08 weather & vandal resistant housing
- Long lifespan LED lighting: rated for up to 50,000 hours
- Photocell & PIR / microwave motion sensor optional
- Rotate polycarb lens for easy light direction adjustment
- Versatile mounting with 5 adjustable brackets (*sold separately*)

Series Specifications

Model	LSL-B150-CP		LSL-B200-CP		
Product Image					
Series Name	LSL-B Series: LED Street Lights				
Optical					
Light Output	20,250lm		27,000lm		
Luminous Efficacy	135lm/W				
Colour Temperature	5000K cool white				
Colour Rendering Index	70				
Beam Angle	155° x 85°				
Light Decay	23% at 50,000 hours				
Rated Lifespan	50,000 hours				
Electrical					
Power Consumption	150W		200W		
Input Voltage	100 ~ 277VAC				
Power Factor	> 0.93				
Dimmable	1 ~ 10V / PWM				
General					
Ingress Protection	IP66				
Vandal Resistance	IK08				
Plug / Socket / Base	Unterminated				
Reflector / Diffuser	Clear polycarbonate Lens				
Operating Environment	-20° ~ 50°C				
Pole Diameter	Ø62.1mm (LSL-BKTS *sold separately)				
Dimensions	428 x 247 x 55mm		458 x 268 x 55mm		
Photometry					
Max Intensity Distribution (150W)					
Brackets	 Slip Fitter Adjustable LSL-BKTS	 Fixed Pole Mount LSL-BKTP	 Adjustable Pole Mount LSL-BKTA	 Trunnion Mount LSL-BKTT	 Yoke Wall Mount LSL-BKTY



Motion Activated Solar LED Street Lighting

SSL-B Series: Solar LED street lighting with microwave motion detection in 30W, 50W & 60W

The ENSA™ SSL-B Series comprises motion-activated, solar-powered LED street lights, designed to deliver standalone lighting to outdoor locations without mains power access. SSL-B Series models couple monocrystalline silicon solar panel technology and high capacity lithium iron phosphate (LiFePO4) batteries for efficient use & extended operating time.

Models feature a customisable motion detection system that can be configured for street, area & security lighting, and other off-grid outdoor lighting purposes. They are ideal for use in remote or under-developed locations such as on rural roads, at remote fences/gates, in construction sites, and in general street lighting applications.

- Outstanding energy efficiency at >180lm/W performance
- Up to 21% conversion rate monocrystalline solar panels
- Dusk/dawn switch, motion sensing & on-time delay
- Configure power output for different times of the day
- 60° tilt-adjustable LED modules for lighting customisation
- Multiple days of use from full charge (sensor mode, overcast)
- LED available in 5700K cool white colour temperature
- IP65 weather rated with included bird guard (optional)

Superb off-grid lighting

Superior lighting in challenging locations

SSL-B Series Solar LED Street Lights offer superb lighting results for an off-grid system. Models feature incredible light output and LED lifespan, making them an ideal long-term street or area lighting solution for locations without access to mains power.

- High efficiency +180lm/W LED lighting module
- 50,000hrs LED lifespan & microwave motion sensing
- Adjustable LED light module, tilt -30° ~ 30°



Latest solar technology

Excellent solar energy generation & storage

SSL-B Series monocrystalline solar panels are built for high performance with large panel surface area to maximise solar energy generation. Models are paired with the latest lithium battery technology for increased light uptime, even in extended periods of sub-optimal solar generation conditions.

- Monocrystalline panel for $\geq 21\%$ panel conversion
- Lithium iron phosphate batteries (LiFePO4)
- Multiple days of light uptime across the range



Optimise your solar light

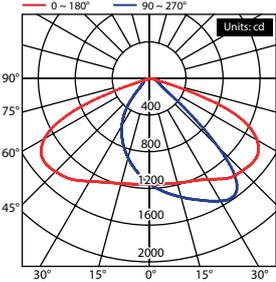
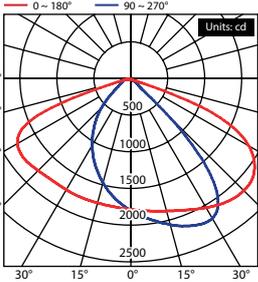
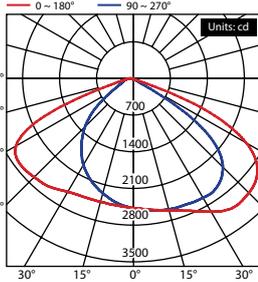
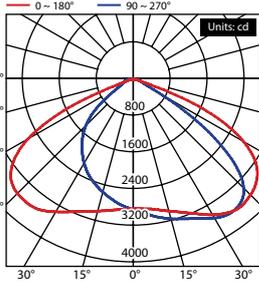
Fully configure your LED solar lighting system

Customise SSL-B Series Solar LED Street Lights to your exact specifications quickly via infrared remote control. Monitor system health, set motion detection properties and configure as per your application requirements.

- Panel & battery control and panel-driven dusk/dawn
- Configure light output for up to 5 time periods
- Setup motion detection lighting with motion sensor adjustment & dimmed light output levels
- Set custom on-time delay from 0s up to 120s



Series Specifications

Model	SSL-B20	SSL-B30	SSL-B50	SSL-B60
Product Image				
Series Name	SSL-B Series Motion Activated Solar LED Street Lights			
Light				
Light Output	3900lm	5500lm	9400lm	11100lm
Luminous Efficacy	>180lm/W			
Colour Temperature	5700K Cool White			
Beam Angle	145° x 75°		145° x 100°	
Rated LED Lifespan	50,000hrs			
LED Testing	LM80 / TM21 (available on request)			
Power Consumption	20W	30W	50W	60W
Internal Battery	218Wh LiFePO4	320Wh LiFePO4	500Wh LiFePO4	1200Wh LiFePO4
Input Voltage	12.8VDC	12.8VDC	12.8VDC	25.6VDC
Operating Time	72~120 hours (intelligent mode, rainy weather)			120~168 hours (int. mode, rainy weather)
Light Bracket	Adjustable bracket angle -30° ~ 30°			
Solar Panel				
Panel Type	Monocrystalline silicon			
Panel Wattage	56W	80W	120W	180W
Panel Conversion Rate	≥21%			
Panel Bracket	Adjustable bracket angle -60° ~ 60°			
Rec. Install Height	5 ~ 7m		8 ~ 10m	
Detection				
Motion Detection	Microwave motion sensor			
Detection Range	Ø8 ~ 15m (height: 5 ~ 7m)		Ø8 ~ 15m (height: 8 ~ 10m)	
Light Mode Settings	Normal	Mode time period / Brightness		
	Morning	Mode time period / Brightness		
	Sensor	Mode time period / Brightness on motion / On-time delay / Brightness after motion		
General				
Ingress Protection	IP65			
Pole Diameter	Ø50~60mm			
Product Dimensions	821 x 450 x 161mm	1015 x 525 x 161mm	1321 x 525 x 161mm	1496 x 685 x 161mm
Photometry				
Luminous Light Distribution				

Ordering Information

Type	Series	Wattage	Sensor Type	Colour Temperature
SSL	- B	20 (20W LED light) 30 (30W LED light) 50 (50W LED light) 60 (60W LED light)	M (Microwave)	C (Cool white)
SSL-B60MC: 60W Motion Activated Solar LED Street Light in Cool White				

Included Accessories

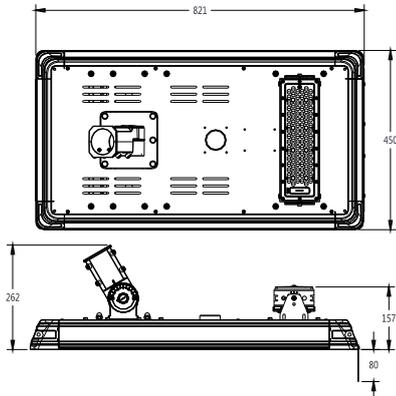
Check status and adjust settings of the SSL-B Series with the included infrared configuration remote.

Control motion sensor operation, battery charge/discharge settings, allocate light power and more.

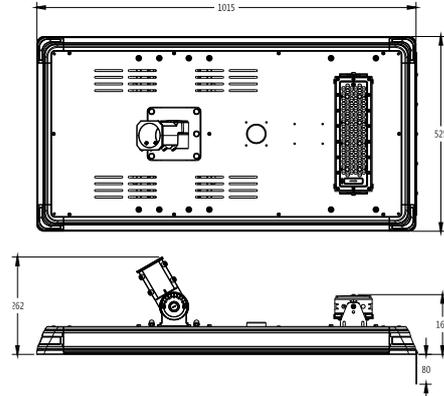


Series Diagrams

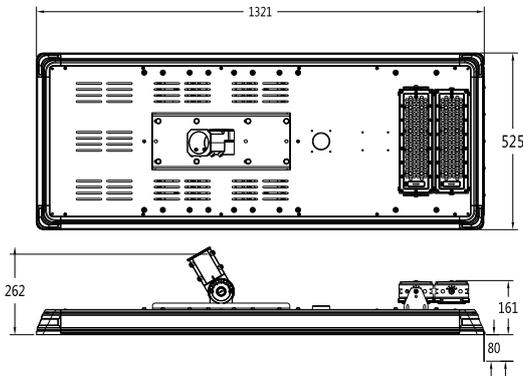
SSL-B20 Dimensions



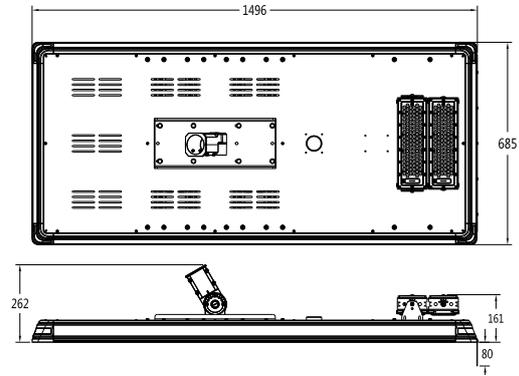
SSL-B30 Dimensions



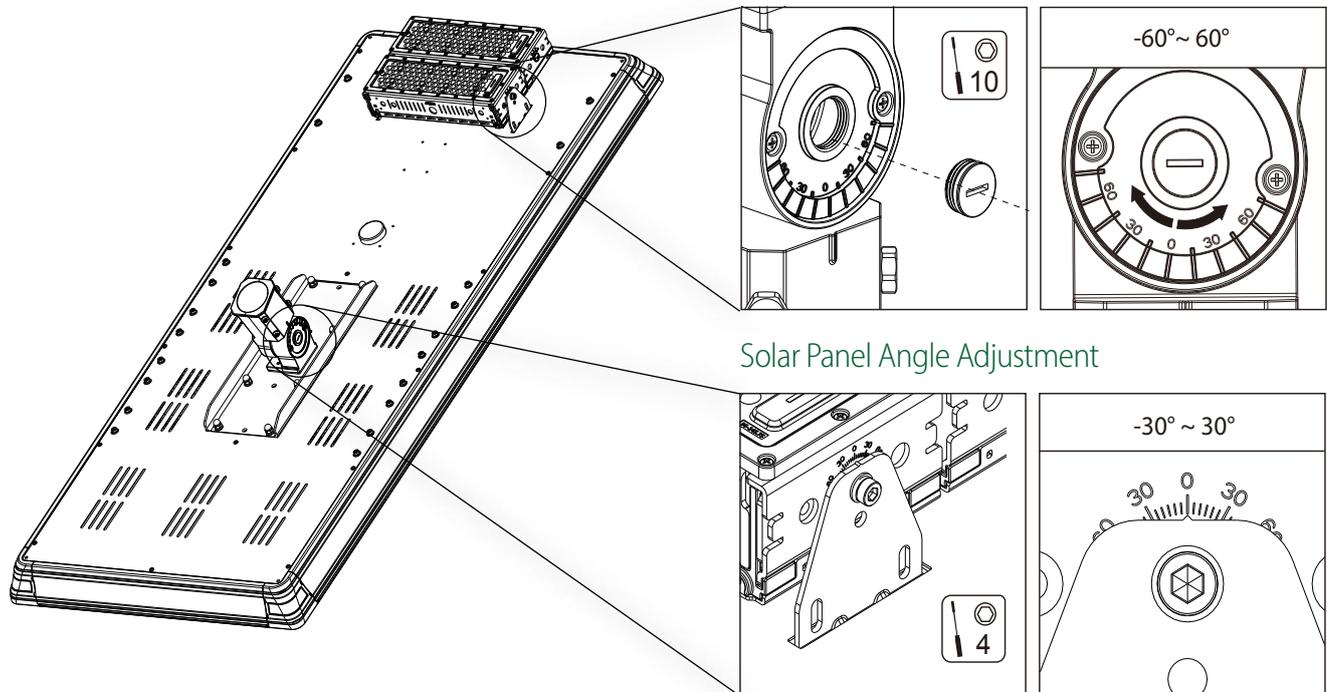
SSL-B50 Dimensions



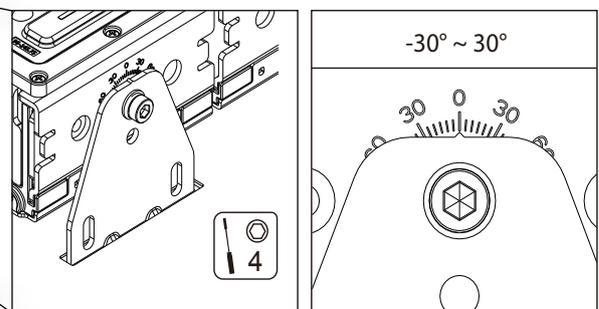
SSL-B60 Dimensions

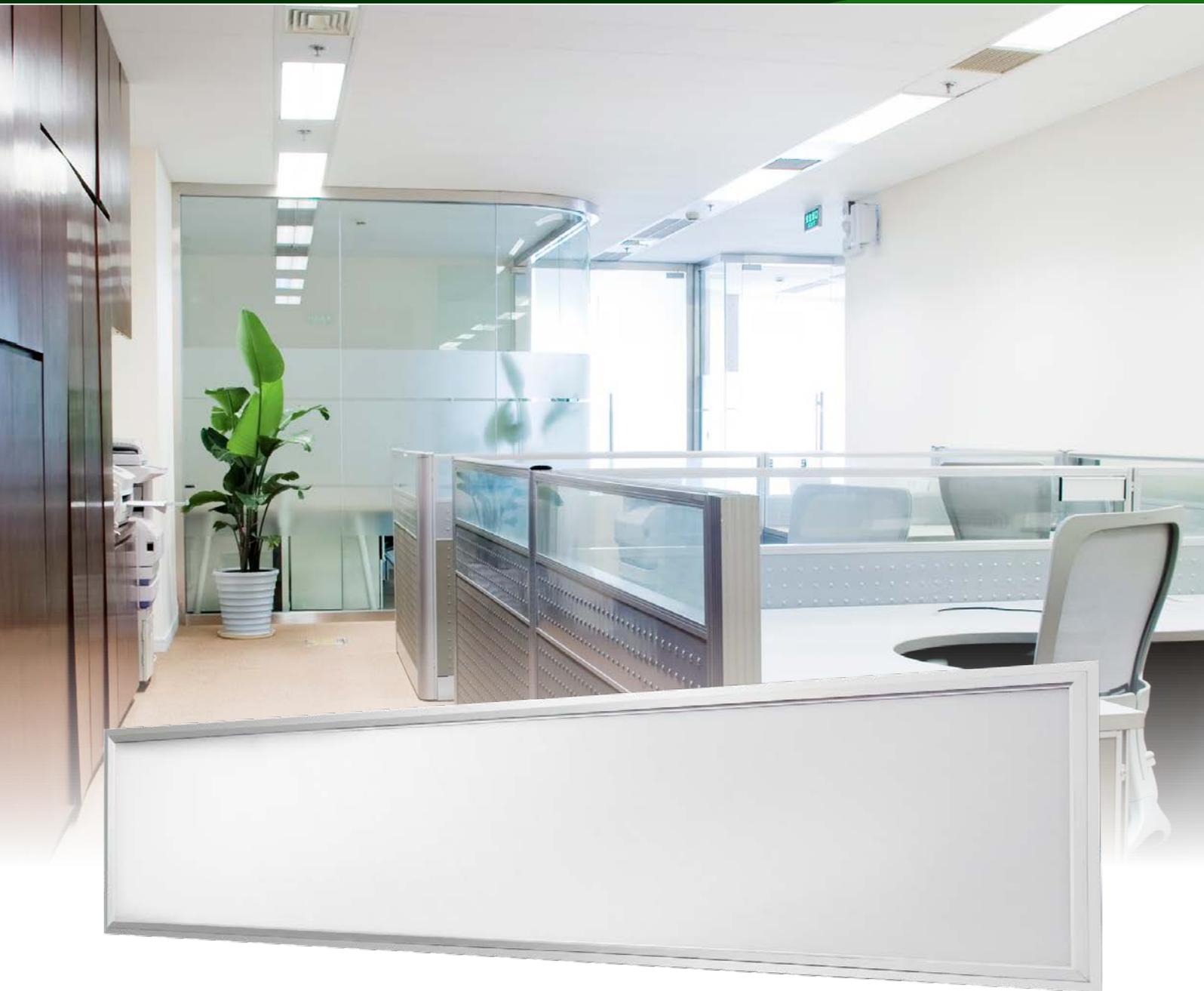


Light Angle Adjustment



Solar Panel Angle Adjustment





Professional LED Panel Lighting

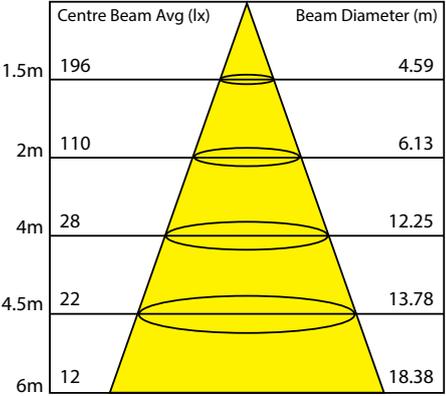
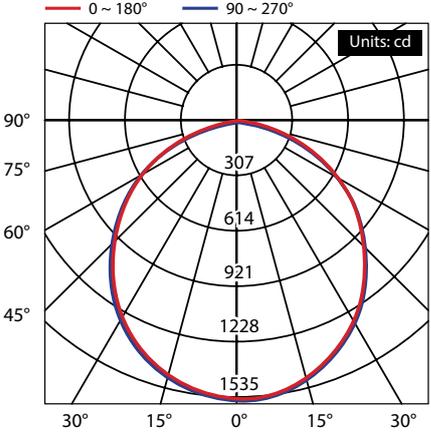
LPL-C series: Low unified glare rating panel lighting in rectangular & square 40W models

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.

ENSA™ LED panel lights 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.

- High luminous efficacy LED flood lighting (120lm/W)
- Minimalist, stylish & efficient LED panel light
- Recessed, surface and hanging mounting options
- Wide 110° beam angle for even light distribution
- Low UGR: Create pleasing, low glare, well lit spaces
- Designed to easily replace fluorescent troffer fixtures
- IP20 rated housing for indoor applications only
- Available in 5000K cool white colour temperature

Series Specifications

Model	LPL-C40													
Product Image														
Series Name	LPL-C Series Professional LED Panel Lights													
Optical														
Light Output	4800lm													
Luminous Efficacy	120lm/W													
Colour Temperature	5000K													
Colour Rendering Index	>80													
Beam Angle	110°													
Light Decay	N/A													
Rated Lifespan	N/A													
Electrical														
Power Consumption	40W													
Input Voltage	200 ~ 240VAC													
Power Factor	> 0.9													
Dimmable	N/A													
General														
Ingress Protection	IP20													
Plug / Socket / Base	3-pin AC plug													
Reflector / Diffuser	Frosted diffuser with UGR <22													
Housing Adjustments	Recessed (standard) / Surface Frame (LPL-C-S) / Recessed Frame (LPL-C-R)													
Operating Environment	-25°C ~ 40°C / 10% ~ 90%RH													
Dimensions	295 x 1195 x 30mm													
Certifications	ENEC/CB approved													
Photometry														
Illuminance at a Distance	 <table border="1"> <thead> <tr> <th>Centre Beam Avg (lx)</th> <th>Beam Diameter (m)</th> </tr> </thead> <tbody> <tr> <td>196</td> <td>4.59</td> </tr> <tr> <td>110</td> <td>6.13</td> </tr> <tr> <td>28</td> <td>12.25</td> </tr> <tr> <td>22</td> <td>13.78</td> </tr> <tr> <td>12</td> <td>18.38</td> </tr> </tbody> </table>	Centre Beam Avg (lx)	Beam Diameter (m)	196	4.59	110	6.13	28	12.25	22	13.78	12	18.38	Luminous Light Distribution
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6.13	110													
12.25	28													
13.78	22													
18.38	12													

Ordering Information

Type	Series	Wattage	Colour Temperature
LPL	- C Rectangular	40 (40W)	- C (Cool white)
LPL-C40-C: 40W LED Panel Light in Cool White			

Accessories

Model	LPL-C-S	LPL-C-R	LPL-C-H
Product Image			
Type	Surface Mount Frame	Recessed Mount Frame	Hanging Mount Kit
Description	Recessed mounted frame suitable for flat ceiling installations	Surface mounted frame suitable for concealed installations in ceilings	Mount kit suitable for hanging panel lights 1.2m from the ceiling



Intelligent Sensor LED Batten Lighting

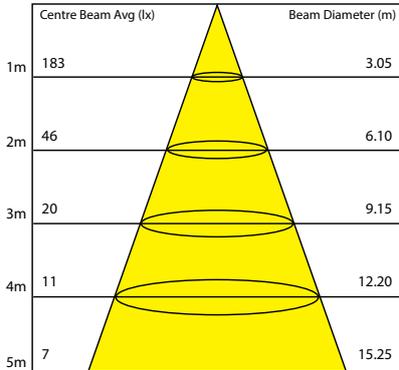
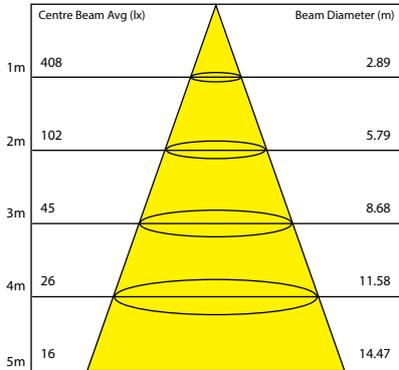
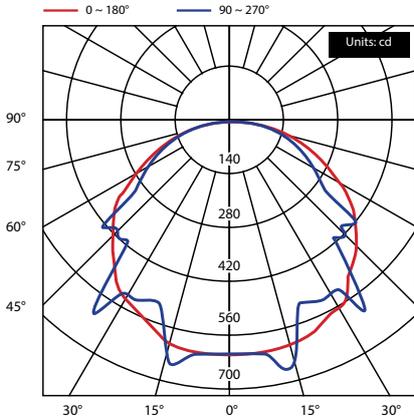
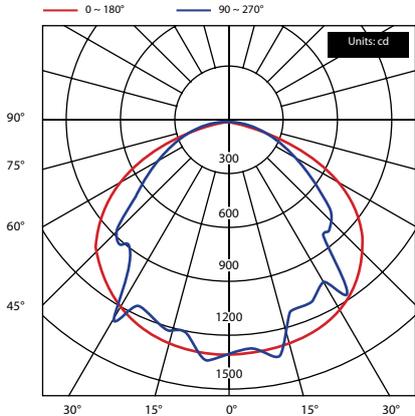
LEDBTS Series: 18W and 36W sensor battens in standard 600mm & 1200mm models

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, 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

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)																																					
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	 <table border="1"> <thead> <tr> <th>Distance (m)</th> <th>Centre Beam Avg (lx)</th> <th>Beam Diameter (m)</th> </tr> </thead> <tbody> <tr> <td>1m</td> <td>183</td> <td>3.05</td> </tr> <tr> <td>2m</td> <td>46</td> <td>6.10</td> </tr> <tr> <td>3m</td> <td>20</td> <td>9.15</td> </tr> <tr> <td>4m</td> <td>11</td> <td>12.20</td> </tr> <tr> <td>5m</td> <td>7</td> <td>15.25</td> </tr> </tbody> </table>	Distance (m)	Centre Beam Avg (lx)	Beam Diameter (m)	1m	183	3.05	2m	46	6.10	3m	20	9.15	4m	11	12.20	5m	7	15.25	 <table border="1"> <thead> <tr> <th>Distance (m)</th> <th>Centre Beam Avg (lx)</th> <th>Beam Diameter (m)</th> </tr> </thead> <tbody> <tr> <td>1m</td> <td>408</td> <td>2.89</td> </tr> <tr> <td>2m</td> <td>102</td> <td>5.79</td> </tr> <tr> <td>3m</td> <td>45</td> <td>8.68</td> </tr> <tr> <td>4m</td> <td>26</td> <td>11.58</td> </tr> <tr> <td>5m</td> <td>16</td> <td>14.47</td> </tr> </tbody> </table>	Distance (m)	Centre Beam Avg (lx)	Beam Diameter (m)	1m	408	2.89	2m	102	5.79	3m	45	8.68	4m	26	11.58	5m	16	14.47
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5m	16	14.47																																				
Luminous Light Distribution	 <p>Units: cd</p>	 <p>Units: cd</p>																																				



Intelligent LED Batten Lighting with 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 up to 5 hours light uptime.

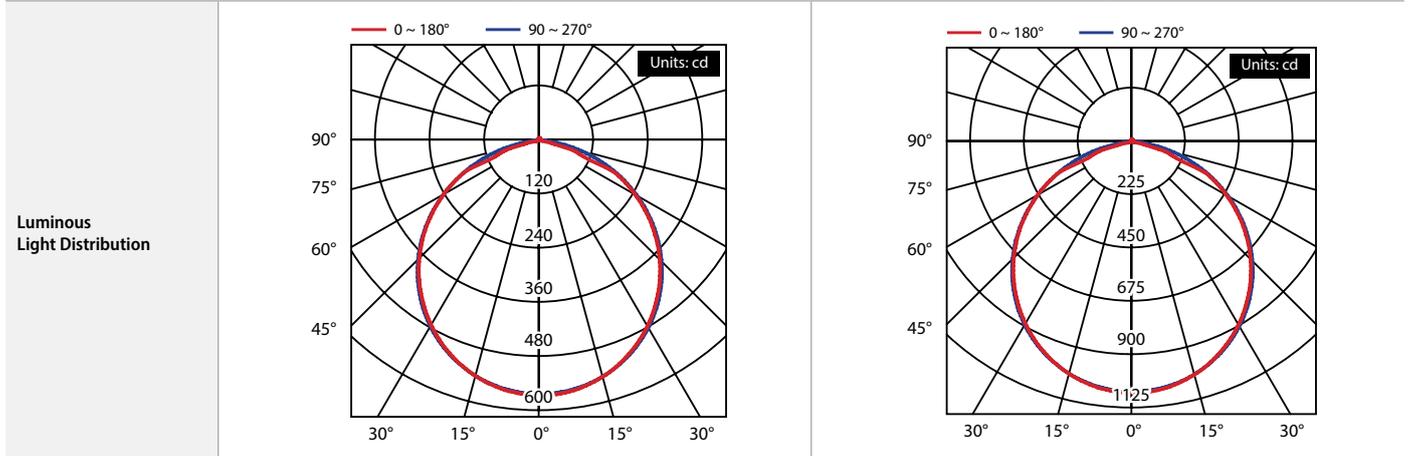
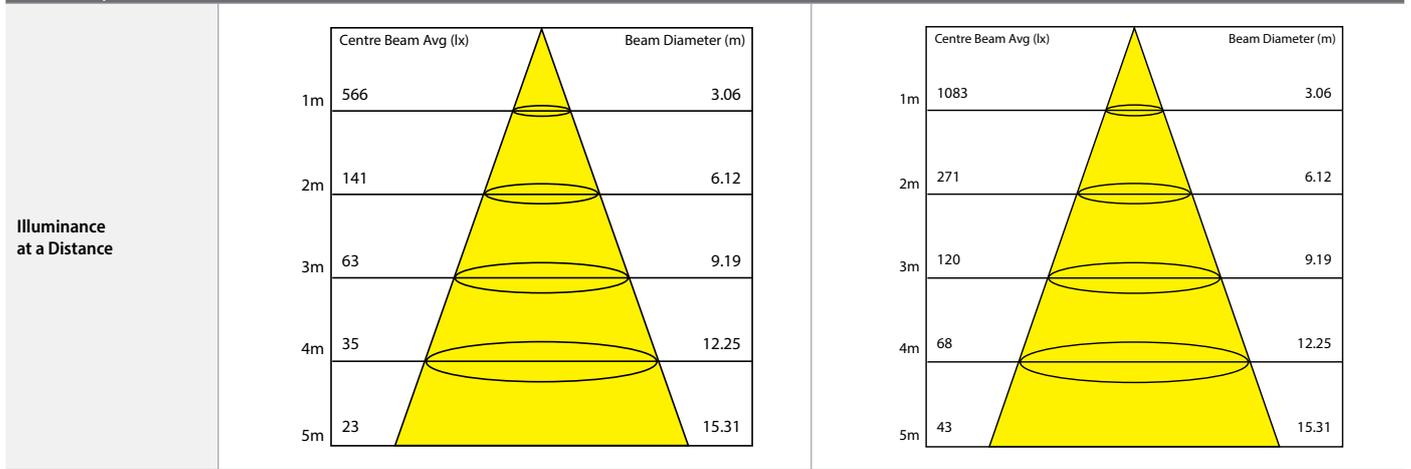
Intelligent emergency battens feature motion detection, on-time delay and standby time delay functions to tailor your light use for efficiency & practicality. Each model features 2-stage dimming and can be configured to stay at 100% brightness, to dim and then turn off, or to dim and stay dimmed. Ideal in stairwells, corridors, underpasses, car parks and more.

- 18 / 36W LED batten lights in standard & intelligent models
- 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 with tough housing: IP65 dust & weather resistant
- Emergency lighting models are AS2293.3 approved.
- Easy access TEST button for emergency light testing
- Series is IPART approved for use in the NSW ESS

Series Specifications

Model	LEDBT18WS2 LEDBT18WSE (Non-emergency Sensor)	LEDBT36WS2 LEDBT18WSE (Non-emergency Sensor)	LEDBT18WSE (Emergency Sensor)	LEDBT36WS (Emergency Sensor)
Series Name	LEDBTS2 Series: Standard LED Batten		LEDBTSE Series: Battery Backup LED Batten	
Optical				
Light Output	1980lm	3900lm	1980lm	3900lm
Luminous Efficacy	110lm/W	108lm/W	110lm/W	108lm/W
Colour Temperature	6000K			
Colour Rendering Index	> 80			
Beam Angle	126°	123°	126°	123°
Light Decay	L70 at 54,000 hours			
Rated Lifespan	54,000 hours			
Electrical				
Power Consumption	18W	36W	18W	36W
Input Voltage	180 ~ 240VAC (50 ~ 60Hz)			
Power Factor	>0.9		>0.95	
Battery Backup	N/A		6.4V 3000mAh LiFePO4	
Emergency Power Output	N/A		3.6W / 5 hours uptime	
Control				
Motion Detection	360° 5.8GHz Microwave / 8m max. radius / 50% ~ 100% adjustable (default: 100%)			
On-Time Delay	5s / 30s / 90s / 180s (default: 90s)			
Dimmed Brightness	20% / 40% / 60% / 100% (default: 20%)			
Dimming Timeout	0s / 90s / 180s / ∞s (default: ∞s)			
Dimming Description	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	-20° ~ 40°C			
Dimensions	655 x 108 x 85mm	1260 x 108 x 85mm	655 x 108 x 85mm	1260 x 108 x 85mm
Certifications	IPART			

Photometry	18W models	36W models
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Intelligent LED Oyster Lighting with Backup

LOL-A Series: 16W LED oyster lights in standard, intelligent & backup battery models

The LOL-A oyster light series delivers efficient lighting to any environment. 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.

Series Specifications

Model	LOL-A16		LOL-A16-S2	LOL-A16-SE																		
Series Name	LOL-A Series: LED 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	N/A	3.7V 1500mAh NiMH >300min uptime at 1.2W																		
Emergency Brightness	N/A	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	0s / 90s / 5m / 10m / 30m / ∞ (20% brightness)		0s / 90s / 5m / 10m / ∞ (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		Diagrams																				
Illuminance at a Distance	<table border="1"> <thead> <tr> <th>Distance (m)</th> <th>Centre Beam Avg (lx)</th> <th>Beam Diameter (m)</th> </tr> </thead> <tbody> <tr> <td>1m</td> <td>91</td> <td>3.46</td> </tr> <tr> <td>2m</td> <td>23</td> <td>6.92</td> </tr> <tr> <td>3m</td> <td>12</td> <td>10.35</td> </tr> <tr> <td>4m</td> <td>6</td> <td>13.86</td> </tr> <tr> <td>5m</td> <td>4</td> <td>17.32</td> </tr> </tbody> </table>	Distance (m)	Centre Beam Avg (lx)	Beam Diameter (m)	1m	91	3.46	2m	23	6.92	3m	12	10.35	4m	6	13.86	5m	4	17.32	Assembly		
Distance (m)	Centre Beam Avg (lx)	Beam Diameter (m)																				
1m	91	3.46																				
2m	23	6.92																				
3m	12	10.35																				
4m	6	13.86																				
5m	4	17.32																				
Luminous Light Distribution																						

Ordering Information

Model	Product
LOL-A16-W	16W LED Oyster Light in Warm White
LOL-A16-WS2	16W LED Oyster Light in Warm White with Sensor
LOL-A16-WSE	16W LED Oyster Light in Warm White with Sensor & Backup Battery

Model	Product
LOL-A16-C	16W LED Oyster Light in Cool White
LOL-A16-CS2	16W LED Oyster Light in Cool White with Sensor
LOL-A16-CSE	16W LED Oyster Light in Cool White with Sensor & Backup Battery



T8 LED Motion Sensor Tube Lighting

LTU-C Series: PIR motion LED sensor tubes in 600mm and 1200mm models

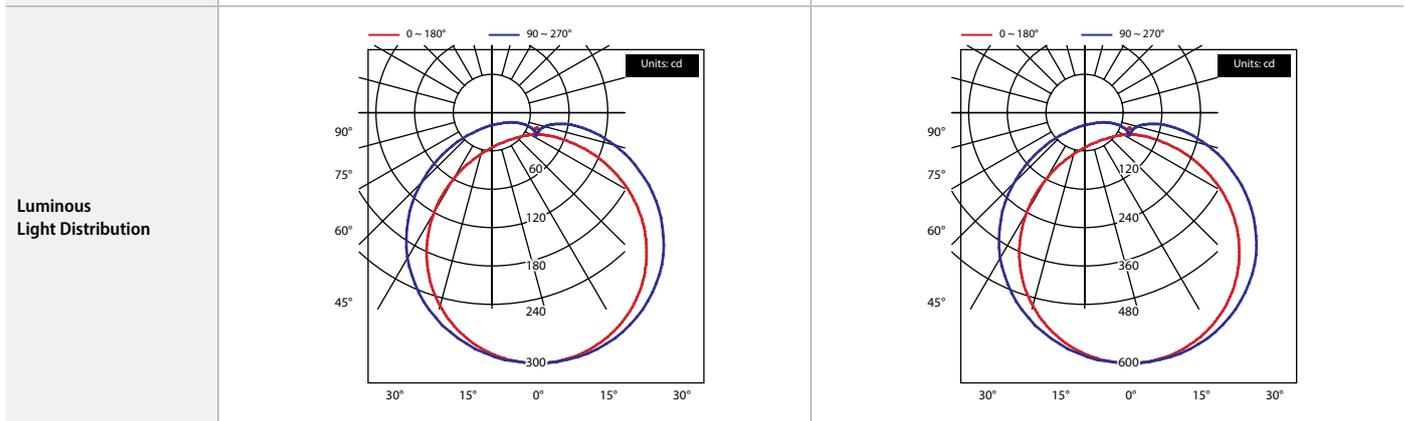
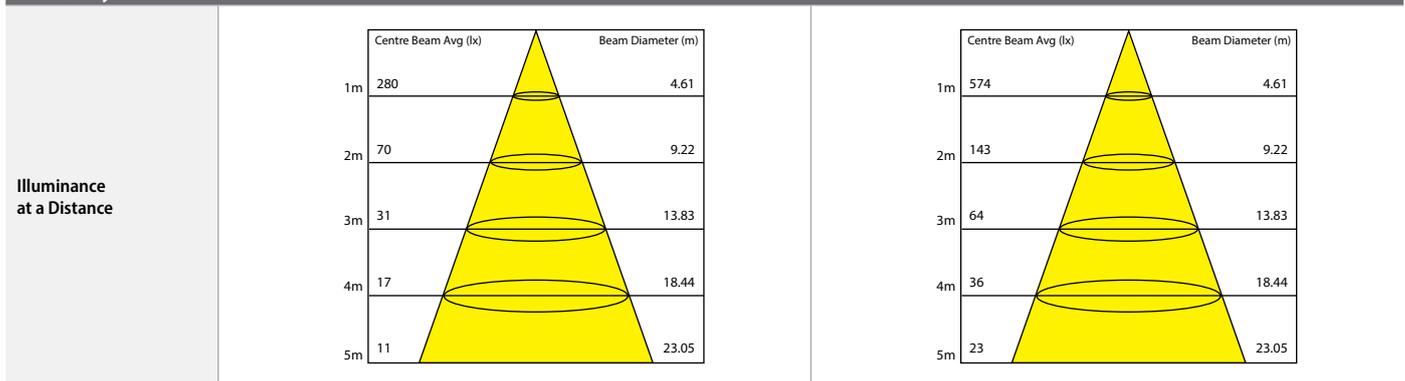
Compound your LED energy savings by choosing ENSA™ Intelligent LED Tube Lighting which are not only 50% more energy efficient than conventional fluorescents, but utilise motion sensor technology to achieve impressively low total energy consumption. This makes them the perfect energy efficient light for 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.

Series Specifications

Model	LTU-C9-CS	LTU-C18-CS
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		



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: Available in 13W in warm white 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 colour temperature
- Right angle & surface clips enable rapid light installation.
- Wide 135° beam angle and >80 colour rendering index.

Series Specifications

Model	LEDBR13W3K																			
Product Image																				
Series Name	LEDBR Series: Linkable LED Lighting																			
Optical																				
Light Output	1050lm																			
Luminous Efficacy	78lm/W																			
Colour Temperature	3000K warm white																			
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	<table border="1"> <thead> <tr> <th>Distance (m)</th> <th>Centre Beam Avg (lx)</th> <th>Beam Diameter (m)</th> </tr> </thead> <tbody> <tr> <td>0.5m</td> <td>257</td> <td>1.73</td> </tr> <tr> <td>1.0m</td> <td>64</td> <td>3.46</td> </tr> <tr> <td>1.5m</td> <td>29</td> <td>5.19</td> </tr> <tr> <td>2.0m</td> <td>16</td> <td>6.93</td> </tr> <tr> <td>2.5m</td> <td>10</td> <td>10.39</td> </tr> </tbody> </table>	Distance (m)	Centre Beam Avg (lx)	Beam Diameter (m)	0.5m	257	1.73	1.0m	64	3.46	1.5m	29	5.19	2.0m	16	6.93	2.5m	10	10.39	
Distance (m)	Centre Beam Avg (lx)	Beam Diameter (m)																		
0.5m	257	1.73																		
1.0m	64	3.46																		
1.5m	29	5.19																		
2.0m	16	6.93																		
2.5m	10	10.39																		
Diagrams																				
Mounting Options																				



LED Retrofit Globe Lighting

LEDBL / GL Series: Variety of wattages in E27, B22, GU10 and GU5.3 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 (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, and MR16 downlight bulb replacements in GU5.3 12V bi-pin fitting and GU10 240V bayonet fitting.

Series Specifications

Model	LEDBL6WE27	LBL-C9-E27	LEDBL11WE27	LEDBL6WB22	LBL-D7-B22	LEDBL9WB22	LEDBL11WB22
Product Image							
Series Name	E27 Screw LED Globe Series			B22 Bayonet LED Globe Series			
Optical							
Light Output	485lm	806lm	1025lm	485lm	630lm	795lm	1025lm
Luminous Efficacy	75lm/W	80lm/W	93lm/W	75lm/W	85lm/W	84lm/W	93lm/W
Colour Temperature	3000K / 6500K			3000K / 6500K	6500K	3000K / 6500K	3000K / 6500K
Colour Rendering Index	>80						
Beam Angle	160°						
Light Decay	<10% at 6,000 hours	<7% at 6,000 hours	<10% at 6,000 hours	<10% at 6,000 hours	<20% at 6,000 hours	<10% at 6,000 hours	<10% at 6,000 hours
Rated Lifespan	30,000 hours	25,000 hours	30,000 hours	30,000 hours	15,000 hours	30,000 hours	30,000 hours
Electrical							
Power Consumption	6.5W	9.5W	11W	6.5W	7W	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	-40° ~ +45°C	-25° ~ +40°C	-20° ~ +40°C			
Dimensions	Ø60 x 107mm						

Model	LEDGL5WMR	LEDGL5WGU
Product Image		
Series Name	MR16 LED Downlight Series	
Optical		
Light Output	410lm	
Luminous Efficacy	75lm/W	
Colour Temperature	3000K / 6500K	
Colour Rendering Index	>80	
Beam Angle	105°	
Light Decay	<10% after 6,000 hours	
Rated Lifespan	30,000 hours	
Electrical		
Power Consumption	5.5W	
Input Voltage	12VDC	220 ~ 240VAC
Power Factor	>0.5	
Dimmable	N/A	
General		
Construction / Material	Aluminium & polycarbonate	
Plug / Socket / Base	GU5.3	GU10
Operating Environment	-25° ~ +40°C	
Dimensions	Ø51 x 50mm	Ø56 x 50mm

Ordering Information

Type	Wattage	Base Fitting	Colour Temperature
LEDBL	6W (6.5W) 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	Series	Wattage	Base Fitting	Colour Temperature		
LBL	-	C	9 (9.5W)	-	E27 (E27 Screw)	C (Cool white) W (Warm white)
LBL-C9-E27C: 9.5W LED Globe with E27 Base in Cool White						



LED Retrofit High Bay Lighting

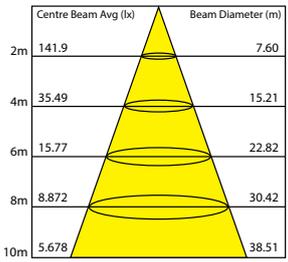
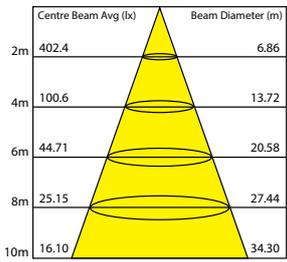
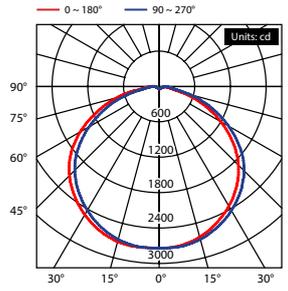
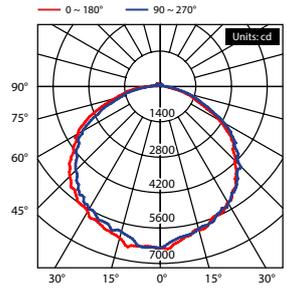
LBL-D Series: Retrofit E40 screw high bay LED bulbs available in 100W and 160W models

The ENSA™ LBL-D series enables rapid, energy efficient lighting upgrades of retail high bay installations in industrial and commercial environments. Quickly and easily replace E40 screw base lamps and save time on replacement with minimal interruption to operations.

The LBL-D series offers a far greater lifespan and energy efficiency than traditional metal halide lighting, saving on energy and lighting replacement costs. Available in 100W & 160W models in cool & natural white colour temperatures.

- High power bulb for industrial and commercial settings
- Improve energy efficiency & save on re-lamping costs
- E40 screw based for retrofit lighting installations
- Long life LEDs: minimum 25,000 hours rated service life
- Available in natural and cool white colour temperatures
- Reflector for high ceiling installations (*sold separately*)
- *There may be some retrofit cases where the existing light ballast must be removed

Series Specifications

Model	LBL-D100-E40	LBL-D160-E40																																				
Product Image																																						
Series Name	LBL-D Series: Retrofit High Bay LED Bulb																																					
Optical																																						
Light Output	9,000lm	20,000lm																																				
Luminous Efficacy	90lm/W	125lm/W																																				
Colour Temperature	4000K / 6500K																																					
Colour Rendering Index	> 80																																					
Beam Angle	120°	200°																																				
Light Decay	<80% at 6000 hours																																					
Rated Lifespan	>25,000 hours																																					
Electrical																																						
Power Consumption	100W	160W																																				
Input Voltage	220 ~ 240VAC, 50Hz																																					
Power Factor	> 0.9																																					
Dimmable	No																																					
General																																						
Construction / Material	Polybutylene Terephthalate (body) / Polycarbonate (lens)																																					
Plug / Socket / Base	E40 screw																																					
Operating Environment	-30 ~ +50°C																																					
Dimensions	Ø190 x 275mm	Ø280 x 350mm																																				
Photometry																																						
Illuminance at a Distance	 <table border="1"> <caption>Illuminance at a Distance - LBL-D100-E40</caption> <thead> <tr> <th>Distance (m)</th> <th>Centre Beam Avg (lx)</th> <th>Beam Diameter (m)</th> </tr> </thead> <tbody> <tr> <td>2m</td> <td>141.9</td> <td>7.60</td> </tr> <tr> <td>4m</td> <td>35.49</td> <td>15.21</td> </tr> <tr> <td>6m</td> <td>15.77</td> <td>22.82</td> </tr> <tr> <td>8m</td> <td>8.872</td> <td>30.42</td> </tr> <tr> <td>10m</td> <td>5.678</td> <td>38.51</td> </tr> </tbody> </table>	Distance (m)	Centre Beam Avg (lx)	Beam Diameter (m)	2m	141.9	7.60	4m	35.49	15.21	6m	15.77	22.82	8m	8.872	30.42	10m	5.678	38.51	 <table border="1"> <caption>Illuminance at a Distance - LBL-D160-E40</caption> <thead> <tr> <th>Distance (m)</th> <th>Centre Beam Avg (lx)</th> <th>Beam Diameter (m)</th> </tr> </thead> <tbody> <tr> <td>2m</td> <td>402.4</td> <td>6.86</td> </tr> <tr> <td>4m</td> <td>100.6</td> <td>13.72</td> </tr> <tr> <td>6m</td> <td>44.71</td> <td>20.58</td> </tr> <tr> <td>8m</td> <td>25.15</td> <td>27.44</td> </tr> <tr> <td>10m</td> <td>16.10</td> <td>34.30</td> </tr> </tbody> </table>	Distance (m)	Centre Beam Avg (lx)	Beam Diameter (m)	2m	402.4	6.86	4m	100.6	13.72	6m	44.71	20.58	8m	25.15	27.44	10m	16.10	34.30
Distance (m)	Centre Beam Avg (lx)	Beam Diameter (m)																																				
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6m	44.71	20.58																																				
8m	25.15	27.44																																				
10m	16.10	34.30																																				
Luminous Light Distribution																																						

Ordering Information

Type	Series	Wattage	Base	Colour Temperature
LBL	-	100 (100W) 160 (160W)	-	E40
C (Cool white) N (Natural white)				
LBL-D100-E40N: 100W E40 Base LED Retrofit Bulb in Natural White				

Additional Accessories

LBL-D100RF
Optional plastic reflector available for 100W LBL-D Series LED bulbs only. Recommended for high ceiling installations.





LED Retrofit Globe Lighting

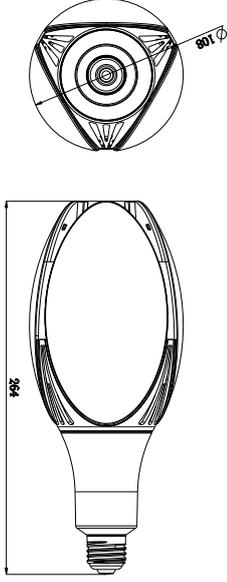
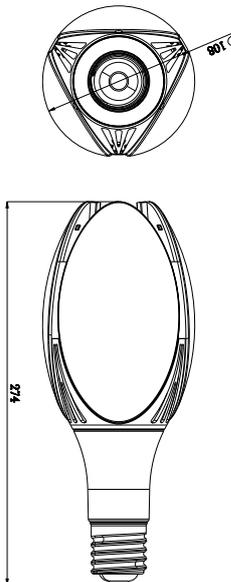
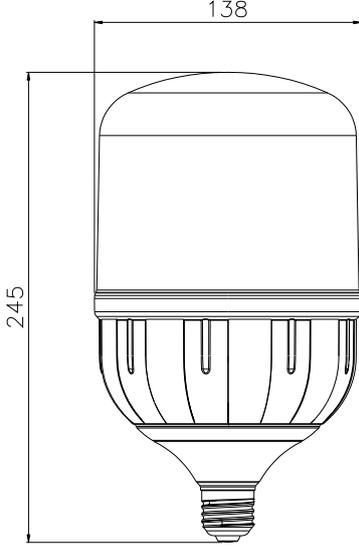
LBL-D Series: Available in 40W and 45W in E27 and E40 screw base fittings.

The ENSA LBL-D Series LED globes deliver rapid energy efficient lighting upgrades without the need to replace entire lighting fixtures. Make lighting upgrades simple with E27 and E40 screw fittings and provide rapid retrofit lighting far more efficiently than traditional compact fluorescent lights.

LBL-D Series retrofit globes are available in two unique designs that fit to traditional light enclosures, making LED upgrades easy. They are ideal across residential, commercial and public spaces and are perfect for general purpose lighting in lamp posts, area lights, gate lamps, architectural lighting, interior lighting and more.

- Improve energy efficiency with up to 130lm/W bulbs
- Low-glare and durable frosted polycarbonate lens
- Available in 4000K natural white colour temperature
- Great lumen maintenance & lifespan up to 25,000 hours
- Two common bulb styles for traditional light enclosures
- Standard E27 and E40 screw fit bulbs; optional converter

Series Specifications

Model	LBL-D40-E27	LBL-D40-E40	LBL-D45-E27
Product Image			
Series Name	LBL-D Series Retrofit Light Globes		
Optical			
Light Output	5200lm		4500lm
Luminous Efficacy	130lm/W		100lm/W
Colour Temperature	4000K		
Colour Rendering Index	>80		
Beam Angle	330°		180°
Light Decay	>90% after 1000 hours		<80% after 6000 hours
Rated Lifespan	15,000 hours		25,000 hours
Electrical			
Power Consumption	40W		45W
Input Voltage	220 ~ 240VAC 50Hz		
Power Factor	>0.9		
Dimmable	N/A		
General			
Construction / Material	Polyamide body, polycarbonate frosted lens		
Ingress Protection	IP20		
Plug / Socket / Base	E27	E40	E27
Operating Environment	-20 ~ +40°C		
Dimensions	Ø108 x 264mm	Ø108 x 274mm	Ø138 x 245mm
Diagram			

Ordering Information

Type	Wattage	Base Fitting	Colour Temperature
LBL-D	40 (40W)	E27 (E27 Screw)	N (Natural white)
	45 (45W)	E40 (E40 Screw)	

LBL-D40-E27 / E40 : 40W LED Globe with E27 / E40 Base in Natural White
 LBL-D45-E27: 45W LED Globe with E27 Base in Natural White



Type	Base Fitting
E27-E40BASE	E40 (E40 Screw)

E27-E40BASE: E27 transfer into E40 Base Adapter



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 & 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.

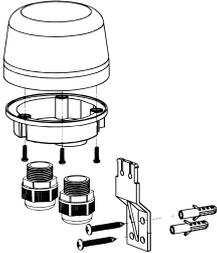
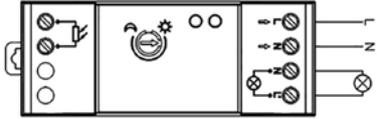
Once installed, the switch's daylight sensor measures ambient light levels. If light levels fall below the set limit, the motion sensor is activated. Upon detecting motion, the switch will turn the connected light on. When movement is no longer detected, the switch's adjustable on-timer delay will keep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

Sensor Switches | Series Specifications

Model	ENSA-PS1	ENSA-PS2	ENSA-PS3	ENSA-PS4	ENSA-MS1	ENSA-MS2	ENSA-MS6	ENSA-MS8
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	0.5W	0.9W	0.9W	0.9W	1W
Max. Rated Load (Resistive/Inductive)	1200W / 300W	2000W / 1000W	800W / 400W	2000W / 1000W	500W / 200W	1200W / 300W	1200W / 300W	1200W / 800W
Detection Adjustments								
Daylight Sensing	3 ~ 2000 Lux							
Motion Detection Area	180° arc	360° rectangle	360° circle	360° circle	360° circle	360° circle	180° arc	360° ceiling / 150° wall
Motion Detection Range	12m	4 x 20m	6m	20m	2 ~ 8m	1 ~ 8m	5 ~ 15m	15m
Motion Detection Speed	0.6 ~ 1.5m/s							
On-timer Delay	10s ~ 7min	10s ~ 30min	10s ~ 15min	10s ~ 30min	5s ~ 10min	10s ~ 12min	3s ~ 12min	5s ~ 30min
General								
Ingress Protection	IP65	IP20	IP20	IP65	Indoor use only	IP20	IP65	IP65
Operating Environment	-20 ~ 40°C / <93% Relative humidity							
Mounting Type	Wall/ceiling	Ceiling	Recessed ceiling	Ceiling	Wall/ceiling	Ceiling	Wall/ceiling	Wall / ceiling
Rec. Installation Height	1.8 ~ 2.5m	4 ~ 10m	2.2 ~ 4m	2.2 ~ 6m	1.8 ~ 3.5m	1.5 ~ 3.5m	1.5 ~ 3.5m	15m max.
Dimensions	80 x 120 x 50mm	100 x 100 x 50mm	Ø50 x 65mm	100 x 100 x 50mm	40 x 60 x 25mm	Ø100 x 40mm	80 x 120 x 50mm	Ø73 x 62mm

* Sensors switches must be installed by a licensed electrician.

Dusk / Dawn Switches | Series Specifications

Model	ENSA-LC1W	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	IP65	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)

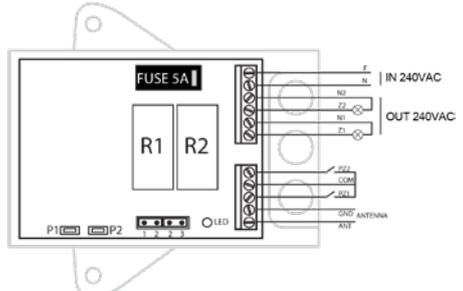
ENSA-RS Series: Trigger lights automatically by connecting to universal transmitters

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.

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).

Energy Saving Scheme (ESS)

The IPART New South Wales Energy Saving Scheme aims to reduce electricity consumption by creating financial incentives for organisations in the form of energy saving certificates.

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 produces 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.



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