LED

نارديـن
nardeen

LED Catalogue 2018-19

Holistic lighting solutions

LED **lights the world**

Contents

Introduction

LED

Efficient energy savings
LED lighting solutions
for you

- Since its inception in 1982, Nardeen Lighting has built a strong market leadership Position in the Lighting market in Kingdom

- Introducing LED lighting solutions from Nardeen Lighting Company Efficient, sustainable energy saving lighting solutions that not only reduces electricity bills, but also delivers longer service without impact of maintenance and replacement labor and costs.

- We hold ISO certifications for maintaining our factory at unsurpassed levels of Professionalism

- Our Lighting solutions bring together the finest designs, materials and technology available and at our local industrial facilities, we fabricate, paint, assemble and market world class highest quality products.

- Please select wider range of choices that we are happy to fulfill through our exclusive sources and LED products.

LED technology

LED

An LED (light-emitting diode) is a semi-conductor device or chip that produces light when an electrical current is applied.

Remember:

LEDs are just one of many components – optics, housing, power sources, to name a few – used to create an LED fixture or lamp. When looking at claims about lifetime, efficiency, and design, it is important to compare the specifications of the entire LED system as a whole, not just the specifications of the individual system components.

Efficiency and efficacy

The "efficacy" of a lighting fixture is usually expressed as the amount of light (in lumens) produced by a certain amount of electricity (in watts). Lighting fixture "efficiency" is the ratio of the total lumens exiting the fixture to the total lumens produced by the light source. Efficiency is also used to discuss the broader concept of using resources efficiently.

Remember:

It is important to note that the efficacy of the LEDs themselves is always greater than the efficacy of the LED fixture. This is caused by many factors including losses as light bounces off reflectors and passes through lenses. Make sure when specifying a light fixture that you are looking at the appropriate fixture data versus the LED source data.

Lifetime

For traditional lighting sources, lifetime is reported as "mean time to failure," which means the average time it takes for some percentage of lamps (usually 50%) to fail completely. With an LED source, light output diminishes gradually. So for LED sources, lifetime translates to how long a lighting fixture retains a certain percentage of its initial light output, which is also called lumen maintenance.

Remember:

The lifetimes of LED sources and traditional light sources are defined differently. For white LEDs, lifetime is referred to as the time after which 70% of the original light output remains, not when the source has completely burnt out.

Directionality

LEDs are directional sources. Traditional light sources (e.g., the incandescent bulb) emit light in all directions. In order to collect light and direct it onto the surface you are trying to illuminate, you must use lenses and reflectors, which absorb light and reduce the total output of the fixture.

Remember:

As an LED source is already emitting the majority of light in a defined direction, it requires significantly less beam shaping optics, leading to a more efficient light fixture. A traditional source may produce more lumens than an LED source, but it may lose much of its light when passing through the required optics. It is important to consider total illuminance, measured in foot candles or lux, when making comparisons between light fixtures.

Correlated Color Temperature (CCT)

Correlated color temperature indicates the relative color appearance of a white light source, from yellowish-white or "warm" (2700-3000K) to bluish-white or "cool" (5000K+).

Remember:

Certain light sources are associated with particular color temperatures. LED fixtures come in a variety of fixed color temperatures, making them easy to replace or combine with current light sources. Some LED fixtures also provide a range of color temperatures within a single fixture.

Color Rendering Index (CRI)

Color Rendering Index (CRI) is a measure of the ability of a light source to render colors, compared to a reference source (incandescent or daylight), on a scale of up to 100, with 100 being identical to the reference source.

Remember:

The higher the CRI, the better the fixture's ability to show true colors.

Sustainability

LED lighting is often linked to sustainability in the context of energy. But sustainability is a much larger concept, with energy efficiency being just one component. Sustainability takes into account environmental responsibility, including waste reduction, recyclability, materials and resources, and building and design practices themselves.

Remember:

LED lighting supports sustainable design in several ways: it can reduce energy consumption, it requires infrequent replacement (leading to less waste), and it contains no hazardous mercury. Some LED fixtures are designed to be disassembled more easily for recycling.
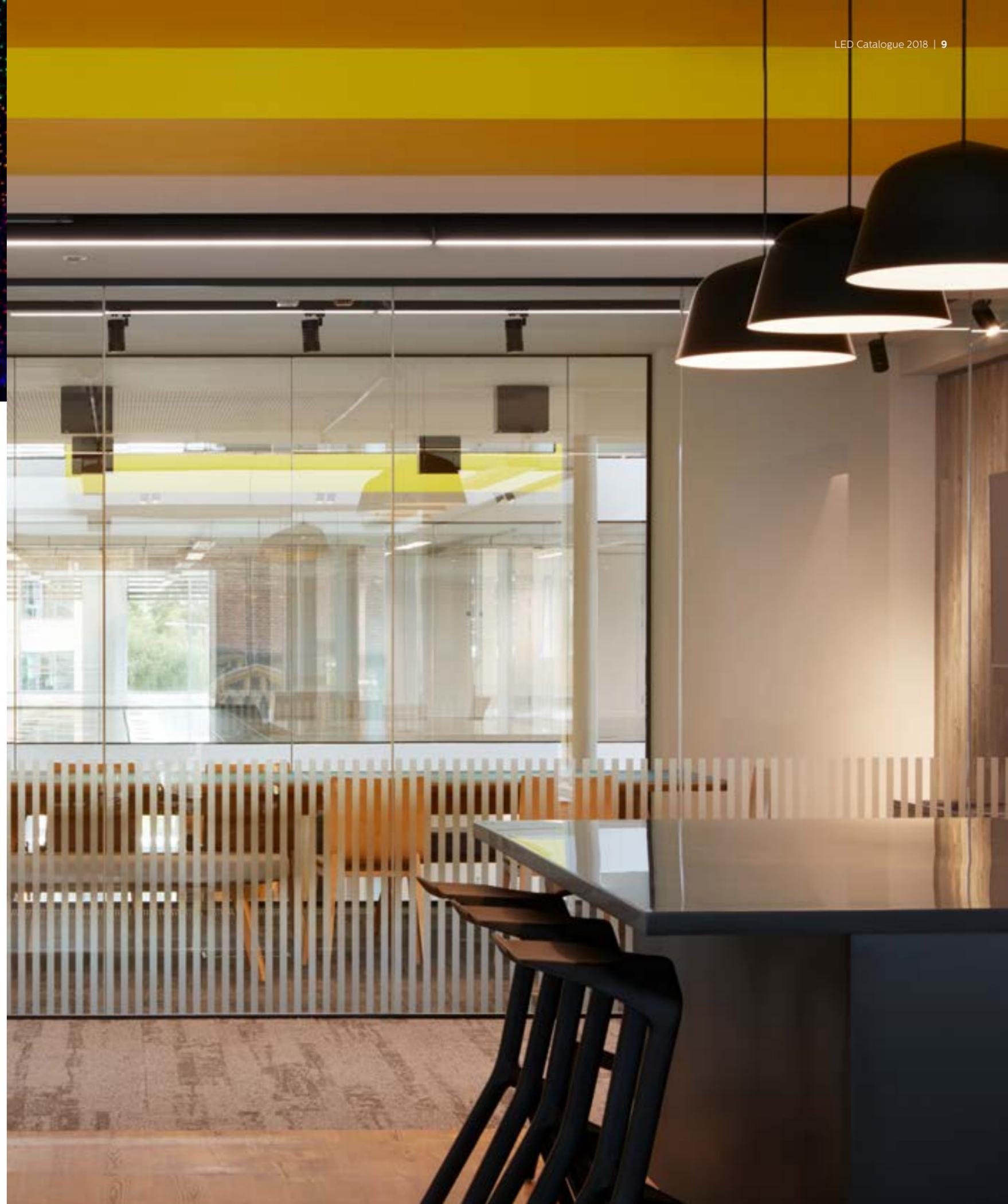
Application

Office lighting

Hospital lighting

Hospitality lighting

Residential living lighting

Retail lighting

Urban lighting

Office lighting

LED Panel
Office

- Offering LED lighting solutions for offices focusing employee's wellbeing and health
- LED panel recessed and surfaced from Nardeen helps balance functionality and inspiration at work to the employee who is engaged in practical tasks.
- Emergency lighting facility in case of power failure.
- Low impact lighting that makes employees feel better and continuously inspire them to become more productive backed up with proper system design, commissioning and attention to the comfort of users.
- LED technology gives the possibly to transform work spaces.
- Reduce your office energy bills by using energy efficient Nardeen LED downlights in your office

LED Downlight
Office

- Nardeen recessed drawn in modular downlight comes in different sizes as per your office lighting requirement.
- Energy efficient luminaire ideal for retrofitting exisiting conventional luminaire.
- To develop the wellbeing at office and enhancing brand identity, we offer you low impact lighting that makes employees feel better and continuously inspire them to become more productive.
- Compatibility with proper system design, commissioning and attention to the comfort of users.
- In world of financial pressure and increased environmentally concern as well as regulation, it is essential to address what is one of the major contributors to your energy bill by using Nardeen LED downlights in your office.

Hospital lighting

LED
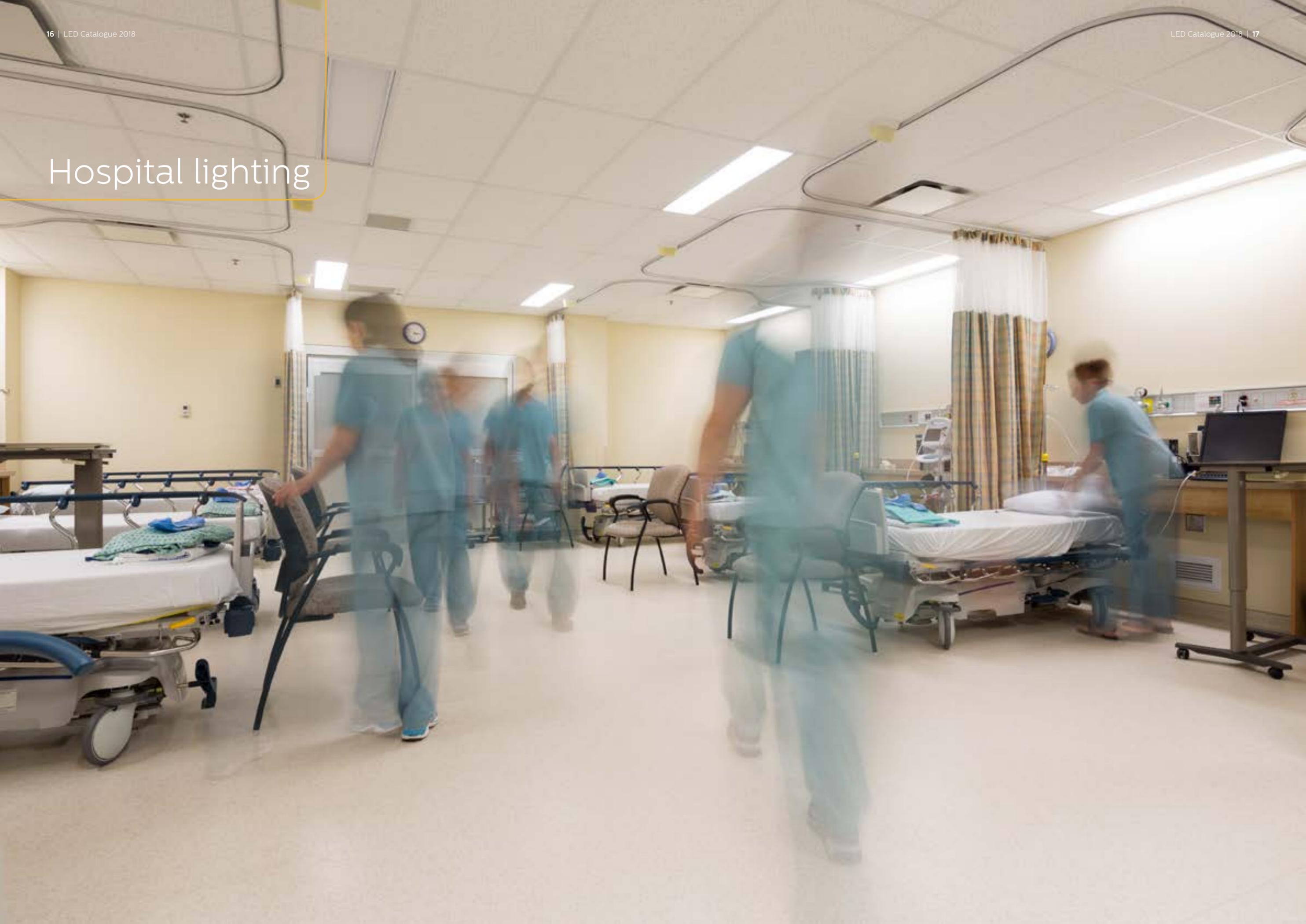
Bed Head Unit Luminaire
Hospital

- At Nardeen lighting we help our today's consumers of healthcare to remain well informed and expect better choices.
- We make hospitals to be welcoming and efficient places to go for treatment by supplying range of Bedhead units
- Be it a horizontal type integrating a variety of functions such as those for doctors and nurses to make diagnosis and medical treatment.
- Healthcare lighting we offer is customized at care and high levels of services.
- With electrical functions as well as configuration for medical gases on the lower one.
- Power supply sockets, telephone outlets data and communication terminals can be applied.

LED

LED Cleanroom Luminaire
Cleanroom

- We offer LED cleanroom accurate color rendering in the lighting is of vital importance and excellent vision beyond florescent lighting solution.
- Ideal for hospitals, laboratories, and certain production environments, e.g. in the food industry, graphical and clothing industry.
- Special IP65, easy-to clean, dust free luminaires that meet all applicable lighting requirements and norms. With the
- Extremely low operational cost over the total lifetime of the luminaire
- Excellent financial return on investment.
- The luminaire's high color rendering properties ensure the top-class optical performance required
- Energy efficiency and extremely low operational cost over total lifetime offering excellent quality of light with high color rendering required for examination and clean visibility.

Hospitality lighting

LED

LED Spot
Restaurants

- We offer right ambience to cater for your hotels and Restaurants, a place for people to meet, socialize and simply enjoy their experience.

- Energy efficient luminaire to serve your guests some light refreshment.

- Versatile lighting that can create enjoyable hotel and restaurant ambience, from homely evening mood to lively lunchtime luminosity. It can also accent special features like paintings and bottles.

- Adjustable pendant and surface mounted luminaire creating perfect lighting optimized LED controls will create perfect light scene

- With Nardeen retail lighting solutions make your venue with unique experiences, lasting memories and warm welcome.

LED

LED Pendant Luminaire
Hotels

- Energy efficient attractive LED pendant luminaire focusing on personalizing fuest experience

- Innovative lighting solutions from Nardeen lighting will create a warm welcome and unique ambienceto make your hotel more attractive.

- Easy to read menus and see drinks behind the reception desk.

- Focal points such as buffets need highlighting to attract guests and good color rendering is essential wherever you serve food, helping to tempt guests and make everything look far more appetizing..

Residential living lighting

LED Chandelier
Residential

- Our Residential applications products deliver exceptional light quality, consistent and balanced light source
- Energy efficient luminaire Ideal for kitchens, hallways, bathrooms, closets, laundry, porches and garage work rooms;
- A chandelier can uplift the style and dynamics of any room.
- Decorative insight and simply look fabulous
- We are delighted to cater your needs when it comes to light your residence brilliantly with our lighting solutions.

LED Downlight
Residential

- Energy efficient recessed LED luminaire for residential application
- Wide range of varieties in terms of colors, sizes and IP specification and cut outs each category provides a different purpose.
- Living /dining rooms are place to cheer with families and Bedrooms are a place to hideaway to relax watch television or simple read a book.
- We can also assist you in planning the right light for a home with different luminaires with different light output, temperature and power consumption
- It requires well planned and selected lighting that creates perfect function and right ambience for living, comfort, relaxation and wellbeing.

Retail lighting

LED Modular Downlight
Shops and Displays

- Invite your customers in shop with the Nardeen retail lighting products creating a compelling brand identity to engage and inspire shoppers

- Energy efficient retail downlights with excellent focus on distribution of lighting, attracting customers.

- Retail lighting and visual merchandising means providing flexibility to meet the specific needs of the user that also include details on the merchandise to buy.

- Recessed mounted flexible and cost effective modular downlights with adjustable beam angle lighting solutions that can bring your store to life.

LED projector
Shops and Displays

- Energy efficient tract mounted recessed and surface mounted LED projectors for today's shoppers aspiration and unique store experience

- Proper vital lighting creating this aspirational, motivating setting.

- Ideal for sparkle in storefront displays to the engaging ambiance of the interior, effective scene lighting draws shoppers in, keeps them there longer—and brings them back again.

- New choices in lamps, ballasts, LEDs, and fixtures elevate your visibility and brand

- Nardeen retail lighting solution reduces maintenance. We offer retail lighting products uniquely suited to enhancing the retail environment and boost your sales by excellent lighting projection on your merchandise.

Urban lighting

Floodlight
Flood and Area

- Energy efficient flood lighting from Nardeen Illuminate the outdoors Limit uplight and glare in parking lots and roadways with our selection of Area Lights.

- To direct light to a specific space, like features of a building or a sign, view our selection of Floodlights.

- Both options will provide enough light output to properly illuminate the application area, in the perfect color temperature.

- Our LED fixtures save energy, allow for less light pollution and provide a lower total cost of ownership. Consider the following when choosing between Area and Floodlights:

  • Application use

  • Beam spread and light distribution

  • Design style

- We offer a wide variety of Flood and Area Lights

Street Light
Road and Street

- Energy efficient safer roads LED street lighting from Nardeen

- Essential to support economic activity and people's movements.

- Our offer of innovative street light LED luminaires can help address your environmental concerns and the increasing cost pressures on your municipal budget.

- Practical and beautiful, efficient and sustainable, they balance impressive energy savings with the high quality light

- Enhancing driving conditions and life in the city during night.

Downlight

Reception area

Retails stores

Indoor circulation areas

DL600

Recessed "Drawn-in" Mounted LED
COB Downlight Φ80mm

220-240V 50-60Hz

IP 40

General Information

Top Level	Light Source	LED Lumen	Light Color	CRI	CCT	Wattage	Driver Origin	Voltage / Cycle	Optics	Color	IP	Cut-out (mm)
DL600/LED001	COB	LED450	NW	80	4000K	5W	EU-Europe	220-240V/ 50-60Hz	Glass Clear	WH-White	IP40	80
DL600/LED002		LED414							Glass Semi-Frosted			
DL600/LED003		LED400	WW		3000K				Glass Clear			
DL600/LED004		LED368							Glass Semi-Frosted			

DL600/LED001: DL600 COB LED450 / NW 80 4000K 5W PSU EU 220-240V 50/60Hz GLASS CLEAR WH IP40 Cut-Out 80mm

For more information and other options - contact sales representative.

Specifications

* Light Source	Non-replaceable COB LEDs		* Voltage & Frequency	220-240V/50-60Hz
* Power	3" : 5W		* Dimming	Yes (Available upon request)
* Luminous Flux	3" : 450lm, 414lm, 400lm, 368lm		* Material	- Housing: Die-casted Aluminum - Reflector: Aluminum
* Color Rendering Index	80		* Emergency	No
* Correlated Color Temperature	Neutral white: 4000K Cool white: 5000K		* Color	Housing: White
* Beam Angle	50°		* Optic	- Reflector: Anodized - Diffuser: Glass-clear & Semi-Frosted
* Driver	PSU: Fixed output driver PSD: (Available upon request)		* Connection	Push-in connector or with pull relief
* Lifetime	50,000 Hrs		* Installation	Fixation by means of spring fasteners
* Ceiling Type	Plaster (board) ceiling		* Ambient Temperature	25°

Dimensional Drawing

3 Inch	
D	100mm
D1	50.7mm
H	49.5mm
H1	53mm
L	105mm

	3 inch
Mounting Hole (Φ)	80mm

Benefit

Ideal for switching over to LED

nardeen نردين

LED

Reception area   Retails stores   Indoor circulation areas

DL600

Recessed "Drawn-in" Mounted LED
COB Downlight Φ100mm

220-240V 50-60Hz

IP 40

Specifications

* Light Source	Non-replaceable COB LEDs		* Voltage & Frequency	220-240V/50-60Hz
* Power	4" : 9W, 12W, 15W		* Dimming	Yes (Available upon request)
* Luminous Flux	4" : 690lm, 635lm, 680lm, 626lm, 1010lm, 930lm, 1050lm, 966lm, 1180lm, 1086lm		* Material	– Housing: Die-casted Aluminum – Reflector: Aluminum
* Color Rendering Index	≥80		* Emergency	No
* Correlated Color Temperature	Neutral white: 4000K Cool white: 5000K		* Color	Housing: White
* Beam Angle	60°		* Optic	– Reflector: Anodized – Diffuser: Glass-clear & Semi-Frosted
* Driver	PSU: Fixed output driver PSD: (Available upon request)		* Connection	Push-in connector or with pull relief
* Lifetime	50,000 Hrs		* Installation	Fixation by means of spring fasteners
* Ceiling Type	Plaster (board) ceiling		* Ambient Temperature	25°

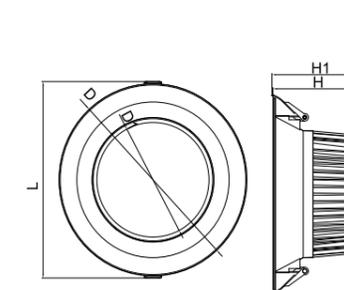## Benefit
Ideal for switching over to LED

General Information

Top Level	Light Source	LED Lumen	Light Color	CRI	CCT	Wattage	Driver Origin	Voltage / Cycle	Optics	Color	IP	Cut-out (mm)
DL600/LED009		LED690	NW		4000K	9W			Glass Clear			
DL600/LED010		LED635							Glass Semi-Frosted			
DL600/LED011		LED680	CW		5000K				Glass Clear			
DL600/LED012		LED626							Glass Semi-Frosted			
DL600/LED013		LED1010	NW		4000K	12W			Glass Clear			
DL600/LED014		LED930							Glass Semi-Frosted			
DL600/LED015	COB	LED1010	CW	80	5000K		EU-Europe	220-240V/ 50-60Hz	Glass Clear	WH-White	IP40	100
DL600/LED016		LED930							Glass Semi-Frosted			
DL600/LED017		LED1050	NW		4000K	15W			Glass Clear			
DL600/LED018		LED966							Glass Semi-Frosted			
DL600/LED019		LED1180	CW		5000K				Glass Clear			
DL600/LED020		LED1086							Glass Semi-Frosted			
DL600/LED070		LED1010			6000K	12W			Glass Clear			

DL600/LED009: DL600 COB LED690 / NW 80 4000K 9W PSU EU 220-240V 50/60Hz Glass Clear WH IP40 Cut-Out 100mm

For more information and other options – contact sales representative.

Dimensional Drawing

4 Inch

D	118mm
D1	57.6mm
H	60mm
H1	62mm
L	123mm

	4 inch
Mounting Hole (Φ)	100mm

nardeen

LED

Reception area   Retails stores   Indoor circulation areas

DL600

Recessed "Drawn-in" Mounted LED COB Downlight Φ150mm

220-240V 50-60Hz

IP 40

Specifications

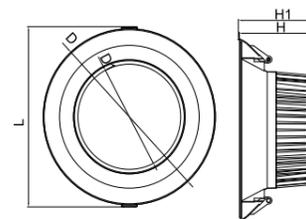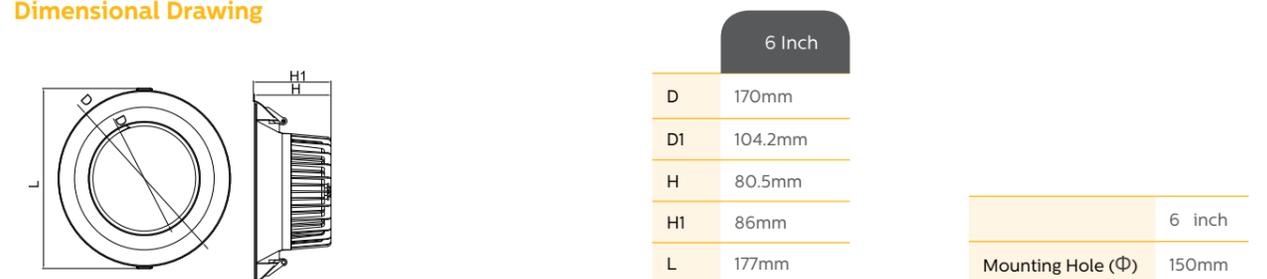|				
* Light Source	Non-replaceable COB LEDs		* Voltage & Frequency	220-240V/50-60Hz
* Power	6" : 18W, 25W		* Dimming	Yes (Available upon request)
* Luminous Flux	6" : 1780lm, 1638lm, 1690lm, 1555lm, 2400lm, 2208lm, 2217lm, 1904lm, 2410lm		* Material	– Housing: Die-casted Aluminum – Reflector: Aluminum
* Color Rendering Index	≥80		* Emergency	Yes, 3 Hrs. Duration – Additional power consumption with EM: 4-6 Watts
* Correlated Color Temperature	Warm white: 3000K Neutral white: 4000K Cool white: 5000K		* Color	Housing: White
* Beam Angle	60°		* Optic	– Reflector: Anodized – Diffuser: Glass-clear & Semi-Frosted
* Driver	PSU: Fixed output driver PSD: (Available upon request)		* Connection	Push-in connector or with pull relief
* Lifetime	50,000 Hrs		* Installation	Fixation by means of spring fasteners
* Ceiling Type	Plaster (board) ceiling		* Ambient Temperature	25°

Benefit

Ideal for switching over to LED

General Information

Top Level	Light Source	LED Lumen	Light Color	CRI	CCT	Wattage	Driver Origin	Voltage / Cycle	Optics	Color	IP	Cut-out (mm)	Emergency
DL600/LED021		LED1780	NW		4000K	18W			Glass Clear				
DL600/LED022		LED1780							Glass Clear				
DL600/LED023		LED1638							Glass Semi-Frosted				
DL600/LED024		LED1638							Glass Semi-Frosted				
DL600/LED025		LED1690							Glass Clear				
DL600/LED026		LED1690							Glass Clear				
DL600/LED027		LED1555							Glass Semi-Frosted				
DL600/LED028		LED1555							Glass Semi-Frosted				
DL600/LED029		LED2400							Glass Clear				
DL600/LED030		LED2400							Glass Clear				
DL600/LED031	COB	LED2208		80			EU-Europe	220-240V/ 50-60Hz	Glass Semi-Frosted	WH-White	IP40	150	E3- 3 hrs Duration
DL600/LED032		LED2208	CW		5000K	25W			Glass Semi-Frosted				
DL600/LED033		LED2400							Glass Clear				
DL600/LED034		LED2400							Glass Clear				
DL600/LED035		LED2217							Glass Semi-Frosted				
DL600/LED036		LED2217							Glass Semi-Frosted				
DL600/LED063		LED1904	WW		3000K				Glass Clear				
DL600/LED064		LED1904							Glass Semi-Frosted				
DL600/LED066		LED1690	CW		6000K	18W			Glass Semi-Frosted				
DL600/LED067		LED1690							Glass Clear				
DL600/LED069		LED2410				25W			Glass Clear				

DL600/LED021: DL600 COB LED1780 / NW 80 4000K 18W PSU EU 220-240V 50/60Hz Glass Clear WH IP40 Cut-Out 150mm

For more information and other options – contact sales representative.

Dimensional Drawing

6 Inch	
D	170mm
D1	104.2mm
H	80.5mm
H1	86mm
L	177mm

	6 inch
Mounting Hole (Φ)	150mm

nardeen

LED

Reception area   Retails stores   Indoor circulation areas

DL600

Recessed "Drawn-in" Mounted LED COB Downlight Φ200mm

220-240V 50-60Hz   IP 40

Specifications

* Light Source	Non-replaceable COB LEDs		* Voltage & Frequency	220-240V/50-60Hz
* Power	8" : 18W, 30W, 35W		* Dimming	Yes (Available upon request)
* Luminous Flux	8" : 1770lm, 2710lm, 3130lm, 1630lm, 1730lm, 1592lm, 2493lm, 2800lm, 2576lm, 3240lm, 2980lm, 2880lm, 2500lm		* Material	– Housing: Die-casted Aluminum – Reflector: Aluminum
* Color Rendering Index	≥80		* Emergency	Yes, 3 Hrs. Duration – Additional power consumption with EM: 4-6 Watts
* Correlated Color Temperature	Warm white: 3000K Neutral white: 4000K Cool white: 5000K		* Color	Housing: White
* Beam Angle	80°		* Optic	– Reflector: Anodized – Diffuser: Glass-clear & Semi-Frosted
* Driver	PSU: Fixed output driver PSD: (Available upon request)		* Connection	Push-in connector or with pull relief
* Lifetime	50,000 Hrs		* Installation	Fixation by means of spring fasteners
* Ceiling Type	Plaster (board) ceiling		* Ambient Temperature	25°

Benefit
Ideal for switching over to LED

General Information

Top Level	Light Source	LED Lumen	Light Color	CRI	CCT	Wattage	Driver Origin	Voltage / Cycle	Optics	Color	IP	Cut-out (mm)	Emergency
DL600/LED037		LED1770							Glass Clear				
DL600/LED038		LED1770							Glass Clear				
DL600/LED039		LED1630							Glass Semi-Frosted				
DL600/LED040		LED1630	NW		4000K	18W			Glass Semi-Frosted				
DL600/LED041		LED1730							Glass Clear				
DL600/LED042		LED1730							Glass Clear				
DL600/LED043		LED1592							Glass Semi-Frosted				
DL600/LED044		LED1592							Glass Semi-Frosted				
DL600/LED045		LED2710							Glass Clear				
DL600/LED046		LED2710							Glass Clear				
DL600/LED047		LED2493							Glass Semi-Frosted				
DL600/LED048		LED2493							Glass Semi-Frosted				
DL600/LED049	COB	LED2800	CW	80	5000K	30W	EU-Europe	220-240V/ 50-60Hz	Glass Clear	WH-White	IP40	200	E3- 3 hrs Duration
DL600/LED050		LED2800							Glass Clear				
DL600/LED051		LED2576							Glass Semi-Frosted				
DL600/LED052		LED2576							Glass Semi-Frosted				
DL600/LED053		LED3240							Glass Clear				
DL600/LED054		LED3240	NW		4000K				Glass Clear				
DL600/LED055		LED2980							Glass Semi-Frosted				
DL600/LED056		LED2980				35W			Glass Semi-Frosted				
DL600/LED057		LED3130							Glass Clear				
DL600/LED058		LED3130							Glass Clear				
DL600/LED059		LED2880	CW		5000K				Glass Semi-Frosted				
DL600/LED060		LED2880							Glass Semi-Frosted				
DL600/LED061		LED2500	WW		3000K	30W			Glass Clear				
DL600/LED068		LED3130				35W			Glass Clear				

DL600/LED037: DL600 COB LED1770 / NW 80 4000K 18W PSU EU 220-240V 50/60Hz Glass Clear WH IP40 Cut-Out 200mm

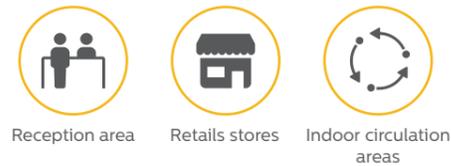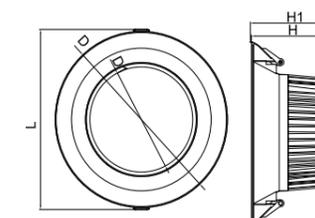For more information and other options – contact sales representative.

Dimensional Drawing

	8 Inch
D	230mm
D1	137mm
H	102mm
H1	106mm
L	235mm

	8 Inch
Mounting Hole (Φ)	200mm

nardeen

LED

nardeen

Reception area   Retails stores   Indoor circulation areas

DL603-F

Recessed "Drawn-in" Mounted LED COB DownLight-Flat Trim

220-240V 50-60Hz   IP 20

Specifications

* Light Source	Non-replaceable COB LEDs	* Voltage & Frequency	220-240V/50-60Hz	
* Power	5W, 8W, 9W, 12W	* Dimming	Yes (Available upon request)	
* Luminous Flux	2.5": 370lm , 400lm 380lm, 780lm, 830lm, 750lm	* Material	- Housing: Die-casted Aluminum - Reflector: Aluminum (Anodized) - Diffuser: Clear Glass	
* Color Rendering Index	>80	* Emergency	Yes, 3 Hrs. Duration - Additional power consumption with EM: 4-6 Watts • EM option is NOT available with Plaster Ceiling	
* Correlated Color Temperature	Warm white: 3000K Neutral white: 4000K Cool White: 5000K	* Color	Housing: White	
* Driver	PSU: Fixed output driver PSD: (Available upon request)	* Optic	- Reflector: Anodized - Diffuser: Glass-clear	
* Lifetime	50,000 Hrs	* Connection	Push-in connector or with pull relief	
* Ambient Temperature	25°C	* Installation	Fixation by means of spring fasteners	
* Ceiling Type	Plaster (board) ceiling	* Other Option(s)	30 degrees rotatable	

Benefit
Ideal to switch from Fluorescent to LED

General Information

Top Level	Light Source	LED Lumen	Light Color	CRI	CCT	Wattage	Driver Origin	Voltage / Cycle	Optics	Color	IP	Cut-out (mm)
DL603-F/LED001	DL603 FLAT TRIM COB	LED370	CW	80	5000K	5W	EU-Europe	PSU- (Fixed Output) 220-240V/ 50-60Hz	Glass Clear	WH-White	IP20	70
DL603-F/LED002						8W						
DL603-F/LED003		LED400	NW		4000K	5W						
DL603-F/LED004						8W						
DL603-F/LED005		LED380	WW		3000K	5W						
DL603-F/LED006						8W						
DL603-F/LED007		LED780	CW		5000K	9W						
DL603-F/LED008						12W						
DL603-F/LED009		LED830	NW		4000K	9W						
DL603-F/LED010						12W						
DL603-F/LED011		LED750	WW		3000K	9W						
DL603-F/LED012						12W						

Ordering Example: DL603-F/LED001: DL603 FLAT TRIM COB LED370 / CW 80 5000K 5W PSU EU 220-240V 50/60Hz G CLEAR WH IP20 Cut-Out 70mm

For more information and other options - contact sales representative.

Dimensional Drawing

nardeen

LED

nardeen

Reception area

Retails stores

Indoor circulation areas

DL603-C

Recessed "Drawn-in" Mounted LED
COB DownLight-Curve Trim

220-240V
50-60Hz

IP
20

Specifications

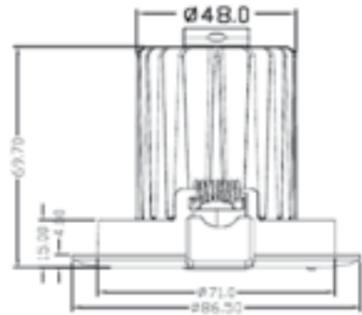|				
* Light Source	Non-replaceable COB LEDs		* Voltage & Frequency	220-240V/50-60Hz
* Power	5W, 8W, 9W, 12W		* Dimming	Yes (Available upon request)
* Luminous Flux	2.5": 370lm , 400lm 380lm, 780lm, 830lm, 750lm		* Material	– Housing: Die-casted Aluminum – Reflector: Aluminum – Diffuser: Clear Glass
* Color Rendering Index	>80		* Emergency	Yes, 3 Hrs. Duration – Additional power consumption with EM: 4-6 Watts • EM option is NOT available with Plaster Ceiling
* Correlated Color Temperature	Warm white: 3000K Neutral white: 4000K Cool White: 6000K		* Color	Housing: White
* Driver	PSU: Fixed output driver PSD: (Available upon request)		* Optic	– Reflector: Anodized
* Lifetime	50,000 Hrs		* Connection	Push-in connector or with pull relief
* Ambient Temperature	25°C		* Installation	Fixation by means of spring fasteners
* Ceiling Type	Plaster (board) ceiling		* Other Option(s)	30 degrees rotatable

Benefit
Ideal to switch from Fluorescent to LED

General Information

Top Level	Light Source	LED Lumen	Light Color	CRI	CCT	Wattage	Driver Origin	Voltage / Cycle	Optics	Color	IP	Cut-out (mm)
DL603-C/LED001	DL603 CURVE TRIM COB	LED370	CW	80	5000K	5W	EU-Europe	PSU- (Fixed Output) 220-240V/ 50-60Hz	Glass Clear	WH-White	IP20	70
DL603-C/LED002		LED370	CW		5000K	8W						
DL603-C/LED003		LED400	NW		4000K	5W						
DL603-C/LED004		LED400	NW		4000K	8W						
DL603-C/LED005		LED380	WW		3000K	5W						
DL603-C/LED006		LED380	WW		3000K	8W						
DL603-C/LED007		LED780	CW		5000K	9W						
DL603-C/LED008		LED780	CW		5000K	12W						
DL603-C/LED009		LED830	NW		4000K	9W						
DL603-C/LED010		LED830	NW		4000K	12W						
DL603-C/LED011		LED750	WW		3000K	9W						
DL603-C/LED012		LED750	WW		3000K	12W						

Ordering Example: DL603-C/LED001: DL603 CURVE TRIM COB LED370 / CW 80 5000K 5W PSU EU 220-240V 50/60Hz G CLEAR WH IP20 Cut-Out 70mm

For more information and other options – contact sales representative.
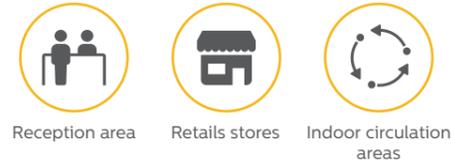
Dimensional Drawing

Ø48.0

nardeen

LED

DL605

Recessed "Drawn-in" Mounted LED COB DownLight

220-240V 50-60Hz

IP 44

Specifications

* Light Source	Non-replaceable COB LEDs		* Voltage & Frequency	220-240V/50-60Hz
* Power	4": 9W, 13W 5": 15W, 19W 6": 20W, 24W 7": 25W, 29W 8": 35W, 39W		* Dimming	Yes (Available upon request)
* Luminous Flux	4": 760lm , 830 lm , 720 lm 5": 1160lm, 1330 lm, 1100 lm 6": 1590lm, 1530lm , 1300lm 7": 2440lm , 2480lm , 2260lm 8": 3200lm , 3060lm , 2960lm		* Material	– Housing: Die-casted Aluminum – Reflector: Aluminum
* Color Rendering Index	>80		* Emergency	Yes, 3 Hrs. Duration – Additional power consumption with EM: 4-6 Watts **For 4" 5" 6" EM option is not available with plaster ceiling
* Correlated Color Temperature	Warm white: 3000K Neutral white: 4000K Cool White: 6000K		* Color	Housing: White
* Driver	PSU: Fixed output driver PSD: (Available upon request)		* Optic	– Reflector: Anodized – Diffuser: Glass-clear
* Lifetime	50,000 Hrs		* Connection	Push-in connector or with pull relief
* Ambient Temperature	25°C		* Installation	Fixation by means of spring fasteners
* Ceiling Type	Plaster (board) ceiling			

Benefit
Ideal to switch from Fluorescent to LED

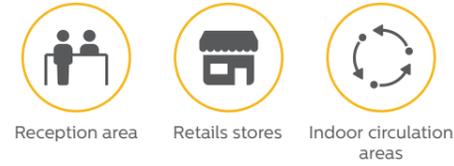Reception area   Retails stores   Indoor circulation areas

General Information

Top Level	Light Source	LED Lumen	Light Color	CRI	CCT	Wattage	Driver Origin	Voltage / Cycle	Optics	Color	IP	Cut-out (mm)
DL605/LED001		LED760	CW		6000K	9W						95
DL605/LED002						13W						
DL605/LED003		LED830	NW		4000K	9W						
DL605/LED004						13W						
DL605/LED005		LED720	WW		3000K	9W						
DL605/LED006						13W						
DL605/LED007		LED1160	CW		6000K	15W						125
DL605/LED008						19W						
DL605/LED009		LED1330	NW		4000K	15W						
DL605/LED010						19W						
DL605/LED011		LED1100	WW		3000K	15W						
DL605/LED012						19W						
DL605/LED013		LED1530	CW		6000K	20W						140
DL605/LED014						24W						
DL605/LED015	COB	LED1590	NW	80	4000K	20W	EU-Europe	PSU- (Fixed Output) 220-240V/ 50-60Hz	Glass Clear	WH- White	IP44	
DL605/LED016						24W						
DL605/LED017		LED1300	WW		3000K	20W						
DL605/LED018						24W						
DL605/LED019		LED2480	CW		6000K	25W						170
DL605/LED020						29W						
DL605/LED021		LED2440	NW		4000K	25W						
DL605/LED022						29W						
DL605/LED023		LED2260	WW		3000K	25W						
DL605/LED024						29W						
DL605/LED025		LED3060	CW		6000K	35W						210
DL605/LED026						39W						
DL605/LED027		LED3200	NW		4000K	35W						
DL605/LED028						39W						
DL605/LED029		LED2960	WW		3000K	35W						
DL605/LED030						39W						

Ordering Example: DL605/LED003: DL605 COB LED830 / NW 80 4000K 9W PSU EU 220-240V 50/60Hz Glass Clear WH IP44 Cut-Out 95mm

For more information and other options – contact sales representative.

Dimensional Drawing
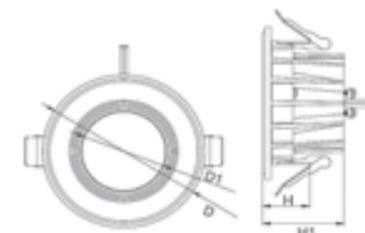
	4"	5"	6"	7"	8"
D	107.6	141.5	157.5	184.5	225.5
D1	55.5	84	100	118.5	160.5
H	31	30.2	30.7	31.7	32.9
H1	54	66.8	76.4	88.4	109.9

	4"	5"	6"	7"	8"
Cut-out size	95	125	140	170	210

nardeen

LED

nardeen

Hospitality and
Retails stores

Residence

DL615

Recessed "Drawn-in" Mounted LED Modular DownLight

220-240V 50-60Hz

IP 20

IP 54

Specifications

* Light Source	Non-replaceable LEDs	* Voltage & Frequency	220-240V/50-60Hz
* Power	6 W 11 W 15 W 24 W 33 W 42 W	* Dimming	Not Available
* Color Rendering Index	90	* Material	– Housing: Die-casted Aluminum – Reflector: Aluminum
* Correlated Color Temperature	3000K 4000K 2700K	* Emergency	Not Available
* Driver	PSU: Fixed output driver	* Color	Housing : Modular + Trim
* Lifetime	50,000 Hrs	* Optic	– Reflector: Anodized – Diffuser: Glass-clear
* Ceiling Type	Plaster (board) ceiling	* Connection	Push-in connector or with pull relief
* Ambient Temperature	25°C	* Installation	Fixation by means of spring fasteners

Benefit
Ideal to switch from Fluorescent to LED

General Information

Product Name	Wattage	CRI	CCT	Driver	Optics	Connect Diameter Φ
DL615/LED	6W 11W 15W 24W 33W 42W	90	4000K 3000K 2700K	PSU	WB MB NB	M55 M70 M87 M102 M210

DL615/LED001: DL615 P6 940 PSU WB M55

Full list of part numbers available

General Information - Trims

Product Name	Connect Diameter Φ	Cut Off Size	Outer Ring - InnerRing	Adjustable /Fix	Mounting
DL615/Trim	M55 M70 M87 M102 M210	D78 D90 D100 D125 D150	R: Round S:Square	FX : Fix AJ : Adjustable	D:Deep Recess PH : Pin Hole WP : Waterproof

DL615/Trim001: Trim M55 D78 R-R AJ D

Full list of part numbers available

For more information and other options - contact sales representative.

nardeen

LED

Hospitality and
Retails stores

Office

SM500
Surface Mounted LED COB DownLight

220-240V
50-60Hz

IP
65

Specifications

* Light Source	Non-replaceable COB LEDs	* Voltage & Frequency	220-240V/50-60Hz	
* Power	6": 40W	* Dimming	Yes (Available upon request)	
* Luminous Flux	6": 3500 lm	* Material	– Housing: Die-casted Aluminum – Reflector: Aluminum	
* Color Rendering Index	>80	* Emergency	Yes, 3 Hrs. Duration – Additional power consumption with EM: 4-6 Watts	
* Correlated Color Temperature	Warm white: 3000K Neutral white: 4000K Cool white: 6000K	* Color	Housing : White	
* Driver	PSU: Fixed output driver PSD: (Available upon request)	* Optic	– Reflector: Anodized – Diffuser: Glass-clear	
* Lifetime	50,000 Hrs	* Connection	Push-in connector or with pull relief	
* Ambient Temperature	25°C	* Installation	Surface Mtd.	

Benefit
Ideal to switch from Fluorescent to LED

General Information

Product Number	LED	LED Lumen	Light Color	CRI	CCT	Wattage	Driver	Driver Origin	Voltage / Cycle	Optics	Color	IP	Cut-out (mm)
DL605	COB	LED3500	WW	80	3000K	40W	PSU	EU-Europe	220-240V/ 50-60Hz	Clear G-Glass	WH– White	IP65	140
			NW		4000K								
			CW		6000K								

SM500/LED001: SM500 COB LED3500 / NW 80 4000K 40W PSU EU 220-240V 50/60Hz Glass CLEAR WH IP65 Cut-Out 140mm

Full list of part numbers available

For more information and other options – contact sales representative.

nardeen

LED

nardeen

Hospitality and Retails stores

Office

Shopping Mall

DL891

Recessed Drawn-in Mounted LED COB DownLight

220-240V 50-60Hz

IP 20

Specifications

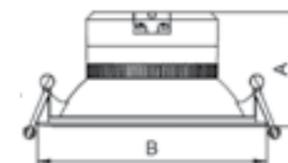|					
* Light Source	Non-replaceable COB LEDs		* Voltage & Frequency	220-240V/50-60Hz	
* Correlated Color Temperature	Warm white: 3000K Neutral white: 4000K Cool white: 6500K		* Dimming	Yes (PSED) - External Driver	
* Color Rendering Index	>80		* Material	Housing & Reflector: Plastic Diffuser: PC(IP20) & PC with Glass (IP54) Heat Sink: Die-casted Aluminum	
* Driver	PSU: Fixed output driver- Integrated PSD: PSED (Power Supply Unit with DALI interface)- External		* Emergency	Yes, 3 Hrs. Duration * Additional power consumption with EM: 4-6 Watts **For 4", 5", 6": EM option is NOT available with Plaster Ceiling	
* Operating Temperature Range	20 to +45 ºC		* Color	Reflector-White & Aluminum	
* Lifetime	50,000 Hrs		* Optic	Reflector: Anodized Diffuser: Clear Glass	
* Ambient Temperature	25°C		* Connection	Push-in connector or with pull relief	
* Ceiling Type	Plaster (board) ceiling		* Installation	Fixation by means of spring fasteners	

Benefit
Ideal to switch from Fluorescent to LED

General Information

Top Level	Light Source	LED Lumen	Light Color	CRI	CCT	Wattage	Driver Origin	Driver Type	Voltage /Cycle	Optics	Color	IP	Cut-out (mm)
DL891/LED001	LED	1100	WW	80	3000K	9.5W	China	PSU	220-240V/ 50-60Hz	PC-OPAL	WH-White	IP20	150
DL891/LED002						13.5W							
DL891/LED003			NW		4000K	9.5W							
DL891/LED004						13.5W							
DL891/LED005			CW		6500K	9.5W							
DL891/LED006						13.5W							
DL891/LED007			WW		3000K	9.5W					ALU-Aluminum		
DL891/LED008						13.5W							
DL891/LED009			NW		4000K	9.5W							
DL891/LED010						13.5W							
DL891/LED011			CW		6500K	9.5W							
DL891/LED012						13.5W							
DL891/LED013			WW		3000K	9.5W						IP20 & IP54	
DL891/LED014						13.5W							
DL891/LED015			NW		4000K	9.5W							
DL891/LED016						13.5W							
DL891/LED017			CW		6500K	9.5W							
DL891/LED018						13.5W							
DL891/LED019			WW		3000K	11.5W	EU-Europe	PSD			WH-White	IP20	
DL891/LED020						15.5W							
DL891/LED021			NW		4000K	11.5W							
DL891/LED022						15.5W							
DL891/LED023			WW		3000K	11.5W					ALU-Aluminum		
DL891/LED024						15.5W							
DL891/LED025			NW		4000K	11.5W							
DL891/LED026						15.5W							
DL891/LED027			WW		3000K	11.5W		PSU			WH-White		
DL891/LED028						15.5W							
DL891/LED029			NW		4000K	11.5W							
DL891/LED030						15.5W							
DL891/LED031			WW		3000K	11.5W					ALU-Aluminum		
DL891/LED032						15.5W							
DL891/LED033			NW		4000K	11.5W							
DL891/LED034						15.5W							

For more information and other options - contact sales representative.

Dimensional Drawing

	A	B	Cut-Out(mm)
DL891	95mm	Ø162mm	150-55mm

nardeen

LED

nardeen

Hospitality and Retails stores

Office

Shopping Mall

DL892

Recessed Drawn-in Mounted
LED COB DownLight

220-240V 50-60Hz

IP 20

Specifications

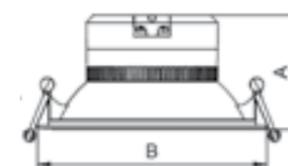|				
* Light Source	Non-replaceable COB LEDs		* Voltage & Frequency	220-240V/50-60Hz
* Color Rendering Index	>80		* Dimming	Yes (PSED) – External Driver
* Correlated Color Temperature	Warm white: 3000K Neutral white: 4000K Cool white: 6500K		* Material	Housing & Reflector: Plastic Diffuser: PC(IP20) & PC with Glass (IP54) Heat Sink: Die-casted Aluminum
* Driver	PSU: Fixed output driver- Integrated PSD: PSED (Power Supply Unit with DALI interface)- External		* Emergency	Yes, 3 Hrs. Duration * Additional power consumption with EM: 4-6 Watts **For 4", 5", 6": EM option is NOT available with Plaster Ceiling
* Operating Temperature Range	20 to +45 ºC		* Color	Reflector-White & Aluminum
* Lifetime	50,000 Hrs		* Optic	Reflector: Anodized Diffuser: Clear Glass
* Ceiling Type	Plaster (board) ceiling		* Connection	Push-in connector or with pull relief
* Ambient Temperature	25˚C		* Installation	Fixation by means of spring fasteners

Benefit

Ideal to switch from Fluorescent to LED

General Information

Top Level	Light Source	LED Lumen	Light Color	CRI	CCT	Wattage	Driver Origin	Driver Type	Voltage / Cycle	Optics	Color	IP	Cut-out (mm)	Emer-gency
DL892/LED001	LED	1600	WW	80	3000K	14.5W	China	PSU	220-240V/ 50-60Hz	PC-OPAL	WH–White	IP20	200	E3: 3 Hrs
DL892/LED002						18.5W								
DL892/LED003			NW		4000K	14.5W								
DL892/LED004						18.5W								
DL892/LED005			CW		6500K	14.5W								
DL892/LED006						18.5W								
DL892/LED007			WW		3000K	14.5W					ALU–Aluminum			
DL892/LED008						18.5W								
DL892/LED009			NW		4000K	14.5W								
DL892/LED010						18.5W								
DL892/LED011			CW		6500K	14.5W								
DL892/LED012						18.5W								
DL892/LED013			WW		3000K	15.5W	EU–Europe	PSD			WH–White			
DL892/LED014						19.5W								
DL892/LED015			NW		4000K	15.5W								
DL892/LED016						19.5W								
DL892/LED017			WW		3000K	15.5W					ALU–Aluminum			
DL892/LED018						19.5W								
DL892/LED019			NW		4000K	15.5W								
DL892/LED020						19.5W								
DL892/LED021			WW		3000K	15.5W		PSU			WH–White			
DL892/LED022						19.5W								
DL892/LED023			NW		4000K	15.5W								
DL892/LED024						19.5W								
DL892/LED025			WW		3000K	15.5W					ALU–Aluminum			
DL892/LED026						19.5W								
DL892/LED027			NW		4000K	15.5W								
DL892/LED028						19.5W								

For more information and other options – contact sales representative.

Dimensional Drawing

	A	B	Cut-Out(mm)
DL892	105mm	Ø216mm	200-205mm

nardeen

nardeen

LED

Hospitality and Retails stores

Office

Shopping Mall

DL893

Recessed Drawn-in Mounted LED COB DownLight

220-240V 50-60Hz

IP 20

Specifications

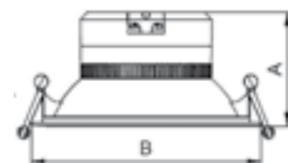|				
* Light Source	Non-replaceable COB LEDs		* Voltage & Frequency	220-240V/50-60Hz
* Color Rendering Index	>80		* Dimming	Yes (PSED)- External Driver
* Correlated Color Temperature	Warm white: 3000K Neutral white: 4000K Cool white: 6500K		* Material	Housing & Reflector: Plastic Diffuser: PC(IP20) & PC with Glass (IP54) Heat Sink: Die-casted Aluminum
* Maintenance of Lumen output L70B50	50,000 Hrs		* Emergency	Yes, 3 Hrs. Duration * Additional power consumption with EM: 4-6 Watts **For 4", 5", 6": EM option is NOT available with Plaster Ceiling
* Operating Temperature Range	20 to +45 ºC		* Color	Reflector-White & Aluminum
* Lifetime	50,000 Hrs		* Optic	Reflector: Anodized Diffuser: Clear Glass
* Ceiling Type	Plaster (board) ceiling		* Connection	Push-in connector or with pull relief
* Ambient Temperature	25°C		* Installation	Fixation by means of spring fasteners

Benefit
Ideal to switch from Fluorescent to LED

General Information

Top Level	Light Source	LED Lumen	Light Color	CRI	CCT	Wattage	Driver Origin	Driver Type	Voltage / Cycle	Optics	Color	IP	Cut-out (mm)	Emer-gency
DL893/LED001			WW		3000K	19W					WH-White			
DL893/LED002			WW		3000K	23W					WH-White			
DL893/LED003			NW		4000K	19W					WH-White			
DL893/LED004			NW		4000K	23W					WH-White			
DL893/LED005			CW		6500K	19W					WH-White	IP20		
DL893/LED006			CW		6500K	23W					WH-White	IP20		
DL893/LED007			WW		3000K	19W						IP20		
DL893/LED008			WW		3000K	23W						IP20		
DL893/LED009			NW		4000K	19W	CHINA	PSU				IP20		
DL893/LED010			NW		4000K	23W								
DL893/LED011			CW		6500K	19W					ALU-Alum			
DL893/LED012			CW		6500K	23W					ALU-Alum			
DL893/LED013			WW		3000K	19W					ALU-Alum	CG: IP20 Optic: IP54		
DL893/LED014	LED	2200	WW	80	3000K	23W			220-240V/ 50-60Hz	PC-OPAL	ALU-Alum	CG: IP20 Optic: IP54	200	E3: 3 Hrs
DL893/LED015			NW		4000K	19W					ALU-Alum			
DL893/LED016			NW		4000K	23W					ALU-Alum			
DL893/LED017			CW		6500K	19W					ALU-Alum			
DL893/LED018			CW		6500K	23W					ALU-Alum			
DL893/LED019			WW		3000K	20.5W					WH-White			
DL893/LED020			WW		3000K	24.5W					WH-White			
DL893/LED021			NW		4000K	20.5W					WH-White			
DL893/LED022			NW		4000K	24.5W		PSD			WH-White			
DL893/LED023			WW		3000K	20.5W					ALU-Alum			
DL893/LED024			WW		3000K	24.5W					ALU-Alum			
DL893/LED025			NW		4000K	20.5W	EU				ALU-Alum	IP20		
DL893/LED026			NW		4000K	24.5W					ALU-Alum	IP20		
DL893/LED027			WW		3000K	20.5W					WH-White			
DL893/LED028			WW		3000K	24.5W					WH-White			
DL893/LED029			NW		4000K	20.5W					WH-White			
DL893/LED030			NW		4000K	24.5W		PSU			WH-White			
DL893/LED031			WW		3000K	20.5W					ALU-Alum			
DL893/LED032			WW		3000K	24.5W					ALU-Alum			
DL893/LED033			NW		4000K	20.5W					ALU-Alum			
DL893/LED034			NW		4000K	24.5W					ALU-Alum			

For more information and other options - contact sales representative.

Dimensional Drawing

	A	B	Cut-Out(mm)
DL893	105mm	Ø216mm	200-205mm

Nardeen

LED

General Indoor Lighting

Super market

Indoor Parking

CoreRange Batten

High Quality LED Batten

220-240V 50-60Hz

IP 20

General Information

Top Level	Product	Light Source	LED Lumen	Light Color	CRI	CCT	Wattage	Voltage /Cycle	IP
911401813399	BN188C LED40 CW ACC L1200 BR		1200	CW		6500K	38.5W		
911401813499	BN188C LED40 NW ACC L1200 BR			NW		4000K			
911401813599	BN188C LED60 CW ACC L1500 BR		1500	CW		6500K	58W		
911401813699	BN188C LED60 NW ACC L1500 BR			NW		4000K			
911401813799	BN188C LED40 CW ACF L1200 BR		1200	CW		6500K	38.5W		
911401813899	BN188C LED40 NW ACF L1200 BR			NW		4000K			
911401813999	BN188C LED60 CW ACF L1500 BR		1500	CW		6500K	58W		
911401814099	BN188C LED60 NW ACF L1500 BR	LED		NW	80	4000K		220-240V/ 50-60Hz	IP20
911401814199	BN189C LED40 CW ACC L1200 BR		1200	CW		6500K	38.5W		
911401814299	BN189C LED40 NW ACC L1200 BR			NW		4000K			
911401814399	BN189C LED60 CW ACC L1500 BR		1500	CW		6500K	58W		
911401814499	BN189C LED60 NW ACC L1500 BR			NW		4000K			
911401814599	BN189C LED40 CW ACF L1200 BR		1200	CW		6500K	38.5W		
911401814699	BN189C LED40 NW ACF L1200 BR			NW		4000K			
911401814799	BN189C LED60 CW ACF L1500 BR		1500	CW		6500K	58W		
911401814899	BN189C LED60 NW ACF L1500 BR			NW		4000K			

For more information and other options – contact sales representative.

Specifications

* Light Source	LED		* Voltage & Frequency	220-240V/50-60Hz	
* Power	38.5W, 50W		* Dimming	No	
* Luminous Flux	104lm/W		* Material	Plastic	
* Color Rendering Index	>80		* Emergency	No	
* Correlated Color Temperature	Neutral white: 4000K Cool white: 6500K		* Color	White	
* Lifetime	50,000 Hrs		* Optic	Opal	
* Beam Angle	Wide		* Installation	Surface	
* Driver	installed		* Ceiling Type	Plaster (board) ceiling	
* Operating Temperature Range	-20 to +40 ºC		* Ambient Temperature	25°C	

Dimensional Drawing

Benefit

Ideal to switch from Fluorescent to LED

Recessed & Surfaced

ROF450 - 60X60 - IP20	66

ROF450 - 30X120 - IP20	72

ROF450 - 60X120 - IP20	78

SOF450 - 60X60 - IP20	80

SOF450 - 30X120 - IP20	82

SOF450 - 60X120 - IP20	84

ROF450-IP54	66

SOF450-IP54	72

CLR500	78

S-HANG450 - 60X60	80

S-HANG450 - 30X120	82

S-HANG450 - 60X120	84

nardeen

LED

nardeen

General Indoor Lighting

ROF450

LED Recessed Panel/60x60/IP20

220-240V 50-60Hz (FOD/DALI)

110-277V 50-60Hz (FOD)

IP 20

Specifications

* Light Source	LED		* Voltage & Frequency	220-240V/50-60Hz (FOD/DALI) 110-277V/50-60Hz (FOD)
* Power	40W		* Dimming	DALI (220-240V) only
* Luminous Flux	4000lm		* Material	Aluminum housing
* Color Rendering Index	>80		* Emergency	Yes
* Correlated Color Temperature	Neutral white: 4000K Cool daylight: 6000K		* Color	White
* Drive Current	0.9A 1.05A		* Optic	Opal diffuser cover
* Operating Temperature Range	– For 220-240V/120-277V FOD: -20... +50°C – For 220-240V DALI: -20...+65°C		* Connection	With pull relief
* Lifetime	50,000 Hrs		* Installation	Recessed
* Ambient Temperature	25°C			

Benefit
Ideal for switching over to LED

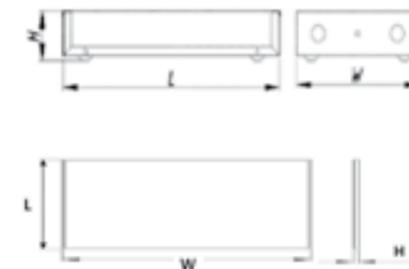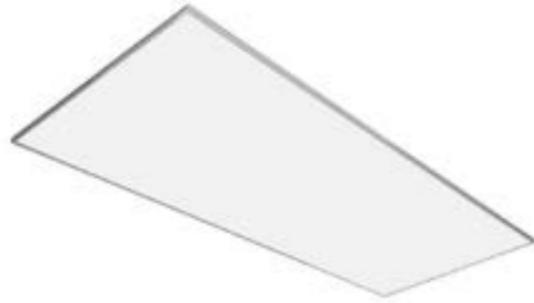## General Information

Top Level	Product Name	Total Lumen Package	Light Color	CCT	Watt	Voltage / Cycle	Current	Driver Type	Cover	Color	IP	Size	EM
ROF450/LED001			NW	4000K		220-240V /50-60Hz		PSU (EU)					
ROF450/LED002			CW	6000K		220-240V /50-60Hz		PSU (EU)					
ROF450/LED003			NW	4000K		110-277V /50-60Hz							
ROF450/LED004			CW	6000K		110-277V /50-60Hz							
ROF450/LED005			NW	4000K		220-240V /50-60Hz		PSD (EU)					
ROF450/LED006			CW	6000K		220-240V /50-60Hz							
ROF450/LED007	ROF450	4000lm	NW	4000K	40W	220-240V /50-60Hz	1050mA		O-Opal	WH-White	IP20	W595L595	
ROF450/LED008			CW	6000K		220-240V /50-60Hz		PSU (EU)					
ROF450/LED009			NW	4000K		110-277V /50-60Hz							E3
ROF450/LED010			CW	6000K		110-277V /50-60Hz							
ROF450/LED011			NW	4000K		220-240V /50-60Hz		PSD (EU)					
ROF450/LED012			CW	6000K		220-240V /50-60Hz							

Full list of part numbers available

Dimensional Drawing

Panel size	Emergency box size
WxLxH (mm)	
595x595x11	325x200x70

nardeen

LED

General Indoor Lighting

nardeen
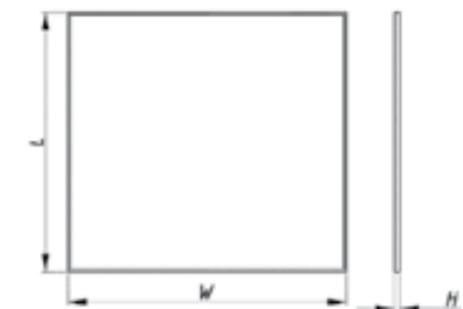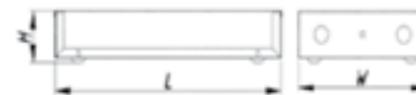
ROF450

LED Recessed Panel/30x120/IP20

220-240V 50-60Hz (FOD/DALI)

110-277V 50-60Hz (FOD)

IP 20

Specifications

* Light Source	LED		* Voltage & Frequency	220-240V/50-60Hz (FOD/DALI) 110-277V/50-60Hz (FOD)
* Power	40W		* Dimming	DALI (220-240V) only
* Luminous Flux	4000lm		* Material	Aluminum housing
* Color Rendering Index	>80		* Emergency	Yes
* Correlated Color Temperature	Neutral white: 4000K Cool daylight: 6000K		* Color	White
* Drive Current	0.9A 1.05A		* Optic	Opal diffuser cover
* Operating Temperature Range	–For 220-240V/120-277V FOD: –20... +50˚C –For 220-240V DALI: -20...+65˚C		* Connection	With pull relief
* Lifetime	50,000 Hrs		* Installation	Recessed
* Ambient Temperature	25˚C			

Benefit
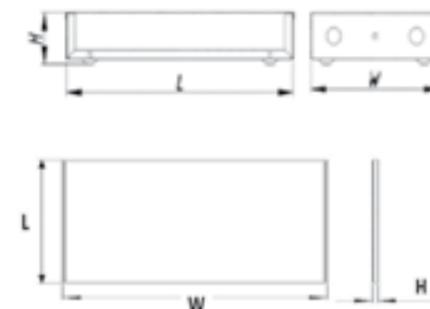Ideal for switching over to LED

General Information

Top Level	Product Name	Total Lumen Package	Light Color	CCT	Watt	Voltage / Cycle	Current	Driver Type	Cover	Color	IP	Size	EM
ROF450/LED013			NW	4000K		220-240V /50-60Hz	900mA	PSU (EU)					
ROF450/LED014			CW	6000K									
ROF450/LED015			NW	4000K		110-277V /50-60Hz	1050mA						
ROF450/LED016			CW	6000K									–
ROF450/LED017			NW	4000K				PSD (EU)					
ROF450/LED018	ROF450	4000lm	CW	6000K	40W	220-240V /50-60Hz	900mA		O-Opal	WH-White	IP20	W295L1195	
ROF450/LED019			NW	4000K									
ROF450/LED020			CW	6000K				PSU (EU)					
ROF450/LED021			NW	4000K		110-277V /50-60Hz	1050mA						
ROF450/LED022			CW	6000K									E3
ROF450/LED023			NW	4000K		220-240V /50-60Hz	900mA	PSD (EU)					
ROF450/LED024			CW	6000K									

Full list of part numbers available

Dimensional Drawing

Panel size	Emergency box size
WxLxH (mm)	
295x1195x11	325x200x70

nardeen

LED

nardeen

General Indoor Lighting

ROF450

LED Recessed Panel /60x120/IP20

220-240V 50-60Hz (FOD/DALI)

110-277V 50-60Hz (FOD)

IP 20

Specifications

* Light Source	LED		* Voltage & Frequency	220-240V/50-60Hz (FOD/DALI) 120-277V/50-60Hz (FOD)
* Power	75W, 81W		* Dimming	DALI (220-240V) only
* Luminous Flux	7500lm, 8500lm		* Material	Aluminum housing
* Color Rendering Index	>80		* Emergency	Yes
* Correlated Color Temperature	Neutral white: 4000K Cool daylight: 6000K		* Color	White
* Drive Current	0.9A 1.05A		* Optic	Opal diffuser cover
* Operating Temperature Range	– For 220-240V/120-277V FOD: -20... +50°C – For 220-240V DALI: -20...+65°C		* Connection	With pull relief
* Lifetime	50,000 Hrs		* Installation	Recessed
* Ambient Temperature	25°C			

Benefit
Ideal for switching over to LED

General Information

Top Level	Product Name	Total Lumen Package	Light Color	CCT	Watt	Voltage / Cycle	Current	Driver Type	Cover	Color	IP	Size	EM
ROF450/LED025		7500lm	NW	4000K	75W	220-240V /50-60Hz	900mA	PSU (EU)					–
ROF450/LED026			CW	6000K									
ROF450/LED027		8500lm	NW	4000K	81W	110-277V /50-60Hz	1050mA						
ROF450/LED028			CW	6000K									
ROF450/LED029	ROF450	7500lm	NW	4000K	75W	220-240V /50-60Hz	900mA	PSD (EU)	O-Opal	WH-White	IP20	W595L1195	
ROF450/LED030			CW	6000K									
ROF450/LED031			NW	4000K									E3
ROF450/LED032			CW	6000K				PSU (EU)					
ROF450/LED033		8500lm	NW	4000K	81W	110-277V /50-60Hz	1050mA						
ROF450/LED034			CW	6000K									
ROF450/LED035		7500lm	NW	4000K	75W	220-240V /50-60Hz	900mA	PSD (EU)					
ROF450/LED036			CW	6000K									

Full list of part numbers available

Dimensional Drawing

Panel size	Emergency box size
WxLxH (mm)	
595x1195x11	470x220x70

nardeen

LED

General Indoor Lighting

SOF450

LED Surface Mounted Panel /60x60/IP20

220-240V 50-60Hz

IP 20

Specifications

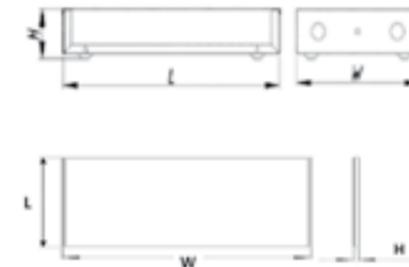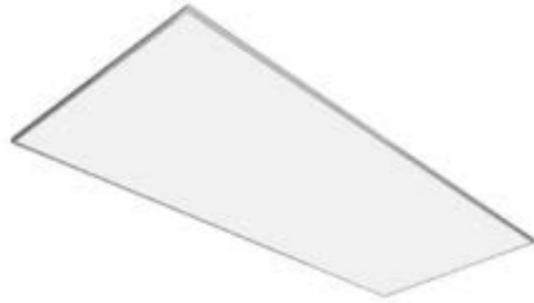|				
* Light Source	LED		* Voltage & Frequency	220-240V/50-60Hz (FOD/DALI) 110-277V/50-60Hz (FOD)
* Power	40W		* Dimming	DALI (220-240V) only
* Luminous Flux	4000lm		* Material	Aluminum housing
* Color Rendering Index	>80		* Emergency	Yes
* Correlated Color Temperature	Neutral white: 4000K Cool daylight: 6000K		* Color	White
* Drive Current	0.9A 1.05A		* Optic	Opal diffuser cover
* Operating Temperature Range	– For 220-240V/120-277V FOD: -20... +50˚C – For 220-240V DALI: -20...+65˚C		* Connection	With pull relief
* Lifetime	50,000 Hrs		* Installation	Surface Mounted
* Ambient Temperature	25˚C			

Benefit
Ideal for switching over to LED

General Information

Top Level	Product Name	Total Lumen Package	Light Color	CCT	Watt	Voltage / Cycle	Current	Driver Type	Cover	Color	IP	Size	EM
SOF450/LED001			NW	4000K		220-240V /50-60Hz							–
SOF450/LED002			CW	6000K				PSU (EU)					
SOF450/LED003			NW	4000K		110-277V /50-60Hz							
SOF450/LED004			CW	6000K									
SOF450/LED005			NW	4000K				PSD (EU)					
SOF450/LED006			CW	6000K		220-240V /50-60Hz							
SOF450/LED007	SOF450	4000lm	NW	4000K	40W		1050mA		O-Opal	WH-White	IP20	W595L595	
SOF450/LED008			CW	6000K				PSU (EU)					
SOF450/LED009			NW	4000K		110-277V /50-60Hz							E3
SOF450/LED010			CW	6000K									
SOF450/LED011			NW	4000K		220-240V /50-60Hz		PSD (EU)					
SOF450/LED012			CW	6000K									

Full list of part numbers available

Dimensional Drawing

Panel size	Emergency box size
WxLxH (mm)	
595x595x11	325x200x70

LED

General Indoor Lighting

SOF450

LED Surface Mounted Panel /30x120/IP20

220-240V 50-60Hz

IP 20

Specifications

|				
* Light Source	LED		* Voltage & Frequency	220-240V/50-60Hz (FOD/DALI) 110-277V/50-60Hz (FOD)
* Power	40W		* Dimming	DALI (220-240V) only
* Luminous Flux	4000lm		* Material	Aluminum housing
* Color Rendering Index	>80		* Emergency	Yes
* Correlated Color Temperature	Neutral white: 4000K Cool daylight: 6000K		* Color	White
* Drive Current	0.9A 1.05A		* Optic	Opal diffuser cover
* Operating Temperature Range	−For 220-240V/120-277V FOD: −20... +50°C −For 220-240V DALI: -20...+65°C		* Connection	With pull relief
* Lifetime	50,000 Hrs		* Installation	Surface Mounted
* Ambient Temperature	25°C			

Benefit
Ideal for switching over to LED

General Information

Top Level	Product Name	Total Lumen Package	Light Color	CCT	Watt	Voltage / Cycle	Current	Driver Type	Cover	Color	IP	Size	EM
SOF450/LED013			NW	4000K		220-240V /50-60Hz		PSU (EU)					
SOF450/LED014			CW	6000K									
SOF450/LED015			NW	4000K		110-277V /50-60Hz							
SOF450/LED016			CW	6000K									
SOF450/LED017			NW	4000K				PSD (EU)					
SOF450/LED018	SOF450	4000lm	CW	6000K	40W	220-240V /50-60Hz	1050mA		O-Opal	WH-White	IP20	W295L1195	
SOF450/LED019			NW	4000K									
SOF450/LED020			CW	6000K				PSU (EU)					
SOF450/LED021			NW	4000K		110-277V /50-60Hz							E3
SOF450/LED022			CW	6000K									
SOF450/LED023			NW	4000K		220-240V /50-60Hz		PSD (EU)					
SOF450/LED024			CW	6000K									

Full list of part numbers available

Dimensional Drawing

Panel size	Emergency box size
WxLxH (mm)	
295x1195x11	325x200x70

nardeen

LED

General Indoor Lighting

SOF450

LED Surface Mounted Panel /60x120/IP220

220-240V 50-60Hz

IP 20

Specifications

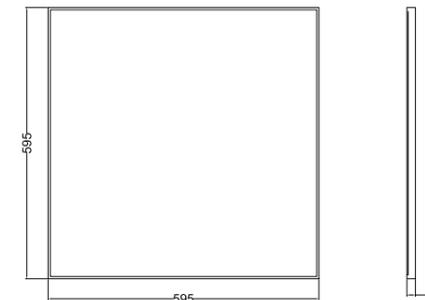|				
* Light Source	LED		* Voltage & Frequency	220-240V/50-60Hz (FOD/DALI)
* Power	75W, 81W		* Dimming	DALI (220-240V) only
* Luminous Flux	7500lm, 8500lm		* Material	Aluminum housing
* Color Rendering Index	>80		* Emergency	Yes
* Correlated Color Temperature	Neutral white: 4000K Cool daylight: 6000K		* Color	White
* Drive Current	0.9A 1.05A		* Optic	Opal diffuser cover
* Operating Temperature Range	− For 220-240V/120-277V FOD: -20... +50°C − For 220-240V DALI: -20...+65°C		* Connection	With pull relief
* Lifetime	50,000 Hrs		* Installation	Surface Mounted
* Ambient Temperature	25°C			

Benefit
Ideal for switching over to LED

General Information

Top Level	Product Name	Total Lumen Package	Light Color	CCT	Watt	Voltage / Cycle	Current	Driver Type	Cover	Color	IP	Size	EM
SOF450/LED025		7500lm	NW	4000K	75W	220-240V /50-60Hz	900mA	PSU (EU)					
SOF450/LED026			CW	6000K									
SOF450/LED027		8500lm	NW	4000K	81W	110-277V /50-60Hz	1050mA						−
SOF450/LED028			CW	6000K									
SOF450/LED029			NW	4000K				PSD (EU)					
SOF450/LED030	SOF450	7500lm	CW	6000K	75W	220-240V /50-60Hz	900mA		O-Opal	WH-White	IP20	W595L1195	
SOF450/LED031			NW	4000K									
SOF450/LED032			CW	6000K				PSU (EU)					
SOF450/LED033		8500lm	NW	4000K	81W	110-277V /50-60Hz	1050mA						E3
SOF450/LED034			CW	6000K									
SOF450/LED035		7500lm	NW	4000K	75W	220-240V /50-60Hz	900mA	PSD (EU)					
SOF450/LED036			CW	6000K									

Full list of part numbers available

Dimensional Drawing

Panel size	Emergency box size
WxLxH (mm)	
595x1195x11	470x220x70

nardeen　　　　　　　LED　　　　　　　**nardeen**

General Indoor Lighting
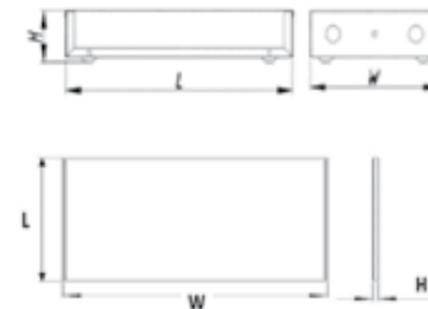
ROF450

LED Recessed Panel /60x60/IP54

220-240V 50-60Hz (FOD/DALI)　　110-277V 50-60Hz (FOD)　　IP 54

Specifications

* Light Source	LED		* Voltage & Frequency	220-240V/50-60Hz (FOD/DALI) 110-277V/50-60Hz (FOD)
* Power	40W		* Dimming	DALI (220-240V) only
* Luminous Flux	4000lm		* Material	Aluminum housing
* Color Rendering Index	>80		* Emergency	Yes
* Correlated Color Temperature	Neutral white: 4000K Cool daylight: 6000K		* Color	White
* Drive Current	0.9A 1.05A		* Optic	Opal diffuser cover
* Operating Temperature Range	–For 220-240V/120-277V FOD: –20... +50˚C –For 220-240V DALI: –20...+65˚C		* Connection	With pull relief
* Lifetime	50,000 Hrs		* Installation	Recessed
* Ambient Temperature	25˚C			

Benefit
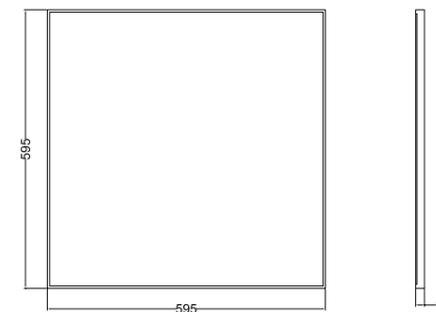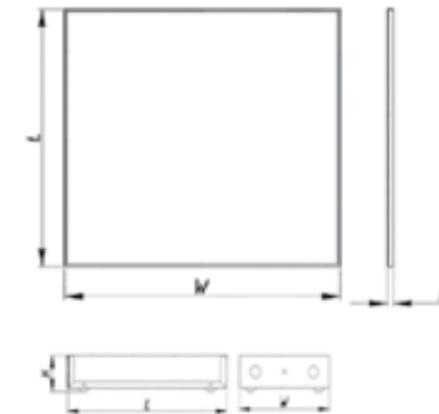Ideal for switching over to LED

General Information

Top Level	Product Name	Total Lumen Package	Light Color	CCT	Watt	Voltage / Cycle	Current	Driver Type	Cover	Color	IP	Size	EM
ROF450-IP54/ LED001			NW	4000K		220-240V /50-60Hz	900mA						
ROF450-IP54/ LED002			CW	6000K				PSU (EU)					
ROF450-IP54/ LED003			NW	4000K		110-277V /50-60Hz	1050mA						
ROF450-IP54/ LED004			CW	6000K									–
ROF450-IP54/ LED005			NW	4000K				PSD (EU)					
ROF450-IP54/ LED006	ROF450-IP54	4000lm	CW	6000K	40W	220-240V /50-60Hz	900mA		O-Opal	WH–White	IP54 for Optics, IP20 for Control Gear	W595L595	
ROF450-IP54/ LED007			NW	4000K									
ROF450-IP54/ LED008			CW	6000K				PSU (EU)					
ROF450-IP54/ LED009			NW	4000K		110-277V /50-60Hz	1050mA						
ROF450-IP54/ LED010			CW	6000K									E3
ROF450-IP54/ LED011			NW	4000K		220-240V /50-60Hz	900mA	PSD (EU)					
ROF450-IP54/ LED012			CW	6000K									

Full list of part numbers available

Dimensional Drawing

Emergency box size
WxLxH (mm)
325x200x70

595　595　11

nardeen

LED

nardeen

General Indoor Lighting

SOF450

LED Surface Mounted Panel /60x60/IP54

220-240V 50-60Hz

IP 54

Specifications

* Light Source	LED		* Voltage & Frequency	220-240V/50-60Hz (FOD/DALI) 110-277V/50-60Hz (FOD)
* Power	40W		* Dimming	DALI (220-240V) only
* Luminous Flux	4000lm		* Material	Aluminum housing
* Color Rendering Index	>80		* Emergency	Yes
* Correlated Color Temperature	Neutral white: 4000K Cool daylight: 6000K		* Color	White
* Drive Current	0.9A 1.05A		* Optic	Opal diffuser cover
* Operating Temperature Range	– For 220-240V/120-277V FOD: -20... +50°C – For 220-240V DALI: -20...+65°C		* Connection	With pull relief
* Lifetime	50,000 Hrs		* Installation	Surface Mounted
* Ambient Temperature	25°C			

### Benefit
Ideal for switching over to LED

General Information

Top Level	Product Name	Total Lumen Package	Light Color	CCT	Watt	Voltage / Cycle	Current	Driver Type	Cover	Color	IP	Size	EM
SOF450-IP54/ LED001	SOF450-IP54	4000lm	NW	4000K	40W	220-240V /50-60Hz	1050mA	PSU (EU)	O-Opal	WH-White	IP54 for Optics, IP20 for Control Gear	W595L595	–
SOF450-IP54/ LED002			CW	6000K									
SOF450-IP54/ LED003			NW	4000K		110-277V /50-60Hz							
SOF450-IP54/ LED004			CW	6000K									
SOF450-IP54/ LED005			NW	4000K				PSD (EU)					
SOF450-IP54/ LED006			CW	6000K		220-240V /50-60Hz							
SOF450-IP54/ LED007			NW	4000K									
SOF450-IP54/ LED008			CW	6000K				PSU (EU)					
SOF450-IP54/ LED009			NW	4000K		110-277V /50-60Hz							E3
SOF450-IP54/ LED010			CW	6000K									
SOF450-IP54/ LED011			NW	4000K		220-240V /50-60Hz		PSD (EU)					
SOF450-IP54/ LED012			CW	6000K									

Full list of part numbers available

Dimensional Drawing

Panel size	Emergency box size
WxLxH (mm)	
595x595x11	325x200x70

595

595

11

nardeen

LED

nardeen

General Indoor Lighting

CLR500

Cleanroom IP65 Panel

220-240V 50-60Hz

IP 65

General Information

Top Level	Product Name	Total Lumen Package	Light Color	CCT	Watt	Voltage / Cycle	Current	Driver Type	Cover	Color	IP	Size	EM
CLR500/LED001		3680lm	WW	3000K									
CLR500/LED002		4080lm	NW	4000K									–
CLR500/LED003	CLR500	4500lm	CW	6000K	36W	220-240V /50-60Hz	900mA	PSU (EU)	O-Opal	WH–White	IP65 for optics, IP20 for control gear	W595L595	
CLR500/LED004		3680lm	WW	3000K									
CLR500/LED005		4080lm	NW	4000K									E3
CLR500/LED006		4500lm	CW	6000K									

Full list of part numbers available

Specifications

* Light Source	LED		* Voltage & Frequency	220-240V/50-60Hz (FOD)
* Power	36W		* Dimming	N/A
* Luminous Flux	3680lm, 4080lm, 4500lm		* Material	Aluminum housing
* Color Rendering Index	>80		* Emergency	Yes
* Correlated Color Temperature	Warm white: 3000K Neutral white: 4000K Cool white: 6000K		* Color	White
* Drive Current	0.9A		* Optic	Opal diffuser cover
* Operating Temperature Range	– For 220-240V (FOD): –20 to +50°C		* Connection	With pull relief
* Lifetime	36,000 Hrs		* Installation	Recessed
* Ambient Temperature	25°C			

Dimensional Drawing

Panel size	Emergency box size
WxLxH (mm)	
595x595x13.4	325x200x70

Benefit
Ideal for switching over to LED

nardeen

LED

General Indoor Lighting

S-HANG450

Suspended Panel /60x60/IP20

220-240V 50-60Hz

IP 20

Specifications

* Light Source	LED		* Voltage & Frequency	220-240V/50-60Hz (FOD/DALI) 110-277V/50-60Hz (FOD)
* Power	40W		* Dimming	DALI (220-240V) only
* Luminous Flux	4000lm		* Material	Aluminum housing
* Color Rendering Index	>80		* Emergency	Yes
* Correlated Color Temperature	Warm white: 3000K Neutral white: 4000K Cool white: 6000K		* Color	White
* Drive Current	1.05A		* Optic	Opal diffuser cover
* Operating Temperature Range	– For 220-240V/120-277V FOD: -20... +45°C – For 220-240V DALI: -20...+45°C		* Connection	With pull relief
* Lifetime	50,000 Hrs		* Installation	Cable suspension
* Ambient Temperature	25°C			

Benefit
Ideal for switching over to LED

General Information

Top Level	Product Name	Total Lumen Package	Light Color	CCT	Watt	Voltage / Cycle	Current	Driver Type	Cover	Color	IP	Size	EM
S-HANG450/LED001			WW	3000K		220-240V /50-60Hz		PSU (EU)					
S-HANG450/LED002			NW	4000K									
S-HANG450/LED003			CW	6000K									
S-HANG450/LED004			WW	3000K		110-277V /50-60Hz							–
S-HANG450/LED005			NW	4000K									
S-HANG450/LED006			CW	6000K									
S-HANG450/LED007			WW	3000K		220-240V /50-60Hz		PSD (EU)					
S-HANG450/LED008			NW	4000K									
S-HANG450/LED009	S-HANG450	4000lm	CW	6000K	40W		1050mA		O-Opal	WH-White	IP20	W595L595	
S-HANG450/LED010			WW	3000K		110-277V /50-60Hz		PSU (EU)					
S-HANG450/LED011			NW	4000K									
S-HANG450/LED012			CW	6000K									
S-HANG450/LED013			WW	3000K		220-240V /50-60Hz							E3
S-HANG450/LED014			NW	4000K									
S-HANG450/LED015			CW	6000K									
S-HANG450/LED016			WW	3000K		110-277V /50-60Hz		PSD (EU)					
S-HANG450/LED017			NW	4000K									
S-HANG450/LED018			CW	6000K									

Full list of part numbers available

Dimensional Drawing

Panel size	Emergency box size
WxLxH (mm)	
595x595x11	325x200x70

Nardeen

LED

Nardeen

General Indoor
Lighting
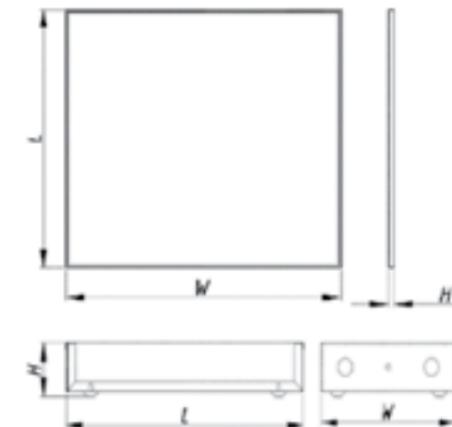
S-HANG450

Suspended Panel /30x120/IP20

220-240V
50-60Hz

IP
20

Specifications

* Light Source	LED		* Voltage & Frequency	220-240V/50-60Hz (FOD/DALI) 110-277V/50-60Hz (FOD)
* Power	40W		* Dimming	DALI (220-240V) only
* Luminous Flux	4000lm		* Material	Aluminum housing
* Color Rendering Index	>80		* Emergency	Yes
* Correlated Color Temperature	Warm white: 3000K Neutral white: 4000K Cool white: 6000K		* Color	White
* Drive Current	1.05A		* Optic	Opal diffuser cover
* Operating Temperature Range	– For 220-240V/120-277V FOD: -20... +45°C – For 220-240V DALI: -20...+45°C		* Connection	With pull relief
* Lifetime	50,000 Hrs		* Installation	Cable suspension
* Ambient Temperature	25°C			

Benefit
Ideal for switching over to LED

General Information

Top Level	Product Name	Total Lumen Package	Light Color	CCT	Watt	Voltage / Cycle	Current	Driver Type	Cover	Color	IP	Size	EM
S-HANG450/LED019			WW	3000K		220-240V /50-60Hz		PSU (EU)					–
S-HANG450/LED020			NW	4000K									
S-HANG450/LED021			CW	6000K									
S-HANG450/LED022			WW	3000K		110-277V /50-60Hz								
S-HANG450/LED023			NW	4000K									
S-HANG450/LED024			CW	6000K									
S-HANG450/LED025			WW	3000K		220-240V /50-60Hz		PSD (EU)					
S-HANG450/LED026			NW	4000K									
S-HANG450/LED027	S-HANG450	4000lm	CW	6000K	40W		1050mA		O-Opal	WH-White	IP20	W295L1195	
S-HANG450/LED028			WW	3000K		110-277V /50-60Hz								
S-HANG450/LED029			NW	4000K									
S-HANG450/LED030			CW	6000K				PSU (EU)					
S-HANG450/LED031			WW	3000K		220-240V /50-60Hz								E3
S-HANG450/LED032			NW	4000K									
S-HANG450/LED033			CW	6000K									
S-HANG450/LED034			WW	3000K		110-277V /50-60Hz		PSD (EU)					
S-HANG450/LED035			NW	4000K									
S-HANG450/LED036			CW	6000K									

Full list of part numbers available

Dimensional Drawing

Panel size	Emergency box size
WxLxH (mm)	
295x1195x11	325x200x70

nardeen

LED

General Indoor Lighting

S-HANG450

Suspended Panel /60x120/IP20

220-240V 50-60Hz

IP 20

Specifications

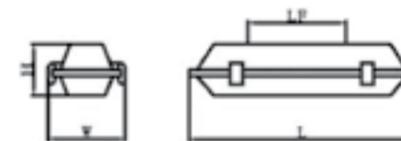|				
* Light Source	LED		* Voltage & Frequency	220-240V/50-60Hz (FOD/DALI) 120-277V-50-60Hz (FOD)
* Power	75W, 81W		* Dimming	DALI (220-240V) only
* Luminous Flux	7500lm, 8500lm		* Material	Aluminum housing
* Color Rendering Index	>80		* Emergency	Yes
* Correlated Color Temperature	Warm white: 3000K Neutral white: 4000K Cool white: 6000K		* Color	White
* Drive Current	0.9A		* Optic	Opal diffuser cover
* Operating Temperature Range	– For 220-240V/120-277V FOD: -20... +45˚C – For 220-240V DALI: -20...+45˚C		* Connection	With pull relief
* Lifetime	50,000 Hrs		* Installation	Cable suspension
* Ambient Temperature	25˚C			

Benefit
Ideal for switching over to LED

General Information

Top Level	Product Name	Total Lumen Package	Light Color	CCT	Watt	Voltage / Cycle	Current	Driver Type	Cover	Color	IP	Size	EM
S-HANG450/LED037			WW	3000K									
S-HANG450/LED038		7500lm	NW	4000K	75W	220-240V /50-60Hz	900mA						
S-HANG450/LED039			CW	6000K				PSU (EU)					
S-HANG450/LED040			WW	3000K									
S-HANG450/LED041		8500lm	NW	4000K	81W	120-277V /50-60Hz	1050mA						–
S-HANG450/LED042	S-HANG450		CW	6000K					O-Opal	WH-White	IP20	W595L1195	
S-HANG450/LED043			WW	3000K									
S-HANG450/LED044			NW	4000K				PSD (EU)					
S-HANG450/LED045			CW	6000K									
S-HANG450/LED046			WW	3000K									
S-HANG450/LED047		7500lm	NW	4000K	75W	220-240V /50-60Hz	900mA	PSU (EU)					
S-HANG450/LED048			CW	6000K									E3
S-HANG450/LED049			WW	3000K									
S-HANG450/LED050			NW	4000K				PSD (EU)					
S-HANG450/LED051			CW	6000K									

Full list of part numbers available

Dimensional Drawing

Panel size	Emergency box size
WxLxH (mm)	
595x1195x11	470x220x70

Highbays

Nardeen

LED

Industry

High ceiling

HB550

Hook Mounted High bay Luminaire

100-277V
50-60Hz

IP
65

Specifications

* Light Source	LED		* Voltage & Frequency	100-277V/50-60Hz (FOD)
* Power	100W, 150W, 200W, 240W		* Material	– Housing: Die-cast Aluminum Texture architectural bronze powder coat finish, safely mechanism against accidental closing – Diffuser: Clear glass
* Luminous Flux	13000lm, 19500lm 26000lm, 31200lm		* Color	Body: Matt black
* Color Rendering Index	>70		* Connection	3 – Pole connection
* Correlated Color Temperature	Warm white: 4000K Neutral white: 5000K Cool white: 6000K		* Installation	Hook mounted
* Drive Current	3.0 – 3.8A (100W & 150W) 3.0 – 5.7A (200W & 240W)		* Ambient Temperature	45°C
* Operating Temperature Range	–25 – 45°C		* Lifetime	50,000 Hrs

Benefit
Ideal for switching over to LED

General Information

Top Level	LED	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Driver Type	Cover	Color	Size
HB550/LED001		13000 lm	WW		4000K	100W					D358 mm
HB550/LED002			NW		5000K						
HB550/LED003			CW		6000K						
HB550/LED004		19500 lm	WW		4000K	150W					
HB550/LED005			NW		5000K						
HB550/LED006	LED		CW	70	6000K		100-277V 50-60Hz	FOD – Fixed Output	G- Glass	BL- Black	
HB550/LED007		26000	WW		4000K	200W					
HB550/LED008			NW		5000K						
HB550/LED009			CW		6000K						D456 mm
HB550/LED010		31200 lm	WW		4000K	240W					
HB550/LED011			NW		5000K						
HB550/LED012			CW		6000K						

Full list of part numbers available

Dimensional Drawing

Power	Size (mm)	
	Φ	H
100W	358	135
150W		
200W	456	147
240W		

Ø 14" (358mm)

GCL-560A

Ø 18" (456mm)

GCL-560B

Weatherproof

nardeen

LED

Car parks　　Canopies　　Under Shelter　　Humid premises　　Warehouses　　Farms and others alike application

WPO700 Industrial

Surface Mounted LED Weatherproof

100-277V 50-60Hz

IP 65

General Information

Top Level	Product Name	Total Lumen Package	Light Color	CCT	Watt	Voltage / Cycle	Current	Driver Type	Optic	Color	Installation	Length (mm)
WPO700/LED001		1480lm			12W		240mA					600mm
WPO700/LED002		2900lm			25W		480mA					600mm
WPO700/LED003		3000lm			25W		480mA					1200mm
WPO700/LED004		3400lm	CW	6500K	27W		480mA					1500mm
WPO700/LED005		5800lm			48W		960mA					1200mm
WPO700/LED006		6550lm			55W		960mA					1500mm
WPO700/LED007		1480lm			12W		240mA					600mm
WPO700/LED008		2900lm			25W		480mA					600mm
WPO700/LED009	WPO700	3000lm	NW	4000K	25W	220-240V/ 50-60Hz	480mA	PSU FOD – Fixed Output driver	O-Opal Diffuser	GR-Grey	S- Surface	1200mm
WPO700/LED010		3400lm			27W		480mA					1500mm
WPO700/LED011		5800lm			48W		960mA					1200mm
WPO700/LED012		6550lm			55W		960mA					1500mm
WPO700/LED013		1480lm			12W		240mA					600mm
WPO700/LED014		2900lm			25W		480mA					600mm
WPO700/LED015		3000lm	WW	3000K	25W		480mA					1200mm
WPO700/LED016		3400lm			27W		480mA					1500mm
WPO700/LED017		5800lm			48W		960mA					1200mm
WPO700/LED018		6550lm			55W		960mA					1500mm

Full list of part numbers available

Specifications

* Light Source	LED		* Voltage & Frequency	220-240V/50-60Hz
* Power	12W, 25W, 27W, 48W, 55W		* Dimming	No
* Luminous Flux	1480lm, 2900lm, 3000lm, 3400lm, 5800lm, 6550lm		* Material	– Body: Polyester reinforced with fiber glass – Diffuser: Opal – Inner Tray: Pre-painted HDST.
* Color Rendering Index	>80		* Emergency	No
* Correlated Color Temperature	(CW) Cool White: 6500K (NW) Neutral White: 4000K (WW) Warm White: 3000K		* Color	Body: Grey
* Drive Current	0.24A, 0.48A, 0.96A		* Optic	Opal Diffuser
* Operating Temperature Range	–20 to +35°C (2x36, 2x58) –20 to +40°C (1x18, 2x18, 1x36, 1x58)		* Connection	Gland on the sides of the housing
* Lifetime	50,000 Hrs		* Installation	Surface (Mounting bracket/ Suspension)
* Ambient Temperature	35°C			

Dimensional Drawing

Product configuration	Dimensions WxHxLxLF (mm)
12W (1x18)	650x82x86x347
25W (2x18)	650x127x86x347
25W (1x36)	1260x82x86x900
27W (1x58)	1560x82x86x1200
48W (2x36)	1260x127x86x900
55W (2x58)	1560x127x86x1200

Benefit

Ideal for switching over to LED

nardeen

LED

nardeen

Car parks | Canopies | Under Shelter | Humid premises | Warehouses | Farms and others alike application

WPO715 Industrial

Surface Mounted LED Weatherproof

100-277V 50-60Hz

IP / 65

Specifications

|				
* Light Source	LED		* Voltage & Frequency	220-240V/50-60Hz
* Power	23W, 23W, 34W, 35W, 54W		* Dimming	No
* Luminous Flux	2400lm, 3700lm, 4200lm, 6600lm		* Material	– Body: Polyester reinforced with fiber glass – Diffuser: Opal – Inner Tray: Pre-painted HDST.
* Color Rendering Index	>80		* Emergency	No
* Correlated Color Temperature	(CW) Cool White: 6500K (NW) Neutral White: 4000K (WW) Warm White: 3000K		* Color	Body: Grey
* Drive Current	0.29A, 0.295A, 0.35A		* Optic	Opal Diffuser
* Operating Temperature Range	–20 to +35°C (2x36, 2x58) –20 to +40°C (2x18, 1x36, 1x58)		* Connection	Gland on the sides of the housing
* Lifetime	50,000 Hrs		* Installation	Surface (Mounting bracket/ Suspension)
* Ambient Temperature	35°C			

Benefit
Ideal for switching over to LED

General Information

Top Level	Product Name	Total Lumen Package	Light Color	CCT	Watt	Voltage / Cycle	Current	Driver Type	Optic	Color	Installation	Length (mm)
WPO715/LED001		2400lm			23W		290mA					600mm
WPO715/LED002		2400lm			23W		290mA					600mm
WPO715/LED003		3700lm	CW	6500K	34W		295mA					1200mm
WPO715/LED004		4200lm			35W		295mA					1500mm
WPO715/LED005		6600lm			54W		350mA					1200mm
WPO715/LED006		2400lm			23W		290mA					1500mm
WPO715/LED007		2400lm			23W		290mA	PSU (EU) – Fixed Output European driver	O– Opal Diffuser	GR– Grey	S– Surface	600mm
WPO715/LED008	WPO715	3700lm	NW	4000K	34W	220-240V/ 50-60Hz	295mA					600mm
WPO715/LED009		4200lm			35W		295mA					1200mm
WPO715/LED010		6600lm			54W		350mA					1500mm
WPO715/LED011		2400lm			23W		290mA					1200mm
WPO715/LED012		2400lm			23W		290mA					1500mm
WPO715/LED013		3700lm	WW	3000K	34W		295mA					600mm
WPO715/LED014		4200lm			35W		295mA					600mm
WPO715/LED015		6600lm			54W		350mA					1200mm

Full list of part numbers available

Dimensional Drawing
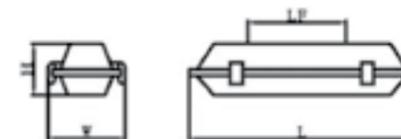
Product configuration	Dimensions WxHxLxLF (mm)
23W (2x18)	650x127x86x347
23W (1x36)	1260x82x86x900
34W (1x58)	1560x82x86x1200
35W (2x36)	1260x127x86x900
54W (2x58)	1560x127x86x1200

Outdoor/landscape

| FL550 | 104 |

| FL555 | 106 |

| SL750 | 108 |

| SL700 | 110 |

| SP300 | 112 |

| BL300 | 114 |

| DW300 | 116 |

| Primo | 118 |

| Piano | 120 |

| Echo | 122 |

| Arco Air | 124 |

| Opus | 126 |

Outdoor/landscape

Opus R 128	**Curve / curve direct** 130	**Edge / Edge direct** 132
Duett 134	**Frame Round Maxi** 136	**Frame Square Maxi** 138
Ludo 140	**Uno** 142	**Metro** 144
Flora 146	**Iuno** 14v	**Tauras** 150

Tauras 152	**LED Wall Pack** 154	**LED Wall Pack** 156
Motion security light 158	**LED Canopy** 160	**LED Slim Canopy** 162

nardeen

LED

FL550
Floodlight

220-240V 50-60Hz

IP 66

Specifications

* Light Source	LED		* Voltage & Frequency	220-240V/50-60Hz (FOD)
* Power	60W, 120W, 180W, 240W		* Material	Aluminum Alloy
* Luminous Flux	6600lm, 13200lm, 19800lm, 26400lm		* Color	Grey
* Color Rendering Index	70		* Optic	Light distribution angle 60°
* Correlated Color Temperature	Neutral white: 4000K Cool daylight: 6000K		* Connection	Pre-wired power cable and assembly of input connector for easy and safe installation
* Drive Current	1.05A		* Installation	U-shaped bracket; Universal installation; Aiming angle scale
* Operating Temperature Range	-40° to +50°C		* Ambient Temperature	35°C
* Lifetime	50,000 Hrs			

Benefit
Ideal for switching over to LED

Sports and area

General Information

Top Level	Product Name	Total Lumen Package	Light Color	CCT	Watt	Voltage/Cycle	Current	Driver Type	Cover	Color	IP
FL550/LED001	FL550	6600lm	NW	4000K	60W	220-240V/ 50-60Hz	1050mA	FOD	G-Glass	BL-Black	IP66
FL550/LED002			CW	6000K							
FL550/LED003		13200lm	NW	4000K	120W						
FL550/LED004			CW	6000K							
FL550/LED005		19800lm	NW	4000K	180W						
FL550/LED006			CW	6000K							
FL550/LED007		26400lm	NW	4000K	240W						
FL550/LED008			CW	6000K							

Ordering Samples: FL550/LED001

Full list of part numbers available

· 300 Watt available on request

For more information and other options – contact sales representative.

Dimensional Drawing

nardeen

LED
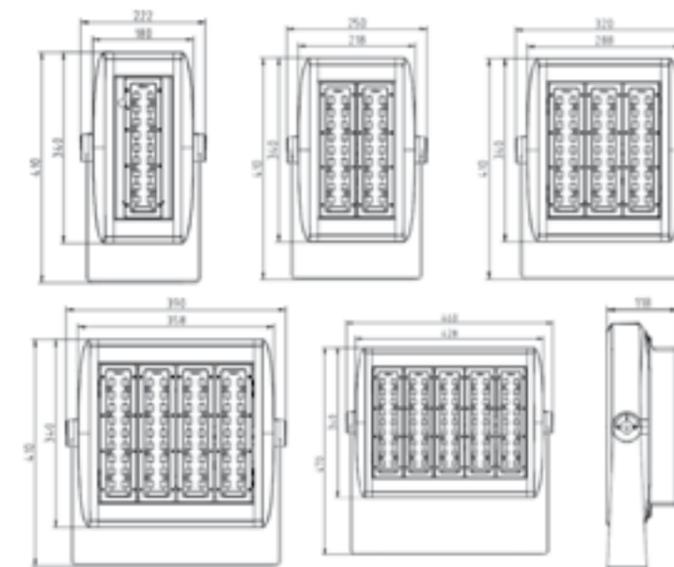
FL555

High Wattage Floodlight

120-277 V   IP 65

Specifications

* Light Source	LED	* Voltage & Frequency	120-277 V	
* Power	1000W 12000W	* Color	Dark Grey	
* Luminous Flux	100 lm/W	* Installation	U-shaped bracket; Universal installation; Aiming angle scale	
* Color Rendering Index	≥70	* Ambient Temperature	35°C	
* Correlated Color Temperature	Warm white: 3000K Neutral white: 4000K Cool white: 6500K	* Beam Angle	Lens Degree: 30/60/90/120 C	
* Operating Temperature Range	-40° to +50°C	* Lifetime	100Khr	

Benefit
Ideal for switching over to LED

nardeen

Sports and area

General Information

Product Name	Total Lumen Package	Light Color	CCT	Watt	Voltage/Cycle	CRI	Driver Type	Color	IP
FL555	120000	WW	3000K	1000W	120-277 V	70	PSU-Fixed	Dark Grey	IP65
		NW	4000K						
		CW	6500K						
	144000	WW	3000K	12000W					
		NW	4000K						
		CW	6500K						

Ordering Samples: FL555

Full list of part numbers available

• 300 Watt available on request

For more information and other options – contact sales representative.

Dimensional Drawing

nardeen

LED

nardeen
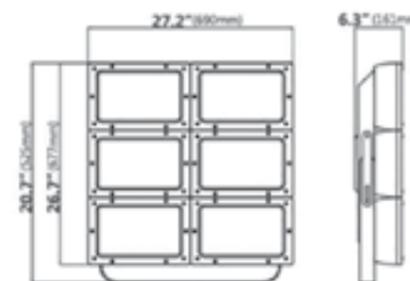
Road and Street

Parking Lot

SL750
LED Street Light

220-240V 50-60Hz

IP 66

Specifications

* Light Source	LED	* Voltage & Frequency	220-240V/50-60Hz
* Power	35W – 260W	* Dimming	No
* Luminous Flux	4250lm – 29900lm	* Material	Housing: Die cast aluminum
* Color Rendering Index	≥70	* Emergency	No
* Correlated Color Temperature	Warm white: 4000K Neutral white: 5000K Cool white: 5700K	* Color	Body: Grey
* Drive Current	0.7 A	* Installation	Post side; pole diameter 42-60mm
* Maintenance of Lumen output L70B50	50,000 Hrs	* Operating Temperature Range	-30 – 50°C

Benefit
Ideal for switching over to LED

General Information

Top Level	Product Name	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Current	Driver Type	Color	IP
SL750/LED001		4250lm	WW		4000K						
SL750/LED002		4300lm	NW		5000K	35W					
SL750/LED003		4350lm	CW		5700K						
SL750/LED004		6300lm	WW		4000K						
SL750/LED005		6350lm	NW		5000K	55W					
SL750/LED006		6400lm	CW		5700K						
SL750/LED007		8550lm	WW		4000K						
SL750/LED008		8600lm	NW		5000K	75W					
SL750/LED009		8650lm	CW		5700K						
SL750/LED010		11200lm	WW		4000K						
SL750/LED011		11250lm	NW		5000K	100W					
SL750/LED012		11300lm	CW		5700K						
SL750/LED013		12800lm	WW		4000K						
SL750/LED014	SL750	12850lm	NW	70	5000K	120W	220-240V/ 50-60Hz	700mA	XiLP - Lite program	GR- Grey	IP66
SL750/LED015		12900lm	CW		5700K						
SL750/LED016		17300lm	WW		4000K						
SL750/LED017		17400lm	NW		5000K	150W					
SL750/LED018		17500lm	CW		5700K						
SL750/LED019		21200lm	WW		4000K						
SL750/LED020		21300lm	NW		5000K	180W					
SL750/LED021		21450lm	CW		5700K						
SL750/LED022		25450lm	WW		4000K						
SL750/LED023		25600lm	NW		5000K	220W					
SL750/LED024		25650lm	CW		5700K						
SL750/LED025		29700lm	WW		4000K						
SL750/LED026		29850lm	NW		5000K	260W					
SL750/LED027		29900lm	CW		5700K						

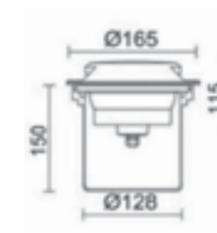|						
SL700/LED001	SL700/LED002	SL700/LED003	SL700/LED004	SL700/LED005	SL700/LED006	SL700/LED007
SL700/LED008	SL700/LED009	SL700/LED010	SL700/LED011	SL700/LED012	SL700/LED013	SL700/LED014
SL700/LED015	SL700/LED016	SL700/LED017	SL700/LED018	SL700/LED019	SL700/LED020	SL700/LED021
SL700/LED022	SL700/LED023	SL700/LED024	SL700/LED025	SL700/LED026	SL700/LED027	

Full list of part numbers available

For more information and other options – contact sales representative.
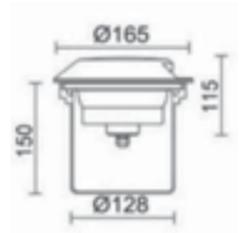
Dimensional Drawing
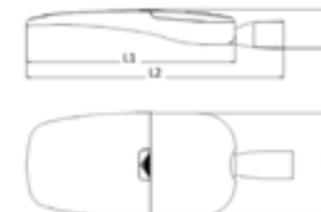
Wattage	Dimension (mm)			
	L1	L1	L1	L1
35 – 75W	460	600	230	110
100 – 150W	600	740	306	115
180 – 260W	779	915	418	145

nardeen

LED

Road and Street

Parking Lot

SL700
LED Street Light

110–277V
50–60Hz

IP
66

Specifications

* Light Source	LED	* Voltage & Frequency	110 – 277V/50–60Hz
* Power	40W, 80W, 120W, 160W, 200W, 240W, 280W	* Dimming	No
* Luminous Flux	4800lm, 5000lm, 9600lm, 10000lm, 14400lm, 15000lm, 19200lm, 20000lm, 24000lm, 25000lm, 28800lm, 30000lm, 33600lm, 35000lm	* Material	Housing: Die cast aluminum
* Color Rendering Index	>70	* Emergency	No
* Correlated Color Temperature	Neutral white: 4000K Cool white: 5700K	* Color	Body: Grey
* Drive Current	0.7 A	* Optic	Iso-Brightness
* Driver		* Connection	Direct male-female connection
* Operating Temperature Range	–40 – 50°C	* Installation	Post side; pole diameter 42-60mm
* Lifetime	50,000 Hrs	* Ambient Temperature	

Benefit
Ideal for switching over to LED

General Information

Top Level	Product Name	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage/Cycle	Current	Color	IP
SL700/LED001		4800lm	NW		5700K	40W				
SL700/LED002		5000lm	CW		4000K					
SL700/LED003		9600lm	NW		5700K	80W				
SL700/LED004		10000lm	CW		4000K					
SL700/LED005		14400lm	NW		5700K	120W				
SL700/LED006		15000lm	CW		4000K					
SL700/LED007	SL700	19200lm	NW	70	5700K	160W	220–240V/ 50–60Hz	700mA	GR- Grey	IP66
SL700/LED008		20000lm	CW		4000K					
SL700/LED009		24000lm	NW		5700K	200W				
SL700/LED010		25000lm	CW		5700K					
SL700/LED011		28800lm	NW		4000K	240W				
SL700/LED012		30000lm	CW		5700K					
SL700/LED013		33600lm	NW		4000K	280W				
SL700/LED014		35000lm	CW		5700K					

SL700/LED001 SL700/LED008	SL700/LED002 SL700/LED009	SL700/LED003 SL700/LED010	SL700/LED004 SL700/LED011	SL700/LED005 SL700/LED012	SL700/LED006 SL700/LED013	SL700/LED007 SL700/LED014

Full list of part numbers available

For more information and other options – contact sales representative.

Dimensional Drawing

40W

80W

120W

160W

200W

240W

280W

nardeen   **LED**   **nardeen**

General Indoor Lighting –
Outdoor circulations
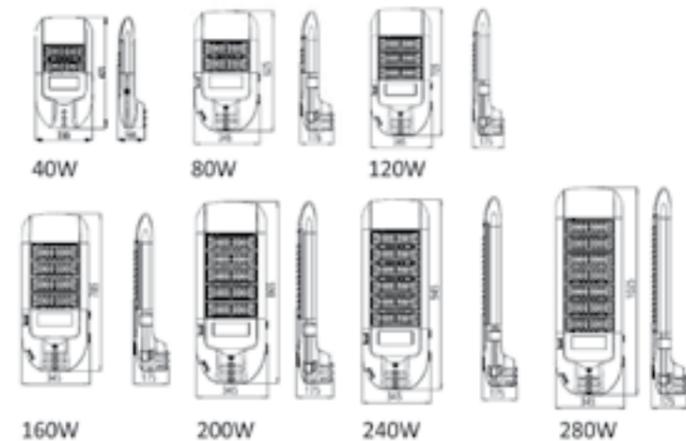
SP300 LED Step light

Recessed soft LED wall flood lights

110V / 230V   **IP 65**

General Information

Top Level	Product Number	LED	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Optic	Color	Installation
SP300/ LED001	SP300	LED	450lm	WW	80	3000K	12W	110V/ 230V	DL– Diffuse lens	GR– Grey	WM– Wall mount
SP300/ LED002			350lm						AL– Angled Louvres		

Ordering Samples: SP300/LED001   SP300/LED002

Full list of part numbers available

For more information and other options – contact sales representative.

Specifications

* Light Source	LED		* Voltage & Frequency	110V / 230V
* Power	12W		* Dimming	No
* Luminous Flux	450lm 350lm		* Emergency	No
* Color Rendering Index	80		* Color	Body: Grey
* Correlated Color Temperature	Warm white: 3000K		* Optic	Diffuse lens (450lm) Angled louvers (350lm)
* Drive Current	20mA		* Installation	Wall mount
* Lifetime	50,000 Hrs			

Dimensional Drawing

85

320

350lm

85

85

320

450lm

85

Benefit

Ideal for switching over to LED

nardeen

LED
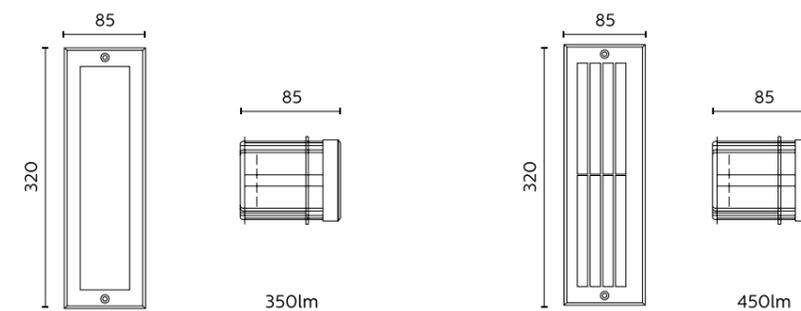
In-ground lighting

BL300 LED
Buried light

High power LED in-ground flood lights

110V 230V | IP 67

Specifications

* Light Source	LED	* Voltage & Frequency	110V/230V	
* Power	15W	* Dimming	No	
* Luminous Flux	1080lm 1320lm	* Emergency	No	
* Color Rendering Index	70	* Color	Body: Grey	
* Correlated Color Temperature	(WW) Warm white: 3000K (CW) Cool daylight: 6000K	* Lifetime	50,000 Hrs	
* Drive Current	350mA	* Installation	In-ground	

Benefit
Ideal for switching over to LED

General Information

Top Level	Product Number	LED	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color
BL300/LED001	BL300	LED	1080lm	WW	70	3000K	15W	110V/230V	GR- Grey
BL300/LED002			1320lm	CW		6000K			

Ordering Samples: BL300/LED001   BL300/LED002

Full list of part numbers available

For more information and other options - contact sales representative.

Dimensional Drawing

Ø220mm
Ø208mm
165mm
200mm
Ø238mm

Nardeen

LED

Outdoor circulations / pathways / walkways
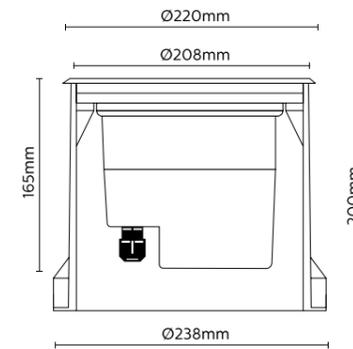
DW300 LED
Drive Way light

Driveway series soft LED in-ground luminaires

110V 230V

IP 68

Specifications

* Light Source	LED	* Voltage & Frequency	110V/230V
* Power	6W	* Dimming	No
* Luminous Flux	410lm 230lm 150lm	* Emergency	No
* Color Rendering Index	70	* Color	Body: Grey
* Correlated Color Temperature	Cool white: 6000K	* Lifetime	50,000 Hrs
* Operating Temperature Range	-20° – 45°	* Installation	In-ground

Benefit
Ideal for switching over to LED

General Information

Top Level	Product Number	LED	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color
DW300/LED001	DW300	LED	410lm	CW	70	6000K	6W	110V/230V	GR-Grey
DW300/LED002			320lm						
DW300/LED003			150lm						

Ordering Samples: DW300/LED001   DW300/LED002   DW300/LED003

Full list of part numbers available

For more information and other options – contact sales representative.

Dimensional Drawing

Ø165	Ø165	Ø165
115 150 Ø128	115 150 Ø128	115 150 Ø128
410lm	320lm	150lm

nardeen

LED

nardeen

General Lighting in corridors

outdoor areas
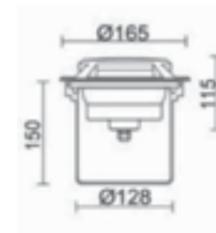
Primo

Surface ceiling LED Light

220-240V 50-60Hz

IP 65

Specifications

* Light Source	1100 LED	* Voltage & Frequency	220-240V/50,60Hz
* Power	11.5W	* Dimming	No
* Luminous Flux	840lm	* Material	- Housing: Aluminum - Diffuser: UV-Stabilizer polycarbonate
* Color Rendering Index	>80	* Emergency	No
* Correlated Color Temperature	Warm White: 3000K	* Color	Matte white
* Lifetime	50,000 Hrs	* Connection	3-Pole Terminal block
* Installation	Surface Ceiling		

Benefit
Ideal for switching over to LED

General Information

Product Number	Product	LED	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Optic	Color	Installation
641 570	Matte white 1100 LED	LED	840lm	WW	80	3000K	11.5W	220-240V /50,60Hz	O-Opal Diffuser	Matte White	S- Surface

Full list of part numbers available

For more information and other options - contact sales representative.

Dimensional Drawing

270 mm

120 mm

nardeen

LED

General Lighting in corridors   outdoor areas
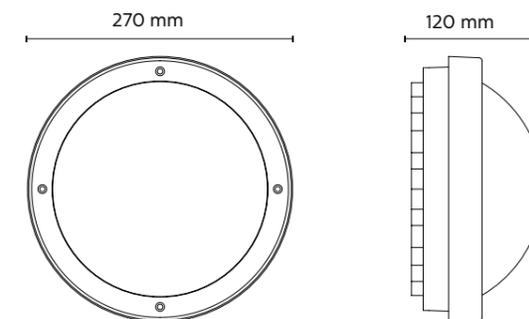
Piano
Surface ceiling LED Light

220-240V 50-60Hz   IP 65

Specifications

* Light Source	2000 LED		* Voltage & Frequency	220-240V/50,60Hz
* Power	19W		* Dimming	No
* Luminous Flux	1500lm		* Material	– Housing: Aluminum – Diffuser: UV-Stabilizer polycarbonate
* Color Rendering Index	>80		* Emergency	No
* Correlated Color Temperature	Warm White: 3000K		* Color	Body: Black
* Lifetime	50,000 Hrs		* Connection	3-Pole Terminal block
* Installation	Surface Ceiling			

Benefit
Ideal for switching over to LED

nardeen

General Information

Product Number	Product	LED	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Optic	Installation
621 876	Matte white 2000 19W LED									
621 877	Matte white 2000 19W LED Sensor									
624 876	Black 2000 19W LED	LED	1500lm	WW	80	3000K	19W	220-240V /50,60Hz	O-Opal Diffuser	S-Surface
624 877	Black 2000 19W LED Sensor									
633 876	Graphite 2000 19W LED									
633 877	Graphite 2000 19W LED Sensor									

Full list of part numbers available

For more information and other options – contact sales representative.

Dimensional Drawing

Ø340mm   105 mm

nardeen

LED

nardeen

General Lighting in corridors and outdoor areas
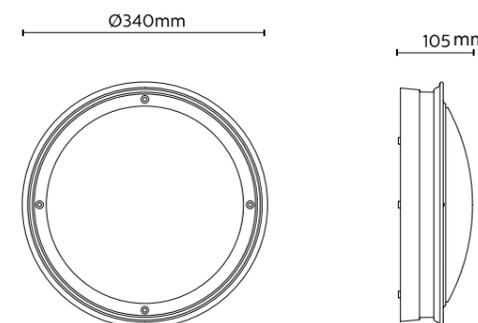
Echo

Wall/Surface ceiling Mounted LED Down LightOutdoor LED Luminaire

220-240V 50-60Hz

IP 54

Specifications

* Light Source	Replaceable LED Module	* Voltage & Frequency	220-240V/50-60Hz
* Power	4.5W	* Dimming	Trailing edge
* Luminous Flux	180lm / 2x180lm	* Material	Housing: Aluminum Diffuser: Glass
* Color Rendering Index	>80	* Emergency	No
* Correlated Color Temperature	Warm White: 2700K	* Color	Body: Black
* Lifetime	40,000 Hrs	* Optic	Narrow beam
* Beam Angle	36°	* Connection	3-Pole terminal block
* Installation	Surface Ceiling/Wall Mount		

Benefit

Ideal for switching over to LED

General Information

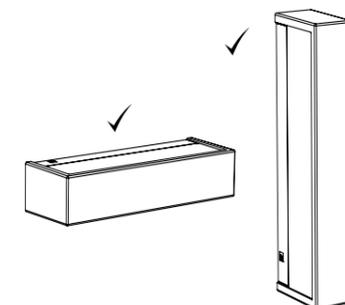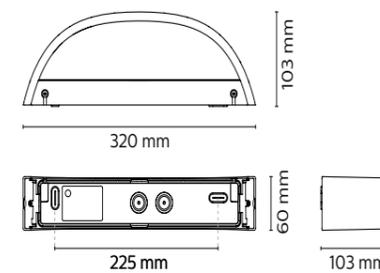| Product Number	Product	Class	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color	Installation
611 681	Matte white 4,5W LED									
611 683	Matte white 2x4,5W LED									
614 681	Black 4,5W LED									
614 683	Black 2x4,5W LED	II	180lm / 2x180lm	WW	80	2700K	4.5W	220-240V /50-60Hz	BL- Black	S- Surface/ WM-Wall mount
623 686	Graphite 4,5W LED Roof									
623 683	Graphite 2x4,5W LED									
633 689	Graphite 6W LED Roof									

Full list of part numbers available

For more information and other options - contact sales representative.

Dimensional Drawing

ECHO 1x / 2x

147mm   90mm

120mm

147mm   90mm

215mm

ECHO CEILING

135mm

90mm

120mm

nardeen

LED

Parking areas

Landscape / walkways / gardens
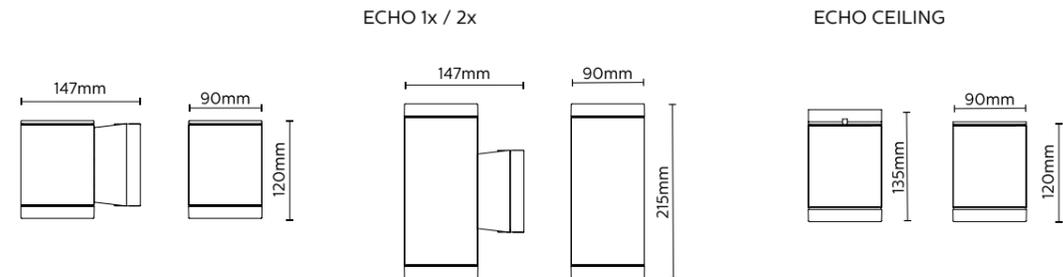
Arco Air

Foot mounted Aesthetic Pillar Outdoor Landscape Luminaire

220–240V /50,60Hz

IP 54

Specifications

* Light Source	Replaceable LED Module	* Voltage & Frequency	220-240V/50,60Hz	
* Power	6.5W	* Dimming	Trailing edge	
* Luminous Flux	110lm, 83lm	* Material	– Housing: Aluminum – Diffuser:Glass – IK08	
* Color Rendering Index	>80	* Emergency	No	
* Correlated Color Temperature	Warm white: 2700K	* Color	Body: Black	
* Lifetime	50,000 Hrs	* Installation	Bollard, Wall	
* Connection	3-Pole Terminal block			

Benefit
Ideal for making the switch from HID to LED

nardeen

General Information

Product Number	Product	LED	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color
614 620	Black 6.5W LED Bollard								
623 620	Graphite 6.5W LED Bollard								
614 621	Black 6W LED R								
623 621	Graphite 6W LED R	LED	110lm, 83lm	WW	80	2700K	6.5W	220-240V /50,60Hz	Black, Graphite, White
611 621	White 6W LED R								
614 622	Black 6.5W LED Wall								
623 622	Graphite 6.5W LED Wall								
600 581	Anchoring set								

Full list of part numbers available

For more information and other options – contact sales representative.

Dimensional Drawing

Arco Air
Ø160 mm
963 mm
Ø160 mm

Arco Air R
Ø160 mm
400 mm
Ø160 mm

148 mm
245 mm

Ø160
219 mm
356 mm
Ø140
Ø85

Nardeen

LED

Parking areas

Landscape / walkways / gardens

Opus
Foot mounted Aesthetic Pillar Outdoor Landscape Luminaire

220–240V /50,60Hz

IP 65

Specifications

* Light Source	Replaceable LED Module	* Voltage & Frequency	220-240V/50,60Hz
* Luminous Flux	350lm	* Dimming	No
* Color Rendering Index	>80	* Material	– Housing: Aluminum – Diffuser: UV stabilized polycarbonate – IK10
* Correlated Color Temperature	Warm white: 3000K	* Emergency	No
* Lifetime	50,000 Hrs	* Color	Body: Black, White, Graphite
* Installation	Bollard, Wall	* Connection	3-Pole Terminal block

Benefit
Ideal for making the switch from HID to LED

General Information

Product Number	Product	LED	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color
611 733	White 60W E27 Bollard								
611 736	White 1100 LED Bollard								
614 733	Black 60W E27 Bollard								
614 736	Black 1100 LED Bollard	LED	350lm	WW	80	3000K	–	220–240V /50,60Hz	Black, Graphite, White
623 733	Graphite 60W E27 Bollard								
623 736	Graphite 1100 LED Bollard								
600 583	Anchoring set								

Full list of part numbers available

For more information and other options – contact sales representative.

Dimensional Drawing

Ø216 mm

970 mm

255 mm

Ø175 mm

Ø210 mm

nardeen

nardeen

Parking areas

Landscape / walkways / gardens

Opus R

Foot mounted Aesthetic Pillar
Outdoor Landscape Luminaire

220–240V /50,60Hz

IP 65

General Information

Product Number	Product	LED	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color
611 740	White 60W E27								
614 740	Black 60W E27								
623 740	Graphite 60W E27	LED	350lm	WW	80	3000K	–	220–240V /50,60Hz	Black, Graphite, White
623 742	Graphite 1100 LED								
600 583	Anchoring set								

Full list of part numbers available

For more information and other options – contact sales representative.

Specifications

* Light Source	Replaceable LED Module		* Voltage & Frequency	220-240V/50,60Hz
* Luminous Flux	350lm		* Dimming	No
* Color Rendering Index	>80		* Material	– Housing: Aluminum – Diffuser: UV stabilized polycarbonate – IK10
* Correlated Color Temperature	Warm white: 3000K		* Emergency	No
* Lifetime	50,000 Hrs		* Color	Body: Black, White, Graphite
* Installation	Ground		* Connection	3-Pole Terminal block

Dimensional Drawing

Ø216 mm

396 mm

255 mm

Ø210 mm

Ø175 mm

Benefit
Ideal for making the switch from HID to LED

nardeen

LED
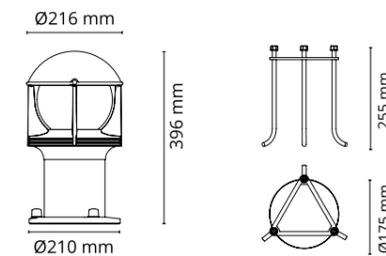
General Indoor
Lighting indoor
and outdoor areas

Curve / curve direct

Wall/Surface ceiling Mounted
LED Down Light Outdoor LED Luminaire

220-240V
50-60Hz

IP
65

Specifications

* Light Source	Replaceable LED Module		* Voltage & Frequency	220-240V/50-60Hz
* Power	10W		* Dimming	Trailing edge
* Luminous Flux	Curve – 3000K: 550lm Curve direct – 3000K: 320lm		* Material	– Housing: Aluminum – Diffuser: Glass – IK06
* Color Rendering Index	>80		* Emergency	No
* Correlated Color Temperature	Warm White: 3000K		* Color	Body: Black, Matte white, Graphite
* Lifetime	50,000 Hrs		* Installation	Surface Ceiling/Wall Mount
* Beam Angle	110°		* Connection	3-Pole terminal block

Benefit
Ideal for switching over to LED

General Information

Product Number	Product	Class	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color	Installation
611 341	Matte white 10W LED	Curve	550lm	WW	80	3000K	10W	220-240V /50-60Hz	Black, Matte White, Graphite	S– Surface/ WM–Wall mount
614 341	Black 10W LED									
623 341	Graphite 10W LED									
611 366	Matte white 10W LED	Curve Direct	320lm							
614 366	Matte white 10W LED									
623 366	Graphite 10W LED									

Full list of part numbers available

For more information and other options – contact sales representative.

Dimensional Drawing

CURVE DIRECT 1 direction	
Height (m)	Max. lux
1.0	10
2.0	20
3.0	30

CURVE 2 directions	
Height (m)	Max. lux
1.0	113
2.0	28
3.0	13

103 mm

320 mm

225 mm

60 mm

103 mm

nardeen ناردين

LED

General Indoor
Lighting indoor
and outdoor areas

Edge / Edge direct

Wall/Surface ceiling Mounted
LED Down Light Outdoor LED Luminaire

220–240V
50–60Hz

IP / 65

Specifications

* Light Source	Replaceable LED Module	* Voltage & Frequency	220-240V/50-60Hz
* Power	10W	* Dimming	Trailing edge
* Luminous Flux	3000K: 520lm	* Material	– Housing: Aluminum – Diffuser: Glass – IK06
* Color Rendering Index	>80	* Emergency	No
* Correlated Color Temperature	Warm White: 3000K	* Color	Body: Black, Matte white, Graphite
* Lifetime	50,000 Hrs	* Installation	Surface Ceiling/Wall Mount
* Beam Angle	110°		

Benefit
Ideal for switching over to LED

General Information

Product Number	Product	Class	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color	Installation
611 351	Matte white 10W LED	Edge								
614 351	Black 10W LED	Edge								
623 351	Graphite 10W LED		520lm	WW	80	3000K	10W	220-240V /50-60Hz	Black, Matte White, Graphite	S-Surface/ WM-Wall mount
611 361	Matte white 10W LED									
614 361	Black 10W LED	Edge Direct								
623 361	Graphite 10W LED									

Full list of part numbers available

For more information and other options – contact sales representative.

Dimensional Drawing

CURVE DIRECT 1 direction	
Height (m)	Max. lux
1.0	10
2.0	22
3.0	86

CURVE 2 directions	
Height (m)	Max. lux
1.0	10
2.0	22
3.0	86

103 mm
320 mm
60 mm
225 mm
103 mm

nardeen

LED

General Indoor
Lighting indoor
and outdoor areas

Duett
Wall Mounted
Outdoor LED Luminaire

220-240V 50-60Hz

IP 44

Specifications

* Light Source	Replaceable LED Module	* Voltage & Frequency	220-240V/50-60Hz	
* Power	10W	* Dimming	Trailing edge	
* Color Rendering Index	>80	* Material	– Housing: Aluminum – Diffuser: UV stabilized polycarbonate	
* Correlated Color Temperature	Warm White: 2700K	* Emergency	No	
* Lifetime	50,000 Hrs	* Color	Body: Black, Matte white, Graphite	
* Installation	Wall Mount			

Benefit
Ideal for switching over to LED

General Information

Product Number	Product	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color	Installation
611 390	Matte white 60W E27							
614 390	Black 60W E27	WW	80	2700K	10W	220-240V /50-60Hz	Black, Matte White, Graphite	WM–Wall mount
623 390	Graphite 60W E27							

Full list of part numbers available

For more information and other options – contact sales representative.

Dimensional Drawing

271 mm   148 mm   142,5 mm

271 mm   148 mm   142,5 mm

nardeen

nardeen

LED

General Indoor
Lighting indoor
and outdoor areas

Frame Round Maxi

Wall Mounted
Outdoor LED Luminaire

220-240V
50-60Hz

IP 65

Specifications

* Light Source	Replaceable LED Module		* Voltage & Frequency	220-240V/50-60Hz
* Power	23W		* Dimming	Trailing edge
* Luminous Flux	2280lm, 2370lm		* Material	– Housing: Aluminum – Diffuser: PC
* Color Rendering Index	>80		* Emergency	No
* Correlated Color Temperature	Warm White: 3000K Natural White: 4000K		* Color	Body: Black, White, Graphite
* Lifetime	50,000 Hrs		* Installation	Wall Mount

Benefit
Ideal for switching over to LED

General Information

Product Number	Product	Light Color	CRI	Total Lumen Package	CCT	Watt	Voltage /Cycle	Color	Installation
605 141	White Round Maxi LED								
605 151	Black Round Maxi LED	WW		2280lm	3000K				
605 161	Graphite Round Maxi LED		80			23W	220-240V /50-60Hz	Black, White, Graphite	WM-Wall mount
605 171	White Round Maxi LED								
605 181	Black Round Maxi LED	NW		2370lm	4000K				
605 191	Graphite Round Maxi LED								

Full list of part numbers available

For more information and other options – contact sales representative.

Dimensional Drawing

⌀325   77

nardeen

LED
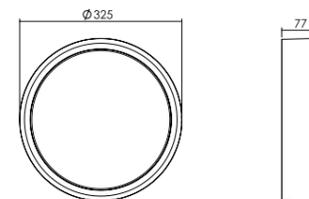
Frame Square Maxi

Wall Mounted
Outdoor LED Luminaire

220-240V 50-60Hz

IP 65

Specifications

* Light Source	Replaceable LED Module		* Voltage & Frequency	220-240V/50-60Hz
* Power	27W		* Dimming	Trailing edge
* Luminous Flux	1980lm, 2370lm		* Material	– Housing: Aluminum – Diffuser: PC
* Color Rendering Index	>80		* Emergency	No
* Correlated Color Temperature	Warm White: 3000K Natural White: 4000K		* Color	Body: Black, White, Graphite
* Lifetime	50,000 Hrs		* Installation	Wall Mount

Benefit
Ideal for switching over to LED

General Indoor
Lighting indoor
and outdoor areas

General Information

Product Number	Product	Light Color	CRI	Total Lumen Package	CCT	Watt	Voltage /Cycle	Color	Installation
605 341	White Square Maxi LED								
605 351	Black Square Maxi LED	WW		1980lm	3000K				
605 361	Graphite Square Maxi LED		80			27W	220-240V /50-60Hz	Black, White, Graphite	WM-Wall mount
605 371	White Square Maxi LED								
605 381	Black Square Maxi LED	NW		2370lm	4000K				
605 391	Graphite Square Maxi LED								

Full list of part numbers available

For more information and other options – contact sales representative.

Dimensional Drawing

310

310

77

nardeen

LED

nardeen
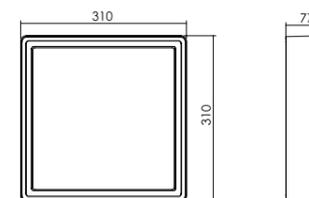
General Indoor
Lighting indoor
and outdoor areas

Ludo
Wall Mounted
Outdoor LED Luminaire

220-240V
50-60Hz

IP
65

General Information

Product Number	Product	Light Color	CRI	Total Lumen Package	CCT	Watt	Voltage /Cycle	Color	Installation
614 650	Black E27	–		–	–				
623 650	Graphite E27		80			10W	220–240V /50–60Hz	Black, Graphite	WM–Wall mount
614 659	Black 10W LEDD	WW		500lm	3000K				
623 659	Graphite10W LED								

Full list of part numbers available

For more information and other options – contact sales representative.

Specifications

* Light Source	Replaceable LED Module		* Voltage & Frequency	220-240V/50-60Hz
* Power	10W		* Dimming	Trailing edge
* Luminous Flux	500lm		* Material	– Housing: Aluminum – Diffuser: UV-stabilized polycarbonate
* Color Rendering Index	>80		* Emergency	No
* Correlated Color Temperature	Warm White: 3000K		* Color	Body: Black, Graphite
* Lifetime	50,000 Hrs		* Installation	Wall Mount

Dimensional Drawing

236 mm   120 mm   236 mm

Benefit
Ideal for switching over to LED

nardeen

LED
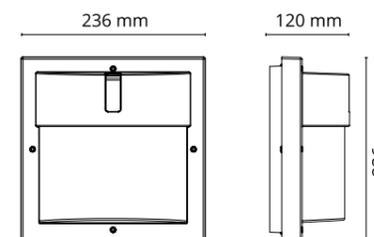
General Indoor
Lighting indoor
and outdoor areas

Uno
Wall Mounted
Outdoor LED Luminaire

220–240V 50–60Hz

IP 65

Specifications

* Light Source	Replaceable LED Module		* Voltage & Frequency	220-240V/50-60Hz
* Power	11.5W		* Dimming	No
* Luminous Flux	440lm		* Material	– Housing: Aluminum – Diffuser: UV-stabilized polycarbonate
* Color Rendering Index	>80		* Emergency	No
* Correlated Color Temperature	Warm White: 3000K		* Color	Body: Black, Matte White, Graphite
* Lifetime	50,000 Hrs		* Installation	Wall Mount

Benefit
Ideal for switching over to LED

nardeen

General Information

Product Number	Product	Light Color	CRI	Total Lumen Package	CCT	Watt	Voltage /Cycle	Color	Installation
641 640	Matte white 1100 LED	WW		440lm	3000K				
611 640	Matte white E27	–		–	–				
644 640	Black 1100 LED	WW		440lm	3000K				
614 640	Black E27	–	80	–	–	11.5W	220–240V /50–60Hz	Black, Matte White, Graphite	WM–Wall mount
643 640	Graphite 1100 LED	WW		440lm	3000K				
623 640	Graphite E27	–		–	–				
643 641	Graphite 1100 LED with sensor	WW		440lm	3000K				

Full list of part numbers available

For more information and other options – contact sales representative.

Dimensional Drawing

270 mm   130 mm

nardeen

LED
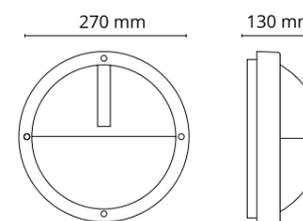
General Lighting
in corridors and
outdoor areas

Metro
Wall/Surface ceiling Mounted LED Down Light

220-240V
50-60Hz

IP
65

Specifications

* Light Source	Replaceable LED Module		* Voltage & Frequency	220-240V/50-60Hz
* Power	4.5W		* Dimming	Trailing edge
* Luminous Flux	2700K: 180lm/ 2x180lm		* Material	– Housing: Aluminum – Diffuser: Glass
* Color Rendering Index	80		* Emergency	No
* Correlated Color Temperature	Warm White: 2700K		* Color	Body: Black, Matte White, Graphite
* Lifetime	40,000 Hrs		* Optic	Narrow beam
* Beam Angle	36°		* Connection	3-Pole terminal block
* Installation	Surface Ceiling/Wall Mount			

Benefit
Ideal for switching over to LED

General Information

Product Number	Product	Class	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color	Installation
611 691	Matte white 4,5W LED	II								
611 693	Matte white 2x4,5W LED	II								
611 696	Matte white 4,5W LED ceiling	I								
614 691	Black 4,5W LED	II								
614 693	Black 2x4,5W LED	II	180lm / 2x180lm	WW	80	2700K	4.5W	220-240V /50-60Hz	Black, Matte White, Graphite	S– Surface/ WM–Wall mount
614 696	Black 4,5W LED ceiling	I								
623 691	Graphite 4,5W LED	II								
623 693	Graphite 2x4,5W LED	II								
623 696	Graphite 4,5W LED ceiling	I								
611 207	Matte white Angle bracket									
614 207	Black Angle bracket									
623 207	Graphite Angle bracket									

Full list of part numbers available

For more information and other options – contact sales representative.

Dimensional Drawing

147 mm   90 mm   147 mm   90 mm   90 mm   50 mm

120 mm   215 mm   135 mm   120 mm   101 mm   80 mm
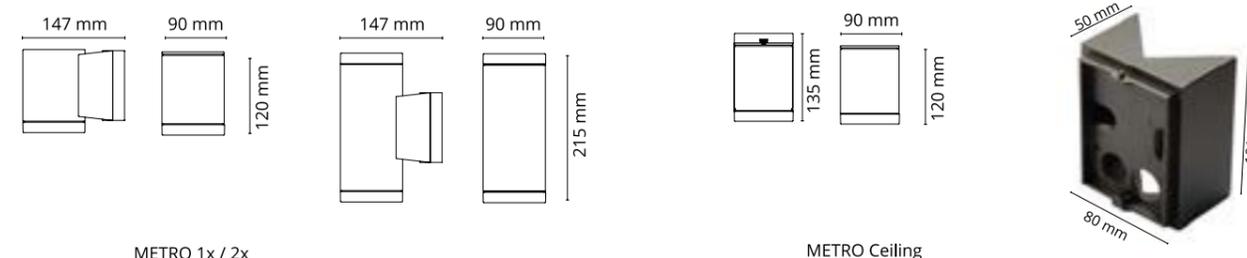
METRO 1x / 2x   METRO Ceiling

nardeen

LED

nardeen

Landscape /
walkways /
gardens

Parking areas

Flora

9" Spike Mounted Outdoor LED Luminaire

230V
60Hz

IP
65

General Information

Product Number	Product	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color	Installation
614 003	Black 6W LED	CW	90	3000K	6W	230V /60Hz	Black	Spike mounting
Full list of part numbers available								

For more information and other options – contact sales representative.

Specifications

* Light Source	Replaceable LED Module		* Voltage & Frequency	230V/60Hz
* Power	6W		* Dimming	Yes
* Color Rendering Index	90		* Material	– Housing: PA – Diffuser: Glass
* Correlated Color Temperature	Cool White: 3000K		* Emergency	No
* Lifetime	50,000 Hrs		* Color	Body: Black
* Operating Temperature Range	Suitable for 40°C		* Connection	Electrical terminals available outside luminaire
* Driver	Built-in		* Installation	Spike mounting

Benefit
Ideal for making the switch from CFL to LED

Dimensional Drawing

110 mm

155 mm

233 mm

360°

nardeen

LED

Parking areas

Landscape / walkways / gardens

Iuno

Foot mounted Aesthetic Pillar Outdoor Landscape Luminaire

100-277V

IP 65

Specifications

* Light Source	Replaceable LED Module		* Voltage & Frequency	100-277V
* Power	12/24W		* Dimming	Yes
* Luminous Flux	90lm/W		* Material	– Housing: Aluminum – Diffuser: PC plastic or glass – Sealing: Silicone gasket
* Color Rendering Index	>70		* Emergency	No
* Correlated Color Temperature	Warm White: 4000K Natural White: 5000K Cool White: 6000K		* Color	Body: Matt Black RAL 9005, 9006, 9007
* Lifetime	100,000 Hrs		* Installation	Bollard, Wall
* Connection	3-Pole Terminal block			

Benefit
Ideal for making the switch from HID to LED

General Information

Product Number	Model	LED	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color	IP
LCPL-452A										
LCPL-452B	Iuno	LED	90lm/W	WW NW CW	70	4000K 5000K 6000K	12/24W	100-277V	Matt Black	IP65
LCPL-452C										

Full list of part numbers available

For more information and other options – contact sales representative.

Dimensional Drawing

LCPL-452A

LCPL-452B
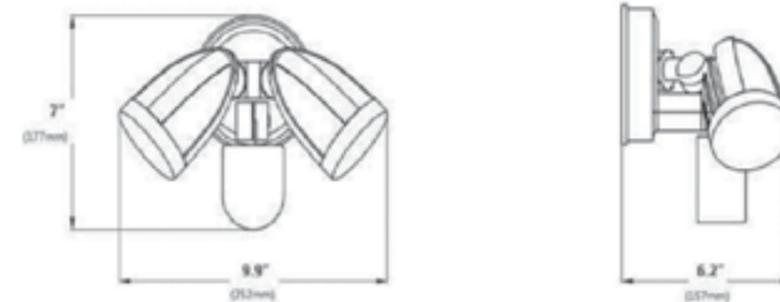
LCPL-452C

Nardeen

LED

Tauras

Foot mounted Aesthetic Pillar Outdoor Landscape Luminaire

100-277V   IP 65

Specifications

* Light Source	Replaceable LED Module		* Voltage & Frequency	100-277V
* Power	12/24W		* Dimming	Yes
* Luminous Flux	90lm/W		* Material	– Housing: Aluminum – Diffuser: PC plastic or glass – Sealing: Silicone gasket
* Color Rendering Index	>70		* Emergency	No
* Correlated Color Temperature	Warm White: 4000K Natural White: 5000K Cool White: 6000K		* Color	Body: Matt Black RAL 9005, 9006, 9007
* Lifetime	100,000 Hrs		* Connection	3-Pole Terminal block
* Installation	Bollard, Wall			

Benefit
Ideal for making the switch from HID to LED

Parking areas

Landscape / walkways / gardens

General Information

Product Number	Model	LED	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color	IP
LCPL-800A										
LCPL-800B	Tauras	LED	90lm/W	WW NW CW	70	4000K 5000K 6000K	12/24W	100-277V	Matt Black	IP65
LCPL-800C										

Full list of part numbers available

For more information and other options – contact sales representative.

Dimensional Drawing

LCPL-800A   LCPL-800B   LCPL-800C

Nardeen

LED

Parking areas

Landscape / walkways / gardens

Tauras

Foot mounted Aesthetic Pillar
Outdoor Landscape Luminaire

100-277V

IP / 65

Specifications

* Light Source	Replaceable LED Module		* Voltage & Frequency	100-277V
* Power	12/24W		* Dimming	Yes
* Luminous Flux	90lm/W		* Material	– Housing: Aluminum – Diffuser: PC plastic or glass – Sealing: Silicone gasket
* Color Rendering Index	>70		* Emergency	No
* Correlated Color Temperature	Warm White: 4000K Natural White: 5000K Cool White: 6000K		* Color	Body: Matt Black RAL 9005, 9006, 9007
* Lifetime	100,000 Hrs		* Connection	3-Pole Terminal block
* Installation	Bollard, Wall			

Benefit

Ideal for making the switch from HID to LED

General Information

Product Number	Model	LED	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color	IP
LCPL-800D										
LCPL-800E	Tauras	LED	90lm/W	WW NW CW	70	4000K 5000K 6000K	12/24W	100-277V	Matt Black	IP65
LCPL-800F										

Full list of part numbers available

For more information and other options – contact sales representative.

Dimensional Drawing

LCPL-800D   LCPL-800E   LCPL-800F

nardeen

LED
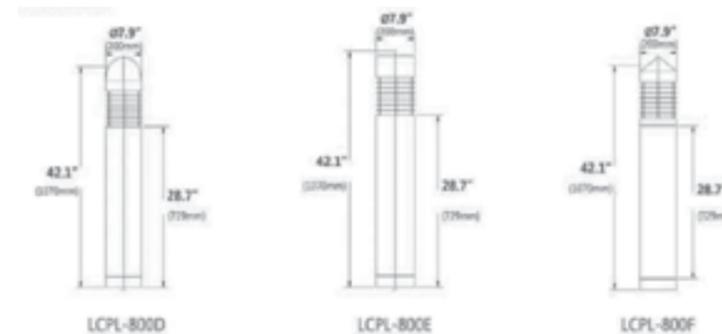
General Lighting in corridors

outdoor areas

LED Wall Pack

High Output Traditional Style

100-277V

IP 65

General Information

Product Number	Model	LED	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color	IP
LSDL-92	Wall Pack	LED	110lm/W	WW NW CW	70	4000K 5000K 6000K	45/60W	100-277V	Matt Black	IP65
LSDL-98							90/120W			
Full list of part numbers available										

For more information and other options - contact sales representative.

Specifications

* Light Source	Replaceable LED Module		* Voltage & Frequency	100-277V
* Power	45/60W, 90/120W		* Dimming	Yes
* Luminous Flux	110lm/W		* Material	– Housing: Die-cast aluminum – Diffuser: PC cover – Sealing: Silicone gasket
* Color Rendering Index	>70		* Emergency	No
* Correlated Color Temperature	Warm White: 4000K Natural White: 5000K Cool White: 6000K		* Color	Body: Matt Black RAL 9005, 9006, 9007
* Lifetime	100,000 Hrs		* Connection	3-Pole Terminal block
* Installation	Electrical snap-in connectors			

Benefit

Ideal for making the switch from HID to LED

Dimensional Drawing

LSDL-92

LSDL-98

nardeen

LED

nardeen

General Lighting in corridors

outdoor areas

LED Wall Pack
Architectural Slim Style

100-277V

IP / 65

General Information

Product Number	Model	LED	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color	IP
LBD-1030A	Slim	LED	120lm/W	WW NW CW	70	4000K 5000K 6000K	15/30W	100-277V	Matt Black	IP65
LBD-1030B							50/75W			

Full list of part numbers available

For more information and other options - contact sales representative.

Specifications

* Light Source	Replaceable LED Module		* Voltage & Frequency	100-277V
* Power	15/30W, 50/75W		* Dimming	Yes
* Luminous Flux	120lm/W		* Material	– Housing: Die-cast aluminum and removable lens frame – Diffuser: PC plastic or glass – Sealing: Silicone gasket
* Color Rendering Index	>70		* Emergency	No
* Correlated Color Temperature	Warm White: 4000K Natural White: 5000K Cool White: 6000K		* Color	Body: Matt Black RAL 9005, 9006, 9007
* Lifetime	100,000 Hrs			

Benefit
Ideal for making the switch from HID to LED

Dimensional Drawing

6.6" (168mm)

4.2" (107mm)

7.9" (200mm)

LBD-1030A

9.8" (248mm)

6.5" (165mm)

11.3" (287mm)

LBD-1030B

nardeen

LED

General Lighting in corridors

outdoor areas

LED Wall Pack

LED Motion Security Light

100-277V

IP 65
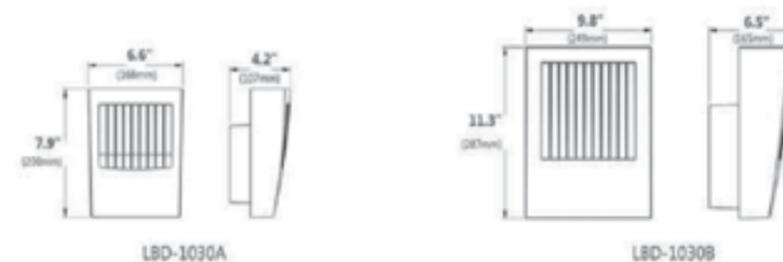
General Information

Product Number	Model	LED	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color	IP
LBDL-1057	Motion	LED	90lm/W	WW NW CW	70	4000K 5000K 6000K	2*10W	100-277V	Matt Black	IP65

Full list of part numbers available

For more information and other options - contact sales representative.

Specifications

* Light Source	Replaceable LED Module		* Voltage & Frequency	100-277V
* Power	2*10W		* Dimming	Yes
* Luminous Flux	90lm/W		* Material	– Housing: Die-cast aluminum and aluminium cover – Diffuser: PC plastic or glass – Sealing: Silicone gasket
* Color Rendering Index	>70		* Emergency	No
* Correlated Color Temperature	Warm White: 4000K Natural White: 5000K Cool White: 6000K		* Color	Body: Matt Black RAL 9005, 9006, 9007
* Lifetime	100,000 Hrs			

Dimensional Drawing

LCP-454

Benefit

Ideal for making the switch from HID to LED

nardeen

General Lighting in corridors

outdoor areas

LED Canopy
LED Round Canopy Light

100-277V

IP 65

Specifications

* Light Source	Replaceable LED Module	* Voltage & Frequency	100-277V	
* Power	12/24W	* Dimming	Yes	
* Luminous Flux	90lm/W	* Material	– Housing: Die-cast aluminum, PC cover – Diffuser: PC plastic or glass – Sealing: Silicone gasket	
* Color Rendering Index	>70	* Emergency	No	
* Correlated Color Temperature	Warm White: 4000K Natural White: 5000K Cool White: 6000K	* Color	Body: Matt Black RAL 9005, 9006, 9007	
* Lifetime	100,000 Hrs			

Benefit
Ideal for making the switch from HID to LED

General Information

Product Number	Model	LED	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color	IP
LBDL-1009	Point	LED	90lm/W	WW NW CW	70	4000K 5000K 6000K	12/24W	100-277V	Matt Black	IP65
LBDL-1010										

Full list of part numbers available

For more information and other options – contact sales representative.

Dimensional Drawing

Ø 14.4" (365mm)   6.7" (170mm)

LBD-1009

Ø 14.4" (365mm)   6.7" (170mm)

LBD-1010

nardeen

LED
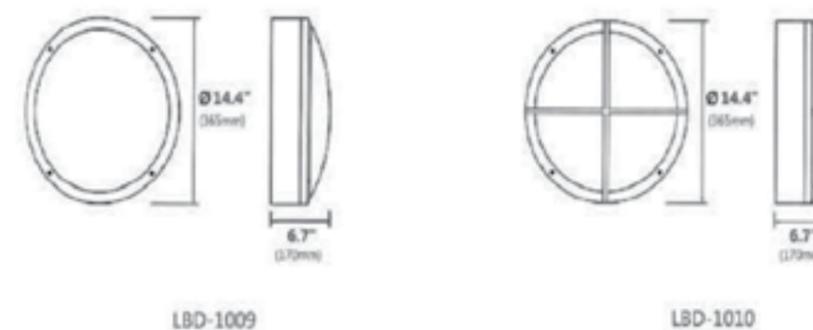
General Lighting in corridors

outdoor areas

LED Canopy
Slim Canopy

100-277V

IP 65

Specifications

* Light Source	Replaceable LED Module		* Voltage & Frequency	100-277V
* Power	45/70W, 90/135W		* Dimming	Yes
* Luminous Flux	120lm/W		* Material	– Housing: Die-cast aluminum, PC cover – Sealing: Silicone gasket
* Color Rendering Index	>70		* Emergency	No
* Correlated Color Temperature	Warm White: 4000K Natural White: 5000K Cool White: 6000K		* Color	Body: Matt Black RAL 9005, 9006, 9007
* Lifetime	100,000 Hrs			

Benefit
Ideal for making the switch from HID to LED

General Information

Product Number	Model	LED	Total Lumen Package	Light Color	CRI	CCT	Watt	Voltage /Cycle	Color	IP
GCL-300A	Slim Canopy	LED	120lm/W	WW NW CW	70	4000K 5000K 6000K	45/70W	100-277V	Matt Black	IP65
GCL-300B							90/135W			

Full list of part numbers available

For more information and other options – contact sales representative.

Dimensional Drawing

GCL-300A   GCL-300B

Exit Signage

nardeen

LED

nardeen

Tiger LED
One-sided emergency exit signs

230VAC/50-60Hz

IP 22

Specifications

* Light Source	LED	* Voltage & Frequency	230VAC/50-60Hz	
* Power	1,2 W	* Dimming	No	
* Operating Temperature Range	0°C-40°C	* Material	White polycarbonate body Transparent or opal polycarbonate cover	
* Color	White	* Emergency	Yes, 1Hr, 2Hr, 3Hr	
* Installation	Surface (wall) Optional assembly in dry-wall or ceiling bracket			

General Information

Ordering Samples: AWEX000TTIGERLED2NM1

Full list of part numbers available

Benefit
Ideal for making the switch to LED

Dimensional Drawing

323

144

118

350

nardeen

LED

nardeen

TWINS

Two-sided emergency exit signs

230VAC/
50-60Hz

IP
41

Specifications

* Light Source	LED		* Voltage & Frequency	230VAC/50-60Hz
* Power	1,2 W		* Dimming	No
* Operating Temperature Range	0°C-40°C		* Material	Silver or black aluminum body, Plexi glass
* Installation	Surface (ceiling, wall) Assembly on rope slings or wall mounting bracket as an option		* Emergency	Yes
* Color	Silver/Black		* Color	Silver/Black

Benefit

Ideal for making the switch to LED

General Information

Ordering Samples: AWEX000T00TW123SA000

Full list of part numbers available

Dimensional Drawing

315

48

83

160

243
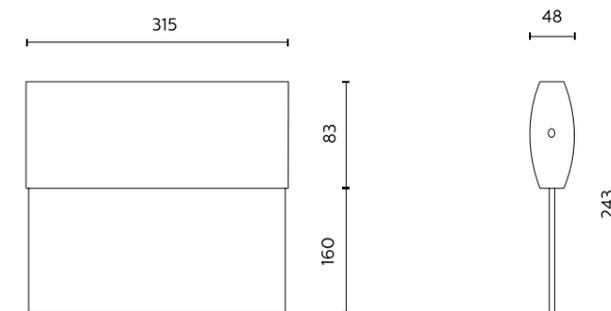
Helios DS LED

Two-sided emergency exit signs

230VAC/50-60Hz

IP 42

IP 65

Specifications

* Light Source	LED	* Voltage & Frequency	230VAC/50-60Hz
* Power	1,2 W	* Dimming	No
* Operating Temperature Range	0°C-40°C	* Material	White polycarbonate body Opal polycarbonate cover
* Installation	Surface (ceiling)	* Emergency	Yes, 1Hr, 2Hr, 3Hr
* Color	White		

General Information

Ordering Samples: AWEX000T00HDL3SAATP2

Full list of part numbers available

Dimensional Drawing

356

136

219

33

Benefit

Ideal for making the switch to LED

nardeen   **nardeen**

LED
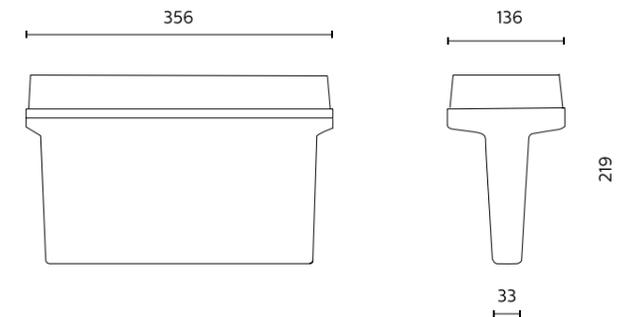
HELIOS LED
One-sided emergency exit signs

230VAC/50-60Hz   IP 42   IP 65

Specifications

* Light Source	LED		* Voltage & Frequency	230VAC/50-60Hz
* Power	1,2 W		* Dimming	No
* Operating Temperature Range	0°C-40°C		* Material	White polycarbonate body Transparent cover with Fresnel optics or opal polycarbonate cover
* Emergency	Yes,1Hr,2Hr,3Hr		* Color	White
* Installation	Surface (wall) Optional assembly with wall or ceiling bracket			

Benefit
Ideal for making the switch to LED

General Information

Ordering Samples: AWEX000T42HEL3SA000S

Full list of part numbers available

Dimensional Drawing

136

356   79
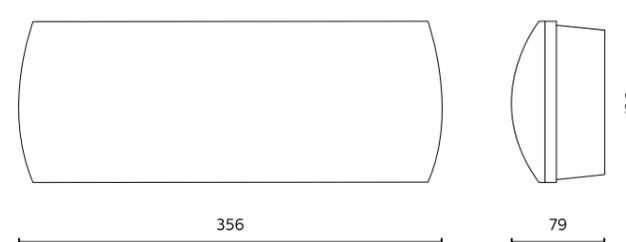
PLEXI LED

Two-sided emergency exit signs

230VAC/50-60Hz

IP 20

Specifications

* Light Source	LED		* Voltage & Frequency	230VAC/50-60Hz
* Power	1,2 W		* Dimming	No
* Operating Temperature Range	0°C-40°C		* Material	Steel body in grey or white color Plexi glass
* Color	White/Grey		* Emergency	Yes, 1Hr, 2Hr, 3Hr
* Installation	Recessed (ceiling)		* Color	White/Grey

Benefit

Ideal for making the switch to LED

General Information

Ordering Samples: AWEX000T00PLEXI22NM1

Full list of part numbers available

Dimensional Drawing
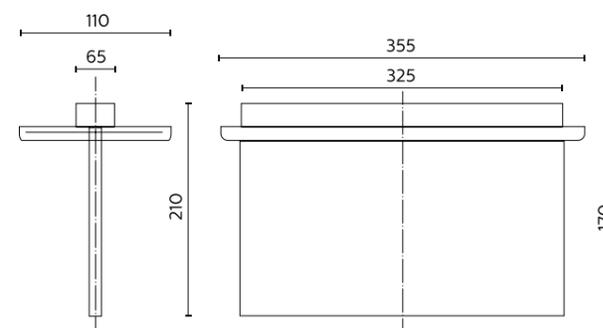
Photometric Data

DL600
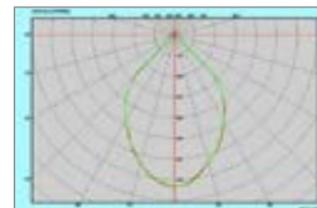
DL603
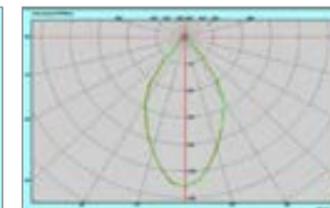
DL605
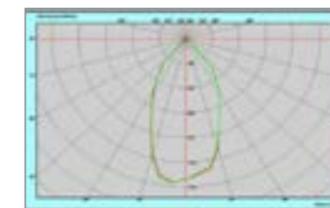
DL891
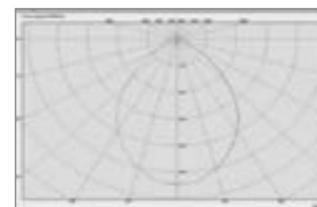
DL892
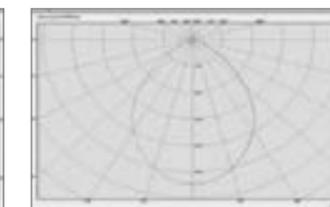
DL893
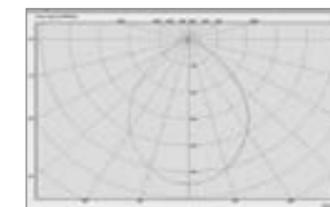
ROF450 IP20
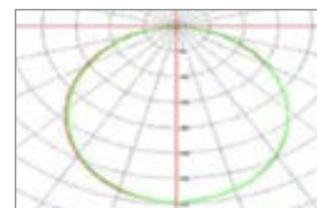
SOF450 IP20
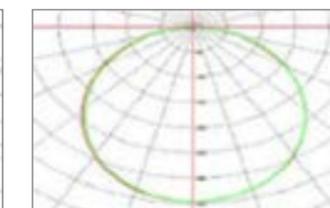
ROF450 IP54
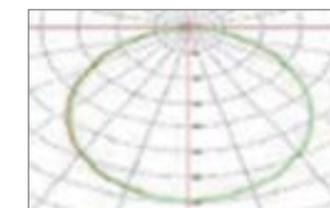
SOF450 IP54
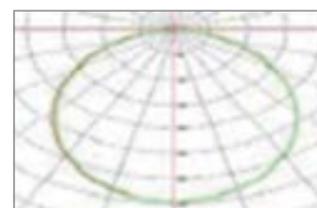
CLR500
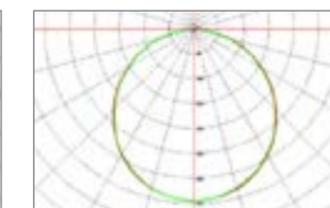
S-HANG450
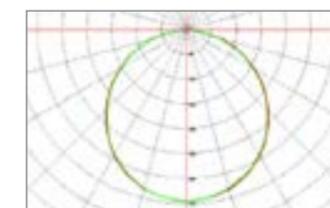
HB550
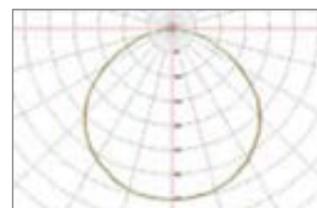
WPO700
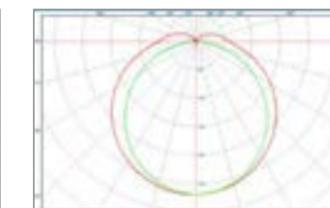
WPO715
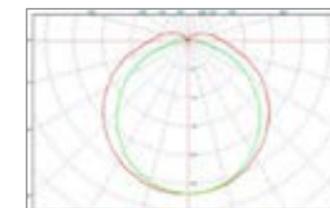
BL300
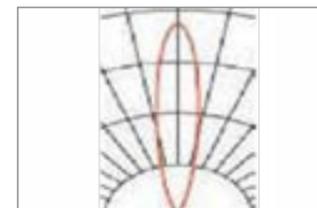
Common LED **myths**

Notwithstanding the numerous benefits linked to LED lighting, misconceptions and inaccuracies on its nature and advantages still abound. The following list dispels the myths surrounding LED lighting and provides a clearer explanation about how the technology really works and how it can work for you.

Myth 1 LEDs last forever

LEDs have a long source life, but like all light sources, they slowly fade over time. This light output degradation, also known as lumen maintenance (or lumen depreciation), is predicted by testing LEDs over a long period of time in order to determine when a specified percentage of light output is lost. Ambient temperatures, electrical drive currents, and the effectiveness of cooling systems are all factors that contribute to lumen depreciation. While LEDs typically do not catastrophically fail, lumen maintenance is a critical factor in determining useful lifetimes.

Myth 2 LEDs are not bright enough

LED traffic lights are already common and are certainly a sign that LEDs are bright enough to be seen even in daylight. Outdoor roads, tunnels, entire building façades and indoor offices, and shop floors are being lit entirely with LEDs today. By any measure, illuminance or luminance, LEDs have enough light output for use even in very large outdoor daylight-visible installations.

Myth 3 White LEDs produce over 180 lumens per watt

Many manufacturers test their LED chips on lab benches at room temperature conditions with short "pulse" tests that produce a high lumen output that is not directly comparable with practical use. While these results are not necessarily "wrong," they do not reflect the typical expected output of LEDs once they are integrated into lighting fixtures. Although percentages vary, it is not uncommon to see losses of 30 to 40%.

Myth 4 3 Watt LEDs are brighter than 1 Watt LEDs

People are used to looking at wattage to determine the output of a light source. However, the wattage of an LED is not directly comparable to either the wattage of a traditional light source or even from one LED to another. Therefore, light output and light extraction efficacy, rather than raw wattage, are the key factors when looking at an LED source.

Efficacy is the amount of light in lumens to the power used in watts or lumens per watt. Simply reporting the number of watts does not reflect efficacy; two different LEDs can consume the same power but differ noticeably in light output. Thus, when selecting LEDs or LED fixtures, it is more about light output, than power.

Myth 5 LEDs generate no heat

When used in lighting applications, LEDs do not radiate infrared heat, only visible light. However, waste heat is produced during the conversion of electricity into light and, if not properly removed
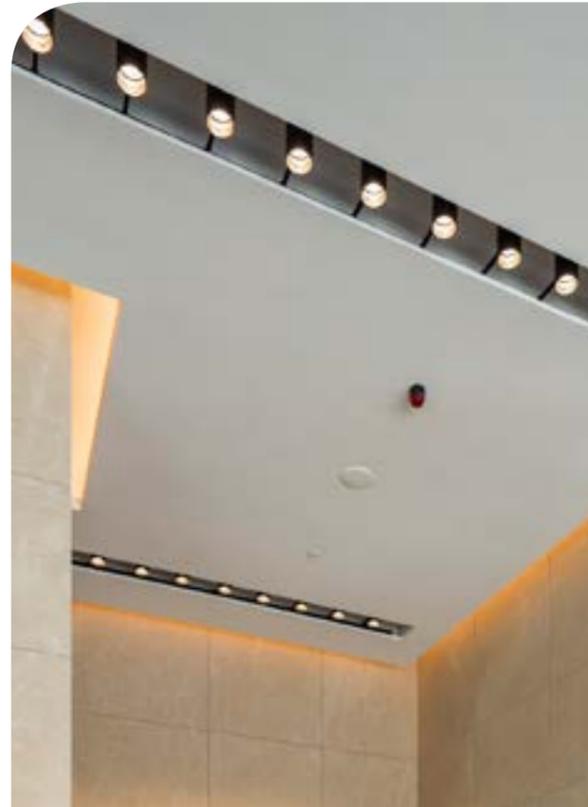
from the lighting system, may potentially damage the LEDs. The heat removal can be accomplished through carefully engineered heat sinks that are built taking these thermal issues into account. The larger the heat sink, the more efficiently and effectively heat is drawn away from the LED and dissipated into the surrounding air.

Myth 6 LED systems cost too much

The initial investment of LED systems is higher than that of conventional systems, but the return on investment (ROI) for the use of LED lighting systems in an installation is surprisingly rapid when taking maintenance and energy cost savings into consideration. Due to the long life of the LED, no lamp replacement is required. With energy savings ranging from 50% to 70% compared to conventional light sources, economic payback can be seen in less than two years. Additionally, the upfront cost of LED systems is also continuing to drop rapidly.

Myth 7 LED light quality is poor

There are several measures used to describe light. Color temperature characterizes the color appearance of a source and describes the apparent warmth or coolness of that light source. The Color Rendering Index (CRI) is a metric used to measure the quality of light. The CRI for many white light LED systems is typically between 70 to 85 (out of 100), and continues to improve rapidly, making it suitable for nearly all lighting applications. CRI is currently the prevalent method for judging light quality.

Myth 8 LEDs are not resistant to vibration

There are no moving parts, filaments or fragile glass enclosures required with LED lighting. LEDs are therefore very suitable for use in road and bridge applications.

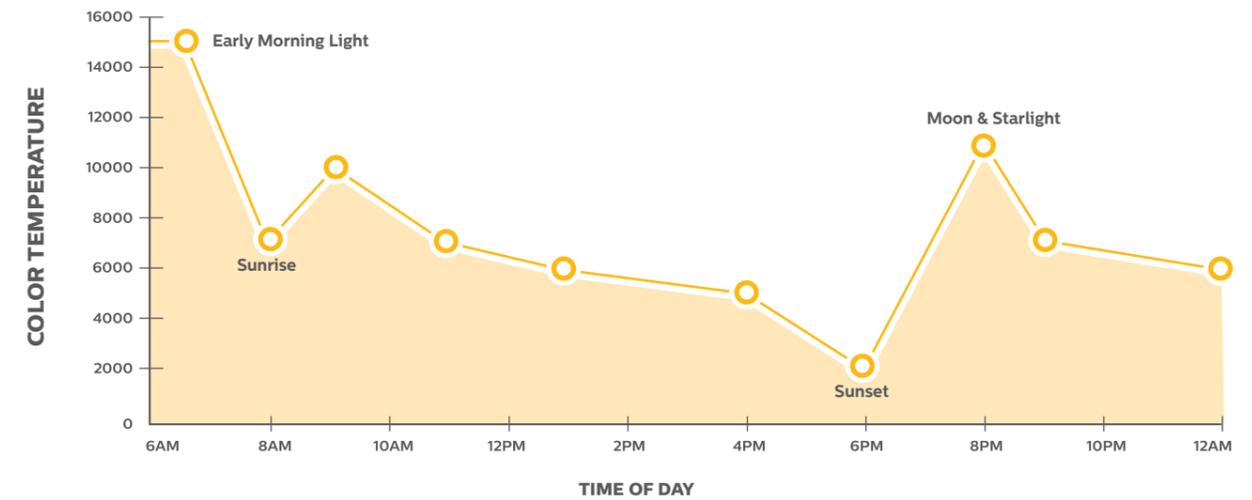### Myth 9 LEDs have problems switching rapidly

LEDs are capable of reaching their full output almost instantly after switching them on and can be switched continuously without shortening the useful life.

MYTH **FACT**

Myth 16 LED light affects Circadian Rhythm Cycle

The human body uses light cues—such as those provided by the sun—to time our internal functions. These light cues also regulate mood, sleep, energy, appetite, and digestion. These daily internal cycles are called circadian rhythms. Circadian rhythm cycle is stimulated by our eyes photoreceptor cell as they measure the blue spectrum in the light. There is a small amount of blue light generated by a LED system used for general purpose lighting, but it is a tiny fraction of the emissions when compared to natural daylight. In short, a LED luminaire designed for general application does not have enough blue spectrum to stimulate photoreceptor cell in our eye, thus it cannot influence our circadian rhythm.

Chart axis labels: COLOR TEMPERATURE (0, 2000, 4000, 6000, 8000, 10000, 12000, 14000, 16000) vs TIME OF DAY (6AM, 8AM, 10AM, 12PM, 2PM, 4PM, 6PM, 8PM, 10PM, 12AM). Data points labeled: Early Morning Light, Sunrise, Moon & Starlight, Sunset.

MYTH **FACT**

Myth 10 LEDs don't operate in extreme cool environments

LEDs become more efficient when operated at cooler temperatures, so when fixtures are positioned in extreme cold they will work more efficiently and have a longer lifespan.

MYTH **FACT**

Myth 11 LEDs can't be dimmed and controlled

As LEDs are digital, they can therefore be easily dimmed to the required output. Using dimmable LED drivers and a suitable control system, LEDs can be dimmed and manipulated in color temperature, and intensity to suit the application requirements.

MYTH **FACT**

Myth 12 LEDs have inconsistent color

The production process of LED is characterized by the fact that it is impossible to create LEDs that are emitting the same color temperature within one batch. The threshold at which a color difference becomes perceptible is defined by a MacAdam ellipse. A MacAdam ellipse is drawn over the color space in such a way that the color at its center point deviates by a certain amount from colors at any point along its edge. The scale of a MacAdam ellipse is determined by the standard deviation of color matching (SDCM). A color difference of 1 SDCM "step" is not visible; 2 to 5 steps is barely visible; and 6 or more steps is noticeable.

MYTH **FACT**

Myth 13 The color temperature of LEDs is always very cold, almost bluish

In the early days of LED, indeed LEDs were mostly on the cold side of the spectrum as this gave a higher efficiency. Today, LEDs are available in a wide spectrum of color temperature (including road application), ranging from 2700 Kelvin to 6500 Kelvin.

MYTH **FACT**

Myth 14 The amount of lumen output is similar for both LED and conventional sources

When replacing conventional light sources with LED, there is a difference in lumen output required. For example, 80W Mercury 3800 lumen can be replaced by 31W LED 2800 lumen. Conventional light sources emit light over their complete surface, while LED only direct light in one direction. LED light sources are therefore easier to use, as less reflectors and diffusers are required to direct the light to the right place in the application. This results in a reduction of energy consumption as all these reflectors and diffusers reduce the amount of light available for the application.

MYTH **FACT**

Myth 15 LEDs contain hazardous substances

LEDs, in comparison with high-pressure sodium, fluorescent or induction, do not contain mercury, lead or other toxic materials and are completely recyclable.


MYTH **FACT**

Myth 17 LED lights are more dangerous than natural light and are harmful to the eyes

The blue light photochemical retinal hazard is assessed on the basis of IEC standard 62471. It classifies light sources into risk groups 0, 1, 2 and 3 (0 = low; 3 = high). Based on this classification, the sun would fall into the high-risk groups 2 or 3, hence the recommendation to wear appropriate safety glasses when looking into the sun for a long period. The LED lights for the consumer market from ELC members, as with all other artificial light sources like traditional incandescent, halogen and energy savers, fall into category 0 and 1. Thus, LED lighting products require no special measures for avoiding blue light photochemical retinal hazard.

LED light is as safe to the eyes as any other artificial light sources. There is a small amount of blue light generated by LED lamps. As a comparison, daily exposure to blue light on a summer day is at least 1,000 times stronger compared to artificial light indoors.

Certificates
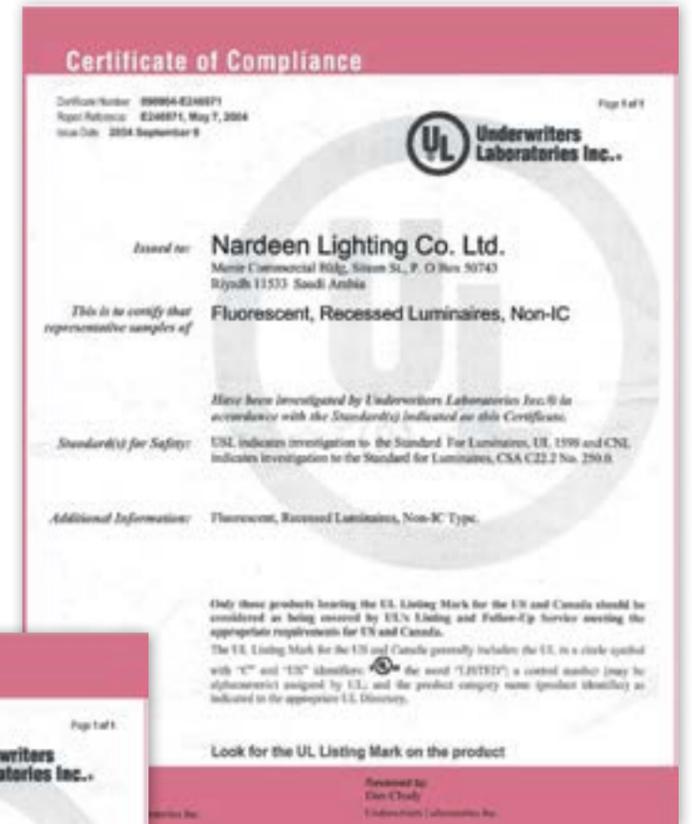
Glossary

Average illuminance
Illuminance averaged over a specified surface.
Unit: lux (lx) = lm/m^2
Symbol: E$_{ave}$

Ballast
Electrical device used with discharge lamps for stabilising the current in the discharge.

Beam spread
Angle in the plane through the beam axis over which the luminous intensity drops to a stated percentage (e.g. 50%) of its peak intensity.

Brightness
Attribute of visual sensation according to which an area appears to emit more or less light. Brightness according to the definition is also an attribute of color. In British recommendations the term "brightness" is now reserved for descriptions of color. Luminosity should be used in other instances.

Candela
The standard unit of light intensity, abbreviated to "cd", which is one lumen per steradian.

CDM
See MASTERColour CDM.

Color change
The facility to change the color temperature of a lighting installation makes it possible to create a more comfortable working environment or to introduce dynamic lighting effects.

Color rendering
Ability of a light source to render colors naturally, without distorting the hues seen under a full spectrum radiator (like daylight or incandescent lamps). The color rendering index (CRI) ranges from 0 to 100. For further details see 'Specification data lamps'.
Color rendering index CRI
See Color rendering.

Color temperature
Temperature in kelvin of a full spectrum radiator most closely approximate to the color appearance of a light source at the same brightness. For further details see under 'Specification data lamps'.
Unit: kelvin, K
Symbol: Tc

Contrast C (between two parts of a visual field)
The relevant luminance difference between two parts in accordance with the formula:
C = (L1 − L2)/L2
Where the size of the two parts differs greatly and where:
L1 = luminance of the smallest part (object)
L2 = luminance of the largest part (background).

DALI
Digital Addressable Lighting Interface, a standardized communication interface to regulate lighting levels and to switch electronic HFD ballasts on and off.

Daylight linking
Using natural light saves energy and is beneficial to individual users. Daylight linking is a technique that regulates the light output of luminaires in accordance with daylight conditions, thus maintaining a constant level of indoor lighting and ensuring comfort at all times.

Diffuser
Optical element used to mix light rays to improve uniformity or reduce glare. An opal cover is an example of a diffuser.

Direct lighting
Lighting by means of luminaires with a light distribution such that 90 − 100% of the emitted luminous flux reaches the working plane directly, assuming that this plane is unbounded.

Disability glare
Glare that impairs vision.

Discomfort glare
Glare that causes discomfort without necessarily impairing vision.

Dust-proof luminaire
Luminaire constructed so that dust of a specified nature and fineness cannot enter when it is used in a dust-laden atmosphere.

Fresnel lens or reflector
A Fresnel lens or reflector is an optical element of reduced height. By means of discrete steps, the basic shape is flattened yet the optical characteristics are retained.

Glare
See disability glare and discomfort glare

Halogen lamp
Incandescent lamp in which the inclusion of halogens in the gas filling and a high-temperature quartz envelope promote the tungsten halogen cycle, permitting a higher filament temperature. The result is a higher color temperature and a significantly extended life.

Halogen HV
"High voltage" 230 V halogen lamp, which does not require a ballast or a transformer.

Halogen LV
"Low voltage" 6 V, 12 V or 24 V halogen lamp. An electronic or electromagnetic transformer is required to operate low-voltage halogen lamps and is often integrated into the luminaire.

HFD
Electronic regulating ballast which enables the light to be dimmed. Ballast functions according to the DALI protocol.

HFD-T
Electronic regulating DALI ballast for various fluorescent lamps. With this new-style electronic ballast standard push-buttons can be used to dim the light output down to 3%. The lamp can also be switched on or off using the push-button control.
Ballast functions according to the DALI protocol.

HFM
Compactly built electronic ballast for various compact fluorescent lamp types. See also 'Specification data luminaires'.

HFP
Electronic ballast for various fluorescent lamp types with warm-start principle. See also 'Specification data luminaires'.

HFR
Electronic regulating ballast for various fluorescent lamp types by which light dimming is possible. The main ranges of HFR ballasts allow step-less dimming down to 3%. See also 'Specification data luminaires'.

Horizontal illuminance (E_{hor})
Illuminance incident on the horizontal surface.
Unit: lux (lx) = lm/m^2
Symbol: E_{hor}

HPI Plus lamp
Metal-halide high-intensity discharge lamp combining high luminous efficacy with white light of moderate color rendering. Main indoor applications are big industrial halls and lighting of discount stores, hyper-/supermarkets and DIY shops. HPI Plus lamps are usually applied in high-bay luminaires and floodlights.

Illuminance
The luminous flux density at the surface being lit. The illuminance in the full summer sun is approx. 100,000 lux. Recommended illuminances for work places range from 200 lux for rough work to 2,000 lux for detailed or critical work.
Unit: lux (lx) = lm/m^2
Symbol: E

Infrared remote control
In offices and meeting rooms where the lighting requirement changes frequently, wireless infrared control offers the flexibility to set the lighting and change it at any time.

Indirect lighting
Lighting by means of luminaires with a light distribution such that not more than 10 per cent of the emitted luminous flux reaches the working plane directly, assuming that this plane is unbounded.

Induction lighting QL
Electrode-less induction lighting system characterized by good light quality, high luminous efficacy and a phenomenal life (60,000 hours).

Jet-proof luminaire
Luminaire constructed to withstand a direct jet of water from any direction.

LED
Light Emitting Diode used as a light source. Solid-state semiconductor device that converts electrical energy directly into light of a specific color or white light.

Light output ratio (LOR)
Ratio of the total light emitted by a luminaire to the total light output of the lamp(s) it contains measured at standard operating conditions.

Lumen depreciation
The decline in the light output of a light source during its lifetime.

Luminaire
Appliance that distributes, filters or transforms the light given by a light source (LED or lamp), and which contains all the necessary elements for fixing and protecting the light source(s) and facilitates their power supply and operating conditions.

Luminance
The light intensity per square meter of apparent area of the light source, luminaire or illuminated surface. Where surfaces are lit, the luminance depends upon both lighting level and reflection characteristics of the luminous surface.
Unit: cd/m^2
Symbol: L

Luminous efficacy
The quantity of light that a light source emits per unit of electrical energy consumed. Notice that the luminous efficacy can be specified for a light source or for a lighting system (lamp and ballast).
The luminous efficacy of a system is lower than that of the light source.
Unit: lm/W

Luminous flux
The total light output emitted by a light source. Also the total light falling on a surface. The light output of a light source is measured in lumen.
Unit: lumen
Symbol: f

Luminous intensity
The luminous flux in a given direction, e.g. from a floodlight or projector.
Unit: candela (cd) = one lumen per steradian
Symbol: I

Lumen Maintenance (*)
Predicted performance derived from LED manufacturer's data and engineering design estimates under the mentioned ambient temperature, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L70, L80 or L90 are the predicted times when LED performance depreciates to 70%, 80% or 90% of initial lumen output. Calculated per IESNA TM21-11. Published hours are limited to 6 times of the actual LED test hours.

Lux
The standard unit of illuminance of a surface being lit. One lux equals one lumen per square meter.

Maintained emergency lighting
Emergency lighting where the lamps are operated from the normal supply during standard conditions. In an emergency situation the emergency lamp (usually one lamp in luminaires of two or more lamps) remains in operation.

Maintained illuminance
Value below which the average illuminance on the specified surface is not allowed to fall. The maintained illuminance is specified at the end of the maintenance cycle, taking into consideration the maintenance factor.
It is one of the main specification elements for the lighting designer. In the various standards the maintained illuminance is specified for various activities.
Unit: lux
Symbol: E_m

Maintenance factor
Correction factor used in lighting design to compensate for the rate of lumen depreciation, caused by lamp ageing (lumen depreciation and lamp failure) and dirt accumulation (luminaire and environment).
It determines the maintenance cycle needed to ensure that illuminance does not fall below the maintained value.

MASTERColour CDM lamp
Series of metal-halide discharge lamps with excellent color rendering and a warm or neutral color impression. MASTERColour lamps, also available as reflector lamps, are applied in projectors and downlights for shop and office applications.

Mercury lamp
High-intensity discharge lamp for use in industry and large public spaces. Higher quality light characteristics are obtained by applying metal-halide lamps.

Metal-halide lamp
Single- or double-ended discharge lamp for use in industry, public spaces and shops. Metal-halide lamps combine a natural white color with a pleasant light and a high luminous intensity.

Movement detection
Sensing of occupancy by movement detection ensures lights are activated only when needed and enables the lighting in a specific area to be controlled.

Non-maintained emergency lighting
Emergency lighting where the emergency lighting lamps come into operation only when the power supply to normal lighting fails.

Optic
A device that changes the direction of a beam of light, usually by reflection, diffusion or refraction by a lens. The optic may include louvers for reduction of glare.

PL lamp
Single-ended compact fluorescent lamp in which the discharge tube is folded into two, four or six limbs. PL lamps are characterized by unusually high light output for their length. They are applied in compact luminaires for professional and domestic use. Also available with integrated ballast.

Power factor
Ratio of the circuit power in watts over the product of the root-mean-square values of voltage and current. For sinusoidal waveforms, it is equal to the cosine of the angle of phase difference between voltage and current. For electronic ballasts the power factor is 0.95 so that no additional phase compensation is required.

QL lamp
See Induction lighting.

Refractor
Optical element used to concentrate light rays to focus or improve the direction of light. A prismatic cover is an example of a refractor.

RGB
Red, green and blue, used to specify the colors of a light source.

SDW-T
White SON or SDW-T lamps offer a high luminous efficacy in combination with warm-white light. The color rendering is excellent. SDW-T lamps are applied in shops and public spaces where the atmosphere should be warm and cosy.

Sodium lamp, SON lamp
High-pressure discharge lamp with a yellowish color appearance and an extremely high efficiency. SON and SON Comfort lamps, with improved color characteristics, are mainly applied in high-bay industrial applications.

Solid-state lighting
Description of a lighting device that does not contain moving parts or parts that can break, rupture, shatter, leak or contaminate the environment (such as a lamp).

Starter
Device for starting a discharge lamp, in particular a fluorescent lamp, that preheats the electrodes and/or causes a voltage surge in combination with the series ballast.

Switching and dimming control
As more and more light sources can be dimmed economically, lighting controls need to provide both switching and light regulating capabilities.

TL5
Linear double-ended fluorescent lamp with a diameter of 16 mm. In combination with OLC optics and high-frequency ballasts the TL5 system offers a superb performance, both in terms of lighting technology and energy consumption.

TL-D
Linear double-ended fluorescent lamp with a diameter of 26 mm. Available in a range of colors and color rendering characteristics.

Uniformity ratio
Ratio of the minimum over the average illuminance for a specified area (E_{min}/E_{ave}). When defined as such, the uniformity ratio is also the ratio of the minimum over the maximum illuminance for a specified surface area (E_{min}/E_{max}).

Utilisation factor
Utilisation factor (UF) of a lighting installation represents the percentage of the luminous flux of the lamp(s) that reaches the defined working plane. UF can be seen as the efficiency of the lighting installation. UF is used to calculate the number of luminaires required.

Vertical illuminance
Illuminance incident on the vertical surface.
Unit: lux (lx) = lm/m^2
Symbol: E_{vert}

Visual guidance
The sum of the measures taken to give the user of a space an unambiguous and immediately recognisable picture of the course of the path ahead.
Visual guidance is important in shops and other public buildings. The lighting designer takes the demands for visual guidance into consideration.

Riyadh Head Office
P.O. Box 50743 Riyadh, 11533
Kingdom of Saudi Arabia
Tel: +966 11 484 9696
Fax: +966 11 265 2194

Khobar Branch & Showroom
P.O. Box 31422 Al Khobar, 31952
Tel: +966 13 8810616
         +966 13 881 0608
         +966 13 881 0927
         Ext. 4070
Fax: +966-138810457

Nardeen Factory
Riyadh Industrial City II
Tel: +966-11- 265 2144
Fax: +966-11- 265 2271

Jeddah Branch
P.O. Box 6935 Jeddah, 21452
Tel: +966-12- 660 9086
Fax: +966-12- 665 0387

www.nardeen.com