

LED for Life



LED LIGHTING

2016

LED LIGHTING brand for energy-saving LED products

The IEG develops and designs over 800 types of electronic products



IN-HOUSE DEVELOPMENT

- 5 R&D teams in Russia and Bulgaria
- 250 highly qualified design engineers
- Over 60 international patents in LED lighting
- IEG proprietary phosphors



SALES and DISTRIBUTION

- Export to 30 countries worldwide
- Offices in Russia, UK (London), Germany, UAE (Dubai) and Bulgaria



FULL-CYCLE MANUFACTURE

- Highly-equipped high-tech production
 - 1 plant in Bulgaria
 - 1 plant in China
 - 5 plants in Russia
- Plans to ramp up production in Germany in 2017
- Total production area - over 150,000 m²
- Over 3,000 employees
- 18 high-speed SMT lines (Juki, Fuji & Universal) with total capacity exceeding 1.5M cph



Over 100 LEADING SUPPLIERS OF ELECTRONIC COMPONENTS

- Texas Instruments
- Avnet
- Analog Devices
- ST Microelectronics
- Osram
- CREE
- LG Innotek
- Seoul Semiconductor
- Others



REGULATORY COMPLIANCE

- ISO 9001-2008
- DQS (Germany)
- CISQ (Italy)
- AENOR (Spain)

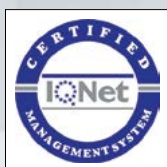


OUR VALUE

- Individual approach to every client
- A wide, constantly expanding product range
- Goodwill
- Flexible discounting
- Advertisement support - online, in press and at the shows
- Optimum quality-price ratio

We distribute our products through a dealership network. We invite lighting and electronic engineers to join our team.

We'd be happy to welcome you as our partner.



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General information

Office LED luminaires are energy efficient substitutes of fluorescent luminaires (recessed/surface).

Our luminaires can be either recessed into suspended ceilings of the Armstrong type or surface mounted onto ceilings of various types.

As the light source, we use high-efficacy LEDs tested to LM-80. Their reliability is guaranteed by international certificates from independent laboratories. Lifetime of LEDs is tested to be at least 50,000 hours.

Luminaires come with integrated power supply units which is crucial for surface mounting.

Luminaires are available in a metal housing with a back-up PSU (emergency version).

Advantages

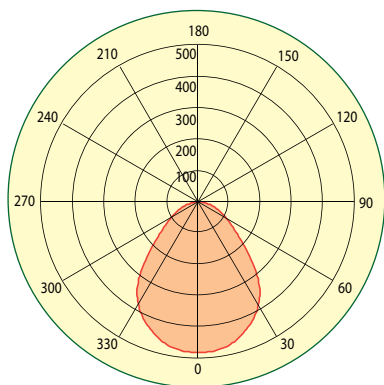
- Percent flicker < 5%; no stroboscopic effect and less tiresome for eyes when working with a TV or computer screen
- Energy consumption is 1.5-2.5 times lower compared with fluorescent luminaires
- Easy maintenance and no specific requirements for disposal
- Various types of diffusers to comply with any customer requirements (Honeycomb, Opaque or Opal)

Applications

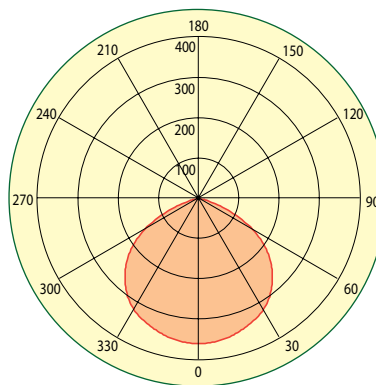
- Administrative and office buildings
- Supermarkets and sales floors
- Schools, hospitals, etc.

Voltage, VAC / Frequency, Hz	230 / 50
LED's power	each ~0.5 W
Light distribution	Direct
Power factor	0.97
Wire section, mm ²	3x0.75
CRI, Ra:	> 80, > 90
Operating temperatures range, °C:	+1 to +45
Electric safety classification:	I
Lifetime of a luminaire, hrs	over 50,000

Light distribution diagram, cd/1,000lm
(normalized diagram)
D (cosine)



For luminaires with honeycomb diffusers



For product codes:
OFFICE 33-ALISA
OFFICE 40-ALISA
OFFICE 33-NIKA
and other luminaires with Opal and Opaque diffusers

UNIVERSAL MOUNTING. RECESSED / SURFACE

All specs are given for a honeycomb diffuser and CRI 80

METAL HOUSING



Product code	OFFICE 20-M600x300 LL-DVO-020-M600x300	OFFICE 33-M600x600 LL-DVO-033-M600x600	OFFICE 41-M600x600 LL-DVO-041-M600x600
Power, W	16	32	39
Dimensions, LxWxH, mm	597 x 288 x 56	597 x 597 x 56	597 x 597 x 56
Luminous flux, lm:			
5,000 K	1,500	3,000	3,700
4,000 K	1,400	2,900	3,500
3,000 K	1,350	2,750	3,400
Number of LEDs, pcs	32	64	80
IP	30	30	30
Light distribution diagram	D (cosine)	D (cosine)	D (cosine)
Weight, net / gross, kg	2.2 / 4.5	3.4 / 4.0	3.4 / 4.0

METAL HOUSING



Product code	OFFICE 41-M1200x300 LL-DVO-041-M1200x300	OFFICE 82-M1200x600 LL-DVO-082-M1200x600
Power, W	39	78
Dimensions, LxWxH, mm	1,198 x 297 x 56	1,198 x 597 x 56
Luminous flux, lm:		
5,000 K	3,600	7,200
4,000 K	3,400	6,800
3,000 K	3,300	6,600
Number of LEDs, pcs	80	160
IP	30	30
Light distribution diagram	D (cosine)	D (cosine)
Weight, net / gross, kg	3.5 / 4.1	7.0 / 7.6



OFFICE LED LUMINAIRES

UNIVERSAL MOUNTING. RECESSED / SURFACE

All specs are given for a honeycomb diffuser and CRI 80

Patented construction (WO2014/126501, WO2014/148939) for mounting into suspended ceilings or onto ceilings of various types. Integrated power supply – invisible when mounted and accessible after surface mounting for further handling.

PLASTIC HOUSING



Product code	OFFICE 20-P600x300 LL-DVO-020-P600x300	OFFICE 33-P600x600 LL-DVO-033-P600x600	OFFICE 40-P600x600 LL-DVO-040-P600x600
Power, W	16	32	39
Dimensions, LxWxH, mm	595 x 295 x 50	595 x 595 x 50	595 x 595 x 50
Luminous flux, lm:			
5,000 K	1,500	3,000	3,700
4,000 K	1,400	2,900	3,500
3,000 K	1,350	2,750	3,400
Number of LEDs, pcs	32	64	80
IP	30	30	30
Light distribution diagram	D (cosine)	D (cosine)	D (cosine)
Weight, net / gross, kg	1.8 / 4.2	2.5 / 3.1	2.5 / 3.1

Luminaires are available in an indirect backlit version when light from LEDs is first reflected from the back of the luminaire before coming out more uniform, but 15% less efficient. Indirect backlit luminaires are available only with a Honeycomb diffuser.

DESIGNER LUMINAIRES

Individualize an office, store or any place with our designer solutions from ALISA and NIKA series.

Add your logo to a NIKA luminaire and we customize it for you. Logos can be backlit for a higher impact.

Our designer luminaires can be either recessed into suspended ceilings or mounted onto ceilings of various types, to correspond to an overall office design.

PLASTIC HOUSING



Product code	OFFICE 33-ALISA LL-DVO-033-ALISA	OFFICE 40-ALISA LL-DVO-040-ALISA	OFFICE 33-NIKA LL-DVO-033-NIKA
Power, W	33	40	33 (38 with logo backlighting)
Dimensions, LxWxH, mm	595 x 595 x 50	595 x 595 x 50	595 x 595 x 50
Luminous flux, lm:			
5,000 K	2,800	3,500	2,500
4,000 K	2,700	3,300	2,350
Number of LEDs, pcs	60	72	56
IP	30	30	30
Light distribution diagram	D (cosine)	D (cosine)	D (cosine)
Weight, net / gross, kg	2.1 / 2.7	2.1 / 2.7	2.1 / 2.7

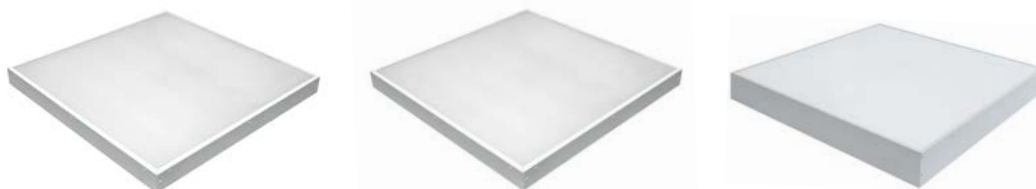
PREMIUM RANGE

All specs are given for a honeycomb diffuser and CRI 80

Premium luminaires are designed for high-end customers. They combine specifications of the standard series with a very high energy efficiency and very uniform light distribution. Based on the type of diffuser their efficacy can be within 100-120 lm/W.

High uniformity of light and longer lifetime of luminaires are achieved by using a bigger number of LEDs. Premium series luminaires are recommended for use in childcare, educational, and healthcare institutions.

METAL HOUSING



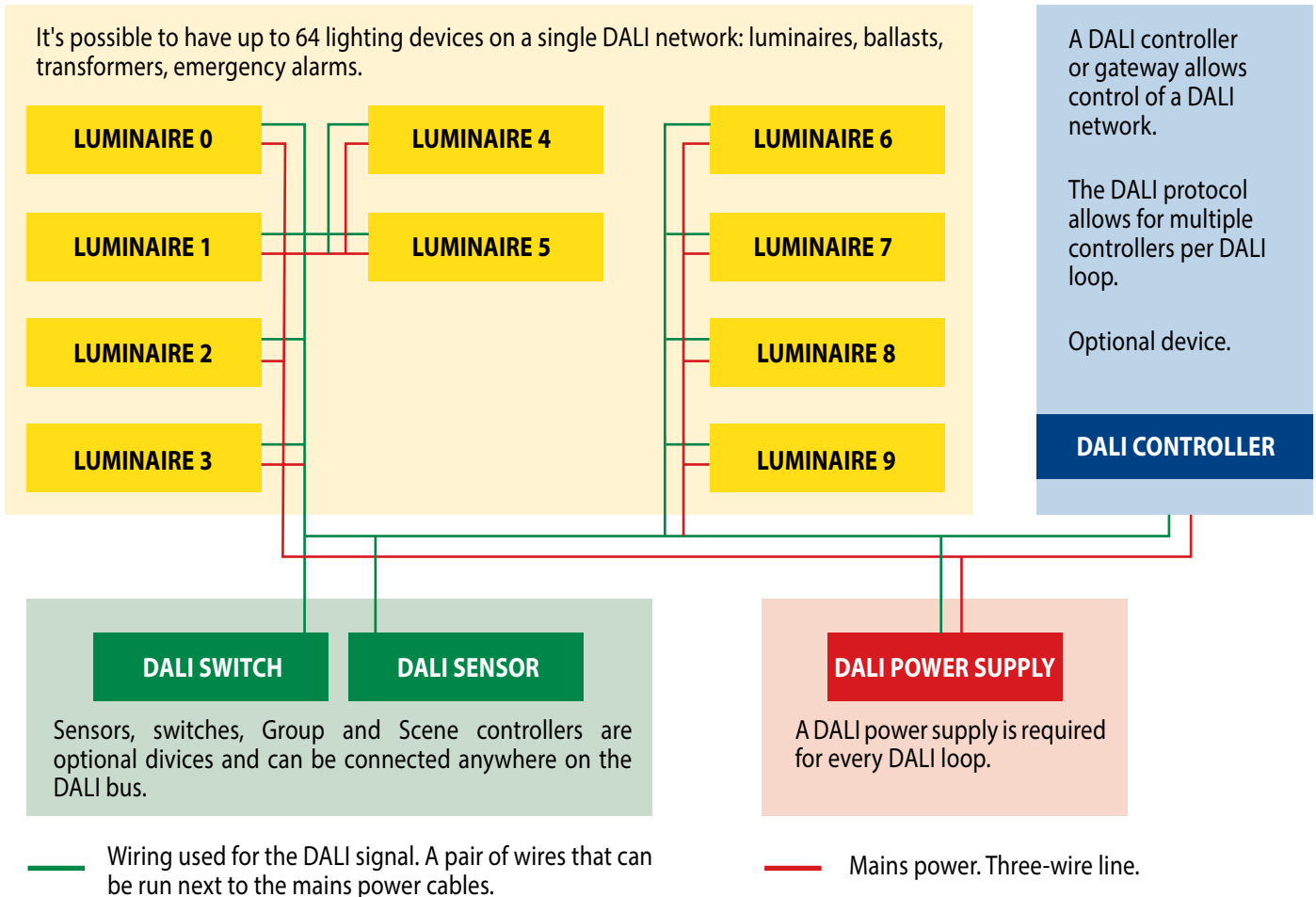
Product code	OFFICE 21-M600x600 LL-DVO-021-M600x600	OFFICE 32-M600x600 LL-DVO-032-M600x600	
Power, W	21	32	
Dimensions, LxWxH, mm	597 x 597 x 56	597 x 597 x 56	597 x 597 x 86
Luminous flux, lm:			
5,000 K	2,500	3,800	
4,000 K	2,400	3,600	
3,000 K	2,300	3,500	
Number of LEDs, pcs	96	128	
Efficacy at 4,000K, lm/W	115	115	
IP	30	30	
Light distribution diagram	D (cosine)	D (cosine)	
Weight, net / gross, kg	3.4 / 4.0	3.4 / 4.0	3.5 / 4.1

PLASTIC HOUSING



Product code	OFFICE 21-P600x600 LL-DVO-021-P600x600	OFFICE 24-P600x600 LL-DVO-024-P600x600	OFFICE 32-P600x600 LL-DVO-032-P600x600
Power, W	21	24	32
Dimensions, LxWxH, mm	595 x 595 x 50	595 x 595 x 50	595 x 595 x 50
Luminous flux, lm:			
5,000 K	2,500	2,600	3,800
4,000 K	2,400	2,500	3,600
3,000 K	2,300	2,400	3,500
Number of LEDs, pcs	96	80	128
Efficacy at 4,000K, lm/W	115	105	115
IP	30	30	30
Light distribution diagram	D (cosine)	D (cosine)	D (cosine)
Weight, net / gross, kg	2.5 / 3.1	2.5 / 3.1	2.5 / 3.1

OFFICE LIGHTING CONTROL SYSTEM BASED ON DALI EASY LIGHTING CONTROL (only for luminaires with metal housing)



DALI ADVANTAGES

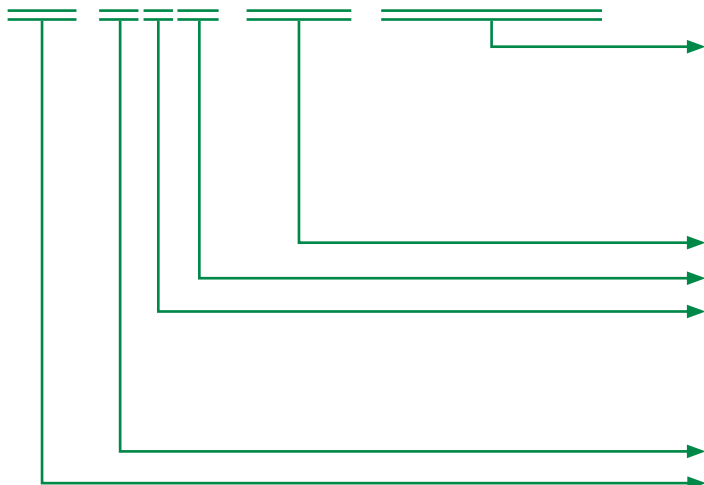
- Free of interference (digital signal transmission).
- Easy to install (one cable run next to the mains cables).
- Individual addressing with fault detection.
- Group addressing based on application and location of luminaires.
- Fast switching of lighting scenes (case-by-case lighting control).
- Building a control system without a master controller (using assigned sensors and switches).
- Maximum number of luminaires per one loop – 64.

Digital Addressable Lighting Interface (DALI) is a protocol used to control lighting equipment; it is specified according to IEC 60929.

DALI has two new concepts – Scenes and Groups; they allow for a control of several different DALI units with one command. Scenes can be used for a quick switching of light levels based on requirements (meetings, presentations, video presentations, business lunches). A maximum of 16 scenes can be assigned for each bus.

PRODUCT CODE EXPLANATION

LL-DzO-000-mxxxxx



mxxxx – material of housing and dimensions of a luminaire/ unique design name

M600x600 – metal, not bigger than 600x600mm

P600x300 – plastic, not bigger than 600x300mm

ALISA – designer luminaire

NIKA – designer luminaire

000 – consumption, W

O – main application, public places

z – type of mounting

V – recessed

P – surface mounted

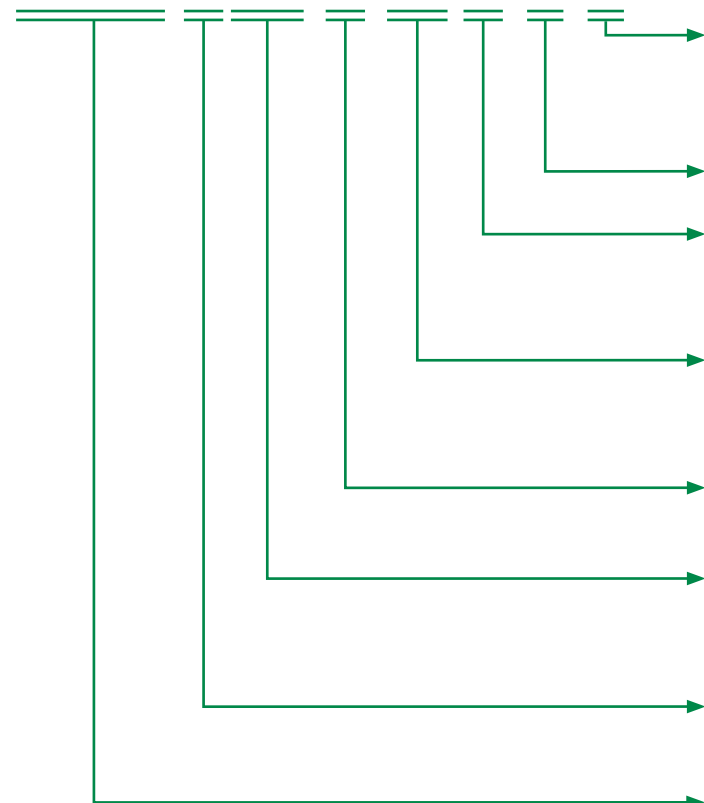
C – suspended by wire ropes

D – light source, LED

LL – manufacturer LeaderLight Ltd.

Extended product codes for luminaire modifications

VXYZ.ABC.D.EF.G.H.K



K – operating conditions

3 – NF 3.1 (moderate and cold climate, indoor spaces with irregular heating)

4 or nothing – NF 4.2 (moderate and cold climate, indoor spaces like laboratories, residential buildings, etc.)

H – ingress protection rating

3 – IP30

G – emergency version

0 – not available

1 – one hour emergency lighting/ two 50mA lines

2 – 1-10V control

EF – diffuser type

01 – Honeycomb

02 – opaque

03 – opal

D – light distribution

O – indirect backlit

T – direct backlit

BC – colour temperature

30 – 3,000K (warm white)

40 – 4,000K (neutral white)

50 – 5,000K (cool white, sunlight at midday)

A – CRI

8 – >80%

9 – >90%

VXYZ – modification number

Diffuser (material)	Number in the extended code	Efficiency of a diffuser	Luminous flux correction factor
Honeycomb (PC)	01	0.88	1
Opaque (PC)	02	0.75	0.86
Opal (PC)	03	0.85	0.97

Calculate luminous flux for luminaires with opaque and opal diffusers:

Multiply specified luminous flux (Honeycomb) by the flux correction factor for a corresponding diffuser.

General information

Road LED luminaires are an efficient substitute of luminaires with mercury and sodium lamps. All types of our luminaires meet the requirements for roads of all categories.

Weather-resistant powder-coated aluminium housing.

Innovative heat sink design for efficient heat dissipation.

High-efficacy LEDs from the leading world manufacturers Osram and Cree.

Applications

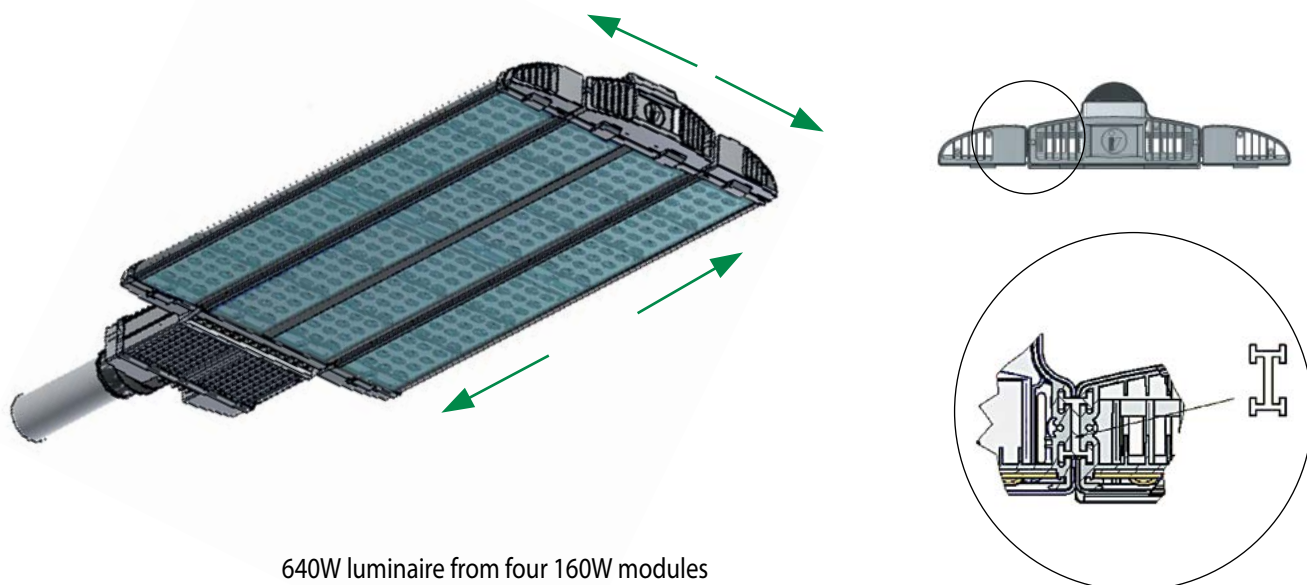
- Roads of the A, B & C categories (controlled-access highways/ motorways, single and dual carriageways)
- Industrial estates and warehouses
- Tunnels
- Railway stations and tracks

Voltage, VAC / Frequency, Hz:	230 / 50
Light distribution	Direct
Power factor	0.97
Wire section, mm ²	3x0.75
Operating conditions	F1 (large geographical areas with cold climate, outdoor application)
CRI, Ra	70, 80, 90
Operating temperatures range, °C	- 45 to +50
Electrical safety classification	I
Early 2016	II
	(no need to ground, SELV)
Lifetime of a luminaire, hrs:	over 50,000

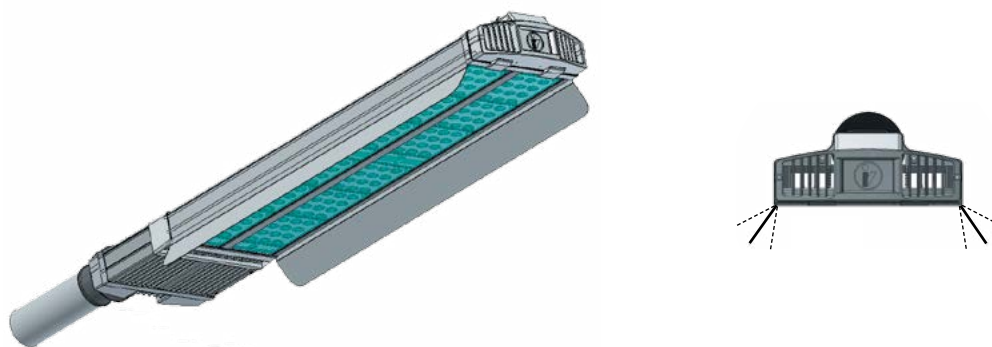
Advantages

- 1.5-3 times lower energy consumption compared to luminaires with similar flux that use sodium and mercury lamps
- Different beam angles due to a modular lens design, including asymmetric wide beam for required illuminance on a maximum surface
- No light flicker harmful for eyes
- No specific requirements for disposal
- Double protection of LEDs with Zener diodes and PLEDs to guarantee continuous operability
- Input voltage up to 305V
- Integrated surge protection up to 10kV (optional)
- Extruded aluminium housing with a flat and even top to protect it from debris accumulation (foliage, birds droppings) — the temperature performance of the luminaire is not affected
- LED modules are water- and dust-proof which ensures no loss in lumen output
- Patented «floating» design of LED modules without screws — to even off thermal expansion ratios of a housing, LED boards and lenses
- Power supply in the MAG4 series is thermally isolated from the LED module so that its temperature doesn't affect LEDs, and vice versa. It translates into a longer lifetime of a PSU and a luminaire in general. Besides, a PSU is fixed at the bottom of its compartment — to protect it from overheating in tropical climates where some parts of a luminaire, even in off mode, can be heated up to 80°C in direct sunlight
- MAG3 and MAG4 series come in two versions: Standard & Premium (optional). Standard efficacy — 115-125 lm/W, Premium efficacy — 135-145 lm/W. LED lifetime over 75,000 hours.

Original patented housings from extruded aluminium profiles – for an easy assembly of basic modules into luminaires of almost any power (from 418W to 1000W) and customization.

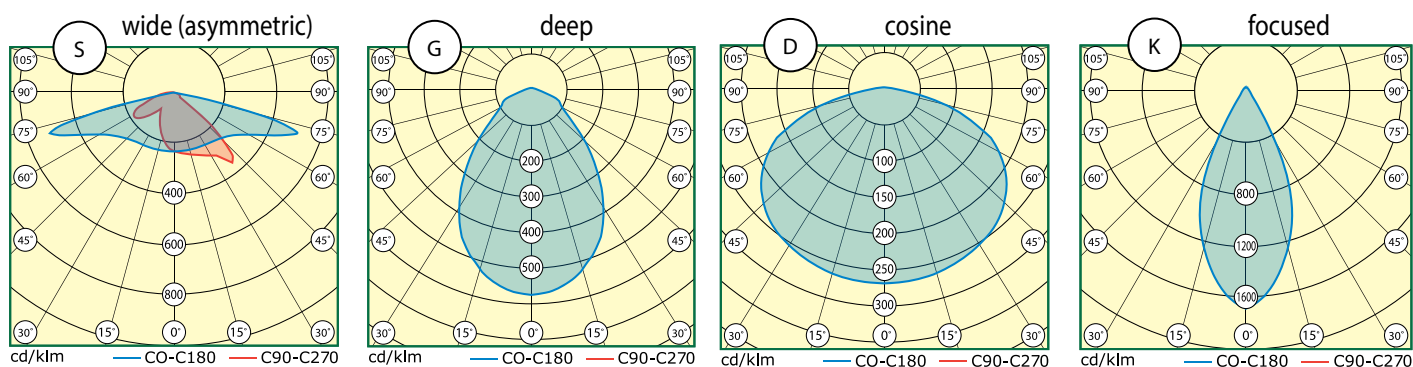


640W luminaire from four 160W modules



There are grooves in the housings for special shields to provide a required shielding angle

Light distribution diagram, cd/1,000 lm (normalized diagrams) «S», «D», «G», «K» for MAG2 series



MAG2 Series with 1W OSRAM Oslon SSL LEDs

Luminous flux is given at CRI 70



Product code	MAG2-018-112 LL-DKU-02-018-0334-65D	MAG2-030-124 LL-DKU-02-030-0332-65D	MAG2-045-136 LL-DKU-02-045-0310-65D
Power, W	18	30	43
Dimensions, LxWxH, mm	548 x 106 x 100	644 x 106 x 100	796 x 106 x 100
Luminous flux, lm: 4,700 - 6,500 K	2,000	3,300	4,700
Number of LEDs, pcs	12	24	36
IP	65	65	65
Light distribution diagram	S, D, G, K	S, D, G, K	S, D, G, K
Weight, net / gross, kg	2.8 / 3.1	3.5 / 3.8	4.3 / 4.6



Product code	MAG2-060-148 LL-DKU-02-060-0311-65D	MAG2-090-236 LL-DKU-02-090-0300-65D	MAG2-120-248 LL-DKU-02-120-0301-65D
Power, W	57	86	114
Dimensions, LxWxH, mm	892 x 106 x 100	800 x 205 x 100	896 x 205 x 100
Luminous flux, lm: 4,700 - 6,500 K	6,300	9,450	12,500
Number of LEDs, pcs	48	72	96
IP	65	65	65
Light distribution diagram	S, D, G, K	S, D, G, K	S, D, G, K
Weight, net / gross, kg	5.1 / 5.3	6.0 / 6.3	7.0 / 7.3



Product code	MAG2-135-336 LL-DKU-02-135-0314-65D	MAG2-150-260 LL-DKU-02-150-0315-65D
Power, W	129	143
Dimensions, LxWxH, mm	816 x 320 x 100	992 x 205 x 100
Luminous flux, lm: 4,700 - 6,500 K	14,200	15,700
Number of LEDs, pcs	108	120
IP	65	65
Light distribution diagram	S, D, G, K	S, D, G, K
Weight, net / gross, kg	7.2 / 7.5	7.5 / 7.8

MAG3 Series with 2W Osram and Cree LEDs

Luminous flux is given at CRI 70



Product code	MAG3-030-112	MAG3-060-124	MAG3-085-136
Power, W	28	57	85
Dimensions, LxWxH, mm	555 x 105 x 104	645 x 105 x 104	805 x 105 x 104
Luminous flux, lm: 5,000, 6,000 K	3,250 / 3,900*	6,500 / 7,800*	9,750 / 11,600*
4,000 K	3,100	6,200	9,300
3,000 K	2,950	5,850	8,750
Number of LEDs, pcs	12	24	36
IP	67	67	67
Light distribution diagram	S, D, G	S, D, G	S, D, G
Weight, net / gross, kg	2.9 / 3.1	3.8 / 4.0	4.7 / 4.9



Product code	MAG3-105-148	MAG3-135-160
Power, W	105	135
Dimensions, LxWxH, mm	901 x 105 x 104	997 x 105 x 104
Luminous flux, lm: 5,000, 6,000 K	12,800 / 14,500*	16,000 / 19,000*
4,000 K	12,200	15,200
3,000 K	11,500	14,400
Number of LEDs, pcs	48	60
IP	67	67
Light distribution diagram	S, D, G	S, D, G
Weight, net / gross, kg	5.3 / 5.5	5.8 / 6.2

* – for Premium series

NEW

Early 2016, we start producing a series of luminaires with borosilicate glass optics to increase levels of dust and sand protection.



Product code	MAG3-120
Power, W	120
Dimensions, LxWxH, mm	900 x 105 x 130
Luminous flux, lm: 5,000 K	13,200
Number of COBs, pcs	2
IP	65
Light distribution diagram	S, D, G
Weight, net, kg	5.5

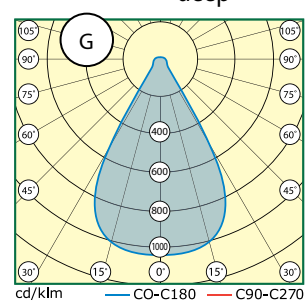
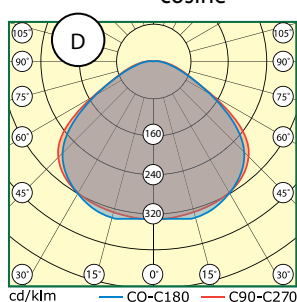
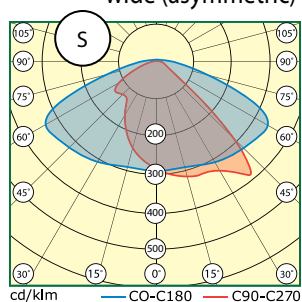
MAG4 Series with 2W Osram and Cree LEDs

Luminous flux is given at CRI 70



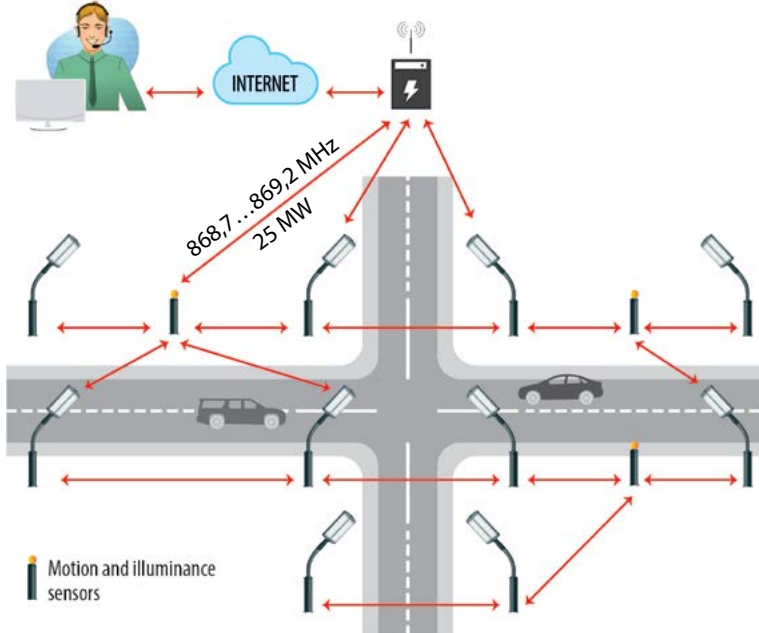
Product code	MAG4-160-236	MAG4-215-248	MAG4-270-260
Power, W	160	215	270
Dimensions, LxWxH, mm	1,004 x 205 x 101	1,160 x 205 x 101	1,256 x 205 x 101
Luminous flux, lm: 5,000, 6,000 K	19,200 / 22,700*	25,650 / 30,000*	32,000 / 38,000*
4,000 K	18,450	24,650	30,700
3,000 K	17,300	23,100	28,800
Number of LEDs, pcs	72	96	120
IP	67	67	67
Light distribution diagram	S, D, G	S, D, G	S, D, G
Weight, net / gross, kg	8.0 / 8.6	9.1 / 9.5	10.0 / 10.4

Light distribution diagram, cd/1000 lm (normalized diagrams) for luminaires of MAG3 and MAG4 series



* – for Premium class luminaires

STREET LIGHTING CONTROL SYSTEM TRANSMISSION OF CONTROL SIGNALS BY RADIO CHANNELS EFFECTIVE LIGHTING CONTROL



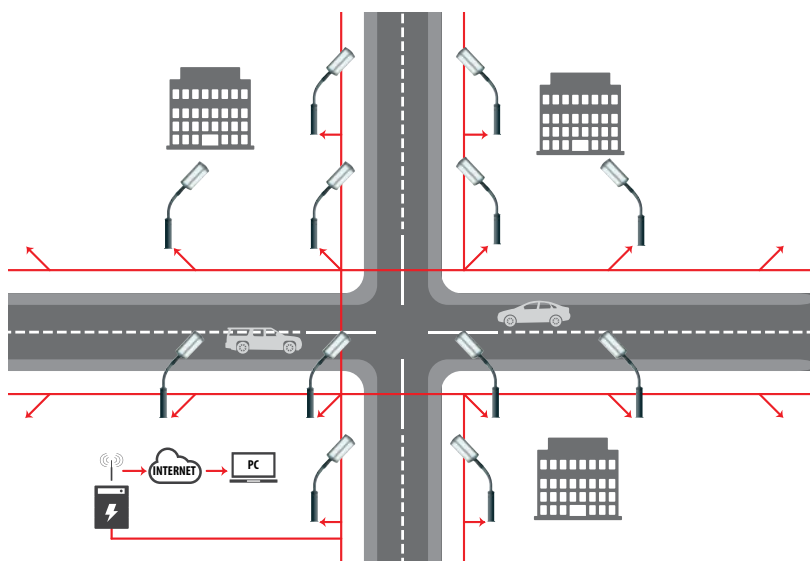
Advantages

- Long-distance control (up to a few kilometers) since each luminaire is a repeater of the control signal
- The coverage area of each receiver is 70-300 meters
- A wide dimming range (20-100%)
- Anti-tempering
- Remote troubleshooting
- Offline operation under preset 24-hour lighting cycle
- Dimming by a preset schedule, from the central desk or manually
- Motion and illuminance sensors can be assigned to a group of luminaires for dimming

Energy savings

Luminous flux can be reduced to save energy in cases of light traffic, absence of people or bright natural light

PLC STREET LIGHTING CONTROL SYSTEM EFFICIENT LIGHTING CONTROL



Advantages

- Offline scheduling of lighting modes
- Communication via power lines — no additional cabling
- PLC module integrated into any LED light with 1-10V input
- Individual and group control
- Consumption readouts from each luminaire
- Collecting data from electricity meters
- Dimming range 10-100%
- Energy-independent clock on board

Energy savings

Luminous flux can be reduced to save energy in cases of light traffic, absence of people or bright natural light

Early 2016, we start producing a PLC lighting control system

Customization

- 2,700 - 6,500 K CCT
- Different number of LEDs, each time divisible by 12
- Pole diameter 60 & 76 mm
- Different housing colour



PRODUCT CODE EXPLANATION

AB.C.D.E

E - lighting control

- N - non-dimmable
- ND - dimmable PSU
- RF - RF dimming
- PLC - PLC dimming

D - type of mounting

- 48 - side-entry for 48mm spigot
- 48R - side-entry, ø 48mm bracket with tilting holder
- 76 - post-top for 76mm spigot

C - light distribution diagram

- S - wide (asymmetric)
- D - cosine
- G - deep
- K - focused

B - colour temperature

Look for the first two digits, e.g. 27 - 2,700K

A - CRI

- 7 - >70
- 8 - >80
- 9 - >90

General information

Industrial LED luminaires are an efficient substitute of luminaires with mercury and sodium lamps, as well as floodlights with metal-halide lamps.

Patented extruded aluminum housing.

Innovative heat sink design for efficient heat dissipation.

High-efficacy LEDs from the leading world manufacturers Osram and Cree.

Applications

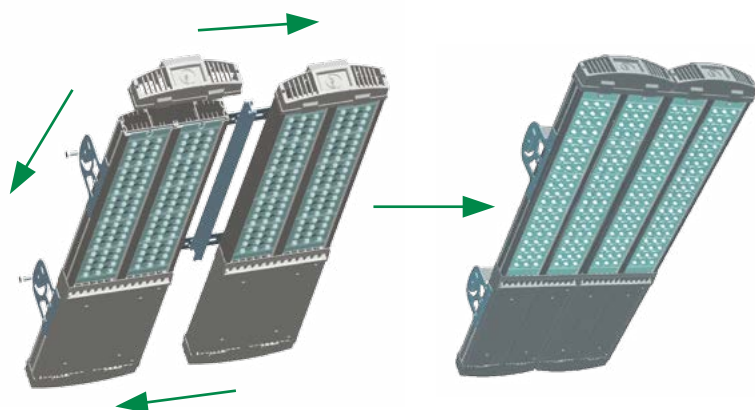
- Industrial estates and production shops
- Railway platforms
- Transport tunnels
- Loading/unloading ramps
- Yard spaces and parks
- Parking lots and petrol stations

Voltage, VAC / Frequency, Hz:	230 / 50
Light distribution	Direct
Power factor	0.97
Wire section, mm ²	3x0.75
Operating conditions	F1 (large geographical areas with cold climate, outdoor application)
CRI, Ra	70, 80, 90
Operating temperatures range, °C	- 45 to +50
Electrical safety classification	I
Early 2016	II
	(no need to ground, SELV)
Lifetime of a luminaire, hrs	over 50,000

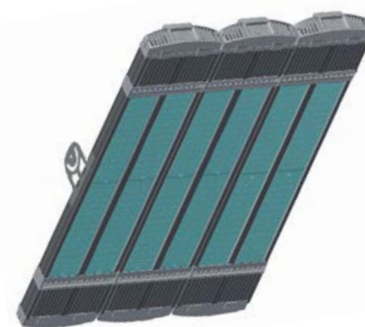
Advantages

- 1.5-3 times less energy consumption compared to luminaires with similar flux that use sodium and mercury lamps, as well as floodlights with metal-halide lamps (depending on luminaire type)
- No light flicker harmful for eyes
- No specific requirements for disposal
- Double protection of LEDs with Zener diodes and PLEDs to guarantee continuous operability
- Input voltage up to 305V
- Integrated surge protection up to 10kV (optional)
- Proprietary aluminium housing for a quick and easy customization – almost any wattage is available by adding on basic modules
- LED modules are water- and dust-proof which ensures no loss in lumen output
- Patented «floating» design of LED modules without screws — to even off thermal expansion ratios of a housing, LED boards and lenses
- Power supply in the INDUSTRY.4 series is thermally isolated from the LED module so that its temperature doesn't affect LEDs, and vice versa. It translates into a longer lifetime of a PSU and a luminaire in general. Luminaires can be used in hot production environments (up to 50°C)
- INDUSTRY.3 and INDUSTRY.4 series come in two versions: Standard & Premium (optional). Standard efficacy — 115-125 lm/W, Premium efficacy — 135-145 lm/W. LED lifetime over 75,000 hours.

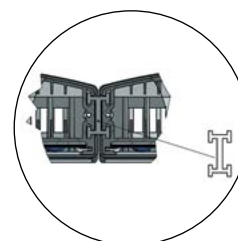
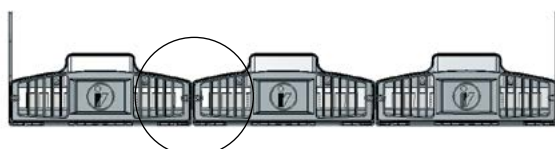
Original patented housings from extruded aluminium profiles - for an easy assembly of basic modules into luminaires of almost any power (from 418W to 1000W) and customization.



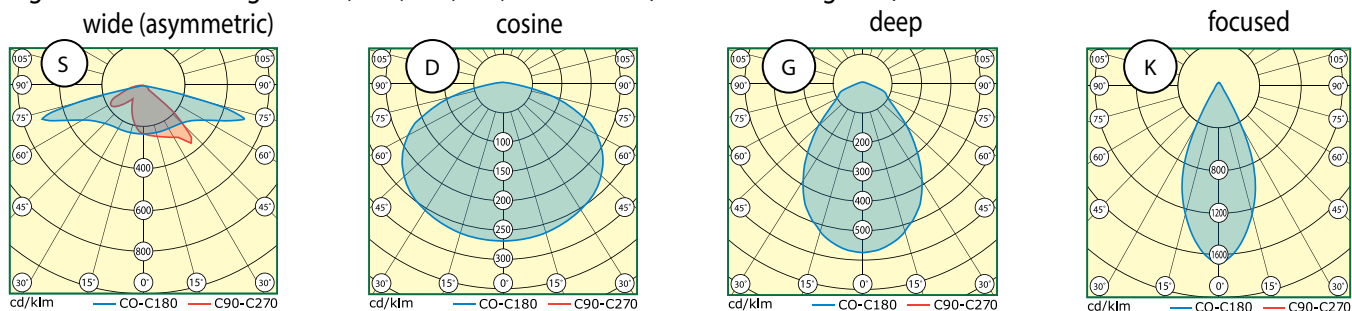
540W luminaire from two 270W modules



960W luminaire from six 160W modules



Light distribution diagram «S», «D», «G», «K», cd/1000 lm (normalized diagrams) for INDUSTRY.2 series



INDUSTRY.2 Series with 1W OSRAM Oslon SSL LEDs

Luminous flux is given at CRI 70



Product code	INDUSTRY.2-018-112 LL-DBU-02-018-0333-65D	INDUSTRY.2-030-124 LL-DBU-02-030-0328-65D	INDUSTRY.2-045-136 LL-DBU-02-045-0320-65D
Power, W	18	30	43
Dimensions, LxWxH, mm	230 x 123 x 128	326 x 123 x 128	420 x 123 x 128
Luminous flux, lm: 4,700 - 6,500 K 3,500 - 4,600 K	2,000 1,800	3,300 2,950	4,700 4,200
Number of LEDs, pcs	12	24	36
IP	65	65	65
Light distribution diagram	S, D, G, K	S, D, G, K	S, D, G, K
Weight, net / gross, kg	1.6 / 1.8	2.4 / 2.6	2.9 / 3.1



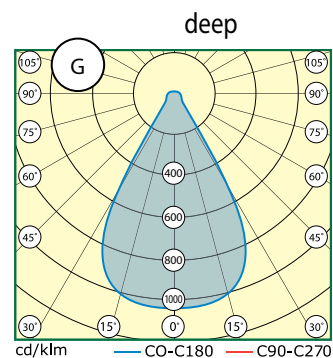
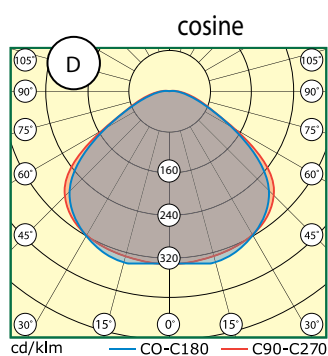
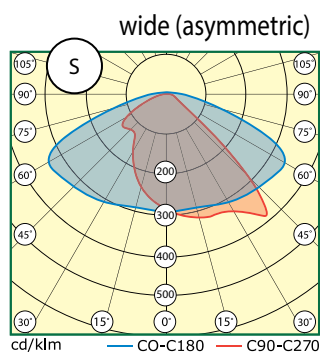
Product code	INDUSTRY.2-060-148 LL-DBU-02-060-0321-65D	INDUSTRY.2-090-236 LL-DBU-02-090-0322-65D	INDUSTRY.2-120-248 LL-DBU-02-120-0323-65D
Power, W	57	86	114
Dimensions, LxWxH, mm	516 x 123 x 128	428 x 223 x 128	524 x 223 x 128
Luminous flux, lm: 4,700 - 6,500 K 3,500 - 4,600 K	6,300 5,700	9,450 8,500	12,500 11,250
Number of LEDs, pcs	48	72	96
IP	65	65	65
Light distribution diagram	S, D, G, K	S, D, G, K	S, D, G, K
Weight, net / gross, kg	3.2 / 3.4	4.8 / 5.1	5.3 / 5.7



Product code	INDUSTRY.2-090-36/36	INDUSTRY.2-120-48/48	INDUSTRY.2-150-60/60
Power, W	86	114	143
Dimensions, LxWxH, mm	762 x 106 x 128	954 x 106 x 128	1,146 x 106 x 128
Luminous flux, lm: 4,700 - 6,500 K 3,500 - 4,600 K	9,450 8,500	12,500 11,250	15,700 14,100
Number of LEDs, pcs	72	96	120
IP	67	67	67
Light distribution diagram	D, G, K	D, G, K	D, G, K
Weight, net / gross, kg	4.7 / 5.0	5.2 / 5.5	5.9 / 6.2

INDUSTRY.3 Series with 2W OSRAM and CREE LEDs

Light distribution diagrams «S», «D», «G» for INDUSTRY.3 and INDUSTRY.4 series, cd/1,000 lm (normalized diagrams)



INDUSTRY.3 Series with 2W OSRAM and CREE LEDs

Luminous flux is given at CRI 70



Product code	INDUSTRY.3-030-112	INDUSTRY.3-060-124	INDUSTRY.3-085-136
Power, W	28	57	85
Dimensions, LxWxH, mm	243 x 126 x 124	328 x 126 x 137	422 x 126 x 137
Luminous flux, lm:			
5,000, 6,000 K	3,250 / 3,900*	6,500 / 7,800*	9,750 / 11,600*
4,000 K	3,100	6,200	9,300
3,000 K	2,950	5,850	8,750
Number of LEDs, pcs	12	24	36
IP	67	67	67
Light distribution diagram	S, D, G	S, D, G	S, D, G
Weight, net / gross, kg	1.6 / 1.9	2.6 / 2.9	3.7 / 4.0

* – for Premium series



Product code	INDUSTRY.3-105-148	INDUSTRY.3-135-160
Power, W	105	135
Dimensions, LxWxH, mm	518 x 126 x 137	614 x 126 x 137
Luminous flux, lm:		
5,000, 6,000 K	12,800 / 14,500*	16,000 / 19,000*
4,000 K	12,200	15,200
3,000 K	11,500	14,400
Number of LEDs, pcs	48	60
IP	67	67
Light distribution diagram	S, D, G	S, D, G
Weight, net / gross, kg	4.3 / 4.6	4.9 / 5.2

* – for Premium class luminaires

Early 2016, we start producing a series of luminaires with borosilicate glass optics to increase levels of dust and sand protection.

NEW



Product code	INDUSTRY.3-120
Power, W	120
Dimensions, LxWxH, mm	518 x 126 x 157
Luminous flux, lm: 5,000 K	13,200
Number of COBs, pcs	2
IP	65
Light distribution diagram	S, D, G
Weight, net, kg	4.5

INDUSTRY.4 Series with 2W OSRAM and CREE LEDs

Luminous flux is given at CRI 70



Product code	INDUSTRY.4-160-236	INDUSTRY.4-215-248	INDUSTRY.4-270-260
Power, W	160	215	270
Dimensions, LxWxH, mm	670 x 223 x 130	845 x 223 x 130	940 x 218 x 130
Luminous flux, lm: 5,000, 6,000 K	19,200 / 22,700*	25,650 / 30,000*	32,000 / 38,000*
4,000 K	18,450	24,650	30,700
3,000 K	17,300	23,100	28,800
Number of LEDs, pcs	72	96	120
IP	67	67	67
Light distribution diagram	S, D, G	S, D, G	S, D, G
Weight, net / gross, kg	7.5 / 8.0	8.7 / 9.2	9.5 / 10.0

* – for Premium series

CCT customization – 2,700 - 6,500 K (from warm to cool white)

Extra kit accessories

IP 68 connector for a power cable



DIN 741 rope clip/grip



INDUSTRY.P Series



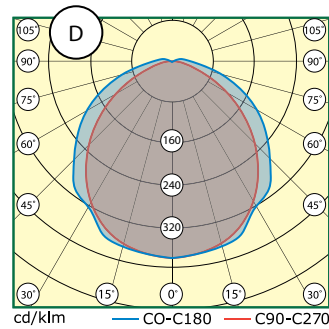
Product code	INDUSTRY.P 18	INDUSTRY.P 20	INDUSTRY.P 32
Power, W	16	20	32
Dimensions, LxWxH, mm	395 x 105 x 81	600 x 155 x 100	1,270 x 155 x 100
Luminous flux, lm:			
5,000 - 6,000 K	1,200	1,900	2,800
4,000 K	1,150	1,800	2,700
3,000 K	1,050	1,750	2,550
Number of LEDs, pcs	30 x 0.5 W	40 x 0.5 W	60 x 0.5 W
IP	65	65	65
Light distribution diagram	D (cosine)	D (cosine)	D (cosine)
Weight, net / gross, kg	0.75 / 1.0	1.3 / 1.7	2.0 / 2.5



Product code	INDUSTRY.P 44	INDUSTRY.P 52	INDUSTRY.P 64
Power, W	44	52	64
Dimensions, LxWxH, mm	1,270 x 155 x 100	1,270 x 155 x 100	1,270 x 155 x 100
Luminous flux, lm:			
5,000 K	3,900	4,500	5,600
4,000 K	3,700	4,300	5,400
3,000 K	3,600	4,150	5,150
Number of LEDs, pcs	80 x 0.5 W	100 x 0.5 W	120 x 0.5 W
IP	65	65	65
Light distribution diagram	D (cosine)	D (cosine)	D (cosine)
Weight, net / gross, kg	2.0 / 2.5	2.2 / 2.6	2.2 / 2.6

Luminaires are available to order with a transparent diffuser

Light distribution diagram «D» cd/1000 lm (normalized diagram) for INDUSTRY.P series



PRODUCT CODE EXPLANATION

AB.C.D.E

E – lighting control

N – non-dimmable
ND – dimmable PSU
RF – RF dimming
PLC – PLC dimming

D – type of mounting

BR – transverse bracket for wall or ceiling mounting, adjustable
BL – lengthwise bracket for wall or ceiling mounting, adjustable
B2 – two removable brackets for wall or ceiling mounting
B4 – two non-removable brackets for wall or ceiling mounting
SC – suspended by wire ropes

C – light distribution diagram

S – wide (asymmetric)
D – cosine
G – deep
K – focused

B – colour temperature

Look for the first two digits, e.g. 27 – 2,700K

A – CRI

7 - >70
8 - >80
9 - >90

NEW

General information

LED luminaires for architectural lighting are for illumination of buildings and landscape.

Weather-proof powder-coated aluminium housing and shock-resistant lenses.

Various colours of illumination light: white, red, green, blue, yellow and orange.

High-efficacy LEDs from Osram.

Advantages

- A wide range of ambient operating temperatures
- In-line mounting with objects illuminated uniformly
- A wide selection of lenses for objects of any complexity
- Pivot-joint brackets to tilt luminaires at different angles and change illumination patterns
- Water-proof connectors for easier electrical connections and in-line connection of up to 100 luminaires without additional electric wiring
- Minimum maintenance costs

Applications

- Exterior wall grazing and washing
- Landscape lighting
- Monuments, fountains, expositions lighting, etc.

Voltage, VAC / Frequency, Hz	230 / 50
Power factor	0.96
Operating temperatures range, °C	– 40 to +40
Electrical safety classification	I
Lifetime of a luminaire, hrs	over 50,000



Product code	FASAD-500	FASAD-1000
Wattage, W	19	30
Dimensions, LxWxH, mm	565 x 91 x 166	995 x 91 x 166
Luminous flux, lm:		
2,400 K	1,400	2,200
2,700 K	1,400	2,200
4,000 K	1,700	2,900
Beam angle, degree	15 / 30 / 45	15 / 30 / 45
Number of LEDs, pcs	8	14
Ingress protection rating, IP	65	65
Weight, net / gross, kg	1.9 / 2.2	3.6 / 3.9

General information

Recessed linear luminaires – to recess into gypsum and suspended ceilings.

Suspended linear luminaires – to suspend with wire ropes.

Surface linear luminaires – to mount onto surfaces.

Weather-resistant powder-coated aluminium housing.

High-efficacy white LEDs are used as the light source.

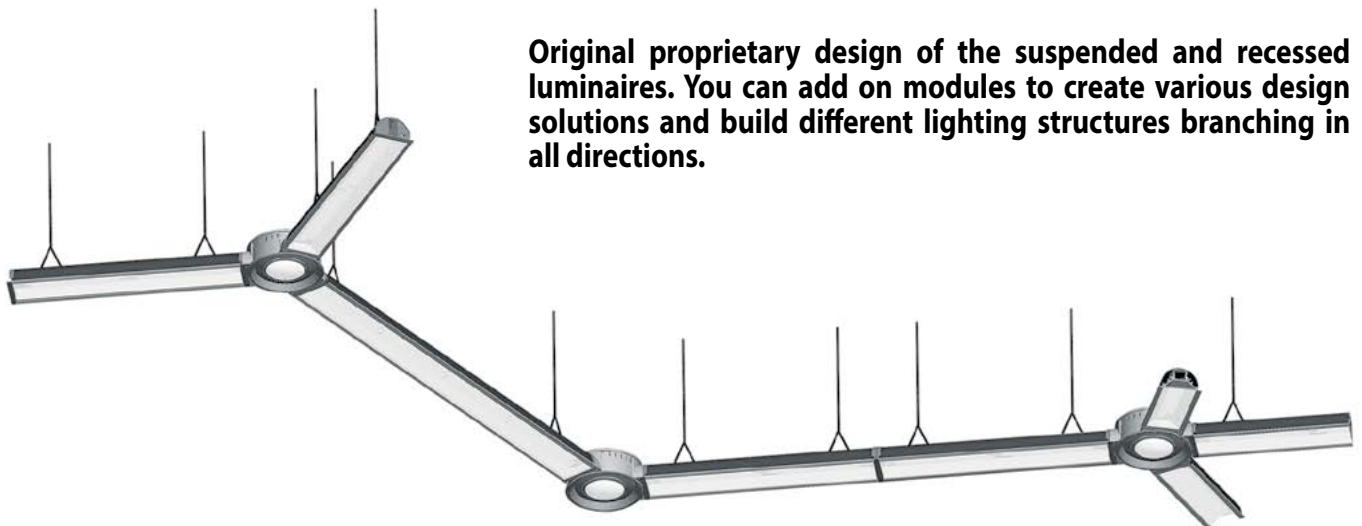
Applications

- Administrative and office spaces
- Supermarkets and sales floors
- Schools, hospitals
- Public institutions, etc.

Advantages

- Energy consumption is 2-2.5 times lower than that of fluorescent luminaires
- Percent flicker < 5% (recessed and suspended)
- No specific requirements for disposal
- Safe when damaged, compared to energy-saving mercury lamps
- Infinite length and various configurations of the recessed and suspended luminaires due to innovative modular design
- Double protection of LEDs with Zener diodes and PLEDs for uninterrupted operation of a luminaire
- No light flicker creating eye hazards

DESIGN SOLUTIONS FOR HALLS, CAFES AND RESTAURANTS



Original proprietary design of the suspended and recessed luminaires. You can add on modules to create various design solutions and build different lighting structures branching in all directions.

Connection unit for linear luminaires

- Connecting from two to five luminaires
- Angle between two luminaires from 70° to 180°
- Step of the angle variation — 10°
- This unit can have a SPOT installed directly into it
- Making all electric connections inside it with only one mains cable going out
- Connecting both suspended and recessed luminaires



A modification with end-caps – to build long lines of luminaires



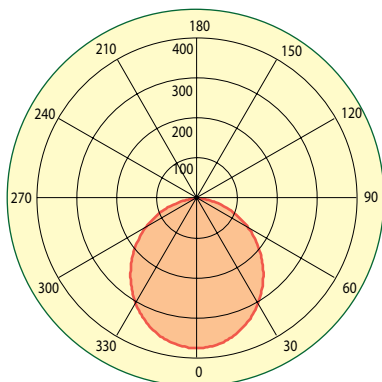
Voltage, VAC / Frequency, Hz	230 / 50
LED's power	each 0.2W to 0.5 W
Light distribution	Direct
Power factor	0.97

Wire section, mm ²	3x0.75
CRI, Ra	> 80
Operating temperatures range, °C	+1 to +45
Electrical safety classification	I
Lifetime of a luminaire, hrs	over 50,000

Light distribution diagram , cd/1,000 lm
(normalized diagram)
D (cosine)

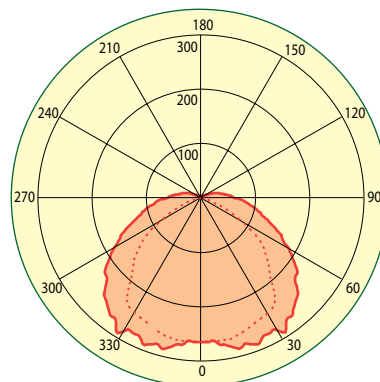
For product codes:

LINE.V 16
LINE.V 33
LINE.P 16
LINE.P 33

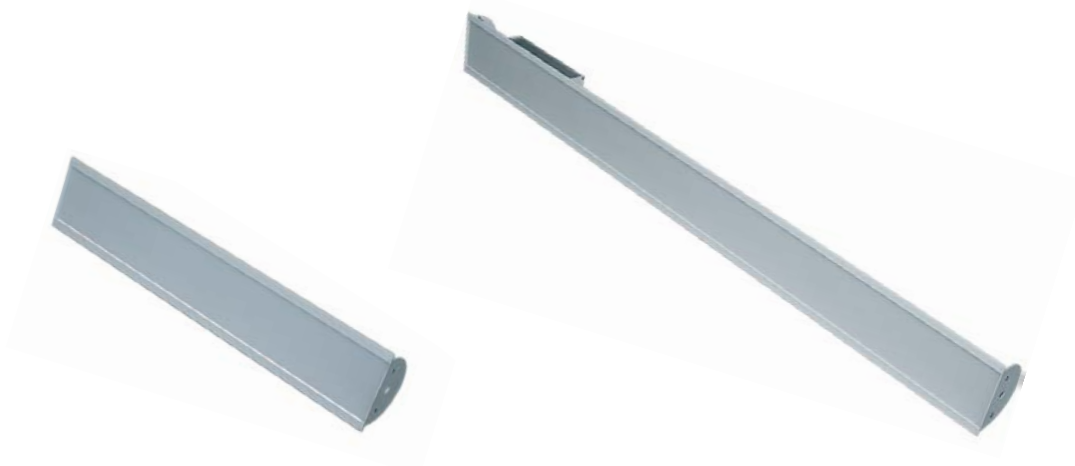


For product codes:

LINE.N 8
LINE.N 16
LINE.N 33

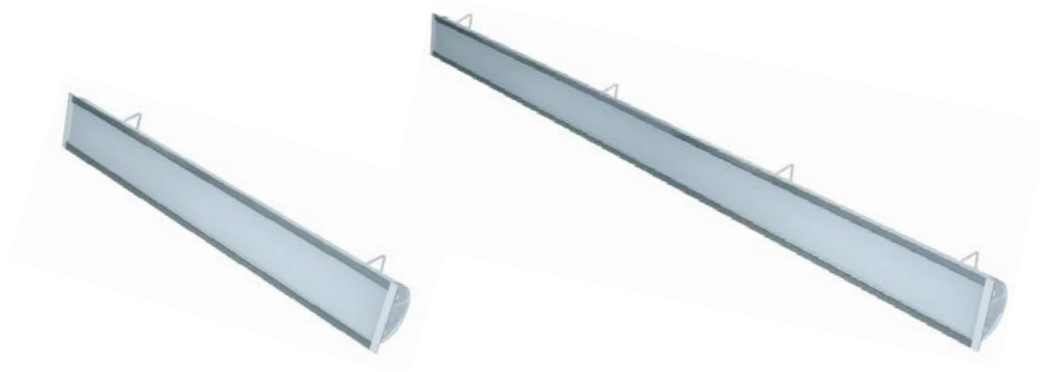


RECESSED



Product code	LINE.V 16 LL-DVO-01-016-3401-30D/B/T	LINE.V 33 LL-DVO-01-033-3411-30D/B/T
Power, W	16	33
Dimensions, LxWxH, mm	611 x 112 x 63	1,155 x 112 x 63
Luminous flux, lm:		
5,000 K (D)	1,500	3,000
4,000 K (B)	1,430	2,870
3,000 K (T)	1,380	2,760
Number of LEDs, pcs	32 x 0.5 W	64 x 0.5 W
IP	30	30
Light distribution diagram	D (cosine)	D (cosine)
Weight, net / gross, kg	1.0 / 1.2	1.6 / 1.9

SUSPENDED



Product code	LINE.P 16 LL-DSO-01-016-3501-30D/B/T	LINE.P 33 LL-DSO-01-033-3511-30D/B/T
Power, W	16	33
Dimensions, LxWxH, mm	611 x 112 x 63	1,155 x 112 x 63
Luminous flux, lm:		
5,000 K (D)	1,500	3,000
4,000 K (B)	1,430	2,870
3,000 K (T)	1,380	2,760
Number of LEDs, pcs	32 x 0.5 W	64 x 0.5 W
IP	30	30
Light distribution diagram	D (cosine)	D (cosine)
Weight, net / gross, kg	1.8 / 2.1	3.0 / 3.3

BULKHEAD



Product code	LINE.N 8 LL-DPO-01-006-3305-53D/B/T	LINE.N 16 LL-DPO-01-016-3312-53D/B/T	LINE.N 33 LL-DPO-01-033-3314-53D/B/T
Power, W	7	14	28
Dimensions, LxWxH, mm	371 x 90 x 73	647 x 90 x 73	1,221 x 90 x 73
Luminous flux, lm:			
5,000 K	650	1,300	2,600
4,000 K	620	1,230	2,450
3,000 K	580	1,160	2,300
Number of LEDs, pcs	32 x 0.2 W	64 x 0.2 W	128 x 0.2 W
IP	53	53	53
Light distribution diagram	D (cosine)	D (cosine)	D (cosine)
Weight, net / gross, kg	0.6 / 0.8	0.9 / 1.2	1.7 / 2.1

General information

LED downlights are as efficient substitutes of luminaires with 35W & 50W halogen lamps.

Heat-dissipating housing from heat-conductive plastic.

Shock-resistant PC lens.

High-efficacy white LEDs are used as the light source.

Applications

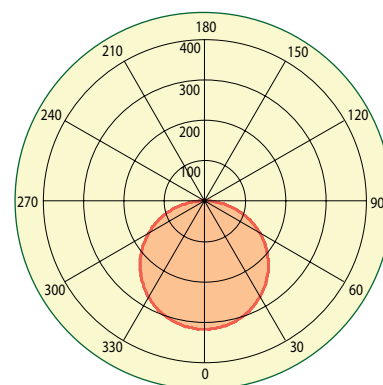
- Administrative and office spaces
- Supermarkets and sales floors
- WC and bathrooms
- Interior accent lighting

Advantages

- Energy consumption is 5 times lower than that of halogen lamps
- High CRI
- Lifetime is 8-10 times bigger than that of halogen lamps
- No specific requirements for disposal
- The whole LED array is protected by Zener diodes to ensure uninterrupted operation of a luminaire in case of failure of any LED
- No light flicker creating eye hazards

Voltage, VDC	24
Light distribution	Direct
Wire section, mm ²	2x0.5
Operating conditions	NF 4 (moderate and cold climate, indoor spaces with controlled heating)
CRI, Ra	> 80
Operating temperatures range, °C	+1 to +45
Electrical safety classification	III
Lifetime of a luminaire, hrs	over 30,000

Light distribution diagram, cd/1,000 lm
(normalized diagram)
D (cosine)



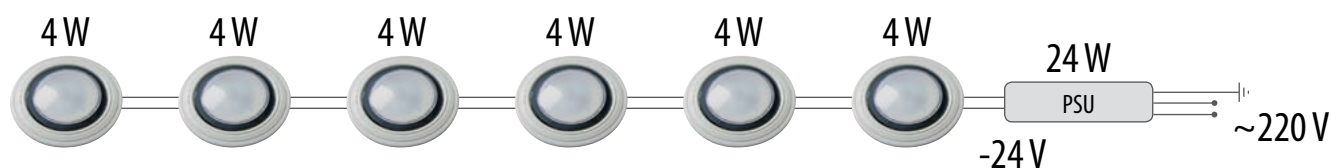
Product code	SPOT 4/95	SPOT 6/105
Power, W	4	6
Power supply	24 V	24 V
Dimensions, Ø x L, mm	95 x 32	105 x 33.5
Luminous flux, lm:		
5,000 K	400	500
4,000 K	380	470
3,000 K	360	450
IP	20	20
Light distribution diagram	D (cosine)	D (cosine)
Weight, net / gross, kg	0.1 / 0.12	0.1 / 0.12



Product code	SPOT 7/115	SPOT 11/154
Power, W	7	11
Power supply	24 V	24 V
Dimensions, Ø x L, mm	115 x 36	154 x 44
Luminous flux, lm:		
5,000 K	700	900
4,000 K	660	850
3,000 K	640	810
IP	20	20
Light distribution diagram	D (cosine)	D (cosine)
Weight, net / gross, kg	0.1 / 0.12	0.25 / 0.3

CCT customization – 2,700K to 6,500K; subject to order

CONNECTING DOWNLIGHTS TO PSUs



PSUs are supplied on customer's request. Total wattage of luminaires must be lower than maximum output power of the PSU. For example one 24W PSU can power from one to six 4W luminaires, one to four 6W luminaires, one to three 7W luminaires, or one to two 11W luminaires. PSUs of other companies can be used – with the output voltage 24VDC \pm 20% and galvanic isolation of input and output circuits.

One PSU can power luminaires of various wattages provided their total wattage doesn't exceed output power of the PSU.

General information

Utility LED luminaires as efficient substitutes of luminaires with incandescent lamps from 40W to 240W.

Housing from ABS plastic.

Diffuser from shock-resistant PC.

High-efficacy LEDs are used as the light source.

Applications

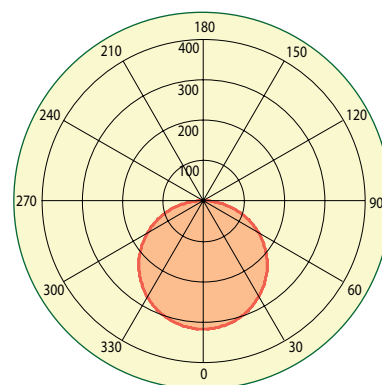
- Residential and household spaces
- Entrance hallways, staircases and lift landings
- Technical and utility rooms
- Corridors and halls

Voltage, VAC / Frequency, Hz	230 / 50
Light distribution	Direct
Power factor	0.9
Wire section, mm ²	2x0.5
Operating conditions	NF 4 (moderate and cold climate, indoor spaces with controlled heating)
CRI, Ra	>70, > 80
Operating temperatures range, °C	+1 to +45
Electrical safety classification	II
Lifetime of a luminaire, hrs	over 30,000

Advantages

- Motion/ illuminance sensors are available to order
- Easy to maintain, and no specific requirements for storage and disposal
- Safe when damaged, compared to energy-saving mercury lamps
- Shock-resistant
- Theft-proof due to a special lock

Light distribution diagram , cd/1,000 lm
(normalized diagram)
D (cosine)



Product code	DELTA 1	DELTA 2
Power, W	6	9
Dimensions, LxWxH, mm	107 x 95 x 32	ø 181 x 38
Luminous flux, lm:		
5,000 K	500	920
4,000 K	480	870
3,000 K	450	830
IP	20	40
Light distribution diagram	D (cosine)	D (cosine)
Weight, net / gross, kg	0.1 / 0.15	0.26 / 0.3



Product code	DELTA 3	DELTA 4
Power, W	13	16
Dimensions, LxWxH, mm	236 x 250 x 42	265 x 265 x 37
Luminous flux, lm:		
5,000 K	1,360	1,650
4,000 K	1,300	1,590
3,000 K	1,250	1,520
IP	40	40
Light distribution diagram	D (cosine)	D (cosine)
Weight, net / gross, kg	0.45 / 0.5	0.5 / 0.65

CCT customization – 2,700K to 6,500K; subject to order

General information

PHYTO series luminaires are efficient substitutes of high pressure sodium lamps (tube/reflector) that are traditionally used in horticulture.

Light source: high-efficacy red, white and blue LEDs from Osram.

Aluminium housing.

Innovative heat-sink design for efficient heat dissipation.

Applications

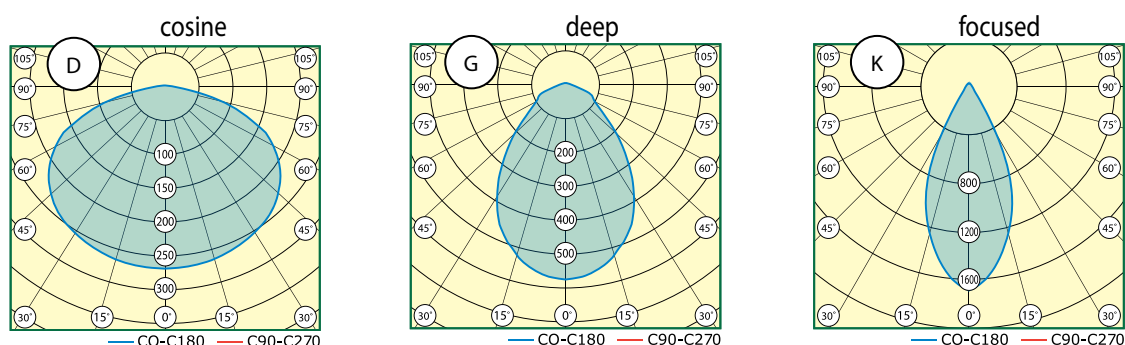
- INDUSTRY.3 luminaires for greenhouse growers of various vegetable crops and flowers to supplement periods of low natural light
- 15-60W luminaires for households as supplemental lighting for indoor plants and seedlings as well as in greenhouses between rows of plants

Voltage, VAC / Frequency, Hz	230 / 50
Power factor	0.95
Wire section, mm ²	3x0.75
Operating temperatures range, °C	+1 to +45
Electrical safety classification	I
Lifetime of a luminaire, hrs	over 50,000

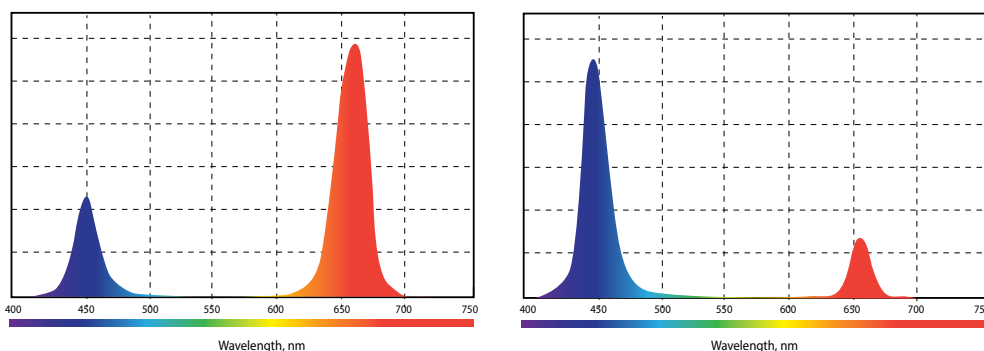
Advantages

- Energy consumption is 2–2.5 times lower compared to HPS lamps, with similar vegetation effect
- Relative radiation spectrum is tuned to the PAR curve
- Two wavelength peaks in the blue (445 nm) and red (660 nm) spectra show maximum absorption of light energy by chlorophyll (under DIN 5031) – suitable for all vegetation stages. The emission spectrum of HPS lamps is mainly concentrated in the yellow-green range but is fairly low in the blue range. With such light, plants stretch up high and become more brittle lacking green weight
- No special requirements for disposal
- No powerful thermal emission. PHYTO luminaires can be placed close to plants; it reduces total quantity of luminaires used and consumed power needed to achieve required irradiance
- No light degradation characteristic compared to HPS lamps; no need to replace them every 1–1.5 years

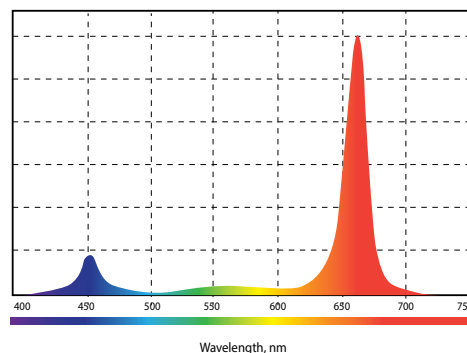
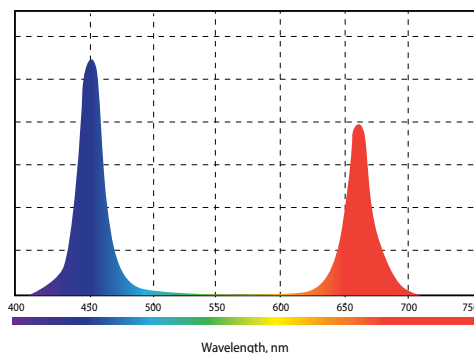
Light distribution diagrams (normalized diagram) for PHYTO (INDUSTRY.3) series



Spectrum for PHYTO (INDUSTRY.3) series



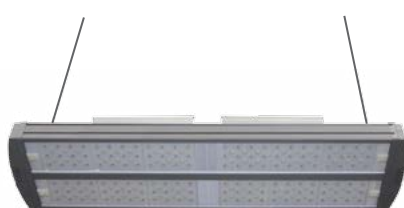
Spectrum application	General application	Planting stock
PAR curve over wavelengths	440-460 nm – 30% 650-670 nm – 70%	440-460 nm – 80% 650-670 nm – 20%
Spectrum definition	01	07



Spectrum application	Enhanced vegetative growth	Germination and flowering
PAR curve over wavelengths	440-460 nm – 57% 650-670 nm – 43%	440-460 nm – 20% 650-670 nm – 80%
Spectrum definition	06	03



Product code	INDUSTRY.3-160-36/36 (PHYTO)	INDUSTRY.3-215-48/48 (PHYTO)
Power, W	140	186
Dimensions, LxWxH, mm	740x106x145	954x106x145
PPF*, $\mu\text{mol/s}$	270	360
IP	65	
Light distribution diagram	D, G, K	
Weight, net / gross, kg	4.4 / 4.7	5.2 / 5.5



Product code	INDUSTRY.3-320-272 (PHYTO)	INDUSTRY.3-480-372 (PHYTO)
Power, W	280	420
Dimensions, LxWxH, mm	762x217x145	760x319x145
PPF*, $\mu\text{mol/s}$	500	750
IP	65	
Light distribution diagram	D, G, K	
Weight, net / gross, kg	8.0 / 8.5	13.0 / 13.5

* PPF – Photosynthetic Photon Flux of PAR (for 01 spectrum)

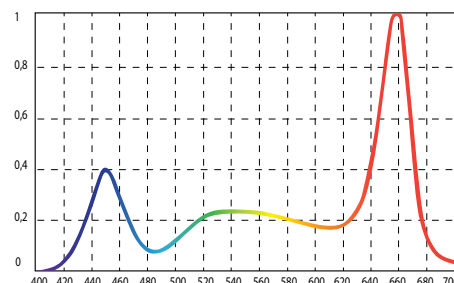
PAR – Photosynthetically Active Radiation

Any INDYSTRY.2 & INDYSTRY.3 luminaire can be customized as a PHYTO solution – to order.



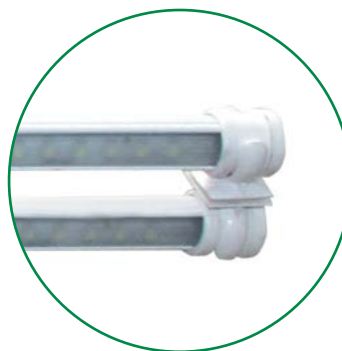
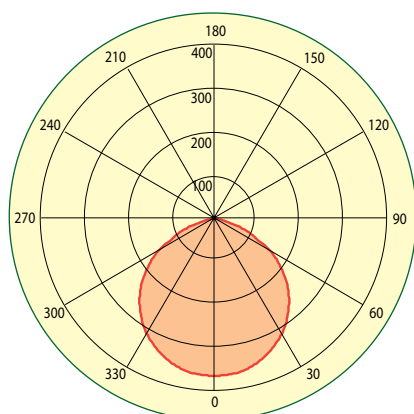
Product code	ILLUMINATION PHYTO 60
Power, W	60
Dimensions, LxWxH, mm	1,000x50x20
PPF*, $\mu\text{mol/s}$	120
IP	54
Light distribution diagram	D (cosine)
Weight, net / gross, kg	1.3 / 1.4

Typical spectrum

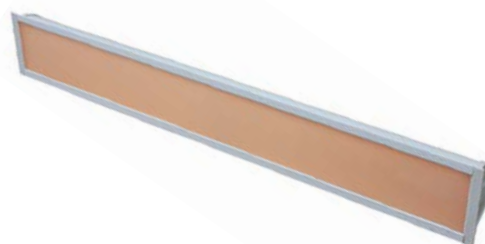


* PPF – Photosynthetic Photon Flux of PAR
PAR – Photosynthetically Active Radiation

Light distribution diagram
(normalized diagram)
D (cosine)



Mounting unit for an easy rotation, to change the direction of light



Product code	PHYTO 400	PHYTO 800
Power, W	15	32
Dimensions, LxWxH, mm	435 x 112 x 63	810 x 112 x 63
PPF*, $\mu\text{mol/s}$	25	53
IP	30	
Light distribution diagram	D (cosine)	
Weight, net / gross, kg	1.3 / 1.5	2.4 / 2.6

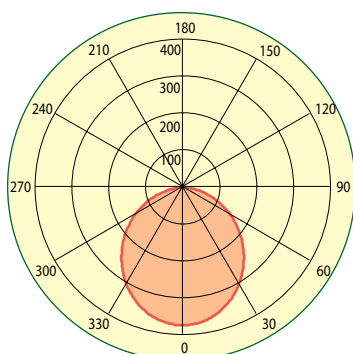
* PPF – Photosynthetic Photon Flux of PAR

PAR – Photosynthetically Active Radiation

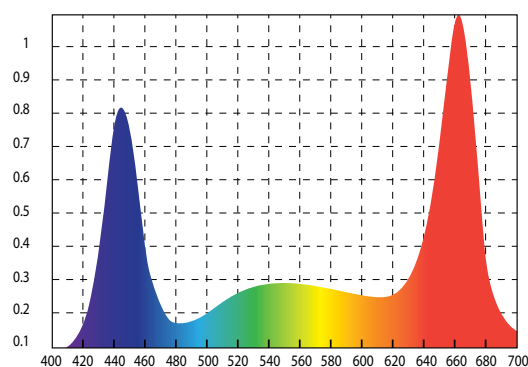
Light distribution diagram
(normalized diagram) for product codes

PHYTO 400 & PHYTO 800

D (cosine)



Emission spectrum



PRODUCT CODE EXPLANATION

AB.C.D.E

E - PAR flux control

N - non-dimmable

ND - dimmable

RF - RF control

PLC - PLC control

D - type of mounting

B2 - surface-mounting onto ceilings or cable trays,
with 2 non-removable brackets

SC - suspended with wire ropes

C - light distribution diagram

D, G, K

A, B - spectrum definition

01, 07, 06, 03

General information

Retail luminaires are efficient substitutes of fluorescent luminaires.

White high-efficacy LEDs are used as the light source.

Applications

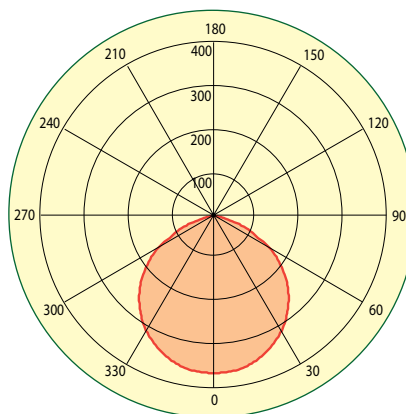
- Glass display cases
- Backlighting products in shops
- Backlighting kitchen units

Advantages

- Percent flicker < 5%
- Longer luminous flux degradation and 2.5 times lower energy consumption compared to fluorescent luminaires
- High CRI
- No specific requirements for disposal
- Safe when broken compared to energy-saving mercury lamps
- All LEDs are protected by Zener diodes for uninterrupted operation of a luminaire in case of failure of any LED
- No light flicker harmful for eyes

Voltage, VDC	24
LED's power	each 0.3W or 0.5 W
Light distribution	Direct
CRI, Ra	> 80
Operating temperatures range, °C	+1 to +45
Electrical safety classification	III
Lifetime of a luminaire, hrs	over 30,000

Light distribution diagram, cd/1,000 lm
(normalized diagram)
D (cosine)



Product code	ILLUMINATION 6	ILLUMINATION 8
Power, W	6	8
Dimensions, LxWxH, mm	347 x 25 x 25	447 x 25 x 25
Luminous flux, lm:		
5,000 K	500	700
4,000 K	470	660
3,000 K	450	640
Number of LEDs, pcs	14	14
IP	30	30
Light distribution diagram	D (cosine)	D (cosine)
Weight, net / gross, kg	0.15 / 0.3	0.2 / 0.3



Product code	ILLUMINATION 11	ILLUMINATION 15	ILLUMINATION 24
Power, W	11	15	24
Dimensions, LxWxH, mm	647 x 25 x 25	847 x 25 x 25	1,250 x 25 x 25
Luminous flux, lm:			
5,000 K	1,000	1,350	2,000
4,000 K	950	1,280	1,900
3,000 K	920	1,240	1,840
Number of LEDs, pcs	28	28	42
IP	30	30	30 / 54
Light distribution diagram	D (cosine)	D (cosine)	D (cosine)
Weight, net / gross, kg	0.25 / 0.4	0.35 / 0.4	0.4 / 0.75



Mounting unit for an easy rotation, to change the direction of light

Different lengths of luminaires can be manufactured to order – from 0.2 to 2 meter.

CONNECTING LUMINAIRES TO PSUs



PSUs are supplied on customer's request. Total wattage of luminaires must be lower than maximum output power of the PSU. For example one 24W PSU can power from one to four 6W lamps, one to three 8W lamps, or one to two 11W lamps, or one 15W lamp. PSUs of other companies can be used – with the output voltage 24 VDC \pm 20% and galvanic isolation of input and output circuits.

One PSU can power luminaires of various wattages provided their total wattage doesn't exceed output power of the PSU.

ACCENT LIGHTING LAMPS

AR111 LED lamps with G53 base are designed for operation with a 12V step-down transformer (supplied separately). The lamps are used in luminaires with a hinged bracket of cardan joint type for accent lighting of objects in shops, exhibition centres, car showroom, restaurants and galleries.



Product code	AR-111-12
Power, W	12
Dimensions, ø xH, mm	110 x 62
Luminous flux, lm: 5,000 K 3,000 K	1,200 1,000
CRI, Ra	≥ 80
Beam angle	25
IP	44
Screw base	G53
Weight, net / gross, kg	0.2 / 0.25

General information

Shock-proof polycarbonate housing.

Applications

- Ball 250 (suspended) for indoor lighting
- Ball 250 and Ball 400 for decorative landscape lighting (gardens and parks)



Product code	BALL 250S (suspended)	BALL 250	BALL 400-30	BALL 400-60
Power, W	14	14	28	56
Dimensions, LxWxH, mm	250 x 280	250 x 310	400 x 460	400 x 460
Luminous flux, lm: 4,700 – 6,500 K 3,500 – 4,600 K 2,700 – 3,000 K	1,500 1,350 1,250	1,500 1,350 1,250	3,050 2,750 2,550	6,100 5,600 5,250
CRI, Ra	≥ 80			
Operating temperatures range, °C	+1... +45	-40... +45	-40... +45	-40... +45
IP	20	65	65	65
Weight, net / gross, kg	0.6 / 0.8	0.8 / 1.0	1.2 / 1.4	1.4 / 1.6

General information

LED floodlights are for illumination of objects both indoors and outdoors.

8W and 25W basic modules and various optics solutions are used to make floodlights of any modification and application.

Voltage, VAC / Frequency, Hz	230 / 50
Light distribution	Direct
Power factor	0.97
Wire section, mm ²	3x0.75
Operating conditions	F 1 (large geographical areas with cold climate, outdoor application)
CRI, Ra	≥ 80
Operating temperature range, °C	– 40 to +45
Electrical safety classification	I
Lifetime of a luminaire, hrs	over 50,000

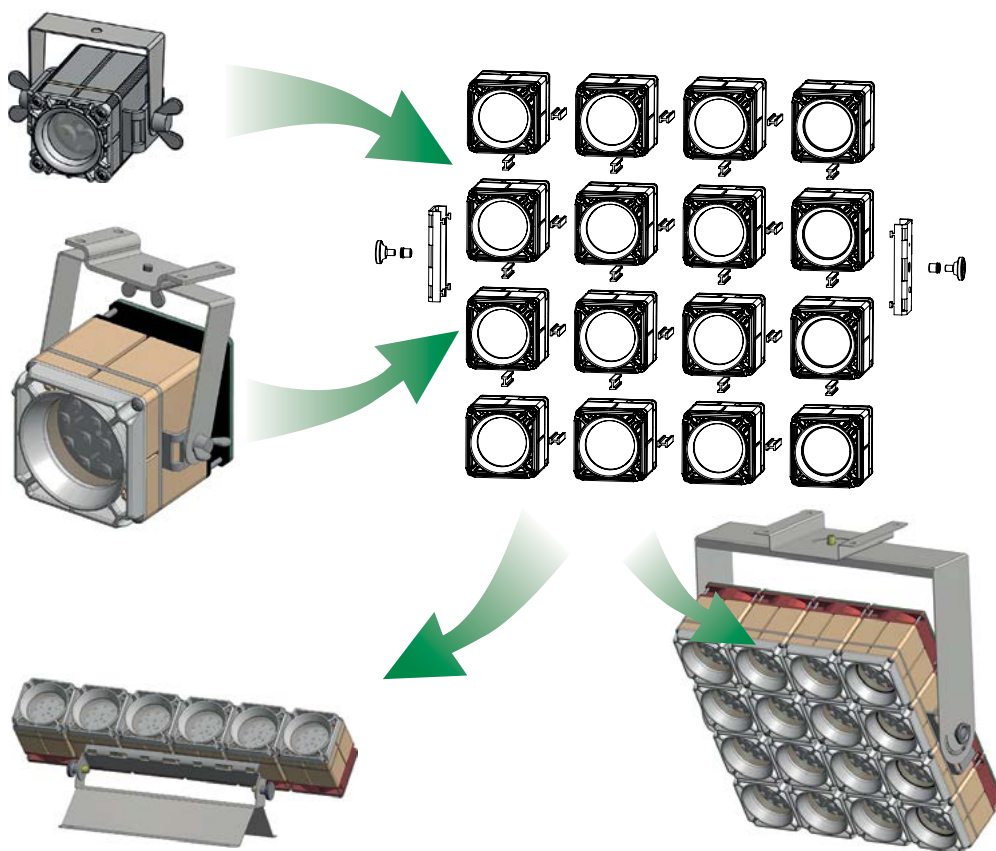
Applications

- accent lighting in shops
- exhibition booths
- ad banners
- wall washing and grazing
- general lighting for industrial areas and warehouses

Advantages

- 2-8 times lower energy consumption compared to luminaires with mercury-vapour, high-pressure sodium arc or incandescent lamps with similar luminous flux
- any luminous flux is available based on the number of modules used
- no flicker harmful for eyes
- no specific requirements for disposal

Floodlights are available in two versions: with a built-in 220/48V transformer and with an external 220/48V group transformer (transformer power depends on number of basic modules).





Product code	DS-LFL-3-8	DS-LFL-3x4-30
Power, W	8	32
Dimensions, LxWxH, mm	90 x 95 x 90	90 x 245 x 90
Luminous flux, lm: 5,000 K	760	3,150
Beam angle, degree	10, 15, 25, 45	
IP	65	
Weight, net / gross, kg	0.4 / 0.45	2.4 / 2.6

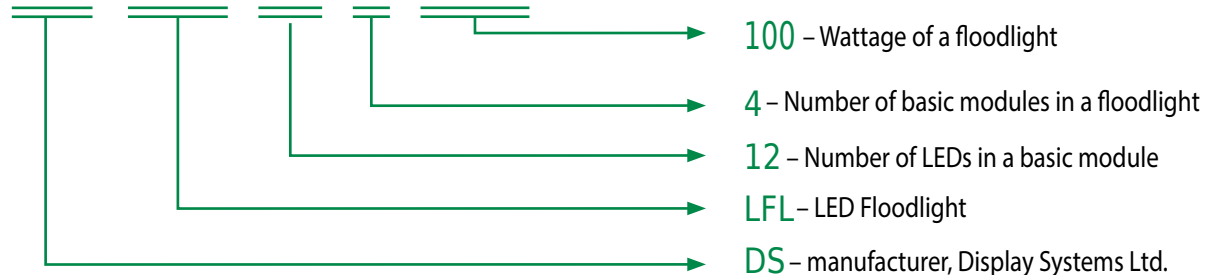


Product code	DS-LFL-12-24	DS-LFL-12x4-100
Power, W	25	103
Dimensions, LxWxH, mm	130 x 140 x 150	130 x 230 x 240
Luminous flux, lm: 5,000 K	2,400	10,300
Beam angle, degree	10, 15, 25, 45	
IP	65	
Weight, net / gross, kg	0.9 / 1.0	3.8 / 4.0

CCT customization – 2,700K to 6,500K; subject to order

PRODUCT CODE EXPLANATION

DS-LFL-12x4-100



General information

Energy-efficient and eco-friendly.

A wide range from 1W to 11W to replace incandescent lamps from 15W to 100W.

Various lamp shapes for various applications.

Lamp cap is made from shock-resistant PC, heatsink – from heat conductive plastic or plastic+aluminium.

High-efficacy LEDs from world leading manufacturers.

Most lamp designs are patented or are being patented.

Applications

- General illumination
- Households
- Supermarkets and trade floors
- Bars and restaurants

Advantages

- Patented designs
- Eco-friendly and safe
- Up to 85% of energy savings – 12 times less energy consumption compared to incandescent lamps
- High lm/W performance
- Low percent flicker
- LED temperature control to prevent LED overheating
- Unique high-efficiency PFC driver
- Low lumen degradation
- Suitable for outdoor fixtures
- Operable under voltage fluctuations



Delta series

UNIQUE EFFECTIVE PATENTED LAMP DESIGNS

Comfortable warm light

Passive cooling
for a better heat
dissipation



High efficacy of our LED lamps is due to a specific patented design of a heatsink. It ensures a better heat dissipation from LEDs making them last longer.

Heatsink features

- Patented heatsink design with air gaps
- Bigger heat dissipating surface compared to conventional lamps
- Longer lifetime of a driver and a lamp in general
- Use of two materials – aluminium and heat-conductive plastic

International applications with registered priority: PCT/RU2014/000997, PCT/RU2014/000998, PCT/RU2014/000999.

International application WO2011162634 – LED lamp.

Applications in Germany DE 112010005700 T5 and China CN 201080067737.5.

International publication WO2013109161 – General purpose LED lamp. Application in Europe EP2827056.

International publication WO2014193266 – LED lamp.

Voltage, V / Frequency, Hz	230 / 50
CRI, Ra	>80
Operating temperatures range, °C	–10 to +50
Electrical safety classification	II
Colour temperature, K	2,700
Ingress Protection Rating, IP	40
Lifetime, hours	more than 30,000



Product code	Delta-5(50)-S-E14	
Wattage, W	5	
Incandescent equivalent	50 W	
Consumption compared to incandescent lamps	10 times lower	
Dimensions, Ø x L, mm	35 x 111	35x79
Luminous flux, lm	450	
Weight, g	35	25
Housing colour	white	
Base	E14	
Heatsink	plastic + metal	

Delta series



Product code	Delta-7(60)-S-E27	Delta-7(60)-S-B22d	Delta-7(60)-S-E27	Delta-7(60)-S-B22d
Wattage, W	7			
Incandescent equivalent	60 W			
Consumption compared to incandescent lamps	9 times lower			
Dimensions, Ø x L, mm	45x115	45x113	45 x 88	
Luminous flux, lm	650			
Weight, g	55	57	55	
Housing colour	white			
Base	E27, B22d			
Heatsink	plastic + metal			



Product code	Delta-11(95)-S-E27	Delta-11(95)-S-B22d
Wattage, W	11	
Incandescent equivalent	95 W	
Consumption compared to incandescent lamps	9 times lower	
Dimensions, Ø x L, mm	63 x 108	
Luminous flux, lm	1,000	
Weight, g	80	
Housing colour	white	
Base	E27, B22d	
Heatsink	plastic + metal	

Alfa series

Voltage, V / Frequency, Hz	230 / 50
CRI, Ra	>80
Operating temperatures range, °C	-10 to +50
Electrical safety classification	II
Colour temperature, K	2,700
Ingress Protection Rating, IP	40
Lifetime, hours	more than 30,000



Product code	Alfa-3(35)-S-E14	Alfa-5(50)-S-E27
Wattage, W	3	5
Incandescent equivalent	35 W	50 W
Consumption compared to incandescent lamps	12 times lower	10 times lower
Dimensions, Ø x L, mm	35 x 110	35 x 108
Luminous flux, lm	300	450
Weight, g	35	45
Housing colour	white	
Base	E14	E27
Heatsink	plastic	plastic + metal



Product code	Alfa-7(60)-S-E27	Alfa-9(75)-S-E27
Wattage, W	7	9
Incandescent equivalent	60 W	75 W
Consumption compared to incandescent lamps	9 times lower	8 times lower
Dimensions, Ø x L, mm	45 x 83	63 x 107
Luminous flux, lm	650	800
Weight, g	50	100
Housing colour	white	
Base	E27	E27
Heatsink	plastic + metal	

Omega series

Voltage, V / Frequency, Hz	230 / 50
CRI, Ra	>80
Operating temperatures range, °C	-10 to +50
Electrical safety classification	II
Colour temperature, K	2,700
Ingress Protection Rating, IP	40
Lifetime, hours	more than 30,000

Transparent caps for chandeliers
Small size



Product code	Omega-3(35)-S-E27	Omega-3(35)-S-E14
Wattage, W	3	3
Incandescent equivalent	35 W	35 W
Consumption compared to incandescent lamps	12 times lower	12 times lower
Dimensions, Ø x L, mm	27 x 80	27 x 80
Luminous flux, lm	300	300
Weight, g	30	20
Housing colour	white	
Base	E27	E14
Heatsink	plastic	

Sigma series

Voltage, V / Frequency, Hz	230 / 50
CRI, Ra	>80
Operating temperatures range, °C	-10 to +50
Electrical safety classification	II
Colour temperature, K	2,700
Ingress Protection Rating, IP	40
Lifetime, hours	more than 30,000



Product code	Sigma-5(50)-S-E27 Sigma-5(50)-S-E14 Sigma-5(50)-S-B22d	Sigma-7(60)-S-E27 Sigma-7(60)-S-B22d
Wattage, W	5	7
Incandescent equivalent	50 W	60 W
Consumption compared to incandescent lamps	10 times lower	9 times lower
Dimensions, Ø x L, mm	35 x 112	45 x 95
Luminous flux, lm	450	650
Weight, g	35	50
Housing colour	white	
Base	E27, E14, B22d	E27, B22d
Heatsink	plastic + metal	

NEW

Spotlight lamps

In production from Q2 2016



Gamma series

Colour LED lamps for indoor and outdoor decorative lighting.

Available colours, to order: red, yellow, yellow-green, green, blue, orange, white and others.



Product code	Gamma-1(15)-S-E27
Wattage, W	1
Incandescent equivalent	15 W
Consumption compared to incandescent lamps	15 times lower
Dimensions, Ø x L, mm	45 x 105
Operating temperatures range, °C	-60 ... +50
Luminous flux, lm	67
Lifetime, hours	more than 30,000
Weight, g	60
Housing colour	white
Base	E27
Heatsink	plastic

PRODUCT CODE EXPLANATION

Alfa-0(00)-X-E00

E00 – screw base:

E27, E14, B22d

X-driver type:

S - AC direct dimmable driver

(00) – equivalent wattage of an incandescent lamp, W

0 – wattage, W

Lamp series:

Alfa, Delta, Omega, Sigma, Gamma

OFFICE

Luminaire Code	Individual Package Dimensions	Group Package Dimensions	Luminaires in a Group Package
LL-DVO-020-M600x300	–	605 x 605 x 75	2
LL-DVO-033-M600x600	605 x 605 x 75	620 x 370 x 635	5
LL-DVO-041-M600x600	605 x 605 x 75	620 x 370 x 635	5
LL-DVO-041-M1200x300	1,230 x 315 x 70	–	–
LL-DVO-082-M1200x600	1,230 x 615 x 70	–	–
LL-DVO-033-ALISA	605 x 605 x 75	620 x 370 x 635	5
LL-DVO-040-ALISA	605 x 605 x 75	620 x 370 x 635	5
LL-DVO-033-NIKA	605 x 605 x 75	620 x 370 x 635	5
LL-DVO-020-P600x300	–	605 x 605 x 75	2
LL-DVO-033-P600x600	605 x 605 x 75	620 x 370 x 635	5
LL-DVO-040-P600x600	605 x 605 x 75	620 x 370 x 635	5
LL-DVO-021-M600x600	605 x 605 x 75	620 x 370 x 635	5
LL-DVO-032-M600x600	605 x 605 x 75 / 605 x 605 x 90	620x370x635 / –	5
LL-DVO-021-P600x600	605 x 605 x 75	620x370x635	5
LL-DVO-024-P600x600	605 x 605 x 75	620x370x635	5
LL-DVO-032-P600x600	605 x 605 x 75	620x370x635	5

STREET AND ROAD. MAG2

Luminaire Code	Individual Package Dimensions	Group Package Dimensions	Luminaires in a Group Package
MAG2-018-112	592 x 120 x 111	606 x 256 x 352	6
MAG2-030-134	857 x 346 x 116 (2 pcs.)	–	–
MAG2-045-136	800 x 117 x 112	–	–
MAG2-060-148	900 x 117 x 112	–	–
MAG2-090-236	804 x 215 x 112	–	–
MAG2-120-148	1,012 x 235 x 112	–	–
MAG2-135-336	832 x 360 x 122	–	–
MAG2-150-260	1,032 x 226 x 116	–	–

STREET AND ROAD. MAG3, MAG4

Luminaire Code	Individual Package Dimensions	Group Package Dimensions	Luminaires in a Group Package
MAG3-030-112	592 x 120 x 111	606 x 256 x 352	6
MAG3-060-124	659 x 149 x 115	–	–
MAG3-085-136	820 x 149 x 115	–	–
MAG3-105-148	918 x 149 x 115	–	–
MAG3-135-160	1,032 x 120 x 111	–	–
MAG4-160-236	1,102 x 226 x 116	–	–
MAG4-215-248	1,197 x 226 x 116	–	–
MAG4-270-260	1,292 x 226 x 116	–	–

INDUSTRIAL. INDUSTRY.2

Luminaire Code	Individual Package Dimensions	Group Package Dimensions	Luminaires in a Group Package
INDUSTRY.2-018-112	250 x 135 x 133	–	–
INDUSTRY.2-030-124	420 x 135 x 133	–	–
INDUSTRY.2-045-136	450 x 135 x 133	–	–
INDUSTRY.2-060-148	545 x 135 x 133	–	–
INDUSTRY.2-090-236	535 x 236 x 133	–	–
INDUSTRY.2-120-248	535 x 236 x 133	–	–
INDUSTRY.2-090-36/36	814 x 120 x 130	–	–
INDUSTRY.2-120-48/48	1,032 x 120 x 130	–	–
INDUSTRY.2-150-60/60	1,170 x 120 x 130	–	–

INDUSTRIAL. INDUSTRY.3

Luminaire Code	Individual Package Dimensions	Group Package Dimensions	Luminaires in a Group Package
INDUSTRY.3-030-112	250 x 135 x 133	–	–
INDUSTRY.3-060-124	340 x 135 x 144	–	–
INDUSTRY.3-085-136	450 x 135 x 144	–	–
INDUSTRY.3-105-148	545 x 135 x 144	–	–
INDUSTRY.3-135-160	630 x 135 x 144	–	–

Notes:

- Luminaire and package dimensions can suffer insignificant changes without notification of a buyer
- If a group package is not indicated, luminaires can be supplied in group packages upon agreement with a client

INDUSTRIAL. INDUSTRY.4

Luminaire Code	Individual Package Dimensions	Group Package Dimensions	Luminaires in a Group Package
INDUSTRY.4-160-236	812x232x144	–	–
INDUSTRY.4-215-248	954x234x140	–	–
INDUSTRY.4-270-260	954x234x140	–	–

INDUSTRY. P

Luminaire Code	Individual Package Dimensions	Group Package Dimensions	Luminaires in a Group Package
INDUSTRY.P 18	415 x 125 x 100	–	–
INDUSTRY.P 20	690 x 175 x 120	–	–
INDUSTRY.P 32	1,290 x 175 x 120	–	–
INDUSTRY.P 44	1,290 x 175 x 120	–	–
INDUSTRY.P 52	1,290 x 175 x 120	–	–
INDUSTRY.P 64	1,290 x 175 x 120	–	–

ARCHITECTURAL

Luminaire Code	Individual Package Dimensions	Group Package Dimensions	Luminaires in a Group Package
FASAD-500	580 x 110 x 110	–	–
FASAD-1000	1,010 x 110 x 110	–	–

LINEAR

Luminaire Code	Individual Package Dimensions	Group Package Dimensions	Luminaires in a Group Package
LINE.V 16	632 x 120 x 80	–	–
LINE.V 33	1,172 x 120 x 80	–	–
LINE.P 16	632 x 120 x 80	–	–
LINE.P 33	1,172 x 120 x 80	–	–
LINE.N 8	390 x 100 x 85	–	–
LINE.N 16	665 x 100 x 85	–	–
LINE.N 32	1,240 x 100 x 85	–	–

LED DOWNLIGHTS

Luminaire Code	Individual Package Dimensions	Group Package Dimensions	Luminaires in a Group Package
SPOT 4/95	112 x 112 x 40	–	–
SPOT 6/105	112 x 112 x 40	–	–
SPOT 7/115	160 x 160 x 50	–	–
SPOT 11/154	160 x 160 x 50	–	–

UTILITY

Luminaire Code	Individual Package Dimensions	Group Package Dimensions	Luminaires in a Group Package
DELTA 1	115 x 105 x 40	–	–
DELTA 2	190 x 190 x 45	–	–
DELTA 3	270 x 275 x 50	–	–
DELTA 4	275 x 275 x 50	–	–

HORTICULTURAL

Luminaire Code	Individual Package Dimensions	Group Package Dimensions	Luminaires in a Group Package
ILLUMINATION PHYTO 60	1,020 x 70 x 40	–	–
INDUSTRY.3-160-36/36 (PHYTO)	760 x 130 x 170	–	–
INDUSTRY.3-215-48/48 (PHYTO)	1,032 x 120 x 170	–	–
INDUSTRY.3-320-272 (PHYTO)	795x236x170	–	–
INDUSTRY.3-480-372 (PHYTO)	780x340x170		
PHYTO 400	632x120x80		
PHYTO 800	1,172 x 120 x 80		

RETAIL

Luminaire Code	Individual Package Dimensions	Group Package Dimensions	Luminaires in a Group Package
ILLUMINATION 6	476 x 65 x 45	967 x 342 x 249	50
ILLUMINATION 8	476 x 65 x 45	967 x 342 x 249	50
ILLUMINATION 11	876 x 65 x 45	967 x 342 x 249	25
ILLUMINATION 15	876 x 65 x 45	967 x 342 x 249	25
ILLUMINATION 24	1,276 x 65 x 45	–	–
AR-111-12	110 x 110 x 100	–	–

AMENITY

Luminaire Code	Individual Package Dimensions	Group Package Dimensions	Luminaires in a Group Package
BALL 250S (suspended)	270 x 310 x 270	–	–
BALL 250	270 x 330 x 270	–	–
BALL 400-30	420 x 480 x 420	–	–
BALL 400-60	420 x 480 x 420	–	–

FLOODLIGHTS

Luminaire Code	Individual Package Dimensions	Group Package Dimensions	Luminaires in a Group Package
DS-LFL-3-8	110 x 115 x 110	–	–
DS-LFL-3x4-30	110 x 265 x 110	–	–
DS-LFL-12-24	150 x 160 x 170	–	–
DS-LFL-12x4-100	150 x 250 x 260	–	–

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