

CU
Phosco
LIGHTING



The **KING**
of the
ROAD



These luminaires comply with ETL guidelines for White Light Emitting Diode Lighting Units and is eligible for the Enhanced Capital Allowance (ECA) scheme.



HEA Warranty Code
Compliant

INTRO

Whatever your requirement for lighting major road infrastructures or small residential streets our King of the Road range of Luminaires will maximise your energy efficiency. The range of luminaires has a lumen output ranging from 78,050 lm down to 3,680 lm with multiple optical distributions to meet any lighting class.

Contractor-friendly installation and ease of maintenance with minimal total cost of ownership makes this range of luminaires perfectly suited for ease of project delivery.



	P860 - 672	P861 - 448	P862 - 256	P863 - 128
MAX. LUMINOUS FLUX	24,100 ~ 78,050lm	15,900 ~ 52,310lm	8,050 ~ 31,075lm	3,680~ 16,750lm
MAX. LUMINAIRE EFFICACY	163 lm/W	162 lm/W	159 lm/W	159 lm/W
LUMEN MAINTENANCE *Full power, T _a = 25°C	L86 @ 100,000 hrs	L86 @ 100,000 hrs	L90 @ 100,000 hrs	L90 @ 100,000 hrs

*Lumen depreciation calculated up to 100,000 hours using IES TM-21 method.

KEY BENEFITS

- Slim and elegant aesthetics
- Future-proof and upgradable on site
- Max. luminaire efficacy - 163 lm/W
- Wide range of optics and lumen packages
- Advanced thermal management
- Maximised savings on energy and maintenance costs
- Contractor-friendly installation and maintenance
- Minimal total cost of ownership
- Up to ME1 lighting class applications
- Dark sky friendly and no upward light
- Flexible and intelligent lighting control options
- Low windage and lightweight
- IP66 ingress protection
- 100% recyclable

IMPROVED SERVICEABILITY



- Tool-less access
- Easy, fast wiring and installation
- Contractor-friendly maintenance
- Quick replacement for LED and Driver compartment
- Automatic electrical isolation when opened
- Easy electrical testing without altering wiring

FLEXIBLE MOUNTING OPTIONS

Universal SE/PT spigot caps to suit 34-42mm, 42-60mm and 60-76mm nominal diameter spigots providing -10°, -5°, 0°, +5° and +10° tilt in both post top and side entry arrangements with permanent indication on the luminaire.

Ø 60 - 76MM X 76MM POST-TOP



Ø 34 - 42MM X 100MM SIDE-ENTRY / POST-TOP



Ø 42 - 60MM X 100MM SIDE-ENTRY / POST-TOP



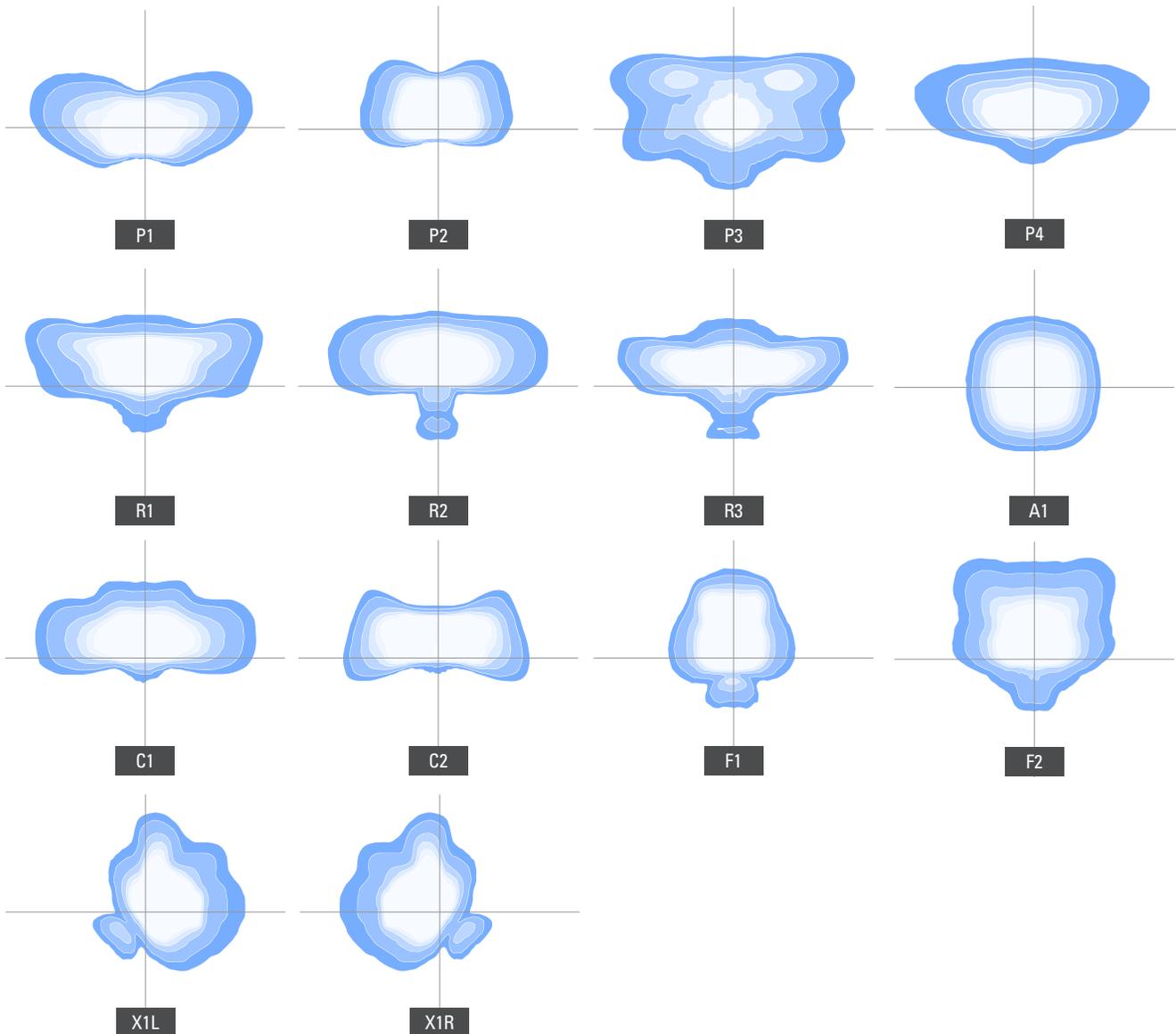
EXCEPTIONAL OPTICAL PERFORMANCE

Standard Neutral White LEDs (CCT = 4000K)
Optional Warm White LEDs (CCT = 3000K)
Colour Rendering Index > 70
Improved mesopic vision
High quality PMMA lenses
Exceptional uniformity
Dark sky-friendly (zero upward light)
Minimal glare (up to G6)

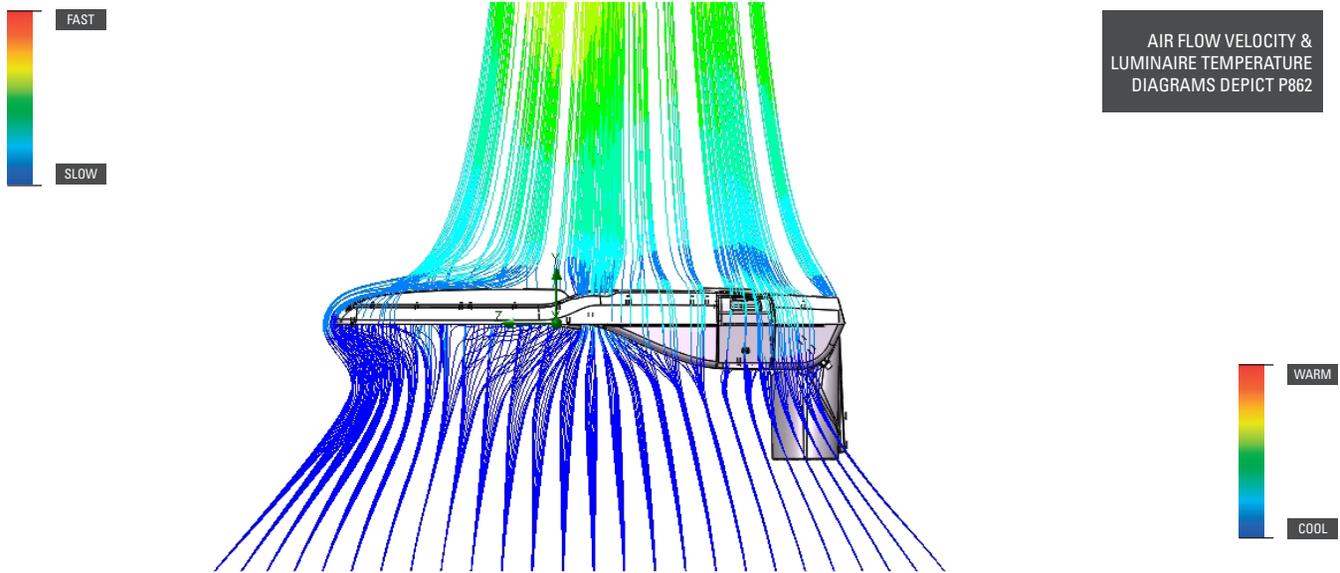


OPTICAL DISTRIBUTIONS

The P860, P861, P862 and P863 all offer a wide choice of optics and lumen packages. High efficacy optics with up to 25 distributions (14 shown below) allows most challenging schemes to be effectively lit with maximum energy efficiency. Specialised optics are provided for amenity, pedestrian crossings (X1 and X2) and floodlighting as well as the usual residential, main road and conflict area distributions.



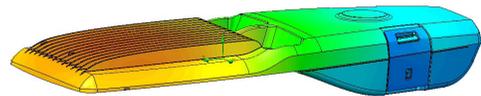
ADVANCED THERMAL MANAGEMENT



AIR FLOW VELOCITY & LUMINAIRE TEMPERATURE DIAGRAMS DEPICT P862

This King of the Road family of Luminaires uses widely spaced LED chips, combined with large surface cooling area as well as longitudinal fins to avoid any centralised heating problem which occurs in typical modular LED luminaire designs, thus maintaining all LEDs at an even low temperature.

The complete separation of the driver compartment from LEDs keeps the drivers very cool, significantly increasing the luminaire operating life in high ambient operating temperatures.



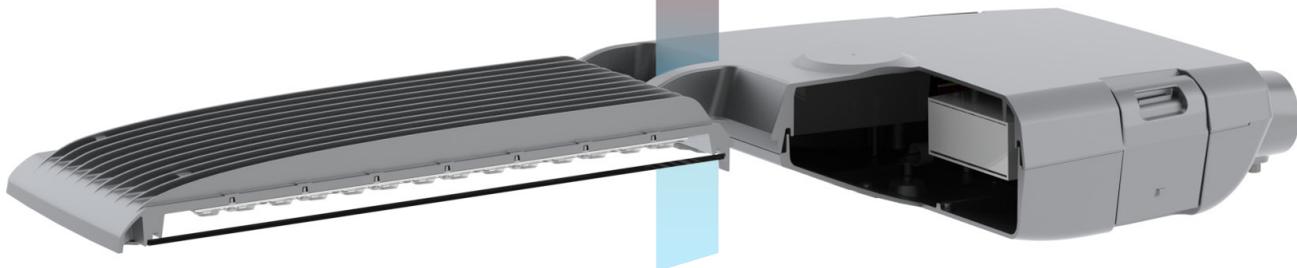
LUMINAIRE TEMPERATURE RESULTS FROM CFD

AIR VOID

- Both gear and optical compartments are separated in order to optimise thermal management

PROGRAMMABLE DRIVER

- Module Temperature Protection (MTP)
- Single level or multi-level dimming
- Adjustable Output Current (AOC)
- Constant Light Output (CLO)
- DALI dimmable
- Integrated surge protection
- Driver thermal protection



FLAT GLASS

- Vandal resistant toughened glass
- Increased light transmission
- Dark sky friendly
- Suitable for harsh environment
- Easy cleaning externally

LEDS

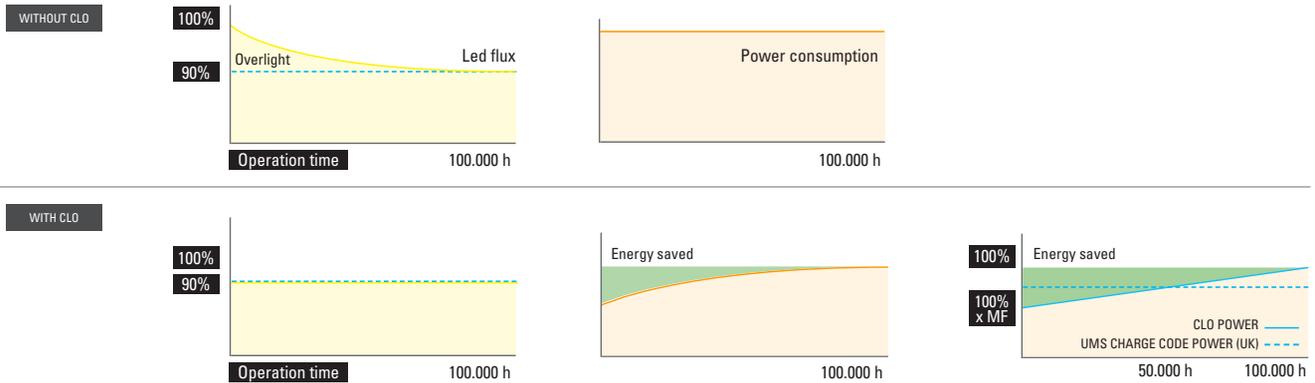
- Superior light output
- High efficacy
- Proven reliability
- Tight CCT control

CONSTANT LIGHT OUTPUT (CLO)

All light sources experience lumen depreciation - a reduction in light output over time, which means the system would consume more power than necessary to meet the required light levels at the end of the lamp's useful life (e.g. L90).

The drivers of the P860, P861, P862 and P863 can be programmed to ensure that the LEDs will always deliver the necessary light level, by increasing the operating current over time to compensate for the LED lumen depreciation. Over-lighting at the beginning is taken away

and this feature can produce extra energy saving and extend the lifetime of the system.



PROGRAMMABLE LIGHTING CONTROLS

The programmable driver enables CU Phosco Lighting to adjust the light level to match a specific application with optimised energy savings. The various control options offer different levels of energy savings, from simple stand-alone controls to more advanced networked Central Management Systems (CMS).

The range is currently compatible with the following CMS:

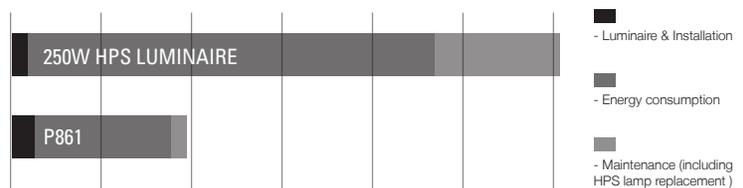
- Mayflower
- Philips Starsense
- Telensa PLANet
- Zodion Vizion
- Ask Controls RMS
- Telematics
- CityTouch
- CELEtek

CONTROL SYSTEM	BENEFITS	FUNCTIONALITY	RELATIVE SAVING	WITH CLO
Photocell	Standard control	Switch on/off with ambient light level	0%	up to 10%
Multi-step dimming	Substantial energy saving	Programmable dimming (up to 5 steps)	up to 20%	up to 30%
Wireless CMS	Full control and monitoring of each individual luminaire	DALI and 1-10V dimming inputs with full CMS functionality	up to 40%	up to 50%

TOTAL COST OF OWNERSHIP

While HID technology has a low initial cost, it requires frequent maintenance, resulting in a high total cost of ownership.

The P860, P861, P862 and P863 with dimming and CLO options deliver an attractive total cost of ownership package making it extremely competitive for invest-to-save schemes.

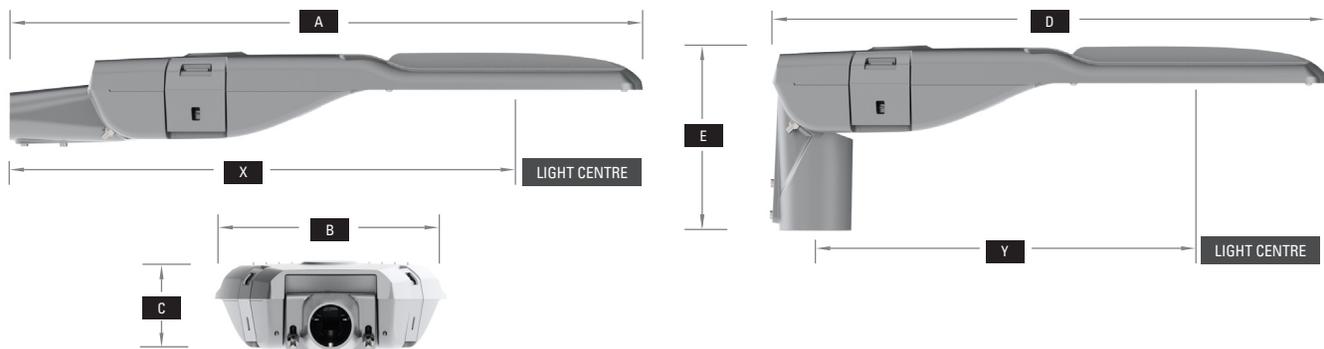


* Based on S and P class example above, standard control, 20 years lifetime

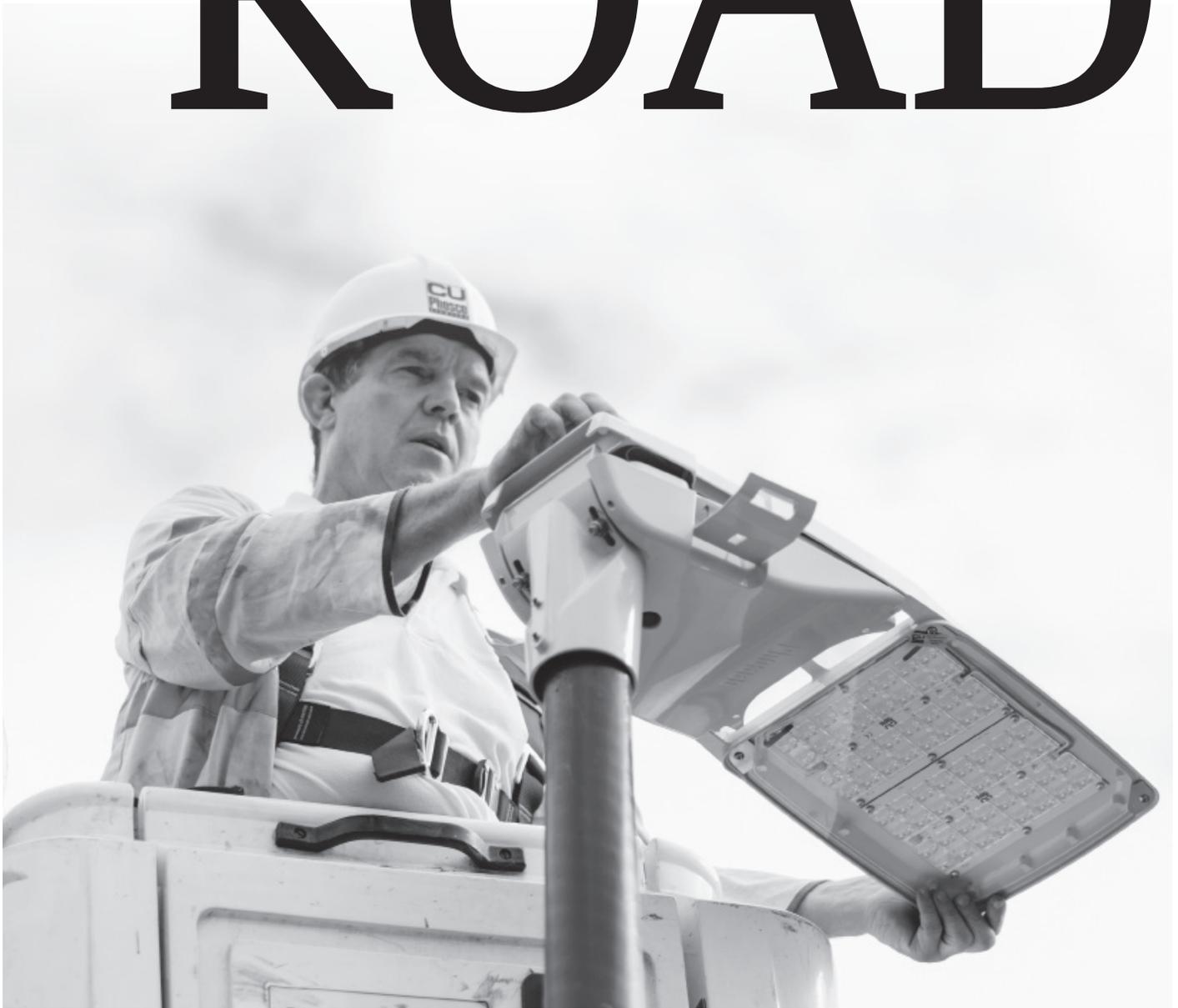
	P860	P861	P862	P863
Number of LEDs	672	448	256	128
Power consumption	150 - 473W	100 - 342W	52 - 194W	28 - 110W
Driver current (25mA steps)	300mA - 1050mA	300mA - 1050mA	200mA - 800mA	200mA - 850mA
Lumen maintenance	L90 > 100,000 hours (850mA, Ta = 25°C) L86 > 100,000 hours (1050mA, Ta = 25°C)	L86 > 100,000 hours (1050mA, Ta = 25°C)	L90 > 100,000 hours (800mA, Ta = 25 5°C)	L90 > 100,000 hours (850mA, Ta = 25°C)

Operating Temperature	-40°C to +50°C
Raised Ambient Temperature	+50°C (with limit on maximum mA)
Correlated colour temperature (CCT)	4000K (3000K option)
Colour rendering index (CRI)	>70
Glare rating	up to G6
Optical cover	Flat glass - Tested to IK09
Electrical class	Class I - All types Class II - All except P860
Surge protection	10 kV Common Mode, 6 kV Differential Mode to IEC 61000-4-5
Dimming	multi-step dimming
Control system input	DALI or Step-dimming
Lighting regulation	Mini Photocell • 7-pin ANSI Socket • Zhaga Book 18 socket • Bluetooth Control Node • Central Management Systems
CMS	Compatible with CMS systems
Installation	SE Ø 34-42mm or Ø 42-60mm PT Ø 42-60mm or Ø 60-76mm
Post top / Side entry tilt	-10°, -5°, 0°, 5°, 10°
Material (body)	High pressure die cast aluminium
Finish	Polyester powder coat cured under heat
Colour	Light grey (RAL 7035), other RAL colours available on request
Ingress protection	IP66

	Dimension (mm)							CxS(m ²)	Light Centre	Kg max
	A	B	C	D	E	X	Y			
P860	1060	470	110	960	235	790	630	0.054	8 - 20m	19.5
P861	935	370	110	835	238	700	543	0.042	8 - 17m	14.5
P862	810	296	110	710	235	628	470	0.042	5 - 8m	9.7
P863	740	240	110	640	235	600	445	0.039	4 - 6m	8.2



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