



P861

Next Generation LED Luminaire





P861 LED luminaire excels in optical performance, thermal management, compatibility and serviceability, bringing an uncompromised outcome of efficiency and versatility that is future-proofed for an optimised investment.

P861 has been designed to meet most demanding lighting requirements, being easy to install and maintain. It combines latest LED light source with state-of-the-art design, achieving long life for both LEDs and the drivers. The installation is simple and fast, and the luminaire is easily upgradable on-site if required.

P861 is the ultimate solution to replace traditional HID sources. Being lightweight and having a low profile wind area enables the P861 to be safely installed on existing lighting columns and brackets.



Luminaire Luminous Flux	up to 39,600 lm
Luminaire Efficacy	up to 137 lm/W
Lumen Maintenance	L86 > 100,000 hrs at full power, Ta = 25°C
Photometric options	14 distributions

KEY BENEFITS

- Slim and elegant aesthetics
- Future-proof, upgradable on site
- Superior luminaire efficacy up to 137 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 ME2 lighting class applications
- Up to G6 glare rating. Dark sky friendly, 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

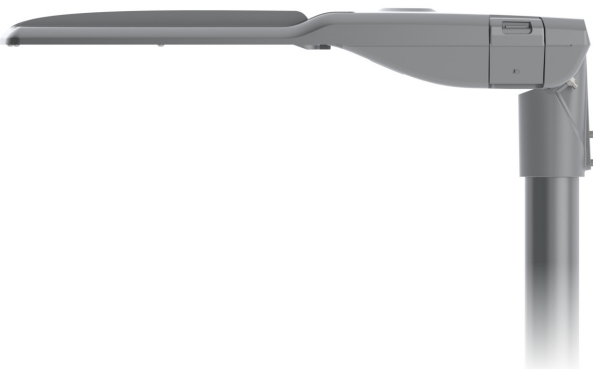
Universal SE/PT spigot caps to suit 34-42mm, 42-60mm and 60-76mm nominal diameter spigots providing -10°, -5°, 0°, +5° and +10° tilt in both post top and side entry arrangements with permanent indication on the luminaire.



Ø 34 - 42mm x 100mm Side-entry / Post-top



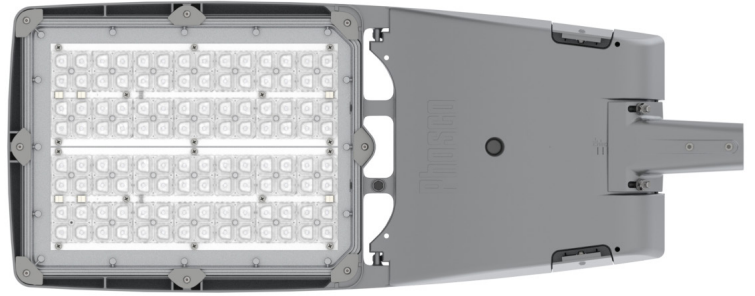
Ø 42 - 60mm x 100mm Side-entry / Post-top



Ø 60 - 76mm x 76mm Post-top

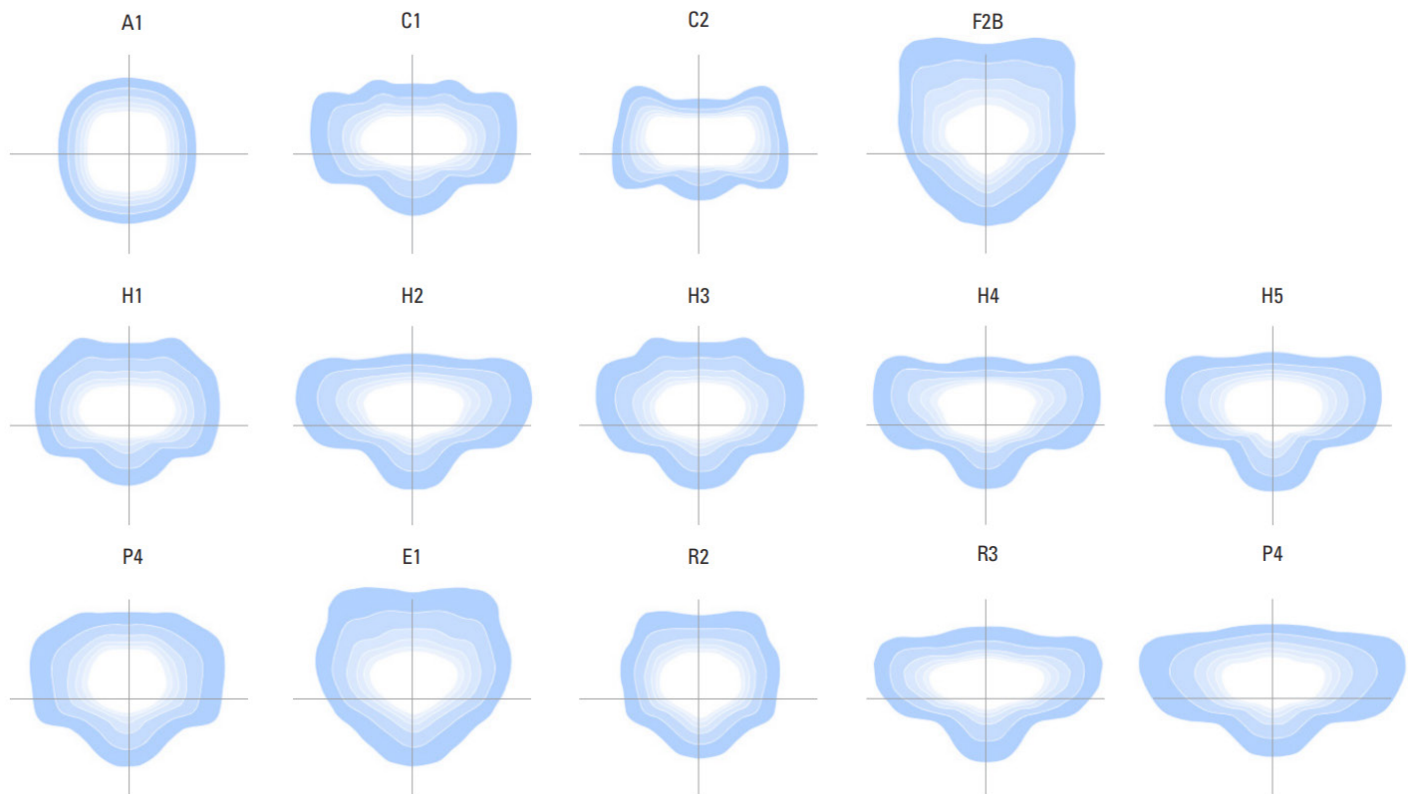
EXCEPTIONAL OPTICAL PERFORMANCE

- 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)

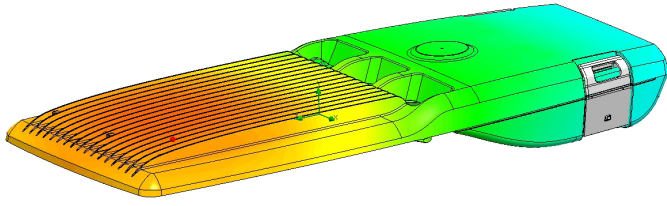


OPTICAL DISTRIBUTIONS

P861 offers a wide choice of optics and lumen packages. High efficacy optics with 14 distributions allows most challenging schemes to be effectively lit with maximum energy efficiency.



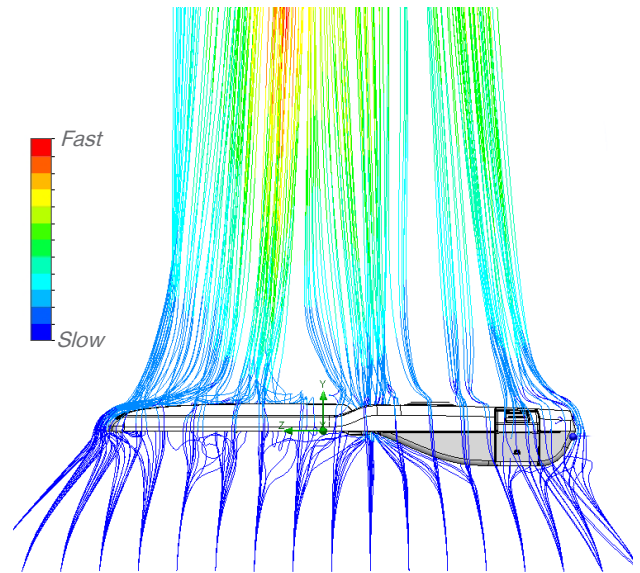
ADVANCED THERMAL MANAGEMENT



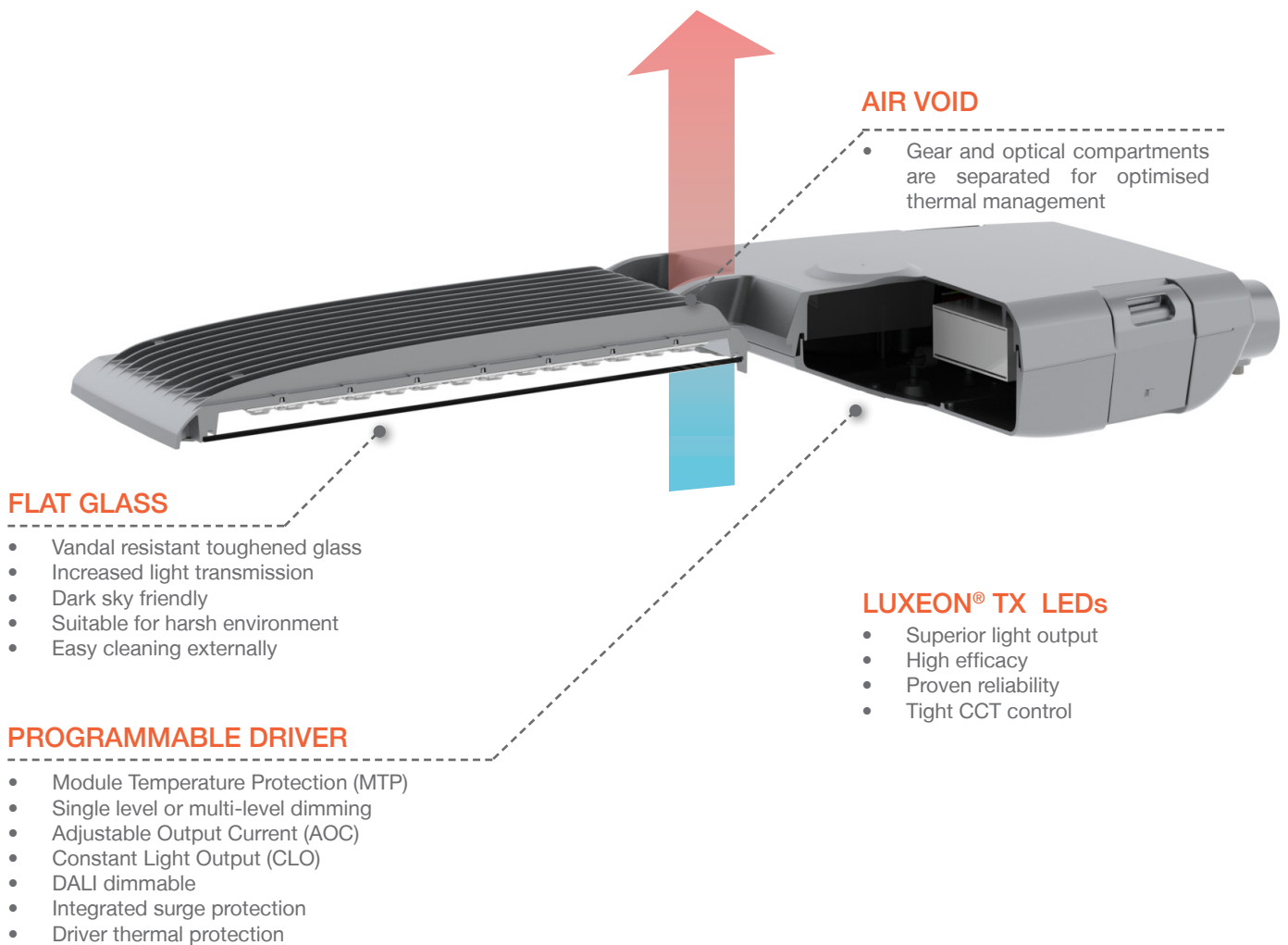
Luminaire temperature results from CFD

P861 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.



Air flow velocity & luminaire temperature

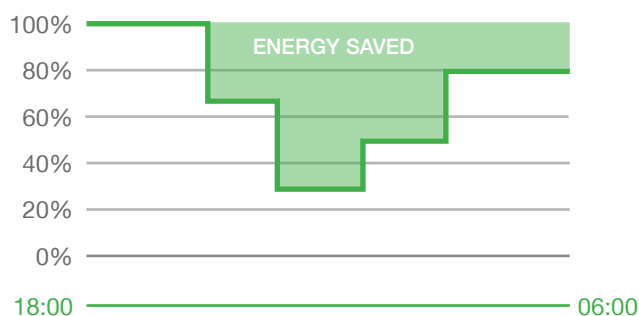


MULTI-STEP DIMMING

The programmable driver incorporates the multi-step dimming feature, a programmable 5-step dimming system which will generate substantial energy savings by providing the precise amount of light at the right time.

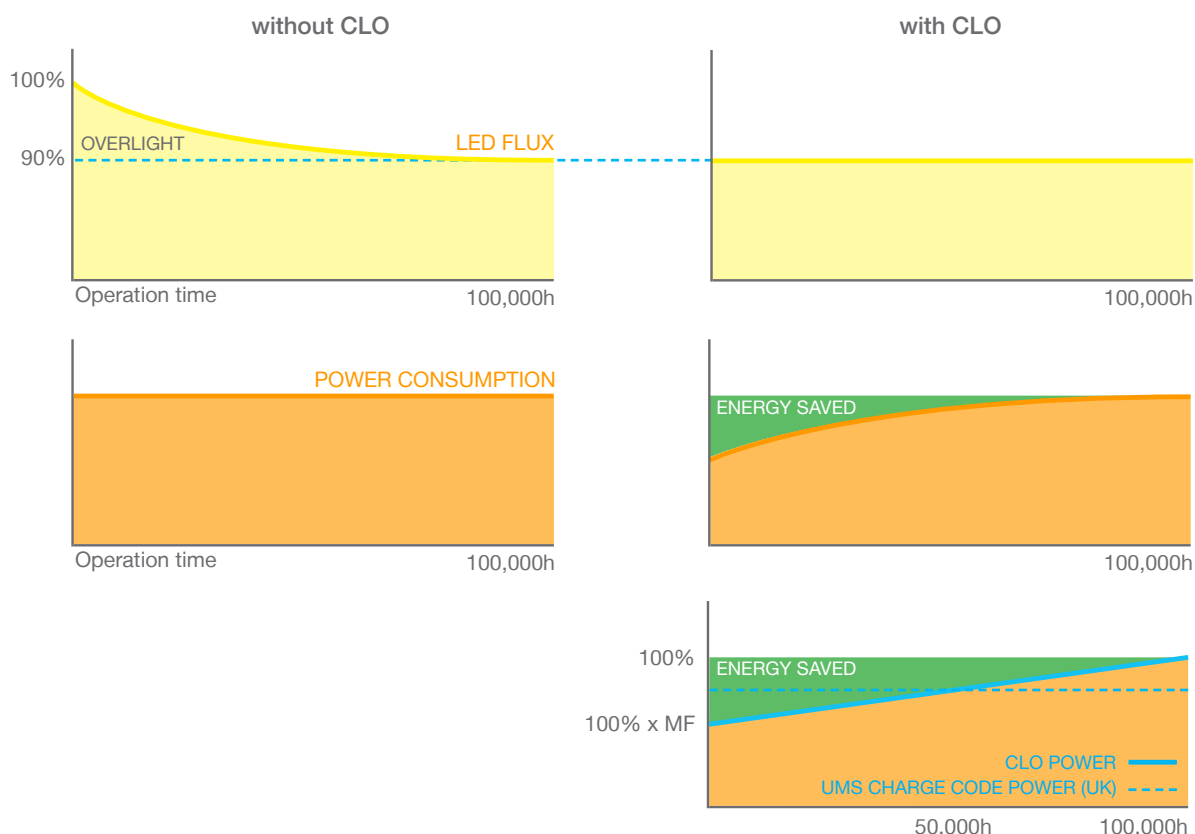
The times and light levels are fully flexible to suit the lighting profile required.

The driver is able to calculate the virtual clock time by analysing the duration of operation of the driver from the previous 3 days and sets the times of 5 light level steps accordingly.



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 P861 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 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).

P861 is currently compatible with the following CMS:

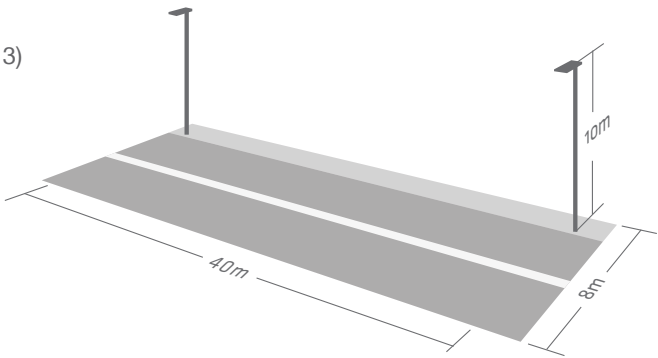
- Ask Controls RMS
- Harvard LeafNut
- Mayflower
- Philips Starsense
- Telensa PLANet
- Zodion Vizion

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%

M CLASS SCHEME EXAMPLE

Road refurbishment ME3b lighting class (EN13201/BS5489-1:2013)

Luminaire replacement with existing column at 40m spacing, 10m height and single sided arrangement.



	Lave	Uo	UI	Ti (%)	SR				
Target (M3)	1.0	0.4	0.60	15	0.5	W (System)	Luminaire Efficacy	W / km	Energy Savings
150W HPS Luminaire	1.02	0.45	0.77	13.4	0.66	180	75 lm/W	4500	-
P861	1.01	0.57	0.65	8.14	0.55	110	111 lm/W	2750	39%
P861 (with CLO)	1.01	0.57	0.65	8.14	0.55	108	-	2700	40%

TOTAL COST OF OWNERSHIP

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

P861 with dimming and CLO options delivers an attractive total cost of ownership package making it extremely competitive for invest-to-save scenarios.

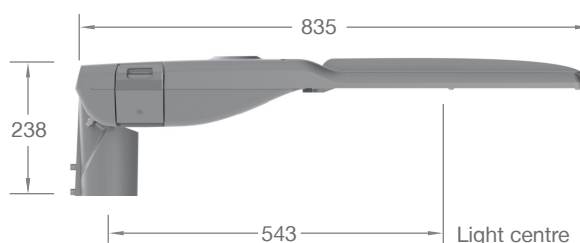
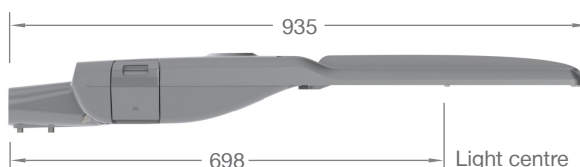


- Luminaire & Installation
- Energy consumption
- Maintenance (including HPS lamp replacement)

*Based on example above, standard control, 20 years lifetime

P861 SPECIFICATION

Light Source	Lumileds LUXEON® TX LEDs
Number of LEDs	112
Number of Drivers	2
Power Consumption	105 ~ 342W
Luminaire Luminous Flux	14,500 ~ 39,600 lm
Luminaire Efficacy	up to 137 lm/W
Driver Current (in 25mA steps)	300mA ~ 1000mA
Lumen Maintenance Output (Ta = 25°C)	L86 > 100,000 hours
Operating Temperature (for 100,000 hrs)	-30°C to +40°C (1000mA)
Maximum Operating Temperature	50°C
Weight (Total)	14.5kg
Correlated Colour Temperature	4000K (3000K optional)
Glare Rating	up to G6 (depending on lens)
Colour Rendering Index	> 70
Optical Cover	Flat Glass
Electrical Class	I
Control System Input	DALI or Step-dimming
Surge Protection	Up to ANSI C62.41.2 high exposure for 10kV, 10kA level
Dimming Control	Multi-step dimming
Lighting Regulation	Mini Photocell • NEMA Socket • Wireless CMS options
Installation Height	8 ~ 15m
Installation	Ø 34-42mm x 100mm SE • Ø 42-60mm x 100mm SE/PT Ø 60-76mm x 76mm PT
Post Top / Side Entry Tilt	-10°, -5°, 0°, 5°, 10°
Material	High pressure die cast aluminum (Housing)
Finish	Polyester powder coat cured under heat
Colours	Light grey (RAL 7035), other RAL colours available on request
Ingress Protection	IP66
Wind Area (EPA)	0.042m ²



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