



P852

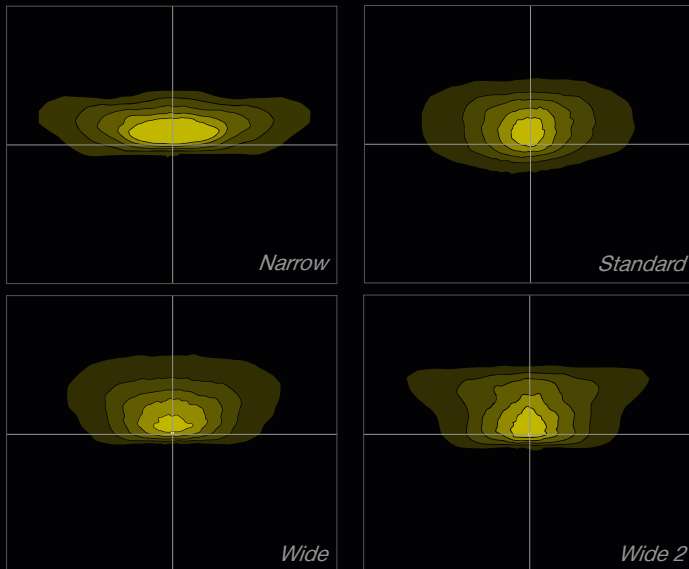
Next Generation LED Luminaire
for residential road lighting



P852 is a high quality, low cost solution to replace existing low pressure sodium (LPS) and compact fluorescent (CFL) luminaires on minor roads and residential areas.

BENEFITS

- Elegant, simple and state-of-the-art design
- Replace conventional HPS/CFL lanterns at extremely low cost
- Superior luminaire efficacy up to 114 lm / W
- Superior thermal management
- L80 > 100,000 hrs (1000mA, Ta = 15°C)
- L90 > 100,000 hrs (750mA, Ta = 15°C)
- Maximised savings on energy and maintenance costs
- Minimal total cost of ownership
- Up to S3/P3 lighting class applications
- Dark sky friendly, no upward light
- Flexible and intelligent lighting control options
- IP66 ingress protection
- 100% recyclable, low carbon footprint



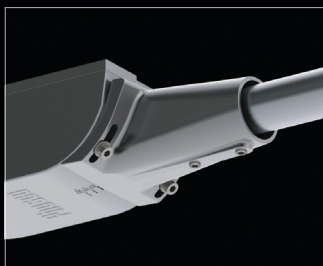
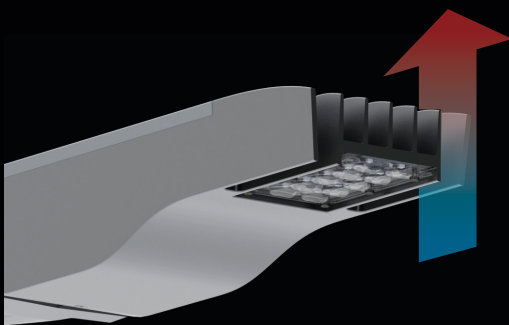
EXCEPTIONAL OPTICAL PERFORMANCE

- High quality LED and PMMA Lenses
- Standard Neutral White LEDs (CCT = 4000K)
- Colour Rendering Index > 70
- Improved mesopic vision
- Exceptional uniformity
- Dark sky-friendly (zero upward light)

Luminaire Luminous Flux	1400 ~ 3400 lm
Luminaire Efficacy	up to 114 lm/W

SUPERIOR THERMAL MANAGEMENT

P852's simple design gives direct thermal transfer from LEDs to the entire body. The integration of side rims adds additional thermal dissipation capabilities while completing the aesthetics of the luminaire.



FLEXIBLE MOUNTING OPTIONS

Universal SE/PT spigot caps to suit Ø34-42mm and Ø60-76mm 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.

PROGRAMMABLE LIGHTING CONTROLS

The LED drivers enable 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, using simple stand-alone controls, Dynadimmer, Constant Light Output (CLO) or more advanced Central Management Systems (CMS).

P852 is currently compatible with the following CMS:

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

CONTROL SYSTEM	BENEFITS	FUNCTIONALITY	RELATIVE SAVING	With CLO
Photocell	Standard control	Switch on/off with ambient light level	0%	up to 10%
Dynadimmer	Substantial energy saving	Programmable dimming (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%

Scotopic / Photopic (S/P) Ratio to BS 5489-1:2013

Recent scientific research shows a correlation between the spectral power distribution of a light source and the visual performance under low lighting levels associated with mesopic vision. For the lighting levels associated with lighting residential and minor roads to the S classes from BS EN 13201-2:2003 and P classes from CIE 115:2010 the target illuminance for a class can be adjusted according to the S/P ratio.

The S/P ratio of CU Phosco neutral white LEDs is 1.64. The target illuminance for the P classes are shown here. For more information, refer to ILP Professional Lighting Guide 03: Lighting for subsidiary roads.

Lighting class	Benchmark Ra < 60		S/P ratio = 1.64 and Ra ≥ 60	
	\bar{E}	E _{min}	\bar{E}	E _{min}
P1	15.0	3.0	12.76	2.55
P2	10.0	2.0	8.06	1.61
P3	7.5	1.5	5.86	1.17
P4	5.0	1.0	3.66	0.73
P5	3.0	0.6	1.98	0.40
P6	2.0	0.4	1.20	0.40

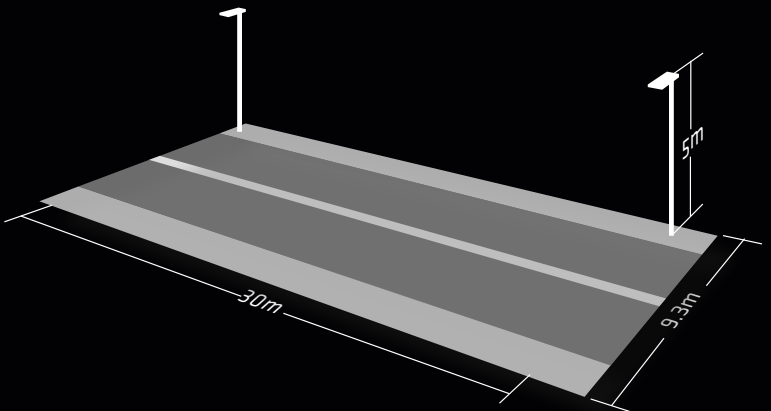
Modification of BS 5489-1:2013 Table A.7

SCHEME EXAMPLE Road refurbishment S4/P4 lighting class (EN 13201 / BS 5489-1:2013)

Luminaire replacement with existing column at 30m spacing, 5m height and single sided arrangement.

Result:

P852 can replace a conventional 35W LPS (SOX) or 55W CFL luminaire with better performance. 77% energy savings are achievable depending on column spacing, road configuration and lighting class with the added comfort of white light. Further savings can be achieved using controls like Dynadimmer or a Central Management System.



	\bar{E} (Lx)	E _{min} (Lx)	W (System)	W / km	Luminaire Efficacy	Energy Savings
Target (S4)	5.0 - 7.5	1.0				
Target (P4)	3.66 - 5.49	0.73				
35W LPS Luminaire	5.1	1.1	65*	2167	49 lm/W	-
35W LPS Luminaire	5.1	1.1	39**	1300	82 lm/W	40%
55W CFL Luminaire	5.2	1.1	62	2067	54 lm/W	5%
P852***	3.68	1.17	15	500	102 lm/W	77%

* Using electromagnetic ballast

** Using HF electronic ballast

*** P852 running at 400mA with CLO, Wide distribution and S/P ratio 1.64

TOTAL COST OF OWNERSHIP

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

P852 with dimming and CLO options delivers an attractive total cost of ownership package making it extremely competitive for invest-to-save scenarios.

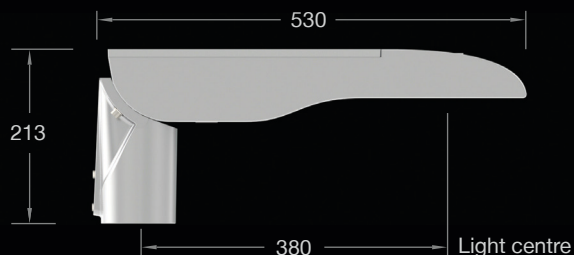
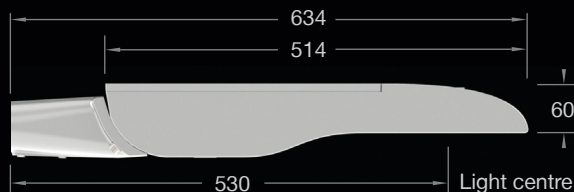


- Luminaire & Installation
- Energy consumption
- Maintenance (including PL-L lamp replacement)

*Based on example above, 20 years lifetime

P852 SPECIFICATION

Light Source	Philips Lumileds LUXEON® Rebel ES LEDs
Number of LEDs	12
Power Consumption	7 ~ 39W
Correlated Colour Temperature	Neutral white, 4000K
Glare Rating	G3
Colour Rendering Index	> 70
Optical Cover	PMMA Lenses
Luminaire Luminous Flux	900 ~ 3,400 lm
Luminaire Efficacy	Up to 114 lm/W
Electrical Class	I
Control System Input	1-10V and DALI
Lumen Maintenance Output	L80 > 100,000 hours (1000mA, Ta = 15°C) L90 > 100,000 hours (750mA, Ta = 15°C)
Driver Current	200mA ~ 1000mA (in 50mA steps)
Surge Protection	ANSI C62.41.2 high exposure 10kV, 10kA level
Dimming Control	Dynadimmer
Lighting Regulation	Mini Photocell • NEMA Socket • Wireless CMS options
Operating Temperature	-40°C to +25°C (1000mA) -40°C to +40°C (350mA)
Installation Height	3 ~ 8m
Installation	Ø 34-42 / Ø 60-76 mm • Universal SE/PT Spigot
Post Top / Side Entry Tilt	-10°, -5°, 0°, 5°, 10°
Material	Marine grade LM6 aluminum (Housing)
Finish	Natural aluminium (Polyester powder coat option)
Colours	Optional polyester powder coat in RAL colours
Ingress Protection	IP66
Wind Area (SCx)	0.035m²
Weight (Total)	4.5kg



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