we-ef

AFL100 SERIES

The new generation street and area lighting

SEE THE STARS

TABLE OF CONTENTS

Are we meeting the challenges and needs of cities today and tomorrow?

CHALLENGE

Cities and communities all must adapt and do more with less, and yet still meet the need for safety and ambience, in designing exciting night-time environments.

This means:

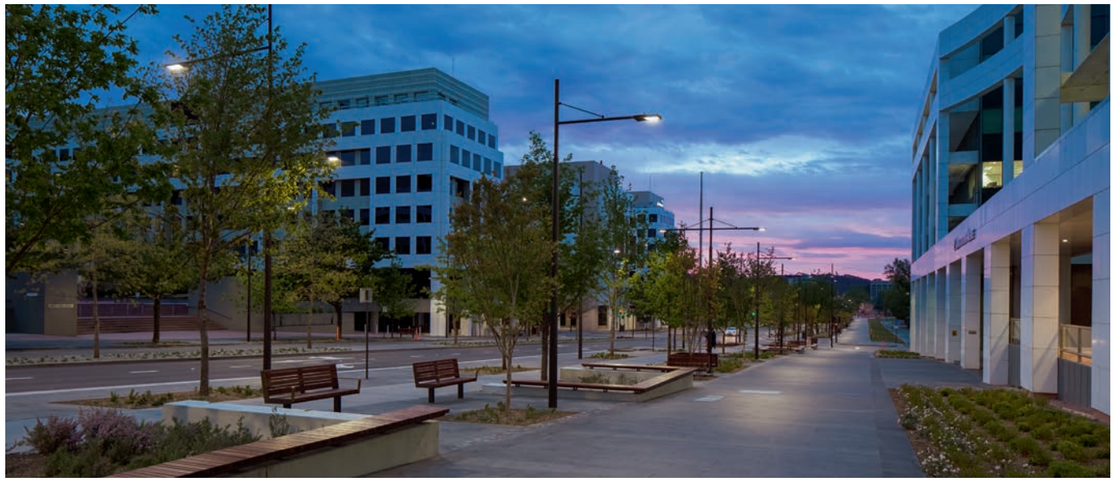
- Less energy
- Less waste
- Improved light control
- Transitioning to warmer colour temperatures
- Greater sustainability

Many cities around the world have converted streetlights to LEDs, and some monitor and manage their light points using smart lighting management system.

Such initiatives have proven to **reduce energy usage for streetlighting by around 63 percent** and save the cities millions in annual operational and maintenance costs.

In Australia, approximately 40% off the streetlights have been upgraded to LED but **only 4% have any smart control**.

Knowing that **80%+ of a luminaire's carbon output is associated to to its use phase**, highlights the potential we still have to improve, through the clever adoption of controls and connectivity, which is made easier with a luminaire that is smarter out of the box.



Protect the beauty of our night skies

Sustainable solution for the night

Guided by 'five principles for responsible outdoor lighting'

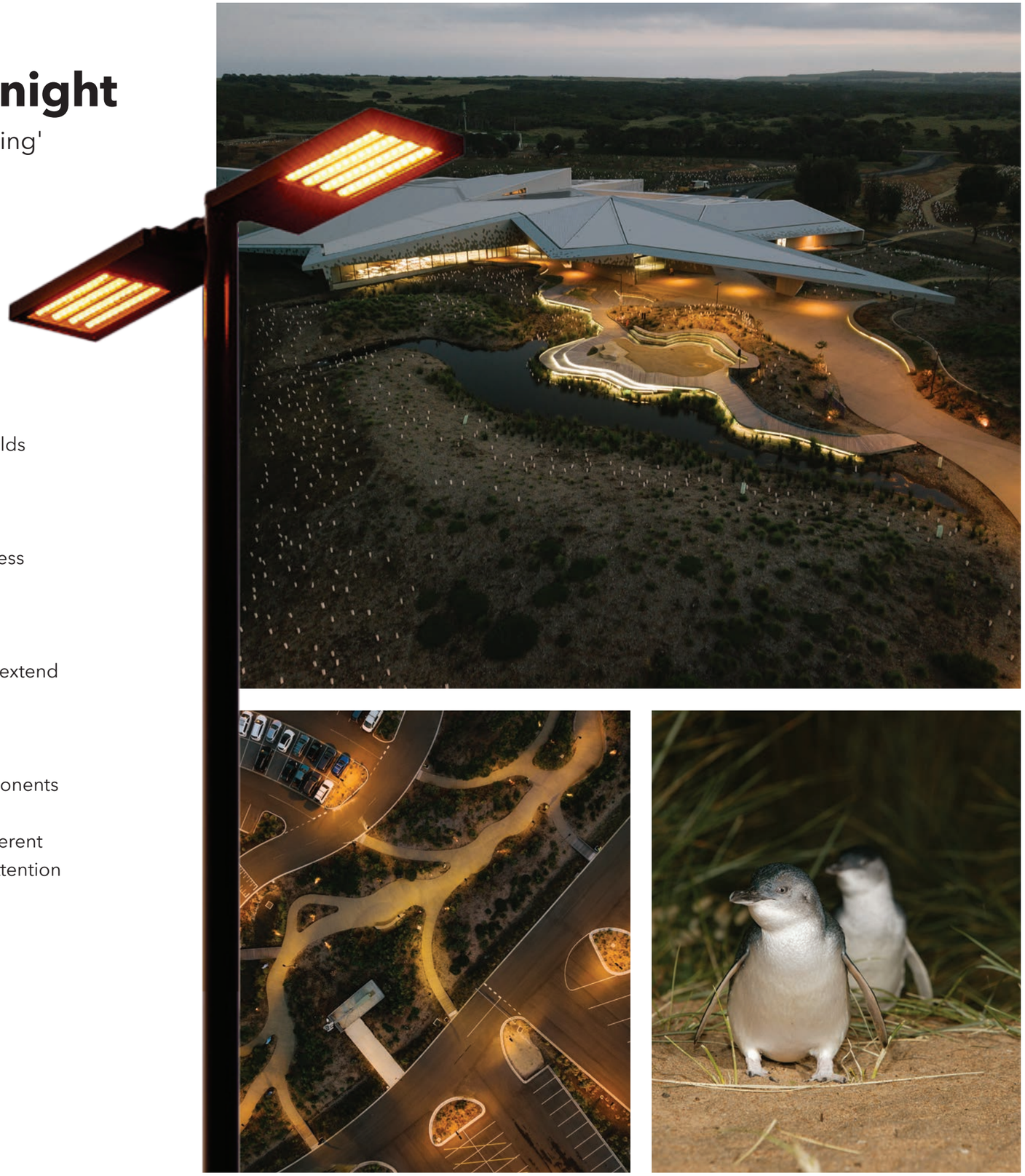
Useful – All light should have a clear purpose
- Application oriented
- Dark sky optics and meaningful connectivity options

Targeted – Light should be directed only to where needed
- Quality optics together with the possibility of additional backlight shields

Low light levels – Light should not be brighter than necessary
- Designed to be dimmable, providing only the required level of brightness

Controlled – Light should be used only when it is useful
- Designed to be ready to connect – Zhaga , NEMA, eSAVE or CityGrid - extend to smart city when needed

Colour temperature – As warm as possible
- Offering a wide range of colour temperatures, with reduced blue components in the light spectrum
- Mixed-colour LED solutions, called "Wild-Light", wherein which two different colour temperatures can be configured in one luminaire, with special attention to light-sensitive creatures



End-of-life

Luminaire components are recyclable

Recycled Aluminium
(low copper content, <0.1%)

Reduced components
Plastic: approx. 40%
Steel: approx. 97%
(No gear tray)

Green energy in production

New smelting technology in die-casting for reduced carbon emissions

In-house capabilities – in depth knowledge on casting etc.

Plastic free packaging
Solvent free paint, no harmful heavy metals and binders (TGIC free)

CNC machining reduced by approximately 38% (Self tapping fasteners)

Adjustable spigot for flexibility without additional parts

ISO 9001 – Quality
ISO 14001 – Environment
ISO 50001 – Energy
CSR according to GRI Standards

High power LEDs, 20-30% improvement

Easy to install, durable and easy to maintain

Full suite of connectivity options: Zhaga motion sensor, etc. for optimised lighting efficiency

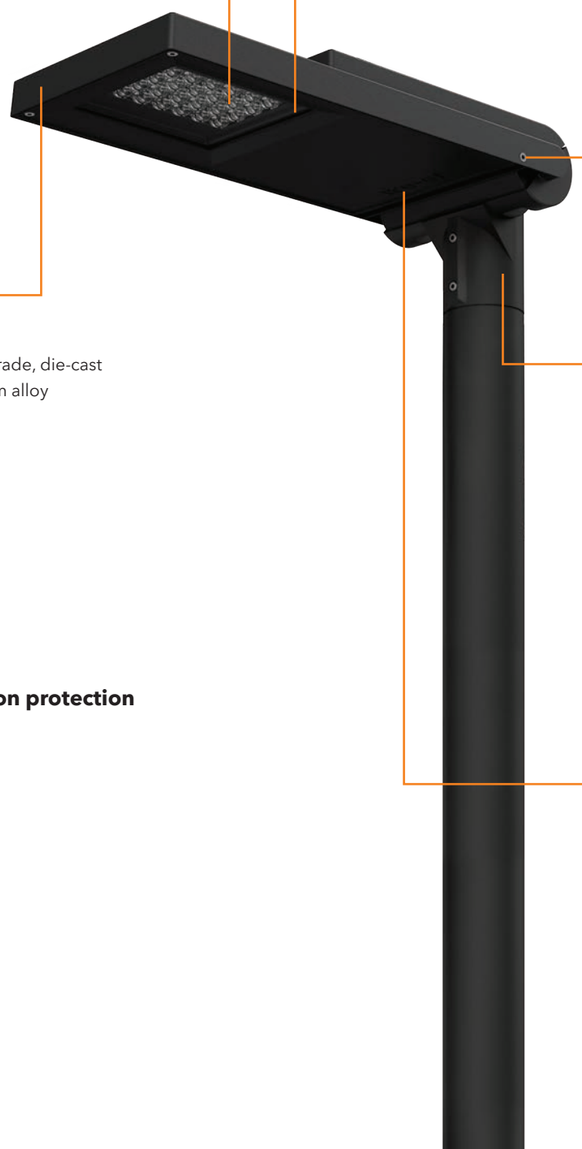
High performance with improvement in key lenses – specialising in Dark Sky, Wild-Light features

High recycling rate > 90%

Aluminium and other materials for recycling

PRODUCT OVERVIEW

Built for the future – be it sustainability connectivity and serviceability



1
Lens
Non-reflective flat glass cover

2
Body
Marine-grade, die-cast aluminium alloy

3
CCG® Controlled Compression Gasket
- Weatherproof, non-ageing, high temperature rated silicone
- Provides long-term, maintained, high IP rating

4
Fasteners
Poly Coated Stainless Steel Hardware protect against galvanic corrosion and ensures longevity

PCS

5
Design flexibility, combined functionality –
Post top or side entry

6
Driver
DALI, Internal EC electronic converter in thermal compartment
220-240 V / 50-60 Hz

Corrosion protection

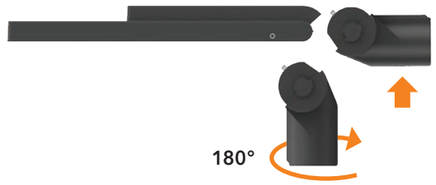
5CE
+PRIMER

PRODUCT FEATURES

Quick, safe and easy installation.

A sustainable cost effective solution that enable repurposing of the luminaires in the future fit for any application – a choice between post top or side entry.

Post top or side entry



1 Rotate spigot to post top

Attachment can be set
0° or 2.5°

2 Rotate spigot to side entry

Attachment can be set
0°, 2.5°, 5°, 7.5°, 10°, 12.5°, 15°

Spigot ø 76 x 100 mm
Optional adaptor allows to reduce spigot diameter to 60 mm or 42 mm

Designed for serviceability

- Easy disassembly
- Quicker and more cost-effective repair & maintenance
- Ready for upgrades in the future

FAMILY RANGE

AFL120 | AFL130

[S71] Asymmetric, side throw
[S66] Asymmetric, side throw
[R61] Rectangular, side throw

[A61] Asymmetric, forward throw
[S61] Asymmetric, side throw
[P66] Pedestrian/bicycle lane

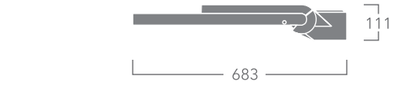
[Q66] Square
[P46L] Pedestrian crossing, left-hand traffic
[P46R] Pedestrian crossing, right-hand traffic

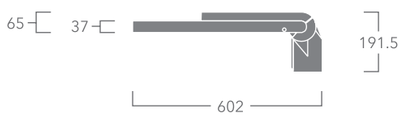
AFL100	LED	Wattage	Light distributions	Nominal lumens
AFL120	24	24 – 48 W	[S61] [S71] [R61] [A61] [S61] [P66] [Q66] [P46L] [P46R] [S70] [S65]* [R60]*	3480 – 8400 lm

AFL100	LED	Wattage	Light distributions	Nominal lumens
AFL130	48	48 – 96 W	[S61] [S71] [R61] [A61] [S61] [P66] [Q66] [P46L] [P46R] [S70] [S65]* [R60]*	6960 – 16800 lm

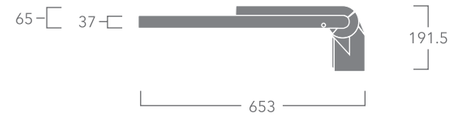
- Shown above are nominal lumens for 3000 K

* [S65] and [R60] are coming soon





AFL120



AFL130

IP 66

CLASS I

IK 08

WILD-LIGHT SOLUTION

Standard options

2200 K 2700 K 3000 K 4000 K

Wild-Light standard option

PC Amber 3000 K

True Amber on request

- In cases of special project requirements, IK10 can be achieved as can Class II

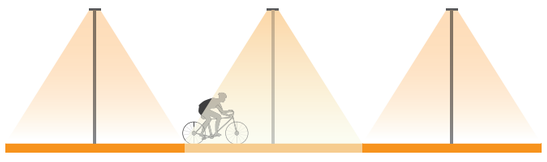
Energy efficient and dark sky considered solution

With Wild-Light, you can balance the human activity while preserving the 'night'

Wild-Light solution

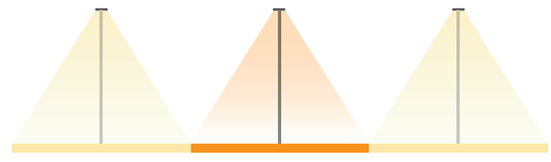
1 Wild-Light Motion

Example: The PC Amber light shines all night at a low level to limit the impact on wildlife and save energy. In the presence of human traffic, colour temperature is immediately increased to 3000 K. When no one is in the vicinity, it then returns to PC Amber.



2 Wild-Light Advanced

Example: Fully automatic dimming preset that starts the night with warm white (3000 K from 8 pm to 10 pm), reduces to PC Amber in the middle of the night (PC Amber from 10 pm to 6 am) and returns to warm white in the early morning (3000 K from 6 am to 7 am): a particularly simple and economical solution.



Environmentally sustainable lighting solution

Light dims down from 3000 K to PC Amber when motion is not detected

Smart lighting made easy

Control the light in a simple and extremely efficient way with modern connectivity solutions.

Benefit for users

Energy savings
Save up to 85% through smart dimming

Comfort
Configure to application through dimming protocols

Flexibility
Future-proof, upgradable system

Protection and Preservation of nature
Environmental considered lighting through warmer colour temperature – Wild-Light

Safety
Offering 'Light on Demand' for footpaths and cycle lane

Maintenance cost
Reduce up to 40%

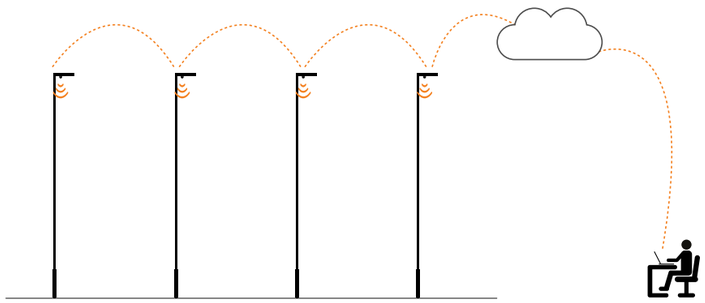
Example Scenario

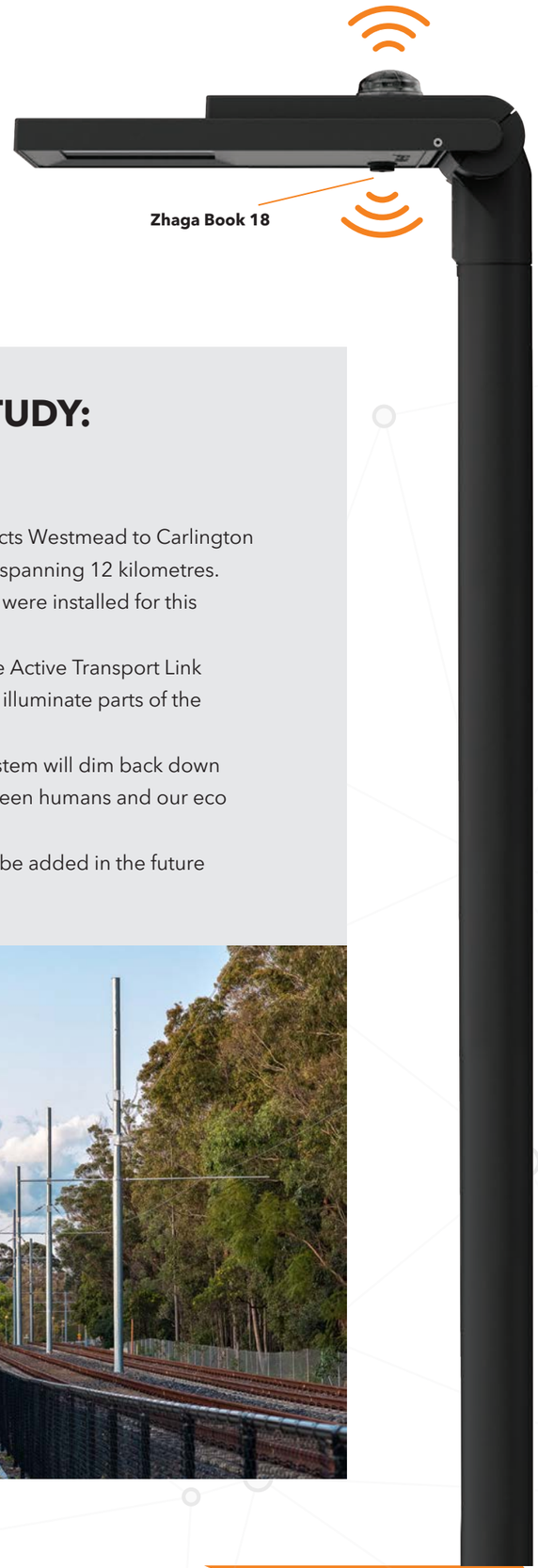
Council A requires a solution to

- Minimise ecological impact; reducing the amount of light, particularly blue light for local ecosystem
- Monitor operational status of each luminaire, its energy consumption and view the operational cost savings from their council office

A CONNECTED SOLUTION:

- Luminaires fitted with a pre-programmed Zhaga PIR sensor which activates higher kelvin colour temperatures upon detection of human traffic
- Luminaires revert back to a lower kelvin colour temperature once human traffic is no longer detected
- Utilising the **eSave** SIM nodes or **CityGrid** nodes the luminaire network is able to facilitate the remote monitoring requirements





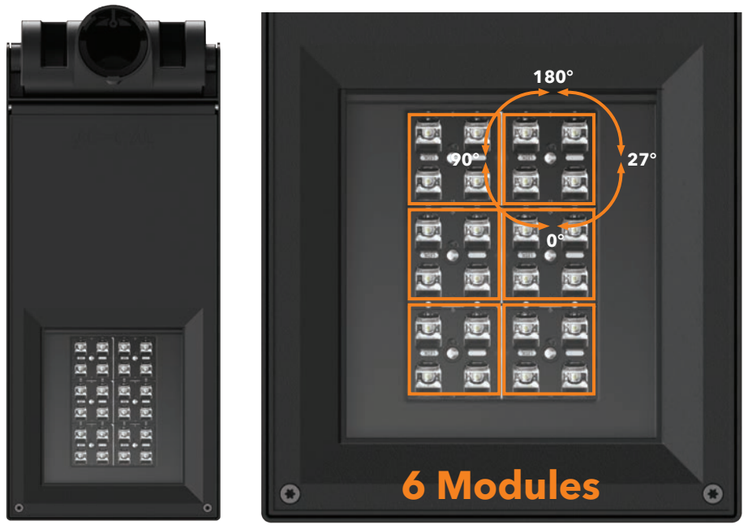
A CONNECTED CASE STUDY: Parramatta Light Rail

- Stage 1 of the Parramatta Light Rail connects Westmead to Carlington via the Parramatta CBD with a 2-way track spanning 12 kilometres.
- WE-EF luminaires with on pole controllers were installed for this project, forming a **mesh network**
- Utilising WE-EF's **CityGrid** technology, the Active Transport Link features energy-saving lighting, which will illuminate parts of the pathway when human traffic is detected
- When no human traffic is detected, the system will dim back down ensuring harmonious co-habituation between humans and our eco system
- The project is scalable and a gateway can be added in the future

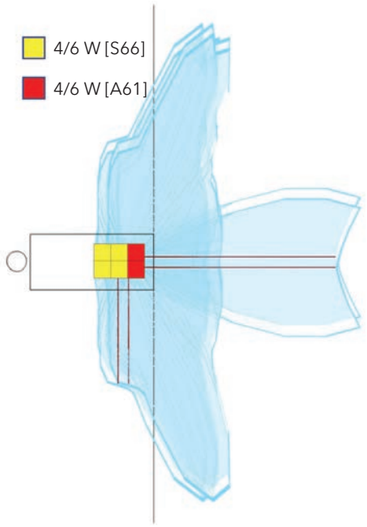
Optics and lighting performance

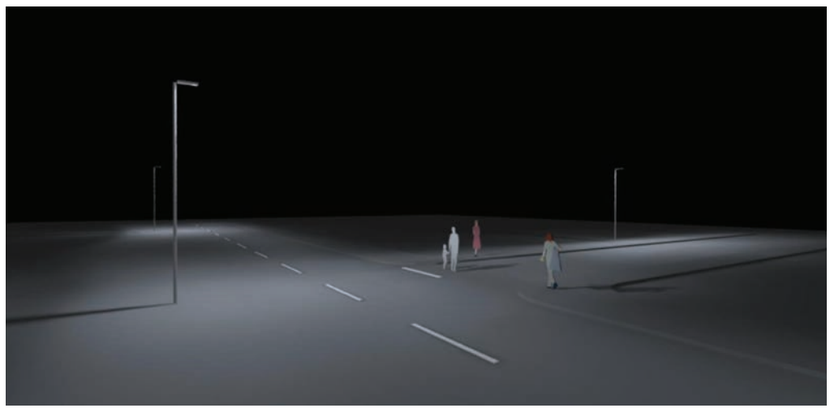
Double hybrid optics

When existing infrastructure is changed, the lighting is in need of an upgrade. WE-EF hybrid optics can optimise lighting scenarios by simply switching two LED boards to a different beam or easily rotate existing LED module in 4 directions .



Shown above is AFL120
Each module can be turned in 4 directions: **0°, 90°, 180° and 270°**



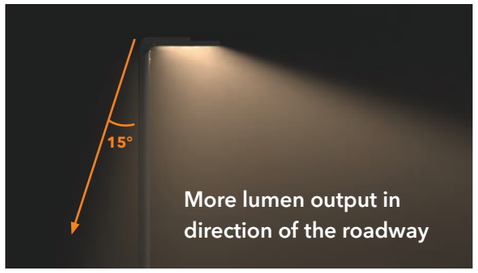


Combination of [S66] side throw and [A61] forward throw

Three key lenses have been reengineered

Dark sky optics, biodiversity preservation with strict limited rear light characteristics for reducing light wastage and no light above 90° . More lumens per Watt and Kg allow for better spacing in return reducing CO_2 level.

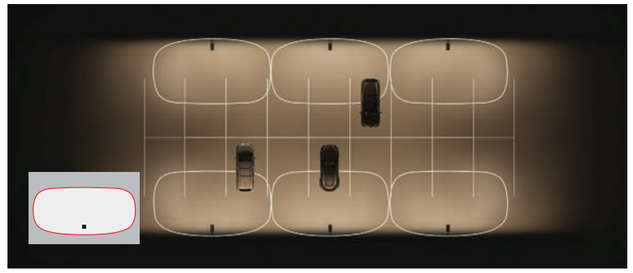
NEW non-reflective flat glass
Reduces back spill. 20 %



[S70] Asymmetric, side throw
Tailored for reduced infrastructure along pathways and narrow

[S65] Asymmetric, side throw *
For greater forward for roadways and wider spaces

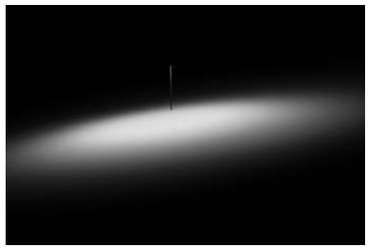
[R60] Rectangular, side throw *
Tailored for parking areas

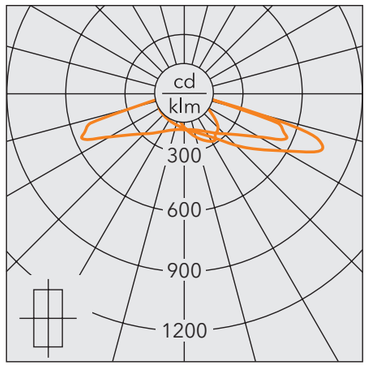


* [S65] and [R60] are coming soon

Tailored for application challenges

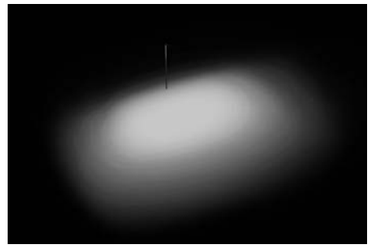
University campus

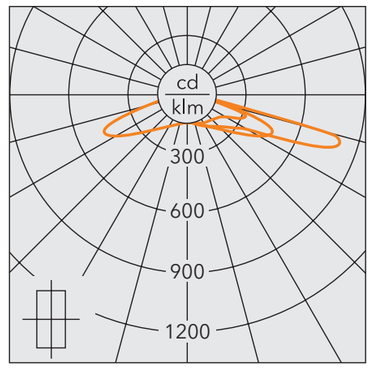




AFL130
3000 K, 72 W
[S70] Asymmetric, 'side throw'

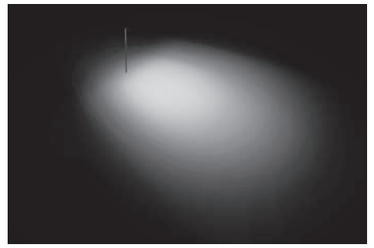
Residential area

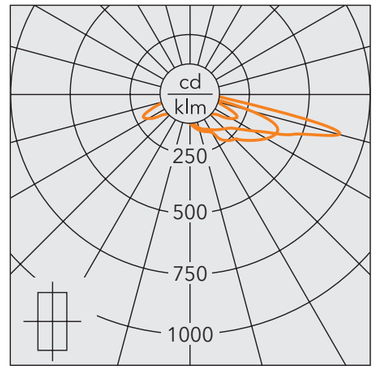




AFL120
3000 K, 48 W
[R60] Rectangular, 'side throw'

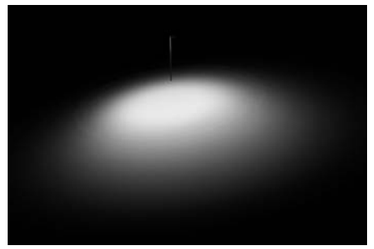
Highway bridge

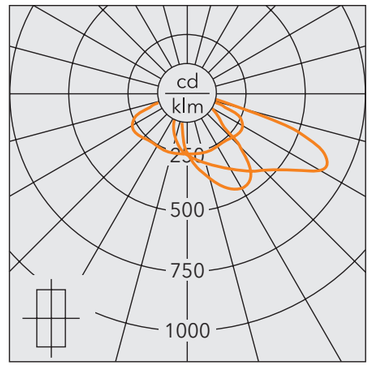




AFL130
3000 K, 72 W
[A61] Asymmetric, 'forward throw'

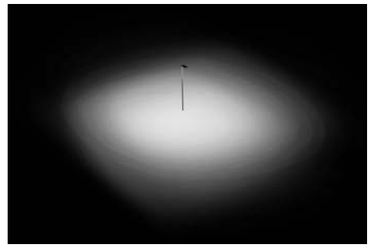
Foreshore

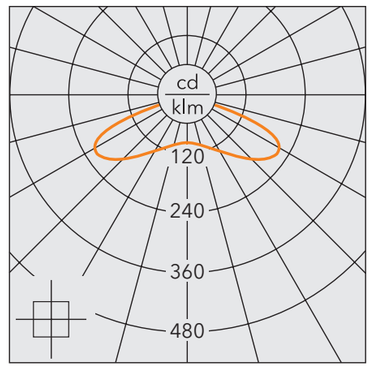




AFL130
2700 K, 48 W
[S61] Asymmetric, 'side throw'

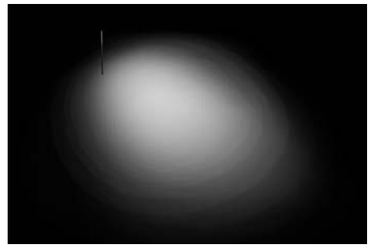
Train station

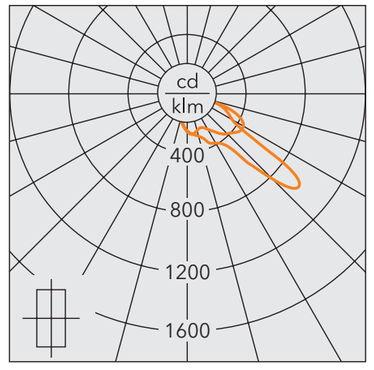




AFL130
3000 K, 48 W
[Q66] Asymmetric, 'side throw'

Pedestrian crossing





AFL130
3000 K, 72 W
[P46R] Pedestrian crossing, right-hand traffic

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