

COOLON

AELITA

60W Smart LED Conveyor/Area Light

BRILLIANT • CONNECTED

A revolutionary breakthrough in industrial site lighting is here

Aelita is a natural-born smart light. Purpose designed to push the boundaries of what was ever expected from a conventional light.

In a true evolutionary form Aelita has inherited all of the resilience and performance excellence of all Coolon lights that came before it. Aelita is here and ready to take your site to a new era of safety and operational efficiency.

Wirepas

- Emergency Light
- Mesh Backbone
- Amber-White Colour Switching
- Increased situational awareness
- Occupancy Sensor

Designed for use in:

- Conveyors
- Walkways / Stairwells
- Stacker / Reclaimers
- Pedestrian Access Ways
- Campsite Area Lighting
- General Area Lighting
- Mining Processing Plant
- Material Washing and Crushing

DESIGNED & MANUFACTURED IN AUSTRALIA



Increased situational awareness

Ensure no one is caught unaware by propagating emergency alerts visually through Aelita's built-in RGBW indicator.

Every light is an emergency light

With our wireless control and in-built battery, every Aelita is ready to light the way to safety during a power outage without requiring any changes in existing wiring.

Experience enhanced hazard perception and visibility with superior illumination uniformity and reduction in shadowing.

TRADITIONAL EMERGENCY LIGHTING
Only every third light fitting is illuminated

Every light fitting is illuminated
COOLON EMERGENCY LIGHTING

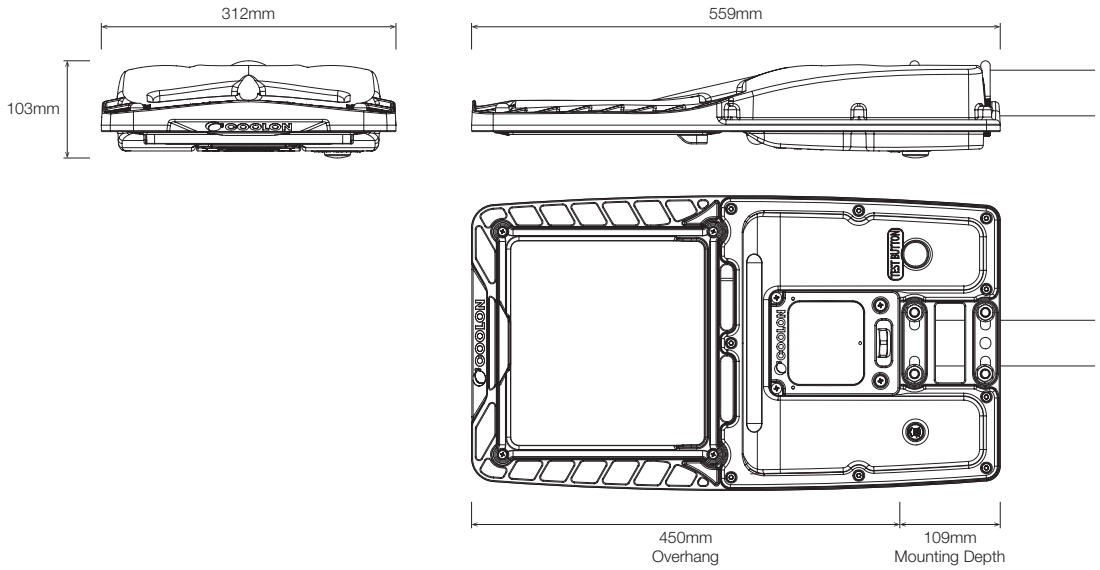
↑ **13X*** Improvement in min. lux levels

↑ **9X*** Improvement in uniformity

* In comparison to previous products.

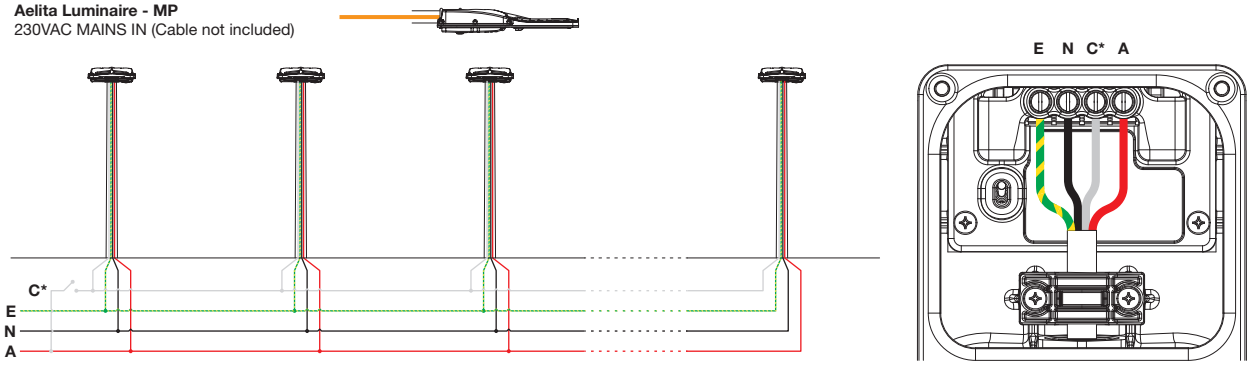
DIMENSIONS

Aelita Luminaire



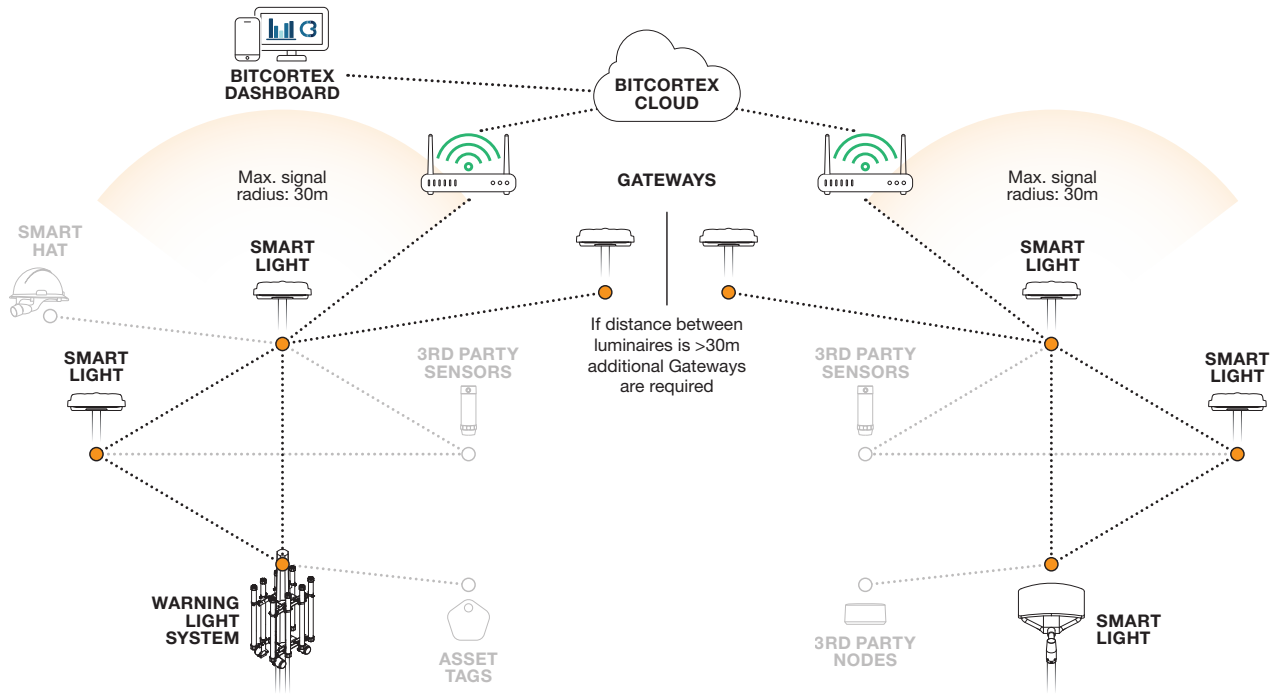
WIRING CONFIGURATION

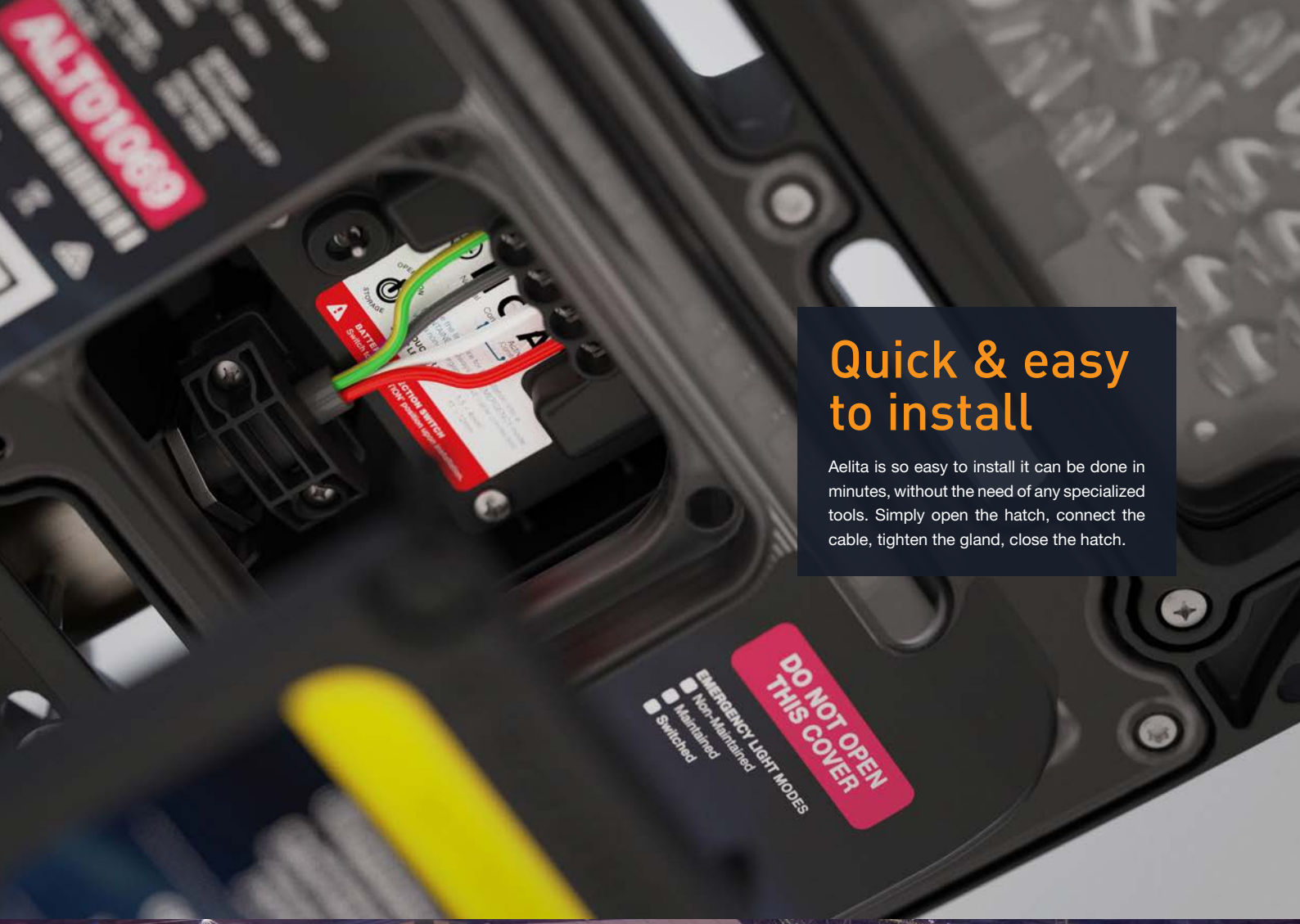
Aelita Luminaire - MP
230VAC MAINS IN (Cable not included)



* Optional Control Wire - luminaire can digitally switched via BitCortex

MESH NETWORK





Quick & easy to install

Aelita is so easy to install it can be done in minutes, without the need of any specialized tools. Simply open the hatch, connect the cable, tighten the gland, close the hatch.



Enables digitisation

Lights automatically mesh together forming a site-wide wireless network enabling the effortless deployment of a wide range of IoT based sensors and services from third-party providers:

- Asset Tracking
- Personnel Locating
- Machine Condition Monitoring

... and many more!

TECHNICAL SPECIFICATIONS

Product	Aelita LED Conveyor / Area Light	
Mode	Mains Powered (MP)	Emergency (EM)

Optical Characteristics [1]		
Luminous Flux (Photometered)	NWT 7,240 lm / AMB 5,310 lm	980 lm
CCT	NWT / AMB (switchable upon motion or wirelessly selectable)	NWT
CRI	NWT 70 / AMB 57	

Electrical Characteristics [1]	
Power Consumption	60W Max
Nominal Voltage	230VAC 50/60Hz
Voltage Range [2]	90 – 305VAC, 127 – 431VDC
Frequency Range	47 – 63Hz
Power Factor	≥0.96 / 230VAC
Charge Time	≤16 hours
Battery Type	$LiFePO_4$
Battery Lifetime	2,000 cycles to 70% SOC
EM Discharge Time	120 minutes initial / 90 minutes in service

Inrush and Leakage Currents [1 3 4]	
Peak Inrush Current (A) @230V	4
Duration - twitdth (ms)	0.001
I^2t (A^2S)	0
Leakage Current (mA)	<0.75mA / 277VAC

Maximum number of luminaires per RCBO @ 230V	
B16	34
C16	40
D16	40

Lighting Control [5]	
Dimming	15 – 100%
Motion Detection Behaviour	Colour, dimming level
RGBW Indicator Mode	Colour, frequency
Control Modes	Grouping, scenes, scheduling

Wireless Communication	
Protocol	Wirepas
Operating Band	2.4 GHz, 40 Channels
Typical Range [6]	15 – 30 metres line of sight
Data Encryption	AES-128
Network Standby Time	> 24 hours during power outage

Sail Area		
Horizontal Orientation	S_{FRONT} 0.028m^2	S_{SIDE} 0.051m^2

Occupancy Sensor	
Sensor	Microwave Radar Motion Sensor
Detection range	Up to 3m

Environmental	
IP Rating	IP66
Impact Rating	IK09
Salt Spray Tested	Yes
Operating Temp. Range	0 to +50°C
Thermal Management Type	Active / Continuous
Expected Lifespan	50,000 Hours to 70% Brightness
Material Composition (Body)	ADC12 Aluminium Alloy, Polyester Powder Coated
Material Composition (Optical Cover)	Tempered Glass
Material Composition (Electronics Lid)	Polycarbonate
Mounting/Bracket Type	U-Bolt Spigot Mount OD 32 – 44 mm (NB25 - NB32)
Cable Gland	M25 x 1.5 SS316
Cable Ø Entry Range [7]	8 – 10mm and 13 – 18mm

Storage	
Temperature	0 to +45°C
Shelf Life [8]	Up to 12 months @ 20±5°C

Weight/Packaging	
Luminaire Weight	7.0kg
Packaging Dimensions	600 x 400 x 150mm
Packaged Weight	8.0kg

Compliance (Safety Standards)	
AS/NZS 60598.1	Luminaires - General Requirements and Tests
AS/NZS 60598.2.1	Luminaires Particular requirements - Fixed general purpose luminaires.
AS/NZS 2293	Emergency lighting and exit signs for buildings

Compliance (EMC)	
AS/NZS CISPR15	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
AS/NZS 4268	Radio equipment and systems - Short range devices - Limits and methods of measurement

Warranty	
Warranty	5 years warranty as standard

Optical and electrical characteristics are measured using Neutral White LEDs (NWT)

[1] Reading taken while test unit operating in steady state. Ambient temperature during testing is typically 25°C. Individual unit behaviour may differ due to electronic component tolerance and ambient conditions. Product parameters and application suitability shall be checked by the user prior to commissioning.

[2] Certified voltage range : 100 – 240VAC @ 50/60Hz.

[3] Note: At 230VAC input, 25°C cold start, 10%Ipk-10%Ipk.

[4] Number of Luminaires is subject to relative RCBO properties, assuming a 30mA leakage current limit and RCBO steady state current load not exceeding 60%, 70% and 80% for the B, C, D type RCBO respectfully.

[5] Lighting Control via BitCortex.

[6] Wireless range might significantly vary depending on the type of antennas used, elevation above the ground, presence of metal obstacles and environmental conditions. Wireless coverage could be optimised with increased amount of devices forming mesh network.

[7] WARNING: Always use the correct gland rubber seal size for the cable diameter. Using a larger seal on a smaller cable or a smaller seal on a larger cable can compromise the IP rating, cause cable damage, or result in improper installation.

[8] Shelf life time with Battery Switch in OFF position is defined as time since product dispatch from Coolon, or since last charge cycle.

Dynamic Amber-White Colour Switching

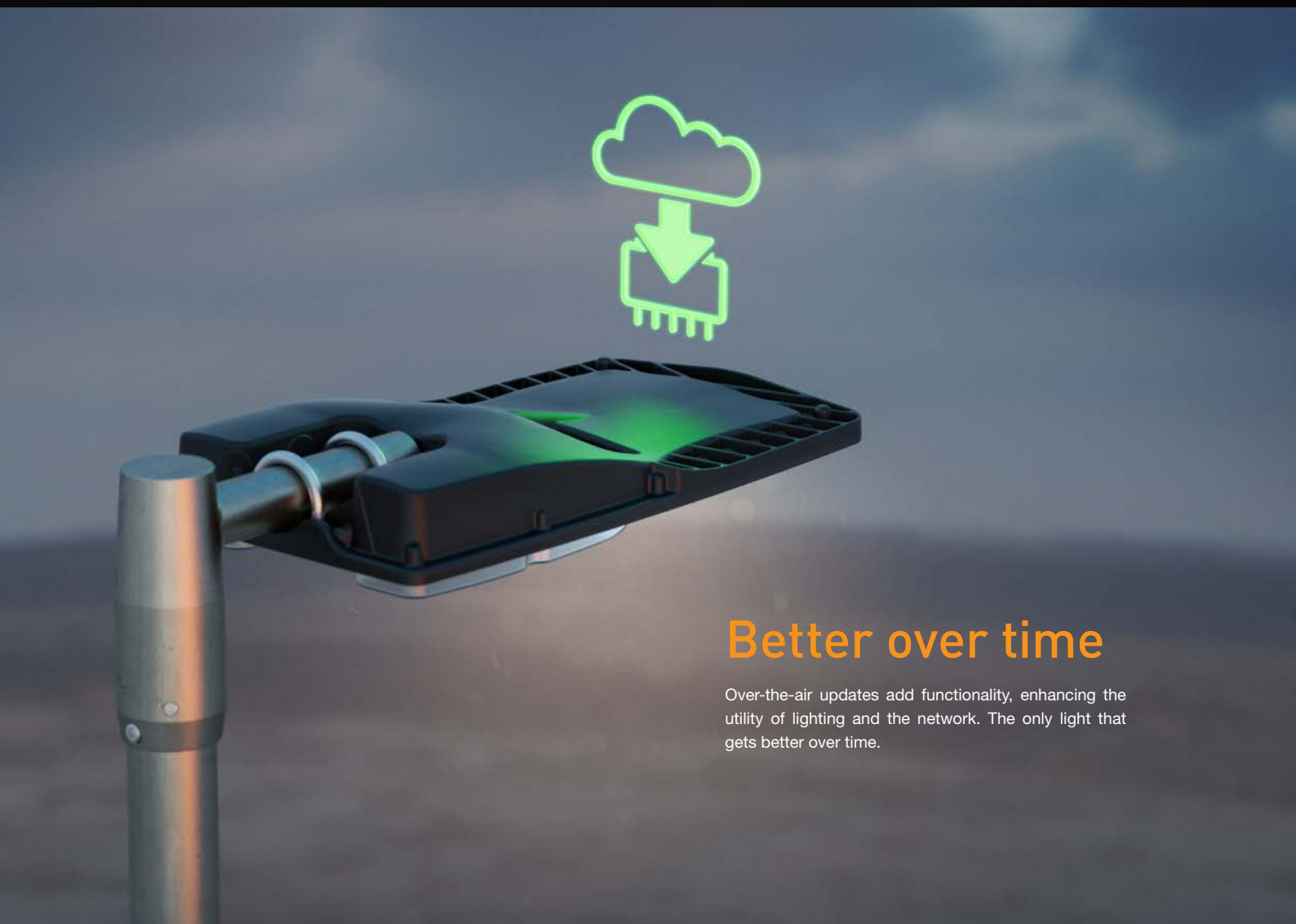
Aelita autonomously switches between wildlife friendly Amber and bright White for maximum alertness when a person is detected.

TURTLE FRIENDLY

A burdensome environmental challenge presented to many coastal facilities is the presence of local nocturnal wildlife, in particular nesting sea turtles. The bright white light normally used on sites is optimal for human vision and is a critical safety component on-site. Environmental regulations, however, require that amber-coloured lighting be used in order to reduce the disorientation effect on turtle hatchings.

Coolon has specifically designed the Aelita to have the ability to switch in 595nm (nanometers) Amber that is in the region of their lowest visual sensitivity.



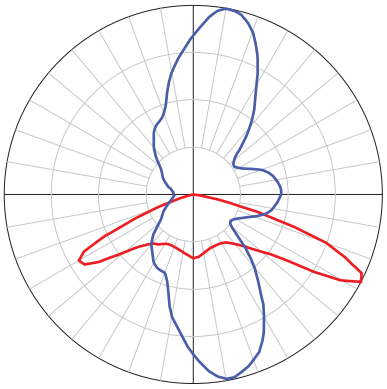


Better over time

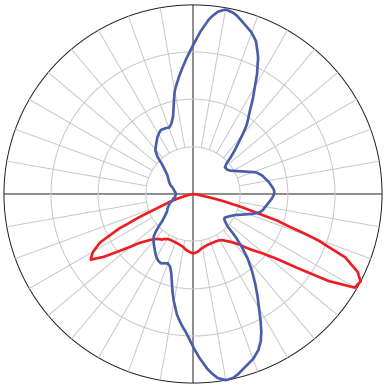
Over-the-air updates add functionality, enhancing the utility of lighting and the network. The only light that gets better over time.

POLAR DISTRIBUTION

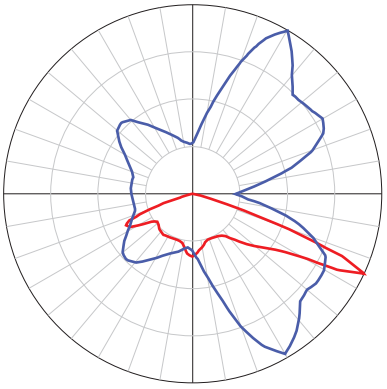
Neutral White - MP



Amber - MP



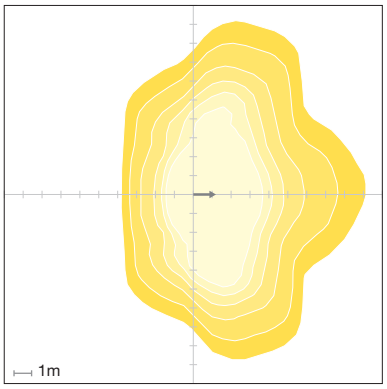
Emergency



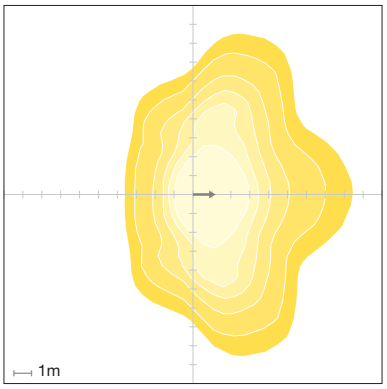
Max Vertical Plane Max Horizontal Cone

ISOLUX PLOTS

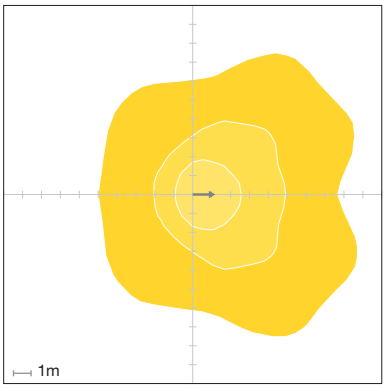
Neutral White - MP



Amber - MP



Emergency



Lux 1 5 10 20 30 40 50

Mounting Height= 2.7m **Arm Length=** 0.2m **Tilt=** 5° **LLF=** 0.75

BitCortex

A web based platform to manage and control smart wireless devices.
Accessible anywhere through an internet connected browser.

For more information on Coolon smart lighting range please visit: coolon.com.au/industrial-led-lighting/smart-lighting

Wirepas

WIREPAS MASSIVE ENABLED

Wirepas is a leading IoT company on mission to democratise enterprise IoT. The Wirepas Massive self-healing network optimises itself by local decision-making to reach unlimited scalability, coverage and density while using the available radio spectrum as efficiently as possible.

AELITA ORDERING EXAMPLE

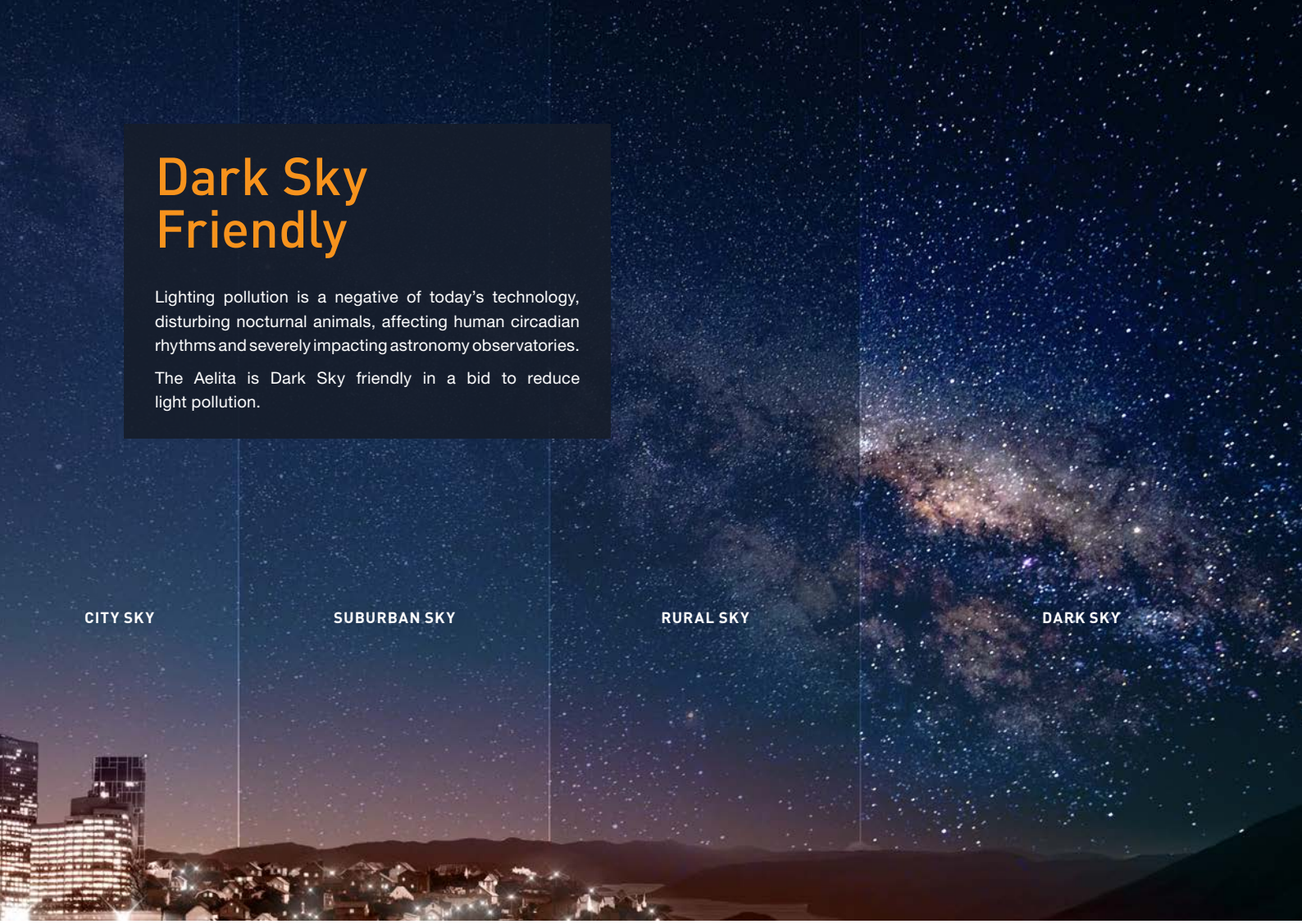
AELITA - NWTAMB - T2 - MP - WP

PRODUCT	COLOUR TEMP	OPTICS	SUPPLY OPTION	CONNECTIVITY
Aelita	NWTAMB Neutral White / Amber	T2 Type 2 Optics	MP Mains Powered	WP Wirepass
	CWTAMB Cool White / Amber			

Dark Sky Friendly

Lighting pollution is a negative of today's technology, disturbing nocturnal animals, affecting human circadian rhythms and severely impacting astronomy observatories.

The Aelita is Dark Sky friendly in a bid to reduce light pollution.



COMPARISON TABLE

		DLK2	EMDLK2	DLK2S	DLK3	AELITA2S	AELITA
							
NETWORK	Mesh Networking	⊗	⊗	✓	✓	✓	✓
	Network Standby 24hrs	⊗	⊗	✓	✓	⊗	✓
EMERGENCY	Emergency Light	⊗	✓	⊗	✓	⊗	✓
	Emergency Reporting	⊗	Via App	⊗	✓	⊗	✓
LIGHT CONTROL	Remote Dimming	⊗	⊗	✓	✓	✓	✓
	Digital Switch Off	⊗	⊗	⊗	⊗	✓	⊗
	Motion Switching	⊗	⊗	⊗	⊗	✓	✓
ENHANCED FUNCTIONALITY	Amber/White Switching	⊗	⊗	⊗	✓	Some Variants	✓
	Warning Indicator Light	⊗	⊗	⊗	✓	✓	✓
FUTURE PROOF	Over-The-Air Upgradeable	⊗	⊗	✓	✓	✓	✓

Via App App communicates via Bluetooth, in close proximity to the device only. Physical presence on site is necessary.