



enLighten

Innovation in Lighting Solutions



SELF-HEALING
WIRELESS MESH
COMMUNICATION
NETWORK

MAKE YOUR CAR PARK ENTRANCE COMPLIANT TO AS 1680

 **enLighten**
smart control

**INTELLIGENT WIRELESS LIGHTING
CONTROL SYSTEM FOR CAR PARK ENTRANCES**



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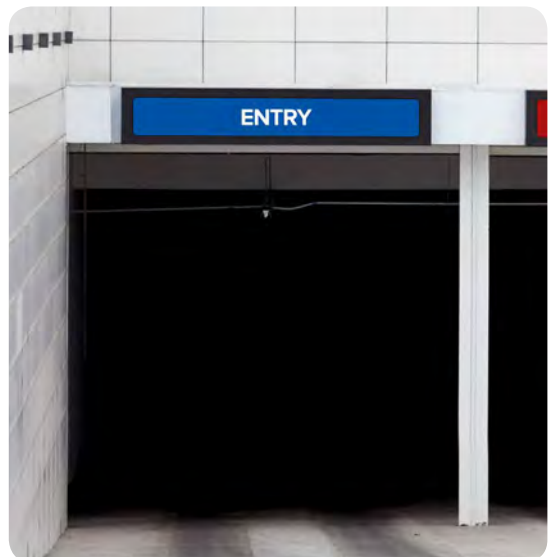
CAN SMART TECHNOLOGY IMPROVE SAFETY?

Smart controls and good car park design play a vital role in protecting vehicles and more importantly their human cargo.



Most people don't link road safety issues and good car park lighting together. One of the most common design failures can be seen in the entry and circulation lanes near the front entrance.

When entering a car park, a driver's eye must adjust quickly, adapting from the bright daylight conditions to the darker car park environment. This transition can lead to a temporary blinding, making it difficult for the driver to react to obstacles or pedestrians. Car park entrances can often be located in high pedestrian areas, this temporary loss of clear vision is enough to create serious injuries.



Fast facts



**19.2 MILLION
REGISTERED**

**MOTOR VEHICLES
IN AUSTRALIA¹**



13% OF

**INSURANCE CLAIMS
OCCUR IN CAR PARKS²**



**10% OF CHILD
FATALITIES**

OFF ROAD ENVIRONMENTS³

**45% OF
PEOPLE
OVER 65**

**ARE INVOLVED IN
CAR PARK INJURIES³**

¹ABS 2018 | ²Royal Automobile Association (RAA) | ³Pedestrian safety in car parks

**MAKE YOUR CAR PARK
AS 1680 COMPLIANT**



Car park entrances are a dangerous place. Australian Standards (AS 1680) specifies 800 lux for the first 15 meters of a car park entrance during the day and 160 lux at night, followed by 160 lux for the next 4 meters at all times. This helps transition the lighting level upon entry and reduces the effects of blinding.



**AS 1680
COMPLIANT**

**INTELLIGENT WIRELESS
LIGHTING CONTROL SYSTEM**

**AUTOMATICALLY ADJUSTS
LIGHTING LEVEL**

**SIMPLE SET AND FORGET
COMMISSIONING**



Innovation is in our DNA and this can be seen in the smart controls technology used in the wireless car park entry system (CECS).

The CECS comprises of RF enabled Tauro Black LED low bays, a twilight sensor and an RF controller placed at the car park entrance. The twilight sensor assesses the outside light level via a photo electric (PE) cell and the controller communicates with the lights via a self-configurable wireless mesh to deliver 800 lux during the day and 160 lux after dark.

This mesh network is self-healing in nature, every light talks to the controller and amongst themselves. If a light loses communication with the controller, it can still tether to the nearest light to reconnect again to the control signal.

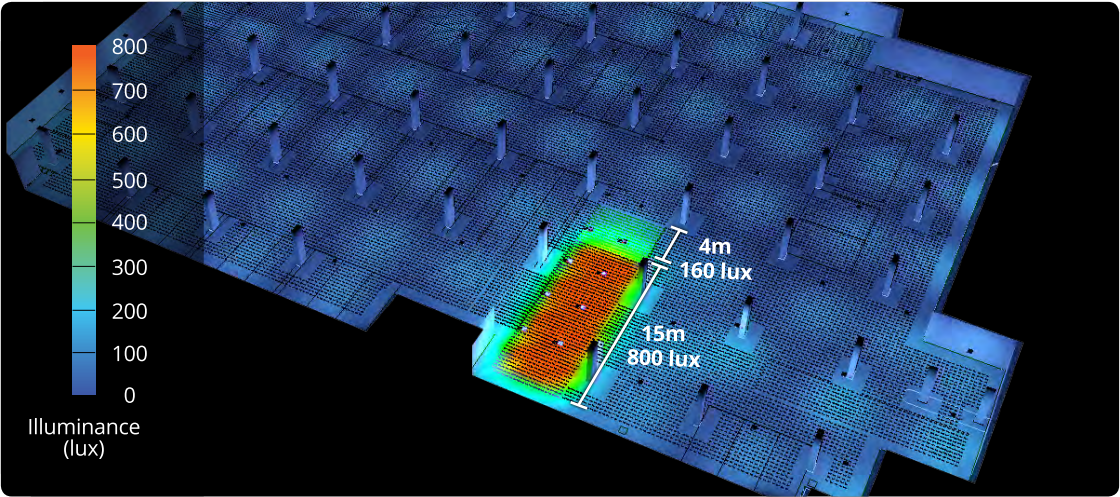
The CECS has a built in safety mode in case the controller gets damaged in an accident. The lights will automatically default to the full light output level, until the controller is replaced, this ensures that the entrance is never under lit.

Commissioning is simple and requires no complicated network setup. The smart controls system combined with the LED lights also reduces the energy and maintenance costs.



Illuminance levels for indoor car parks (AS 1680)

Type of interior or activity	Maintained Illuminance (lux)
Car parks (indoors)	
Entrances:	
(a) During daytime	
– first 15 m	800
– next 4 m	160
(b) During night-time	
– first 19 m	160
Pay booths	160
Loading dock	80
Exits, ramps, circulating roads, pedestrian crossings	40
Normal parking spaces	40



Product Range

Make	Model #	Rated power (W)	Total lumens (lm)	Weight (kg)
Tauro Black 90W with RF receiver and surface mount bracket	TB90D-57S3-CECS TB90D-57AR1-CECS	90	14,100	4.7
Tauro Black 120W with RF receiver and surface mount bracket	TB120D-57AR1-CECS	120	18,700	5.7
CECS controller with PE cell (1 required per car park entrance)*	CECS	2	N/A	1

*A closed roller door might impact the transmission of the CECS controller to the lights

MAKE YOUR CAR PARK ENTRY COMPLIANT WITH enLighten *smart control*

Intelligent wireless lighting control system for car parks

TAURO BLACK

ENGINEERED TO PERFORM

- Extensive operating life over **130,000 hours**
- Superior protection from physical impact
- Slimline profile perfect for car park entries
- Save money by reducing the number of luminaires required

**5 YEAR
WARRANTY**



EASY TO INSTALL & MAINTAIN

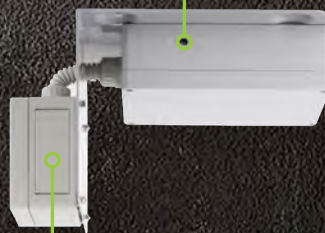
- Lightweight streamlined design for easy handling and installation
- No complicated wiring and simple set and forget commissioning

SMART CONTROLS

- Integrated WIRELESS control system for car park entrances
- Self-healing WIRELESS mesh network

CECS CONTROLLER

WIRELESS XBEE MODULE



TWILIGHT SENSOR



AS 1680 compliant car park entrances

Australian Technology Park

The Australian Technology Park boasts over 700 car spaces and 600 plus bicycle spots. The Mirvac Group's vision was to create a world-class innovation hub. Buildings 1 and 2 are using the wireless smart control car park entry system (CECS) with daylight sensor and RF control transmitter. This helps ensure safe entry into these facilities whilst adhering to the building code.



Chatswood Chase

Chatswood Chase is the premier shopping destination on Sydney's North Shore, boasting over 2,200 car spaces. The Chase values their customers and installed the wireless smart controls car park entry system on the B1 Victoria Ave entrance. The wireless smart controls car park entry system has dramatically improved lighting levels.



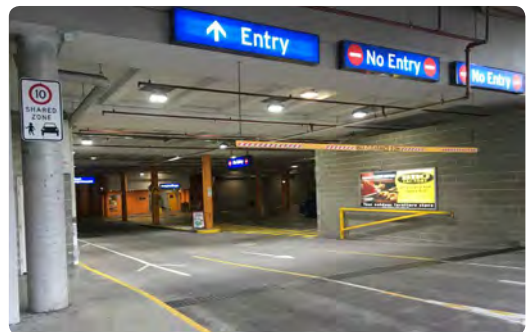
Rockdale Plaza

Located on the Princess Highway with over 875 car spaces, Rockdale Plaza opened in 1997. This shopping centre has been refurbished in 2018. Two smart control car park entry systems were installed, each wirelessly communicating via RF waves with a bank of luminaires that automatically adjusts light levels as specified in the Building Code of Australia (800 lux daylight and 160 lux at night for safe entry).



Stockland Baulkham Hills

With an average of 68,000 visitors a week and 6,000 customers using the car park each day and only 831 spaces available, Stockland Baulkham Hills knew the importance of a safe, uninterrupted entry into the car park. As a result every car park entrance has been fitted with a smart control car park entrance system.



We offer comprehensive car park and pathway solutions

FLOOD LIGHT



Noctua

EMERGENCY LIGHTING IN FIRE STAIRS & CAR PARKS



Chamaeleon™ III

WIRELESS CAR PARK ENTRANCE SYSTEM



Tauro Black



CECS
Controller

OUTDOOR CAR PARK & PATHWAY LIGHTING



Zorro



Zorro Unplugged
(Solar powered)

CAR PARK LIGHTING



Chamaeleon™
Eco



Vico



enLighten

Innovation in Lighting Solutions

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