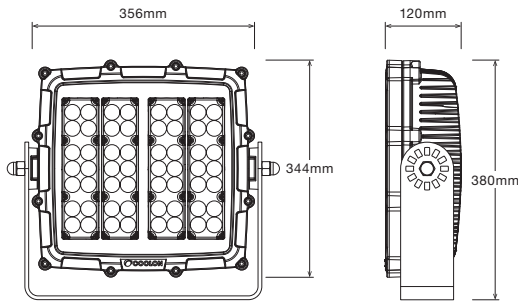
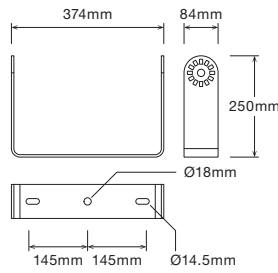


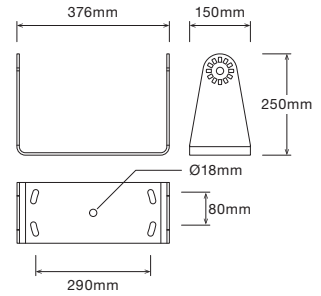
**CP56 Luminaire**



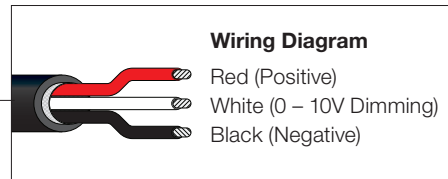
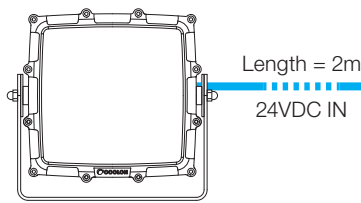
**Fixed Plant Bracket**  
MBR-CP56-FPB



**Mobile Plant Bracket (Optional)**  
MBR-CP56-MPB



**CP56-ELV**



**Electrical Characteristics**

**Voltage In**  
21 – 34VDC

**Power**  
270W @24VDC

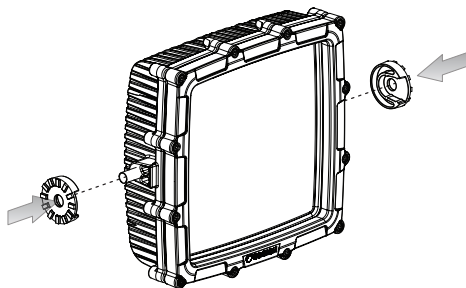
**IP/IK Rating**  
IP66 / IK09

**Operating Temperature**  
-20°C ≤ T<sub>amb</sub> ≤ 50°C

**MOUNTING BRACKET INSTALLATION**

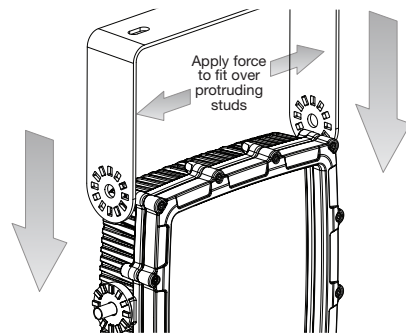
**Step 1**

Install arm locks onto protruding studs on both sides of the housing as shown below.



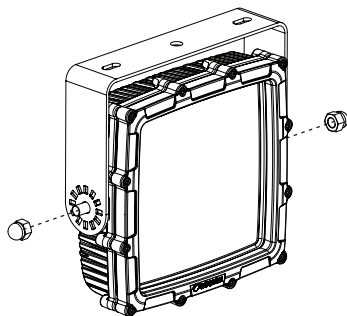
**Step 2**

Apply necessary force to open the bracket in order to fit over the properly positioned arm locks.

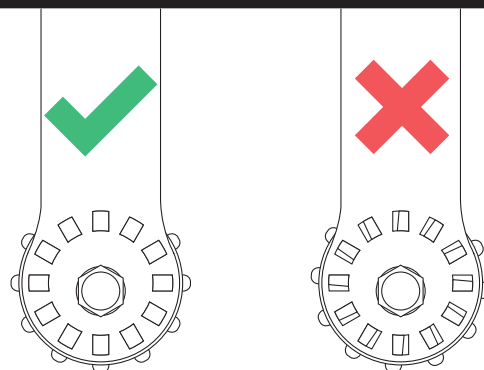


**Step 3**

Align perforated slots in mounting bracket against corresponding notches in the arm locks, then tighten the nut. Ensure that all the perforated slots sit firmly on the notches after tightening up the nuts. Recommended tightening torque is 40 Nm.



**IMPORTANT:** Ensure that all perforated slots sit firmly on the notches after tightening up the dome nuts.



We recommend Loctite® 243™ retaining compound (not included) to secure the dome nut.

**CP56 APPLICATION NOTE**

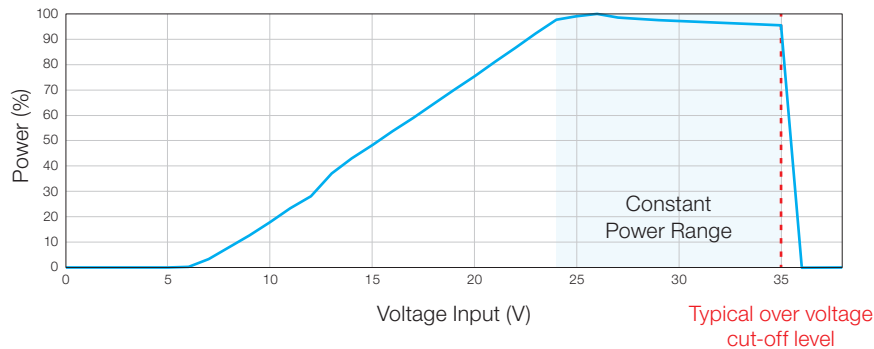
Under some unique circumstances, a connection of multiple CP56 luminaires may result in the luminaires pulsing on and off (or flashing). This application note addresses this phenomenon.

The CP56 Industrial LED Luminaire is built using on-board high efficiency switch mode drivers. It is designed to operate at a constant power, however it reduces its power as the voltage at the input drops below its nominal operating range.

When the CP56 is powered from batteries, this method prevents current increase by reducing voltage when it is below the nominal voltage which helps reduce battery damage and false tripping of circuit breakers.

The CP56 also has over voltage protection circuitry which ensures its reliable and safe operation on mobile plant equipment.

The Power vs Voltage graph below demonstrates the power consumption of the CP56 with respect to input voltage.



The CP56 is designed to be connected to a low impedance 24VDC source such as a battery or a suitable Power Supply directly using its 2 meter cable.

Often an installation on mobile plant will use multiple CP56 units connected to a single point at the end of a single common cable between the battery and distribution panel.

For this type of application, this common cable could be 15m long with 35mm<sup>2</sup> cross section. Such a cable provides low voltage drop, however, it acts as an inductor with a high-quality factor (Q). The Q factor is defined as a ratio between Impedance at a particular frequency ωL and DC resistance R.

$$Q = \frac{\omega L}{R}$$

The operating frequency of the CP56 drivers are sufficiently high (~300KHz or more). As a result of using a common cable, independent drivers could start working in sync.

This creates peaks of high current going through the common part of the cable.

As a result of cable inductance voltage spikes are generated at a common point which can exceed the cut-off voltage level and cause a momentary shut-down of the CP56 on-board driver's protection circuitry.

Externally this could be observed as a light flicker.

In order to avoid voltage spikes from happening, there are 2 common solution;

1. Independent cables for each CP56 is to be directly connected to the battery (in this case a 2.5 or 4mm<sup>2</sup> cross section is sufficient for each luminaire), or
2. A capacitor bank (such as the CL-7DR-1000-24, Coolon 7 Channel DIN Rail Capacitor Bank 1000µF 24V) should be employed to reduce the voltage spikes when independent cable extensions for individual CP56 units are impractical.

**NOTE:** using a normal volt meter or a multimeter at this common point would not show increased voltage as a multimeter performs averaging of the input voltage. In order to observe the voltage peaks a Digital Storage Oscilloscope (DSO) is needed.

**IMPORTANT**

**Primary use:** flood light for commercial and industrial applications.

- Read through this manual before installation
- Handle the product with care
- The product must be installed by a suitably qualified person
- Turn OFF the power before installation and maintenance
- Make sure the product is securely installed
- The housing might become hot after operation
- Keep optical face clean

