# VeeLite LED - DIMMING OPTIONS

## AUTOMATIC DIMMING – No Wiring to Luminaire needed

This type of Dimming is usually specified at Order stage. The Drivers are Factory pre-programmed, although it may be possible to changed afterwards on site.

**Programmable Driver:**
(eg Osram AstroDim; Vossloh ISD). These Drivers can be programmed to apply dimming at different periods, eg Dim lights to 75% after midnight.
Alternatively, to Dim lights by 20% after 1am and by 30% after 3am, etc. CLO Dimming can also be operated on the same Driver at the same time.

**CLO: (Constant Light Output)**
This produces a constant illumination level throughout the life of the luminaire. Initially the LED light sources will be dimmed. This dimming will reduce over the lifetime. By the end of life period, there will be no dimming.
To illustrate: a LED module with L70 (ie. 70% lumens at End Of Life), the Driver is programmed so that initially the output power is at 70%, but over the life the output power will automatically increase to the 100%. This provides a constant light output over the lifetime.
If the Lifetime is L70, this will result in a 15% average Energy Saving over the Lifetime (ie. 30% energy saving at the start and 0% energy saving at the end).

Note: CLO is based on Laboratory conditions and a 25°C ambient so in reality, there will be small variances in light levels, as a result of a different ambient and weather conditions, etc. Newer versions of CLO attempt to allow for these changes.

## CONTROLLED DIMMING – Wiring or Signal to Luminaire needed

This type of Dimming requires signal cable(s) to the Driver. The Drivers receive a signal from a remote PC or other device.

**DALI: (Digital Addressable Lighting Interface)**
This is a manufacturer-independent standard, which allows interchangeability of Drivers from various manufacturers. Each DALI Driver can be accessed via DALI controllers, computers equipped with appropriate software, or building management systems (BMS). This 2-way communication link can be used to check status of each Driver (whether switched on/off/dimmed etc). It can also be used to change status for individual Driver, all Drivers or a Group of Drivers. DALI requires 2 signal cables to each Driver.

**Switch Dimming:**
(eg Osram StepDim)
This allows a single pre-programmed Dimming level and requires a single 230V signal cable to each Driver.

**ENERGY SAVING:**
With 30% dimming, this provides approx 30% energy saving.