HOLOPHANE®



Smarter lighting for sustainable transport

Intelligent exterior lighting supports energy efficiency and ecological considerations at a renewable energy-powered EV charging hub in Bedfordshire.

Checkley Wood Electric Transport Hub
Case Study

The Background.

Located on the A5 near Leighton Buzzard, Checkley Wood Electric Transport Hub brings together ultra-rapid electric vehicle charging, renewable energy generation and roadside amenities within a purpose-built development.

Developed by AW Energy, part of Arnold White Group, the site uses electricity generated by an adjacent wind turbine to support its charging infrastructure and facilities.

With sustainability central to the development, the approach to exterior lighting was an important consideration. The lighting needed to provide suitable visibility for drivers and pedestrians while avoiding unnecessary energy consumption and limiting artificial light during quieter periods.

Holophane supplied Denver iD Pole and Denver iD Wall luminaires with intelligent controls, providing a responsive lighting solution aligned with the development's environmental objectives.

The Challenge.

Balancing visibility with energy efficiency

EV charging hubs need reliable exterior lighting to help drivers and pedestrians move safely between charging bays, parking areas and onsite facilities.

However, lighting requirements change throughout the day and night. Keeping luminaires operating at full output when areas are unoccupied can waste energy and create unnecessary artificial light.

At Checkley Wood, the lighting design also needed to consider the surrounding ecology, limiting illumination when it was not required.

The challenge was to balance the practical needs of site users with the development's wider environmental objectives.

The Solution.

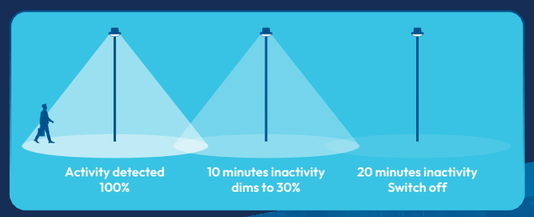
Lighting that responds to movement.

Holophane supplied Denver iD Pole and Denver iD Wall luminaires to provide a coordinated lighting solution across the site's exterior spaces.

The luminaires incorporate groupable PIR motion sensors connected through Zhaga sockets, with sensors suitable for mounting heights of up to 12 metres.

The controls respond to daylight conditions and detected movement, allowing lighting levels to adjust automatically according to site activity.

After 10 minutes without movement, the lighting dims to 30% output. If no further movement is detected for another 10 minutes, the lighting switches off.



This provides three key benefits:

Responsive illumination
Lighting responds to activity, providing illumination when required.

Reduced energy demand
Automatic dimming and switch-off help avoid unnecessary electricity consumption during quieter periods.

Consideration for ecology
Reducing artificial light when areas are unoccupied helps minimise the lighting installation's potential impact on the surrounding environment.

By combining efficient LED luminaires with responsive controls, Holophane provided a lighting solution that adapts to how the site is used.

Rather than maintaining unnecessary illumination throughout the night, the system helps manage energy demand and limit artificial light, supporting both the practical requirements of the transport hub and the environmental considerations behind its design.

Denver™ iD Family

Collaboration in action. A considered approach to exterior lighting.

Nick Smith Associates Ltd was responsible for the lighting design, with particular consideration given to the needs of site users, energy efficiency and the surrounding ecology.

Holophane supplied the Denver™ iD Pole and Denver™ iD Wall luminaires with sensor-based controls, while Light & Energy Distribution delivered the installation.

Together, the project team delivered a lighting scheme that combines efficient LED technology with automatic controls to support the development's sustainability objectives.

Our aim at Checkley Wood was to design exterior lighting that meets the needs of drivers and pedestrians without using more energy than necessary. The Denver iD luminaires, combined with daylight and motion-based controls, offer a practical way to adapt lighting levels to how the site is being used. It is an approach worth considering for future transport hubs."

Nick Smith
Managing Director, Nick Smith Associates Ltd



Project outcomes. Supporting more sustainable operation.

The Checkley Wood installation demonstrates how intelligent exterior lighting can support the environmental objectives of modern transport infrastructure without compromising the practical needs of site users.

By combining Denver iD LED luminaires with automatic daylight and motion-based controls, the lighting responds to changing conditions, reducing unnecessary electricity consumption and limiting artificial light during periods of inactivity.

This approach also supports the lighting designer's intention to consider the surrounding ecology, recognising that responsible exterior lighting is about more than energy efficiency alone.

Although measured energy savings are not available, the confirmed dimming and switch-off sequence provides a practical means of reducing electricity use compared with continuous full-output operation.

For Holophane, Checkley Wood demonstrates how efficient lighting technology and intelligent controls can contribute to more environmentally responsible infrastructure, working alongside the wider project team to deliver a solution suited to the site's operational and environmental requirements.

Holophane Europe Ltd.
Bond Avenue, Bletchley,
Milton Keynes, Bucks, MK1 1JG

01908 649292
info@holophane.co.uk
holophane.co.uk

Photography disclaimer: Photography of the actual Checkley Wood installation has been digitally enhanced using AI to illustrate dusk lighting conditions.