



Powerful and cost-effective controls for high bay lighting

Key Warehouse Benefits:

- Intelligent lighting control strategies to reduce energy usage in all areas.
- Fastest payback - up to 50% less expensive than wired lighting control installation.
- Scalable from a single facility to multi-facility control of lighting across a distributed enterprise.
- "On-demand" lighting with simple wireless override.
- Commercial-strength ZigBee® mesh architecture for fast, robust, bi-directional control.
- Real-time, measurable information about energy usage.
- Integrates lighting control into advanced smart grid and demand management applications.
- Simple and intuitive remote user interface for energy management.
- Flexibility to add new devices, features and control strategies.
- Up to 70% reduction in lighting energy costs.



Overview

Lighting within warehouse, light industrial and other high bay facilities represents one of today's greatest opportunities for energy use reduction and savings. According to the Department of Energy, lighting makes up 39% of the electrical use in commercial buildings – by far the largest single source – and within high bay environments, this number can be even higher. Retrofitting with a more efficient light source is a start, but improving light usage is critical in order to realize truly significant savings. Installing **wireless lighting controls from Daintree Networks** can save an additional 40 – 70% in lighting energy costs.

Wireless networking is the most cost-effective solution for high bay lighting controls, eliminating the need for expensive and complex cabling associated with other advanced controls systems. But it doesn't end there. Wireless technology gets even more powerful when tackling the granular control challenges required within dynamic open-space facilities. Add daylighting controls, demand response, and varying traffic and space usage patterns, and the stage is set for a significant return on investment. Bringing together the management of multiple facilities into a single system is the final step, creating a more intimate link between the needs of customers and employees and the building system.

ROI example:

- Square feet: **64,000**
- Electricity cost: **\$.12/kWh**
- Annual kWh savings: **146,000**
- Lighting energy cost reduction: **63%**
- Time to payback: **2.4 years**

Wireless Solutions for Intelligent High Bay Lighting

Warehouses and other high bay facilities are deceptively difficult to control effectively. The dynamic employee movement patterns, difficulty of physical wiring, and use of automated equipment make standard wired sensors and controls solutions a poor fit.

Daintree Networks' **ControlScope™ wireless platform** provides a powerful and simple-to-install solution for energy-saving wireless lighting controls in high bay environments. The ControlScope intelligent wireless mesh network takes the place of dedicated control wiring and physical control panels, making it the most cost-effective option for advanced energy savings. Standard sensors, switches, ballasts and HID/LED drivers communicate with each other wirelessly, either with built-in wireless capabilities or with an adapter. Facility managers create intelligent lighting zones and set control strategies through ControlScope Manager, an intuitive Web-based application, and those commands are applied across the facility or enterprise.

The result is on-demand lighting that dynamically controls each fixture and zone to meet occupant needs while drastically reducing energy use. A wireless lighting control solution from Daintree Networks offers granular management, but can also provide facility managers with true enterprise-wide control: multi-facility lighting management and reporting from a single console. This gives managers an intelligent view into their entire lighting energy usage, empowers them with more energy-saving control strategies than ever before, and provides the ability to easily test and adjust control settings to achieve even greater savings over time.

In addition, the Daintree Networks solution is adaptable to meet the varied needs of warehouse, light industrial and other high bay spaces. Easily add or change zones, sensors, control strategies and different types of lighting over time, as necessary. In open spaces, Daintree can add remote wireless override dimmers for greater savings. And as space usage and lighting needs change, the Daintree system can update zones and strategies through simple software-based commands, reducing the need for expensive re-commissioning.

Powerful Control for High Bay Facilities

- **Advanced Scheduling** – Facilities can set complex lighting schedules for each individual zone, and combine with active task control for changing light levels during stocking operations.
- **Active Occupancy Sensing** – Aisles, shipping areas and production lines can benefit from additional reductions in lighting when they are not occupied, providing lighting on-demand. Wireless sensors can be conveniently placed where they will achieve the most appropriate coverage.
- **Daylighting** – Daintree's daylighting algorithms can utilize photocell light levels to dim down lights in skylit, window- or dock door-facing areas. In addition, Daintree's Daylight Budgeting™ process can create a schedule to automate daylight usage without sensors.
- **Demand Response** – The Daintree solution can receive demand signals from utilities through OpenADR, to automatically reduce lighting usage during peak times. Managers have the flexibility to determine light level reduction by zone and the priority of the DR signal.
- **Multi-Facility Energy Management** – System-wide energy management connects facilities across a region or country, enabling facility managers to view, compare and manage energy usage over time across stores or facilities of a specific type. Access is through a standard Web browser, from any location.
- **Task Tuning** – Lighting is often set without regard to varying space needs. Through Task Tuning, the Daintree system can set a more appropriate light level for each zone based on its current usage.
- **Wireless Override** – In industrial facilities where accurate occupancy detection is difficult, lighting can be set to default to low levels, and override during occupancy at the line with a wireless switch.

About Daintree Networks

Daintree Networks is a clean technology company using wireless innovation to improve energy management within commercial buildings. Daintree provides technology for powerful, standards-based wireless lighting control solutions that deliver substantial lighting energy efficiency improvements in a more cost-effective way than ever before.

Since its founding in 2003, Daintree Networks has been a pioneer in wireless mesh networking, with nearly 400 customers using its industry-standard design verification and operational support tool. The company has brought this extensive experience to bear in developing the industry's first truly interoperable platform for wireless lighting controls. For more information, visit www.daintree.net.



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