



Ports & Rail

Lighting & Controls Solutions



Lighting should add value to your infrastructure

Traditional lighting is a drain on resources

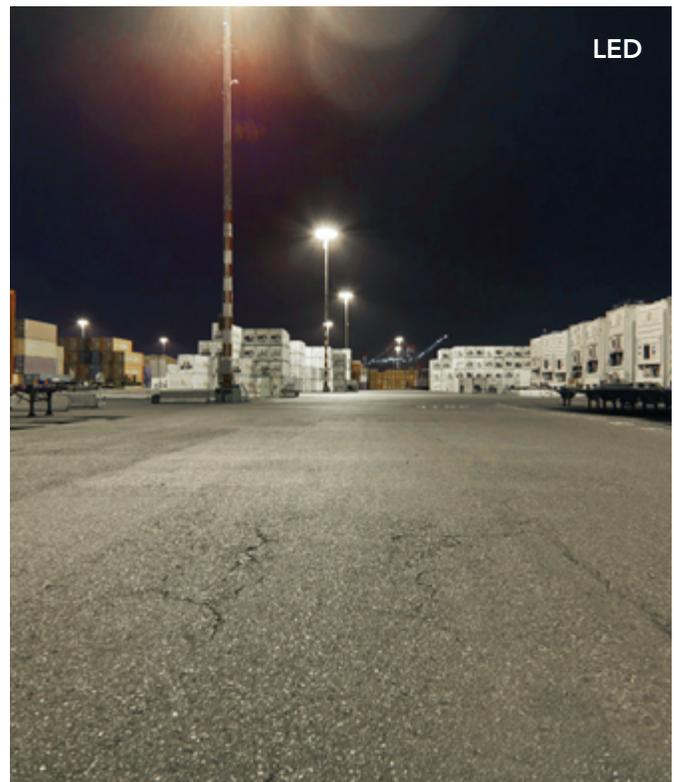
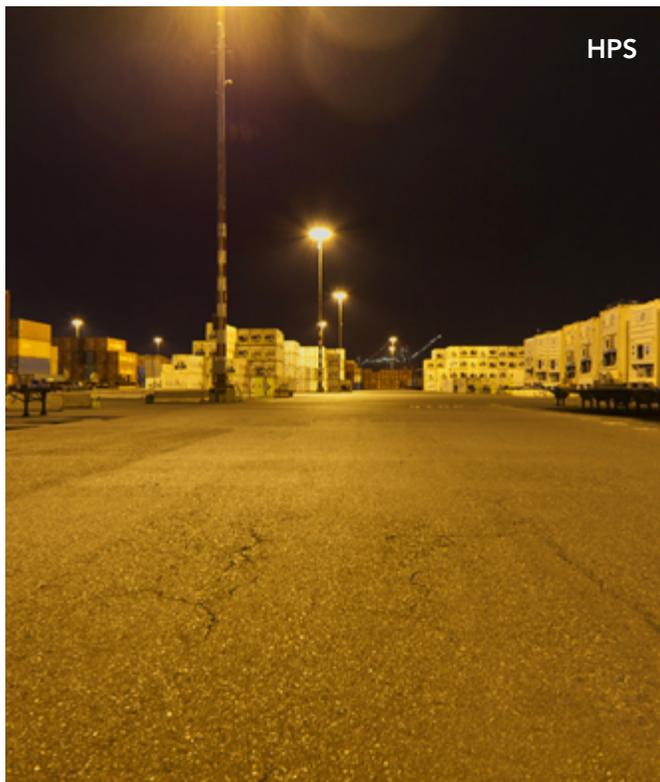
- It wastes energy and requires both routine and unexpected maintenance that includes man-hours and parts inventory.
- It struggles to maintain minimum light levels over the life of the application. A continuous worry that can add up in fixes that are costly and time-consuming.
- It leaves employees in the dark, affecting safety and security during night operations.

Acuity Brands LED solutions can turn things around

Acuity Brands® understands the everyday challenges of maintaining a good lighting system.

As a single-source provider and your true partner, we deliver industry-leading lighting and controls solutions to build reliability into your application.

From products and support to specialized services and financing, Acuity Brands is committed to your success.



Optimize your terminal; maximize return

Benefits of an optimized lighting network

S	<p>Savings Realized through reduced energy use, labor and maintenance</p>
F	<p>Flexibility Provide control over your lighting environment with tools that evolve as your operation does</p>
A	<p>Adaptability A future-proof system will support and ensure the seamless flow of data across multiple lighting applications</p>

Getting the most from your lighting means saving more money you can invest back into your facility. The optimization starts with LED luminaires that save energy and minimize maintenance. As you invest more, you gain additional benefits that reduce your total cost of operations.

Acuity Brands' solutions work to save you money. We also provide lighting controls that allow you to customize light levels throughout your terminal, while also monitoring operation and energy consumption.

In the renovation example below, we replaced 10 high mast towers with twelve 1000W HPS luminaires per pole with HMAO Gen III as a direct one-for-one replacement and then added a ROAM lighting management network to optimize the solution.

Renovation Example: 10 Towers (12 Luminaires) – Estimated Savings

	System	Average Yearly Operating Cost*	Investment Drivers*	Benefits
OPTIMIZED	Replace with: HMAO Gen III LED & ROAM	\$17,082	\$61,836	2.5 Year Payback 
	Replace with: HMAO Gen III LED	\$39,546	\$39,372	4 Year Payback 
	Existing Lighting: 1000W HPS High Mast	\$78,918 (energy & maintenance)		

Operating Cost Savings

* Savings does not include installation cost (which may vary) and assumes \$.12/kWh utility rate, 4,380 yearly operating hours and typical HPS lamp / ballast replacement and labor costs.



Understanding lighting controls in the ports and rail space

How do controls help my lighting solution?

In today's world lighting designers, engineers and facility managers – like everyone else – must do more with less. Shrinking budgets, expanding energy regulations and increased consumer demand require an outdoor lighting system that is cost-effective, code compliant and can deliver a more secure environment.

Incorporating modern, efficient lighting with digital controls creates significant advantages over lighting-only options:

- Stand-alone or component-based controls can provide significant energy savings with little or no programming
- System-based solutions link devices to control one or multiple spaces and offer a higher level of functionality

How do controls help my bottom line?

Applying lighting controls to unmanaged lighting saves 25 to 45% of the existing energy in many spaces. Popular outdoor control strategies include dimming, scheduling and monitoring. Lowering energy consumption through the use of controls is a "green" solution, too – helping enhance sustainability and reduce the impact of our carbon footprint.

Are site-wide control systems available now?

Intelligent lighting controls simplify complex projects with graphical interface management of larger lighting systems. In many cases, the lighting control system can seamlessly connect to already-installed site automation systems.

How can adding controls help enhance safety?

How do you respond quickly to lighting failures? Monitoring and diagnostics. Reliable, high-quality lighting systems improve visibility in large area environments and help to enhance security.

Are there retrofits available for existing spaces?

Deploying lighting controls in existing spaces can be simple when the controls are designed for easy retrofit! Highly-scalable solutions install with minimal changes to existing infrastructure, and take advantage of technology to simplify reconfiguration.



Comprehensive solutions for rail yards and port applications



Large Container Areas

Good lighting is essential to the successful and secure operations of large container areas within seaports – especially during extreme weather conditions. It enhances the operators' ability to safely handle goods and equipment around the facility, and promotes visual comfort for the surrounding community. Each application has specific needs that require proven solutions.

Key Solution: HMAO LED III, Narrow and Wide Distribution



Rail Lines

Rail lines are a complex series of narrow tracks for storing, sorting, loading or unloading railroad cars. Each yard may have many parallel tracks to maintain traffic flow. The primary challenge with this application is providing required light levels throughout each narrow container corridor without placing poles where they can obstruct trains entering and leaving the location.

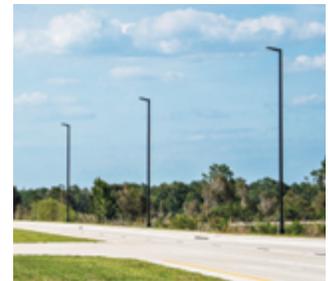
Key Solution: HMAO LED III, Type IV Forward Throw Distribution



Crane Lighting

These essential pieces of equipment operate at high altitudes and are subject to elevated levels of vibration. In poor weather conditions, or at night, cranes require luminaires that can adequately illuminate target work areas to enhance operational safety. These applications require precise, directional light sources with narrow- and medium-size beams.

Key Solution: Predator LED, Narrow and Medium Distribution



Access Roads

Sometimes ports and rail yards can be small cities unto themselves, requiring the illumination of access roads. In this application, the emphasis should be on worker safety, light uniformity and system durability. In this environment, a high-performance cobrahead that provides a small degree of vertical footcandle for pedestrian safety is recommended.

Key Solution: Autobahn LED, Type III Distribution

Container & Rail Areas

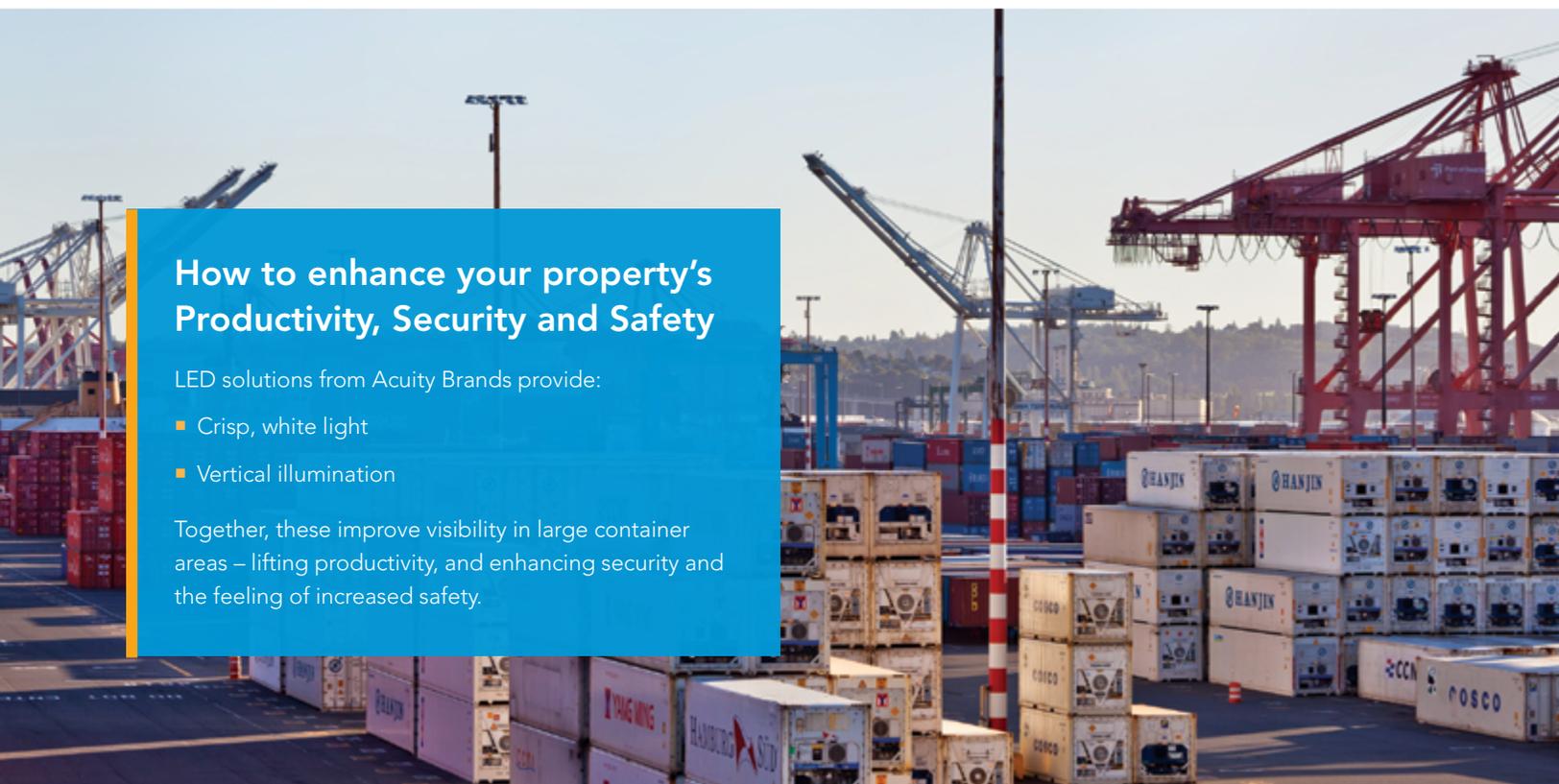


How to enhance your property's Productivity, Security and Safety

LED solutions from Acuity Brands provide:

- Crisp, white light
- Vertical illumination

Together, these improve visibility in large container areas – lifting productivity, and enhancing security and the feeling of increased safety.



Third generation high mast from Holophane complies with OSHA guidelines for one-to-one replacement

HMAO LED III

The HMAO LED III is a highly-engineered product specifically designed for high mast lighting applications. It provides long system life, excellent uniformity and substantially reduced maintenance costs with energy reduction of up to 65% over high intensity installations. The luminaire features an enhanced light engine that delivers over 86,000 lumens of crisp white light and an advanced optical system that provides design flexibility to meet a variety of large area applications:

- One-to-one replacement that exceeds 1000W HPS solutions
- Prismatic glass optics that provide high application efficacy, uniformity, and glare control
- Long system life: 100,000 hours / L82
- Control options include 0-10V dimming, P7 photocontrol, ROAM enabled

The HMAO LED III offers the flexibility of several lumen packages, integrated controls and several distributions – all allowing you to choose light levels and energy savings when replacing 400-1,000W HPS luminaires. Paired with advanced wireless ROAM technology, the HMAO LED III will save energy and increase safety through improved monitoring, diagnostics and scheduling capabilities.

A full selection of poles

We can provide you with a full selection of poles in a wide variety of configurations, from 20-foot poles for access roads to 150-foot high mast poles for your port and rail lighting applications.

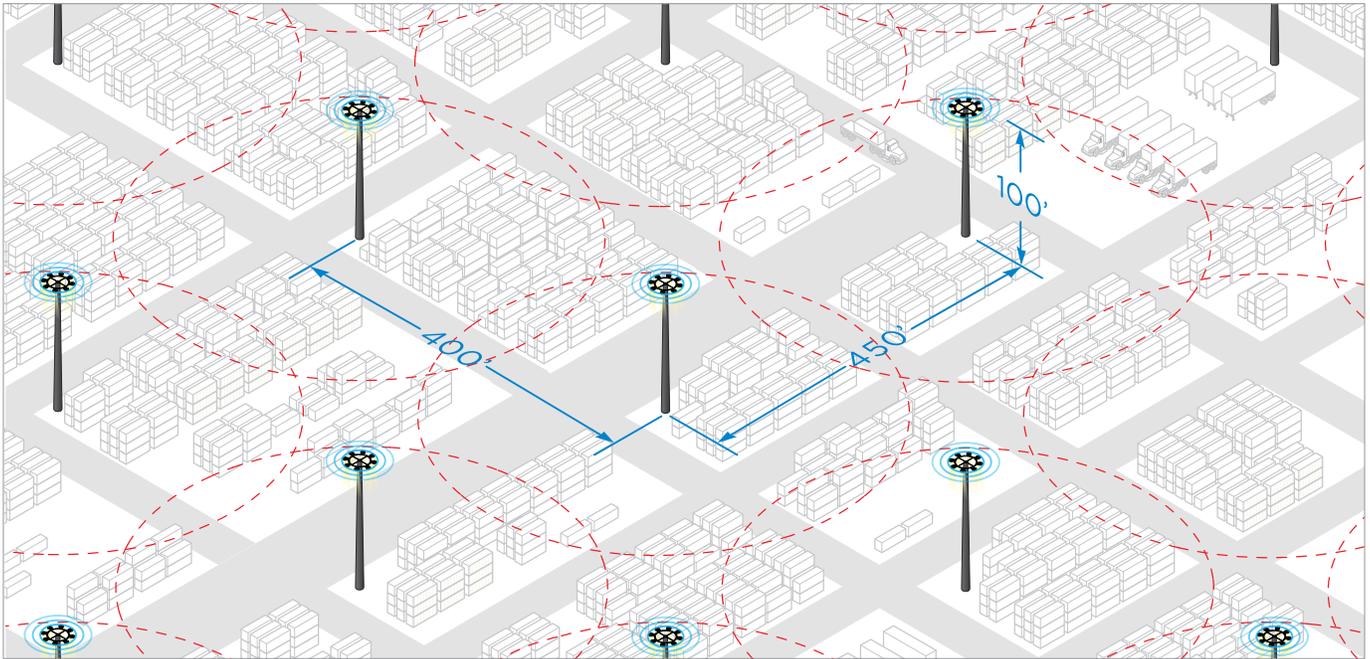
Reliable, long-lasting lowering devices

Since developing the industry's first high mast system in 1970, Holophane has been the most reliable supplier of long-lasting high mast systems in the world; we also have the largest established base in the industry, with over 40,000 high mast systems installed worldwide. Holophane stands behind every lowering device it has supplied, from the first systems installed to today's installations at major ports, highways, railroads and other facilities around the world.



Container Area with ROAM

100ft Mounting Height – 450ft Cargo Area Application



HMAO LED III

HMLED3 PK4 40K HVOLT G AW

Lumens per watt: 132

Total Lumens: 83,170

Distribution: Type AW

Controls: ROAM IDC Node

Renovation Comparison

	1000W HPS	HMAO LED III
Number of Luminaires per Pole	12	12
Maintained Footcandles	3.9 fc.	5.1 fc.
Avg./Min.	1.9:1	1.4:1
Input Wattage per Luminaire/Pole	1080/12,960	627/7,524

Efficient replacement solution for 400W-1,000W HPS



20+ Year
Expected
Service Life



Wireless
Network
Controls

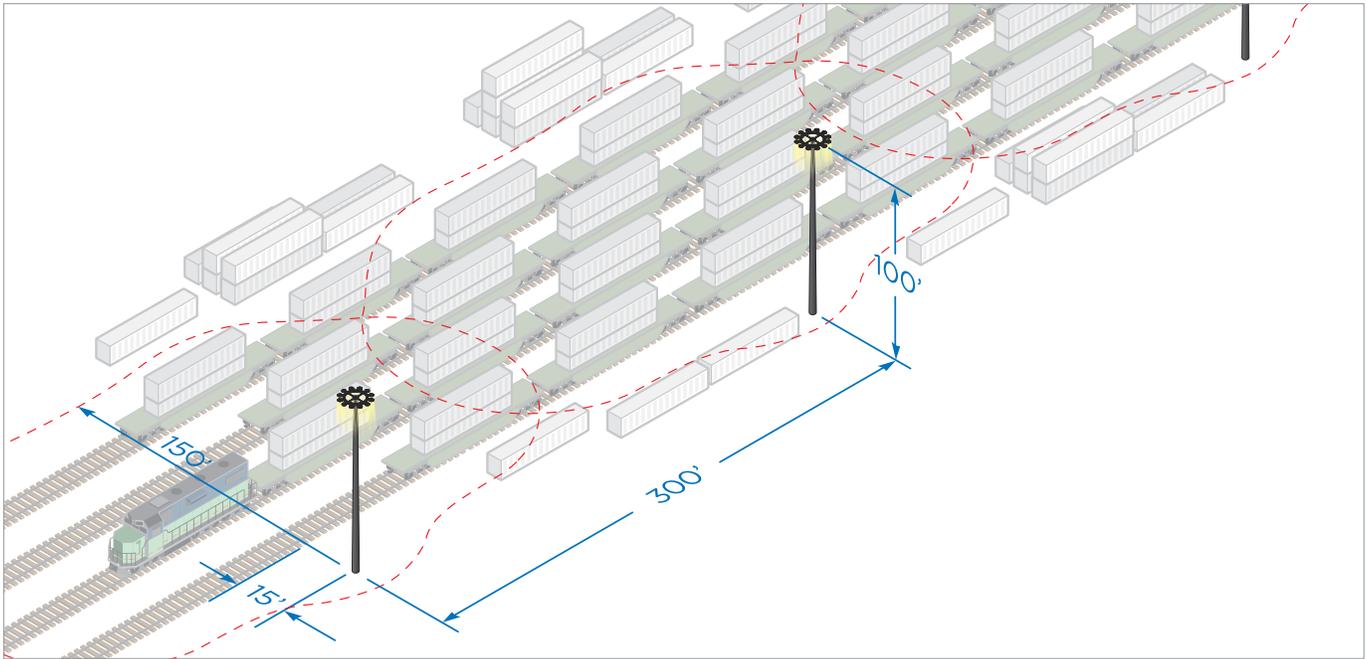
42% Energy Savings

80% Maintenance Savings

IP66 Wet Location Listed

Rail Area

100ft Mounting Height – 300ft Rail Yard Application



HMAO LED III

HMLED3 PK3 30K HVOLT G M PCL3
HMLED3D180

Lumens per watt: 97
Total Lumens: 46,010
Distribution: Type M
Controls: DTL DLL Elite

Renovation Comparison

	750W HPS	HMAO LED III
Number of Luminaires per Pole	8	8
Maintained Footcandles	5.0 fc.	5.0 fc.
Avg./Min.	1.1:1	1.2:1
Input Wattage per Luminaire/Pole	840/6,720	475/3,800

Efficient replacement solution for **400W-1,000W HPS**



43% Energy Savings

80% Maintenance Savings

IP66 Wet Location Listed

Crane Lighting



Innovation AMPLIFIED

Predator® LED

Holophane Predator LED uses cutting edge LED technology and prismatic glass optics to provide optimal performance and benefits over traditional HID light sources, including:

- Up to 60% reduction in energy costs
- Long life – 20-year expected service
- 50% maintenance reduction
- Improved visibility with crisp, white light

The Predator LED is a sustainable solution for crane lighting applications with three models to choose from. The PSLED (small) offers lumen packages for direct replacement of 150 to 400W HID floods. The PMLED (medium) offers lumen packages for direct replacement of 400 to 1000W Metal Halide. The PLLED (large) offers lumen packages for direct replacement of 750 to 1000W HID floods.



Road Lighting



Light the way – efficiently, reliably, sustainably

Autobahn and Mongoose LED

We help illuminate your port roadways through a wide array of LED lighting and controls solutions available from our Holophane and American Electric Lighting brands.

Our AEL Autobahn family of luminaires provides cobrahead replacement solutions for 50-400W HID incumbents while the Holophane Mongoose LED replaces 150-400W HID luminaires.

The Mongoose LED offers state-of-the-art LED technology and prismatic glass optics. Robust construction – with corrosion-resistant finish – ensures long life and reliability in the harshest coastal environments.

These products offer:

- Up to 68% reduction in energy costs
- Long life – 20-year expected service
- 50% maintenance reduction
- Improved visibility with crisp, white light



Smart solutions that simply work

Large Area and Rail Solutions



HMAO LED III



High Mast Poles and Lowering Devices



Intelligent Controls

Roadway Solutions



Autobahn ATBO



Autobahn ATB2



Autobahn ATBS



Autobahn ATBM



Mongoose LED



Intelligent Controls

Crane Solutions



Predator LED



Intelligent Controls

Got a project, need assistance? CONTACT US



Expanding the boundaries of lighting™

3825 Columbus Rd. Granville, Ohio 43023 | Phone: 740.587.0000
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