



Streets & Highways

Infrastructure Lighting & Controls Solutions





Improve your city infrastructure with LED lighting solutions from Acuity Brands

Acuity Brands® is a partner you can trust to keep your infrastructure strong and healthy for years to come.

We provide a complete range of LED products including cobraheads, high mast and a plethora of architectural pole-mounted products. Each luminaire may work independently or as part of an integrated solution, utilizing our controls and network capabilities.

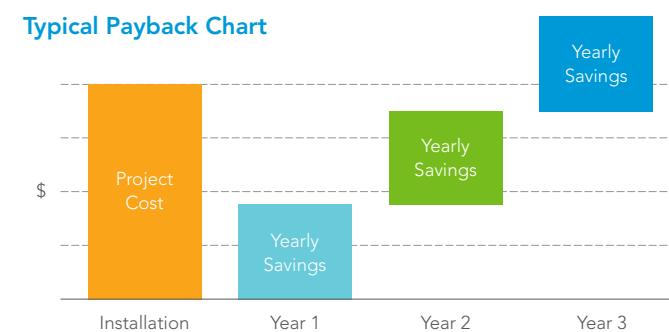


We're the leader in LED technology. Upgrading to LED facilitates a faster payback.

LED is a highly energy-efficient lighting technology, and is fundamentally changing the future of lighting. Why? Because LED:

- Has the greatest potential impact on energy savings, reducing energy consumption by up to 70%
- Reduces labor and downtime costs associated with the maintenance of traditional lighting sources
- Heightens visibility which can help enhance safety in the environment
- Provides complete control and flexibility when installed with an optimized wireless network

Typical Payback Chart



LED systems last longer than traditional HID technology

And they maintain constant light levels throughout that lifespan, as well.

With unparalleled lifespans of up to 100,000 hours, LEDs last significantly longer than traditional sources, delivering years of continuous operation.

Our LED luminaires boast minimal lumen depreciation over the life of the luminaire, compared to high pressure sodium

(HPS) lamps that have a rated life of 24,000 hours and rapidly-depreciating lamp lumens.

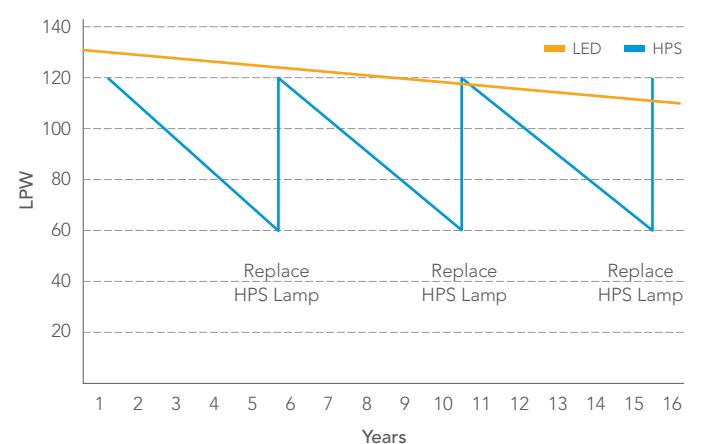
Add reduced maintenance and improved visibility to the picture, and the advantages are clear.

LEDs offer reduced maintenance

The long life of LEDs means eliminating three to four lamp changes over the life of the luminaire. This could mean substantial savings in lamp and labor costs associated with both routine and unexpected maintenance.

Improved visibility, too

Advances in LED technology have made solid state luminaires the preferred choice over HPS lamps for uniform illumination and higher color rendering. The improved light creates an environment that can enhance safety and promote consumer activity in commercial districts.





Understanding lighting controls for street & highway applications

How do controls help my lighting solution?

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 can save 25 to 45% of the existing energy. 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 reducing the impact of our carbon footprint.

With site-wide control, what was complex is now simple

Intelligent lighting controls simplify complex projects with graphical interface management of larger lighting systems. In many cases, the lighting control system can remotely control luminaires in groups or individually, on-demand or by schedule.

Controls help enhance safety

How do you respond quickly to lighting failures? Monitoring and diagnostics. Reliable, high-quality lighting systems improve visibility in roadway and parking environments and help to deter crime.

Easy retrofits 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.

What is A+ Certified?

A+ Certified Solutions from Acuity Brands provide:

Confidence – Clarity and assurance in helping you create the optimal lighting solution.

Compatibility – Luminaires, controls and technology components designed, manufactured and tested for interoperability.

Certification – Customer assurance that an A+ system from Acuity Brands will perform as promised, and will be serviced by one company – committed to ensuring your satisfaction.



Control solutions to enhance and improve your infrastructure



The foundation of controls

Acuity Controls leads the way in development of controls technologies and establishing standards for the industry. Standards such as the Acuity Controls-designed 7-pin photocontrol receptacle ensure future-proofing of your luminaire so that additional features and capabilities can be enabled as they become available.



DTL® – Standalone dusk-to-dawn solutions

Recognized by the industry world-wide as a provider to utility, commercial and municipal customers, DTL is an established market leader with the breadth of product to cover all applications, including roadway, area lighting, foodlighting, security and residential.



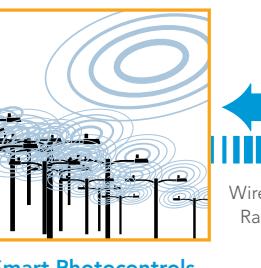
DLL Elite

With superior LED inrush current protection and TRIAC-assisted relay, the DLL Elite LED photocontrol is designed to last as long as the LED lighting system itself – 20 years or longer.



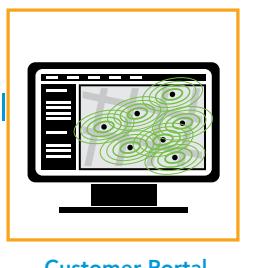
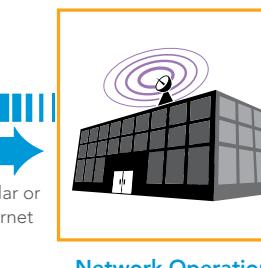
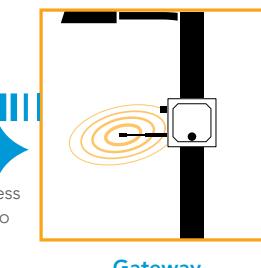
DTL Connect – Wireless Remote

The DTL Connect Series™ photocontrol and remote empowers utilities to enable and disable difficult-to-access luminaires from the ground with the touch of a button. Built upon the robust, long-life design of the DLL Elite, the easy-to-retrofit DTL Connect Series photocontrol and remote offer long-life relay performance and superior surge protection.



ROAM® – Remote operations asset management

ROAM consists of a wireless mesh network of intelligent photocontrols, or nodes, used to control LED, HID and other luminaires. Nodes monitor luminaire performance and operating conditions, and execute commands based on inputs such as schedules and daylight levels. Information collected about luminaire performance is wirelessly transmitted to a gateway and passed on to a server, where it is graphically displayed at a customer workstation.



Smart Photocontrols

Gateway

Network Operation Center

Customer Portal

The Acuity Brands Roadway Lighting Portfolio

The Holophane and American Electric Lighting brands leverage over a century of experience to provide the world's most comprehensive portfolio of lighting solutions for street & highway applications. Roadway solutions range from standard to specialty as well as a variety of architectural products to enhance your streetscape. These two pages provide an overview of many of the selections from which you can choose. Contact your account representative for the latest list of available products.

Standard & Specialty Roadway



Architectural Roadway



Architectural Poles

Historical Poles

- Aluminum
- Cast Iron
- Cast Iron & Steel
- Composite
- Concrete



Acuity Brands offers a seemingly endless selection of high-quality architectural poles in a variety of materials and configurations. Choose from cast or extruded construction with shafts that range from straight to tapered, and smooth to fluted. Our selection of decorative bases bring your assembly to life with a unique aesthetic touch to compliment your streetscape design.



Architectural Arms

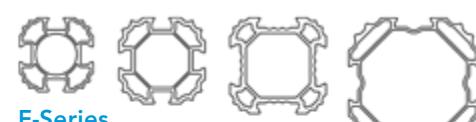
Historical Style Arms



Acuity Brands offers a large selection of historical or period-styled arms to compliment your pole and luminaire assembly. Available for both post top and pendant mounted configurations, they can facilitate mounting of one to five luminaires on a pole in a safe, reliable manner.



SiteLink™ Pole Systems



F-Series

T-Series



SiteLink by Holophane reduces site clutter with its integrated Modular TracPole System. A unique aluminum extrusion design provides integrated wire ways inside the system and a convenient, adjustable and attractive platform for mounting a variety of pole accessories. SiteLink poles come in both fluted and non-fluted styles to meet a variety of architectural needs from modern to historical.

Transitional Style Arms



Acuity Brands offers a large selection of arms for transitional style pole and luminaire assemblies. These are also available for both post top and pendant mounted configurations, with the ability to facilitate mounting of one or multiple luminaires on a single pole.



We offer comprehensive solutions for all street and highway applications



High Speed Roadway

Good roadway lighting should assist motorists as they travel to their destinations safely and securely at high speed. Any object at the road edge must be seen without excessive and obtrusive light encroaching on immediate surroundings. It is important to select an energy-efficient luminaire that is easy to install and maintain. The objective is to minimize lane closures while meeting regulations and standards, which specify light levels with correct uniformity and glare control.

Featured Solution: [Mongoose LED with ROAM Controls](#)



Interchanges

Intersections of high speed and high traffic density require continuous lighting systems which provide sufficient surrounding horizontal illuminance to reveal features of the entire interchange location. Good continuous lighting will enable drivers to read roadway signs and recognize where they are relative to where they are going at all times while making the transition to a different highway, commercial street or collector roadway.

Featured Solution: [HMAO LED II with DTL DLL Controls](#)



Collector Roads

Collector roadways service traffic from major roadways and feed it to local streets that serve industrial, commercial and residential areas. Because collector roads have higher pedestrian conflict than higher speed roadways, recommended lighting should provide comfortable levels of vertical illumination to allow drivers to quickly and accurately identify objects on the roadway.

Featured Solution: [Autobahn ATBM with ROAM Controls](#)



Downtown/Business District

In urban areas, particularly in medium-to-high-pedestrian usage areas, many elements have to be coordinated with the lighting system. Good streetscape lighting will provide comfortable light levels for the driver to view elements within the streetscape while seeing pedestrians, reading signs and avoiding other vehicles. The system must also provide a sense of security and safety for pedestrians by reducing shadows from buildings, trees, signs and so on. Integrating all factors into a downtown application can provide for a very vibrant and productive commercial district.

Featured Solution: [Tear Drop LED II with ROAM Controls](#)



Residential Streets

In many residential areas, the focus of lighting is more on nighttime pedestrian activity than traffic safety. Providing light for pedestrian visibility often needs to be balanced against concerns for light pollution, especially light trespass into residential windows that can disturb occupants.

Featured Solution: [GranVille LED II and American Revolution 247L LED with ROAM Controls](#)



Rural Roads

Most rural roadways are only lit in areas of potential conflict, such as intersections. A common method for illuminating rural roadway intersections is to use one or two luminaires at the intersection location, where vehicle-to-vehicle conflicts might be likely to occur.

Featured Solution: [Autobahn ATBS with DTL Connect Remote Controls](#)

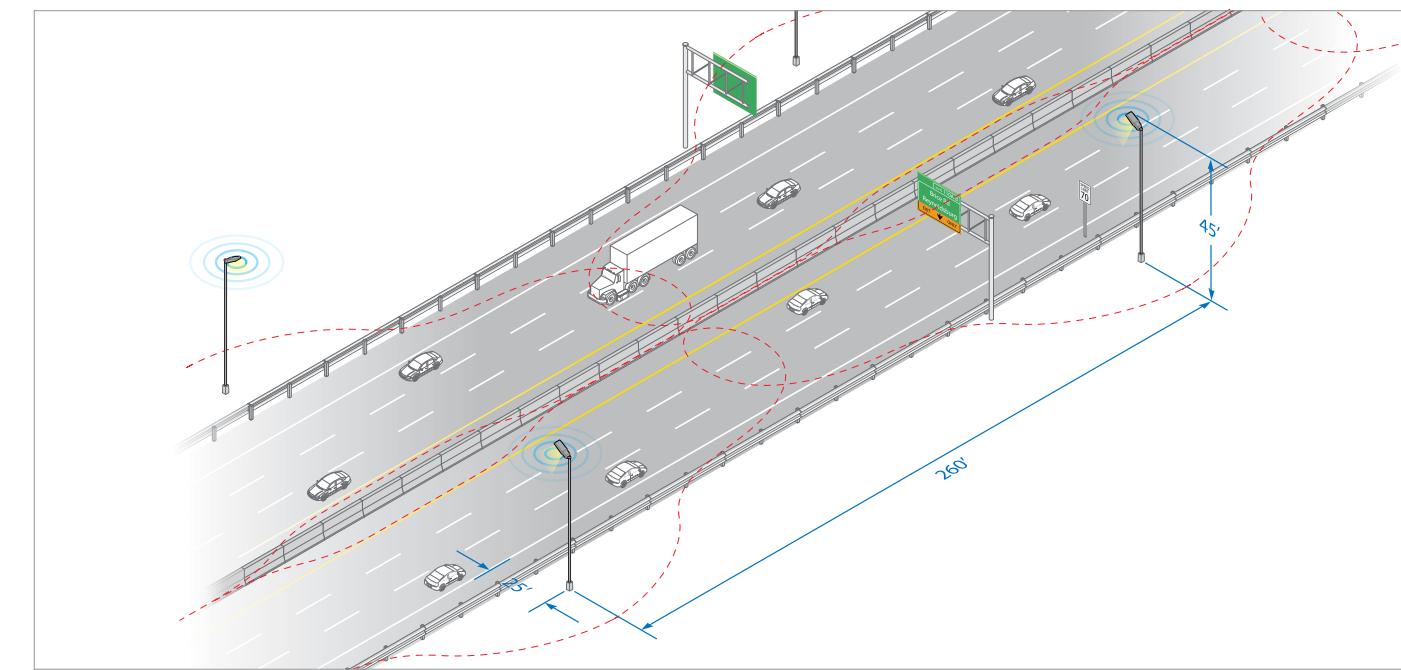
Acuity Controls Solutions for Every Application

High Speed Roadway



Offset Solution

45ft Mounting Height – 260ft Pole Spacing



Light the way – efficiently, reliably, sustainably

Offset roadway solutions

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

The Holophane Mongoose LED replaces 150-400W HID luminaires while providing the performance and durability of prismatic glass optics. Robust construction combined with a corrosion-resistant finish further ensures long life and reliability in the harshest of roadway environments. A tilt feature with highly-engineered optics provides a dedicated solution for applications requiring offset/setback installation.

Mongoose LED products offer:

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



Mongoose® LED

MGLED 6 4K AS M L V G P7

Lumens per watt: 98

Total Lumens: 24,004

Distribution: Type II

Controls: ROAM

Renovation Comparison

Project Design Criteria	400W HPS Incumbent	Mongoose LED
Input Wattage	460	245
Maintained Footcandles	0.70	0.96
Avg./Min.	3:1	1.8:1
Total Watts (100 luminaires)	46,000	24,500
Expected Service Life	24,000 hrs.	>100,000 hrs.
	5 yrs.	>20 yrs.

47% Energy Savings*

77% Maintenance Savings*

\$265K Total Lifetime Savings*

4 Year Payback

Added savings up to 20% can be obtained with a ROAM controls energy and maintenance program

*Figures based on typical roadway layout with approximately 100 Mongoose LED luminaires at 45ft mounting height and 260ft pole spacing. Savings and returns estimates assume \$0.10/kWh utility rate, 4,380 yearly operating hours and typical HPS lamp/ballast replacement and labor costs.

Interchanges



Smart, simple solutions for complex applications

High mast solutions

Here's a sample of Acuity Brands innovation: the second-generation Holophane HMAO LED II uses a modular chip design to provide important improvements over traditional high mast products.

HMAO LED II products offer:

- Up to 77% reduction in energy costs
- Long life – 20-year expected service
- Minimum 50% maintenance reduction
- Improved visibility with crisp, white light



A full selection of poles

We can provide you with a full selection of poles in a wide variety of configurations – up to 150-foot high mast solutions. These can provide maximum mounting heights and pole spacing that reduce operating costs while providing optimal lighting coverage.

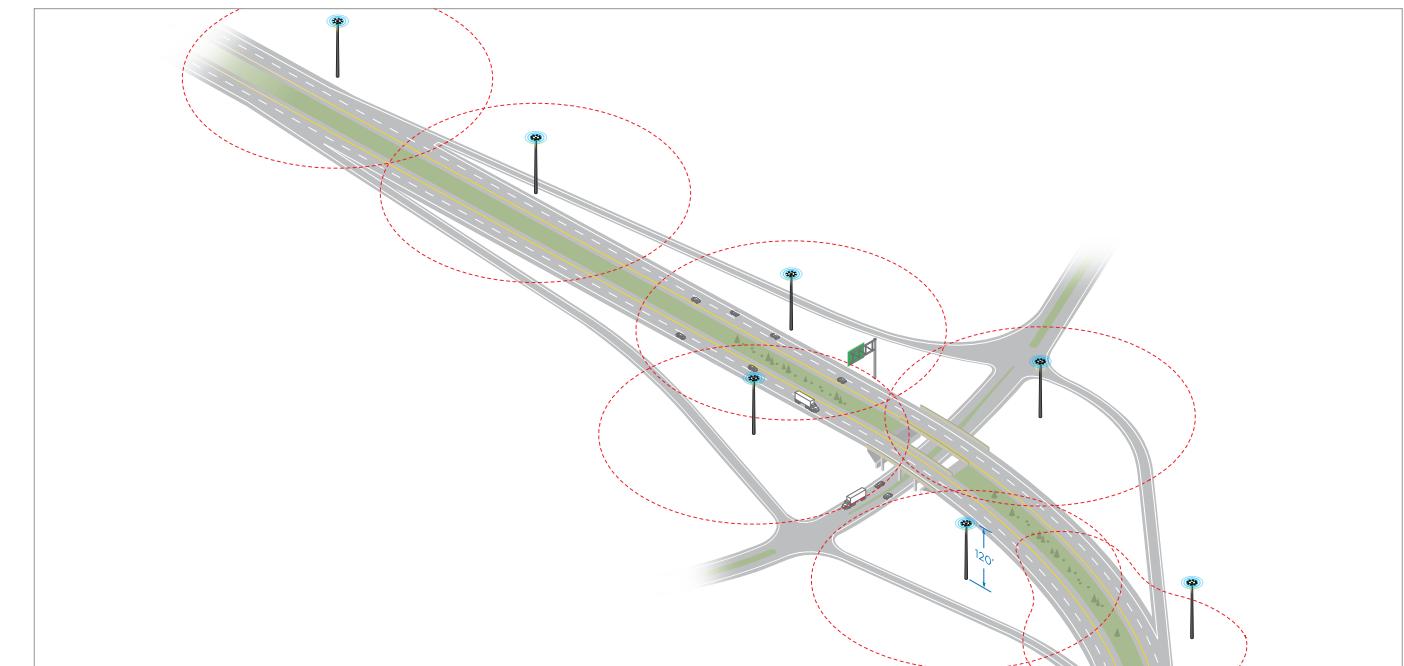


Reliable, long-lasting lowering devices

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.

High Mast Interchange System

120ft Mounting Height



Renovation Comparison

Project Design Criteria		400W HPS Incumbent	HMAO LED II
Input Wattage		465	151
Maintained Footcandles	0.90	0.87	0.98
Avg./Min.	3:1	3:1	2.9:1
Total Watts (84 luminaires)		39,060	12,684
Expected Service Life		24,000 hrs.	>100,000 hrs.
		5 yrs.	>20 yrs.

68% Energy Savings*

77% Maintenance Savings*

\$422K Total Lifetime Savings*

4.3 Year Payback

Added savings up to 20% can be obtained with a ROAM controls energy and maintenance program

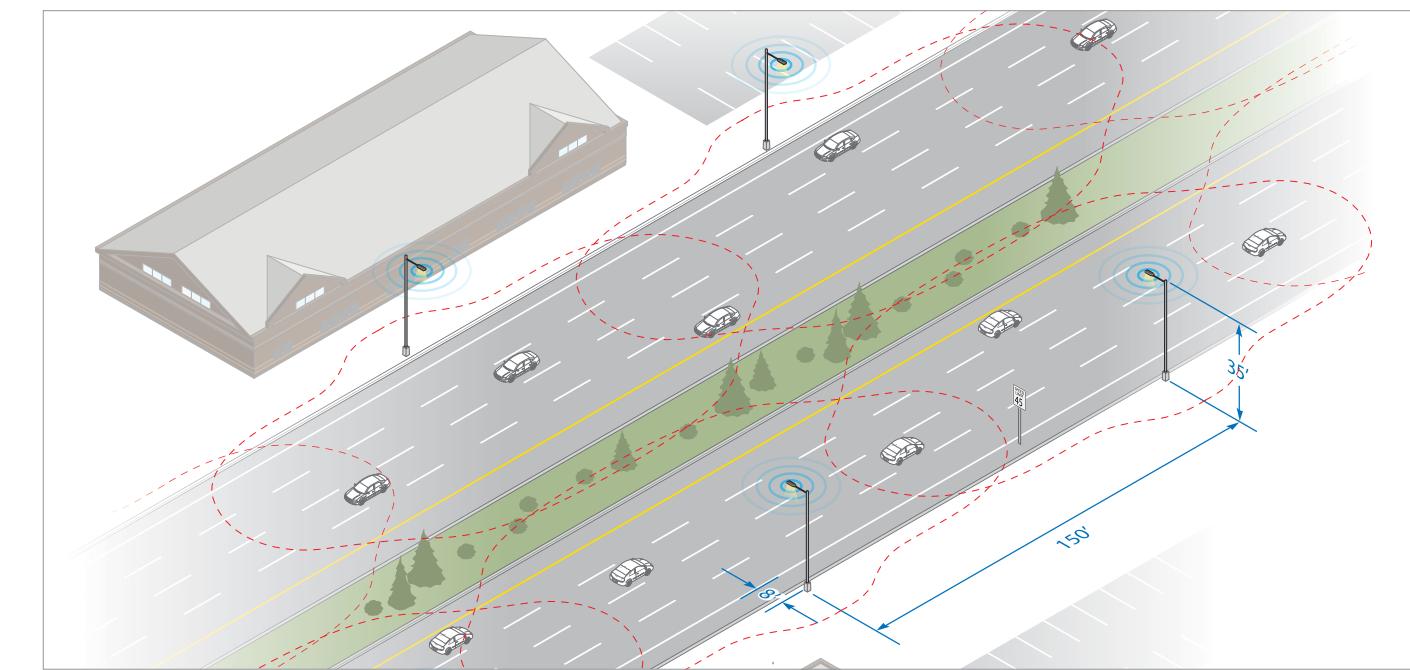
*Figures based on typical roadway layout with approximately 84 HMAO LED II luminaires at 120ft mounting height. Savings and returns estimates assume \$0.10/kWh utility rate, 4,380 yearly operating hours and typical HPS lamp/ballast replacement and labor costs.

Collector Roads



Cobrahead Replacement

35ft Mounting Height – 150ft Pole Spacing



Solutions with the lowest total cost of ownership

Cobrahead replacements

Collector roads can be more efficiently illuminated with a variety of Acuity Brands pole-mounted cobrahead replacements such as our Autobahn series of luminaires.

Our AEL Autobahn family of luminaires provides cobrahead replacement solutions for 50-400W HID incumbents in a variety of form factors and sizes including the ATB0, ATB2, ATBS, ATBM and ATBL.



The Autobahn ATBM offers:

- Up to 62% reduction in energy costs
- Long life – 20-year expected service
- Minimum 50% maintenance reduction
- Improved visibility with crisp, white light



Autobahn ATBM

ATBM H MVOLT R2 P7

Lumens per watt: 110

Total Lumens: 18,087

Distribution: Type II

Controls: ROAM

Renovation Comparison

Project Design Criteria	250W HPS Incumbent	ATBM
Input Wattage	305	164
Maintained Footcandles	1.00	1.20
Avg./Min.	4:1	2.9:1
Total Watts (100 luminaires)	30,500	16,400
Expected Service Life	24,000 hrs.	>100,000 hrs.
	5 yrs.	>20 yrs.

46% Energy Savings*

77% Maintenance Savings*

\$200K Total Lifetime Savings*

2.7 Year Payback

Added savings up to 20% can be obtained with a ROAM controls energy and maintenance program

*Figures based on typical roadway layout with approximately 100 Autobahn ATBM luminaires at 35ft mounting height and 150ft pole spacing. Savings and returns estimates assume \$0.10/kWh utility rate, 4,380 yearly operating hours and typical HPS lamp/ballast replacement and labor costs.

Downtown/Business Districts



Visual appeal by day and by night

Period architectural LED

Acuity Brands provides a large portfolio of architectural luminaires in both post-top and pendant-mounted configurations. Our Holophane and American Electric Lighting brands can provide a multitude of solutions including glass acorns, colonial lanterns, tear drop and bell-styled luminaires.

State-of-the-art LED technology is combined with over a century of optical expertise to provide solutions that are not only durable and efficient but visually comfortable. All of this is delivered in a choice of architectural styles to compliment and enhance your streetscape.

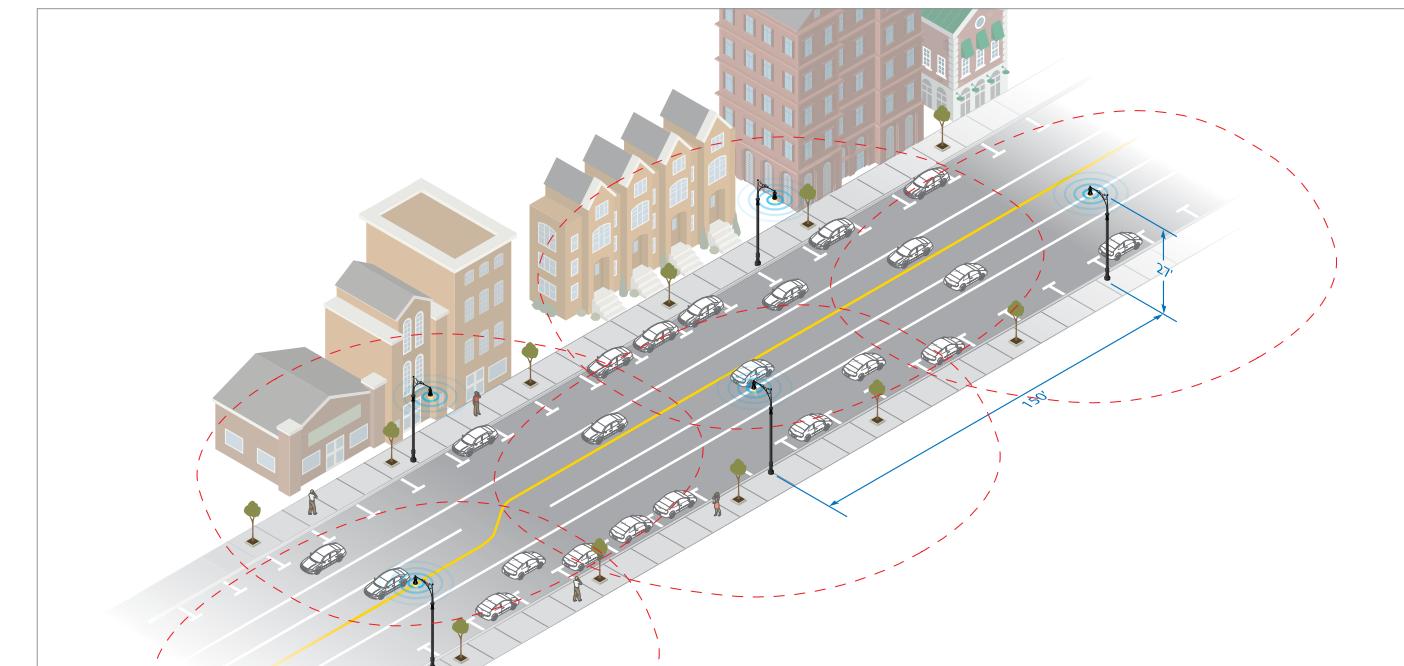
The Tear Drop LED II offers:

- Up to 60% reduction in energy costs
- Long life – 20-year expected service
- Minimum 50% maintenance reduction
- Improved visibility with crisp, white light
- Visually appealing by day – visually comfortable by night



Architectural Pendants

27ft Mounting Height – 150ft Pole Spacing



Tear Drop LED II

ESL2 P40S 40K AS TG 3

Lumens per watt: 128

Total Lumens: 17,108

Distribution: Type III

Controls: ROAM

Renovation Comparison

Project Design Criteria	250W HPS Incumbent	Tear Drop LED II
Input Wattage	310	134
Maintained Footcandles	1.70	1.72
Avg./Min.	4:1	1.8:1
Total Watts (100 luminaires)	31,000	13,400
Expected Service Life	24,000 hrs.	>100,000 hrs.
	5 yrs.	>20 yrs.

57% Energy Savings*

77% Maintenance Savings*

\$231K Total Lifetime Savings*

6.5 Year Payback

Added savings up to 20% can be obtained with a ROAM controls energy and maintenance program

*Figures based on typical roadway layout with approximately 100 Tear Drop LED II luminaires at 27ft mounting height and 150ft pole spacing. Savings and returns estimates assume \$0.10/kWh utility rate, 4,380 yearly operating hours and typical HPS lamp/ballast replacement and labor costs.

Residential Streets



Improving the quality of life through better lighting

Holophane & AEL post top portfolio

The Acuity Brands portfolio of post-top luminaires from Holophane and American Electric Lighting can provide a multitude of solutions including glass acorns, colonial lanterns and full cutoff luminaires.

State-of-the-art LED technology is combined with over a century of optical expertise to provide solutions that are not only durable and efficient but visually comfortable. All of this is delivered in a choice of architectural styles to compliment and enhance your streetscape.

The GranVille LED II and American Revolution 247L offer:

- Long life – 20-year expected service
- Minimum 50% maintenance reduction
- Improved visibility with crisp, white light
- Visually appealing by day – visually comfortable by night



Cutoff options

Many of the Acuity Brands architectural luminaires are available with restricted uplight for those areas where cutoff requirements and light trespass are a concern.



Certified LED retrofit kits

Many of the Acuity Brands portfolio of LED luminaires also have certified retrofit kits available. Popular architectural luminaires such as the GranVille and Tear Drop series can be easily updated from traditional HID light sources to new energy-saving LED technology. In addition to saving energy, the life of your existing luminaires can be extended for decades.



Benefits of certified retrofits:

- Up to 60% energy reduction
- No more lamp and ballast replacements
- Sustainable – retain existing housing and glass optic
- Improved quality of light over HPS incumbent sources
- Easy to install and a quick payback!



How to enhance safety and security

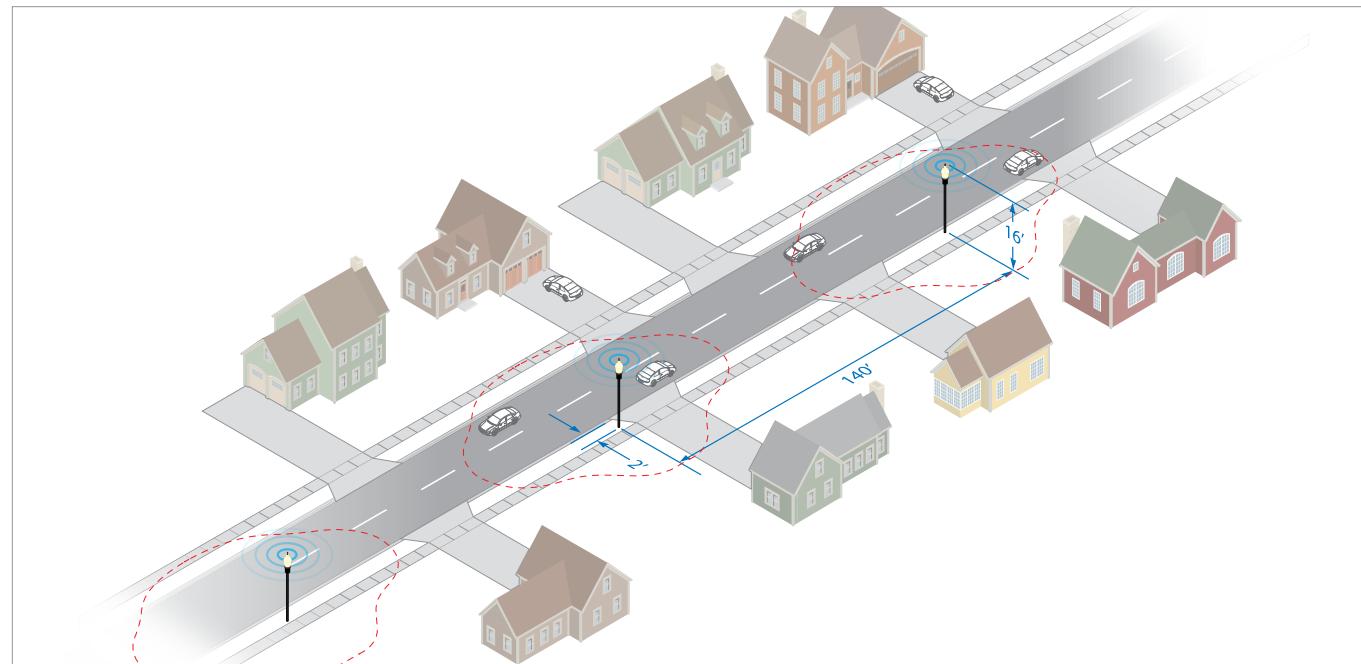
LED solutions from Acuity Brands provide:

- Crisp, white light
- Vertical illumination

Together, these improve visibility on residential streets – enhancing security and the feeling of increased safety.

Post Top Glass Acorn

16ft Mounting Height – 140ft Pole Spacing



GranVille® LED II GPD 100 4K AS T B 3 N P B

Lumens per watt: 79
Total Lumens: 7,569
Distribution: Type IV Short
Controls: ROAM (Deco Node)

Renovation Comparison

Project Design Criteria		250W MH Incumbent	GranVille LED II
Input Wattage		295	96
Maintained Footcandles	0.40	0.40	0.52
Avg./Min.	6:1	5.4:1	3.6:1
Total Watts (100 luminaires)		29,500	9,600
Expected Service Life		10,000 hrs.	>100,000 hrs.
		2 yrs.	>20 yrs.

67% Energy Savings*

97% Maintenance Savings*

\$951K Total Lifetime Savings*

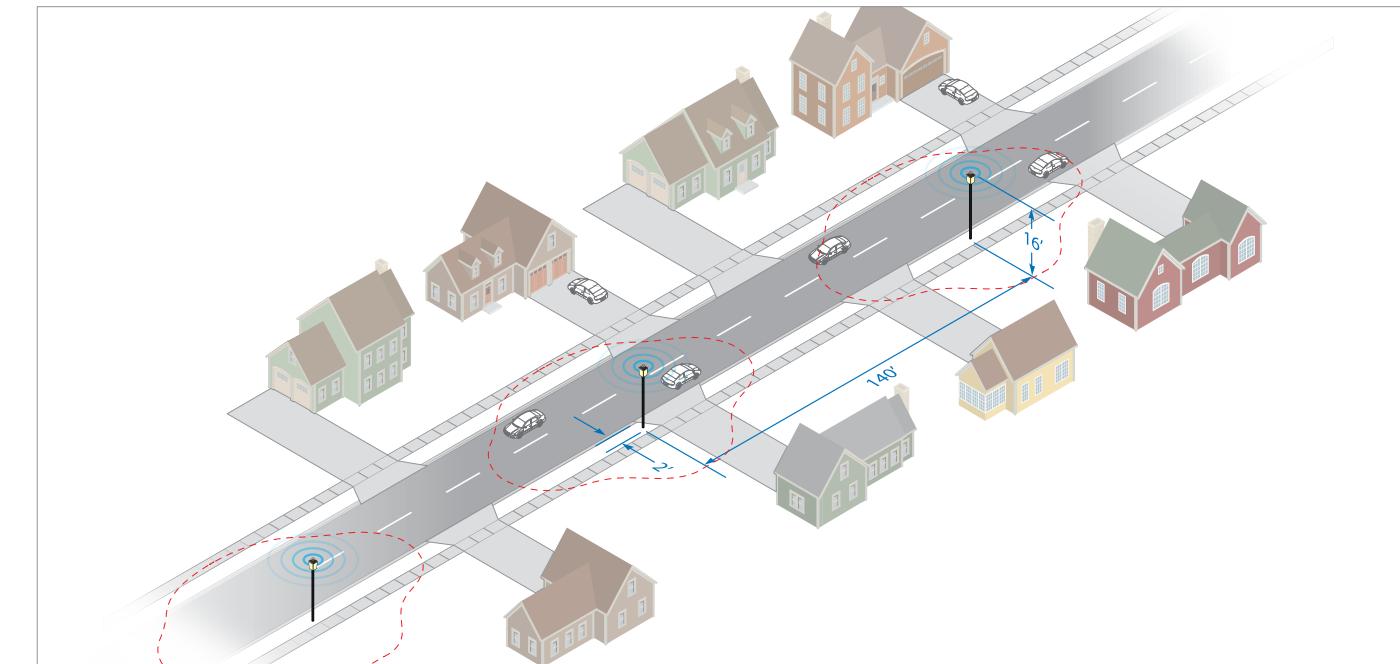
2.3 Year Payback

Added savings up to 20% can be obtained with a ROAM controls energy and maintenance program

*Figures based on typical roadway layout with approximately 100 GranVille LED II luminaires at 16ft mounting height and 140ft pole spacing. Savings and returns estimates assume \$0.10/kWh utility rate, 4,380 yearly operating hours and typical MH lamp/ballast replacement and labor costs.

Post Top Colonial Lantern

16ft Mounting Height – 140ft Pole Spacing



American Revolution 247L

247L 20LED10 MVOLT 4K R3 AY P7
Lumens per watt: 63
Total Lumens: 4,510
Distribution: Type III
Controls: ROAM

Renovation Comparison

Project Design Criteria		150W MH Incumbent	247L
Input Wattage		185	66
Maintained Footcandles	0.40	0.52	0.61
Avg./Min.	6:1	7.4:1	6.8:1
Total Watts (100 luminaires)		18,500	6,600
Expected Service Life		10,000 hrs.	>100,000 hrs.
		2 yrs.	>20 yrs.

65% Energy Savings*

88% Maintenance Savings*

\$282K Total Lifetime Savings*

2.5 Year Payback

Added savings up to 20% can be obtained with a ROAM controls energy and maintenance program

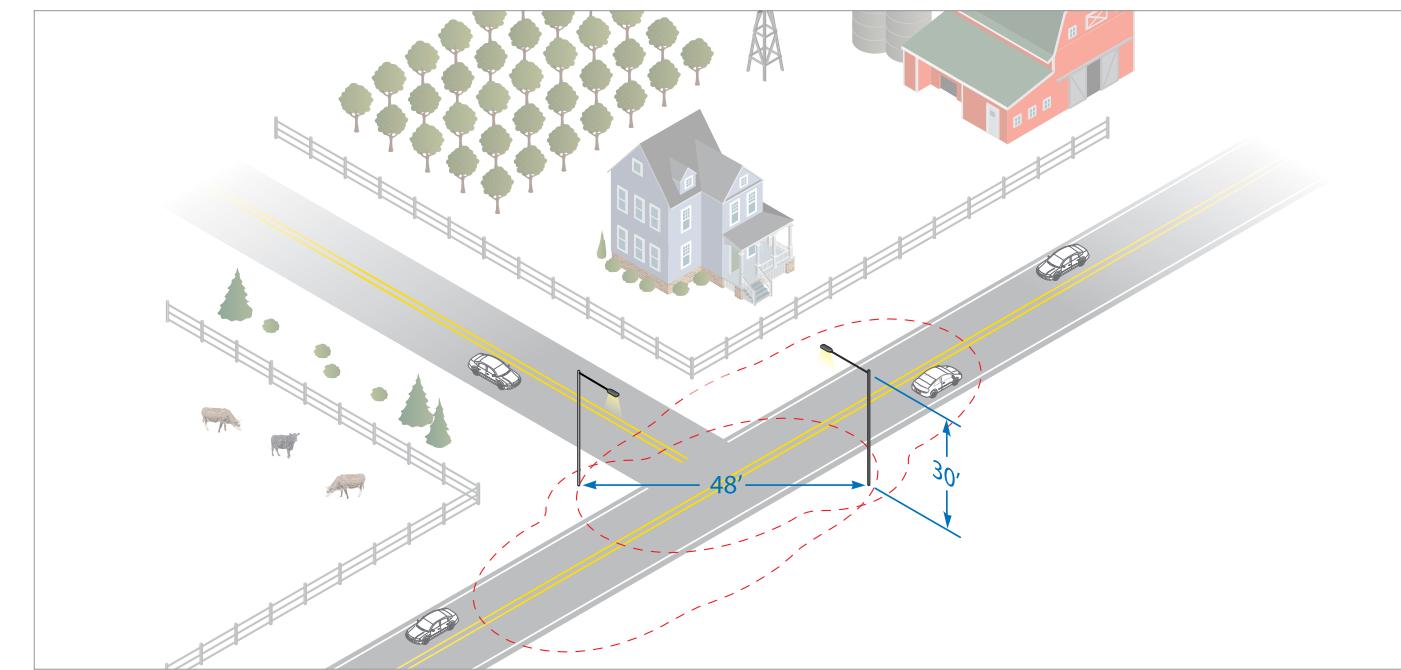
*Figures based on typical roadway layout with approximately 100 247L luminaires at 16ft mounting height and 140ft pole spacing. Savings and returns estimates assume \$0.10/kWh utility rate, 4,380 yearly operating hours and typical MH lamp/ballast replacement and labor costs.

Rural Roads



Low Wattage Cobrahead Replacement

30ft Mounting Height – 48ft Pole Spacing



Everything from county roads to state routes

Low wattage LED solutions

Lighting solutions for rural roads include Acuity Brands pole-mounted cobrahead replacements such as our Autobahn series of luminaires from American Electric Lighting.

The Autobahn ATB0 and ATBS luminaires are perfectly suited for these low-wattage applications such as the retrofit of 50-150W HID cobrahead installations. These products are light weight, reliable, flexible and work seamlessly with Acuity Controls.



The Autobahn ATBS offers:

- Up to 66% reduction in energy costs
- Long life – 20-year expected service
- Minimum 50% maintenance reduction
- Improved visibility with crisp, white light



Autobahn ATBS

ATBS G MVOLT R3 P7

Lumens per watt: 94

Total Lumens: 6,030

Distribution: Type III

Controls: DTL DCC

Renovation Comparison

Project Design Criteria	100W HPS Incumbent	ATBS
Input Wattage	133	64
Maintained Footcandles	1.3	1.27
Avg./Min.	3:1	1.7:1
Total Watts (100 luminaires)	13,300	6,400
Expected Service Life	24,000 hrs.	>100,000 hrs.
	5 yrs.	>20 yrs.

52% Energy Savings*

54% Maintenance Savings*

\$87K Total Lifetime Savings*

4 Year Payback

Added savings up to 20% can be obtained with a ROAM controls energy and maintenance program

*Figures based on typical roadway layout with approximately 100 Autobahn ATBS luminaires at 30ft mounting height and 48ft pole spacing. Savings and returns estimates assume \$0.10/kWh utility rate, 4,380 yearly operating hours and typical HPS lamp/ballast replacement and labor costs.

Our services enable your success



Financing and rebate services:

- 0% Capex
- 100% financing
- Flexible payment plans
- Rebate administration
- Simplified processing



Lighting design and consultation:

- Application design
- Design tools & software training
- Programming and pre-programming
- BIM model support



Field and support services:

- Diagnostics
- Repair
- Product & installation training
- Contractor certification
- Warranty support



Smart cities and smart grids...the future of successful, efficient infrastructure

Building smart cities: Beyond lighting control to the internet of things

City infrastructures will enjoy safe, reliable illumination provided by intelligent lighting systems. Integrated solutions will provide advanced monitoring and control capabilities for longevity and reduced costs.

Our single integrated solution will transform energy-efficient LED lighting into a smart platform for data-driven applications such as public safety and security, parking management and location analytics.

The Smart Lighting Network transforms LED luminaires into sensor-equipped, smart devices capable of capturing data in near real-time, providing unprecedented insight and enabling a broad array of applications and services.



Adaptive Lighting for Weather or Security

Live & Localized Traffic Information

Micro-Climate Reporting (Temperature, Air Quality, Precipitation)

City-Wide Wi-Fi

Integrated Video Surveillance

Intelligent Digital Signage

A few clients benefitting from our solutions...



Utilities:

- Duke Power
- Detroit Edison
- Georgia Power
- Xcel Energy
- Mid American Energy



DOTs:

- West Virginia DOT
- Minnesota DOT
- Florida DOT
- Washington DOT
- Ohio DOT



Municipalities:

- El Paso, TX
- West Richland, WA
- Elk Grove, CA
- Pittsfield, MA
- Detroit, MI

"Working with Acuity Brands has been a great experience and they have delivered on every promise while meeting my high expectations."

-Jeff Werner, Elk Grove Senior Civil Engineer

Smart solutions that simply work.

Cobrahead Replacements



Autobahn Series



Mongoose® LED



Intelligent Controls

AcuityControls.

Architectural Portfolio



Post Top Mount



Pendant Mount



Decorative Poles



Intelligent Controls

AEL American Electric Lighting

HOLOPHANE
LEADER IN LIGHTING SOLUTIONS

High Mast Solutions



HMAO™ LED II



High Mast Poles and Lowering Devices



Intelligent Controls

eldoLED

RELOC
WIRING SOLUTIONS

Sign Lighting



Sign-Vue® LED II

Tunnel Lighting



TunnelPass LED™

SUNOPTICS

AcuityBrands.

Expanding the boundaries of lighting™