

Subject: LED Street Lighting Units

Please see attached a proposal for LED Street Lighting. In order to meet quick deployment, longevity and simplicity of installation, we are only presenting one option of many but that option is the highest quality, available immediately and up to 100% financeable paid for by power savings. Other products are available, but are less appropriate to the application either in design, in reliability or by country of manufacturing origin required by our financing partners. The units proposed are manufactured in the United States to ISO 9001:2008 Quality assured standards.

Luminaire Street Lighting Product

The Luminaire proposed will replace a standard 130W incandescent bulb replacing with a 60 W LED saving 55% to 85% of the current energy cost expended on street lighting. A DC –Solar option is available for complete off-grid applications, but require new poles for battery storage and protection.

The unit is a specialized LED in a one-piece IP65 die cast aluminum body, providing excellent resistance from salt and humidity. The unit can be retrofitted to the municipality's current street lighting and electrical grid poles. Additional poles can be provided as an option. The poles may be simple wooden, cement or aluminum construction and can be added as required.

The Luminaire has aimed optics, provides 20% more road light by controlling light intensity and direction and eliminating backlight, eliminating light pollution skyward (clear skies capacity). Clear Skies are important to a tourist destination, this eliminates up light, therefore keeping the skies clear of light pollution. The stars and the night sky will retain its attraction.

The Luminaire provides optimal light coverage and therefore optimal pole spacing. Input voltage is flexible, 100 – 277 VAC, 50 or 60 Hz operation. The Luminaire LED unit is extremely durable. The product carries an industry "best-in-class" 10-year warranty. Better than 85% of the lumen intensity is maintained for greater than 50,000 hours operation. See attached LED Cobra Head Luminaire data sheet for additional details.

Note, the Luminaire LED Cobra Head was named "best-in-class" by the U.S. Department of Energy, the standard of the US Military and is ARRA (American Recovery & Reinvestment Act) compliant.

Financial Return on Investment

LED replacement of Incandescent street lighting will typically save 86% of power used, for fluorescent lights, the savings will typically be 50%. Current power cost is assumed at USD \$0.169 per kWh. Total cost to operate **4000 incandescent lights** will be USD \$3.4 MIL for 12 hours daily operation.

400 units projected yearly savings: USD \$2.48 MIL

Product Manufacturer

Our industry advancement in the design, engineering, manufacture and marketing of high performance LED lighting systems for the \$100 billion global lighting market. We received the United States Department of Energy's (D.O.E.) highest award for LED street lighting in its category and has installed thousands of its fixtures at military bases, universities, municipalities, and large commercial entities. All products offer highly energy-efficient, durable, commercial-grade LED lighting for both indoor and outdoor applications. The company's award winning cobra head and shoebox lighting fixtures employ proprietary Aimed Optics™ technology, which increases light levels, visibility and safety on roadways by strategically directing light to the target area. Our fixtures require 50 to 80 percent less energy than traditional lighting, and lasts for approximately 12 years without maintenance.

Our LED is leading the “green lighting evolution”—helping cities and towns, schools and universities, office parks and retail installations realize the importance LED lighting plays in saving energy, lowering maintenance costs and impacting our environment in a positive way. Our LED lighting solutions deliver better and more sustainable lighting and our Aimed Optics™ platform puts light where it’s needed—no waste, no spillage, no light pollution. We are the only light sponsor of starry nights, a program to eliminate light pollution. We are committed to sustainable practices in our sourcing, product development, manufacture and delivery

Equipment “Turnkey” Installation Included Pricing

Summary	Unit of One - 1000	1000 – 2500	2500 or more
Luminaire Unit With Street Pole Mount Type 100 HPS 60 watt input Including local Installation On existing poles	USD\$834	USD\$822	USD\$818

Note: Installation labor and materials content using local suppliers

Summary for 4000 unit street light project: USD\$3,272,000

Terms & Conditions:

Financing Option

- Financing: up to 100% available for 5-years, paid from the direct energy savings of the LED replacement. **Estimate 100% financing at 5 years at 8% for 4,000 unit installed street lighting project: USD\$890,300 per year. After principle and interest, the estimated yearly savings is USD \$1.6 MIL for the first 5 years, USD \$2.5 MIL per year after repayment at current cost of power.**
- Financing may require an appropriate bank guarantee

Purchase Direct Option

- Payment Terms: is 50% of order, 40% on shipment (including any partial shipments) and 10% on customer site delivery and inspection (not to exceed 5-days from delivery at customer site). Applicable taxes and tariffs included

Delivery, Installation and Warranty

- Delivery: 1000 units a months to completion, starting 60-days ARO including shipment.
- Installation: up to 5 units per working day, 100 units a month per installation team.
- Warranty: ten (10) years for all parts

LED Street Lighting Summary

- Saves up to 85% of energy usage
- Durable and long lasting
- Use of patented "Aimed Optics"[™] provides 20% more light on the road compared to other LED fixtures
- Cutting-edge "heat sink" technology keeps the LED at their optimum performance temperature and extends product life
- Light uniformity increases visibility in parking lots and on roadways
- Dark Sky-compliant
- ARRA-Compliant
- DC/Solar and auto cut-off options available.

We look forward to working with you and your agency in making available street lighting both cost effective, quick to install and long term in reliability.

LED Cobra Head Luminaire

100-250W HID Replacement



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Common Applications:

LED cobra head luminaire for highways, freeways, thoroughfares, local and collector roads, parking areas, rural roads and intersections.



Features and Benefits:

- Up to 95 lumen per Watt (LPW) with industry's best in the class Fitted Target Efficacy (FTE) ratings
- Saves up to 65% of energy usage
- Extremely durable; Long Life with 10 Year Warranty; Better than 85% Lumen Maintenance at >50,000 hours of operation
- Use of patented "Aimed Optics"™ provides 20% more light on the road compared to other LED fixtures
- Cutting-edge "heat sink" technology keeps the LEDs at their optimum performance temperature and extends product life
- Light uniformity increases visibility in parking lots and on roadways
- Full cutoff/Dark Sky-compliant; no light trespass
- IP65 rated optical assembly
- DC/Solar options available for "off-grid" applications
- ARRA-Compliant

Typical Evolucia Cobra Head Replacement for HID Street Lights						
HID	System Input Watts	LED Replacement	System input Watts	Energy Savings	HID Life (Hrs)	LED Life (Hrs)
100 HPS	130	SL/60-XX/XXX	60	54%	24,000	70,000
150 HPS	190	SL/80-XX/XXX	80	57%	24,000	70,000
200 HPS	240	SL/100-XX/XXX	100	58%	24,000	70,000
250 HPS	295	SL/100-XX/XXX	100	66%	24,000	70,000



* All data subject to change without notice.

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Project:	Approval:
Specifier:	

Technical Specifications

Housing/Construction:

- Rugged, one piece die-cast aluminum alloy provides excellent resistant to corrosion.
- Die-cast trigger latch on door frame allows easy and secure one-hand opening

Mounting:

- Two-bolt mast arm mount provides easy, secure installation and adjustability for arms from 1 1/4" to 2" (1 5/8" to 2 3/8" O.D.) diameter. +/- 6 degree of leveling

LED Modules:

- Aluminum metal-clad board for maximum heat transfer.)

Optical System:

- EvoLucia patent-pending Aimer Optics™ which controls light intensity and direction allowing design freedom to achieve illuminance level equal to or greater than MH or HPS options at much lower wattage.
- Available in IESNA Type II and Type III Roadway distributions.
- Luminaire provides zero up light above the 90 degree angle and restrict backlight to within sidewalk width providing optimal applications coverage and optimal pole spacing.
- High impact molded, UV-stabilized, Acrylic lens
- IP65 rated optical assembly

Heat Sink / Platform:

- One-piece cast, low-copper (<0.4% Cu) aluminum alloy

Electrical system:

- Constant current LED driver with an active power factor correction features minimum power factor (PF) of 0.90 and <20% Total Harmonic Distortion (THD) for 120-277 VAC input voltage range. EMC meets or exceed FCC CFR Part 15. 10 kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2.
- Meets UL 1310 / UL48 with built-in over-temperature protection
- Input voltage range 100-277 VAC . Input voltage of 347-480 VAC available with step-down transformer
- 50/60 Hz operation

Operating Temperature:

- -40°C to +40°C

Photo Control:

- Twist-lock photocell receptacle with shorting cap as standard. Photo cell is optional. Long life (>10 yrs) LED photocell also available.

Warranty:

- Manufacturer warrants products to be free from defects for a period of ten 10 years. For additional information refer to complete warranty and terms and conditions document. For extended warranty consult the factory.

Performance Chart							
Product Description	Power (W)	Lumen	LPW	CCT*	CRI	Photometric Distribution	BUG
SL/60-40/PAL/T2/XX	60	5300	88	4000	>70	Type II	B1 U0 G2
SL/60-50/PAL/T2/XX	60	5600	93	5000	>70	Type II	B1 U0 G2
SL/80-40/PAL/T2/XX	80	7000	88	4000	>70	Type II	B1 U0 G2
SL/80-50/PAL/T2/XX	80	7600	95	5000	>70	Type II	B1 U0 G2
SL/100-40/PAL/T2/XX	106	9400	89	4000	>70	Type II	B1 U0 G2
SL/100-50/PAL/T2/XX	106	10100	95	5000	>70	Type II	B1 U0 G2

*CCT Tolerance =+/- 10% Note: Specifications subject to change without notice

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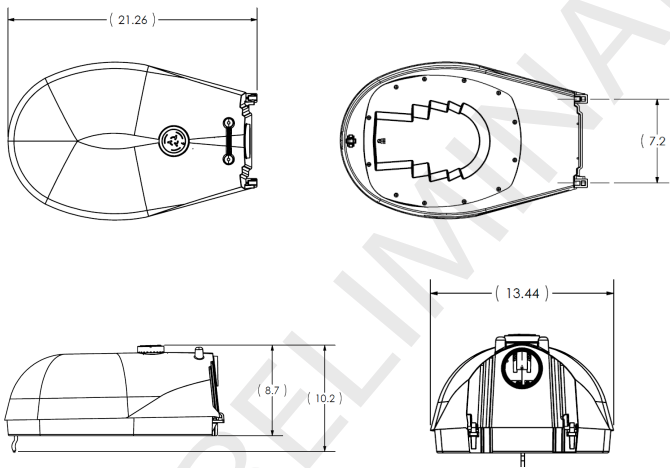
Technical Specifications

Order Code

SL	Wattage-Color Temp	Lens Type	Distribution Type	Input Voltage	Finish	Options
Family	60-40 = 60W, 4000K 60-50 = 60W, 5000K 80-40 = 80W, 4000K 80-50 = 80W, 5000K 100-40 = 100W, 4000K 100-50 = 100W, 5000K	PAL = Profile Acrylic Lens	T2= IESNA Type II T3= IESNA Type III**	UNV = 100-277 VAC 347 = 347 VAC 480 = 480 VAC	LG = Grey (standard) CC = Custom Color (Consult Factory)	PC = Photocell LLPC = Long Life PC

** Available in April, 2013

Mechanical Drawings



Weight: 22 lbs (9.9 kg)
Length: 21.26" (54 cm)
Width: 13.44" (34.14 cm)
Height: 8.7" (22.09 cm)

*Dimensions are in inches

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