

Sustainable lighting

LED Area Lighter

NEW TECHNOLOGY

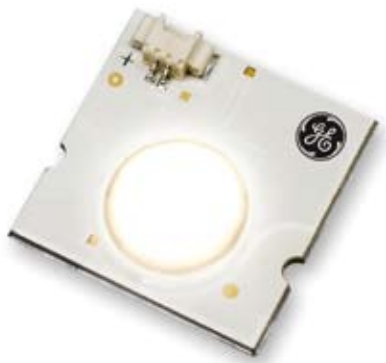


GE imagination at work

Evolving LED

GE Lighting has combined its luminaire and LED expertise to bring unmatched product quality and reliability together in an integrated approach. With a full understanding of customers' needs, we have developed an advanced & effective system.

Pioneering LED technology for outdoor lighting



50,000 hours rated life light engine enclosure

Re-lamping interval 6 times longer compared to 8,000 hour HID mean ratings

70% lumen maintenance at 50,000 hours

Consistent light output over life

Increased output efficiency and instant on

30-60% reduced energy consumption

Improved photometry

Improved uniformity
Improved visibility

Increased CRI (70) and higher colour temperature (5700K)

Improved quality of light

RoHS compliance

Reduced waste disposal

Solid state light source. Robust design, excellent vibration resistance

Durable, compact LED size optimises luminaire size

Operation in cold temperatures

Maintained light levels with temperature gradients reliable Cold temperature operation

High degree of protection

High intrusion protection for long life & low maintenance

GE LED Area Lighter

Applications

Site, area and general lighting utilising advanced LED optical system providing uniformity, improved vertical light distribution, reduced both off-site and on-site glare and effective security light levels.

Technical specification

A classic, aesthetic and futuristic luminaire, combining strength, reliability and incorporating all the features of a new generation of luminaires. Optimal photometric performance using LED technology, minimises light emission towards the upper hemisphere and a high degree of protection.

Structure and material

- Die cast aluminium housing. Slim architectural design incorporates a heat sink directly into the unit ensuring maximum heat transfer.
- Corrosion resistant polyester powder painted.
- Standard colours: black and dark bronze. RAL and custom colours available.

Electrical and gear compartment

The control gear is situated in an independently mounted compartment in the optical assembly.

Optical assembly

Optical assembly hermetically sealed providing IP65.

Thanks to the advanced LED optical systems the fixture provide high uniformity and improved vertical light distribution:

- Type III: asymmetric distribution (street type).
- Type IV: asymmetric distribution.
- Type V: symmetric distribution.

Maintenance

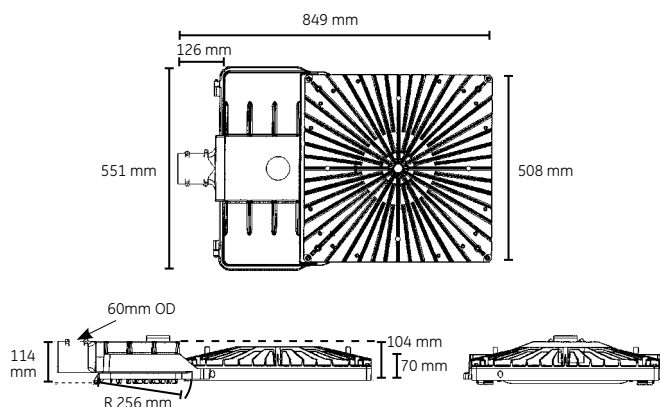
50,000 hours rated LED life.

Installation

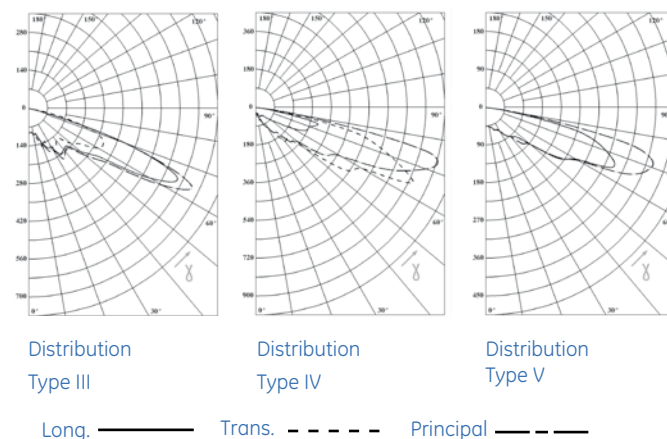
- Side entry mounting to 60mm diameter poles.
- Mounting arm for round pole with easy-connect terminal board.



Dimensions



Photometric data



Product specification

Wattage [W]	Product description	Optics	Product code
Mounting: with a mounting arm for round pole with easy connect terminal board SP254. Colour: RAL9011			
189	EVOL SYMS5/N SP254 R9011	Type V	75698
122	EVOL ASYW3/F SP254 R9011	Type III	75699
92	EVOL ASYF4/F SP254 R9011	Type IV	75700
Mounting: side entry mounting for 60 mm diameter pole. Colour: RAL9011			
189	EVOL SYMS5/N AT60 R9011	Type V	75701
122	EVOL ASYF4/F AT60 R9011	Type III	75702
92	EVOL ASYW3/F AT60 R9011	Type IV	75703

Optimised photometry

LED Uniformity

- Vertical illumination to improve facial recognition.
- Uniform light levels for enhanced security camera surveillance.
- Fixture contribution 2x mounting height from light source.
- Improved CRI for detail recognition.

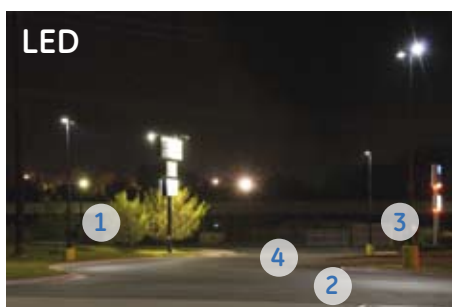


Perimeter lighting

- 1 Reduced light trespass; distinct cut-off behind curb.
- 2 Vertical illumination without supplemental facade lighting.
- 3 LEDs do not require exterior shielding to control spill light.
- 4 Consistent light levels throughout pedestrian conflict areas.



Vertical light levels



- 1 Excellent vertical light levels.
- 2 Excellent uniformity through traffic pattern & pedestrian area.
- 3 Excellent light levels for security, no bright spots.
- 4 Consistent light levels throughout pedestrian conflict areas, no hidden traffic patterns.



Consistent uniformity reduces shadowing

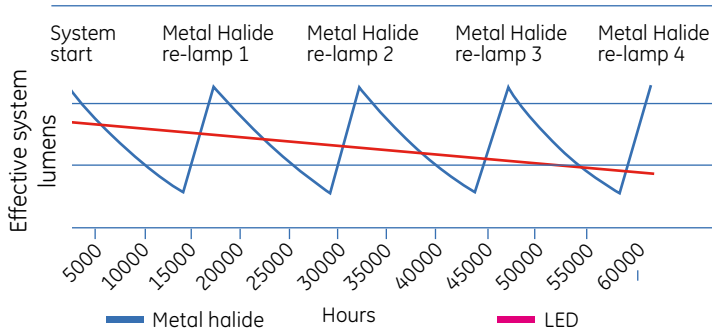


- Excellent uniformity.
- Reduced point source glare
- Improved CRI.
- Excellent vertical light levels.
- Controlled perimeter spill light.
- Reduced shadowing.
- Excellent small target visibility.



Sustainable technology

10 years of operation with the same light source



LED systems have a rated life of 50,000 hrs. (10 to 12 years depending on daily burn time). This is the point at which the predicted light output falls below 70% of initial (i.e. L70 point).

LEDs will continue to operate beyond the 50,000 hour rating. HID lamps have a life rating between 20,000 and 30,000 hours, with lumen depreciation of 12% to 35% occurring at mean life (depending on light source). Due to this loss of light output, recommended re-lamping is assumed to fall between 8,000 and 12,000 hours (approximately 2 to 3 years of operation). When compared to GE LED Area Lighter, HID would be re-lamped 3 times during the 50,000 hour LED L70 rating.

Comparing the technologies

Lighting study in a 7.600 m² car park

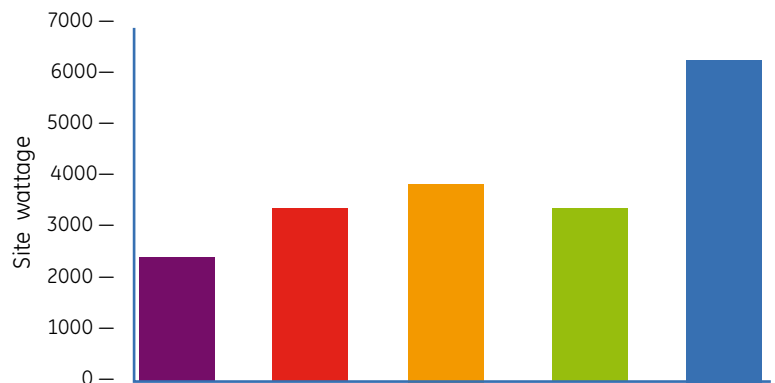
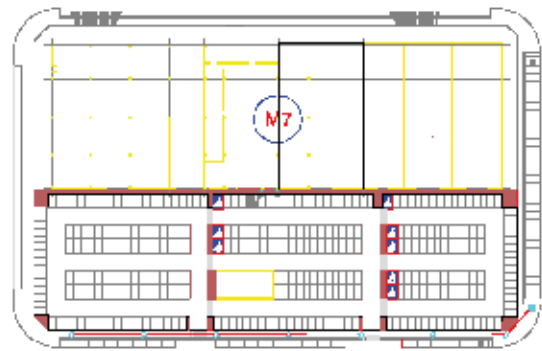
European standard requirements (CIE 13201):

- E_{av} : 15 lux
- Uniformity (E_{min}/E_{med}): 0.4
- Classification CE3

Key points

- Initial investment:
 - Mercury and quartz metal halide lamps - initial investment is higher than using LED solution
 - High pressure sodium and ceramic metal halide - the initial investment is lower than using GE LED Area Lighter, payback period is less than 4 years
- 46% energy saving using LED instead of the other lamp sources.
- Improved photometry with LED: horizontal and vertical uniformity.
- Up to 64% lower CO₂ emission compared to HID light sources.

Car park layout



Light source	LED (V)	High pressure sodium	Metal halide	Ceramic metal halide	Mercury
System Wattage (W)	189	277	277	277	444
Number of fixtures needed	12	12	14	12	14
Site Wattage (W)	2268	3224	3878	3224	6216
Mounting Height (m)	8	12	12	12	14
Efficiency (lux*m ² /W)	53.83	50.5	31.48	41.16	22.09
Relamping in years	12.5	5	2	3.5	3.5
Site CO ₂ emission/year - 0.536 kg CO ₂ emitted per kWh (European average from Eco-Invent)	1,216	1,728	2,079	1,728	3,332
CO ₂ emission saving / year using LED		30%	42%	30%	64%

Solutions for sustainable cities

Our heritage, our future

We believe that better technology is the answer to our customers' environmental challenges. We are confident that we can find tomorrow's solutions to those challenges just as we have since the days of our founder, Thomas Edison.

Throughout our 130 year history, we have invented solutions to meet our customers' greatest needs. Over many years, we have developed one of the broadest ranges of environmentally advanced technologies. We will build on this legacy of success by searching and developing next generation clean technologies. Our goal is to be a leader in bringing clean energy, air and improved quality of life to the world's citizens.



LED Area Lighter



Iberia



Duna



Avery

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