

GE
Lighting Solutions

Evolve™ LED Roadway Light

Scalable Cobrahead (ERS1 & ERS2)



imagination at work

Product Features

From local to collector roadways, the GE Evolve™ LED Roadway Scalable Cobrahead ERS1/ERS2 fixtures are changing the way you light your lanes. Innovative engineering at its best, this fixture balances the technical needs of a sophisticated LED system with the functional demands of an outdoor fixture facing the year round weather hazards. GE's advanced LED optical design offers hundreds of photometric options to meet your precise lighting requirements, while delivering reduced glare and improved lighting control.

A sleek and robust heat sink is just one part of the sophisticated thermal management system designed by GE engineers to remove damaging heat from the LEDs to ensure reliable performance over the life of the fixture. The GE Evolve LED Roadway Scalable Cobrahead offers more than 11 years of service life to significantly reduce maintenance frequency and expense, based on a 50,000 hour life and 12 hours of operation per day. This efficient fixture can yield up to a 50-percent reduction in system energy compared with standard HID systems, depending on roadway applications.

Applications

- Designed to meet recommended luminance and illuminance requirements for local and collector roadway / street classifications.

Housing

- Die cast aluminum housing.
- A modern design preserving the aesthetic look of traditional roadway Cobrahead fixtures incorporates the heat sink directly into the unit ensuring maximum heat transfer and long LED life.
- Meets 2G vibration per ANSI C136.32-2001. For 3G rating contact manufacturer.
- Power door assembly with removable retention latch.



LED & Optical Assembly

- Structured LED array for optimized roadway photometric distribution.
- Evolve light engine consisting of scalable reflective technology designed to optimize application efficiency and minimize glare.
- Reverse facing light engine options available for custom house side photometric requirements.
- Utilizes high brightness LEDs, 70 CRI at 4000K & 5700K typical.
- LM-79 tests and reports are performed in accordance with IESNA standards.

Lumen Maintenance

- System rating is L85 at 50,000 hours. Contact manufacturer for L rating (Lumen Depreciation) beyond 50,000 hours.

Ratings

- /c/ listed, suitable for wet locations per UL 1598.
- IP65 rated optical enclosure per ANSI C136.25-2009.
- Temperature rated at -40° to 50°C.
- Upward Light Output Ratio (ULOR) = 0
- RoHS compliant.

Mounting

- Slipfitter with +/- 5 degree of adjustment for leveling.
- Integral die cast mounting pipe stop feature.
- Wildlife intrusion protection at mounting pipe entry.
- Adjustable for 1.25 in. or 2 in. mounting pipe.

Finish

- Corrosion resistant polyester powder painted, minimum 2.0 mil. thickness.
- Standard colors: Black and Gray.
- RAL & custom colors available.

Electrical

- 120-277 volt and 347-480 volt available.
- System power factor is >90% and THD <20%.*
- Class "A" audible sound rating.
- Integral surge protection:
 - For 120-277VAC per IEEE/ANSI C62.41.-1991, 4kV/2kA Location Category B2 (120 Events).
- Optional high capability surge protection per IEEE/ANSI C62.41.2-2002.
 - Rating 1 - 10kV/5kA Location Category (120 events).
 - Rating 2 - 6kV/3kA Location Category C-Low (5000 events).
- EMI: Title 47 CFR Part 15 Class A.
- Photo electric sensors (PE) available for all voltages.

** System power factor and THD is tested and specified at 120V input and maximum load conditions.*

Warranty

- 5-year limited system warranty standard.

Ordering Number Logic

Scalable Cobrahead (ERS1)



ERS1 - - - - - 5 - - - - -

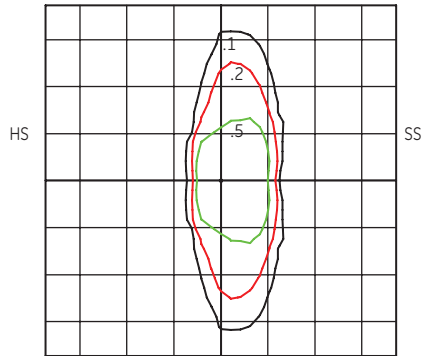
PROD. ID	VOLTAGE	OPTICAL CODE	PHOTOMETRIC TYPE	DRIVE CURRENT	LED COLOR TEMP	PE FUNCTION	COLOR	OPTIONS
E = Evolve R = Roadway S = Scalable 1 = Optical Assembly	0 = 120 - 277 H = 347 - 480 1 = 120* 2 = 208* 3 = 240* 4 = 277* 5 = 480* D = 347* *Specify single voltage only if fuse option is selected.		BX = Narrow Asymmetric (Medium) CX = Asymmetric (Short) EX = Asymmetric (Medium)	5 = 525mA* *Standard drive current is 525mA. 350mA and 700mA drive currents designated with a "3" or "7" respectively are available and set at the factory.	40 = 4000K 57 = 5700K	1 = None 2 = PE Rec. 4 = PE Rec. with Shorting Cap 5 = PE Rec. with Control PE control not available for multi-volt 346-480V. Must be a discrete voltage (347V or 480V).	BLCK = Black GRAY = Gray Contact manufacturer for other colors.	E = GE Level F = Fusing L = Tool-Less Entry P = Programmable Dimming (includes DALI) T = Extra Surge Protection* XXX = Special Options *Not available at time of launch. Contact manufacturer for details and availability.

OPTICAL CODE	PHOTOMETRIC TYPE	TYPICAL INITIAL LUMENS		TYPICAL SYSTEM WATTAGE		IES FILE NUMBERS	
		4000K	5700K	120-277V	347-480V	4000K	5700K
AX	BX	3300	3400	43	47	454669	454668
BX		4300	4600	54	59	454670	454667
CX		5300	5700	67	74	454659	454666
AX	CX	3200	3400	43	47	454662	454663
BX		4200	4500	54	59	454661	464664
CX		5200	5600	67	74	454660	454665
AX	EX	3000	3200	43	47	454653	454644
BX		4000	4300	54	59	454652	454645
CX		5000	5400	67	74	454651	454646

Photometrics

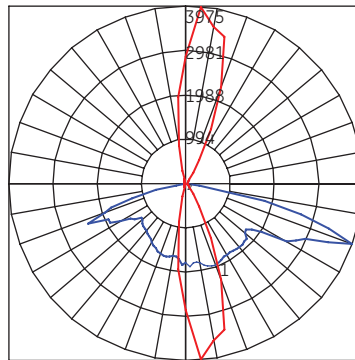
Scalable Cobrahead (ERS1)

ERS1 – Narrow Asymmetric Medium (CXBX) - 5,700 Lumens, 5700K (GE454666.ies)



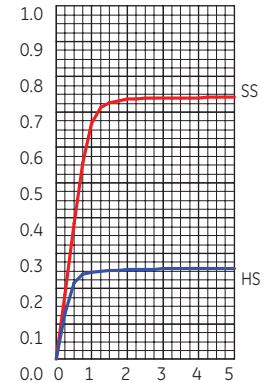
ISO Plot

Grid Distance in Units of Mounting Height at 30' Initial Footcandle Values at Grade



Polar Curve

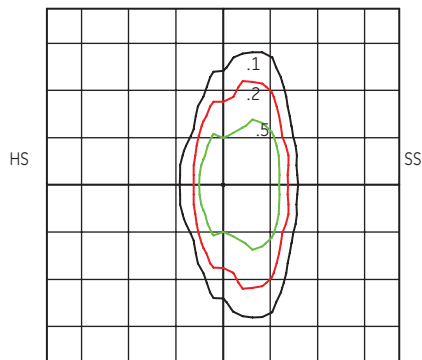
Polar Trace Vertical and Horizontal Plane through Horizontal Angle of Maximum Candlepower



CU Graph

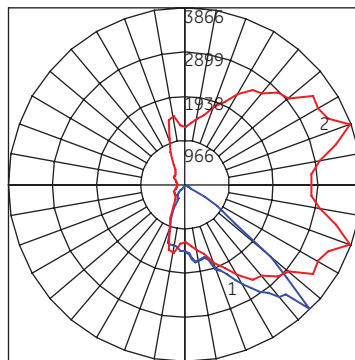
Coefficients of Utilization Street Width / Mounting Height

ERS1 – Asymmetric Short (CXCX) - 5,600 Lumens, 5700K (GE454665.ies)



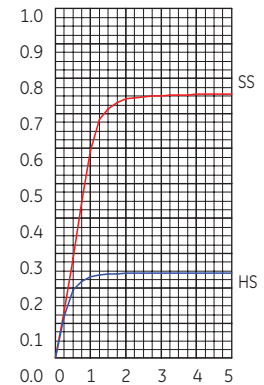
ISO Plot

Grid Distance in Units of Mounting Height at 30' Initial Footcandle Values at Grade



Polar Curve

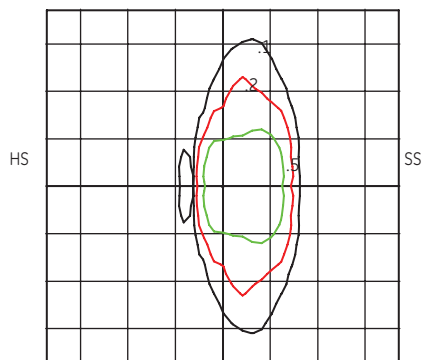
Polar Trace Vertical and Horizontal Plane through Horizontal Angle of Maximum Candlepower



CU Graph

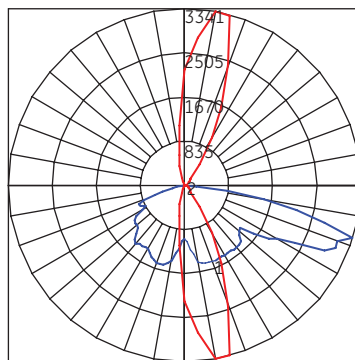
Coefficients of Utilization Street Width / Mounting Height

ERS1 – Asymmetric Medium (CXEX) - 5,400 Lumens, 5700K (GE454646.ies)



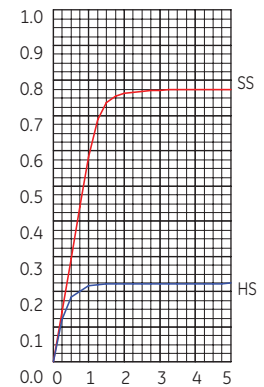
ISO Plot

Grid Distance in Units of Mounting Height at 30' Initial Footcandle Values at Grade



Polar Curve

Polar Trace Vertical and Horizontal Plane through Horizontal Angle of Maximum Candlepower

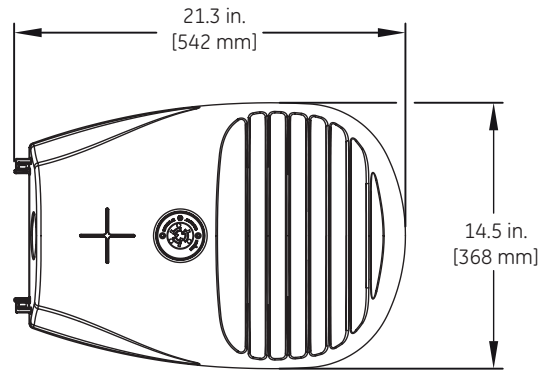


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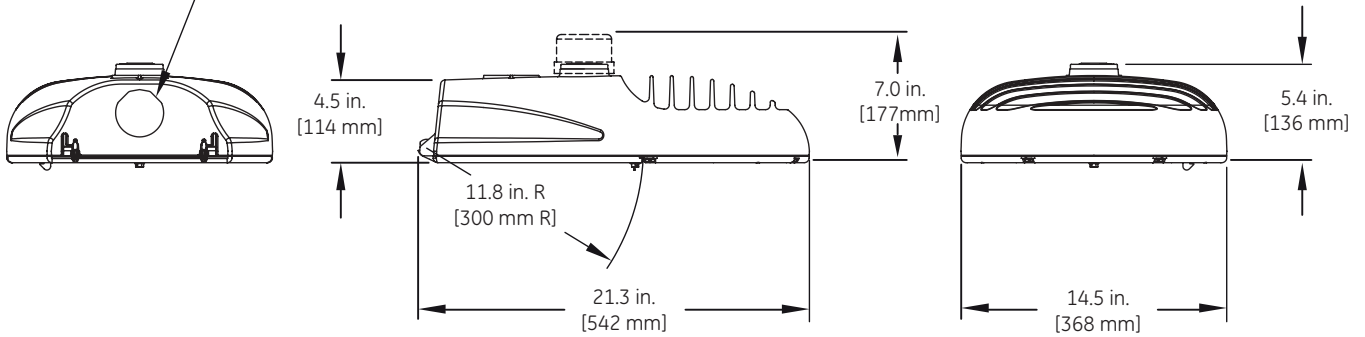
Coefficients of Utilization Street Width / Mounting Height

Product Dimensions

Scalable Cobrahead (ERS1)



Adjustable for 1-1/4 to 2 in. mounting pipe
(1.660 to 2.375 inch OD)
[42 to 60 mm OD]



DATA

- Approximate Net Weight: 20 to 25 lbs. (9.07 to 11.34 kgs.)
Contact manufacturer for specific configuration weight.
- Effective Projected Area (EPA): 0.5 sq. ft. max (0.046 sq. m)

Ordering Number Logic

Scalable Cobrahead (ERS2)



ERS2

5

PROD. ID	VOLTAGE	OPTICAL CODE	PHOTOMETRIC TYPE	DRIVE CURRENT	LED COLOR TEMP	PE FUNCTION	COLOR	OPTIONS
E = Evolve R = Roadway S = Scalable 2 = Optical Assembly	0 = 120 - 277 H = 347 - 480 1 = 120* 2 = 208* 3 = 240* 4 = 277* 5 = 480* D = 347* *Specify single voltage only if fuse option is selected.		BX = Narrow Asymmetric (Medium) CX = Asymmetric (Short) EX = Asymmetric (Medium)	5 = 525mA* *Standard drive current is 525mA. 350mA and 700mA drive currents designated with a "3" or "7" respectively are available and set at the factory. Some higher wattage fixtures are not available with 700mA. Contact manufacturer for details.	40 = 4000K 57 = 5700K	1 = None 2 = PE Rec. 4 = PE Rec. with Shorting Cap 5 = PE Rec. with Control PE control not available for multi-volt 347-480V. Must be a discrete voltage (347V or 480V).	BLCK = Black GRAY = Gray Contact manufacturer for other colors.	D = Dimming (525mA) E = GE Level F = Fusing L = Tool-Less Entry P = Programmable Dimming (includes DALI) T = Extra Surge Protection* XXX = Special Options *Not available at time of launch. Contact manufacturer for details and availability.

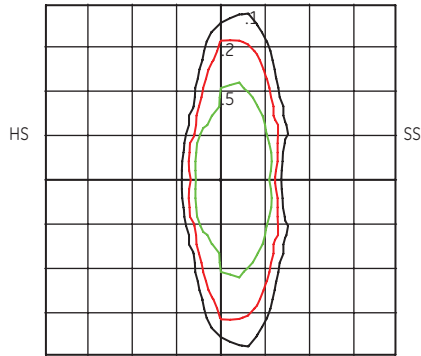
OPTICAL CODE	PHOTOMETRIC TYPE	TYPICAL INITIAL LUMENS		TYPICAL SYSTEM WATTAGE		IES FILE NUMBERS	
		4000K	5700K	120-277V	347-480V	4000K	5700K
DX	BX	6400	6900	82	89	454684	454683
EX		7400	8000	94	102	454685	454682
FX		8500	9100	106	114	454686	454681
GX		9500	10200	118	127	454687	454680
HX		10500	11300	130	140	454688	454643
DX	CX	6200	6700	82	89	454675	454674
EX		7300	7800	94	102	454676	454673
FX		8300	8900	106	114	454677	454672
GX		9300	10000	118	127	454678	454671
HX		10300	11100	130	140	454679	454641
DX	EX	5900	6300	82	89	454658	454650
EX		6900	7400	94	102	454657	454649
FX		7900	8500	106	114	454656	454647
GX		8900	9600	118	127	454655	454648
HX		10000	10700	130	140	454654	454642

House side photometry options available (using reverse facing light engines). Contact manufacturer for more information.

Photometrics

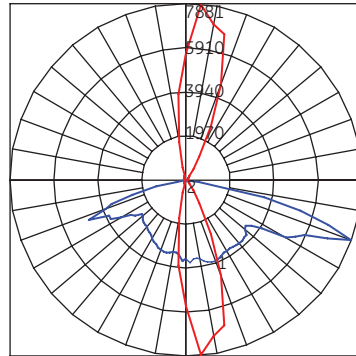
Scalable Cobrahead (ERS2)

ERS2 – Narrow Asymmetric Medium (HXBX) - 11,300 Lumens, 5700K (GE454643.ies)



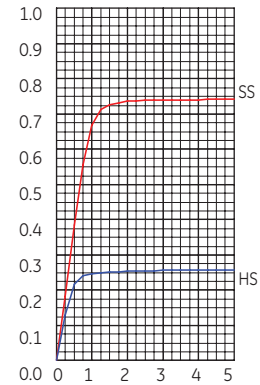
ISO Plot

Grid Distance in Units of Mounting Height at 30' Initial Footcandle Values at Grade



Polar Curve

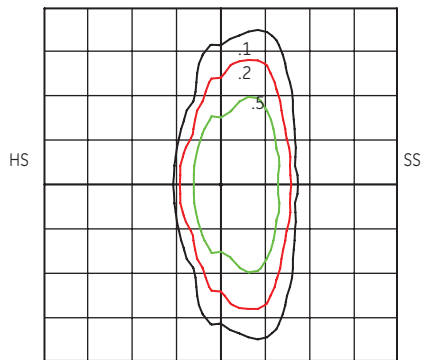
Polar Trace Vertical and Horizontal Plane through Horizontal Angle of Maximum Candlepower



CU Graph

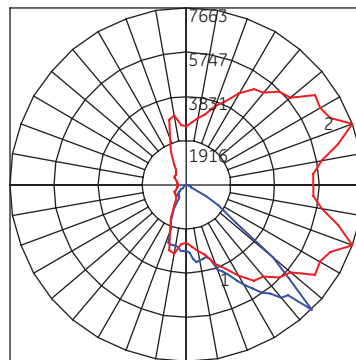
Coefficients of Utilization Street Width / Mounting Height

ERS2 – Asymmetric Short (HXCX) - 11,100 Lumens, 5700K (GE454641.ies)



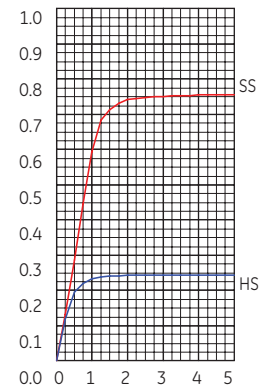
ISO Plot

Grid Distance in Units of Mounting Height at 30' Initial Footcandle Values at Grade



Polar Curve

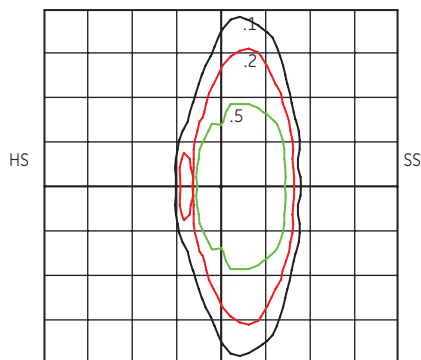
Polar Trace Vertical and Horizontal Plane through Horizontal Angle of Maximum Candlepower



CU Graph

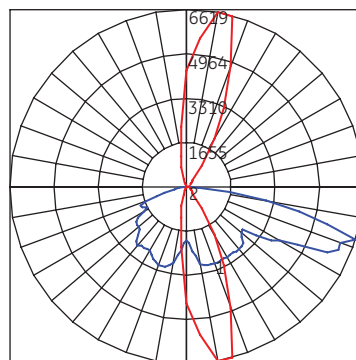
Coefficients of Utilization Street Width / Mounting Height

ERS2 – Asymmetric Medium (HXEX) - 10,700 Lumens, 5700K (GE454642.ies)



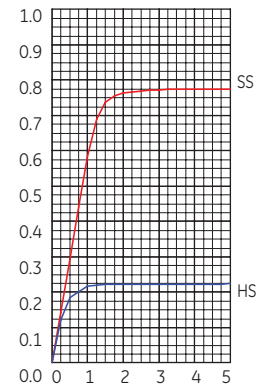
ISO Plot

Grid Distance in Units of Mounting Height at 30' Initial Footcandle Values at Grade



Polar Curve

Polar Trace Vertical and Horizontal Plane through Horizontal Angle of Maximum Candlepower

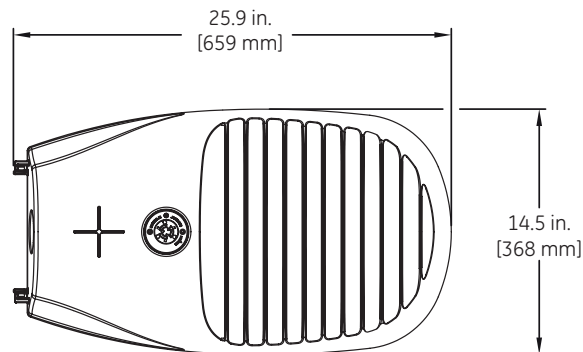


CU Graph

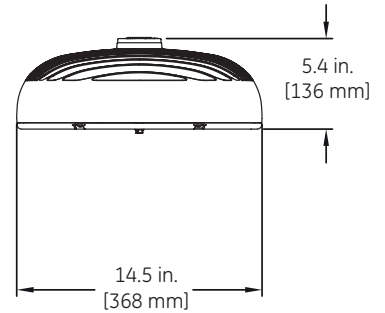
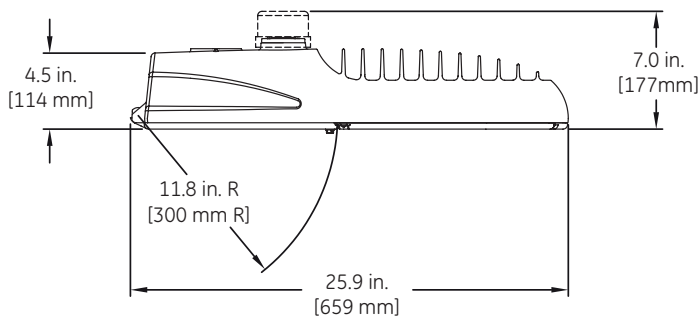
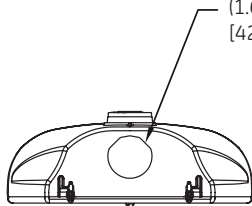
Coefficients of Utilization Street Width / Mounting Height

Product Dimensions

Scalable Cobrahead (ERS2)



Adjustable for 1-1/4 to 2 in. mounting pipe
(1.660 to 2.375 inch OD)
[42 to 60 mm OD]



DATA

- Approximate Net Weight: 25 to 29 lbs. (11.34 to 13.15 kgs.)
Contact manufacturer for specific configuration weight.
- Effective Projected Area (EPA): 0.7 sq. ft. max (0.065 sq. m)



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