

GE  
Lighting

# Evolve™ LED Roadway Lighting

Scalable Specification Grade Cobrahead (ERS1, ERS2, ERS3 & ERS4)



imagination at work

## Product Features

From local to major roadways, the GE Evolve™ LED Roadway Scalable Cobrahead fixtures are changing the way you light your lanes. Preserving the aesthetic look of traditional roadway Cobrahead fixtures, GE balances the technical needs of a sophisticated LED system with the functional demands of an outdoor fixture facing extreme 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 light control. The refined thermal management system incorporates a sleek and robust heat sink directly into the fixture to ensure maximum heat transfer and long LED life.

The GE Evolve LED Roadway Scalable Cobrahead offers more than 11 years of reliable service life to significantly reduce maintenance frequency and expense, based on a 50,000 hour life and 12 hours of operation per day.

### Applications

- Designed to meet recommended luminance and illuminance requirements for local to major 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 3G vibration per C136.31-2010
- 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.
- Utilizes high brightness LEDs, 70 CRI at 4000K & 5000K typical.
- LM-79 tests and reports are performed in accordance with IESNA standards.

### Lumen Maintenance

- Lumen Maintenance and TM21 projections listed below each lumen data table

### Ratings

- /  listed, suitable for wet locations per UL 1598.
- IP66 rated optical enclosure per ANSI C136.25-2009.
- Temperature ratings:
  - 40°C to 50°C for 525mA and 700mA skus except for ERS4 @ 347-480V (-40°C to +45°C)
  - 40°C to +40°C for 1050mA skus
- Upward Light Output Ratio (ULOR) = 0.

### 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 120-266VAC per IEEE/ANSI C62.41.-1991, 6kV/3kA Location Category B3 (120 events)
  - Optional higher rating surge protection device available
- Optional high capability surge protection per IEEE/ANSI C62.41.2-2002.
  - 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.

### Ambient Temperature Conversion Table

AMBIENT TEMPERATURE (°C)	INITIAL LUMENS FACTOR	INITIAL WATTS FACTOR
15	1.01	1.01
20	1.01	1.00
25	1.00	1.00
30	0.99	1.00
35	0.99	0.99

# Ordering Number Logic

## Scalable Specification Grade Cobrahead (ERS1)



ERS1

PROD. ID	VOLTAGE	OPTICAL CODE	PHOTOMETRIC TYPE	DRIVE CURRENT	LED COLOR TEMP	PE FUNCTION	COLOR	OPTIONS
<b>E</b> = Evolve <b>R</b> = Roadway <b>S</b> = Scalable <b>1</b> = Single Module Optical Assembly	<b>0</b> = 120-277 <b>1</b> = 120 <b>2</b> = 208 <b>3</b> = 240 <b>4</b> = 277 <b>H</b> = 347-480 <b>D</b> = 347 <b>5</b> = 480	Product Tier <b>*3</b> = Specification Grade  See Charts for all levels	<b>A1</b> = Extra Narrow Asymmetric <b>B1</b> = Narrow Asymmetric (Medium) <b>C1</b> = Asymmetric (Short) <b>D1</b> = Asymmetric Forward <b>E1</b> = Asymmetric (Medium)	<b>5</b> = 525mA <b>7</b> = 700mA <b>1</b> = 1050mA	<b>40</b> = 4000K <b>50</b> = 5000K*  <b>NOTE:</b> For 1050mA drive current, nominal color temperature (CCT) = 5300K	<b>1</b> = None <b>2</b> = PE Rec. <b>4</b> = PE Rec. with Shorting Cap <b>5</b> = PE Rec. with Control <b>7</b> = GE Dimming 5-Pin PE Receptacle *† <b>9</b> = GE Dimming 5-Pin PE Receptacle with Shorting Cap *†  † When ordering PE function socket 7 or 9, a dimming driver add after dimming driver (D=Dimming) must also be ordered under the "OPTIONS" column  * Order dimming control PE as a separate item  <b>NOTE:</b> A= ANSIC136.41 7-Pin dimming receptacle, contact manufacturer	<b>BLCK</b> = Black <b>GRAY</b> = Gray	<b>B</b> = Internal Bubble level <b>D</b> = Dimming* <b>F</b> = Fusing <b>G</b> = External Bubble Level <b>L</b> = Tool-Less Entry <b>R</b> = Additional Secondary Surge Protection Device <b>T</b> = GE Energy Extreme 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). <b>XXX</b> = Special Options  * When ordering Dimming PE Receptacle 7, 9 or A, D=Dimming driver must be selected under "OPTIONS" column  <b>NOTE:</b> If no dimming receptacle under PE Function is selected and D=Dimming is selected under OPTIONS, 0-10v dimming leads will be provided with access through slipfitter opening in unit

525 mA		PHOTO-METRIC TYPE	DRIVE CURRENT	TYPICAL SYSTEM WATTAGE			TYPICAL INITIAL LUMENS			TYPICAL INITIAL LPW		IES FILE NUMBERS	
PRODUCT ID	OPTICAL CODE			120-277V	4000K	5000K	B RATING	U RATING	G RATING	4000K	5000K	4000K	5000K
ERS1	23	A1	525mA	31	2700	2700	1	0	1	87	87	456364	456384
ERS1	A3		525mA	45	4000	4000	1	0	1	89	89	456365	456385
ERS1	B3		525mA	60	5400	5400	2	0	1	90	90	456366	456386
ERS1	C3		525mA	73	6600	6600	2	0	2	90	90	456367	456387
ERS1	23	B1	525mA	31	2800	2800	1	0	1	90	90	456368	456388
ERS1	A3		525mA	45	4100	4100	1	0	1	91	91	456369	456389
ERS1	B3		525mA	60	5500	5500	2	0	1	92	92	456370	456390
ERS1	C3		525mA	73	6800	6800	2	0	1	93	93	456371	456391
ERS1	23	C1	525mA	31	2800	2800	1	0	1	90	90	456372	456392
ERS1	A3		525mA	45	4100	4100	1	0	1	91	91	456373	456393
ERS1	B3		525mA	60	5500	5500	2	0	1	92	92	456374	456394
ERS1	C3		525mA	73	6800	6800	2	0	1	93	93	456375	456395
ERS1	23	D1	525mA	31	2700	2700	1	0	1	87	87	456376	456396
ERS1	A3		525mA	45	4000	4000	1	0	1	89	89	456377	456397
ERS1	B3		525mA	60	5400	5400	1	0	1	90	90	456378	456398
ERS1	C3		525mA	73	6600	6600	2	0	1	90	90	456379	456399
ERS1	23	E1	525mA	31	2800	2800	1	0	1	90	90	456380	456400
ERS1	A3		525mA	45	4100	4100	1	0	1	91	91	456381	456401
ERS1	B3		525mA	60	5500	5500	2	0	1	92	92	456382	456402
ERS1	C3		525mA	73	6800	6800	2	0	1	93	93	456383	456403

**NOTES:**

- Max Operating Ambient 50° C
- 347-480V Available (Approximate Wattage = 1.1\* Times Wattage Listed Below) Contact Manufacturer for 347-480V LPW
- Some 347-480 Not DLC Listed (Contact Manufacturer)

### Lumen Maintenance

- Projected L92 (10K) ≥ 50,000 at Ta 25C
  - Projected L70 (10K) > 100,000 at Ta 25C
- Based on 10,000h LM-80 data for Nichia 219B SQETMLH17005

## Scalable Specification Grade Cobrahead (ERS1)

700 mA		PHOTO-METRIC TYPE	DRIVE CURRENT	TYPICAL SYSTEM WATTAGE		TYPICAL INITIAL LUMENS			TYPICAL INITIAL LPW		IES FILE NUMBERS		
PRODUCT ID	OPTICAL CODE			120-277V	4000K	5000K	B RATING	U RATING	G RATING	4000K	5000K	4000K	5000K
ERS1	23	A1	700mA	41	3400	3400	1	0	1	83	83	456554	456574
ERS1	A3		700mA	60	5000	5000	2	0	1	83	83	456555	456575
ERS1	B3		700mA	78	6600	6600	2	0	2	85	85	456556	456576
ERS1	C3		700mA	95	8000	8000	2	0	2	84	84	456557	456577
ERS1	23	B1	700mA	41	3500	3500	1	0	1	85	85	456558	456578
ERS1	A3		700mA	60	5100	5100	2	0	1	85	85	456559	456579
ERS1	B3		700mA	78	6800	6800	2	0	1	87	87	456560	456580
ERS1	C3		700mA	95	8200	8200	2	0	1	86	86	456561	456581
ERS1	23	C1	700mA	41	3500	3500	1	0	1	85	85	456562	456582
ERS1	A3		700mA	60	5100	5100	2	0	1	85	85	456563	456583
ERS1	B3		700mA	78	6800	6800	2	0	1	87	87	456564	456584
ERS1	C3		700mA	95	8200	8200	2	0	1	86	86	456565	456585
ERS1	23	D1	700mA	41	3400	3400	1	0	1	83	83	456566	456586
ERS1	A3		700mA	60	5000	5000	1	0	1	83	83	456567	456587
ERS1	B3		700mA	78	6600	6600	2	0	1	85	85	456568	456588
ERS1	C3		700mA	95	8000	8000	2	0	1	84	84	456569	456589
ERS1	23	E1	700mA	41	3500	3500	1	0	1	85	85	456570	456590
ERS1	A3		700mA	60	5100	5100	2	0	1	85	85	456571	456591
ERS1	B3		700mA	78	6800	6800	2	0	1	87	87	456572	456592
ERS1	C3		700mA	95	8200	8200	2	0	1	86	86	456573	456593

### NOTES:

- Max Operating Ambient 50° C
- 347-480V Not Available
- For T Option, Contact Manufacturer

### Lumen Maintenance

- Projected L91 (10K)  $\geq$  50,000 at Ta 25C
- Projected L70 (10K)  $>$  100,000 at Ta 25C  
Based on 10,000h LM-80 data for Nichia 219B SQETMLH17005

## Scalable Specification Grade Cobrahead (ERS1)

1050 mA		PHOTO-METRIC TYPE	DRIVE CURRENT	TYPICAL SYSTEM WATTAGE		TYPICAL INITIAL LUMENS			TYPICAL INITIAL LPW		IES FILE NUMBERS		
PRODUCT ID	OPTICAL CODE			120-277V	4000K	5000K	B RATING	U RATING	G RATING	4000K	5000K	4000K	5000K
ERS1	23	A1	1050mA	64	4600	4600	2	0	1	72	72	456644	456664
ERS1	A3		1050mA	90	6600	6600	2	0	2	73	73	456645	456665
ERS1	B3		1050mA	117	8700	8700	2	0	2	74	74	456646	456666
ERS1	C3		1050mA	143	10700	10700	3	0	2	75	75	456647	456667
ERS1	23	B1	1050mA	64	4700	4700	1	0	1	73	73	456648	456668
ERS1	A3		1050mA	90	6800	6800	2	0	1	76	76	456649	456669
ERS1	B3		1050mA	117	8900	8900	2	0	1	76	76	456650	456670
ERS1	C3		1050mA	143	10900	10900	3	0	2	76	76	456651	456671
ERS1	23	C1	1050mA	64	4700	4700	1	0	1	73	73	456652	456672
ERS1	A3		1050mA	90	6800	6800	2	0	1	76	76	456653	456673
ERS1	B3		1050mA	117	8900	8900	2	0	1	76	76	456654	456674
ERS1	C3		1050mA	143	10900	10900	3	0	2	76	76	456655	456675
ERS1	23	D1	1050mA	64	4600	4600	1	0	1	72	72	456656	456676
ERS1	A3		1050mA	90	6600	6600	2	0	1	73	73	456657	456677
ERS1	B3		1050mA	117	8700	8700	2	0	2	74	74	456658	456678
ERS1	C3		1050mA	143	10700	10700	2	0	2	75	75	456659	456679
ERS1	23	E1	1050mA	64	4700	4700	1	0	1	73	73	456660	456680
ERS1	A3		1050mA	90	6800	6800	2	0	1	76	76	456661	456681
ERS1	B3		1050mA	117	8900	8900	2	0	1	76	76	456662	456682
ERS1	C3		1050mA	143	10900	10900	3	0	2	76	76	456663	456683

### NOTES:

- Max Operating Ambient 40° C
- 347-480V Not Available
- T Option Not Available
- For 1050mA Drive Current, Nominal Color Temperature (CCT) = 5300K

### Lumen Maintenance

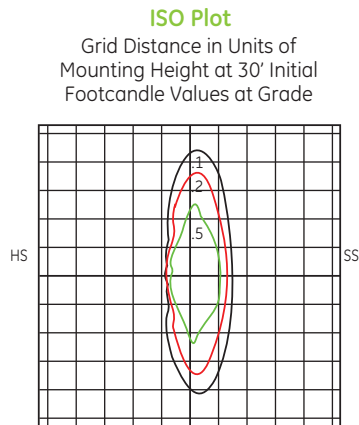
- Projected L88 (10K)  $\geq$  50,000 at Ta 25C
- Projected L70 (10K)  $>$  100,000 at Ta 25C  
Based on 10,000h LM-80 data for Nichia 219B SQETMLH17005

# Photometrics

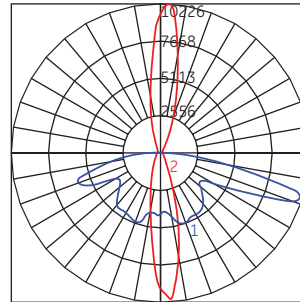
## Scalable Specification Grade Cobrahead (ERS1)

### ERS1 Extra Narrow Asymmetric (C3A1)

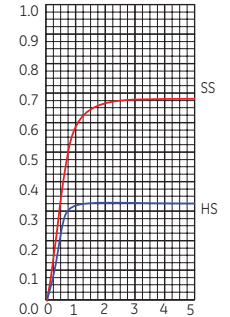
11300 Lumens  
5000K  
GE456667



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

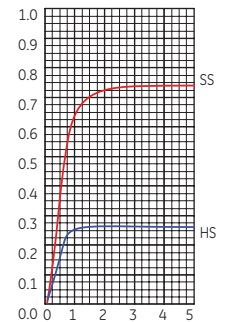
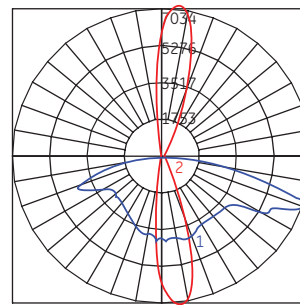
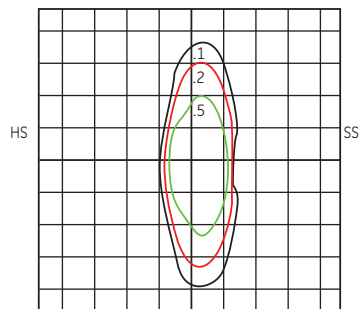


**CU Graph**  
Coefficients of Utilization Street Width / Mounting Height



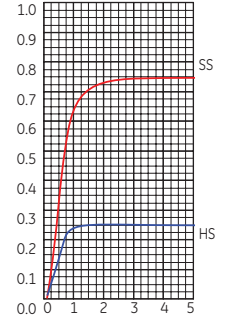
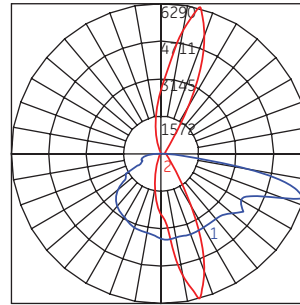
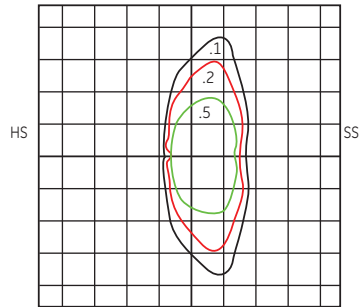
### ERS1 Narrow Asymmetric Medium (C3B1)

11600 Lumens  
5000K  
GE456671



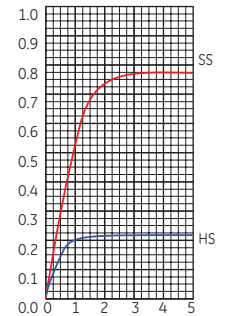
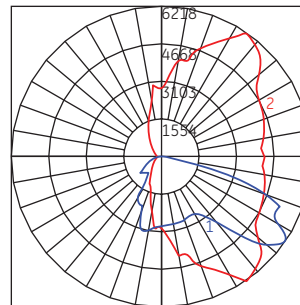
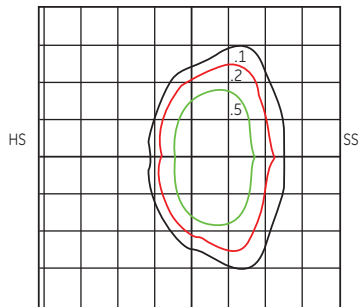
### ERS1 Asymmetric Short (C3C1)

11600 Lumens  
5000K  
GE456675



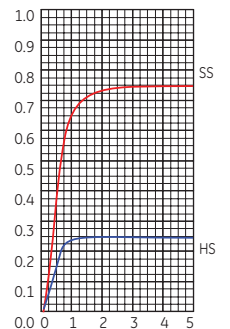
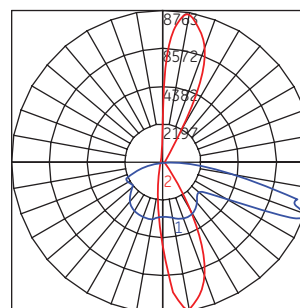
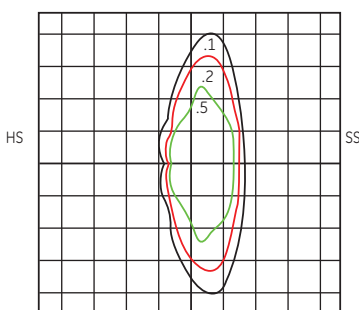
### ERS1 Asymmetric Forward (C3D1)

11300 Lumens  
5000K  
GE456679



### ERS1 Asymmetric Medium (C3E1)

11600 Lumens  
5000K  
GE456683



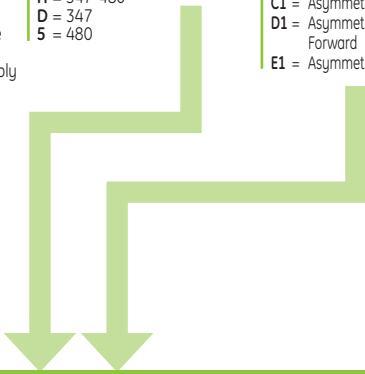
# Ordering Number Logic

## Scalable Specification Grade Cobrahead (ERS2)



ERS2

PROD. ID	VOLTAGE	OPTICAL CODE	PHOTOMETRIC TYPE	DRIVE CURRENT	LED COLOR TEMP	PE FUNCTION	COLOR	OPTIONS
<b>E</b> = Evolve	<b>0</b> = 120-277 <b>1</b> = 120 <b>2</b> = 208 <b>3</b> = 240 <b>4</b> = 277 <b>H</b> = 347-480 <b>D</b> = 347 <b>5</b> = 480	Product Tier <b>*3</b> = Specification Grade  See Charts for all levels	<b>A1</b> = Extra Narrow Asymmetric <b>B1</b> = Narrow Asymmetric (Medium) <b>C1</b> = Asymmetric (Short) <b>D1</b> = Asymmetric Forward <b>E1</b> = Asymmetric (Medium)	<b>5</b> = 525mA <b>7</b> = 700mA <b>1</b> = 1050mA	<b>40</b> = 4000K <b>50</b> = 5000K*  <b>NOTE:</b> For 1050mA drive current, nominal color temperature (CCT) = 5300K	<b>1</b> = None <b>2</b> = PE Rec. <b>4</b> = PE Rec. with Shorting Cap <b>5</b> = PE Rec. with Control <b>7</b> = GE Dimming 5-Pin PE Receptacle *† <b>9</b> = GE Dimming 5-Pin PE Receptacle with Shorting Cap *†	<b>BLCK</b> = Black <b>GRAY</b> = Gray	<b>B</b> = Internal Bubble level <b>D</b> = Dimming* <b>F</b> = Fusing <b>G</b> = External Bubble Level <b>L</b> = Tool-Less Entry <b>R</b> = Additional Secondary Surge Protection Device <b>T</b> = GE Energy Extreme 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).



† When ordering PE function socket 7 or 9, a dimming driver add after dimming driver (D=Dimming) must also be ordered under the "OPTIONS" column  
\* Order dimming control PE as a separate item  
**NOTE:** A= ANSIC136.41 7-Pin dimming receptacle, contact manufacturer

**XXX** = Special Options  
\* When ordering Dimming PE Receptacle 7, 9 or A, D=Dimming driver must be selected under "OPTIONS" column  
**NOTE:** If no dimming receptacle under PE Function is selected and D=Dimming is selected under OPTIONS, 0-10v dimming leads will be provided with access through slipfitter opening in unit

525 mA		PHOTO-METRIC TYPE	DRIVE CURRENT	TYPICAL SYSTEM WATTAGE		TYPICAL INITIAL LUMENS			TYPICAL INITIAL LPW			IES FILE NUMBERS	
PRODUCT ID	OPTICAL CODE			120-277V	4000K	5000K	B RATING	U RATING	G RATING	4000K	5000K	4000K	5000K
ERS2	D3	A1	525mA	88	8000	8000	2	0	2	91	91	456404	456429
ERS2	E3		525mA	99	9100	9100	3	0	2	92	92	456405	456430
ERS2	F3		525mA	112	10300	10300	3	0	2	92	92	456406	456431
ERS2	G3		525mA	125	11500	11500	3	0	2	92	92	456407	456432
ERS2	H3		525mA	138	12700	12700	3	0	3	92	92	456408	456433
ERS2	D3	B1	525mA	88	8200	8200	2	0	1	93	93	456409	456434
ERS2	E3		525mA	99	9300	9300	2	0	1	94	94	456410	456435
ERS2	F3		525mA	112	10600	10600	3	0	2	95	95	456411	456436
ERS2	G3		525mA	125	11800	11800	3	0	2	94	94	456412	456437
ERS2	H3		525mA	138	13000	13000	3	0	2	94	94	456413	456438
ERS2	D3	C1	525mA	88	8200	8200	2	0	1	93	93	456414	456439
ERS2	E3		525mA	99	9300	9300	2	0	1	94	94	456415	456440
ERS2	F3		525mA	112	10600	10600	3	0	1	95	95	456416	456441
ERS2	G3		525mA	125	11800	11800	3	0	2	94	94	456417	456442
ERS2	H3		525mA	138	13000	13000	3	0	2	94	94	456418	456443
ERS2	D3	D1	525mA	88	8000	8000	2	0	1	91	91	456419	456444
ERS2	E3		525mA	99	9100	9100	2	0	2	92	92	456420	456445
ERS2	F3		525mA	112	10300	10300	2	0	2	92	92	456421	456446
ERS2	G3		525mA	125	11500	11500	2	0	2	92	92	456422	456447
ERS2	H3		525mA	138	12700	12700	3	0	2	92	92	456423	456448
ERS2	D3	E1	525mA	88	8200	8200	2	0	3	93	93	456424	456449
ERS2	E3		525mA	99	9300	9300	2	0	2	94	94	456425	456450
ERS2	F3		525mA	112	10600	10600	3	0	2	95	95	456426	456451
ERS2	G3		525mA	125	11800	11800	3	0	2	94	94	456427	456452
ERS2	H3		525mA	138	13000	13000	3	0	2	94	94	456428	456453

- NOTES:**
- Max Operating Ambient 50° C
  - 347-480V Not Available
  - For T Option Availability Contact Manufacturer

### Lumen Maintenance

- Projected L92 (10K) ≥ 50,000 at Ta 25C
  - Projected L70 (10K) > 100,000 at Ta 25C
- Based on 10,000h LM-80 data for Nichia 219B SQETMLH17005

## Scalable Specification Grade Cobrahead (ERS2)

700 mA		PHOTO-METRIC TYPE	DRIVE CURRENT	TYPICAL SYSTEM WATTAGE		TYPICAL INITIAL LUMENS		B RATING	U RATING	G RATING	TYPICAL INITIAL LPW		IES FILE NUMBERS	
PRODUCT ID	OPTICAL CODE			120-277V	4000K	5000K	4000K				5000K	4000K	5000K	
ERS2	D3	A1	700mA	113	9700	9700	3	0	2	86	86	456594	456619	
ERS2	E3		700mA	130	11300	11300	3	0	2	87	87	456595	456620	
ERS2	F3		700mA	148	12800	12800	3	0	3	86	86	456596	456621	
ERS2	G3		700mA	172	14200	14200	3	0	3	83	83	456597	456622	
ERS2	H3		700mA	189	15700	15700	3	0	3	83	83	456598	456623	
ERS2	D3	B1	700mA	113	10000	10000	3	0	1	88	88	456599	456624	
ERS2	E3		700mA	130	11600	11600	3	0	2	89	89	456600	456625	
ERS2	F3		700mA	148	13100	13100	3	0	3	89	89	456601	456626	
ERS2	G3		700mA	172	14600	14600	3	0	2	85	85	456602	456627	
ERS2	H3		700mA	189	16100	16100	3	0	2	85	85	456603	456628	
ERS2	D3	C1	700mA	113	10000	10000	3	0	1	88	88	456604	456629	
ERS2	E3		700mA	130	11600	11600	3	0	2	89	89	456605	456630	
ERS2	F3		700mA	148	13100	13100	3	0	2	89	89	456606	456631	
ERS2	G3		700mA	172	14600	14600	3	0	2	85	85	456607	456632	
ERS2	H3		700mA	189	16100	16100	3	0	2	85	85	456608	456633	
ERS2	D3	D1	700mA	113	9700	9700	2	0	2	86	86	456609	456634	
ERS2	E3		700mA	130	11300	11300	2	0	2	87	87	456610	456635	
ERS2	F3		700mA	148	12800	12800	3	0	2	86	86	456611	456636	
ERS2	G3		700mA	172	14200	14200	3	0	2	83	83	456612	456637	
ERS2	H3		700mA	189	15700	15700	3	0	2	83	83	456613	456638	
ERS2	D3	E1	700mA	113	10000	10000	2	0	2	88	88	456614	456639	
ERS2	E3		700mA	130	11600	11600	3	0	2	89	89	456615	456640	
ERS2	F3		700mA	148	13100	13100	3	0	2	89	89	456616	456641	
ERS2	G3		700mA	172	14600	14600	3	0	2	85	85	456617	456642	
ERS2	H3		700mA	189	16100	16100	3	0	2	85	85	456618	456643	

### NOTES:

- Max Operating Ambient 50° C
- 347-480V Not Available
- For T Option, Contact Manufacturer

### Lumen Maintenance

- Projected L91 (10K) ≥ 50,000 at Ta 25C
  - Projected L70 (10K) > 100,000 at Ta 25C
- Based on 10,000h LM-80 data for Nichia 219B SQETMLH17005

## Scalable Specification Grade Cobrahead (ERS2)

1050 mA		PHOTO-METRIC TYPE	DRIVE CURRENT	TYPICAL SYSTEM WATTAGE		TYPICAL INITIAL LUMENS			TYPICAL INITIAL LPW			IES FILE NUMBERS	
PRODUCT ID	OPTICAL CODE			120-277V	4000K	5000K	B RATING	U RATING	G RATING	4000K	5000K	4000K	5000K
ERS2	D3	A1	1050mA	179	13000	13000	3	0	3	73	73	456684	456709
ERS2	E3		1050mA	204	15000	15000	3	0	3	74	74	456685	456710
ERS2	F3		1050mA	232	16900	16900	3	0	3	73	73	456686	456711
ERS2	G3		1050mA	257	18800	18800	3	0	3	73	73	456687	456712
ERS2	H3		1050mA	285	20500	20500	3	0	3	72	72	456688	456713
ERS2	D3	B1	1050mA	179	13400	13400	3	0	2	75	75	456689	456714
ERS2	E3		1050mA	204	15400	15400	3	0	2	75	75	456690	456715
ERS2	F3		1050mA	232	17400	17400	3	0	2	75	75	456691	456716
ERS2	G3		1050mA	257	19200	19200	3	0	2	75	75	456692	456717
ERS2	H3		1050mA	285	21100	21100	3	0	3	74	74	456693	456718
ERS2	D3	C1	1050mA	179	13400	13400	3	0	2	75	75	456694	456719
ERS2	E3		1050mA	204	15400	15400	3	0	2	75	75	456695	456720
ERS2	F3		1050mA	232	17400	17400	3	0	2	75	75	456696	456721
ERS2	G3		1050mA	257	19200	19200	3	0	2	75	75	456697	456722
ERS2	H3		1050mA	285	21100	21100	3	0	2	74	74	456698	456723
ERS2	D3	D1	1050mA	179	13000	13000	3	0	2	73	73	456699	456724
ERS2	E3		1050mA	204	15000	15000	3	0	2	74	74	456700	456725
ERS2	F3		1050mA	232	16900	16900	3	0	2	73	73	456701	456726
ERS2	G3		1050mA	257	18800	18800	3	0	2	73	73	456702	456727
ERS2	H3		1050mA	285	20500	20500	3	0	2	72	72	456703	456728
ERS2	D3	E1	1050mA	179	13400	13400	3	0	2	75	75	456704	456729
ERS2	E3		1050mA	204	15400	15400	3	0	2	75	75	456705	456730
ERS2	F3		1050mA	232	17400	17400	3	0	2	75	75	456706	456731
ERS2	G3		1050mA	257	19200	19200	3	0	2	75	75	456707	456732
ERS2	H3		1050mA	285	21100	21100	3	0	2	74	74	456708	456733

### NOTES:

- Max Operating Ambient 50° C
- 347-480V Not Available
- T Option Not Available

### Lumen Maintenance

- Projected L88 (10K) ≥ 50,000 at Ta 25C
- Projected L70 (10K) > 100,000 at Ta 25C  
Based on 10,000h LM-80 data for Nichia 219B SQETMLH17005

# Photometrics

## Scalable Specification Grade Cobrahead (ERS2)

### ISO Plot

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

### Polar Curve

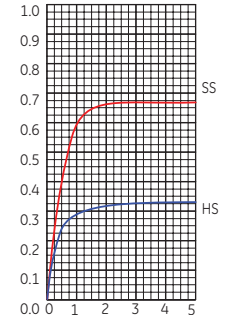
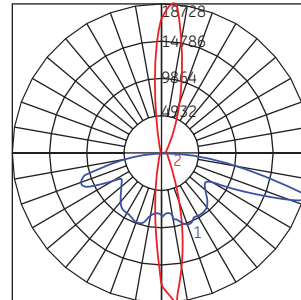
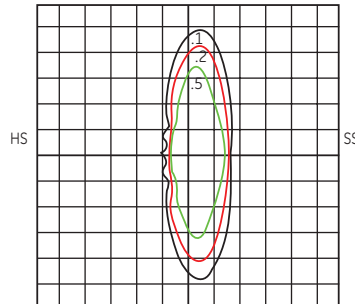
Polar Trace Vertical and Horizontal Plane through Horizontal Angle of Maximum Candlepower

### CU Graph

Coefficients of Utilization Street Width / Mounting Height

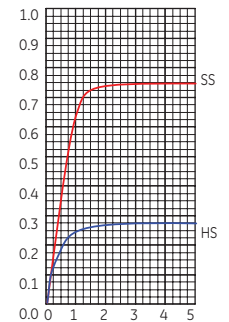
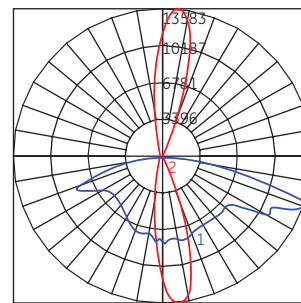
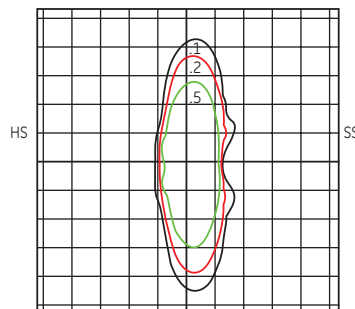
#### ERS2 Extra Narrow Asymmetric (H3A1)

21800 Lumens  
5000K  
GE456713



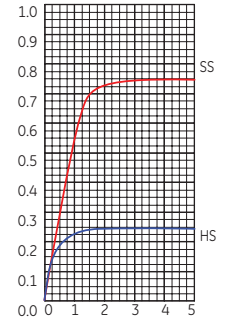
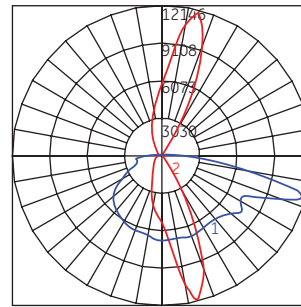
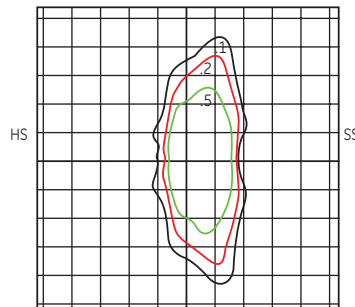
#### ERS2 Narrow Asymmetric Medium (H3B1)

22400 Lumens  
5000K  
GE456718



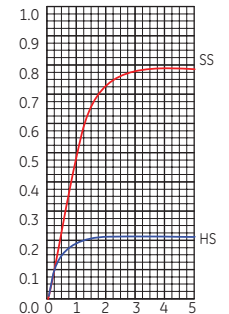
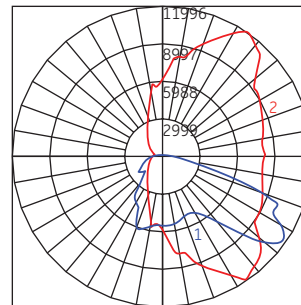
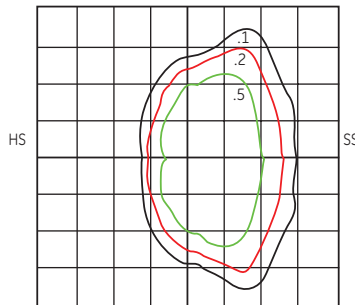
#### ERS2 Asymmetric Short (H3C1)

22400 Lumens  
5000K  
GE456723



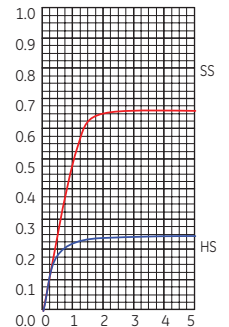
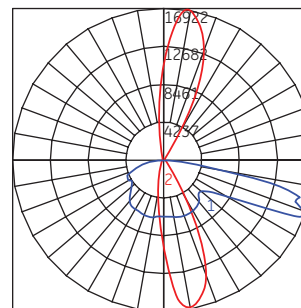
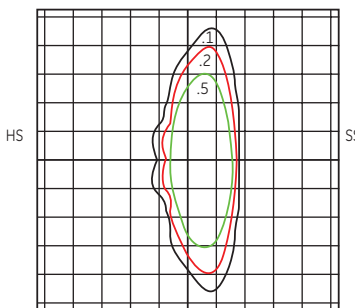
#### ERS2 Asymmetric Forward (H3D1)

21800 Lumens  
5000K  
GE456728



#### ERS2 Extra Narrow Asymmetric (H3E1)

22400 Lumens  
5000K  
GE456733



# Ordering Number Logic

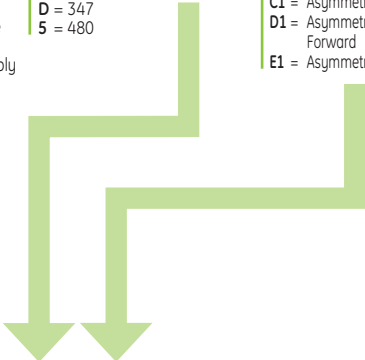
## Scalable Specification Grade Cobrahead (ERS3)



ERS3

5

PROD. ID	VOLTAGE	OPTICAL CODE	PHOTOMETRIC TYPE	DRIVE CURRENT	LED COLOR TEMP	PE FUNCTION	COLOR	OPTIONS
<b>E</b> = Evolve	<b>0</b> = 120-277 <b>1</b> = 120 <b>2</b> = 208 <b>3</b> = 240 <b>4</b> = 277 <b>H</b> = 347-480 <b>D</b> = 347 <b>5</b> = 480	Product Tier <b>*3</b> = Specification Grade  See Charts for all levels	<b>A1</b> = Extra Narrow Asymmetric <b>B1</b> = Narrow Asymmetric (Medium) <b>C1</b> = Asymmetric (Short) <b>D1</b> = Asymmetric Forward <b>E1</b> = Asymmetric (Medium)	<b>5</b> = 525mA	<b>40</b> = 4000K <b>50</b> = 5000K	<b>1</b> = None <b>2</b> = PE Rec. <b>4</b> = PE Rec. with Shorting Cap <b>5</b> = PE Rec. with Control <b>7</b> = GE Dimming 5-Pin PE Receptacle *† <b>9</b> = GE Dimming 5-Pin PE Receptacle with Shorting Cap *†	<b>BLCK</b> = Black <b>GRAY</b> = Gray	<b>B</b> = Internal Bubble level <b>D</b> = Dimming* <b>F</b> = Fusing <b>G</b> = External Bubble Level <b>L</b> = Tool-Less Entry <b>R</b> = Additional Secondary Surge Protection Device <b>T</b> = GE Energy Extreme 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). <b>XXX</b> = Special Options
<b>R</b> = Roadway						† When ordering PE function socket 7 or 9, a dimming driver add after dimming driver (D=Dimming) must also be ordered under the "OPTIONS" column		
<b>S</b> = Scalable						* Order dimming control PE as a separate item		
<b>3</b> = Triple Module Optical Assembly						<b>NOTE:</b> A= ANSIC136.41 7-Pin dimming receptacle, contact manufacturer		* When ordering Dimming PE Receptacle 7, 9 or A, D=Dimming driver must be selected under "OPTIONS" column <b>NOTE:</b> If no dimming receptacle under PE Function is selected and D=Dimming is selected under OPTIONS, 0-10v dimming leads will be provided with access through slipfitter opening in unit



525 mA		PHOTO-METRIC TYPE	DRIVE CURRENT	TYPICAL SYSTEM WATTAGE			TYPICAL INITIAL LUMENS			TYPICAL INITIAL LPW		IES FILE NUMBERS	
PRODUCT ID	OPTICAL CODE			120-277V	4000K	5000K	B RATING	U RATING	G RATING	4000K	5000K	4000K	5000K
ERS3	J3	A1	525mA	151	14000	14000	3	0	3	93	93	456454	456479
ERS3	K3		525mA	170	15300	15300	3	0	3	90	90	456455	456480
ERS3	L3		525mA	183	16500	16500	3	0	3	90	90	456456	456481
ERS3	M3		525mA	196	17700	17700	3	0	3	90	90	456457	456482
ERS3	N3		525mA	209	18900	18900	3	0	3	90	90	456458	456483
ERS3	J3	B1	525mA	151	14400	14400	3	0	2	95	95	456459	456484
ERS3	K3		525mA	170	15600	15600	3	0	2	92	92	456460	456485
ERS3	L3		525mA	183	16900	16900	3	0	2	92	92	456461	456486
ERS3	M3		525mA	196	18100	18100	3	0	2	92	92	456462	456487
ERS3	N3		525mA	209	19400	19400	3	0	2	93	93	456463	456488
ERS3	J3	C1	525mA	151	14400	14400	3	0	2	95	95	456464	456489
ERS3	K3		525mA	170	15600	15600	3	0	2	92	92	456465	456490
ERS3	L3		525mA	183	16900	16900	3	0	2	92	92	456466	456491
ERS3	M3		525mA	196	18100	18100	3	0	2	92	92	456467	456492
ERS3	N3		525mA	209	19400	19400	3	0	2	93	93	456468	456493
ERS3	J3	D1	525mA	151	14000	14000	3	0	2	93	93	456469	456494
ERS3	K3		525mA	170	15300	15300	3	0	2	90	90	456470	456495
ERS3	L3		525mA	183	16500	16500	3	0	2	90	90	456471	456496
ERS3	M3		525mA	196	17700	17700	3	0	2	90	90	456472	456497
ERS3	N3		525mA	209	18900	18900	3	0	2	90	90	456473	456498
ERS3	J3	E1	525mA	151	14400	14400	3	0	2	95	95	456474	456499
ERS3	K3		525mA	170	15600	15600	3	0	2	92	92	456475	456500
ERS3	L3		525mA	183	16900	16900	3	0	2	92	92	456476	456501
ERS3	M3		525mA	196	18100	18100	3	0	2	92	92	456477	456502
ERS3	N3		525mA	209	19400	19400	3	0	2	93	93	456478	456503

- NOTES:**
- Max Operating Ambient 50° C
  - Max Operating Ambient 45° C for 347-480V
  - For T Option, Contact Manufacturer

### Lumen Maintenance

- Projected L91 (10K) ≥ 50,000 at Ta 25C
  - Projected L70 (10K) > 100,000 at Ta 25C
- Based on 10,000h LM-80 data for Nichia 219B SQETMLH17005

# Photometrics

## Scalable Specification Grade Cobrahead (ERS3)

### ISO Plot

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

### Polar Curve

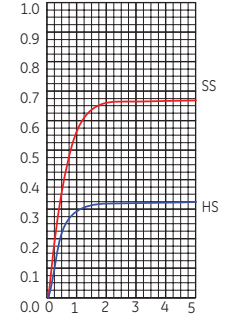
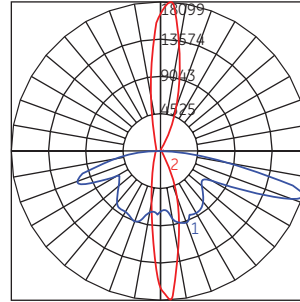
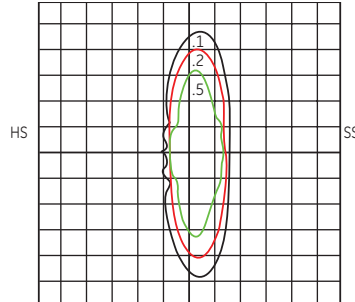
Polar Trace Vertical and Horizontal Plane through Horizontal Angle of Maximum Candlepower

### CU Graph

Coefficients of Utilization Street Width / Mounting Height

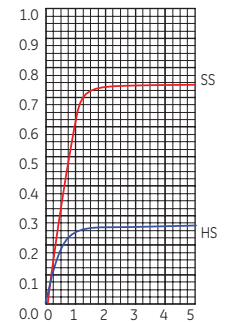
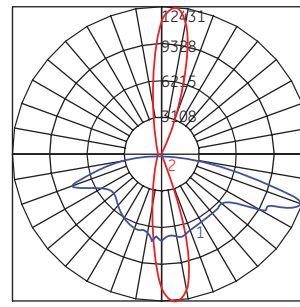
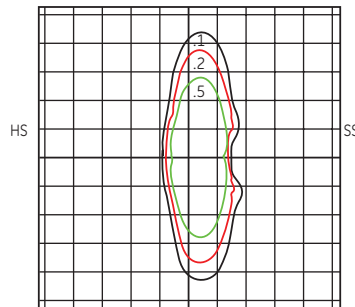
#### ERS3 Extra Narrow Asymmetric (N3A1)

20000 Lumens  
5000K  
GE456483



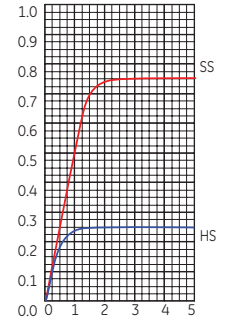
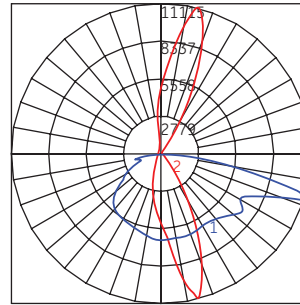
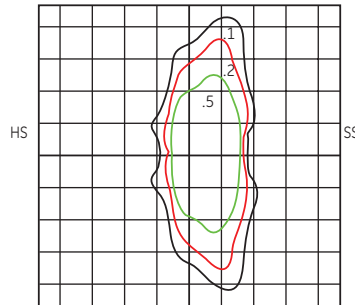
#### ERS3 Narrow Asymmetric Medium (N3B1)

20500 Lumens  
5000K  
GE456488



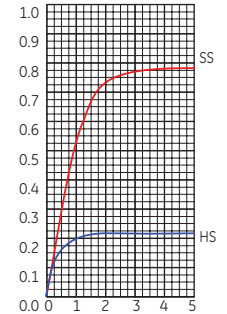
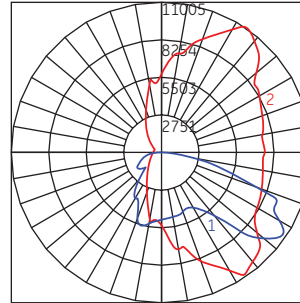
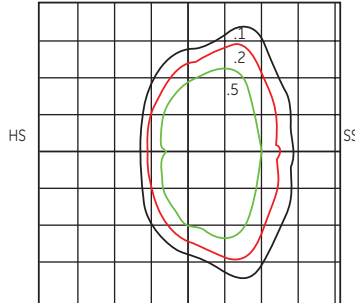
#### ERS3 Asymmetric Short (N3C1)

20500 Lumens  
5000K  
GE456493



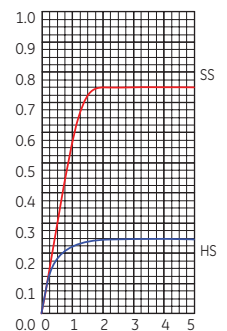
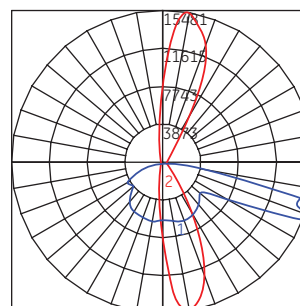
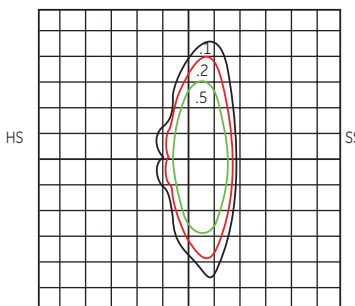
#### ERS3 Asymmetric Forward (N3D1)

20000 Lumens  
5000K  
GE456498



#### ERS3 Asymmetric Medium (N3E1)

20500 Lumens  
5000K  
GE456503



# Ordering Number Logic

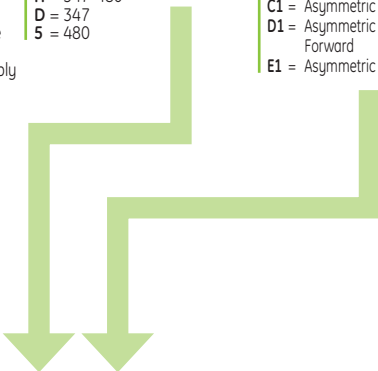
## Scalable Specification Grade Cobrahead (ERS4)



ERS4

5

PROD. ID	VOLTAGE	OPTICAL CODE	PHOTOMETRIC TYPE	DRIVE CURRENT	LED COLOR TEMP	PE FUNCTION	COLOR	OPTIONS
E = Evolve R = Roadway S = Scalable 4 = Quad Module Optical Assembly	0 = 120-277 1 = 120 2 = 208 3 = 240 4 = 277 H = 347-480 D = 347 5 = 480	Product Tier *3 = Specification Grade  See Charts for all levels	A1 = Extra Narrow Asymmetric B1 = Narrow Asymmetric (Medium) C1 = Asymmetric (Short) D1 = Asymmetric Forward E1 = Asymmetric (Medium)	5 = 525mA	40 = 4000K 50 = 5000K	1 = None 1 = None 2 = PE Rec. 4 = PE Rec. with Shorting Cap 5 = PE Rec. with Control 7 = GE Dimming 5-Pin PE Receptacle *† 9 = GE Dimming 5-Pin PE Receptacle with Shorting Cap *†  † When ordering PE function socket 7 or 9, a dimming driver add after dimming driver (D=Dimming) must also be ordered under the "OPTIONS" column * Order dimming control PE as a separate item <b>NOTE:</b> A= ANSIC136.41 7-Pin dimming receptacle, contact manufacturer	BLCK = Black GRAY = Gray	B = Internal Bubble level D = Dimming* F = Fusing G = External Bubble Level L = Tool-Less Entry R = Additional Secondary Surge Protection Device T = GE Energy Extreme 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). <b>XXX</b> = Special Options * When ordering Dimming PE Receptacle 7, 9 or A, D=Dimming driver must be selected under "OPTIONS" column <b>NOTE:</b> If no dimming receptacle under PE Function is selected and D=Dimming is selected under OPTIONS, 0-10v dimming leads will be provided with access through slipfitter opening in unit



525 mA		PHOTO-METRIC TYPE	DRIVE CURRENT	TYPICAL SYSTEM WATTAGE			TYPICAL INITIAL LUMENS			TYPICAL INITIAL LPW		IES FILE NUMBERS	
PRODUCT ID	OPTICAL CODE			120-277V	4000K	5000K	B RATING	U RATING	G RATING	4000K	5000K	4000K	5000K
ERS4	P3	A1	525mA	222	20100	20100	3	0	3	91	91	456504	456529
ERS4	Q3		525mA	234	21300	21300	3	0	3	91	91	456505	456530
ERS4	R3		525mA	247	22500	22500	4	0	3	91	91	456506	456531
ERS4	S3		525mA	260	23700	23700	4	0	3	91	91	456507	456532
ERS4	T3		525mA	274	24800	24800	4	0	3	91	91	456508	456533
ERS4	P3	B1	525mA	222	20600	20600	3	0	2	93	93	456509	456534
ERS4	Q3		525mA	234	21800	21800	3	0	3	93	93	456510	456535
ERS4	R3		525mA	247	23000	23000	3	0	3	93	93	456511	456536
ERS4	S3		525mA	260	24300	24300	3	0	3	93	93	456512	456537
ERS4	T3		525mA	274	25400	25400	4	0	3	93	93	456513	456538
ERS4	P3	C1	525mA	222	20600	20600	3	0	2	93	93	456514	456539
ERS4	Q3		525mA	234	21800	21800	3	0	2	93	93	456515	456540
ERS4	R3		525mA	247	23000	23000	3	0	2	93	93	456516	456541
ERS4	S3		525mA	260	24300	24300	3	0	2	93	93	456517	456542
ERS4	T3		525mA	274	25400	25400	4	0	3	93	93	456518	456543
ERS4	P3	D1	525mA	222	20100	20100	3	0	2	91	91	456519	456544
ERS4	Q3		525mA	234	21300	21300	3	0	2	91	91	456520	456545
ERS4	R3		525mA	247	22500	22500	3	0	3	91	91	456521	456546
ERS4	S3		525mA	260	23700	23700	3	0	3	91	91	456522	456547
ERS4	T3		525mA	274	24800	24800	3	0	3	91	91	456523	456548
ERS4	P3	E1	525mA	222	20600	20600	3	0	2	93	93	456524	456549
ERS4	Q3		525mA	234	21800	21800	3	0	2	93	93	456525	456550
ERS4	R3		525mA	247	23000	23000	3	0	3	93	93	456526	456551
ERS4	S3		525mA	260	24300	24300	3	0	3	93	93	456527	456552
ERS4	T3		525mA	274	25400	25400	4	0	3	93	93	456528	456553

**NOTES:**

- Max Operating Ambient 50° C
- Max Operating Ambient 40° C for 347-480V
- For T Option, Contact Manufacturer

### Lumen Maintenance

- Projected L91 (10K) ≥ 50,000 at Ta 25C
  - Projected L70 (10K) > 100,000 at Ta 25C
- Based on 10,000h LM-80 data for Nichia 219B SQETMLH17005

# Photometrics

## Scalable Specification Grade Cobrahead (ERS4)

### ISO Plot

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

### Polar Curve

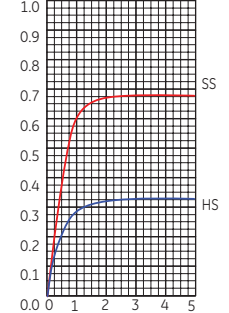
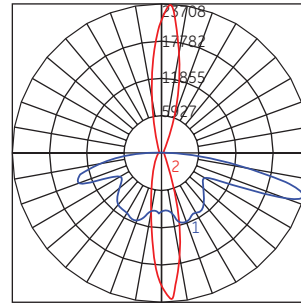
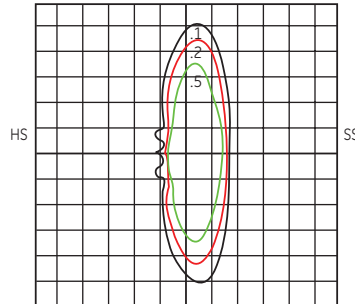
Polar Trace Vertical and Horizontal Plane through Horizontal Angle of Maximum Candlepower

### CU Graph

Coefficients of Utilization Street Width / Mounting Height

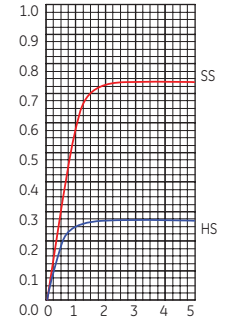
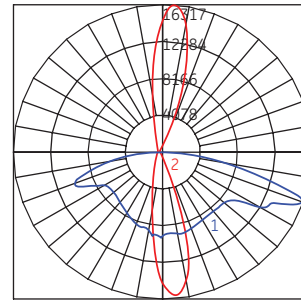
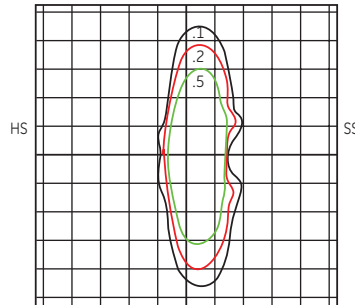
#### ERS4 Extra Narrow Asymmetric (T3A1)

26200 Lumens  
5000K  
GE456533



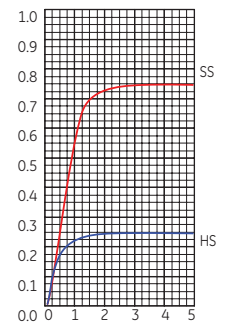
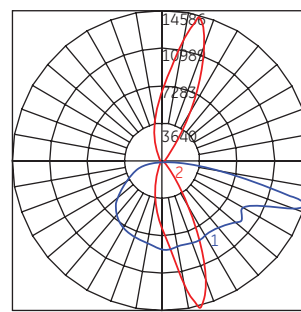
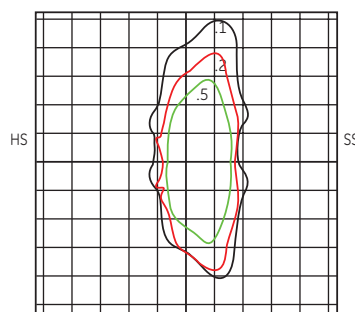
#### ERS4 Narrow Asymmetric Medium (T3B1)

26900 Lumens  
5000K  
GE456538



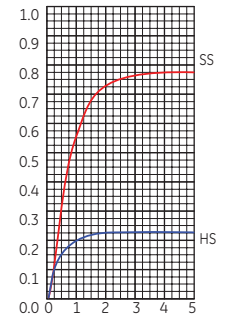
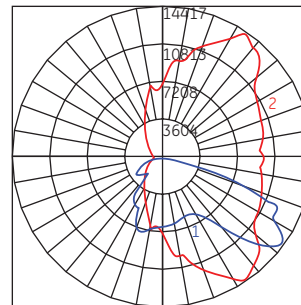
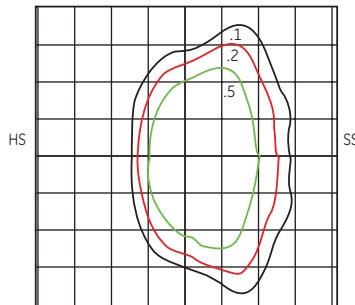
#### ERS4 Asymmetric Short (T3C1)

26900 Lumens  
5000K  
GE456543



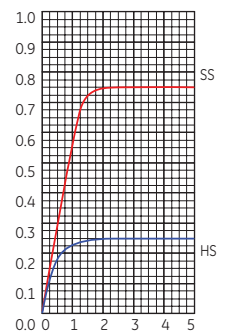
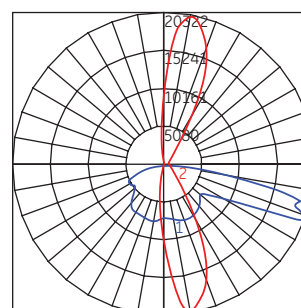
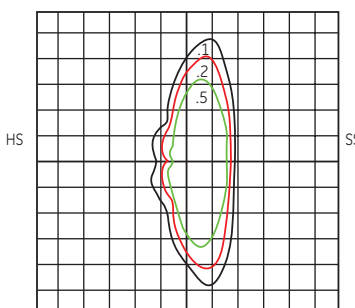
#### ERS4 Asymmetric Forward (T3D1)

26200 Lumens  
5000K  
GE456548



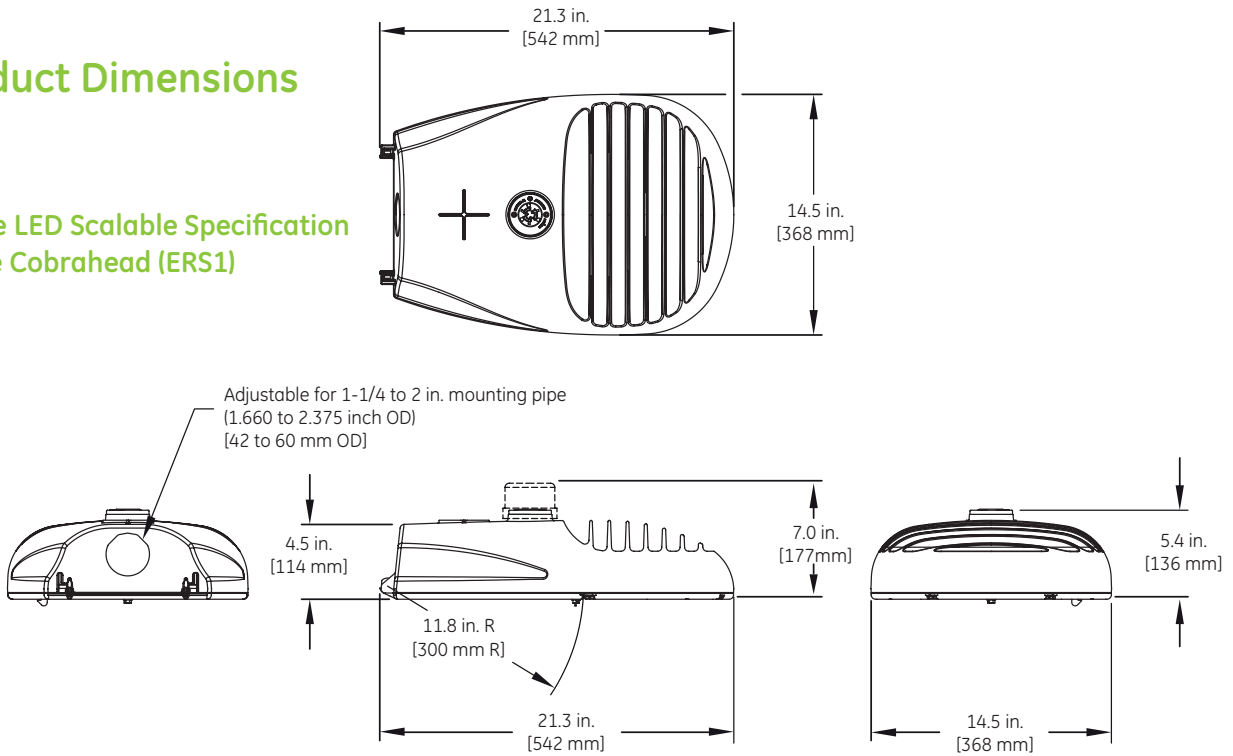
#### ERS4 Asymmetric Medium (T3E1)

26900 Lumens  
5000K  
GE456553



## Product Dimensions

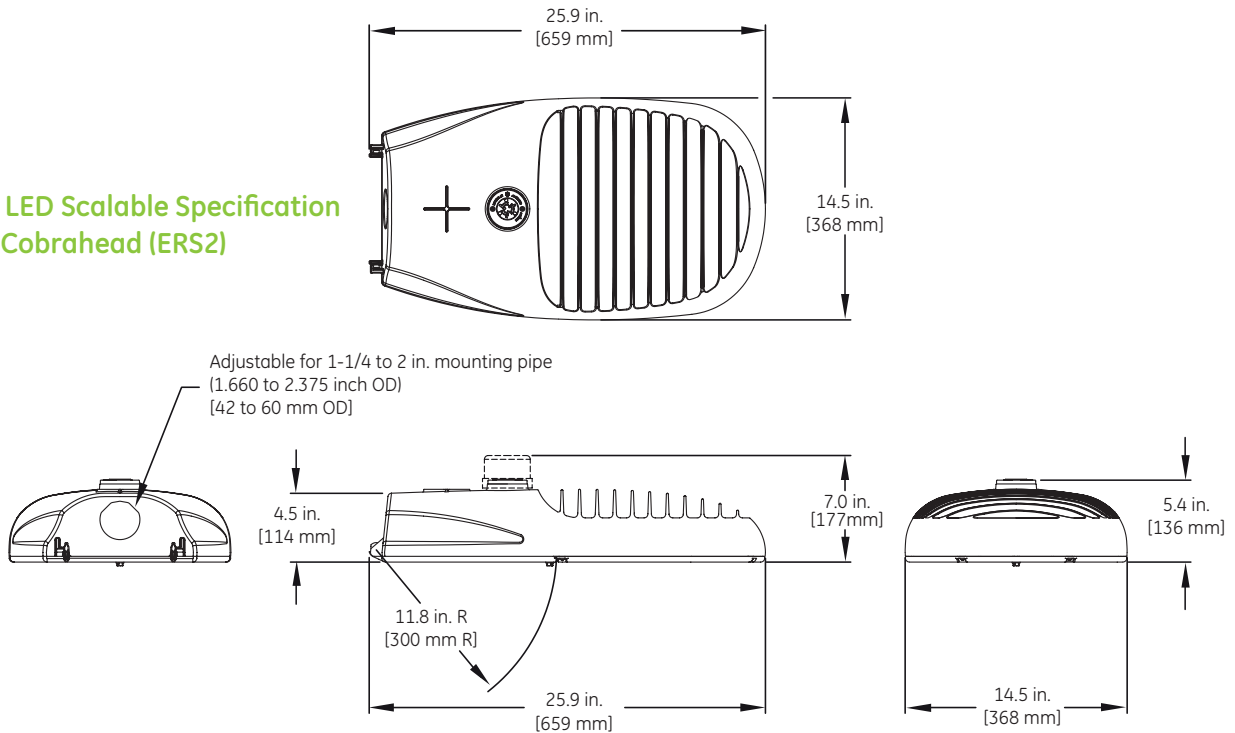
### Evolve LED Scalable Specification Grade Cobrahead (ERS1)



#### 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)

### Evolve LED Scalable Specification Grade Cobrahead (ERS2)

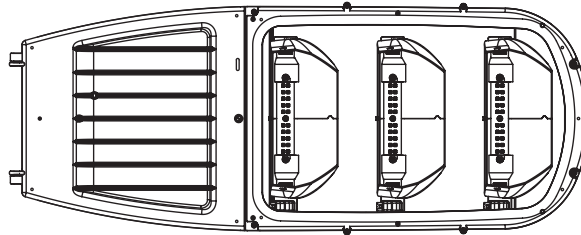


#### DATA

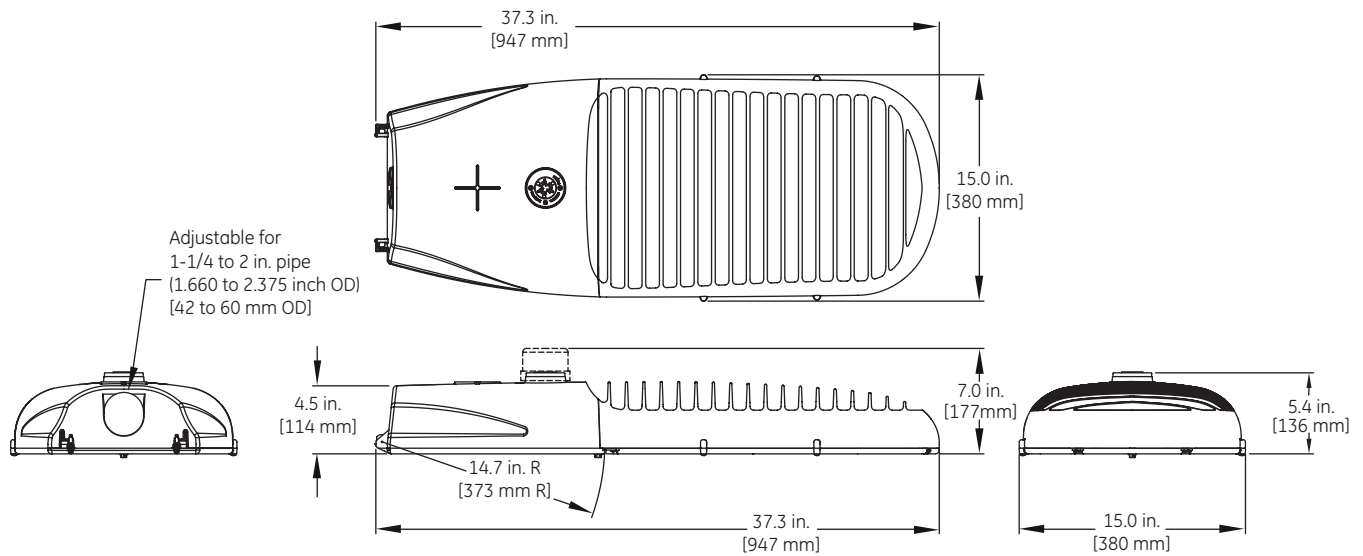
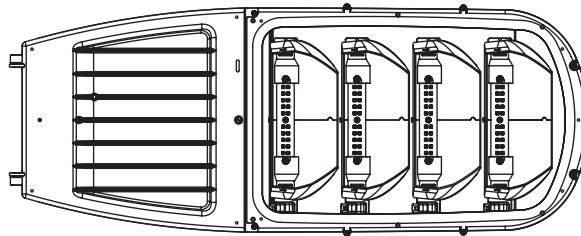
- Approximate Net Weight: 25 to 29 lbs. (11.34 to 13.15 kgs.)  
Contact manufacturer for specific configuration weight.
- Effective Projected Area (EPA): 0.7 sq. ft. max (0.065 sq. m)

# Product Dimensions

Evolve LED Scalable Specification  
Grade Cobrahead (ERS3)



Evolve LED Scalable Specification  
Grade Cobrahead (ERS4)



DATA	
	<ul style="list-style-type: none"> <li>Approximate Net Weight: 40 to 46 lbs. (18.14 to 20.87 kgs.) Contact manufacturer for specific configuration weight.</li> <li>Effective Projected Area (EPA): 1.0 sq. ft. max (0.093 sq. m)</li> </ul>



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