



Not all roadway applications are created equal. Lumece **RoadFocus LED off road** cobra head luminaires offer a versatile solution for applications that are outside the range of traditional roadway lighting. Combined with specialized optics to be used in a tilt application, the knuckle adapter can tackle even the most difficult installation. From traditional streets to off road applications, **The RoadFocus** product family will help you simplify your luminaire selection.

Project: \_\_\_\_\_

Location: \_\_\_\_\_

Cat.No: \_\_\_\_\_

Type: \_\_\_\_\_

Lamps: \_\_\_\_\_ Qty: \_\_\_\_\_

Notes: \_\_\_\_\_

### Ordering guide

example: RFL-ORH-215W96LED4K-G2-R3TM-UNV-DMG-KAV3-RCD-GY3

Series	Application	LED module	CCT	Generation	Distribution	Voltage	Controls <sup>4</sup>	Adaptor <sup>7</sup>	Options	Finish
<b>RFL</b>				<b>G2</b>						
<b>RFL</b> RoadFocus Roadway, large	<b>ORH</b> <sup>14</sup> Off road Application High Tilt 20°-45°	<b>145W64LED</b>	<b>4K</b> 4000k	<b>G2</b> Generation 2	<b>Type 2</b>	<b>UNV</b> 120-277V <b>HVU</b> 347-480V	<b>DALI</b> <sup>1</sup> Digitally addressable lighting interface  <b>DMG</b> <sup>5</sup> 0-10V  <b>SRD</b> <sup>1</sup> Sensor ready driver, standard configuration  <b>SRD1</b> <sup>1</sup> Sensor ready driver, alternate configuration	<b>KAV3</b> Vertical post top application  <b>KAH3</b> Horizontal arm application	<b>API</b> Factory installed NEMA label, ANSI C136.15-2015 compliant  <b>FAWS</b> <sup>7</sup> Field adjustable wattage selector  <b>HS</b> House Side Shield, shield, 1 per 16 LED light engine  <b>NRC</b> <sup>8</sup> No receptacle  <b>NYBC</b> 4-position terminal block  <b>PH8</b> <sup>10</sup> Twist-lock photoelectric cell, UNV (120-277VAC)  <b>PH8/347</b> <sup>10,13</sup> Twist-lock photoelectric cell (347VAC)  <b>PH8/480</b> <sup>10,13</sup> Twist-lock photoelectric cell (480VAC)  <b>PHXL</b> <sup>10</sup> Twist-lock photoelectric Cell, extended life, UNV (120-277VAC)  <b>PH9</b> <sup>10</sup> Shorting cap  <b>RCD</b> <sup>3,9</sup> Tool less receptacle for twist-lock photocell or shorting cap, 5-pin (optional)  <b>RCD7</b> <sup>3,5</sup> Tool less receptacle for twist-lock photocell or shorting cap, 7-pin (standard)  <b>SP2</b> 20kV / 10kA Surge protector  <b>TLRSR</b> <sup>6</sup> SR receptacle  <b>BAC</b> <sup>16</sup> Meets the requirements of the Buy American Act of 1933 (BAA)	<b>BK</b> Black <b>BR</b> Bronze <b>GY3</b> Gray <b>WH</b> White
		<b>220W64LED</b>	<b>3K</b> 3000k		<b>R2S</b> Type II short (ASYM)					
		<b>245W72LED</b>	<b>2.7K</b> <sup>11</sup> 2700k		<b>R2M</b> Type II medium (ASYM)					
	<b>ORL</b> <sup>15</sup> Off road Application Low Tilt 0°-20°	<b>260W76LED</b>			<b>Type 3</b>					
		<b>90W80LED</b>			<b>R3S</b> Type III short (ASYM)					
		<b>135W80LED</b>			<b>R3M</b> Type III medium (ASYM)					
		<b>180W80LED</b>			<b>Type 3 High Tilt</b>					
		<b>270W80LED</b>			<b>R3TM</b> Type III medium (ASYM)					
		<b>160W96LED</b>			<b>Type 4</b>					
		<b>215W96LED</b>			<b>4</b> Type IV (ASYM)					
	<b>335W96LED</b>		<b>Type 5</b>							
	<b>190W112LED</b>		<b>5</b> <sup>2</sup> Type V (SYMM)							
	<b>241W112LED</b>									
	<b>350W112LED</b> <sup>7</sup>									

- Not available with **HVU**.
- Not available with **HS** option.
- Use of photoelectric cell or shorting cap is required to ensure proper illumination.
- Select either **DALI** or **DMG** or **SRD** or **SRD1** mandatory option.
- Please note this integrated feature come standard with RoadFocus.
- Only available with **SRD** or **SRD1** Driver Options.
- Only available with **DMG** Driver Options
- Not available with **SRD** Driver Options.
- Either **RCD** or **RCD7** must be selected for this option.
- Extended lead-time may apply. Consult factory.

- FAWS** table accuracy +/- 15% on these models.
- Not available with **UNV**.
- ORH** only available with **R3TM**
- ORL** available with all optics but **R3TM**
- Failure to properly select the "BAC" suffix could result in you receiving product that is not BAA compliant product with no recourse for an RMA or refund. This BAC designation hereunder does not address (i) the applicability of, or availability of a waiver under, the Trade Agreements Act, or (ii) the "Buy America" domestic content requirements imposed on states, localities, and other non-federal entities as a condition of receiving funds administered by the Department of Transportation or other federal agencies.
- Consult Signify to confirm whether specific accessories are BAA-compliant.



# RFL RoadFocus LED Off Road (large)

## Roadway

### Predicted Lumen Depreciation Data

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L<sub>70</sub> is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L<sub>70</sub> hours limited to 6 times actual LED test hours

Ambient Temperature °C	Driver mA	Calculated L <sub>70</sub> Hours	L <sub>70</sub> per TM-21	Lumen Maintenance % at 100,000 hrs
25°C	up to 1050 mA	>100,000 hours	>60,000 hours	>96%

### LED Wattage values

Ordering Code	Total LEDs	LED Current (mA)	Average System Watts <sup>16</sup>	Wattage label <sup>17</sup>
RFL-145W64LED	64	700	137	140
RFL-220W64LED	64	1050	216	220
RFL-245W72LED	72	1050	244	240
RFL-260W76LED	76	1050	256	260
RFL-90W80LED	80	350	93	90
RFL-135W80LED	80	530	136	140
RFL-180W80LED	80	700	174	170
RFL-270W80LED	80	1050	268	270

Ordering Code	Total LEDs	LED Current (mA)	Average System Watts <sup>16</sup>	Wattage label <sup>17</sup>
RFL-160W96LED	96	530	156	160
RFL-215W96LED	96	700	207	210
RFL-335W96LED	96	1050	323	320
RFL-190W112LED	112	530	188	190
RFL-241W112LED	112	700	243	240
RFL-350W112LED	112	950	340	340

16. Typical values, rounded.

17. As per ANSI C136.15-2015. Consult factory for other labeling needs.

### Field Adjustable Wattage (FAWS) Multiplier Chart

FAWS Position	Typical Delivered Lumens Multiplier	Typical System wattage
1	0.31	0.28
2	0.53	0.50
3	0.62	0.58
4	0.70	0.67
5	0.78	0.75
6	0.83	0.81
7	0.89	0.87
8	0.92	0.91
9	0.96	0.95
10	1.00	1.00

**Note:** Typical value accuracy +/- 5%

# RFL RoadFocus LED Off Road (large)

## Roadway

### LED Lumen values 4000k

Ordering Code	Color Temp.	Type R2S			Type R2M			Type R3S			Type R3M			Type R3TM		
		Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating
RFL-145W64LED	4000	17,955	131	B3-U0-G2	17,361	127	B3-U0-G3	17,586	128	B2-U0-G3	17,183	125	B3-U0-G3	18,108	132	B3-U0-G3
RFL-220W64LED	4000	24,554	114	B3-U0-G2	23,743	110	B3-U0-G3	24,051	111	B3-U0-G4	23,500	109	B3-U0-G3	24,764	115	B3-U0-G3
RFL-245W72LED	4000	27,624	113	B3-U0-G3	26,710	110	B3-U0-G3	27,057	111	B3-U0-G4	26,437	108	B3-U0-G3	27,476	113	B3-U0-G3
RFL-260W76LED	4000	29,158	114	B4-U0-G3	28,194	110	B4-U0-G3	28,560	112	B3-U0-G4	27,906	109	B3-U0-G3	29,003	113	B3-U0-G3
RFL-90W80LED	4000	12,325	133	B3-U0-G2	11,917	129	B3-U0-G2	12,072	130	B2-U0-G2	11,795	127	B3-U0-G2	12,430	134	B2-U0-G2
RFL-135W80LED	4000	17,729	130	B3-U0-G2	17,142	126	B3-U0-G3	17,365	127	B2-U0-G3	16,967	124	B3-U0-G3	17,880	131	B3-U0-G3
RFL-180W80LED	4000	22,444	129	B3-U0-G2	21,702	125	B3-U0-G3	21,984	126	B3-U0-G3	21,480	123	B3-U0-G3	22,636	130	B3-U0-G3
RFL-270W80LED	4000	30,693	114	B4-U0-G3	29,678	111	B4-U0-G3	30,064	112	B3-U0-G4	29,374	110	B4-U0-G4	30,955	115	B3-U0-G3
RFL-160W96LED	4000	21,230	136	B3-U0-G2	20,337	130	B3-U0-G3	20,509	131	B3-U0-G3	20,440	131	B3-U0-G3	21,242	136	B3-U0-G3
RFL-215W96LED	4000	26,876	130	B3-U0-G3	25,746	124	B3-U0-G3	25,963	125	B3-U0-G4	25,876	125	B3-U0-G3	26,891	130	B3-U0-G3
RFL-335W96LED	4000	37,400	116	B4-U0-G3	35,827	111	B4-U0-G4	36,129	112	B3-U0-G4	36,008	111	B4-U0-G4	37,421	116	B4-U0-G3
RFL-190W112LED	4000	24,768	132	B3-U0-G2	23,726	126	B3-U0-G3	23,927	128	B3-U0-G4	23,846	127	B3-U0-G3	24,782	132	B3-U0-G3
RFL-241W112LED	4000	31,355	129	B4-U0-G3	30,036	124	B4-U0-G3	30,290	125	B3-U0-G4	30,188	124	B4-U0-G4	31,373	129	B3-U0-G3
RFL-350W112LED	4000	40,210	118	B4-U0-G4	38,519	113	B4-U0-G4	38,844	114	B3-U0-G5	38,714	114	B4-U0-G4	40,233	119	B4-U0-G3

Ordering Code	Color Temp.	Type 4			Type 5		
		Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating
RFL-145W64LED	4000	17,299	126	B3-U0-G3	17,596	128	B4-U0-G2
RFL-220W64LED	4000	23,657	110	B3-U0-G4	24,064	112	B5-U0-G3
RFL-245W72LED	4000	26,614	109	B3-U0-G4	27,073	111	B5-U0-G3
RFL-260W76LED	4000	28,093	110	B3-U0-G4	28,577	112	B5-U0-G3
RFL-90W80LED	4000	11,874	128	B2-U0-G2	12,079	130	B4-U0-G2
RFL-135W80LED	4000	17,081	125	B3-U0-G3	17,375	127	B4-U0-G2
RFL-180W80LED	4000	21,624	124	B3-U0-G4	21,996	126	B5-U0-G3
RFL-270W80LED	4000	29,571	110	B3-U0-G4	30,081	112	B5-U0-G4
RFL-160W96LED	4000	20,304	130	B3-U0-G4	20,974	134	B5-U0-G3
RFL-215W96LED	4000	25,703	124	B3-U0-G4	26,552	128	B5-U0-G3
RFL-335W96LED	4000	35,768	111	B3-U0-G5	36,949	114	B5-U0-G4
RFL-190W112LED	4000	23,687	126	B3-U0-G4	24,470	130	B5-U0-G3
RFL-241W112LED	4000	29,987	123	B3-U0-G4	30,977	127	B5-U0-G4
RFL-350W112LED	4000	38,456	113	B3-U0-G5	39,726	117	B5-U0-G4

Actual performance may vary due to installation variables including optics, mounting/ceiling height, dirt depreciation, light loss factor, etc.; highly recommended to confirm performance with a layout - contact Applications at [signify.com/outdoorluminaires](mailto:signify.com/outdoorluminaires). Consult DLC QPL to confirm your specific fixture selection is DLC approved.

**Note:** Some data may be scaled based on tests of similar but not identical luminaires.

# RFL RoadFocus LED Off Road (large)

## Roadway

### LED Lumen values 3000k

Ordering Code	Color Temp.	Type R2S			Type R2M			Type R3S			Type R3M			Type R3TM		
		Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating
RFL-145W64LED	3000	16,942	124	B3-U0-G2	16,381	120	B3-U0-G3	16,594	121	B2-U0-G3	16,214	118	B3-U0-G2	17,086	125	B3-U0-G2
RFL-220W64LED	3000	23,169	107	B3-U0-G2	22,403	104	B3-U0-G3	22,694	105	B3-U0-G3	22,174	103	B3-U0-G3	23,367	108	B3-U0-G3
RFL-245W72LED	3000	26,065	107	B3-U0-G3	25,203	103	B3-U0-G3	25,531	105	B3-U0-G4	24,945	102	B3-U0-G3	25,923	106	B3-U0-G3
RFL-260W76LED	3000	27,513	108	B3-U0-G3	26,603	104	B3-U0-G3	26,949	105	B3-U0-G4	26,331	103	B3-U0-G3	27,363	107	B3-U0-G3
RFL-90W80LED	3000	11,629	125	B3-U0-G2	11,245	121	B3-U0-G2	11,391	123	B2-U0-G2	11,130	120	B2-U0-G2	11,728	126	B2-U0-G2
RFL-135W80LED	3000	16,728	123	B3-U0-G2	16,175	119	B3-U0-G3	16,385	120	B2-U0-G3	16,010	117	B3-U0-G2	16,871	124	B3-U0-G2
RFL-180W80LED	3000	21,177	122	B3-U0-G2	20,477	118	B3-U0-G3	20,743	119	B3-U0-G3	20,268	116	B3-U0-G3	21,358	123	B3-U0-G3
RFL-270W80LED	3000	28,961	108	B4-U0-G3	28,004	104	B4-U0-G3	28,367	106	B3-U0-G4	27,717	103	B3-U0-G3	29,209	109	B3-U0-G3
RFL-160W96LED	3000	20,032	128	B3-U0-G2	19,190	123	B3-U0-G3	19,352	124	B3-U0-G3	19,287	123	B3-U0-G3	20,043	128	B3-U0-G3
RFL-215W96LED	3000	25,360	123	B3-U0-G3	24,293	117	B3-U0-G3	24,498	118	B3-U0-G4	24,416	118	B3-U0-G3	25,374	123	B3-U0-G3
RFL-335W96LED	3000	35,290	109	B4-U0-G3	33,805	105	B4-U0-G4	34,091	106	B3-U0-G4	33,976	105	B4-U0-G4	35,309	109	B3-U0-G3
RFL-190W112LED	3000	23,371	125	B3-U0-G2	22,388	119	B3-U0-G3	22,577	120	B3-U0-G3	22,501	120	B3-U0-G3	23,384	125	B3-U0-G3
RFL-241W112LED	3000	29,586	122	B4-U0-G3	28,342	117	B4-U0-G3	28,581	118	B3-U0-G4	28,485	117	B3-U0-G3	29,602	122	B3-U0-G3
RFL-350W112LED	3000	37,941	112	B4-U0-G4	36,345	107	B4-U0-G4	36,652	108	B3-U0-G5	36,529	108	B4-U0-G4	37,963	112	B4-U0-G3

Ordering Code	Color Temp.	Type 4			Type 5		
		Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating
RFL-145W64LED	3000	16,323	119	B2-U0-G3	16,604	121	B4-U0-G2
RFL-220W64LED	3000	22,322	103	B3-U0-G4	22,707	105	B5-U0-G3
RFL-245W72LED	3000	25,113	103	B3-U0-G4	25,545	105	B5-U0-G3
RFL-260W76LED	3000	26,508	104	B3-U0-G4	26,964	105	B5-U0-G3
RFL-90W80LED	3000	11,204	121	B2-U0-G2	11,397	123	B4-U0-G2
RFL-135W80LED	3000	16,117	118	B2-U0-G3	16,394	120	B4-U0-G2
RFL-180W80LED	3000	20,404	117	B3-U0-G4	20,755	119	B5-U0-G3
RFL-270W80LED	3000	27,903	104	B3-U0-G4	28,383	106	B5-U0-G3
RFL-160W96LED	3000	19,158	122	B3-U0-G4	19,791	126	B5-U0-G3
RFL-215W96LED	3000	24,253	117	B3-U0-G4	25,054	121	B5-U0-G3
RFL-335W96LED	3000	33,750	104	B3-U0-G5	34,864	108	B5-U0-G4
RFL-190W112LED	3000	22,351	119	B3-U0-G4	23,089	123	B5-U0-G3
RFL-241W112LED	3000	28,295	116	B3-U0-G4	29,229	120	B5-U0-G3
RFL-350W112LED	3000	36,286	107	B3-U0-G5	37,484	110	B5-U0-G4

Actual performance may vary due to installation variables including optics, mounting/ceiling height, dirt depreciation, light loss factor, etc.; highly recommended to confirm performance with a layout - contact Applications at [signify.com/outdoorluminaires](mailto:signify.com/outdoorluminaires). Consult DLC QPL to confirm your specific fixture selection is DLC approved.

**Note:** Some data may be scaled based on tests of similar but not identical luminaires.

# RFL RoadFocus LED Off Road (large)

## Roadway

### LED Lumen values 2700k

Ordering Code	Color Temp.	Type R2S			Type R2M			Type R3S			Type R3M			Type R3TM		
		Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating
RFL-145W64LED	2700	13,489	98	B3-U0-G2	13,043	95	B3-U0-G2	13,212	96	B2-U0-G2	12,909	94	B3-U0-G2	13,604	99	B2-U0-G2
RFL-220W64LED	2700	18,350	85	B3-U0-G2	17,743	82	B3-U0-G3	17,973	83	B2-U0-G3	17,561	81	B3-U0-G3	18,507	86	B3-U0-G3
RFL-245W72LED	2700	20,643	85	B3-U0-G2	19,961	82	B3-U0-G3	20,220	83	B3-U0-G3	19,757	81	B3-U0-G3	20,531	84	B3-U0-G3
RFL-260W76LED	2700	21,790	85	B3-U0-G2	21,070	82	B3-U0-G3	21,344	83	B3-U0-G3	20,854	81	B3-U0-G3	21,671	85	B3-U0-G3
RFL-90W80LED	2700	9,315	100	B2-U0-G2	9,007	97	B2-U0-G2	9,124	98	B1-U0-G2	8,915	96	B2-U0-G2	9,395	101	B2-U0-G2
RFL-135W80LED	2700	13,357	98	B3-U0-G2	12,916	95	B3-U0-G2	13,084	96	B2-U0-G2	12,784	94	B3-U0-G2	13,472	99	B2-U0-G2
RFL-180W80LED	2700	16,861	97	B3-U0-G2	16,304	94	B3-U0-G3	16,516	95	B2-U0-G3	16,137	93	B3-U0-G2	17,005	98	B3-U0-G2
RFL-270W80LED	2700	22,937	86	B3-U0-G2	22,179	83	B3-U0-G3	22,467	84	B3-U0-G3	21,952	82	B3-U0-G3	23,133	86	B3-U0-G3
RFL-160W96LED	2700	15,996	102	B3-U0-G2	15,323	98	B3-U0-G3	15,452	99	B2-U0-G3	15,400	98	B3-U0-G2	16,005	102	B3-U0-G2
RFL-215W96LED	2700	20,191	98	B4-U0-G3	19,342	93	B3-U0-G3	19,505	94	B3-U0-G3	19,440	94	B3-U0-G3	20,203	98	B3-U0-G3
RFL-335W96LED	2700	27,949	87	B4-U0-G3	26,774	83	B3-U0-G3	27,000	84	B3-U0-G4	26,909	83	B3-U0-G3	27,965	87	B3-U0-G3
RFL-190W112LED	2700	18,661	99	B3-U0-G2	17,877	95	B3-U0-G3	18,027	96	B2-U0-G3	17,967	96	B3-U0-G3	18,672	100	B3-U0-G3
RFL-241W112LED	2700	23,556	97	B3-U0-G2	22,566	93	B3-U0-G3	22,756	94	B3-U0-G3	22,680	93	B3-U0-G3	23,570	97	B3-U0-G3
RFL-350W112LED	2700	30,106	89	B4-U0-G3	28,840	85	B4-U0-G3	29,084	86	B3-U0-G4	28,986	85	B3-U0-G4	30,123	89	B3-U0-G3

Ordering Code	Color Temp.	Type 4			Type 5		
		Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating
RFL-145W64LED	2700	12,996	95	B2-U0-G3	13,220	96	B4-U0-G2
RFL-220W64LED	2700	17,679	82	B3-U0-G3	17,984	83	B4-U0-G2
RFL-245W72LED	2700	19,889	82	B3-U0-G4	20,232	83	B5-U0-G3
RFL-260W76LED	2700	20,994	82	B3-U0-G4	21,356	83	B5-U0-G3
RFL-90W80LED	2700	8,975	97	B2-U0-G2	9,129	98	B3-U0-G2
RFL-135W80LED	2700	12,869	94	B2-U0-G3	13,091	96	B4-U0-G2
RFL-180W80LED	2700	16,245	93	B2-U0-G3	16,525	95	B4-U0-G2
RFL-270W80LED	2700	22,099	82	B3-U0-G4	22,480	84	B5-U0-G3
RFL-160W96LED	2700	15,298	98	B2-U0-G3	15,803	101	B4-U0-G2
RFL-215W96LED	2700	19,310	93	B3-U0-G4	19,948	96	B5-U0-G3
RFL-335W96LED	2700	26,730	83	B3-U0-G4	27,613	85	B5-U0-G3
RFL-190W112LED	2700	17,847	95	B3-U0-G3	18,437	98	B4-U0-G2
RFL-241W112LED	2700	22,528	93	B3-U0-G4	23,272	96	B5-U0-G3
RFL-350W112LED	2700	28,793	85	B3-U0-G4	29,744	88	B5-U0-G4

Actual performance may vary due to installation variables including optics, mounting/ceiling height, dirt depreciation, light loss factor, etc.; highly recommended to confirm performance with a layout - contact Applications at [signify.com/outdoorluminaires](mailto:signify.com/outdoorluminaires). Consult DLC QPL to confirm your specific fixture selection is DLC approved.

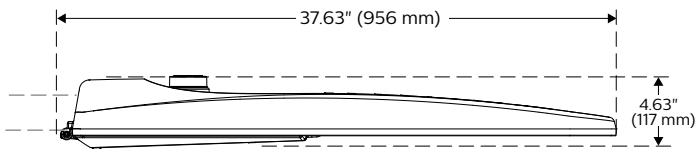
**Note:** Some data may be scaled based on tests of similar but not identical luminaires.

# RFL RoadFocus LED Off Road (large)

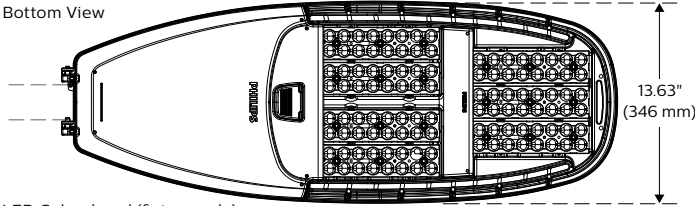
## Roadway

### Dimensions

Side View



Bottom View



LED Cobra head (fixture only)

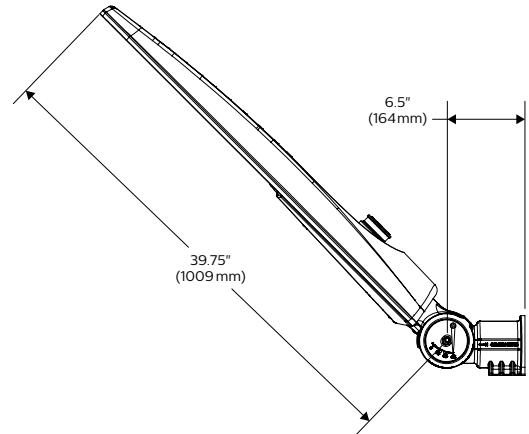
Weight: 27.3 Lbs

EPA: 0.92 sq. ft.

Effective Projected Area (EPA-ft<sup>2</sup>)

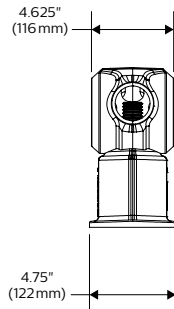
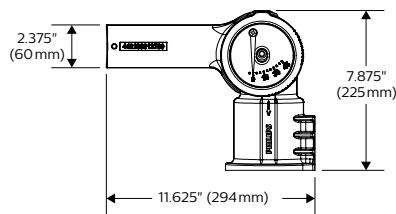
	0° Aim	45° Aim	Weight
RFL + Adaptor	1.24	3.16	33.6 lb

Side View: Off road configuration (shown on KAH3)

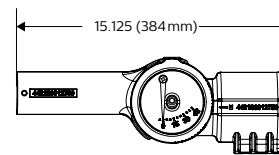


### Adaptors

KAV3



KAH3



Adaptors  
Weight: 6.3 lb

## Specifications

### Housing

Made of a low copper die cast Aluminum alloy (A360), 0.100" (2.5mm) minimum thickness. Fits on a 1.66" (42mm) O.D. (1.25" NPS), 1.9" (48mm) O.D. (1.5" NPS) or 2 3/8" (60mm) O.D. (2" NPS) by 5 1/2" (140mm) minimum long tenon. Comes with 2 zinc plated clamps fixed by 4 zinc plated hexagonal bolts 3/8 16 UNC for ease of installation. Provides an easy step adjustment of +/- 5° tilt in 2.5° increments. Includes integral bubble level standard (always included). A quick release, tool less entry, single latch, hinged, removable door opens downward to provide access to electronic components and to a terminal block. Door is secured to prevent accidental dropping or disengagement. A clearance of 13" (330mm) at the rear is required in order to remove the door. Complete with a bird guard protecting against birds and similar intruders and an ANSI label as per C136.15-2015 to identify wattage and source (both included in box). Housing (including electrical compartment) rated IP54 per ANSI C136.37.

### Light Engine

Composed of 4 main components: LED Module / Optical System / Heat Sink / Driver.

Electrical components are RoHS compliant, IP66 sealed light engine LEDs tested by ISO 17025-2005 accredited lab in accordance with IESNA LM-80 guidelines in compliance with EPA ENERGY STAR, extrapolations in accordance with IESNA TM-21. Metal core board ensures greater heat transfer and longer lifespan.

**LED Module:** Composed of high-performance white LEDs. Color temperature as per ANSI/NEMA bin 2700 Kelvin nominal (2725 ±145K) CRI 80 min, 3000 Kelvin nominal (3045K +/- 175K) or 4000 Kelvin nominal (3985K +/- 275K), CRI 70 Min, 75 Typical. Other CCT/CRI also available, consult factory.

**Optical System:** Composed of high performance UV stabilized optical grade polymer refractor lenses to achieve desired distribution optimized to get maximum spacing, target lumens and a superior lighting uniformity. System is rated IP66. Performance shall be tested per LM-63, LM-79 and TM-15 (IESNA) certifying its photometric performance. 0% uplight and UO per IESNA TM-15.

**Heat Sink:** Built in the housing, designed to ensure high efficacy and superior cooling by natural vertical convection air flow pattern always close to LEDs and driver optimising their efficiency and life. Product does not use any cooling device with moving parts (only passive cooling). Wide openings enable natural cleaning and removal of dirt and debris. Entire luminaire is rated for operation in ambient temperature of -40°C / -40°F up to +40°C / +104°F.

**Driver:** High power factor of 90% min. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277 or 347 to 480 VAC rated for both application line to line or line to neutral, Class I, THD of 20% max. 1 driver (64 LED); 2 drivers (all others).

**DMG:** Dimming compatible 0-10 volts. The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction. Standard built in driver surge protection of 2.5kV (min).

# RFL RoadFocus LED Off Road (large)

## Roadway

### Specifications (continued)

#### Integrated Features

**DMG:** Dimmable driver 0-10V.

**RCDD7\*:** Tool less receptacle with 7 pins enabling dimming and additional functionality (to be determined), can be used with a twist lock Interact City node or photoelectric cell or a shorting cap.

**SP1:** Surge protection device tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with DOE MSSLC Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High test level 10kV/10kA.

*Please note that these integrated features always come with RoadFocus luminaire.*

*\* Use of photoelectric cell or shorting cap is required to ensure proper illumination.*

#### Driver and Luminaire Options

**DALI:** Pre-set driver compatible with the DALI control system.

**SRD:** Sensor Ready Driver including SR communication (used for dimming and other functionalities), 24V auxiliary supply and a logical signal input (LSI) connected to the top NEMA twist lock receptacle and bottom TLRSR receptacle, if this option included/ chosen. This configuration is compatible with Interact City controllers.

**SRD1:** Sensor Ready Driver including SR communication (used for dimming and other functionalities) but with 24V auxiliary supply and a logical signal input (LSI) not connected to the top NEMA twist lock. If TLRSR receptacle option included, standard SR communication, 24V auxiliary supply and LSI are connected to the TLRSR receptacle.

**FAWS:** Field Adjustable Wattage Selector, pre-set to the highest position, can be easily switched in the field to the required position. This reduces total luminaire wattage consumption and reduces the light level – see the FAWS multiplier chart for more details.

*Note: It is not recommended to use FAWS with other dimming or controls; if you do, set the switch to position 10 (maximum output) to enable the other dimming or controls. Switching FAWS to any position other than 10 will disable the other dimming or controls.*

**SP2:** 20kV / 10kA surge protection device that provides extra protection beyond the SP1 10kV/10kA level.

**NRC:** No Receptacle. Fixture is shipped with a cap instead of a receptacle.

**NYBC:** 4-position terminal block

**RCDD\*:** Tool less receptacle with 5 pins enabling dimming, can be used with a twist lock Interact City or photoelectric cell or a shorting cap.

**TLRSR:** SR Sensor connector, installed in fixture door. Shipped with protective cover.

**HS:** House side shield, 1 per 16 LED light engine.

**PH8:** Twist-lock Photoelectric Cell, UNV (120-277VAC).

**PH8/347:** Twist-lock Photoelectric Cell, HVU (347VAC).

**PH8/480:** Twist-lock Photoelectric Cell, HVU (480VAC).

**PHXL:** Twist-lock Photoelectric Cell, extended life, UNV (120-277VAC).

**PH9:** Shorting cap.

**API:** Factory Installed NEMA label, ANSI C136.15-2015 compliant. Consult factory for other labeling needs.

*\* Use of photoelectric cell or shorting cap is required to ensure proper illumination.*

#### Luminaire Useful Life

Refer to IES files for energy consumption and delivered lumens for each option. Based on ISTMT in situ thermal testing in accordance with UL1598 and UL8750, System Reliability Tool, Advance data and LED manufacturer LM-80/TM-21 data, expected to reach 100,000 + hours with >L70 lumen maintenance @ 25°C. Luminaire Useful Life accounts for LED lumen maintenance AND all of these additional factors including: LED life, driver life, PCB substrate, solder joints, on/off cycles, burning hours and corrosion.

#### Wiring

The connection of the luminaire is done using a terminal block connector 600V, 85A for use with #2 14 AWG. wires from the primary circuit, located inside the housing. Due to the inrush current that occurs with electronic drivers, recommend using a 10Amp time-delay fuse to avoid unwanted fuse blowing (false tripping) that can occur with normal or fast acting fuses.

#### Hardware

All exposed screws shall be complete with Ceramic primer seal to reduce seizing of the parts, also offers a high resistance to corrosion. All seals and sealing devices are made and/or lined with EPDM and/or silicone and/or rubber.

#### Adaptor

**KAV3:** Knuckle adaptor for vertical post. Design to fit on a 2-3/8" (60mm) to 3" (76mm) outside diameter by 4" (102mm) long tenon. Field adjustable for a 0° to 45° angle. (See detail drawing).

**KAH3:** Knuckle adaptor for horizontal tenon. Design to fit on a 2-3/8" (60mm) to 3" (76mm) outside diameter by 4" (102mm) long tenon. Field adjustable for a 0° to 45° angle. (See detail drawing).

#### Finish

Color in accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with ± 1 mils/24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard.

The surface treatment achieves a minimum of 3000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard.

#### LED products manufacturing standard

The electronic components sensitive to electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with IEC61340-5-1 and ANSI/ESD S20.20 standards so as to eliminate ESD events that could decrease the useful life of the product.

#### Vibration Resistance

The RFL Off-road and adaptor assembly meets the ANSI C136.31, American National Standard for Roadway Luminaire Vibration specifications for Bridge/overpass applications. (Tested for 3G over 100,000 cycles)

#### Certifications and Compliance

cULus Listed for Canada and USA. Luminaire meets DOE and MSSLC Model Specification for LED Roadway Luminaires. Most versions of RoadFocus LED Cobrahead luminaires are DesignLights Consortium qualified, consult DLC QPL to confirm your specific fixture selection is approved. CCTs 3000K and warmer are Dark Sky Approved. Luminaire complies with or exceeds the following ANSI C136 standards: .2, .3, .10, .14, .15, .22, .25, .31, .37, .41.

#### Service Tag

Each individual luminaire is uniquely identifiable, thanks to the Service tag application. With a simple scan of a QR code, placed on the inside of the mast door, you gain instant access to the luminaire configuration, making installation and maintenance operations faster and easier, no matter what stage of the luminaire's lifetime. Just download the APP and register your product right away.

For more details visit: [signify.com/servicetag](http://signify.com/servicetag)

#### Limited Warranty

10-year limited warranty. See [signify.com/warranties](http://signify.com/warranties) for details and restrictions.

#### Brackets/Arms

For brackets / arms available with this luminaire, see Lumecc 3D for details.

