



Gardco Gullwing LED luminaires combine LED performance excellence and advanced Gardco LED thermal management technology with the distinct Gullwing style to provide outdoor area lighting that is both energy efficient and aesthetically pleasing.

Project: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Cat.No: \_\_\_\_\_  
 Type: \_\_\_\_\_  
 Lamps: \_\_\_\_\_ Qty: \_\_\_\_\_  
 Notes: \_\_\_\_\_

Ordering guide

Example: GL18-APD-4-80LA-4853-NW-120-BRP-LF

Prefix	Controls	Mounting	Optical System <sup>5</sup>	Wattage	LED Color	Voltage	Finish	Options		
<b>GL18</b> 18" Gullwing LED Luminaire	—	--	<b>2</b>	<b>50LA-4835</b>	<b>NW</b>	<b>120</b>	<b>BLP</b>	<b>LF</b> <sup>9</sup>	In-Line/In-Pole Fusing	
	Gullwing Standard Luminaire	Arm Mount (Standard, for square pole)	Type 2	48 LEDs, 350mA	Neutral White 4000K, 70 min. CRI	<b>208</b>	Black Paint	<b>PC</b> <sup>4,5,9</sup>	Photocontrol and Receptacle (Includes PCR5)	
	<b>DIM</b> 0-10V Dimming		<b>2-90</b>	<b>80LA-4853</b>		<b>240</b>	<b>WP</b> White Paint	<b>PCR7</b> <sup>4,5,6</sup>	Photocell Receptacle only with 2 dimming and 2 auxiliary connections	
	<b>APD</b> <sup>1</sup> Automatic Profile Dimming	<b>W</b> Wall Mount, Recessed J-Box (must order as separate line item)	Type 2@90°	<b>2-270</b>	<b>105LA-4870</b>	<b>CW</b> Cool White 5000K, 70 min. CRI	<b>277</b>	<b>BRP</b> Bronze Paint		
	<b>MRI</b> <sup>1</sup> Motion Response at 50% Low (luminaire mounted sensor)		Type 2@270°	<b>3</b>	<b>160LA-481A</b>		<b>347</b>	<b>NP</b> Natural Aluminum Paint	<b>IS</b>	Internal Houseside Shield (types 2, 3, 4 only)
	<b>APD-MRI</b> <sup>1</sup> APD with Motion Response Override (luminaire mounted sensor)		Type 3	<b>3-90</b>	<b>180LA-6490</b>	<b>WW</b> Warm White 3000K, 70 min. CRI	<b>480</b>	<b>OC</b> Optional Color Specify optional color or RAL ex: OC-LGP or OC-RAL7024.	<b>RPA1</b> <sup>8</sup>	3" Round Pole Adapter Required for 3" O.D. round or tapered round poles where top O.D. is less than 4"
	<b>FAWS</b> <sup>3</sup> Field Adjustable Wattage Selector	<b>WS</b> Wall Mount, Surface Conduit (must order as separate line item)	Type 3@90°	<b>3-270</b>	<b>210LA-641A</b>		<b>UNV</b> (120-277V)	<b>SC</b> Special Color Specify. Must supply color chip. Requires factory quote.	<b>RPA2</b> <sup>8</sup>	4" and 5" Round Pole Adapter Required for 4"- 5" O.D. round poles
			Type 3@270°	<b>4</b>	<b>200LA-9670</b>		<b>HVU</b> (347-480V)		<b>PTF2</b> <sup>7</sup>	Pole Top Fitter 2 3/8" - 3" Dia. Tenon
			Type 4	<b>4-90</b>	<b>230LA-9680</b>				<b>PTF3</b> <sup>7</sup>	Pole Top Fitter 3" - 3 1/2" Dia. Tenon
			Type 4@90°	<b>4-270</b>	<b>265LA-9690</b>				<b>PTF4</b> <sup>7</sup>	Pole Top Fitter 3 1/2" - 4" Dia. Tenon
			Type 4@270°	<b>5</b>	<b>310LA-961A</b>					
			Type 5		96 LEDs, 1A					

1. Available 120-277V only.  
 2. Available 120 or 277V only.  
 3. Not available with other control options.  
 4. Not available in 480V.  
 5. If ordered with DIM, APD, MRI, APD-MRI, dimming will not be connected to NEMA receptacle.

6. Works with 3-pin or 5-pin NEMA photocell/dimming device and auxiliary connections are not connected (for future use only).  
 7. Not available in 120° mounting configurations.  
 8. Ordered separately as an accessory.  
 9. Must specify voltage.

# GL18 Gullwing LED area luminaire, large

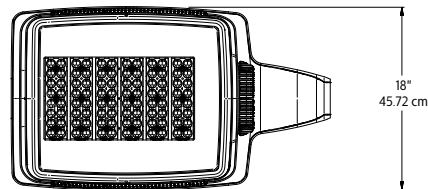
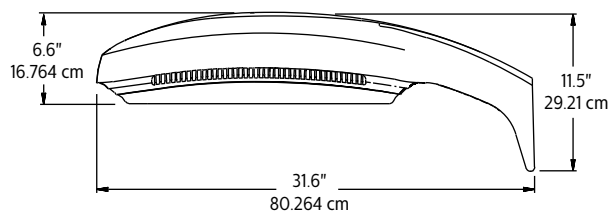
## Site and Area

### Ordering guide

Prefix	Controls	Optical System <sup>o</sup>	Wattage	LED Color	Voltage	Finish	Options
GL18-RK 18" Gullwing LED Retrofit Kit	DIM with 0-10v Dimming APD <sup>1</sup> with Automatic Profile Dimming	2 Type 2	50LA-4835 48 LEDs, 350mA	NW Neutral White 4000K, 70 min. CRI	120	BLP Black Paint	IS Internal Houseside Shield (types 2, 3, 4 only)
		2-90 Type 2@90°	80LA-4853 48 LEDs, 530mA	CW Cool White 5000K, 70 min. CRI	208	WP White Paint	
		2-270 Type 2@270°	105LA-4870 48 LEDs, 700mA	WW Warm White 3000K, 70 min. CRI	240	BRP Bronze Paint	
		3 Type 3	160LA-481A 48 LEDs, 1A	UNV Warm White 3000K, 70 min. CRI	277	NP Natural Aluminum Paint	
		3-90 Type 3@90°	180LA-6490 64 LEDs, 900mA	HVU (347-480V)	347	OC Optional Color Specify optional color or RAL ex: OC-LGP or OC- RAL7024.	
		3-270 Type 3@270°	210LA-641A 64 LEDs, 1A	SC Special Color Specify. Must supply color chip. Requires factory quote.	480		
		4 Type 4	200LA-9670 96 LEDs, 700mA		UNV (120-277V)		
		4-90 Type 4@90°	230LA-9680 96 LEDs, 800mA		HVU (347-480V)		
		4-270 Type 4@270°	265LA-9690 96 LEDs, 900 mA				
		5 Type 5	310LA-961A 96 LEDs, 1A				

1. Available 120-277V only.

### Dimensions and EPA



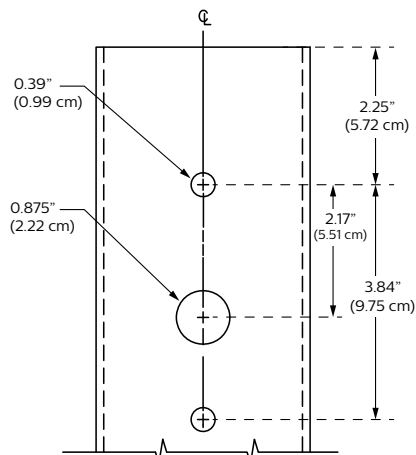
#### EPA Data

1	2	3-4
1.2 ft <sup>2</sup>	2.4 ft <sup>2</sup>	3.2 ft <sup>2</sup>
.12 m <sup>2</sup>	.24 m <sup>2</sup>	.30 m <sup>2</sup>

#### Approximate Weight Single Luminaire

40 lbs / 18.144 kg

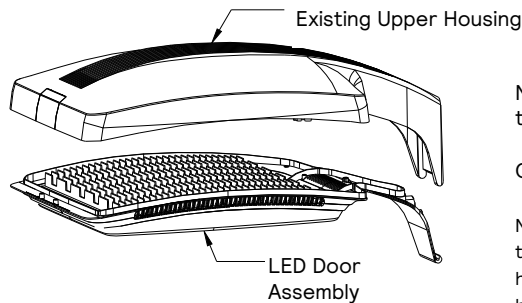
### GL18 Drill Template



# GL18 Gullwing LED area luminaire, large

## Site and Area

### GL18-RK LED Retrofit Kit



Note: Removal of all components of existing G18 Gullwing luminaires, except the upper housing, is required to perform a retrofit.

GL18-RK includes all necessary retrofit components.

Note: TGIC polyester powdercoat will fade somewhat in exterior environments over time. Once the retrofit kit is installed, there is a possibility that the upper housing may have faded to a point where there is a noticeable paint difference between the upper housing (existing) and the new retrofit kit door frame.

### LED Wattage and Lumen Value - 3000K

Ordering Code	LED QTY	System Current (mA)	Average System Watts	Color Temp.	Type 2			Type 3		
					Lumen Output	Efficacy (Lm/W)	BUG Rating	Lumen Output	Efficacy (Lm/W)	BUG Rating
GL18-x-50LA-4835-WW	48	350	50	3000K	6638	133	B2-U0-G1	6106	122	B1-U0-G2
GL18-x-80LA-4853-WW	48	530	80	3000K	9570	120	B2-U0-G1	8802	110	B2-U0-G2
GL18-x-105LA-4870-WW	48	700	105	3000K	12139	116	B3-U0-G2	11171	106	B2-U0-G2
GL18-x-160LA-481A-WW	48	1050	160	3000K	16471	103	B3-U0-G2	15142	94	B2-U0-G3
GL18-x-180LA-6490-WW	64	900	180	3000K	19022	106	B3-U0-G2	17846	99	B3-U0-G3
GL18-x-210LA-641A-WW	64	1050	208	3000K	21349	102	B3-U0-G2	20016	96	B3-U0-G3
GL18-x-200LA-9670-WW	96	700	200	3000K	23713	119	B3-U0-G2	21704	109	B3-U0-G3
GL18-x-230LA-9680-WW	96	800	230	3000K	26191	114	B3-U0-G2	23986	104	B3-U0-G4
GL18-x-265LA-9690-WW	96	900	265	3000K	28669	108	B4-U0-G3	26246	99	B3-U0-G4
GL18-x-310LA-961A-WW	96	1050	309	3000K	31366	101	B4-U0-G3	28705	93	B3-U0-G4
Ordering Code	LED QTY	System Current (mA)	Average System Watts	Color Temp.	Type 4			Type 5		
					Lumen Output	Efficacy (Lm/W)	BUG Rating	Lumen Output	Efficacy (Lm/W)	BUG Rating
GL18-x-50LA-4835-WW	48	350	50	3000K	6300	126	B1-U0-G2	6628	133	B3-U0-G1
GL18-x-80LA-4853-WW	48	530	80	3000K	9083	114	B2-U0-G2	9555	119	B3-U0-G2
GL18-x-105LA-4870-WW	48	700	105	3000K	11521	110	B2-U0-G2	12121	115	B4-U0-G2
GL18-x-160LA-481A-WW	48	1050	160	3000K	15633	98	B2-U0-G3	16446	103	B4-U0-G2
GL18-x-180LA-6490-WW	64	900	180	3000K	17943	100	B3-U0-G3	19213	107	B4-U0-G2
GL18-x-210LA-641A-WW	64	1050	208	3000K	20139	97	B3-U0-G4	21564	104	B4-U0-G2
GL18-x-200LA-9670-WW	96	700	200	3000K	22136	111	B3-U0-G4	23847	119	B5-U0-G3
GL18-x-230LA-9680-WW	96	800	230	3000K	24449	106	B3-U0-G4	26339	115	B5-U0-G3
GL18-x-265LA-9690-WW	96	900	265	3000K	26762	101	B3-U0-G4	28830	109	B5-U0-G3
GL18-x-310LA-961A-WW	96	1050	309	3000K	29280	95	B3-U0-G4	31543	102	B5-U0-G3
Ordering Code	LED QTY	System Current (mA)	Average System Watts	Color Temp.	Type 2			Type 3		
					Lumen Output	Efficacy (Lm/W)	BUG Rating	Lumen Output	Efficacy (Lm/W)	BUG Rating
GL18-x-50LA-4835-NW	48	350	50	4000K	7376	148	B2-U0-G1	6784	136	B1-U0-G2
GL18-x-80LA-4853-NW	48	530	80	4000K	10,633	133	B2-U0-G2	9780	122	B2-U0-G2
GL18-x-105LA-4870-NW	48	700	105	4000K	13,488	128	B3-U0-G2	12412	118	B2-U0-G2
GL18-x-160LA-481A-NW	48	1050	160	4000K	18,302	114	B3-U0-G2	16824	105	B3-U0-G3
GL18-x-180LA-6490-NW	64	900	180	4000K	21,135	117	B3-U0-G2	19829	110	B3-U0-G3
GL18-x-210LA-641A-NW	64	1050	208	4000K	23,721	114	B3-U0-G2	22240	107	B3-U0-G4
GL18-x-200LA-9670-NW	96	700	200	4000K	26,347	132	B3-U0-G2	24115	121	B3-U0-G4
GL18-x-230LA-9680-NW	96	800	230	4000K	29,101	127	B4-U0-G3	26651	116	B3-U0-G4
GL18-x-265LA-9690-NW	96	900	265	4000K	31,854	120	B4-U0-G3	29162	110	B3-U0-G4
GL18-x-310LA-961A-NW	96	1050	309	4000K	34,851	113	B4-U0-G3	31894	103	B3-U0-G4

# GL18 Gullwing LED area luminaire, large

## Site and Area

### LED Wattage and Lumen Value - 4000K (continued)

Ordering Code	LED QTY	System Current (mA)	Average System Watts	Color Temp.	Type 4			Type 5		
					Lumen Output	Efficacy (Lm/W)	BUG Rating	Lumen Output	Efficacy (Lm/W)	BUG Rating
GL18-x-50LA-4835-NW	48	350	50	4000K	7000	140	B1-U0-G2	7364	147	B3-U0-G1
GL18-x-80LA-4853-NW	48	530	80	4000K	10092	126	B2-U0-G2	10617	133	B4-U0-G2
GL18-x-105LA-4870-NW	48	700	105	4000K	12802	122	B2-U0-G2	13467	128	B4-U0-G2
GL18-x-160LA-481A-NW	48	1050	160	4000K	17370	108	B3-U0-G3	18273	114	B4-U0-G2
GL18-x-180LA-6490-NW	64	900	180	4000K	19937	111	B3-U0-G3	21348	119	B4-U0-G2
GL18-x-210LA-641A-NW	64	1050	208	4000K	22376	107	B3-U0-G4	23960	115	B5-U0-G3
GL18-x-200LA-9670-NW	96	700	200	4000K	24595	123	B3-U0-G4	26496	132	B5-U0-G3
GL18-x-230LA-9680-NW	96	800	230	4000K	27165	118	B3-U0-G4	29265	127	B5-U0-G3
GL18-x-265LA-9690-NW	96	900	265	4000K	29735	112	B3-U0-G4	32034	121	B5-U0-G3
GL18-x-310LA-961A-NW	96	1050	309	4000K	32533	105	B3-U0-G4	35048	113	B5-U0-G4

Ordering Code	LED QTY	System Current (mA)	Average System Watts	Color Temp.	Type 2			Type 3		
					Lumen Output	Efficacy (Lm/W)	BUG Rating	Lumen Output	Efficacy (Lm/W)	BUG Rating
GL18-x-50LA-4835-CW	48	350	50	5000K	6638	133	B2-U0-G1	6106	122	B1-U0-G2
GL18-x-80LA-4853-CW	48	530	80	5000K	9570	120	B2-U0-G1	8802	110	B2-U0-G2
GL18-x-105LA-4870-CW	48	700	105	5000K	12139	116	B3-U0-G2	11171	106	B2-U0-G2
GL18-x-160LA-481A-CW	48	1050	160	5000K	16471	103	B3-U0-G2	15142	94	B2-U0-G3
GL18-x-180LA-6490-CW	64	900	180	5000K	19022	106	B3-U0-G2	17846	99	B3-U0-G3
GL18-x-210LA-641A-CW	64	1050	208	5000K	21349	102	B3-U0-G2	20016	96	B3-U0-G3
GL18-x-200LA-9670-CW	96	700	200	5000K	23713	119	B3-U0-G2	21704	109	B3-U0-G3
GL18-x-230LA-9680-CW	96	800	230	5000K	26191	114	B3-U0-G2	23986	104	B3-U0-G4
GL18-x-265LA-9690-CW	96	900	265	5000K	28669	108	B4-U0-G3	26246	99	B3-U0-G4
GL18-x-310LA-961A-CW	96	1050	309	5000K	31366	101	B4-U0-G3	28705	93	B3-U0-G4

Ordering Code	LED QTY	System Current (mA)	Average System Watts	Color Temp.	Type 4			Type 5		
					Lumen Output	Efficacy (Lm/W)	BUG Rating	Lumen Output	Efficacy (Lm/W)	BUG Rating
GL18-x-50LA-4835-CW	48	350	50	5000K	6300	126	B1-U0-G2	6628	133	B3-U0-G1
GL18-x-80LA-4853-CW	48	530	80	5000K	9083	114	B2-U0-G2	9555	119	B3-U0-G2
GL18-x-105LA-4870-CW	48	700	105	5000K	11521	110	B2-U0-G2	12121	115	B4-U0-G2
GL18-x-160LA-481A-CW	48	1050	160	5000K	15633	98	B2-U0-G3	16446	103	B4-U0-G2
GL18-x-180LA-6490-CW	64	900	180	5000K	17943	100	B3-U0-G3	19213	107	B4-U0-G2
GL18-x-210LA-641A-CW	64	1050	208	5000K	20139	97	B3-U0-G4	21564	104	B4-U0-G2
GL18-x-200LA-9670-CW	96	700	200	5000K	22136	111	B3-U0-G4	23847	119	B5-U0-G3
GL18-x-230LA-9680-CW	96	800	230	5000K	24449	106	B3-U0-G4	26339	115	B5-U0-G3
GL18-x-265LA-9690-CW	96	900	265	5000K	26762	101	B3-U0-G4	28830	109	B5-U0-G3
GL18-x-310LA-961A-CW	96	1050	309	5000K	29280	95	B3-U0-G4	31543	102	B5-U0-G3

Values from photometric tests performed in accordance with IESNA LM-79 and are representative of the configurations shown.

Actual performance may vary due to installation and environmental variables, LED and driver tolerances, and field measurement considerations. It is highly recommended to confirm performance with a photometric layout.

NOTE: Some data may be scaled based on tests of similar (but not identical) luminaires. Contact factory for configurations not shown.

### Predicted lumen depreciation data:

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

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. L70 is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L70 hours limited to 6 times actual LED test hours

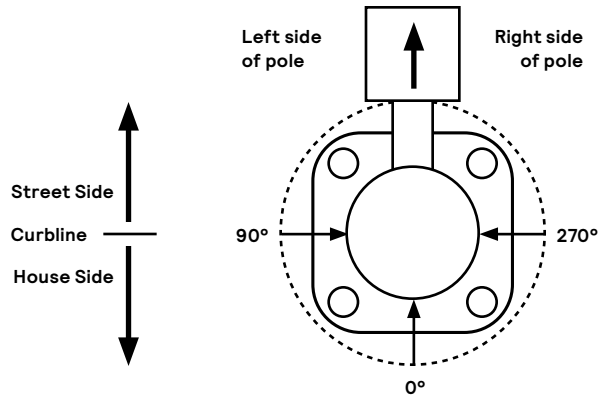
# GL18 Gullwing LED area luminaire, large

## Site and Area

### Asymmetric Optical Orientation Information

#### Standard Optic Position

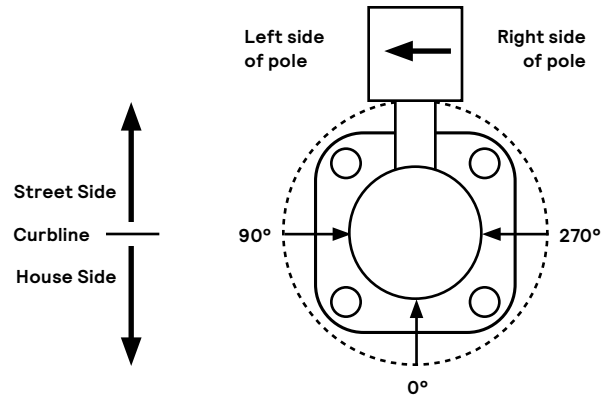
Luminaires ordered with asymmetric optical systems in the standard optic position will have the optical system oriented as shown below:



Note: The hand hole will normally be located on the pole at the 0° point.

#### Optic Rotated Left (90°) Optic Position

Luminaires ordered with asymmetric optical systems in the Optic Rotated Left (90°) optic position will have the optical system oriented as shown below:

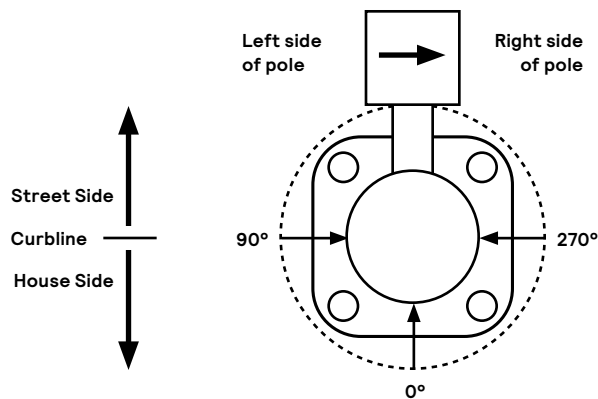


Note: The hand hole will normally be located on the pole at the 0° point.

### Asymmetric Optical Orientation Information

#### Optic Rotated Right (270°) Optic Position:

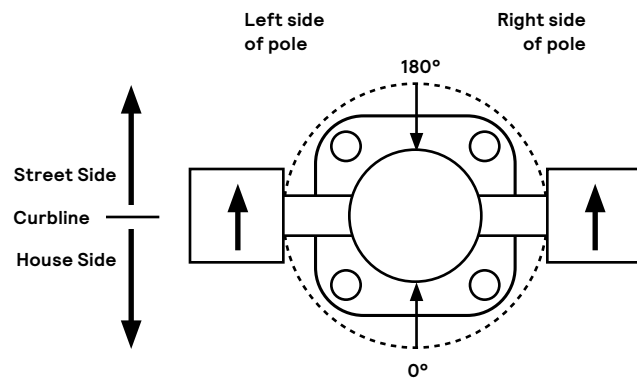
Luminaires ordered with asymmetric optical systems in the Optic Rotated Right (270°) optic position will have the optical system oriented as shown below:



Note: The hand hole will normally be located on the pole at the 0° point.

#### Twin Luminaire Assemblies With Rotated Optical Systems

Twin luminaire assemblies installed with rotated optical systems are an excellent way to direct light toward the interior of the site (Street Side) without additional equipment. It is important, however, that care be exercised to insure that luminaires are installed in the proper location.



Luminaires with Optic Rotated Right (270°) are installed on the LEFT Side of Pole

Luminaires with Optic Rotated Left (90°) are installed on the RIGHT Side of Pole

Note: The hand hole location will depend on the drilling configuration ordered for the pole.

# GL18 Gullwing LED area luminaire, large

## Site and Area

### Specifications

#### General Description

The Gardco Gullwing LED is defined by its high performance, sleek profile and rugged construction. Gullwing LED luminaires combine LED performance excellence and advanced Gardco LED thermal management technology with the distinct Gullwing style to provide outdoor area lighting that is both energy efficient and aesthetically pleasing.

#### Housing

A one-piece die cast aluminum housing mounts directly to a pole or wall without the need for a support arm. The low profile rounded form reduces the effective projected area of the luminaire to only 1.2 ft<sup>2</sup> / .12 m<sup>2</sup>.

#### IP Rating

Gullwing LED 18" optics are IP66 rated.

#### Thermal Management

The Gardco Gullwing LED provides a one piece die cast aluminum door with integral thermal radiation fins combined with lateral air ways, to provide the excellent thermal management so critical to long LED system life. GL18 is UL listed from -40 to 40°C ambient.

#### LED Optical System

LED arrays are set to achieve IES Type II, Type III, Type IV, Type V, available with internal shields for back light control. Type 2, 3, 4 optics can be factory set to 90 or 270° orientations. Individual LED arrays are replaceable. Luminaires feature high performance Class 1 LED systems.

#### GL18

Gardco Gullwing LED standard luminaire providing constant wattage and constant light output when power to the luminaire is energized.

#### GL18-DIM

Gardco Gullwing LED luminaire provided with 0-10V dimming for connection to a control system provided by others.

#### GL18-APD

Gardco Gullwing LED luminaire with Automatic Profile Dimming. Luminaire is provided with a programmable LED Driver, programmed to go to 50% power, 50% light output two (2) hours prior to night time mid-point and remain at 50% for six (6) hours after night time mid-point. Mid-point is continuously recalculated by the programmable LED Driver based on the average mid-point of the last two full night cycles. Short duration cycles, and power interruptions are ignored and do not affect the determination of mid-point.

#### GL18-APD Dimming Profile:

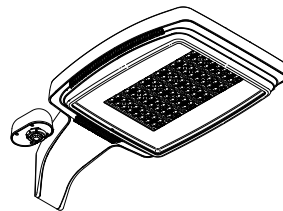
100%	2 hours	6 hours	100%
	50%	50%	

Power On                      Mid Point                      Power Off

The GL18-APD offers many of the advantages of a sophisticated control system, including an average energy savings of at least 33% versus constant wattage, constant light output systems, without the need for a control system.

#### GL18-MRI (Luminaire mounted sensor)

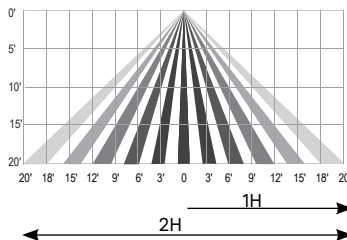
Luminaires with Motion Response and an integral



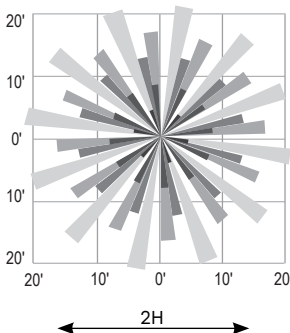
motion sensor include a programmable LED driver and an outboarded programmable motion sensor attached to the luminaire arm. The motion sensor is set to a constant 50%. When motion is detected, the luminaire goes to 100%. The luminaire remains on high until no motion is detected for the motion sensor duration period, after which the luminaire returns to low. Duration period is factory set at 5 minutes. Available from 120V to 277V (UNIV) only.

The approximate motion sensor coverage pattern is as shown below.

Side Coverage Pattern



Top Coverage Pattern

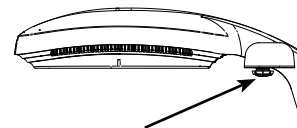


Distances are approximate.  
H = height above ground

#### GL18-APD- MRI (Luminaire mounted sensor)

Luminaires with Integral Motion Sensor - GL18-APD- MRI: Luminaires with Automatic Profile Dimming and Motion Response Override combine the benefits of both automatic profile dimming and motion response. APD-MRI luminaires utilize a programmable LED driver. The luminaire will dim to 50% power, 50% light output, per the dimming profile shown for APD luminaires (see page 4). If motion is detected during the time that the luminaire is operating at 50%, the luminaire goes to 100% power and light output. The luminaire remains on high until no motion is detected for the duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes.

APD-MRI luminaires are available from 120V to 277V (UNIV) input voltages only.



Approximate Sensor Placement on GL18-MRI and GL18-APD-MRI luminaires.

#### Sensor - Bottom View

#### Field Adjustable Wattage Selector (FAWS):

Luminaire equipped with the ability to manually adjust the wattage in the field to reduce total luminaire lumen output and light levels. Comes pre-set to the highest position at the lumen output selected. Use chart below to estimate reduction in lumen output desired. Cannot be used with other control options or motion response.

FAWS Position	Percentage of Typical Lumen Output
1	25%
2	50%
3	55%
4	65%
5	75%
6	80%
7	85%
8	90%
9	95%
10	100%

# GL18 Gullwing LED area luminaire, large

## Site and Area

### Electrical

Luminaires are equipped with an LED driver that accepts 120V through 277V, or 347V through 480V, 50hz to 60hz, input. Driver output is based on the LED wattage selected. Component-to-component wiring within the luminaire will carry no more than 80% of rated current and is listed by UL. Power factor is not less than 90%. Luminaire consumes 0.0 watts in the off state. All motion sensors utilized consume 0.0 watts in the off state. Surge protector standard. 10KA per ANSI/IEEE C62.41.2.

### Finish

Each standard color luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish. Standard colors include bronze (BRP), black (BLP), white (WP), and 5 natural aluminum (NP). Consult factory for specs on optional or custom colors.

### Labels

All luminaires bear UL or CUL (where applicable) Wet Location labels. Most GL18 configurations are qualified under Standard DesignLights Consortium® category. Consult DLC Qualified Products list to confirm your specific luminaire selection is approved.

Declare label certified, ID SGY-0011  
([View full Declare label](#))

### Warranty

Gardco luminaires feature a 5 year limited warranty. Gardco LED luminaires with LED arrays feature a 5 year limited warranty covering the LED arrays. LED Drivers also carry a 5 year limited warranty. Motion sensors are covered by warranty for 5 years by the motion sensor manufacturer. See [signify.com/warranties](https://www.signify.com/warranties) for complete details and exclusions.