GARDCO by signify

Site & Area

SlenderForm

SFRA LED round arm mount

Project:

Location:

Cat.No:

Type:

Lamps: Qty:

Notes:

Gardco SlenderForm luminaires combine LED performance excellence and advanced LED thermal management technology with a distinct styling to provide outdoor area lighting that is both energy efficient and aesthetically pleasing. SlenderForm is defined by its high performance, sleek low profile design and rugged construction.
The advanced LED optical systems provide IES Types II, III, IV and V distributions.
Surge protection included
with all SlenderForm luminaires.

Ordering guide

example: SFRA-APD-1-5W-105LA-6453-NW-UNV-NP

Prefix	Controls	Mounting	Optical System[6]	Wattage	LED Temp	Voltage[9]	Finish	Options
SFRA –	–	–	–	–	–	–	–	
SFRA- SlenderForm Round Arm Mount luminaire (mounts to a 4" OD pole)	**—** Standard luminaire **DIM** 0-10V Dimming **APD**[1] Automatic Profile Dimming **APD-MRI**[2,3] Auto Profile Dimming with Motion Response Override Luminaire mounted sensor **MRI**[2,3] Motion Response at 50% low, fixture mounted sensor	**1** Standard **2** 2@180 **2@90** 2@90 **3** 3@90 **4** 4@90 **W** Wall Mount **WS** Wall mount including surface conduit. Rear entry permitted.	**Standard Optic Position** **2** Type 2 **3** Type 3 **4** Type 4 **5W** Type 5 Wide **5M** Type 5 Medium **BLC** Backlight Control **2BL** Type 2 with backlight (less shield) **Optic Rotated Left (90°)** **2-90** Type 2 **3-90** Type 3 **4-90** Type 4 **BLC-90** Backlight Ctrl **2BL-90** Type 2 with backlight (less shield) **LCL**[4] LEED Corner Left **Optic Rotated Right (270°)** **2-270** Type 2 **3-270** Type 3 **4-270** Type 4 **BLC-270** Backlight Ctrl **2BL-270** Type 2 with backlight (less shield) **LCR**[4] LEED Corner Right	**150 mA** **25LA-4815** **350 mA** **55LA-4835**[1] **70LA-6435** **90LA-8035** **530 mA** **80LA-4853** **105LA-6453** **130LA-8053** **700mA** **110LA-4870** **140LA-6470**	**NW** Neutral White 4,000K 70CRI (nominal) **WW**[5] Warm White 3,000K 70CRI (nominal)	**120** 120V **208** 208V **240** 240V **277** 277V **347** 347V **480** 480V **UNV** 120-277V 50hz/60hz **HVU** 347-480V 50hz/60hz	**BRP** Bronze Paint **BLP** Black Paint **WP** White Paint **NP** Natural Paint **OC** Optional Color Specify optional color or RAL (ex: RAL7024) **SC** Special color Specify, must supply color chip. Requires factory quote.	**LF**[6] Line Fusing **LFC**[6] Line Fusing for Canada **PC**[6,7] Photocell with Receptacle (Includes PCR5 receptacle) **PCB**[6,7] Photocell Button **PCR5**[8,9] Photocell Receptacle only with 2 dimming connections **PCR7**[9,10] Photocell Receptacle only with 2 dimming and 2 auxiliary connections **SPA** Square Pole Adapter **DL**[10] Diffusing Lens **CLR**[10] Clear Glass Lens

1. Available 120V–277V only.
2. Available 120V or 277V only.
3. MRI and APD-MRI luminaires include an integral motion sensor.
4. Available with 90LA-6435 and 130LA-8053 only.
5. Consult factory for lead times.
6. Must specify input voltage with LF, LFC, PC, and PCB options.
7. Not available in 480V. Provide specific input voltage.
8. Works with 3-pin or 5-pin NEMA photocell/dimming device.
9. If ordered with DIM, APD, MRI, APD-MRI, dimming will not be connected to NEMA receptacle.
10. Works with 3-pin or 5-pin NEMA photocell/dimming device and auxiliary connections are not connected (for future use only)
11. Reduces performance

SFRA SlenderForm LED luminaire

Round arm mount

SlenderForm Accessories (order separately)

FS1R-100

MR hand held programmer

For use with 'MRI' motion response when field programming is required. For use with MRI and APD-MRI only. If desired, only one is needed per job.

PTF2-(F)

Pole top fitter

Fits 2 3/8-2 1/2" OD x 4" depth tenon with 1, 2, 3 or 4 luminaires at 90°

PTF3-(F)

Pole top fitter

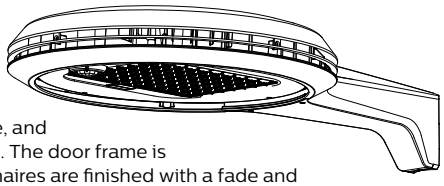
Fits 3-3 1/2" OD x 6" depth tenon with 1, 2, 3 or 4 luminaires at 90°

PTF4-(F)

Pole top fitter

Fits 3 1/2-4" OD x 6" depth tenon with 1, 2, 3 or 4 luminaires at 90°

Description



Gardco SlenderForm luminaires combine LED performance excellence and advanced Gardco LED thermal management technology with a distinct styling to provide outdoor area lighting that is both energy efficient and aesthetically pleasing. SlenderForm is defined by its high performance, sleek low profile design and rugged construction. The die cast aluminum housing has a maximum profile of just 3.67". The advanced LED optical systems provide IES Types II, III, IV and V distributions. All LED wattages utilize high performance Class 1 LED systems. The luminaire features a state of the art integral thermal control system to maximize LED performance and life, and to extend component life. The door frame is die cast aluminum. Luminaires are finished with a fade and abrasion resistant TGIC powdercoat. All SlenderForm luminaires provide full cutoff performance, with 0% lumens at or above 90° above nadir.

Optical System (featuring unitized optic lens construction)

Arm Mount Luminaires (SFRA)								
Optic Type	**Type II**	**Type II** (no backlight)	**Type III**	**Type IV**	**Type V** (Medium)	**Type V** (Wide)	**Backlight Control**	**LEED Corner***
Standard Optic Position	2	2BL	3	4	5M	5W	BLC	See page 7 for information on LCL and LCR orientation
Optic Rotated Left* (90°)	2-90	2BL-90	3-90	4-90	–	–	BLC-90	
Optic Rotated Right* (270°)	2-270	2BL-270	3-270	4-270	–	–	BLC-270	

* See page 6 for details on optic orientation.

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

Ambient Temperature °C	Driver mA	Calculated L_{70} Hours	L_{70} per TM-21	Lumen Maintenance % at 60,000 hrs
40°C	**up to 700mA**	**>200,000 hours**	**>60,000 hours**	**>94%**

SFRA SlenderForm LED luminaire

Round arm mount

LED Wattage and Lumen Values Standard SFRA Luminaires

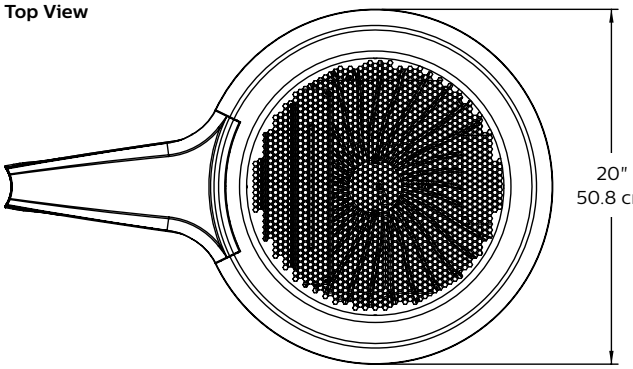
Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type 2			Type 3			Type 4			Type 5M		
					Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating
SFRA-x-25LA-4815-NW	48	150	4000	25	3,423	137	B1-U0-G1	3,328	133	B1-U0-G1	3,157	126	B0-U0-G1	3,684	147	B2-U0-G0
SFRA-x-55LA-4835-NW	48	350	4000	53	7,192	136	B1-U0-G1	6,992	132	B1-U0-G2	6,926	131	B1-U0-G2	7,740	146	B3-U0-G1
SFRA-x-70LA-6435-NW	64	350	4000	69	9,531	138	B2-U0-G2	9,266	134	B1-U0-G2	9,179	133	B1-U0-G2	10,258	149	B3-U0-G1
SFRA-x-90LA-8035-NW	80	350	4000	84	11,639	139	B2-U0-G2	11,315	135	B1-U0-G2	11,208	133	B1-U0-G2	12,525	149	B3-U0-G1
SFRA-x-80LA-4853-NW	48	530	4000	80	10,337	129	B2-U0-G2	10,049	126	B1-U0-G2	9,709	121	B1-U0-G2	11,124	139	B3-U0-G1
SFRA-x-105LA-6453-NW	64	530	4000	105	13,701	130	B2-U0-G2	13,319	127	B1-U0-G2	13,209	126	B1-U0-G2	14,743	140	B4-U0-G1
SFRA-x-130LA-8053-NW	80	530	4000	128	16,728	131	B3-U0-G2	16,262	127	B2-U0-G3	15,929	124	B2-U0-G2	18,001	141	B4-U0-G1
SFRA-x-110LA-4870-NW	48	700	4000	107	12,915	121	B2-U0-G2	12,555	117	B1-U0-G2	12,403	116	B1-U0-G2	13,898	130	B3-U0-G1
SFRA-x-140LA-6470-NW	64	700	4000	140	17,117	122	B3-U0-G2	16,641	119	B2-U0-G3	16,437	117	B2-U0-G3	18,420	132	B4-U0-G1

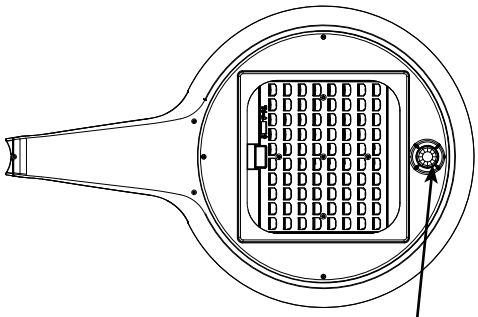
Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type 5W			Type BLC			Type 2BL		
					Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating
SFRA-x-25LA-4815-NW	48	150	4000	25	3,625	145	B2-U0-G1	2,136	85	B0-U0-G0	3,664	147	B2-U0-G2
SFRA-x-55LA-4835-NW	48	350	4000	53	7,589	143	B3-U0-G1	4,490	85	B0-U0-G1	7,697	145	B3-U0-G3
SFRA-x-70LA-6435-NW	64	350	4000	69	10,057	146	B3-U0-G2	5,950	86	B1-U0-G2	10,202	148	B3-U0-G3
SFRA-x-90LA-8035-NW	80	350	4000	84	12,280	146	B4-U0-G2	7,264	86	B1-U0-G2	12,456	148	B3-U0-G3
SFRA-x-80LA-4853-NW	48	530	4000	80	11,175	140	B3-U0-G2	6,453	81	B1-U0-G2	11,064	138	B3-U0-G3
SFRA-x-105LA-6453-NW	64	530	4000	105	14,438	138	B4-U0-G2	8,552	81	B1-U0-G2	14,663	140	B3-U0-G3
SFRA-x-130LA-8053-NW	80	530	4000	128	17,846	139	B4-U0-G2	10,441	82	B1-U0-G2	17,903	140	B4-U0-G4
SFRA-x-110LA-4870-NW	48	700	4000	107	13,665	128	B4-U0-G2	8,061	75	B1-U0-G2	13,821	129	B3-U0-G3
SFRA-x-140LA-6470-NW	64	700	4000	140	18,110	129	B4-U0-G2	10,684	76	B1-U0-G2	18,319	131	B4-U0-G4

Wattage and lumen output may vary due to LED manufacturer forward volt specification and ambient temperature.
Wattage shown is average for 120V through 277V input. Measured wattage may vary due to variation in input voltage.
Lumen values based on photometric tests performed in compliance with IESNA LM-79.

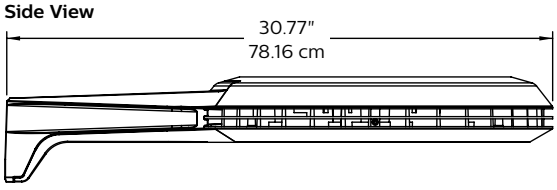
Dimensions – Arm Mount Luminaire (SFRA)

Top View

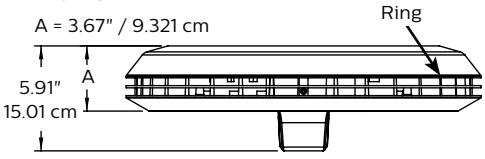




Side View



End View



Approximate Luminaire Weight:
28.1 Lbs (12.75 Kg)

Type	Single	Twin @ 180	3/4
SFRA	0.66 / 0.062	1.32 / 0.123	1.60 / 0.149

SFRA SlenderForm LED luminaire

Round arm mount

Luminaire Configuration Information

SFRA

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

SFRA-DIM

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

SFRA-APD

Gardco SlenderForm 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.

APD is available in 120V – 277V input only.

ECF-APD Dimming Profile:

The SFRA-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. **SFRA-APD- MRI**

Luminaires with Automatic Profile Dimming

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

Power On **Mid Point** **Power Off**

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 5 minutes.

APD-MRI luminaires are available with 120V or 277V input voltages only. APD-MRI luminaires use the identical motion sensor as MRI luminaires. See motion sensor details for SFRA-MRI.See page 3 for approximate motion sensor placement on MRI and APD-MRI luminaires.

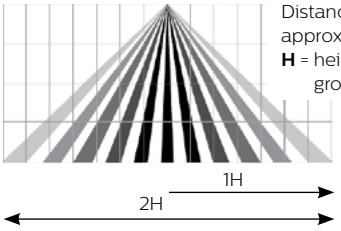
SFRA-MRI

Luminaires with Motion Response and an integral motion sensor include a LED driver and an integral motion sensor. The FSP-211 driver 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 with 120V or 277V input only.

SFRA-MRI luminaires are provided with the WattStopper FSP-211 motion sensor, equipped with an L3-W lens, with a maximum recommended 20 ft. mounting height. The area coverage and range of the integral sensors make them most suitable for applications not requiring long range detection. For longer range detection applications, configurations with pole mounted motion sensors are recommended.

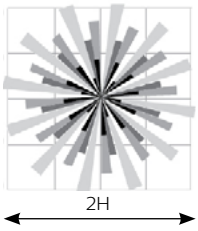
FSP-211-L3W - Supplied with SlenderForm Round MRI Luminaires

Side Coverage Pattern



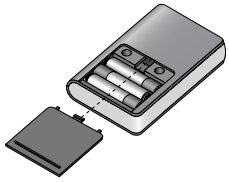
Distances are approximate.
H = height above ground

Top Coverage Pattern



FS1R-100 Wireless Remote Programming Tool

The FS1R-100 Remote Programming Tool accessory permits adjustment of sensor settings, including duration and dimming level on low, without the need to connect any wires to the luminaire. The FSIR-100 Wireless IR Programming Tool is a handheld tool for setup and testing of WattStopper FSP-211. It provides wireless access to the FSP-211 sensors for setup and parameter changes. The FSIR-100 display shows menus and prompts to lead you through each process. The navigation pad provides a familiar way to navigate through the customization fields.

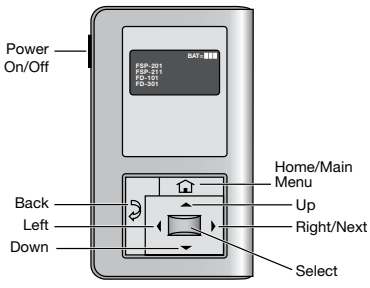


Within a certain mounting height of the sensor, the FSIR-100 allows modification of the system without requiring ladders or tools simply with a touch of a few buttons. The FSIR-100 IR transceiver allows bi-directional communication between the FSP-211 and the FSIR-100 programming tool . Simple menu screens let you see the current status of the system and make changes. It can change FSP-211 sensor parameters such as high/low mode, sensitivity, time delay, cut off and more. With the FSIR-100 you can also establish and store FSP-211 parameter profiles.

The FSIR-100 operates on three standard 1.5V AAA Alkaline batteries or three rechargeable AAA NiMH batteries. The battery status displays in the upper right corner of the display. Three bars next to BAT= indicates a full battery charge. A warning appears on the display when the battery level falls below a minimum acceptable level. To conserve battery power, the FSIR-100 automatically shuts off 10 minutes after the last key press.

You navigate from one field to another using (up) or (down) arrow keys. The active field is indicated by flashing (alternates between yellow text on black background and black text on yellow background.)

Once active, use the Select button to move to a menu or function within the active field. Value fields are used to adjust parameter settings. They are shown in “less-than/greater-than” symbols: <value>. Once active, change them using (left) and (right) arrow keys. In general the up key increments and the down key decrements a value. Selections wrap-around if you continue to press the key beyond maximum or minimum values. Moving away from the value field overwrites the original value. The Home button takes you to the main menu. The Back button can be thought of as an undo function. It takes you back one screen. Changes that were in process prior to pressing the key are lost.



SFRA SlenderForm LED luminaire

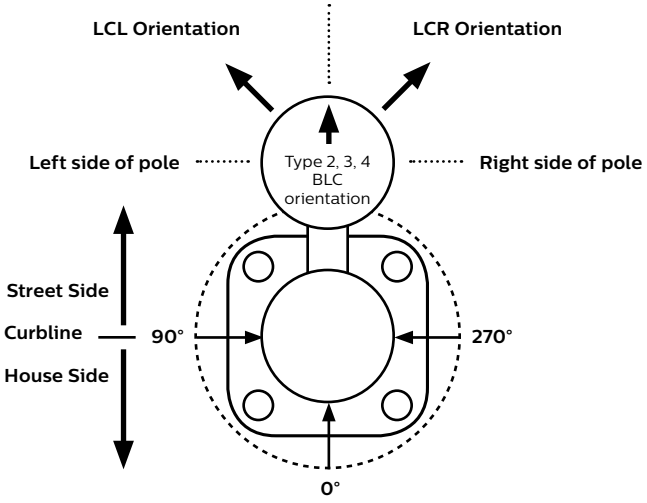
Round arm mount

Asymmetric Optical Orientation Information

Standard Optic Position

Aimed Between The Yoke Supports

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

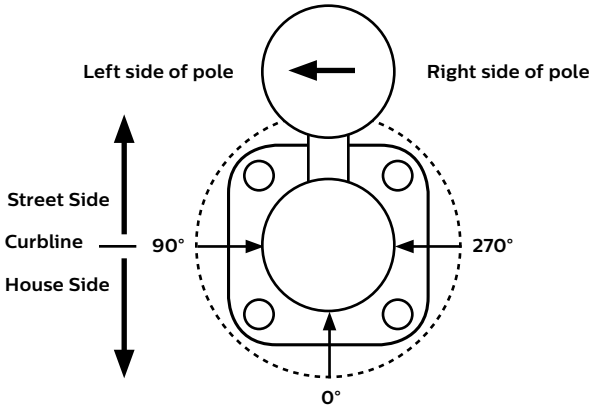


Note: The hand hole will normally be located on the pole at the 0° point.

Optic Rotated Left (90°) Optic Position

Aimed Toward One Yoke Support

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

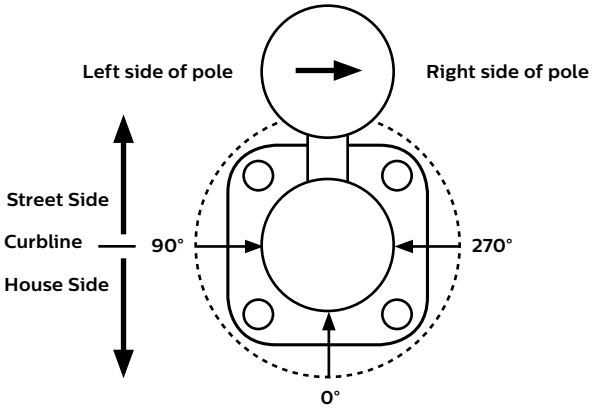


Note: The hand hole will normally be located on the pole at the 0° point.

Asymmetric Optical Orientation Information

Optic Rotated Right (270°) Optic Position

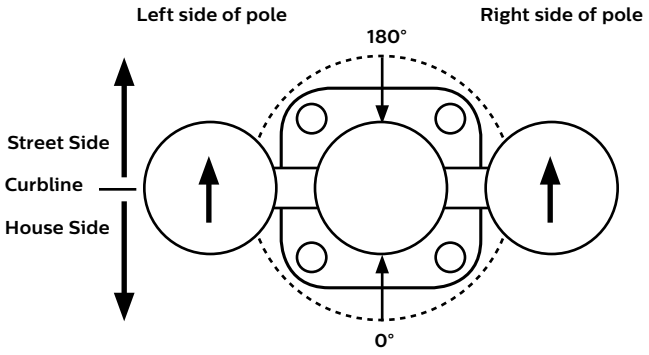
Luminaires ordered with asymmetric optical systems in the Optic Rotated Right (270°) optic position will have the optical system oriented as shown below:



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.

SFRA SlenderForm LED luminaire

Round arm mount

Specifications

Housing

The SlenderForm features a die cast aluminum housing, and mounts directly to a 4" OD pole. SFRA luminaires arrive with the arm factory installed. As a result, the luminaires provide the functionality, strength and installation ease of an integral arm luminaire.

IP Rating

SlenderForm luminaires have a rating of IP66.

Vibration Resistance

SlenderForm Round (SFRA) carries a 3G vibration rating that conforms to standards set forth by ANSI C136.31. Testing includes vibration to 3G acceleration in three axes, all performed on the same luminaire.

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 for use at 600 VAC at 302°F / 150°C or higher. Plug disconnects are listed by UL for use at 600 VAC, 15A or higher. 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 C62.41.2002.

LED Thermal Management

The Gardco SlenderForm LED provides die cast aluminum integral thermal radiation fins to provide the excellent thermal management so critical to long LED system life.

Optical Systems

The advanced LED optical systems provide IES Types II, III, IV and V distributions, All optical systems feature unitized lens optic construction.

SlenderForm Round luminaires are provided standard without a lens, for maximized performance. A clear glass lens is available as an option. A diffuse lens is also available as an option, resulting in reduced performance.

Listings

All luminaires bear UL or CUL (where applicable) Wet Location labels.
Most SlenderForm configurations are DesignLights Consortium® qualified.
Consult DLC Qualified Products list for more details.

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 natural aluminum (NP). Consult factory for specs on optional or custom colors.

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 for complete details and exclusions.

Signify North America Corporation
200 Franklin Square Drive,
Somerset, NJ 08873
Telephone 855-486-2216

Signify Canada Ltd.
281 Hillmount Road,
Markham, ON, Canada L6C 2S3
Telephone 800-668-9008