



by Signify

Site & Area

SlenderForm

SFRA LED round arm mount with comfort optics



Gardco SlenderForm LED arm mount comfort SFRA features a distinct styling to provide outdoor area lighting that is both energy efficient and aesthetically pleasing. Comfort optics are designed to enhance visual comfort by reducing glare. Type 1, 2, 3, and 5 optical distributions are available with lumen output up to 9,500 lumens.

Project: _____
 Location: _____
 Cat.No: _____
 Type: _____
 Lamps: _____ Qty: _____
 Notes: _____

Ordering guide

example: SFRA-140L-450-NW-G2-T3-1-UNV-DGY

Prefix	No. of LEDs	Drive Current	LED Color - Generation	Mounting	Distribution	Voltage
SFRA	140L					
SFRA SlenderForm Round Arm Mount, comfort optics	140L 140 LEDs	450 450mA 650 650mA 1150 1150mA 1675 1675mA 2100 2100mA	WW-G2 Warm White, 3000K, 70CRI, Gen 2 NW-G2 Neutral White, 4000K, 70CRI, Gen 2 CW-G2 Cool White, 5000K, 70CRI, Gen 2 WY-G2 Warm Yellow, 2700K, 80CRI, Gen 2 ¹ AM-G2 Amber (-590nm), Gen 2 ¹	AR Arm Mount (standard) ² The following mounting kits must be ordered separately (See accessories) WS Wall mount with surface conduit rear entry permitted	1 Comfort Type 1 2 Comfort Type 2 3 Comfort Type 3 5 Comfort Type 5	120 120V 208 208V 240 240V 277 277V 347 347V 480 480V UNV 120-277V (50/60Hz) HVU 347-480V (50/60Hz)

Options				Luminaire	Finish
Dimming controls	Motion sensing	Photo-sensing	Electrical		
DD 0-10V External dimming (by others) ³ SW Interface module for SiteWise ^{3,5,7} BL Bi-level functionality w/motion sensor ^{3,12} DynaDimmer: Automatic Profile Dimming ^{3,6} CS50 Security 50% Dimming, 7 hours CM50 Median 50% Dimming, 8 hours CS30 Security 30% Dimming, 7 hours CM30 Median 30% Dimming, 8 hours	IMRI2 Integral with #2 lens ¹¹ IMRI3 Integral with #3 lens ¹¹	PCB Photocontrol Button ^{6,8} TLRD5 Twist Lock Receptacle 5 Pin ⁹ TLRD7 Twist Lock Receptacle 7 Pin ⁹ TLRPC Twist Lock Receptacle w/Photocell ^{8,10}	Fusing F1 Single (120, 277, 347VAC) ⁸ F2 Double (208, 240, 480VAC) ⁸ F3 Canadian Double Pull (208, 240, 480VAC) ⁸ Pole Mount Fusing FP1 Single (120, 277, 347VAC) ⁸ FP2 Double (208, 240, 480VAC) ⁸ FP3 Canadian Double Pull (208, 240, 480VAC) ⁸ Surge Protection (10kA standard) SP2 Increased 20kA	Mounts to a 4" OD pole as standard SPA Square Pole Adapter	Textured BK Black WH White BZ Bronze DGY Dark Gray MGY Medium Gray Customer specified RAL Specify optional color or RAL (ex: RAL7024) CC Custom color (must supply color chip for required factory quote)

- Extended lead times apply. Contact factory for details.
- Mounts to a 4" OD round pole.
- Not available with other control options.
- Not available with motion sensor.
- Not available with photocontrol.

- Not available in 347 or 480V.
- Available only in 120 or 277V.
- Must specify input voltage.
- Dimming will not be connected to NEMA receptacle if ordering with other control options.

- Not available in 480V. Order photocell separately with TLRD5/7.
- Not available with external dimming (DD).
- Must specify a motion sensor lens.



SFRA SlenderForm LED luminaire

Round arm mount - with Comfort Optics

SlenderForm Accessories (order separately, field installed)

Mounting Accessories

SlenderForm PTF2 (pole top fitter fits 2 3/8-2 1/2" OD x 4" depth tenon)

PTF2-SFRA-1-90-(F)	1 luminaire at 90°
PTF2-SFRA-2-90-(F)	2 luminaires at 90°
PTF2-SFRA-2-180-(F)	2 luminaires at 180°
PTF2-SFRA-3-90-(F)	3 luminaires at 90°
PTF2-SFRA-4-90-(F)	4 luminaires at 90°
PTF2-SFRA-3-120-(F)	3 luminaires at 120°

SlenderForm PTF3 (pole top fitter fits 3-3 1/2" OD x 6" depth tenon)

PTF3-SFRA-1-90-(F)	1 luminaire at 90°
PTF3-SFRA-2-90-(F)	2 luminaires at 90°
PTF3-SFRA-2-180-(F)	2 luminaires at 180°
PTF3-SFRA-3-90-(F)	3 luminaires at 90°
PTF3-SFRA-4-90-(F)	4 luminaires at 90°
PTF3-SFRA-3-120-(F)	3 luminaires at 120°

SlenderForm PTF4 (pole top fitter fits 3 1/2-4" OD x 6" depth tenon)

PTF4-SFRA-1-90-(F)	1 luminaire at 90°
PTF4-SFRA-2-90-(F)	2 luminaires at 90°
PTF4-SFRA-2-180-(F)	2 luminaires at 180°
PTF4-SFRA-3-90-(F)	3 luminaires at 90°
PTF4-SFRA-4-90-(F)	4 luminaires at 90°
PTF4-SFRA-3-120-(F)	3 luminaires at 120°

SFRA-WS-(F) Wall mount with surface conduit rear entry permitted

SFRA-BD Bird deterrent

(F) = Specify finish

LED Wattage and Lumen Values for 3000K, 4000K & 5000K fixtures

Ordering Code:	Total LEDs	System current (mA)	Ave. System Watts (W)	1			2			3			5		
				Lumen Output	BUG rating	Efficacy (LPW)	Lumen Output	BUG rating	Efficacy (LPW)	Lumen Output	BUG rating	Efficacy (LPW)	Lumen Output	BUG rating	Efficacy (LPW)
SFRA 3000K															
SFRA-140L-450-WW-G2-x-UNV	140	450	22	2286	B1-U0-G1	104	2148	B1-U0-G1	98	2314	B1-U0-G1	105	2361	B1-U0-G1	107
SFRA-140L-650-WW-G2-x-UNV	140	650	31	3274	B2-U0-G2	106	3076	B1-U0-G1	99	3314	B1-U0-G1	107	3381	B2-U0-G1	109
SFRA-140L-1150-WW-G2-x-UNV	140	1150	51	5365	B2-U0-G2	105	5041	B2-U0-G2	99	5431	B2-U0-G2	106	5541	B3-U0-G2	109
SFRA-140L-1675-WW-G2-x-UNV	140	1675	75	7519	B3-U0-G3	100	7065	B3-U0-G3	94	7611	B2-U0-G2	101	7765	B3-U0-G2	104
SFRA-140L-2100-WW-G2-x-UNV	140	2100	95	9023	B3-U0-G3	95	8478	B3-U0-G3	89	9134	B3-U0-G3	96	9318	B3-U0-G2	98
SFRA 4000K															
SFRA-140L-450-NW-G2-x-UNV	140	450	22	2332	B1-U0-G1	106	2191	B1-U0-G1	100	2360	B1-U0-G1	107	2408	B1-U0-G1	109
SFRA-140L-650-NW-G2-x-UNV	140	650	31	3339	B2-U0-G2	108	3138	B2-U0-G2	101	3380	B2-U0-G2	109	3449	B2-U0-G1	111
SFRA-140L-1150-NW-G2-x-UNV	140	1150	51	5473	B2-U0-G2	107	5142	B2-U0-G2	101	5540	B2-U0-G2	109	5651	B3-U0-G2	111
SFRA-140L-1675-NW-G2-x-UNV	140	1675	75	7669	B3-U0-G3	102	7206	B3-U0-G3	96	7763	B3-U0-G3	104	7920	B3-U0-G2	106
SFRA-140L-2100-NW-G2-x-UNV	140	2100	95	9204	B3-U0-G3	97	8648	B3-U0-G3	91	9317	B3-U0-G3	98	9505	B3-U0-G2	100
SFRA 5000K															
SFRA-140L-450-CW-G2-x-UNV	140	450	22	2282	B1-U0-G1	104	2144	B1-U0-G1	97	2310	B1-U0-G1	105	2357	B1-U0-G1	107
SFRA-140L-650-CW-G2-x-UNV	140	650	31	3269	B2-U0-G2	105	3071	B1-U0-G1	99	3309	B1-U0-G1	107	3375	B2-U0-G1	109
SFRA-140L-1150-CW-G2-x-UNV	140	1150	51	5356	B2-U0-G2	105	5033	B2-U0-G2	99	5422	B2-U0-G2	106	5531	B3-U0-G2	108
SFRA-140L-1675-CW-G2-x-UNV	140	1675	75	7506	B3-U0-G3	100	7053	B3-U0-G3	94	7599	B2-U0-G2	101	7752	B3-U0-G2	103
SFRA-140L-2100-CW-G2-x-UNV	140	2100	95	9009	B3-U0-G3	95	8464	B3-U0-G3	89	9119	B3-U0-G3	96	9303	B3-U0-G2	98

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.

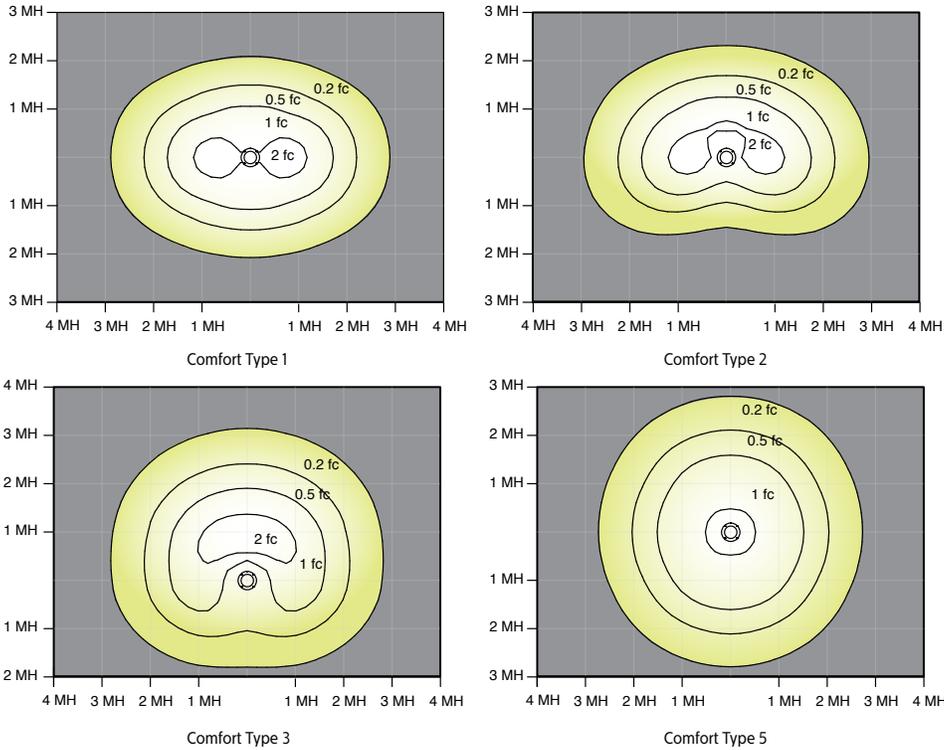
Note: Some data may be scaled based on tests of similar (but not identical) luminaires. Contact factory for configurations not shown.

SFRA SlenderForm LED luminaire

Round arm mount - with Comfort Optics

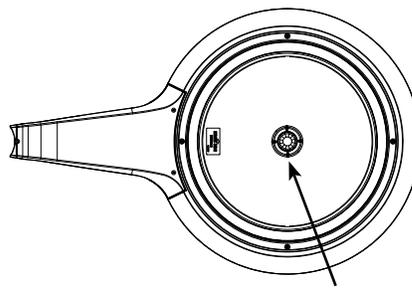
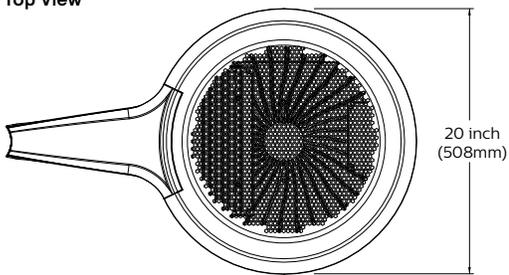
Optical Distributions

Based on SFRA-140L-2100 at 20' mounting height

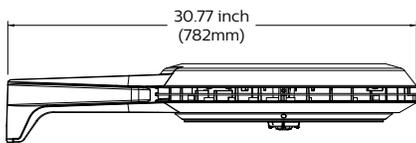


Dimensions - Arm Mount Luminaire (SFRA)

Top View



Side 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 – with Comfort Optics

Specifications

Housing

All die-cast parts are made of die-cast aluminum alloy. Luminaire housing rated to IP66, tested in accordance to Section 9 of IEC 60598-1.

Light engine

Light guide technology provides low-glare, uniform illumination. Composed of 140 LEDs strategically positioned on the edge of the optical plate. Light engine luminous opening size optimized to best achieve a balance between lumen output and optical performance with the need to provide visual comfort. Light engine frame ensures contact with housing to provide heat conduction and sealing against the elements. Light engine is RoHS compliant. Standard color temperatures: 3000K +/- 130K, 4000K +/- 130K, 5000K +/- 225K. Minimum CRI of 70. Also available in 2700K and Amber (Dominant wavelength 589nm, peak wavelength 633nm, and minimum wavelength 486nm) with extended lead times. Contact factory for details.

Energy saving benefits

System efficacy up to 111 lms/W with significant energy savings over Pulse Start Metal Halide luminaires. Optional control options provide added energy savings during unoccupied periods.

Optical systems

The advanced LED comfort optical system provides Types 1, 2, 3, and 5. Composed of high performance UV-stabilized optical grade lens with micro-optics to achieve desired distribution optimized to get a exceptional lighting uniformity. Performance tested per LM-79 and TM-15 (IESNA) certifying its photometric performance. Luminaire designed with 0% uplight (UO per IESNA TM-15).

Mounting

Standard luminaire arm mounts to 4" round poles. Square pole adapter needs to be ordered separate. Also optional are wall mounting accessories.

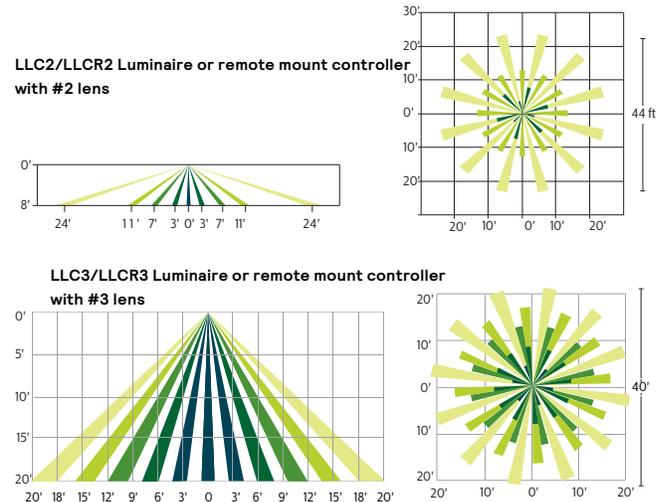
Control options

0-10V dimming (DD): Access to 0-10V dimming leads supplied through the yoke of the luminaire (for secondary dimming controls by others). Cannot be used with other control options.

SiteWise (SW): SiteWise system includes a controller fully integrated in the luminaire that enables the luminaires to communicate with a dimming signal transmitter cabinet located on site using Philips patented central dimming technology. A locally accessible mobile app allows users to access the system and set functionalities such as ON/OFF, dimming levels and scheduling. SiteWise is available with motion response options in order to bring the light back to 100% when motion is detected. Cannot be used with other control options or photocell options. Additional functionalities are available such as communication with indoor lighting and connection to BMS systems. Complete information on the control system can be found on the SiteWise website at philips.com/sitewise.

Automatic Profile Dimming (CS/CM/CE/CA): Standard dimming profiles provide flexibility towards energy savings goals while optimizing light levels during specific dark hours. Dimming profiles include two dimming settings including dim to 30% or 50% of the total lumen output. When used in combination with not programmed motion response it overrides the controller's schedule when motion is detected. After 5 minutes with no motion, it will return to the automatic dimming profile schedule. Automatic dimming profile scheduled with the following settings:

- **CS50/CS30:** Security for 7 hours night duration (Ex., 11 PM – 6 AM)
 - **CM50/CM30:** Median for 8 hours night duration (Ex., 10 PM – 6 AM)
- Cannot be used with other control options.

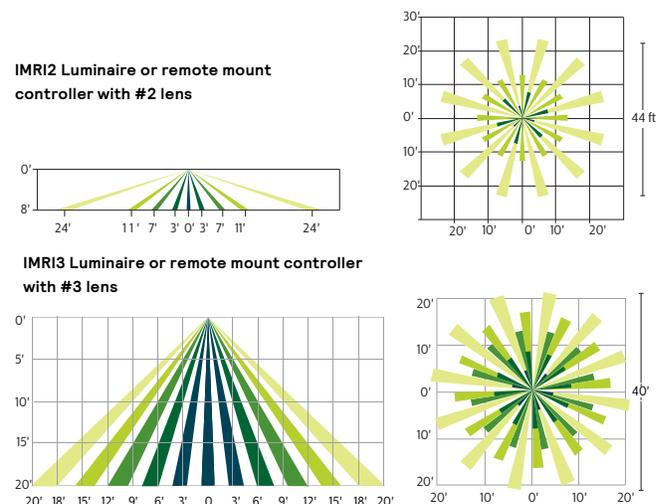


Motion response options

Bi-Level Infrared Motion Response (BL-IMRI3): Motion Response module is mounted integral to luminaire factory pre-programmed to 50% dimming when not ordered with other control options. P50-IMRI is set/operates in the following fashion: The motion sensor is set to a constant 50%. When motion is detected by the PIR sensor, the luminaire returns to full power/light output. Dimming on low is factory set to 50% with 5 minutes default in "full power" prior to dimming back to low. When no motion is detected for 5 minutes, the motion response system reduces the wattage by 50%, to 50% of the normal constant wattage reducing the light level. Other dimming settings can be provided if different dimming levels are required. This can also be done with FSIR-100 Wireless Remote Programming Tool (contact Technical Support for details).

Infrared Motion Response with Other Controls (SW-IMRI3): When used in combination with other controls (Automatic Dimming Profile and SiteWise), motion response device will simply override controller's schedule with the added benefits of a combined dimming profile and sensor detection. In this configuration, the motion response device cannot be re-programmed with FSIR-100 Wireless Remote Programming Tool. The profile can only be re-programmed via the controller.

Infrared Motion Response Lenses (IMRI3): Infrared Motion Response Integral module is available lens #3 (IMRI3), which is designed for mounting heights up to 20' with a 40' diameter coverage area. See chart for approximate detection patterns:



SFRA SlenderForm LED luminaire

Round arm mount – with Comfort Optics

Specifications (continued)

Electrical

Twist-Lock Receptacle (TLRD5/TLRD7/ TLRPC): Twist Lock Receptacle with 5 pins enabling dimming or with 7 pins with additional functionality (by others) can be used with a twistlock photoelectric cell or a shorting cap. Dimming Receptacle Type B (5-pin) and Type D-24 (7-pin) in accordance to ANSI C136.41. Can be used with third-party control system. Receptacle located on top of luminaire housing. When specifying receptacle with twistlock photoelectric cell, voltage must be specified. When ordering Twist-lock receptacle (TLRD5 or TLRD7), photocell or shorting cap is not included. TLRPC is shipped standard with 5 pin.

Driver: Driver efficiency (>90% standard). 120–480V available (restrictions apply). Open/short circuit protection. Optional 0–10V dimming to 10% power. RoHS compliant.

Button Photocontrol (PCB): Button style design for internal luminaires mounting applications. The photocontrol is constructed of a high impact UV stabilized polycarbonate housing. Rated voltage of 120V or 208–277V with a load rating of 1000 VA. The photocell will turn on with 1–4Fc of ambient light.

Surge protection (SP1/SP2): Each luminaire is provided as standard with 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. 20kV / 10kA surge protection device that provides extra protection beyond the SP1 10kV/10kA level.

Vibration resistance

Luminaire is tested and rated 3G over 100,000 cycles conforming to standards set forth by ANSI C136.31–2010. Testing includes vibration to 3G acceleration in three axes, all performed on the same luminaire.

Listings

UL/cUL wet location listed to the UL 1598 standard, suitable for use in ambient temperatures from –40° to 40°C (–40° to 104°F). Most SlenderForm SFRA comfort configurations are qualified under Standard DesignLights Consortium® category. 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 (BZ), black (BK), white (WH), dark gray (DGY), and medium gray (MGY). Consult factory for specs on optional or custom colors.

Warranty

SlenderForm luminaires feature a 5-year limited warranty. See signify.com/warranties for complete details and exclusions.

Predicted Lumen Depreciation Data

Ambient Temperature	Driver mA	Calculated L ₇₀ ^{1,2}	L ₇₀ per TM-21 ^{2,3}	Lumen Maintenance %
25°C	Up to 2100 mA	>100,000 hrs	>60,000 hrs	84%

1. 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.
2. L₇₀ is the predicted time when LED performance depreciates to 70% of initial lumen output.
3. Calculated per IESNA TM21-11. Published L₇₀ hours limited to 6 times actual LED test hours.

The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract.

