GARDCO by signify

Site & Area

PureForm

P20 small round area light with comfort optics

Gardco PureForm LED area small round comfort P20 features a sleek, low profile design. Comfort optics are designed to enhance visual comfort by reducing glare and are ideally suited for pedestrian scale applications. Multiple optical distributions and color temperatures are available to allow you to customize your selection.

Project:

Location:

Cat.No:

Type:

Lumens: Qty:

Notes:

Ordering guide

example: P20-C-A01-840-T5S-AR1-UNV-BL50-L2-EHS-BZ

Prefix	Optic Technology	Configuration (nominal lumens)	Color Temperature	Distribution	Mounting	Voltage
P20 PureForm area small, 20" round	**C** Comfort	**A01** 2,000 lumens **A02** 4,000 lumens **A03** 6,000 lumens **A04** 8,000 lumens **A05** 10,000 lumens **A06**[1] 12,000 lumens **A07**[1] 14,000 lumens **A08**[1] 16,000 lumens	**830** 80CRI 3000K **840** 80CRI 4000K **750**[2] 70CRI 5000K	**T1S** Type 1 Short **T2S** Type 2 Short **T4S** Type 4 Short **4CD** Type 4 Concentrated Downlight **T5S** Type 5 Short	**AR1**[3] Arm mount (Standard) The following mounting kits must be ordered separately (See accessories) **RAM**[3] Retrofit arm mount kit **WAL** Wall mount	**120** 120V **208** 208V **240** 240V **277** 277V **347** 347V **480** 480V **UNV** 120-277V (50/60Hz) **HVU** 347-480V (50/60Hz)

Options

Dimming controls	Motion sensor lens	Electrical/Shielding	Emergency	Finish
(0-10V dimming driver standard) **DLEA**[4] Dimming Leads Externally Accessible (controls by others) **FAWS**[4,5] Field Adjustable Wattage Selector **BL50**[4,6] Bi-level set at 50% dimming **BL30**[4,7] Bi-level set at 30% dimming **SRDR**[4,8,9,18] SR driver connected to Zhaga socket <u>DynaDimmer: Automatic Profile Dimming</u> **CS50**[4,9] Security 50% Dimming, 7 hours **CM50**[4,9] Median 50% Dimming, 8 hours **CS30**[4,9] Security 30% Dimming, 7 hours **CM30**[4,9] Median 30% Dimming, 8 hours	**L2**[6,13,18] PIR Sensor #2 lens **L3**[6,13,18] PIR Sensor #3 lens **MW**[7,14,17] Microwave HF Sensor	**PCB**[9,10] Photocontrol Button **TR7**[9,11] 7-pin Twist Lock Receptacle **TLP**[10,12] 7-pin Twist Lock Receptacle w/ 3-pin Photocell **SP2**[15] Increased 20kA **FS1**[10] Single Fuse (120, 277, 347VAC) **FS2**[10] Double Fuse (208, 240, 480VAC) The following option must be ordered separately (See accessories) **EHS** External house side shield	**EM**[4,5,9,16] Emergency battery pack	<u>Textured</u> **BK** Black **WH** White **BZ** Bronze **DG** Dark Gray **MG** Medium Gray <u>Customer specified</u> **RAL** Specify optional color or RAL (ex: RAL7024) **CC** Custom color (Must supply color chip for required factory quote)

1. Only available with symmetrical optics (T1S and T5S)
2. Extended lead times apply. Contact factory for details.
3. Mounts to a 4-5" OD round pole with adapter included for square poles.
4. Not available with other dimming control options (mutually exclusive).
5. Not available with motion sensor.
6. BL50 must be specified with a motion sensor lens (L2 or L3).
7. BL30 must be specified with Microwave HF Sensor (MW).
8. Not available with photocontrols.
9. Not available in 347 or 480V.
10. Must specify input voltage.
11. All 7 pins in NEMA receptacle are connected to SR driver.
12. Not available in 480V. Order photocell separately with TR7.
13. Not available with DLEA and FAWS dimming control options.
14. Not available with DLEA, SRDR, FAWS, CS50, CM50, CS30, and CM30 dimming control options.
15. Product ships standard with 10kA.
16. Only available with A01 and A03.
17. Only available in 120/277/347V.
18. When ordering SRDR with L2 or L3, controller to be used on socket must be SR compatible (See specifications for more details).

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PureForm P20 Accessories[2] (ordered separately, field installed)

Mounting Accessories

P20-RAM-G2-(F)	Retrofit Arm mount kit
P20-WS-G2-(F)	Wall mount with surface conduit rear entry permitted
P20-EHS-BK [1]	External House Side Shield, Black

(F) = Specify finish

1. External house side shield must be ordered with luminaire and ships separately. It cannot be added on to an existing luminiare not originally ordered with EHS shielding option.
2. Consult Signify to confirm whether specific accessories are BAA-compliant.

LED Wattage and Lumen Values – 3000K

			T1S			T2S			T4S			4CD			T5S		
Ordering Code	Color Temp.	Average System Watts	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
P20-C-A01-830-x	3000	21	2006	B1-U0-G1	95	1968	B1-U0-G1	93	2240	B1-U0-G1	106	2374	B1-U0-G1	112	2210	B1-U0-G1	104
P20-C-A02-830-x	3000	36	3576	B2-U0-G2	100	3508	B1-U0-G1	98	3993	B1-U0-G1	112	4231	B1-U0-G1	119	3939	B2-U0-G1	111
P20-C-A03-830-x	3000	52	5145	B2-U0-G2	99	5048	B2-U0-G2	97	5746	B2-U0-G2	111	6089	B2-U0-G2	117	5669	B3-U0-G2	109
P20-C-A04-830-x	3000	72	6977	B3-U0-G3	97	6844	B3-U0-G3	95	7792	B3-U0-G3	109	8256	B2-U0-G2	115	7687	B3-U0-G2	107
P20-C-A05-830-x	3000	90	8372	B3-U0-G3	93	8213	B3-U0-G3	91	9350	B3-U0-G3	104	9907	B3-U0-G3	110	9224	B3-U0-G2	102
P20-C-A06-830-x	3000	108	10727	B3-U0-G3	100										11818	B3-U0-G2	110
P20-C-A07-830-x	3000	133	12471	B3-U0-G3	93										13740	B4-U0-G3	103
P20-C-A08-830-x	3000	150	13866	B3-U0-G3	92										15277	B4-U0-G3	101

LED Wattage and Lumen Values – 4000K

			T1S			T2S			T4S			4CD			T5S		
Ordering Code	Color Temp.	Average System Watts	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
P20-C-A01-840-x	4000	21	2143	B1-U0-G1	101	2102	B1-U0-G1	99	2393	B1-U0-G1	113	2535	B1-U0-G1	120	2361	B1-U0-G1	111
P20-C-A02-840-x	4000	36	3819	B2-U0-G2	107	3747	B1-U0-G1	105	4266	B2-U0-G2	120	4520	B1-U0-G1	127	4208	B2-U0-G1	118
P20-C-A03-840-x	4000	52	5496	B2-U0-G2	106	5392	B2-U0-G2	104	6138	B2-U0-G2	118	6504	B2-U0-G2	125	6055	B3-U0-G2	117
P20-C-A04-840-x	4000	72	7452	B3-U0-G3	104	7311	B3-U0-G3	102	8323	B3-U0-G3	116	8819	B3-U0-G3	123	8211	B3-U0-G2	114
P20-C-A05-840-x	4000	90	8943	B3-U0-G3	99	8773	B3-U0-G3	97	9988	B3-U0-G3	111	10583	B3-U0-G3	117	9853	B3-U0-G2	109
P20-C-A06-840-x	4000	108	11458	B3-U0-G3	106										12624	B4-U0-G3	117
P20-C-A07-840-x	4000	134	13321	B3-U0-G3	100										14677	B4-U0-G3	110
P20-C-A08-840-x	4000	151	14812	B3-U0-G3	99										16319	B4-U0-G3	109

Lumen Table for Emergency

80CRI			T1S			T2S			T4S			4CD			T5S		
Ordering Code	Color Temp	Average System Watts	Lumen Output	Efficacy (Lm/W)	Lumen Output	Efficacy (Lm/W)	Lumen Output	Efficacy (Lm/W)	Lumen Output	Efficacy (Lm/W)	Lumen Output	Efficacy (Lm/W)	BUG Rating	Efficacy (Lm/W)	Lumen Output	BUG Rating	Efficacy (Lm/W)
P20-C-10W-840-x-UNV-EM (EM Mode)	4000	10	1370	137.0	1344	134.4	1530	153.0	1621	162.1	1509	150.9		134.3	1270		127.0

80CRI			T1S			T2S			T4S			4CD			T5S		
Ordering Code	Color Temp	Average System Watts	Lumen Output	Efficacy (Lm/W)	Lumen Output	Efficacy (Lm/W)	Lumen Output	Efficacy (Lm/W)	Lumen Output	Efficacy (Lm/W)	Lumen Output	Efficacy (Lm/W)	BUG Rating	Efficacy (Lm/W)	Lumen Output	BUG Rating	Efficacy (Lm/W)
P20-C-10W-830-x-UNV-EM (EM Mode)	3000	10	1288	128.8	1263	126.3	1438	143.8	1524	152.4	1419	141.9		134.3	1270		127.0

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.

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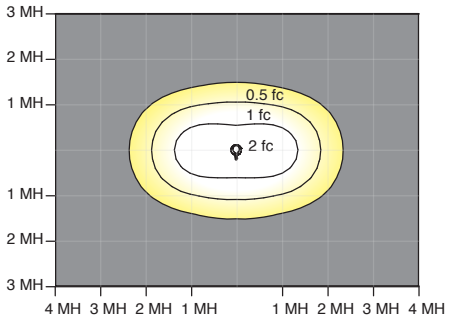
Predicted Lumen Depreciation Data

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

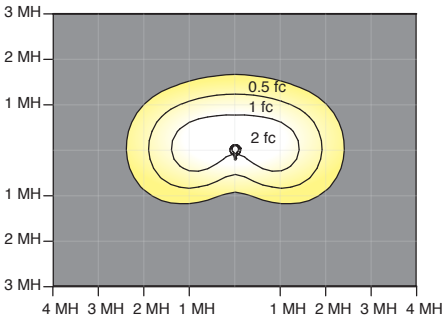
Ambient Temperature °C	Calculated L_{70} Hours	L_{70} per TM-21	Lumen Maintenance % at 60,000 hrs
25°C (A01 to A05)	>100,000 hours	>72,000 hours	>90%
25°C (A06 to A08)	>100,000 hours	>60,000 hours	>84%

Optical Distributions

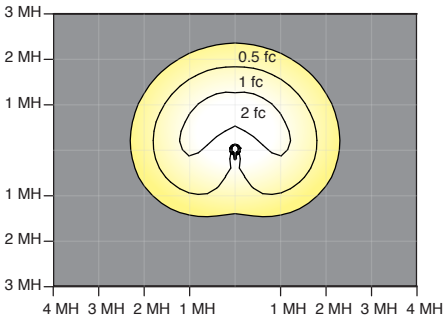
Based on configuration P20-C-A03-840 mounted at 15ft



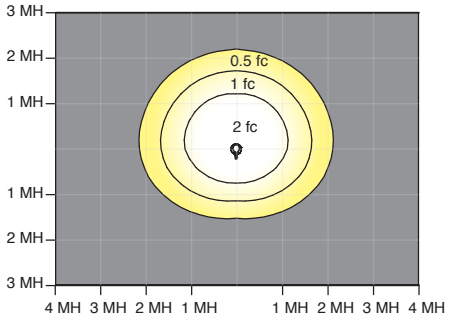
Comfort T1S



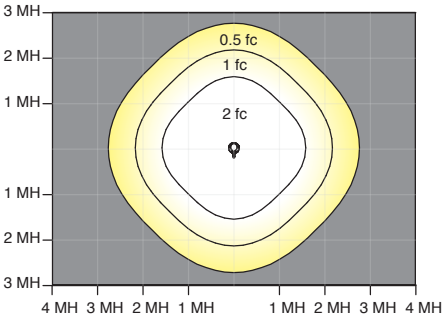
Comfort T2S



Comfort T4S



Comfort 4CD



Comfort T5S

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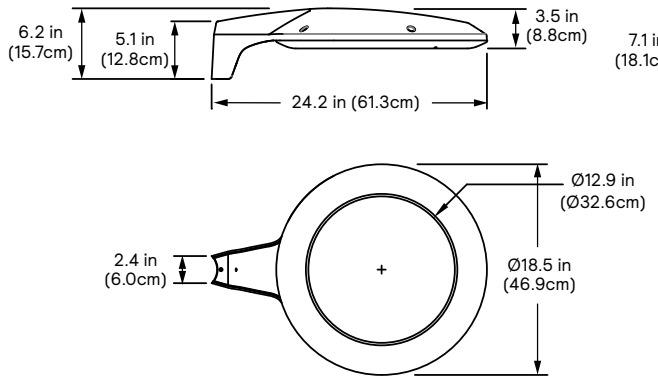
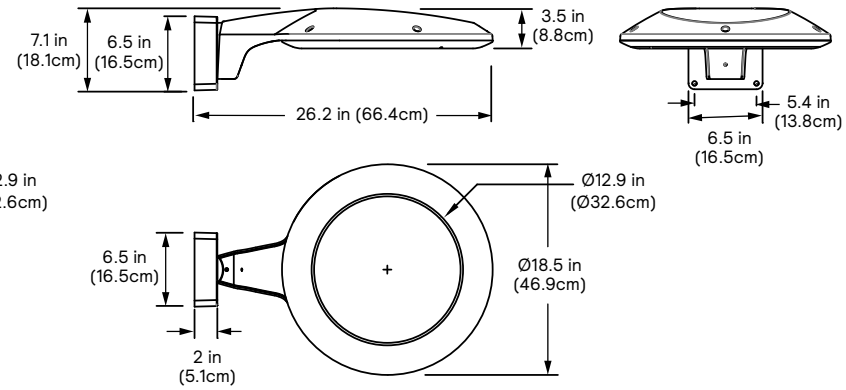
Area light with comfort optics

Dimensions

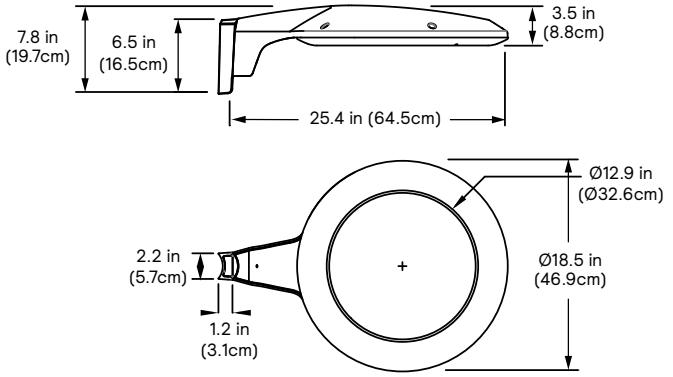
Standard Arm (AR1)



Wall Mount (WAL)

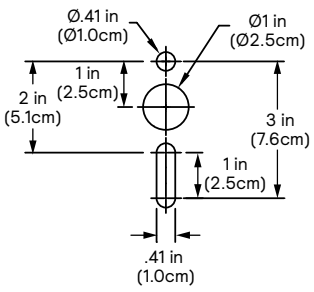


Retrofit Arm (RAM)

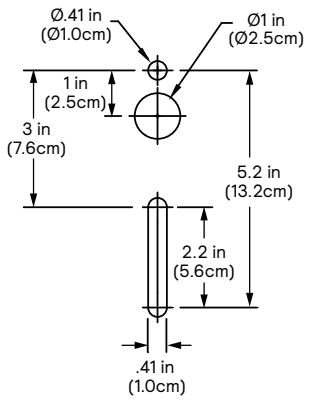


Drill Patterns

Standard Arm (AR1)

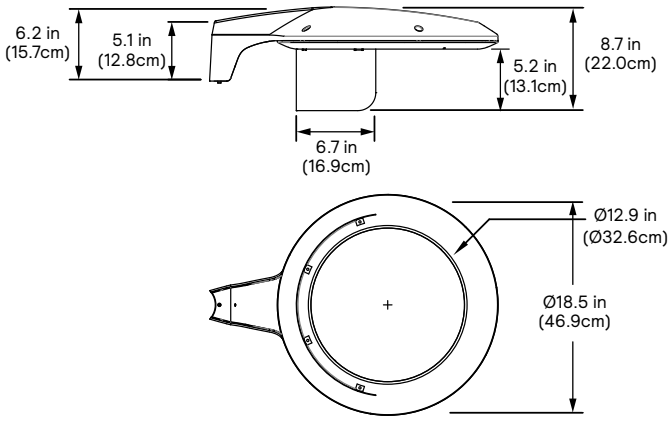


Retrofit Arm (RAM)



Weight: 18 Lbs (8.0 kg)
EPA: .26ft² (.02m²)

With External House Shield option (EHS)



P20 PureForm LED small round

Area light with comfort optics

Specifications

Housing

One-piece cast aluminum housing with integral arm and die cast light engine frame. Luminaire housing rated to IP66, tested in accordance toSection 9 of IEC 60598-1.

Vibration resistance

Luminaire is tested and rated to Level 2 (3.8G) over 100,000 cycles conforming to standards set forth by ANSI C136.31-2018. Testing includes vibration in three axes, all performed on the same luminaire.

Light engine

Light guide technology provides low-glare, uniform illumination. Composed of 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 ensures contact with housing to provide efficient heat path through conduction and convection to ambient air. Light engine is RoHS compliant. Standard color temperatures: 3000K +/- 175K, 4000K+/- 275K. Minimum CRI of 80. Also available in 5000K (70 CRI) with extended lead times.

Energy saving benefits

System efficacy up to 127 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 IES type II short, type IV short, type V short. Additional optics include a type 1 and a type 4 concentration down light for pedestrian applications. Composed of high performance UV-stabilized optical grade lens with laminated 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 (U0 per IESNA TM-15).

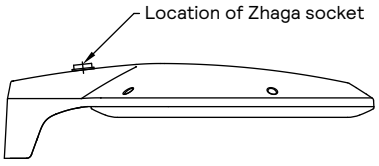
Mounting

Standard luminaire arm mounts to 4" round poles. Can also be used with 5" O.D. poles. Square pole adapter included with every luminaire. PureForm features a retrofit arm kit. When specified with the retrofit arm (RAM) option, PureForm seamlessly simplifies site conversions to LED by eliminating the need for additional pole drilling on most existing poles. RAM will be boxed separately. Also optional are wall mounting accessories.

Control options

0-10V dimming (DLEA): Order this option if you want access to 0-10V dimming leads supplied through the arm of luminaire (for secondary dimming controls by others). Cannot be used with other control options.

Sensor Ready Zhaga Socket Connector (SRDR): Product equipped with Sensor Ready drivers connected to 4-pin Zhaga Book 18 compliant receptacle designed for sensor and other control system applications. Receptacle is rated IP66 assembly in a compact design that provides a sealed electrical interface and rated UV resistance mounted on top of the luminaire arm. When a controller not provided by Signify is used with Sensor Ready Zhaga socket connector, the controller must be certified to work with the Xitanium SR LED drivers as part of the SR certified program.



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 diming 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)

All above profiles are calculated from mid point of the night. Dimming is set for 6 hours after the mid point and 1 or 2 hours before depending of the duration of dimming. Cannot be used with other dimming control options.

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

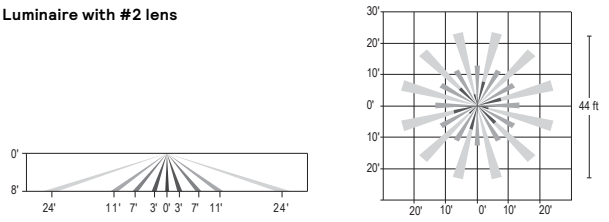
Note: Typical value accuracy +/- 5%

Motion response options

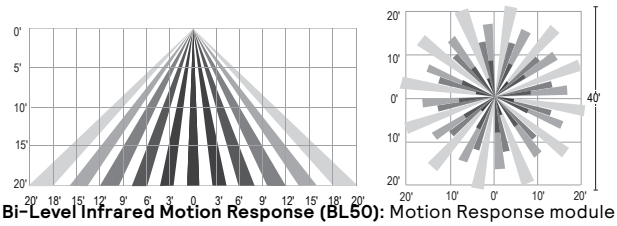
Infrared Motion Response with Other Controls: When used in combination with other controls (Automatic Dimming Profile), motion response device will simply override controller's schedule with the added benefits of a combined dimming profile and sensor detection. In this configuration, the motion response 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 (L2/L3): Infrared Motion Response Integral module is available with two different sensor lens types to accommodate various mounting heights and occupancy detection ranges. Lens #2 is designed for mounting heights 8' to 15'. Lens #3 is designed for higher mounting heights up to 20' with a 40' diameter coverage area. See charts for approximate detection patterns:

Luminaire with #2 lens



Luminaire with #3 lens



Bi-Level Infrared Motion Response (BL50): Motion Response module is mounted integral to luminaire factory pre-programmed to 50% dimming when

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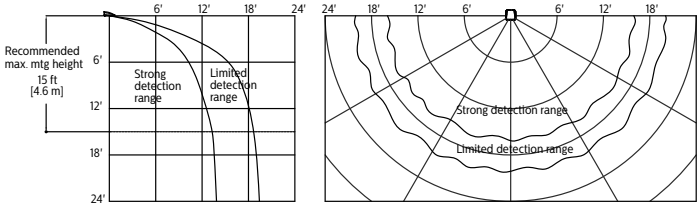
Specifications (cont'd)

not ordered with other control options. BL50 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 (100%). 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).

Bi-Level Microwave HF Motion Response (BL30-MW): High frequency (5.8GHz +/- 75MHz microwave ISM wave band with <0.5 mW transmitting power) motion sensor is mounted integral to the luminaire. This bi-level motion sensor is designed to detect motion through the light engine so it can be used inside the luminaire without any protruded components. Sensor allows energy savings and meeting code requirements without compromising comfort and aesthetics. The product comes with factory pre-programmed standard settings including a dimming level of 30%, hold time of 3 minutes with no stand-by period. This means that in operations, the sensor will keep the luminaire at 30% of total lumen output and when motion is detected, the luminaire returns to 100% output. It will remain on full power for 3 minutes default prior to dimming back to low when no motion is observed. Other dimming levels, holding times, and stand-by periods are possible. Please contact factory technical support for details.



Emergency Battery Backup (EM): Emergency battery pack included integral to the luminaire, allowing for a consistent look between emergency and non-emergency luminaires. EM is suitable for use in ambient temperature conditions from 0°C (32°F) to 40°C (104°F) available on A01 and A02 only. The system is designed to have a secondary driver with relay to immediately detect AC power loss to power luminaire for a minimum of 90 minutes from the time power is lost. Available with 120-277V, or 'UNV' only.

Electrical

Twist-Lock Receptacle (TR7/TLP): Twist-Lock Receptacle with 7 pins enabling dimming with additional functionality (by others) can be used with a twist-lock photoelectric cell or a shorting cap. Dimming Receptacle 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 arm. When specifying receptacle with twist-lock photoelectric cell, voltage must be specified. When ordering 7-pin Twist-lock receptacle (TR7), all 7 pins are wired to respective pins with the Sensor Ready (SR) driver, and photocell or shorting cap is not included. When ordering a twist-lock receptacle with a photocell (TLP), the receptacle used is a 7-pin receptacle, but pins 6 and 7 are not connected (no SR driver). 0-10V dimming leads (pins 4 and 5) are connected if not ordered with any other dimming option.

Driver: Driver efficiency (>90% standard). 120-480V available (restrictions apply). Open/short circuit protection. All drivers are 0-10V dimming to 10% power standard, except when using Sensor Ready (SR) drivers, which uses DALI protocol (options CS50/CM50/CS30/CM30, SRDR, and TR7). Drivers are RoHS and FCC Title 47 CFR Part 15 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): 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.

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 PureForm P20 comfort configurations are qualified under Standard DesignLights Consortium® category. Consult DLC Qualified Products list to confirm your specific luminaire selection is approved. CCTs 3000K and warmer are Dark Sky Approved.

Finish

Each standard color luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish. The surface treatment achieves a minimum of 1000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard. Standard colors include bronze (BZ), black (BK), white (WH), dark gray (DG), and medium gray (MG). Consult factory for specs on optional or custom colors.

Warranty

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

Buy American Act of 1933 (BAA):

This product is manufactured in one of our US factories and, as of the date of this document, this product was considered a commercially available off-the-shelf (COTS) item meeting the requirements of the BAA. This BAA 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. Prior to ordering, please visit www.signify.com/baa to view a current list of BAA-compliant products to confirm this product’s current compliance.

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