GARDCO by signify

Site & Area

PureForm

P15 small square area light

Project:

Location:

Cat.No:

Type:

Lumens: Qty:

Notes:

Gardco PureForm LED area small square precision P15 features a sleek, low profile design. Precision optics are optimized for maximum efficiency and uniformity. Multiple optical distributions and color temperatures are available to allow you to customize your selection.

Ordering guide

example: P15-P-A06-740-T5S-AR1-UNV-BL50-L3-BZ

Prefix	Optic Technology	Configuration (nominal lumens)	Color Temperature	Distribution	Mounting	Voltage
P15 PureForm area small, 15" square	**P** Precision	**A01** 2,000 lumens **A02** 4,000 lumens **A03** 6,000 lumens **A04** 8,000 lumens **A05** 10,000 lumens **A06** 12,000 lumens **A07** 14,000 lumens **A08** 16,000 lumens	**730** 70CRI 3000K **740** 70CRI 4000K **750** 70CRI 5000K **835**[2] 80CRI 3500K **827**[2] 80CRI 2700K	**T2M** Type 2 Medium **T3M** Type 3 Medium **T4S** Type 4 Short **T5S** Type 5 Short **BLC** Back Light Control	**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	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 **SRDR**[4,7,8,13] SR driver connected to Zhaga socket DynaDimmer: Automatic Profile Dimming **CS50**[4,8] Security 50% Dimming, 7 hours **CM50**[4,8] Median 50% Dimming, 8 hours **CS30**[4,8] Security 30% Dimming, 7 hours **CM30**[4,8] Median 30% Dimming, 8 hours	**L2**[6,12,13] PIR Sensor #2 lens **L3**[6,12,13] PIR Sensor #3 lens	**PCB**[8,9] Photocontrol Button **TR7**[8,10] 7-pin Twist Lock Receptacle **TLP**[9,11] 7-pin Twist Lock Receptacle w/ 3-pinPhotocell **SP2**[1] Increased 20kA **FS1**[9] Single Fuse (120, 277, 347VAC) **FS2**[9] Double Fuse (208, 240, 480VAC) **HIS** Internal house side shield	Textured **BK** Black **WH** White **BZ** Bronze **DG** Dark Gray **MG** Medium Gray Customer specified **RAL** Specify optional color or RAL (ex: RAL7024) **CC** Custom color (Must supply color chip for required factory quote)

1. Product ships standard with 10kA.
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. Not available with photocontrols.
8. Not available in 347 or 480V.
9. Must specify input voltage.
10. All 7 pins in NEMA receptacle are connected to SR driver.
11. Not available in 480V. Order photocell separately with TR7.
12. Not available with DLEA and FAWS dimming control options.
13. When ordering SRDR with L2 or L3, controller to be used on socket must be SR compatible (See specifications for more details).

3000K only

P15 PureForm LED small square

Area light with precision optics

PureForm P15 Accessories[1] (ordered separately, field installed)

Shielding Accessories[1]

House Side Shield

Standard optic orientation:

HIS-32-H	Internal house side shield for A01, A02, A03, and A04
HIS-48-H	Internal house side shield for A05, A06, and A07
HIS-64-H	Internal house side shield for A08

Mounting Accessories[1]

P15-RAM-G2-(F)	Retrofit Arm mount kit
P15-WS-G2-(F)	Wall mount with surface conduit rear entry permitted

(F) = Specify finish

1. Consult Signify to confirm whether specific accessories are BAA-compliant.

LED Wattage and Lumen Values – 3000K

			T2M			T3M			T4S			T5S			BLC		
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)
P15-P-A01-730-x	3000	14	2030	B1-U0-G1	142	2005	B1-U0-G1	140	2046	B1-U0-G1	143	2138	B2-U0-G1	150	1588	B0-U0-G0	111
P15-P-A02-730-x	3000	27	3839	B1-U0-G1	144	3790	B1-U0-G1	142	3868	B1-U0-G1	145	4043	B3-U0-G1	152	3003	B0-U0-G1	113
P15-P-A03-730-x	3000	45	6192	B2-U0-G1	139	6113	B1-U0-G2	137	6240	B1-U0-G2	140	6523	B3-U0-G1	146	4844	B0-U0-G1	109
P15-P-A04-730-x	3000	60	8034	B2-U0-G2	134	7932	B1-U0-G2	132	8096	B2-U0-G2	135	8463	B3-U0-G2	141	6284	B1-U0-G2	105
P15-P-A05-730-x	3000	69	9452	B2-U0-G2	137	9331	B2-U0-G2	135	9525	B2-U0-G2	138	9955	B4-U0-G2	144	7393	B1-U0-G2	107
P15-P-A06-730-x	3000	84	11336	B3-U0-G2	135	11191	B2-U0-G2	133	11423	B2-U0-G2	136	11940	B4-U0-G2	142	8867	B1-U0-G2	106
P15-P-A07-730-x	3000	104	13796	B3-U0-G2	133	13619	B2-U0-G2	131	13901	B2-U0-G3	134	14530	B4-U0-G2	140	10791	B1-U0-G2	104
P15-P-A08-730-x	3000	107	14925	B3-U0-G2	140	14734	B2-U0-G3	138	15039	B2-U0-G3	141	15720	B4-U0-G2	147	11674	B1-U0-G2	109

LED Wattage and Lumen Values – 4000K

			T2M			T3M			T4S			T5S			BLC		
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)
P15-P-A01-740-x	4000	14	2137	B1-U0-G1	149	2110	B1-U0-G1	148	2154	B1-U0-G1	151	2251	B2-U0-G1	157	1672	B0-U0-G0	117
P15-P-A02-740-x	4000	27	4041	B1-U0-G1	152	3989	B1-U0-G1	150	4072	B1-U0-G1	153	4256	B3-U0-G1	160	3161	B0-U0-G1	119
P15-P-A03-740-x	4000	45	6518	B2-U0-G1	146	6435	B1-U0-G2	144	6568	B1-U0-G2	147	6866	B3-U0-G1	154	5099	B0-U0-G2	114
P15-P-A04-740-x	4000	60	8457	B2-U0-G2	141	8349	B1-U0-G2	139	8522	B2-U0-G2	142	8908	B3-U0-G2	148	6615	B1-U0-G2	110
P15-P-A05-740-x	4000	69	9949	B2-U0-G2	144	9822	B2-U0-G2	142	10026	B2-U0-G2	145	10479	B4-U0-G2	152	7782	B1-U0-G2	113
P15-P-A06-740-x	4000	84	11933	B3-U0-G2	142	11780	B2-U0-G2	140	12024	B2-U0-G2	143	12568	B4-U0-G2	150	9334	B1-U0-G2	111
P15-P-A07-740-x	4000	104	14522	B3-U0-G2	140	14336	B2-U0-G3	138	14633	B2-U0-G3	141	15295	B4-U0-G2	147	11359	B1-U0-G2	109
P15-P-A08-740-x	4000	107	15710	B3-U0-G3	147	15509	B2-U0-G3	145	15830	B3-U0-G3	148	16547	B4-U0-G2	155	12288	B1-U0-G2	115

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.

P15 PureForm LED small square

Area light with precision optics

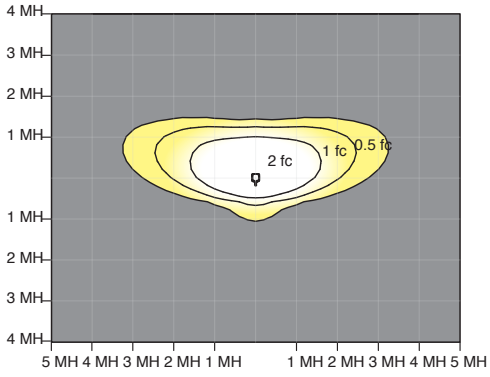
Predicted Lumen Depreciation Data

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

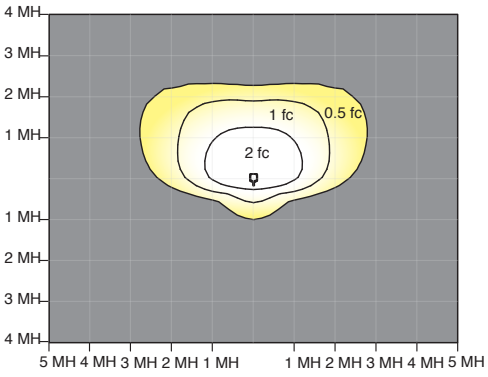
Ambient Temperature °C	Calculated L_{70} Hours	L_{70} per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	>100,000 hours	>120,000 hours	>99%

Optical Distributions

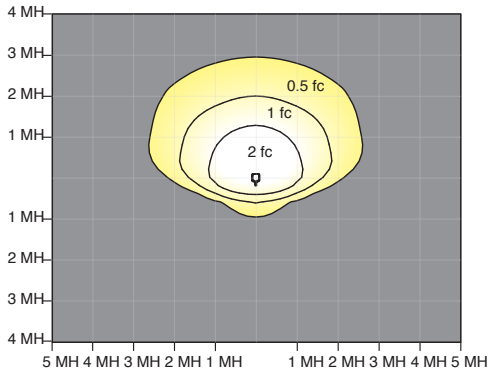
Based on configuration P15-P-A03-740 mounted at 15ft



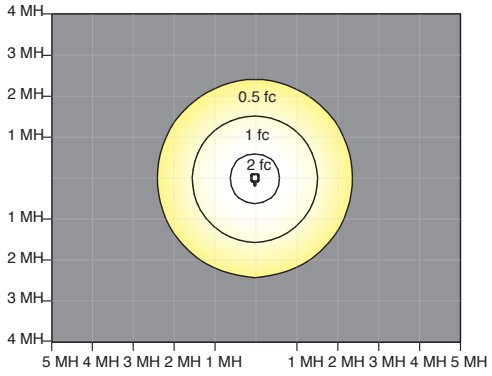
Type 2 Medium



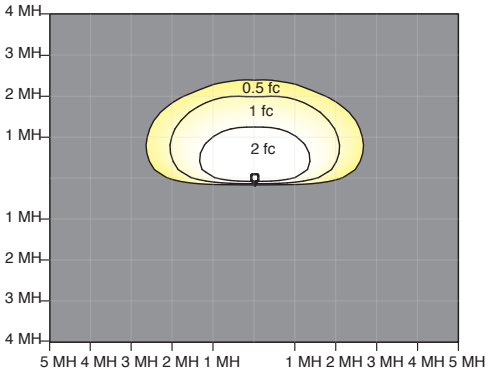
Type 3 Medium



Type 4 Short



Type 5 Short



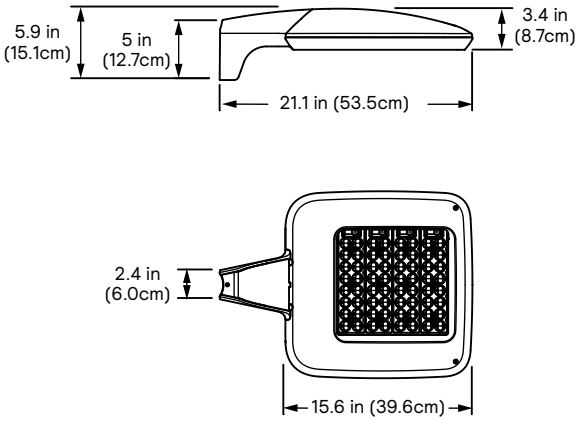
Back Light Control

P15 PureForm LED small square

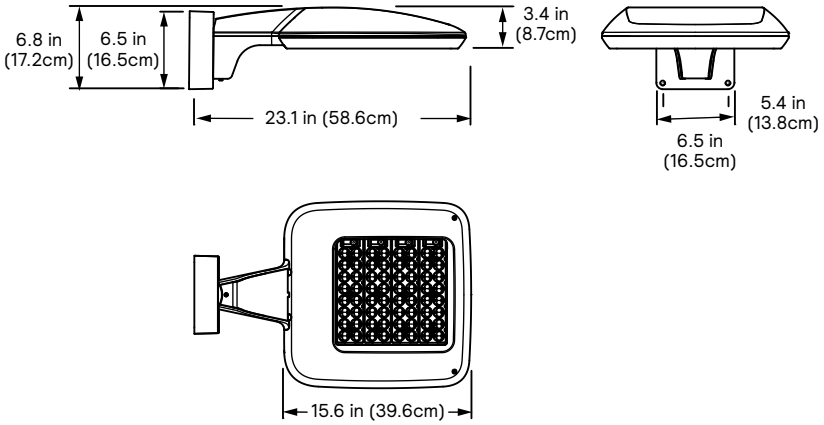
Area light with precision optics

Dimensions

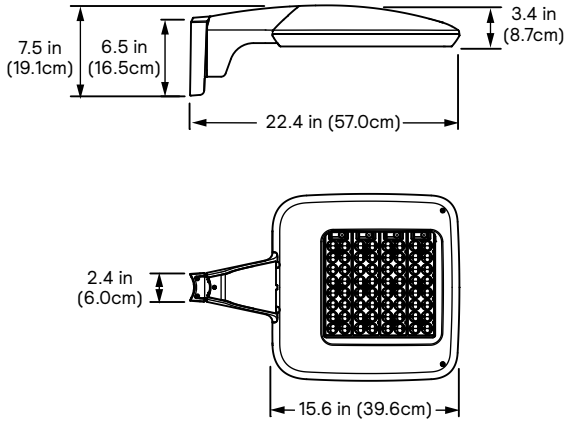
Standard Arm (AR1)



Wall Mount (WAL)

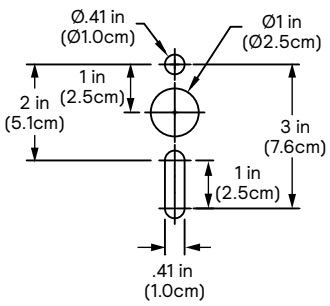


Retrofit Arm (RAM)

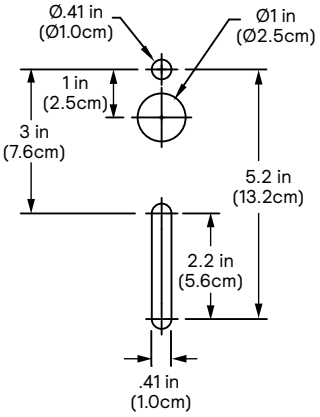


Drill Patterns

Standard Arm (AR1)



Retrofit Arm (RAM)



Weight: 22 Lbs (10 kg)
EPA: 0.24ft^2 (.02 m^2)

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Area light with precision optics

Specifications

Housing

One-piece cast aluminum housing with integral arm and die cast light engine frame. Luminaire housing rated to IP65, tested in accordance to Section 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 engine comprises of a module of 16-LED aluminum metal clad board fully sealed with optics offered in multiples of 2, 3 and 4 modules. Module is RoHS compliant. Color temperatures: 3000K +/- 125K, 4000K, 5000K +/- 200K. Minimum CRI of 70. Also available in 2700K, 3500K, with extended lead times. LED light engine is rated IP66 in accordance to Section 9 of IEC 60598-1.

Energy saving benefits

System efficacy up to 160 lms/W with significant energy savings over Pulse Start Metal Halide luminaires. Optional control options provide added energy savings during unoccupied periods.

Optical systems

Type 2 Medium, Type 3 Medium, Type 4 Short, and Type 5 Short distributions available. Internal Shield option mounts to LED optics and is available with Type 2, 3, and 4 distributions including a dedicated BLC optic to provide the best backlight control possible for those stringent requirements around property lines. Performance tested per LM-79 and TM-15 (IESNA) certifying its photometric performance. Luminaire designed with 0% uplight (U0 per IESNA TM-15).

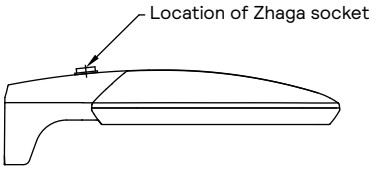
Mounting

Standard luminaire arm mounts to 4" O.D. 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.



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%

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.

Motion response options

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

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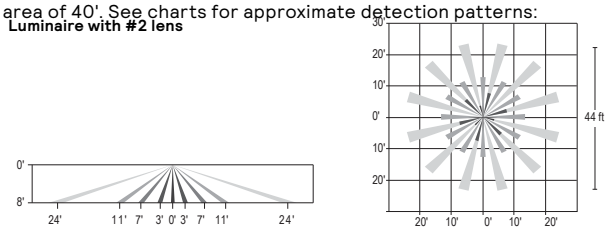
Area light with precision optics

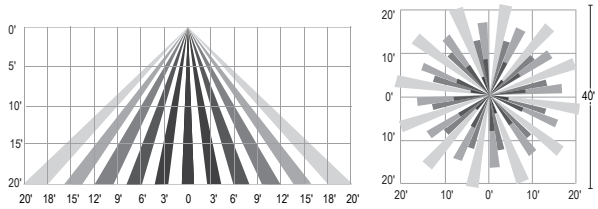
Specifications (cont'd)

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 lens (L2) is designed for mounting heights from 8' to 15' with a 44' coverage area. Lens #3 (L3) is designed for mounting heights up to 25' with a more precise cover area of 40'. See charts for approximate detection patterns:

Luminaire with #2 lens



Luminaire with #3 lens



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 P15 configurations are qualified under Premium 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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