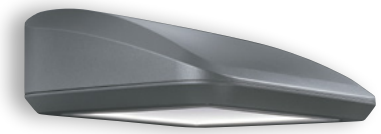
GARDCO by signify

Wall Mount

PureForm

PWS wall sconce with comfort optics



Gardco PureForm LED wall sconce comfort PWS offers a sleek, low profile design that will complement a range of architectural styles. Comfort optics are designed to enhance visual comfort by reducing glare. PureForm wall sconce provides up to 10,700 lumens to accommodate multiple mounting heights up to 20', and is available with Type 2, 3, 4, optical distributions. A full range of control options is available for additional energy savings. Optional emergency battery backup option is available for path-of-egress and is integral to the luminaire.

Project:

Location:

Cat.No:

Type:

Lamps: Qty:

Notes:

Ordering guide

example: PWS-196L-650-NW-G2-2-UNV-DGY

Prefix	Number of LEDs	Drive Current	LED Color - Generation	Distribution	Emergency	Voltage	Options: Dimming controls	Options: Motion sensing	Options: Photo-sensing	Options: Electrical	Finish
PWS											
PWS PureForm wall sconce	**196L** 196 LEDs	**450** 450mA **650** 650mA **1150** 1150mA [1] **1675** 1675mA [1] **2100** 2100mA [1,2]	**WW-G2** Warm White 3000K, 80CRI Generation 2 **NW-G2** Neutral White 4000K, 80CRI Generation 2 **CW-G2** Cool White 5000K, 70CRI Generation 2 **WY-G2** Warm Yellow 2700K, 80 CRI Generation 2 [3] **BW-G2** Balanced White 3500K, 80 CRI Generation 2 [3]	**2** Comfort Type 2 **3** Comfort Type 3 **4** Comfort Type 4	**EBP** Emergency Battery Pack [1,7,11] **EBPC** Emergency Battery Pack Cold Weather [2,7,12] Leave blank to omit an emergency option	**UNV** 120-277V **HVU** 347-480V **120** 120V **208** 208V **240** 240V **277** 277V **347** 347V **480** 480V	**DD** 0-10V External dimming (controls by others)[4] **FAWS** Field Adjustable Wattage Selector [4,5] **LLC** Integral wireless module [4,5,6,7] **BL** BL Bi-level functionary with motion sensor [4] **DynaDimmer: Automatic Profile Dimming [4,5,7]** **CS50** Security 50% Dimming, 7 hours **CM50** Median 50% Dimming, 8 hours **CS30** Security 30% Dimming, 7 hours **CM30** Median 30% Dimming, 8 hours	**MMRI** High-Frequency motion sensor integral [7,8]	**PCB** Photocontrol Button [7,9,10]	**Fusing** **F1** Single (120, 277, 347VAC) [9] **F2** Double (208, 240, 480VAC) [9] **F3** Canadian Double Pull (208, 240, 480VAC) [9] **Surge Protection (10kA is standard)** **SP2** Increased 20kA	**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)
	140L 140 LEDs		**AM-G2** Direct Amber (>590nm) Generation 2 [3,13]								

1. 1150, 1675, and 2100mA not available with emergency battery backup (EBP).
2. 2100mA not available with emergency battery backup cold weather (EBPC).
3. Extended lead times apply. Contact factory for details.
4. Not available with other control options.
5. Not available with motion sensor.
6. Not available with photocontrol.
7. Not available in 347 or 480V.
8. MMRI not available with emergency battery backup cold weather (EBPC).
9. Must specify input voltage. UNV and HVU not valid options.
10. Not available with wireless control (LLC).
11. Not available with Dynadimmer (CS/CM).
12. Not available with Wireless control (LLC), or DynaDimmer (CS/CM).
13. Not available in 2100mA

PWS PureForm LED wall sconce

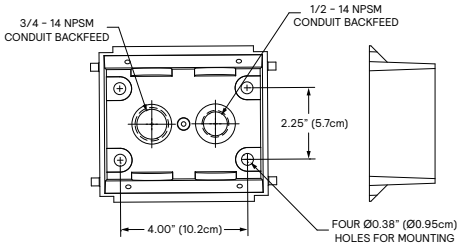
wall mount - with Comfort Optics

Luminaire Accessories[1] (order separately)

Mounting Accessories

Wall Mount

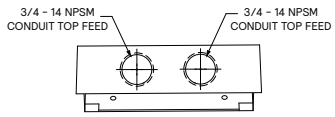
PWS-WS-G2	Wall Mounted Box for Surface Conduit



System accessories

Wireless system remote mount module

LLCR2-(F)	#2 lens - specify finish in place of (F)
LLCR3-(F)	#3 lens - specify finish in place of (F)

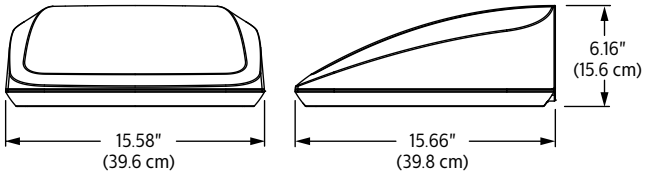


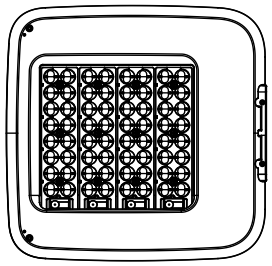
Wireless system remote controller accessory

Wireless system offers a remote radio/sensor module that allows connection to a Limelight system (sold by others). Remote module can be mounted to wall or pole with j-box supplied. May be specified by choosing one of two different lenses to accommodate a variety of mounting heights/sensor detection ranges. Must specify option DD on luminaires that are planned to be used with remote mount controllers.

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

Dimensions





Luminaire weights

PureForm LED wall sconce PWS	Weight
Luminaire	20 lbs
Luminaire - EBP (EM battery pack)	22 lbs
Luminaire - EBPC (EM battery pack cold weather)	25 lbs

PWS PureForm LED wall sconce

wall mount – with Comfort Optics

LED Wattage and Lumen Values – 5000K

Ordering Code	LED QTY	System Current (mA)	Color Temp	Avg System Wattage (W)	Type 2			Type 3			Type 4		
					Lumen Output	BUG Rating	Efficacy (Lm/W)	Lumen Output	BUG Rating	Efficacy (Lm/W)	Lumen Output	BUG Rating	Efficacy (Lm/W)
PWS-196L-450-CW-G2-x-UNV	196	450	5000	21	2228	B1-U0-G1	107	2492	B1-U0-G1	119	2496	B2-U0-G1	119
PWS-196L-650-CW-G2-x-UNV	196	650	5000	30	3176	B1-U0-G1	106	3553	B2-U0-G2	118	3559	B2-U0-G1	119
PWS-196L-1150-CW-G2-x-UNV	196	1150	5000	51	5576	B2-U0-G2	109	6237	B2-U0-G2	122	6248	B3-U0-G2	123
PWS-196L-1675-CW-G2-x-UNV	196	1675	5000	75	7888	B3-U0-G3	105	8823	B3-U0-G3	118	8839	B3-U0-G2	118
PWS-196L-2100-CW-G2-x-UNV	196	2100	5000	95	9669	B3-U0-G3	102	10816	B3-U0-G3	114	10835	B3-U0-G3	114

LED Wattage and Lumen Values – 4000K

Ordering Code	LED QTY	System Current (mA)	Color Temp	Avg System Wattage (W)	Type 2			Type 3			Type 4		
					Lumen Output	BUG Rating	Efficacy (Lm/W)	Lumen Output	BUG Rating	Efficacy (Lm/W)	Lumen Output	BUG Rating	Efficacy (Lm/W)
PWS-196L-450-NW-G2-x-UNV	196	450	4000	21	2122	B1-U0-G1	102	2373	B1-U0-G1	114	2377	B2-U0-G1	114
PWS-196L-650-NW-G2-x-UNV	196	650	4000	30	3024	B1-U0-G1	101	3383	B2-U0-G2	113	3389	B2-U0-G1	113
PWS-196L-1150-NW-G2-x-UNV	196	1150	4000	51	5310	B2-U0-G2	104	5940	B2-U0-G2	116	5951	B3-U0-G2	117
PWS-196L-1675-NW-G2-x-UNV	196	1675	4000	75	7512	B3-U0-G3	100	8403	B3-U0-G3	112	8418	B3-U0-G2	112
PWS-196L-2100-NW-G2-x-UNV	196	2100	4000	95	9208	B3-U0-G3	97	10301	B3-U0-G3	109	10319	B3-U0-G2	109

LED Wattage and Lumen Values – 3000K

Ordering Code	LED QTY	System Current (mA)	Color Temp	Avg System Wattage (W)	Type 2			Type 3			Type 4		
					Lumen Output	BUG Rating	Efficacy (Lm/W)	Lumen Output	BUG Rating	Efficacy (Lm/W)	Lumen Output	BUG Rating	Efficacy (Lm/W)
PWS-196L-450-WW-G2-x-UNV	196	450	3000	21	2040	B1-U0-G1	98	2282	B1-U0-G1	109	2286	B2-U0-G1	109
PWS-196L-650-WW-G2-x-UNV	196	650	3000	30	2908	B1-U0-G1	97	3253	B1-U0-G1	108	3259	B2-U0-G1	109
PWS-196L-1150-WW-G2-x-UNV	196	1150	3000	51	5106	B2-U0-G2	100	5712	B2-U0-G2	112	5722	B3-U0-G2	112
PWS-196L-1675-WW-G2-x-UNV	196	1675	3000	75	7223	B3-U0-G3	96	8080	B3-U0-G3	108	8094	B3-U0-G2	108
PWS-196L-2100-WW-G2-x-UNV	196	2100	3000	95	8854	B3-U0-G3	93	9905	B3-U0-G3	105	9922	B3-U0-G2	105

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.

PWS PureForm LED wall sconce

wall mount – with Comfort Optics

LED Wattage and Lumen Values (Emergency Mode)

							Lumen Outputs					
					Avg. System Watts		Type 2		Type 3		Type 4	
Ordering Code	LED Qty	LED Current (mA)	Color Temp.	Temp Range (°C)	Normal Mode	Emergency Mode	Normal Mode	Emergency Mode	Normal Mode	Emergency Mode	Normal Mode	Emergency Mode
PWS-196L-450-NW-G2-x-EBP-UNV	196	450	4000	0 to 40	22	10	2448	1376	2516	1415	2671	1502
PWS-196L-650-NW-G2-x-EBP-UNV	196	650	4000	0 to 40	30	10	3412	1376	3508	1415	3724	1502
PWS-196L-450-NW-G2-x-EBPC-UNV	196	450	4000	-20 to 40	22	18	2448	1964	2516	2019	2671	2143
PWS-196L-650-NW-G2-x-EBPC-UNV	196	650	4000	-20 to 40	30	18	3412	1964	3508	2019	3724	2143
PWS-196L-1150-NW-G2-x-EBPC-UNV	196	1150	4000	-20 to 40	52	18	5899	1964	6064	2019	6436	2143
PWS-196L-1675-NW-G2-x-EBPC-UNV	196	1675	4000	-20 to 40	75	18	8189	1964	8419	2019	8935	2143

For emergency EBPC option, publish values are based on initial lumens.

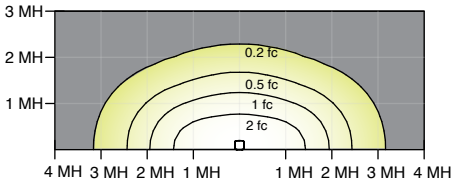
Predicted Lumen Depreciation Data

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

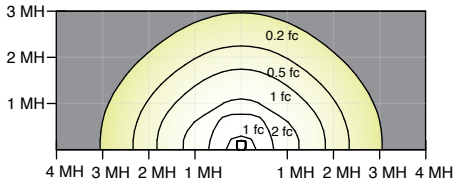
Ambient Temperature °C	Drive current	Calculated L_{70} Hours	L_{70} per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	**up to 2100 mA**	**>100,000 hours**	**>42,000 hours**	**>88%**

Optical Distributions

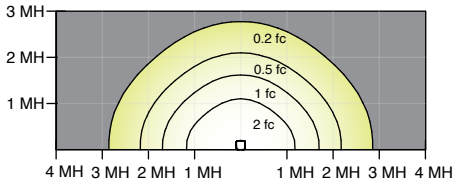
Based on 20' mounting height



Comfort Type 2



Comfort Type 3



Comfort Type 4

PWS PureForm LED wall sconce

wall mount - with Comfort Optics

Specifications

Housing

Main body housing and door frame made of low copper die cast aluminum alloy for a high resistance to corrosion. Door hinges secured by aircraft cable to allow access to driver or other electronic components for servicing. The door frame acts as the main heat transfer component and it is optimized to allowing the main housing to have no fins, giving the freedom to have a clean minimalist aesthetic design while allowing it to house emergency battery backup equipment and various other options. Luminaire housing rated to IP65, tested in accordance to Section 9 of IEC 60598-1.

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 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 (>590nm) with extended lead times. Contact factory for details. LED light engine is rated IP65 in accordance to Section 9 of IEC 60598-1.

Energy saving benefits

System efficacy up to 122 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 2, 3, and 4. Composed of high performance UV-stabilized optical grade lens with molded 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

Mounting is completed through integral back plate that features a separate recessed feature for hook and lock quick mount plate that secures with two set screws from bottom of luminaire. Luminaire ships fully assembled, ready to install.

Control options

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

Automatic Profile Dimming (CS/CM): Standard dimming profile provides 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 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)

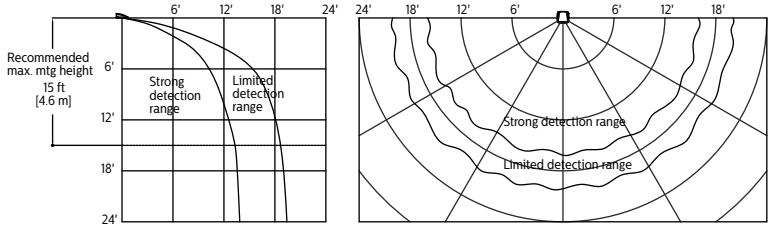
All above profiles are calculated from mid point of the night. Dimming is set for 6 hours after the mid point and 2, or 3 hours before depending of the duration of dimming. Cannot be used with other dimming control options.

Emergency Battery Backup Cold Pack (EBP/EBPC): Emergency battery packs included integral to the luminaire, allowing for a consistent look between emergency and non-emergency luminaires. A separate surface mount accessory box is not required. EBP is suitable for use in ambient temperature conditions from 0°C (32°F) to 40°C (100°F) available on 450mA and 650mA only. EBPC cold weather rated down to -20°C (-4°F) available on all wattage except the 2100mA configuration. Both systems are 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.

Wireless system (LLC): Optional wireless controller integral to luminaire ready to be connected to a Limelight system (sold by others). The system allows you to wirelessly manage the entire site, independent lighting groups or individual luminaires while on-site or remotely. Based on a high-density mesh network with an easy to use web-based portal, you can conveniently access, monitor and manage your lighting network remotely. Wireless controls can be combined with site and area, pedestrian, and parking garage luminaires as well, for a completely connected outdoor solution. Motion response capability can be installed in other luminaires in the mesh or on a remote pod accessory where pod is mounted to pole or wall.

Motion response options

Bi-Level Infrared Motion Response (BL-MMRI): 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.



PWS PureForm LED wall sconce

wall mount - with Comfort Optics

Specifications (cont'd)

Electrical

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 protector tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/5kA waveforms for Line Ground, Line Neutral and Neutral Ground, and in accordance with U.S. DOE (Department of Energy) MSSLC (Municipal Solid-State Street Lighting Consortium) Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High Test Level 10kV / 5kA. Optional 20kV is available for additional protection.

Listings

UL/cUL listed to the UL 1598 standard, suitable for wet locations when mounted downward facing. Also listed for damp locations when inverted upward facing when mounted in covered ceiling application. Suitable for use in ambient temperatures from -40° to 40°C (-40° to 104°F). Most PureForm PWS configurations are qualified under Standard DesignLights Consortium® category. Consult DLC Qualified Products list for more details. CCTs 3000K and warmer are IDA Dark Dky 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 (DGY), and medium gray (MGY). 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.

Signify North America Corporation
400 Crossing Blvd, Suite 600
Bridgewater, NJ 08807
Telephone 855-486-2216

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