



**ClassicStyle** outdoor urban bollard luminaires feature ClearGuide, a revolutionary, vertically-oriented light engine designed to reduce pixelation and glare.

Project: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Cat.No: \_\_\_\_\_  
 Type: \_\_\_\_\_  
 Lamps: \_\_\_\_\_ Qty: \_\_\_\_\_  
 Notes: \_\_\_\_\_

### Ordering guide

example: VBR-15L100NW-G1-5-120-DE25-PH7-GY3TX

Luminaire	LED Module	Board Generation	Optical System	Voltage	Driver Options <sup>3</sup>	Bollard Options	Anchor Bolts	Bolt Circle	Finish
VBR		G1						23/4+	
VBR <sup>1</sup> ClassicStyle Bollard	15L100NW <sup>2,5</sup> 15L350NW 15L100WW <sup>2,5</sup> 15L350WW	G1 Gen 1	3 <sup>3</sup> Type III  5 Type V	120  208  240  277	AST Adjustable Start Time  CLO Constant Light Output  DALI Digitally Adressable Lighting Interface  Dynadimmer DCP Dimming Level determined by user Economy Profile  DE25 DE50 DE75 Median Profile  DM25 DM50 DM75 Safety Profile  DS25 DS50 DS75  OTL Over The Life	MR <sup>3</sup> Motion Response 2@180 Degrees  OVR Dynadimmer override function  PH7 Button Eye Photo Cell  SP2 Surge Protection, 20KV 20KA 120-277  HS <sup>4</sup> House Side Shield  VPA Vandal proof hardware	3/8x12 4 Steel Anchor Bolts  3/8x12-G 4 Steel Anchor Bolts - Fully Galvanized	2 3/4+ Cross Pattern	BE2TX Textured Midnight Blue BE6TX Textured Ocean Blue BE8TX Textured Royal Blue BG2TX Textured Sandstone BKTX Textured Black BRTX Textured Bronze GN4TX Textured Blue Green GN6TX Textured Forest Green GN8TX Textured Dark Forest Green GNTX Textured Green GR Gray Sandtex GY3TX Textured Medium Grey RD2TX Textured Burgundy RD4TX Textured Scarlet TS Hammerstone Silver TG Hammerstone Gold WHTX Textured White

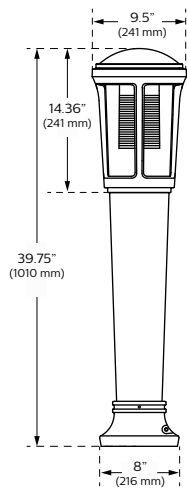
1. Luminaire always shipped with a dimmable 0-10V driver
2. 0-10 volt and all driver options not available.
3. MR Not available with Driver nor OVR options.
4. House Side Shield only available with Type 3.
5. MR Option not available.



# VBR ClassicStyle LED Bollard

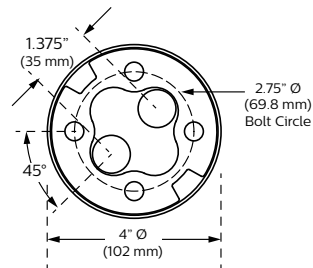
## Urban Luminaire

### Dimensions



**Weight:** 36 lbs (16.3 kg)

### Bolt Circle Pattern



### Driver Option Details

#### Dynadimmer Profiles

Ordering Code	Scenario	Dimming Time	Dimming Level
DS25	Safety	4 hours	25% power dimming
DS50	Safety	4 hours	50% power dimming
DS75	Safety	4 hours	75% power dimming
DM25	Median	6 hours	25% power dimming
DM50	Median	6 hours	50% power dimming
DM75	Median	6 hours	75% power dimming
DE25	Economy	8 hours	25% power dimming
DE50	Economy	8 hours	50% power dimming
DE75	Economy	8 hours	75% power dimming
DCP	Programmable	Determined by user	Determined by user

**CLO:** Pre-set driver to manage the lumen depreciation by adjusting the power given to the LEDs offering the same lighting intensity during the entire lifespan of the LED module.

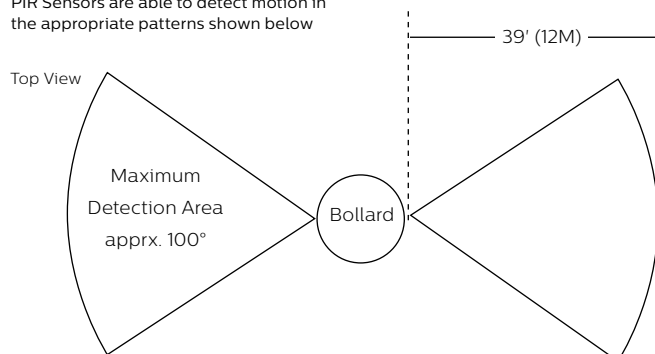
**AST:** Pre-set driver for progressive start-up of the LED module(s) to optimize energy management and enhance visual comfort at start-up.

**OTL:** Pre-set driver to signal end of life of the LED module(s) for better fixture management.

**DALI:** Pre-set driver compatible with the DALI control system.

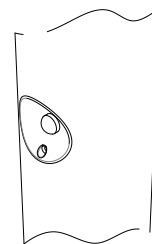
### Motion Response Details

PIR Sensors are able to detect motion in the appropriate patterns shown below



#### MR

Motion Response Option Detail



**Note:** Motion Sensors rely on special zonal crossings to detect motion. It is possible for a person to directly approach the bollard motion sensor without crossing between zones until 15' from the motion sensor. The actual motion detection distance may vary based on specific application characteristics.

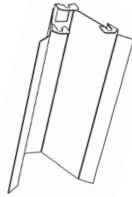
# VBR ClassicStyle LED Bollard

## Urban Luminaire

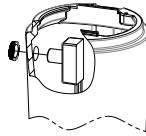
### Bollard Options Details

**HS**  
House Side Shield

Factory installed only.



**PH7**  
Button Eye Photocell



### 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<sub>70</sub> is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L<sub>70</sub> hours limited to 6 times actual LED test hours

Ambient Temperature °C	Driver mA	Calculated L <sub>70</sub> Hours	L <sub>70</sub> per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	up to 350 mA	>100,000 hours	>60,000 hours	>96%

### LED light engine technical information for ClassicStyle Bollard (VBR)

CCT = 4000K nominal (3985K +/- 275K), CRI = 70, System (LED + driver) rated life = 100,000 hrs<sup>1</sup>

LED Module	Typical delivered lumens	Typical system wattage (W) <sup>2</sup>	Typical System Current (A) @						LED current (mA)	HID <sup>3</sup> equivalent	Luminaire Efficacy Rating (Lm/W)	BUG rating
			120V	208V	240V	277V	347V	480V				
VBR-15L100NW-G1-3	401	7	0.06	0.05	0.06	0.06	NA	NA	100	35W	57	B0-U2-G1
VBR-15L100NW-G1-5	455	6	0.06	0.05	0.06	0.06	NA	NA	100	35W	76	B0-U2-G1
VBR-15L350NW-G1-3	1267	18	0.16	0.10	0.09	0.09	0.06	0.06	350	70W	70	B0-U3-G1
VBR-15L350NW-G1-5	1493	18	0.16	0.10	0.09	0.09	0.06	0.06	350	70W	83	B1-U2-G1

CCT = 3000K nominal (3045K +/- 175K), CRI = 70, System (LED + driver) rated life = 100,000 hrs<sup>1</sup>

LED Module	Typical delivered lumens	Typical system wattage (W) <sup>2</sup>	Typical System Current (A) @						LED current (mA)	HID <sup>3</sup> equivalent	Luminaire Efficacy Rating (Lm/W)	BUG rating
			120V	208V	240V	277V	347V	480V				
VBR-15L100WW-G1-3	341	7	0.06	0.05	0.06	0.06	NA	NA	100	35W	49	B0-U2-G1
VBR-15L100WW-G1-5	387	6	0.06	0.05	0.06	0.06	NA	NA	100	35W	65	B0-U2-G1
VBR-15L350WW-G1-3	1078	18	0.16	0.10	0.09	0.09	0.06	0.06	350	70W	60	B0-U3-G1
VBR-15L350WW-G1-5	1270	18	0.16	0.10	0.09	0.09	0.06	0.06	350	70W	71	B1-U2-G1

- L<sub>70</sub> = 70,000 hrs (at ambient temperature = 25°C)
- System wattage includes the lamp and the LED driver
- Equivalence should always be confirmed by a photometric layout

Note : Due to rapid and continuous advances in LED technology, LED luminaire data is subject to change without notice and at the discretion of Signify.

# VBR ClassicStyle LED Bollard

## Urban Luminaire

### Specifications

#### Hood

Built-in the heat sink shall be made from cast aluminum 356 optimizing the LEDs efficiency and life. Product does not use any cooling device with moving parts (only passive cooling device). Hood, globe and cage held together with the help of central tubing.

#### Cage

In a round shape with 4 arms, this cage is a one piece cast 356 Aluminum alloy 0.250 (6.4mm) minimum thickness, mechanically assembled to the base.

#### Light Engine

ClearGuide technology, use of a light guide to create a clear transparent visual appearance during the day while achieving comfortable uniform light at night. Composed of 4 main components: Heat Sink / LED Module / Optical System / Driver Electrical components are RoHS compliant, LEDs tested by ISO 17025 2005 accredited lab in accordance with IESNA LM 80 guidelines in compliance with EPA ENERGY STAR, extrapolations in accordance with IESNA TM 21. Metal core board ensures greater heat transfer and longer lifespan.

#### Globe

Made of one-piece seamless injection-molded clear polycarbonate. The globe is assembled between the hood and the cage and is rated IP66. Tested in accordance with CEI 62262 standard, globe is rated IK10.

#### LED Module

Composed of 15 high performance white LEDs. Color temperature as per ANSI bin Neutral White, 3000 Kelvin nominal (3045K +/- 175K) or 4000 Kelvin nominal (3985K +/- 275K), CRI 70 Min. 75 Typical.

#### Optical System

ClearGuide technology (3-5), IES type III-V (asymmetrical-symmetrical). Composed of high performance optical grade molded PMMA (polymethyl methacrylate) acrylic light guide with precision rings provides superior optical control to achieve desired distribution optimized to get maximum spacing and target lumens. Use of ClearGuide technology optics for optimal light distribution without direct view of the LED's. This system provides glare control, visual comfort, facial recognition for safety and create light designed for vertical uniform illumination to the environment. Performance shall be tested per LM 63, LM 79 and TM 15 (IESNA) certifying its photometric performance. Street side indicated

#### Driver

High power factor >90%. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277 VAC rated for both application line to line or line to neutral, Class I, THD <20%. Maximum ambient operating temperature from 40F(40C) to 130F(55C) degrees. Certified in compliance to UL1310 cULus requirement. Dry and damp location. Values based on 120 volt. Driver comes with dimming compatible 0-10 volts.

Driver with MR: High power factor >90%. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277 VAC rated for both application line to

line or line to neutral, Class II, THD <20%. Maximum ambient operating temperature from 40F(40C) to 130F(55C) degrees. Certified in compliance to UL1310 cULus requirement. Dry and damp location. Values based on 120 volt. Driver comes with dimming compatible 0 10 volts.

The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction. Standard built in driver surge protection of 2.5kV (min).

#### Surge Protection

Surge protector 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 U.S. DOE (Department of Energy) MSSLC (Municipal Solid State Street Lighting Consortium) model specification for LED roadway luminaires electrical immunity requirements for High Test Level 10kV / 10kA.

**SP2 Option:** Integral surge protector tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure with elevated 20kV/20kA 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 electrical immunity requirements for High Test Level 10kV / 10kA.

#### Access-Mechanism

Two integrated captive screws offers access to the inside of the base by pulling up the bollard's entire top. This system includes a secured blocking device holding screws in locking position.

#### Base

Made of cast aluminum 356, mechanically assembled to the anchor plate.

#### Base Cover

Two pieces round base cover made from cast 356 aluminum, mechanically fastened to the base.

#### Quality Control

The manufacturer must provide a written confirmation of its ISO 9001 2008 and ISO 14001 2004 International Quality Standards Certification.

#### Bollard Options

**PH7:** Button type photocell. Connection done on site by others.

**MR:** Motion Response includes two (2) Panasonic EKMB1203112 Passive Infrared (PIR) sensors to detect motion. When motion is not detected for a 5 minute period, bollard automatically dim to 20% power and light, gradually over a 2 minute period. Once Motion is detected, bollard immediately ramp to full power and light output until motion is not detected for a 5 minute period.

See end of document for more information on Motion Response.

**SP2:** Integral surge protector tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure with elevated 20kV/20kA 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 electrical immunity requirements for High Test Level 10kV / 10kA.

#### Luminaire Useful Life

Refer to IES files for energy consumption and delivered lumens for each option. Based on ISTMT in situ thermal testing in accordance with UL1598 and UL8750, System Reliability Tool, Advance data and Lumileds LM-80/TM-21 data, expected to reach 100,000 + hours with >L70 lumen maintenance @ 25°C. Luminaire Useful Life accounts for LED lumen maintenance AND all of these additional factors including: LED life, driver life, PCB substrate, solder joints, on/off cycles, burning hours and corrosion. Entire luminaire is rated for operation in ambient temperature of -40°C / -40°F up to +35°C / +95°F.

#### LED products manufacturing standard

The electronic components sensitive to electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with IEC61340 5 1 and ANSI/ESD S20.20 standards so as to eliminate ESD events that could decrease the useful life of the product.

#### Quality Control

The manufacturer must provide a written confirmation of its ISO 9001 2008 and ISO 14001 2004 International Quality Standards Certification.

#### Hardware

All exposed screws shall be complete with Ceramic primer-seal basecoat to reduce seizing of the parts and offers a high resistance to corrosion. All seals and sealing devices are made and/or lined with EPDM and/or silicone and/or rubber.

#### Finish

In accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with ± 1 mils/24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard.

The surface treatment achieves a minimum of 2000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard.

#### Certifications and Compliance

CSA, cULus Listed for Canada and USA.

