



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

The Hadco Baltimore LED post top consists of a traditional stately form that has created an industry standard. It offers the style of traditional lanterns with today's cutting edge LED engine technology. For historic areas and new street-scapes Baltimore is available in sizes that are in proportion to most applications including residential streets, city streets, campuses and parking lots.

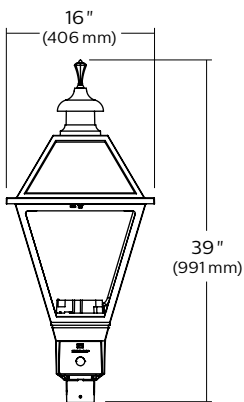
### Ordering guide

Example: VX651-48-G3-A-C-2-N-730-A-3-N-SPI

Series	LED count	Gen	Finish	Panels	Optics	POD Photo Control	Future Proof Photo Control	Color Temp	Voltage	Drive Current	Driver options	Surge protection
VX651	<input type="text"/>	G3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
VX651	16 16 LEDs 32 32 LEDs <sup>1,2</sup> 48 48 LEDs <sup>1</sup>	G3 Gen 3	A Black B White G Verde H Bronze J Green	C Clear F Frosted V Vertical Ribbed	2S Type 2 Short 2SH Type 2 Short House-side shield 3S Type 3 Short 3SH Type 3 Short House-side shield 3WH Type 3 Wide House-side shield	N None E 120 VAC button eye H 208/240/277 VAC button eye R 3-Pin Twist Lock Receptacle	N None R7 7-pin receptacle in cage	730 Warm 3000K 740 Neutral 4000K	A 120-277 B 347-480 <sup>2</sup>	5 530mA <sup>2</sup> 7 700mA <sup>1</sup> 8 800mA 9 900mA 1 1050mA	<b>Dynadimmer</b> DA 4 Hrs, 25% reduction DB 4 Hrs, 50% reduction DC 4 Hrs, 75% reduction DD 6 Hrs, 25% reduction DE 6 Hrs, 50% reduction DF 6 Hrs, 75% reduction DG 8 Hrs, 25% reduction DH 8 Hrs, 50% reduction DJ 8 Hrs, 75% reduction N None DL DALI S FAWS Field adj watt selector SRD Sensor ready driver (standard configuration) SRD1 Sensor ready driver (alternate configuration)	SP1 10kV/10kA Surge Protector SP2 20kV/20kA Surge Protector

- The 700mA (7) current is only compatible for 32 LEDs (32) and 48 LEDs (48) configurations.
- Configurations with 347-480VAC (B) voltage are not compatible with 32 LEDs (32) at 530mA (5) currents, optional dimming or optional programming.

### Dimensions



**VX651**  
 Height: 39" (99cm)  
 Width: 16" (41cm)  
 Max. EPA: 1.65 sq. ft.  
 Max. Weight 28 lbs.



# VX651 Baltimore

## Post top

### LED Wattage and Lumen Values for 3000K fixtures

Ordering Code: (3000K)	Total LEDs	System current (mA)	Average System Watts <sup>1</sup> (W)	Type 2			Type 3			Type 3W			Type 4			Type 5		
				Lumen Output <sup>2</sup>	BUG Rating	Efficacy (LPW)	Lumen Output <sup>2</sup>	BUG Rating	Efficacy (LPW)	Lumen Output <sup>2</sup>	BUG Rating	Efficacy (LPW)	Lumen Output <sup>2</sup>	BUG Rating	Efficacy (LPW)	Lumen Output <sup>2</sup>	BUG Rating	Efficacy (LPW)
<b>Clear Panel VX651 3000K</b>																		
32-G3-C-x-730-3	32	350	38	3987	B1-U2-G1	105	3954	B1-U3-G1	104	4061	B1-U3-G1	107	3961	B1-U3-G1	104	4143	B3-U3-G1	109
32-G3-C-x-730-5	32	530	53	5719	B1-U3-G1	108	5671	B1-U3-G1	107	5825	B1-U3-G2	110	5681	B1-U3-G2	107	5943	B3-U3-G2	112
32-G3-C-x-730-7	32	700	71	7212	B2-U3-G2	102	7154	B1-U3-G2	101	7347	B2-U3-G2	103	7166	B1-U3-G2	101	7495	B3-U3-G2	106
48-G3-C-x-730-3	48	350	51	5981	B1-U3-G1	117	5932	B1-U3-G1	116	6091	B1-U3-G2	119	5941	B1-U3-G2	116	6215	B3-U3-G2	122
48-G3-C-x-730-5	48	530	79	8578	B2-U3-G2	109	8508	B2-U3-G2	108	8737	B2-U3-G2	111	8523	B2-U3-G2	108	8914	B3-U3-G2	113
64-G3-C-x-730-3	64	350	68	7858	B2-U3-G2	116	7861	B1-U3-G2	116	8216	B2-U3-G2	121	7929	B1-U3-G2	117	8436	B3-U3-G2	124
64-G3-C-x-730-5	64	530	104	11273	B2-U3-G2	108	11275	B2-U3-G2	108	11786	B2-U3-G2	113	11372	B2-U3-G2	109	12100	B4-U3-G2	116
<b>Frosted Panel VX651 3000K</b>																		
32-G3-F-x-730-3	32	350	38	3656	B1-U3-G2	96	3664	B1-U3-G2	96	3750	B1-U3-G3	99	3681	B1-U3-G3	97	3848	B2-U3-G2	101
32-G3-F-x-730-5	32	530	53	5243	B1-U3-G3	99	5256	B1-U3-G3	99	5380	B1-U3-G3	102	5281	B1-U3-G3	100	5519	B2-U3-G3	104
32-G3-F-x-730-7	32	700	71	6614	B2-U3-G3	93	6629	B2-U3-G3	93	6784	B2-U3-G3	96	6660	B2-U3-G3	94	6961	B3-U3-G3	98
48-G3-F-x-730-3	48	350	51	5484	B2-U3-G3	108	5496	B1-U3-G3	108	5625	B1-U3-G3	110	5523	B1-U3-G3	108	5771	B2-U3-G3	113
48-G3-F-x-730-5	48	530	79	7865	B2-U3-G3	100	7883	B2-U3-G3	100	8069	B2-U4-G4	102	7920	B2-U3-G4	100	8278	B3-U4-G3	105
64-G3-F-x-730-3	64	350	68	7275	B2-U3-G3	107	7310	B2-U3-G3	108	7591	B2-U3-G4	112	7367	B2-U3-G4	108	7876	B3-U4-G3	116
64-G3-F-x-730-5	64	530	104	10436	B2-U4-G4	100	10485	B2-U4-G4	101	10888	B2-U4-G4	105	10568	B2-U4-G4	102	11297	B3-U4-G4	109
<b>Frosted Panel VX651 3000K</b>																		
32-G3-V-x-730-3	32	350	38	3888	B1-U2-G1	102	3895	B1-U3-G1	103	3977	B1-U3-G1	105	3870	B1-U3-G1	102	4034	B3-U3-G1	106
32-G3-V-x-730-5	32	530	53	5577	B1-U3-G1	105	5586	B1-U3-G1	105	5705	B1-U3-G2	108	5551	B1-U3-G2	105	5786	B3-U3-G2	109
32-G3-V-x-730-7	32	700	71	7034	B2-U3-G2	99	7046	B1-U3-G2	99	7194	B2-U3-G2	101	7001	B1-U3-G2	99	7297	B3-U3-G2	103
48-G3-V-x-730-3	48	350	51	5832	B1-U3-G1	114	5843	B1-U3-G1	115	5966	B1-U3-G2	117	5806	B1-U3-G2	114	6051	B3-U3-G2	119
48-G3-V-x-730-5	48	530	79	8366	B2-U3-G2	106	8379	B2-U3-G2	106	8558	B1-U3-G2	108	8328	B2-U3-G2	105	8679	B3-U3-G2	110
64-G3-V-x-730-3	64	350	68	7736	B2-U3-G2	114	7741	B2-U3-G2	114	8001	B2-U3-G2	118	7783	B1-U3-G2	114	8269	B3-U3-G2	122
64-G3-V-x-730-5	64	530	104	11096	B2-U3-G2	107	11102	B2-U3-G2	107	11476	B2-U3-G2	110	11163	B2-U3-G2	107	11860	B4-U3-G2	114

Actual performance may vary due to installation variables including optics, mounting/ceiling height, dirt depreciation, light loss factor, etc.; highly recommended to confirm performance with a layout - contact Applications at [outdoorlightingapplications@signify.com](mailto:outdoorlightingapplications@signify.com).

Note: Some data may be scaled based on tests of similar. But not identical luminaires.

# VX651 Baltimore

## Post top

### LED Wattage and Lumen Values for 4000K fixtures

Ordering Code: (3000K)	Total LEDs	System current (mA)	Average System Watts <sup>1</sup> (W)	Type 2			Type 3			Type 3W			Type 4			Type 5		
				Lumen Output <sup>2</sup>	BUG Rating	Efficacy (LPW)	Lumen Output <sup>2</sup>	BUG Rating	Efficacy (LPW)	Lumen Output <sup>2</sup>	BUG Rating	Efficacy (LPW)	Lumen Output <sup>2</sup>	BUG Rating	Efficacy (LPW)	Lumen Output <sup>2</sup>	BUG Rating	Efficacy (LPW)
<b>Clear Panel VX651 4000K</b>																		
32-G3-C-x-N3	32	350	38	4390	B1-U2-G1	116	4354	B1-U3-G1	115	4472	B1-U3-G1	118	4362	B1-U3-G1	115	4563	B3-U3-G1	120
32-G3-C-x-N5	32	530	53	6297	B1-U3-G1	119	6246	B1-U3-G1	118	6415	B1-U3-G2	121	6257	B1-U3-G2	118	6545	B3-U3-G2	123
32-G3-C-x-N7	32	700	71	7943	B2-U3-G2	112	7878	B2-U3-G2	111	8091	B2-U3-G2	114	7891	B1-U3-G2	111	8254	B3-U3-G2	116
48-G3-C-x-N3	48	350	51	6585	B1-U3-G1	129	6532	B1-U3-G1	128	6709	B1-U3-G2	132	6543	B1-U3-G2	128	6845	B3-U3-G2	134
48-G3-C-x-N5	48	530	79	9446	B2-U3-G2	120	9369	B2-U3-G2	119	9622	B2-U3-G2	122	9385	B2-U3-G2	119	9817	B4-U3-G2	124
64-G3-C-x-N3	64	350	68	8655	B2-U3-G2	127	8656	B2-U3-G2	127	9048	B2-U3-G2	133	8731	B1-U3-G2	128	9291	B3-U3-G2	137
64-G3-C-x-N5	64	530	104	12415	B2-U3-G2	119	12417	B2-U3-G2	119	12979	B2-U3-G2	125	12525	B2-U3-G2	120	13325	B4-U3-G2	128
<b>Frosted Panel VX651 4000K</b>																		
32-G3-F-x-N3	32	350	38	4026	B1-U3-G2	106	4035	B1-U3-G3	106	4130	B1-U3-G3	109	4054	B1-U3-G3	107	4238	B2-U3-G3	112
32-G3-F-x-N5	32	530	53	5774	B2-U3-G3	109	5788	B1-U3-G3	109	5924	B2-U3-G3	112	5815	B1-U3-G3	110	6078	B3-U3-G3	115
32-G3-F-x-N7	32	700	71	7284	B2-U3-G3	103	7299	B2-U3-G3	103	7472	B2-U3-G4	105	7335	B2-U3-G3	103	7665	B3-U4-G3	108
48-G3-F-x-N3	48	350	51	6039	B2-U3-G3	118	6052	B2-U3-G3	119	6195	B2-U3-G3	121	6081	B1-U3-G3	119	6356	B3-U3-G3	125
48-G3-F-x-N5	48	530	79	8663	B2-U4-G3	110	8681	B2-U4-G4	110	8887	B2-U4-G4	112	8723	B2-U4-G4	110	9116	B3-U4-G4	115
64-G3-F-x-N3	64	350	68	8012	B2-U3-G3	118	8051	B2-U4-G3	118	8359	B2-U4-G4	123	8114	B2-U4-G4	119	8674	B3-U4-G3	128
64-G3-F-x-N5	64	530	104	11493	B3-U4-G4	111	11548	B2-U4-G4	111	11990	B3-U4-G5	115	11638	B2-U4-G5	112	12441	B3-U4-G4	120
<b>Frosted Panel VX651 4000K</b>																		
32-G3-V-x-N3	32	350	38	4282	B1-U3-G1	113	4289	B1-U3-G1	113	4379	B1-U3-G1	115	4263	B1-U3-G1	112	4442	B3-U3-G1	117
32-G3-V-x-N5	32	530	53	6141	B1-U3-G1	116	6153	B1-U3-G1	116	6283	B1-U3-G2	119	6114	B1-U3-G2	115	6372	B3-U3-G2	120
32-G3-V-x-N7	32	700	71	7746	B2-U3-G2	109	7759	B2-U3-G2	109	7923	B2-U3-G2	112	7711	B1-U3-G2	109	8037	B3-U3-G2	113
48-G3-V-x-N3	48	350	51	6423	B1-U3-G1	126	6433	B1-U3-G1	126	6570	B1-U3-G2	129	6394	B1-U3-G2	125	6664	B3-U3-G2	131
48-G3-V-x-N5	48	530	79	9213	B2-U3-G2	117	9229	B2-U3-G2	117	9424	B2-U3-G2	119	9171	B2-U3-G2	116	9558	B4-U3-G2	121
64-G3-V-x-N3	64	350	68	8519	B2-U3-G2	125	8524	B2-U3-G2	125	8811	B2-U3-G2	130	8571	B2-U3-G2	126	9106	B3-U3-G2	134
64-G3-V-x-N5	64	530	104	12220	B2-U3-G2	118	12228	B2-U3-G2	118	12639	B2-U3-G2	122	12294	B2-U3-G2	118	13061	B4-U3-G2	126

Actual performance may vary due to installation variables including optics, mounting/ceiling height, dirt depreciation, light loss factor, etc.; highly recommended to confirm performance with a layout - contact Applications at outdoorlightingapplications@signify.com.

Note: Some data may be scaled based on tests of similar. But not identical luminaires.

## Specifications

### Housing

**Roof:** Hinged roof with stainless steel thumb screw. 360 low-copper die-cast aluminum alloy.

**Panels:** Three panel options. Clear panels are made of an U.V Stabilized sheet material and include a frosted decorative glass chimney. Vertical Rib panels are U.V. stabilized, injection molded with internal vertical ribs. Frosted Panels are U.V. Stabilized sheet material. All panels have tool-less removal for ease of cleaning.

**Fitter:** Slip Fitter Dimensions: 3" I.D. x 3" deep. Tool-less hinge door to access photocontrol components.

### LED Module

Composed of high-performance white LEDs. Color temperature as per ANSI/NEMA bin - Neutral White, 4000 Kelvin nominal (3985K +/- 275K or 3710K to 4260K) or Warm White, 3000 Kelvin nominal (3045K +/- 175K or 2870K to 3220K), CRI 70 Min. 75 Typical.

### Light Engine

**LEDgine is composed of five main components:** Heat Sink, Lens, LED lamp, Optical System, and Driver. Electrical components are RoHS compliant.

### Optical System

Type 2, 3, 3W, 4 and Type 5 composed of high performance optical grade PMMA acrylic refractor lenses to achieve desired distribution optimized to get maximum spacing, target lumens and a superior lighting uniformity. Optical system is rated IP66. Performance shall be tested per LM 63, LM 79 and TM 15 (IESNA) certifying its photometric performance. Street side indicated.

### Heat Sink

Made of cast aluminum optimizing the LEDs efficiency and life. Product does not use any cooling device with moving part (only passive cooling device).

# VX651 Baltimore

## Post top

### Specifications (continued)

#### Driver

Driver comes standard with 0-10V dimming capability. High power factor of 95%. 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 of 20% max. Maximum ambient operating temperature from 40°F (4°C) to 130°F (55°C). Certified in compliance to UL1310 cULus requirement (dry and damp location). Assembled on a unitized removable tray with Tyco quick disconnect plug resisting to 221°F (105°C). 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).

#### Driver Options

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

**SRD:** Sensor Ready Driver including SR communication (used for dimming and other functionalities), 24V auxiliary supply and a logical signal input (LSI) connected to the top NEMA twist lock receptacle.

**SRD1:** Sensor Ready Driver including SR communication (used for dimming and other functionalities) but with 24V auxiliary supply and a logical signal input (LSI) not connected to the top NEMA twist lock.

<b>DA:</b> 4 Hrs 25% reduction	<b>DF:</b> 6 Hrs 75% reduction
<b>DB:</b> 4 Hrs 50% reduction	<b>DG:</b> 8 Hrs 25% reduction
<b>DC:</b> 4 Hrs 75% reduction	<b>DH:</b> 8 Hrs 50% reduction
<b>DD:</b> 6 Hrs 25% reduction	<b>DJ:</b> 8 Hrs 75% reduction
<b>DE:</b> 6 Hrs 50% reduction	

#### LED Performance

Predicted lumen depreciation data <sup>1</sup>				
Ambient Temperature (°C)	Driver mA	Calculated L <sub>70</sub> hours <sup>1,2</sup>	L <sub>70</sub> per TM-21 <sup>2,3</sup>	Lumen Maintenance % @ 60,000 hours
25°C	up to 700 mA	>100,000	>60,000	90%

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

#### 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. Option for SP2 20kV/20kA.

#### 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, using LM-80 data from LED manufacturers and engineering prediction methods, the luminaire useful life is expected to reach 100,000+ hours with >L70 lumen maintenance @ 25°C (48 LED and 64LED at 530mA is 68,000). Luminaire useful life accounts for LED lumen maintenance and additional factors, including LED life, driver life, PCB substrate, solder joints on/off cycles and burning hours for nominal applications.

#### Hardware

All non-ferrous fasteners prevent corrosion and ensure longer life.

#### Wiring

18 AWG wire, 6" (152mm) minimum exceeding from luminaire.

#### Options



**HS**  
House  
side shield

**SP2**  
20kV/20kA integral  
surge protector  
(optional)

#### Finish

Color 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.

#### LED products manufacturing standard

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. Meets the ANSI C136.31 2010, American national Standard for Roadway Luminaire Vibration specifications for Normal Applications.

#### Certifications and Compliance

cETL listed to Canadian safety standards for wet locations. Manufactured to ISO 9001:2008 Standards. UL8750 and UL1598 compliant. ETL listed to U.S. safety standards for wet locations. cETL listed to Canadian safety standards for wet locations. LM80 & LM79 tested. Listed on the DesignLights™ Consortium (DLC) Qualified Products List (QPL).

#### IP Rating

The LED optics chamber is IP66 rated.

#### Warranty

5 year extended warranty.

