

Project: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Cat. #: \_\_\_\_\_  
 Type: \_\_\_\_\_  
 Quantity: \_\_\_\_\_



## NVL G2 2 | LED Vaportight

### Features:

- High performance LED technology
- 90+ CRI standard
- 0-10V dimming drivers standard
- DALI drivers available
- Field replaceable LED boards & drivers
- Multiple hanging options, including surface, chain, and aircraft cable, for easy installation
- Durable materials and craftsmanship allows the NVL to withstand some of the harshest environments
- Buy American Act compliant (*All base luminaires are BAA compliant. Addition of options may change eligibility. Contact factory for details.*)

### Applications:

Most industrial, retail, and recreational low bay and high bay applications

- Warehouse/Manufacturing Facility
- Food Processing
- Gymnasium
- Car Wash
- Cold/Frozen Storage (*cold temperature rules apply. Refer to warranty document at [www.lumenfocus.com/support](http://www.lumenfocus.com/support) for details*)

### Predicted Lifetime:

- L70 ≥ 129,000 hrs (calculated)
- L80 ≥ 81,000 hrs (calculated)
- L90 ≥ 39,000 hrs (reported)
- 85% lumen maintenance @ 60,000 hrs (*based on LM-80, TM-21 and in-situ laboratory testing*)

### Ambient Operating Temp.:

- -30°C to 30°C for SH output
- -30°C to 35°C for VH output
- -30°C to 40°C for VL, LW, MD, HI output

### Construction:

- UL 5VA fiberglass housing (will not melt or burn)
- Impact resistant acrylic and UV stabilized polycarbonate lenses
- Pre-painted cold rolled steel board trays
- Acetal copolymer secure locking plastic latches (stainless steel latches optional)
- Stainless steel mounting hardware

### Certifications:

- UL 1598 listed for US and Canada, suitable for wet locations
- DesignLights Consortium qualified on specific configurations (refer to DLC qualified products list for exact model numbers) <http://designlights.org/>
- IP65
- IP66
- IP67
- NEMA 4X
- NSF
- PSI 1500
- RoHS



## Ordering Guide:

example: NVL G2 2 HI UV FSA 940 QC

Series	Length	Output	Voltage	Shielding	CRI/CCT	Hanging	Controls	Options
NVL G2	2							
NVL G2 NVL Gen 2	2 2'	<b>VL</b> Very Low  <b>LW</b> Low  <b>MD</b> Medium  <b>HI</b> High  <b>VH</b> Very High  <b>SH</b> Super High	<b>UV</b> 120-277  <b>34</b> 347V	<b>CRP</b> Clear Ribbed Polycarbonate  <b>FRP</b> Frosted Ribbed Polycarbonate  <b>CSP</b> Clear Shallow Polycarbonate  <b>FSP</b> Frosted Shallow Polycarbonate  <b>CRA</b> Clear Ribbed Acrylic  <b>FRA</b> Frosted Ribbed Acrylic  <b>CSA</b> Clear Shallow Acrylic  <b>FSA</b> Frosted Shallow Acrylic  <b>CDA</b> Clear Deep Acrylic  <b>FDA</b> Frosted Deep Acrylic	<b>930</b> 90 CRI/3000K  <b>935</b> 90 CRI/3500K  <b>940</b> 90 CRI/4000K  <b>950</b> 90 CRI/5000K	<b>Blank</b> Surface Mounting Bracket (Comes Standard)  <b>SMBB</b> Mounting Bracket Bail (For Chain or Cable Mounting)  <b>QC</b> Bracket Bail with 10' Quick Hang Cable Kit  <b>QC20</b> Bracket Bail with 20' Quick Hang Cable Kit  <b>SM45</b> 45° Surface Mount Bracket	<b>Blank</b> No Controls  <b>ZOS</b> Occupancy Sensor (On/Off) <sup>(1)</sup>  <b>ZOSMD</b> Microwave Photo/Motion Sensor With Step-Dimming (High/Low/Off) <sup>(1)</sup>  <b>ZOFD1</b> Leviton Bluetooth-enabled Programmable Dimming/ Occupancy/Daylight Harvesting Sensor with Grouping (120-277V) <sup>(1)</sup>  <b>ZOFDU</b> Leviton Bluetooth-enabled Programmable Dimming/ Occupancy/Daylight Harvesting Sensor with Grouping, Scheduling (120-480V) <sup>(1)</sup>  <b>Z221BL_</b> Wattstopper Programmable Photo/Motion Multi-Voltage Sensor (high/low/off) <sup>(2)</sup>  <b>Z321BL_</b> Wattstopper Bluetooth-enabled Programmable Dimming/ Occupancy/Daylight Harvesting Multi-Voltage Sensor <sup>(2)</sup>  <b>ZPC</b> Photocell  <b>ZENLO</b> Enlighted Ruggedized Sensor with Dimming/Occupancy/ Daylight Harvesting and Enlighted One System <sup>(3)</sup>  <b>ZENLC</b> Enlighted Ruggedized Sensor with Dimming/Occupancy/ Daylight Harvesting and Enlighted Connected System <sup>(3)</sup>  <b>ZENLI</b> Enlighted Ruggedized Sensor with Dimming/Occupancy/ Daylight Harvesting and Enlighted IoT System <sup>(3)</sup>	<b>Blank</b> No Options  <b>C6</b> 6' Single Circuit Cord  <b>C6(LVL)</b> C6 With Integrated Dimming Leads  <b>C10</b> 10' Single Circuit Cord  <b>C10(LVL)</b> C10 With Integrated Dimming Leads  <b>D6</b> 6' Dual Circuit Cord  <b>D10</b> 10' Dual Circuit Cord  <b>P(NEMA)</b> Plug (Specify NEMA configuration)  <b>EM1</b> Emergency Pack - Up To 8W <sup>(4)</sup>  <b>EM1C</b> Emergency Pack - Up To 14W <sup>(5)</sup>  <b>EM2</b> Emergency Pack - Up To 16W <sup>(6)</sup>  <b>SSL</b> Stainless Steel Latches  <b>F</b> Fuse  <b>SDT(480V)</b> 480V To 277V Step Down Transformer  <b>LVL</b> 0-10V Dimming Leads for Easy Field Access  <b>BAA</b> Buy American Act Compliant

## Notes

- <sup>(1)</sup> Max mounting height 40'. See Page 4 for more details  
<sup>(2)</sup> " \_ " = lens type. Max mounting height 40'. See Page 4 for more details.  
<sup>(3)</sup> Max mounting height 50'. See Page 5 for more details on advanced controls.  
<sup>(4)</sup> EM1 - 120-277V / 10°C-50°C ambient.  
<sup>(5)</sup> EM1C - 120-277V / -20°C-50°C ambient. Adds 30W to system wattage.  
<sup>(6)</sup> EM2 - 120-277V / 0°C-50°C ambient.

## Controls Accessories (order separately)



### For Enlighted Controls

- WS-2-00 Enlighted Remote Control Wall Switch (for Enlighted Connected & IoT)  
 WS-2-00-IL Enlighted Remote Control Wall Switch (for Enlighted One)



### For WattStopper Controls

- FSIR-100 Wireless IR Programming Tool (For Z221Lx)



## Performance Chart:

Catalog #	Watts	Lumens (930)	LPW (930)	Lumens (935)	LPW (935)	Lumens (940)	LPW (940)	Lumens (950)	LPW (950)
NVL G2 2 VL UV FRA 9xx	9.2	1123.0	122.1	1127.8	122.6	1154.6	125.5	1154.6	125.5
NVL G2 2 LW UV FRA 9xx	15.2	2135.1	140.6	2144.1	141.2	2195.1	144.5	2195.1	144.5
NVL G2 2 MD UV FRA 9xx	23.9	3123.5	130.6	3136.6	131.1	3211.1	134.2	3211.1	134.2
NVL G2 2 HI UV FRA 9xx	30.5	4111.4	134.9	4128.7	135.4	4226.8	138.7	4226.8	138.7
NVL G2 2 VH UV FRA 9xx	36.7	5089.7	138.7	5111.1	139.3	5232.5	142.6	5232.5	142.6
NVL G2 2 SH UV FRA 9xx	45.3	6058.5	133.9	6084.0	134.4	6228.6	137.6	6228.6	137.6

### Lumen Adjustment Factors:

FDA: 1.045

FSA: 1.039

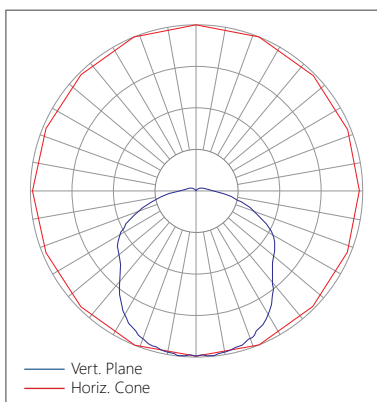
CDA: 1.053

CRA: 1.051

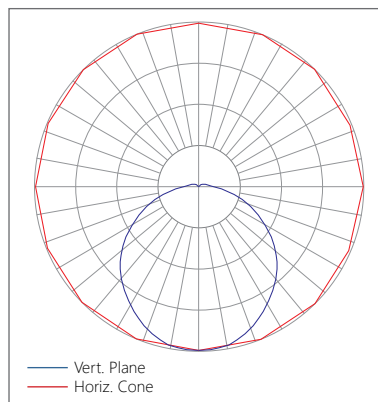
CSA: 1.058

## Photometric Data:

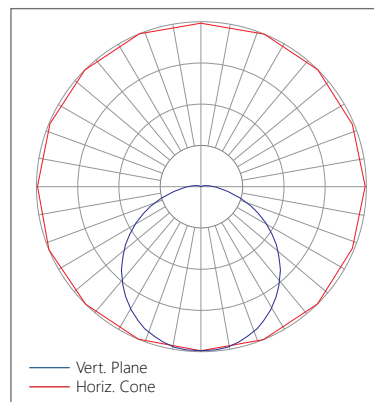
Relative Luminous Intensity  
with FRA lens



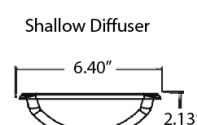
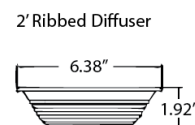
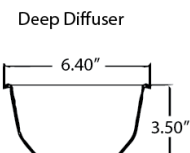
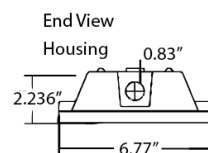
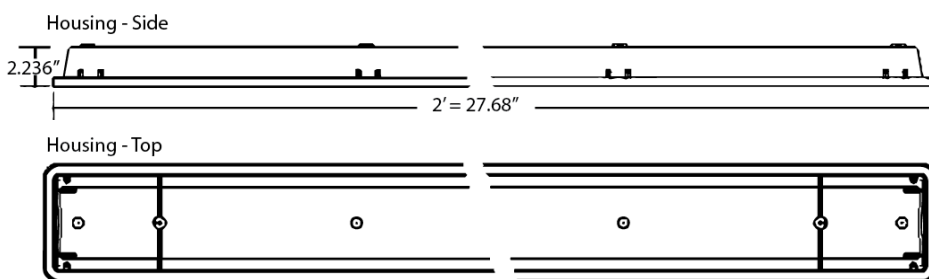
Relative Luminous Intensity  
with FDA lens



Relative Luminous Intensity  
with FSA lens



## Schematic:



The NVL features field replaceable boards and drivers. This allows you to upgrade to more efficient technology in the future. Or, in the rare event of a failure, you can rapidly replace defective components. Re-boardABILITY helps to ensure you won't get stuck with an obsolete light fixture. [Learn more about Re-boardABILITY here.](#)



## Controls Summary:

Control Code	Type	Capabilities	Communication
ZOS	Motion (PIR)	On/Off	Wired
ZOSMD	Motion (Microwave), Photosensor	On/Low/Off	Wired 1-10V
ZOFD1	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping	Wired 0-10V, Programmable via Bluetooth App (iOS, Android)
ZOFDU	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, Scheduling	Wired 0-10V, Programmable via Bluetooth App (iOS, Android)
Z221BLx	Motion (PIR), Photosensor	High/Low/Off, High-End Trim	Wired 0-10V, Programmable via IR remote (sold separately)
Z321BLx	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim	Wired 0-10V, Programmable via Bluetooth App (iOS, Android)
ZPC	Photosensor	On/Off	Wired
ZENLO	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, Upgradable to Connected (ZENLC) or IoT (ZENLI)	Wireless Bluetooth Low Energy Mesh, Programmable via Enlighted Room Controller WS-2-00-IL (sold separately)
ZENLC	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, Scheduling*, Energy Monitoring*, BMS Integration*, LLC (Enlighted IoT)*, LLLC (Enlighted IoT)*	Wireless Bluetooth Low Energy Mesh, Programmable via Enlighted IoT Software
ZENLI	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, Scheduling*, Energy Monitoring*, BMS Integration*, LLC (Enlighted IoT)*, Space - Building Utilization*, Where - Real Time Location Services*	Wireless Bluetooth Low Energy Mesh, Programmable via Enlighted IoT Software

LLC = Luminaire Level Lighting Control

\* Additional equipment required. Contact LumenFocus representative for details

## On/Off Occupancy Sensor (ZOS)

The Leviton OSFHL-CTW (or equivalent) is an end mounted PIR On/Off motion sensor. It comes with two interchangeable lenses: Low Bay (8-25' heights), High Bay (20-40' heights), as well as an aisle mask.

- IP65 rated



## Microwave Occupancy Sensor (ZOSMD)

The Leviton OSM3D-DDW (or equivalent) detects motion through low density materials using high frequency electromagnetic waves. This means it can sit discretely behind the NVL's lens. The high frequency waves offer less interference and false tripping than traditional sensing technology for reliable occupancy applications. The ZOSMD features automatic switching or dimming based on motion. The ZOSMD option adds step-dimming functionality - standby dimming level 10% / 20% / 30% / 50%. Max mounting height is 40 feet.



## Programmable Dimming Sensors:

### ZOFDx Sensors



The ZOFDx option includes four sensor lenses that can easily be installed or swapped out in the field. From left: the high bay lens (20'-40' mounting), the high bay lens with aisleway mask, the low bay lens (8'-20' mounting), and the low bay lens with aisleway mask.

- Leviton Smart IP66 passive infrared (PIR) sensors
- Features mesh grouping (16 devices per group), occupancy sensing, daylight harvesting, scheduling (for ZOSFdu only), single-level switching
- Comes pre-installed on the end cap
- Rated for cold locations
- Configurable through the Leviton Smart Sensor App using a smartphone or other Bluetooth-enabled iOS or Android device

### Z221B/Z321B Sensors

- The Wattstopper FSP sensor provides multi-level control based on motion and/or daylight contribution
- Rated for cold locations
- Parameters for Bluetooth-enabled Z321B adjustable via phone app - iOS or Android
- Parameters for Z221B adjustable via wireless configuration tool (FSIR-100 - sold separately)
- Three lenses available, tailored for the ideal detection area and mounting height:
  - L2: 360° lens, maximum coverage 48', diameter from 8' height
  - L3: 360° lens, maximum coverage 40', diameter from 20' height
  - L7: 360° lens, maximum coverage 100', diameter from 40' height



1) The Wattstopper FSP sensor. 2) The phone app interface for the Z321B. 3) The FSIR-100 wireless configuration tool.



## Enlighted: All-in-one sensors, upgradeable systems

Enlighted's IP65-rated Ruggedized Sensor is an all-in-one unit: task tuning, high-end trimming, daylight harvesting, and occupancy/vacancy detection. Max installation height is 50 feet.

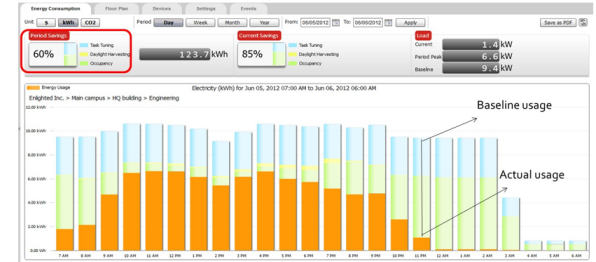
Enlighted sensors come standard with the Enlighted One system (the "ZENLO" option). Enlighted Connected ("ZENLC") offers even more options. The Enlighted IoT ("ZENLI") option allows the full implementation of Enlighted's services. Each system can be fully upgraded to the next tier in the future. So if you start with Enlighted One but want to add energy reporting or building management systems integration in the future, you can.



## Real-time data analytics

Enlighted's control units compile data in real-time, which can be viewed via the Energy Manager. The Energy Manager is part of the Enlighted Connected and Enlighted IoT configurations.

- Real-time measurements and verification of energy savings
- Space analytics - data can be compiled into motion trails and heat maps
- Analyze traffic density and congestion in a space



Enlighted Capabilities*	Enlighted One (ZENLO)	Enlighted Connected (ZENLC)	Enlighted IoT (ZENLI)
Motion and Switch Groups	✓	✓	✓
Daylight Harvesting	✓	✓	✓
Schedule Lighting		✓	✓
Energy Reporting & Optimization		✓	✓
Environment Data & Lighting Controls API		✓	✓
Building Management System Integration		✓	✓
Where & Space Applications			✓
Location & Occupancy APIs & Beacons			✓
Future App & API Ready			✓

**Note:** Additional equipment required for ZENLC and ZENLI

Learn more about our available advanced controls options here:

[www.lumenfocus.com/controls-overview](http://www.lumenfocus.com/controls-overview)

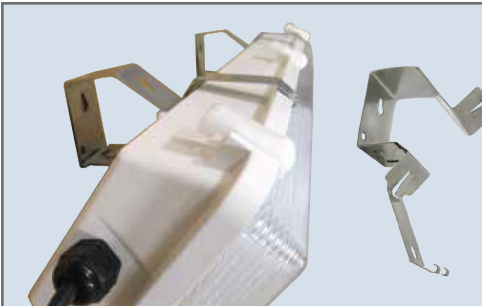
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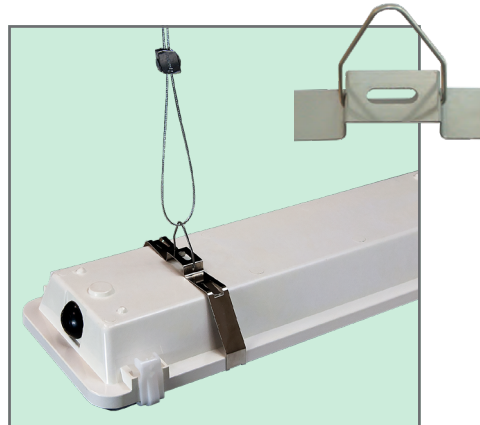
## Mounting:



**SM** Surface Mount Bracket (comes standard)



**SM45** 45° Surface Mount Bracket



**SMBB** Surface Mount with Bracket Bail - for chain or cable mounting. (Shown with QC)

