

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<br>NVL Gen 2 | 2<br>2' | VL<br>Very Low   | UV<br>120-277 | CRP<br>Clear Ribbed<br>Polycarbonate    | 930<br>90 CRI/3000K | Blank<br>Surface Mounting<br>Bracket (Comes<br>Standard)          | Blank<br>No Controls  | Blank<br>No Options  |
|                     |         | LW<br>Low        | 34<br>347V    | FRP<br>Frosted Ribbed<br>Polycarbonate  | 935<br>90 CRI/3500K | SMBB<br>Mounting Bracket Bail<br>(For Chain or Cable<br>Mounting) | ZOS<br>Occupancy Sensor<br>(On/Off) <sup>(1)</sup>  | C6<br>6' Single Circuit Cord                               |
|                     |         | MD<br>Medium     |               | CSP<br>Clear Shallow<br>Polycarbonate   | 940<br>90 CRI/4000K |   | ZOSMD<br>Microwave Photo/Motion Sensor<br>With Step-Dimming<br>(High/Low/Off) <sup>(1)</sup>  | C6(LVL)<br>C6 With Integrated Dimming Leads                |
|                     |         | HI<br>High       |               | FSP<br>Frosted Shallow<br>Polycarbonate | 950<br>90 CRI/5000K | QC<br>Bracket Bail with 10'<br>Quick Hang Cable Kit               | ZOFD1<br>Leviton Bluetooth-enabled<br>Programmable Dimming/<br>Occupancy/Daylight Harvesting<br>Sensor with Grouping (120-<br>277V) <sup>(1)</sup>            | C10<br>10' Single Circuit Cord                             |
|                     |         | VH<br>Very High  |               | CRA<br>Clear Ribbed Acrylic             |                     | QC20<br>Bracket Bail with 20'<br>Quick Hang Cable Kit             | ZOFD1<br>Leviton Bluetooth-enabled<br>Programmable Dimming/<br>Occupancy/Daylight Harvesting<br>Sensor with Grouping (120-<br>277V) <sup>(1)</sup>            | C10(LVL)<br>C10 With Integrated Dimming<br>Leads           |
|                     |         | SH<br>Super High |               | FRA<br>Frosted Ribbed Acrylic           |                     | SM45<br>45° Surface Mount<br>Bracket                              | ZOFDU<br>Leviton Bluetooth-enabled<br>Programmable Dimming/<br>Occupancy/Daylight Harvesting<br>Sensor with Grouping,<br>Scheduling (120-480V) <sup>(1)</sup> | D6<br>6' Dual Circuit Cord                                 |
|                     |         |                  |               | CSA<br>Clear Shallow Acrylic            |                     |   | Z221BL_<br>Wattstopper Programmable<br>Photo/Motion Multi-Voltage<br>Sensor<br>(high/low/off) <sup>(2)</sup>  | D10<br>10' Dual Circuit Cord                               |
|                     |         |                  |               | FSA<br>Frosted Shallow Acrylic          |                     |   | Z321BL_<br>Wattstopper Bluetooth-enabled<br>Programmable Dimming/<br>Occupancy/Daylight Harvesting<br>Multi-Voltage Sensor <sup>(2)</sup>                     | P(NEMA)<br>Plug (Specify NEMA configuration)               |
|                     |         |                  |               | CDA<br>Clear Deep Acrylic               |                     |   | ZPC<br>Photocell  | EM6<br>6.5W Emergency Pack <sup>(4,6)</sup>                |
|                     |         |                  |               | FDA<br>Frosted Deep Acrylic             |                     |   | ZENLC<br>Enlighted Ruggedized Sensor<br>with Dimming/Occupancy/<br>Daylight Harvesting and<br>Enlighted Connected<br>System <sup>(3)</sup>                    | EM10<br>10W Emergency Pack <sup>(4,6)</sup>                |
|                     |         |                  |               |   |                     |   | ZENLI<br>Enlighted Ruggedized Sensor<br>with Dimming/Occupancy/<br>Daylight Harvesting and<br>Enlighted IoT System <sup>(3)</sup>                             | EM10C<br>10W Cold Temp. Emergency<br>Pack <sup>(5,6)</sup> |
|                     |         |                  |               |   |                     |   |   | SSL<br>Stainless Steel Latches                             |
|                     |         |                  |               |   |                     |   |   | F<br>Fuse  |
|                     |         |                  |               |   |                     |   |   | SDT(480V)<br>480V To 277V Step Down<br>Transformer         |
|                     |         |                  |               |   |                     |   |   | LVL<br>0-10V Dimming Leads for Easy<br>Field Access        |
|                     |         |                  |               |   |                     |   |   | BAA<br>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> 120-277V / 0°C-55°C ambient.

<sup>(5)</sup> 120-277V / -20°C-55°C ambient. Adds up to 10W to luminaire system wattage.

<sup>(6)</sup> To estimate lumen output in emergency mode, multiply EM wattage by the Lumens per Watt of the luminaire it is installed in.  
ex. NVL G2 2 HI UV FRA 950 EM10C → 138.7 LPW x 10W = 1,387 lm

Controls Accessories (order separately)



For Enlighted Controls

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



For WattStopper Controls

FSIR-100    Wireless IR Programming Tool  
(For Z221Lx)

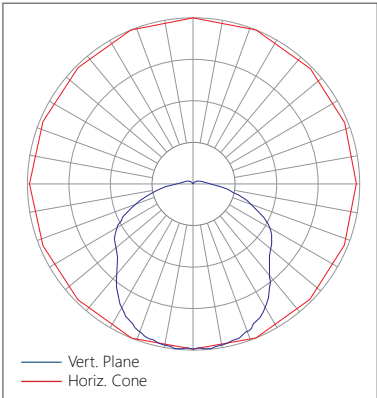
Performance Chart:

| 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     |

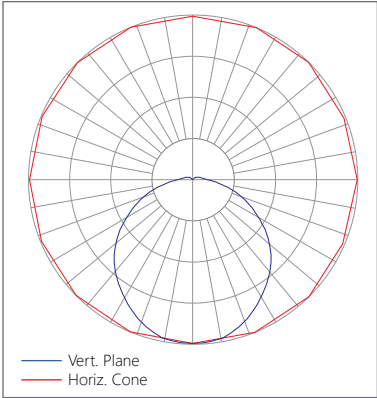
Lumen Adjustment Factors:  
FDA: 1.045      FSA: 1.039      CDA: 1.053      CRA: 1.051      CSA: 1.058

Photometric Data:

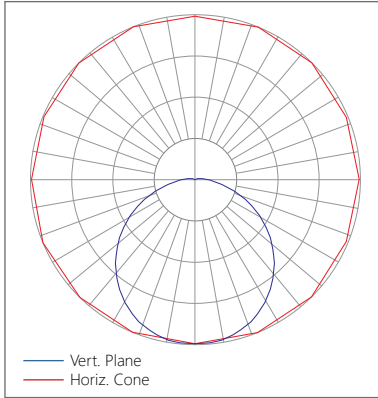
Relative Luminous Intensity with FRA lens



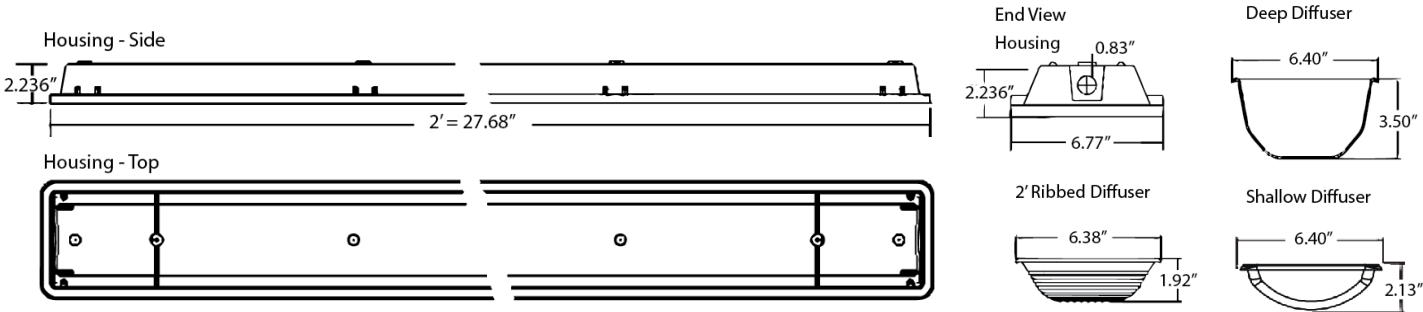
Relative Luminous Intensity with FDA lens



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   |
| ZENLC        | Motion (PIR), Daylight Harvesting | High/Low/Off, High-End Trim, Grouping, Scheduling*, Energy Monitoring*, BMS Integration*, Upgradable to IoT (ZENLI), 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*, LLLC (Enlighted IoT)*, Space - Building Utilization*, Where - Real Time Location Services* | Wireless Bluetooth Low Energy Mesh, Programmable via Enlighted IoT Software |

LLLC = 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 80' 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 Connected ("ZENLC") offers many features, including motion and switch groups, daylight harvesting, energy reporting, and more. The Enlighted IoT ("ZENLI") option allows the full implementation of Enlighted's services. Enlighted Connected can be fully upgraded to the next tier in the future. So if you start with ZENLC but want to add the functionality of the ZENLI option, you can.

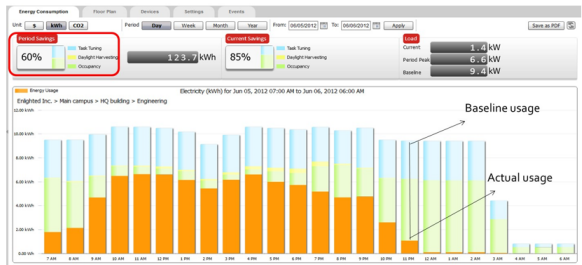


| Enlighted Capabilities*                  | Enlighted Connected (ZENLC) | Enlighted IoT (ZENLI) |
|--|-----------------------------|-----------------------|
| Motion and Switch Groups                 | ✓                           | ✓                     |
| Daylight Harvesting                      | ✓                           | ✓                     |
| 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                   |                             | ✓                     |

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



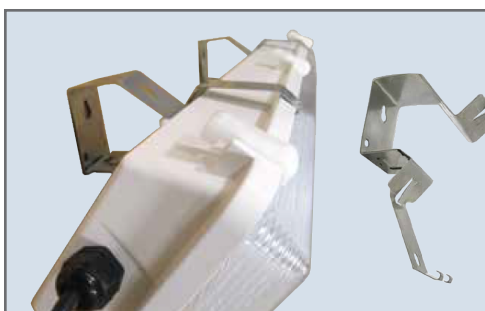
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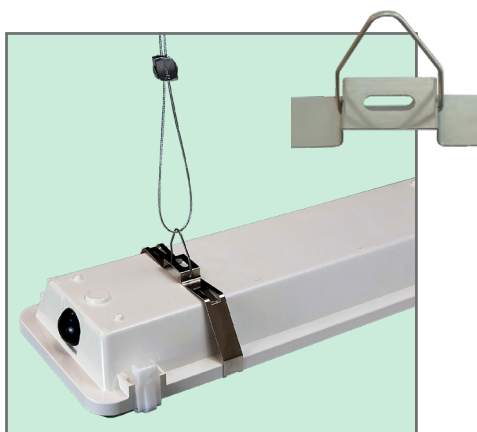
## Mounting:



**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)

