



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

LED

## NVL F G2 4 | LED Vaportight High/Low Bay

### Features:

- High performance LED technology
- 90+ CRI standard
- 0-10V dimming drivers standard
- Multiple hanging options, including surface, chain, and aircraft cable, for easy installation
- Pre-wired 6' single circuit cord comes standard. Other cord options available
- Durable materials and craftsmanship allows the NVL F to withstand some of the harshest environments

### Applications:

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

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

### Ambient Operating Temp.:

- -30°C to 35°C

### Predicted Lifetime:

- L70 ≥ 131,000 hrs (calculated)
  - L90 ≥ 40,000 hrs (reported)
- (based on LM-80, TM-21 and in-situ laboratory testing)

### Construction:

- UL 5VA fiberglass housing (will not melt or burn)
- Clear polycarbonate lens
- Pre-painted aluminum board trays
- Stainless steel mounting hardware

### Certifications:

- UL 1598 listed for US and Canada, suitable for wet locations
- IP66
- NEMA 4X
- NSF
- PSI 1500
- RoHS



**NEMA 4X**

### Warranty:

- 5 year limited system warranty - see [www.LumenFocus.com](http://www.LumenFocus.com) for complete warranty terms and conditions

**CAUTION:** Due to high pressure washdown requirements, fixture minimum mounting height is 14 feet above the floor. Lens system should never be removed by anyone but a factory-approved trained technician using torque wrenches.



ALTOR



## Ordering Guide:

example: NVL F G2 4 HI UV CFP 940 SM C6

Series	Version	Length	Output	Voltage	Shielding	CRI/CCT	Hanging	Controls	Cords	Options
NVL F	G2	4								
NVL F Flat Bottom Vaportight	G2 Gen 2	4 4'	VL Very Low	UV 120-277	CFP Clear Flat Polycarbonate	930 90 CRI/3000K	Blank Surface Mounting Bracket (Comes Standard)	Blank No Controls	C6 6' Single Circuit Cord (Comes Standard)	Blank No Options
			LW Low	34 347V	CFPP Heavier Gauge Clear Flat Polycarbonate	935 90 CRI/3500K	SMBB Mounting Bracket Bail (For Chain Or Cable Mount)	ZOS Occupancy Sensor (On/Off) <sup>(1)</sup>	C6(LVL) C6 With Integrated Dimming Leads	P(NEMA) Plug (Specify NEMA configuration)
			MD Medium			940 90 CRI/4000K	SMBBQC Bracket Bail with 10' Quick Hang Cable Kit	ZOSMD Microwave Photo/Motion Sensor With Step-Dimming (High/Low/Off) <sup>(1)</sup>	C10 10' Single Circuit Cord	F Fuse
			HI High			950 90 CRI/5000K	SMBBQC20 Bracket Bail with 20' Quick Hang Cable Kit	ZOFD1 Leviton Bluetooth-enabled Programmable Dimming/ Occupancy/Daylight Harvesting Sensor with Grouping (120-277V) <sup>(1)</sup>	C10(LVL) C10 With Integrated Dimming Leads	SDT(480V) 480V To 277V Step Down Transformer
			VH Very High				SM45 45° Surface Mount Bracket	ZOFDU Leviton Bluetooth-enabled Programmable Dimming/ Occupancy/Daylight Harvesting Sensor with Grouping, Scheduling (120- 480V) <sup>(1)</sup>	D6 6' Dual Circuit Cord	BAA Buy American Act Compliant
							SC Safety Cable	Z221BL_ Wattstopper Programmable Photo/Motion Multi-Voltage Sensor (high/low/off) <sup>(2)</sup>	D10 10' Dual Circuit Cord	
								Z321BL_ Wattstopper Bluetooth- enabled Programmable Dimming/Occupancy/ Daylight Harvesting Multi- Voltage Sensor <sup>(2)</sup>		
								ZPC Photocell		
								ZENLO Enlighted Ruggedized Sensor with Dimming/Occupancy/ Daylight Harvesting and Enlighted One System <sup>(3)</sup>		
								ZENLC Enlighted Ruggedized Sensor with Dimming/Occupancy/ Daylight Harvesting and Enlighted Connected System <sup>(3)</sup>		
								ZENLI Enlighted Ruggedized Sensor with Dimming/Occupancy/ Daylight Harvesting and Enlighted IoT System <sup>(3)</sup>		

## 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.

## 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)

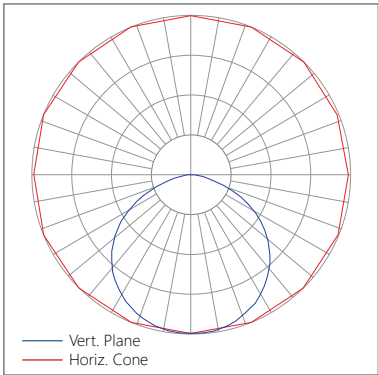


Performance Chart:

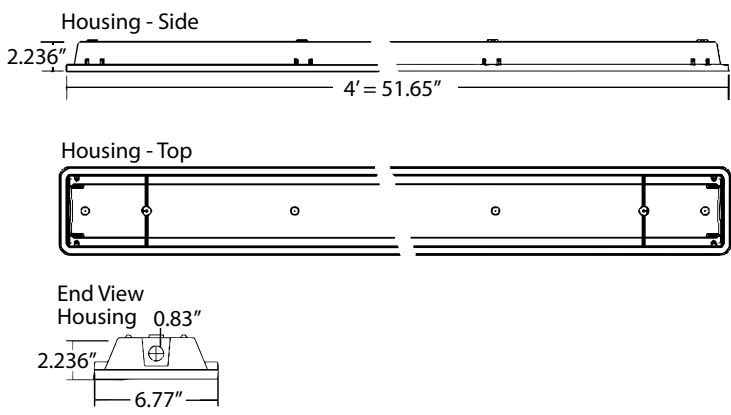
Catalog #	Watts	Lumens (930)	LPW (930)	Lumens (935)	LPW (935)	Lumens (940)	LPW (940)	Lumens (950)	LPW (950)
NVL F G2 4 VL UV CFP 9xx	15.4	2020.8	131.4	2029.3	132.0	2077.5	135.1	2077.5	135.1
NVL F G2 4 LW UV CFP 9xx	28.4	3964.3	139.7	3981.0	140.3	4075.6	143.6	4075.6	143.6
NVL F G2 4 MD UV CFP 9xx	43.0	5882.2	136.9	5907.0	137.5	6047.3	140.8	6047.3	140.8
NVL F G2 4 HI UV CFP 9xx	56.3	7799.9	138.6	7832.8	139.2	8018.8	142.5	8018.8	142.5
NVL F G2 4 VH UV CFP 9xx	69.2	9717.5	140.4	9758.5	141.0	9990.2	144.3	9990.2	144.3

Photometric Data:

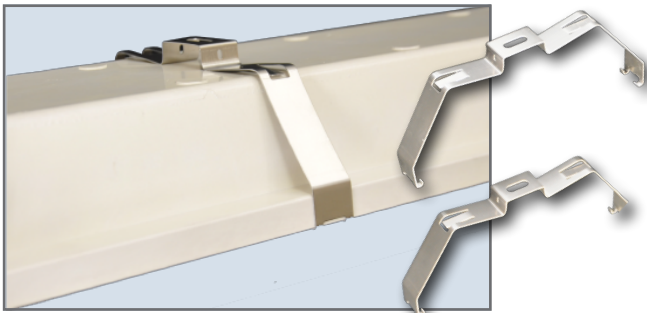
Relative Luminous Intensity



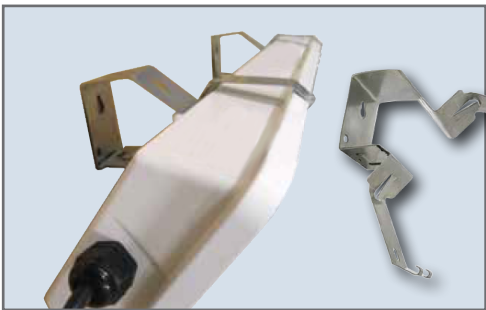
Schematic:



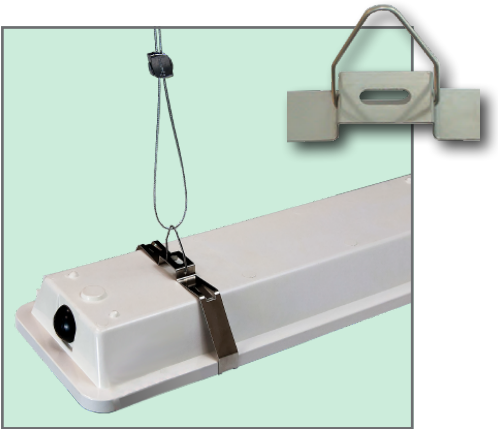
Mounting:



**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)



## 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*, 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 F'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.



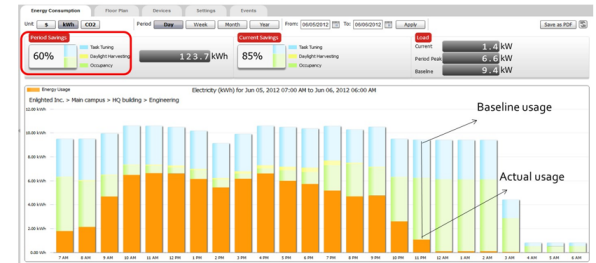
Enlighted Capabilities*	Enlighted One (ZENLO)	Enlighted Connected (ZENLC)	Enlighted IoT (ZENLI)
Motion and Switch Groups	✓	✓	✓
Daylight Harvesting	✓	✓	✓
Schedule Lighting		✓	✓
Energy Reporting & Optimization		✓	✓
Environment Data & Lighting Controls API		✓	✓
Building Management System Integration		✓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

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

## 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



Learn more about our available advanced controls options here:

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

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