Project: _____

Location: _____

Cat. #: _____

Type: _____

Quantity: _____

90+ CRI **LED**

NVL G2 8 | 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 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)

Warranty:
• 5 year limited system warranty - see www.LumenFocus.com for complete warranty terms and conditions

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

DLC LISTED   **c UL us**   **NSF**   **RoHS Compliant**

IP 65   **IP 66**   **IP 67**

NEMA 4X

Ambient Operating Temp.:
• -30°C to 25°C for SH output
• -30°C to 30°C for VH output
• -30°C to 35°C for HI output
• -30°C to 40°C for all other outputs

MADE IN USA
USING DOMESTIC AND FOREIGN COMPONENTS

BAA — BUY AMERICAN ACT COMPLIANT

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www.lumenfocus.com
880 Facet Rd. | Henderson, NC 27537
252-430-6970

NVL_G2_8_LED_v2.0
Page 1 of 7

Ordering Guide:

example: NVL G2 8 HI UV FSA 940 QC

Series	Length	Output	Voltage	Shielding	CRI/CCT	Hanging	Controls [1]	Options
NVL G2	8							
NVL G2 NVL Gen 2	**8** 8'	**SL** Super Low **VL** Very Low **LW** Low **MD** Medium **MH** Medium High **HI** High **VH** Very High **SH** Super High	**UV** 120-277 **34** 347V	**CSP** Clear Shallow Polycarbonate **FSP** Frosted Shallow Polycarbonate **CRA** Clear Ribbed Acrylic **FRA** Frosted Ribbed Acrylic **CSA** Clear Shallow Acrylic **FSA** Frosted Shallow Acrylic **CDA** Clear Deep Acrylic **FDA** Frosted Deep Acrylic	**930** 90 CRI/3000K **935** 90 CRI/3500K **940** 90 CRI/4000K **950** 90 CRI/5000K	**Blank** Surface Mounting Bracket (Comes Standard) **SMBB** Mounting Bracket Bail (For Chain or Cable Mounting) **QC** Bracket Bail with 10' Quick Hang Cable Kit **QC20** Bracket Bail with 20' Quick Hang Cable Kit **SM45** 45° Surface Mount Bracket	**Blank** No Controls **ZOS** Occupancy Sensor (On/Off) **ZOSMD** Leviton Microwave 0-10V Multi-Level Occupancy Sensor with Photocell **Z221Bxx** [2] Wattstopper Programmable 0-10V Multi-Level Occupancy Sensor with Photocell, Task Tuning **Z321Bxx** [2] Wattstopper Bluetooth-enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning **ZOFD1** Leviton Bluetooth-enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping **ZOFDU** Leviton Bluetooth-enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping, Scheduling **ZESMC** Philips EasySense Bluetooth-enabled Programmable DALI Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping, Scheduling **ZLTS** LiteTrace Bluetooth-enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping, Scheduling, and Advanced Networking & IoT Capabilities **ZLTC** LiteTrace Bluetooth-enabled Programmable 0-10V fixture controller with Task Tuning, Grouping, Scheduling, and Advanced Networking & IoT Capabilities	**Blank** No Options **C6** 6' Single Circuit Cord **C6(LVL)** C6 With Integrated Dimming Leads **C10** 10' Single Circuit Cord **C10(LVL)** C10 With Integrated Dimming Leads **D6** 6' Dual Circuit Cord **D10** 10' Dual Circuit Cord **P(NEMA)** Plug (Specify NEMA configuration) **EM6** 6.5W Emergency Pack [3,5] **EM10** 10W Emergency Pack [3,5] **EM14** 14W Emergency Pack [3,5] **EM10C** 10W Cold Temp. Emergency Pack [4,5] **EM16C** 16W Cold Temp. Emergency Pack [4,5] **SSL** Stainless Steel Latches **F** Fuse **SDT(480V)** 480V To 277V Step Down Transformer **LVL** 0-10V Dimming Leads for Easy Field Access **BAA** Buy American Act Compliant

Notes

[1] See 'Control Summary' on Page 4 for more details.

[2] '*xx*' = select lens type based on mounting height and coverage area. See 'Control Summary' on Page 4 for more details.

[3] 120-277V / 0°C-55°C ambient.

[4] 120-277V / -20°C-55°C ambient. Adds up to 11W to luminaire system wattage.

[5] 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 8 HI UV FRA 950 EM10C → 136.5 LPW x 10W = 1,365 lm

Controls Accessories *(order separately)*

Accessory Code	Description	Control Compatibility	Additional Info
FSIR-100	Wireless IR Configuration Tool	Z221B*xx*	pg. 5
ZBT-S1AWH	Single Rocker ZigBee Wireless Wall Switch (self powered)	ZESMC	pg. 5
ZBT-S2AWH	Dual Rocker ZigBee Wireless Wall Switch (self powered)	ZESMC	pg. 5
WP1013	3-Button Bluetooth Wireless Wall Switch (battery powered)	ZLTS, ZLTC	pg. 6
WP1025	5-Button Bluetooth Wireless Wall Switch (battery powered)	ZLTS, ZLTC	pg. 6
WP1018	8-Button Bluetooth Wireless Wall Switch (battery powered)	ZLTS, ZLTC	pg. 6
WP1018A	8-Button Bluetooth Wireless Wall Switch (battery powered)	ZLTS, ZLTC	pg. 6
WP10135S	3-Button Bluetooth Wireless Wall Switch (line voltage)	ZLTS, ZLTC	pg. 6
WP1017S	7-Button Bluetooth Wireless Wall Switch (line voltage)	ZLTS, ZLTC	pg. 6
IWS102	Bluetooth Wireless Wall Switch w/ PIR Sensor (line voltage)	ZLTC	pg. 6

Performance Chart:

Catalog #	Watts	Lumens (930)	LPW (930)	Lumens (935)	LPW (935)	Lumens (940)	LPW (940)	Lumens (950)	LPW (950)
NVL G2 8 SL UV FRA 9xx	29.6	4057.1	137.1	4074.2	137.7	4170.9	140.9	4170.9	140.9
NVL G2 8 VL UV FRA 9xx	43.5	5845.2	134.3	5869.9	134.9	6009.3	138.1	6009.3	138.1
NVL G2 8 LW UV FRA 9xx	60.3	7735.8	128.3	7768.4	128.8	7952.9	131.9	7952.9	131.9
NVL G2 8 MD UV FRA 9xx	69.8	9604.6	137.6	9645.1	138.2	9874.2	141.4	9874.2	141.4
NVL G2 8 MH UV FRA 9xx	86.1	11546.5	134.1	11595.1	134.7	11870.5	137.8	11870.5	137.8
NVL G2 8 HI UV FRA 9xx	115.7	15355.5	132.8	15420.2	133.3	15786.5	136.5	15786.5	136.5
NVL G2 8 VH UV FRA 9xx	142.2	19133.1	134.5	19213.7	135.1	19670.0	138.3	19670.0	138.3
NVL G2 8 SH UV FRA 9xx	177.5	22965.1	129.4	23061.9	129.9	23609.7	133.0	23609.7	133.0

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

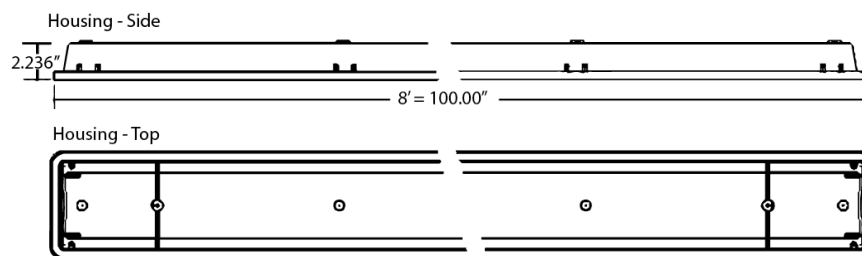## Photometric Data:

Relative Luminous Intensity with FRA lens

- Vert. Plane
- Horiz. Cone
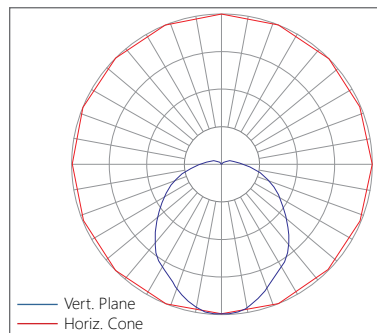
Relative Luminous Intensity with FDA lens

- Vert. Plane
- Horiz. Cone
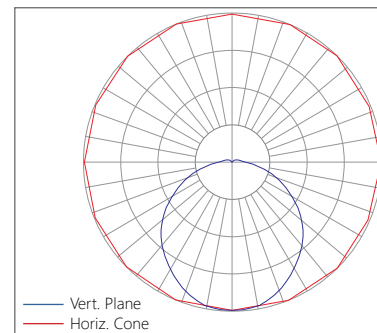
Relative Luminous Intensity with FSA lens

- Vert. Plane
- Horiz. Cone

Schematic:

Housing - Side

2.236″

8' = 100.00″

Housing - Top

End View
Housing   0.83″
2.236″
6.77″

4' & 8' Ribbed Diffuser
6.40″
2.13″

Deep Diffuser
6.40″
3.50″

Shallow Diffuser
6.40″
2.13″

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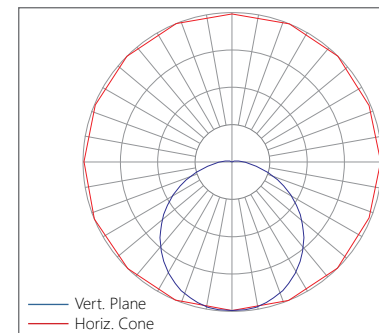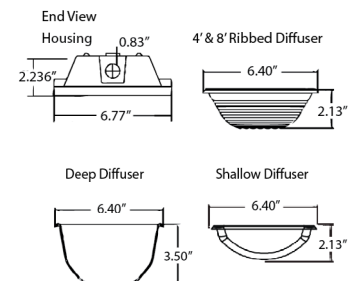
The NVL features field replaceable boards and drivers. This allows you to upgrade to more efficient technology in the future. Or, in the rare event of a failure, you can rapidly replace defective components. Re-boardABILITY helps to ensure you won't get stuck with an obsolete light fixture. Learn more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

Controls Summary:

Control Code	Occupancy	Daylight	Tech	Voltage	Dim	Max Mounting Ht.	Networking	Scheduling	BMS Integration	User Interface	Add. Info
ZOS	On/Off	N/A	PIR	120-347V	N/A	20', 40', Aisle Mask (all included)	N/A	X	X	On Device	pg. 4
ZOSMD	On/Low/Off	Hold Off	Microwave	120-277V	0-10V	40'	N/A	X	X	On Device	pg. 4
Z221Bxx	High/Low/Off	High/Low/Off	PIR	120-347V, 480V	0-10V	L2	L3	L7 8'	20'	40' (select one)	N/A	X	X	IR Remote*	pg. 5
Z321Bxx	High/Low/Off	Daylight Harvesting	PIR	120-347V, 480V	0-10V	L2	L3	L7 8'	20'	40' (select one)	N/A	X	X	iOS / Android App	pg. 5
ZOFD1	High/Low/Off	Daylight Harvesting	PIR	120-277V	0-10V	20', 40', Aisle Mask (all included)	Bluetooth Mesh	X	X	iOS / Android App	pg. 5
ZOFDU	High/Low/Off	Daylight Harvesting	PIR	120-277V, 347V, 480V	0-10V	20', 40', Aisle Mask (all included)	Bluetooth Mesh	✓	X	iOS / Android App	pg. 5
ZESMC	High/Low/Off	Daylight Harvesting	PIR	DALI-2 (120-277V)	DALI	52'	ZigBee 2.4GHz Mesh	✓	X	iOS / Android App, Wireless Wall Switch*	pg. 5
ZLTS	High/Low/Off	Daylight Harvesting	PIR	12VDC	0-10V	40'	Bluetooth LE Mesh	✓	✓	iOS / Android App, Wireless Wall Switch*, Autani Web Interface*	pg. 6
ZLTC	N/A	N/A	N/A	12VDC	0-10V	N/A	Bluetooth LE Mesh	✓	✓	iOS / Android App, Wireless Wall Switch*, Autani Web Interface*	pg. 6

* Sold Separately

ZOS: On/Off Occupancy Sensor

The Leviton OSFHL-CTW (or equivalent) is an end mounted PIR On/Off motion sensor.
- Two interchangeable lenses included, as well as an aisle mask
  - Low Bay: **8' to 25' mounting height**
  - High Bay: **20' to 40' mounting height**
- IP65 rated

ZOSMD: **Leviton Microwave** Multi-level Dimming Sensor

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 ZOSMD features automatic switching based on motion and ambient light level. The ZOSMD also adds step-dimming functionality.

- Stand-by dimming levels: 10% / 20% / 30% / 50%
- Ambient light override
- **Up to 40' mounting height**
- 26' detection radius at 40' height

- 120-277V
- IP20 rated
- Can be used to comply with ASHRAE 90.1, IECC and 2019 Title 24, Part 6 occupancy sensing and dimming requirements.

Ceiling Pattern

Wall Pattern
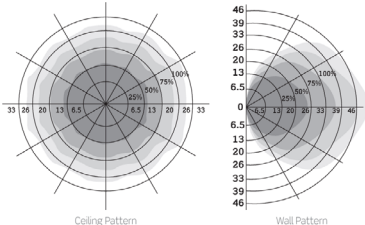
Wattstopper Programmable Dimming Sensors (Z221B/Z321B)

- 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:** 360º lens, maximum coverage 48', diameter from 8' height
  - **-L3:** 360º lens, maximum coverage 40', diameter from 20' height
  - **-L7:** 360º 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 for Z221B.

ZOFDx: Leviton Smart 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

Philips EasySense Wireless Control System

EasySense MC Sensors are the ideal solution for per-luminaire control of new LED luminaires. It combines occupancy and daylight sensing in one package. The result is a cost-effective and easy-to-install solution ideal for energy savings. Commissioning and configuration during and after installation is quick and easy using the Philips MasterConnect app. This app works via Bluetooth Low Energy (BLE) technology and is available for free in the App Store and the Google Play Store.

ZESMC

- Occupancy sensing, daylight harvesting, and task tuning in one device
- **up to 52' mounting height.** 26' radius at 52' height.
- Groups/networks up to 120 lights
- Enables auto-off/manual-on and auto-off/partial-on application
- Independent per-fixture control: Occupancy, Daylight Harvesting, Task Tuning
- Occupancy Sharing
- Scene Setting
- Advanced grouping to select Zigbee wireless wall switches
- Simple room level energy reporting with CSV file saved on the phone
- ZigBee 2.4 GHz Wireless Mesh Network
- Works with Advance Xitanium SR 120-277V drivers or other D4i certified LED drivers
- IP65 rated

Room Controllers

- Illumra ZBT-S1AWH (Single Rocker) or ZBT-S2AWH (Dual Rocker) wireless Zigbee wall switch
  - Self-Powered
  - Up to 120 sensors can be grouped to a single switch
  - Functions: On/Off, Dim-Up/Dim-Down, Scene 1, Scene 2 (Scenes: Dual Rocker Only)
  - Range: 30-100' (typical)

ZBT-S1AWH   **ZBT-S2AWH**

LiteTrace | Keilton+autani: Wireless networked controls, upgradeable systems

LiteTrace makes your existing building smarter by integrating the Keilton lighting controls platform with Autani's proven energy management, reporting, and control platform. Keilton+autani systems are flexible, adaptable, and resilient, providing solutions designed to scale up without having to change hardware.

Scalable product tiers allow implementing a solution aligned to your current needs, with robust upgrade pathways to expand capabilities as requirements evolve.

| Capabilities	Keilton +autani (ZLTSx)	Energy Center by Autani *	Autani Insights *
Motion and Switch Groups	✓	✓	✓
Daylight Harvesting	✓	✓	✓
Schedule Lighting	✓	✓	✓
Energy Reporting & Optimization	✓	✓	✓
Overrides & Automated Demand Response	✓	✓	✓
Environment Data & Lighting Controls API		✓	✓
Building Management & System Integration		✓	✓
Building Optimization Application			✓
Location & Occupancy APIs & Beaconing			✓
Future App & API Ready			✓

* additional hardware and software required.

Keilton +autani
An easy and affordable stand-alone (gateway-free) room-based Bluetooth lighting control solution controllable via mobile app (iOS & Android).

EnergyCenter BY AUTANI
A networked control solution which offers additional functionality such as advanced scheduling, reporting, metering, and building management integration.
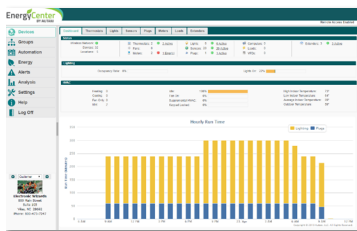
INSIGHTS autani
The most advanced offering, providing valuable data insights into a single building or a portfolio of buildings. This allows for asset tracking, campus-wide wayfinding, 3D facility monitoring and more.

ZLTS

- 12VDC
- PIR + Daylight Harvesting
- **20' - 40' mounting height**
- up to 80' diameter at 40' height
- IP66 Rated
- 0-10V DC dimmable
- Bluetooth-enabled
- End mounted on luminaire with extension arm
- Comes in white (standard)

ZLTC

- Wireless 0-10V fixture controller
- Integral Bluetooth module
- 12VDC Input

Room Controllers

WP1013   WP1025   WP1018   WP1018A

Battery Powered
- 3-, 5-, and 8-button configurations
- Bluetooth Enabled
- 1 x CR2032 battery (WP1013, WP1025, WP1018)
- 2 x AAA batteries (WP1018A)
- Approx. 3 year battery life (batteries not included)
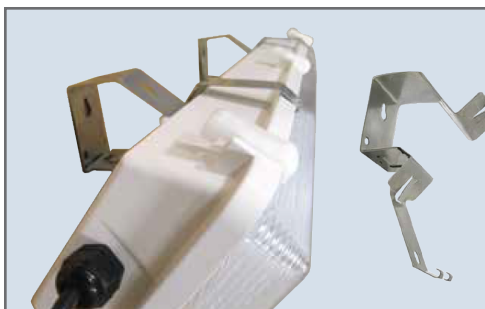
WP1013S   WP1017S   IWS102

Line Voltage
- 3-,7-button configurations, and Occ/Vac Sensor Switch
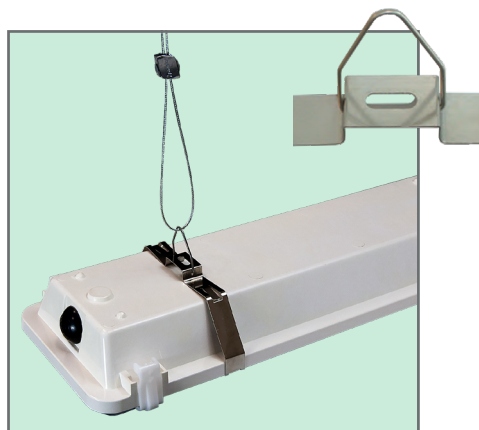- Line voltage powered: 120-277V
- Bluetooth Enabled

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NVL_G2_8_LED_v2.0
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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)