LUMENFOCUS

Project: _____

Location: _____

Cat. #: _____

Type: _____

Quantity: _____

LED

NVL G2 4 | LED Vaportight

Features:
• High performance LED technology
• 90+ CRI standard
• 0-10V dimming drivers standard
• Field replaceable LED boards and 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

Applications:
Most industrial, retail, and recreational low bay and high bay applications
• Warehouse
• Manufacturing Facility
• Food Processing
• Freezer
• Gymnasium
• Car Wash

Predicted Lifetime:
• L70 ≥ 129,000 hrs (calculated)
• L90 ≥ 39,000 hrs (reported)
(based on LM-80, TM-21 and in-situ laboratory testing)

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, suitable for wet locations
• IP65
• IP66
• IP67
• NEMA 4X
• NSF
• PSI 1500
• RoHS

90+ CRI

MADE IN USA
USING DOMESTIC AND FOREIGN COMPONENTS

c(UL)us   NSF.   RoHS Compliant

IP 65   IP 66   IP 67

NEMA 4X

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

Ordering Guide:

example: NVL G2 4 HI UV FSA 940 SMBBQC

Series	Length	Output	Voltage	Shielding	CRI/CCT	Hanging	Controls	Options
NVL G2	4							
NVL G2 NVL Gen 2	**4** 4'	**VL** Very Low **LW** Low **MD** Medium **HI** High **VH** Very High **SH** Super High	**UV** 120-277 **34** 347V	**CRP** Clear Ribbed Polycarbonate **FRP** Frosted Ribbed Polycarbonate **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) **SMBBQC** Bracket Bail with 10' Quick Hang Cable Kit **SMBBQC20** Bracket Bail with 20' Quick Hang Cable Kit **SM45** 45° Surface Mount Bracket	**Blank** No Controls **ZOS** Occupancy Sensor (On/Off) [1] **ZOSMD** Microwave Motion Sensor With Step-Dimming (High/Low/Off) [1] **ZOFD1** Leviton Bluetooth-enabled Programmable Dimming/ Occupancy/Daylight Harvesting Sensor with Grouping (120-277V) [1] **ZOFDU** Leviton Bluetooth-enabled Programmable Dimming/ Occupancy/Daylight Harvesting Sensor with Grouping, Scheduling (120-480V) [1] **Z221BL_** Wattstopper Programmable Photo/Motion Multi-Voltage Sensor (high/low/off) [2] **Z321BL_** Wattstopper Bluetooth-enabled Programmable Dimming/Occupancy/ Daylight Harvesting Multi-Voltage Sensor [2] **ZPC** Photocell **ZIFC** Douglas IFC Controller With Network Capabilities [3] **ZFMS** Douglas FMS Sensor with Dimming/Occupancy/ Daylight Harvesting with Network Capabilities [4] **ZENLO** Enlighted Ruggedized Sensor with Dimming/Occupancy/ Daylight Harvesting and Enlighted One System [5] **ZENLC** Enlighted Ruggedized Sensor with Dimming/Occupancy/ Daylight Harvesting and Enlighted Connected System [5] **ZENLI** Enlighted Ruggedized Sensor with Dimming/Occupancy/ Daylight Harvesting and Enlighted IoT System [5]	**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) **EM1** Emergency Pack - Up To 8W [6] **EM1C** Emergency Pack - Up To 14W [7] **EM2** Emergency Pack - Up To 16W [8] **SSL** Stainless Steel Latches **SC** Safety Cable **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] Max mounting height 40'. See Page 4 for more details
[2] "_" = lens type. Max mounting height 40'. See Page 4 for more details.
[3] See Page 5 for more details.
[4] Max mounting height 40'. See Page 5 for more details on advanced controls.
[5] Max mounting height 50'. See Page 5 for more details on advanced controls.
[6] EM1 - 120-277V / 10°C-50°C ambient.
[7] EM1C - 120-277V / -20°C-50°C ambient. Adds 30W to system wattage.
[8] EM2 - 120-277V / 0°C-50°C ambient.

Controls Accessories *(order separately)*

For Douglas Controls
BT-DMSW-U-A   Bluetooth 1 Zone Dimmer
BT-4BTSW-U-A   Bluetooth 4-Button Wall Station
BT-8BTSW-U-A   Bluetooth 8-Button Wall Station

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)

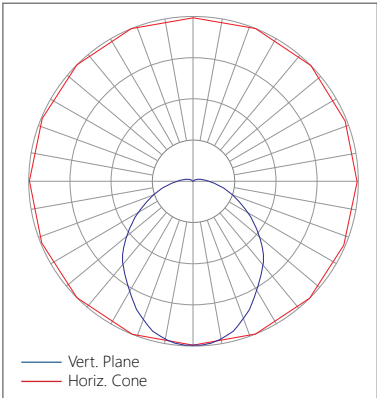© 2022 LumenFocus, LLC.
LumenFocus reserves the right to change specifications without notice. Consult factory for most up to date specifications.

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

NVL_G2_4_LED_v1.0
Page 2 of 6

Performance Chart:

Catalog #	Watts	Lumens (930)	LPW (930)	Lumens (935)	LPW (935)	Lumens (940)	LPW (940)	Lumens (950)	LPW (950)
NVL G2 4 VL UV FRA 9xx	16.3	2078.9	127.8	2087.6	128.3	2137.2	131.4	2137.2	131.4
NVL G2 4 LW UV FRA 9xx	29.9	4045.8	135.5	4062.9	136.1	4159.4	139.3	4159.4	139.3
NVL G2 4 MD UV FRA 9xx	45.1	5947.5	132.0	5972.6	132.6	6114.4	135.7	6114.4	135.7
NVL G2 4 HI UV FRA 9xx	59.6	7930.3	133.1	7963.7	133.7	8152.9	136.9	8152.9	136.9
NVL G2 4 VH UV FRA 9xx	73.0	9859.4	135.0	9901.0	135.5	10136.1	138.8	10136.1	138.8
NVL G2 4 SH UV FRA 9xx	90.6	11767.5	129.9	11817.1	130.5	12097.8	133.6	12097.8	133.6

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

Photometric Data:
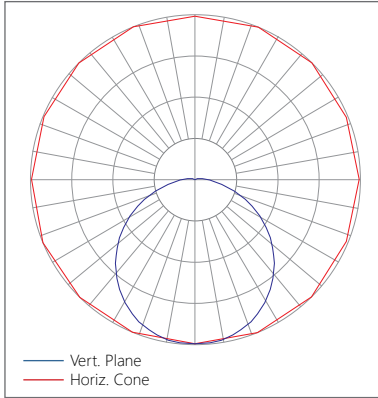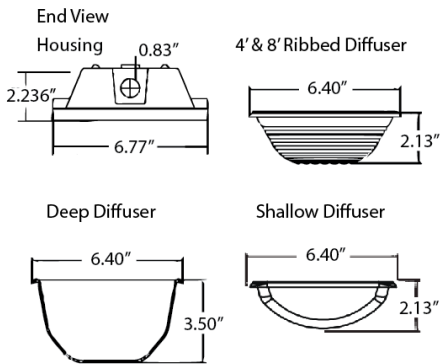
Relative Luminous Intensity with FRA lens
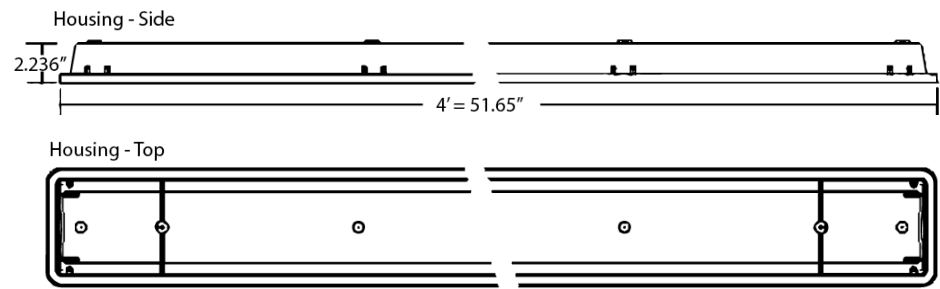
Relative Luminous Intensity with FDA lens
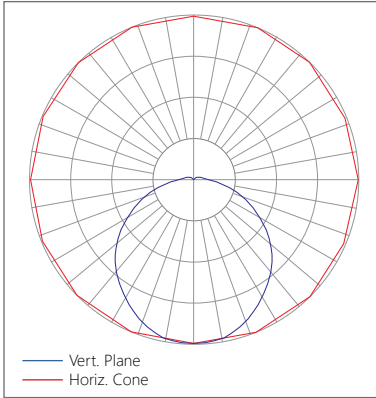
Relative Luminous Intensity with FSA lens

Vert. Plane
Horiz. Cone

Vert. Plane
Horiz. Cone

Vert. Plane
Horiz. Cone

Schematic:

Housing - Side

2.236"

4' = 51.65"

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"

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.

© 2022 LumenFocus, LLC.
LumenFocus reserves the right to change specifications without notice. Consult factory for most up to date specifications.

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

NVL_G2_4_LED_v1.0
Page 3 of 6

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
ZIFC	Controller, No Sensors	High/Low/Off, High-End Trim, Grouping, LLLC (Douglas Lighting Controls-Dialog)*	Wireless Bluetooth Mesh, Programmable via iOS App or Douglas Dialog Software
ZFMS	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, LLLC (Douglas Lighting Controls-Dialog)*	Wireless Bluetooth Mesh, Programmable via iOS App or Douglas Dialog Software
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'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: 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.

© 2022 LumenFocus, LLC.
LumenFocus reserves the right to change specifications without notice. Consult factory for most up to date specifications.

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

NVL_G2_4_LED_v1.0
Page 4 of 6

Universal Douglas: Cloud-based controls

FMS High bay sensor

The NVL can be equipped with the Douglas FMS sensor, which is designed for high bay applications.

With a max sensor height up to 40 feet, the FMS is ideal for applications like warehouses and manufacturing facilities. It can be installed for on/off control or bi-level light functionality. The daylight sensor provides additional savings by dimming the lights to work with the amount of natural available daylight.

FMS
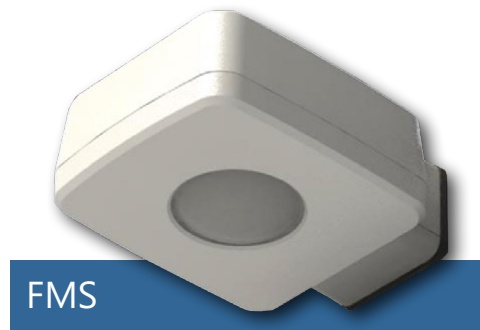
- Configuration from the floor via smartphone app
- Bluetooth mesh network is created between devices for control over a group of Douglas sensors
- Occupancy and daylight sensing
- IP65-rated
- 0-10V dimming
- 150 feet clear line of site, 50 feet through standard walls (distances may vary based on location and environment)

CheckLight® Energy Management System

Douglas controls can be integrated with the CheckLight® Energy Management system. This system can help you uncover energy conversion opportunities, create conservation strategies, analyze lighting load inefficiencies, and make configuration changes from anywhere with Douglas' user-friendly interface. You can get measurements, reports, and control your system from a web-based application.

CheckLight® has the capability to look at different facilities within a portfolio and use data benchmarks to compare building performances.
- Find energy conservation opportunities
- Create energy saving strategies
- Analyze load inefficiencies
- Optimize energy management

Intelligent Fixture Controller (IFC)

The NVL can be equipped with the Douglas Bluetooth Intelligent Fixture Controller (IFC).

- 0-10V dimming with dim-to-off
- Bluetooth beacon for digital ceiling, IoT and location service strategies
- 150-foot clear line of sight, 50 feet through standard walls
- May be used with dual-channel, tunable white LED drivers providing auxiliary power and dim-to-off capability
- Commissioning through Douglas Lighting Controls, Inc. app from Apple app store
- Listed for emergency control when used on dedicated emergency power bus
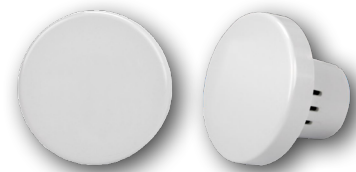
Enlighted: All-in-one sensors, upgradeable systems

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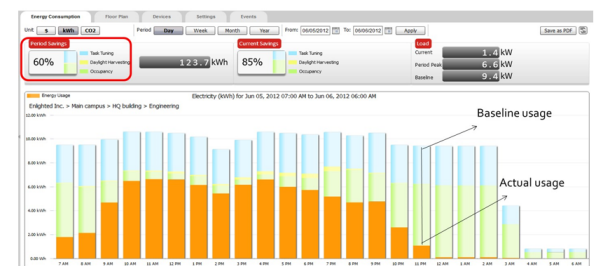
Enlighted Capabilities*	Enlighted One (ZENLO)	Enlighted Connected (ZENLC)	Enlighted IoT (ZENLI)
Motion and Switch Groups	✓	✓	✓
Daylight Harvesting	✓	✓	✓
Schedule Lighting		✓	✓
Energy Reporting & Optimization		✓	✓
Environment Data & Lighting Controls API		✓	✓
Building Management System Integration		✓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

Note: Additional equipment required for ZENLC and ZENLI

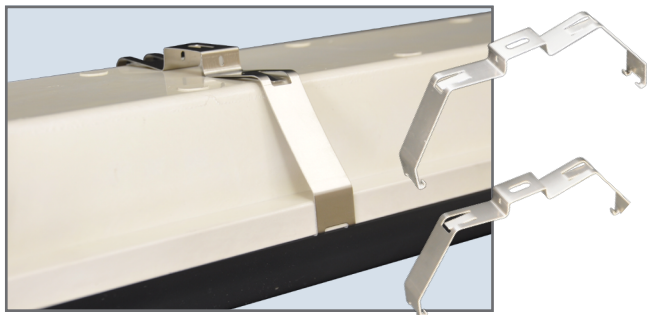Learn more about our available advanced controls options here:
www.lumenfocus.com/controls-overview

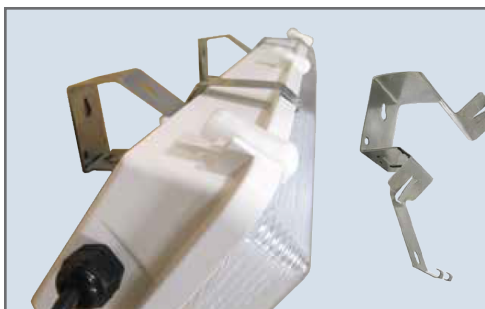*© 2021 Enlighted for all Enlighted content and images.*

© 2021 Douglas Lighting Controls, Inc. for all Douglas content and images. The Bluetooth® word, mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by Douglas Lighting Controls is under license. Other trademarks and trade names are those of their respective owners.
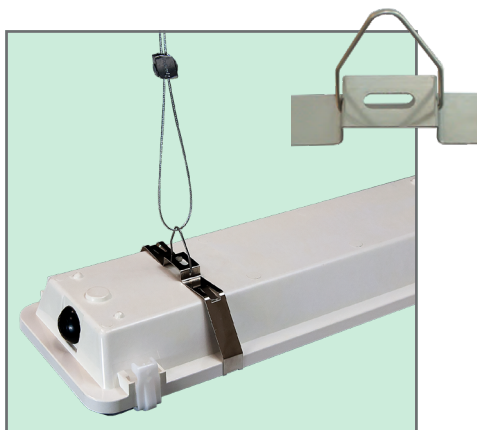
© 2022 LumenFocus, LLC.
LumenFocus reserves the right to change specifications without notice. Consult factory for most up to date specifications.

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

NVL_G2_4_LED_v1.0
Page 5 of 6

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)