



Project: _____
 Location: _____
 Cat. #: _____
 Type: _____
 Quantity: _____

LED

WVL 2 | LED Vaportight High Bay

Features:

- High performance LED technology
- 0-10V dimming drivers standard on all models except WVL 2 MD UV
- Field replaceable LED boards and drivers
- Multiple hanging options, including surface, chain, aircraft cable, and pendant for easy installation
- Durable materials and craftsmanship allows the WVL 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
- Parking Garage
- Car Wash

Ambient Operating Temp.:

- -30°C to 40°C for LW & HI models
- -30°C to 35°C for MD models

Predicted L70 Lifetime:

- >100,000 hrs (calculated)
- >72,000 hrs (reported)
- 80% lumen maintenance @ 72,000 hrs (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 lens clips or stainless steel captive latches optional)
- Stainless steel mounting hardware

Certifications:

- UL 1598 listed for US and Canada, suitable for wet locations
- IP65
- IP66
- IP67 (optional)
- IP69
- NEMA 4X
- NSF
- PSI 1500
- RoHS
- DesignLights Consortium qualified on specific configurations (refer to DLC qualified products list for exact model numbers) <http://designlights.org/>



Ordering Guide:

example: WVL 2 HI UV FA 840 FCM

Series	Length	Output	Voltage	Shielding	CRI/CCT	Hanging	Controls	Options
WVL	2							
WVL	2 2'	LW Low	UV 120-277	CP Clear Polycarbonate	835 80 CRI/3500K	Blank V-Hook (For Chain or Cable Mount)	Blank No Controls	Blank No Options
		MD Medium	34 347V	CA Clear Acrylic	840 80 CRI/4000K	RBS Rigid Mounting Beam - Stainless Steel	ZOS Occupancy Sensor (On/Off)	C6 6' Single Circuit Cord
		HI High	48 480V	FA Frosted Acrylic	850 80 CRI/5000K	RBZ Rigid Mounting Beam - Zinc Plated	Z221BL_ Wattstopper Programmable Photo/ Motion Multi-Voltage Sensor (high/ low/off) ⁽¹⁾	C6(LVL) C6 With Integrated Dimming Leads
						FCM Flexible Ceiling Mount	Z321BL_ Wattstopper Bluetooth-enabled Programmable Photo/Motion Multi- Voltage Sensor (high/low/off) ⁽¹⁾	C10 10' Single Circuit Cord
						QC 10' Quick Hang Cable Kit	ZOSMD 0-10V Dimming Microwave Occupancy Sensor	C10(LVL) C10 With Integrated Dimming Leads
						QC20 20' Quick Hang Cable Kit	ZPC Photocell	D6 6' Dual Circuit Cord
						HUB Hub For Pendant Mounting (Stem Not Included)	ZIFC Douglas IFC Controller With Network Capabilities ⁽²⁾	D10 10' Dual Circuit Cord
							ZFMS Douglas FMS Sensor with Dimming/ Occupancy/Daylight Harvesting with Network Capabilities ⁽³⁾	P(NEMA) Plug (Specify NEMA configuration)
							ZENLO Enlighted Ruggedized Sensor with Dimming/Occupancy/Daylight Harvesting and Enlighted One System ⁽⁴⁾	EM1 Emergency Pack - Up To 8W ⁽⁵⁾
							ZENLC Enlighted Ruggedized Sensor with Dimming/Occupancy/Daylight Harvesting and Enlighted Connected System ⁽⁴⁾	EM1C Emergency Pack - Up To 10W ⁽⁶⁾
							ZENLI Enlighted Ruggedized Sensor with Dimming/Occupancy/Daylight Harvesting and Enlighted IoT System ⁽⁴⁾	EM2 Emergency Pack - Up To 16W ⁽⁵⁾
								SCL Stainless Steel Captive Latches
								SSC Stainless Steel Lens Clips
								SC Safety Cable
								F Fuse
								IP67 IP67 Rating
								SDT(480V) 480V To 277V Step Down Transformer
								LVL 0-10V Dimming Leads for Easy Field Access
								BAA Buy American Act Compliant

Notes

- ⁽¹⁾ " " = lens type. See Page 5 for lens descriptions.
⁽²⁾ IFC controller - see Page 5 for more details.
⁽³⁾ Max ceiling height for Douglas FMS sensor: 40 feet.
See Page 6 for more details on advanced controls.
⁽⁴⁾ Max ceiling height for Enlighted Ruggedized sensor 50 feet. See
Page 6 for more details on advanced controls.
⁽⁵⁾ EM1 and EM2 - 120-277V / 0°C-50°C ambient.
⁽⁶⁾ EM1C - 120-277V / -20°C-50°C ambient. Adds 30W to system wattage.

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)



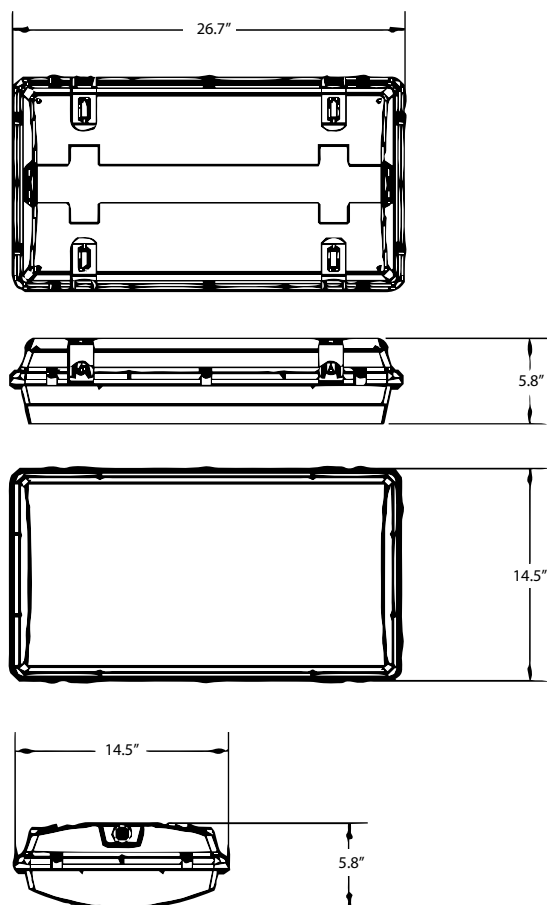
Performance Chart:

Catalog #	Lumens	Watts	LPW
WVL 2 LW UV FA 835	8319	65	128.2
WVL 2 MD UV FA 835	12563	89	140.5
WVL 2 HI UV FA 835	16638	129	129
WVL 2 LW UV CA 835	8514	65	131.2
WVL 2 MD UV CA 835	12858	89	143.8
WVL 2 HI UV CA 835	17028	129	132
WVL 2 LW UV CP 835	8466	65	130.4
WVL 2 MD UV CP 835	12785	89	143
WVL 2 HI UV CP 835	16932	129	131.3

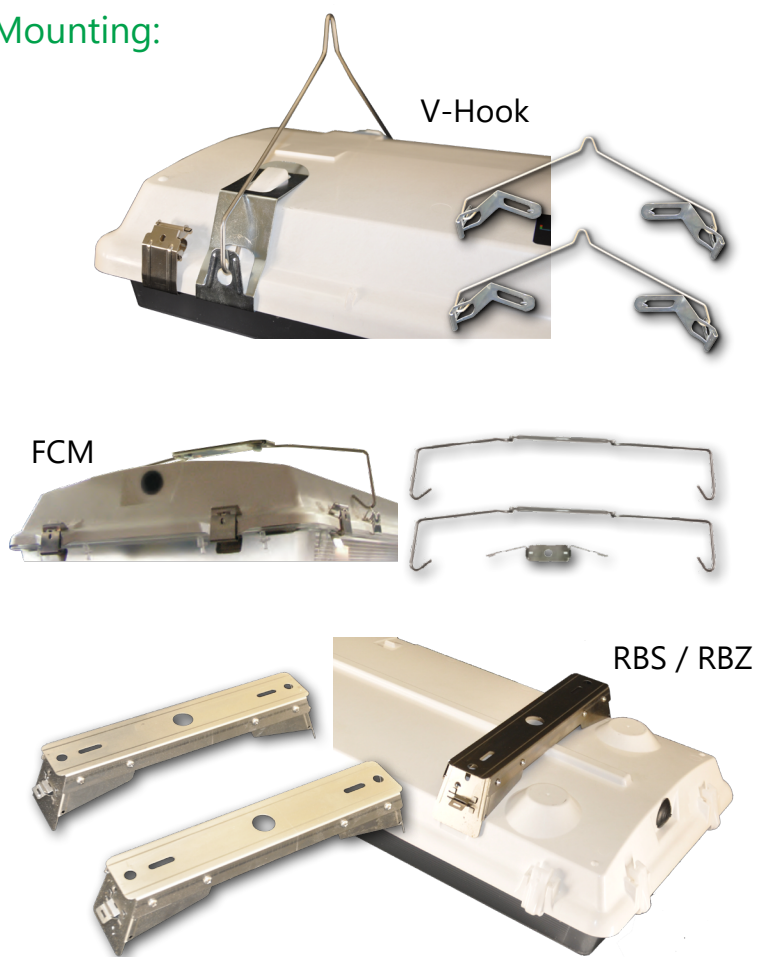
Catalog #	Lumens	Watts	LPW
WVL 2 LW UV FA 840	8594	65	132.4
WVL 2 MD UV FA 840	12912	89	144.4
WVL 2 HI UV FA 840	17188	129	133.2
WVL 2 LW UV CA 840	8796	65	135.5
WVL 2 MD UV CA 840	13215	89	147.8
WVL 2 HI UV CA 840	17591	129	136.4
WVL 2 LW UV CP 840	8746	65	134.7
WVL 2 MD UV CP 840	13140	89	146.9
WVL 2 HI UV CP 840	17492	129	135.6

Catalog #	Lumens	Watts	LPW
WVL 2 LW UV FA 850	8852	65	136.4
WVL 2 MD UV FA 850	13261	89	148.3
WVL 2 HI UV FA 850	17704	129	137.2
WVL 2 LW UV CA 850	9059	65	139.6
WVL 2 MD UV CA 850	13571	89	151.8
WVL 2 HI UV CA 850	18119	129	140.5
WVL 2 LW UV CP 850	9009	65	138.8
WVL 2 MD UV CP 850	13495	89	150.9
WVL 2 HI UV CP 850	18017	129	139.7

Schematic:



Mounting:



The WVL 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.](#)



Photometric Data:

WVL 2 HI UV FA 850

Test No.: LLIA000678-001

Luminaire Lumens: 17,705 lm

Luminaire Watts: 128.8W

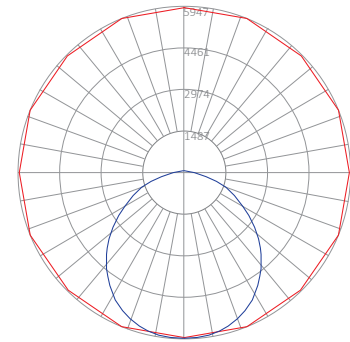
Efficacy: 137.5 LPW

Spacing Criterion (0-180): 1.26

Spacing Criterion (90-270): 1.28

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	19883	18521	19019
55	17625	16271	17407
65	14995	13746	15092
75	12193	10769	12179
85	7945	7426	8583



Coefficients Of Utilization - Zonal Cavity Method Effective Floor Cavity Reflectance 0.20

RC		80				70					50			30				
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10	
0		118	118	118	118		115	115	115	115		110	110	110		104	104	104
1		107	102	98	94		104	100	96	92		95	92	89		91	88	85
2		98	89	82	76		95	87	80	75		83	77	73		79	75	71
3		89	78	70	63		86	76	69	62		73	66	61		70	64	59
4		81	69	60	53		79	68	59	53		65	58	52		62	56	51
5		75	62	53	46		72	60	52	46		58	51	45		56	49	44
6		69	56	47	40		67	54	46	40		52	45	39		50	44	39
7		64	50	42	35		62	49	41	35		48	40	35		46	39	34
8		60	46	37	32		58	45	37	31		44	36	31		42	35	31
9		56	42	34	28		54	41	34	28		40	33	28		39	32	28
10		52	39	31	26		51	38	31	26		37	30	25		36	30	25

Tested in accordance with IES standards utilizing absolute photometry per LM-79-08

WVL 2 HI UV CA 850

Test No.: LLIA000678-002

Luminaire Lumens: 18,119 lm

Luminaire Watts: 128.8W

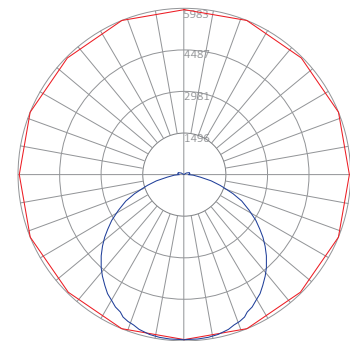
Efficacy: 140.7 LPW

Spacing Criterion (0-180): 1.30

Spacing Criterion (90-270): 1.30

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	21776	19893	17329
55	20257	15362	18803
65	17263	15630	16623
75	12157	11376	11661
85	5659	3415	3587



Coefficients Of Utilization - Zonal Cavity Method Effective Floor Cavity Reflectance 0.20

RC		80				70				50			30	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10
0	119	119	119	119	116	116	116	116	110	110	110	106	106	106
1	108	104	99	95	105	101	97	94	97	93	90	93	90	87
2	98	90	83	77	96	88	82	76	84	79	74	81	76	72
3	89	79	70	64	87	77	69	63	74	67	62	71	65	61
4	82	70	61	54	79	68	60	53	66	58	53	63	57	52
5	75	62	53	46	73	61	52	46	59	51	45	56	50	45
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39
7	64	50	42	35	62	50	41	35	48	40	35	46	40	35
8	60	46	37	31	58	45	37	31	44	36	31	42	36	31
9	56	42	34	28	54	41	34	28	40	33	28	39	32	28
10	52	39	31	26	51	38	31	25	37	30	25	36	30	25

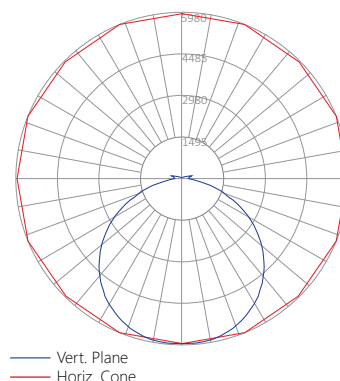
Tested in accordance with IES standards utilizing absolute photometry per LM-79-08



WVL 2 HI UV CP 850

Spacing Criterion (90-270): 1.30

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	21766	19816	16989
55	20203	15323	18574
65	17057	15374	16078
75	11926	10943	11517
85	5509	3410	3411



Effective Floor Cavity Reflectance 0.20

RC		80				70				50			30	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10
0	119	119	119	119	116	116	116	116	110	110	110	106	106	106
1	108	104	99	95	106	101	97	94	97	93	90	93	90	88
2	98	90	83	77	96	88	82	76	84	79	74	81	76	72
3	90	79	71	64	87	77	70	63	74	67	62	71	66	61
4	82	70	61	54	79	68	60	54	66	58	53	63	57	52
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39
7	64	51	42	35	62	50	41	35	48	40	35	46	40	35
8	60	46	37	32	58	45	37	31	44	36	31	43	36	31
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25

Zonal Lumen Summary

Zone	Lumens	%Fixt
0-20	2195.00	12.20
0-30	4695.55	26.10
0-40	7762.34	43.10
0-60	13972.66	77.60
0-80	17487.16	97.10
0-90	17805.27	98.80
90-120	163.07	0.90
90-130	186.73	1.00
90-150	206.84	1.10
90-180	212.24	1.20
0-180	18017.51	100.00

- 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.

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

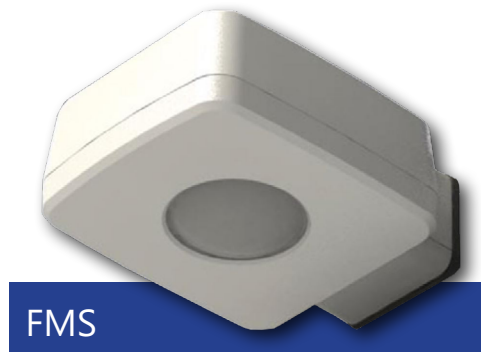
- 0-10V dimming with dim-to-off
- Bluetooth beacon for digital ceiling, IoT and location service strategies
- 150-foot clear line of sight, 50 feet through standard walls
- May be used with dual-channel, tunable white LED drivers providing auxiliary power and dim-to-off capability
- Commissioning through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



Douglas Lighting Controls, Inc.: High bay sensors

The WVL 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.



- 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

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.



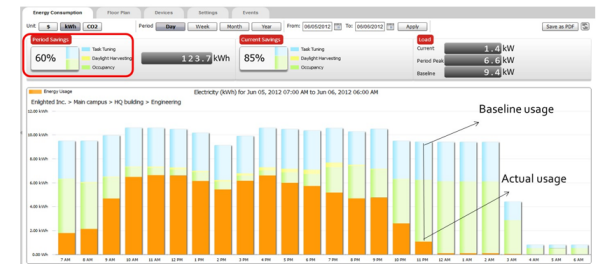
Real-time data analytics

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

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