# LUMENFOCUS

# Note: This product has been discontinued and replaced with the WVL F G2.



Project:	
Location:	
Cat. #:	
Туре:	
Quantity:	

MADEINUSA

USING DOMESTIC AND FOREIGN COMPONENTS



# WVL 2F | LED Vaportight High Bay

#### Features:

- High performance LED technology
- 0-10V dimming drivers standard on all models except WVL 2 F MD UV
- 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 WVL 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
- Freezer

# Ambient Operating Temp.: • -30°C to 35°C

## Predicted L70 Lifetime:

- ≥99,000 hrs (calculated)
- >72,000 hrs (reported)
- 77% 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)
- 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



## Warranty:

• 5 year limited system warranty - see 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.



© 2021 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

WVL 2F\_LED\_v3.3\_FINAL Page 1 of 5

# LumenF@cus

# Ordering Guide:

example: WVL 2 F HI UV CFP 840 RBS C6

No.       2       4       No.       Vor.       CP       835       Core       Bank       Core       Core </th <th>oraci</th> <th>3 -</th> <th>ande.</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>c.c.r.p</th> <th></th> <th></th>	oraci	3 -	ande.						c.c.r.p		
V       V	Series	Length	Profile	Output	Voltage	Shielding	CRI/CCT	Hanging	Controls	Cords	Options
<text>       Num     Num</text>	WVL	2	F								
<text><text><text><text><text><text><text><text><text><text><text><text><text><text><text></text></text></text></text></text></text></text></text></text></text></text></text></text></text></text>	WVL							-			
Mode Her<		2'	Flat Bottom	Low							No Options
<text><text><text><text><text><text><text><text><text><text></text></text></text></text></text></text></text></text></text></text>						-	840				
<text></text>						Heavier Gauge		Rigid Mounting Beam		C6 With Integrated	
<section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header>									Z221BL_	_	
<section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header>											Fuse
<section-header><section-header><section-header><section-header><section-header><section-header><text><text><text><text><text><text><text><text><text><text><text><text><text><text></text></text></text></text></text></text></text></text></text></text></text></text></text></text></section-header></section-header></section-header></section-header></section-header></section-header>											
<section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><text></text></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header>										C10 With Integrated	
ComparisonComparisonComparison***********************************									Wattstopper Bluetooth-		
Support Controller Scattering beight for beight of head descriptions: Controller was Page 3 for innor details: Controller w											
<text><text><text><text><text><text><text><text><text><text><text></text></text></text></text></text></text></text></text></text></text></text>								Cable Kit		D10	
<text><text><text><text><text><text><text><text><text><text><text><text></text></text></text></text></text></text></text></text></text></text></text></text>										-	
<text><text><text><section-header><section-header><section-header><section-header></section-header></section-header></section-header></section-header></text></text></text>									0-10V Dimming Microwave		
<section-header><section-header><section-header><ul> <li>Advecting height for Douglas FMS sensor: 40 feet. Page S for more details on advanced controls. <b>Details on advanced controls.</b> <b>Details on advanced controls.</b> <b>Details on advanced controls.</b> <b>Details Control Sectors Disc for the sensor</b> <b>Control Sectors Disc for the sensor</b> <b>Details on advanced controls.</b> <b>Details of the sensor</b> <b>Details of the sensor</b> <b>Control Sectors Disc for the sensor</b> <b>Details of the sensor</b> <b>Det</b></li></ul></section-header></section-header></section-header>	$_{\rm EC}$ = lens	type. See	e Page 3 for Page 3 for	lens desc	riptions.			нив			
<section-header><section-header><section-header><section-header><section-header></section-header></section-header></section-header></section-header></section-header>	Max ceilir	ng height	for Douglas	s FMS sen	sor: 40 fe	et.					
Se for more details on advanced control.          Starty Call       Starty Call         Details on advanced control.       Starty Call         Details of the control of the con						or 50 feet S	ee				
<section-header>  Control Concersion Concersion Concersion Control Valle Station   Control Concersion   Control Concersion   Control Concersion   Control Control Control   Control Control Control   Control Control Control   Control Control Control   Control Control Control Valle Station   Control Control Control   Control Control Control Valle Station   Control Control Control Valle Station <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Douglas IFC Controller</td><td></td><td></td></section-header>									Douglas IFC Controller		
For Douglas Controls         B1-DMSW-U-A       Bluetooth 12 one Dimmer         B1-BSTSW-U-A       Bluetooth 4-Button Wall Station         B2-BSTSW-U-A       Bluetooth 4-Button Wall Station         B2-C1       Enlighted Conneted Rolf         W2-20-00-10       Enlighted Romote Control Wall Switch         W2-20-00-20       Enlig								Safety Cable			
<section-header><section-header><section-header><section-header></section-header></section-header></section-header></section-header>	ontro	ols A	ccesso	ries (o	rder se	parately					
<ul> <li>BT-DMSW-U-A Bluetooth 1-Zone Dimmer BT-BTSW-U-A Bluetooth 8-Button Wall Station</li> <li>PC Enlighted Control (or Enlighted Remote Control Wall Switch (or Enlighted Remote Control Wall Switch (for Enlighted Remote Control Wall Switch (for Enlighted Cone Control Wall Switch)</li> <li>W-2-00 Enlighted Remote Control Wall Switch (for Enlighted Cone Control Wall Switch)</li> <li>W-2-00 Enlighted Cone Control Wall Switch</li> <li>W-2-00 Enlighted Remote Control Wall Switch</li> <li>W-2-00 Enlighted Cone Control Wall Switch</li> <li>W-2-00 Enlighted Remote Control Wall Switch</li> <li>W-2-00 Enlighted Cone Control Wall Switch</li> <li>W-2-00 Enlighted Remote Control Wall Switch</li> <li>W-2-00 Enlighted Cone</li></ul>	Fo	or Dougla	as Controls						Douglas FMS Sensor with		
BT-8BTSW-UA Bluetooth 8-Button Wall Station   PS-20 Enlighted Remote Control Wall Switch (for Enlighted Remote Control Wall Switch (for Enlighted One) PS-20-11 Enlighted Remote Control Wall Switch (for Enlighted One) PS-20-20-21 Enlighted Remote Control Wall Switch (for Enlighted One) PS-20-20-21 Enlighted Remote Control Wall Switch (for Enlighted One) PS-20-20-21 Enlighted Remote Control Wall Switch (for Enlighted One) PS-20-20-21 PS-20-21 Enlighted Remote Control Wall Switch (for Enlighted One) PS-20-21 PS-20-21 Enlighted Remote Control Wall Switch (for Enlighted One) PS-20-21 PS-20-21 Enlighted Remote Control Wall Switch (for Enlighted One) PS-20-21 PS-20-21 Enlighted Remote Control Wall Switch (for Enlighted One) PS-20-21 PS-20-21 Enlighted Remote Control Wall Switch (for Enlighted Concellation) PS-20-21 PS-20-21 Enlighted Remote Control Wall Switch (for Enlighted Concellation) PS-20-21 PS-20-21 Enlighted Remote Control Wall Switch (for Enlighted Concellation) PS-20-21 PS-20-21 Enlighted Concellation) PS-20-21 <p< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Daylight Harvesting with</td><td></td><td></td></p<>									Daylight Harvesting with		
For Enlighted Controls         MS-20.       filighted Remote Control Wall Switch (for Enlighted One)         For Enlighted Controls       Wall Switch (for Enlighted Control Wall Switch (for Enlighted Control Wall Switch)         For Enlighted Controls       Wall Switch (for Enlighted Control Wall Switch)         For Enlighted Controls       Wall Switch (for Enlighted Control Wall Switch)         For Enlighted Control Wall Switch (for Enlighted Control Wall Switch)       For Enlighted Ruggedized Sensor with Dimming/ Control Wall Switch (for Enlighted Ruggedized)         For Enlighted Ruggedized       Sensor with Dimming/ Control Wall Switch (for Enlighted Ruggedized)       For Sensor With Dimming/ Control Wall Switch (for System)         For Enlighted Ruggedized       Sensor with Dimming/ Control Wall Switch (for Enlighted Ruggedized)       For Sensor With Dimming/ Control Wall Switch (for Enlighted Ruggedized)         For Enlighted Ruggedized       Sensor With Dimming/ Control Wall Switch (for System)       For Sensor With Dimming/ Control Wall Switch (for System)         For Enlighted Ruggedized       Sensor With Dimming/ Control Wall Switch (for System)       For System         For Enlighted Ruggedized       Sensor With Dimming/ Control Wall Switch (for System)       For System         For Enlighted Ruggedized       Sensor With Dimming/ Control Wall Switch (for System)       For System         For Enlighted Ruggedized       Sensor Wall Switch (for System)       For System <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Newtork Capabilities<sup>(3)</sup></td> <td></td> <td></td>									Newtork Capabilities <sup>(3)</sup>		
W12       Endighted Connected & JoT)         W5-2:00:1       Enlighted Connected & JoT)         W5-2:00:1       Enlighted Connected & JoT)         W5-2:00:1       Enlighted Connected & JoT)         W5:1       W5:1         W5:2:00:1       Enlighted Ruggedized         Sensor with Dimming/ CocpansyDaylight       Enlighted         W12       W12       W12         W21       W2       W2         W21											
WS-2-00-IL Enlighted Remote Control Wall Switch (or Enlighted One)					Control V	Vall Switch			Sensor with Dimming/		
(for Enlighted One) (for Enlighted One) (For Enlighted Ruggedized Sensor with Dimming CcupancyDavight Harvesting and Enlighted (Sensor with Dimming) CarbonyDavight Harvesting and Enlighted (Sensor with Dimming) (Sensor			(for Enlig	hted Con	nected &	IoT)			Harvesting and Enlighted		
ZENC         Bridgedized         Second with Brunding         Cocpany, Obayight         Barner State State         Cocpany, Obayight         Barner State State         Cocpany, Obayight         Cocpany, Obayight         Barner State         Cocpany, Obayight         Barner State         Distribution         Cocpany, Obayight         Cocpany, Obayight         Barner State         Cocpany, Obayight         Barner State         Cocpany, Obayight         Barner State         Cocpany, Obayight         Barner State	VV:	5-2-00-IL				vall Switch			,		
Sensor with Dimming/ OccupancyDaylight Connected System <sup>(0)</sup>											
Barvesting and Enlighted Connected System <sup>40</sup> Early and Early and Early and Early and Early and Early and									Sensor with Dimming/		
Connected System <sup>49</sup> <b>EXPLUE</b> Response the Ruggedized Sensor with Dimming/ Occupancy/Daylight Harvesting and Enlighted lo <sup>2</sup> System <sup>49</sup> <b>EXPLUE</b> Response to the response to the respo									Harvesting and Enlighted		
Enlighted Ruggedized Sensor with Dimming/ Occupancy/Davlight Harvesting and Enlighted of System <sup>(4)</sup>				1							
Sensor with Dimming/ Occupancy/Daylight Harvesting and Enlighted lot System <sup>(4)</sup>											
Marvesting and Enlighted bd System <sup>40</sup>	-	2		-	7				Sensor with Dimming/		
Internet of the right to change specifications without WL 2F_LED_v3.3_FII 800 Facet Rd.   Henderson, NC 27537 WVL 2F_2 202 Page 2	11 200	- +	3/	1	0		- FF				
enFocus reserves the right to change specifications without 880 Facet Rd.   Henderson, NC 27537 Page 2		G.	and the second second	Sto ver	0			A. P	IoT System <sup>(4)</sup>		
enFocus reserves the right to change specifications without 880 Facet Rd.   Henderson, NC 27537 Page 2					1 1911 (F				T	1	
enFocus reserves the right to change specifications without 880 Facet Rd.   Henderson, NC 27537 Page 2				and the		1 = /= / =	79/				
enFocus reserves the right to change specifications without 880 Facet Rd.   Henderson, NC 27537 Page 2			1º	and all and	A H	à fali J					
enFocus reserves the right to change specifications without 880 Facet Rd.   Henderson, NC 27537 Page 2			-	0	8	12					
enFocus reserves the right to change specifications without 880 Facet Rd.   Henderson, NC 27537 Page 2											
enFocus reserves the right to change specifications without 880 Facet Rd.   Henderson, NC 27537 Page 2											
enFocus reserves the right to change specifications without 880 Facet Rd.   Henderson, NC 27537 Page 2											
enFocus reserves the right to change specifications without 880 Facet Rd.   Henderson, NC 27537 Page 2	-11										
enFocus reserves the right to change specifications without 880 Facet Rd.   Henderson, NC 27537 Page 2	$\square$		_								
enFocus reserves the right to change specifications without 880 Facet Rd.   Henderson, NC 27537 Page 2	2021 Lum	enFocus, L	LC.				www	lumenfocus.com			WVL 2F_LED_v3.3_FIN
							880 Facet Rd.		37		Page 2

# LumenFécus

# WVL 2F | LED VAPORTIGHT HIGH BAY

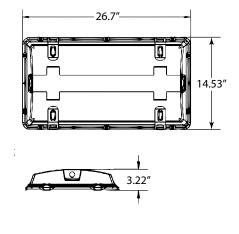
#### Performance Chart:

Catalog #	Lumens	Watts	LPW	I	Cat
WVL 2 F LW UV CFP 835	8241	63.3	130.2		WV
WVL 2 F MD UV CFP 835	11996	102.4	117.1		WV
WVL 2 F HI UV CFP 835	15735	126.7	124.2		WV

Catalog #	Lumens	Watts	LPW
WVL 2 F LW UV CFP 840	8496	63.3	134.2
WVL 2 F MD UV CFP 840	12367	102.4	120.8
WVL 2 F HI UV CFP 840	16222	126.7	128.0

Catalog #	Lumens	Watts	LPW
WVL 2 F LW UV CFP 850	8751	63.3	138.2
WVL 2 F MD UV CFP 850	12738	102.4	124.4
WVL 2 F HI UV CFP 850	16709	126.7	131.9

## Schematic:





#### 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: 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.

#### **Douglas Lighting Controls, Inc.**: Intelligent Fixture Controller (IFC)

The WVLF 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
- 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

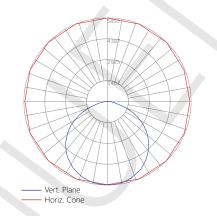
© 2021 LumenFocus, LLC. LumenFocus reserves the right to change specifications without notice. Consult factory for most up to date specifications. www.lumenfocus.com 880 Facet Rd. | Henderson, NC 27537 252-430-6970 WVL 2F\_LED\_v3.3\_FINAL Page 3 of 5

#### Photometric Data:

WVL 2F HI UV CFP 850		e Data (cd/s		
Test No.: LLIA000703-001-R02	Angle In	Average	Average	Average
	Degrees	0-Deg	45-Deg	90-Deg
Luminaire Lumens: 16,709 lm Luminaire Watts: 126.7W	45	23053	23163	23274
Efficacy: 131.9 LPW	55	22248	22189	22504
	65	19846	19656	19947
Spacing Criterion (0-180): 1.30	75	13710	13175	13643
Spacing Criterion (90-270): 1.30	85	2778	2196	1733

#### 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	111	111	111	106	106	106
1	109	105	101	97	107	103	99	96	98	95	93	94	92	90
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75
3	91	80	72	66	88	79	71	65	76	70	64	73	68	63
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41
7	65	52	43	37	64	51	43	37	49	42	36	48	41	36
8	61	47	39	33	59	46	38	33	45	38	33	44	37	32
9	57	43	35	30	55	43	35	29	42	34	29	40	34	29
10	53	40	32	27	52	39	32	27	38	31	27	37	31	26



Zonal Lum	Zonal Lumen Summary						
Zone	Lumens	%Fixt					
0-20	2148.17	12.90					
0-30	4597.11	27.50					
0-40	7598.39	45.50					
0-60	13607.81	81.40					
0-80	16606.43	99.40					
0-90	16708.90	100.00					
90-120	0.00	0.00					
90-130	0.00	0.00					
90-150	0.00	0.00					
90-180	0.00	0.00					
0-180	16708.90	100.00					

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

# LumenF@cus

# Douglas Lighting Controls, Inc.: High bay sensors

The WVLF 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 bilevel 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)

# **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	~	$\checkmark$	1
Schedule Lighting		✓	✓
Energy Reporting & Optimization		1	✓
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

## CheckLight<sup>®</sup> 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<sup>®</sup> 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

#### 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

© 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.

© 2021 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 WVL 2F\_LED\_v3.3\_FINAL Page 5 of 5