V50 LED
Vandal-Resistant Static Troffer

Williams

4-3/8″

23-13/16″
2x2 | 2x4

CATALOG #: _____

TYPE: _____

PROJECT: _____

BUY AMERICAN ACT COMPLIANT

CCEA Approved

FEATURES

- Ideal for potentially rough environments such as recreational facilities, schools, supervised behavioral centers, or other vandal prone areas
- Impact-resistant prismatic lens with polycarbonate overlay provides added security
- Fully gasketed door option allows for use in light moisture vandal environments such as locker rooms
- Tamper-resistant screws secure door frame
- T-slot steel hinge ensures positive retention when door is opened
- Back reinforcement ribs and rolled-edge channel provide added strength
- Integral T-bar clips quickly secure fixture to structure. (2x2 and 2x4 only)
- Rated for direct contact with insulation
- Wireless in-fixture control solutions available
- Made Right Here® in the USA

SPECIFICATIONS

- HOUSING – 22-gauge die-formed C.R.S.
- DOOR FRAME – .050″ flat extruded aluminum, with mitered corners. T-slot steel hinge allows reversible hinging and latching. Fully enclosed spring-loaded cam latches secured with six tamper-resistant, tri-groove screws.
- SHIELDING – Frosted acrylic, pattern #12, .187″ thick chemically welded to clear polycarbonate, .177″ thick.
- FINISH – 92% minimum average reflective white polyester powder coat bonded to phosphate-free, multi-stage pretreated metal. All parts painted after fabrication to facilitate installation, increase efficiency, and inhibit corrosion.
- ELECTRICAL – High-quality mid-power LED board. L70 at 50,000 hours. 25°C maximum ambient operating temperature. 50/60 Hz constant current driver.
- MOUNTING – NEMA Type "G" 15/16″ or 1″ grid standard. For NEMA Type "NFG" and "SG" 9/16″ grid installations, specify EQCLIPS option. Drywall flange type available.
- LISTINGS –
  - cCSAus certified as luminaire suitable for dry or damp locations.
  - IC-rated for direct contact with insulation
  - City of Chicago Environmental Air approved when specified with CP option.
  - Complies with the Buy American Act and other federal regulations. Request certification at hew.com/baa.
- WARRANTY – 5-year limited warranty, see hew.com/warranty.

ORDERING EXAMPLE: V50 G - S 2 4 - L130/835 - F - VLF - OPTIONS - CONTROL/DIM - UNV

ORDERING INFO

SERIES	CEILING TYPE	FIXTURE STYLE	WIDTH	LENGTH	LUMENS [1]		CRI
V50	G 15/16″ or 1″ grid	S Full door frame– no reveal	1 1′ [3]	2 2′ [4]	**1x4**	**2x4**	8 80
	F Flange [2]		2 2′	4 4′	L23 2,300lm	L31 3,100lm	9 90
					L39 3,900lm	L56 5,600lm	
					L58 5,800lm	L81 8,100lm	
					2x2	L117 11,700lm	
					L23 2,300lm		
					L39 3,900lm		
					L58 5,800lm		

CCT	DOOR FRAME	SHIELDING		OPTIONS	
27 2700K	F White flat aluminum	VLF	Frosted acrylic, pattern #12, .187″ thick chemically welded to clear polycarbonate, .177″ thick	*See page 3 for FLEXIBLE WHIP OPTIONS.*	
30 3000K	FB Black flat aluminum			EM/10W 10-watt emergency battery	
35 3500K		VL	Clear acrylic, pattern #12, .187″ thick chemically welded to clear polycarbonate, .177″ thick [5]	EM/12W 12-watt emergency battery [7]	
40 4000K				DG Double gasket [8]	
50 5000K				TG Triple gasket [9]	
		PC12187	Clear polycarbonate, pattern #12, .187″ thick [6]	EQCLIPS Earthquake clips [10]	
				(L__) Additional lower lumen packages available. [11] Example: 9,500 nominal lumens = V50G-S24-L117/835-**(L95)**.	
		PC118/AF12125	Frosted acrylic, pattern #12, .125″ thick with clear polycarbonate, .118″ thick	WET Wet location under covered ceiling [12]	
				CP Chicago Plenum (CCEA)	

CONTROL [13]		DRIVER		VOLTAGE	
See page 5 for ADDITIONAL CONTROL OPTIONS.		*See page 5 for ADDITIONAL DRIVER OPTIONS.*		120 120V	
–	None	DIM Driver with external 0-10V dimming wires		277 277V	
AVI-LVFA	Avi-on wireless fixture control [14]	DRV Driver without external dimming wires		UNV 120-277V	
AVI-LVFA-CS2-PIR	Avi-on wireless fixture control with PIR motion and daylight sensor [15]	DA Driver with 12V auxiliary power, without external dimming wires [18]		347 347V [20]	
AWNR	Lutron Athena wireless node integral fixture control, RF only [16]	DSR Sensor-ready driver without external dimming wires (D4i DALI-2) [19]			
AWNS	Lutron Athena wireless node integral fixture control, RF with daylight and occupancy sensing [17]				

ACCESSORIES

TPTG TOOL Tamper-resistant tool for tri-groove screws. [21]

NOTES

1. Lumen output based on VLF Shielding, 80 CRI/3500K CCT. Actual performance may vary +/-5%. See page 2 for FIXTURE PERFORMANCE DATA. Additional lumen packages available, see Options.
2. See page 2 for CROSS SECTIONS.
3. 4′ length only.
4. 2′ width only.
5. LED pixelation will be visible.
6. LED pixelation will be visible.
7. Not available when CEC regulations are required.
8. See page 3 for GASKETING DETAILS.
9. Field-installed. See page 3 for GASKETING DETAILS.
10. 4 per fixture. Optional for 1″ grid installations. Required for 9/16″ grid mounting. Not available with F Ceiling Type.
11. Specify in increments of 100 nominal lumens. Option must be specified with next higher lumen package.
12. TG option included.
13. See page 4 for AVI-ON BLUETOOTH WIRELESS CONTROL DETAILS. See page 3 for SENSOR & NODE PLACEMENT DETAILS.
14. DA Driver only.
15. DA Driver only.
16. DA and DSR Drivers only.
17. DA and DSR Drivers only.
18. Avi-on and Lutron Athena Controls only.
19. Lutron Athena Controls only.
20. Not available with EM batteries, DA, or DSR drivers.
21. Tamper-resistant tool must be ordered separately. Please specify quantity required per project.

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FIXTURE PERFORMANCE DATA

	LED PACKAGE	DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)
1x4	L23	2359	20.1	117
	L39	3856	33.7	114
	L58	5871	55.7	105
2x2	L23	2353	21.3	110
	L39	3903	33.7	116
	L58	5827	54.4	107
2x4	L31	3103	24.9	125
	L56	5574	48	116
	L81	8146	67.1	121
	L117	11733	101.2	116

MULTIPLIER TABLES

COLOR TEMPERATURE		
	CCT	CONVERSION FACTOR
80 CRI	2700K	0.97
	3000K	0.99
	3500K	1.00
	4000K	1.03
	5000K	1.06
90 CRI	2700K	0.80
	3000K	0.82
	3500K	0.83
	4000K	0.86
	5000K	0.89

SHIELDING	
CATALOG NUMBER	CONVERSION FACTOR
VLF	1.00
VL	0.97
PC12187	0.83

- Photometrics tested in accordance with IESNA LM-79. Results based on VLF shielding, 80 CRI/3500K CCT, average wattage for 120V through 277V input, and 25°C ambient temperature. Actual performance may vary +/-5%.
- To calculate lumen output in emergency mode, multiply the battery wattage by the efficacy.
- Use multiplier tables to calculate additional options.

PHOTOMETRY

V50G-S24-L117/835-FVLF-DIM-UNV Total Luminaire Output: 11733 lumens; 101.2 Watts | Efficacy: 115.9 lm/W | 80 CRI; 3500K CCT
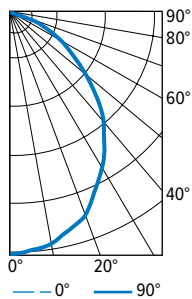

VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
	0º	45º	90º	
0	5497	5497	5497	
5	5510	5459	5444	519
15	5284	5243	5224	1479
25	4825	4780	4759	2198
35	4071	3967	3946	2479
45	2954	2750	2705	2158
55	1776	1632	1578	1504
65	958	866	871	904
75	413	377	375	416
85	63	49	36	76
90	0	0	0	

LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 30	4196	36
	0 - 40	6675	57
	0 - 60	10337	88
	0 - 90	11733	100
	0 - 180	11733	100

CROSS SECTIONS

1x4

4-3/8″
11-13/16″

2x2 | 2x4

4-3/8″
23-13/16″
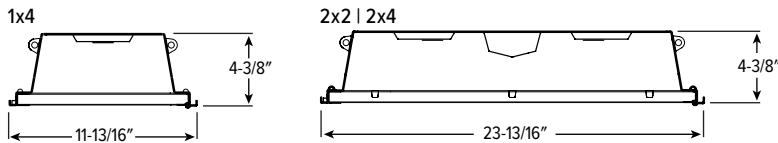
F CEILING TYPE INSTALLATION
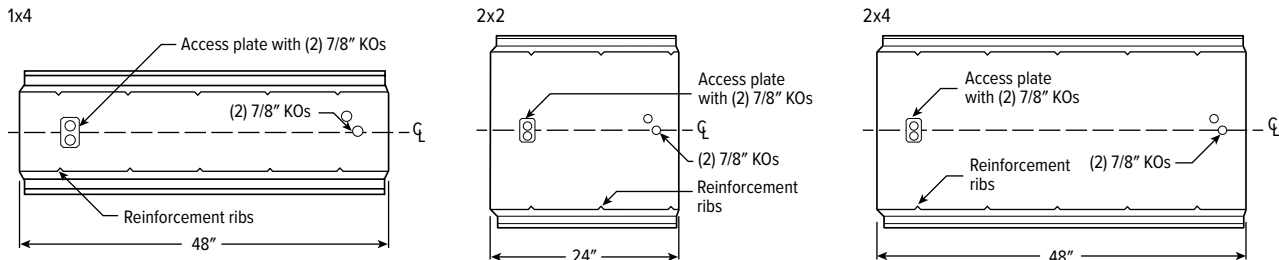
1x4

1″ Min.
3-3/8″ Max.
4-3/8″
13-5/16″
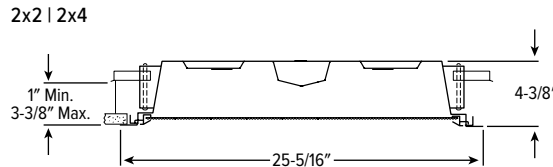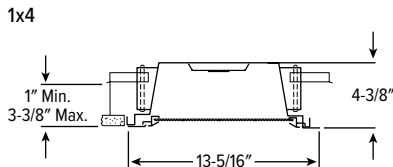
Note: Maximum recommended ceiling opening is 12-3/8″x 48-3/8″. For continuous row mounting, add 49-5/16″ for each additional fixture to obtain ceiling opening. 1-5/16″ between end plates.

2x2 | 2x4

1″ Min.
3-3/8″ Max.
4-3/8″
25-5/16″

Note: Maximum recommended ceiling opening is 24-3/8″ x 24-3/8″ for 2′x2′ and 24-3/8″x 48-3/8″ for 2′x4′. For continuous row mounting, add 49-5/16″ for each additional fixture to obtain ceiling opening. 1-5/16″ between end plates.

FIXTURE DETAILS

See hew.com/power-entry for power entry details.

BACK VIEWS

1x4

Access plate with (2) 7/8″ KOs
(2) 7/8″ KOs
Reinforcement ribs
48″

2x2

Access plate with (2) 7/8″ KOs
(2) 7/8″ KOs
Reinforcement ribs
24″

2x4

Access plate with (2) 7/8″ KOs
Reinforcement ribs
(2) 7/8″ KOs
48″

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GASKETING DETAILS

DOUBLE GASKETING (DG OPTION)

First gasketing factory-installed between door frame and luminaire housing prevents light leak and reduces dust ingress.
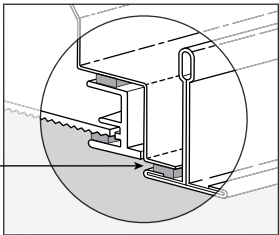
Second gasketing factory-installed between door frame and lens reduces dust and bug contaminants.
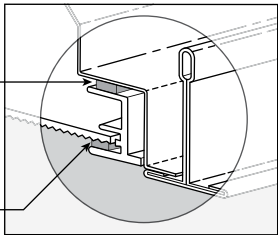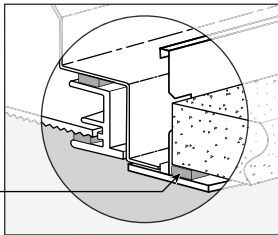
TRIPLE GASKETING (TG OPTION)

T-bar

Third gasketing field installed between bottom perimeter of fixture and T-bar ceiling seals plenum dust from the room.

Drywall

Between bottom perimeter of fixture and hardpan ceiling.

FLEXIBLE WHIP OPTIONS

All Williams recessed troffers are available with a flexible metallic wiring harness, factory-attached and hard-wired to the luminaire.

Straight connectors are a snap-in type. Consult factory for wiring harness utilizing connectors secured by lock nuts, optional flex size, lengths, and other wire sizes or circuitry. Three-wire flex utilizes black, white, and green wire. Four-wire flex utilizes black, white, red, and green wire. Adding an emergency option requires an additional wire.

Williams fixtures are UL listed to provide factory-installation of several manufacturers' modular wiring devices, consult factory for availability and ordering information.

DESIGNATION	DESCRIPTION	DRIVER
F338	6' of 3/8" flex, (3) No. 18 AWG wires with (2) straight connectors	DRV, LTE LINE
F348	6' of 3/8" flex, (4) No. 18 AWG wires with (2) straight connectors	DRV + EM, SD40
F334	6' of 3/8" flex, (3) No. 14 AWG wires with (2) straight connectors	DRV, LTE LINE
F344	6' of 3/8" flex, (4) No. 14 AWG wires with (2) straight connectors	SD40
F358	6' of 3/8" flex, (5) No. 18 AWG wires with (2) straight connectors	DIM, DALI
F368Y	6' of 3/8" flex, (6) No. 18 AWG wires with (2) straight connectors	DIM, DIM + EM, DALI

SENSOR & NODE PLACEMENT DETAILS
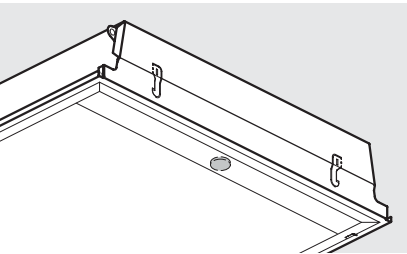
SEE NEXT PAGE FOR CONTROL DETAILS.

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AVI-ON BLUETOOTH WIRELESS CONTROL DETAILS

FEATURES

Simple

- Gateway-free distributed control
- Factory pre-commissioning
- Contractor friendly installation
- Occupancy/vacancy/daylight sensing

Scalable

- Virtually unlimited network size
- Spans small offices to large warehouses
- Flexible control strategies

Secure

- Optional cloud connectivity
- UL IoT platinum security rating
- DLC 5.0 compliant

COMMISSIONING & INSTALLATION TOOLS

Avi-on mobile apps provide intuitive, quick installation and commissioning. Pro tools are available to qualified installers. Live commissioning training and on-site or remote support by Avi-on must be ordered separately through Avi-on.
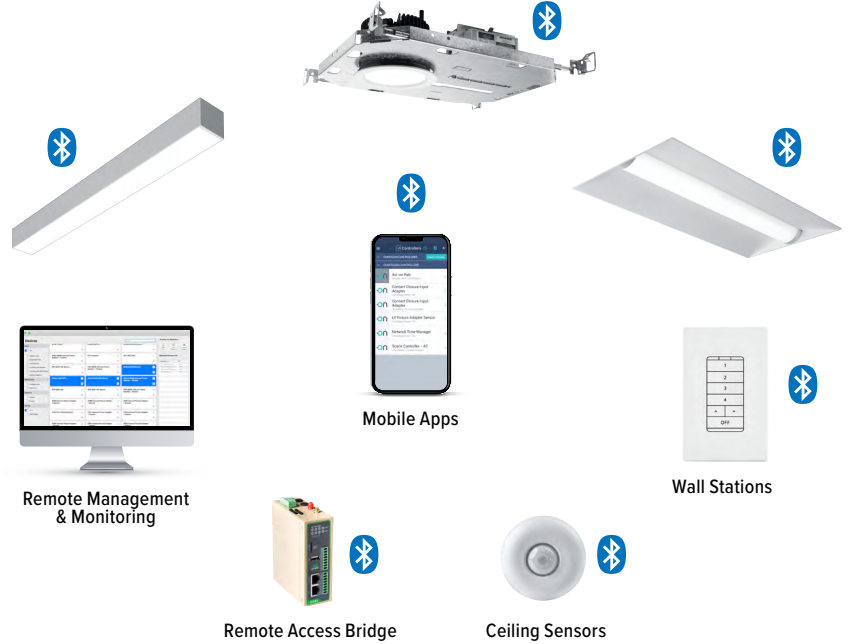

Commissioning Mobile App

Zone Scanner Web App

Commissioning Pro App

SYSTEM COMPONENTS

Remote Management & Monitoring

Mobile Apps

Wall Stations

Remote Access Bridge

Ceiling Sensors

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ACCESSORIES

WALL STATIONS	
AVI-2401AC	Scene controller - numbered 1-4, 120-277VAC
AVI-2402BAT	Scene controller - numbered 1-4, battery powered
AVI-2401AC-2	Dimmer with presets - percentages, 120-277VAC
AVI-2402BAT-2	Dimmer with presets - percentages, battery powered
AVI-2401AC-3	On/off/dimming, 120-277VAC
AVI-2402BAT-3	On/off/dimming, battery powered

NETWORK	
AVI-RAB-LTE	Remote access bridge
AVI-KIT-NTM	Network time manager with battery backup

CEILING MOUNT SENSORS	
AVI-KIT-SEN-DUCM	PIR motion and ultrasonic sensor kit
AVI-KIT-SEN-ICM	PIR motion and photocell sensor kit

For load controllers and additional accessory info, see hew.com/avi-on

AVI-LVFA-CS2-PIR Avi-on wireless fixture control with PIR motion and daylight sensor. DA Driver only.

SPECIFICATIONS	
TYPE	PIR Motion + Daylight
MOUNTING HEIGHT	8' – 10'
DETECTION ANGLE	360°
TEMPERATURE RANGE	-30° to 50℃
RELATIVE HUMIDITY	10 to 80% non-condensing
IP RATING	IP20
MANUFACTURER	Avi-On

SENSOR COVERAGE PATTERNS

Side View

8' height: ø24' coverage
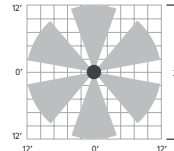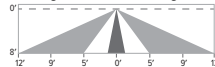
SENSOR DETAIL

Dimensions: 13/16" x 2-1/4"

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ADDITIONAL CONTROL OPTIONS

AWNS Lutron Athena wireless node integral fixture control, RF with daylight and occupancy sensing. DA and DSR Drivers only.

SPECIFICATIONS

TYPE	Radio Frequency
MOUNTING HEIGHT	8′ – 12′
DETECTION ANGLE	360°
TEMPERATURE RANGE	0° to 55℃
RELATIVE HUMIDITY	0 to 90%, non-condensing
COMMISSIONING	Clear Connect gateway – Type X with app (iOS or Android)
MANUFACTURER	Lutron

LUTRON

SENSOR COVERAGE PATTERNS

9′ height: ø12′ coverage

0°

9′

13′ 9′ 6′ 3′ 0′ 3′ 6′ 9′ 13′
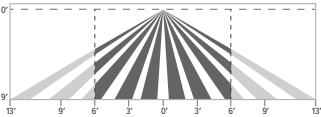
Motion Sensor Coverage

CEILING HEIGHT	COVERAGE AREA (SQ FT)
8′	114
9′	144
10′	178
12′	256

SENSOR DETAIL

Dimensions: ø1-1/8″

ATHENA CONTROL OPTIONS

CATALOG NUMBER	DESCRIPTION
AWNR	Lutron Athena wireless node integral fixture control, RF only, for use with D4i DALI-2 or driver with 12V auxiliary power.
AWNS	Lutron Athena wireless node integral fixture control, RF with daylight and occupancy sensing, for use with D4i DALI-2 or driver with 12V auxiliary power.
AWNR-BL	Lutron Athena wireless node integral fixture control, RF only, for use with D4i DALI-2 or driver with 12V auxiliary power, black finish.
AWNS-BL	Lutron Athena wireless node integral fixture control, RF with daylight and occupancy sensing, for use with D4i DALI-2 or driver with 12V auxiliary power, black finish.

ADDITIONAL DRIVER OPTIONS

Note: Lumen restrictions apply, consult product builder at hew.com/product-builder.

CATALOG NUMBER	DESCRIPTION
DRV	Driver without external dimming wires prewired for non-dimming applications
DIM	Driver with external dimming wires prewired for 0-10V low voltage applications
DIM1	1% driver with external dimming wires prewired for 0-10V low voltage applications
DIM LINE	Line voltage dimming driver (TRIAC and ELV compatible, 120V only)
DIM TRC	Line voltage dimming driver (TRIAC compatible, 120V only)
DA	Driver with 12V auxiliary power, without external dimming wires
DSR	Sensor-ready driver without external dimming wires (D4i DALI-2)
SD40	40% step-dimming driver
SD50	50% step-dimming driver
DALI	DALI dimming driver
LDE1	Lutron Hi-lume 1% EcoSystem dimming driver

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