# 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.
- **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 [5] |
| | | | | | 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 [6] | |
|---|---|---|---|---|---|
| **27** 2700K | **F** White flat aluminum | **VLF** | Frosted, pattern #12, .187″ thick acrylic chemically welded to clear .177″ thick polycarbonate | **EM/10W** | 10-watt emergency battery |
| **30** 3000K | **FB** Black flat aluminum | | | **EM/12W** | 12-watt emergency battery [9] |
| **35** 3500K | | | | **DG** | Double gasket [10] |
| **40** 4000K | | **VL** | Acrylic, pattern #12, .187″ thick acrylic chemically welded to clear .177″ thick polycarbonate [7] | **TG** | Triple gasket [11] |
| **50** 5000K | | | | **EQCLIPS** | Earthquake clips [12] |
| | | | | **(L__)** | Additional lower lumen packages available. [13] Example: 9,500 nominal lumens = V50G-S24-L117/835-**(L95)**. |
| | | **PC12187** | Polycarbonate, pattern #12, .187″ thick [8] | **WET** | Wet location under covered ceiling [14] |
| | | | | **CP** | Chicago Plenum (CCEA) |

### CONTROL [15]

*See page 5 for ADDITIONAL CONTROL OPTIONS.*

| | |
|---|---|
| **–** | None |
| **AVI-LVFA** | Avi-on wireless fixture control [16] |
| **AVI-LVFA-CS2-PIR** | Avi-on wireless fixture control with PIR motion and daylight sensor [17] |
| **AWNR** | Lutron Athena wireless node integral fixture control, RF only [18] |
| **AWNS** | Lutron Athena wireless node integral fixture control, RF with daylight and occupancy sensing [19] |

### DRIVER

*See page 5 for ADDITIONAL DRIVER OPTIONS.*

| | |
|---|---|
| **DIM** | Driver with external dimming wires |
| **DRV** | Driver without external dimming wires |
| **DA** | Driver with 12V auxiliary power, without external dimming wires [20] |
| **DSR** | Sensor-ready driver without external dimming wires (D4i DALI-2) [21] |

### VOLTAGE

| | |
|---|---|
| **120** | 120V |
| **277** | 277V |
| **UNV** | 120-277V |
| **347** | 347V [22] |

## ACCESSORIES

**TPTG TOOL** Tamper-resistant tool for tri-groove screws. [23]

## 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 package available, see Options.
2. See page 2 for CROSS SECTIONS.
3. 4′ length only.
4. 2′ width only.
5. Extended lead times may apply. Consult factory for availability.
6. See page 3 for FLEXIBLE WHIP OPTIONS.
7. LED pixelation will be visible.
8. LED pixelation will be visible.
9. Not available when CEC regulations are required.
10. See page 3 for GASKETING DETAILS.
11. Field-installed. See page 3 for GASKETING DETAILS.
12. 4 per fixture. Optional for 1″ grid installations. Required for 9/16″ grid mounting. Not available with F Ceiling Type.
13. Specify in increments of 100 nominal lumens. Option must be specified with next higher lumen package.
14. TG option included.
15. See page 4 for AVI-ON BLUETOOTH WIRELESS CONTROL DETAILS. See page 3 for SENSOR & NODE PLACEMENT DETAILS.
16. DA Driver only.
17. DA Driver only.
18. DA and DSR Drivers only.
19. DA and DSR Drivers only.
20. Avi-on and Lutron Athena Controls only.
21. Lutron Athena Controls only.
22. Not available with EM batteries, DA, or DSR drivers.
23. 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 |
| 1x4 | L39 | 3856 | 33.7 | 114 |
| 1x4 | L58 | 5871 | 55.7 | 105 |
| 2x2 | L23 | 2353 | 21.3 | 110 |
| 2x2 | L39 | 3903 | 33.7 | 116 |
| 2x2 | L58 | 5827 | 54.4 | 107 |
| 2x4 | L31 | 3103 | 24.9 | 125 |
| 2x4 | L56 | 5574 | 48 | 116 |
| 2x4 | L81 | 8146 | 67.1 | 121 |
| 2x4 | 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
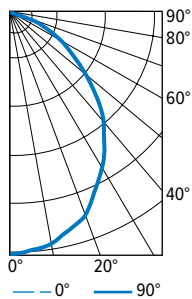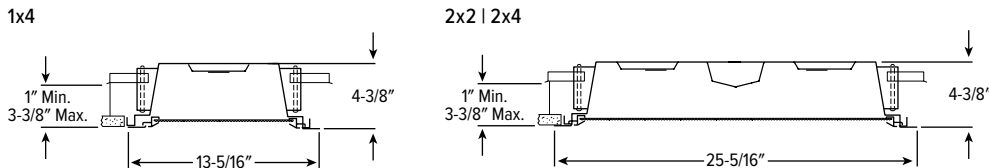


| VERTICAL ANGLE | HORIZONTAL ANGLE | | | ZONAL LUMENS |
|---|---|---|---|---|
| | 0° | 45° | 90° | |
| 0 | 5497 | 5497 | 5497 | |
| 5 | 5510 | 5459 | 5444 | 519 |
| 15 | 5284 | 5243 | 5224 | 1479 |
| 25 | 4825 | 4780 | 4759 | 2198 |
| 35 | 4071 | 3967 | 3946 | 2479 |
| 45 | 2954 | 2750 | 2705 | 2158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

| 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″
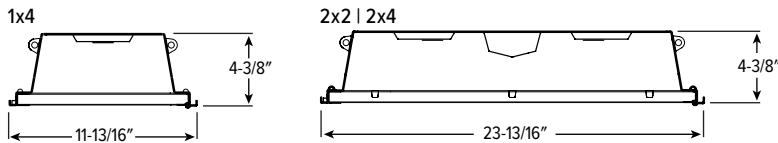
### F CEILING TYPE INSTALLATION
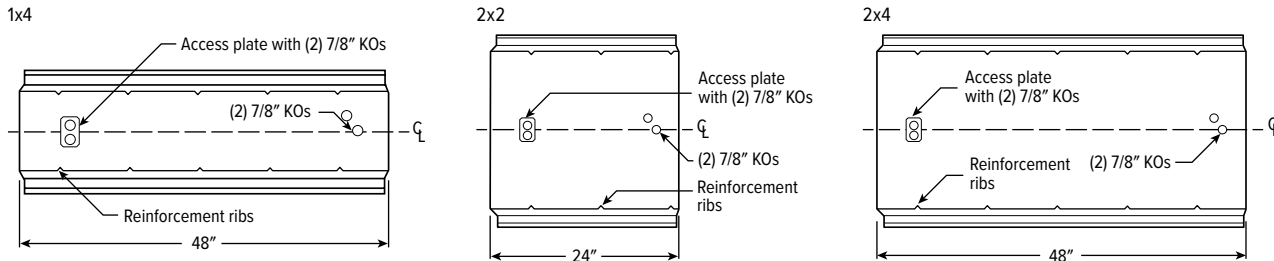
#### 1x4



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

### 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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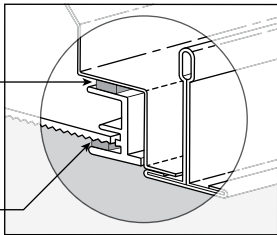
# V50 LED
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## GASKETING DETAILS

### DOUBLE GASKETING (DG OPTION)

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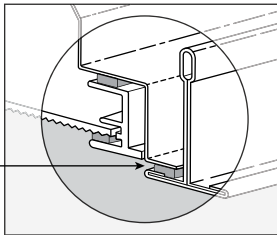
Second gasketing factory-installed between door frame and lens reduces dust and bug contaminants.
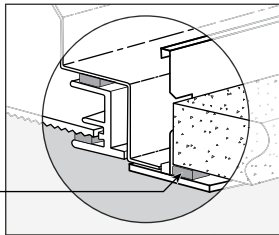
### TRIPLE GASKETING (TG OPTION)

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. See ordering information table.

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 | 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) #18 AWG wires with (2) straight connectors | DIM, DALI |

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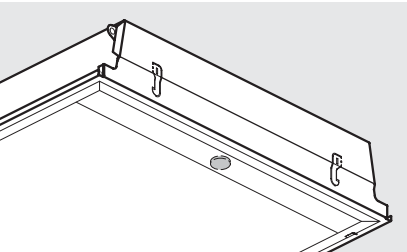
SEE NEXT PAGE FOR CONTROL DETAILS.

# V50 LED
## Vandal-Resistant Static Troffer

## 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.
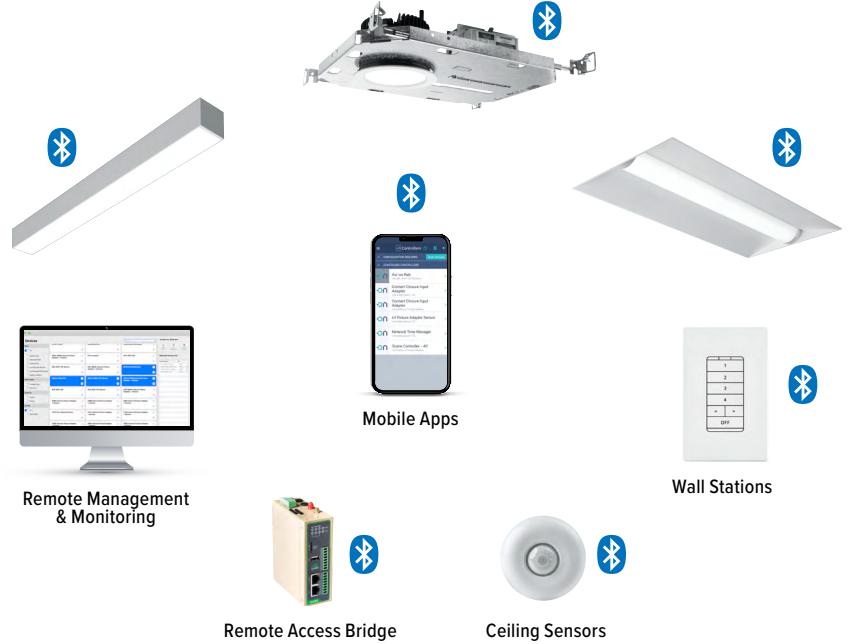
**Commissioning Mobile App**

**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 |

**avi-on®**
Bluetooth® Lighting Controls

### SENSOR COVERAGE PATTERNS

Side View

8' height: ø24' coverage
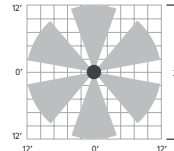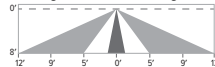
### SENSOR DETAIL

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

# V50 LED
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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°C |
| **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
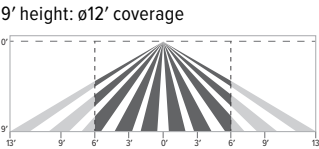


Motion Sensor Coverage

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

### SENSOR DETAIL
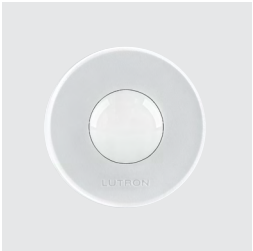


Dimensions: ø1-1/8"

### 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 prewired for non-dimming applications |
| DIM | Dimming driver prewired for 0-10V low voltage applications |
| DIM1 | 1% dimming driver 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 |
| DSR | Sensor-ready driver (D4i DALI-2) |
| SD40 | 40% step-dimming driver |
| SD50 | 50% step-dimming driver |
| DALI | DALI dimming driver |
| LDE1 | Lutron Hi-lume 1% EcoSystem dimming LED driver |

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