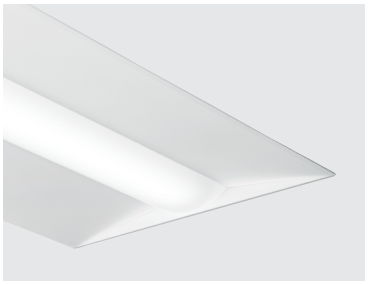
PTDC LED Troffer for Data Center Grid Ceilings



Shown with RA lens

CATALOG #:

TYPE:

PROJECT:

FEATURES

- Compatible with multiple structural grid systems for data center ceilings
- Room-side access
- Slim 2-3/8″ for minimal plenum space
- Uniform ambient illumination
- Maximize energy savings with efficacies up to 138 lm/W
- Rated for direct contact with insulation
- Heavy duty C.R.S. construction
- Wireless in-fixture control solutions available
- Made Right Here® in the USA

SPECIFICATIONS

- HOUSING/REFLECTOR – Precision die-formed 22-gauge C.R.S.
- SHIELDING – Diffuse ribbed acrylic.
- FINISH – Highly reflective non-glare matte 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 boards. See fixture performance data for lumen maintenance. 50/60 Hz constant current driver.
- MOUNTING – Designed for structural grid ceiling systems: Armstrong® DynaMax Grid or Tate Imperial 3/8″ bottom slot grid and Gordon Imperial DG 1.5 grid. Four (4) earthquake clips standard.
- 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: PTDC - AD 2 4 - L90/835 - RA - OPTIONS - CONTROL/DIM - UNV

ORDERING INFO

SERIES	CEILING TYPE	WIDTH	LENGTH	LUMENS [1]	CRI	CCT	SHIELDING
PTDC	**AD** Armstrong® DynaMax® Grid [2]	**2** 2′	**2** 2′	**2x2**	**8** 80	**27** 2700K	**RA** Diffuse ribbed acrylic, round
	GT Gordan and Tate structural grids [3]		**4** 4′	**L26** 2,600lm	**9** 90	**30** 3000K	**SA** Diffuse ribbed acrylic, square [4]
				L43 4,300lm		**35** 3500K	
				L52 5,200lm		**40** 4000K	
				L61 6,100lm		**50** 5000K	
				2x4			
				L38 3,800lm			
				L49 4,900lm			
				L61 6,100lm			
				L90 9,000lm			
				L110 11,000lm			

OPTIONS

See page 3 for FLEXIBLE WHIP OPTIONS.

EM/10W	10-watt emergency battery
EM/12W	12-watt emergency battery [6]
(L__)	Additional lower lumen packages available. Example: 8,000 lumens = PTDC-24-L90/835-**(L80)** [7]
AMW	Anti-microbial white finish
CP	Chicago Plenum (CCEA)

CONTROL [5]

See page 5 for ADDITIONAL CONTROL OPTIONS.

–	None
AVI-LVFA	Avi-on wireless fixture control [8]
AVI-LVFA-CS2-PIR	Avi-on wireless fixture control with PIR motion and daylight sensor [9]
AWNR	Lutron Athena wireless node integral fixture control, RF only [10]
AWNS	Lutron Athena wireless node integral fixture control, RF with daylight and occupancy sensing [11]

DRIVER

See page 5 for ADDITIONAL DRIVER OPTIONS.

DIM	Driver with external 0-10V dimming wires
DRV	Driver without external dimming wires
DA	Driver with 12V auxiliary power, without external dimming wires [12]
DSR	Sensor-ready driver without external dimming wires (D4i DALI-2) [13]

VOLTAGE

120	120V
277	277V
UNV	120-277V
347	347V [14]

NOTES

1. Lumen output based on RA 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 AD CEILING TYPE FIXTURE DETAILS.
3. See page 3 for GT CEILING TYPE FIXTURE DETAILS.
4. Increases lumen output by 3%.
5. See page 4 for AVI-ON BLUETOOTH WIRELESS CONTROL DETAILS. See page 3 for SENSOR & NODE PLACEMENT DETAILS.
6. Not available when CEC regulations are required.
7. Specify in increments of 100 nominal lumens. Option must be specified with next higher lumen package.
8. DA Driver only.
9. DA Driver only.
10. DA and DSR Drivers only.
11. DA and DSR Drivers only.
12. Avi-on and Lutron Athena Controls only.
13. Lutron Vive and Athena Controls only.
14. Not available with EM batteries, DA, or DSR drivers.

PTDC LED
Troffer for Data Center Grid Ceilings

FIXTURE PERFORMANCE DATA

	LED PACKAGE	DELIVERED LUMENS	WATTAGE	EFFICACY (lm/W)	LUMEN MAINTENANCE [1]			
					L70	L80	L85	L90
2x2	L26	2924	21.5	136	>72,000	>72,000	63,000	42,000
	L43	4194	32.2	130	>72,000	>72,000	63,000	42,000
	L52	5331	41.6	128	>72,000	>72,000	63,000	42,000
	L61	6073	50.2	121	>72,000	62,000	45,000	29,000
2x4	L38	3782	28.5	133	>72,000	>72,000	63,000	42,000
	L49	5078	36.7	138	>72,000	>72,000	63,000	42,000
	L61	6181	45.5	136	>72,000	>72,000	63,000	42,000
	L90	9060	66.6	136	>72,000	>72,000	63,000	42,000
	L110	11086	83.7	132	>72,000	>72,000	63,000	42,000

[1] Predicted lumen maintenance calculated in accordance with IES TM-21 per Energy Star (R) TM-21 Calculator rev. 02.08.16.

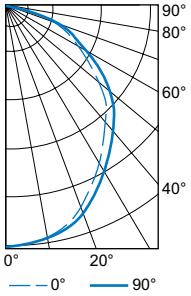
- Photometrics tested in accordance with IESNA LM-79. Results based on RA shielding, 80 CRI/3500K CCT, average wattage for 120V through 277V input, and 25°C ambient temperature. Actual performance may vary +/-5%
- To calculate lumen output in emergency mode, multiply the battery wattage by the efficacy.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

MULTIPLIER TABLE

	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	0.82
	3000K	0.83
	3500K	0.84
	4000K	0.86
	5000K	0.90

PHOTOMETRY

PTDC-AD24-L110/835-RA-DIM-UNV Total Luminaire Output: 11086 lumens; 83.7 Watts | Efficacy: 132 lm/W | 80 CRI; 3500K CCT



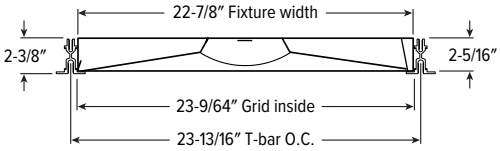
CANDLEPOWER DISTRIBUTION	VERTICAL ANGLE	HORIZONTAL ANGLE			ZONAL LUMENS
		0°	45°	90°	
	0	4241	4241	4241	
	5	4177	4171	4149	399
	15	4054	4067	4084	1139
	25	3572	3620	3664	1649
	35	2887	2979	3055	1859
	45	2347	2477	2603	1896
	55	1707	1868	2018	1675
	65	1105	1310	1488	1293
	75	524	805	996	846
	85	106	355	407	332
	90	0	0	0	

LUMEN SUMMARY	ZONE	LUMENS	% FIXTURE
	0 - 30	3186	29
	0 - 40	5045	46
	0 - 60	8616	78
	0 - 90	11086	100
	0 - 180	11086	100

AD CEILING TYPE FIXTURE DETAILS

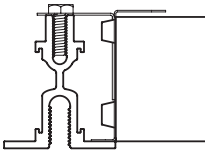
CROSS SECTIONS

RA



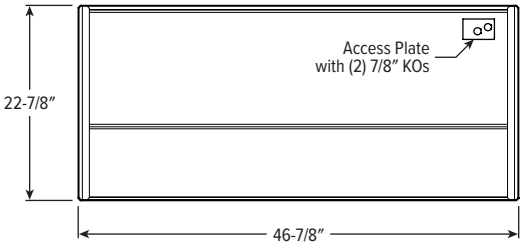
SA

MOUNTING DETAILS



BACKVIEWS

2x4



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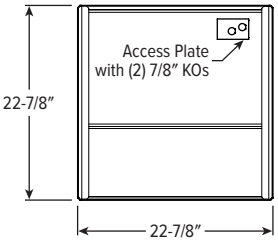

SIDEVIEWS

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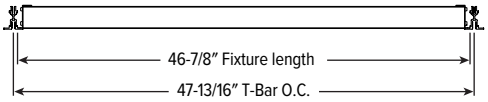

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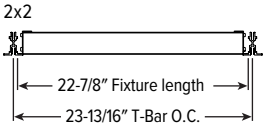

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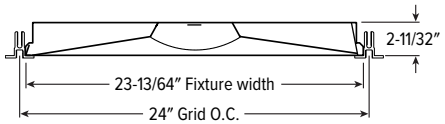
GT CEILING TYPE FIXTURE DETAILS

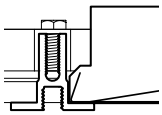
CROSS SECTIONS

RA



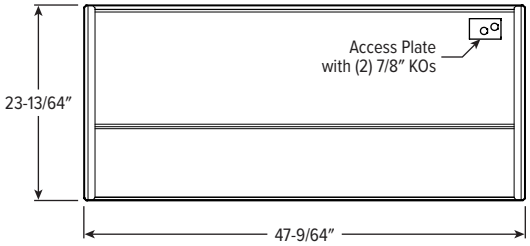
SA

MOUNTING DETAILS



BACKVIEWS

2x4



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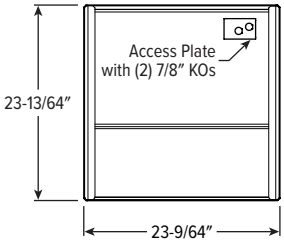

SIDEVIEWS

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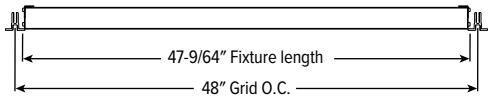

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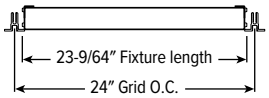


FLEXIBLE WHIP OPTIONS

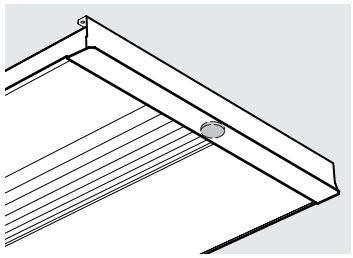
All Williams recessed troffers are available with a flexible metallic wiring harness, factory-attached and hard-wired to the luminaire.

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



PTDC LED Troffer for Data Center Grid Ceilings

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

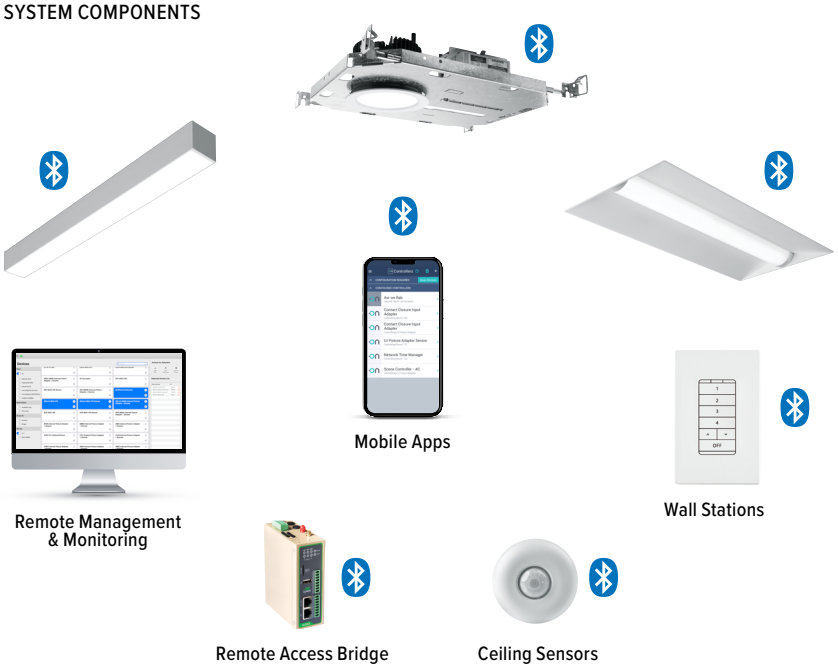
Avi-on mobile apps provide intuitive, quick installation and commissioning. Pro tools are available to qualified installers. Live commissioning training and on-site or remote support by Avi-on must be ordered separately through Avi-on.

Commissioning Mobile App

Zone Scanner Web App

Commissioning Pro App

SYSTEM COMPONENTS



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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.

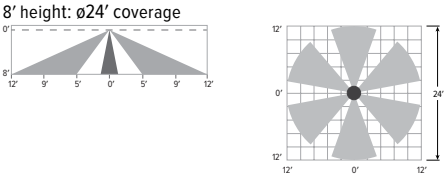
SPECIFICATIONS	
TYPE	PIR Motion + Daylight
MOUNTING HEIGHT	8′ – 10′
DETECTION ANGLE	360°
TEMPERATURE RANGE	-30° to 50°C
RELATIVE HUMIDITY	10 to 80% non-condensing
IP RATING	IP20
MANUFACTURER	Avi-On

Bluetooth® Lighting Controls

SENSOR COVERAGE PATTERNS

Side View

8′ height: ø24′ coverage



SENSOR DETAIL

Dimensions: 13/16″ x 2-1/4″

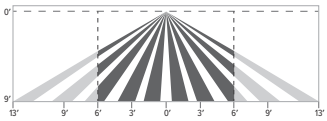
ADDITIONAL CONTROL OPTIONS

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

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

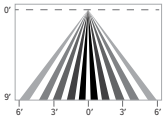
CATALOG NUMBER	DESCRIPTION
AWNR	Lutron Athena wireless node integral fixture control, RF only, for use with D4i DALI-2 or driver with 12V auxiliary power
AWNS	Lutron Athena wireless node integral fixture control, RF with daylight and occupancy sensing, for use with D4i DALI-2 or driver with 12V auxiliary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

VDO Lutron Vive integral fixture control, RF with daylight and occupancy sensor (DFCSJ-OEM-OCC). DSR or LDE Drivers only. LDE drivers require driver interface

SPECIFICATIONS	
TYPE	PIR Motion + Daylight
MOUNTING HEIGHT	8′ – 12′
DETECTION ANGLE	360°
TEMPERATURE RANGE	0° to 55°C
RELATIVE HUMIDITY	0 to 90%, non-condensing
COMMISSIONING	App (iOS or Android)
MANUFACTURER	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: 2-11/16″ x 1″

VIVE CONTROL OPTIONS

CATALOG NUMBER	DESCRIPTION
VRF	Lutron Vive integral fixture control, RF only (DFCSJ-OEM-RF), for use with sensor-ready driver
VDO	Lutron Vive integral fixture control, RF with daylight and occupancy sensor (DFCSJ-OEM-OCC), for use with sensor-ready driver
VRF/DBI	Lutron Vive integral fixture control, RF only (DFCSJ-OEM-RF) and digital link interface, for use with Lutron Hi-lume 1% EcoSystem dimming LED driver
VDO/DBI	Lutron Vive integral fixture control, RF with daylight and occupancy sensor (DFCSJ-OEM-OCC) and digital link interface, for use with Lutron Hi-lume 1% EcoSystem dimming LED driver

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 driver