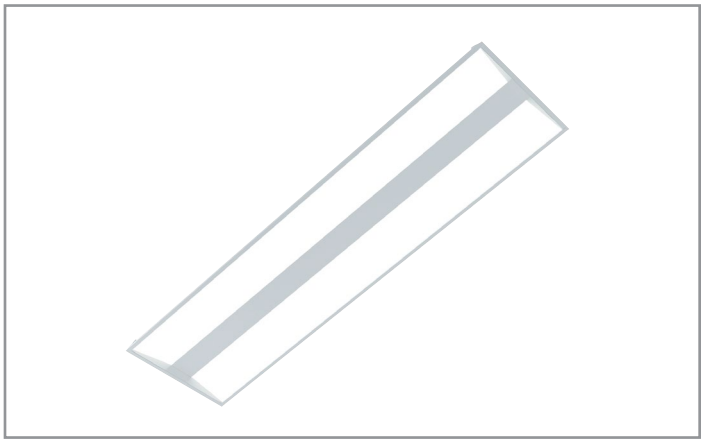
Project		Catalog #		Type	
Prepared by		Notes		Date	



Metalux

Encounter 14EN LED

1' x 4' Troffer LED Module
Specification Grade Troffer

Typical Applications

• Commercial Office Spaces • Schools • Hospitals • Retail
• Other Indoor Ambient Applications

Interactive Menu

Product Certification

Product Features

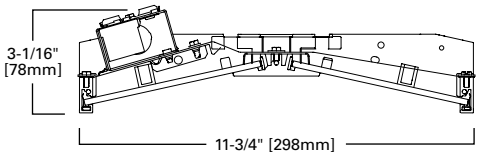
Connected Systems

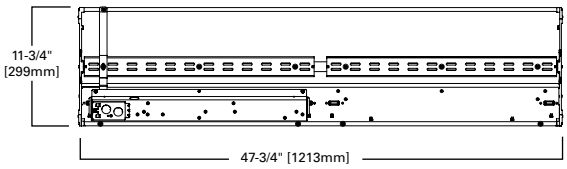
LINEAR DISCONNECT
Safe and convenient means of disconnecting power

Top Product Features

- Available in 1' x 2', 1' x 4', 2' x 2' and 2' x 4' recessed versions
- Leverages our patented WaveStream Technology with AccuAim™ optics
- Four CCT options: 3000K, 3500K, 4000K, and 5000K at 80CRI or 90 CRI
- White tuning solutions available, either 3000K - 5000K or 2700K - 6500K
- Efficacy up to 143 lumens per watt
- Options to meet Trade Agreements Act requirements

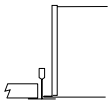
Dimensional and Mounting Details



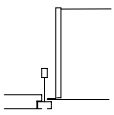


Ceiling Compatibility

G
Grid/Lay-in
Standard



G or T
9/16" or 15/16"
Slot Grid



F
Drywall Frame
Kit

Ceiling Type	Trim Type
Exposed Grid	G
Concealed T	G or T
Slot Grid	G or T
Flange	*

Notes:
*See Drywall Frame Kit Accessory in Ordering Information section.
**Fixture construction is suitable for use in Air-handling and plenum rated spaces in accordance with Section 300.22 (C) of the National Electrical Code, Section 4.3.11.2.6.5 of NFPA 90A and Section 602.2.1.4 of ICC.

Order Information

SAMPLE ORDER NUMBER: **14EN-LD2-33-UNV-L835-CD1-SVPD1-U**

Domestic Preferences	Rating	Series	Air	Lamp Type	MTO Lumen Output	Voltage	Emergency Options
[Blank]=Standard **TAA**=Trade Agreements Act	**[Blank]**=Standard **ATW-SW4**= Chicago Rated [1]	**14EN**=1' x 4' Encounter Series	**[Blank]**=Standard **A**=Air (Vented) [3], [4]	**LD2**=LED 2.0	**18**=1800 Lumens [5] **25**=2500 Lumens [5] **28**=2800 Lumens **33**=3300 Lumens **38**=3800 Lumens **43**=4300 Lumens **47**=4700 Lumens **51**=5100 Lumens	**UNV**=Universal Voltage 120-277 **347V**=347 Volt [7] **48V**=48 Volt Low-voltage (Class 2) [C] **120V**=120 Volt [8] **277V**=277 Volt [8]	**EL7W**=7-watt, 120V-277V emergency battery pack installed [9] **EL14W**=14-watt 120V-277V emergency battery pack installed [9] **ELV7W**= Low-voltage system, 7-watt emergency battery pack [C] **ELV14W**= Low-voltage system, 14-watt emergency battery pack [C] **GTR2**=Bodine Generator Transfer Relay [10], [11] **ETRD**=Iota Emergency Transfer Relay with dimming control [10]
Notes (19) Only product configurations with this designated prefix are built to be compliant with the Trade Agreements Act of 1979 (TAA). Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.	**Notes** (1) Chicago rated version does not allow for row mounting.	**Notes** (2) DesignLights Consortium® Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.	**Notes** (3) Air version is vented but does not meet air handling requirements. (4) Integrated sensor options not available with Air version.		**Notes** (5) Not compatible with WN driver.	**Notes** (6) Products also available in non-US voltages and frequencies for international markets. (7) 347V emergency option not available. (8) Must specify voltage as 120V or 277V when ordering GTR2 option. (C) Consult WaveLinx Low-Voltage or DLVP system pages for additional details and compatibility.	**Notes** (9) With integral test switch/indicator/laser test. For approximate delivered lumens multiply the lumens per watt of the desired fixture by the wattage of the emergency battery pack (100 lm/W x 7=700 lumens). IES-format photometry for luminaire under emergency operation available. (10) Used to bypass local control during outage. Must be used in conjunction with UL 1008 device (provided by others). GTR2 option includes 2 relays on fixtures with dimming drivers. ETRD option only requires one relay when used on a dimming fixture. (11) Must specify voltage as 120V or 277V when ordering GTR2 option. (C) Consult WaveLinx Low-Voltage or DLVP system pages for additional details and compatibility.

CCT	Flex	Driver Type	Number of Drivers
L830=3000K **L835**=3500K **L840**=4000K **L850**=5000K **L930**=3000K **L935**=3500K **L940**=4000K **L950**=5000K **L83050**=80CRI 3000K-5000K White Tuning [12] **L93050**=90CRI 3000K-5000K White Tuning [12] **L82765**=80CRI 2700K-6500K White Tuning [12] **L92765**=90CRI 2700K-6500K White Tuning [12]	**A3/8-4/18GDIM**=3/8" Flex with 0-10V Dimming Leads Multiple other configurations available. See below for details. **A3/8-5/18GDIM**=Flex with 0-10V Dimming leads and Blue for alternate wiring. See below for details.	**CD**=0-10V Driver (1%-100% Dimming) **5LTD**=DALI Driver (5%-100% Dimming) [13] **5LTHD**=DALI Driver (1%-100% Dimming) **LV**=Low-voltage System Driver (0%-100% Dimming) [C] **SD**=Step Dimming Driver (50% or 100% Dimming) **LH**=Lutron HiLume (LDE1 series) 1%-100% EcoSystem Driver with Soft-on Fade to Black dimming [F] **W2A**=White Tuning, 2ch, Intensity and CCT Control [14] **SR**=Sensor-ready Driver (1%-100% Dimming)	**1**=1 Driver
Notes (12) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity.	**Flexible Metal Conduit Options** Flex options available for 0-10V dimming control, DALI dimming control, emergency and night light functions. 72-inch factory-installed and pre-wired to driver, fitted to luminaire housing access plate with 90° enclosed FMC connector. Not all options may be combined and installation ratings vary by type. **A3/8-4/18GDIM series notes:** Factory installed dimming option 3/8" flexible metal conduit with 2-#18 power and ground wires and 2-#18 UL-listed jacketed 0-10V +/- control wires. Meets UL 66, 83, 1479, 1569, 1581, 2556. NEC® 250.118, 300.22(C), 392, 396, 330, 501, 502, 503, 530, 504, 505, 518, 520, 530, 645, 72; Federal Specification A-A-59544 (formerly J-C-30B); all applicable OSHA and HUD Requirements. UL Classified 1-, 2-, and 3-hour through penetration with applicable fire stop product (not included). May be surface mounted, fished and/or embedded in plaster. Cable tray and approved raceway rated, install per NEC®; Environmental Air-Handling Space Installation per NEC® 300.22(C).	**Notes** (13) 1800, 2500, 2800 and 3300 lumen packages not available with Step-Dim (SD) and DALI (5LTD) driver option. (14) White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (C) Consult WaveLinx Low-Voltage or DLVP system pages for additional details and compatibility. (F) Consult Marketplace Options - Lutron system pages for additional details and compatibility. Compatible only with driver series shown, and may require two or more drivers. Requires field commissioning to operate or dim. Contact Lutron at www.lutron.com.	

Integrated Sensing Systems [15]	Packaging	Accessories (order separately) [20]
[Blank]=No Sensor **WAA**=WaveLinx Wireless Integrated Sensor [16], [A] **WAB**=WaveLinx Lite Wireless Integrated Sensor [17], [B] **WLA**=Low-voltage Integrated Sensor [18], [C] **SVPD1**=0-10V Stand-alone Integrated Sensor [17], [D]	**U**=Unit Pack **PALC**=Job Pack, in carton	**T3A END E.Q. BRACKET PARTS BAG** (Standard with fixture) **DF-14W-U**=1' x 4' Drywall Frame Kit **SK-14-WT**=1' x 4' Tall Surface Mount Kit **ISHH-01**=Programming Remote for Integrated Sensor [D] **ISHH-02**=Personal Control Remote for Integrated Sensor [D]
Notes (15) Integrated sensor options not available with Air version. (16) WAA sensor to be used with CD or W2A driver. (17) WAB and SVPD1 sensor to be used with CD driver. (18) WLA sensor to be used with LV driver. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (A) Consult WaveLinx system pages for additional details and compatibility. (B) WaveLinx Lite devices are not currently compatible with the WaveLinx Wireless Area Controller. Consult WaveLinx Lite system pages for additional details and compatibility. (C) Consult WaveLinx Low-Voltage or DLVP system pages for additional details and compatibility. (D) Consult SVPD series system pages for additional details and compatibility.		**Notes** (20) Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information. Integrated options must be used in conjunction with the associated system and may not be compatible with other options or accessories. Please refer to the following: (D) For use with SVPD sensor only. Consult SVPD series system pages for additional details and compatibility.

Product Specifications

Construction
- Shallow 3-1/16" deep housing extruded aluminum frame
- Injected molded composite end plates
- End plates screws for strength, rigidity and gap eliminations
- End plates accessory grid-lock feature adds safety
- Four auxiliary fixture end suspension points
- Large access plate for supply connection

Controls
- 0-10V dimming to 1% standard
- WaveLinx wireless sensor compatible for standalone, controlled, connected, and IoT capability
- SVPD sensor compatible for standalone functionality
- Low-voltage sensor and driver compatible for WaveLinx Low-Voltage and DLVP applications
- DALI 2.0, Lutron, and step-dimming available

Electrical
- LED's available in 3000K, 3500K, or 4000K at 80 CRI or 90 CRI minimum
- Color accuracy ≤3-Step MacAdam ellipse (SDCM)
- TM21 life at 60,000 hours up to L92 and calculated L70 exceeds 288,000 hrs
- Drivers available in 120-277V and 347V
- Tunable white options available with Cooper Lighting's Vividtune

Emergency Battery Pack Options
- Optional 120V-277V integral emergency battery pack available in 7W or 14W
- 90-minute backup period for code compliance
- Test switch with laser pointer allows safe testing from floor
- Patented EZ Key prevents accidental discharge during construction

Driver Access
- Drivers can be accessed via plenum

Finish
- High reflectance baked matte white enamel finish

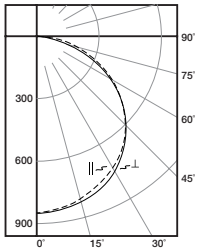
Optics
- Precision formed optical assembly
- Positively retained high optical grade acrylic lenses
- WaveStream technology provides a visually comfortable fully luminous surface

Compliance
- Components are UL recognized
- cULus Damp Location listed for 25C ambient indoor environments
- Complies with IESNA LM-79 and LM-80 standards
- DesignLights Consortium® Qualified and classified for DLC Standard and DLC Premium (refer to www.designlights.org)

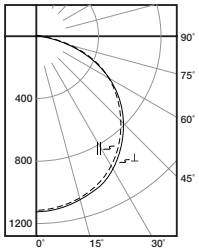
Warranty
- Five year warranty standard. Optional ten year warranty available

Photometric Data

View IES files



14EN-LD2-25-UNV-L835-CD1-U
Electronic Driver
Linear LED 3500K
Spacing criterion: (II) 1.3 x mounting height, (⊥) 1.3 x mounting height
Lumens: 2507
Input Watts: 20.9W
Efficacy: 120.0 lm/W
Test Report: 14EN-LD2-25-UNV-L835-CD1-U.IES



14EN-LD2-33-UNV-L835-CD1-U
Electronic Driver
Linear LED 3500K
Spacing criterion: (II) 1.3 x mounting height, (⊥) 1.3 x mounting height
Lumens: 3329
Input Watts: 28.1W
Efficacy: 118.5 lm/W
Test Report: 14EN-LD2-33-UNV-L835-CD1-U.IES

Energy and Performance Data

Stock or MTO	Catalog Logic	Delivered Lumens	Watts	Efficacy (LPW)
MTO	14EN-LD2-18-UNV-L835-CD1-U	1856	16.0	116
MTO	14EN-LD2-25-UNV-L835-CD1-U	2507	20.9	120
MTO	14EN-LD2-28-UNV-L835-CD1-U	2813	23.6	119
MTO	14EN-LD2-33-UNV-L835-CD1-U	3329	28.1	118
MTO	14EN-LD2-38-UNV-L835-CD1-U	3838	32.8	117
MTO	14EN-LD2-43-UNV-L835-CD1-U	4335	37.6	115
MTO	14EN-LD2-47-UNV-L835-CD1-U	4728	41.5	114
MTO	14EN-LD2-51-UNV-L835-CD1-U	5117	44.7	114

Shipping Data

Catalog No.	Weight (lbs)	Units per Pallet 49"L x 52"W x 55"H
14EN-LD2-33	15	27

Lumen Maintenance

Ambient Temperature	TM-21 Lumen Maintenance (60,000 hours) (1)	Theoretical L70 (Hours) (2)
25°C	> 92%	> 448,000

Notes: (1) Supported by IES TM-21 standards. (2) Theoretical values represent estimations commonly used; however, refer to the IES position on LED Product Lifetime Prediction, IES PS-10-18, that explains proper use of IES TM-21 and LM-80.

Lumen Calculator

CCT Multiplier	80 CRI	90 CRI
3000K	0.970	0.835
3500K	1.000	0.864
4000K	1.020	0.901
5000K	1.110	0.955

Example of Lumen Adjustment Calculation

14EN-LD2-25-UNV-L835-CD1-U
at 90CRI at 3500K

Lumen Adjustment Factor = 0.864

Total Light Output = 2,507 lm x 0.864 = 2,166 lm

Efficacy = $\frac{2{,}166\ lm}{20.9W}$ = 103.6 lm/W

Control Systems

- WaveLinx Wireless
- WaveLinx Wired
- WaveLinx Lite
- DLVP
- VividTune

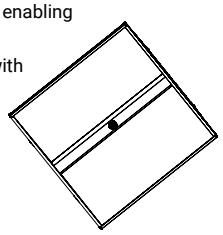
Connected Systems
CLICK HERE

The Encounter with Integrated Sensor technology provides automatic energy savings without sacrificing performance. The Encounter delivers superior lighting with integrated occupancy and daylighting controls.

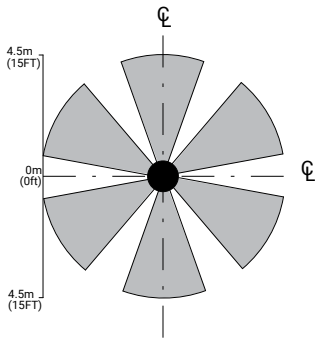
For standalone and controlled applications, the WaveLinx Lite integral sensor provides out-of-the-box functionality with no gateways required and factory startup is not needed.

When more connectivity is required, the WaveLinx Wireless sensor meets modern code and utility requirements, delivers energy and cost savings, while enabling buildings to become smart buildings.

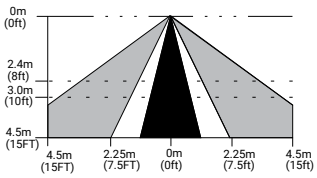
The WaveLinx Wireless Connected Lighting System combined with Trellix provides an open IoT platform and infrastructure that connects intelligent sensors leveraging the real-estate of the physical light fixture to solve higher complexity problems to deliver actionable insights through the aggregation of valuable data.



TOP VIEW:



SIDE VIEW:



***Note**: Installation of integrated sensors within 3-ft (1m) of HVAC air vents is not recommended. The pattern shown is intended solely as a general guide and is not to scale.*

Systems comparison chart

Cooper Lighting Solutions provides many lighting system solutions designed to satisfy code requirements and meet the unique needs of any project.

	Standalone	Controlled WaveLinx Lite	Connected WaveLinx Pro	Enterprise Trellix
Occupancy	Yes	Yes	Yes	Yes
Daylighting	Yes	Yes	Yes	Yes
Wallstations	–	Yes	Yes	Yes
Gateways	–	–	1 WAC	300 WACs
Devices (MAX)	–	50 per Area (1400 per site)	200 per WAC2	32,500 per Core Enterprise
Software	–	WaveLinx Lite Mobile App	WaveLinx Pro Mobile App	Trellix Core
Areas	–	28 per Site	50 per WAC2	up to 3,000
Zones	–	16 per Area	16 per Area	up to 9,000
Scheduling	–	–	Local	Global
VividTune™	–	–	Yes	Yes
Plug-Load Control	–	–	Yes	Yes
Low-Voltage Power	–	–	Yes	Yes
Integration	–	–	–	BACnet, API
Dashboards	–	–	–	Energy, Occupancy
Configuration	–	Installer	Technician	Technician / IT

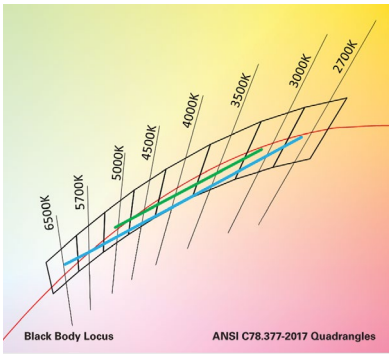
SCALABILITY

devices → areas → floors → buildings

VividTune™
color tuning solutions

14EN LED with VividTune Tunable White

VividTune tunable white luminaires from Cooper Lighting Solutions deliver high-quality light in a broad range of continuously variable color temperatures and intensities. Create a dynamic environment by adjusting the ambient light warmer or cooler to influence mood, support the task at hand, or create a dramatic ambience. The ability to control correlated color temperature and intensity separately using simple controls is the next evolution of LED lighting for the commercial, educational, healthcare and hospitality space. The unparalleled flexibility and number of available lighting environments enable users to find the right light with tunable white.



3000K - 5000K
2700K - 6500K

Performance Data*

Tunable White - Lumen Adjustment Factors (example only)

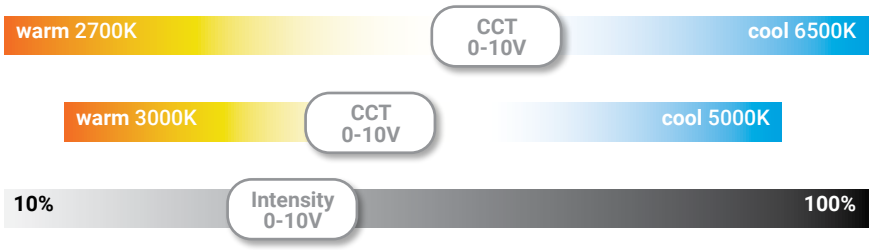
CCT	3000K-5000K		2700K-6500K	
	80 CRI	90 CRI	80 CRI	90 CRI
2700K	-	-	0.927	0.766
3000K	1.004	0.838	0.936	0.790
3500K	1.020	0.858	0.966	0.808
4000K	1.025	0.891	0.953	0.844
4500K	1.039	0.896	0.981	0.838
5000K	1.040	0.900	0.980	0.860
6500K	-	-	0.984	0.881

1' x 4' Encounter LED - Example of Approximate Lumen Calculation

	Standard Catalog #	VividTune 80 CRI Catalog #	VividTune 90 CRI Catalog #
CCT Setting	14EN-LD2-25-UNV-L835-CD1-U	14EN-LD2-25-UNV-L83050-W2A1-U	14EN-LD2-25-UNV-L93050-W2A1-U
3000K	-	2517	2102
3500K	2507	2558	2151
4000K	-	2569	2234
4500K	-	2604	2246
5000K	-	2606	2256

Controlling VividTune Tunable White

VividTune luminaires make tunable white more accessible by using simple and familiar controls. From wall dimmers to wireless controls, VividTune tunable white luminaires are compatible with industry standard 0-10V dimming controls. A single 0-10V dimming input is used to control intensity (brightness) while a second 0-10V dimming input is used to adjust CCT. For suggested control configurations, click here for tunable white application guides.



Example of Lumen Adjustment Calculation

14EN-LD2-25-UNV-L83050-W2A1-U
at 80 CRI tuned to 3500K

Adjusted Lumen =
published lm x adjusted lm factor

*Adjusted Lumen = 2507 *1.020*

Adjusted Lumen = 2558 lm

** Lumen adjustment factors are for reference and may be different for each product selected. Refer to IES files for actual performance data on each.*

Cooper Lighting Solutions
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-486-4800
www.cooperlighting.com