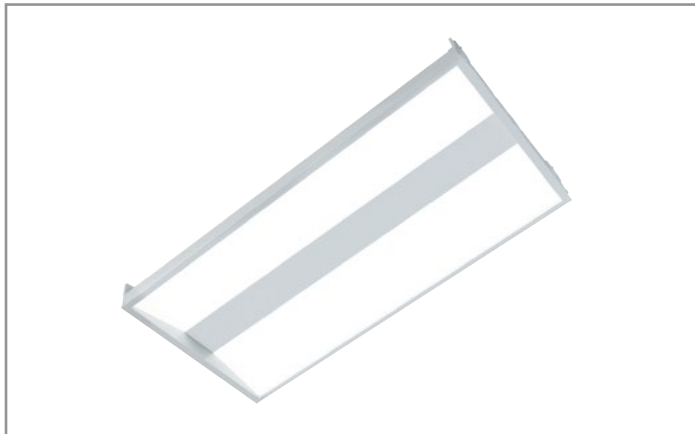


| | | | | | |
|-------------|--|-----------|--|------|--|
| Project | | Catalog # | | Type | |
| Prepared by | | Notes | | Date | |



Metalux

Encounter 12EN LED

1' x 2' Troffer LED Module
Specification Grade Troffer

Typical Applications

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

Product Certification



Product Features



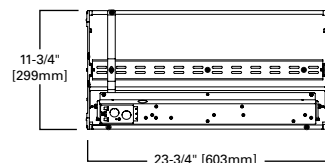
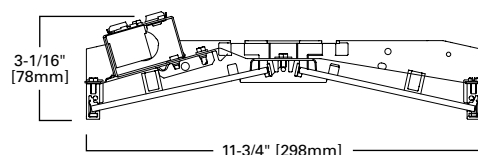
Interactive Menu

- Order Information [page 2](#)
- Photometric Data [page 3](#)
- Control Solutions [page 5](#)
- Connected Systems [page 5](#)
- Product Warranty

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
- Efficacy up to 143 lumens per watt
- Over 60% energy savings when compared to a fluorescent troffer

Dimensional and Mounting Details



Ceiling Compatibility

| G Grid/Lay-in Standard | 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: **12EN-LD2-13-UNV-L835-CD1-SVPD1-U**

| Rating | Series | Air | Lamp Type | MTO Lumen Output | Optics | Voltage | Emergency Options |
|--|-------------------------------------|--|-------------|---|------------------|---|---|
| [Blank]=Standard ATW-SW4= Chicago Rated ⁽⁵⁾ | 12EN=1' x 2' Encounter Series | [Blank]=Standard A=Air (Vented) ⁽⁶⁾ | LD2=LED 2.0 | 08=800 Lumens 13=1300 Lumens 17=1700 Lumens 23=2300 Lumens 27=2700 Lumens 31=3100 Lumens 35=3500 Lumens 39=3900 Lumens | [Blank]=Standard | UNV=Universal Voltage 120-277 347V=347 Volt ⁽⁴⁾ 48V=48 Volt Low-voltage (Class 2) ⁽⁴⁾ | EL7W=7-watt, 120V-277V emergency battery pack installed ⁽²⁾ ELV7W=7-watt, DLVP-compatible low voltage emergency battery pack installed ⁽²⁾ GTR2=Generator Transfer Relay ⁽⁷⁾ ETRD=Emergency Transfer Relay with dimming control ⁽⁷⁾ |
| Notes (5) Chicago rated version does not allow for row mounting. | | Notes (6) Air version is vented but does not meet air handling requirements; a 6% reduction in delivered lumens is experienced with this option. | | | | Notes (1) Products also available in non-US voltages and frequencies for international markets. (4) 347V emergency option not available. (C) Consult DLVP system pages for additional details and compatibility. | Notes (2) 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. (7) 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. Must specify voltage as 120V or 277V when ordering these devices. (C) Consult DLVP system pages for additional details and compatibility. |

| CCT | Flex | Driver Type | Number of Drivers |
|--|--|--|-------------------|
| L830=3000K L835=3500K L840=4000K L850=5000K | A3/8-4/18GDIM=3/8" Flex with 0-10V Dimming Leads Multiple other configurations available. See below for details. | CD=0-10V Dimming Driver (1%-100% Dimming) SR=Sensor-ready Dimming Driver for LWIPD1 option (5%-100% Dimming) ⁽⁸⁾ SLTD=Fifth Light DALI Driver (10%-100% Dimming) ^{(9), (5)} SLTHD=Fifth Light Dimming Driver (1%-100% Dimming) ⁽⁵⁾ LV1=DLVP Dimming Driver (0%-100% Dimming) ⁽⁶⁾ SD=Step Dimming Driver (50% or 100% Dimming) ⁽³⁾ LH=Lutron HiLume (LDE1 series) 1%-100% EcoSystem Driver with Soft-on Fade to Black dimming ⁽⁷⁾ L5=Lutron 5 Series (LDE5-Series) 5%-100% EcoSystem Driver ⁽⁷⁾ | 1=1 Driver |
| | 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 (3) 800, 1300, 1700, 2300, 2700 and 3100 lumen packages not available with Step-dim or SLTD option. 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: (B) Consult LumaWatt Pro system pages for additional details and compatibility. (C) Consult DLVP system pages for additional details and compatibility. (E) Consult Fifth Light 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 | Packaging | Accessories |
|--|---|---|
| Integrated Sensing Systems SWPD1=WaveLinx Wireless Integrated Sensor ^(A) LWIPD1=LumaWatt Pro Wireless Integrated Sensor ^(B) LWTPD1=LumaWatt Pro Wireless Tile-mount Sensor ^(B) SLVDPD1=DLVP Low-voltage Integrated Sensor ^(C) SVPD1=0-10V Stand-alone Integrated Sensor ^(D) | Packaging U=Unit Pack PALC=Job Pack, in carton | Accessories (order separately) T3A END E.Q. BRACKET PARTS BAG (Standard with fixture) DF-12-W=1' x 2' Drywall Frame Kit ISHH-01=Programming Remote for Integrated Sensor ⁽⁸⁾ ISHH-02=Personal Control Remote for Integrated Sensor ⁽⁸⁾ |
| Notes 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) Consult LumaWatt Pro system pages for additional details and compatibility. (C) Consult DLVP system pages for additional details and compatibility. (D) Consult SVPD series system pages for additional details and compatibility. | | Notes 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) 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 drivers to 1% standard
- WaveLinX sensor compatible for IoT capability
- LumaWatt Pro sensor compatible for IoT capability
- SVPD sensor compatible for out-of-the-box functionality
- DLVP sensor and driver compatible for low-voltage applications
- Fifth Light DALI driver, step-dimming and 3rd party drivers available

Electrical

- Long-life LED system with electrical driver for optimal performance
- LED's available in 3000K, 3500K, 4000K or 5000K with a minimum CRI of 80
- Projected life is 100,000 hours at 92% lumen output
- Electronic drivers available for 120-277V applications

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 distribution

Compliance

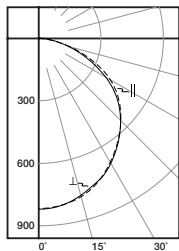
- Components are UL recognized
- cULus listed for 25° C ambient indoor environments
- RoHS compliant
- Complies with IESNA LM-79 and LM-80 standards

Warranty

- Five-year warranty

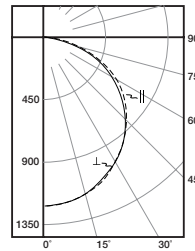
Photometric Data

[View IES files](#)



12EN-LD2-23-UNV-L835-CD1-U

Electronic Driver
 Linear LED 3500K
 Spacing criterion: (||) 1.3 x mounting height,
 (⊥) 1.3 x mounting height
 Lumens: 2395
 Input Watts: 20.5W
 Efficacy: 116.8 lm/W
 Test Report: 12EN-LD2-23-UNV-L835-CD1-U.IES



12EN-LD2-35-UNV-L835-CD1-U

Electronic Driver
 Linear LED 3500K
 Spacing criterion: (||) 1.3 x mounting height,
 (⊥) 1.3 x mounting height
 Lumens: 3560
 Input Watts: 31.5W
 Efficacy: 113.00 lm/W
 Test Report: 12EN-LD2-35-UNV-L835-CD1-U.IES

Energy and Performance Data by Catalog Number

| Stock or MTO | Catalog Logic (Curved) | Delivered Lumens | Watts | Efficacy (LPW) |
|--------------|----------------------------|------------------|-------|----------------|
| MTO | 12EN-LD2-08-UNV-L830-CD1-U | 807 | 9.9 | 82 |
| MTO | 12EN-LD2-08-UNV-L835-CD1-U | 832 | 9.9 | 84 |
| MTO | 12EN-LD2-08-UNV-L840-CD1-U | 849 | 9.9 | 86 |
| MTO | 12EN-LD2-08-UNV-L850-CD1-U | 924 | 9.9 | 93 |
| MTO | 12EN-LD2-13-UNV-L830-CD1-U | 1305 | 12.2 | 107 |
| MTO | 12EN-LD2-13-UNV-L835-CD1-U | 1345 | 12.2 | 110 |
| MTO | 12EN-LD2-13-UNV-L840-CD1-U | 1372 | 12.2 | 112 |
| MTO | 12EN-LD2-13-UNV-L850-CD1-U | 1493 | 12.2 | 122 |
| MTO | 12EN-LD2-17-UNV-L830-CD1-U | 1719 | 15.7 | 109 |
| MTO | 12EN-LD2-17-UNV-L835-CD1-U | 1772 | 15.7 | 113 |
| MTO | 12EN-LD2-17-UNV-L840-CD1-U | 1807 | 15.7 | 115 |
| MTO | 12EN-LD2-17-UNV-L850-CD1-U | 1967 | 15.7 | 125 |
| MTO | 12EN-LD2-23-UNV-L830-CD1-U | 2323 | 20.5 | 113 |
| MTO | 12EN-LD2-23-UNV-L835-CD1-U | 2395 | 20.5 | 117 |
| MTO | 12EN-LD2-23-UNV-L840-CD1-U | 2443 | 20.5 | 119 |
| MTO | 12EN-LD2-23-UNV-L850-CD1-U | 2658 | 20.5 | 130 |
| MTO | 12EN-LD2-27-UNV-L830-CD1-U | 2706 | 24.0 | 113 |
| MTO | 12EN-LD2-27-UNV-L835-CD1-U | 2790 | 24.0 | 116 |
| MTO | 12EN-LD2-27-UNV-L840-CD1-U | 2846 | 24.0 | 119 |
| MTO | 12EN-LD2-27-UNV-L850-CD1-U | 3097 | 24.0 | 129 |
| MTO | 12EN-LD2-31-UNV-L830-CD1-U | 3084 | 27.7 | 111 |
| MTO | 12EN-LD2-31-UNV-L835-CD1-U | 3179 | 27.7 | 115 |
| MTO | 12EN-LD2-31-UNV-L840-CD1-U | 3243 | 27.7 | 117 |
| MTO | 12EN-LD2-31-UNV-L850-CD1-U | 3529 | 27.7 | 127 |
| MTO | 12EN-LD2-35-UNV-L830-CD1-U | 3453 | 31.4 | 110 |
| MTO | 12EN-LD2-35-UNV-L835-CD1-U | 3560 | 31.4 | 113 |
| MTO | 12EN-LD2-35-UNV-L840-CD1-U | 3631 | 31.4 | 116 |
| MTO | 12EN-LD2-35-UNV-L850-CD1-U | 3952 | 31.4 | 126 |
| MTO | 12EN-LD2-39-UNV-L830-CD1-U | 3856 | 35.4 | 109 |
| MTO | 12EN-LD2-39-UNV-L835-CD1-U | 3975 | 35.4 | 112 |
| MTO | 12EN-LD2-39-UNV-L840-CD1-U | 4055 | 35.4 | 115 |
| MTO | 12EN-LD2-39-UNV-L850-CD1-U | 4412 | 35.4 | 125 |

Lumen Maintenance

| Ambient Temperature | TM-21 Lumen Maintenance (60,000 hours) | Theoretical L70 (hours) |
|---------------------|--|-------------------------|
| 25°C | > 92% | > 130,000 |

Shipping Data

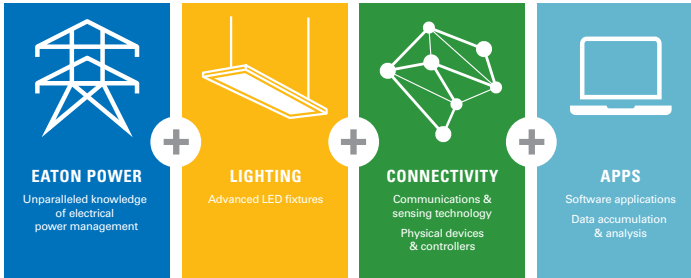
| Catalog No. | Wt. |
|-------------|--------|
| 12EN-LD2-13 | 8 lbs. |

Control Systems

- WaveLinx
- DLVP
- LumaWatt Pro
- iLumin Plus
- VividTune



We make connections work



Systems comparison chart

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

| | Distributed Low-Voltage Power System | WaveLinx | LumaWatt Pro |
|------------------------|--------------------------------------|------------------|--------------|
| Space type | Interior | Interior/Outdoor | Any |
| Stand-alone or Network | Stand-alone | Both | Network |

| Need-based feature progression | | | |
|---------------------------------------|---|---|---|
| Basic compliance only | | | |
| Occupancy sensing | • | • | • |
| Daylight harvesting | • | • | • |
| Zone control | • | • | • |
| Scheduling | • | • | • |
| 0-10V dimming | • | • | • |
| Individual fixture control | • | • | • |
| Retrofit+Building Integration | | | |
| Total wireless connectivity | • | • | • |
| A/V integration | • | • | • |
| BMS integration | • | • | • |
| UI options (touchscreen, apps, etc.) | • | • | • |
| Enterprise level building integration | | | |
| Facility management & tools | • | • | • |
| Floor plan & reporting tools | • | • | • |
| Value-added services | | | |
| Asset tracking | • | • | • |
| API integration | • | • | • |
| Analytics/higher problem solving | • | • | • |

Integrated Sensor

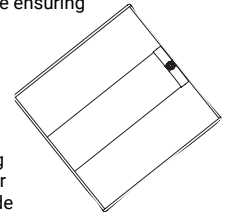
The Encounter and Encounter HP with Integrated Sensor technology provides automatic energy savings without sacrificing performance. Traditionally, these types of energy savings required coordination between the luminaire and a lighting control system. The Encounter delivers superior lighting with integrated occupancy and daylighting controls.

Capture the benefits of traditional lighting controls, without complicated coverage planning or special wiring. Ideal for new construction or retrofit, the Encounter delivers automatic ON to an energy saving light level, while ensuring lighting is turned OFF when the space is unoccupied.

The integral daylight sensor reduces the need for special daylight zone planning. Each luminaire will automatically adjust the light level based on reflected light beneath the sensor in a closed loop method.

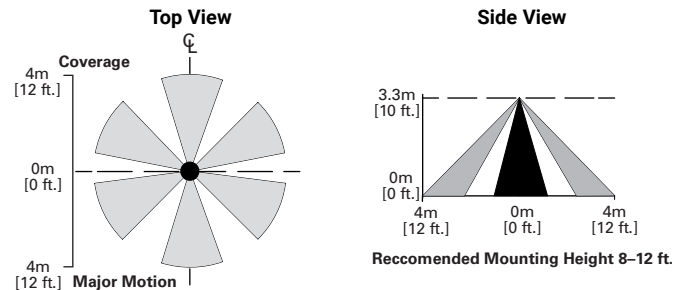
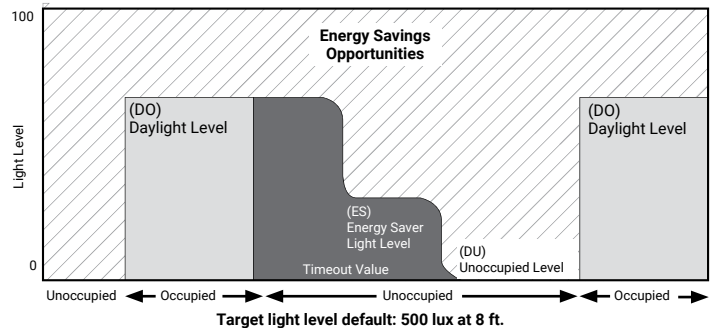
Occupied daylight light levels and unoccupied light levels can be adjusted using the integrated sensor programming remote (Catalog Number: ISHH-01). The integrated sensor personal remote (Catalog Number: ISHH-02) provides code compliant manual raise, lower, ON, OFF control.

The Encounter with Integrated Sensor is easy to install with no special wiring and ensures energy savings out-of-the-box with default control settings.



How it works:

- As the user enters the space controlled by the integral sensor, the lighting turns ON to the default daylight level.
- Lighting will remain at that the daylight level until the space is unoccupied. This will start the occupancy timeout period (default 20 minutes).
- If the space remains unoccupied for half of the timeout period, the lighting will automatically reduce to the Energy Saver light level. This adjustable light level is typically half of the occupied daylight level.
- At the end of the timeout period the lighting will go to the unoccupied light level. This adjustable light level uses the OFF default setting.



Installation of integrated sensors within 3-ft (1m) of HVAC air vents is not recommended.

Optional Remote Controls



ISHH-01 Programming Remote



ISHH-02 Personal Control Remote