Project		**Catalog #**		**Type**	
Prepared by		**Notes**		**Date**	

Metalux

14RLN

1' x 4' Recessed LED
Specification Grade
Rectilinear Shielding

Typical Applications
• Commercial Office Spaces • Schools • Hospitals
• Retail Merchandising Areas

Interactive Menu

Product Certification

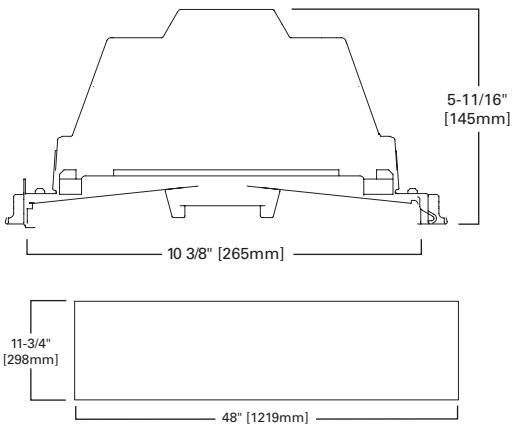
Product Features

Top Product Features

- Luminous center panel with gently elevated luminous side panels for a visually pleasing appearance
- Efficacy up to 139 lm/W, uniform illumination for a pleasant ambient environment
- 3000K, 3500K, and 4000K at 80 or 90 CRI
- White tuning solutions available, either 3000K - 5000K or 2700K - 6500K
- LED driver access from below the ceiling
- Options to meet Buy American and other domestic preference requirements

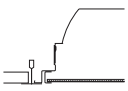
Dimensional and Mounting Details

RECTILINEAR

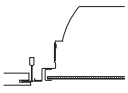


Ceiling Compatibility

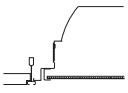
G
Grid/Lay-in
Standard



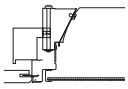
G
Concealed T



G
Slot Grid



F
Aluminum Flange Trim
With Supporting
Swing Gates



Ceiling Type	Trim Type
Exposed Grid	G
Concealed T	G
Slot Grid	G
Flange	F

(Verify compatibility/ consult Pre Sales Technical Support.)

Order Information

SAMPLE ORDER NUMBER: **14RLN-LD5-35-UNV-L835-CD1-U**

Domestic Preferences	Rating	Series	LampType	Lumen Output	Shielding	Voltage	Emergency	CCT
[Blank]=Standard **BAA**=Buy American Act **TAA**=Trade Agreements Act	**[Blank]**=Standard **ATW-SW4**=Chicago Rated	**14RLN**=1x4 RLN Series	**LD5**=LED 5.0	**23**=2300 Lumen **26**=2600 Lumen **31**=3100 Lumen **35**=3500 Lumen **40**=4000 Lumen	**Blank**=Standard Lens **RDP**=Rectilinear with Round Pattern Insert	**347V**=347 Volt (4) **UNV**=Universal Voltage 120-277 **120V**=120 Volt (5) **277V**=277 Volt (5)	**EL7W**=7-watt, 120V-277V emergency battery pack installed (6) **EL14W**=14-watt 120V-277V emergency battery pack installed (7) **GTR2**=Bodine Generator Transfer Relay (7), (8) **ETRD**=Iota Emergency Transfer Relay with dimming control (7)	**L830**=3000K **L835**=3500K **L840**=4000K **L930**=3000K **L935**=3500K **L940**=4000K **L83050**=80CRI 3000K-5000K White Tuning (9) **L93050**=90CRI 3000K-5000K White Tuning (9) **L82765**=80CRI 2700K-6500K White Tuning (9) **L92765**=90CRI 2700K-6500K White Tuning (9)
Notes (1) Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.		**Notes** (2) DesignLights Consortium® Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.				**Notes** (3) Products also available in non-US voltages and frequencies for international markets. (4) 347V versions are not available with emergency options. (5) Must specify voltage as 120V or 277V when ordering GTR2 option.	**Notes** (6) 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. (8) Must specify voltage as 120V or 277V when ordering GTR2 option.	**Notes** (9) 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.

Factory Wiring	Driver Type	Number of Drivers	Integrated Sensing Systems	Packaging	Accessories
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) (10) **5LTHD**=DALI Driver (1%-100% Dimming) **SD**=Step Dimming Driver (50% or 100% Dimming) (10) **LH**=Lutron HiLume (LDE1 series) 1%-100% EcoSystem Driver with Soft-on Fade to Black dimming (F) **W2A**=White Tuning, 2 ch, Intensity and CCT Control (11) **SR**=Sensor-ready Driver (1%-100% Dimming)	**1**=1 Driver	**[Blank]**=No Sensor **WLS (formerly WAB)**=WaveLinx LITE Wireless Sensor, Occupancy w/ photocell, Independent & Networked (13), (B) **WPS (formerly WAA)**=WaveLinx PRO Wireless Sensor, Occupancy w/ photocell, Networked (12), (A) **WLN**=WaveLinx LITE Wireless Control Node, without sensor (13), (B) **WPN**=WaveLinx PRO Wireless Control Node, without sensor (12), (A)	**U**=Unit Pack **PALC**=Job Pack, in carton	**EQ-CLIP-U**=T-BAR Safety Earthquake Clips (14) **F2M-14S-W-U**=Field Installed Flange Kit **DF-14W-U**=1' x 4' Drywall Frame Kit **SK-14-WT**=Field Install Surface Mount Kit, Tall
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** (10) 2300, 2600 and 3100 Lumen packages not available with Step-Dim (SD) and DALI (5LTD) driver option. (11) 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: (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.		**Notes** (12) WPS sensor and WPN node to be used with CD or W2A driver. (13) WLS sensor and WLN to be used with CD 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 PRO system pages for additional details and compatibility. (B) Consult WaveLinx LITE system pages for additional details and compatibility.		**Notes** (14) An EQ Grid Clip is recommended for all 9/16" ceiling systems. Four required per fixture. (15) 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.

Product Specifications

Construction
- 5-5/8" housing constructed of die-formed, code gauge cold rolled steel
- Full length die-formed stiffeners and unibody endplate for added strength
- Four auxiliary fixture end suspension points provided
- Wireway cover removable without tools
- Endplates provided with Grid-Lock feature for safety
- These fixtures may have MWS (Modular Wiring System) added. Consult factory for details.

Integrated Controls
- 0-10V dimming to 1% standard
- Integrated WaveLinx options provide wireless individual fixture control and enable code compliance, increased energy savings, grouping of fixtures, and connection to WaveLinx control systems
- DALI 2.0, Lutron, and step-dimming available

LED and Light Engine
- LED's available in 3000K, 3500K, or 4000K at 80 CRI minimum and 90 CRI minimum
- Color accuracy ≤3-Step MacAdam ellipse (SDCM)
- TM21 life at 60,000 hours up to L92 and calculated L70 exceeds 290,000 hrs.
- Drivers available in 120-277V and 347V
- Tunable white options available with Cooper Lighting Solutions' Vividtune

Emergency Battery Options
- Optional 120-277V emergency battery available in 7W or 14W
- 90-minute backup period for code compliance
- Test switch with laser pointer and testing from floor feature for ease of use
- EZ Key feature prevents accidental discharge during construction
- Generator transfer options available

Finish
- Multistage, iron phosphate pretreatment
- 90% reflective, matte white enamel finish
- Full fixture housing painted after fabrication

Hinging/Latching
- Positive cam action steel latches with baked white enamel finish
- Safety-lock T-hinges allow hinging and latching either side
- Door assembly hinges down for easy access to driver and LEDs from below

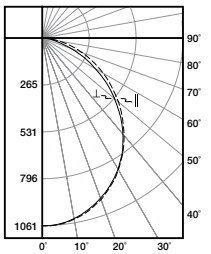
Frame/Sheilding
- Die formed, heavy gauge flat steel door
- Mitered corners and painted after fabrication
- Baked matte white enamel finish
- Positive light seals
- Acrylic frosted lens

Compliance
- IC rated for insulation contact
- cULus listed for damp locations
- RoHS compliant
- Tested to IESNA LM-79 and LM-80
- Stated life tested to TM21 standards
- Can be used for State of California Title 24 high efficacy luminaire

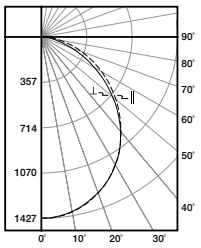
Limited Warranty
- Five year limited warranty standard. Optional ten year limited warranty available.

Photometric Data

View IES files



14RLN-LD5-26-UNV-L835-CD1-U
Electronic Driver
Linear LED 3500K
Spacing criterion: (II) 1.21 x mounting height, (⊥) 1.2 x mounting height
Lumens: 2647.5
Input Watts: 24.7W
Efficacy: 107.2 lm/W
Test Report: 14RLN-LD5-26-UNV-L835-CD1-U.IES



14RLN-LD5-35-UNV-L835-CD1-U
Electronic Driver
Linear LED 3500K
Spacing criterion: (II) 1.21 x mounting height, (⊥) 1.21 x mounting height
Lumens: 3584.6
Input Watts: 35.6W
Efficacy: 100.7 lm/W
Test Report: 14RLN-LD5-35-UNV-L835-CD1-U.IES

Energy and Performance Data

Stock or MTO	Catalog Logic (Rectilinear Shielding)	Delivered Lumens	Watts	Efficacy (lm/W)
MTO	14RLN-LD5-23-UNV-L830-CD1-U	2278	21.9	104
MTO	14RLN-LD5-23-UNV-L835-CD1-U	2373	21.9	108
MTO	14RLN-LD5-23-UNV-L840-CD1-U	2373	21.9	108
MTO	14RLN-LD5-26-UNV-L830-CD1-U	2541	24.7	103
MTO	14RLN-LD5-26-UNV-L835-CD1-U	2647	24.7	107
MTO	14RLN-LD5-26-UNV-L840-CD1-U	2647	24.7	107
MTO	14RLN-LD5-31-UNV-L830-CD1-U	3034	30.6	99
MTO	14RLN-LD5-31-UNV-L835-CD1-U	3160	30.6	103
MTO	14RLN-LD5-31-UNV-L840-CD1-U	3160	30.6	103
MTO	14RLN-LD5-35-UNV-L830-CD1-U	3442	35.6	97
MTO	14RLN-LD5-35-UNV-L835-CD1-U	3585	35.6	101
MTO	14RLN-LD5-35-UNV-L840-CD1-U	3585	35.6	101
MTO	14RLN-LD5-40-UNV-L830-CD1-U	3907	41.9	93
MTO	14RLN-LD5-40-UNV-L835-CD1-U	4070	41.9	97
MTO	14RLN-LD5-40-UNV-L840-CD1-U	4070	41.9	97

Shipping Data

Catalog No.	Wt.
14RLN-LD5-26	19 lbs.
14RLN-LD5-35	19 lbs.

Lumen Maintenance

Ambient Temperature	TM-21 Lumen Maintenance (60,000 hours) (1)	Theoretical L70 (Hours) (2)
25ºC	> 92%	> 267,500

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.

90 CRI

Lumen Adjustment Factors 80->90 CRI	
3000K	0.865
3500K	0.861
4000K	0.883
5000K	n.a.

Example of Lumen Adjustment Calculation

14RLN-LD5-35-UNV-L935-CD1-U
at 90CRI at 3500K

Lumen Adjustment Factor = 0.861

Total Light Output =
3,585 lm x 0.861 = 3,086 lm

$$Efficacy = \frac{3{,}086\ lm}{35.6\ W} = 86.6\ lm/W$$

Control Solutions

- WaveLinx LITE wireless
- WaveLinx PRO wireless
- WaveLinx CAT wired
- WaveLinx Wired

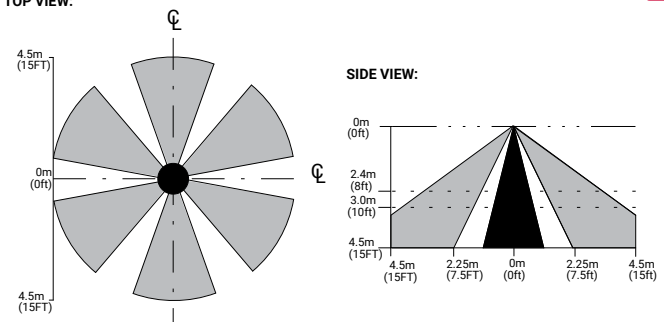
WaveLinx Digital Lighting Control Solutions

The RLN with WaveLinx offers no-hassle lighting control with multiple luminaire level control solutions.

WaveLinx PRO is a wireless lighting control solution, for connected spaces, that significantly reduces a building's energy consumption. From a single floor to an entire campus, WaveLinx PRO connects more than lighting assets; it shares aggregated sensor data with the WaveLinx CORE platform and other building systems, so building owners can improve operations, spaces environment, and tenants' experience. WaveLinx PRO offers a rich portfolio of wireless devices, WaveLinx PRO-enabled luminaires, and an intuitive WaveLinx mobile app for office, education, warehouse, and parking garage applications.

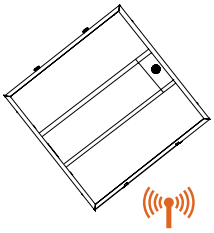
WaveLinx LITE is a cost effective, wireless digital lighting control solution, with out-of-the-box functionality, that saves energy and meets code. It's designed for applications that require occupancy-based, daylighting, or manual light control. Customize installations for office, education, warehouse and parking garages using the secure, simple mobile app.

Integrated Sensor Coverage Pattern

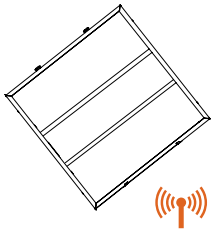


***Note**: Installation of integrated sensors within 3-ft (1m) of HVAC air vents is not recommended. The pattern shown is intended solely as a general guide and is not to scale.*

With Integrated WaveLinx Sensor



With Integrated WaveLinx Node



Add a hidden WaveLinx sensor node (WPN, WLN) to your space lighting design!

Allows to:

- Keeps luminaire aesthetics
- Connect fixtures without the realestate to include sensor option such as downlights
- Connect sealed fixtures without a standard sensor option such as products for clinical space.

Integrated Controls Options					
Option	**Out of the Box Functionality**	**Luminaire Level Lighting Control (LLLC)**	**Automatic Dimming Photocell**	**Occupancy Sensing**	**CCT Control**
WLS	X	X	X	X	
WLN		X			
WPS		X	X	X	X
WPN		X			X

Note: WaveLinx utilizes scenes to allow users to change an area's fixtures Correlated Color Temperature (CCT) and intensity using commissioned manual wireless wallstation scene control. To enable CCT adjustments through WaveLinx, include WPS or WPN devices in addition to VividTune or BioUp technologies for integrated fixture control.

Systems comparison chart

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

Luminaire with standalone sensor

Standalone Spaces WaveLinx LITE

Standalone Spaces WaveLinx CAT

Networked Spaces WaveLinx PRO

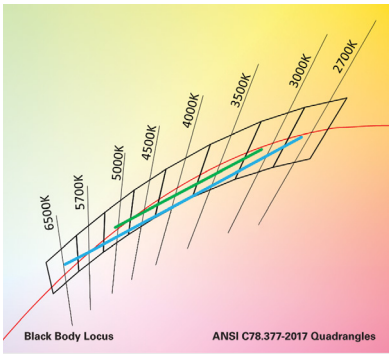
Enterprise WaveLinx CORE

Occupancy	Yes	Yes	Yes	Yes	Yes
Daylighting	Yes	Yes	Yes	Yes	Yes
Wallstations	–	Yes	Yes	Yes	Yes
Gateways	–	–	–	1 WAC	300 WACs
Devices (MAX)	–	40 per Area (1120 per space)	40 per Area	200 per WAC2	32,500 per CORE Enterprise
Software	–	WaveLinx LITE Mobile App	WaveLinx CAT Mobile App	WaveLinx Mobile App	CORE
Areas	–	28 per Space	Unlimited	50 per WAC2	up to 3,000
Zones	–	16 per Area	16 per Area	16 per Area	up to 9,000
Scheduling	–	–	–	Local	Global
VividTune™	–	–	–	Yes	Yes
Plug-Load Control	–	Yes	Yes	Yes	Yes
Low-Voltage Power	–	–	Yes	Yes	Yes
Integration	–	–	–	–	BACnet, API
Dashboards	–	–	–	–	Energy, Occupancy
Configuration	–	Installer	Installer	Technician	Technician / IT

VividTune color tuning solutions

14RLN 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.



Performance Data*

Tunable White - Lumen Adjustment Factors (example only)

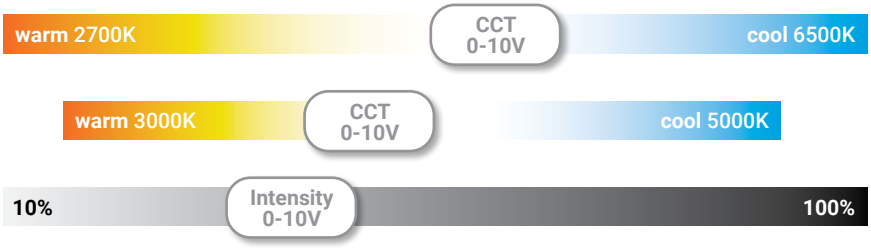
CCT	3000K-5000K		2700K-6500K	
	80 CRI	90 CRI	80 CRI	90 CRI
2700K	-	-	0.922	0.787
3000K	0.949	0.781	0.948	0.818
3500K	1.004	0.853	0.981	0.859
4000K	1.054	0.922	1.002	0.887
4500K	1.064	0.938	1.020	0.910
5000K	1.064	0.938	1.034	0.928
6500K	-	-	1.049	0.953

1' x 4' RLNLED - Example of Approximate Lumen Calculation

	Standard Catalog #	VividTune 80 CRI Catalog #	VividTune 90 CRI Catalog #
CCT Setting	14RLN-LD5-35-UNV-L835-CD1-U	14RLN-LD5-35-UNV-L83050-W2A1-U	14RLN-LD5-35-UNV-L93050-W2A1-U
3000K	-	3402	2800
3500K	3585	3599	3058
4000K	-	3779	3305
4500K	-	3814	3363
5000K	-	3814	3363

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, go to www.cooperlighting.com for tunable white application guides.



Example of Lumen Adjustment Calculation

14RLN-LD5-35-UNV-L83050-W2A1-U
at 80 CRI tuned to 3500K

Adjusted Lumen =
published lm x adjusted lm factor

Adjusted Lumen = 3585 x 1.004

Adjusted Lumen = 3599 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.*

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