Project		Catalog #		Type	
Prepared by		Notes		Date	

Metalux

22RLN

2' x 2' Recessed LED
Specification Grade
Rectilinear Shielding

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

Interactive Menu

Product Certification

UL CERTIFIED | DLC LISTED | DLC LISTED PREMIUM | RoHS COMPLIANT | Efficiency Standards T24 California Title 24 Residential and Non-Residential Compliant | SYSTEMS CERTIFIED

Product Features

Connected Systems | Bluetooth® | VividTune color tuning solutions | damp location | BAA | MWS MODULAR WIRING SYSTEM CLICK HERE | Rapid Response CLICK HERE | LINEAR DISCONNECT Designed to provide safe and convenient means of disconnecting power

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
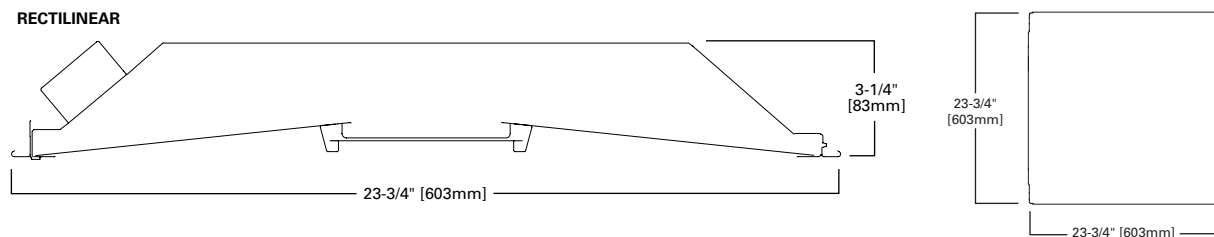- Options to meet Buy American and other domestic preference requirements

Dimensional and Mounting Details

RECTILINEAR

3-1/4" [83mm]

23-3/4" [603mm]

23-3/4" [603mm]

23-3/4" [603mm]

Ceiling Compatibility

G
Grid/Lay-in
Standard

G
Concealed T

G
Slot Grid

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

(Verify compatibility/ consult factory.)

COOPER Lighting Solutions

Order Information

SAMPLE ORDER NUMBER: **22RLN-LD5-35-UNV-L835-CD1-U**

Domestic Preferences [1]	Rating	Series [2]	Door Frame	Lamp Type	Lumen Output	Shielding	Voltage [4]	Emergency	CCT
[Blank]=Standard **BAA**=Buy American Act **TAA**=Trade Agreements Act	**[Blank]**=Standard **ATW-SW4**=Chicago Rated	**22RLN**=2x2 RLN Series	**Standard**=Flat White Steel Door (Leave Blank)	**LD5**=LED 5.0	**Stock** **25**=2500 Lumen [3] **35**=3500 Lumen **MTO** **20**=2000 Lumen [3] **31**=3100 Lumen **40**=4000 Lumen **44**=4400 Lumen	**[Blank]**=Standard Lens **RDP**=Rectilinear with Round Pattern Insert	**347V**=347 Volt [5] **UNV**=Universal Voltage 120-277 **48V**=48 Volt Low-voltage (Class 2) [C] **120V**=120 Volt [6] **277V**=277 Volt [6]	**EL7W**=7-watt, 120V-277V emergency battery pack installed [7] **EL14W**=14-watt 120V-277V emergency battery pack installed [7] **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 [8], [9] **ETRD**=Iota Emergency Transfer Relay with dimming control [8]	**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) Not compatible with WN driver.		**Notes** (4) Products also available in non-US voltages and frequencies for international markets. (5) 347V versions are not available with emergency options. (6) 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** (7) 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. (8) 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. (9) 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) 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 [17]
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) **LV**=Low-voltage System Driver (0%-100% Dimming) [C] **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 **WAA**=WaveLinx Wireless Integrated Sensor [12], [A] **WAB**=WaveLinx Lite Wireless Integrated Sensor [13], [B] **WLA**=Low-voltage Integrated Sensor [14], [C] **SVPD1**=0-10V Stand-alone Integrated Sensor [13], [15], [D]	**U**=Unit Pack **PALC**=Job Pack, in carton	**EQ-CLIP-U**=T-BAR Safety Earthquake Clips [16] **DF-22W-U**=2' x 2' Drywall Frame Kit **SK-22-WS**=Field Install Surface Mount Kit, Shallow **SK-22-WT**=Field Install Surface Mount Kit, Tall **ISHH-01**=Programming Remote for Integrated Sensor [D] **ISHH-02**=Personal Control Remote for Integrated Sensor [D]
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) 2000, 2500, 3100 and 3500 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: (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.		**Notes** (12) WAA sensor to be used with CD or W2A driver. (13) WAB and SVPD1 sensor to be used with CD driver. (14) WLA sensor to be used with LV driver. (15) 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. 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** (16) An EQ Grid Clip is recommended for all 9/16" ceiling systems. Four required per fixture. (17) 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
- 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
- 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

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
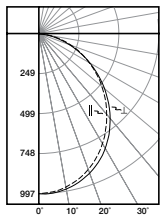- Acrylic frosted lens

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
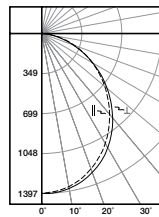- Can be used for State of California Title 24 high efficacy luminaire

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

Photometric Data

View IES files

22RLN-LD5-25-UNV-L835-CD1-U
Electronic Driver
Linear LED 3500K
Spacing criterion: (II) 1.19 x mounting height, (⊥) 1.23 x mounting height
Lumens: 2542.9
Input Watts: 20.9W
Efficacy: 121.7 lm/W
Test Report: 22RLN-LD5-25-UNV-L835-CD1-U.IES

22RLN-LD5-35-UNV-L835-CD1-U
Electronic Driver
Linear LED 3500K
Spacing criterion: (II) 1.19 x mounting height, (⊥) 1.23 x mounting height
Lumens: 3558.3
Input Watts: 30.6W
Efficacy: 116.3 lm/W
Test Report: 22RLN-LD5-35-UNV-L835-CD1-U.IES

Lumen Maintenance

Ambient Temperature	TM-21 Lumen Maintenance (60,000 hours) [1]	Theoretical L70 (hours) [2]
25ºC	> 94%	> 368,000

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.

Energy and Performance Data

Stock or MTO	Catalog Logic (Rectilinear Shielding)	Delivered Lumens	Watts	Efficacy (lm/W)
MTO	22RLN-LD5-20-UNV-L830-CD1-U	1935	16.43	118
MTO	22RLN-LD5-20-UNV-L835-CD1-U	2016	16.43	123
MTO	22RLN-LD5-20-UNV-L840-CD1-U	2016	16.43	123
MTO	22RLN-LD5-25-UNV-L830-CD1-U	2441	20.9	117
STOCK	22RLN-LD5-25-UNV-L835-CD1-U	2543	20.9	122
STOCK	22RLN-LD5-25-UNV-L840-CD1-U	2543	20.9	122
MTO	22RLN-LD5-31-UNV-L830-CD1-U	3029	26.6	114
MTO	22RLN-LD5-31-UNV-L835-CD1-U	3155	26.6	119
MTO	22RLN-LD5-31-UNV-L840-CD1-U	3155	26.6	119
MTO	22RLN-LD5-35-UNV-L830-CD1-U	3416	30.57	112
STOCK	22RLN-LD5-35-UNV-L835-CD1-U	3558	30.57	116
STOCK	22RLN-LD5-35-UNV-L840-CD1-U	3558	30.57	116
MTO	22RLN-LD5-40-UNV-L830-CD1-U	3882	35.6	109
MTO	22RLN-LD5-40-UNV-L835-CD1-U	4044	35.6	114
MTO	22RLN-LD5-40-UNV-L840-CD1-U	4044	35.6	114
MTO	22RLN-LD5-44-UNV-L830-CD1-U	4238	39.62	107
MTO	22RLN-LD5-44-UNV-L835-CD1-U	4415	39.62	111
MTO	22RLN-LD5-44-UNV-L840-CD1-U	4415	39.62	111

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
22RLN-LD5-25-UNV-L935-CD1-U
at 90CRI at 3500K

Lumen Adjustment Factor = 0.861

Total Light Output =
2,543 lm x 0.861 = 2,190 lm

$$Efficacy = \frac{2,190\ lm}{20.9\ W} = 104.8\ lm/W$$

Shipping Data

Catalog No.	Wt.
22RLN-LD5-25	10 lbs.
22RLN-LD5-35	10 lbs.

📍 Control Systems

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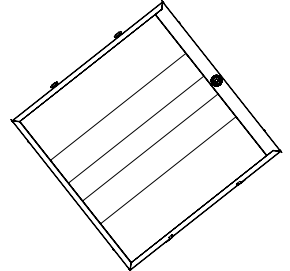- WaveLinx Wired
- WaveLinx Lite
- DLVP
- VividTune

Connected Systems
CLICK HERE

The RLN with Integrated Sensor technology provides automatic energy savings without sacrificing performance. The RLN delivers superior lighting with integrated occupancy and daylighting controls.
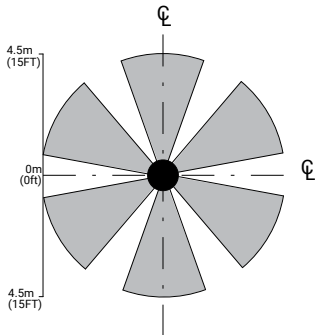
For standalone and controlled applications, the WaveLinx Lite integral sensor provides out-of-the-box functionality with no gateways required and factory startup is not needed.

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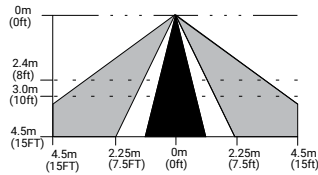
The WaveLinx Wireless Connected Lighting System combined with Trellix provides an open IoT platform and infrastructure that connects intelligent sensors leveraging the real-estate of the physical light fixture to solve higher complexity problems to deliver actionable insights through the aggregation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

TOP VIEW:

4.5m (15FT)
0m (0ft)
4.5m (15FT)

SIDE VIEW:

0m (0ft)
2.4m (8ft)
3.0m (10ft)
4.5m (15FT)

4.5m (15FT) | 2.25m (7.5FT) | 0m (0ft) | 2.25m (7.5ft) | 4.5m (15ft)

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.

	Luminaire with standalone sensor	Standalone Spaces WaveLinx Lite	Networked Spaces 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

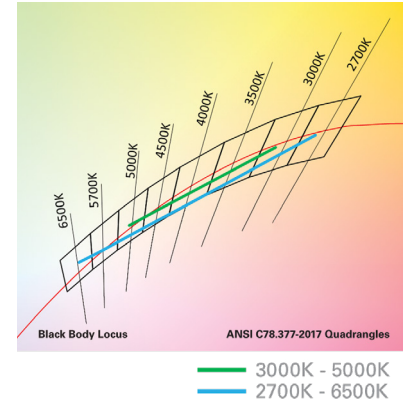devices ➤ areas ➤ floors ➤ buildings

VividTune™
color tuning solutions

22RLN 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.
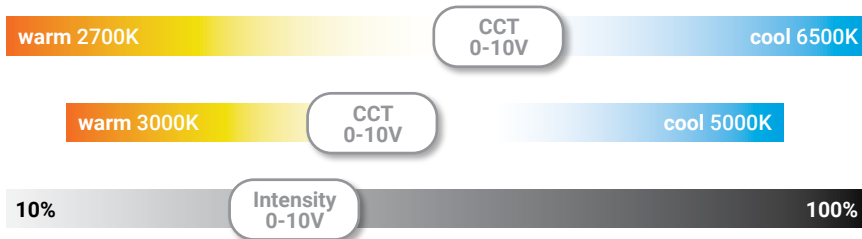

Black Body Locus   ANSI C78.377-2017 Quadrangles

— 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	-	-	0.905	0.773
3000K	0.932	0.767	0.931	0.804
3500K	0.986	0.838	0.964	0.844
4000K	1.036	0.905	0.984	0.871
4500K	1.045	0.921	1.002	0.894
5000K	1.045	0.921	1.016	0.911
6500K	-	-	1.031	0.936

2' x 2' RLNLED - Example of Approximate Lumen Calculation			
CCT Setting	Standard Catalog #	VividTune 80 CRI Catalog #	VividTune 90 CRI Catalog #
	22RLN-LD5-25-UNV-L835-CD1-U	22RLN-LD5-25-UNV-L83050-W2A1-U	22RLN-LD5-25-UNV-L93050-W2A1-U
3000K	-	2370	1950
3500K	2543	2507	2131
4000K	-	2635	2301
4500K	-	2657	2342
5000K	-	2657	2342

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.

warm 2700K   CCT 0-10V   cool 6500K

warm 3000K   CCT 0-10V   cool 5000K

10%   Intensity 0-10V   100%

Example of Lumen Adjustment Calculation

22RLN-LD5-25-UNV-L83050-W2A1-U
at 80 CRI tuned to 3500K

Adjusted Lumen = published lm x adjusted lm factor

Adjusted Lumen = 2543 x 0.986

Adjusted Lumen = 2507 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