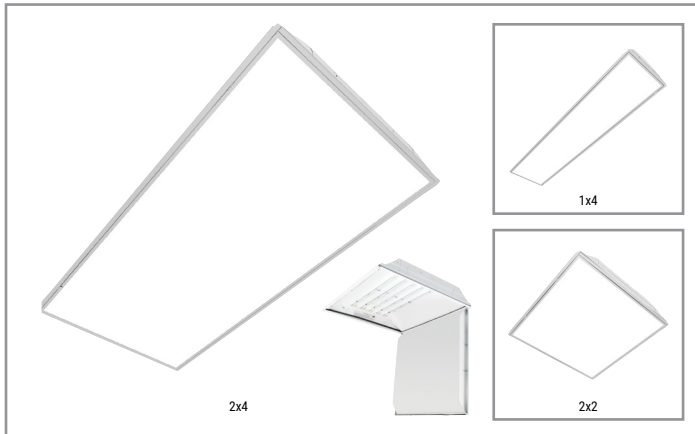| Project		Catalog #		Type	
Prepared by		Notes		Date	

Metalux

CGSB Panel

1x4 / 2x2 / 2x4
Service from Below LED Panel
Recessed, Surface, Suspended

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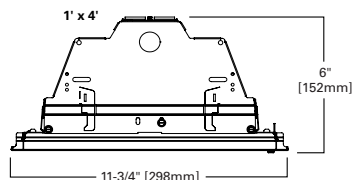• Retail Merchandising Areas

Interactive Menu

Product Certification

UL CERTIFIED • IC RATED • Efficiency Standards T24 Can be used to comply with California Title 24 Non-Residential • SYSTEMS CERTIFIED ISO

Product Features

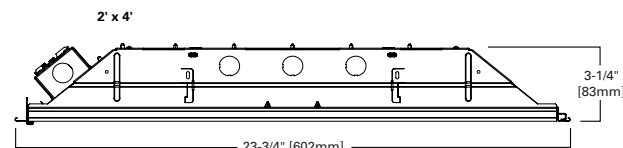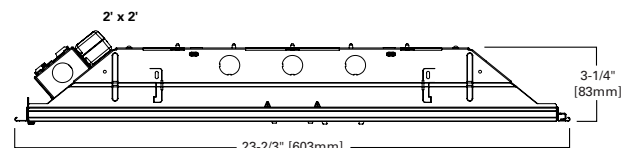WaveLinx LITE • WaveLinx PRO • damp location • BAA COMPLIANT BUILD AMERICA, BUY AMERICA ACT AVAILABLE

Top Product Features

• Available in 2' x 4', 2' x 2' and 1' x 4'
• Drivers and internal components are accessible from room side for ease of service after installation
• Integrated control and emergency options in all sizes
• Available in 3000K, 3500K, 4000K, and 5000K CCT, 80 and 90 CRI
• Standard 0-10V continuous dimming driver
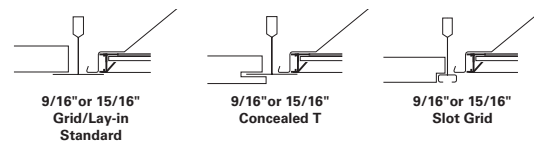• Options to meet Buy American and other domestic preference requirements

Dimensional and Mounting Details

1' x 4'
6" [152mm]
11-3/4" [298mm]

additional product diagrams

2' x 2'
3-1/4" [83mm]
23-2/3" [603mm]

2' x 4'
3-1/4" [83mm]
23-3/4" [602mm]

Ceiling Compatibility

9/16"or 15/16" Grid/Lay-in Standard

9/16"or 15/16" Concealed T

9/16"or 15/16" Slot Grid

Ceiling Mounting Choices

Application	Catalog	UPC	Description
Hard Ceiling Recessed	DF-14W	662401232949	1x4 Dry Wall Frame Kit
Hard Ceiling Recessed	DF-22W	662401232963	2x2 Dry Wall Frame Kit
Hard Ceiling Recessed	DF-24W	662401232970	2x4 Dry Wall Frame Kit
Surface Mount	SK-14-WT	080083906703	1x4 Surface Mount Kit, Tall
Surface Mount	SK-22-WT	080083719396	2x2 Surface Mount Kit, Tall
Surface Mount	SK-22-WS	080083719402	2x2 Surface Mount Kit, Shallow
Surface Mount	SK-24-WS	080083719389	2x4 Surface Mount Kit, Tall
Surface Mount	SK-24-WT	080083719372	2x4 Surface Mount Kit, Shallow

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Order Information

SAMPLE ORDER NUMBER: **24CGSB-40-EL14W-L840-WAA**

Domestic Preferences	Rating	Width/Length	Series	1x4 Lumen Output	2x2 Lumen Output	2x4 Lumen Output	Lens Options
Domestic Preferences [1]	**Rating**	**Width/Length**	**Series**	**1x4 Lumen Output** [3], [4]	**2x2 Lumen Output** [3], [5]	**2x4 Lumen Output** [3], [6]	**Lens Options**
[Blank]=Standard **BAA**=Buy American Act **TAA**=Trade Agreements Act	**[Blank]**=Standard **ATW-SW4**=Chicago Rated [2]	**14**=1' x 4' **22**=2' x 2' **24**=2' x 4'	**CGSB**=Service from Below Panel Series	**20**=2000 **25**=2500 **30**=3000 **35**=3500 **40**=4000 **45**=4500 **50**=5000 **55**=5500 **60**=6000 **70**=7000	**20**=2000 **25**=2500 **30**=3000 **35**=3500 **40**=4000 **45**=4500 **50**=5000 **55**=5500 **60**=6000 **70**=7000 **80**=8000	**30**=3000 **35**=3500 **40**=4000 **45**=4500 **50**=5000 **55**=5500 **60**=6000 **70**=7000 **80**=8000 **90**=9000	**[Blank]**=Smooth White Frosted Acrylic
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) Installed Flex not available with ATW-SW4 option.			**Notes** (3) Lumens are approximate. Refer to performance tables and IES files for actual delivered lumens and wattage. (4) Custom lumen output available: 2000 to 7000 lumens. (5) Custom lumen output available: 2000 to 8000 lumens. (6) Custom lumen output available: 3000 to 9000 lumens.			

Voltage	Fusing Options	Emergency	CCT / CRI	Flex
Voltage	**Fusing Options**	**Emergency**	**CCT / CRI**	**Flex** [12]
[Blank]=120-277V **347V**=347V [7]	**[Blank]**=Standard No Fuse **GL**=Single Element Fuse **GM**=Double Element Fuse	**[Blank]**=No Emergency **EL7W**=7-watt, 120V-277V emergency battery pack [8] **EL10W**=10-watt 120V-277V emergency battery pack [8] **EL14W**=14-watt 120V-277V emergency battery pack [8] **EL10WSD**=10-watt 120V-277V emergency battery pack installed, with self-diagnostics [8], [10] **EL14WSD**=14-watt 120V-277V emergency battery pack installed, with self-diagnostics [8], [10] **ETRD**=Emergency Transfer Relay with dimming control [9] **GTDU**=Bodine Emergency Transfer Relay with dimming control [9]	**L830**=3000K, 80 CRI **L835**=3500K, 80 CRI **L840**=4000K, 80 CRI **L850**=5000K, 80 CRI **L930**=3000K, 90 CRI **L935**=3500K, 90 CRI **L940**=4000K, 90 CRI **L950**=5000K, 90 CRI	**[Blank]**=No Flex **Dimming Flex** [11] **A3/8-4/18GDIM**=Flex, hot, neutral, ground, 2 dimming leads **A3/8-5/18GDIM**=Flex, 2 hots, neutral, ground, 2 dimming leads **Non-Dimming Flex** [11] **A3/8-2/18G**=Flex, hot, neutral, ground **A3/8-3/18G**=Flex, 2 hots, neutral, ground **A3/8-4/18G**=Flex, 3 hots, neutral, ground
Notes (7) 347 with emergency is not available with SD Driver.		**Notes** (8) Factory installed 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. Battery option increases total height by 1 inch. (9) Used to bypass local control during outage. Must be used in conjunction with UL 1008 device (provided by others). ETRD option only requires one relay when used on a dimming fixture. (10) EL10WSD and EL14WSD not available with 347V.		**Notes** (11) Fixture height increases to 3-3/4". (12) Multiple options available in online configurator. See additional notes on Flex below. **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.

Driver Type	Options	Integrated Sensor	Packaging	Accessories
Driver Type	**Options**	**Integrated Sensor** [13]	**Packaging**	**Accessories (order separately)** [14]
[Blank]=0-10V Driver (10%-100% Dimming) **HCD**=0-10V Driver (1%-100% Dimming) **5LTD**=DALI Driver (1%-100% Dimming) **SD**=Step Dimming Driver (50%,100% Dimming) **LH**=Lutron HiLume (LDE1 series) 1%-100% EcoSystem Driver with Soft-on Fade to Black dimming	**FA**=Flush White Extruded Aluminum Doorframe **PAF**=Painted After Fabrication	**[Blank]**=No Sensor **WLS (formerly WAB)**=WaveLinx LITE Wireless Sensor, Occupancy w/ photocell, Independent & Networked [B] **WPS (formerly WAA)**=WaveLinx PRO Wireless Sensor, Occupancy w/ photocell, Networked [A] **WLN**=WaveLinx LITE Wireless Control Node, without sensor [B] **WPN**=WaveLinx PRO Wireless Control Node, without sensor [A]	**[Blank]**=Unit Pack **PAL**=Job Pack, out of carton	**EQ-CLIP-U**=T-BAR Safety Earthquake Clips [15] **DF-14W-U**=1' x 4' Drywall Frame Kit **DF-22W-U**=2' x 2' Drywall Frame Kit **DF-24W-U**=2' x 4' Drywall Frame Kit **SK-14-WT**=1' x 4' Tall Surface Mount Kit **SK-22-WS**=2' x 2' Shallow Surface Mount Kit **SK-24-WS**=2' x 4' Shallow Surface Mount Kit
		Notes (13) 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) Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information. (15) An EQ Grid Clip is recommended for all 9/16" ceiling systems.

Product Specifications

Construction

- Rigid housing is die formed of code gauge prime cold rolled steel
- Flat white pre-paint steel door comes standard
- Full length die-formed stiffeners and unibody endplate for added strength
- Innovative design provides superior lens brightness, uniformity and visual comfort
- Unibody endplates are securely attached with interlocking tabs and screws
- Four auxiliary fixture end suspension points provided
- 1/2" Regressed extruded aluminum door

Controls

- 0-10V dimming to 10% standard, 1% dimming available
- 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

Electrical

- TM21 life at 60,000 hours up to L86 and calculated L70 exceeds 120,000 hrs
- Driver rated for FCC part 15 Class B for use in residential or commercial applications
- LED's available in 3000K, 3500K, 4000K, or 5000K at 80 CRI or 90 CRI minimum
- Color accuracy ≤3-Step MacAdam ellipse (SDCM)
- Integral emergency battery pack options available in 7W, 10W, and 14W. Test switch located on fixture lens band. Self-diagnostic options available
- Emergency/generator transfer options available

Optical Shielding

- Micro-optics enable uniform distribution of the LEDs for uniform lens illumination
- Acrylic frosted smooth lens provides uniform illumination across the entire lens
- Durable lens with surface texture to minimize scratch and impact damage

Installation

- Drivers and internal components are accessible from floor. LED boards include plug-in connectors for easy replacement or servicing

Compliance

- cULus listed for 25°C ambient environments, indoor applications
- IC rated for direct insulation contact
- Tested to IESNA LM-79 and LM-80
- Stated life per TM21 standards
- Suitable for State of California Title 24 high efficacy luminaire
- FCC part 15 class B (residential) compliant

Warranty

- Five year limited warranty

Energy and Performance Data

Electrical Performance - CGSB (3500K, 80 CRI)

Size	Lumen Pkg	Delivered Lumens	Input Watts	Efficacy lm/W	UGR
1x4	2000	2070	22.5	91.99	18.8
	2500	2686	28.6	93.91	19.7
	3000	3098	32.7	94.74	20.2
	3500	3696	39	94.78	20.9
	4000	4246	44.2	96.06	21.3
	4500	4733	49.5	95.61	21.7
	5000	5114	58.2	87.87	22.0
	5500	5800	66.6	87.09	22.4
	6000	6386	68.3	93.51	22.7
	7000	6937	74.8	92.74	23.0
2x2	2000	2329	16.9	137.80	18
	2500	2891	20.4	141.70	18.8
	3000	3507	24.9	140.80	19.4
	3500	4063	29.2	139.10	19.9
	4000	4648	33.8	137.50	20.4
	4500	5251	38.2	137.50	20.8
	5000	5783	42.5	136.10	21.2
	5500	6361	46.2	137.70	21.5
	6000	6955	53.6	129.80	21.8
	7000	8121	63	128.90	22.4
	8000	9278	72.6	127.80	22.8
2x4	3000	3239	24.38	132.87	16.3
	3500	3660	27.48	133.17	16.7
	4000	4283	32.13	133.29	17.3
	4500	4672	35.45	131.79	17.6
	5000	5140	39.89	128.85	17.9
	5500	5918	45.43	130.27	18.4
	6000	6463	50.97	126.80	18.7
	7000	6930	54.29	127.64	18.9
	8000	8332	66.92	124.50	19.6
	9000	9344	74.9	124.76	20.0

Lumen Adjustment Factors 2x2

Size	CCT Multiplier	80 CRI	90 CRI
1x4	3000K	0.99	0.83
	3500K	1.00	0.85
	4000K	1.03	0.87
	5000K	1.05	0.89
2x2	2700K	0.90	0.76
	3000K	0.95	0.83
	3500K	1.00	0.84
	4000K	1.01	0.85
	5000K	1.02	0.89
2 X 4	3000K	0.99	0.83
	3500K	1.00	0.85
	4000K	1.03	0.87
	5000K	1.05	0.89

Shipping Data

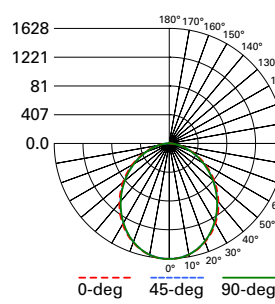| Catalog No.	Wt.	Pallet
14CGSB	10 lbs.	24
22CGSB	10 lbs.	56
24CGSB	20 lbs.	28

Photometric Data
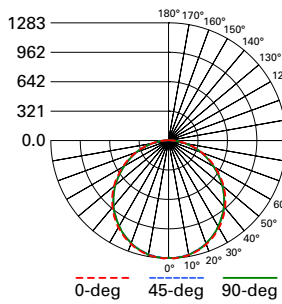
14CGSB-35-L835
Electronic Driver
LED 3500K
Spacing criterion: (II) 1.27 x mounting height, (⊥) 1.25 x mounting height
Lumens: 3696.4
Input Watts: 39W
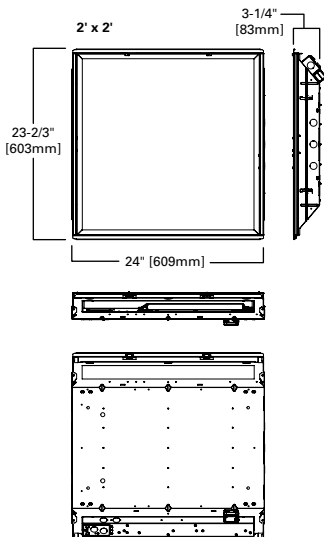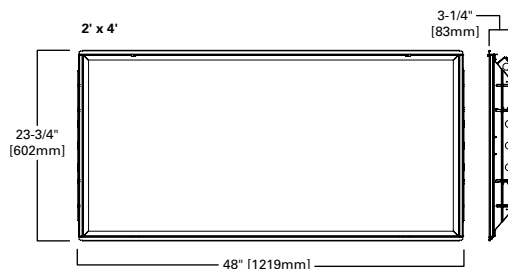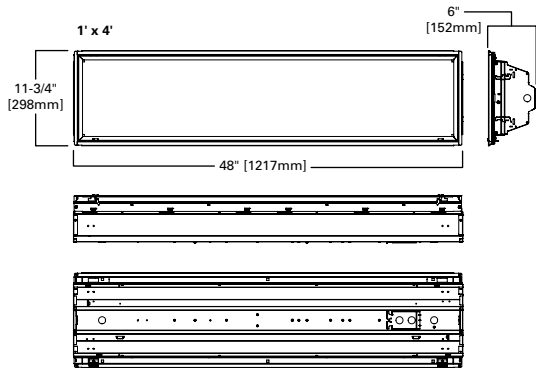Efficacy: 94.8 LPW
Test Report: 14CGSB-35-L835.IES

| 1283 | 962 | 642 | 321 | 0.0 |

0-deg   45-deg   90-deg

22CGSB-35-L835
Electronic Driver
LED 3500K
Spacing criterion: (II) 1.2 x mounting height, (⊥) 1.18 x mounting height
Lumens: 4063
Input Watts: 29.2W
Efficacy: 139.1 LPW
Test Report: 22CGSB-35-L835.IES

| 1628 | 1221 | 81 | 407 | 0.0 |

0-deg   45-deg   90-deg
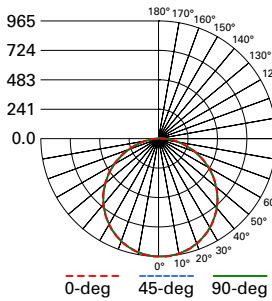
24CGSB-45-L835
Electronic Driver
LED 3500K
Spacing criterion: (II) 1.27 x mounting height, (⊥) 1.27 x mounting height
Lumens: 2847.5
Input Watts: 35.4W
Efficacy: 80.4 LPW
Test Report: 24CGSB-45-L835.IES

| 965 | 724 | 483 | 241 | 0.0 |

0-deg   45-deg   90-deg

Dimensional and Mounting Details

1' x 4'
11-3/4" [298mm]
48" [1217mm]
6" [152mm]

2' x 4'
23-3/4" [602mm]
48" [1219mm]
3-1/4" [83mm]
27-3/4" [707mm]

2' x 2'
23-2/3" [603mm]
24" [609mm]
3-1/4" [83mm]

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

Control Solutions

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

**WaveLinx Digital Lighting 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.

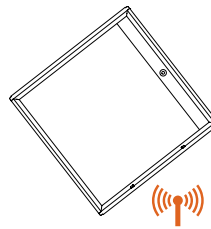### Integrated Sensor Coverage Pattern

TOP VIEW:

SIDE VIEW:

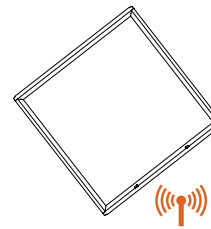**With Integrated WaveLinx Sensor**

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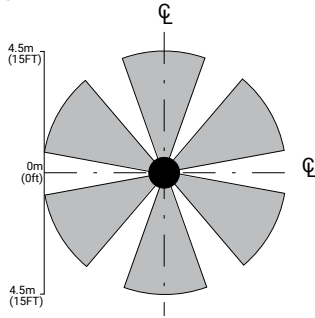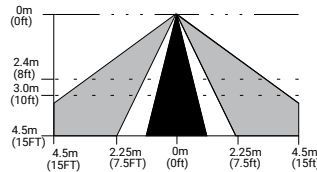
Note: Installation of integrated sensors within 3-ft (1m) of HVAC air vents is not recommended. The pattern shown is intended solely as a general guide and is not to scale.

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

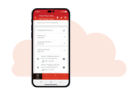| Option	Out of the Box Functionality	Luminaire Level Lighting Control (LLLC)	Automatic Dimming Photocell	Occupancy Sensing	CCT Control
WLS	X	X	X	X	
WLN		X			
WPS		X	X	X	X
WPN		X			X

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