

Project		Catalog #		Type	
Prepared by		Notes		Date	



Metalux

Cruze SB 24CZ

2' x 4' LED Specification Grade Troffer

Typical Applications

Office • Education • Healthcare • Hospitality • Retail

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Top Product Features

- Matte white door provides access to drivers and LED from below
- Lens options - ribbed, smooth, round & square perforated
- High performance efficacy up to 157 lumens per watt
- Integrated sensor systems - occupancy, daylight and IoT connectivity
- VividTune CCT tuning options from 3000K–5000K or 2700K-6500K
- Options to meet Buy American and other domestic preference requirements

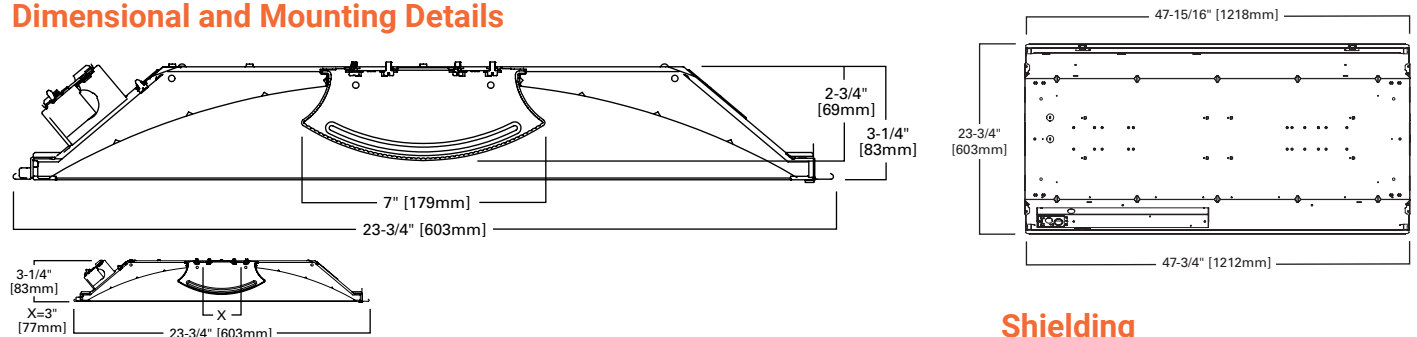
Product Certification



Product Features



Dimensional and Mounting Details



Ceiling Compatibility

G	G	G	Ceiling Type	Trim Type
Grid/Lay-in Standard	Concealed T	Slot Grid	Exposed Grid	Standard
			Concealed T	Standard
			Slot Grid	Standard
			Flange	*

Shielding

2' wide versions shown for detail.



See ordering information for more shielding options.

Order Information

SAMPLE ORDER NUMBER: **24CZ-LD5-45-UNV-L835-CD1-U**

Domestic Preferences	Rating	Series	Door Frame	Lamp Type	Lumen Output	Shielding	Voltage
Domestic Preferences ⁽¹⁾	Rating	Series ⁽²⁾	Door Frame	Lamp Type	Lumen Output	Shielding	Voltage ⁽⁵⁾
[Blank]=Standard BAA=Buy American Act TAA=Trade Agreements Act	[Blank]=Standard ATW-SW4=Chicago Rated	24CZ=2x4 Cruze SB	[Blank]=Flat White Steel Door (standard)	LD5=LED 5.0	Cruze SB 30=3000 Lumens ⁽⁹⁾ 35=3500 Lumens 40=4000 Lumens 45=4500 Lumens 50=5000 Lumens 55=5500 Lumens 60=6000 Lumens 65=6500 Lumens 70=7000 Lumens ⁽⁹⁾ 75=7500 Lumens ⁽⁹⁾ Standard Efficacy 30SE=3000 Lumens 35SE=3500 Lumens 40SE=4000 Lumens 45SE=4500 Lumens 50SE=5000 Lumens 55SE=5500 Lumens ⁽⁴⁾ 60SE=6000 Lumens ⁽⁴⁾ 65SE=6500 Lumens ^{(3),(4)}	[Blank]=Ribbed Frosted Acrylic Lens (standard) S=Smooth Frosted Acrylic Lens SQP=Smooth Lens with Square Pattern Insert HRP=High-Efficiency Round Perf Inlay	UNV=Universal Voltage 120-277 347V=347 Volt ⁽⁶⁾ 48V=48 Volt Low-voltage (Class 2) ⁽⁶⁾ 120V=120 Volt ⁽⁷⁾ 277V=277 Volt ⁽⁷⁾
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. (4) White tuning not available with this model.		Notes (5) Products also available in non-US voltages and frequencies for international markets. (6) 347V versions are not available with emergency options. SD, SLTD, and SR drivers with 347V are available but not DLC qualified. (7) 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.

Options	Emergency Options	CRI/CCT	Flex
Options	Emergency Options	CRI/CCT	Flex
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=10W emergency battery pack with self-diagnostic installed ^{(8),(21)} EL14WSD=14W emergency battery pack with self-diagnostic installed ^{(8),(21)} 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 ^{(9),(10)} ETRD=Emergency Transfer Relay with dimming control ⁽⁹⁾	L830=80CRI, 3000K L835=80CRI, 3500K L840=80CRI, 4000K L850=80CRI, 5000K L930=90CRI, 3000K L935=90CRI, 3500K L940=90CRI, 4000K L950=90CRI, 5000K L83050=80CRI 3000K-5000K White Tuning ⁽¹¹⁾ L93050=90CRI 3000K-5000K White Tuning ⁽¹¹⁾ L82765=80CRI 2700K-6500K White Tuning ⁽¹¹⁾ L92765=90CRI 2700K-6500K White Tuning ⁽¹¹⁾	[Blank]=No Flex A3/8-4/18GDIM=3/8" Flex with 0-10V Dimming Leads A3/8-2/18G=3/8" Flex with line and common A3/8-5/18GDIM=Flex with 0-10V Dimming leads and Blue for alternate wiring. See below for details.
	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). GTR2 option includes 2 relays on fixtures with dimming drivers. ETRD option only requires one relay when used on a dimming fixture. (10) Must specify voltage as 120V or 277V when ordering GTR2 option. (21) EL10WSD and EL14WSD not available with 347V. (C) Consult WaveLinX Low-Voltage or DLVP system pages for additional details and compatibility.	Notes (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. May be combined with WaveLinX sensor control systems only.	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. See online configurator for all flex options. 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-308); 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).

Driver Type	No. of Drivers	Integrated Sensing Systems	Sensor Accessories	Packaging	Accessories
Driver Type	No. of Drivers	Integrated Sensing Systems	Sensor Accessories	Packaging	Accessories (order separately) ⁽²⁰⁾
CD=0-10V Driver (1%-100% Dimming) SLTD=DALI Driver (5%-100% Dimming) SLTHD=DALI Driver (1%-100% Dimming) LV=Low-voltage System Driver (0%-100% Dimming) ^(C) SD=Step Dimming Driver (50%-100% Dimming) ⁽¹²⁾ LH=Lutron HiLume (LDE1 series) 1%-100% EcoSystem Driver with Soft-on Fade to Black dimming ^(F) W2A=White Tuning, 2 ch, Analog 0-10V Intensity and CCT Control ⁽¹³⁾ SR=Sensor-ready Driver (1%-100% Dimming)	1=1 Driver 2=2 Drivers	WAA=WaveLinX PRO Wireless Integrated Sensor ^{(14),(A)} WPN=WaveLinX PRO Wireless Node without Sensor ^{(14),(A)} WAB=WaveLinX LITE Wireless Integrated Sensor ^{(15),(B)} WLA=Low-voltage Integrated Sensor ^{(16),(C)}	DV=Dual Band ⁽¹⁸⁾	U=Unit Pack PAL=Job Pack, out of carton PALC=Job Pack, in carton	EQ-CLIP-U=T-BAR Safety Earthquake Clips ⁽¹⁹⁾ DF-24W-U=2' x 4' Drywall Frame Kit SK-24-W=2' x 4' Shallow Surface Mount Kit SK-24-WT=2' x 4' Tall Surface Mount Kit
Notes (12) Step dim (SD) driver option is not available with 3000, 3500, 4000, 7000 and 7500 lumen packages and 3000SE, 3500SE, 6000SE and 6500SE versions. (13) 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. May be combined with WaveLinX sensor control systems only. 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 (14) WAA sensor and WPN node to be used with CD or W2A driver. Consult factory for WPN with tunable white W2A driver. (15) WAB sensor to be used with CD and HCD driver. (16) 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 PRO 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.	Notes (18) Provides blank band on opposite side from sensor band to provide symmetric appearance.		Notes (19) An EQ Grid Clip is recommended for all 9/16" ceiling systems. Four required per fixture. (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.

Product Specifications

Construction

- Die formed of code gauge prime cold rolled steel with full length die-formed stiffeners
- Unibody endplates attached with interlocking tabs and screws
- Hemmed side flanges
- Four auxiliary fixture end suspension points provided
- Optional earthquake clips available

Integrated Controls

- 0-10V dimming to 1% standard
- WaveLinx wireless sensor compatible for standalone, controlled, connected, and IoT capability
- 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

- Long-life LED systems coupled with electrical driver
- Color accuracy ≤ 3 -Step MacAdam ellipse (SDCM)
- Available in 3000K, 3500K, 4000K, or 5000K with a minimum CRI of 80
- L70 is more than 60,000 hours based on TM21 testing standards
- Available in 120-277V and 347V

Emergency Battery Options

- 120V-277V integral emergency battery pack comes in 7-watts, 10-watt, or 14-watts
- Self-diagnostic emergency battery available in 10 or 14-watts (NFPA 101® Life Safety Code®)
- Constant power to the LED system for controlled, predictable discharge
- Integrated test switch/indicator light visible from floor
- Min. 90-minute backup period for code compliance
- Integral emergency transfer relay available for generator equipped power systems

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 from below

Frame/Shielding

- Die formed, heavy gauge flat steel door
- Mitered corners and painted after fabrication
- Baked matte white enamel finish
- Positive light seals
- Acrylic frosted lens
- Replacement lenses available, contact factory

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
- Options to meet Buy American and other domestic preference requirements

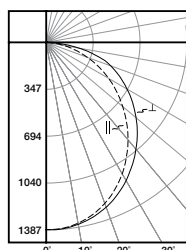
Warranty

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

Finish

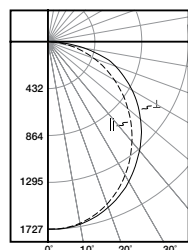
- Multistage, iron phosphate pretreatment
- Housing finished with 90% white enamel

Photometric Data

[View IES files](#)


24CZ-LD5-40-UNV-L835-CD1-U

Electronic Driver
Linear LED 3500K
Spacing criterion: (II) 1.2 x mounting height,
(L) 1.26 x mounting height
Lumens: 3964
Input Watts: 29W
Efficacy: 136.7 LPW
Test Report: 24CZ-LD5-40-UNV-L835-CD1-U.IES



24CZ-LD5-50-UNV-L835-CD1-U

Electronic Driver
Linear LED 3500K
Spacing criterion: (II) 1.2 x mounting height,
(L) 1.26 x mounting height
Lumens: 4988
Input Watts: 40.6W
Efficacy: 122.9 LPW
Test Report: 24CZ-LD5-50-UNV-L835-CD1-U.IES

Energy and Performance Data

Lumen Maintenance

Ambient Temperature	TM-21 Lumen Maintenance (60,000 hours) ⁽²⁾	Theoretical L70 (Hours) ⁽³⁾
25°C	> 85%	> 135,000

Notes: (2) Supported by IES TM-21 standards. (3) 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.

Shielding

Lumen Adjustment Factors		
S	SQP	HRP
1.05	0.673	0.849

Load Data (Stock Product)

Thd	12.9%
Power Factor	0.97
Weight (lbs.)	20.5
Low Temp. Start	-20°C

Shipping Data

Catalog No.	Wt.
24CZ-LD5-45	20.5 lbs.
24CZ-LD5-55	20.5 lbs.

90 CRI

Lumen Adjustment Factors 80->90 CRI	
3000K	0.88
3500K	0.861
4000K	0.865
5000K	0.87

Example of Lumen Adjustment Calculation

24CZ-LD5-40-UNV-L835-CD1-U
at 90CRI at 3500K

Lumen Adjustment Factor = 0.861

Total Light Output =
3,964 lm x 0.861 = 3,413 lm

Efficacy = $\frac{3,413 \text{ lm}}{29.4 \text{ W}}$ = 117.6 lm/W

Energy and Performance Data

Catalog Logic (Ribbed Lens)	Delivered Lumens	Watts	Efficacy (lm/W)
24CZ-LD5-30-UNV-L830-CD1-U	2830	22.3	127
24CZ-LD5-30-UNV-L835-CD1-U	2932	22.3	131
24CZ-LD5-30-UNV-L840-CD1-U	2987	22.3	134
24CZ-LD5-30-UNV-L850-CD1-U	2989	22.3	134
24CZ-LD5-35-UNV-L830-CD1-U	3365	27	125
24CZ-LD5-35-UNV-L835-CD1-U	3486	27	129
24CZ-LD5-35-UNV-L840-CD1-U	3551	27	132
24CZ-LD5-35-UNV-L850-CD1-U	3553	27	132
24CZ-LD5-40-UNV-L830-CD1-U	3783	30.7	123
24CZ-LD5-40-UNV-L835-CD1-U	3920	30.7	128
24CZ-LD5-40-UNV-L840-CD1-U	3993	30.7	130
24CZ-LD5-40-UNV-L850-CD1-U	3995	30.7	130
24CZ-LD5-45-UNV-L830-CD1-U	4303	35.3	122
24CZ-LD5-45-UNV-L835-CD1-U	4458	35.3	126
24CZ-LD5-45-UNV-L840-CD1-U	4541	35.3	129
24CZ-LD5-45-UNV-L850-CD1-U	4543	35.3	129
24CZ-LD5-50-UNV-L830-CD1-U	4715	38.6	122
24CZ-LD5-50-UNV-L835-CD1-U	4885	38.6	127
24CZ-LD5-50-UNV-L840-CD1-U	4976	38.6	129
24CZ-LD5-50-UNV-L850-CD1-U	4979	38.6	129
24CZ-LD5-55-UNV-L830-CD1-U	5225	43.5	120
24CZ-LD5-55-UNV-L835-CD1-U	5413	43.5	124
24CZ-LD5-55-UNV-L840-CD1-U	5514	43.5	127
24CZ-LD5-55-UNV-L850-CD1-U	5517	43.5	127
24CZ-LD5-60-UNV-L830-CD1-U	5645	44.1	128
24CZ-LD5-60-UNV-L835-CD1-U	5848	44.1	133
24CZ-LD5-60-UNV-L840-CD1-U	5957	44.1	135
24CZ-LD5-60-UNV-L850-CD1-U	5960	44.1	135
24CZ-LD5-65-UNV-L830-CD1-U	6188	48.9	127
24CZ-LD5-65-UNV-L835-CD1-U	6411	48.9	131
24CZ-LD5-65-UNV-L840-CD1-U	6531	48.9	134
24CZ-LD5-65-UNV-L850-CD1-U	6534	48.9	134
24CZ-LD5-70-UNV-L830-CD1-U	6590	49.3	134
24CZ-LD5-70-UNV-L835-CD1-U	6828	49.3	138
24CZ-LD5-70-UNV-L840-CD1-U	6955	49.3	141
24CZ-LD5-70-UNV-L850-CD1-U	6959	49.3	141
24CZ-LD5-75-UNV-L830-CD1-U	7110	55.4	128
24CZ-LD5-75-UNV-L835-CD1-U	7367	55.4	133
24CZ-LD5-75-UNV-L840-CD1-U	7504	55.4	135
24CZ-LD5-75-UNV-L850-CD1-U	7508	55.4	136

Standard Efficacy Versions

Catalog Logic (Ribbed Lens)	Delivered Lumens	Watts	Efficacy (lm/W)
24CZ-LD5-30SE-UNV-L830-CD1-U	2765	22.4	123
24CZ-LD5-30SE-UNV-L835-CD1-U	2864	22.4	128
24CZ-LD5-30SE-UNV-L840-CD1-U	2918	22.4	130
24CZ-LD5-30SE-UNV-L850-CD1-U	2919	22.4	130
24CZ-LD5-35SE-UNV-L830-CD1-U	3317	27.3	122
24CZ-LD5-35SE-UNV-L835-CD1-U	3437	27.3	126
24CZ-LD5-35SE-UNV-L840-CD1-U	3501	27.3	128
24CZ-LD5-35SE-UNV-L850-CD1-U	3503	27.3	128
24CZ-LD5-40SE-UNV-L830-CD1-U	3815	30.4	125
24CZ-LD5-40SE-UNV-L835-CD1-U	3953	30.4	130
24CZ-LD5-40SE-UNV-L840-CD1-U	4026	30.4	132
24CZ-LD5-40SE-UNV-L850-CD1-U	4028	30.4	133
24CZ-LD5-45SE-UNV-L830-CD1-U	4202	35	120
24CZ-LD5-45SE-UNV-L835-CD1-U	4354	35	124
24CZ-LD5-45SE-UNV-L840-CD1-U	4435	35	127
24CZ-LD5-45SE-UNV-L850-CD1-U	4437	35	127
24CZ-LD5-50SE-UNV-L830-CD1-U	4866	39.6	123
24CZ-LD5-50SE-UNV-L835-CD1-U	5041	39.6	127
24CZ-LD5-50SE-UNV-L840-CD1-U	5135	39.6	130
24CZ-LD5-50SE-UNV-L850-CD1-U	5138	39.6	130
24CZ-LD5-55SE-UNV-L830-CD1-U	5087	41.1	124
24CZ-LD5-55SE-UNV-L835-CD1-U	5270	41.1	128
24CZ-LD5-55SE-UNV-L840-CD1-U	5368	41.1	131
24CZ-LD5-55SE-UNV-L850-CD1-U	5371	41.1	131
24CZ-LD5-60SE-UNV-L830-CD1-U	5529	46.3	119
24CZ-LD5-60SE-UNV-L835-CD1-U	5729	46.3	124
24CZ-LD5-60SE-UNV-L840-CD1-U	5835	46.3	126
24CZ-LD5-60SE-UNV-L850-CD1-U	5838	46.3	126
24CZ-LD5-65SE-UNV-L830-CD1-U	6027	50.1	120
24CZ-LD5-65SE-UNV-L835-CD1-U	6244	50.1	125
24CZ-LD5-65SE-UNV-L840-CD1-U	6360	50.1	127
24CZ-LD5-65SE-UNV-L850-CD1-U	6364	50.1	127

Energy and Performance Data

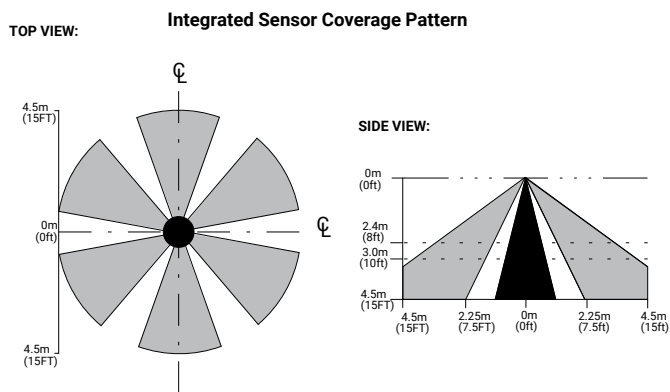
Catalog Logic (Smooth Lens)	Delivered Lumens	Watts	Efficacy (lm/W)
24CZ-LD5-30-S-UNV-L830-CD1-U	2972	22.3	133
24CZ-LD5-30-S-UNV-L835-CD1-U	3079	22.3	138
24CZ-LD5-30-S-UNV-L840-CD1-U	3136	22.3	141
24CZ-LD5-30-S-UNV-L850-CD1-U	3138	22.3	141
24CZ-LD5-35-S-UNV-L830-CD1-U	3533	27	131
24CZ-LD5-35-S-UNV-L835-CD1-U	3660	27	136
24CZ-LD5-35-S-UNV-L840-CD1-U	3728	27	138
24CZ-LD5-35-S-UNV-L850-CD1-U	3730	27	138
24CZ-LD5-40-S-UNV-L830-CD1-U	3973	30.7	129
24CZ-LD5-40-S-UNV-L835-CD1-U	4116	30.7	134
24CZ-LD5-40-S-UNV-L840-CD1-U	4192	30.7	137
24CZ-LD5-40-S-UNV-L850-CD1-U	4195	30.7	137
24CZ-LD5-45-S-UNV-L830-CD1-U	4518	35.3	128
24CZ-LD5-45-S-UNV-L835-CD1-U	4681	35.3	133
24CZ-LD5-45-S-UNV-L840-CD1-U	4768	35.3	135
24CZ-LD5-45-S-UNV-L850-CD1-U	4771	35.3	135
24CZ-LD5-50-S-UNV-L830-CD1-U	4951	38.6	128
24CZ-LD5-50-S-UNV-L835-CD1-U	5129	38.6	133
24CZ-LD5-50-S-UNV-L840-CD1-U	5225	38.6	135
24CZ-LD5-50-S-UNV-L850-CD1-U	5228	38.6	135
24CZ-LD5-55-S-UNV-L830-CD1-U	5486	43.5	126
24CZ-LD5-55-S-UNV-L835-CD1-U	5684	43.5	131
24CZ-LD5-55-S-UNV-L840-CD1-U	5790	43.5	133
24CZ-LD5-55-S-UNV-L850-CD1-U	5793	43.5	133
24CZ-LD5-60-S-UNV-L830-CD1-U	5927	44.1	134
24CZ-LD5-60-S-UNV-L835-CD1-U	6141	44.1	139
24CZ-LD5-60-S-UNV-L840-CD1-U	6255	44.1	142
24CZ-LD5-60-S-UNV-L850-CD1-U	6258	44.1	142
24CZ-LD5-65-S-UNV-L830-CD1-U	6498	48.9	133
24CZ-LD5-65-S-UNV-L835-CD1-U	6732	48.9	138
24CZ-LD5-65-S-UNV-L840-CD1-U	6857	48.9	140
24CZ-LD5-65-S-UNV-L850-CD1-U	6861	48.9	140
24CZ-LD5-70-S-UNV-L830-CD1-U	6920	49.3	140
24CZ-LD5-70-S-UNV-L835-CD1-U	7169	49.3	145
24CZ-LD5-70-S-UNV-L840-CD1-U	7303	49.3	148
24CZ-LD5-70-S-UNV-L850-CD1-U	7307	49.3	148
24CZ-LD5-75-S-UNV-L830-CD1-U	7466	55.4	135
24CZ-LD5-75-S-UNV-L835-CD1-U	7735	55.4	140
24CZ-LD5-75-S-UNV-L840-CD1-U	7879	55.4	142
24CZ-LD5-75-S-UNV-L850-CD1-U	7883	55.4	142

Standard Efficacy Versions

Catalog Logic (Smooth Lens)	Delivered Lumens	Watts	Efficacy (lm/W)
24CZ-LD5-30SE-S-UNV-L830-CD1-U	2903	22.4	130
24CZ-LD5-30SE-S-UNV-L835-CD1-U	3008	22.4	134
24CZ-LD5-30SE-S-UNV-L840-CD1-U	3063	22.4	137
24CZ-LD5-30SE-S-UNV-L850-CD1-U	3065	22.4	137
24CZ-LD5-35SE-S-UNV-L830-CD1-U	3483	27.3	128
24CZ-LD5-35SE-S-UNV-L835-CD1-U	3609	27.3	132
24CZ-LD5-35SE-S-UNV-L840-CD1-U	3676	27.3	135
24CZ-LD5-35SE-S-UNV-L850-CD1-U	3678	27.3	135
24CZ-LD5-40SE-S-UNV-L830-CD1-U	4006	30.4	132
24CZ-LD5-40SE-S-UNV-L835-CD1-U	4150	30.4	137
24CZ-LD5-40SE-S-UNV-L840-CD1-U	4228	30.4	139
24CZ-LD5-40SE-S-UNV-L850-CD1-U	4230	30.4	139
24CZ-LD5-45SE-S-UNV-L830-CD1-U	4412	35	126
24CZ-LD5-45SE-S-UNV-L835-CD1-U	4571	35	131
24CZ-LD5-45SE-S-UNV-L840-CD1-U	4656	35	133
24CZ-LD5-45SE-S-UNV-L850-CD1-U	4659	35	133
24CZ-LD5-50SE-S-UNV-L830-CD1-U	5109	39.6	129
24CZ-LD5-50SE-S-UNV-L835-CD1-U	5293	39.6	134
24CZ-LD5-50SE-S-UNV-L840-CD1-U	5392	39.6	136
24CZ-LD5-50SE-S-UNV-L850-CD1-U	5395	39.6	136
24CZ-LD5-55SE-S-UNV-L830-CD1-U	5341	41.1	130
24CZ-LD5-55SE-S-UNV-L835-CD1-U	5534	41.1	135
24CZ-LD5-55SE-S-UNV-L840-CD1-U	5637	41.1	137
24CZ-LD5-55SE-S-UNV-L850-CD1-U	5640	41.1	137
24CZ-LD5-60SE-S-UNV-L830-CD1-U	5806	46.3	125
24CZ-LD5-60SE-S-UNV-L835-CD1-U	6015	46.3	130
24CZ-LD5-60SE-S-UNV-L840-CD1-U	6127	46.3	132
24CZ-LD5-60SE-S-UNV-L850-CD1-U	6130	46.3	132
24CZ-LD5-65SE-S-UNV-L830-CD1-U	6328	50.1	126
24CZ-LD5-65SE-S-UNV-L835-CD1-U	6556	50.1	131
24CZ-LD5-65SE-S-UNV-L840-CD1-U	6678	50.1	133
24CZ-LD5-65SE-S-UNV-L850-CD1-U	6682	50.1	133

Control Systems

- WaveLinX PRO Wireless
- WaveLinX LITE Wireless
- WaveLinX Wired



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.

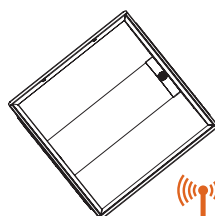
The Cruze SB with WaveLinX offers no-hassle lighting control with multiple luminaire level control solutions.

WaveLinX PRO is used for applications where spaces need to be connected to a lighting or building management system and to help building owners improve their operations, building environment, and tenants' experience by leveraging the data generated by the sensors. The WaveLinX PRO devices communicate with each other via the WaveLinX Area Controller which coordinates the data traffic between the devices, lighting apps and CORE platform. The WaveLinX Area Controller also hosts the time clock required if spaces need to be turned on/off at a specific time.

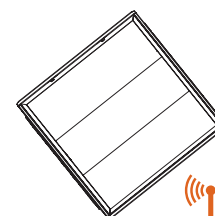
The WaveLinX PRO Sensor offers built-in occupancy and daylighting controls as well as luminaire level control including white tuning while the WaveLinX PRO Node offers luminaire level control and white tuning. If opting for the WaveLinX PRO Node option, a PRO Ceiling Sensor will most likely be needed within the space to control the lights based on occupancy and daylight levels.

WaveLinX LITE is used for single spaces where there is no need to manage the spaces remotely or exchange the sensor data with other sub-systems within the building or smart applications.

The WaveLinX LITE Sensor offers built-in occupancy and daylighting controls as well as luminaire level control.



With Integrated WaveLinX Sensor



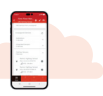
With Integrated WaveLinX Node

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
WaveLinX CORE

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 Mobile App	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

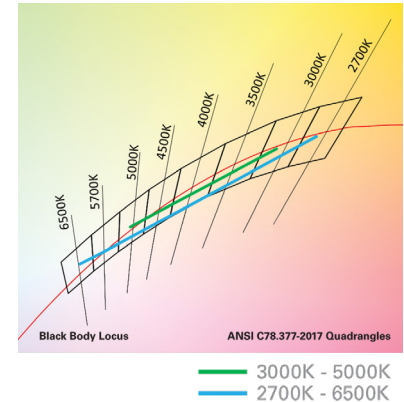
SCALABILITY





24 Cruze SB 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.



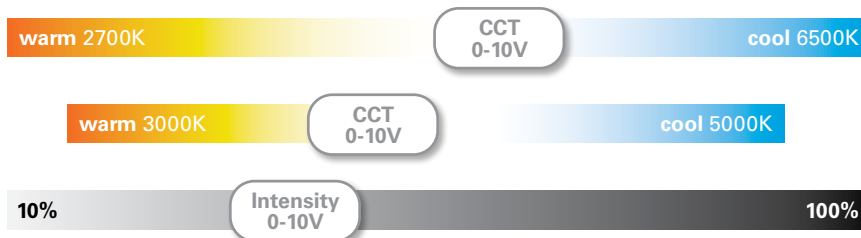
Performance Data*

Tunable White - Lumen Adjustment Factors				
CCT	3000K-5000K		2700K-6500K	
	80 CRI	90 CRI	80 CRI	90 CRI
2700K	-	-	0.943	0.805
3000K	0.971	0.799	0.969	0.837
3500K	1.027	0.873	1.003	0.879
4000K	1.078	0.943	1.025	0.907
4500K	1.089	0.959	1.043	0.930
5000K	1.089	0.959	1.058	0.949
6500K	-	-	1.073	0.975

2' x 4' Cruze SB LED - Example of Approximate Lumen Calculation			
	Standard Catalog #	VividTune 80 CRI Catalog #	VividTune 90 CRI Catalog #
CCT Setting	24CZ-LD5-40-UNV-L835-CD1-U	24CZ-LD5-40-UNV-L83050-W2A1-U	24CZ-LD5-40-UNV-L93050-W2A1-U
3000K	-	3849	3169
3500K	3964	4073	3462
4000K	-	4277	3739
4500K	-	4317	3804
5000K	-	4317	3804

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

24CZ-LD5-40-UNV-L83050-W2A1-U
at 80 CRI tuned to 3500K

*Adjusted Lumen =
published lm x adjusted lm factor*

Adjusted Lumen = 3964 x 1.027

Adjusted Lumen = 4073 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.*