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

Metalux

Cruze SB 14CZ

1' x 4' LED Specification Grade Troffer

Typical Applications

Office • Education • Healthcare • Hospitality • Retail

Interactive Menu

Product Certification

Product Features

Connected Systems · Bluetooth · damp location · VividTune

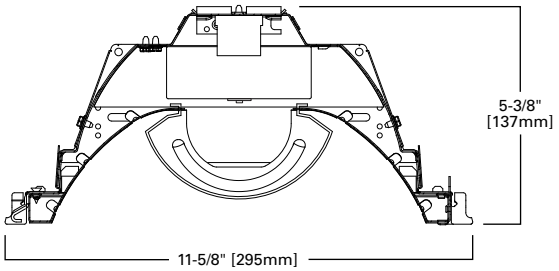
LINEAR DISCONNECT — Safe and convenient means of disconnecting power

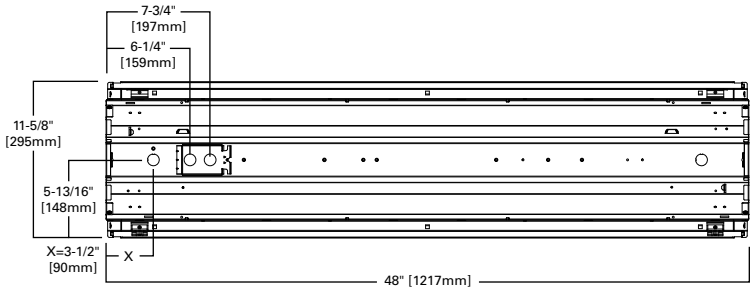
MWS MODULAR WIRING SYSTEM — CLICK HERE

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

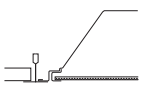
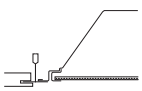
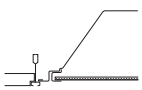
Dimensional and Mounting Details





NOTE: 1' x 4' allows for row mounting

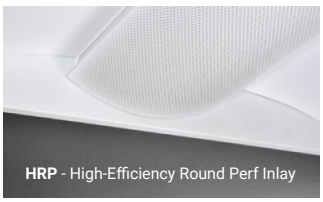
Ceiling Compatibility

G Grid/Lay-in Standard	G Concealed T	G Slot Grid
		

Ceiling Type	Trim Type
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: **14CZ-LD5-35-UNV-L835-CD1-U**

Domestic Preferences	Rating	Series	Door Frame	Lamp Type	MTO Lumen Outputs	Shielding	Voltage	Options
[Blank]=Standard **BAA**=Buy American Act **TAA**=Trade Agreements Act	**[Blank]**=Standard **ATW-SW4**=Chicago Rated	**14CZ**=1x4 Cruze SB	**[Blank]**=Flat White Steel Door (standard)	**LD5**=LED 5.0	**20**=2000 Lumens (4) **25**=2500 Lumens (4) **29**=2900 Lumens **35**=3500 Lumens **39**=3900 Lumens **44**=4400 Lumens	**[Blank]**=Ribbed Frosted Acrylic Lens (standard) **S**=Smooth Frosted Acrylic Lens **SQP**=Smooth Lens with Square Pattern Insert **RDP**=Smooth Lens with Round Pattern Insert **HRP**=High-Efficiency Round Perf Inlay	**UNV**=Universal Voltage 120-277 **347V**=347 Volt (6) **48V**=48 Volt Low-voltage (Class 2) (C) **120V**=120 Volt **277V**=277 Volt	**GL**=Single Element Fuse **GM**=Double Element Fuse
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 DLC Standard, refer to www.designlights.org for details			**Notes** (3) Made-to-order (MTO) requires a typical three week leadtime. (4) Not compatible with WN driver.		**Notes** (5) Products also available in non-US voltages and frequencies for international markets. (6) 347V versions are not available with emergency options. SD, 5LTD, and SR drivers with 347V are available but not DLC qualified. (C) Consult WaveLinx Low-Voltage or DLVP system pages for additional details and compatibility.	

Emergency Options	CRI/CCT	Flex
[Blank]=No emergency **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**=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 (10) **L93050**=90CRI 3000K-5000K White Tuning (10) **L82765**=80CRI 2700K-6500K White Tuning (10) **L92765**=90CRI 2700K-6500K White Tuning (10)	**[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 (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** (10) 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-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).

Driver Type	No. of Drivers	Integrated Sensing Systems	Sensor Accessories	Packaging	Accessories
CD=0-10V Driver (1%-100% Dimming) **5LTD**=DALI Driver (5%-100% Dimming) **5LTHD**=DALI Driver (1%-100% Dimming) **LV**=Low-voltage System Driver (0%-100% Dimming) (C) **SD**=Step Dimming Driver (50%-100% Dimming) (11) **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 (12) **SR**=Sensor-ready Driver (1%-100% Dimming)	**1**=1 Driver	**WAA**=WaveLinx Wireless Integrated Sensor (13), (A) **WAB**=WaveLinx Lite Wireless Integrated Sensor (14), (B) **WLA**=Low-voltage Integrated Sensor (15), (C) **SVPD1**=0-10V Stand-alone Integrated Sensor (14), (D)	**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 (17) **DF-14W-U**=1' x 4' Drywall Frame Kit **DF10P-C**__=Decorator Dimmer, 0-10V **SF10P-**__=Decorator Slide Dimmer, 0-10V **ISHH-01**=Programming Remote for Integrated Sensor (D) **ISHH-02**=Personal Control Remote for Integrated Sensor (D)
Notes (11) Step dim (SD) driver option is not available with 2000, 2500, 2900 and 3500 lumen packages. (12) 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** (13) WAA sensor to be used with CD or W2A driver. (14) WAB and SVPD1 sensor to be used with CD driver. (15) 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 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** (18) Provides blank band on opposite side from sensor band to provide symmetric appearance.		**Notes** (17) An EQ Grid Clip is recommended for all 9/16" ceiling systems. Four required per fixture. (16) 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
- 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
- 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
- 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
- 120-277V 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
- Housing finished with 90% white enamel

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

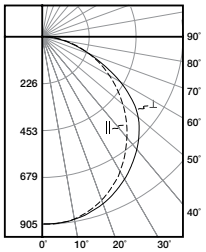
Frame/Shielding
- Die formed, heavy gauge flat steel door
- Mitered corners and painted after fabrication
- Baked matte white enamel finish
- Positive light seals
- Acrylic frosted lens

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

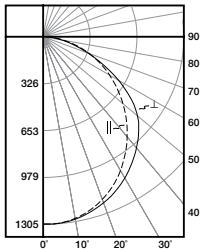
Warranty
- Five-year warranty standard. Optional ten year warranty available.

Photometric Data

View IES files



14CZ-LD5-25-UNV-L835-CD1-U
Electronic Driver
Linear LED 3500K
Spacing criterion: (II) 1.21 x mounting height, (⊥) 1.28 x mounting height
Lumens: 2504
Input Watts: 20.5W
Efficacy: 122.1 LPW
Test Report: 14CZ-LD5-25-UNV-L835-CD1-U.IES



14CZ-LD5-35-UNV-L835-CD1-U
Electronic Driver
Linear LED 3500K
Spacing criterion: (II) 1.21 x mounting height, (⊥) 1.28 x mounting height
Lumens: 3590
Input Watts: 31.4W
Efficacy: 114.3 LPW
Test Report: 14CZ-LD5-35-UNV-L835-CD1-U.IES

Energy and Performance Data

Catalog Logic (Ribbed Lens)	Delivered Lumens	Watts	Efficacy (lm/W)
14CZ-LD5-20-UNV-L830-CD1-U	1909	16.3	117
14CZ-LD5-20-UNV-L835-CD1-U	2028	16.3	124
14CZ-LD5-20-UNV-L840-CD1-U	2069	16.3	127
14CZ-LD5-20-UNV-L850-CD1-U	2238	16.3	137
14CZ-LD5-25-UNV-L830-CD1-U	2357	20.5	115
14CZ-LD5-25-UNV-L835-CD1-U	2504	20.5	122
14CZ-LD5-25-UNV-L840-CD1-U	2554	20.5	125
14CZ-LD5-25-UNV-L850-CD1-U	2763	20.5	135
14CZ-LD5-29-UNV-L830-CD1-U	2747	24.5	112
14CZ-LD5-29-UNV-L835-CD1-U	2918	24.5	119
14CZ-LD5-29-UNV-L840-CD1-U	2976	24.5	121
14CZ-LD5-29-UNV-L850-CD1-U	3220	24.5	131
14CZ-LD5-35-UNV-L830-CD1-U	3379	31.5	107
14CZ-LD5-35-UNV-L835-CD1-U	3590	31.5	114
14CZ-LD5-35-UNV-L840-CD1-U	3662	31.5	116
14CZ-LD5-35-UNV-L850-CD1-U	3961	31.5	126
14CZ-LD5-39-UNV-L830-CD1-U	3727	35.7	104
14CZ-LD5-39-UNV-L835-CD1-U	3959	35.7	111
14CZ-LD5-39-UNV-L840-CD1-U	4038	35.7	113
14CZ-LD5-39-UNV-L850-CD1-U	4368	35.7	122
14CZ-LD5-44-UNV-L830-CD1-U	4139	41.1	101
14CZ-LD5-44-UNV-L835-CD1-U	4397	41.1	107
14CZ-LD5-44-UNV-L840-CD1-U	4485	41.1	109
14CZ-LD5-44-UNV-L850-CD1-U	4851	41.1	118

Catalog Logic (Smooth Lens)	Delivered Lumens	Watts	Efficacy (lm/W)
14CZ-LD5-20-S-UNV-L830-CD1-U	1947	16.3	119
14CZ-LD5-20-S-UNV-L835-CD1-U	2069	16.3	127
14CZ-LD5-20-S-UNV-L840-CD1-U	2110	16.3	129
14CZ-LD5-20-S-UNV-L850-CD1-U	2282	16.3	140
14CZ-LD5-25-S-UNV-L830-CD1-U	2404	20.5	118
14CZ-LD5-25-S-UNV-L835-CD1-U	2554	20.5	125
14CZ-LD5-25-S-UNV-L840-CD1-U	2605	20.5	127
14CZ-LD5-25-S-UNV-L850-CD1-U	2818	20.5	138
14CZ-LD5-29-S-UNV-L830-CD1-U	2802	24.5	114
14CZ-LD5-29-S-UNV-L835-CD1-U	2976	24.5	121
14CZ-LD5-29-S-UNV-L840-CD1-U	3036	24.5	124
14CZ-LD5-29-S-UNV-L850-CD1-U	3284	24.5	134
14CZ-LD5-35-S-UNV-L830-CD1-U	3447	31.5	109
14CZ-LD5-35-S-UNV-L835-CD1-U	3662	31.5	116
14CZ-LD5-35-S-UNV-L840-CD1-U	3735	31.5	119
14CZ-LD5-35-S-UNV-L850-CD1-U	4040	31.5	128
14CZ-LD5-39-S-UNV-L830-CD1-U	3801	35.7	107
14CZ-LD5-39-S-UNV-L835-CD1-U	4038	35.7	113
14CZ-LD5-39-S-UNV-L840-CD1-U	4119	35.7	115
14CZ-LD5-39-S-UNV-L850-CD1-U	4455	35.7	125
14CZ-LD5-44-S-UNV-L830-CD1-U	4222	41.1	103
14CZ-LD5-44-S-UNV-L835-CD1-U	4485	41.1	109
14CZ-LD5-44-S-UNV-L840-CD1-U	4575	41.1	111
14CZ-LD5-44-S-UNV-L850-CD1-U	4948	41.1	120

Lumen Maintenance

Version	TM-21 Lumen Maintenance (60,000 hours) (2)	Theoretical L70 (Hours) (3)
Standard	> 91%	> 240,000
High Efficiency	> 91%	> 240,000

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.

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

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

Lumen Adjustment Factor = 0.861

Total Light Output =
3,590 lm x 0.861 = 3,090 lm

$$Efficacy = \frac{3{,}090\ lm}{31.5W} = 97.1\ lm/W$$

Shielding

Lumen Adjustment Factors		
S	RDP/SQP	HRP
1.012	0.642	0.878

Load Data (Stock Product)

Thd	13%
Power Factor	0.98
Weight (lbs.)	22
Low Temp. Start	-20°C

Shipping Data

Catalog No.	Wt.
14CZ-LD5-25	22 lbs.
14CZ-LD5-35	22 lbs.

Control Systems

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

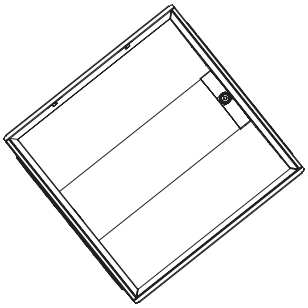
Connected Systems CLICK HERE

The Cruze SB with Integrated Sensor technology provides automatic energy savings without sacrificing performance. The Cruze SB delivers superior lighting with integrated occupancy and daylighting controls.

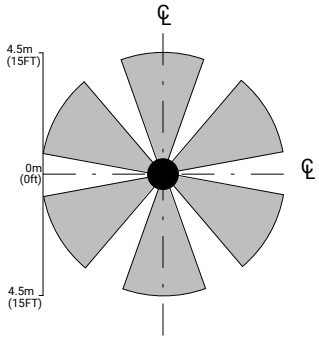
For standalone and controlled applications, the WaveLinx Lite integral sensor provides out-of-the-box functionality with no gateways required and factory startup is not needed.

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.

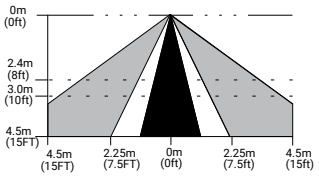
The WaveLinx Wireless Connected Lighting System combined with Trellix provides an open IoT platform and infrastructure that connects intelligent sensors leveraging the real-estate of the physical light fixture to solve higher complexity problems to deliver actionable insights through the aggregation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



TOP VIEW:



SIDE VIEW:



***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.

Standalone

Controlled
WaveLinx Lite

Connected
WaveLinx Pro

Enterprise
Trellix

	Standalone	Controlled WaveLinx Lite	Connected 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

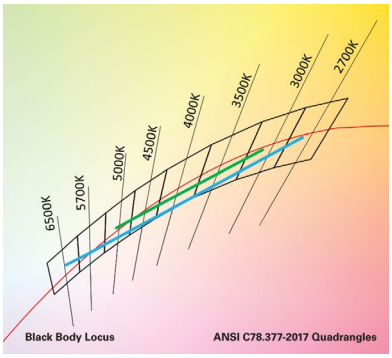
SCALABILITY

devices → areas → floors → buildings

VividTune™
color tuning solutions

14 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.



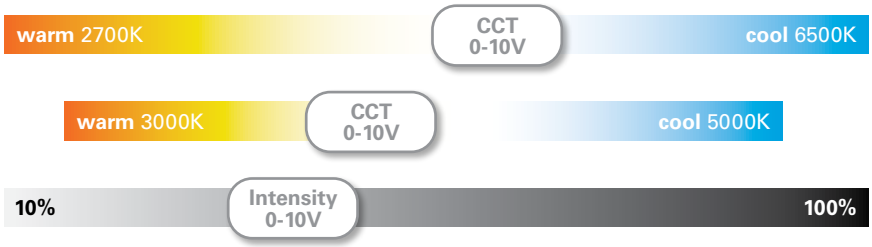
Performance Data*

Tunable White - Lumen Adjustment Factors				
CCT	3000K-5000K		2700K-6500K	
	80 CRI	90 CRI	80 CRI	90 CRI
2700K	-	-	0.904	0.772
3000K	0.931	0.766	0.930	0.803
3500K	0.985	0.837	0.962	0.843
4000K	1.034	0.904	0.983	0.870
4500K	1.044	0.920	1.001	0.892
5000K	1.044	0.920	1.015	0.910
6500K	-	-	1.029	0.935

1' x 4' Cruze SB LED - Example of Approximate Lumen Calculation			
	Standard Catalog #	VividTune 80 CRI Catalog #	VividTune 90 CRI Catalog #
CCT Setting	14CZ-LD5-35-UNV-L835-CD1-U	14CZ-LD5-35-UNV-L83050-W2A1-U	14CZ-LD5-35-UNV-L93050-W2A1-U
3000K	-	3341	2750
3500K	3590	3535	3005
4000K	-	3712	3245
4500K	-	3747	3302
5000K	-	3747	3302

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

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

Adjusted Lumen =
published lm x adjusted lm factor

Adjusted Lumen = 3590 x 0.985

Adjusted Lumen = 3536 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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