

DESCRIPTION

The Cruze™ SB LED series combines contemporary styling and optimal illumination design with features to enable service from below (SB). This high performance LED troffer is constructed with Cooper Lighting Solutions' latest solid-state technology platform and delivers unprecedented energy savings and aesthetics at an incredible value. Cruze SB offers a perfect balance of form and function making it an ideal choice for commercial office spaces, schools, hospitals, and retail merchandising areas.

SPECIFICATION FEATURES

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

Controls

- 0-10V dimming to 1% standard
- WaveLinx wireless fixture for sensor-less wireless control
- WaveLinx sensor compatible for IoT capability
- Enlighted sensor compatible for IoT capability
- SVPD sensor compatible for out of the box functionality
- DLVP sensor and driver compatible for low voltage applications
- DALI 2.0, Lutron, and step-dimming available

LED and Light Engine

- Long-life LED systems coupled with electrical driver
- 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

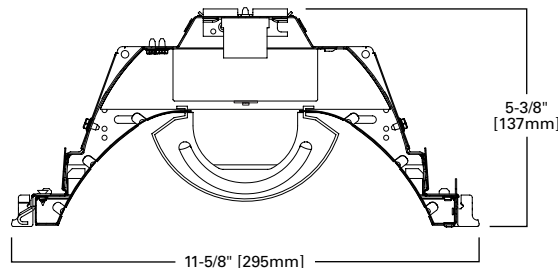
- Die formed, heavy gauge flat steel door
- Mitered corners and painted after fabrication
- Baked matte white enamel finish
- Positive light seals
- Acrylic frosted lens

Compliance

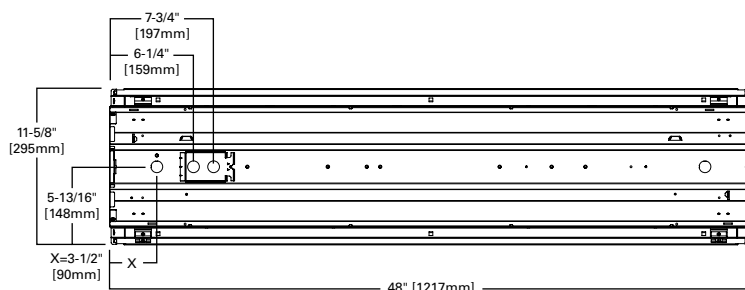
- IC rated for insulation contact
- cULus listed for damp locations
- RoHS compliant
- Test to IESNA LM-79 and LM-80
- Stated life tested to TM21 standards
- Can be used for State of California Title 24 high efficacy luminaire

Warranty

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



MOUNTING DATA



NOTE: 1' x 4' allows for row mounting

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	*

Catalog #		Type	
Project		Date	
Comments			
Prepared by			



HRP - High-Efficiency Round Perf Inlay

Cruze SB 14CZ LED

1' X 4' TROFFER LED MODULE

Specification Grade Troffer



VividTune color tuning solutions



LOAD DATA (STOCK PRODUCT)

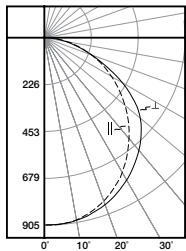
Thd	13%
Power Factor	0.98
Weight	22 lbs.
Low Temp. Start	-20°C

LINEAR DISCONNECT

Safe and convenient means of disconnecting power



PHOTOMETRICS



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 lm/W
 Test Report:
 14CZ-LD5-25-UNV-
 L835-CD1-U.IES

Candlepower

Angle	Along II	45°	Across ⊥
0	904	904	904
5	901	896	901
10	887	884	890
15	861	862	871
20	827	833	848
25	783	796	816
30	732	753	780
35	674	703	737
40	613	649	692
45	549	593	640
50	481	533	581
55	413	470	498
60	345	403	401
65	278	322	295
70	207	238	205
75	140	159	129
80	77	84	65
85	28	24	18
90	0	0	0

Coefficients of Utilization

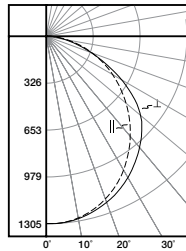
rc	Effective floor cavity reflectance																											
	80%				70%				50%				30%				10%				0%							
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100										
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84										
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70										
3	91	80	72	66	88	78	71	65	75	69	64	73	67	63	70	66	62	59										
4	83	71	62	56	81	70	61	55	67	60	54	65	59	54	63	57	53	51										
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44										
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	40	38										
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	47	41	36	34										
8	61	47	39	33	59	46	38	33	45	38	33	44	37	32	43	37	32	30										
9	57	43	35	30	55	43	35	29	42	34	29	40	34	29	39	33	29	27										
10	53	40	32	27	52	39	32	27	38	31	27	37	31	26	37	31	26	25										

Zonal Lumen Summary

Zone	Lumens	% Fixture
0-30	698	27.9
0-40	1139	45.5
0-60	2011	80.3
0-90	2504	100.0
0-180	2504	100.0

Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	2616	2826	3050
55	2426	2761	2926
65	2217	2567	2352
75	1823	2070	1679
85	1083	928	696



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 lm/W
 Test Report:
 14CZ-LD5-35-UNV-
 L835-CD1-U.IES

Candlepower

Angle	Along II	45°	Across ⊥
0	1304	1304	1304
5	1300	1293	1301
10	1278	1275	1284
15	1241	1244	1255
20	1191	1201	1219
25	1130	1148	1174
30	1056	1083	1120
35	973	1015	1057
40	883	934	990
45	792	850	917
50	696	765	830
55	599	675	708
60	503	577	568
65	404	460	421
70	303	338	289
75	206	221	180
80	114	117	90
85	40	32	24
90	0	0	0

Coefficients of Utilization

rc	Effective floor cavity reflectance																											
	80%				70%				50%				30%				10%				0%							
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100										
1	109	104	100	97	106	102	98	95	98	95	92	94	91	89	90	88	87	84										
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	79	76	73	71										
3	91	80	72	66	88	78	71	65	76	69	64	73	67	63	70	66	62	60										
4	83	71	62	56	81	70	61	55	67	60	55	65	59	54	63	57	53	51										
5	76	63	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44										
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	38										
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	34										
8	61	47	39	33	59	47	38	33	45	38	33	44	37	32	43	37	32	30										
9	57	43	35	30	55	43	35	30	42	34	29	41	34	29	40	34	29	27										
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	26	25										

Zonal Lumen Summary

Zone	Lumens	% Fixture
0-30	1006	28.0
0-40	1641	45.7
0-60	2891	80.5
0-90	3590	100.0
0-180	3590	100.0

Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	3774	4051	4370
55	3519	3965	4159
65	3221	3668	3357
75	2682	2877	2343
85	1546	1237	928

ENERGY AND PERFORMANCE DATA BY CATALOG NUMBER

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) ⁽¹⁾	Theoretical L70 (hours) ⁽²⁾
Standard	> 91%	> 240,000
High Efficiency	> 91%	> 240,000

Notes: (1) Supported by IESTM-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 IESTM-21 and LM-80.

SHIELDING

Lumen Adjustment Factors		
S	RDP/SQP	HRP
1.012	0.642	0.878

90 CRI

Lumen Adjustment Factors 80->90 CRI	
3000K	0.88
3500K	0.861
4000K	0.0865
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 = $\frac{3,090 \text{ lm}}{31.5 \text{ W}}$ = 97.1 lm/W

ORDERING INFORMATION

SAMPLE NUMBER: 14CZ-LD5-35-UNV-L835-CD1-U

Rating [Blank] =Standard ATW-SW4 =Chicago Rated	Lamp Type LD5 =LED 5.0 MTO Lumen Outputs ⁽⁴⁾ 20 =2000 Lumens ⁽¹¹⁾ 25 =2500 Lumens ⁽¹¹⁾ 29 =2900 Lumens 35 =3500 Lumens 39 =3900 Lumens 44 =4400 Lumens	Voltage ⁽²⁾ 347V =347 Volt ⁽⁸⁾ UNV =Universal Voltage 120-277 48V =48 Volt Low-voltage (Class 2) ⁽⁵⁾	Driver Type CD =0-10V Dimming Driver (1%-100% Dimming) SR =Sensor-ready Dimming Driver for LWIPD1 option (1%-100% Dimming) ⁽⁸⁾ 5LTD =Fifth Light DALI Driver (10%-100% Dimming) ⁽⁶⁾ 5LTHD =Fifth Light Dimming Driver (1%-100% Dimming) ⁽⁶⁾ LV1 =DLVP Dimming Driver (0%-100% Dimming) ⁽⁶⁾ SD =Step Dimming Driver (50% or 100% Dimming) ⁽⁵⁾ LH =Lutron HiLume (LDE1 series) 1%-100% EcoSystem Driver with Soft-on Fade to Black dimming ⁽⁹⁾ L5 =Lutron 5 Series (LDE5-Series) 5%-100% EcoSystem Driver ⁽⁹⁾ W2A =White Tuning, 2 ch, Analog 0-10V Intensity and CCT Control ⁽¹⁰⁾ WN =WaveLinX Wireless Fixture, No Sensor ^{(1A),(9),(10)}	Number of Drivers 1 =1 Driver
Series ⁽⁹⁾ 14CZ =1x4 Cruze SB Series	Shielding [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	Options GL =Single Element Fuse GM =Double Element Fuse Emergency EL7W =7-watt, 120V-277V emergency battery pack installed ⁽³⁾ EL14W =14-watt 120V-277V emergency battery pack installed ⁽³⁾ ELV7W =7-watt, DLVP-compatible low voltage emergency battery pack installed ⁽³⁾ ELV14W =14-watt DLVP-compatible low voltage emergency battery pack installed ⁽³⁾ GTR2 =Bodine Generator Transfer Relay ⁽⁶⁾ ETRD =Iota Emergency Transfer Relay with dimming control ⁽⁶⁾ CCT L830 =3000K L835 =3500K L840 =4000K L850 =5000K L930 =3000K L935 =3500K L940 =4000K L950 =5000K 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⁾		
Door Frame Standard =Flat White Steel Door (Leave Blank)		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.		

Integrated Sensing Systems

SWPD1=WaveLinX Wireless Integrated Sensor^(1A)
LWIPD1=Enlighted Wireless Integrated Sensor⁽⁸⁾
LWTPD1=Enlighted Wireless Tile-mount Sensor⁽⁸⁾
SLVPD1=DLVP Low-voltage Integrated Sensor⁽²⁾
SVPD1=0-10V Stand-alone Integrated Sensor⁽²⁾

Sensor Accessories

DV=Dual Band⁽⁷⁾



Connected Systems
[CLICK HERE](#)

Packaging

U=Unit Pack
PAL=Job Pack, out of carton
PALC=Job Pack, in carton

ACCESSORIES

EQ-CLIP-U=T-BAR Safety Earthquake Clips⁽¹⁾
DF-14-W=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⁽²⁾
ISHH-02=Personal Control Remote for Integrated Sensor⁽²⁾

NOTES: ⁽¹⁾An EQ Grid Clip is recommended for all 9/16" ceiling systems. Four required per fixture. ⁽²⁾Products also available in non-US voltages and frequencies for international markets. ⁽³⁾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.⁽⁴⁾Made-to-order (MTO) requires a typical three week leadtime. ⁽⁵⁾Step dim driver option is not available with 2000, 2500, 2900 and 3500 lumen packages. ⁽⁶⁾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. ⁽⁷⁾Provides blank band on opposite side from sensor band to provide symmetric appearance. ⁽⁸⁾347V versions are not available with emergency options. SD, 5LTD, and SR drivers with 347V are available but not DLC qualified. ⁽⁹⁾DesignLights Consortium® Qualified and classified for DLC Standard, refer to www.designlights.org for details. ⁽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. Not compatible with other control or sensor options. ⁽¹¹⁾Not compatible with WN driver.

Integrated Sensing and Control System Options

NOTES: 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: ^(1A)Consult WaveLinX system pages for additional details and compatibility. ⁽⁸⁾Consult Enlighted system pages for additional details and compatibility. ⁽²⁾Consult DLVP system pages for additional details and compatibility. ⁽⁹⁾Consult SVPD series system pages for additional details and compatibility. ⁽⁶⁾Consult Fifth Light system pages for additional details and compatibility. ⁽¹⁰⁾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. ⁽⁶⁾Not compatible with GTR, ETRD, or integrated sensor options. ⁽¹¹⁾Available with UNV voltage 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.
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).

Specifications & dimensions subject to change without notice. Consult your Cooper Lighting Solutions Representative for availability and ordering information.

SHIPPING DATA

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

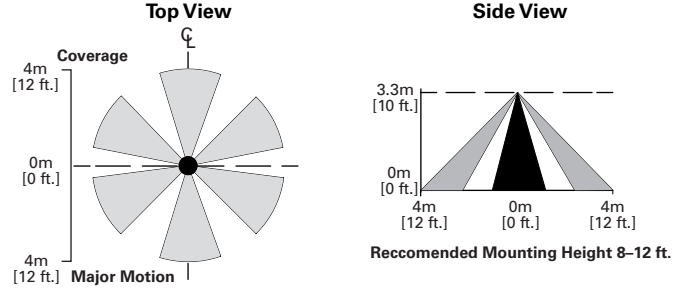
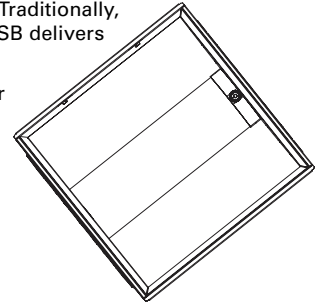
INTEGRATED SENSOR

The Cruze SB with Integrated Sensor technology provides automatic energy savings without sacrificing performance. Traditionally, these types of energy savings required coordination between the luminaire and a lighting control system. The Cruze SB delivers superior lighting with integrated occupancy and daylighting controls.

Capture the benefits of traditional lighting controls, without complicated coverage planning or special wiring. Ideal for new construction or retrofit, the Cruze SB delivers automatic ON to an energy saving light level, while ensuring lighting is turned OFF when the space is unoccupied.

The integral daylight sensor reduces the need for special daylight zone planning. Each luminaire will automatically adjust the light level based on reflected light beneath the sensor in a closed loop method.

The integral sensor can be offered in both standalone (SVPD1) and networked (SWPD1, LWIPD1, and SLVPD1) for application versatility.



Installation of integrated sensors within 3-ft (1m) of HVAC air vents is not recommended.

Systems comparison chart

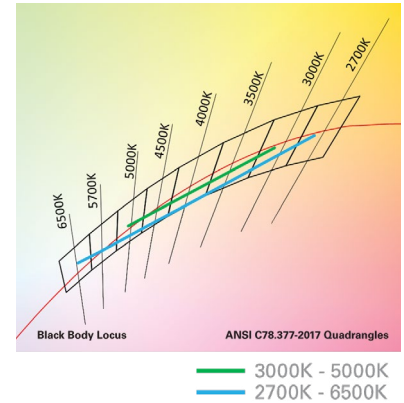
Cooper Lighting Solutions provides many lighting system solutions designed to satisfy code requirements and meet the unique needs of any project.

	Distributed Low-Voltage Power System	WaveLinX	Enlighted
Space type	Interior	Interior/Outdoor	Any
Stand-alone or Network	Stand-alone	Both	Network
Need-based feature progression			
Basic compliance only	●	●	●
Occupancy sensing	●	●	●
Daylight harvesting	●	●	●
Zone control	●	●	●
Scheduling	●	●	●
0-10V dimming	●	●	●
Individual fixture control	●	●	●
Retrofit+Building Integration	●	●	●
Total wireless connectivity		●	●
A/V integration		●	●
BMS integration		●	●
UI options (touchscreen, apps, etc.)		●	●
Enterprise level building integration		●	●
Facility management & tools		●	●
Floor plan & reporting tools			●
Value-added services			●
Asset tracking			●
API integration		●	●
Analytics/higher problem solving			●



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.



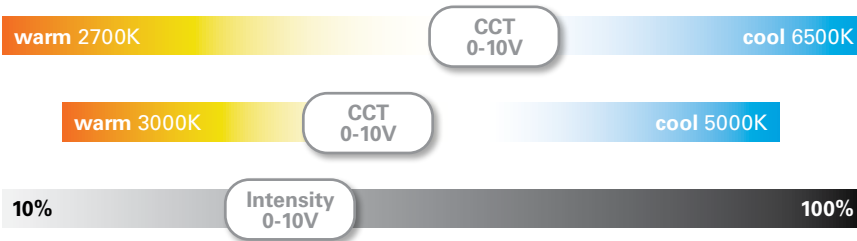
Performance Data*

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

$$\text{Adjusted Lumen} = \text{published } l_m \times \text{adjusted } l_m \text{ factor}$$

$$\text{Adjusted Lumen} = 3590 \times 0.985$$

$$\text{Adjusted Lumen} = 3536 \text{ } l_m$$

* Lumen adjustment factors are for reference and may be different for each product selected. Refer to IES files for actual performance data on each.