

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.

Catalog #		Type	
Project			
Comments		Date	
Prepared by			

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 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

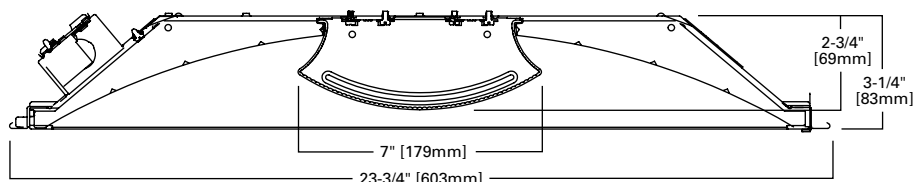
- Die formed, heavy gauge flat steel door
- Mitered corners and painted after fabrication
- Baked matte white enamel finish
- Positive light seals
- Acrylic frosted lens

Compliance

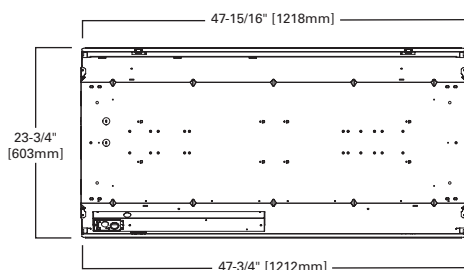
- IC rated for insulation contact
- cULus listed for damp locations
- RoHS compliant
- Test to IESNA LM-79 and LM-80
- Stated life tested to TM21 standards
- Can be used for State of California Title 24 high efficacy luminaire

Warranty

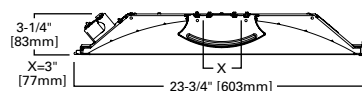
- Five year warranty standard. Optional ten year warranty available.



MOUNTING DATA



LAMP CONFIGURATIONS



CEILING COMPATIBILITY

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



HRP - High-Efficiency Round Perf Inlay

Cruze SB 24CZ LED

2' X 4' TROFFER LED MODULE

Specification Grade Troffer



VividTune color tuning solutions



LOAD DATA (STOCK PRODUCT)

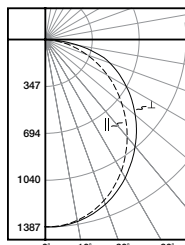
Thd	12.9%
Power Factor	0.97
Weight	20.5 lbs.
Low Temp. Start	-20°C

LINEAR DISCONNECT

Safe and convenient means of disconnecting power



PHOTOMETRICS



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

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

Candlepower

Angle	Along II	45°	Across ⊥
0	1385	1385	1385
5	1379	1375	1383
10	1355	1354	1364
15	1316	1322	1334
20	1261	1273	1292
25	1193	1213	1237
30	1115	1144	1174
35	1024	1064	1101
40	930	978	1023
45	830	889	943
50	726	797	857
55	623	704	770
60	519	608	679
65	415	512	590
70	309	417	497
75	211	326	375
80	116	219	234
85	45	87	81
90	0	0	0

Coefficients of Utilization

rc rw RCR	Effective floor cavity reflectance																						
	80%				70%				50%				30%				10%				0%		
0	119	119	119	119	116	116	116	116	111	111	111	111	106	106	106	106	102	102	102	102	100	100	
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83	83	83	83	83	
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	68	68	68	68	68	
3	89	79	70	63	87	77	69	63	74	67	62	71	65	61	69	64	60	57	57	57	57	57	
4	82	69	60	54	79	68	60	53	66	58	52	63	57	52	61	56	51	49	49	49	49	49	
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42	42	42	42	42	
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	50	44	39	37	37	37	37	37	
7	64	51	42	35	63	50	41	35	48	41	35	47	40	35	45	39	35	33	33	33	33	33	
8	60	46	38	32	58	45	37	32	44	37	31	43	36	31	42	36	31	29	29	29	29	29	
9	56	42	34	28	55	42	34	28	41	33	28	40	33	28	39	32	28	26	26	26	26	26	
10	52	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	25	24	24	24	24	24	

Zonal Lumen Summary

Zone	Lumens	% Fixture
0-30	1065	26.9
0-40	1731	43.7
0-60	3043	76.8
0-90	3964	100.0
0-180	3964	100.0

Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	1798	1926	2043
55	1664	1880	2056
65	1504	1856	2138
75	1249	1929	2219
85	791	1529	1423

LUMEN MAINTENANCE

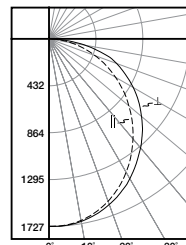
Version	TM-21 Lumen Maintenance (60,000 hours) ⁽¹⁾	Theoretical L70 (hours) ⁽²⁾
Standard	> 89%	> 196,000
High Efficiency	> 93%	> 340,000

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.



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Specifications and dimensions subject to change without notice.



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

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

Candlepower

Angle	Along II	45°	Across ⊥
0	1726	1726	1726
5	1718	1712	1722
10	1689	1686	1699
15	1639	1644	1661
20	1572	1586	1607
25	1490	1512	1541
30	1392	1426	1463
35	1285	1330	1374
40	1170	1225	1284
45	1048	1116	1186
50	921	1005	1079
55	793	891	974
60	664	774	860
65	536	654	740
70	404	533	626
75	278	412	489
80	156	272	294
85	61	112	101
90	0	0	0

Coefficients of Utilization

rc rw RCR	Effective floor cavity reflectance																						
	80%				70%				50%				30%				10%				0%		
0	119	119	119	119	116	116	116	116	111	111	111	111	106	106	106	106	102	102	102	102	100	100	
1	108	103	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83	83	83	83	83	
2	98	90	82	76	95	88	81	76	84	79	74	81	76	72	78	74	70	68	68	68	68	68	
3	89	78	70	63	87	77	69	63	74	67	62	71	65	60	68	64	59	57	57	57	57	57	
4	82	69	60	53	79	68	60	53	65	58	52	63	57	52	61	55	51	49	49	49	49	49	
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42	42	42	42	42	
6	69	56	47	40	67	55	46	40	53	45	40	53	45	39	51	44	39	37	37	37	37	37	
7	64	50	42	35	62	50	41	35	48	40	35	47	40	35	47	40	35	34	34	34	34	34	
8	60	46	37	31	58	45	37	31	44	36	31	43	36	31	42	35	31	29	29	29	29	29	
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26	26	26	26	26	
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	23	23	23	23	23	

Zonal Lumen Summary

Zone	Lumens	% Fixture
0-30	1326	26.6
0-40	2159	43.3
0-60	3815	76.5
0-90	4988	100.0
0-180	4988	100.0

Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	2270	2417	2569
55	2118	2379	2601
65	1943	2370	2682
75	1645	2438	2775
85	1072	1968	1775

SHIELDING

Lumen Adjustment Factors		
S	RDP/SQP	HRP
1.05	0.673	0.849

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

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 = $\frac{3,413 \text{ lm}}{29 \text{ W}} = 117.6 \text{ lm/W}$

ENERGY AND PERFORMANCE DATA BY CATALOG NUMBER

Catalog Logic (Ribbed Lens)	Delivered Lumens	Watts	Efficacy (lm/W)
24CZ-LD5-30-UNV-L830-CD1-U	2833	21.6	131
24CZ-LD5-30-UNV-L835-CD1-U	3010	21.6	139
24CZ-LD5-30-UNV-L840-CD1-U	3070	21.6	142
24CZ-LD5-30-UNV-L850-CD1-U	3321	21.6	154
24CZ-LD5-35-UNV-L830-CD1-U	3289	25.3	130
24CZ-LD5-35-UNV-L835-CD1-U	3494	25.3	138
24CZ-LD5-35-UNV-L840-CD1-U	3564	25.3	141
24CZ-LD5-35-UNV-L850-CD1-U	3855	25.3	152
24CZ-LD5-40-UNV-L830-CD1-U	3731	29.0	128
24CZ-LD5-40-UNV-L835-CD1-U	3964	29.0	137
24CZ-LD5-40-UNV-L840-CD1-U	4043	29.0	139
24CZ-LD5-40-UNV-L850-CD1-U	4374	29.0	151
24CZ-LD5-45-UNV-L830-CD1-U	4207	35.7	118
24CZ-LD5-45-UNV-L835-CD1-U	4469	35.7	125
24CZ-LD5-45-UNV-L840-CD1-U	4558	35.7	128
24CZ-LD5-45-UNV-L850-CD1-U	4931	35.7	138
24CZ-LD5-50-UNV-L830-CD1-U	4695	40.7	115
24CZ-LD5-50-UNV-L835-CD1-U	4988	40.7	123
24CZ-LD5-50-UNV-L840-CD1-U	5088	40.7	125
24CZ-LD5-50-UNV-L850-CD1-U	5503	40.7	135
24CZ-LD5-55-UNV-L830-CD1-U	5181	45.8	113
24CZ-LD5-55-UNV-L835-CD1-U	5504	45.8	120
24CZ-LD5-55-UNV-L840-CD1-U	5614	45.8	123
24CZ-LD5-55-UNV-L850-CD1-U	6073	45.8	133
24CZ-LD5-60-UNV-L830-CD1-U	5741	52.2	110
24CZ-LD5-60-UNV-L835-CD1-U	6099	52.2	117
24CZ-LD5-60-UNV-L840-CD1-U	6221	52.2	119
24CZ-LD5-60-UNV-L850-CD1-U	6729	52.2	129
24CZ-LD5-65-UNV-L830-CD1-U	6193	57.6	107
24CZ-LD5-65-UNV-L835-CD1-U	6579	57.6	114
24CZ-LD5-65-UNV-L840-CD1-U	6711	57.6	116
24CZ-LD5-65-UNV-L850-CD1-U	7259	57.6	126
24CZ-LD5-70-UNV-L830-CD1-U	6668	64.2	104
24CZ-LD5-70-UNV-L835-CD1-U	7084	64.2	110
24CZ-LD5-70-UNV-L840-CD1-U	7226	64.2	113
24CZ-LD5-70-UNV-L850-CD1-U	7816	64.2	122
24CZ-LD5-75-UNV-L830-CD1-U	7052	69.1	102
24CZ-LD5-75-UNV-L835-CD1-U	7491	69.1	108
24CZ-LD5-75-UNV-L840-CD1-U	7641	69.1	111
24CZ-LD5-75-UNV-L850-CD1-U	8265	69.1	120

Standard Efficacy Versions

Catalog Logic (Ribbed Lens)	Delivered Lumens	Watts	Efficacy (lm/W)
24CZ-LD5-30SE-UNV-L830-CD1-U	2878	23.5	122
24CZ-LD5-30SE-UNV-L835-CD1-U	3057	23.5	130
24CZ-LD5-30SE-UNV-L840-CD1-U	3118	23.5	133
24CZ-LD5-30SE-UNV-L850-CD1-U	3373	23.5	144
24CZ-LD5-35SE-UNV-L830-CD1-U	3324	28.6	116
24CZ-LD5-35SE-UNV-L835-CD1-U	3531	28.6	124
24CZ-LD5-35SE-UNV-L840-CD1-U	3602	28.6	126
24CZ-LD5-35SE-UNV-L850-CD1-U	3896	28.6	136
24CZ-LD5-40SE-UNV-L830-CD1-U	3783	32.6	116
24CZ-LD5-40SE-UNV-L835-CD1-U	4019	32.6	123
24CZ-LD5-40SE-UNV-L840-CD1-U	4099	32.6	126
24CZ-LD5-40SE-UNV-L850-CD1-U	4434	32.6	136
24CZ-LD5-45SE-UNV-L830-CD1-U	4304	39.9	108
24CZ-LD5-45SE-UNV-L835-CD1-U	4572	39.9	115
24CZ-LD5-45SE-UNV-L840-CD1-U	4663	39.9	117
24CZ-LD5-45SE-UNV-L850-CD1-U	5044	39.9	126
24CZ-LD5-50SE-UNV-L830-CD1-U	4788	46.6	103
24CZ-LD5-50SE-UNV-L835-CD1-U	5086	46.6	109
24CZ-LD5-50SE-UNV-L840-CD1-U	5188	46.6	111
24CZ-LD5-50SE-UNV-L850-CD1-U	5612	46.6	121
24CZ-LD5-55SE-UNV-L830-CD1-U	5216	54.7	95
24CZ-LD5-55SE-UNV-L835-CD1-U	5541	54.7	101
24CZ-LD5-55SE-UNV-L840-CD1-U	5652	54.7	103
24CZ-LD5-55SE-UNV-L850-CD1-U	6114	54.7	112
24CZ-LD5-60SE-UNV-L830-CD1-U	5611	60.0	94
24CZ-LD5-60SE-UNV-L835-CD1-U	5961	60.0	99
24CZ-LD5-60SE-UNV-L840-CD1-U	6080	60.0	101
24CZ-LD5-60SE-UNV-L850-CD1-U	6577	60.0	110
24CZ-LD5-65SE-UNV-L830-CD1-U	6154	59.6	103
24CZ-LD5-65SE-UNV-L835-CD1-U	6537	59.6	110
24CZ-LD5-65SE-UNV-L840-CD1-U	6668	59.6	112
24CZ-LD5-65SE-UNV-L850-CD1-U	7213	59.6	121

ENERGY AND PERFORMANCE DATA BY CATALOG NUMBER

Catalog Logic (Smooth Lens)	Delivered Lumens	Watts	Efficacy (lm/W)
24CZ-LD5-30-S-UNV-L830-CD1-U	2890	21.6	134
24CZ-LD5-30-S-UNV-L835-CD1-U	3070	21.6	142
24CZ-LD5-30-S-UNV-L840-CD1-U	3132	21.6	145
24CZ-LD5-30-S-UNV-L850-CD1-U	3387	21.6	157
24CZ-LD5-35-S-UNV-L830-CD1-U	3355	25.3	132
24CZ-LD5-35-S-UNV-L835-CD1-U	3564	25.3	141
24CZ-LD5-35-S-UNV-L840-CD1-U	3635	25.3	144
24CZ-LD5-35-S-UNV-L850-CD1-U	3932	25.3	155
24CZ-LD5-40-S-UNV-L830-CD1-U	3806	29.0	131
24CZ-LD5-40-S-UNV-L835-CD1-U	4043	29.0	139
24CZ-LD5-40-S-UNV-L840-CD1-U	4124	29.0	142
24CZ-LD5-40-S-UNV-L850-CD1-U	4461	29.0	154
24CZ-LD5-45-S-UNV-L830-CD1-U	4291	35.7	120
24CZ-LD5-45-S-UNV-L835-CD1-U	4558	35.7	128
24CZ-LD5-45-S-UNV-L840-CD1-U	4650	35.7	130
24CZ-LD5-45-S-UNV-L850-CD1-U	5029	35.7	141
24CZ-LD5-50-S-UNV-L830-CD1-U	4789	40.7	118
24CZ-LD5-50-S-UNV-L835-CD1-U	5088	40.7	125
24CZ-LD5-50-S-UNV-L840-CD1-U	5190	40.7	128
24CZ-LD5-50-S-UNV-L850-CD1-U	5614	40.7	138
24CZ-LD5-55-S-UNV-L830-CD1-U	5285	45.8	115
24CZ-LD5-55-S-UNV-L835-CD1-U	5614	45.8	123
24CZ-LD5-55-S-UNV-L840-CD1-U	5726	45.8	125
24CZ-LD5-55-S-UNV-L850-CD1-U	6194	45.8	135
24CZ-LD5-60-S-UNV-L830-CD1-U	5856	52.2	112
24CZ-LD5-60-S-UNV-L835-CD1-U	6221	52.2	119
24CZ-LD5-60-S-UNV-L840-CD1-U	6345	52.2	122
24CZ-LD5-60-S-UNV-L850-CD1-U	6864	52.2	132
24CZ-LD5-65-S-UNV-L830-CD1-U	6317	57.6	110
24CZ-LD5-65-S-UNV-L835-CD1-U	6711	57.6	116
24CZ-LD5-65-S-UNV-L840-CD1-U	6845	57.6	119
24CZ-LD5-65-S-UNV-L850-CD1-U	7404	57.6	128
24CZ-LD5-70-S-UNV-L830-CD1-U	6802	64.2	106
24CZ-LD5-70-S-UNV-L835-CD1-U	7226	64.2	113
24CZ-LD5-70-S-UNV-L840-CD1-U	7370	64.2	115
24CZ-LD5-70-S-UNV-L850-CD1-U	7972	64.2	124
24CZ-LD5-75-S-UNV-L830-CD1-U	7193	69.1	104
24CZ-LD5-75-S-UNV-L835-CD1-U	7641	69.1	111
24CZ-LD5-75-S-UNV-L840-CD1-U	7794	69.1	113
24CZ-LD5-75-S-UNV-L850-CD1-U	8430	69.1	122

Standard Efficacy Versions

Catalog Logic (Smooth Lens)	Delivered Lumens	Watts	Efficacy (lm/W)
24CZ-LD5-30SE-S-UNV-L830-CD1-U	2935	23.5	125
24CZ-LD5-30SE-S-UNV-L835-CD1-U	3118	23.5	133
24CZ-LD5-30SE-S-UNV-L840-CD1-U	3181	23.5	135
24CZ-LD5-30SE-S-UNV-L850-CD1-U	3440	23.5	146
24CZ-LD5-35SE-S-UNV-L830-CD1-U	3390	28.6	119
24CZ-LD5-35SE-S-UNV-L835-CD1-U	3602	28.6	126
24CZ-LD5-35SE-S-UNV-L840-CD1-U	3674	28.6	129
24CZ-LD5-35SE-S-UNV-L850-CD1-U	3974	28.6	139
24CZ-LD5-40SE-S-UNV-L830-CD1-U	3859	32.6	119
24CZ-LD5-40SE-S-UNV-L835-CD1-U	4099	32.6	126
24CZ-LD5-40SE-S-UNV-L840-CD1-U	4181	32.6	128
24CZ-LD5-40SE-S-UNV-L850-CD1-U	4523	32.6	139
24CZ-LD5-45SE-S-UNV-L830-CD1-U	4390	39.9	110
24CZ-LD5-45SE-S-UNV-L835-CD1-U	4663	39.9	117
24CZ-LD5-45SE-S-UNV-L840-CD1-U	4757	39.9	119
24CZ-LD5-45SE-S-UNV-L850-CD1-U	5145	39.9	129
24CZ-LD5-50SE-S-UNV-L830-CD1-U	4883	46.6	105
24CZ-LD5-50SE-S-UNV-L835-CD1-U	5188	46.6	111
24CZ-LD5-50SE-S-UNV-L840-CD1-U	5291	46.6	114
24CZ-LD5-50SE-S-UNV-L850-CD1-U	5724	46.6	123
24CZ-LD5-55SE-S-UNV-L830-CD1-U	5320	54.7	97
24CZ-LD5-55SE-S-UNV-L835-CD1-U	5652	54.7	103
24CZ-LD5-55SE-S-UNV-L840-CD1-U	5765	54.7	105
24CZ-LD5-55SE-S-UNV-L850-CD1-U	6236	54.7	114
24CZ-LD5-60SE-S-UNV-L830-CD1-U	5724	60.0	95
24CZ-LD5-60SE-S-UNV-L835-CD1-U	6080	60.0	101
24CZ-LD5-60SE-S-UNV-L840-CD1-U	6202	60.0	103
24CZ-LD5-60SE-S-UNV-L850-CD1-U	6709	60.0	112
24CZ-LD5-65SE-S-UNV-L830-CD1-U	6277	59.6	105
24CZ-LD5-65SE-S-UNV-L835-CD1-U	6668	59.6	112
24CZ-LD5-65SE-S-UNV-L840-CD1-U	6801	59.6	114
24CZ-LD5-65SE-S-UNV-L850-CD1-U	7357	59.6	123

ORDERING INFORMATION

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

<p>Rating Blank= Standard ATW-SW4= Chicago Rated</p>	<p>Lamp Type LD5=LED 5.0</p> <p>Cruze SB</p> <p>Lumen Output 30=3000 Lumens ⁽¹¹⁾ 35=3500 Lumens 40=4000 Lumens 45=4500 Lumens 50=5000 Lumens 55=5500 Lumens 60=6000 Lumens 65=6500 Lumens 70=7000 Lumens ⁽¹¹⁾ 75=7500 Lumens ⁽¹¹⁾</p> <p>Standard Efficacy</p> <p>Lumen Output 30SE=3000 Lumens 35SE=3500 Lumens 40SE=4000 Lumens 45SE=4500 Lumens 50SE=5000 Lumens 55SE=5500 Lumens ⁽¹⁰⁾ 60SE=6000 Lumens ⁽¹⁰⁾ 65SE=6500 Lumens ^{(10), (11)}</p> <p>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</p>	<p>Voltage ⁽²⁾ 347V=347 Volt ⁽⁶⁾ UNV=Universal Voltage 120-277 48V=48 Volt Low-voltage (Class 2) ^(C) 120V=120V Volt ⁽¹²⁾ 277V=277 Volt ⁽¹²⁾</p>	<p>Driver Type CD=0-10V Dimming Driver (1%-100% Dimming) WN=WaveLinX Wireless Fixture, No Sensor ^{(A), (B), (H)} 5LTD=Fifth Light DALI Driver (10%-100% Dimming) ^(E) 5LTHD=Fifth Light Dimming Driver (1%-100% Dimming) ^(E) LV=Low-voltage System Dimming Driver (0%-100% Dimming) ^(C) SD=Step Dimming Driver (50% or 100% Dimming) ⁽⁴⁾ LH=Lutron HiLume (LDE1 series) 1%-100% EcoSystem Driver with Soft-on Fade to Black dimming ^(F) L5=Lutron 5 Series (LDE5-Series) 5%-100% EcoSystem Driver ^(F) W2A=White Tuning, 2 ch, Analog 0-10V Intensity and CCT Control ⁽⁹⁾ SR=Sensor-ready Dimming Driver (1%-100% Dimming)</p>	<p>Number of Drivers 1=1 Driver 2=2 Drivers</p>
<p>Series ⁽⁸⁾ 24CZ=2x4 Cruze SB Series</p>		<p>Options GL=Single Element Fuse GM=Double Element Fuse</p>		
<p>Door Frame Standard=Flat White Steel Door (Leave Blank)</p>		<p>Emergency EL7W=7-watt, 120V-277V emergency battery pack installed ⁽³⁾ EL14W=14-watt 120V-277V emergency battery pack installed ⁽³⁾ 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 ^{(7), (12)} ETRD=lota Emergency Transfer Relay with dimming control ⁽⁷⁾</p>		
		<p>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⁾</p>		
		<p>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.</p>		

<p>Integrated Sensing Systems 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)}</p>

<p>Packaging U=Unit Pack PAL=Job Pack, out of carton PALC=Job Pack, in carton</p>
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Sensor Accessories
DV=Dual Band ⁽⁵⁾



ACCESSORIES

- EQ-CLIP-U=T-BAR Safety Earthquake Clips ⁽¹⁾
- DF-24W-U=2' x 4' Drywall Frame Kit
- SK-24-WS=2' x 4' Shallow Surface Mount Kit
- SK-24-WT=2' x 4' Tall Surface Mount Kit
- ISHH-01=Programming Remote for Integrated Sensor ^(D)
- ISHH-02=Personal Control Remote for Integrated Sensor ^(D)

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⁾Step dim driver option is not available with 3000, 3500, 4000, 7000 and 7500 lumen packages and 3000SE, 3500SE, 6000SE and 6500SE versions. ⁽⁵⁾Provides blank band on opposite side from sensor band to provide symmetric appearance. ⁽⁶⁾347V versions are not available with emergency options. 347V driver option requires two drivers with 7000 and 7500 lumen packages. SD, 5LTD, and SR drivers with 347V are available but not DLC qualified. ⁽⁷⁾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. ⁽⁸⁾DesignLights Consortium® Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details. ⁽⁹⁾White tuning provides correlated color temperatures (CCT) between 3000K (warm) to 5000K (cool) or 2700K (warm) to 6500K (cool). Must be used in conjunction with W2A driver only. Must be used with two (2) 10V dimming control channels, 1 color, 1 intensity. May be combined with Wavelinx sensor control systems only. ⁽¹⁰⁾White tuning not available with this model. ⁽¹¹⁾Not compatible with WN driver. ⁽¹²⁾Must specify voltage as 120V or 277V when ordering GTR2 option. ⁽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 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: ^(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. ^(E)Consult Fifth Light 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. ^(G)Not compatible with GTR, ETRD, or integrated sensor options. ^(H)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.
24CZ-LD5-45	20.5 lbs.
24CZ-LD5-55	20.5 lbs.



Cooper Lighting Solutions
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-486-4800
www.cooperlighting.com

Specifications and dimensions subject to change without notice.

INTEGRATED SENSOR

Control Systems

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

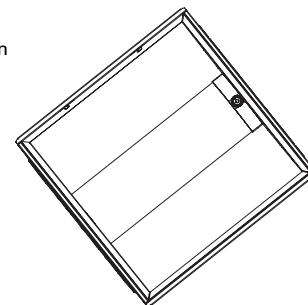


The Cruze SB with Integrated Sensor technology provides automatic energy savings without sacrificing performance. The Cruze SB delivers superior lighting with integrated occupancy and daylighting controls.

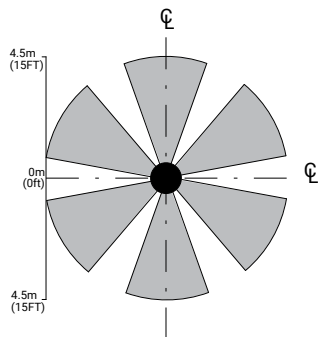
For standalone and controlled applications, the WaveLinx Lite integral sensor provides out-of-the-box functionality with no gateways required and factory startup is not needed.

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.

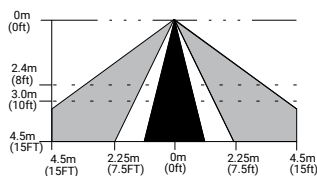
The WaveLinx Wireless Connected Lighting System combined with Trellix provides an open IoT platform and infrastructure that connects intelligent sensors leveraging the real-estate of the physical light fixture to solve higher complexity problems to deliver actionable insights through the aggregation 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 Wireless	Enterprise Trellix
Occupancy	Yes	Yes	Yes	Yes
Daylighting	Yes	Yes	Yes	Yes
Gateways	-	-	1 WAC	300 WACs
Devices	-	50 per Area (1400 per site)	150 per WAC	45,000 per Core Enterprise
Software	-	WaveLinx Lite Mobile App	WaveLinx Mobile App	Trellix Core
Areas	-	28 per Site	16 per WAC	up to 4,800
Zones	-	16 per Area	16 per Area	up to 76,800
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

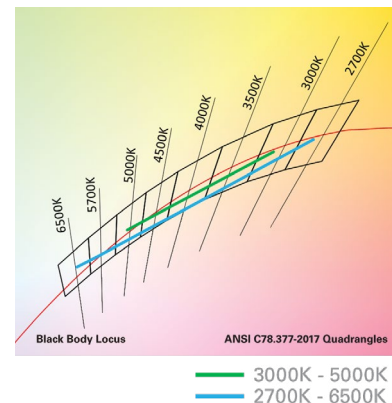
SCALABILITY





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.



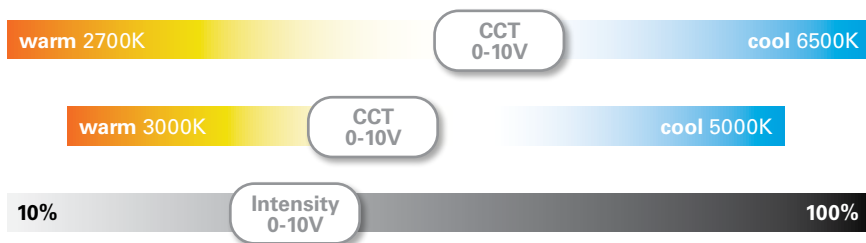
Performance Data*

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

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

$$\text{Adjusted Lumen} = 3964 \times 1.027$$

$$\text{Adjusted Lumen} = 4073 \text{ lm}$$

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