



The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at wvOASIS.gov. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at WVPurchasing.gov with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

Header 8

List View

General Information

Contact

Default Values

Discount

Document Information

Procurement Folder: 453736

SO Doc Code: CRFQ

Procurement Type: Central Purchase Order

SO Dept: 0211

Vendor ID: 

SO Doc ID: GSD1800000021

Legal Name: WV ELECTRIC SUPPLY CO

Published Date: 6/7/18

Alias/DBA:

Close Date: 6/12/18

Total Bid: \$114,671.50

Close Time: 13:30

Response Date: 

Status: Closed

Apply Default Values to Commodity Lines

View Procurement Folder



Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

**State of West Virginia
 Solicitation Response**

Proc Folder : 453736
Solicitation Description : Addendum 1 - LED Light Fixtures and Accessories
Proc Type : Central Purchase Order

Date issued	Solicitation Closes	Solicitation Response	Version
	2018-06-12 13:30:00	SR 0211 ESR06121800000005834	1

VENDOR
000000200158 WV ELECTRIC SUPPLY CO

Solicitation Number: CRFQ 0211 GSD1800000021

Total Bid : \$114,671.50 **Response Date:** 2018-06-12 **Response Time:** 08:45:07

Comments:

FOR INFORMATION CONTACT THE BUYER
 Linda B Harper
 (304) 558-0468
 linda.b.harper@wv.gov

Signature on File	FEIN #	DATE
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All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Light emitting diode LED fixture	1380.00000	EA	\$71.650000	\$98,877.00

Comm Code	Manufacturer	Specification	Model #
39111544			

Extended Description : HOLOPHANE /ACUITY TROFFER LIGHT FIXTURE LED
Part No. HVT 2x4 DOP 3900LM 35K MVOLT MIN10 80CRI ZT JP10, or equal

Comments: METALUX
24CZ-LD5-40SE-S-UNV-L835-CD1-PALC
SPECIFICATION SHEET ATTACHED

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	Light emitting diode LED fixture	35.00000	EA	\$187.400000	\$6,559.00

Comm Code	Manufacturer	Specification	Model #
39111544			

Extended Description : HOLOPHANE/ ACUITY TROFFER LIGHT FIXTURE LED- EMERGENCY w/ BATTERY
Part No. HVT 2x4 DOP 3900LM 35K MVOLT MIN10 80CRI ZT BR JP10, or equal

Comments: METALUX
24CZ-LD5-40SE-S-UNV-EL7W-L835-CD1-PALC
SPECIFICATION SHEET ATTACHED

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
3	Light emitting diode LED fixture	65.00000	EA	\$59.200000	\$3,848.00

Comm Code	Manufacturer	Specification	Model #
39111544			

Extended Description : HOLOPHANE/ACUITY TROFFER LIGHT FIXTURE LED
Part No. HVT 2x2 DOP 3900LM 35K MVOLT MIN10 80CRI ZT JP 10, or equal

Comments: METALUX
22CZ-LD5-39E-A-UNV-L835-CD1-PALC
SPECIFICATION SHEET ATTACHED

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
4	Interior lighting fixtures and accessories	350.00000	EA	\$3.200000	\$1,120.00

Comm Code	Manufacturer	Specification	Model #
39111500			

Extended Description : HOLOPHANE FIXTURE EARTH QUAKE STABILITY CLIPS
Part No. 2x4 EC EARTHQUAKE CLIPS (PACKAGE OF 4), or equal

Comments: METALUX
EQ-CLIP-U
SPECIFICATION SHEET ATTACHED

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
5	Interior lighting fixtures and accessories	150.00000	EA	\$28.450000	\$4,267.50

Comm Code	Manufacturer	Specification	Model #
39111500			

Extended Description : HOLOPHANE / ACUITY dimming and OCUPANCY SENSOR WALL SWITCH
Part No. WSX PDT D WH (120/277V) with matching wall plate included, or equal

Comments: COOPER LIGHTING GROUP
OSW-P-010
SPECIFICATION SHEET ATTACHED

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: GSD180000021

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

W.Va. Electric Supply
Company


Authorized Signature

6/11/18
Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.

Revised 6/8/2012

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

Erin Jones, BRM
(Name, Title)
Erin Jones, Branch Manager
(Printed Name and Title)
250 12th St W Huntington, WV 25704
(Address)
304-399-4547 (p) 304-523-5337 (f)
(Phone Number) / (Fax Number)
erin.jones@wvaelectric.com
(email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

W.Va. Electric Supply Co.
(Company)

Jared Couker, President
(Authorized Signature) (Representative Name, Title)

Jared Couker, President
(Printed Name and Title of Authorized Representative)

6/17/18
(Date)

304-399-4547 (p) 304-523-5337 (f)
(Phone Number) (Fax Number)

West Virginia Ethics Commission
Disclosure of Interested Parties to Contracts

(Required by W. Va. Code § 6D-1-2)

Contracting Business Entity: W.Va. Electric Supply Co. Address: 250 12th St. W
Huntington, WV 25704

Authorized Agent: Jared Colker Address: 250 12th St. W Hunt., WV 25704

Contract Number: CRFQ 0211 65D18-
CCCC021 Contract Description: LED light fixtures?
Accessories

Governmental agency awarding contract: Bid Clerk - Dept. of Admin

Check here if this is a Supplemental Disclosure

List the Names of Interested Parties to the contract which are known or reasonably anticipated by the contracting business entity for each category below (attach additional pages if necessary):

1. Subcontractors or other entities performing work or service under the Contract

Check here if none, otherwise list entity/individual names below.

2. Any person or entity who owns 25% or more of contracting entity (not applicable to publicly traded entities)

Check here if none, otherwise list entity/individual names below.

MATT COLKER, LEE COLKER

3. Any person or entity that facilitated, or negotiated the terms of, the applicable contract (excluding legal services related to the negotiation or drafting of the applicable contract)

Check here if none, otherwise list entity/individual names below.

Signature: [Signature] PRESIDENT

Date Signed: 6/11/18

Notary Verification

State of West Virginia, County of Cabell:

I, Frances J. Mason, the authorized agent of the contracting business entity listed above, being duly sworn, acknowledge that the Disclosure herein is being made under oath and under the penalty of perjury.

Taken, sworn to and subscribed before me this 11 day of June, 2018.

Frances J. Mason
Notary Public's Signature

To be completed by State Agency:

Date Received by State Agency: _____
Date submitted to Ethics Commission: _____
Governmental agency submitting Disclosure: _____



STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL OTHER CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: W. Va. Electric Supply Co.

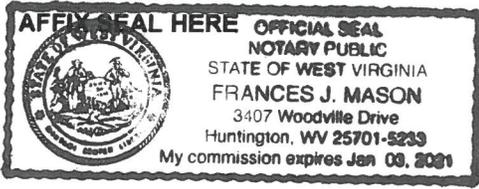
Authorized Signature: [Signature] Date: 6/11/18

State of West Virginia

County of Cabell, to-wit:

Taken, subscribed, and sworn to before me this 11 day of June, 2018.

My Commission expires Jan 3, 2021, 2021.



NOTARY PUBLIC _____

Job Name:
DEPT OF ADMIN BLDG 32 LED - BLDG 32 &
34 GSD1800000021

Catalog Number:
24CZ-LD5-40SE-S-UNV-L835-CD1-
PALC
Notes:

Type:
LINE1

RSK18-9449

Metalux

DESCRIPTION

Cruze LED is a specification lensed troffer series. This high quality luminaire is dedicated to the latest solid state lighting and driver technology for optimal performance and energy efficiency. The Cruze is compatible with all of today's popular ceiling systems and is available with a number of options and accessories for application versatility.

The Cruze series features efficiency, quality and performance. The series is an excellent choice for commercial office spaces, schools, hospitals or retail merchandising areas.

SPECIFICATION FEATURES

Construction

Rigid housing is die formed of code gauge prime cold rolled steel and features full length die-formed stiffeners and unibody endplate for added strength. Side flanges are hemmed. Innovative design provides superior lens brightness uniformity and visual comfort. Unibody endplates are securely attached with interlocking tabs and screws. Four auxiliary fixture end suspension points provided. Endplates have integral Grid-lock feature for safety and convenience.

Controls

The Cruze LED is Powered by Fifth Light, with a standard 0-10V continuous dimming driver that works with any 0-10V control/dimmer. Combine with energy saving products like occupancy sensors, daylighting controls and lighting relay panels to maximize energy savings. In addition, the Cruze can include a factory-installed integrated sensor system for occupancy and daylight dimming control and manual control from an optional handheld remote. Or, specify the Digital Addressable Lighting Interface (DALI) drivers, dimmable down to 10%, for use with Fifth Light

controls. See ordering information for details on all three options.

Electrical

Long-Life LED system coupled with electrical driver to deliver optimal performance. LED's available in 3000K, 3500K, 4000K or 5000K with a minimum CRI of 80. Projected life is 60,000 hours at 80% lumen output. cULus listed. Electronic drivers are available for 120-277V and 347V applications.

Emergency Battery Pack Option

Optional 120v-277v integral emergency battery pack is available in 7-watts or 14-watts to meet critical life-safety lighting requirements. The 90-minute batteries provide constant power to the LED system, ensuring code-compliance. A test switch/indicator button can be tested safely from the ground using a laser pointer, while the patented EZ Key prevents accidental discharge of the battery during construction. See ordering information for details.

Finish

Multistage, iron phosphate pretreatment ensures maximum bonding and rust inhibition. Housing finished with 90%

reflective white enamel for superior performance.

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/Sheilding

Die formed, heavy gauge, flat steel door with reinforced mitered corners and painted after fabrication, baked matte white enamel finish. Positive light seals. Acrylic frosted lens.

Compliance

Modules are UL recognized components and indoor luminaires are cULus listed for 25°C ambient environments, RoHS compliant, and LED modules comply with IESNA LM-79 and LM-80 standards. DesignLights Consortium® Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.

Warranty

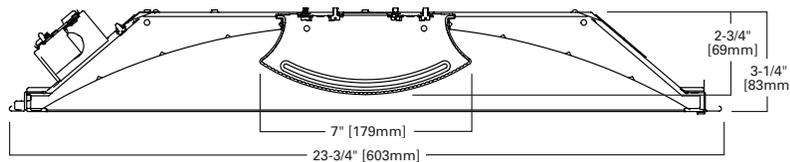
Five year warranty.



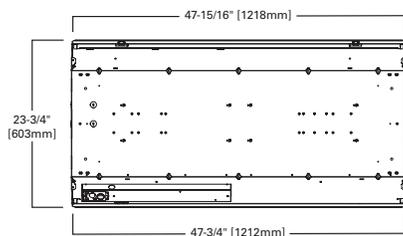
**24CZ
LED**

**2' X 4' TROFFER LED
MODULE**

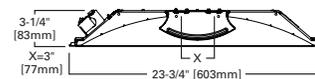
Specification Grade Troffer



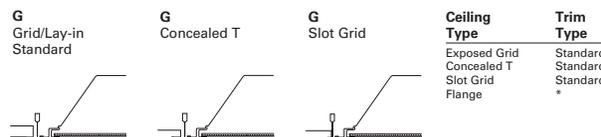
MOUNTING DATA



LAMP CONFIGURATIONS



CEILING COMPATIBILITY



CERTIFICATION DATA

cULus - 1598
Damp Location Listed
IC Rated
LM79/LM80 Compliant
ROHS Compliant
DesignLights Consortium® Qualified
NOM Compliant

*See Drywall Frame Kit Accessory in Ordering Information Section

LINEAR DISCONNECT

Safe and convenient means of disconnecting power



PS519142EN
1-9-2018



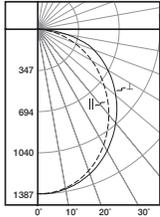
Job Name:
DEPT OF ADMIN BLDG 32 LED - BLDG 32 &
34 GSD1800000021

Catalog Number:
24CZ-LD5-40SE-S-UNV-L835-CD1-
PALC
Notes:

Type:
LINE1
RSK18-9449

24CZ LED

PHOTOMETRICS

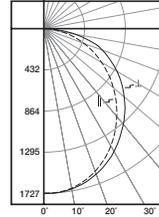


24CZ-LD5-40-UNV-L835-CD1-U

Electronic Driver
Linear LED 3500K
Spacing criterion:
(H) 1.2 x mounting
height, (L) 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 H	45°	Across L
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



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

Electronic Driver
Linear LED 3500K
Spacing criterion:
(H) 1.2 x mounting
height, (L) 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 H	45°	Across L
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	469
80	156	272	294
85	61	112	101
90	0	0	0

Coefficients of Utilization

rc	Effective floor cavity reflectance																	
	80%				70%				20%									
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	68
3	89	79	70	63	87	77	69	63	74	67	62	71	65	61	69	64	60	57
4	82	69	60	54	79	68	60	53	66	58	52	63	57	52	61	56	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	50	44	39	37
7	64	51	42	35	63	50	41	35	48	41	35	47	40	35	45	39	35	33
8	60	46	38	32	58	45	37	32	44	37	31	43	36	31	42	36	31	29
9	56	42	34	28	55	42	34	28	41	33	28	40	33	28	39	32	28	26
10	52	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	25	24

Coefficients of Utilization

rc	Effective floor cavity reflectance																	
	80%				70%				20%									
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83
2	98	90	82	76	95	88	81	76	84	79	74	81	76	72	78	74	70	68
3	89	78	70	63	87	77	69	63	74	67	62	71	65	60	68	64	59	57
4	82	69	60	53	79	68	60	53	65	58	52	63	57	52	61	55	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	39	51	44	39	50	43	39	37
7	64	50	42	35	62	50	41	35	48	40	35	47	40	35	45	39	34	32
8	60	46	37	31	58	45	37	31	44	36	31	43	36	31	42	35	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	23

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

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

Job Name:
DEPT OF ADMIN BLDG 32 LED - BLDG 32 &
34 GSD1800000021

Catalog Number:
24CZ-LD5-40SE-S-UNV-L835-CD1-
PALC
Notes:

Type:
LINE1
RSK18-9449

ENERGY AND PERFORMANCE DATA BY CATALOG NUMBER

24CZ LED

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

*Made to order (MTO) requires a typical three week lead time.

Standard Efficacy Versions

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

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1-9-2018

Job Name:
DEPT OF ADMIN BLDG 32 LED - BLDG 32 &
34 GSD1800000021

Catalog Number:
24CZ-LD5-40SE-S-UNV-L835-CD1-
PALC
Notes:

Type:
LINE1
RSK18-9449

24CZ LED

ENERGY AND PERFORMANCE DATA BY CATALOG NUMBER

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

*Made to order (MTO) requires a typical three week lead time.

Standard Efficacy Versions

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

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LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (60,000 hours)	Theoretical L70 (Hours)
25°C	> 80%	> 186,000

90 CRI

24CZ LED

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

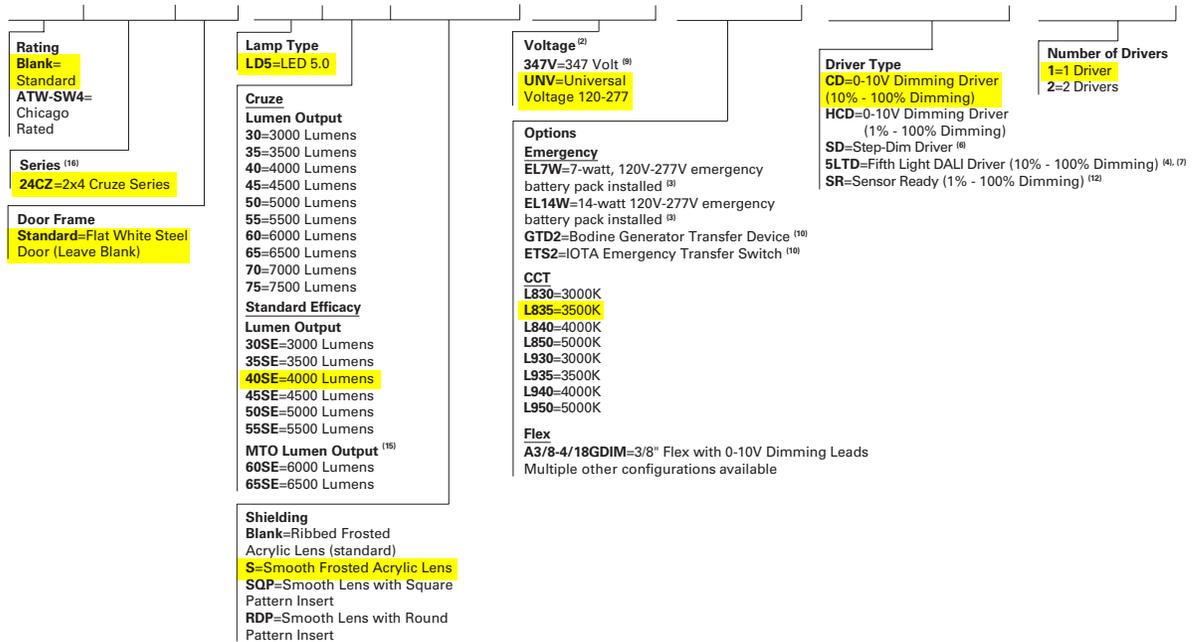
Lumen Adjustment Factor = 0.861

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

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

ORDERING INFORMATION

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



ACCESSORIES

- EQ-CLIP-U=T-BAR Safety Earthquake Clips (1)
- DF-24-W=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
- DF10P-C=Decorator Dimmer, 0-10V
- SF10P-=Decorator Slide Dimmer, 0-10V
- ISHH-01=Programming Remote for Integrated Sensor
- ISHH-02=Personal Control Remote for Integrated Sensor

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) Must be used in conjunction with a DALI control system. For a complete listing of Fifth Light Technology products and other solutions from Cooper Controls, visit www.eaton.com/lightingsystems. (5) Integral sensor works with CD and HCD drivers and is factory prewired to the driver for stand-alone control. (6) Step dim driver option is not available with 3000, 3500, 4000, 7000 and 7500 lumen packages and 3000SE, 3500SE, 6000SE and 6500SE versions. (7) Fifth Light (5LTD) driver option is not available with 3000, 3500 and 4000 lumen packages and 3000SE and 3500SE versions. (8) Provides blank band on opposite side from sensor band to provide symmetric appearance. (9) 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. (10) Used to transfer fixture to secondary power source for life-safety operation. When used with a dimming fixture, two devices are required to ensure control is disabled while operating under emergency power. (11) Must be used in conjunction with a LumaWatt Pro control system. For complete LumaWatt Pro wireless solutions, visit www.eaton.com/lumawattpro. (12) SR driver compatible with LWI option only. (13) LWT compatible with CD and HCD drivers only. (14) LWT sensor is external to luminaire, cable factory wired. (15) Made-to-order (MTO) requires a typical three week leadtime. (16) DesignLights Consortium® Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.

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

SHIPPING DATA

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

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Specifications and dimensions subject to change without notice.

Job Name:
DEPT OF ADMIN BLDG 32 LED - BLDG 32 &
34 GSD1800000021

Catalog Number:
24CZ-LD5-40SE-S-UNV-L835-CD1-
PALC
Notes:

Type:
LINE1
RSK18-9449

24CZ LED

INTEGRATED SENSOR

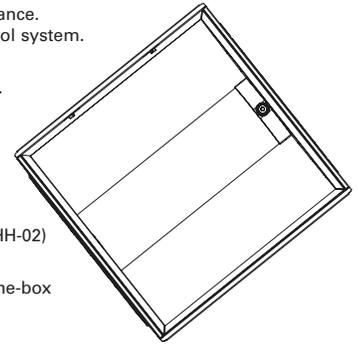
The Cruze with Integrated Sensor technology provides automatic energy savings without sacrificing performance. Traditionally, these types of energy savings required coordination between the luminaire and a lighting control system. The Cruze delivers superior lighting with integrated occupancy and daylighting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

Capture the benefits of traditional lighting controls, without complicated coverage planning or special wiring. Ideal for new construction or retrofit, the Cruze 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.

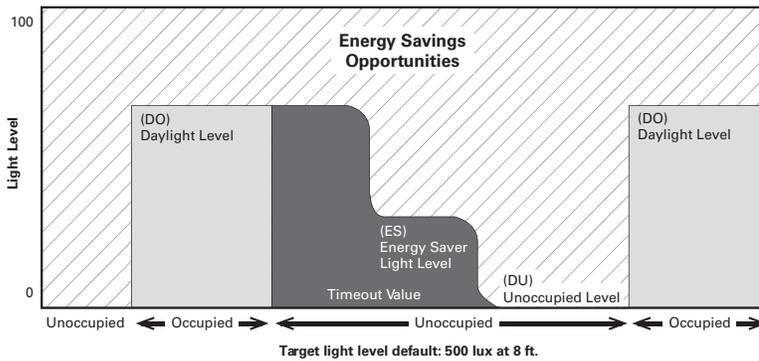
Occupied daylight light levels and unoccupied light levels can be adjusted using the integrated sensor programming remote (Catalog Number: ISHH-01). The integrated sensor personal remote (Catalog Number: ISHH-02) provides code compliant manual raise, lower, ON, OFF control.

The Cruze with Integrated Sensor is easy to install with no special wiring and ensures energy savings out-of-the-box with default control settings.

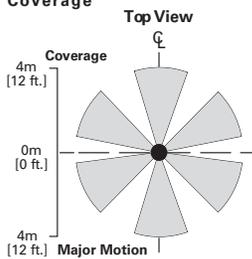


How it works:

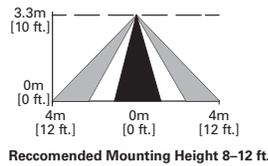
- As the user enters the space controlled by the integral sensor, the lighting turns ON to the default daylight level.
- Lighting will remain at that the daylight level until the space is unoccupied. This will start the occupancy timeout period (default 20 minutes).
- If the space remains unoccupied for half of the timeout period, the lighting will automatically reduce to the Energy Saver light level. This adjustable light level is typically half of the occupied daylight level.
- At the end of the timeout period the lighting will go to the unoccupied light level. This adjustable light level uses the OFF default setting.



Coverage



Side View



Optional Remote Controls



ISHH-01 Programming Remote



ISHH-02 Personal Control Remote



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www.eaton.com/lighting

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1-9-2018

Job Name:
DEPT OF ADMIN BLDG 32 LED - BLDG 32 &
34 GSD1800000021

Catalog Number:
24CZ-LD5-40SE-S-UNV-EL7W-L835-
CD1-PALC
Notes:

Type:
LINE2

RSK18-9449

Metalux

DESCRIPTION

Cruze LED is a specification lensed troffer series. This high quality luminaire is dedicated to the latest solid state lighting and driver technology for optimal performance and energy efficiency. The Cruze is compatible with all of today's popular ceiling systems and is available with a number of options and accessories for application versatility.

The Cruze series features efficiency, quality and performance. The series is an excellent choice for commercial office spaces, schools, hospitals or retail merchandising areas.

SPECIFICATION FEATURES

Construction

Rigid housing is die formed of code gauge prime cold rolled steel and features full length die-formed stiffeners and unibody endplate for added strength. Side flanges are hemmed. Innovative design provides superior lens brightness uniformity and visual comfort. Unibody endplates are securely attached with interlocking tabs and screws. Four auxiliary fixture end suspension points provided. Endplates have integral Grid-lock feature for safety and convenience.

Controls

The Cruze LED is Powered by Fifth Light, with a standard 0-10V continuous dimming driver that works with any 0-10V control/dimmer. Combine with energy saving products like occupancy sensors, daylighting controls and lighting relay panels to maximize energy savings. In addition, the Cruze can include a factory-installed integrated sensor system for occupancy and daylight dimming control and manual control from an optional handheld remote. Or, specify the Digital Addressable Lighting Interface (DALI) drivers, dimmable down to 10%, for use with Fifth Light

controls. See ordering information for details on all three options.

Electrical

Long-Life LED system coupled with electrical driver to deliver optimal performance. LED's available in 3000K, 3500K, 4000K or 5000K with a minimum CRI of 80. Projected life is 60,000 hours at 80% lumen output. cULus listed. Electronic drivers are available for 120-277V and 347V applications.

Emergency Battery Pack Option

Optional 120v-277v integral emergency battery pack is available in 7-watts or 14-watts to meet critical life-safety lighting requirements. The 90-minute batteries provide constant power to the LED system, ensuring code-compliance. A test switch/indicator button can be tested safely from the ground using a laser pointer, while the patented EZ Key prevents accidental discharge of the battery during construction. See ordering information for details.

Finish

Multistage, iron phosphate pretreatment ensures maximum bonding and rust inhibition. Housing finished with 90%

reflective white enamel for superior performance.

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/Sheilding

Die formed, heavy gauge, flat steel door with reinforced mitered corners and painted after fabrication, baked matte white enamel finish. Positive light seals. Acrylic frosted lens.

Compliance

Modules are UL recognized components and indoor luminaires are cULus listed for 25°C ambient environments, RoHS compliant, and LED modules comply with IESNA LM-79 and LM-80 standards. DesignLights Consortium® Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.

Warranty

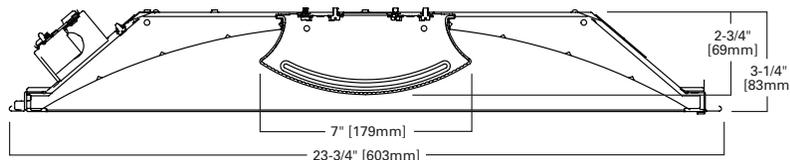
Five year warranty.



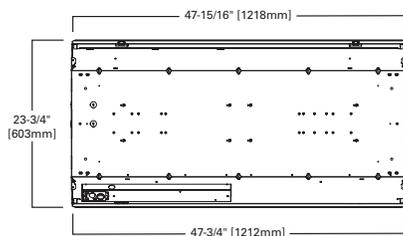
**24CZ
LED**

**2' X 4' TROFFER LED
MODULE**

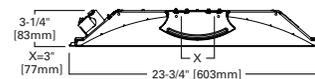
Specification Grade Troffer



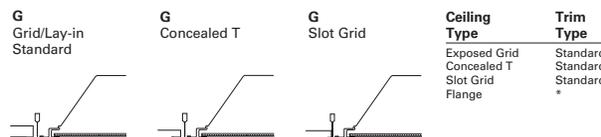
MOUNTING DATA



LAMP CONFIGURATIONS



CEILING COMPATIBILITY



LINEAR DISCONNECT

Safe and convenient means of disconnecting power



PS519142EN
1-9-2018

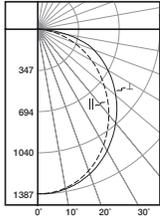
Job Name:
DEPT OF ADMIN BLDG 32 LED - BLDG 32 &
34 GSD1800000021

Catalog Number:
24CZ-LD5-40SE-S-UNV-EL7W-L835-
CD1-PALC
Notes:

Type:
LINE2
RSK18-9449

24CZ LED

PHOTOMETRICS



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

Electronic Driver
Linear LED 3500K
Spacing criterion:
(H) 1.2 x mounting
height, (L) 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 H	45°	Across L
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

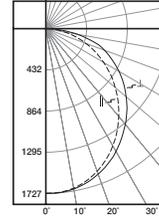
rc	Effective floor cavity reflectance																	
	80%		70%		50%		30%		10%	0%								
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88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



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

Electronic Driver
Linear LED 3500K
Spacing criterion:
(H) 1.2 x mounting
height, (L) 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 H	45°	Across L
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	469
80	156	272	294
85	61	112	101
90	0	0	0

Coefficients of Utilization

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

Job Name:
DEPT OF ADMIN BLDG 32 LED - BLDG 32 &
34 GSD1800000021

Catalog Number:
24CZ-LD5-40SE-S-UNV-EL7W-L835-
CD1-PALC
Notes:

Type:
LINE2
RSK18-9449

ENERGY AND PERFORMANCE DATA BY CATALOG NUMBER

24CZ LED

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

*Made to order (MTO) requires a typical three week lead time.

Standard Efficacy Versions

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

*Made to order (MTO) requires a typical three week lead time.



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Specifications and dimensions subject to change without notice.

PS519142EN
1-9-2018

Job Name:
DEPT OF ADMIN BLDG 32 LED - BLDG 32 &
34 GSD1800000021

Catalog Number:
24CZ-LD5-40SE-S-UNV-EL7W-L835-
CD1-PALC
Notes:

Type:
LINE2
RSK18-9449

24CZ LED

ENERGY AND PERFORMANCE DATA BY CATALOG NUMBER

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

*Made to order (MTO) requires a typical three week lead time.

Standard Efficacy Versions

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

*Made to order (MTO) requires a typical three week lead time.



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Specifications and dimensions subject to change without notice.

PS519142EN
1-9-2018

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (60,000 hours)	Theoretical L70 (Hours)
25°C	> 80%	> 186,000

90 CRI

24CZ LED

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

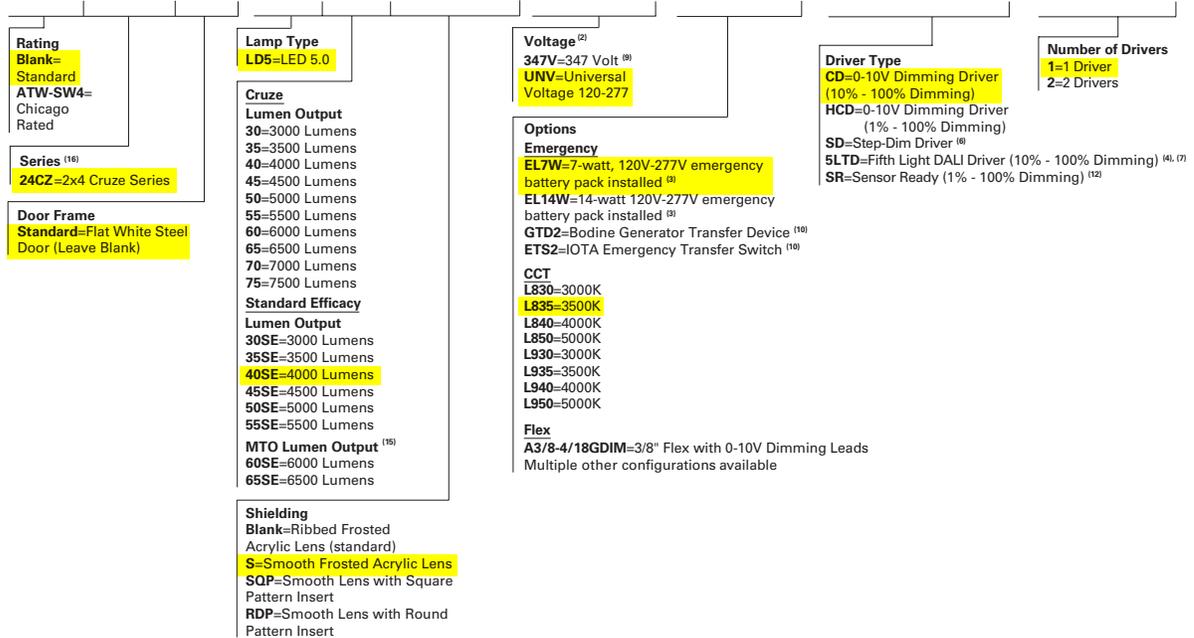
Lumen Adjustment Factor = 0.861

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

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

ORDERING INFORMATION

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



ACCESSORIES

- EQ-CLIP-U=T-BAR Safety Earthquake Clips ⁽¹⁾
- DF-24-W=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
- DF10P-C=Decorator Dimmer, 0-10V
- SF10P-_=Decorator Slide Dimmer, 0-10V
- ISHH-01=Programming Remote for Integrated Sensor
- ISHH-02=Personal Control Remote for Integrated Sensor

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⁾Must be used in conjunction with a DALI control system. For a complete listing of Fifth Light Technology products and other solutions from Cooper Controls, visit www.eaton.com/lightingsystems. ⁽⁵⁾Integral sensor works with CD and HCD drivers and is factory prewired to the driver for stand-alone control. ⁽⁶⁾Step dim driver option is not available with 3000, 3500, 4000, 7000 and 7500 lumen packages and 3000SE, 3500SE, 6000SE and 6500SE versions. ⁽⁷⁾Fifth Light (5LTD) driver option is not available with 3000, 3500 and 4000 lumen packages and 3000SE and 3500SE versions. ⁽⁸⁾Provides blank band on opposite side from sensor band to provide symmetric appearance. ⁽⁹⁾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. ⁽¹⁰⁾Used to transfer fixture to secondary power source for life-safety operation. When used with a dimming fixture, two devices are required to ensure control is disabled while operating under emergency power. ⁽¹¹⁾Must be used in conjunction with a LumaWatt Pro control system. For complete LumaWatt Pro wireless solutions, visit www.eaton.com/lumawattpro. ⁽¹²⁾SR driver compatible with LWI option only. ⁽¹³⁾LWT compatible with CD and HCD drivers only. ⁽¹⁴⁾LWT sensor is external to luminaire, cable factory wired. ⁽¹⁵⁾Made-to-order (MTO) requires a typical three week leadtime. ⁽¹⁶⁾DesignLights Consortium® Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.

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

SHIPPING DATA

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

PS519142EN
1-9-2018



Eaton
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-496-4300
www.eaton.com/lighting

Specifications and dimensions subject to change without notice.

Job Name:
DEPT OF ADMIN BLDG 32 LED - BLDG 32 &
34 GSD1800000021

Catalog Number:
24CZ-LD5-40SE-S-UNV-EL7W-L835-
CD1-PALC
Notes:

Type:
LINE2
RSK18-9449

24CZ LED

INTEGRATED SENSOR

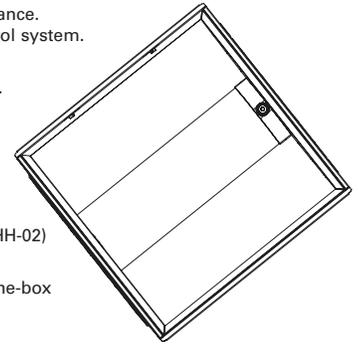
The Cruze with Integrated Sensor technology provides automatic energy savings without sacrificing performance. Traditionally, these types of energy savings required coordination between the luminaire and a lighting control system. The Cruze delivers superior lighting with integrated occupancy and daylighting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

Capture the benefits of traditional lighting controls, without complicated coverage planning or special wiring. Ideal for new construction or retrofit, the Cruze 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.

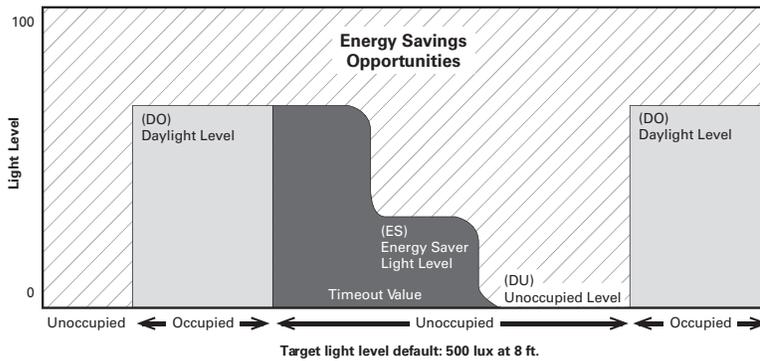
Occupied daylight light levels and unoccupied light levels can be adjusted using the integrated sensor programming remote (Catalog Number: ISHH-01). The integrated sensor personal remote (Catalog Number: ISHH-02) provides code compliant manual raise, lower, ON, OFF control.

The Cruze with Integrated Sensor is easy to install with no special wiring and ensures energy savings out-of-the-box with default control settings.

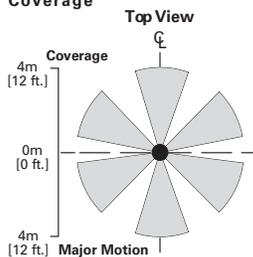


How it works:

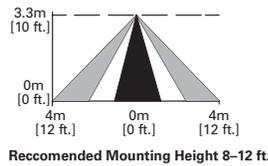
- As the user enters the space controlled by the integral sensor, the lighting turns ON to the default daylight level.
- Lighting will remain at that the daylight level until the space is unoccupied. This will start the occupancy timeout period (default 20 minutes).
- If the space remains unoccupied for half of the timeout period, the lighting will automatically reduce to the Energy Saver light level. This adjustable light level is typically half of the occupied daylight level.
- At the end of the timeout period the lighting will go to the unoccupied light level. This adjustable light level uses the OFF default setting.



Coverage



Side View



Optional Remote Controls



ISHH-01 Programming Remote



ISHH-02 Personal Control Remote



Eaton
1121 Highway 74 South
Peshtree City, GA 30269
P: 770-486-4800
www.eaton.com/lighting

Specifications and dimensions subject to change without notice.

PS519142EN
1-9-2018

Job Name:
DEPT OF ADMIN BLDG 32 LED - BLDG 32 &
34 GSD1800000021

Catalog Number:
22CZ-LD5-39SE-S-UNV-L835-CD1-
PALC
Notes:

Type:
LINE3
RSK18-9449

Metalux

DESCRIPTION

Cruze LED is a premium grade specification lensed troffer series. This innovative, high quality luminaire is dedicated to the latest solid state lighting and driver technology for optimal performance and energy efficiency. The Cruze is compatible with all of today's popular ceiling systems and is available with a number of options and accessories for application versatility.

The Cruze series features efficiency, quality and performance. The series is an excellent choice for commercial office spaces, schools, hospitals or retail merchandising areas.

SPECIFICATION FEATURES

Construction

Rigid housing is die formed of code gauge prime cold rolled steel and features full length die-formed stiffeners and unibody endplate for added strength. Side flanges are hemmed. Innovative design provides superior lens brightness uniformity and visual comfort. Unibody endplates are securely attached with interlocking tabs and screws. Four auxiliary fixture end suspension points provided.

Controls

Metalux LED luminaires come standard with 0-10V dimming drivers (1% standard).

Options compatible with Eaton's Connected Lighting Systems:

- WaveLinX sensor
- LumaWatt Pro sensor
- SVPD sensor
- DLVP sensor and driver
- Fifth Light DALI driver

Other options include step-dimming and 3rd party drivers. Refer to the Connected Lighting options page and ordering information for more details.

Electrical

Long-Life LED system coupled with electrical driver to deliver optimal performance. LED's available in 3000K, 3500K, 4000K or 5000K with a minimum CRI of 80. Projected life is 60,000 hours at 79% lumen output. cULus listed. Electronic drivers are available for 120-277V and 347V applications.

Emergency Battery Pack Option

Optional 120v-277v integral emergency battery pack is available in 7-watts or 14-watts to meet critical life-safety lighting requirements. The 90-minute batteries provide constant power to the LED system, ensuring code-compliance. A test switch/indicator button can be tested safely from the ground using a laser pointer, while the patented EZ Key prevents accidental discharge of the battery during construction. See ordering information for details.

Finish

Multistage, iron phosphate pretreatment ensures maximum bonding and rust inhibition. Housing finished with 90% reflective white enamel for superior performance.

Catalog #		Type	
Project		Date	
Comments			
Prepared by			



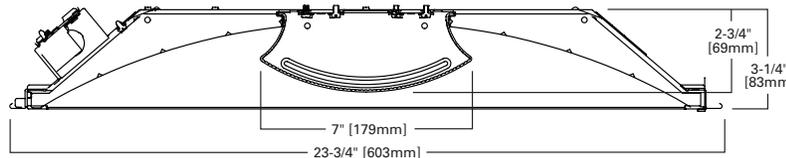
**22CZ
LED**

**2' X 2' TROFFER LED
MODULE**

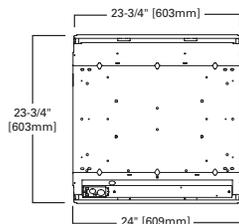
Specification Grade Troffer



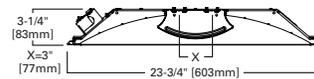
Connected Systems
[CLICK HERE](#)



MOUNTING DATA



LAMP CONFIGURATIONS



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	*

CERTIFICATION DATA

cULus - 1598
Damp Location Listed
IC Rated
LM79/LM80 Compliant
ROHS Compliant
DesignLights Consortium® Qualified
NOM Compliant

*See Drywall Frame Kit Accessory in Ordering Information Section

LINEAR DISCONNECT

Safe and convenient means of disconnecting power



EATON
Powering Business Worldwide

PS519141EN
1-22-2018

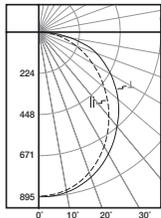
Job Name:
DEPT OF ADMIN BLDG 32 LED - BLDG 32 &
34 GSD1800000021

Catalog Number:
22CZ-LD5-39SE-S-UNV-L835-CD1-
PALC
Notes:

Type:
LINE3
RSK18-9449

22CZ LED

PHOTOMETRICS



22CZ-LD5-24-UNV-L835-CD1-U

Electronic Driver
Linear LED 3500K
Spacing criterion:
(II) 1.17 x mounting
height, (⊥) 1.25 x
mounting height
Lumens: 2470
Input Watts: 19.6W
Efficacy: 126.0 lm/W
Test Report:
22CZ-LD5-24-UNV-
L835-CD1-U.IES

Candlepower

Angle	Along II	45°	Across ⊥
0	893	893	893
5	884	890	892
10	866	875	879
15	838	849	857
20	799	815	829
25	753	774	793
30	701	725	750
35	641	670	703
40	577	611	651
45	511	551	602
50	445	492	548
55	379	432	490
60	313	372	434
65	249	311	374
70	186	251	315
75	126	193	231
80	74	122	140
85	30	47	46
90	0	0	0

Coefficients of Utilization

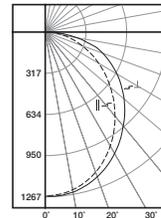
rc	Effective floor cavity reflectance					rc	Effective floor cavity reflectance											
	80%		70%		50%		30%		10%		0%							
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	0			
RCR																		
0	119	119	119	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	108	104	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	85	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	62	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	52	39	31	26	38	31	26	37	31	26	36	30	26	24

Zonal Lumen Summary

Zone	Lumens	% Fixture
0-30	680	27.5
0-40	1099	44.5
0-60	1915	77.5
0-90	2470	100.0
0-180	2470	100.0

Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	2314	2495	2726
55	2116	2412	2736
65	1887	2357	2834
75	1559	2388	2858
85	1102	1727	1690



22CZ-LD5-34-UNV-L835-CD1-U

Electronic Driver
Linear LED 3500K
Spacing criterion:
(II) 1.17 x mounting
height, (⊥) 1.25 x
mounting height
Lumens: 3497
Input Watts: 29.4W
Efficacy: 118.9 lm/W
Test Report:
22CZ-LD5-34-UNV-
L835-CD1-U.IES

Candlepower

Angle	Along II	45°	Across ⊥
0	1264	1264	1264
5	1252	1260	1263
10	1226	1239	1246
15	1186	1202	1215
20	1133	1154	1173
25	1066	1095	1122
30	991	1026	1061
35	906	949	995
40	816	866	922
45	726	782	851
50	630	697	776
55	537	612	696
60	443	527	614
65	351	439	529
70	262	356	445
75	178	273	322
80	102	170	198
85	42	67	64
90	0	0	0

Coefficients of Utilization

rc	Effective floor cavity reflectance					rc	Effective floor cavity reflectance											
	80%		70%		50%		30%		10%		0%							
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	0			
RCR																		
0	119	119	119	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	108	104	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	85	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	62	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	52	39	31	26	38	31	26	37	31	26	36	30	26	24

Zonal Lumen Summary

Zone	Lumens	% Fixture
0-30	962	27.5
0-40	1557	44.5
0-60	2711	77.5
0-90	3497	100.0
0-180	3497	100.0

Luminance Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	3288	3542	3854
55	2998	3417	3886
65	2660	3327	4009
75	2202	3378	3984
85	1543	2462	2352

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (60,000 hours)	Theoretical L70 (Hours)
25°C	> 79%	> 178,000

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

22CZ-LD5-34-UNV-L935-CD1-U
at 90CRI at 3500K

Lumen Adjustment Factor = 0.861

Total Light Output =
3,497 lm x 0.861 = 3,010 lm

Efficacy = $\frac{3,010 \text{ lm}}{29.4 \text{ W}}$ = 102.3 lm/W

Job Name:
DEPT OF ADMIN BLDG 32 LED - BLDG 32 &
34 GSD1800000021

Catalog Number:
22CZ-LD5-39SE-S-UNV-L835-CD1-
PALC
Notes:

Type:
LINE3
RSK18-9449

ENERGY AND PERFORMANCE DATA BY CATALOG NUMBER

22CZ LED

Stock or MTO*	Catalog Logic (Ribbed Lens)	Delivered Lumens	Watts	Efficacy (lm/W)
MTO	22CZ-LD5-20-UNV-L830-CD1-U	1964	16.4	120
MTO	22CZ-LD5-20-UNV-L835-CD1-U	2086	16.4	127
MTO	22CZ-LD5-20-UNV-L840-CD1-U	2128	16.4	130
MTO	22CZ-LD5-20-UNV-L850-CD1-U	2302	16.4	141
MTO	22CZ-LD5-24-UNV-L830-CD1-U	2325	19.6	119
Stock	22CZ-LD5-24-UNV-L835-CD1-U	2470	19.6	126
Stock	22CZ-LD5-24-UNV-L840-CD1-U	2519	19.6	128
MTO	22CZ-LD5-24-UNV-L850-CD1-U	2725	19.6	139
MTO	22CZ-LD5-29-UNV-L830-CD1-U	2729	23.5	116
MTO	22CZ-LD5-29-UNV-L835-CD1-U	2899	23.5	123
MTO	22CZ-LD5-29-UNV-L840-CD1-U	2957	23.5	126
MTO	22CZ-LD5-29-UNV-L850-CD1-U	3199	23.5	136
MTO	22CZ-LD5-34-UNV-L830-CD1-U	3292	29.4	112
Stock	22CZ-LD5-34-UNV-L835-CD1-U	3497	29.4	119
Stock	22CZ-LD5-34-UNV-L840-CD1-U	3567	29.4	121
MTO	22CZ-LD5-34-UNV-L850-CD1-U	3858	29.4	131
MTO	22CZ-LD5-39-UNV-L830-CD1-U	3701	36.4	102
MTO	22CZ-LD5-39-UNV-L835-CD1-U	3932	36.4	108
MTO	22CZ-LD5-39-UNV-L840-CD1-U	4011	36.4	110
MTO	22CZ-LD5-39-UNV-L850-CD1-U	4338	36.4	119
MTO	22CZ-LD5-44-UNV-L830-CD1-U	4173	41.8	100
MTO	22CZ-LD5-44-UNV-L835-CD1-U	4433	41.8	106
MTO	22CZ-LD5-44-UNV-L840-CD1-U	4522	41.8	108
MTO	22CZ-LD5-44-UNV-L850-CD1-U	4891	41.8	117

*Made to order (MTO) requires a typical three week lead time.

Standard Efficacy Versions

Stock or MTO*	Catalog Logic (Ribbed Lens)	Delivered Lumens	Watts	Efficacy (lm/W)
MTO	22CZ-LD5-20SE-UNV-L830-CD1-U	1948	17.2	113
STOCK	22CZ-LD5-20SE-UNV-L835-CD1-U	2069	17.2	120
STOCK	22CZ-LD5-20SE-UNV-L840-CD1-U	2110	17.2	123
MTO	22CZ-LD5-20SE-UNV-L850-CD1-U	2283	17.2	133
MTO	22CZ-LD5-24SE-UNV-L830-CD1-U	2322	21.1	110
STOCK	22CZ-LD5-24SE-UNV-L835-CD1-U	2467	21.1	117
STOCK	22CZ-LD5-24SE-UNV-L840-CD1-U	2516	21.1	119
MTO	22CZ-LD5-24SE-UNV-L850-CD1-U	2722	21.1	129
MTO	22CZ-LD5-32SE-UNV-L830-CD1-U	3015	30.5	99
STOCK	22CZ-LD5-32SE-UNV-L835-CD1-U	3203	30.5	105
STOCK	22CZ-LD5-32SE-UNV-L840-CD1-U	3267	30.5	107
MTO	22CZ-LD5-32SE-UNV-L850-CD1-U	3534	30.5	116
MTO	22CZ-LD5-39SE-UNV-L830-CD1-U	3728	34.9	107
STOCK	22CZ-LD5-39SE-UNV-L835-CD1-U	3960	34.9	114
STOCK	22CZ-LD5-39SE-UNV-L840-CD1-U	4039	34.9	116
MTO	22CZ-LD5-39SE-UNV-L850-CD1-U	4369	34.9	125
MTO	22CZ-LD5-44SE-UNV-L830-CD1-U	4118	40.0	103
STOCK	22CZ-LD5-44SE-UNV-L835-CD1-U	4375	40.0	109
STOCK	22CZ-LD5-44SE-UNV-L840-CD1-U	4463	40.0	112
MTO	22CZ-LD5-44SE-UNV-L850-CD1-U	4827	40.0	121

*Made to order (MTO) requires a typical three week lead time.

Stock or MTO*	Catalog Logic (Smooth Lens)	Delivered Lumens	Watts	Efficacy (lm/W)
MTO	22CZ-LD5-20-S-UNV-L830-CD1-U	2003	16.4	122
MTO	22CZ-LD5-20-S-UNV-L835-CD1-U	2128	16.4	130
MTO	22CZ-LD5-20-S-UNV-L840-CD1-U	2170	16.4	132
MTO	22CZ-LD5-20-S-UNV-L850-CD1-U	2348	16.4	143
MTO	22CZ-LD5-24-S-UNV-L830-CD1-U	2372	19.6	121
MTO	22CZ-LD5-24-S-UNV-L835-CD1-U	2519	19.6	128
MTO	22CZ-LD5-24-S-UNV-L840-CD1-U	2570	19.6	131
MTO	22CZ-LD5-24-S-UNV-L850-CD1-U	2780	19.6	142
MTO	22CZ-LD5-29-S-UNV-L830-CD1-U	2784	23.5	118
MTO	22CZ-LD5-29-S-UNV-L835-CD1-U	2957	23.5	126
MTO	22CZ-LD5-29-S-UNV-L840-CD1-U	3016	23.5	128
MTO	22CZ-LD5-29-S-UNV-L850-CD1-U	3263	23.5	139
MTO	22CZ-LD5-34-S-UNV-L830-CD1-U	3358	29.4	114
MTO	22CZ-LD5-34-S-UNV-L835-CD1-U	3567	29.4	121
MTO	22CZ-LD5-34-S-UNV-L840-CD1-U	3638	29.4	124
MTO	22CZ-LD5-34-S-UNV-L850-CD1-U	3936	29.4	134
MTO	22CZ-LD5-39-S-UNV-L830-CD1-U	3775	36.4	104
MTO	22CZ-LD5-39-S-UNV-L835-CD1-U	4011	36.4	110
MTO	22CZ-LD5-39-S-UNV-L840-CD1-U	4091	36.4	112
MTO	22CZ-LD5-39-S-UNV-L850-CD1-U	4425	36.4	122
MTO	22CZ-LD5-44-S-UNV-L830-CD1-U	4256	41.8	102
MTO	22CZ-LD5-44-S-UNV-L835-CD1-U	4522	41.8	108
MTO	22CZ-LD5-44-S-UNV-L840-CD1-U	4612	41.8	110
MTO	22CZ-LD5-44-S-UNV-L850-CD1-U	4989	41.8	119

*Made to order (MTO) requires a typical three week lead time.

Standard Efficacy Versions

Stock or MTO*	Catalog Logic (Smooth Lens)	Delivered Lumens	Watts	Efficacy (lm/W)
MTO	22CZ-LD5-20SE-S-UNV-L830-CD1-U	1987	17.2	115
MTO	22CZ-LD5-20SE-S-UNV-L835-CD1-U	2110	17.2	123
MTO	22CZ-LD5-20SE-S-UNV-L840-CD1-U	2153	17.2	125
MTO	22CZ-LD5-20SE-S-UNV-L850-CD1-U	2328	17.2	135
MTO	22CZ-LD5-24SE-S-UNV-L830-CD1-U	2369	21.1	112
MTO	22CZ-LD5-24SE-S-UNV-L835-CD1-U	2516	21.1	119
MTO	22CZ-LD5-24SE-S-UNV-L840-CD1-U	2567	21.1	122
MTO	22CZ-LD5-24SE-S-UNV-L850-CD1-U	2776	21.1	132
MTO	22CZ-LD5-32SE-S-UNV-L830-CD1-U	3075	30.5	101
MTO	22CZ-LD5-32SE-S-UNV-L835-CD1-U	3267	30.5	107
MTO	22CZ-LD5-32SE-S-UNV-L840-CD1-U	3332	30.5	109
MTO	22CZ-LD5-32SE-S-UNV-L850-CD1-U	3605	30.5	118
MTO	22CZ-LD5-39SE-S-UNV-L830-CD1-U	3802	34.9	109
MTO	22CZ-LD5-39SE-S-UNV-L835-CD1-U	4039	34.9	116
MTO	22CZ-LD5-39SE-S-UNV-L840-CD1-U	4120	34.9	118
MTO	22CZ-LD5-39SE-S-UNV-L850-CD1-U	4457	34.9	128
MTO	22CZ-LD5-44SE-S-UNV-L830-CD1-U	4201	40.0	105
MTO	22CZ-LD5-44SE-S-UNV-L835-CD1-U	4463	40.0	112
MTO	22CZ-LD5-44SE-S-UNV-L840-CD1-U	4552	40.0	114
MTO	22CZ-LD5-44SE-S-UNV-L850-CD1-U	4924	40.0	123

*Made to order (MTO) requires a typical three week lead time.



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22CZ LED

ORDERING INFORMATION

SAMPLE NUMBER: 22CZ-LD5-34-UNV-L835-CD1-U

<p>Rating Blank= Standard ATW-SW4= Chicago Rated</p> <p>Series⁽⁸⁾ 22CZ=2x2 Cruze Series</p> <p>Door Frame Standard=Flat White Steel Door (Leave Blank)</p>	<p>Lamp Type LD5=LED 5.0</p> <p>Cruze Lumen Output 20=2000 Lumens 24=2400 Lumens 29=2900 Lumens 34=3400 Lumens 39=3900 Lumens 44=4400 Lumens</p> <p>Standard Efficacy Lumen Output 20SE=2000 Lumens 24SE=2400 Lumens 32SE=3200 Lumens 39SE=3900 Lumens 44SE=4400 Lumens</p> <p>Shielding Blank=Ribbed Frosted Acrylic Lens (standard) S=Smooth Frosted Acrylic Lens SOP=Smooth Lens with Square Pattern Insert RDP=Smooth Lens with Round Pattern Insert</p>	<p>Voltage⁽²⁾ 347V=347 Volt⁽⁴⁾ UNV=Universal Voltage 120-277V 48V=48 Volt Low-voltage (Class 2)⁽⁵⁾</p> <p>Options Emergency EL7W=7-watt, 120V-277V emergency battery pack installed⁽⁹⁾ EL14W=14-watt 120V-277V emergency battery pack installed⁽⁹⁾ ELV7W=7-watt, DLVP-compatible low voltage emergency battery pack installed⁽⁹⁾ ELV14W=14-watt DLVP-compatible low voltage emergency battery pack installed⁽⁹⁾ GTDZ=Bodine Generator Transfer Device⁽⁷⁾ ETSZ=IOTA Emergency Transfer Switch⁽⁷⁾</p> <p>CCT L830=3000K L835=3500K L840=4000K L850=5000K L930=3000K L935=3500K L940=4000K L950=5000K</p> <p>Flex A3/8-4/18GDIM=3/8" Flex with 0-10V Dimming Leads Multiple other configurations available. See below for details.</p>	<p>Driver Type CD=0-10V Dimming Driver (10%-100% Dimming) HCD=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)⁽⁸⁾ 5LTHD=Fifth Light Dimming Driver (1%-100% Dimming)⁽⁸⁾ LV1=DLVP Dimming Driver (0%-100% Dimming)⁽²⁾ 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⁽⁷⁾ LS=Lutron 5 Series (LDE5-Series) 5%-100% EcoSystem Driver⁽⁷⁾ LU=Lutron HiLume (L3D series) 1%-100% EcoSystem/3-wire Driver⁽⁷⁾</p>	<p>Number of Drivers 1=1 Driver</p>
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Integrated Sensing Systems
SWPD1=WaveLinx Wireless Integrated Sensor^(A)
LWIPD1=LumaWatt Pro Wireless Integrated Sensor⁽⁸⁾
LWTPD1=LumaWatt Pro Wireless Tile-mount Sensor⁽⁸⁾
SLVPD1=DLVP Low-voltage Integrated Sensor⁽²⁾
SVPD1=0-10V Stand-alone Integrated Sensor⁽⁹⁾

Packaging
U=Unit Pack
PALC=Job Pack, in carton

Sensor Accessories
DV=Dual Band⁽⁶⁾



ACCESSORIES

- EQ-CLIP-U=T-BAR Safety Earthquake Clips⁽¹⁾
- DF-22-W=2' x 2' Drywall Frame Kit
- SK-22-WS=2' x 2' Shallow Surface Mount Kit
- SK-22-WT=2' x 2' Tall Surface Mount Kit
- DF10P-C=Decorator Dimmer, 0-10V (CD and HCD drivers only)
- SF10P-_=Decorator Slide Dimmer, 0-10V (CD and HCD drivers only)
- ISHH-01=Programming Remote for Integrated Sensor⁽⁹⁾
- ISHH-02=Personal Control Remote for Integrated Sensor⁽⁹⁾

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 2000, 2400, 2900 and 3400 lumen packages and 2000SE, 2400SE and 3200SE versions. ⁽⁵⁾Provides blank band on opposite side from sensor band to provide symmetric appearance. ⁽⁶⁾347V versions are not available with emergency options. SD, 5LTD, and SR drivers with 347V are available but not DLC qualified. ⁽⁷⁾Used to transfer fixture to secondary power source for life-safety operation. When used with a dimming fixture, two devices are required to ensure control is disabled while operating under emergency power. ⁽⁸⁾DesignLights Consortium[®] Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.

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. ⁽⁸⁾Consult LumaWatt Pro system pages for additional details and compatibility. ⁽⁹⁾Consult DLVP system pages for additional details and compatibility. ⁽¹⁰⁾Consult SVPD series system pages for additional details and compatibility. ⁽¹¹⁾Consult Fifth Light system pages for additional details and compatibility. ⁽¹²⁾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.

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), 382, 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 Eaton Representative for availability and ordering information.

SHIPPING DATA

Catalog No.	Wt.
22CZ-LD5-27	12.5 lbs.
22CZ-LD5-36	12.5 lbs.



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Job Name:
DEPT OF ADMIN BLDG 32 LED - BLDG 32 &
34 GSD1800000021

Catalog Number:
22CZ-LD5-39SE-S-UNV-L835-CD1-
PALC
Notes:

Type:
LINE3
RSK18-9449

22CZ LED

INTEGRATED SENSOR

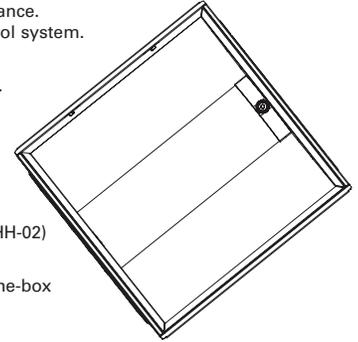
The Cruze with Integrated Sensor technology provides automatic energy savings without sacrificing performance. Traditionally, these types of energy savings required coordination between the luminaire and a lighting control system. The Cruze delivers superior lighting with integrated occupancy and daylighting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

Capture the benefits of traditional lighting controls, without complicated coverage planning or special wiring. Ideal for new construction or retrofit, the Cruze 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.

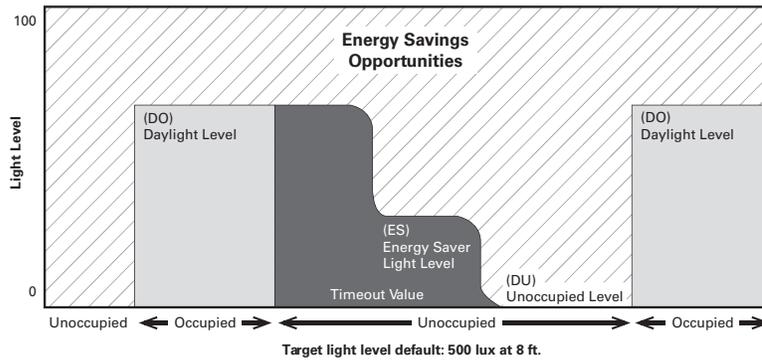
Occupied daylight light levels and unoccupied light levels can be adjusted using the integrated sensor programming remote (Catalog Number: ISHH-01). The integrated sensor personal remote (Catalog Number: ISHH-02) provides code compliant manual raise, lower, ON, OFF control.

The Cruze with Integrated Sensor is easy to install with no special wiring and ensures energy savings out-of-the-box with default control settings.

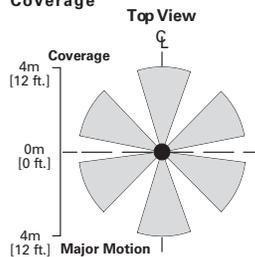


How it works:

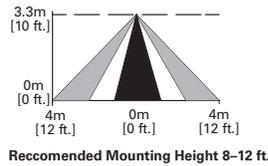
- As the user enters the space controlled by the integral sensor, the lighting turns ON to the default daylight level.
- Lighting will remain at that the daylight level until the space is unoccupied. This will start the occupancy timeout period (default 20 minutes).
- If the space remains unoccupied for half of the timeout period, the lighting will automatically reduce to the Energy Saver light level. This adjustable light level is typically half of the occupied daylight level.
- At the end of the timeout period the lighting will go to the unoccupied light level. This adjustable light level uses the OFF default setting.



Coverage



Side View



Optional Remote Controls



ISHH-01 Programming Remote



ISHH-02 Personal Control Remote



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LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (60,000 hours)	Theoretical L70 (Hours)
25°C	> 80%	> 186,000

90 CRI

24CZ LED

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

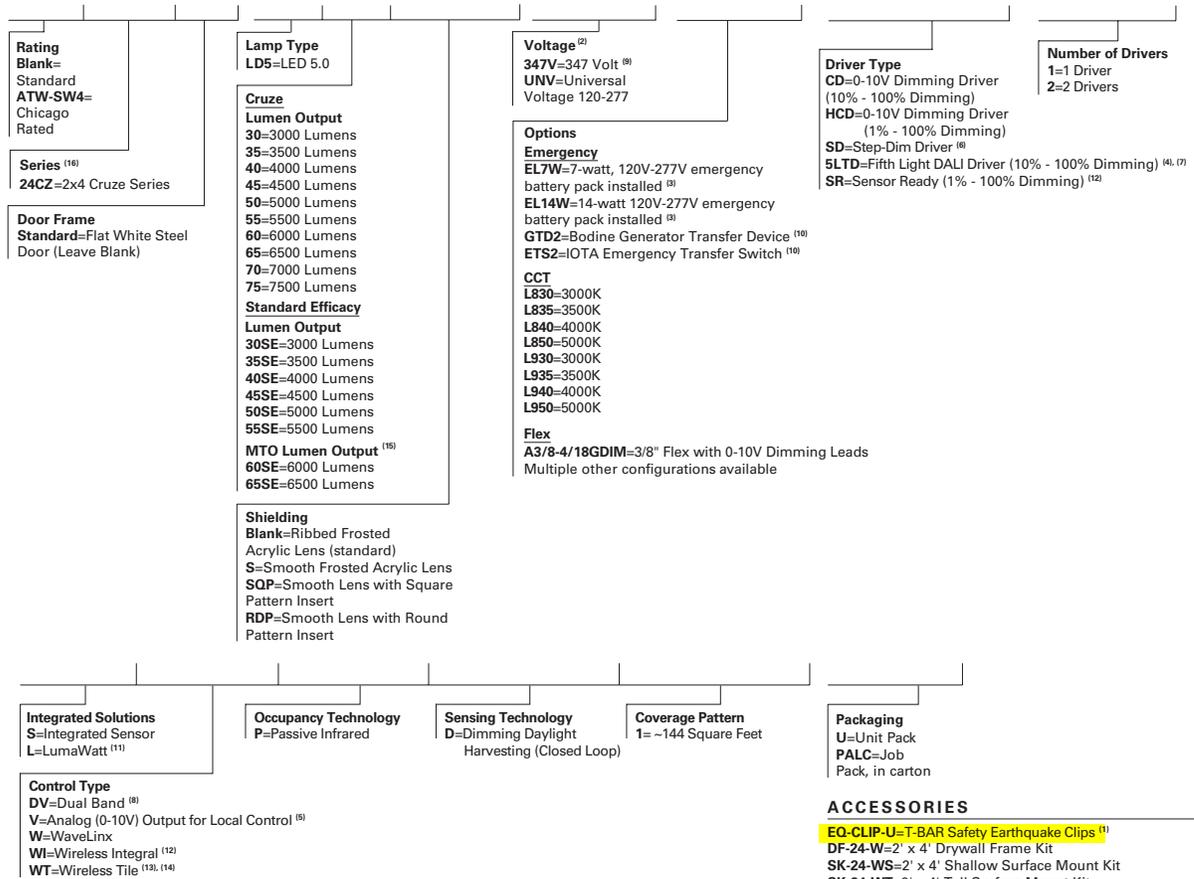
Lumen Adjustment Factor = 0.861

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

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

ORDERING INFORMATION

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



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⁾Must be used in conjunction with a DALI control system. For a complete listing of Fifth Light Technology products and other solutions from Cooper Controls, visit www.eaton.com/lightingsystems. ⁽⁵⁾Integral sensor works with CD and HCD drivers and is factory prewired to the driver for stand-alone control. ⁽⁶⁾Step dim driver option is not available with 3000, 3500, 4000, 7000 and 7500 lumen packages and 3000SE, 3500SE, 6000SE and 6500SE versions. ⁽⁷⁾Fifth Light (5LTD) driver option is not available with 3000, 3500 and 4000 lumen packages and 3000SE and 3500SE versions. ⁽⁸⁾Provides blank band on opposite side from sensor band to provide symmetric appearance. ⁽⁹⁾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. ⁽¹⁰⁾Used to transfer fixture to secondary power source for life-safety operation. When used with a dimming fixture, two devices are required to ensure control is disabled while operating under emergency power. ⁽¹¹⁾Must be used in conjunction with a LumaWatt Pro control system. For complete LumaWatt Pro wireless solutions, visit www.eaton.com/lumawattpro. ⁽¹²⁾SR driver compatible with LWI option only. ⁽¹³⁾LWT compatible with CD and HCD drivers only. ⁽¹⁴⁾LWT sensor is external to luminaire, cable factory wired. ⁽¹⁵⁾Made-to-order (MTO) requires a typical three week leadtime. ⁽¹⁶⁾DesignLights Consortium® Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.

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

SHIPPING DATA

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

PS519142EN
1-9-2018



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Specifications and dimensions subject to change without notice.

	Job Name: DEPT OF ADMIN BLDG 32 LED - BLDG 32 & 34 GSD1800000021	Catalog Number: OSW-P-010 Notes:	Type: LINE5 RSK18-9449
--	---	--	--

Technical Data Effective December 2016

0-10V dimmer sensor

Project Name:	Prepared By:
Project Number:	Date:
Catalog Number:	Type:

Description

Single pole & 3-Way
10A @ 120V/AC
8A @ 277V/AC
0-10VDC **FLR** and **LED** ballasts



OSW-P-010

Design features

- Compatible with dimmable 0-10V LED and FLR ballasts
- Provides 180 degree field of view and 1000 sq. ft. of major motion coverage
- Selectable time delay of 15 seconds (Test mode, changes to 2 minutes after 2 minutes of powering up), 5 minutes (factory default), 15 minutes and 20 minutes
- Full-range preset dimming control provided with horizontal dim/bright bar
- Adjustable high-end and low-end trim setting
- Single green LED indicates motion
- Push pad design provides minimal travel and crisp actuation
- Uniform color matches PIR lens to device housing
- Digital circuitry provides aesthetically pleasing soft ON/fade OFF
- Occupancy Sensor version allows to toggle between Auto ON/ Auto OFF or Manual ON/Auto OFF mode
- Occupancy Sensor version provides a selectable ambient light override preventing lights from switching ON when there is acceptable natural light
- Meets California Title 20 requirements
- No leakage to load in OFF mode
- Easily configurable to suit specific applications
- Neutral is required for installation of device

Table 1. 0-10V Dimmer Sensor

Catalog No.	Description	Compatible Lamp Types	Rating		Color Suffix
			Watt	V/AC	
<input type="checkbox"/> OSW-P-010	Occupancy sensor & dimmer with LED Single pole/3-Way preset	0-10VDC LED/FLR	1200 2200	120 277	BK, G, LA, V, W
<input type="checkbox"/> VSW-P-010	Vacancy sensor & dimmer with LED Single pole/3-Way preset	0-10VDC LED/FLR	1200 2200	120 277	BK, G, LA, V, W

Compliances, specifications and availability are subject to change without notice.



Job Name:
DEPT OF ADMIN BLDG 32 LED - BLDG 32 &
34 GSD1800000021

Catalog Number:
OSW-P-010

Type:
LINE5

Notes:

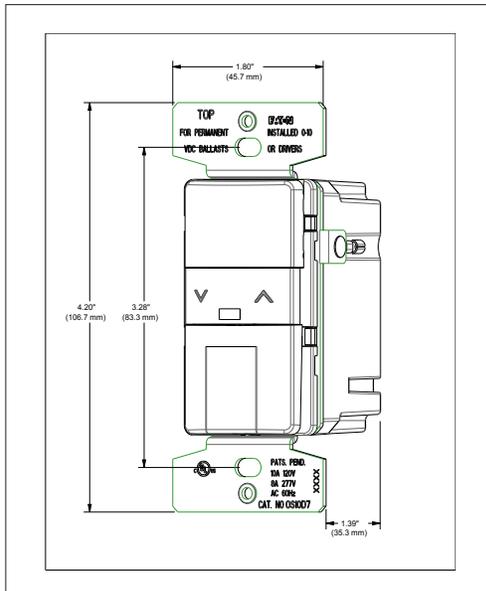
RSK18-9449

Technical Data
Effective January 2017

0-10V dimmer sensor

Project Name:	Prepared By:
Project Number:	Date:
Catalog Number:	Type:

Product Dimensions



Coverage Diagram

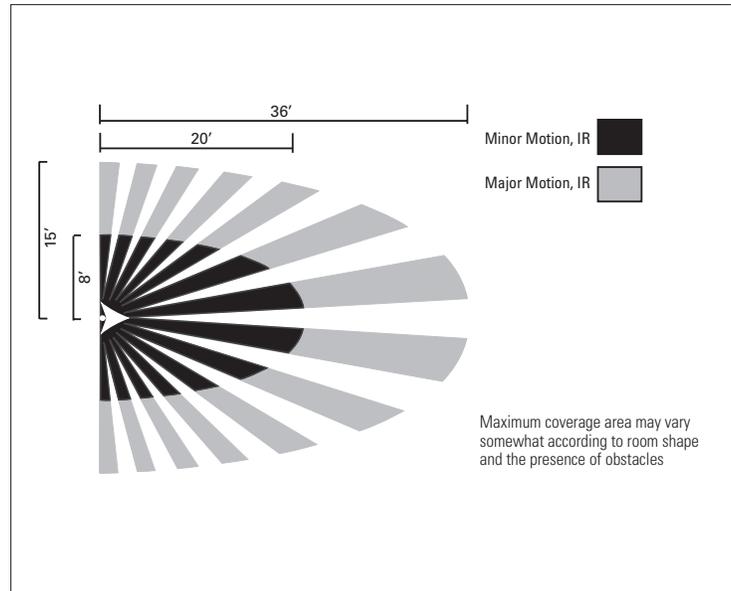
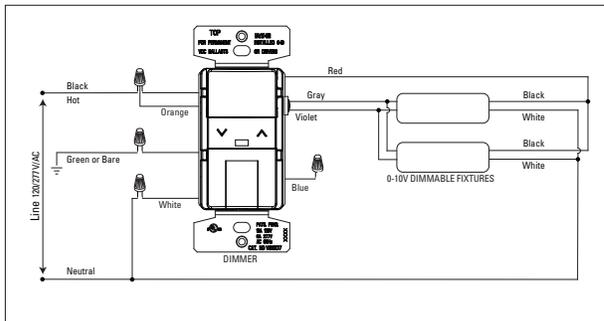


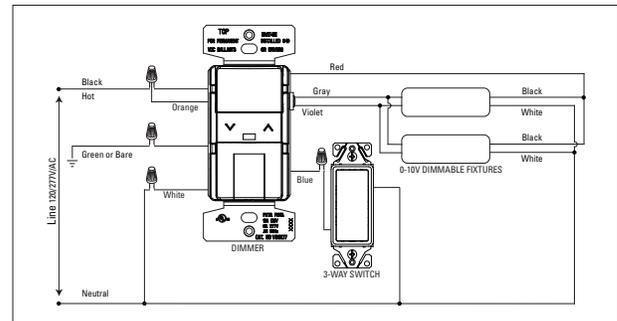
Figure 1. OSW-P-010/VSW-P-010 Line Art with Dimensions

Wiring Diagrams

**Single-Pole Wiring Diagram
FLR, LED**



**3-Way Wiring Diagram
FLR, LED**



Applications

Eaton's 0-10V dimmer sensor is a 3 in 1 solution that combines functionality of a switchpack, a sensor and a 0-10V dimmer into one wallbox device, to help customers save labor costs as well as meet the latest energy codes and standards. Eaton's 0-10V dimmer sensor solution offers a convenient and cost effective way for users to satisfy commercial energy codes like ASHRAE 90.1 and California Title 20 that require designs that enable energy savings for Commercial facilities. Some of the requirements that can be met by a solution incorporating this device include Area Control, Automatic Lighting Shutoff, Manual ON or Partial ON (ASHRAE 90.1 only), Multi-level Lighting Control and Occupancy Sensor Control. This product can be used in Single-pole (one location) as well as 3-Way (multi-location) applications and is compatible with Eaton's decorator style devices and wallplates. This device also allows isolation of its relay for occupancy based control of external power packs.

	Job Name: DEPT OF ADMIN BLDG 32 LED - BLDG 32 & 34 GSD1800000021	Catalog Number: OSW-P-010 Notes:	Type: LINE5 RSK18-9449
--	---	---	--

Technical Data
Effective January 2017

0-10V dimmer sensor

Project Name:	Prepared By:
Project Number:	Date:
Catalog Number:	Type:

Table 2. Specifications

Catalog No.	OSW-P-010, VSW-P-010 Series
Device Type	0-10V dimmer sensor
Wiring Type	6" pre-stripped wire leads, #16 AWG
Testing & Code Compliance	<ul style="list-style-type: none"> cULus Listed to UL244A & UL1472, file no. E325082 NOM Certified California Title 20 Compliant
Environmental Specifications	Flammability: Meets UL 94 requirements; V2 rated Temperature Rating: 0°C to 40°C (32°F to 104°F)
Electrical Specifications	Rating: 120V/AC 277V/AC at 60 Hz Light Intensity Control: Full-range, continuously variable dimming Surge Protection: Meets ANSI/IEEE Std. C62.41, tested to withstand voltage surges up to 6000V and current surges of up to 3000A Radio Frequency Interference: Designed to reduce interference with radio, audio and video equipment Power-failure Memory: Light returns to ON at 50% or lower
Mechanical Specifications	Wiring Types: Single pole & 3-Way LED Indicators: To indicate motion Voltage Ratings: Permanently marked on device

Table 3. Materials

Catalog No.	OSW-P-010, VSW-P-010 Series
Top Housing	Polycarbonate
Bottom Housing	Polycarbonate
Strap	Aluminum
Form Factor	Decorator
Finish	Gloss

Table 4. Color Ordering Information

For ordering devices, include Catalog no. followed by the Color suffix: BK (Black), G (Gray), LA (Light Almond), V (Ivory), W (White)

BK	G	LA	V	W
(Black)	(Gray)	(Light Almond)	(Ivory)	(White)

Certifications & Compliances

Catalog No.		
OSW-P-010	•	•
VSW-P-010	•	•

KEY:  cULus  NOM

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State of West Virginia VENDOR PREFERENCE CERTIFICATE

Certification and application is hereby made for Preference in accordance with *West Virginia Code*, §5A-3-37. (Does not apply to construction contracts). *West Virginia Code*, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the *West Virginia Code*. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Vendor Preference, if applicable.

1. **Application is made for 2.5% vendor preference for the reason checked:**
 Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,
 Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,
 Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,
2. **Application is made for 2.5% vendor preference for the reason checked:**
 Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
3. **Application is made for 2.5% vendor preference for the reason checked:**
 Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
4. **Application is made for 5% vendor preference for the reason checked:**
 Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,
5. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**
 Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,
6. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**
 Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.
7. **Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with *West Virginia Code* §5A-3-59 and *West Virginia Code of State Rules*.**
 Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (*West Virginia Code*, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: W. Va. Electric Supply

Signed: _____

Date: 6/1/15

Title: _____

EXHIBIT A - PRICING PAGE
GSD453736 BUILDING 32 & 34 LIGHTING PROJECT

Item #	Item Description	Alternative Bid Item Manufacturer and Item Number	Unit Price	Qty	Extended Price
3.1.1	Holophane Troffer LED Light Fixture, Part No. HVT 2X4 DOP 3900LM 35K MVOLT MIN 10 80CRI ZT JP10, or equal.	Metalux 24CZ-LD5-40SE-S-UNV- L835-CD1-PALC	71.65	1380	\$ 98,877.00
3.1.2	Holophane Troffer LED Light Fixture, Part No. HVT 2X4 DOP 3900LM 35K MVOLT MIN 10 80CRI ZT BR JP10, or equal.	Metalux 24CZ-LD5-40SE-S-UNV- EL7W-L835-CD1-PALC	187.40	35	\$ 6559.00
3.1.3	Holophane Troffer LED Light Fixture, Part No. HVT 2X2 DOP 3900LM 35K MVOLT MIN 10 80CRI ZT JP10, or equal.	Metalux 22CZ-LD5-39E-S-UNV- L835-CD1-PALC	59.20	65	\$ 3848.00
3.1.4	Seismic Lighting Fixture Clamp	Metalux EQ-CLIP-U	3.20	350	\$ 1120.00
3.1.5	Acuity Controls, Dimming and Occupancy Sensor Wall Switch, Part No. WSX PDT D WH, or equal.	Cooper controls OSW-P-010	28.45	150	\$ 4267.50
Total Bid Amount (includes shipping charges)					\$ 114,671.50