

Project		Catalog #		Type	
Prepared by		Notes		Date	



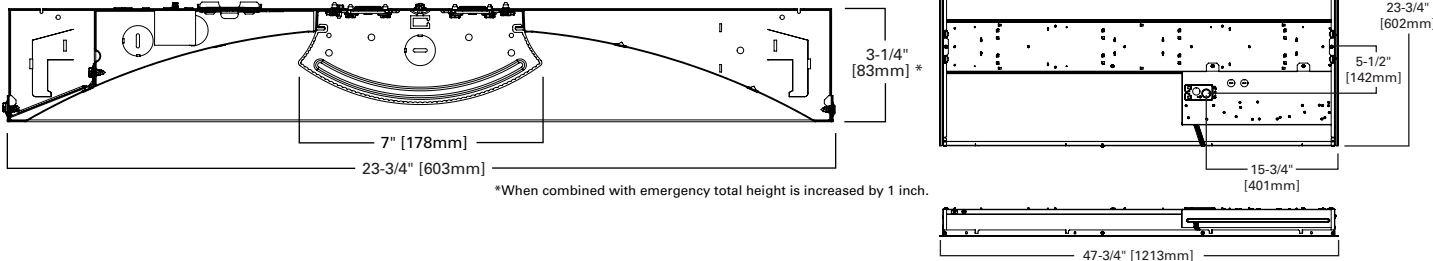
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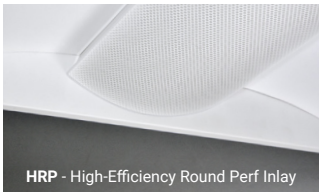
Top Product Features

- Latch-less design provides clean architectural look
- Designers delight - ribbed, smooth and round perforated lens options
- High performance efficacy up to 167 lm/W
- Options to meet Build America, Buy America, Buy America and other Domestic Preferences

Dimensional and Mounting Details



Shielding



HRP - High-Efficiency Round Perf Inlay
See ordering information for more shielding options.



SQR - Square Ribbed Frosted Acrylic Lens

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	*

*See Drywall Frame Kit Accessory in Ordering Information Section

Metalux

Cruze ST 24CZ2

2' x 4' LED Specification Grade Troffer
Domestic Preference Options

Typical Applications

Office • Education • Healthcare • Hospitality • Retail

Product Certification



Product Features



Order Information

SAMPLE ORDER NUMBER: **BAA-24CZ2-65HE-UNV-L835-CD1-U**

Domestic Preferences ⁽¹⁾	Rating	Series	Air	Lumen Level / Efficacy Option		
[Blank] =Standard BAA =Buy American Act TAA =Trade Agreements Act BABA =Build America, Buy America Act	[Blank] =Standard ATW-SW4 =Chicago Rated	24CZ2 =2x4 Cruze ST	[Blank] =Standard A =Air (Vented) ⁽²⁾	Standard [Blank] 30 =3000 Lumens 35 =3500 Lumens 40 =4000 Lumens 45 =4500 Lumens 50 =5000 Lumens 55 =5500 Lumens 60 =6000 Lumens 65 =6500 Lumens ⁽⁴⁾	High Efficacy [HE] 30HE =3000 Lumens 35HE =3500 Lumens 40HE =4000 Lumens 45HE =4500 Lumens 50HE =5000 Lumens 55HE =5500 Lumens 60HE =6000 Lumens 65HE =6500 Lumens ⁽³⁾ 70HE =7000 Lumens ⁽³⁾ 75HE =7500 Lumens ⁽³⁾	Very High Efficacy [VHE] 30VHE =3000 Lumens 35VHE =3500 Lumens 40VHE =4000 Lumens 45VHE =4500 Lumens 50VHE =5000 Lumens 55VHE =5500 Lumens 60VHE =6000 Lumens 65VHE =6500 Lumens ⁽³⁾ 70VHE =7000 Lumens ⁽³⁾ 75VHE =7500 Lumens ⁽³⁾ 80VHE =8000 Lumens ⁽³⁾ 85VHE =8500 Lumens ⁽³⁾ 90VHE =9000 Lumens ⁽³⁾ 95VHE =9500 Lumens ⁽³⁾ 100VHE =10000 Lumens ^{(3),(4)} 110VHE =11000 Lumens ^{(3),(4)} 120VHE =12000 Lumens ^{(3),(4)} 130VHE =13000 Lumens ^{(3),(4)} 150VHE =15000 Lumens ^{(3),(4)} 170VHE =17000 Lumens ^{(3),(4)}
Notes (1) Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.			Notes (2) Air version is intended for air return through plenum. See air return data table for air flow volumes. Air option not available with ATW-SW4. Air requires "PAF" option.	Notes (3) Available with CD or HCD drivers only. (4) Requires 2 CD-1 drivers above 100VHE.		

Shielding	Voltage ⁽⁵⁾	Options	CRI/CCT	Flex	Driver Type
[Blank] =Ribbed Frosted Acrylic Lens (standard) S =Smooth Frosted Acrylic Lens HRP =High-Efficiency Round Perf Inlay SQR =Square Ribbed Frosted Acrylic Lens	UNV =Universal Voltage 120-277 347V =347 Volt ⁽⁶⁾	GL =Single Element Fuse GM =Double Element Fuse PAF = Painted After Fabrication	L830 =80CRI, 3000K L835 =80CRI, 3500K L840 =80CRI, 4000K L850 =80CRI, 5000K L930 =90CRI, 3000K L935 =90CRI, 3500K L940 =90CRI, 4000K L950 =90CRI, 5000K	[Blank] =No Flex	CD =0-10V Driver (10%-100% Dimming) HCD =0-10V Driver (1%-100% Dimming) 5LTD =DALI Driver (5%-100% Dimming) 5LTHD =DALI Driver (1%-100% Dimming) SD =Step Dimming Driver (50%-100% Dimming) LH =Lutron HiLume 1% EcoSystems (LDE1)
	Notes (5) Products also available in non-US voltages and frequencies for international markets. (6) Some 347V versions require a transformer. Total wattage will increase by 2 watts if used.				

Number of Drivers	Integrated Sensing Systems	Packaging
1 =1 Driver 2 =2 Drivers ⁽⁷⁾	[Blank] =No Sensor	U =Unit Pack PAL =Job Pack, out of carton PALC =Job Pack, in carton
Notes (7) See lumen limitation notes for applications requiring 2 drivers or use online configurator. When combined with emergency total height is increased by 1 inch.		

Accessories (order separately) ⁽⁹⁾
CZ2-EQCLIP-U-PK =“CZ2” Earthquake Clip Kit (4 clips per bag kit) ⁽⁸⁾ DF-24W-U =2' x 4' Drywall Frame Kit SK-24-WS =2' x 4' Shallow Surface Mount Kit SK-24-WT =2' x 4' Tall Surface Mount Kit
Notes (8) An EQ Grid Clip is recommended for all 9/16" ceiling systems. Four required per fixture. (9) Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.

Product Specifications

Construction

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

LED and Light Engine

- LED's available in 3000K, 3500K, 4000K, or 5000K at 80 CRI minimum and 90 CRI minimum
- Color accuracy ≤ 3 -Step MacAdam ellipse (SDCM)
- TM21 life at 60,000 hours up to L90 and calculated L70 exceeds 203,000 hrs.
- Drivers available in 120-277V and 347V

Shielding

- Ribbed acrylic frosted lens standard
- Optional smooth acrylic frosted lens (S)
- Optional square ribbed frosted acrylic lens (SQR)
- Optional High-Efficiency Round Perf Inlay (HRP)
- Replacement lenses available, contact factory
- Lens is acrylic with features on the face and sides to optimize the direct and indirect lighting contributions for improved glare and efficacy

Finish

- Multistage, iron phosphate pretreatment
- 90% reflective, matte white enamel finish
- Full fixture housing pre-painted matte white (choose PAF option for "Paint after Fabrication")

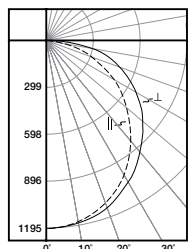
Compliance

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

Warranty

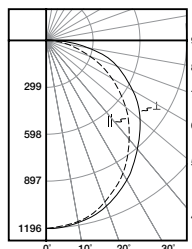
- Five-year limited warranty standard. Optional ten year limited warranty available.

Photometric Data

[View IES files](#)


24CZ2-35-UNV-L830-CD1-U

Dimming Driver
 Linear LED 3000K
 Spacing criterion: (II) 1.22 x mounting height,
 (I) 1.28 x mounting height
 Lumens: 3618
 Input Watts: 30.1W
 Efficacy: 120.2 LPW
 Test Report: 24CZ2-35-UNV-L830-CD1-U.IES



24CZ2-35HE-UNV-L830-CD1-U

Dimming Driver
 Linear LED 3000K
 Spacing criterion: (II) 1.21 x mounting height,
 (I) 1.27 x mounting height
 Lumens: 3562
 Input Watts: 26.9W
 Efficacy: 132.4 LPW
 Test Report: 24CZ2-35HE-UNV-L830-CD1-U.IES

Energy and Performance Data

Standard Efficacy Versions – Single Row of LEDs
Default CCT/Lumen Setting: 3500K/Med

Catalog Number	Lumens	Watts	lm/W
24CZ2-30-UNV-L835-CD1-U	3028	22.4	135
24CZ2-35-UNV-L835-CD1-U	3633	27.3	133
24CZ2-40-UNV-L835-CD1-U	4178	30.4	137
24CZ2-45-UNV-L835-CD1-U	4602	35.0	132
24CZ2-50-UNV-L835-CD1-U	5049	39.6	128
24CZ2-55-UNV-L835-CD1-U	5571	41.1	135
24CZ2-60-UNV-L835-CD1-U	6056	46.3	131
24CZ2-65-UNV-L835-CD1-U	6601	50.1	132

High Efficacy Versions – Two Rows of LEDs
Default CCT/Lumen Setting: 3500K/Med

Catalog Number	Lumens	Watts	lm/W
24CZ2-30HE-UNV-L835-CD1-U	3100	22.3	139
24CZ2-35HE-UNV-L835-CD1-U	3685	27.0	137
24CZ2-40HE-UNV-L835-CD1-U	4144	30.7	135
24CZ2-45HE-UNV-L835-CD1-U	4712	35.3	134
24CZ2-50HE-UNV-L835-CD1-U	5164	38.6	134
24CZ2-55HE-UNV-L835-CD1-U	5722	43.5	132
24CZ2-60HE-UNV-L835-CD1-U	6182	44.1	140
24CZ2-65HE-UNV-L835-CD1-U	6777	48.9	139
24CZ2-70HE-UNV-L835-CD1-U	7218	49.3	146
24CZ2-75HE-UNV-L835-CD1-U	7787	55.4	141

Very High Efficacy Versions – Three Rows of LEDs
Default CCT/Lumen Setting: 3500K/Med

Catalog Number	Lumens	Watts	lm/W
24CZ2-30VHE-UNV-L835-CD1-U	3011	20.4	148
24CZ2-35VHE-UNV-L835-CD1-U	3526	22.8	155
24CZ2-40VHE-UNV-L835-CD1-U	4042	26.2	154
24CZ2-45VHE-UNV-L835-CD1-U	4559	29.6	154
24CZ2-50VHE-UNV-L835-CD1-U	5064	32.7	155
24CZ2-55VHE-UNV-L835-CD1-U	5570	36.1	154
24CZ2-60VHE-UNV-L835-CD1-U	6055	38.7	157
24CZ2-65VHE-UNV-L835-CD1-U	6565	42.2	156
24CZ2-70VHE-UNV-L835-CD1-U	7059	45.7	155
24CZ2-75VHE-UNV-L835-CD1-U	7662	49.9	154
24CZ2-80VHE-UNV-L835-CD1-U	8128	53.8	151
24CZ2-85VHE-UNV-L835-CD1-U	8600	57.9	149
24CZ2-90VHE-UNV-L835-CD1-U	9053	61.8	147
24CZ2-95VHE-UNV-L835-CD1-U	9521	65.6	145
24CZ2-100VHE-UNV-L835-CD1-U	10191	69.6	146
24CZ2-110VHE-UNV-L835-CD2-U	11098	77.4	143
24CZ2-120VHE-UNV-L835-CD2-U	12211	83.6	146
24CZ2-130VHE-UNV-L835-CD2-U	13271	90.7	146
24CZ2-150VHE-UNV-L835-CD2-U	15006	104.2	144
24CZ2-170VHE-UNV-L835-CD2-U	17021	123.4	138

Shielding

Lumen Adjustment Factors		
S	HRP	SQR
1.05	0.81	0.96

Lumen Calculator

CCT Multiplier	80 CRI	90 CRI ⁽¹⁾
3000K	0.965	0.827
3500K	1.000	0.847
4000K	1.019	0.856
5000K	1.019	0.909

Notes: (1) Input wattages for 90 CRI versions may vary. Refer to published IES-format photometry or LM-79 reports for more details.

Example of Lumen Adjustment Calculation

24CZ2-40-UNV-L835-CD1-U at 90CRI at 3500K

Lumen Adjustment Factor = 0.845

Total Light Output =

4,196 lm x 0.845 = 3,546 lm

Efficacy = $\frac{3,546 \text{ lm}}{36.2 \text{ W}}$ = 98 lm/W

Lumen Maintenance

Version	TM-21 Lumen Maintenance (60,000 hours) ⁽²⁾	Theoretical L70 (Hours) ⁽³⁾
Standard	> 87%	> 151,000
High Efficiency	> 90%	> 203,000
Very High Efficiency	> 90%	> 203,000

Notes: (2) Supported by IES TM-21 standards. (3) Theoretical values represent estimations commonly used; however, refer to the IES position on LED Product Lifetime Prediction, IES PS-10-18, that explains proper use of IES TM-21 and LM-80.

Load Data (Stock Product)

Thd	6%
Power Factor	0.99
Weight (lbs.)	16
Low Temp. Start	-20°C

Shipping Data

Catalog No.	Wt.	Pallet 49"L x 52"W x 46"H
2' x 4'	20.4 lbs.	28

Air Return Volume

Negative Static Pressure (Inches H ₂ O)	Return Air Volume (CFM)
0.05	75
0.1	103
0.2	153
0.25	177
0.3	191
0.45	234