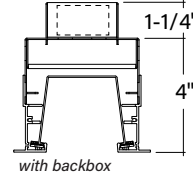


CHUTE CRD

4" Open Recessed Linear Direct

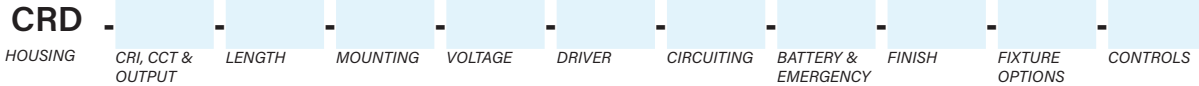


Key Features

- Extruded aluminum trim with formed cold rolled 18 gauge steel housing and back box
- Room side maintenance for LED system
- Recessed with a 2 1/2" fully luminous aperture
- Small, integral driver option for quick, easy installation
- Light Protection Guard (LPG) covers LEDs for optimal performance
- 5-year limited warranty covers LED, driver and fixture
- ETL listed conforming to UL 1598 in US and CSA 250 in Canada
- Buy American Act compliant



Example Part #: CRD-830HO-26'-G1-U-EL1-1-0-W



HOUSING	CRI, CCT & OUTPUT	LENGTH	MOUNTING	VOLTAGE	DRIVER	CIRCUITING	BATTERY & EMERGENCY	FINISH	FIXTURE OPTIONS	CONTROLS
	CRI, CCT & OUTPUT¹	LENGTH²	MOUNTING	VOLTAGE						
	27 - 2700K _30_ - 3000K _35_ - 3500K _40_ - 4000K CL - Custom Lumens CW - Custom Watts <i>CRI, CCT & Output pg. 2</i>	__ - Individual Fixture ___ - Continuous Row <i>Length pg. 2</i>	G1(G) - 1" (15/16") T Bar G9(G) - 9/16" T Bar GS(G) - Screw Slot T Bar FL(F) - 3/8" Flange SF(S) - Spackle Flange <i>Mounting pg. 3</i>	U - Universal (120 thru 277V) 1 - 120V 2 - 277V 3 - 347V <i>Voltage pg. 3</i>						

DRIVER	CIRCUITING	BATTERY & EMERGENCY ³	FINISH
4" Housing EL1 - ERP Power (1%, 0-10v, 120v or 277v) <i>Housing with Backbox</i> FSD - Factory Select Driver (1%, 0-10v) PL2 - Advance Xitanium (1%, 0-10v) OL2 - Osram (1%, 0-10v) OL4 - Osram 347V (1%, 0-10v) EE1 - eldoLED ECOdrive (1%, 0-10v) ES1 - eldoLED SOLOdrive (0.1%, 0-10v) LH1 - Lutron Hi-lume (1%, EcoSystem) <i>Driver pg. 3</i>	1 - Single Circuit M - Multi Circuit E - Emergency (<i>entire fixture</i>) N - Night Light (<i>entire fixture</i>) <i>Circuiting pg. 4</i>	0 - None _FSG - Factory Select ALCR _FSB - Factory Select Battery _GI - Iota ETS DR _GB - Bodine GTD _PLL - Bodine 10W (<i>remote</i>) _ILL - Iota 10W (<i>remote</i>) _E - Emergency Section _N - Night Light Section _L - Life Safety Section <i>Battery & Emergency pg. 4</i>	W - White S - Metallic Silver BL - Textured Black BR - Bronze GR - Graphite CC - Custom Color <i>Finish pg. 4</i>

FIXTURE OPTIONS ⁴	CONTROLS
OE - Open End (<i>use when coming thru bulkhead</i>) CP - Chicago Plenum DSP - Customer Supplied Battery/Driver/Sensor FW6 - 6' Flew Whip <i>Fixture Options pg. 5</i>	<i>Pinnacle is able to accommodate different control solutions from different manufacturers. Consult Factory for more information.</i>

¹When specifying CRI, CCT & OUTPUT the first _ is for specifying either 8 - 80CRI, 9 - 90CRI The ending _ are for specifying output, example HO - High Output. ²Individual fixtures come in 2', 3', 4', 5', 6', 7' & 8' lengths. Continuous row come in 1' increments. ³Enter quantity for Battery and Emergency, Example 2P. ⁴Open End (OE) option for Spackle Flange (SF) mounting ONLY. The Open End (OE) will be on one side of the fixture.

Specifications and dimensions subject to change without notice. Specification sheets that appear on pinnacle-ltg.com are the most recent version and supersede all other previously printed or electronic versions.



CRI, CCT & Output

- 90 CRI = R9≥50

Custom Output - Lumens OR Wattage

CL _____	Specify CRI, CCT and desired lumens (i.e. CL835500)	<i>Specify lumens between standard offering listed below. Lumens are specified per color temp</i>
CW _____	Specify CRI, CCT and desired wattage (i.e. CW9407)	<i>Specify watts between standard offering listed below</i>

80 CRI

	Color	Output ¹		
		Lumens/ft	LPW	Watts/ft
830	3000K	500	115	4.3
830HO	3000K	750	116	6.5
830VHO	3000K	1000	116	8.6
835	3500K	500	123	4.1
835HO	3500K	750	124	6.0
835VHO	3500K	1000	125	8.0
840	4000K	500	128	3.9
840HO	4000K	750	128	5.9
840VHO	4000K	1000	128	7.8

90 CRI (longer lead times may apply, consult factory)

927	2700K	500	97	5.2
927HO	2700K	750	97	7.7
927VHO	2700K	1000	100	10.0
930	3000K	500	105	4.8
930HO	3000K	750	105	7.1
930VHO	3000K	1000	106	9.4
935	3500K	500	110	4.6
935HO	3500K	750	110	6.8
935VHO	3500K	1000	111	9.0
940	4000K	500	107	4.7
940HO	4000K	750	107	7.0
940VHO	4000K	1000	108	9.3

¹LPW and watts/ft based off 48" fixture size.

Length

- Individual units cannot be joined, end plates are factory installed and cannot be removed
- Continuous Rows are made up of even and odd lengths designed to fall on grid

2	3	4	5	6	7	8	—
Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Cont. Run <i>Specify nominal overall row length to the foot</i>
23" (584.2mm)							
	35" (889mm)						
		47" (1193.8mm)					
			59" (1498.6mm)				
				71" (1803.4mm)			
					83" (2108.2mm)		
						95" (2413mm)	
							Specify to the foot



Mounting

- Individual Units, specify G_G, FLF, SFS
- Continuous Units, specify G_FL, SF
- Individual units cannot be joined, end trims are factory installed and cannot be removed
- Designed to install into acoustical grid and inaccessible ceilings
- Grid retention brackets to be installed on site and require mechanical attachment
- Each housing contains four grid retention brackets
- Tie off fixture to structure with retention wires
- Approved for dry/damp location unless otherwise noted

G1G Individual Unit	G9G	GSG	FLF	SFS
G1 Continuous Run or Pattern 1" (15/16") T-Bar Flange to Flange: 4-13/16" (122.2mm)	G9 9/16" T-Bar For tegular tile installations, fixture position will not be flush to the bottom of the tile Flange to Flange: 4-13/16" (122.2mm)	GSG Screw Slot & 9/16" T-Bar For 9/16" installations with tegular tile, fixture position will be flush to the bottom of the tile Flange to Flange: 4-13/16" (122.2mm)	FLF Exposed Standard 1/2" Flange Detail Flange to Flange: 4-13/16" (122.2mm)	SFS Drywall, Flangeless Detail Flange to Flange: 6" (152.4mm)
<p>Standard Tile 13/16"</p> <p>Tegular Tile 13/16"</p>	<p>Standard Tile 1"</p> <p>Tegular Tile 1"</p>	<p>Standard Tile 15/16"</p> <p>Tegular Tile 15/16"</p>	<p>1-1/8"</p>	

Voltage

- Some CHUTE configurations will not accommodate all voltage options; consult with factory
- For EL1 driver, must specify 120v or 277v

U	Universal
1	120 volt
2	277 volt
3	347 volt

Driver

- Standard Driver Option = EL1
- Driver Lifetime: 50,000 hours at 25°C ambient operating conditions
- For more driver options, see Pinnacle Resource Guide
- Some CHUTE configurations will not accommodate all driver options; consult with factory
- Backbox necessary for all drivers OTHER THAN the EL1

4" Housing

EL1 ERP Power 1%, 0-10v, requires 120 or 277

Housing with Back Box

0-10V Drivers

FSD	Factory Select Driver (1%, 0-10v)
PL2	Signify Advance Xitanium 1%, 0-10v
PL4	Advance Xitanium 347v 1%, 0-10v, requires 347v
OL2	Osram Optotronic, 1%, 0-10v
OL4	Osram Optotronic 347v, 1% 0-10v, requires 347v option
EE1	eldoLED ECOdrive 1%, 0-10v Logarithmic
ES1	eldoLED SOLOdrive 0-10v, 0.1% Logarithmic

DALI Drivers

EE3	eldoLED ECOdrive .1%, DALI (logarithmic)
ES3	eldoLED SOLOdrive .1%, DALI (logarithmic)
OD1	Osram Optotronic 1%, DEXAL
OD2	Osram Optotronic 1%, DALI 2 Channel

Lutron Drivers

LH1	Lutron Hi-lume Soft-on, Fade-to-black 1%, EcoSystem, LDE1
LH4	Lutron Hi-Lume 1%, 2-wire, Lutron-LTEA2W, 120v only

Alternate Drivers

EH1 ELV 120v only, 0-10v universal

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How to specify Circuiting, Battery and Emergency

- 1**
- Select fixture circuiting from options below
 - Some CHUTE configurations will not accommodate all circuiting options, consult with factory

Circuiting

1	Single Circuit
M	Multi Circuit
E	Emergency Circuit only
N	Night Light Circuit only

- 2** + **3**
- Battery and emergency section options are available in addition to fixture circuit
 - Select battery and emergency section options below; factory shop drawing required
 - Some CHUTE configurations will not accommodate all circuiting options, consult with factory

Battery and/or Emergency If Required

- 0** No battery or specific emergency section required

Battery

- Select battery section type if required, indicate total QTY. *Example 2PL*
- 90 minute battery runtime; test button is remote to fixture and requires an additional drop
- No battery option available for 2' lengths
- Entire fixture housing is on battery for 2' and 4' lengths
- 4' of fixture is on battery for 6' or 8' housing lengths
- For more battery options available, see Pinnacle Resource Guide

0	No Battery
_FSB	Factory Select Battery (10w option)
_FSBST	Factory Select Battery (Self Testing)
_ILL	10w Integral Lithium, Self Testing
_IRC	10w Remote
_IRH	20w Remote
_PLL	Bodine 10w Integral Lithium, Self Testing
_PRL	Bodine 7w Remote
_PRS	Bodine 7w Remote, Self Testing
_PRD	Bodine 10w Remote, Dual Flex
_PRH	Bodine 20w Remote

For Approximate Battery Lumen Output

- Multiply battery wattage X fixture LPW shown on Lumen Table
- $92.3 \text{ (LPW)} \times 10 \text{ (watts)} = 923 \text{ battery lumen output}$

Emergency

- Select emergency section type if required, indicate total QTY. *Example 1E*
- Combine battery and emergency section ordering codes if both options are selected

_FSG	Factory Select Automatic Load Control Relay (ALCR), UNV
_GI	Emergency Transfer Switch (ETS) DR Emergency Control Device, UNV
_GB	Bodine GTD, Generator Transfer Device, 120v or 277v
_E	Emergency circuit section
_N	Night Light circuit section
_L	Life Safety circuit section NO THROUGH WIRE

Battery OR Emergency Ordering Examples

- Single circuit, 10w Integral Battery Ordering Code: 1-1PLL
- Emergency only, 10w Integral Battery Ordering Code: E-1PLL
- Single circuit, GTD required Ordering Code: 1-1G

Combination Section Ordering Examples

- Single circuit, (1) 10w battery, (1) emergency section Ordering Code: 1-1PLL1E
- Multi circuit, (2) 10w battery, (2) emergency sections Ordering Code: M-2PLL2E
- Single circuit, (1) night light section Ordering Code: 1-1N

Finish

- Standard powder-coat textured white, metallic silver, textured black, graphite or bronze painted finish; consult factory for chip of standard paint finishes
- Selecting a fixture finish other than white may impact lumen output; consult factory for more information
- Closed endcap on recessed fixtures will be painted white, not a specified color. Consult Factory.

W	White
S	Metallic Silver
BL	Textured Black
GR	Graphite
BR	Bronze
CC	Custom Color



Fixture Options

- Additional options to enhance the fixture and finish of the product
- The Open End will only be on one side of the fixture.

OE	Open End Fixture, use to come thru bulkhead, SF ONLY
CP	Chicago Plenum
DSP	Customer Supplied Battery/Driver/Sensor
FW6	6' Flex Whip

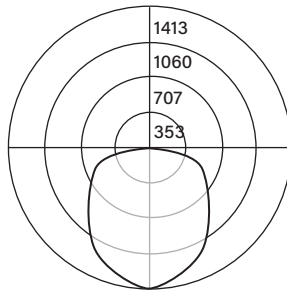
Controls

- Pinnacle is able to accommodate different control solutions from different manufacturers. Consult Factory for more information.

Photometrics

Open

Test #	ITL93073
Catalog #	CRD-835VHO-4
Lumens	3983 lm
Watts	30.7 W
Efficacy	130 LPW



Candela Distribution

Vert Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	1411	1411	1411	1411	1411
5	1410	1394	1397	1393	1386
10	1395	1369	1360	1347	1337
15	1369	1332	1311	1292	1280
20	1335	1285	1256	1228	1215
25	1289	1229	1191	1157	1141
30	1234	1164	1117	1075	1055
35	1169	1093	1037	986	964
40	1095	1014	946	891	869
45	1010	927	850	798	782
50	918	833	751	722	716
55	816	733	661	656	656
60	709	627	585	598	603
65	593	521	517	545	552
70	476	421	456	492	500
75	357	341	397	427	428
80	235	272	322	299	272
85	121	193	111	61	46
90	31	60	40	18	0

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	17498	8801	7048
55	17058	7119	5990
65	16247	5991	5270
75	14843	5147	4422
85	11127	1692	536

Applications & Certificates

Construction: Extruded aluminium rails and formed cold-rolled 18 gauge steel housing. Highly reflective coextruded acrylic reflector with LED protection guard.

Mounting: CHUTE is designed to install into acoustical grid and inaccessible ceilings. Specify GXG, FLF, SFS for individual, unjoinable units (individual units will fall on-grid). Specify GX, FL, SF for continuous runs (runs designed to fall on-grid). Consult factory for detailed installation instructions. Maximum fixture weight is 15lbs per 4' fixture.

LED: 25°C test environment. Lumen output/wattage has a margin of +/- 5%; 2' or 3' lengths may have a greater wattage deviation. Luminaire configurations tested in accordance with IES LM-79. Diodes tested in accordance with IES LM-80. Lifetime calculated using IES TM-21. Minimum lifetime greater than 60,000 hours. Lifetime Projection L70 = 146,500 hours and L90 = 45,000 hours. MacAdam 3-Step Ellipses. Not all products are Lighting Facts listed. For all available IES files, please visit our website at pinnacle-ltg.com.

CRI, CCT & Lumen Output: Three lumen packages available. Standard, High (HO) and Very High (VHO). Custom outputs are available. Specify custom lumens or watts between standard offering listed on CRI, CCT & Output page. 80 CRI is available for 3000K, 3500K, and 4000K. 90 CRI is available for 2700K, 3000K, 3500K, and 4000K. 90 CRI = R9≥50.

Voltage: Universal (U), 120 volt (1), 277 volt (2) and 347 volt (3) options available. Must specify OL4 in Driver section when 347 volt (3) is selected. Some CHUTE configurations will not accommodate all voltage options; consult with factory.

Driver: Standard INTEGRAL Driver Option is EL1. All other driver options will be in driver backbox. EL1 designed for use with 120v or 277v only. Electronic driver, Power factor is >0.9 with a THD <20%. Driver Lifetime: 50,000 hours at 25°C ambient operating conditions. Ambient operating range: -20°F/-30°C to 81°F/27°C, preliminary using 4" data. When ND is specified, a spec grade driver will be provided. For more driver options, see Pinnacle

Resource Guide. Some CHUTE configurations will not accommodate all driver options.

Circuiting: Select from single circuit (1), Multi circuit - For multiple circuiting and zone control, requires factory shop drawing (M), Emergency circuit (E), Life Safety (L) or Night Light circuit (N). For emergency circuiting situations that require no through wire or circuit separation, Life Safety Circuit should be selected. This will provide a separate power feed and only the Life Safety Circuit in that section. Some CHUTE configurations will not accommodate all circuiting options; consult with factory.

Battery & Emergency: Select battery or emergency options if required. If battery or emergency option is not required, enter 0. Battery duration is 90 minutes as standard. Test button is remote to fixture. For more Battery options, see Pinnacle Resource Guide.

Finish: Standard powder-coat textured white, metallic silver, textured black, graphite or bronze painted finish; consult factory for chip of standard paint finishes or for additional custom color and finish options.

Labels: ETL listed conforming to UL 1598 in US and CSA 250 in Canada. Standard, HO and VHO lumen packages are IC Rated, approved for dry/damp location unless otherwise noted.

Fixture Weight: Maximum fixture weight is 15lbs per 4' fixture.

Buy American Act Compliant

Warranty: CHUTE LED offered with a 5-year limited warranty. Covers LED, driver and fixture.