

CHUTE180 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
- Curved 180° Endcaps gives softer appearance
- 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'-SF-1-EL1-1-0-W-AE

CRD - **CRI, CCT & OUTPUT** - **LENGTH** - **SF** - **MOUNTING** - **VOLTAGE** - **DRIVER** - **CIRCUITING** - **BATTERY & EMERGENCY** - **FINISH** - **ENDCAP** - **FIXTURE OPTIONS** - **CONTROLS**

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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>	1 - Individual Fixture 2 - Continuous Row <i>Length pg. 2</i>	SF - Spackle Flange <i>Mounting pg. 3</i>	U - Universal (120 thru 277V) 1 - 120V 2 - 277V 3 - 347V <i>Voltage pg. 3</i>

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DRIVER	CIRCUITING	BATTERY & EMERGENCY³	FINISH
4" Housing EL1 - ERP Power (1%, 0-10v, 120v or 277v) Housing with Backbox FSD - Factory Select Driver (1%, 0-10v) PL2 - Advance Xitanium (1%, 0-10v) OL2 - eldoLED Optotronic (1%, 0-10v) OL4 - eldoLED Optotronic 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 (entire fixture) N - Night Light (entire fixture) <i>Circuiting pg. 4</i>	0 - None FSB - Factory Select Battery FSG - Factory Select ALCR GI - Iota ETS DR GB - Bodine GTD ILL - Iota 10W PLL - Bodine 10W <i>Battery & Emergency pg. 4</i>	W - White <i>Finish pg. 4</i>

AE	---	---
ENDCAP	FIXTURE OPTIONS	CONTROLS
AE - Arc 180° Endcap <i>Finish pg. 4</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 2FSB.

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

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
- Each endcap increases overall length by 2" (4" per pair)
- Continuous rows are made up of even and odd lengths

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

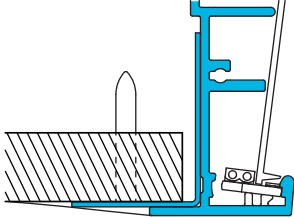


Mounting

- Individual units cannot be joined, end trims are factory installed and cannot be removed
- Designed to install into inaccessible ceilings
- Tie off fixture to structure with retention wires
- Approved for dry/damp location unless otherwise noted

SF

Drywall, Flangeless Detail
Flange to Flange: 6" (152.4mm)



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	eldoLED Optotronic, 1%, 0-10v
OL4	eldoLED Optotronic 347v, 1% 0-10v, requires 347v option
EE1	eldoLED ECOdrive 1%, 0-10v Logarithmic
EE2	eldoLED ECOdrive 1%, 0-10v Linear
ES1	eldoLED SOLOdrive 0-10v, 0.1% Logarithmic
ES2	eldoLED SOLOdrive 0-10v, 0.1% Linear

DALI Drivers

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

Lutron Drivers

LH1 Lutron Hi-lume Soft-on, Fade-to-black 1%, EcoSystem, LDE1

Alternate Drivers

EH1 ELV 120v only, 0-10v universal



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 options are available in addition to fixture circuit
 - Select battery and emergency 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 required

Battery

- Select battery section type if required, indicate total QTY. *Example 2PL*
- 90 minute battery runtime; test button is remote to fixture
- No battery option available for 2' lengths
- Battery operates full length of housing up to 8' on individual fixtures or within continuous row
- For more battery options available, see Pinnacle Resource Guide

0	No Battery
_FSB	Factory Select Battery Integral (10w)
_FSBST	Factory Select Battery Integral (10w, Self Testing)
_ILL	Iota Integral (10w, Lithium, Self Testing)
_IRC	Iota Remote with Conduit (10w)
_PLL	Bodine Integral (10w, Lithium, Self Testing)
_PRD	Bodine Remote with Conduit (10w, Dual Flex)

For Approximate Battery Lumen Output

- Multiply battery wattage X fixture LPW shown on Lumen Table
- 92.3 (LPW) x 10 (watts) = 923 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 ALCR Emergency Control Device, UNV
_GI	Iota ETS-DR, Emergency Control Device, UNV
_GB	Bodine GTD, Emergency Control 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 Battery | Ordering Code: 1-1PLL |
| • Emergency only, 10w Battery | Ordering Code: E-1PLL |
| • Single circuit, GTD required | Ordering Code: 1-1GB |

Finish

- Standard powder-coat textured white finish; consult factory for chip of standard paint finishes

- W** White

Endcap

- AE** Arc 180° Endcap



Fixture Options

- Additional options to enhance the fixture and finish of the product

CP	Chicago Plenum
DSP	Customer Supplied Battery/Driver/Sensor
FW6	6' Flex Whip

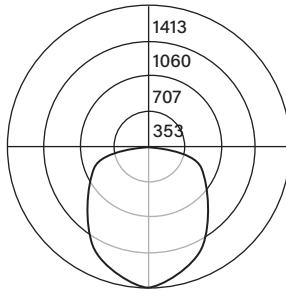
Controls

- 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 aluminum rails and formed cold-rolled 18 gauge steel housing. Highly reflective co extruded acrylic reflector with LED protection guard.

Mounting: Chute 180 Recessed is intended for drywall ceilings and features a spackle flange for seamless, trimless installation. 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 painted finish; consult factory for additional custom color and finish options.

Labels: UL and cUL 1598 listed. 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.