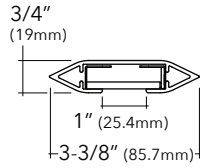




FACTORY DRAWING AND SIGN OFF REQUIRED WITH THIS PRODUCT.



CUBRA CU1AJ

1" Direct and Indirect Linear
with Alternating Joint

Key Features

- Ultra-Slim 3/4" profile
- 3-3/8", extruded aluminum housing with 1" aperture
- Direct illuminated luminaire utilizes light guide plate (LGP) for high optical efficiency
- Batwing and Lambertian optics deliver quality light while maintaining visual continuity
- Up to 1000 lumens per ft and up to 120 LPW
- Up to 18 ft on center spacing with batwing optic and 14 ft with lambertian
- Design patterns with non-illuminated connectors
- 3/16" wide Alternating Joint allows for combination of direct and indirect light in your space



Example Part #: CU1AJ-A-835HO-6'-CAC48G1-U-FSD-1-0-W



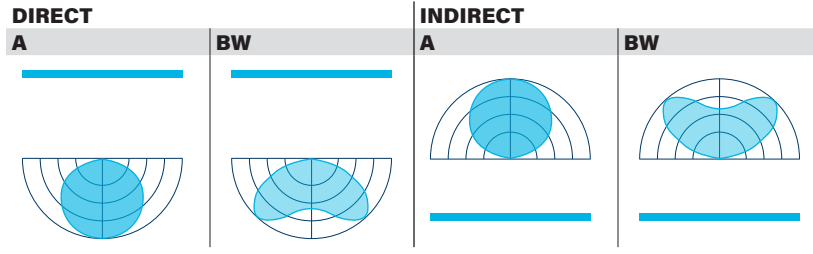
HOUSING	SHIELDING	CRI, CCT & OUTPUT ¹	LENGTH OR PATTERN ²
CU1AJ - Cubra 1 with Alternating Joint <i>For straight runs, specify overall nominal length. Use page 6 to draw out the straight run and include all alternating joints while indicating light directionality and shielding.</i>	A - Lambertian BW - Batwing <i>Indirect Shielding pg. 2</i>	_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 SS - Square, Square connector SR - Square, Round connector RS_x - Rectangle, Square connector RR_x - Rectangle, Round connector US_x - U Shape, Square connector UR_x - U Shape, Round connector LS_x - L Shape, Square connector LR_x - L Shape, Round connector <i>Length of Pattern pg. 2-3</i>
MOUNTING ³	VOLTAGE	REMOTE DRIVER	CIRCUITING
CAC_gx - Conductive AC to Grid CAC_jb - Conductive AC to J Box PAC_gx - Power over AC to Grid PAC_jb - Power over AC to J Box <i>Mounting pg. 3</i>	U - Universal <i>(120 thru 277V)</i> 1 - 120V 2 - 277V 3 - 347V <i>Voltage pg. 4</i>	FSD - Factory Select Driver (1%, 0-10v) PL2 - Advance Xitanium (1%, 0-10v) OL2 - eldoLED Optotronic (1%, 0-10v) PL4 - Advance Xitanium 347v (1%, 0-10v) EE1 - eldoLED ECODrive (1%, 0-10v) ES1 - eldoLED SOLOdrive (0%, 0-10v) LH1 - Lutron Hi-lume (1%, EcoSystem) EH1 - ERP Power (1%, 0-10v) <i>Driver pg. 4</i>	1 - Single Circuit E - Emergency (<i>entire fixture</i>) N - Night Light (<i>entire fixture</i>) <i>Circuiting pg. 4</i>
BATTERY & EMERGENCY ⁴	FINISH	FIXTURE OPTIONS ^{5,6}	CONTROLS
0 - None FSG - Factory Select ALCR FSB - Factory Select Battery GI - Iota ETS DR PLL - Bodine 10W ILL - Iota 10W E - Emergency Section N - Night Light Section <i>Battery & Emergency pg. 4-5</i>	W - White S - Metallic Silver BL - Textured Black BR - Bronze GR - Graphite CC - Custom Color <i>Finish pg. 5</i>	ECC_ - End cap color BA - Buy America(n) Act and/or Build America Buy America Compliant MOD - MOD option available <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 or **9** - 90CRI. The ending _ _ are for specifying output, example **HO** - High Output. See output charts for more information. ²Individual fixtures come in **1', 2', 3', 4', 5', 6', 7' & 8'** lengths. Continuous rows available in 1' increments. Connectors for patterns can either be closed (**C**) or open (**O**), closed is the standard if you would like the connector to be open specify by adding an **O** to the ordering code, example: if you want a square pattern with open round connectors - **SRO**. ³Specify AC Cable length, standard AC are 48" & 120" ⁴All Battery options are REMOTE ONLY. Enter quantity for Battery and Emergency, Example 2PLL. ⁵Use ECC_ _ to specify endcap finish other than fixture finish. Fill in the "_ _" with a code from the FINISH section. ⁶Compliance is configuration dependent; consult factory for confirmation.

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Shielding



CRI, CCT & Output

- Specify either 80 or 90 CRI
- Longer lead-time may apply for 90 CRI. Consult factory
- 90 CRI = R9≥50

Custom Output - Lumens OR Wattage

CL _____	Specify CRI, CCT and desired lumens (i.e. CL835500)	Max Lumens: A = 1,840 and BW = 1,640. Max lumens dependent on color temp. Consult factory for more information
CW _____	Specify CRI, CCT and desired wattage (i.e. CW9407)	Max Watts: 16.5 watts/ft. Consult factory for more information.

80 CRI

	Color	Lumens per foot	Shielding ¹			
			A Lambertian		BW Batwing	
			LPW	Watts/ft	LPW	Watts/ft
830LO	3000K	500	109	4.6	97	5.2
830MO	3000K	750	107	7.0	95	7.9
830HO	3000K	1000	105	9.5	93	10.8
835LO	3500K	500	115	4.3	103	4.9
835MO	3500K	750	114	6.6	101	7.4
835HO	3500K	1000	112	8.9	99	10.1
840LO	4000K	500	120	4.2	107	4.7
840MO	4000K	750	119	6.3	105	7.1
840HO	4000K	1000	117	8.6	103	9.7

90 CRI

927LO	2700K	500	90	5.6	80	6.3
927MO	2700K	750	88	8.5	78	9.7
927HO	2700K	1000	87	11.5	77	13.0
930LO	3000K	500	99	5.1	88	5.7
930MO	3000K	750	97	7.8	85	8.8
930HO	3000K	1000	95	10.5	84	11.9
935LO	3500K	500	103	4.9	91	5.5
935MO	3500K	750	101	7.4	89	8.4
935HO	3500K	1000	99	10.1	88	11.3
940LO	4000K	500	99	5.0	88	5.7
940MO	4000K	750	97	7.7	86	8.7
940HO	4000K	1000	95	10.5	85	11.8

¹LPW and watts/ft based off 47" fixture size.

Length

- All individual units are not intended to be joined.
- Tapered endcap ands 1-1/4" per end.

1	2	3	4	5	6	7	8	-
Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Indiv. Fixture	Cont. Run Specify nominal overall row length to the 1'
12" (304.8mm)	24" (609.6mm)	36" (914.4mm)	48" (1219.2mm)	60" (1524mm)	72" (1828.8mm)	84" (2133.6mm)	96" (2438.4mm)	

Specify to the 1'

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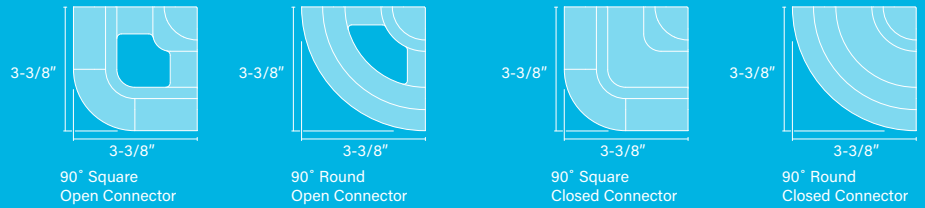
Patterns

- Specify open (O) or closed (C) connector when ordering.
Example: SRO4 - 4' Square Rounded Open connector
- Specify pattern shape and requested fixture length
- Length specified will not reflect overall pattern dimensions
- All connectors are NON ILLUMINATED
- Minimum length for any single part of a pattern is 1'
- All lengths are TO THE FOOT ONLY
- Driver/Battery Count dictated by product configuration
- Example part number: CU1D-A-835HO-RSO3x4-CAC48JB-U-FSD-1-0

SS __	SR __	RS _x	RR _x	US _x	UR _x	LS _x x	LR _x x
Square, Square Connector Provide A dimension Example: SSO4'	Square, Round Connector Provide A dimension Example: SRO4'	Rectangle, Square Connector Provide AxB dimensions Example: RSO4'x3'	Rectangle, Round Connector Provide AxB dimensions Example: RRO4'x3'	U-Shape, Square Connector Provide AxBxC dimensions Example: USO4'x3'x4'	U-Shape, Round Connector Provide AxBxC dimensions Example: URO4'x3'x4'	L-Shape, Square Connector Provide AxB dimensions Example: LSO4'x3'	L-Shape, Round Connector Provide AxB dimensions Example: LRO4'x3'

Non-illuminated Connector Details

Specify open (O) or closed (C) connector when ordering.
Example: SRO4 - 4' Square Rounded Open Connector



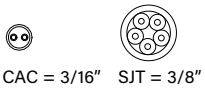
Mounting

- Specify cable length in ordering code example: PAC48JB
- Standard specifiable lengths are 48", 120", 240" and 350"
- Canopies are painted to match fixture finish, power cords are white or black depending on fixture finish. See Finish section for additional details
- PAC not rated for damp location
- Refer to installation instructions during installation at the job site
- Maximum fixture weight is 8 lbs for a standard 4' fixture
- Remote box will be included for all specifications
- Output limitations exist with Power over AC (PAC). Consult factory.

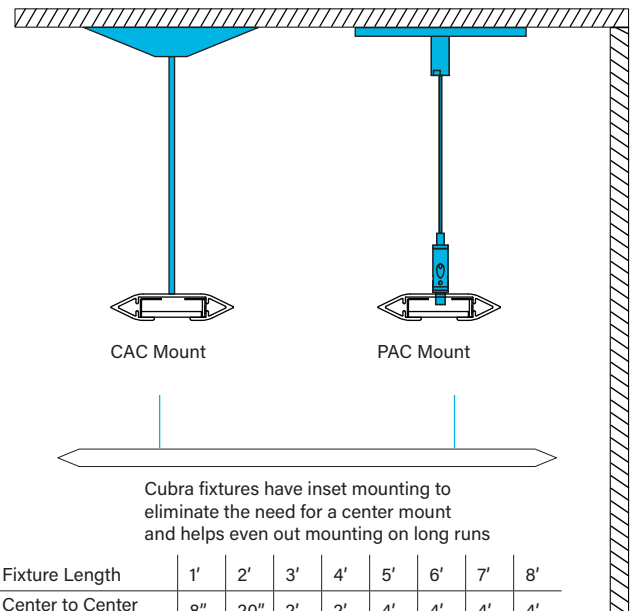
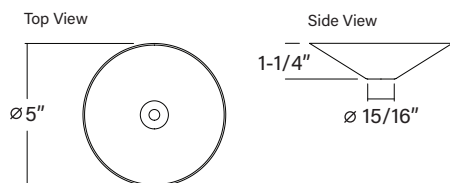
CAC __ G	Conductive AC to Grid (specify grid type: G1, G9, GS)
CAC __ JB	Conductive AC to Junction Box
PAC __ JB	Power over Aircraft Cable Junction Box
PAC __ ST	Power over Aircraft Cable Structure

CAC Canopy Details

- CAC is an integrated power and suspension cable that is smaller in diameter than a traditional SJT cable. CAC is 2 conductive cables and suspension, standard power cable (SJT) is 5 conductive cables and no suspension.



- A larger power side canopy allows for adjustability of the CAC cable inside of the canopy.





Voltage

- Some CUBRA configurations will not accommodate all voltage options; consult with factory

U	Universal
1	120 volt
2	277 volt
3	347 volt

Remote Driver

- Driver/Battery Count dictated by product configuration
- Standard Driver Option = FSD
- Driver Lifetime: 50,000 hours at 25°C ambient operating conditions
- For more driver options, see Pinnacle Resource Guide
- Some CUBRA configurations will not accommodate all driver options; consult with factory

- Configurations with no PLL, ILL or Emergency Control Device options will use Slim Remote Box
- All others will use Standard Remote Box

0-10V Drivers

FSD	Factory Select Driver 1%, 0-10v
PL2	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 0.1%, 0-10v, Logarithmic
ES2	eldoLED SOLOdrive 0.1%, 0-10v, Linear

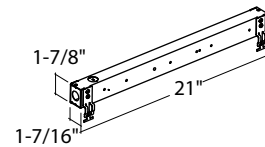
DALI Drivers

EE3	eldoLED ECOdrive 1%, DALI 2, Logarithmic, DT6
ES3	eldoLED SOLOdrive 0.1%, DALI 2, Logarithmic, DT6
OD1	eldoLED Optotronic 1%, DEXAL, DALI 2, DT6

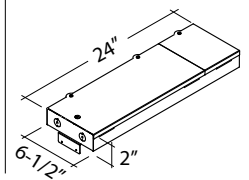
Lutron Drivers

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



Standard Remote Box



How to specify Circuiting, Battery and Emergency

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

Circuiting

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

- Battery and emergency options are available in addition to fixture circuit
 - Select battery and emergency options below; factory shop drawing required
 - Some CUBRA 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

- Battery is REMOTE
- Select battery option if required, indicate total QTY. *Example 2PLL*
- 90 minute battery runtime; test button is remote to fixture

- 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 (10w option, remote in box)
_FSBST	Factory Select Battery (Self Testing, remote in box)
_ILL	lota 10W (low profile, remote in box)
_IRC	lota 10W (remote with conduit)
_PLL	Philips Bodine 10W (low profile, remote in box)
_PRC	Philips Bodine 10W (remote with conduit)

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

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Emergency

- Emergency Control Device is REMOTE in driver box
- Select emergency type if required, indicate total QTY. *Example 1E*
- Combine battery and emergency ordering codes if both options are selected
- For use when specifying sections in continuous runs

_FSG	Factory Select ALCR Emergency Control Device, UNV
_GI	Iota ETS-DR, Emergency Control Device, UNV
_E	Emergency circuit
_N	Night Light circuit

Battery OR Emergency Ordering Examples

- Single circuit, 10w Battery Ordering Code: 1-1PLL
- Emergency only, 10w Battery Ordering Code: E-1PLL

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

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

ECC End Cap Color

- Domestic content option - compliance is configuration dependent; consult factory for conformation

BA Buy America(n) Act and/or Build America Buy America Compliant

Fixture Options: MOD Options

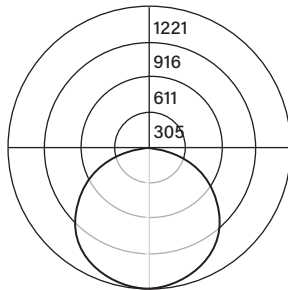
- Specify **MOD** in the part number for any of the below options
- MOD specifications are subject to longer lead-times. Consult factory for more information

MOD Flat Endcap

Photometrics

Lambertian

Test #	L012210110
Catalog #	CU1D-A-840VHO-4
Lumens	4229 lm
Watts	36.3 W
Efficacy	116.5 LPW



Candela Distribution

Vert Angle	Horizontal Angle				
	0	22.5	45	67.5	90
0	1218	1218	1218	1218	1218
5	1212	1213	1214	1216	1217
10	1200	1201	1203	1206	1210
15	1185	1186	1188	1192	1198
20	1164	1165	1168	1172	1179
25	1139	1139	1140	1144	1152
30	1109	1108	1106	1110	1117
35	1069	1068	1066	1068	1075
40	1022	1021	1018	1016	1023
45	965	964	959	956	961
50	895	896	891	885	889
55	814	815	812	805	806
60	721	722	721	712	710
65	614	618	616	607	602
70	497	501	500	489	480
75	372	375	373	361	347
80	246	248	244	230	212
85	128	130	128	113	90
90	0	0	0	0	0

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	45862	45577	45672
55	47692	47575	47223
65	48824	48983	47870
75	48301	48431	45055
85	49355	49355	34702

For all available IES files, please visit our website at pinnacle-ltg.com. Photometry testing in accordance to IESNA-LM-79-08 at an NVLAP or IAS accredited testing laboratory. Testing conducted at 25°C ambient conditions

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Multi Connector Layout

- Use the below to sketch your desired pattern. Available fixture and connectors are listed in the legend. Label your pattern components according to legend to simplify specification.
- Label the linear sections with length, and light direction - Direct (**D**) or Indirect (**I**), and shielding - Lambertian (**A**) or Batwing (**BW**); example 4D-A would be 4' Direct with Lambertian Lens.
- Cannot use connector with another connector.
- Fixtures available in 1', 2', 3', 4', 5', 6', 7', and 8' lengths. All lengths are TO THE FOOT ONLY.

Joint

AJ
Alternating Joint

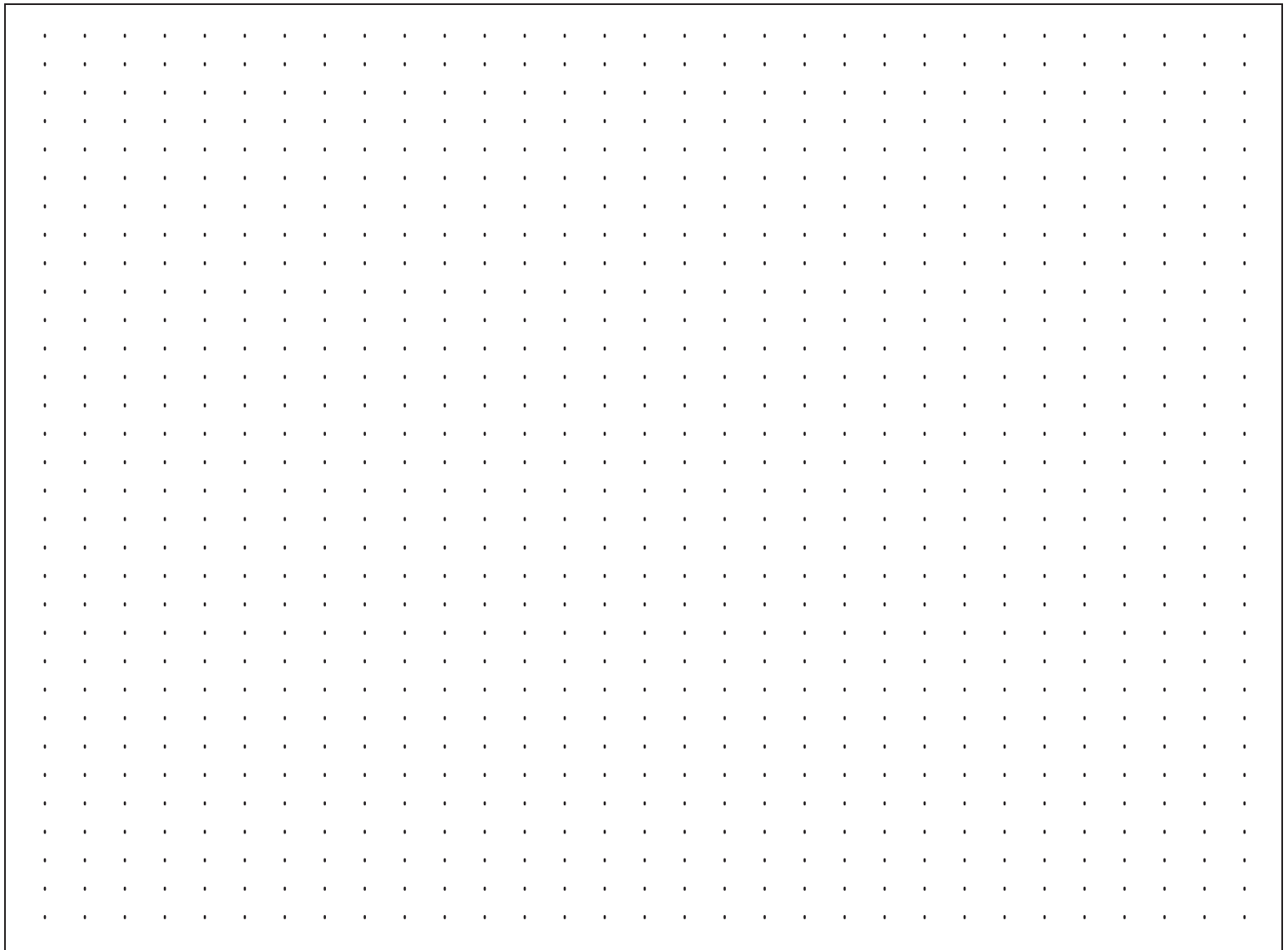
3-3/8" 3-3/8" 3-3/8" 3-3/8"

90° Square Open Connector 90° Round Open Connector 90° Square Closed Connector 90° Round Closed Connector

How to draw it out:

6' D-BW Joint 6' I-A Joint 6' D-BW

Example Part Number using Alternating Joint:
CU1AJ-A-830-18'-CAC48JB-U-FSD-1-0-W-ET





Approvals & Certifications

Construction: 6063-T6 Extruded aluminum housing. Diecast aluminum end caps.

Shielding: Direct distribution utilizes light guide plate technology (LGP). Single or dual side light is transmitted through the clear, acrylic engraved structure and controlled by highly reflective reflector material to achieve high optical efficiency. Specify between Lambertian (A) or Batwing (BW) optical distributions.

Mounting: Conductive Aircraft Cable (CAC), Power over AC (PAC) mount available. Power mount supplied with conductive aircraft cable and round canopy 5" diameter that narrows to 15/16" and 1-1/4" tall. Non-power supplied with aircraft cable and 2" (50.8mm) canopy. Each fixture consists of two mounting points inset from the ends. 1' = 8" mount spacing, 2' = 20"; 3', 4' are 2 ft apart and 5', 6', 7', 8' are 4 ft apart. Refer to installation instructions for appropriate ceiling and mounting detail. Canopies are painted white unless otherwise specified.

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. Calculated L70 = 224,000 hours and calculated L90 = 65,500 hours. MacAdam 3-Step Ellipses. For all available IES files, please visit our website at pinnacle-ltg.com.

CRI, CCT & Lumen Output: Three lumen packages available. Low (LO), Medium (MO) and High (HO). 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 PL4 or OL4 in Driver section when 347 volt (3) is selected. Some CUBRA configurations will not accommodate all voltage options; consult with factory.

Remote Driver: Standard Driver option is Factory Select Driver (FSD). FSD driver specification = 0-10V, 1% dimming. 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 110°F/43°C. For more driver options, see Pinnacle Resource Guide. Some CUBRA configurations will not accommodate all driver options.

Remote Mounting Guide

Distance limited by max input watts shown.

Max Distance	56' (.53A)	42' (.7A)	28' (1.05A)	20' (1.5A)	12' (2A)
4' Housing	4.9w/ft	6.4w/ft	9.7w/ft	13.6w/ft	17.0w/ft
8' Housing	2.4w/ft	3.2w/ft	4.8w/ft	6.7w/ft	9.1w/ft

Circuiting: Select from single circuit (1), Emergency circuit (E) or Night Light circuit (N). Some CUBRA 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. Canopies are painted to match the fixture finish (i.e. bronze fixture, bronze canopy). Contact factory for additional custom color and finish options.

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

Buy America Act (BAA) and Build America, Buy America Act (BABA) Compliance: BAA and/or BABA compliance options are available to support federally funded projects requiring domestic content. Availability depends on configuration; Compliance is configuration-dependent; consult factory for confirmation.

Labels: UL and cUL Listed. Low, Medium and High Output lumen packages are approved for dry/ damp location unless otherwise noted.

Fixture Weight: Maximum fixture weight is 8 lbs for a standard 4' fixture.

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