

section view

FEATURES OF TUBES FAMILY

The Tubes Family, the newest in decorative lighting, allows for optimum creative expression with the capability to create any shape you want while focusing light in any desired direction.

With only a 1/2" in diameter, the Tubes are ideal for bringing a sleek, minimalist, and modern feeling to any space. The Tube Family is designed as suspended mount decorative pieces, which require one remote driver per fixture that fits into the ceiling, for a clean aesthetic without unpleasant bulk. By attaching our slender 23 1/4" or 45" tubes to any of our 9 accessory connectors with eye-catching brass and black finishes, test out infinite positions and combinations of tubes to attain a simple or complex design. There is no limit to your vision with Tubes. Achieve cube, hexagon, pendant, and unlimited other shapes, with rotational capabilities of the half-lit fixture for uplighting, downlighting, wall wash, and even more bold styles to customize your illumination for applications in high-end hospitality spaces, restaurants, retail, corporate offices, and residential spaces.

SERIES	DELIVERED LUMENS	WATTAGE
FTL-TL-2	360	6.7W
FTL-TL-4	720	12W

Based on 3000K, 90+ CRI. Actual wattage may vary +/- 5%

SERIES	Tubes series
SIZE	23", 45"
CCT	2700K, 3000K, 3500K, 4000K, 5000K
CRI	90
COLOR QUALITY	2 Step MacAdam Ellipse
FINISH	● BR (Brass) ● BK (Black)
DIMMING	On / Off
LIFETIME	L70 at 60,000 Hours
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21



EXAMPLE:					
SERIES	DRIVER	CCT	CRI	ACCESSORY	FINISH
FTL-TL-2	<input type="checkbox"/> FTL-ACC-03	<input type="checkbox"/> 27K <input type="checkbox"/> 30K <input type="checkbox"/> 35K <input type="checkbox"/> 40K <input type="checkbox"/> 50K	<input type="checkbox"/> 90	<input type="checkbox"/> FTL-ACC-05 <input type="checkbox"/> FTL-ACC-06 <input type="checkbox"/> FTL-ACC-07 <input type="checkbox"/> FTL-ACC-08 <input type="checkbox"/> FTL-ACC-09 <input type="checkbox"/> FTL-ACC-10 <input type="checkbox"/> FTL-ACC-11 <input type="checkbox"/> FTL-ACC-12 <input type="checkbox"/> FTL-ACC-13	<input type="checkbox"/> BR (Brass) <input type="checkbox"/> BK (Black)
FTL-TL-4					

ACCESSORIES AND INSTALLATION



FTL-TL-2

FTL-TL-4

FTL-ACC-03



FTL-ACC-05



FTL-ACC-06



FTL-ACC-07



FTL-ACC-08



x1
x2



x2
x2



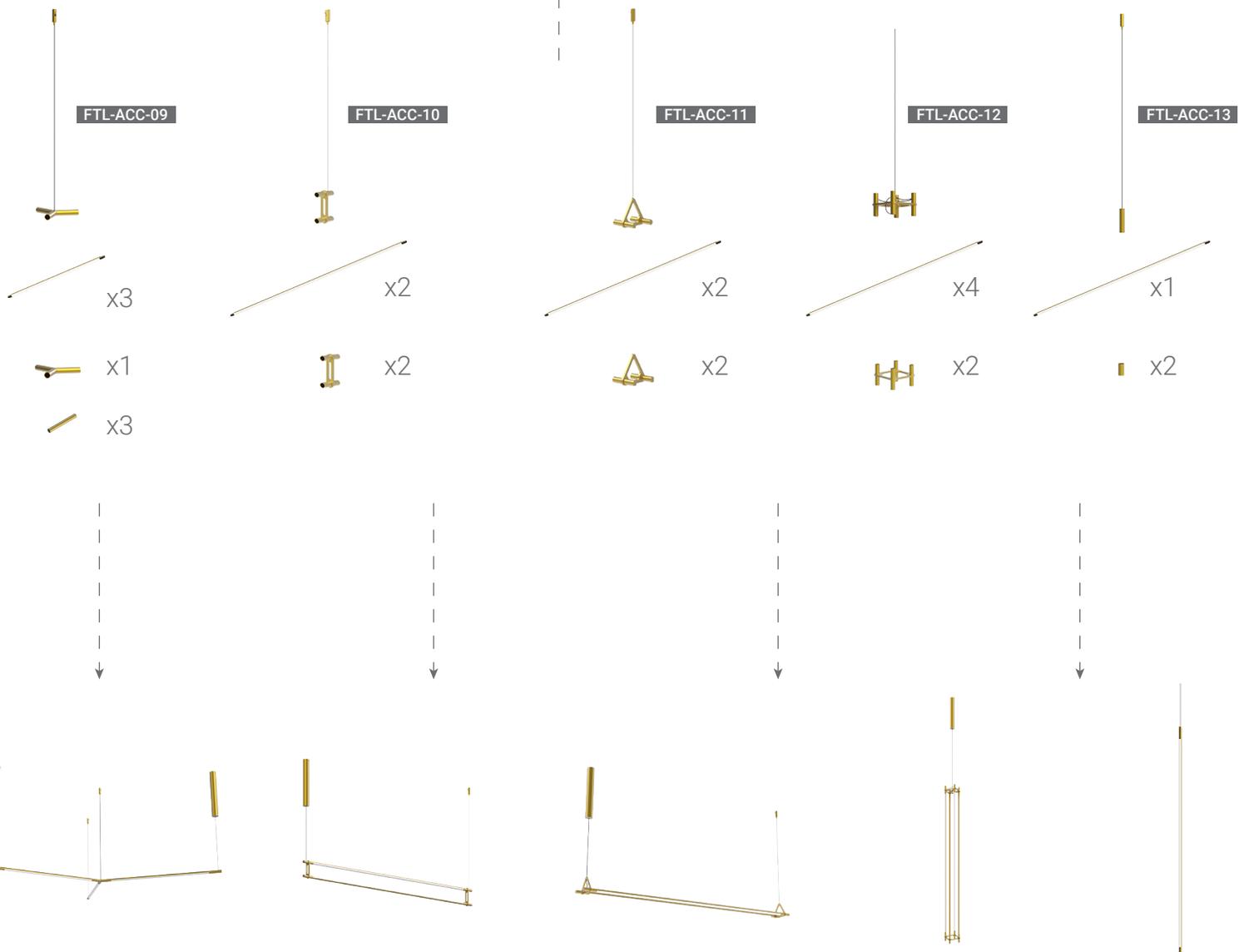
x12
x8



x6
x6



ACCESSORIES AND INSTALLATION



DRIVER INFORMATION

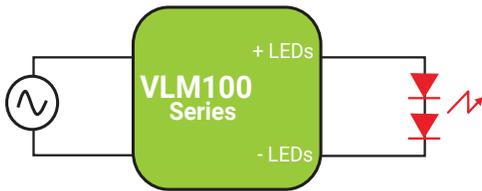
Nominal Input Voltage	Max. Output Power	Nominal Output Voltage	Efficiency	Max. Case Temperature	THD	Power Factor
120 to 277 Vac, 220 to 240 Vac	96W	48 Vdc	up to 92% typical	90°C (measured at the hot spot)	<20%	>0.9

120 TO 277 VAC NOMINAL INPUT VOLTAGE				
VLM60W: 60W				
	Nominal Input Voltage (Vac)	Pout Max (W)	Vout Nom (Vdc)	Iout Max (A)
VLM100W-12	120 to 277	96.0	48	2

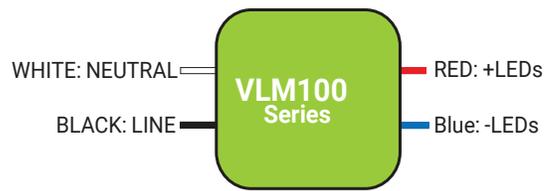
1. Not Class 2 because the over-current protection of this model exceeds the 8A UL Class 2 limit.

For additional options of output current and output voltage, contact your sales representative.

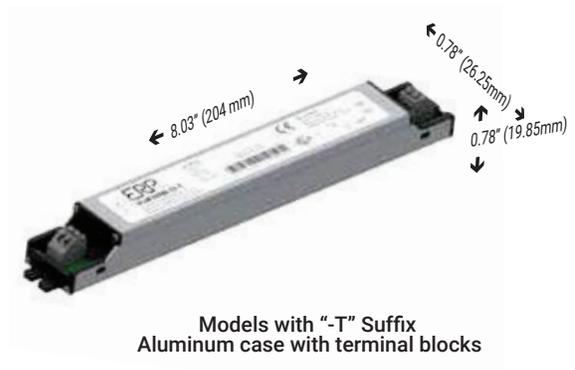
Typical Application Diagram



Wiring Diagram



Other Mounting Option



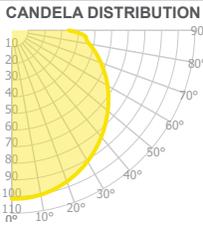
FEATURES:

- Very high power density of 24 W/in³
- IP20-rated case with silicone-based potting
- Complies with ENERGY STAR® luminaire specification and DLC (DesignLight Consortium®) technical requirements
- 90°C maximum case hot spot temperature
- Lifetime: 50,000 hours min at 70°C case temperature
- UL Class P

FTL-TL-2-30K-90

TEST NO.: **220080**

INPUT WATTS: **6.7** LUMENS: **357** EFFICACY: **53** BEAM ANGLE: **150** SPACING CRITERIA: **1.34**



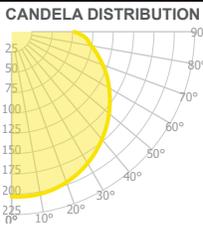
LUMINANCE (cd/sq.m)			LUMENS PER ZONE	
	0.00°	90.00°	ZONE	LUMENS
0.00°	92433	92433	0° - 10°	10
45.00°	102648	84846	10° - 20°	28
55.00°	112836	80791	20° - 30°	42
65.00°	133305	74272	30° - 40°	52
75.00°	184117	62453	40° - 50°	56
85.00°	467214	41865	50° - 60°	54
			60° - 70°	48
			70° - 80°	39
			80° - 90°	29

CONE OF LIGHT			
MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	2.8 fc	45.7 ft	17.3 ft
8.0 ft	1.6 fc	61.0 ft	23.1 ft
10.0 ft	1.0 fc	76.2 ft	28.8 ft
12.0 ft	0.7 fc	91.4 ft	34.6 ft
14.0 ft	0.5 fc	106.7 ft	40.4 ft
16.0 ft	0.4 fc	121.9 ft	46.1 ft
18.0 ft	0.3 fc	137.1 ft	51.9 ft
20.0 ft	0.3 fc	152.4 ft	57.7 ft

FTL-TL-4-30K-90

TEST NO.: **220080**

INPUT WATTS: **11.8** LUMENS: **713** EFFICACY: **60** BEAM ANGLE: **149** SPACING CRITERIA: **1.36**



LUMINANCE (cd/sq.m)			LUMENS PER ZONE	
	0.00°	90.00°	ZONE	LUMENS
0.00°	95676	95676	0° - 10°	19
45.00°	110056	88197	10° - 20°	55
55.00°	121446	84119	20° - 30°	84
65.00°	144473	77347	30° - 40°	104
75.00°	199589	64827	40° - 50°	112
85.00°	498233	38080	50° - 60°	109
			60° - 70°	96
			70° - 80°	77
			80° - 90°	57

CONE OF LIGHT			
MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	5.6 fc	47.0 ft	17.4 ft
8.0 ft	3.2 fc	62.6 ft	23.2 ft
10.0 ft	2.0 fc	78.3 ft	29.0 ft
12.0 ft	1.4 fc	94.0 ft	34.8 ft
14.0 ft	1.0 fc	109.6 ft	40.6 ft
16.0 ft	0.8 fc	125.3 ft	46.4 ft
18.0 ft	0.6 fc	140.9 ft	52.2 ft
20.0 ft	0.5 fc	156.6 ft	58.0 ft