

FORMA TOTE PENDANT DIRECT



DESCRIPTION

Timeless in appearance and flexible in function, the decorative Forma pendants embody the simple beauty of geometric design and the sophisticated power of innovative technology. The conical Caret, the truncated-cone-shaped Tote, and the hemisphere Cupola luminaires are each equipped with our Unity Pointed (UP) technology, which delivers lens brightness uniformity across all shapes and sizes within the same lumen output.



TOTE 8"

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Project: _____

 Type: _____

Order Guide

LUMINAIRE ID	SIZE	DISTRIBUTION	DIRECT OPTIC	INDIRECT OPTIC Specify NA for Direct Fixture	LIGHT SOURCE
FTOTP			HLO		
FTOTP - Forma Tote Pendant	8IN - 8" diameter 12IN - 12" diameter 24IN - 24" diameter	DI ¹ - Direct/Indirect D - Direct ¹ Not available in 8" diameter.	HLO - High-Efficiency Lambertian Optic	TIO - Translucent Indirect Optic NA - Not applicable	SW - Static white FS - Full spectrum BIOSST - Static biologically-optimized lighting BIOSDY - Dynamic biologically-optimized lighting SOLA - Dim-to-warm single channel control 35K to 22K DUO - Tunable White 2-channel control 65K to 27K RS - Red solid GS - Green solid BS - Blue solid

CRI Specify NA for Solid Color	DIRECT LUMEN PACKAGE	INDIRECT LUMEN PACKAGE Specify NA for Direct Fixture	COLOR TEMPERATURE Specify NA for Sola, Duo and Solid Color	VOLTAGE																																						
80CRI ² - 80 CRI 90CRI ^{2,3} - 90 CRI 95CRI ⁴ - 95 CRI NA - Not applicable ² Not available with full spectrum. ³ Not available with BIOS. ⁴ Only available with full spectrum.	<u>SW, SOLA, DUO</u> <table border="1"> <tr> <td></td> <td>Low</td> <td>Medium</td> <td>High⁵</td> </tr> <tr> <td>8"</td> <td>x</td> <td>500LM</td> <td>700LM</td> </tr> <tr> <td>12"</td> <td>800LM</td> <td>1200LM</td> <td>1600LM</td> </tr> <tr> <td>24"</td> <td>3200LM</td> <td>4800LM</td> <td>6400LM</td> </tr> </table> <u>Solid Colors (RS, GS, BS)</u> <table border="1"> <tr> <td>8"</td> <td>6W</td> </tr> <tr> <td>12"</td> <td>14W</td> </tr> <tr> <td>24"</td> <td>57W</td> </tr> </table> ⁵ Not available with full spectrum or BIOS.		Low	Medium	High ⁵	8"	x	500LM	700LM	12"	800LM	1200LM	1600LM	24"	3200LM	4800LM	6400LM	8"	6W	12"	14W	24"	57W	<u>SW, SOLA, DUO</u> <table border="1"> <tr> <td></td> <td>Low</td> <td>Medium</td> <td>High⁶</td> </tr> <tr> <td>12"</td> <td>x</td> <td>1200LM</td> <td>1600LM</td> </tr> <tr> <td>24"</td> <td>3200LM</td> <td>4800LM</td> <td>6400LM</td> </tr> </table> ⁶ Not available with full spectrum or BIOS. <u>Solid Colors (RS, GS, BS)</u> <table border="1"> <tr> <td>12"</td> <td>6W</td> </tr> <tr> <td>24"</td> <td>14W</td> </tr> </table> NA - Not applicable		Low	Medium	High ⁶	12"	x	1200LM	1600LM	24"	3200LM	4800LM	6400LM	12"	6W	24"	14W	27K ⁷ - 2700K 30K - 3000K 35K - 3500K 40K - 4000K NA - Not applicable ⁷ Not available with BIOS.	120V - 120V 277V - 277V UNV - 120V-277V
	Low	Medium	High ⁵																																							
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DRIVER ⁸	ELECTRICAL	MOUNTING ¹¹	BODY FINISH ¹²	INNER TRIM FINISH ¹³	
<u>SW</u> DI - 1% 0-10V DA ⁹ - DALI LDEI ⁹ - Lutron Hi-lume 1% Eco ELD1 - eldoLED 1% ECOdrive 0-10V ELD0 - eldoLED 0.1% SOLOdrive 0-10V ELV ¹⁰ - ELV 120V TRI ¹⁰ - TRIAC 120V <u>SOLA</u> SDI - Single 0-10V input ⁸ PoE (Power-over-Ethernet) compatible. Consult factory for details. ⁹ On-site commissioning is required. ¹⁰ Available with 120V only.	1C 1C - 1 circuit	<u>DUO</u> DDA ⁹ - DALI DT6 DDAB ⁹ - DALI DT8 DDI - Dual 0-10V input for CCT/intensity LD2 ⁹ - Lutron DALI-2 digital RDMX ⁹ - Remote DMX <u>Solid Colors</u> DI - 0-10V	ACS - Aircraft cable, standard ACC() - Aircraft cable, custom ¹¹ Standard canopies are black for black fixtures, and white for all other finishes. See page 3 for full details on standard and custom options.	TMW - Textured matte white TMB - Textured matte black CF# - Custom finish, specify RAL# ¹² See page 4 for more finish options.	TMW - Textured matte white TMB - Textured matte black CF# - Custom finish, specify RAL# ¹³ See page 4 for more finish options.

Accessories

Optional, order separately

WALL CONTROLLER	
DMX WCW ¹⁴ - DMX wall controller white WCB ¹⁴ - DMX wall controller black ¹⁴ Available with DMX only. For more information, see pages 8 to 11, or consult factory.	DDI TWCW ¹⁵ - Dual 0-10V wall controller white TWCB ¹⁵ - Dual 0-10V wall controller black ¹⁵ Available with DDI only. For more information, see page 12, or consult factory.



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Pendant Mounting Code

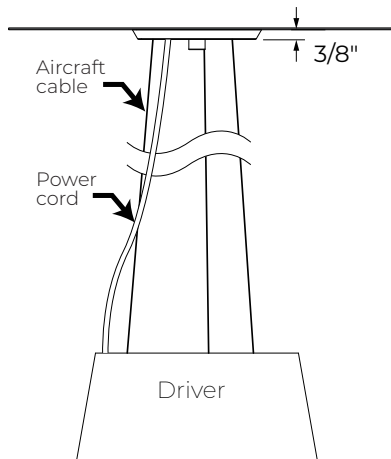
Standard

For a standard mounting, please refer the information below.

MOUNTING

ACS - Aircraft cable, standard

- Ø 5" canopy
- Canopies are black for black fixtures, and white for all other fixture finishes
- Power cord is black for black fixtures, and white for all other fixture finishes
- Aircraft cable length is 36"



Custom

Aircraft Cable

For a custom mounting, specify the options in the parentheses.

Example: ACC(5PC-36IN-TMW-PCB)

MOUNTING

ACC()

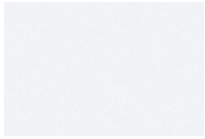
	CANOPY SIZE	AIRCRAFT CABLE LENGTH	CANOPY FINISH	POWER CORD COLOR
ACC	5PC - Ø 5" power canopy	36IN - 36" 72IN - 72" 120IN - 120" #IN ¹ - Other lengths, specify in inches ¹ Maximum length is 288". For longer lengths, please consult factory.	TMW - Textured matte white TMB - Textured matte black CF# - Custom finish, specify RAL#	PCW - White PCB - Black

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Fixture Finishes

Standard



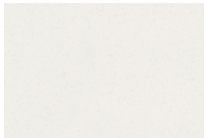
TMW - Textured Matte White



TMB - Textured Matte Black

Custom

Neutrals



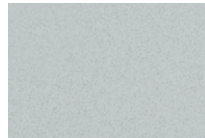
CRM - Cream



GRY - Gray



STG - Steel Gray



SAG - Sage Gray

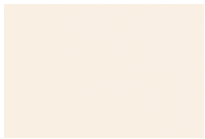


MOG - Moss Gray



BLB - Black Blue

Designer



ALM - Almond



QRZ - Quartzite Texture



RST - Rust Fine Texture



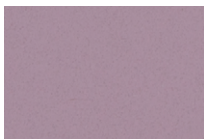
GRB - Green Beige



YLW - Yellow



SLM - Salmon Pink



VIO - Pastel Violet



RED - Red



PRR - Purple Red



SMB - Storm Blue



DPB - Deep Blue



OCB - Ocean Blue



BLG - Blue Green



GNS - Green Smoke



MNG - Mint Green



LMG - Lime Green

Metallics



CHP - Champagne



GLD - Gold



DBZ - Dark Bronze



IRN - Iron Ore



CNY - Canyon



SBP - Sandblast Copper

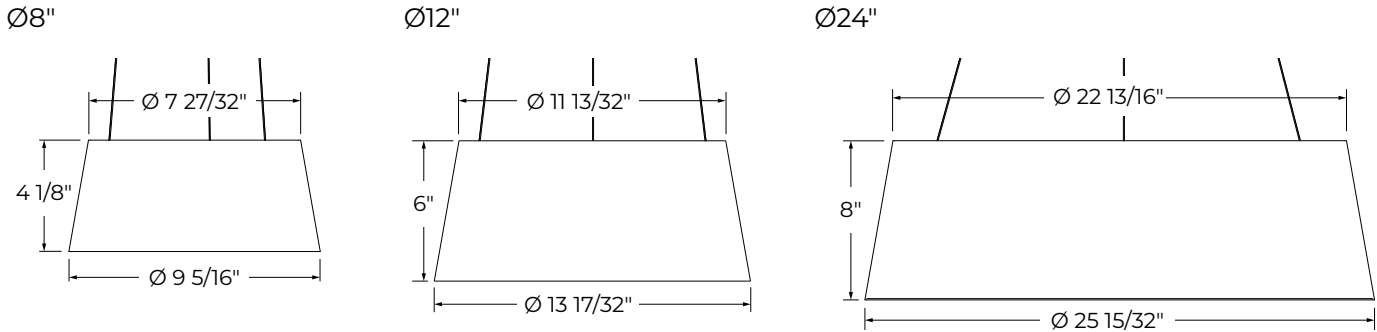


SWD - Sandalwood

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Dimensions



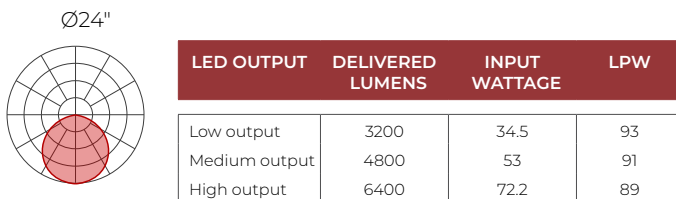
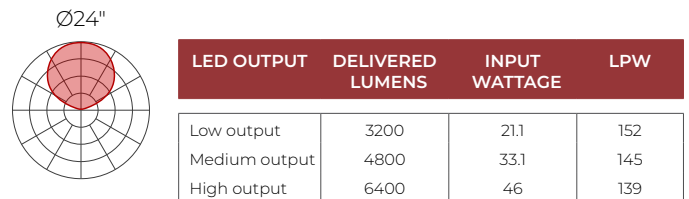
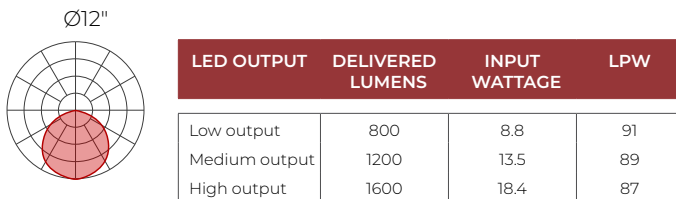
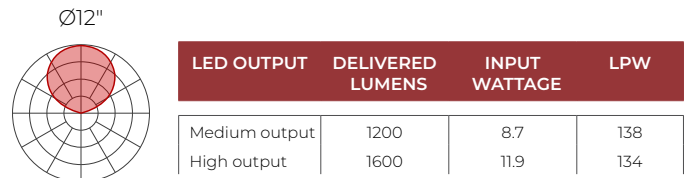
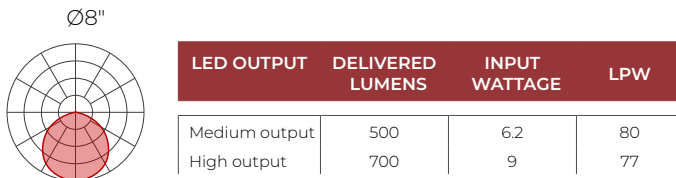
Photometrics

DIRECT OPTICS

Delivered Lumens at 35K at 80 CRI, with HLO lens option.

INDIRECT OPTICS

Delivered Lumens at 35K at 80 CRI, with TIO lens option.



MULTIPLIER TABLES

Use these tables to get results for different color temperatures and CRI.

Multiplier - CCT/CRI

CCT (K)	WATTS		LPW	
	CRI80	CRI90	CRI80	CRI90
2700	1.05	1.26	0.95	0.79
3000	1.01	1.23	0.99	0.81
3500	1.00	1.20	1.00	0.84
4000	1.00	1.17	1.00	0.85

DIRECT/INDIRECT - LPW CALCULATION

For Direct/Indirect performance values, follow the formula.

$$\frac{\left(\begin{array}{c} \text{DIRECT} \\ \text{DELIVERED LUMENS} \end{array} + \begin{array}{c} \text{INDIRECT} \\ \text{DELIVERED LUMENS} \end{array} \right)}{\left(\begin{array}{c} \text{DIRECT} \\ \text{INPUT WATTS} \end{array} + \begin{array}{c} \text{INDIRECT} \\ \text{INPUT WATTS} \end{array} \right)} = \text{LPW}$$

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Technical Specifications

DIRECT OPTIC

High-Efficiency Lambertian Optic (HLO)

Shielding of 0.1" thick, thermoformed diffusing acrylic with up to 70% transmission and excellent source obscuration. Vertical return edge illuminates inside of housing. Luminaire brightness is controlled by the flux-to-shielding area ratio.

INDIRECT OPTIC

Translucent Indirect Optic (TIO)

The Translucent Indirect Optic (TIO) is composed of a horizontal LED array that has a translucent lens to mask pixilation from the diodes.

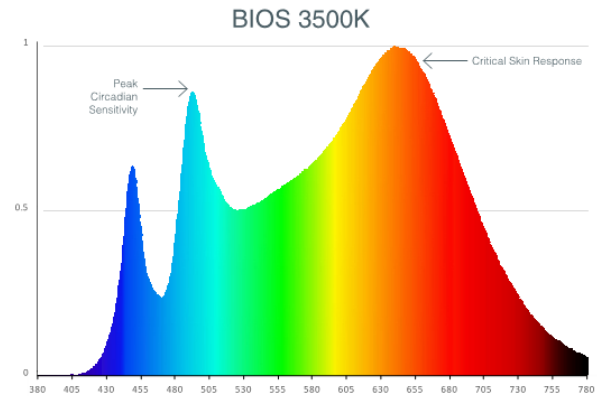
LIGHT SOURCE- STATIC WHITE

Custom array of mid-flux LEDs are mounted directly to the housing for optimal thermal performance. Available in 2700K, 3000K, 3500K and 4000K with a minimum 80 CRI and an option for 90 CRI with elevated R9 value. Color consistency maintained to within 3 SDCM. LEDs operated at reduced drive current to optimize efficacy and lumen maintenance.

All LEDs have been tested in accordance with IESNA LM-80-08 and the results have shown L80 lumen maintenance greater than 60,000 hours. Absolute product photometry is measured and presented in accordance with IESNA LM-79, unless otherwise indicated. Optional full spectrum LEDs can be incorporated in the fixture to increase Cyanosis Observation Index (COI) and assist in regulating circadian rhythms.



BIOS SkyBlue™ Technology is designed to provide the specific circadian stimulus to improve overall sleep quality, recovery during the night, and overall feelings of well-being. The non-visual light signals that stimulate our circadian system have peak intensity in the "sky blue" region. As the diagram below illustrates, BIOS SkyBlue technology shifts the peak LED spectral intensity (490 nm) to align better with the peak response of circadian stimulus. Also note the enhanced deep-red (near 660 nm) spectrum.



CHROMAWERX - TUNABLE WHITE

Chromawerx SOLA

Chromawerx SOLA is single-channel control that dims output while warming the color temperature in a pre-determined relationship. A simple analog control adjusts a specially populated LED array to emulate the effect of dimming a filament source.

Chromawerx DUO

Chromawerx DUO offers a two-channel control system which uses analog or digital protocols for synchronous control of both cool (6500K) to warm (2700K) LED arrays - maintaining a CRI above 90. The range of color DUO offers is useful for entraining circadian rhythms, stimulating alertness, and compensating for jet lag among other applications. The Chromawerx drivers are programmed to limit maximum light output and power usage across all color temperatures. When paired with DALI drivers (DDA/DDA8), color tuning follows a linear dimming curve.

Chromawerx Solid colors

For dramatic coloration, Forma Tote offers Chromawerx options for solid colors like red, green, or blue. Consult Lumenwerx for implementations of Chromawerx Duo with white and solid color LEDs, enabling muted colors or the ability to switch between white and colored light.



RS - Red solid

BS - Blue solid

GS - Green solid

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ELECTRICAL

Factory-set, adjustable output current LED driver with universal (120-277 VAC) input. Dimmable from 100% to 1% with 0-10V dimming control. Rated life (90% survivorship) of 50,000 hours at 50°C max. ambient (and 70°C max. case) temperature. At maximum driver load: Efficiency>84%, PF>0.9, THD<20%. Other specifiable options include Lutron Hi-Lume 1% Eco, DMX (RDM compatible), eldoLED 1% ECOdrive 0-10V, eldoLED 0.1% SOLOdrive 0-10V, ELV, TRIAC, Lutron DALI-2 digital, and DALI protocol drivers. All of our standard 0-10V drivers are NEMA 410 compliant.

PoE

Depending on the PoE manufacturer selected, Lumenwerx will install the node in factory as either integral to the luminaire, or as a remote module. Factory programming of the PoE node may or may not enable the following functionalities: lumen package, Duo (tunable white), emergency battery backup, and sensor integration. These must be addressed and evaluated on a case-by-case basis.

FINISH

Interior - 95% reflective, matte white powder coating.

Exterior - Standard powder-coat paint available in textured matte white and black. Custom colors are also available in over 30 colors.

CONSTRUCTION

Housing - Spun aluminum

Canopy - Spun sheet metal

Lens - Thermoformed acrylic

WEIGHT

8" - 3 lbs - 1.4 kg

12" - 6.7 lbs - 3 kg

24" - 19 lbs - 8.6 kg

CERTIFICATIONS

ETL - Rated for Indoor Dry/Damp locations. Conforms to UL Standard 1598 and certified to CAN/CSA Standard C22.2 No. 250.0.

WARRANTY

Lumenwerx provides a five-year limited warranty of electrical and mechanical performance of the luminaires, including the LED boards, drivers, and auxiliary electronics. Lumenwerx will repair or replace defective luminaires or components at our discretion, provided they have been installed and operated in accordance with our specifications. Other limitations apply, please refer to the full warranty on our website.

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DUO DMX SPECIFICATION

A qualified DMX integrator is required to assure proper installation and commissioning of the DMX network. **When placing the PO, please provide the contact information of your DMX integrator.**

Please answer the following questions to help us identify your DMX network requirements.

YES

Do you require a wall controller provided by Lumenwerx?

NO

DMX control system supplied by others. Lumenwerx will supply DMX-enabled fixtures with default DMX addressing. See following pages for technical DMX informations. ✓

DMX controller supplied by Lumenwerx

How many zones do you have?
A zone consists of one or more luminaires behaving identically.



1 Zone



2 Zones

How to calculate the required number of drivers:

Per fixture

1x Driver / 50W per side

To Calculate # of drivers

1-4 Zones

5 or more Zones

Do you have more than 32 drivers in total?

NO

YES

Order a standard Lumenwerx wall controller.

WALL CONTROLLER

WCW - wall controller white
WCB - wall controller black

Add the control code at the end of your order code.

Please provide a fixture layout or RCP (Reflected Ceiling Plan) showing the locations of the DMX fixtures, zones and the DMX wall controller.

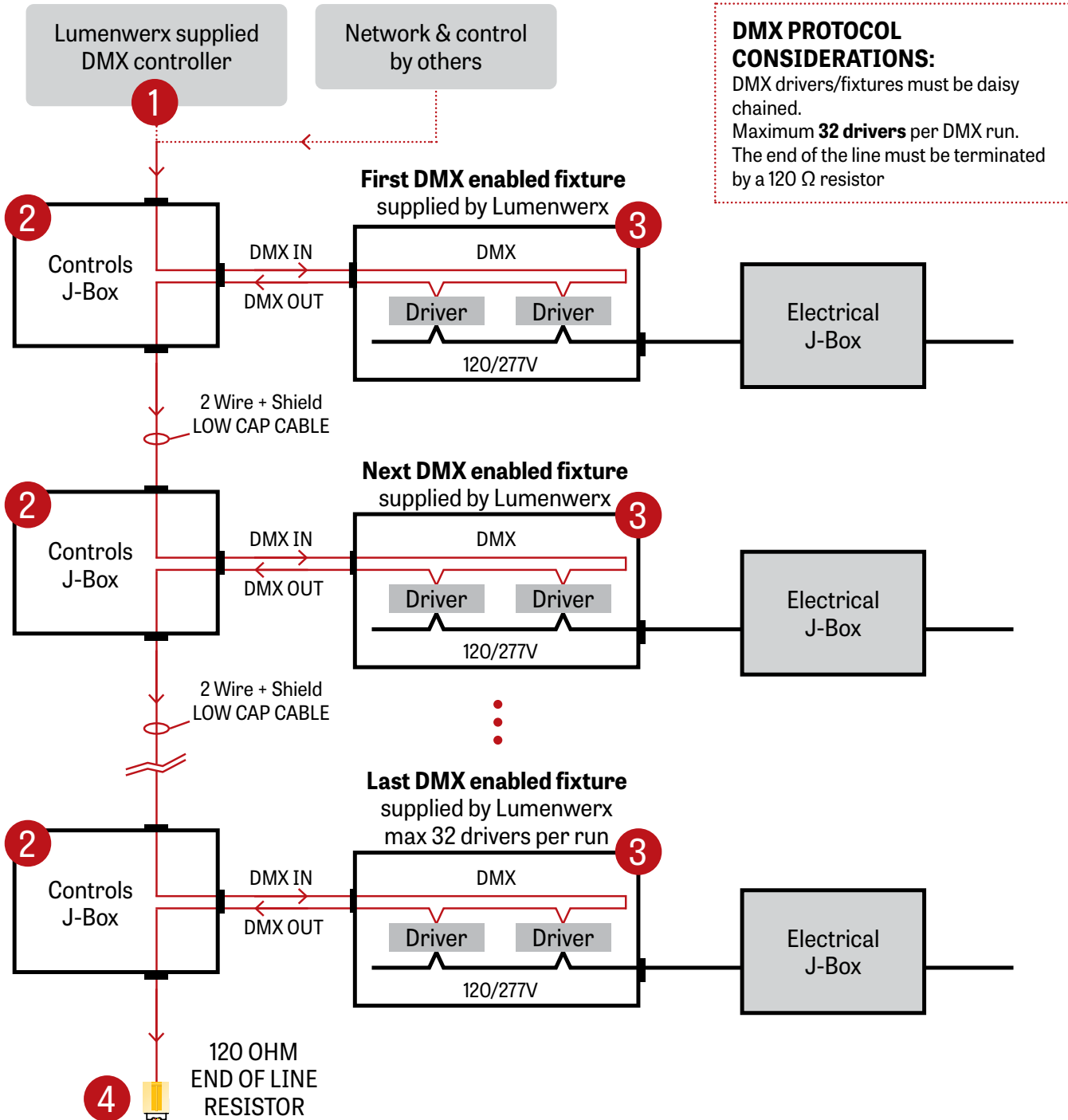
Refer to your DMX integrator for the installation. ✓

Subject to factory evaluation. Please contact our controls specialist at controls@lumenwerx.com. Additional costs and equipment will be required. ✓

Subject to factory evaluation and approval. Please contact our controls specialist at controls@lumenwerx.com. Additional costs and equipment will be required. ✓

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GENERIC DMX NETWORK ARCHITECTURE



DMX PROTOCOL CONSIDERATIONS:
 DMX drivers/fixtures must be daisy chained.
 Maximum **32 drivers** per DMX run.
 The end of the line must be terminated by a 120 Ω resistor

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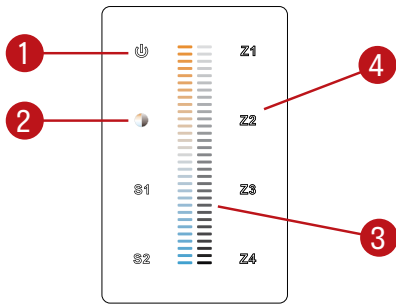


DMX WALL CONTROLLER - TUNABLE WHITE

Default DMX Addresses:

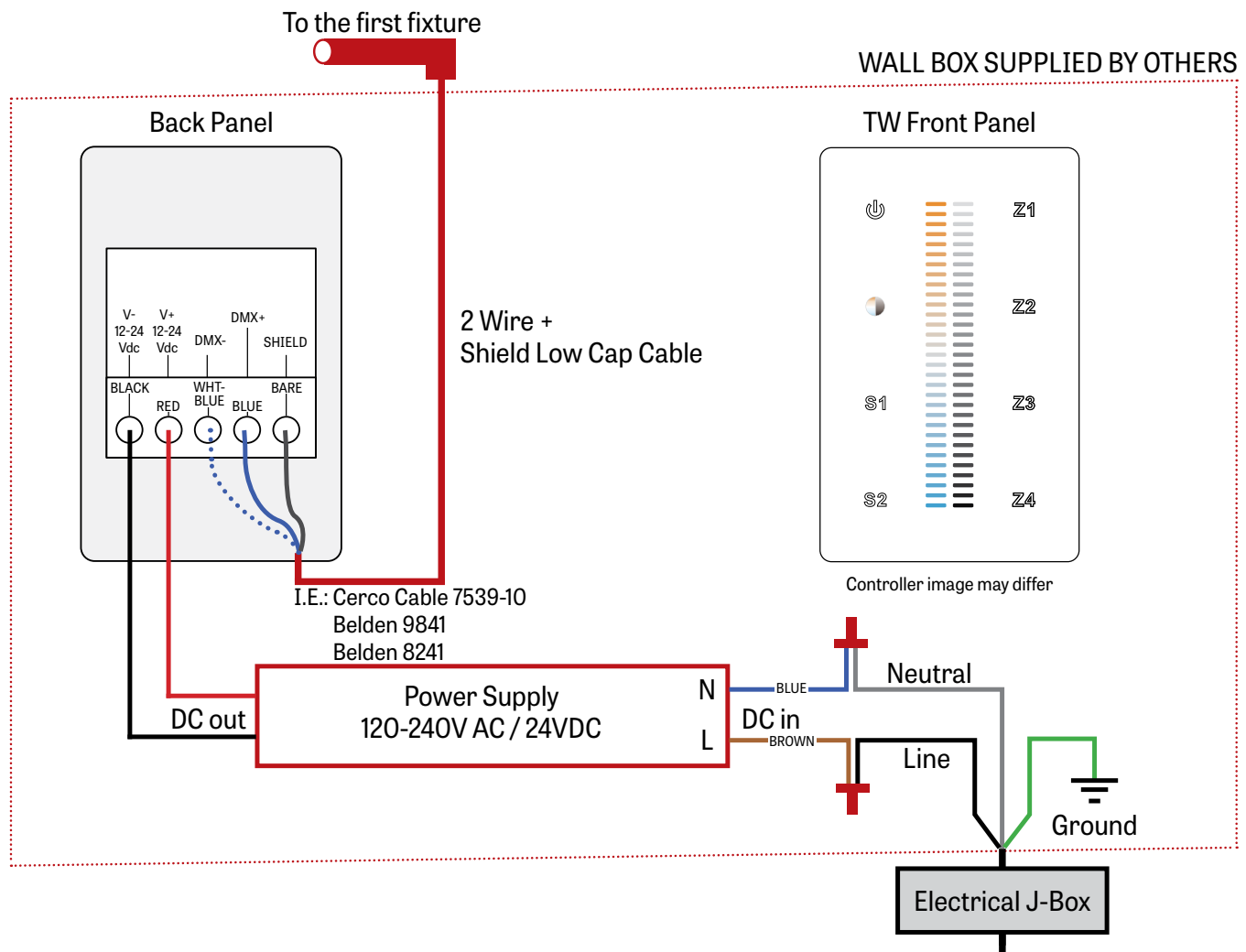
- 1. WARM
- 2. COOL

DUO 1-4 ZONE

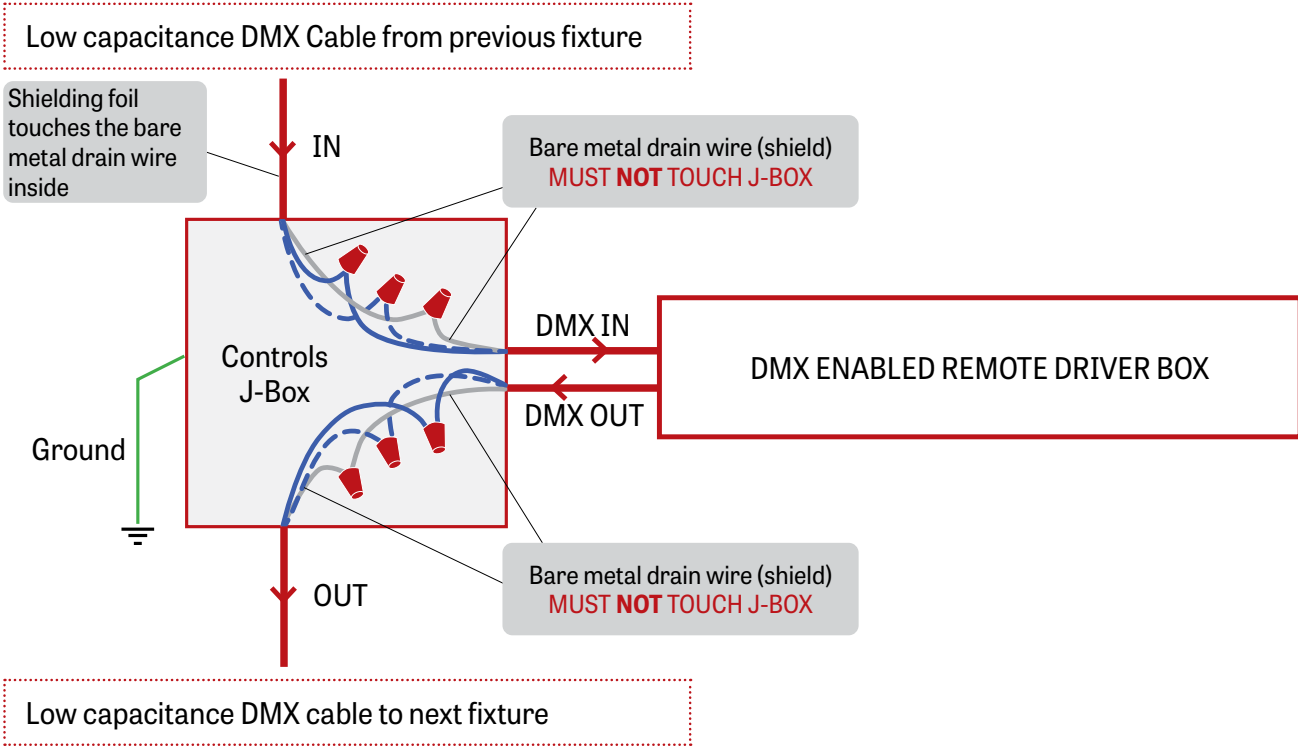


- (1) Power: Use this button to turn ON or OFF the fixture.
- (2) Brightness/CCT: Use the color/brightness toggle button to chose between color/brightness. When blue: brightness is selected; when yellow: color is selected.
- (3) Slider: Depending on the mode chosen in 2, the slider will allow the user to set desired color or brightness.
- (4) Zone select: Up to 4 zones can be selected, either independently or together. Once selected, the commands will be sent to the zone identified by a Blue LED.

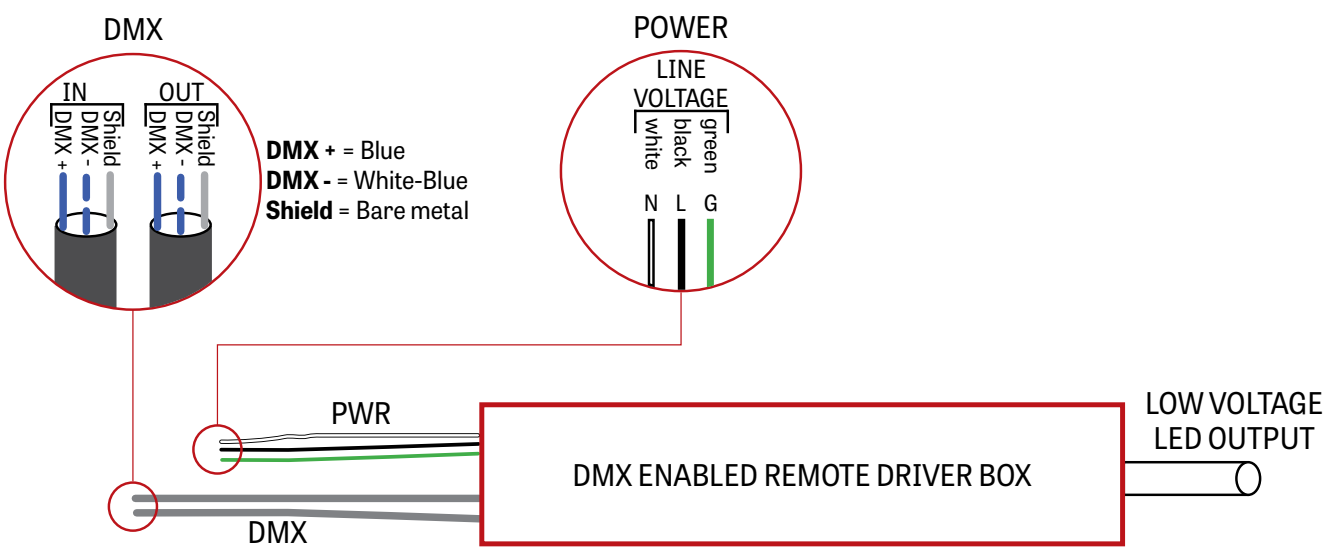
1 LUMENWERX SUPPLIED DMX CONTROLLER



2 J-BOX DMX DAISY CHAIN DETAIL



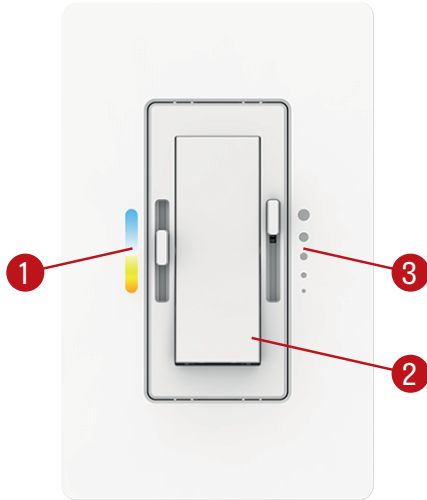
3 DMX CONNECTION PENDANT & WALL REMOTE DRIVER



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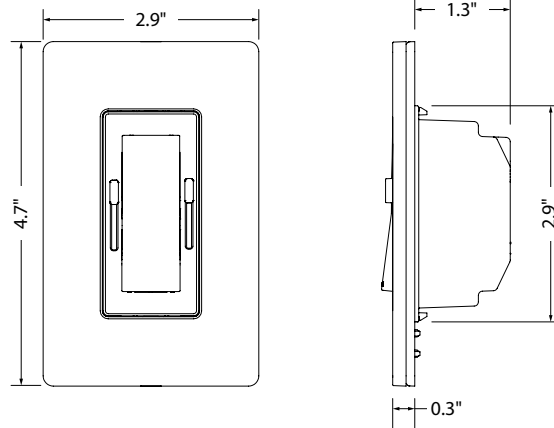
DUAL 0-10V WALL CONTROLLER

Front Panel



Controller image may differ

Dimensions



- (1) CCT control: Use this button to adjust the color temperature.
- (2) On/Off switch: Use this button to turn ON or OFF the fixture.
- (3) Dimming control: Use this button to adjust the brightness.

Wiring Diagram

