

# NOVA

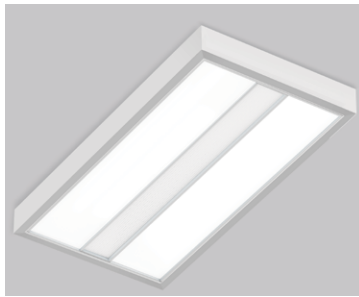
SURFACE

CHROMAWERX - SOLA, DUO



Project: \_\_\_\_\_

Type: \_\_\_\_\_



Nova Surface Flat



Nova Surface Slope

## DESCRIPTION

Nova is an efficient architectural LED troffer with a distinctive luminous shielding that distributes gentle brightness from the sides of its central optical element. Using advanced LED engines, Nova provides highly efficient illumination and offers comprehensive ceiling, electrical, and controls options in 1'x4', 2'x2', and 2'x4' sizes. Nova is available with both Flat and Slope side diffusers. Nova is an ideal vehicle for Chromawerx white tuning in education, office, and healthcare applications where modular luminaires are used



## Order Guide

LUMINAIRE ID	SIZE	CENTER OPTIC		SIDE OPTIC	LIGHT SOURCE <sup>1</sup>	CRI	LUMEN PACKAGE		
		PMO	HLO						
<b>NOVSF</b> - Nova Surface Flat	<b>1FTX4FT</b> - 1' x 4'	PMO - Precision Micro-Prism Optic	HLO - High-Efficiency Lambertian Optic	SOLA - Dim-to-warm single channel control 35K to 22K  DUO - Tunable white 2-channel control 65K to 27K	80CRI - 80+ CRI  90CRI - 90+ CRI		Low	Medium	High
<b>NOVSS</b> - Nova Surface Slope	<b>2FTX2FT</b> - 2' x 2'					1' x 4'	<b>2300LM</b> - 2300 lm	<b>3200LM</b> - 3200 lm	<b>4200LM</b> - 4200 lm
	<b>2FTX4FT</b> - 2' x 4'					2' x 2'	<b>2300LM</b> - 2300 lm	<b>3200LM</b> - 3200 lm	<b>4200LM</b> - 4200 lm
						2' x 4'	<b>4000LM</b> - 4000 lm	<b>5500LM</b> - 5500 lm	<b>6800LM</b> - 6800 lm

<sup>1</sup>Static white, full spectrum, and Chromawerx QUADRO also available. Consult other spec sheets.

VOLTAGE	DRIVER	ELECTRICAL		MOUNTING	FINISH	OPTION
		IC	SUR			
<b>120V</b> - 120V <b>277V</b> - 277V <b>UNV</b> - 120V-277V	<u>SOLA</u> SDI - Single 0-10V input  <u>DUO</u> DMX <sup>2,3</sup> - DMX DDA <sup>3</sup> - DALI DT6 DDA8 <sup>3</sup> - DALI DT8 DDI - Dual 0-10V input for CCT/intensity LD2 <sup>3</sup> - Lutron DALI-2 digital  <sup>2</sup> For more information, see pages 6 to 11. <sup>3</sup> On-site commissioning is required.	IC - 1 circuit	SUR - Surface mount	W - Matte white AL - Aluminum B - Matte black CF# - Custom finish, specify RAL#	FU120 - Fuse 120V FU277 - Fuse 277V NA - None	

## Accessories

Optional, order separately

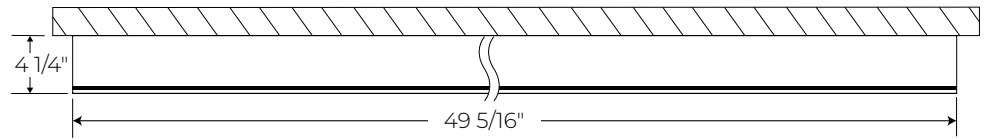
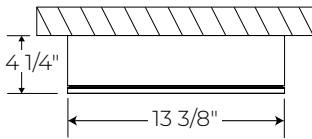
WALL CONTROLLER <sup>4</sup>	
<b>DMX</b>	<b>DDI</b>
<b>WCW##FT</b> <sup>5</sup> - DMX wall controller white <b>WCB##FT</b> <sup>5</sup> - DMX wall controller black	<b>TWCW##FT</b> <sup>6,7</sup> - Dual 0-10V wall controller white <b>TWCB##FT</b> <sup>6,7</sup> - Dual 0-10V wall controller black

<sup>4</sup>Specify wire length (##) in feet.  
<sup>5</sup>Available with DMX only. For more information, see pages 6 to 11, or consult factory.  
<sup>6</sup>Available with DDI only. For more information, see page 12, or consult factory.  
<sup>7</sup>Only available with 120V.

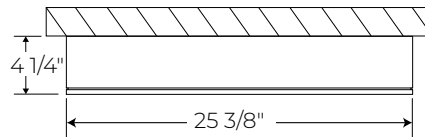
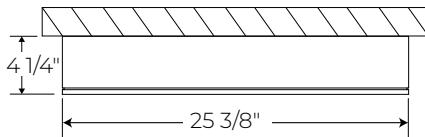


## Dimensions

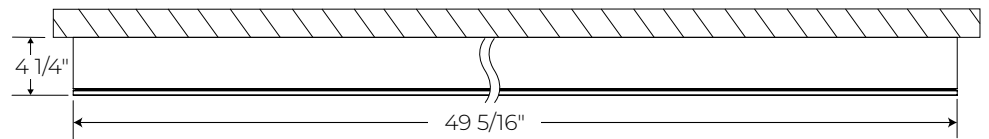
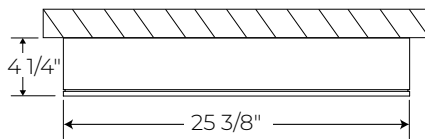
1' x 4'



2' x 2'

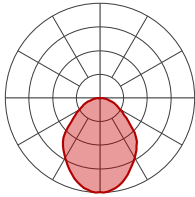


2' x 4'



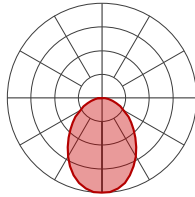
## Photometrics

Values calculated based on 3500K.



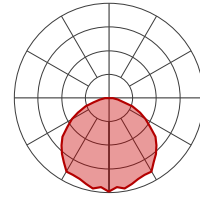
1' x 4'

LM	W	LM/W
2300	21.5	107
3200	31	103
4200	42	100



2' x 2'

LM	W	LM/W
2300	20	115
3200	29	110
4200	39	107



2' x 4'

LM	W	LM/W
4000	38	104
5500	55	100
6800	68	100

### MULTIPLIER TABLE

Use the table to get results for different color temperatures.

#### SOLA

CCT	WATTS 80+ CRI / 90+ CRI	LPW 80+ CRI / 90+ CRI
3500K	1.00	1.00

#### DUO

CCT	WATTS 80+ CRI / 90+ CRI	LPW 80+ CRI / 90+ CRI
2700K	1.02	0.98
6500K	0.99	1.01

## Technical Specifications

### OPTICS

#### Precision Micro-Prism Optic (PMO)

The Precision Micro-Prism Optic (PMO) uses a specially designed catadioptric lens that combines refraction and internal reflection. The exclusive two-dimensional array of prisms is designed to eliminate the glare found at higher viewing angles and as such, enables a glare cut-off at a 45° viewing angle.

The acrylic material itself is untinted, relying entirely on catadioptric control for effective source obscuration. A highly efficient TIR process at the acrylic-air interface on the prism surfaces redirects incident light with less than a 0.1% loss per reflection. As a result, these optics attain a high optical efficiency greater than 90%, while maintaining visual comfort at normal viewing angles and presenting a pleasing luminous appearance.

#### High-Efficiency Lambertian Optic (HLO)

The High-Efficiency Lambertian Optic (HLO) uses matte white reflectors to distribute LED output across 0.075" acrylic shielding, providing up to 88% transmission and good obscuration.

### LIGHT SOURCE

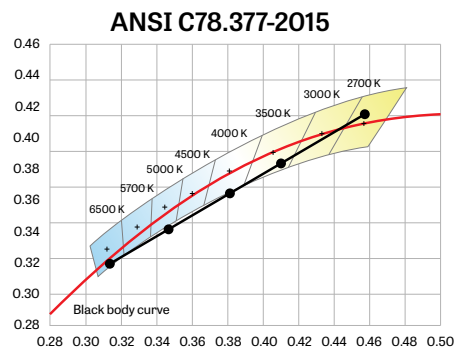
Custom array of alternating color temperature mid-flux LEDs are mounted directly to the housing for optimal thermal performance. For the DUO products, a color temperature range from 6500K-2700K is achievable with color points on or below the black body curve. For the SOLA products, a color temperature range from 3500K-2200K is controlled synchronously with intensity. Color consistency between fixtures is maintained to within 3 SDCM. 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.

#### Chromawerx SOLA

It is a single-channel control that dims output while warming the color temperature in a pre-determined relationship. A simple analog control sends a common signal to dual output digital drivers, which are programmed to adjust a specially populated LED array to emulate the effect of dimming a filament source. Dimming range is programmable but the default option runs from 3500K at 100% of full power to 2200K at 5% of full power. CRI is maintained above 80 throughout the dimming range.

#### Chromawerx DUO

It is a two-channel control. It uses an analog (0-10V) protocol for separate control of luminaire CCT and intensity or a digital (DMX, DALI, and LD2) protocol for synchronous control of both warm and cool LED arrays to enable the user to set color temperature and light output. Commonly called "tunable white", Chromawerx two-channel control provides the range of cool (6500K) to warm (2700K) color that can be useful for helping to entrain circadian rhythms, stimulate alertness for improved educational and work productivity, and compensate for jet lag, among other applications. The Chromawerx drivers are programmed to limit maximum light output and power usage across all color temperatures. CRI is maintained above 80. When paired with DALI drivers (DDA/DDA8), color tuning follows a linear dimming curve.



### ELECTRICAL

#### SOLA

##### SDI

Factory-set, adjustable output current LED driver with universal (120-277 VAC) input. Using a single 0-10V control signal, the light output warms in color temperature as it dims down to 1% and 2200K. At maximum driver load, efficiency<86%, PF>0.9, THD<20%.

#### DUO

##### DMX

Factory-set adjustable output current electronic driver with 120-277 VAC line input. Using DMX wall controls (optionally supplied by Lumenwerx) or an existing DMX control system, both channels of LEDs are independently adjustable. Each DMX driver can be independently addressed using the built-in RDM (Remote Device Management) in the field. Dimming down to 1% is attainable. Rated life (90% survivorship) of 50,000 hours at 50°C maximum ambient temperature. At maximum driver load, efficiency<84%, PF>0.9, THD<20%.

# NOVA

SURFACE

CHROMAWERX - SOLA, DUO



## DALI

Factory-set adjustable output current electronic driver with 120-277 VAC line input. Using an existing DALI control system (supplied by others), one control channel adjusts the fixture color temperature, and the other control channel adjusts fixture brightness. With DALI Type 6, two DALI addresses are required to control both channels. With DALI Type 8, one DALI address is required to control both channels. Dimming down to 1% is attainable. Rated life (90% survivorship) of 50,000 hours at 50°C maximum ambient temperature. At maximum driver load, efficiency<84%, PF>0.9, THD<20%.

## DD1

Factory-set adjustable output current LED driver with universal (120-277 VAC) input. Controlled via two individual 0-10V signals, one for setting light output down to a minimum of 1% and the other for adjusting the CCT (default range of 6500K-2700K). Rated life of 50,000 hours at 70°C maximum driver case temperature and 100% load conditions. Typical efficiency of 86%, PF>0.9, THD<20% at 100% load conditions.

## LD2

Lutron DALI-2 digital drivers provide a high-performance tunable white solution with single-address digital control. Guaranteed performance and compatibility when used with Lutron DALI-2 controls.

## **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), QUADRO (RGBW), emergency battery backup, and sensor integration. These must be addressed and evaluated on a case-by-case basis.

## **MOUNTING**

Fixtures can be mounted directly to T-bar, drywall and hard surface ceilings with the mounting kit, hardware supplied by others.

## **FINISH**

**Interior:** 95%, reflective matte powder coated white paint

**Exterior:** Matte white, matte black or aluminum powder coating. Custom finishes are also available.

## **CONSTRUCTION**

**Housing:** Die-formed cold rolled sheet steel

**Reflectors:** Die-formed cold rolled steel, 95% reflective matte white painted

**Interior brackets:** Die-formed cold rolled sheet steel

**Center basket:** Extruded aluminum

**Lens:** Acrylic

**Surface kit:** Extruded aluminum

## **WEIGHT**

**1' x 4':** 31.5 lbs - 14.3 kg

**2' x 2':** 22.03 lbs - 10 kg

**2' x 4':** 44.49 lbs - 20.2 kg

## **CERTIFICATION**

**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 on 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.

Wall controllers are covered by the manufacturer warranty.

## 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 controller supplied by Lumenwerx

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

**How many zones do you have?**

A zone consists of one or more luminaires behaving identically.

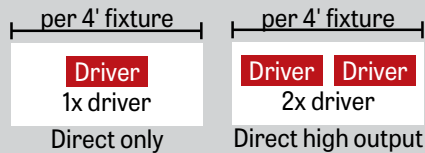


1 Zone



2 Zones

**How to calculate the required number of drivers:**



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

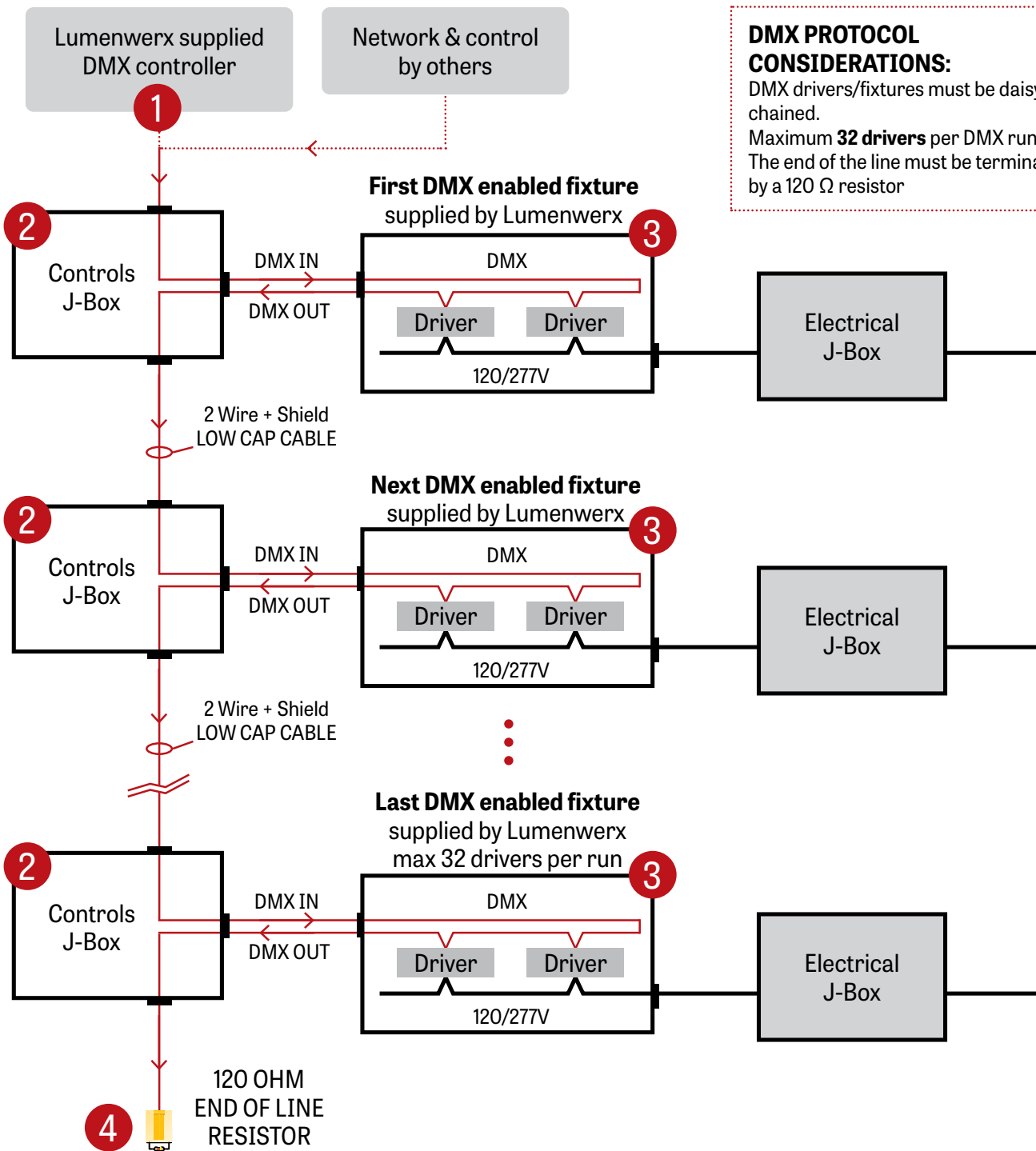
**WCW** - wall controller white  
**WCB** - wall controller black

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](mailto:controls@lumenwerx.com). Additional cost and equipment will be required.

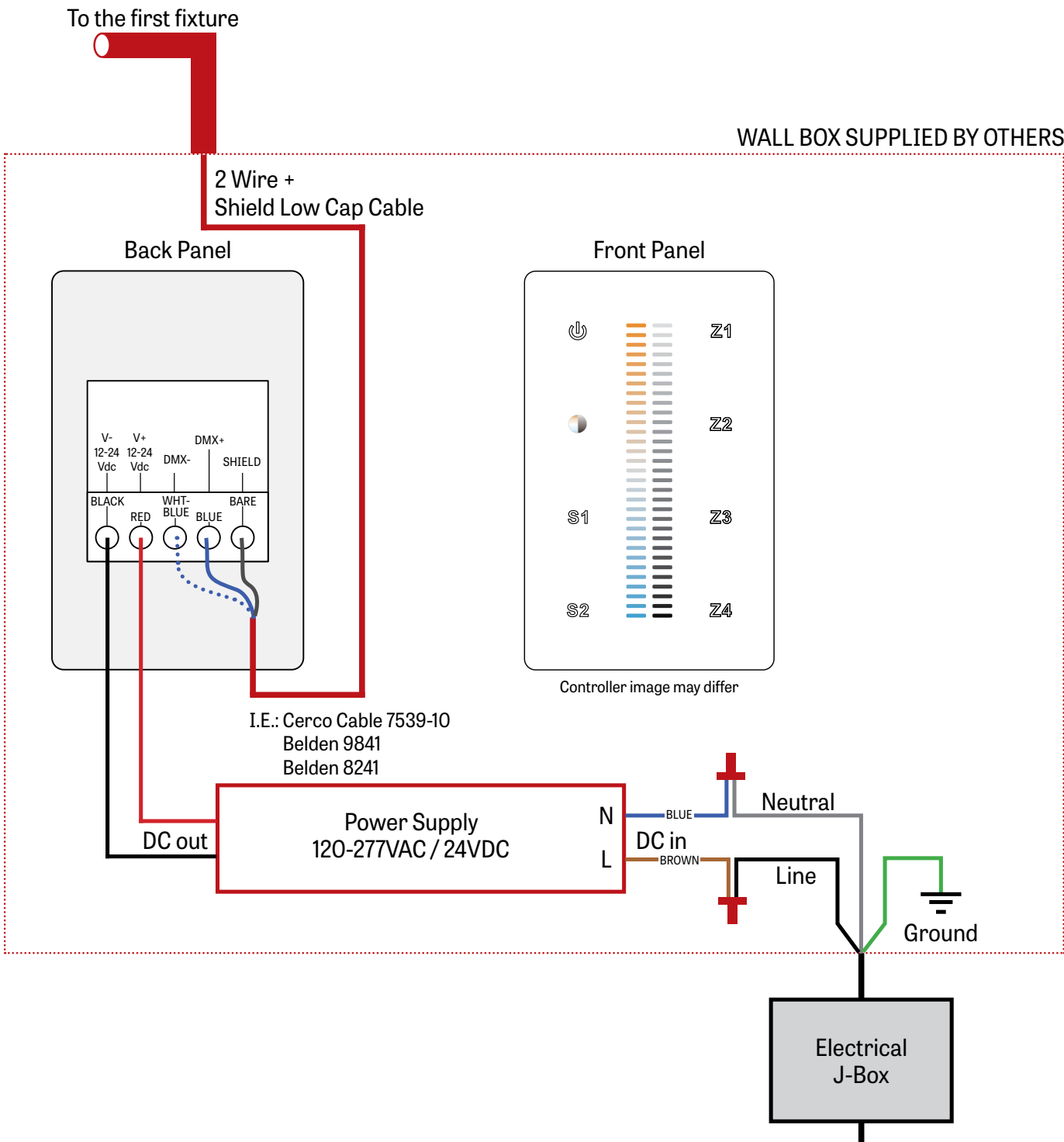
Subject to factory evaluation and approval. Please contact our controls specialist at [controls@lumenwerx.com](mailto:controls@lumenwerx.com). Additional cost and equipment will be required.

## GENERIC DMX NETWORK ARCHITECTURE



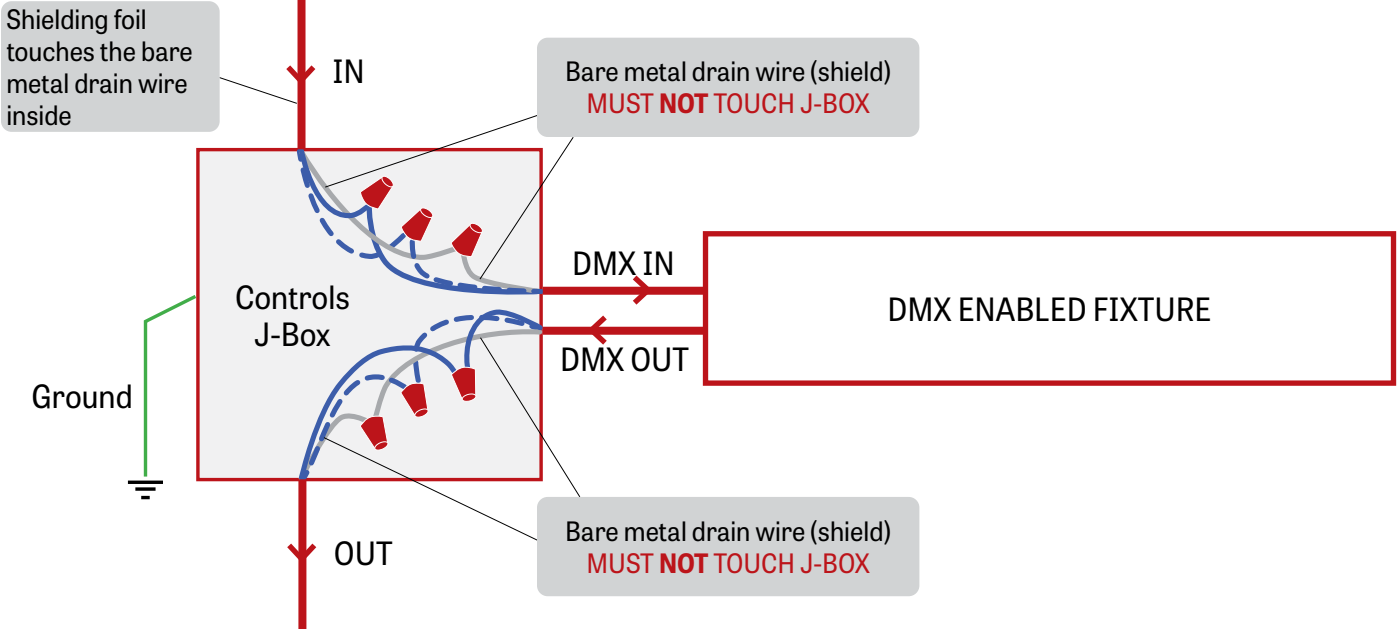
**DMX PROTOCOL CONSIDERATIONS:**  
DMX drivers/fixtures must be daisy chained.  
Maximum **32 drivers** per DMX run.  
The end of the line must be terminated by a 120 Ω resistor

**1 LUMENWERX SUPPLIED DMX CONTROLLER**



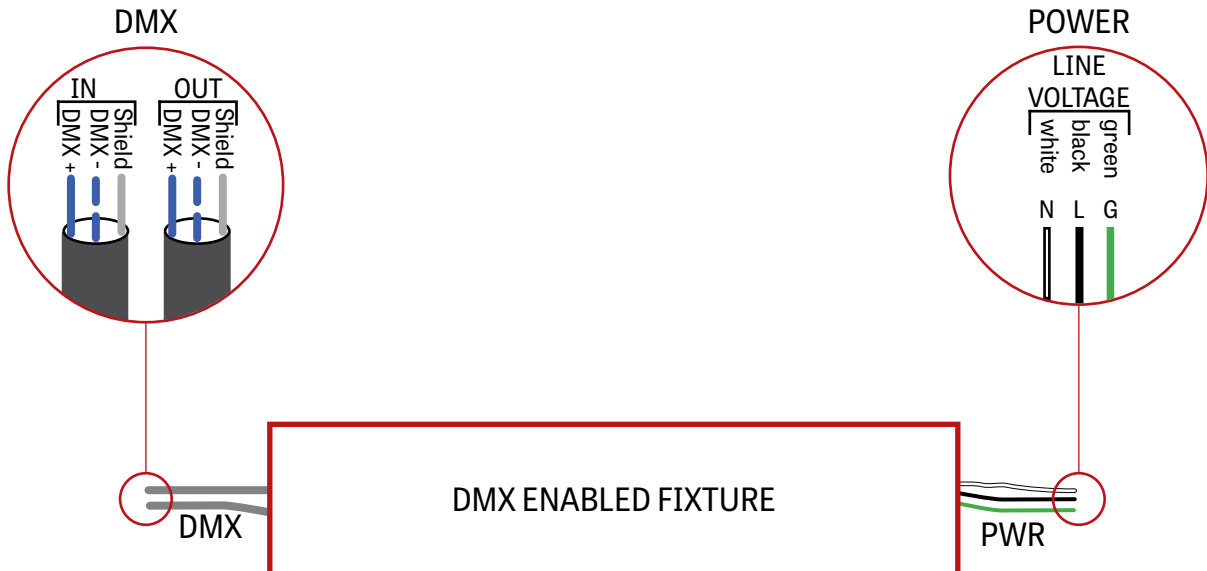
## 2 J-BOX DMX DAISY CHAIN DETAIL

Low capacitance DMX Cable from Previous Fixture

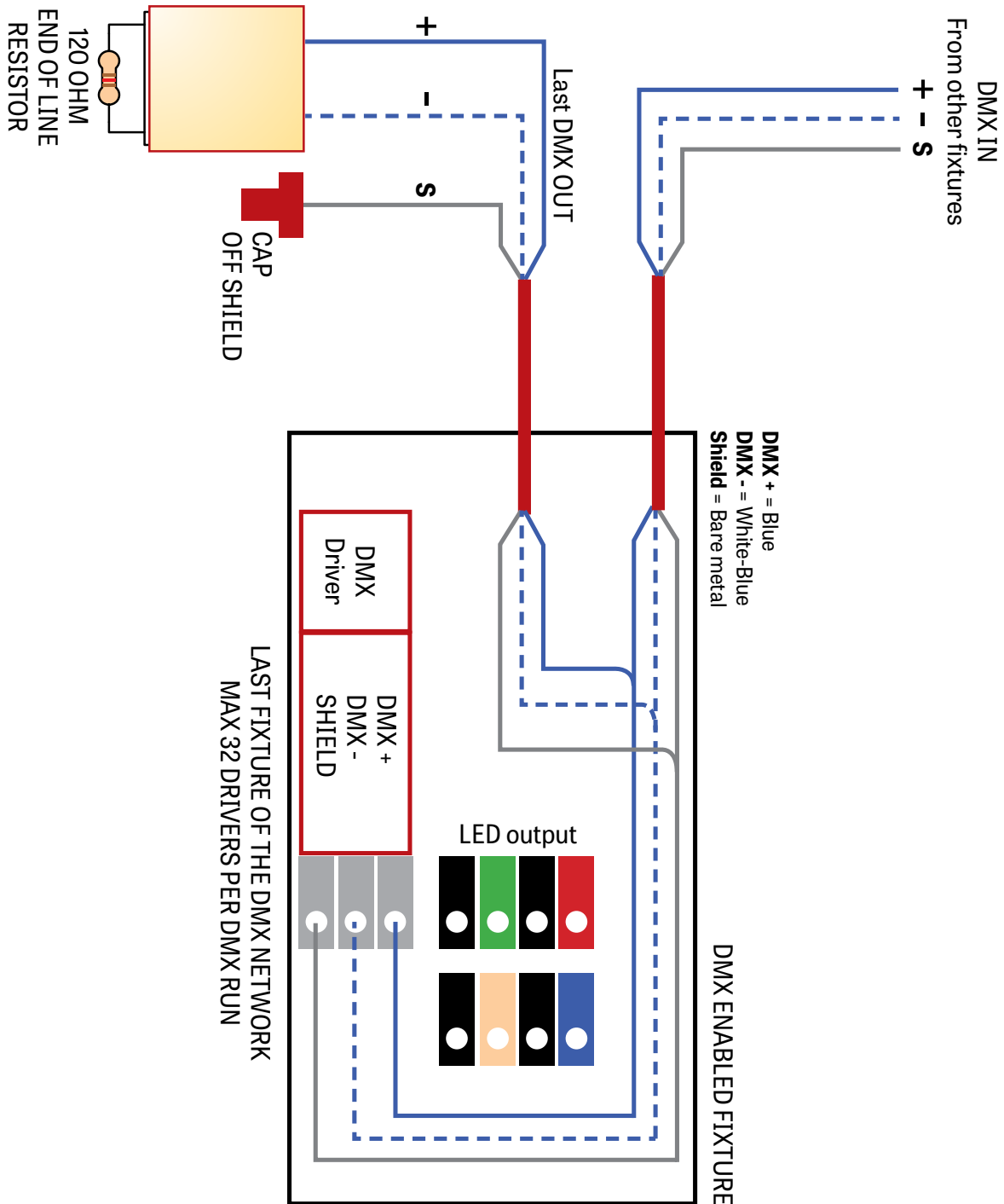


Low capacitance DMX cable to next fixture

## 3 DMX CONNECTION RECESSED & SURFACE

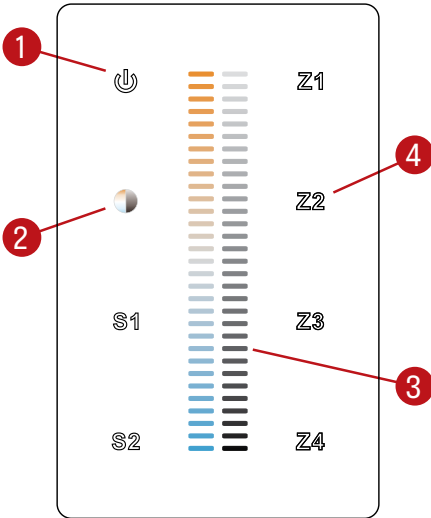


## 4 DMX LAST FIXTURE DETAIL



## DMX WALL CONTROLLER

### DUO 1-4 ZONE



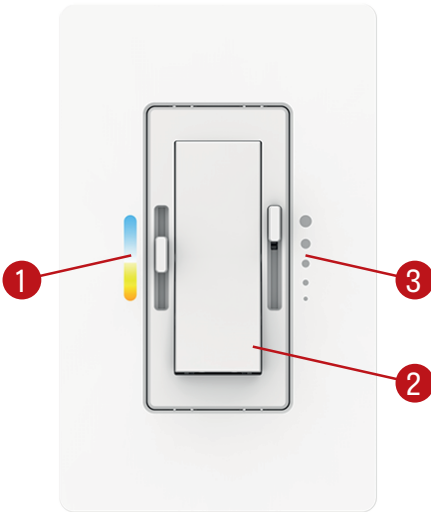
- (1) Power: Use this button to turn ON or OFF the fixture.
- (2) Brightness/CCT: Use the color/brightness toggle button to choose between color/brightness. When Blue: brightness is selected, when Yellow: color is selected.
- (3) Slider: Depending on the mode chosen in step 2, the slider will allow the 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.

### Default DMX Addresses:

- 1 Warm
- 2 Cool

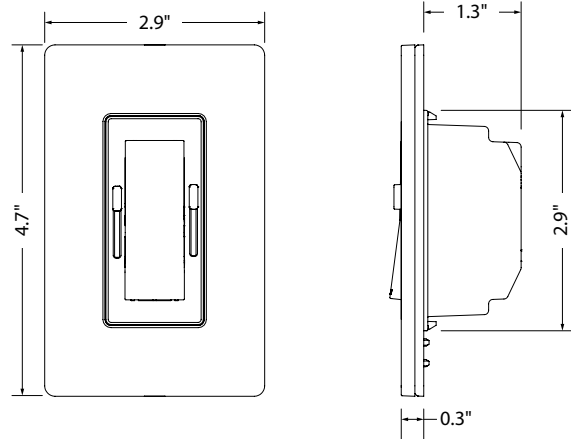
DUAL 0-10V WALL CONTROLLER

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

