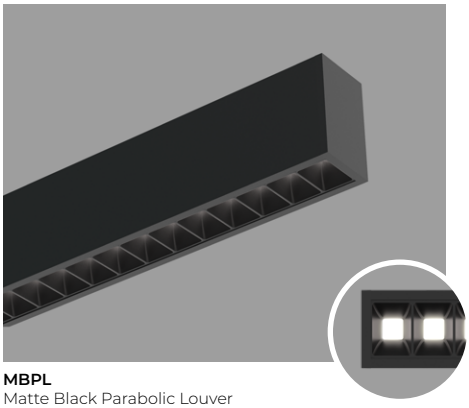
SQUERO

SURFACE

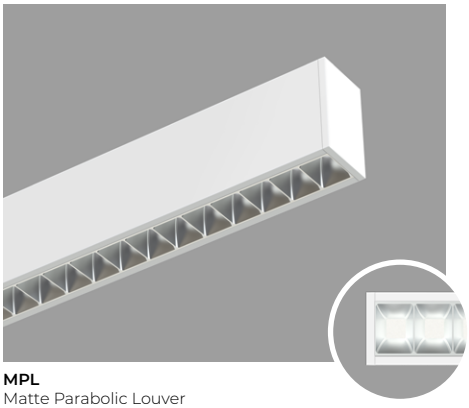
CHROMAWERX - SOLA, DUO

DESCRIPTION

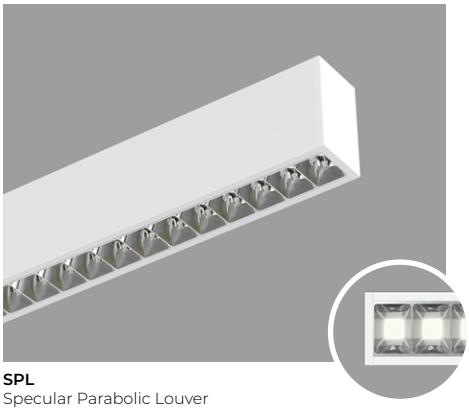
Squero brings style and flexibility to linear lighting systems. Less than 2" wide, Squero offers a variety of optics, each providing a different visual texture, as well as photometric performance. Squero can be installed as individual luminaires or in continuous runs. See separate spec sheets for static white Squero, as well as Squero Combination and Squero Combination Pattern, where various optics can be combined in a single fixture.



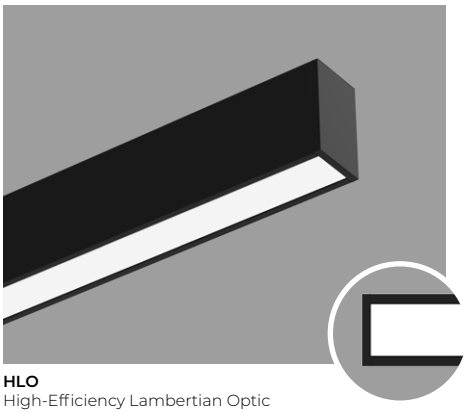
MBPL
Matte Black Parabolic Louver



MPL
Matte Parabolic Louver



SPL
Specular Parabolic Louver



HLO
High-Efficiency Lambertian Optic

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SQUERO

SURFACE

CHROMAWERX - SOLA, DUO

Project: _____

_____

Type: _____

Order Guide

LUMINAIRE ID	DISTRIBUTION	OPTIC	LIGHT SOURCE [1]	CRI
SQUS	**D**			
SQUS - Squero Surface	**D** - Direct	**MBPL** - Matte Black Parabolic Louver **MPL** - Matte Parabolic Louver **SPL** - Specular Parabolic Louver **HLO** - High-Efficiency Lambertian Optic	**SOLA** - Dim-to-warm single channel control 35K to 22K **DUO** - Tunable white 2-channel control 65K to 27K [1] Static white and BIOS also available. Consult other spec sheet.	**80CRI** - 80+ CRI **90CRI** - 90+ CRI

LUMEN PACKAGE	LUMINAIRE LENGTH	VOLTAGE	DRIVER [5]
350LMF - Eco low output 350 lm/ft **500LMF** - Low output 500 lm/ft **750LMF** - Medium output 750 lm/ft **1000LMF** [2] - High output 1000 lm/ft [2] Not available with MBPL optic.	**#FT#IN** [3,4] - Specify nominal length (#) in 1' and/or 1" increments **Standard nominal lengths:** Single units: 3' to 12' Continuous runs: lengths over 12' [3] Minimum 3'. Minimum 4' for DMX. [4] Parabolic Louvers are available in 1' increments, and HLO in 1" increments.	**120V** - 120V **277V** - 277V **UNV** - 120V-277V	SOLA **SD1** - Single 0-10V input DUO **DMX** [6,7] - DMX **DDA** [7] - DALI DT6 **DDA8** [7] - DALI DT8 **DD1** - Dual 0-10V input for CCT/intensity **LD2** [7] - Lutron DALI-2 digital [5] PoE (Power-over-Ethernet) compatible. Consult factory for details. [6] For more information, see pages 7 to 12. [7] On-site commissioning is required.

ELECTRICAL	MOUNTING	FINISH	OPTION
1C			
1C - 1 circuit	**GRD** - Grid ceiling **DRC** - Drywall ceiling	**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 [8]

DMX	DD1
WCW##FT [9] - DMX wall controller white **WCB##FT** [9] - DMX wall controller black	**TWCW##FT** [10] - Dual 0-10V wall controller white **TWCB##FT** [10] - Dual 0-10V wall controller black

[8] Specify wire length (##) in feet.
[9] Available with DMX only. For more information, see pages 7 to 12, or consult factory.
[10] Available with DD1 only. For more information, see page 13, or consult factory.

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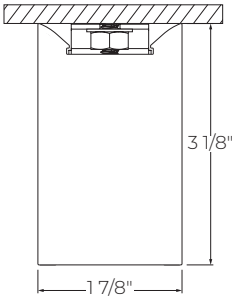
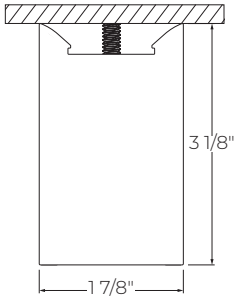
Dimensions



GRD - Grid ceiling



DRC - Drywall ceiling

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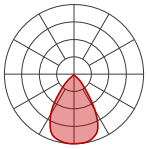
Photometrics

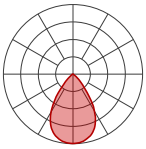
Values calculated based on a 4' fixture at 3500K and 80+ CRI for all optics.

MBPL



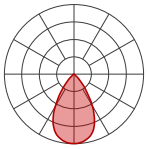
LM/FT	W/FT	LM/W
350	5.2	67
500	7.5	66
750	11.7	64

MPL



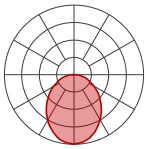
LM/FT	W/FT	LM/W
350	3.5	99
500	5.1	98
750	7.7	98
1000	10.6	95

SPL



LM/FT	W/FT	LM/W
350	3.1	113
500	4.4	113
750	6.7	112
1000	9.1	109

HLO



LM/FT	W/FT	LM/W
350	3.1	112
500	4.6	108
750	7.3	103
1000	10.2	98

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Technical Specifications

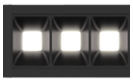
OPTICS

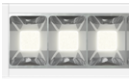
Parabolic Louvers (MBPL, MPL & SPL)

Parabolic Louver Optics provide excellent shielding and a pleasing crisp visual texture. The precisely molded louvers consist of 1" deep blades and side reflectors with shielding of 50° lengthwise and 45° crosswise.

The parabolic contour of the blades and side reflectors direct light into a comfortable downlight distribution with a spacing criterion of 1.1, while minimizing shadows from the LED array above each cell.

Three finishes are available: matte black, matte, and specular. Specular (SPL) provides higher efficacy, sharper cut-off, and an ultra quiet appearance at shallow viewing angles. Matte (MPL) offers a softer appearance, a wider beam spread, and gentle brightness transition at cut-off. Matte black (MBPL) offers the lowest UGR in Squero as the black parabolic louver is very quiet and glare free. The UGR is the best in class rating of under 10.





High-Efficiency Lambertian Optic (HLO)

The High-Efficiency Lambertian Optic (HLO) shielding of diffusing 0.075" thick acrylic with up to 88% transmission and good source obscuration is combined with matte white side reflectors to create an efficient optical chamber with uniform luminosity.

Luminaire brightness is controlled by the flux-to-shielding area ratio. For visual comfort, avoid high lumen output unless Squero is installed in a high ceiling application. Spacing criteria: 1.2 (longitudinal) x 1.1 (lateral).

LIGHT SOURCE

Custom linear 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.

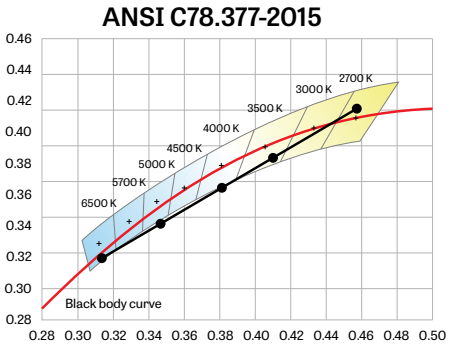
All LEDs have been tested in accordance with IESNA LM-80-08 and the results have shown L80 lumen maintenance greater than 60,000 hours. Absolute product photometry is measured and presented in accordance with IESNA LM-79, unless otherwise indicated.

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.



LUMINAIRE LENGTH

Squero is made up of standard 3' to 12' sections that may be joined together to create longer continuous run lengths. Exact run lengths must be noted in the product code. The minimum individual section available is 3', or 4' for DMX.

All individual sections are joined together onsite using the joiner kits provided. Lumenwerx offers joiner kits that are extremely simple to work with in the field and result in a fixture that appears virtually seamless with no light leak at any connection.

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SQUERO

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CHROMAWERX - SOLA, DUO

ELECTRICAL

SOLA

SD1

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%.

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, hardware supplied by others. Long runs require a minimum of 6" from the vertical wall.

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: Extruded aluminum, up to 90% recycled content
Interior brackets: Die-formed cold rolled steel sheet
Joining system: Die-cast aluminum
Louvers: Injection molded optical grade polycarbonate, up to 95% reflective
End plate: Die-cast aluminum

WEIGHT

4': 10.02 lbs - 4.54 kg
6': 15.18 lbs - 6.89 kg
8': 19.78 lbs - 8.97 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.
Declare: LBC Red List Approved

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.

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Lumenwerx

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.

Do you require a wall controller provided by Lumenwerx?

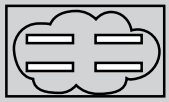
YES

DMX controller supplied 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. ✓

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


1 Zone


2 Zones

1 - 4 Zones

5 or more Zones

Do you have more than 32 drivers in total?

To Calculate # of drivers

How to calculate the required number of drivers:

per 4' fixture — Driver — 1x driver — Direct only

per 4' fixture — Driver Driver — 2x driver — Direct high output

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 cost and equipment will be required. ✓

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

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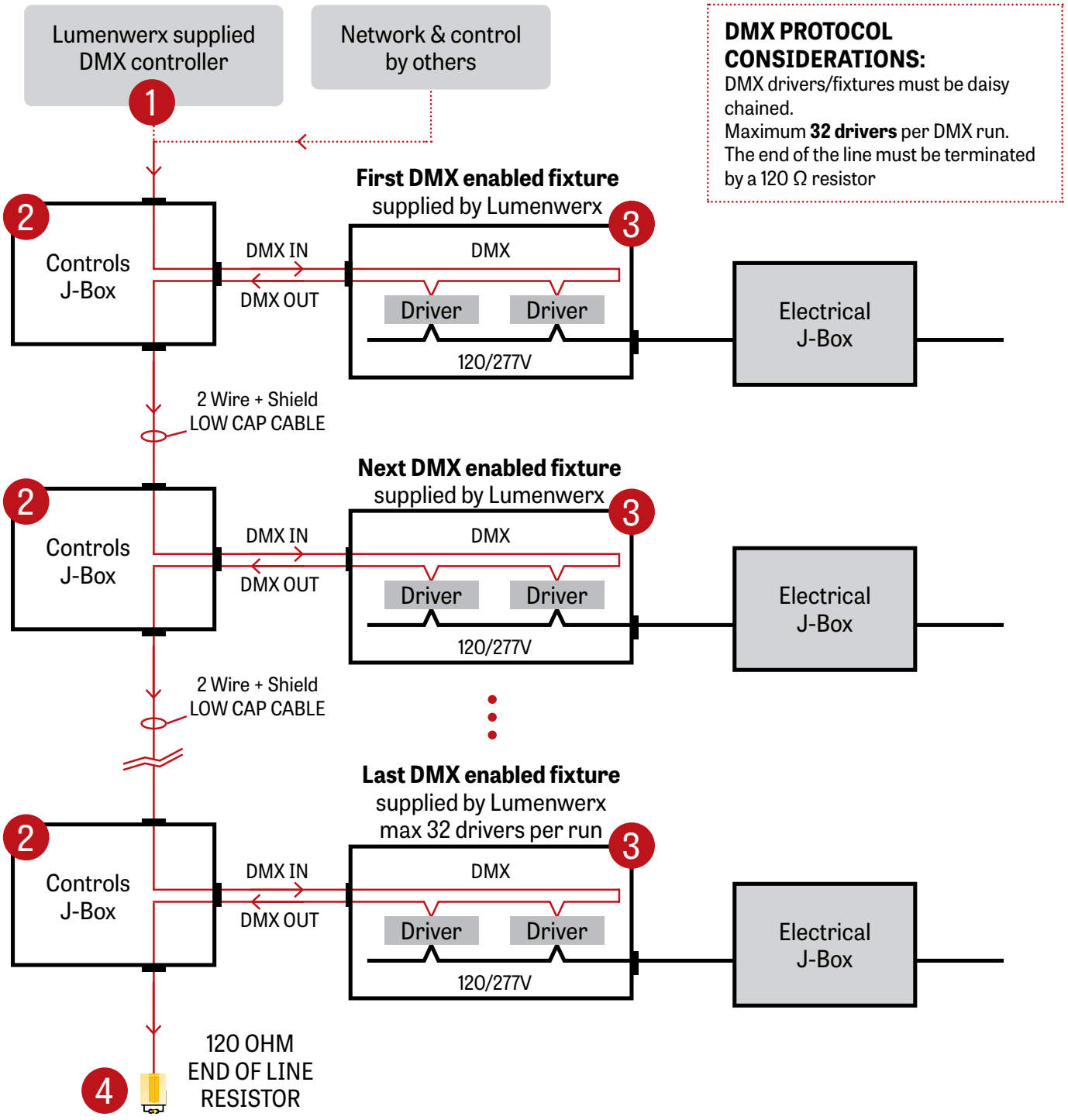
PoE

GENERIC DMX NETWORK ARCHITECTURE



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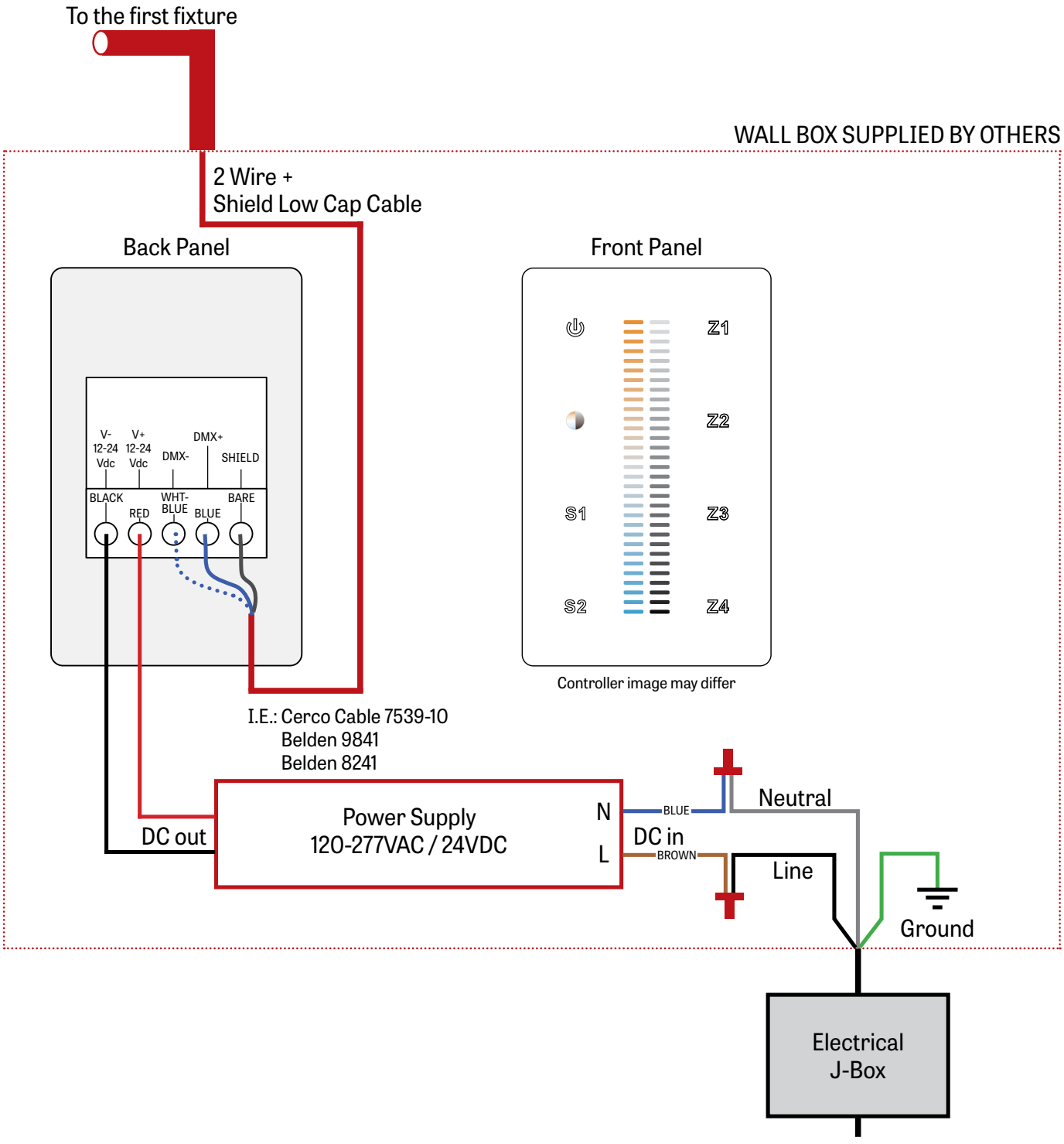
1 LUMENWERX SUPPLIED DMX CONTROLLER



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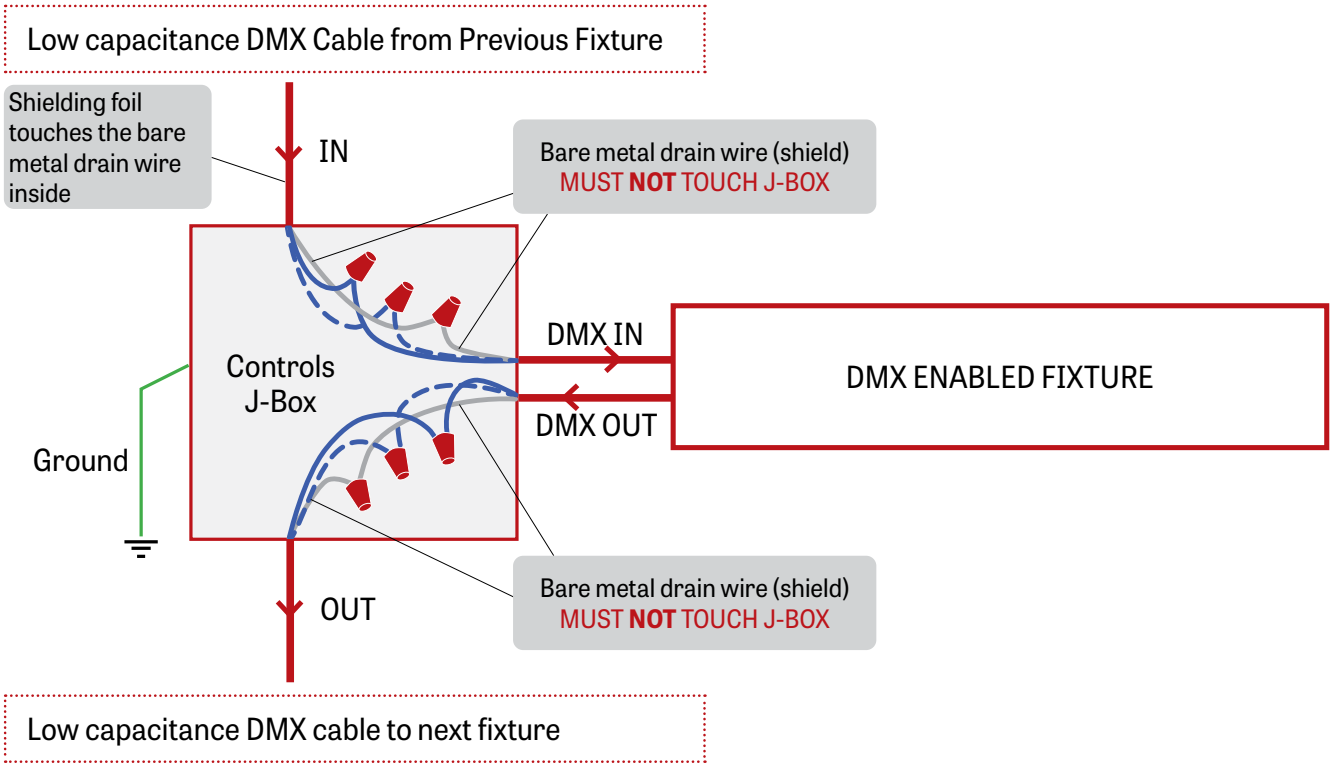
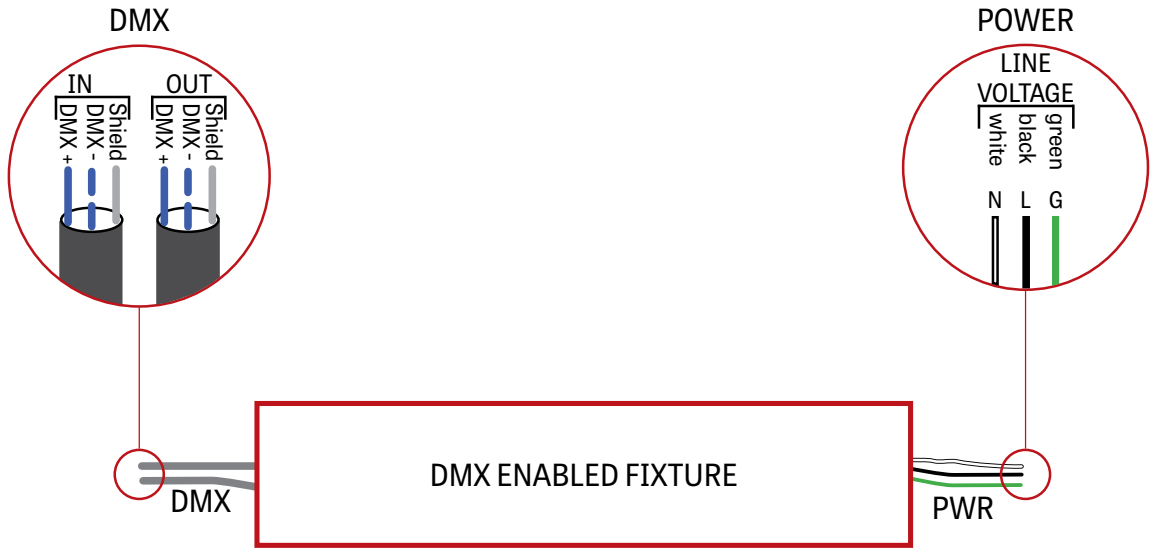
2 J-BOX DMX DAISY CHAIN DETAIL



3 DMX CONNECTION RECESSED & SURFACE



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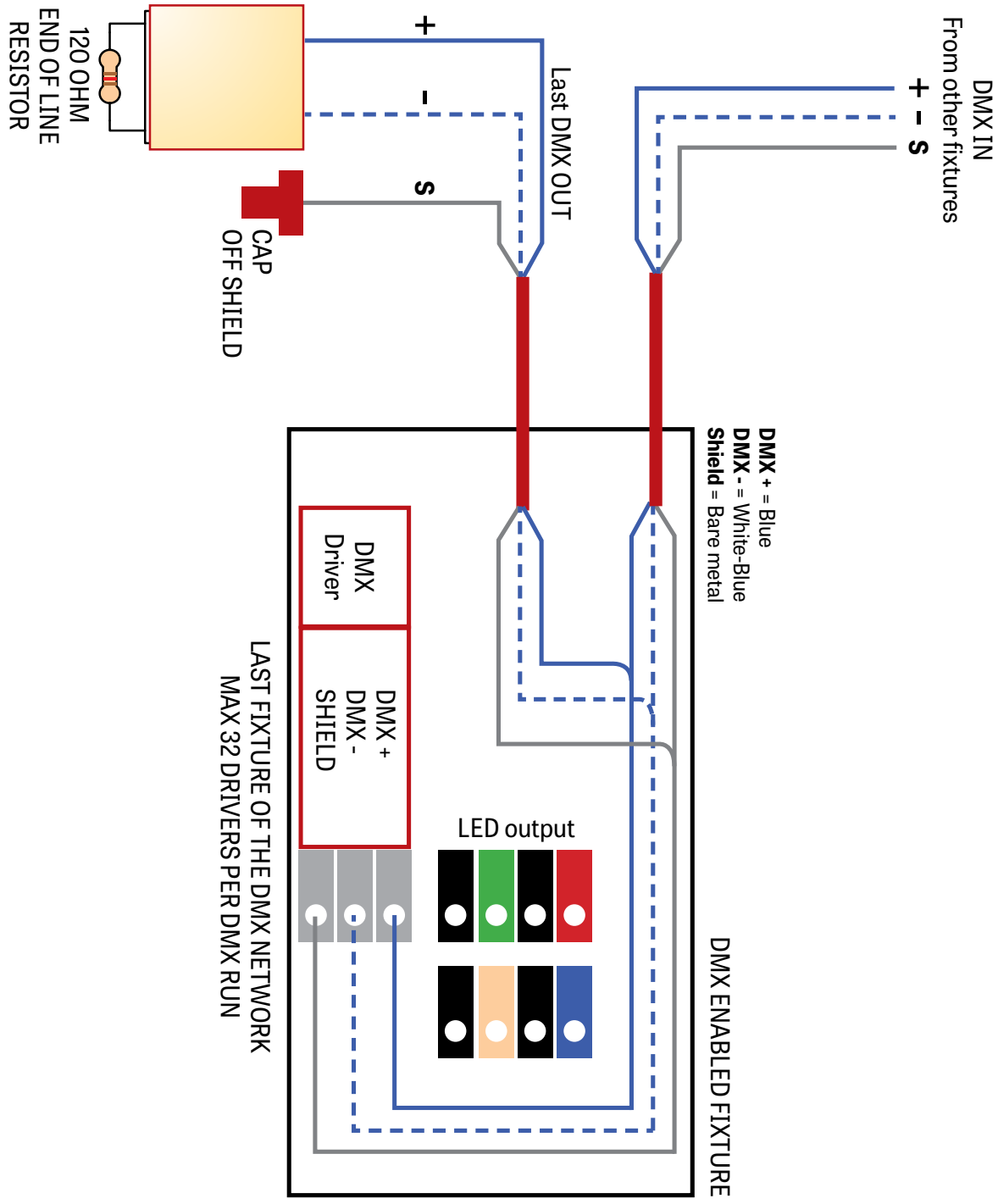
4 DMX LAST FIXTURE DETAIL



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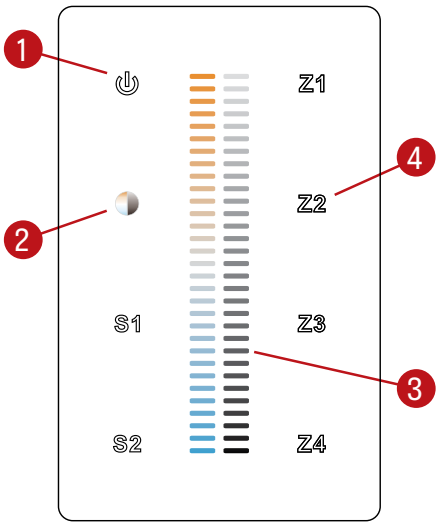
DMX WALL CONTROLLER

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

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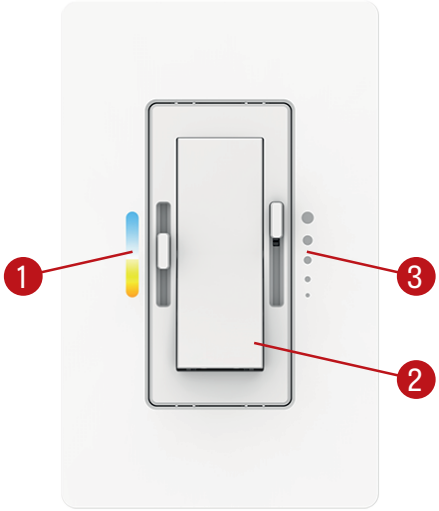
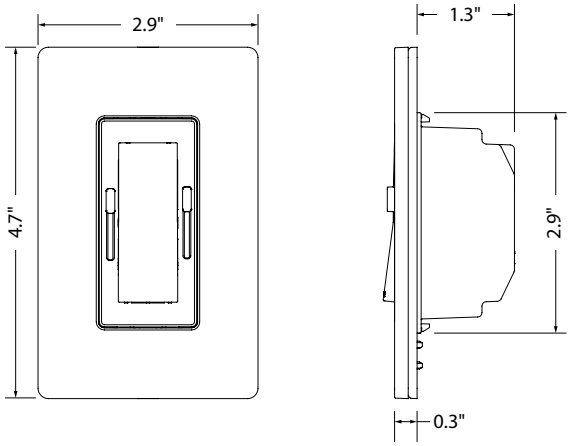
DUAL 0-10V WALL CONTROLLER

Front Panel



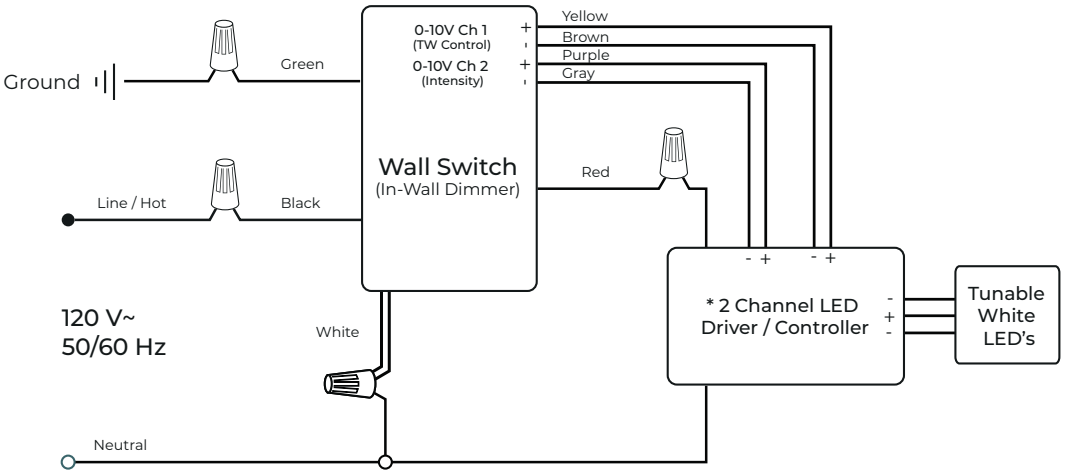
Controller image may differ

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



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