

CAVA-T 2x2 LED

RECESSED



LUMENWERX
WWW.LUMENWERX.COM

CHROMAWERX TUNABLE WHITE AND DIM TO WARM

IMPORTANT: a qualified DMX integration consultant is required to ensure proper installation and function of any DMX network



Grid ceiling



Drywall ceiling

DESCRIPTION

Cava-T provides a pleasant canopy of gentle luminescence that brightens everyday work spaces as well as special areas. Cava-T is available in 1x4 and 2x2 modules for a variety of ceiling conditions.

Cava-T is an ideal vehicle for ChromaWerx white tuning in education, office, and healthcare applications where modular recessed luminaires are used.

PROJECT: _____

TYPE: _____

NOTES: _____

ORDER GUIDE

IC RATED

CATR	22	RLO	LED			
LUMINAIRE ID	SIZE	OPTICS	LIGHT SOURCE	CRI	LUMEN PACKAGES	CHROMAWERX
CATR - Cava-T recessed	22 - 2'x2'	RLO - Reduced Luminance Optic	LED - high performance LED	80 - 80CRI 90 - 90CRI	2500 - min. low output 2500lm 3500 - medium output 3500lm #### - other required lm/ft	DUO - tunable white 2 channel control 27k to 65k SOLA - dim to warm single channel control 22k to 35k

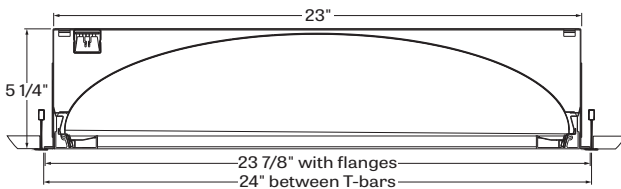
VOLTAGE	DRIVER	ELECTRICAL	MOUNTING	FINISH	OPTIONS
120 - 120V 277 - 277V	DMX - to specify see pages 5 to 10 DA - Dali (duo only) local on-site commissioning is required O-10 - Single 0-10V input (Sola) or dual 0-10V input for CCT/Intensity (Duo) PSQO - Lutron T-Series 1% Tunable White	1 - 1 circuit	TG9 - tegular 9/16" TG15 - tegular 15/16" TB9 - t-bar 9/16" TB15 - t-bar 15/16" ST - screw slot t-bar DF - drywall kit	W - matte white	FU - fuse FWC - flexible whip cable (6' std) CP - Chicago Plenum

DMX WALL CONTROLS

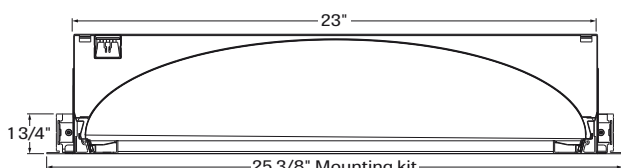
To specify see pages 5 to 10

See page 2 for ordering code detailed information

CROSS SECTION



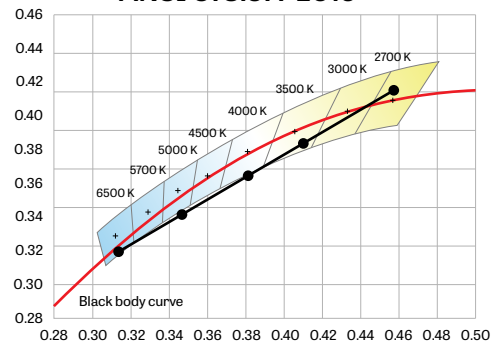
CATR - Cava-T t-bar 9/16



CATR - Cava-T drywall kit



ANSI C78.377-2015



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OPTICS

REDUCED LUMINANCE OPTIC (RLO) - Reduced Luminance Optic (RLO) consists of indirect-mounted LED arrays illuminating a vaulted reflector with a matte white finish greater than 95% reflectivity. The ultra-shallow arrays in RLO completely conceal the light source while evenly distributing brightness over the entire surface of the cavity using a combination of multiple reflective bounces and a very high diffuse reflectivity. Compared to diffusing optics, RLO reduces luminaire brightness due to the visible interior surface being larger than the aperture.

LIGHT SOURCE - LED

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
low output	4000K	21	2500	118
medium output	4000K	30.5	3500	114

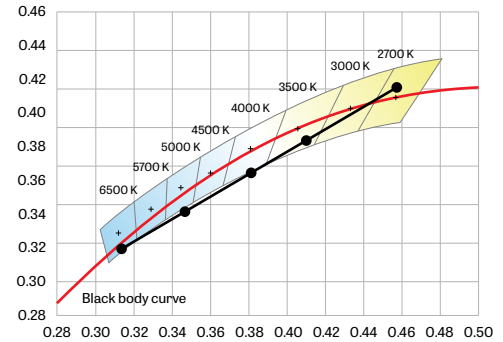
Lumen Adjustment Factors

2700K	0.917
3000K	0.959
3500K	0.988
4000K	1.000
6500K	1.053

Custom array of alternating color temperature mid-flux LED's are mounted directly to the housing for optimal thermal performance. For the Duo products, a color temperature range from 2700K-6500K is achievable with color points on or below the black body curve. For the Sola products, a color temperature range from 2200K-3500K is controlled synchronously with intensity. Color consistency between fixtures is maintained to within 3SDCM. LEDs are operated at reduced drive current to optimize efficacy and lumen maintenance. All LED's 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 - TUNABLE WHITE

ANSI C78.377-2015



ChromaWerx Sola is single-channel control that dims output while warming the color temperature in a pre-determined relationship. A simple digital or 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 is two-channel control. It uses an analog (0-10V) protocol for separate control of luminaire CCT and intensity or a digital (DMX, DALI) 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 warm (2700K) to cool (6500K) 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.

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ELECTRICAL

DMX (Duo only)

Factory-set, adjustable output current, multi-channel LED driver with universal (120-277VAC) input. Using DMX wall controls (optionally supplied by LumenWerx) or an existing DMX control system, two channels of LEDs (warm-white & cool-white) are independently adjustable. Each DMX driver has multiple output channels that can be independently addressed at the factory or on-site using built-in RDM (Remote Device Management) functionality. Dimming range from 100%-0%. At maximum driver load, efficiency<89%, PF>0.9, THD<20%.

Dali (Duo Only)

Factory-set, adjustable output current LED driver with universal (120-277VAC) 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. Dimming range from 100%-0%. At maximum driver load, efficiency<86%, PF>0.9, THD<20%.

0-10V (Solo)

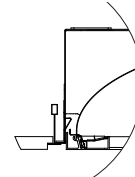
Factory-set, adjustable output current LED driver with universal (120-277VAC) input. Using a single 0-10V control signal, the light output warms in color temperature as it dims down to 1% and 2200K. At maximum driver load, efficiency<86%, PF>0.9, THD<20%.

0-10V (Duo)

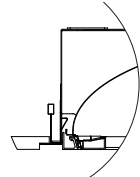
Factory-set adjustable output current LED driver with universal (120-277VAC) input. Controlled via two individual 0-10V signals, one for setting light output down to a minimum of 1% and the other for adjusting the CCT (default range of 2700K-6500K). Rated life of 50,000 hours at 70°C maximum driver case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

MOUNTING OPTIONS

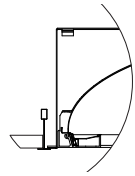
Recess mount into exposed or concealed T-Bar or Tegular grid ceiling



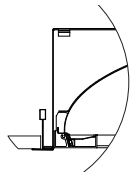
TG9 - tegular 9/16"



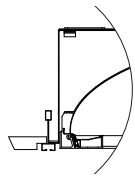
TG15 - tegular 15/16"



TB9 - t-bar 9/16"

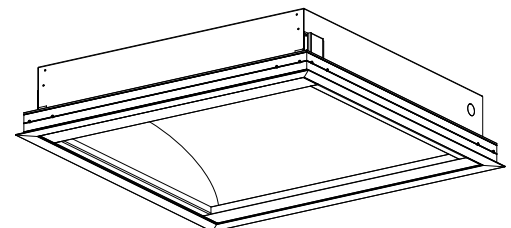
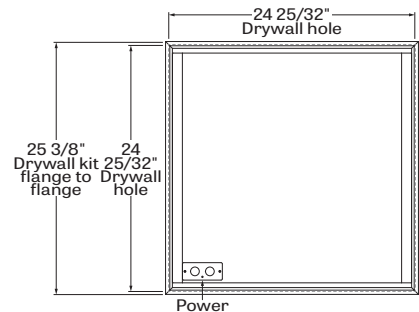


TB15 - t-bar 15/16"



ST - screw slot t-bar

A separate kit for mounting fixtures into drywall ceilings



DF - drywall kit

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FINISH

Interior reflectors - 95% reflective, matte white powder coating

Exterior - matte white powder coating.

Custom finish is also available.

CONSTRUCTION

Housing - Die formed cold rolled sheet steel 20 gauge thick, matte white powder coating

Main reflector - Extruded Aluminum (0.019" thickness), 98% reflective matte white painted.

Internal reflectors - 95% reflective semi-specular extruded Aluminum (0.020" thickness).

Door end-plates - Die formed cold rolled sheet steel 16 gauge thick, matte white powder coating.

Door sides - Extruded Aluminum (0.060" nominal thickness)

Internal brackets - Die formed cold rolled sheet steel 22 gauge thick.

Drywall kit - Extruded Aluminum 0.07" nominal, matte white powder coating.

WEIGHT

Cava-T 2x2: 19.06 lbs. - 8.65 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.

Chicago plenum - City of Chicago Approved (CCEA)

IC rated - suitable for direct contact with insulation.

WARRANTY

For all ChromaWerx products, LumenWerx provides a three-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.

Wall controllers are covered by the manufacturer warranty.

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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 4' fixture

Driver
1x driver

Direct only

per 4' fixture

Driver Driver
2x driver

Direct high output

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 cost and equipment will be required. ✓

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

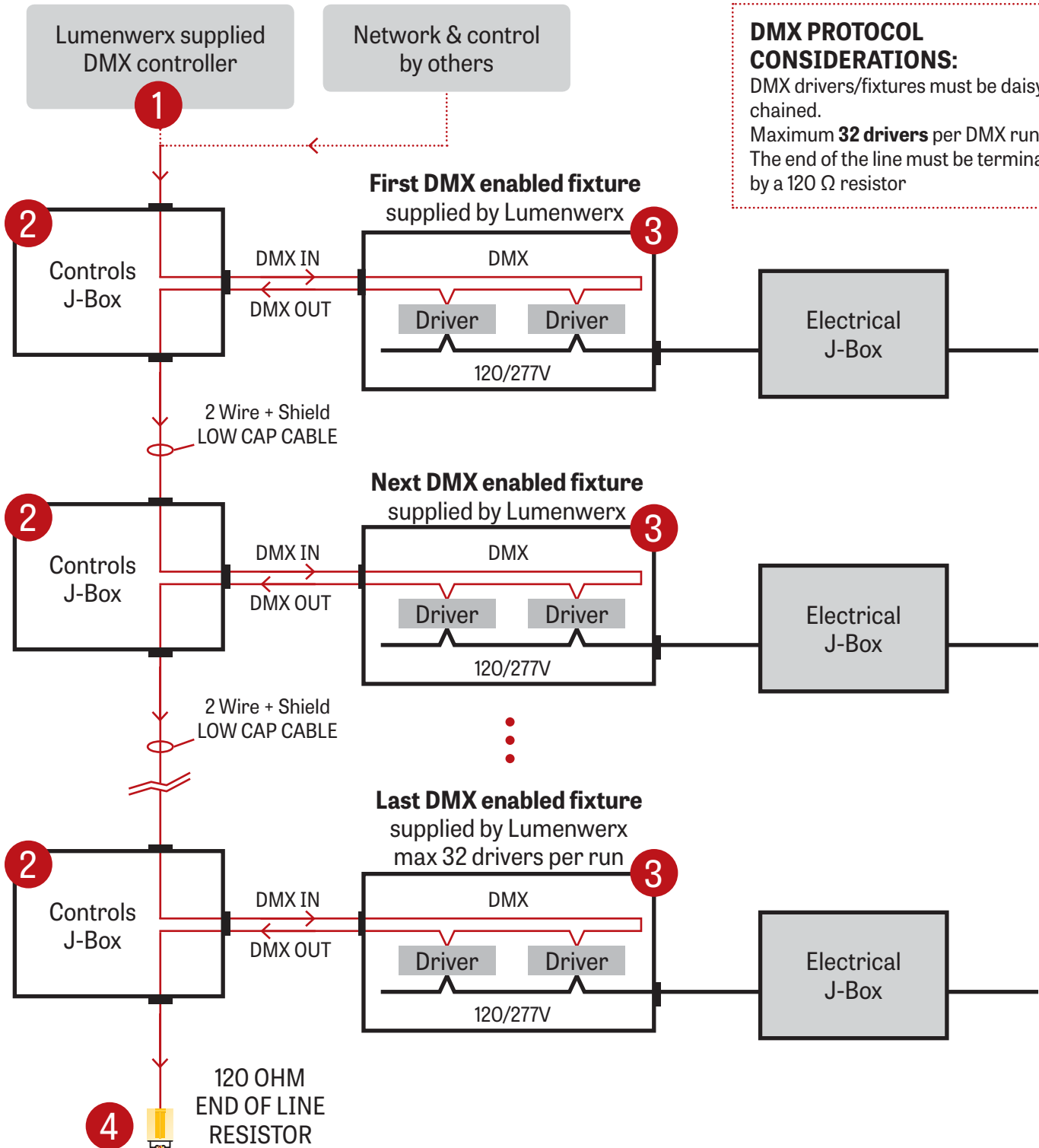
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GENERIC DMX NETWORK ARCHITECTURE



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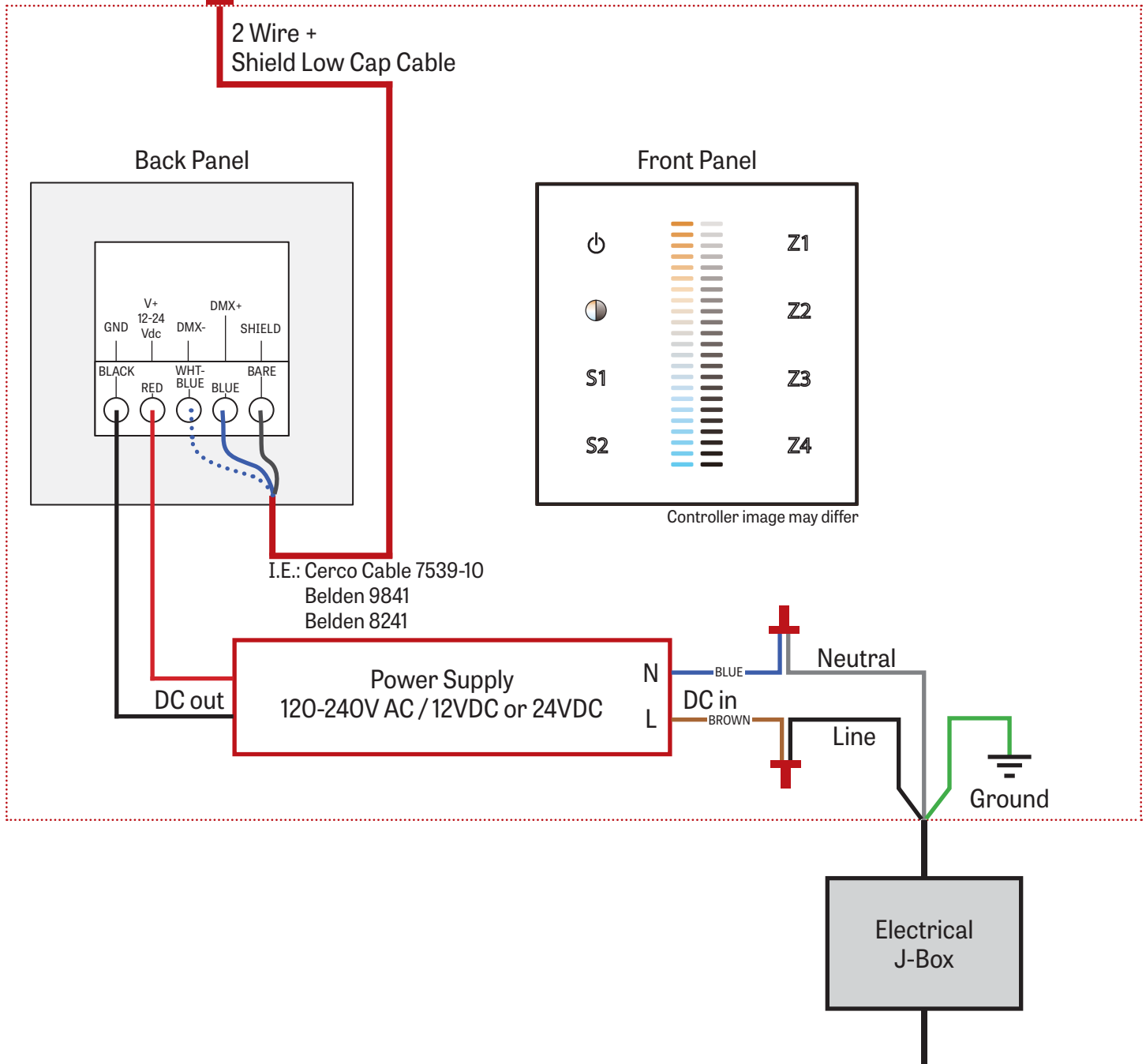
CHROMAWERX TUNABLE WHITE

1 LUMENWERX SUPPLIED DMX CONTROLLER

To the first fixture

2 Wire +
Shield Low Cap Cable

WALL BOX SUPPLIED BY OTHERS



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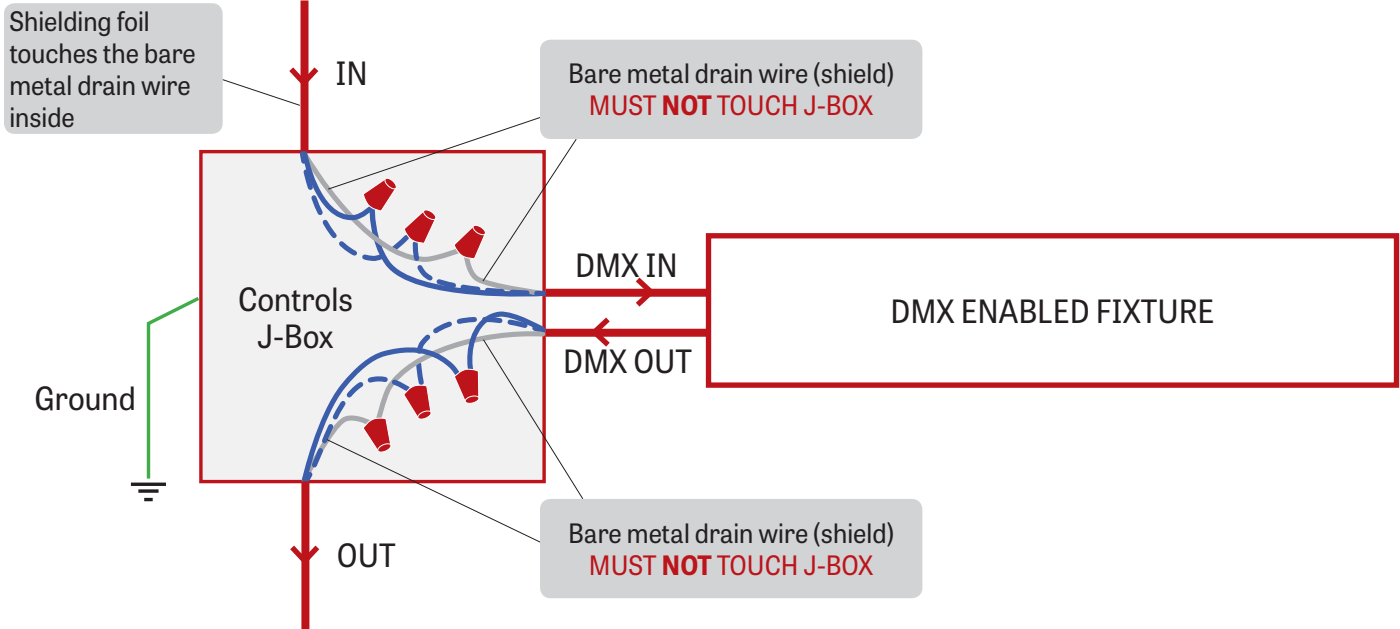
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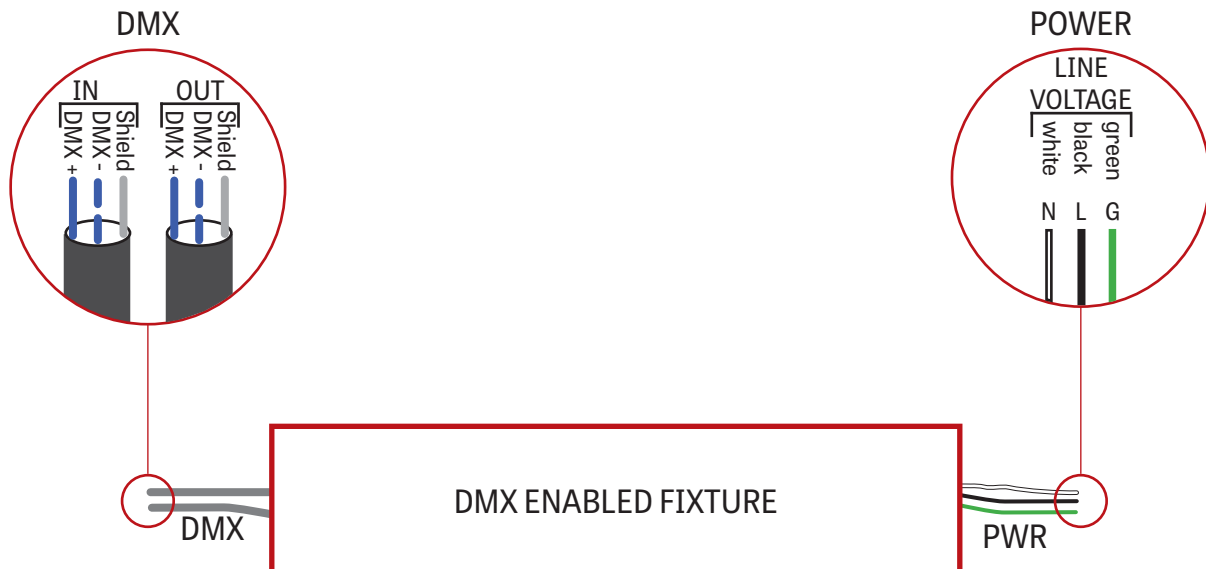
2 J-BOX DMX DAISY CHAIN DETAIL

Low capacitance DMX Cable from Previous Fixture



Low capacitance DMX cable to next fixture

3 DMX CONNECTION RECESSED & SURFACE



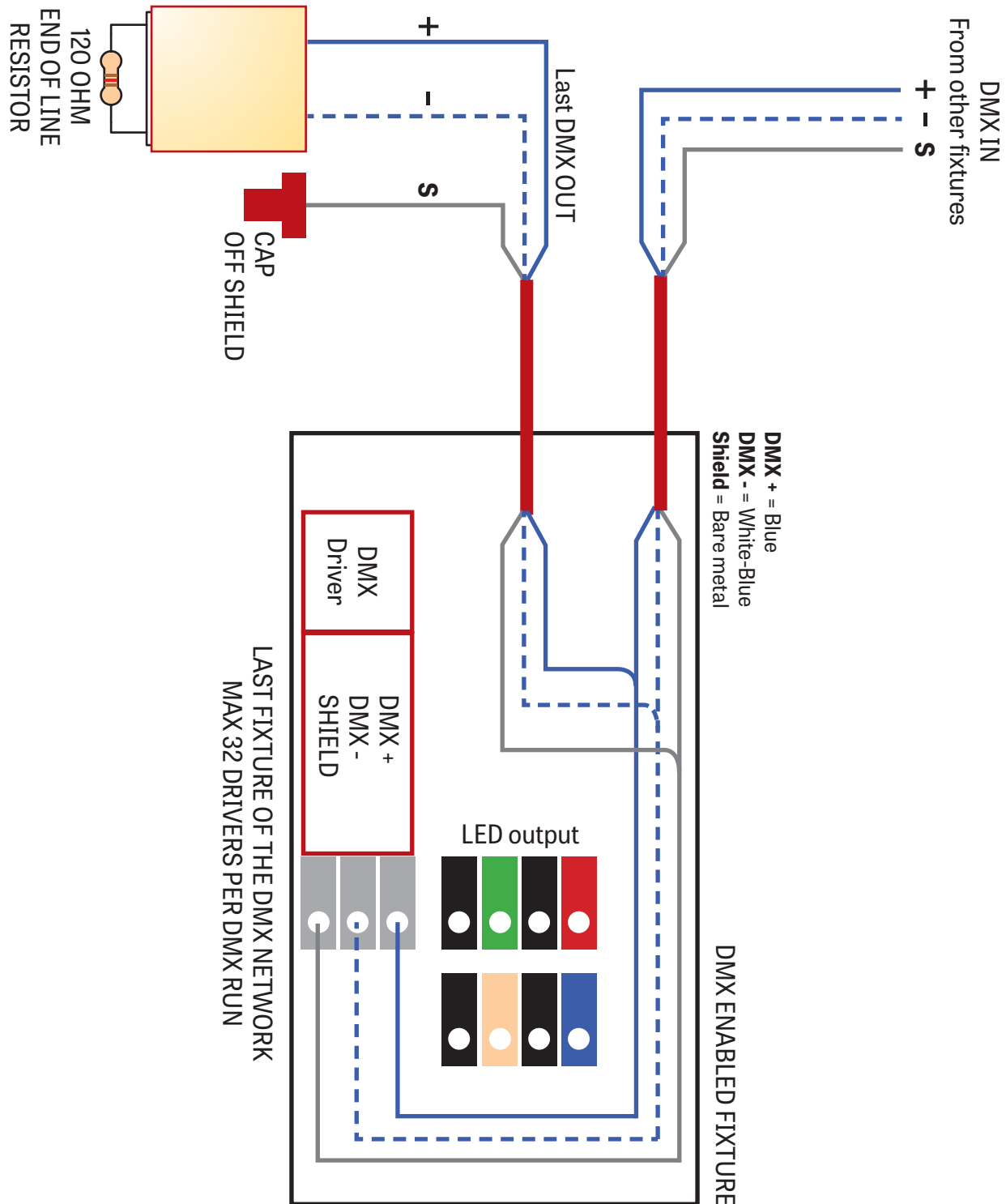
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4 DMX LAST FIXTURE DETAIL



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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 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.

Default DMX Addresses:

1 Warm
2 Cool

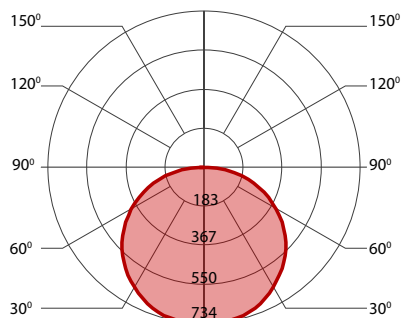
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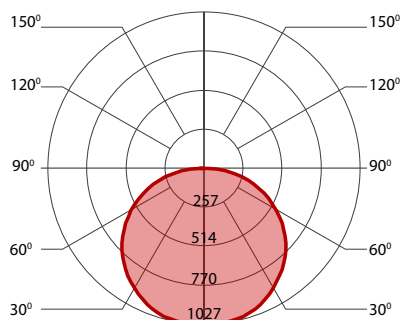
2500 LUMEN AT 80CRI - LOW OUTPUT



PERFORMANCE

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
low output	2700K	23	2500	108
low output	3000K	22.5	2500	111
low output	3500K	21.5	2500	115
low output	4000K	21	2500	118
low output	6500K	20	2500	125

3500 LUMEN AT 80CRI - MEDIUM OUTPUT



PERFORMANCE

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
medium output	2700K	33.5	3500	104
medium output	3000K	32.5	3500	107
medium output	3500K	32	3500	110
medium output	4000K	30.5	3500	114
medium output	6500K	29	3500	120