

CAVA SQUARE LED

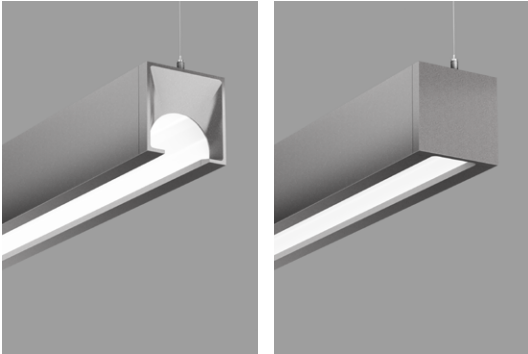
PENDANT
DIRECT/INDIRECT



Lumenwerx

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



Shown with open end cap Shown with closed end cap

DESCRIPTION

Cava is a linear LED recessed, surface and pendant luminaire with a remarkably comfortable and surprising appearance. Using completely concealed and indirect LED arrays, Cava provides superior brightness control, while maintaining high efficacy by distributing light over the vaulted interior cavity of the luminaire. Cava is an ideal vehicle for ChromaWerx white tuning in education, office, and healthcare applications where modular luminaires are used.

PROJECT: _____

TYPE: _____

NOTES: _____

ORDER GUIDE

up to 118 lm/w performance

CAVSPDI	RLO	LED				
LUMINAIRE ID	END CAP	OPTICS	LIGHT SOURCE	CRI	DIRECT LUMEN PACKAGES	INDIRECT LUMEN PACKAGES
CAVSPDI - cava square pendant direct indirect	OP - open end cap CO - closed end cap	RLO - Reduced Luminance Optic	LED - high performance LED	80 - 80CRI 90 - 90CRI	350 - min. low output 350lm/ft 500 - medium output 500lm/ft 750 - max. high output 750lm/ft #### - other required lm/ft	500 - min. low output 500lm/ft 750 - max. medium output 750lm/ft #### - other required lm/ft

CHROMAWERX	LUMINAIRE LENGTH	VOLTAGE	DRIVER	ELECTRICAL
DUO - tunable white 2 channel control 27K to 65K SOLA - dim to warm single channel control 22K to 35K	Available sections - 4', 8' & 12' #FT - nominal length in feet (2' increments only) Continuous Run - for luminaires over 12' Minimum Individual section 4'	120 - 120V 277 - 277V	SOLA SD1 - Single 0-10V input	1 - 1 circuit

¹ For more information, see pages 4 to 9.
² On-site commissioning is required.

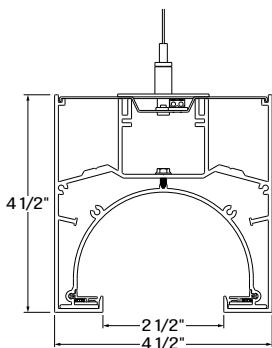
53WAC36	FINISH	OPTIONS
MOUNTING 53WAC36 - power 5" + non power 3" white canopy (36" air craft cable) For all other options refer to our Pendant Mounting Guide	W - matte white AL - aluminum B - matte black CF# - custom finish specify RAL#	FU120 - Fuse 120V FU277 - Fuse 277V TB# - T-bar caddy clip specify grid size TG# - Tegular caddy clip specify grid size ST - Screw Slots caddy clip CU - custom

DMX WALL CONTROLS

To specify see pages 4 to 9

CROSS SECTION

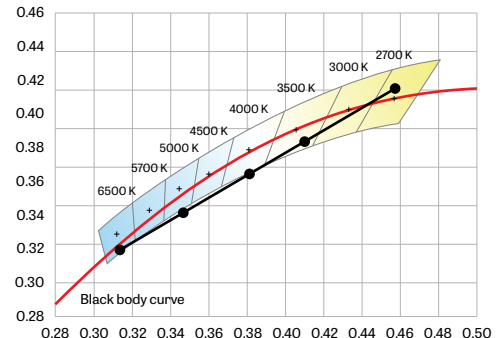
See page 2 for ordering code detailed information



CAVCPDI - air craft cable



ANSI C78.377-2015



CHROMAWERX TUNABLE WHITE AND DIM TO WARM

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

PERFORMANCE PER 4' AT 4000K

High Indirect Output (3000 Lumens)

LED output	Color Temp	Watts	Direct Lumens	Indirect Lumens	Total Nominal Delivered Lumens	Efficacy LPW
low output	4000K	37.5	1400	3000	4400	117
medium output	4000K	43	2000	3000	5000	116
high output	4000K	51.5	3000	3000	6000	117

Low Indirect Output (2000 Lumens)

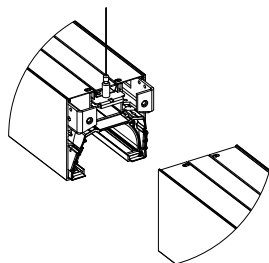
LED output	Color Temp	Watts	Direct Lumens	Indirect Lumens	Total Nominal Delivered Lumens	Efficacy LPW
low output	4000K	29	1400	2000	3400	118
medium output	4000K	34	2000	2000	4000	117
high output	4000K	42.5	3000	2000	5000	118

Custom linear 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.

LUMINAIRE LENGTH

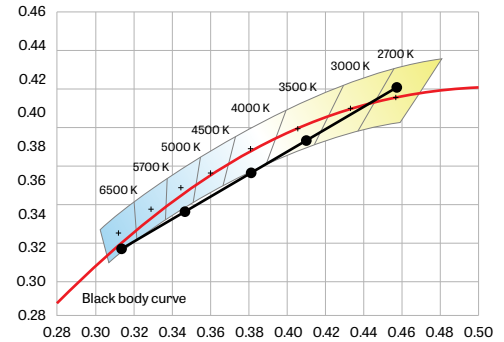
Cava is made up of standard 4, 8 and 12 foot sections that may be joined together to create longer continuous run lengths. Exact run length must be noted in the product code. The minimum individual section available is 4 foot, and continuous run lengths can be ordered in 2 foot increments. All individual 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.



joining system for Cava square

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

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.

MOUNTING OPTIONS

Fixtures can be pendant-mounted, using aircraft cables.

Unless otherwise specified, LumenWerx provides the following hardware:

For cable-mounted fixtures - 53WAC36 (5" white canopy for all power mounting point, 3" white canopy for non power mounting point, and a 36" cable)

Caddy clips, if required specify under **OPTIONS**

[For all other options, see our website for a detailed Pendant Mounting Guide](#)

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 0.075" nominal, matte white or aluminum powder coating.

Custom finishes are also available.

End cap - Die cast Aluminum (0.95" nominal)

Joiners - Die cast Aluminum (0.95" nominal)

Reflectors - Extruded Aluminum 0.07" nominal, 95% reflective matte white painted

Hanger - Chromed Griplock securely attached with spring steel hardware in end caps and/or joiners

Air craft cable suspension - 7x7 braids Aluminum air craft cable 0.06" thick

WEIGHT

Cava square 4ft - 14.10lbs - 6.4kg

Cava square 8ft - 27.53lbs - 12.5kg

Cava square 12ft - 40.97lbs - 18.6kg

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

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?

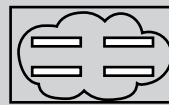
NO

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

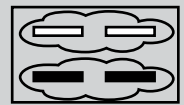
DMX controller supplied by Lumenwerx

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. ✓

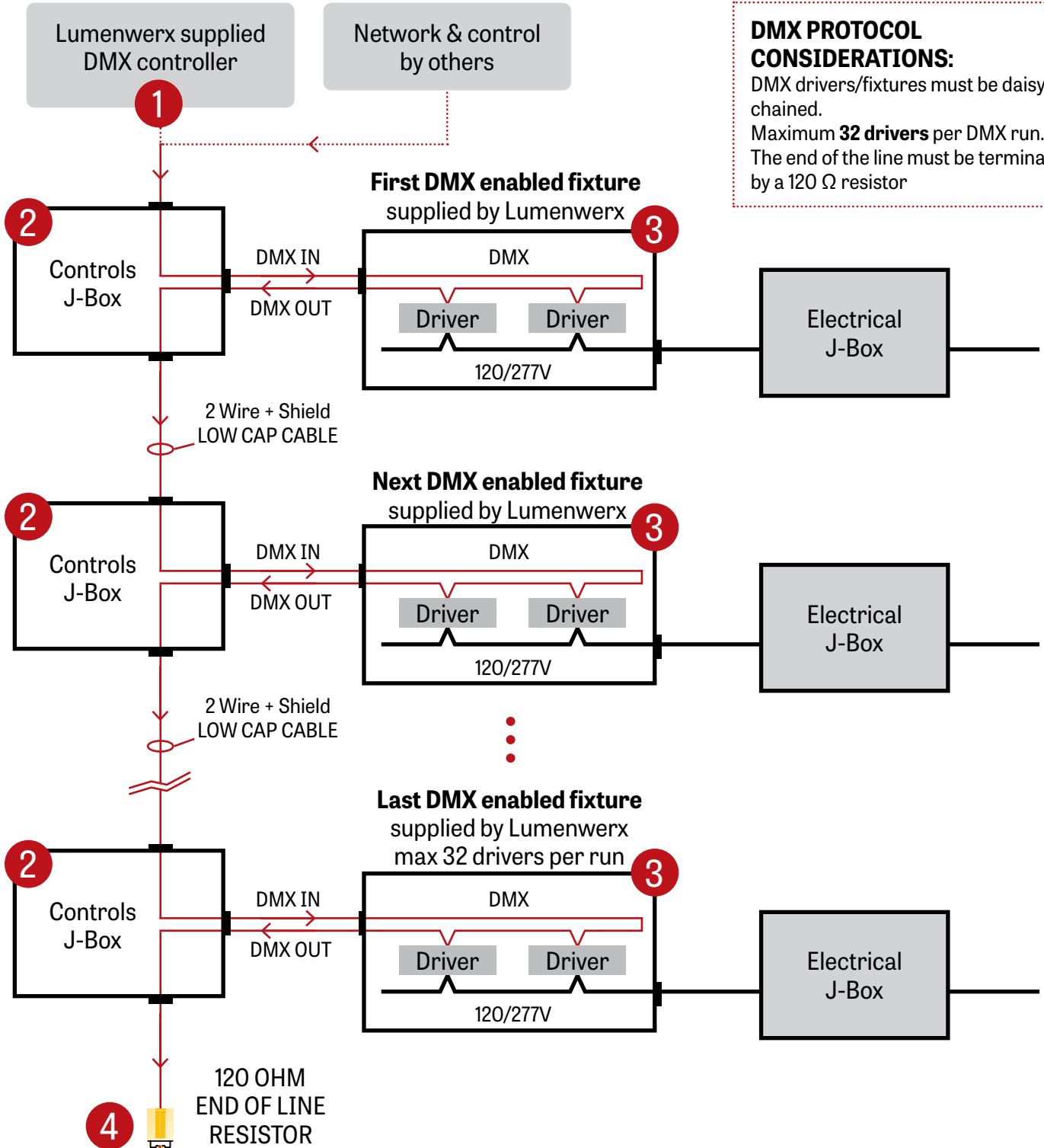
CAVA SQUARE LED

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CHROMAWERX TUNABLE WHITE

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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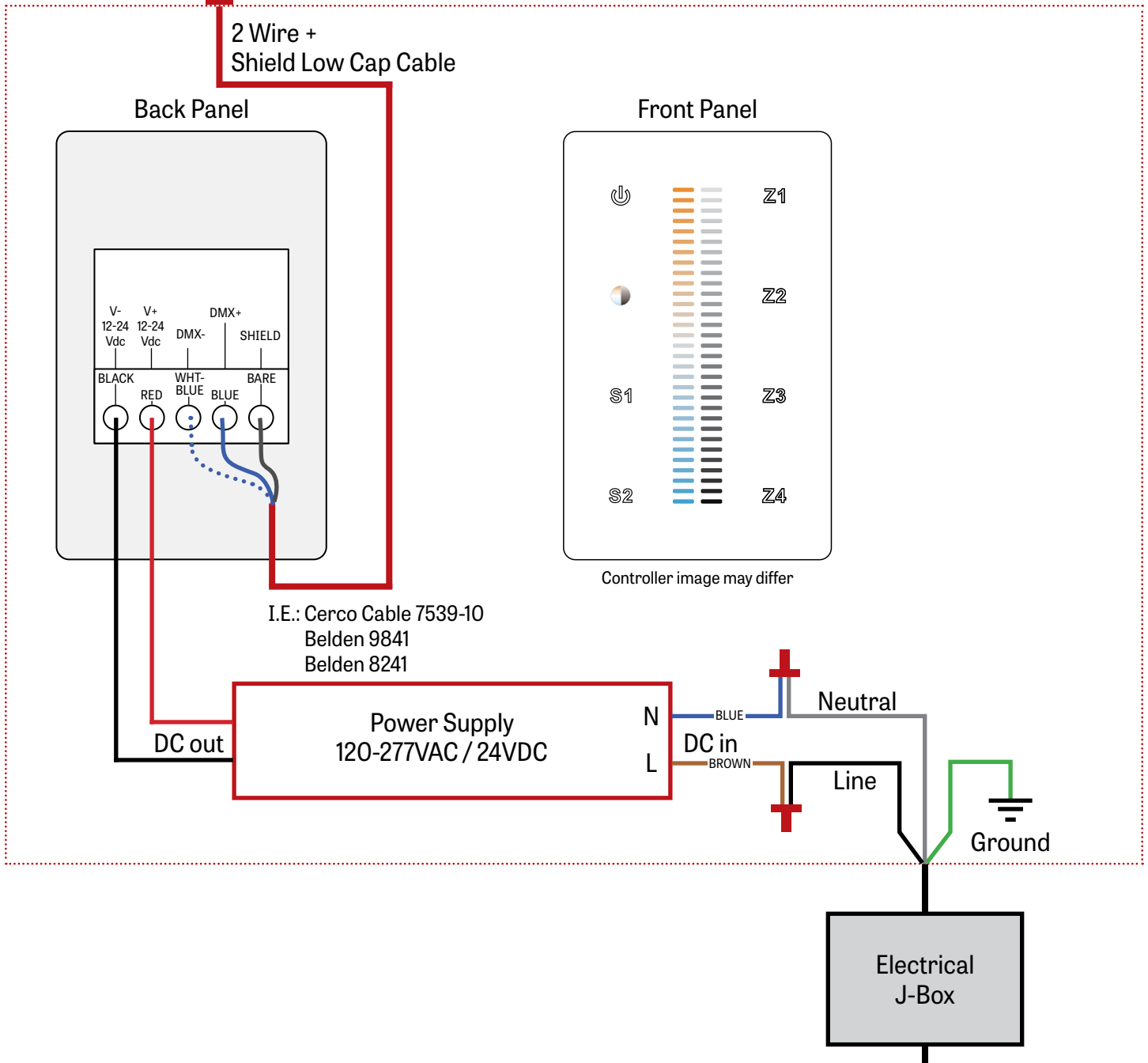


CHROMAWERX TUNABLE WHITE

1 LUMENWERX SUPPLIED DMX CONTROLLER

To the first fixture

WALL BOX SUPPLIED BY OTHERS



CAVA SQUARE LED

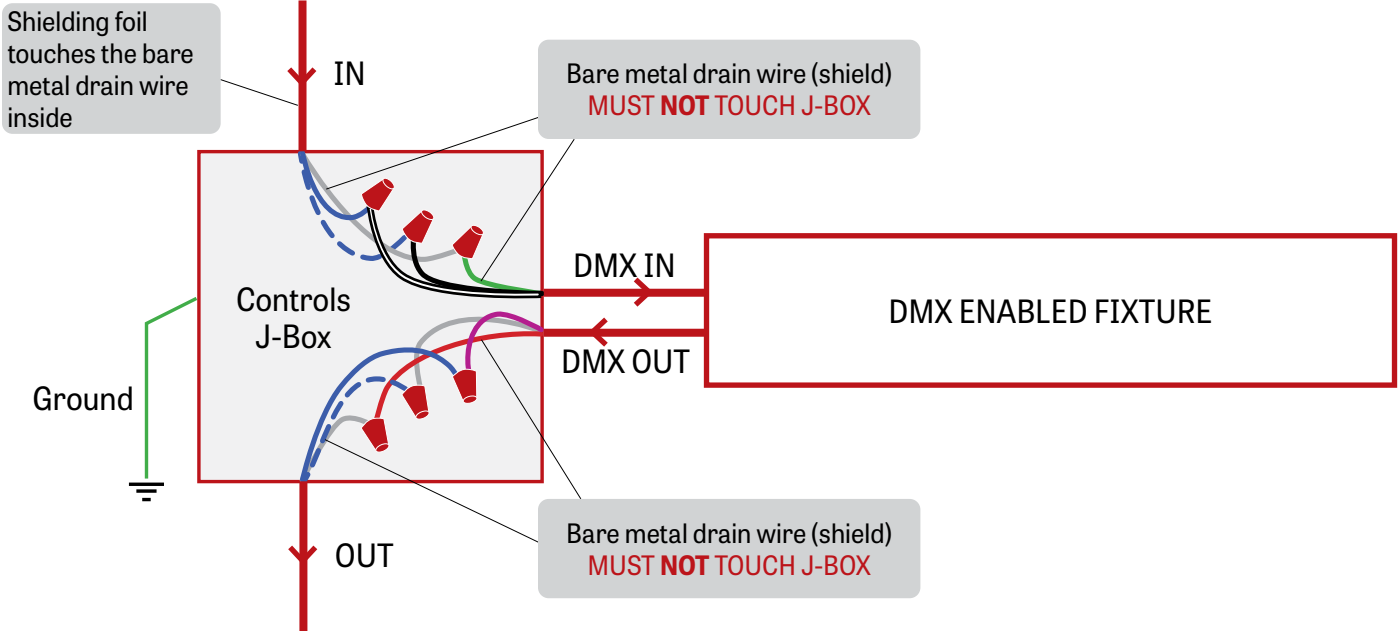
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CHROMAWERX TUNABLE WHITE

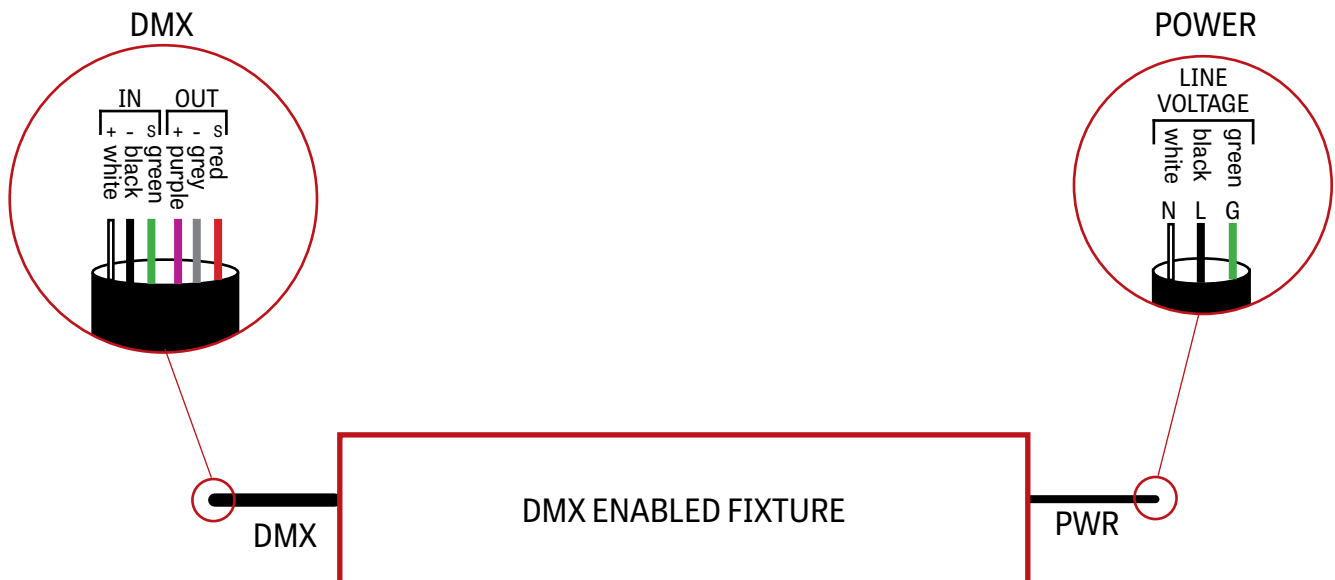
2 J-BOX DMX DAISY CHAIN DETAIL

Low capacitance DMX Cable from Previous Fixture

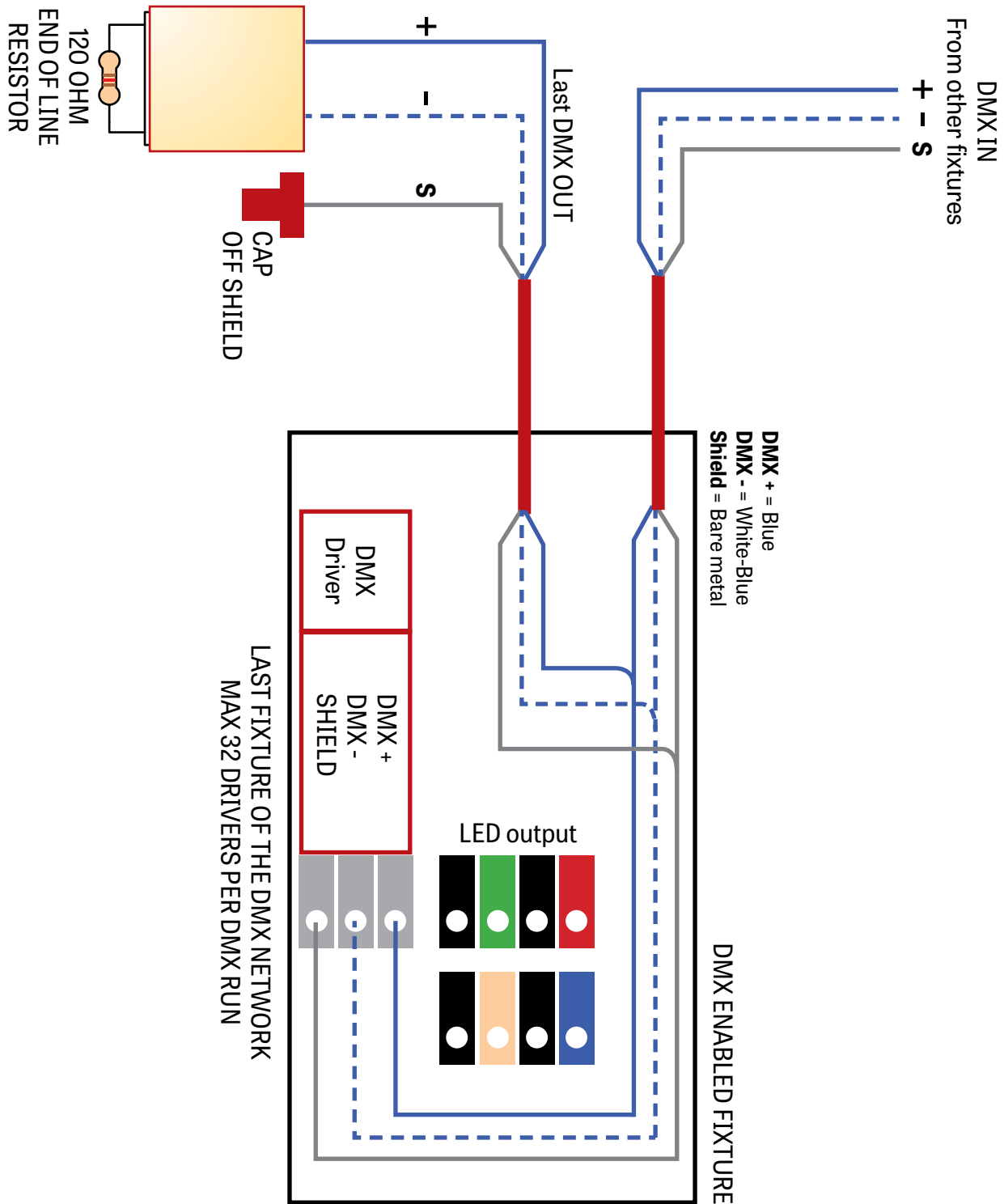


Low capacitance DMX cable to next fixture

3 DMX CONNECTION PENDANT & WALL



4 DMX LAST FIXTURE DETAIL



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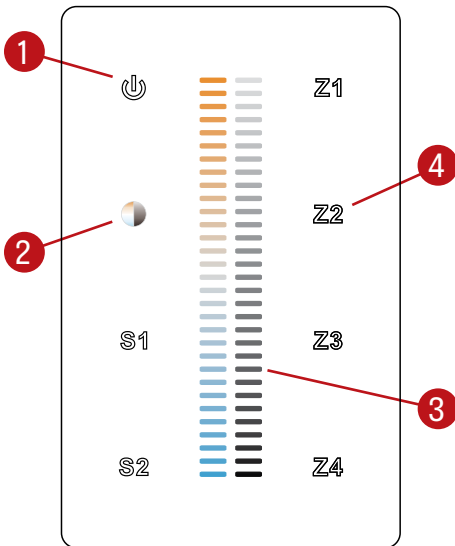
PENDANT
DIRECT/INDIRECT



CHROMAWERX TUNABLE WHITE

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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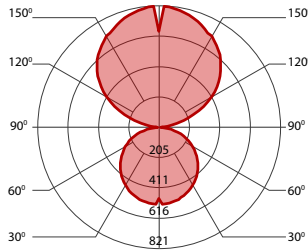
PENDANT
DIRECT/INDIRECT



CHROMAWERX TUNABLE WHITE AND DIM TO WARM

PERFORMANCE AT INDIRECT 500 LUMEN PER FOOT

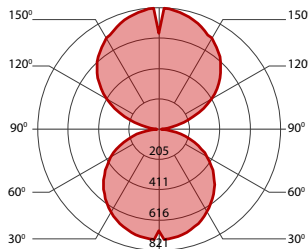
350 LUMEN AT 80CRI - LOW OUTPUT



PERFORMANCE PER 4'

LED output	Color Temp	Watts	Direct Lumens	Indirect Lumens	Total Nominal Delivered Lumens	Efficacy LPW
low output	2700K	31	1400	2000	3400	109
low output	3000K	30.5	1400	2000	3400	112
low output	3500K	29.5	1400	2000	3400	115
low output	4000K	29	1400	2000	3400	118
low output	6500K	27.5	1400	2000	3400	123

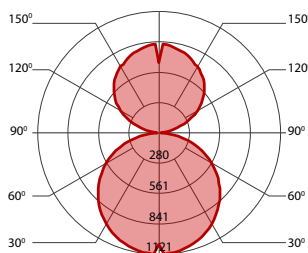
500 LUMEN AT 80CRI - MEDIUM OUTPUT



PERFORMANCE PER 4'

LED output	Color Temp	Watts	Direct Lumens	Indirect Lumens	Total Nominal Delivered Lumens	Efficacy LPW
medium output	2700K	37	2000	2000	4000	108
medium output	3000K	36	2000	2000	4000	111
medium output	3500K	35	2000	2000	4000	114
medium output	4000K	34	2000	2000	4000	117
medium output	6500K	33	2000	2000	4000	122

750 LUMEN AT 80CRI - HIGH OUTPUT



PERFORMANCE PER 4'

LED output	Color Temp	Watts	Direct Lumens	Indirect Lumens	Total Nominal Delivered Lumens	Efficacy LPW
high output	2700K	46.5	3000	2000	5000	108
high output	3000K	44.5	3000	2000	5000	112
high output	3500K	44	3000	2000	5000	114
high output	4000K	42.5	3000	2000	5000	118
high output	6500K	41	3000	2000	5000	122

CAVA SQUARE LED

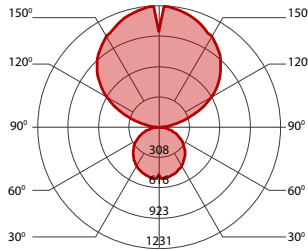
PENDANT
DIRECT/INDIRECT



CHROMAWERX TUNABLE WHITE AND DIM TO WARM

PERFORMANCE AT INDIRECT 750 LUMEN PER FOOT

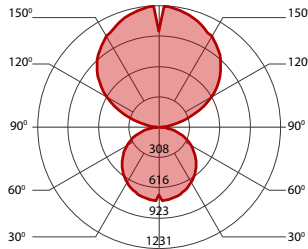
350 LUMEN AT 80CRI - LOW OUTPUT



PERFORMANCE PER 4'

LED output	Color Temp	Watts	Direct Lumens	Indirect Lumens	Total Nominal Delivered Lumens	Efficacy LPW
low output	2700K	41	1400	3000	4400	107
low output	3000K	39.5	1400	3000	4400	111
low output	3500K	39	1400	3000	4400	113
low output	4000K	37.5	1400	3000	4400	117
low output	6500K	36.5	1400	3000	4400	121

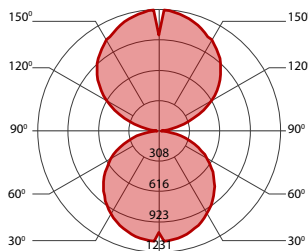
500 LUMEN AT 80CRI - MEDIUM OUTPUT



PERFORMANCE PER 4'

LED output	Color Temp	Watts	Direct Lumens	Indirect Lumens	Total Nominal Delivered Lumens	Efficacy LPW
medium output	2700K	46.5	2000	3000	5000	107
medium output	3000K	45.5	2000	3000	5000	110
medium output	3500K	44.5	2000	3000	5000	112
medium output	4000K	43	2000	3000	5000	116
medium output	6500K	41.5	2000	3000	5000	120

750 LUMEN AT 80CRI - HIGH OUTPUT



PERFORMANCE PER 4'

LED output	Color Temp	Watts	Direct Lumens	Indirect Lumens	Total Nominal Delivered Lumens	Efficacy LPW
high output	2700K	56	3000	3000	6000	107
high output	3000K	54	3000	3000	6000	111
high output	3500K	53	3000	3000	6000	113
high output	4000K	51.5	3000	3000	6000	117
high output	6500K	49.5	3000	3000	6000	121