VIA 4 LED

RECESSED

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 HLO flush

Shown with HLO regressed

Shown with HLO 0.5" drop

Shown with HLO 1.5" drop

DESCRIPTION

Via 4 is the flexible linear LED luminaire system for pendant, surface and recessed or in-wall installation, whether as discrete luminaires, continuous runs or patterns. Via 4 features numerous high-efficiency optical configurations, including separately controlled indirect/direct, wall wash and asymmetric distributions, as well as a wide range of electrical, control and trim options. Via 4 is an ideal vehicle for ChromaWerx white tuning in education, office, and healthcare applications where modular luminaires are used.

PROJECT: _____
_____
TYPE: _____
NOTES: _____
_____

CHROMAWERX

up to 103 lm/w performance

IC RATED

ORDER GUIDE

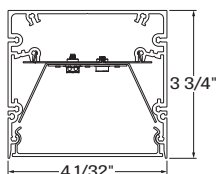| VIA4R	HLO			LED		
LUMINAIRE ID	**DIRECT OPTICS**		**LENS POSITION**	**LIGHT SOURCE**	**CRI**	**LUMEN PACKAGES**
VIA4R - via 4" recessed	**HLO** - High-Efficiency Lambertian Optic		**FH** - Flush **RG** - Regressed **0.5D** - 0.5" drop **1.5D** - 1.5" drop	**LED** - high performance LED	**80** - 80CRI **90** - 90CRI	**500** - min. low output 500lm/ft **750** - medium output 750lm/ft **1000** - high output 1000lm/ft **1200** - max. ultra high output 1200lm/ft **####** - other required lm/ft

					1	
CHROMAWERX	**LUMINAIRE LENGTH**	**VOLTAGE**	**DRIVER**		**ELECTRICAL**	**MOUNTING**
DUO - tunable white 2 channel control 27k to 65k **SOLA** - dim to warm single channel control 22k to 35k	Available sections - 4', 6', 8', 10' & 12' **#FT** - nominal length in feet **(2' increments only)** Continuous Run - for luminaires over 12' Minimum Individual section 4'	**120** - 120V **277** - 277V	**DMX** - to specify see pages 5 to 10 **DA** - Dali (duo only) local on-site commissioning is required **0-10** - Single 0-10V input (Sola) or dual 0-10V input for CCT/Intensity (Duo) **PSQ0** - Lutron T-Series 1% Tunable White (Duo only)		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 **DTR** - drywall trim **DTL** - drywall trimless **DMF** - drywall mud flange

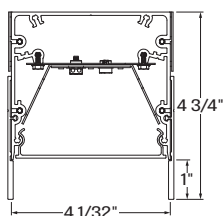| **FINISH**	**OPTIONS**
W - matte white **CF#** - custom finish specify RAL#	**FU** - fuse **FWC** - flexible whip cable (6' std) **CP** - Chicago Plenum **CU** - custom

DMX WALL CONTROLS

To specify see pages 5 to 10

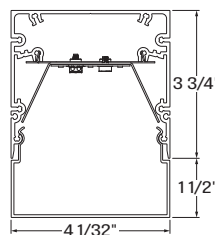See page 2 for ordering code detailed information

CROSS SECTION
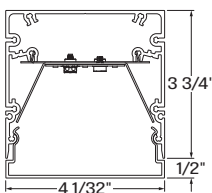
3 3/4"
4 1/32"
VIA4R - HLO-FH

4 3/4"
1"
4 1/32"
VIA4R - HLO-RG

3 3/4"
1/2"
4 1/32"
VIA4R - HLO-0.5D

3 3/4"
1 1/2"
4 1/32"
VIA4R - HLO-1.5D

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VIA 4 LED

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CHROMAWERX TUNABLE WHITE AND DIM TO WARM

PHOTOMETRICS

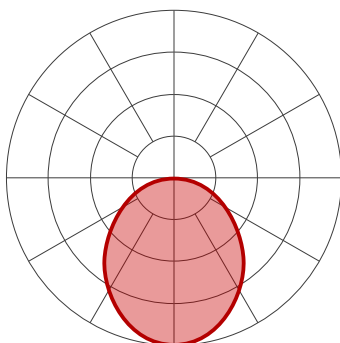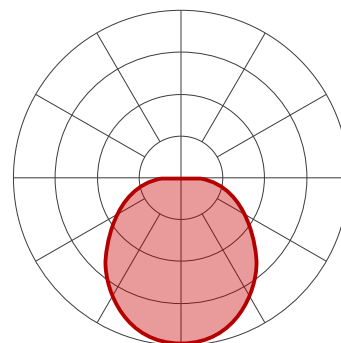Please follow the multiplier tables to ensure correct lumen value. Lensing, CCT and CRI, will change the lumen output.
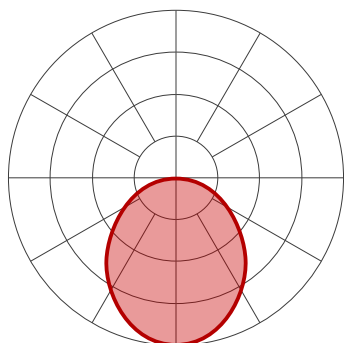
HLO-FH

HLO-0.5D

HLO-1.5D

HLO-FH Delivered Lumens for Flush at 35K 80CRI

Lumens per Foot	Total Lumens Per 4FT	Input Watts	LPW
500	2000	20	101
750	3000	29	103
1000	4000	39	102
1200	4800	47.5	101

Multiplier - Drop Lens

Direct lens	Watts Multiplier	LPW Multiplier
Flush lens	1.00	1.00
Drop lens 0.5"	0.98	1.02
Drop lens 1.5"	0.96	1.05

Multiplier - CCT/CRI

CCT (K)	Watts Multiplier		LPW Multiplier	
	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
5000	0.90	1.09	1.11	0.92
6500	0.94	1.11	1.06	0.90

OPTICS

High Efficiency Lambertian Optic (HLO) shielding of diffusing 0.075" thick acrylic provides up to 88% transmission and good source obscuration. Matte white reflectors distribute LED output across the shielding. Luminaire brightness is controlled by the ratio of luminous flux to shielding area. HLO is available as a flush diffuser or as a drop diffuser, extending 0.5" or 1.5" below the luminaire housing. Drop diffusers are extruded with glued end caps. HLO optics have a Spacing Criteria of 1.16.

LIGHT SOURCE - LED

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.

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CHROMAWERX TUNABLE WHITE AND DIM TO WARM

LUMINAIRE LENGTH

Via 4 is made up of standard 4, 6, 8, 10 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.
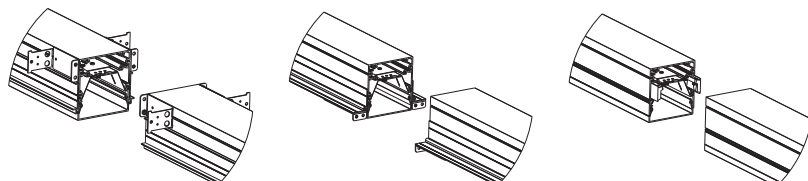
Joining system
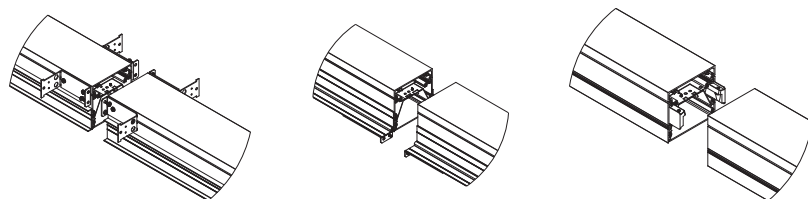
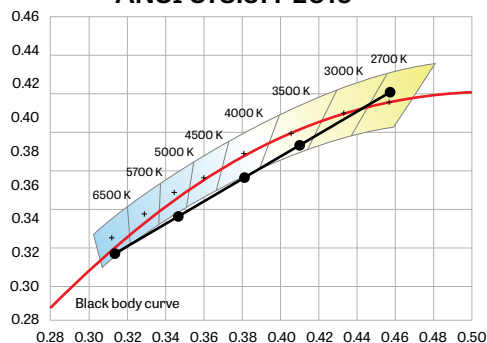| T-bar | Mud flange | Trim & Trimless |

Joining system for drop lens

| T-bar | Mud flange | Trim & Trimless |

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.

ELECTRICAL

DMX (Duo only)

Factory-Set adjustable output current electronic driver with 120-277V AC 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 (Duo Only)

Factory-Set adjustable output current electronic driver with 120-277V AC 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. 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%.

0-10V (Sola)

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%.

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## CHROMAWERX TUNABLE WHITE AND DIM TO WARM

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.

PSQ0 (Duo only)

Lutron T-Series 2-Channel tunable white drivers enable high-performance human centric lighting (HCL) applications. Digital control of color temperature (CCT) and intensity are achieved when used with the ESN T-Series tunable white controller as a part of a Lutron Quatum System.

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
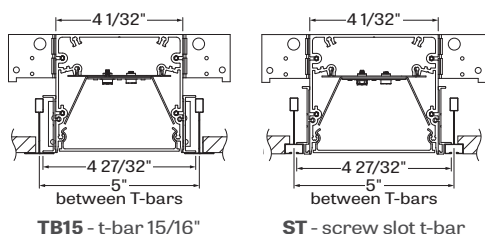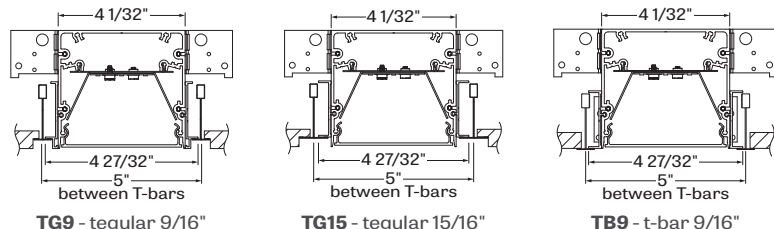
Mounting for drywall ceilings are available with visible trim, mud flange, trim or trimless

DTR - drywall trim

DTL - drywall trimless

DMF - drywall mud flange
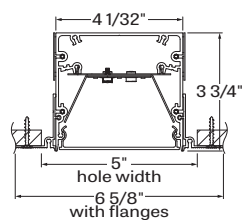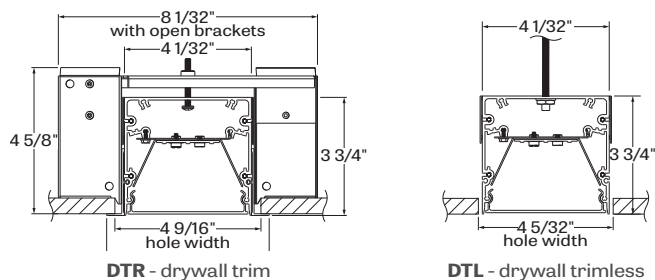
FINISH

Interior - 95%, reflective matte powder coated white paint

Exterior - matte white powder coating. Custom finishes are also available.

CONSTRUCTION

Housing - Extruded Aluminum (0.095" nominal) up to 90% Recycled Content

Interior brackets - Die formed cold rolled sheet steel 18 gauge thick

Joining system - Die cast Zinc (0.95" nominal) and die Formed galvanized sheet 18 gauge

Reflectors - Cold rolled steel 0.024" thick precisely die formed, 95% reflective matte white painted

Recessed flanges - Extruded Aluminum (0.075" nominal) up to 90% Recycled Content

Mud flange - Extruded Aluminum (0.075" nominal) up to 90% Recycled Content

Slip-through bracket - Die Formed galvanized sheet 18 gauge

End plate - Die formed cold rolled sheet steel 18 gauge thick

WEIGHT

Via 4 4ft - 11.23lbs - 5.1kg

Via 4 8ft - 22.47lbs - 10.2kg

Via 4 12ft - 33.70lbs - 15.3kg

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.

VIA 4 LED

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CHROMAWERX TUNABLE WHITE

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 <u>contact information of your DMX integrator.</u>**

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	per 4' fixture
Driver	Driver Driver
1x driver	2x driver
Direct only	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.
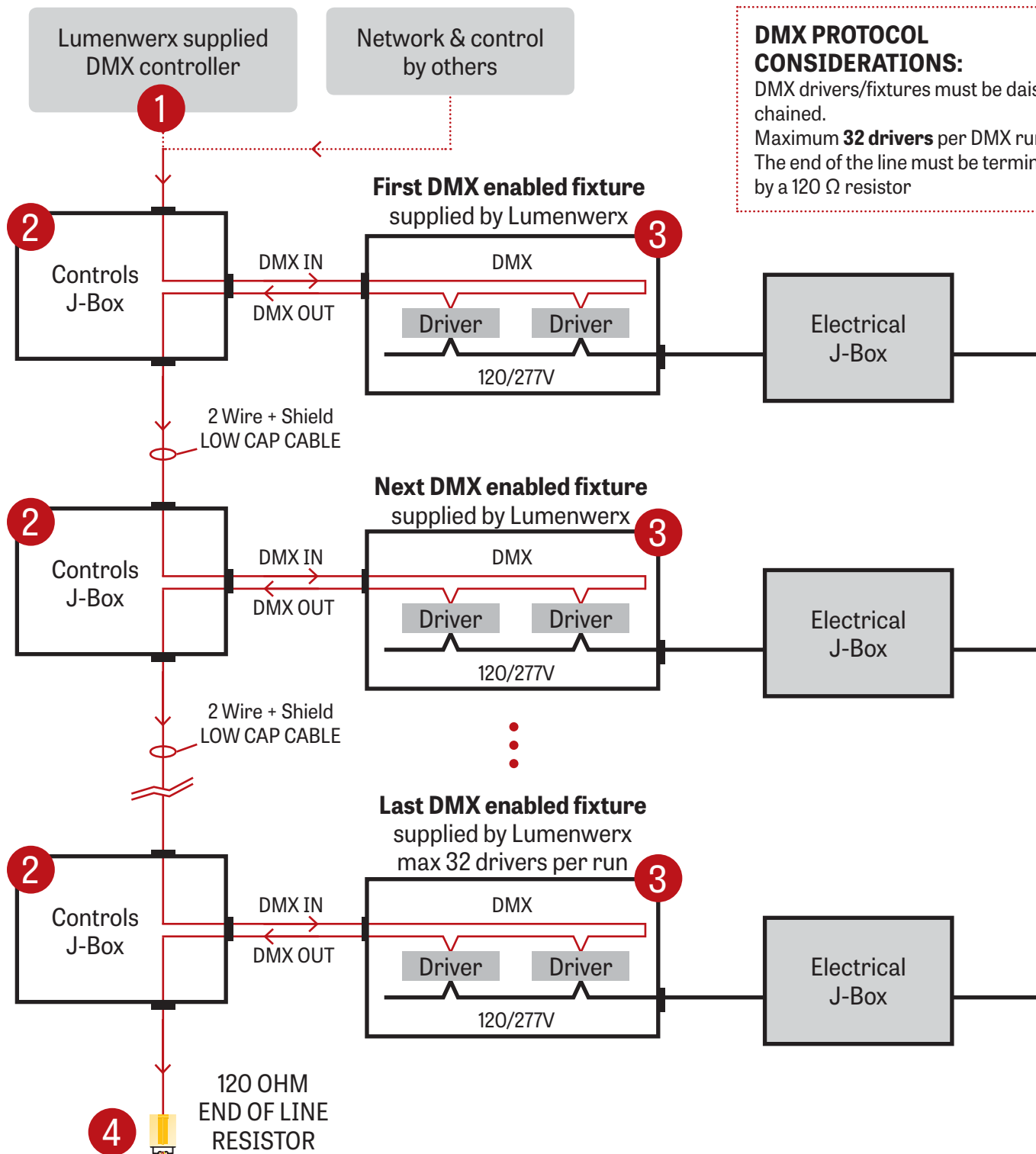Refer to your DMX integrator for the installation. ✓

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

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

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CHROMAWERX TUNABLE WHITE

GENERIC DMX NETWORK ARCHITECTURE

Lumenwerx supplied
DMX controller

1

Network & control
by others

**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

2

Controls
J-Box

DMX IN
DMX OUT

First DMX enabled fixture
supplied by Lumenwerx

3

DMX

Driver   Driver

120/277V

Electrical
J-Box

2 Wire + Shield
LOW CAP CABLE

2

Controls
J-Box

DMX IN
DMX OUT

Next DMX enabled fixture
supplied by Lumenwerx

3

DMX

Driver   Driver

120/277V

Electrical
J-Box

2 Wire + Shield
LOW CAP CABLE

2

Controls
J-Box

DMX IN
DMX OUT

Last DMX enabled fixture
supplied by Lumenwerx
max 32 drivers per run

3

DMX

Driver   Driver

120/277V

Electrical
J-Box

4   120 OHM
END OF LINE
RESISTOR

VIA 4 LED

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1 LUMENWERX SUPPLIED DMX CONTROLLER

To the first fixture

WALL BOX SUPPLIED BY OTHERS

2 Wire +
Shield Low Cap Cable

Back Panel

GND	V+ 12-24 Vdc	DMX-	DMX+	SHIELD
BLACK	RED	WHT-BLUE	BLUE	BARE

Front Panel

⏻		Z1
◐		Z2
S1		Z3
S2		Z4

Controller image may differ

I.E.: Cerco Cable 7539-10
Belden 9841
Belden 8241

Power Supply
120-277VAC / 24VDC

DC out

N — BLUE — Neutral

DC in

L — BROWN — Line

Ground

Electrical
J-Box

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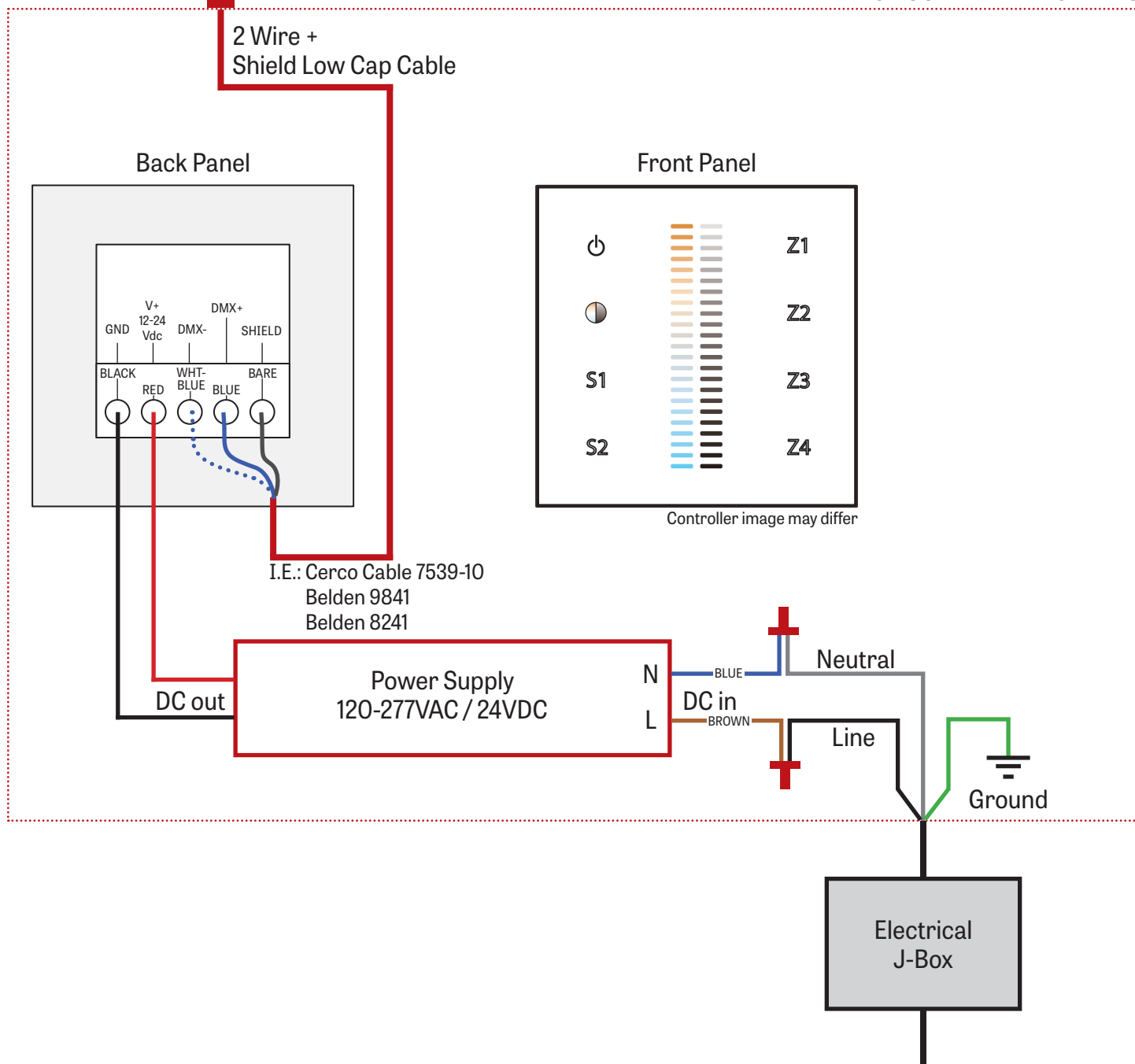
CHROMAWERX TUNABLE WHITE

2 J-BOX DMX DAISY CHAIN DETAIL

Low capacitance DMX Cable from Previous Fixture

Shielding foil touches the bare metal drain wire inside

IN

Bare metal drain wire (shield) MUST **NOT** TOUCH J-BOX

Controls J-Box

DMX IN

DMX ENABLED FIXTURE

DMX OUT

Ground

OUT

Bare metal drain wire (shield) MUST **NOT** TOUCH J-BOX
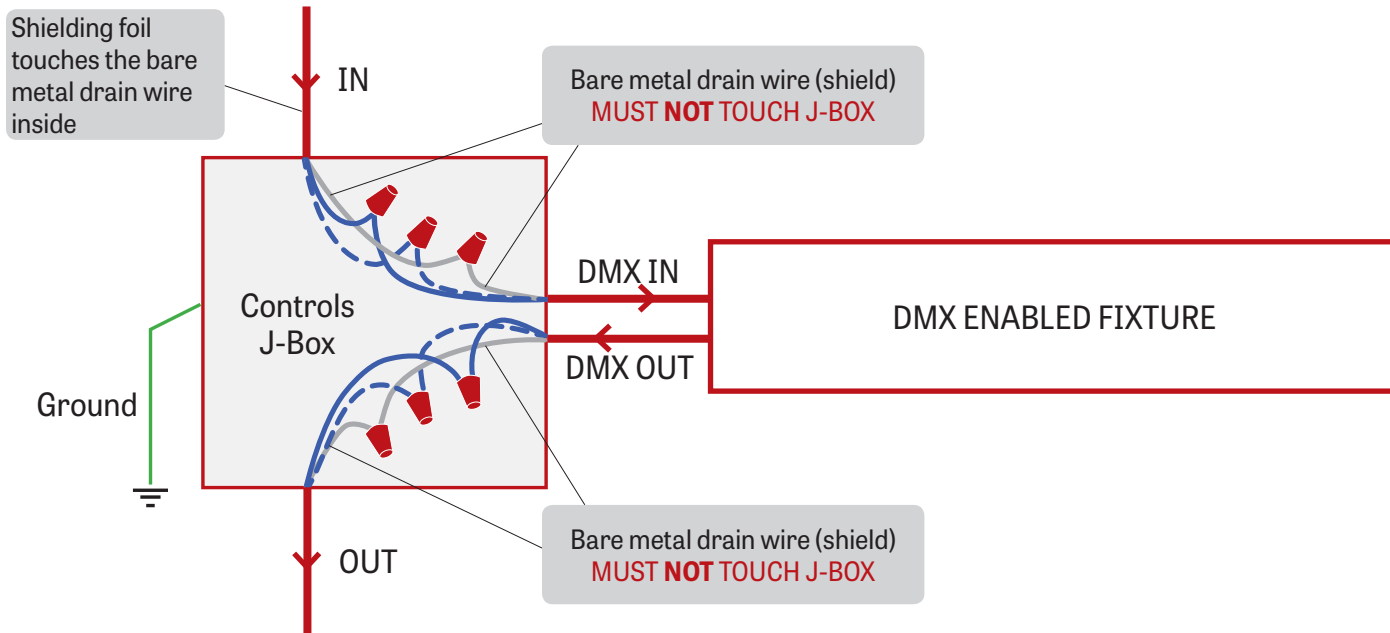
Low capacitance DMX cable to next fixture

3 DMX CONNECTION RECESSED & SURFACE

DMX

POWER

IN | OUT
Shield | DMX - | DMX +

LINE VOLTAGE
white | black | green

N | L | G

DMX ENABLED FIXTURE

DMX

PWR
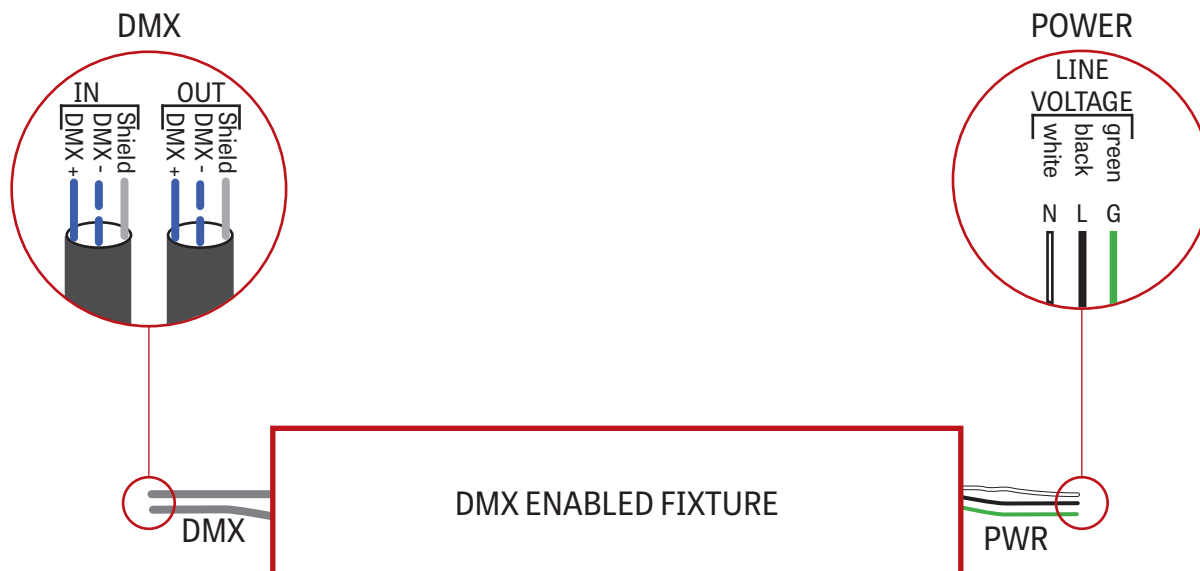
CHROMAWERX TUNABLE WHITE

4   DMX LAST FIXTURE DETAIL

120 OHM
END OF LINE
RESISTOR

+

–

S

CAP
OFF SHIELD

Last DMX OUT

DMX IN
From other fixtures

+

–

S

DMX + = Blue
DMX - = White-Blue
Shield = Bare metal

DMX
Driver

DMX +
DMX -
SHIELD

LAST FIXTURE OF THE DMX NETWORK
MAX 32 DRIVERS PER DMX RUN

LED output

DMX ENABLED FIXTURE

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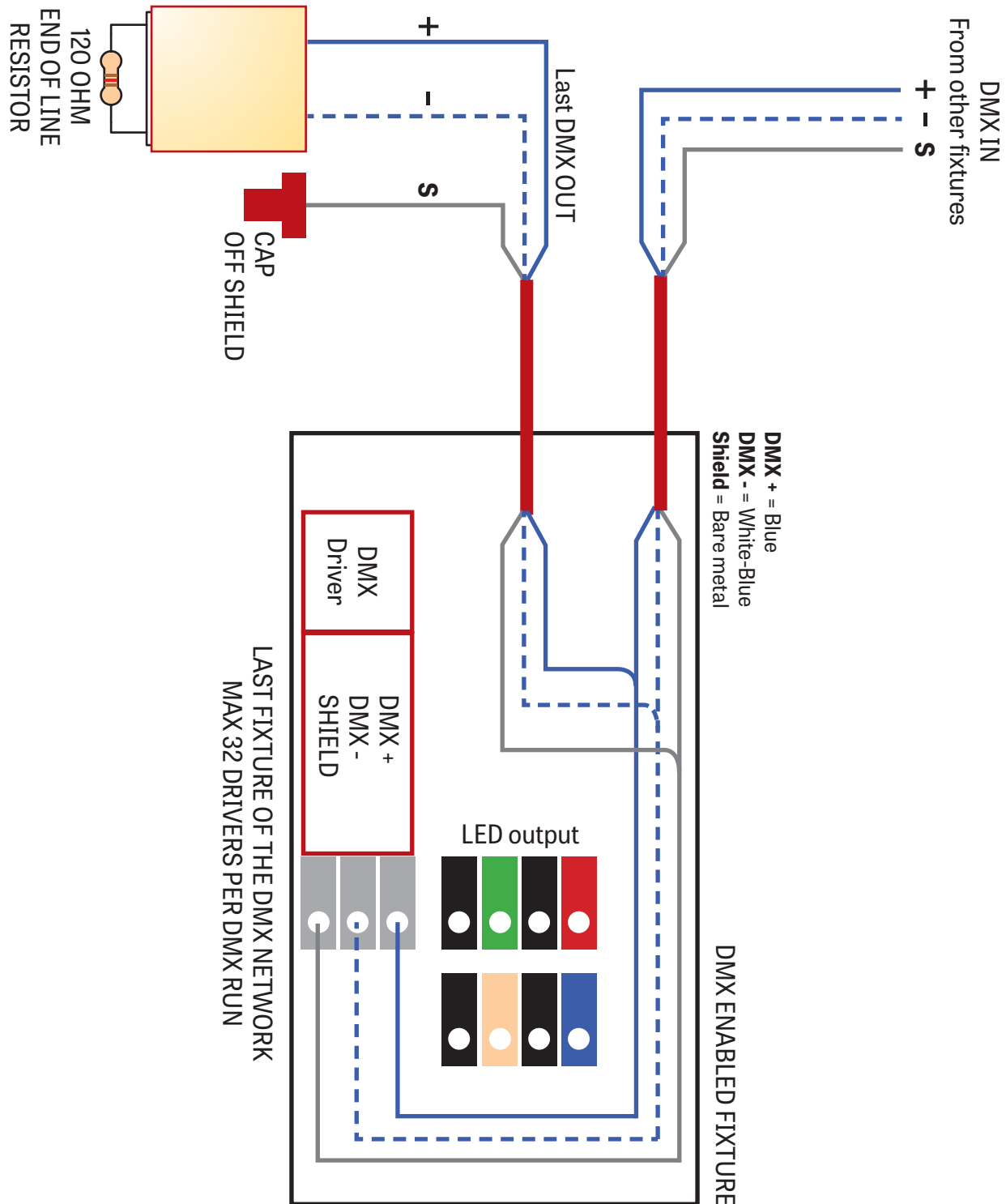
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DMX WALL CONTROLLER

DUO 1-4 ZONE

Z1
Z2
S1 Z3
S2 Z4

(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