

POP COLOR SQUARE 2x2

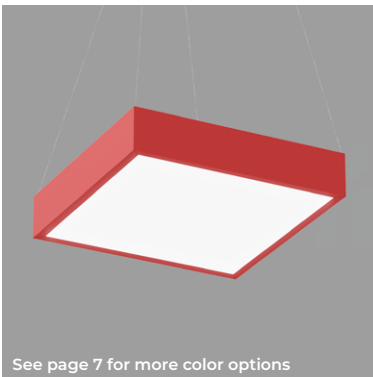


Lumenwerx

PENDANT DIRECT/INDIRECT
CHROMAWERX - SOLA AND DUO



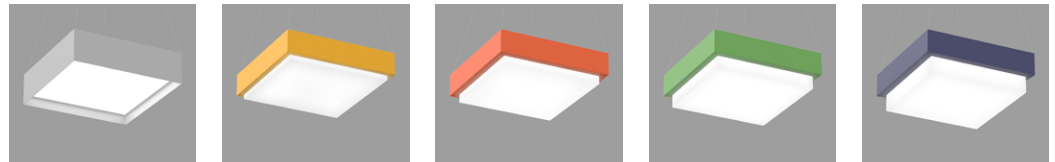
Project: _____
Type: _____



See page 7 for more color options

DESCRIPTION

POP Color features a painted housing with a uniformly luminous diffuser that sits flush, regressed or drops up to 4" below. POP Color delivers up to 114 LPW and is available in nine standard housing colors. POP Color is an ideal vehicle for Chromawerx white tuning in education, office, and healthcare applications where modular luminaires are used.



Flush lens

2" regressed lens

1" drop lens

2" drop lens

3" drop lens

4" drop lens

Order Guide

Up to 114 lm/W performance

LUMINAIRE ID	DISTRIBUTION ¹	SIZE	OPTIC	LENS POSITION	LIGHT SOURCE ²	CRI	DIRECT LUMEN PACKAGE
	DI	2FTX2FT	ULO				
PCSQP - Pop Color Square Pendant PCSQRGP - Pop Color Square Regressed Lens Pendant	DI - Direct/Indirect ¹ The lens on the indirect side is clear.	2FTX2FT - 2' X 2'	ULO - Uniform Lambertian Optic	PCSQP FH - Flush 1D - 1" drop 2D - 2" drop 3D - 3" drop 4D - 4" drop PCSQRGP 2R - 2" regressed	SOLA - Dim-to-warm single channel control 35K to 22K DUO - Tunable white 2-channel control 65K to 27K ² Static white also available. Consult other spec sheet.	80 - 80 CRI 90 - 90 CRI	2500 - Min. low output 2500lm 3500 - Medium output 3500lm 4500 - Max. high output 4500lm #### - Other required lm
INDIRECT LUMEN PACKAGE	VOLTAGE	DRIVER ³	ELECTRICAL		MOUNTING		
			1		5SWAC36		
750 - Min. low output 750lm 900 - Medium output 900lm 1100 - Max. high output 1100lm #### - Other required lm	120 - 120V 277 - 277V UNV - 120V-277V	<u>SOLA</u> SD1 - Single 0-10V input <u>DUO</u> DMX ⁴ - DMX, to specify see pages 9 to 14 DA ⁴ - DALI DD1 - Dual 0-10V input for CCT/intensity LD2 ⁴ - Lutron DALI-2 digital ³ PoE (Power-over-Ethernet) compatible. Consult factory for details. ⁴ On-site commissioning is required.	1 - 1 circuit		5SWAC36 - Power 5" square white canopy (36" aircraft cable) For all other options refer to our Pendant Mounting Guide		

POWER CORD COLOR	FINISH	OPTIONS
BPC - Black power cord WPC - White power cord	W - Matte white AL - Aluminum B - Matte black RAL 1028 - Yellow RAL 2004 - Orange RAL 3020 - Red RAL 4010 - Magenta RAL 5002 - Blue RAL 6018 - Green CF# - Custom finish specify RAL#	FU120 - Fuse 120V FU277 - Fuse 277V NA - None

Accessories

Optional, order separately

DMX WALL CONTROLLER ⁵

WCW - Wall controller white
WBW - Wall controller black

⁵Available with DMX only. For more information, see pages 9 to 14, or consult factory.

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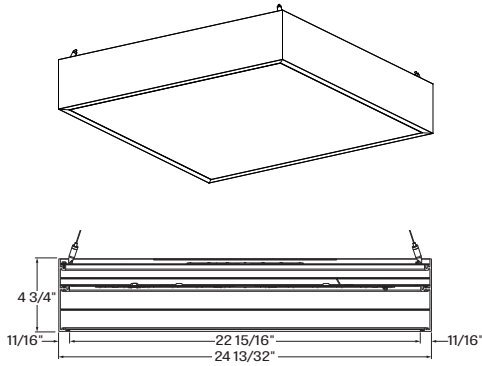


Lumenwerx

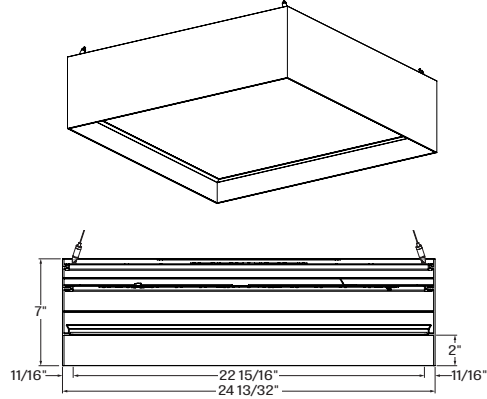
PENDANT DIRECT/INDIRECT
CHROMAWERX - SOLA AND DUO

Dimensions

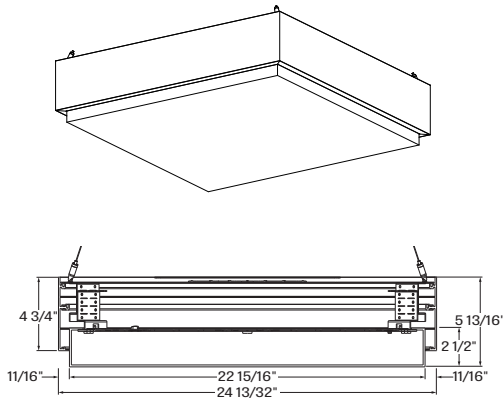
POP COLOR FH - FLUSH



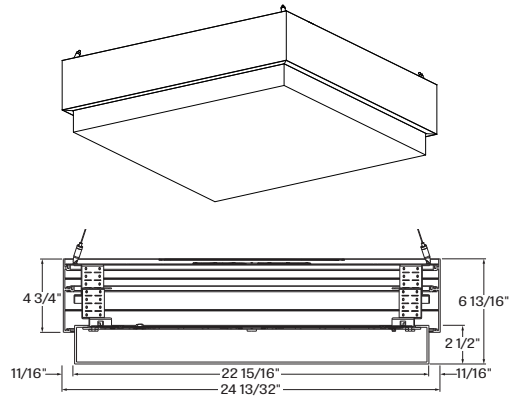
POP COLOR 2R - 2" REGRESSED



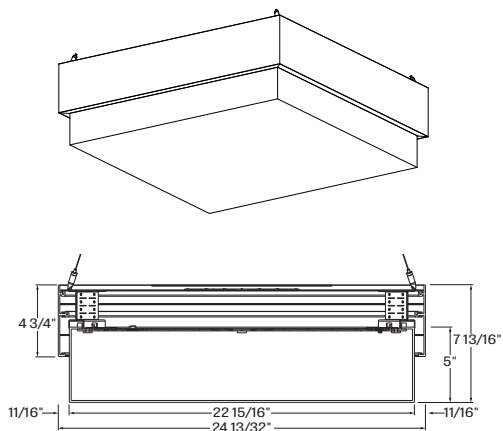
POP COLOR 1D - 1" DROP



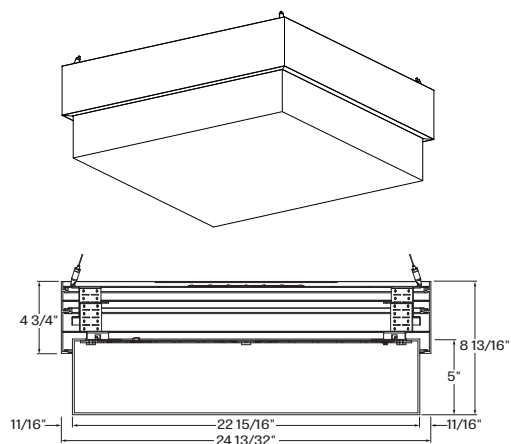
POP COLOR 2D - 2" DROP



POP COLOR 3D - 3" DROP



POP COLOR 4D - 4" DROP



POP COLOR SQUARE 2x2

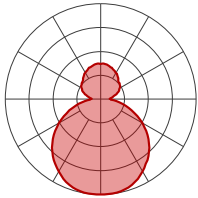


PENDANT DIRECT/INDIRECT
CHROMAWERX - SOLA AND DUO

Photometrics

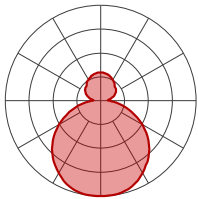
Performance at Indirect 750 Lumen

2500 LUMEN AT 80 CRI - LOW OUTPUT



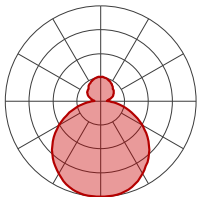
LED OUTPUT	COLOR TEMP	WATTS	DIR. LUMENS	IND. LUMENS	TOTAL NOMINAL DELIVERED LUMENS	EFFICACY LPW
Low output	2700K	31	2500	750	3250	105
Low output	3000K	30.5	2500	750	3250	107
Low output	3500K	29.5	2500	750	3250	111
Low output	4000K	28.5	2500	750	3250	114
Low output	5000K	27.5	2500	750	3250	119
Low output	6500K	27.5	2500	750	3250	119

3500 LUMEN AT 80 CRI - MEDIUM OUTPUT



LED OUTPUT	COLOR TEMP	WATTS	DIR. LUMENS	IND. LUMENS	TOTAL NOMINAL DELIVERED LUMENS	EFFICACY LPW
Medium output	2700K	42	3500	750	4250	101
Medium output	3000K	41.5	3500	750	4250	103
Medium output	3500K	40	3500	750	4250	106
Medium output	4000K	38.5	3500	750	4250	110
Medium output	5000K	37.5	3500	750	4250	114
Medium output	6500K	37.5	3500	750	4250	114

4500 LUMEN AT 80 CRI - HIGH OUTPUT



LED OUTPUT	COLOR TEMP	WATTS	DIR. LUMENS	IND. LUMENS	TOTAL NOMINAL DELIVERED LUMENS	EFFICACY LPW
High output	2700K	53	4500	750	5250	99
High output	3000K	51.5	4500	750	5250	102
High output	3500K	50	4500	750	5250	105
High output	4000K	48.5	4500	750	5250	108
High output	5000K	46.5	4500	750	5250	113
High output	6500K	47	4500	750	5250	112

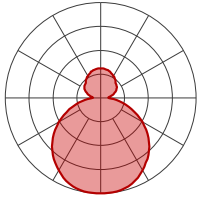
POP COLOR SQUARE 2x2



PENDANT DIRECT/INDIRECT CHROMAWERX - SOLA AND DUO

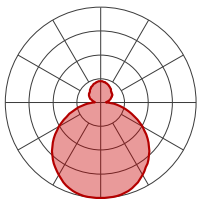
Performance at Indirect 900 Lumen

2500 LUMEN AT 80 CRI - LOW OUTPUT



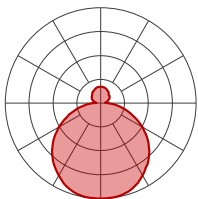
LED OUTPUT	COLOR TEMP	WATTS	DIR. LUMENS	IND. LUMENS	TOTAL NOMINAL DELIVERED LUMENS	EFFICACY LPW
Low output	2700K	32.5	2500	900	3400	104
Low output	3000K	32	2500	900	3400	107
Low output	3500K	31	2500	900	3400	110
Low output	4000K	30	2500	900	3400	114
Low output	5000K	29	2500	900	3400	118
Low output	6500K	29	2500	900	3400	118

3500 LUMEN AT 80 CRI - MEDIUM OUTPUT



LED OUTPUT	COLOR TEMP	WATTS	DIR. LUMENS	IND. LUMENS	TOTAL NOMINAL DELIVERED LUMENS	EFFICACY LPW
Medium output	2700K	44	3500	900	4400	100
Medium output	3000K	43	3500	900	4400	102
Medium output	3500K	41.5	3500	900	4400	106
Medium output	4000K	40.5	3500	900	4400	109
Medium output	5000K	38.5	3500	900	4400	114
Medium output	6500K	39	3500	900	4400	113

4500 LUMEN AT 80 CRI - HIGH OUTPUT



LED OUTPUT	COLOR TEMP	WATTS	DIR. LUMENS	IND. LUMENS	TOTAL NOMINAL DELIVERED LUMENS	EFFICACY LPW
High output	2700K	54.5	4500	900	5400	99
High output	3000K	53	4500	900	5400	102
High output	3500K	51.5	4500	900	5400	105
High output	4000K	50	4500	900	5400	108
High output	5000K	48	4500	900	5400	113
High output	6500K	48	4500	900	5400	112

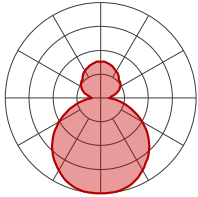
POP COLOR SQUARE 2x2



PENDANT DIRECT/INDIRECT CHROMAWERX - SOLA AND DUO

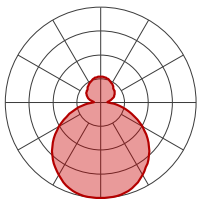
Performance at Indirect 1100 Lumen

2500 LUMEN AT 80 CRI - LOW OUTPUT



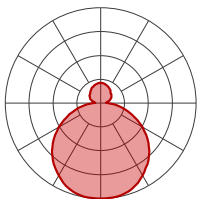
LED OUTPUT	COLOR TEMP	WATTS	DIR. LUMENS	IND. LUMENS	TOTAL NOMINAL DELIVERED LUMENS	EFFICACY LPW
Low output	2700K	34.5	2500	1100	3600	104
Low output	3000K	33.5	2500	1100	3600	107
Low output	3500K	32.5	2500	1100	3600	110
Low output	4000K	31.5	2500	1100	3600	114
Low output	5000K	30.5	2500	1100	3600	118
Low output	6500K	30.5	2500	1100	3600	118

3500 LUMEN AT 80 CRI - MEDIUM OUTPUT



LED OUTPUT	COLOR TEMP	WATTS	DIR. LUMENS	IND. LUMENS	TOTAL NOMINAL DELIVERED LUMENS	EFFICACY LPW
Medium output	2700K	46	3500	1100	4600	100
Medium output	3000K	44.5	3500	1100	4600	103
Medium output	3500K	43.5	3500	1100	4600	106
Medium output	4000K	42	3500	1100	4600	109
Medium output	5000K	40.5	3500	1100	4600	114
Medium output	6500K	40.5	3500	1100	4600	114

4500 LUMEN AT 80 CRI - HIGH OUTPUT



LED OUTPUT	COLOR TEMP	WATTS	DIR. LUMENS	IND. LUMENS	TOTAL NOMINAL DELIVERED LUMENS	EFFICACY LPW
High output	2700K	56	4500	1100	5600	100
High output	3000K	55	4500	1100	5600	102
High output	3500K	53.5	4500	1100	5600	105
High output	4000K	52	4500	1100	5600	108
High output	5000K	49.5	4500	1100	5600	113
High output	6500K	49.5	4500	1100	5600	113



PENDANT DIRECT/INDIRECT
CHROMAWERX - SOLA AND DUO

Technical Specifications

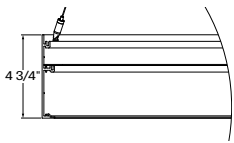
OPTIC

Uniform Efficiency Lambertian Optic (ULO)

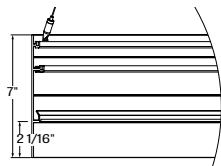
Made of formed impact modified white PMMA, the optic provides an even light distribution with up to 88% transmission. Its unique enclosed shell design protects LEDs against Electrostatic Discharge and dust while its back surface project a soft glow on the mounting surface.

LENS POSITION

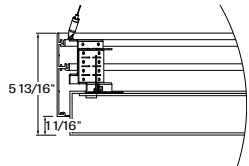
Pop Color square 22 pendant is available in 6 lens configurations.



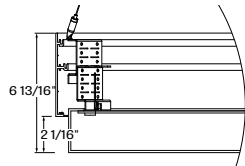
PCSQP + FH - Flush lens



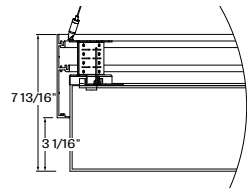
PCSQRGP + 2R - 2" regressed lens



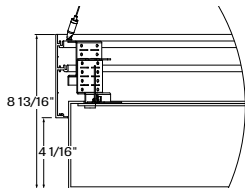
PCSQP + 1D - 1" drop lens



PCSQP + 2D - 2" drop lens



PCSQP + 3D - 3" drop lens



PCSQP + 4D - 4" drop lens

LIGHT SOURCE

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 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 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.

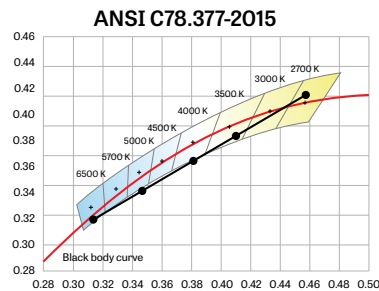
CHROMAWERX - TUNABLE WHITE

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.



POP COLOR SQUARE 2x2



Lumenwerx

PENDANT DIRECT/INDIRECT CHROMAWERX - SOLA AND DUO

ELECTRICAL

SOLA

SDI

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%.

DUO

DMX

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

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%.

DD1

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 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.

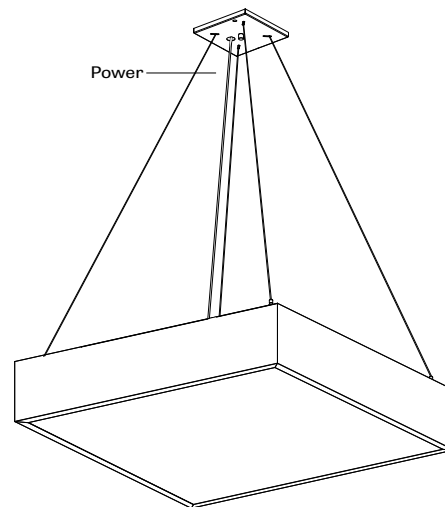
PoE

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

MOUNTING OPTION

Fixtures are pendant-mounted, using aircraft cables. Unless otherwise specified, Lumenwerx provides the following hardware: **For cable-mounted fixtures** - 5SWAC36, 5" square white canopy with a 36" cable.

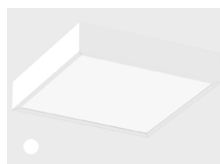
[For all other options, see our website for a detailed Pendant Mounting Guide](#)



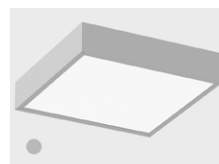
FINISH

Interior - 95%, reflective, matte white powder coating

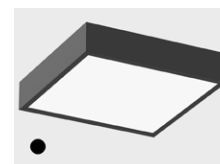
Exterior - Side trim is offered in a range of vibrant color powder coating.



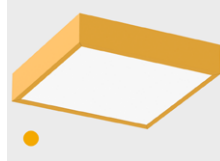
W - Matte white



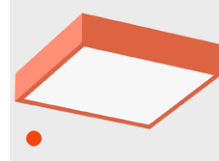
AL - Aluminum



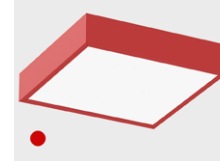
B - Matte black



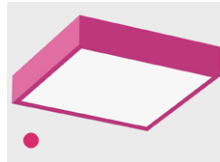
RAL 1028 - Yellow



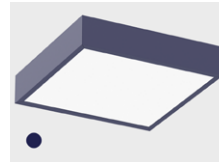
RAL 2004 - Orange



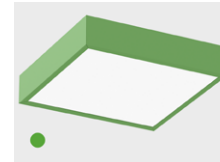
RAL 3020 - Red



RAL 4010 - Magenta



RAL 5002 - Blue



RAL 6018 - Green

POP COLOR SQUARE 2x2



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CHROMAWERX - SOLA AND DUO

CONSTRUCTION

Housing - Welded aluminum extrusion .125in thick, wide variety of colored powder coating

WEIGHT

SQ 22 Flush, 1D, 2D - 22.76lbs - 10.34kg

SQ 22 2R, 3D, 4D - 23.96lbs - 10.88kg

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 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.



PENDANT DIRECT/INDIRECT
CHROMAWERX - SOLA AND DUO

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?

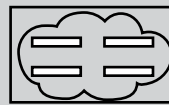
NO

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

NO

YES

1 - 4 Zones

5 or more Zones

Do you have more than 32 drivers in total?

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. ✓

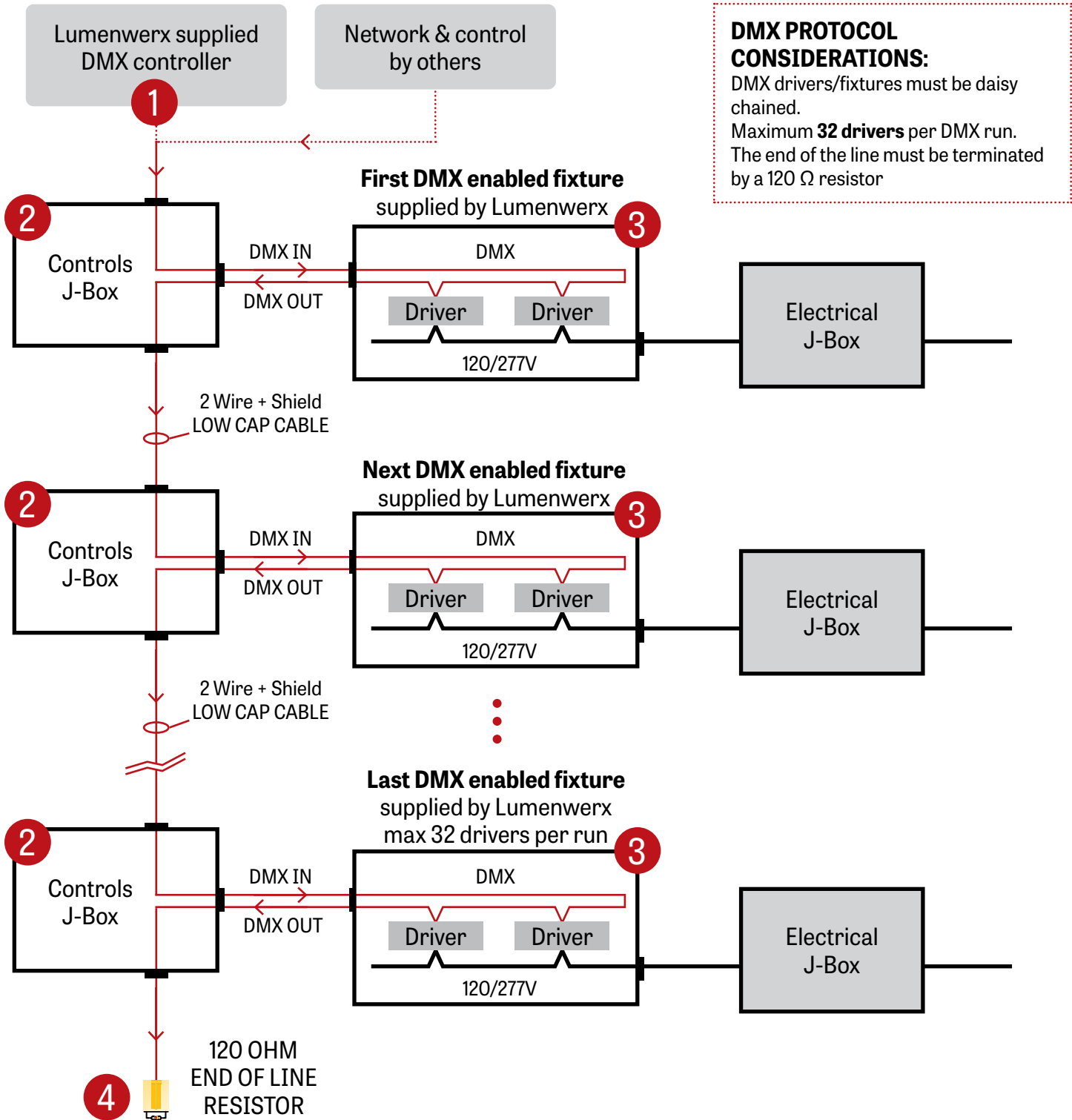
Subject to factory evaluation and approval. Please contact our controls specialist at controls@lumenwerx.com. Additional cost and equipment will be required. ✓

POP COLOR SQUARE 2x2



PENDANT DIRECT/INDIRECT
CHROMAWERX - SOLA AND DUO

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

POP COLOR SQUARE 2x2



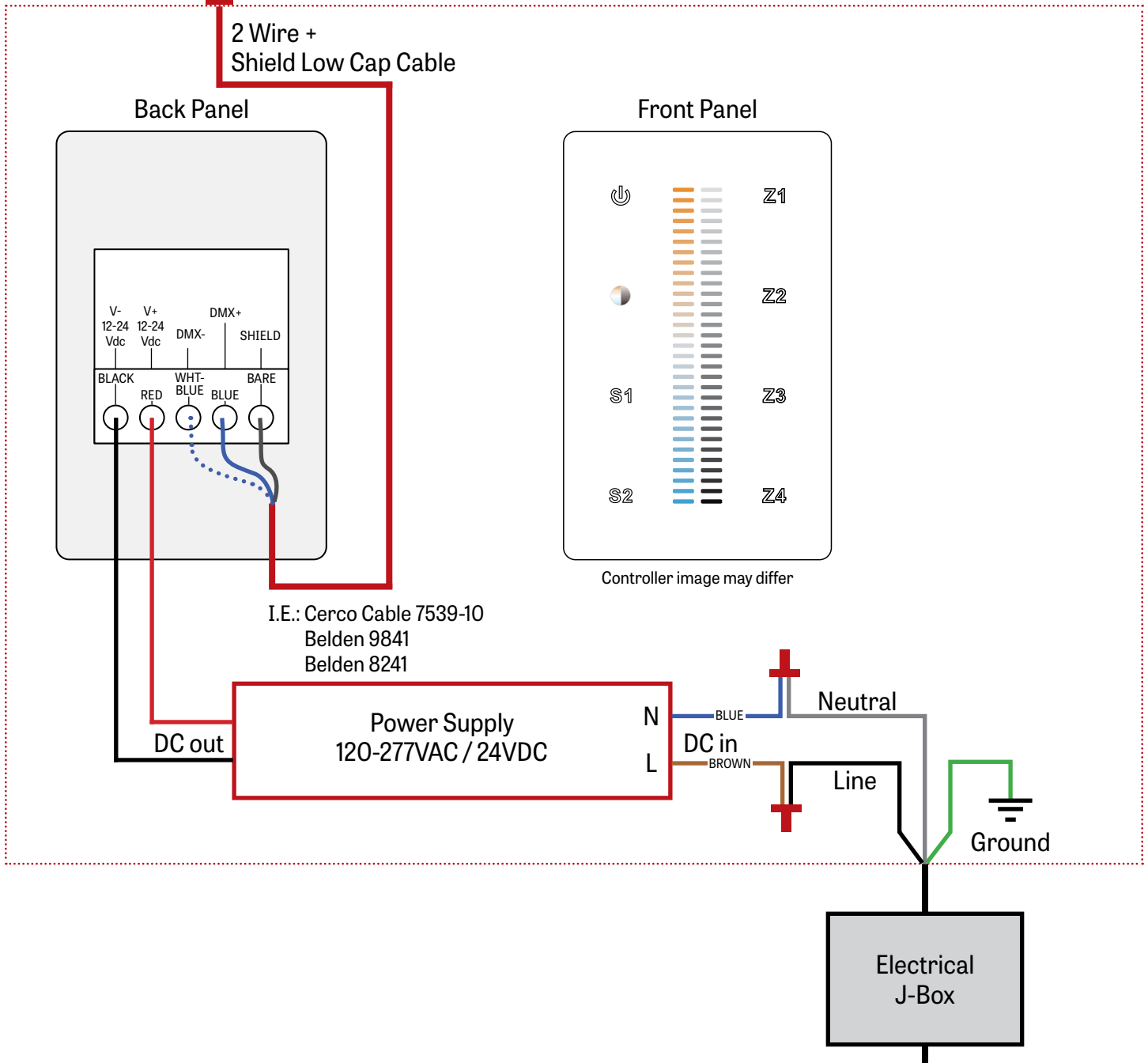
Lumenwerx

PENDANT DIRECT/INDIRECT
CHROMAWERX - SOLA AND DUO

1 LUMENWERX SUPPLIED DMX CONTROLLER

To the first fixture

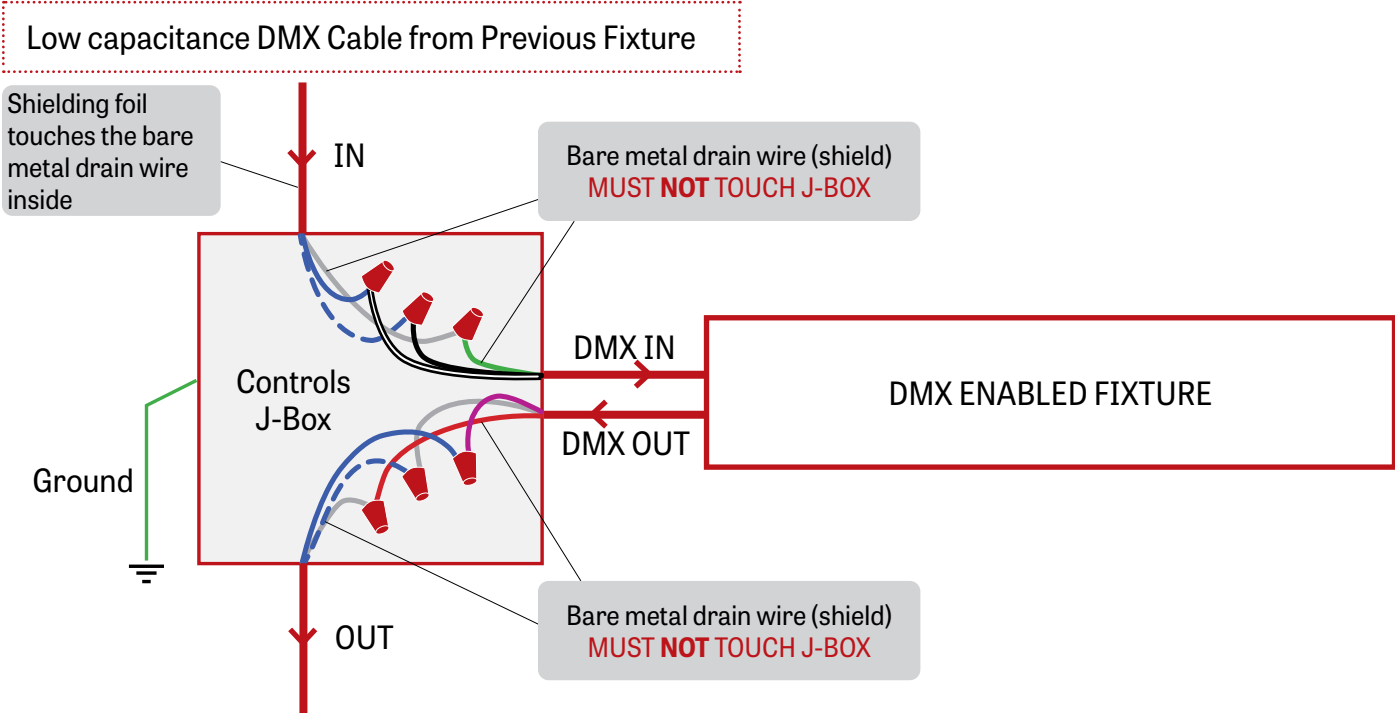
WALL BOX SUPPLIED BY OTHERS





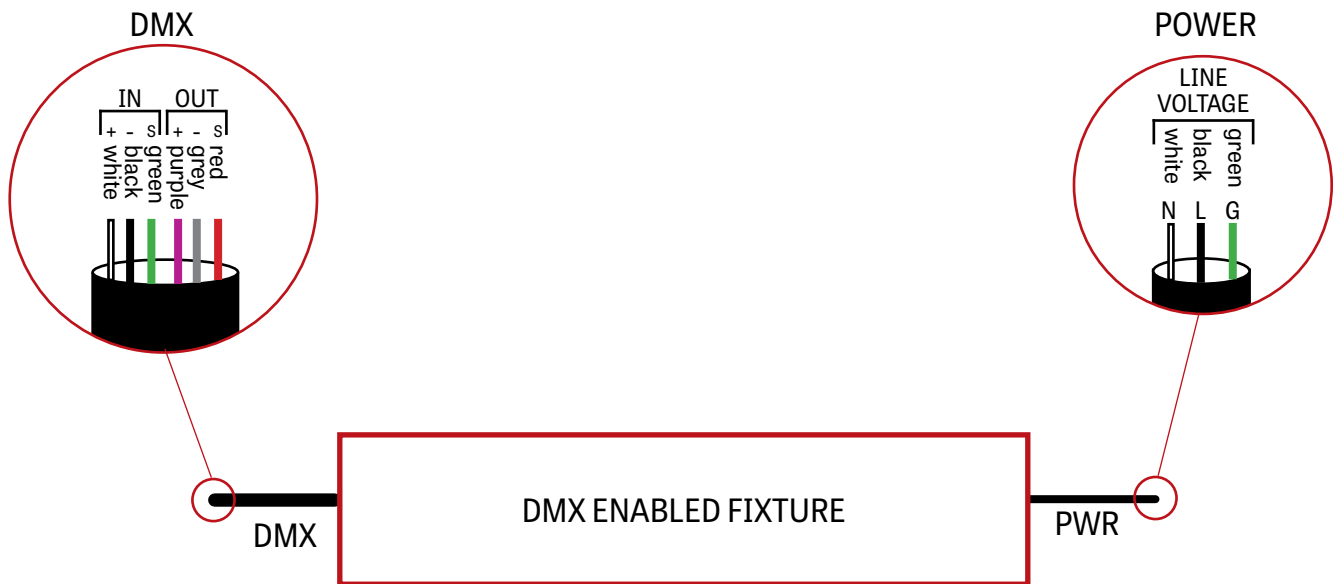
PENDANT DIRECT/INDIRECT
CHROMAWERX - SOLA AND DUO

2 J-BOX DMX DAISY CHAIN DETAIL



Low capacitance DMX cable to next fixture

3 DMX CONNECTION PENDANT & WALL



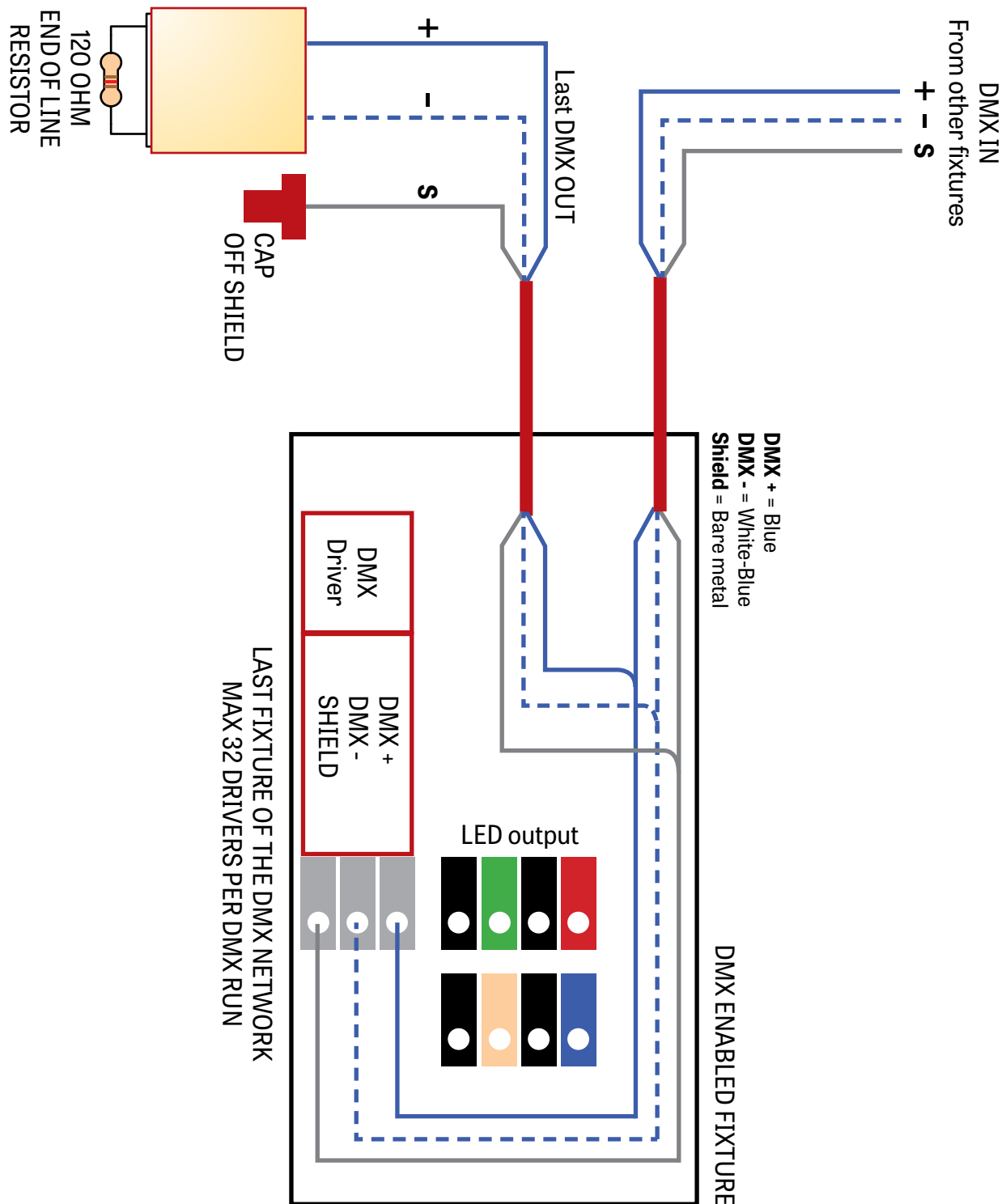
POP COLOR SQUARE 2x2



Lumenwerx

PENDANT DIRECT/INDIRECT
CHROMAWERX - SOLA AND DUO

4 DMX LAST FIXTURE DETAIL

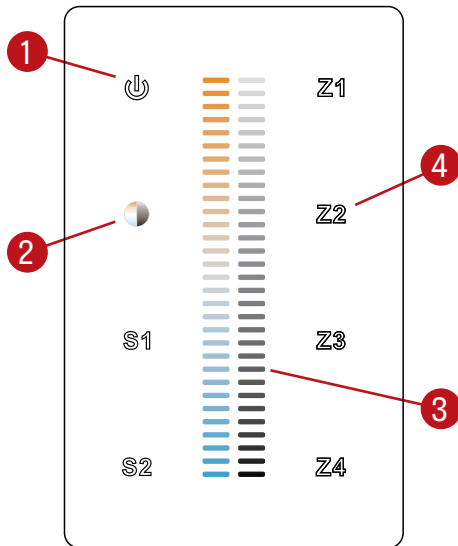




PENDANT DIRECT/INDIRECT
CHROMAWERX - SOLA AND DUO

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