

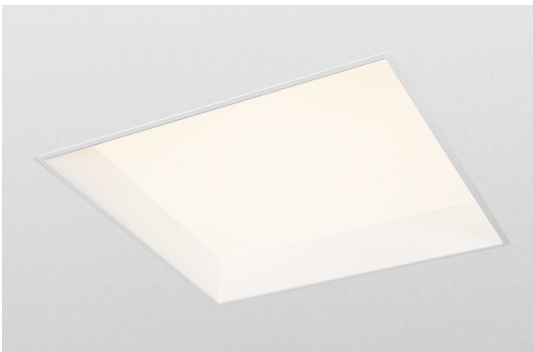
POP RECESSED REGRESSED

SQUARE AND RECTANGULAR
CHROMAWERX - SOLA, DUO



Project: _____

Type: _____



DESCRIPTION

Pop Recessed Regressed Square is a flexible, elegant, low-glare luminaire available in 10 different sizes. Its innovative, precision-crafted Uniform Lambertian Optic (ULO) allows all models to have a Uniform Glare Rating (UGR) of <19, beneficial for creating well-balanced, low glare architectural spaces. The fixture can be integrated in various grid ceiling and gypsum board setups. Pop Regressed Square comes in Chromawerx SOLA and DUO. Consult web pages for static white and Chromawerx QUADRO solutions for Pop Regressed Square.

Order Guide

LUMINAIRE ID	SIZE	OPTIC	LIGHT SOURCE ¹	CRI	LUMEN PACKAGE				VOLTAGE		
PORRGSQ		ULO									
PORRGSQ - Pop Recessed Regressed Square	6INX6IN - 6" x 6" 6INX2FT - 6" x 2' 6INX4FT - 6" x 4' 1FTX1FT - 1' x 1' 1FTX2FT - 1' x 2' 1FTX4FT - 1' x 4' 2FTX2FT - 2' x 2' 2FTX4FT - 2' x 4' 4FTX4FT - 4' x 4' 20INX60IN - 20" x 60"	ULO - Uniform 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 Chromawerx QUADRO also available. Consult other spec sheets.	80CRI - 80 CRI 90CRI - 90 CRI	6" x 6" ² 6" x 2' 6" x 4' 1' x 1' 1' x 2' 1' x 4' 2' x 2' 2' x 4' 4' x 4' 20" x 60"	Low 160LM 630LM 1250LM 630LM 1250LM 2500LM 2500LM 5000LM 10000LM 5210LM	Medium 220LM 880LM 1750LM 880LM 1750LM 3500LM 3500LM 7000LM 14000LM 7300LM	High 290LM 1130LM 2250LM 1130LM 2250LM 4500LM 4500LM 9000LM 18000LM 9380LM	120V - 120V 277V - 277V UNV - 120V-277V		
DRIVER ³		ELECTRICAL		MOUNTING		FINISH		OPTIONS ¹⁰			
Integral		Remote ⁶		1C - 1 circuit		On-grid ⁷		Off-grid ⁸ - centered in tile			
SOLA SD1 - Single 0-10V input DUO DMX ^{4,5} - DMX DDA ⁵ - DALI DT6 DDA8 ⁵ - DALI DT8 DD1 - Dual 0-10V input for CCT/intensity LD2 ⁵ - Lutron DALI-2 digital		SOLA RSD1 - Single 0-10V input DUO RDMX ^{4,5} - DMX RDDA ⁵ - DALI DT6 RDDA8 ⁵ - DALI DT8 RDD1 - Dual 0-10V input for CCT/intensity RLD2 ⁵ - Lutron DALI-2 digital		1C - 1 circuit		GRD - Grid ceiling		GRDC - Grid ceiling, centered in tile		DF - Drywall trim kit DMF - Drywall mud flange	
³ PoE (Power-over-Ethernet) compatible. Consult factory for details. ⁴ For more information, see pages 8 to 13. ⁵ On-site commissioning is required. ⁶ A remote driver box is provided.						⁷ Not available with 6" x 6", 6" x 2', 6" x 4', and 1' x 1'. ⁸ Not available with 2' x 2', 2' x 4', 4' x 4', and 20" x 60". ⁹ A drawing is required to show your side-by-side mounting configuration.		Side-by-side ⁹ SBS - Side-by-side mounting		W - Matte white CF# - Custom finish, specify RAL# ¹⁰ Separate codes with a "+" if more than one is specified.	

Accessories

Optional, order separately

DMX WALL CONTROLLER ¹¹
--

DMX	DD1
WCW##FT ¹² - DMX wall controller white WCB##FT ¹² - DMX wall controller black	TWCW##FT ^{13,14} - Dual 0-10V wall controller white TWCB##FT ^{13,14} - Dual 0-10V wall controller black

¹¹Specify wire length (##) in feet.

¹²Available with DMX only. For more information, see pages 8 to 13, or consult factory.

¹³Available with DD1 only. For more information, see page 14, or consult factory.

¹⁴Only available with 120V.



POP RECESSED REGRESSED

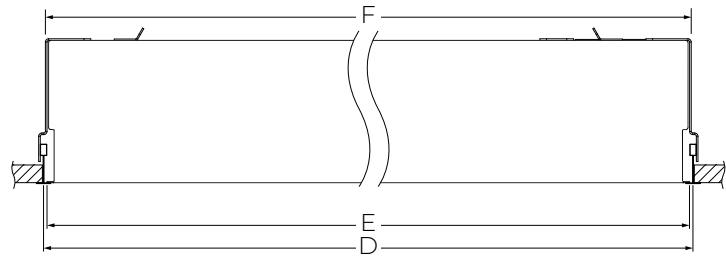
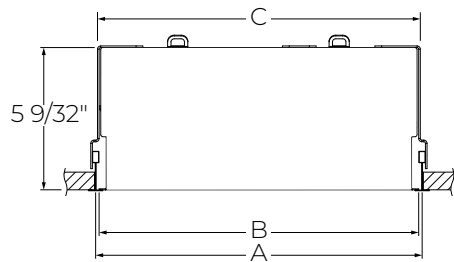


SQUARE AND RECTANGULAR
CHROMAWERX - SOLA, DUO

Dimensions (shown with 1' x 4')

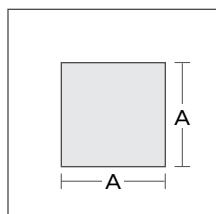
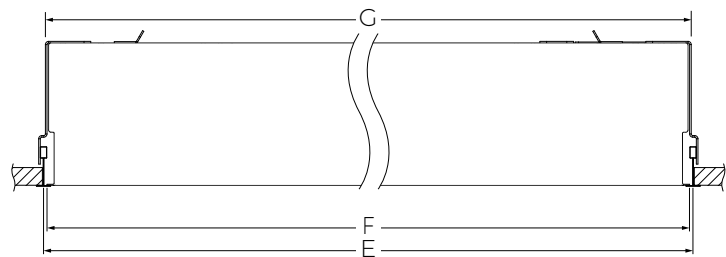
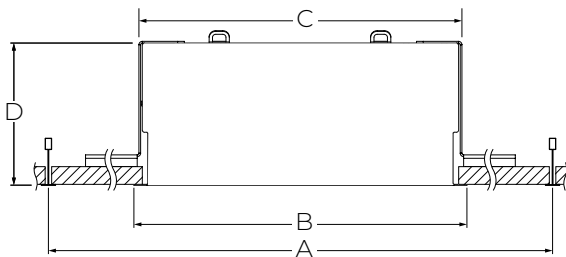
GRD - Grid ceiling, on-grid mounting

SIZE	BETWEEN T-BAR A	WITH FLANGES B	FIXTURE WIDTH C	BETWEEN T-BAR D	WITH FLANGES E	FIXTURE LENGTH F
1' x 2'	12"	11 7/8"	12"	24"	23 7/8"	24"
1' x 4'	12"	11 7/8"	12"	48"	47 7/8"	48"
2' x 2'	24"	23 7/8"	24"	24"	23 7/8"	24"
2' x 4'	24"	23 7/8"	24"	48"	47 7/8"	48"
4' x 4'	48"	47 7/8"	48"	48"	47 7/8"	48"
20" x 60"	20"	19 7/8"	20"	60"	59 7/8"	60"



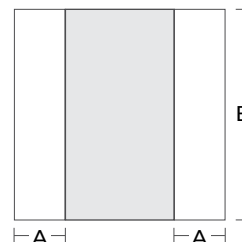
GRDC - Grid ceiling, off-grid mounting - centered in tile

SIZE	BETWEEN T-BAR A	WITH FLANGES B	FIXTURE WIDTH C	FIXTURE HEIGHT D	BETWEEN T-BAR E	WITH FLANGES F	FIXTURE LENGTH G
6" x 6"	N/A	6 3/8"	6"	6 3/8"	N/A	6 3/8"	5 3/4"
6" x 2'	24"	6 3/8"	6"	6 3/8"	24"	23 7/8"	24"
6" x 4'	24"	6 3/8"	6"	6 3/8"	48"	47 7/8"	48"
1' x 1'	N/A	12 3/8"	12"	6 3/8"	N/A	12 3/8"	11 3/4"
1' x 2'	24"	12 3/8"	12"	5 9/32"	24"	23 7/8"	24"
1' x 4'	24"	12 3/8"	12"	5 9/32"	48"	47 7/8"	48"



Cut-out dimensions

SIZE	A
6" x 6"	5 3/4"
1' x 1'	11 3/4"



Tile cut dimensions

SIZE	A	B
6" x 2'	9"	23 3/4"
6" x 4'	9"	47 3/4"
1' x 2'	6"	23 3/4"
1' x 4'	6"	47 3/4"

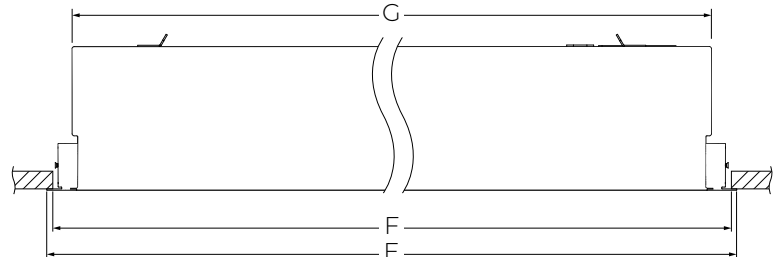
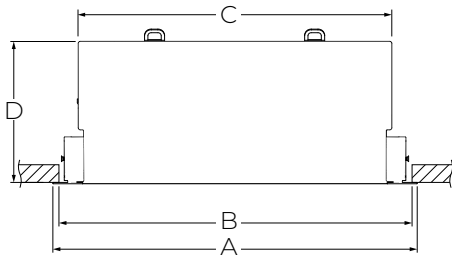
POP RECESSED REGRESSED



SQUARE AND RECTANGULAR
CHROMAWERX - SOLA, DUO

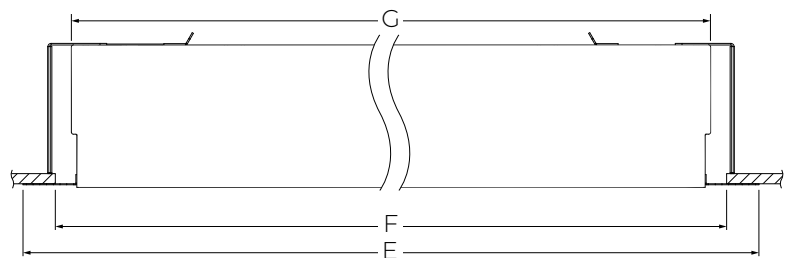
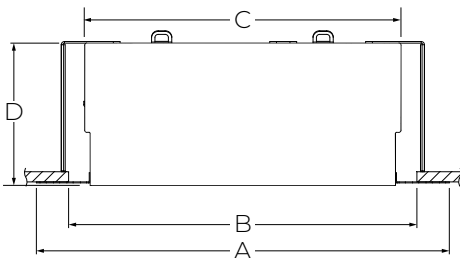
DF - Drywall trim kit

SIZE	TRIM KIT WIDTH	CEILING CUT-OUT		FIXTURE WIDTH		FIXTURE HEIGHT		TRIM KIT LENGTH	CEILING CUT-OUT		FIXTURE LENGTH
	A	B	C	D	E	F	G				
6" x 6"	7 21/32"	7 1/4"	5 3/4"	6 3/8"	7 21/32"	7 1/4"	5 3/4"				
6" x 2'	7 21/32"	7 1/4"	5 3/4"	6 3/8"	25 21/32"	25 1/4"	23 3/4"				
6" x 4'	7 21/32"	7 1/4"	5 3/4"	6 3/8"	49 21/32"	49 1/4"	47 3/4"				
1' x 1'	13 21/32"	13 1/4"	11 3/4"	6 3/8"	13 21/32"	13 1/4"	11 3/4"				
1' x 2'	13 21/32"	13 1/4"	11 3/4"	5 9/32"	25 21/32"	25 1/4"	23 3/4"				
1' x 4'	13 21/32"	13 1/4"	11 3/4"	5 9/32"	49 21/32"	49 1/4"	47 3/4"				
2' x 2'	25 21/32"	25 1/4"	23 3/4"	5 9/32"	25 21/32"	25 1/4"	23 3/4"				
2' x 4'	25 21/32"	25 1/4"	23 3/4"	5 9/32"	49 21/32"	49 1/4"	47 3/4"				
4' x 4'	49 21/32"	49 1/4"	47 3/4"	5 9/32"	49 21/32"	49 1/4"	47 3/4"				
20" x 60"	21 21/32"	21 1/4"	19 3/4"	5 9/32"	61 21/32"	61 1/4"	59 3/4"				



DMF - Drywall mud flange

SIZE	BETWEEN FLANGES	CEILING CUT-OUT		FIXTURE WIDTH		FIXTURE HEIGHT		BETWEEN FLANGES	CEILING CUT-OUT		FIXTURE LENGTH
	A	B	C	D	E	F	G				
6" x 6"	9 11/32"	7 1/8"	5 3/4"	6 3/8"	9 11/32"	7 1/8"	5 3/4"				
6" x 2'	9 11/32"	6 3/4"	5 3/4"	6 3/8"	27 11/32"	24 3/4"	23 3/4"				
6" x 4'	9 11/32"	6 3/4"	5 3/4"	6 3/8"	51 11/32"	48 3/4"	47 3/4"				
1' x 1'	15 11/32"	12 3/4"	11 3/4"	6 3/8"	15 11/32"	12 3/4"	11 3/4"				
1' x 2'	15 11/32"	12 3/4"	11 3/4"	5 9/32"	27 11/32"	24 3/4"	23 3/4"				
1' x 4'	15 11/32"	12 3/4"	11 3/4"	5 9/32"	51 11/32"	48 3/4"	47 3/4"				
2' x 2'	27 11/32"	24 3/4"	23 3/4"	5 9/32"	27 11/32"	24 3/4"	23 3/4"				
2' x 4'	27 11/32"	24 3/4"	23 3/4"	5 9/32"	51 11/32"	48 3/4"	47 3/4"				
4' x 4'	51 11/32"	48 3/4"	47 3/4"	5 9/32"	51 11/32"	48 3/4"	47 3/4"				
20" x 60"	23 11/32"	20 3/4"	19 3/4"	5 9/32"	63 11/32"	60 3/4"	59 3/4"				

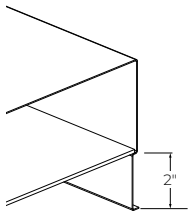


POP RECESSED REGRESSED



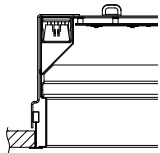
SQUARE AND RECTANGULAR
CHROMAWERX - SOLA, DUO

Lens position



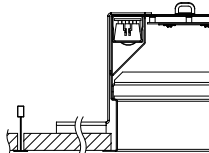
Mounting

On-grid



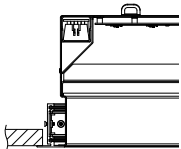
GRD - Grid ceiling

Off-grid - centered in tile

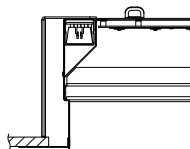


GRDC - Grid ceiling, centered in tile

Drywall

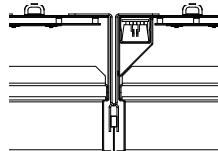


DF - Drywall trim kit



DMF - Drywall mud flange

Side-by-side



SBS - Side-by-side mounting

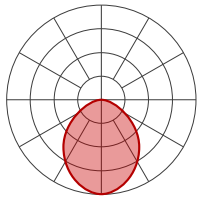
POP RECESSED REGRESSED



SQUARE AND RECTANGULAR
CHROMAWERX - SOLA, DUO

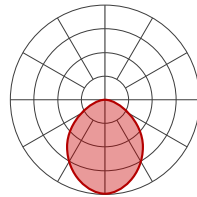
Photometrics

Values calculated based at 3500K and 80 CRI.



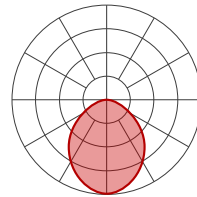
6" x 6"

LM	W	LM/W
160	2.9	55
220	4.2	53
290	5.7	51



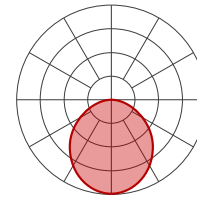
6" x 2'

LM	W	LM/W
630	7.5	84
880	10.9	81
1130	14.7	77



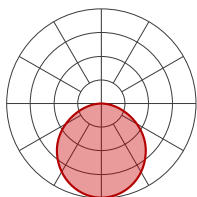
6" x 4'

LM	W	LM/W
1250	13.7	91
1750	20.1	87
2250	27.1	83



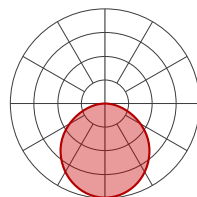
1' x 1'

LM	W	LM/W
630	7.4	85
880	10.8	81
1130	14.5	78



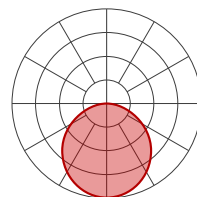
1' x 2'

LM	W	LM/W
1250	13.1	95
1750	19.2	91
2250	25.8	87



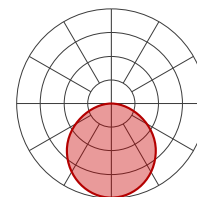
1' x 4'

LM	W	LM/W
2500	26.2	95
3500	38.4	91
4500	51.7	87



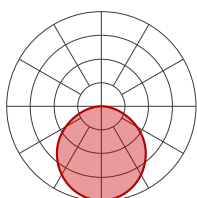
2' x 2'

LM	W	LM/W
2500	26.2	95
3500	38.4	91
4500	51.7	87



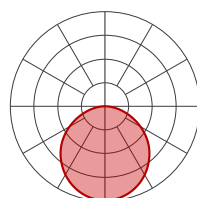
2' x 4'

LM	W	LM/W
5000	45.7	110
7000	66.8	105
9000	89.9	100



4' x 4'

LM	W	LM/W
10000	91.3	110
14000	133.6	105
18000	179.9	100



20" x 60"

LM	W	LM/W
5210	47.6	109
7300	69.7	105
9380	93.8	100

POP RECESSED REGRESSED

SQUARE AND RECTANGULAR
CHROMAWERX - SOLA, DUO



Technical Specifications

OPTIC

Uniform Lambertian Optic (ULO): This optic provides a smooth homogenous glow with even illumination and consistent distribution. With Pop Regressed, ULO offers excellent visual comfort in all aperture sizes, from smallest to largest.

LIGHT SOURCE

Custom 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. LEDs are operated at reduced drive current to optimize efficacy and lumen maintenance. All LEDs have been tested in accordance with IESNA LM-80-08 and the results have shown L90 lumen maintenance greater than 60,000 hours reported, 150,000 hours projected. 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.

WELL BUILDING STANDARD



WELL for Light: The WELL building standard focuses on light quality in several features. There are three categories that are fully attributed to the construction and features of a luminaire. In WELL V1, it's Feature 54 Circadian Lighting, Feature 55 Glare Control, and Feature 58 Color Quality. In WELL V2, it's Feature L03 Circadian Lighting, Feature L04 Glare Control, and Feature L07 Electric Light Quality.

This fixture meets Features:

- Feature 54 or L03 when DUO is selected
- Feature 55 or L04 meets WELL glare category (b-c-d)
- Feature 58 or L07 when 90CRI is selected

All LED drivers used at Lumenwerx are deemed to have a low risk level of flicker, of 5% or less below 90Hz operational as defined by IEEE standard 1789-2015 LED.



WELL for Mind: This luminaire meets WELL for mind as it is a human centric luminaire offering quality light, excellent color, and smooth optics. If any of these features are incorporated in a luminaire, it can improve the ability to focus, concentrate, and persist longer on a given task. This fixture harmoniously operates in a space to assist the mind.

For more information, please contact well@lumenwerx.com.

ELECTRICAL

SOLA

SDI

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%.

POP RECESSED REGRESSED

SQUARE AND RECTANGULAR
CHROMAWERX - SOLA, DUO



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

Recessed fixtures can be mounted into grid ceilings, as well as in drywall ceilings with trim or mud flange options. This fixture can also be mounted in a side-by-side group formation. To determine brackets, and mounting details, a drawing illustrating your side-by-side configuration, with ceiling details, is required.

FINISH

Interior: 95% reflective, matte white powder coating

Exterior: Matte white powder coating. Custom finishes are also available.

CONSTRUCTION

Housing: Cold rolled steel

Lens: Acrylic

WEIGHT

6" x 6": 3.6 lbs - 1.7 kg

6" x 2": 9.2 lbs - 4.2 kg

6" x 4": 16 lbs - 7.3 kg

1' x 1': 8.1 lbs - 3.7 kg

1' x 2': 12.6 lbs - 5.7 kg

1' x 4': 22.7 lbs - 10.3 kg

2' x 2': 22.9 lbs - 10.4 kg

2' x 4': 39.9 lbs - 18.1 kg

4' x 4': 72.2 lbs - 32.7 kg

20" x 60": 41.5 lbs - 18.8 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) when specified with CP option.

IC rated: Suitable for direct contact with insulation

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.

POP RECESSED REGRESSED

SQUARE AND RECTANGULAR
CHROMAWERX - SOLA, 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?

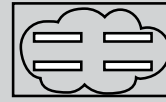
NO

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.

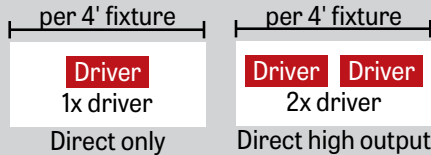


1 Zone



2 Zones

How to calculate the required number of drivers:



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. ✓

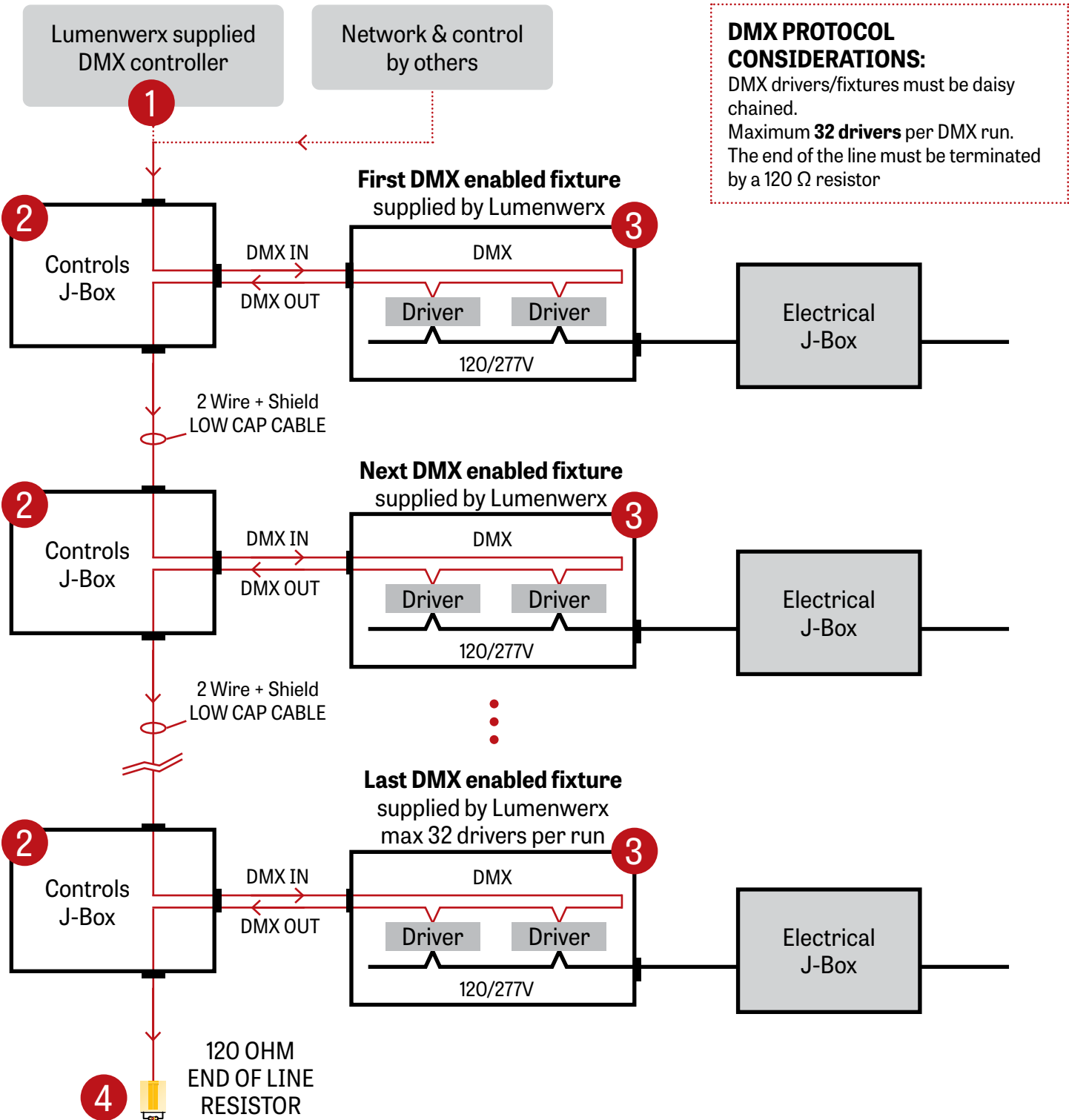
Subject to factory evaluation and approval. Please contact our controls specialist at controls@lumenwerx.com. Additional cost and equipment will be required. ✓

POP RECESSED REGRESSED

SQUARE AND RECTANGULAR
CHROMAWERX - SOLA, 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

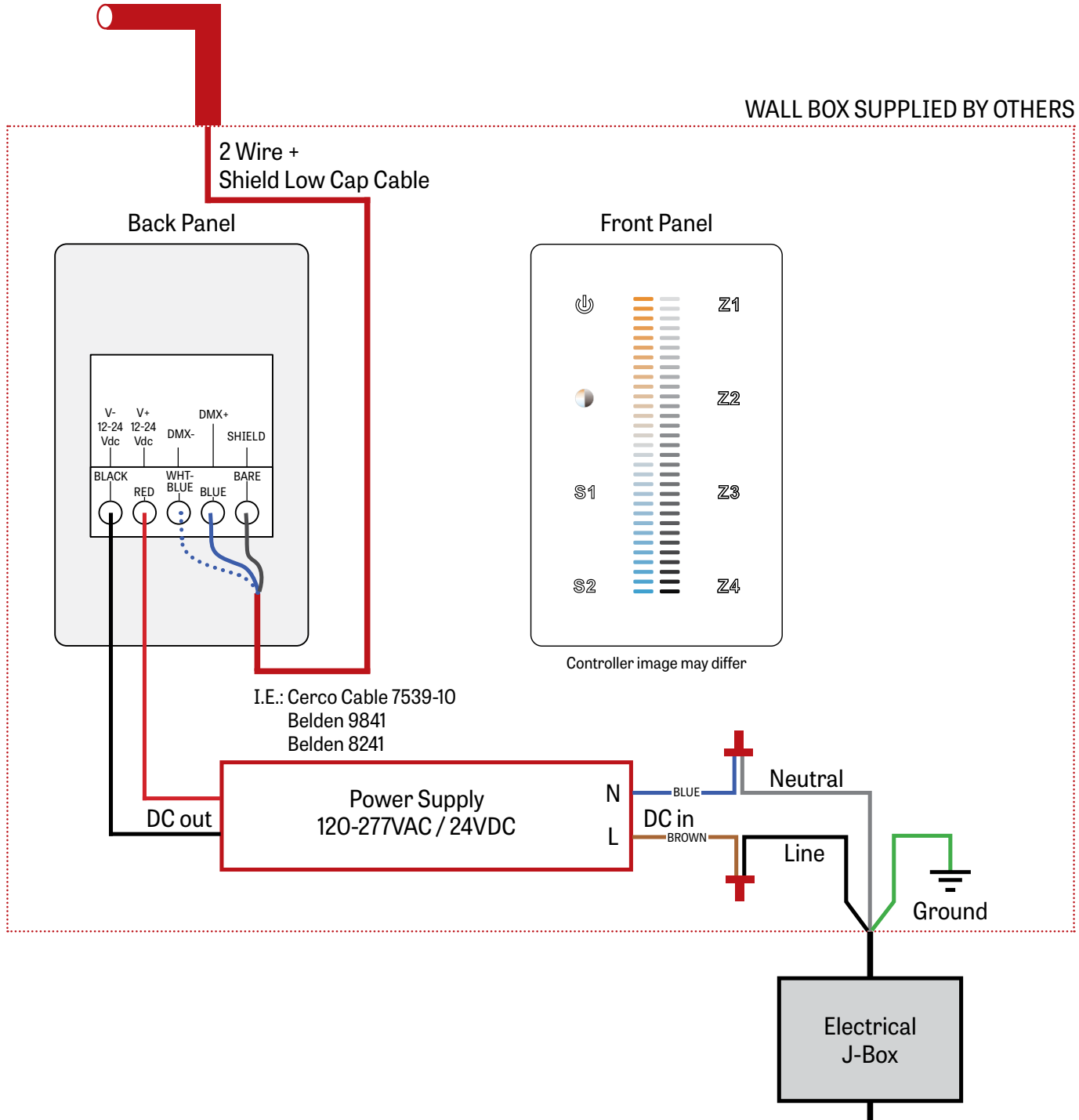
POP RECESSED REGRESSED

SQUARE AND RECTANGULAR
CHROMAWERX - SOLA, DUO



1 LUMENWERX SUPPLIED DMX CONTROLLER

To the first fixture



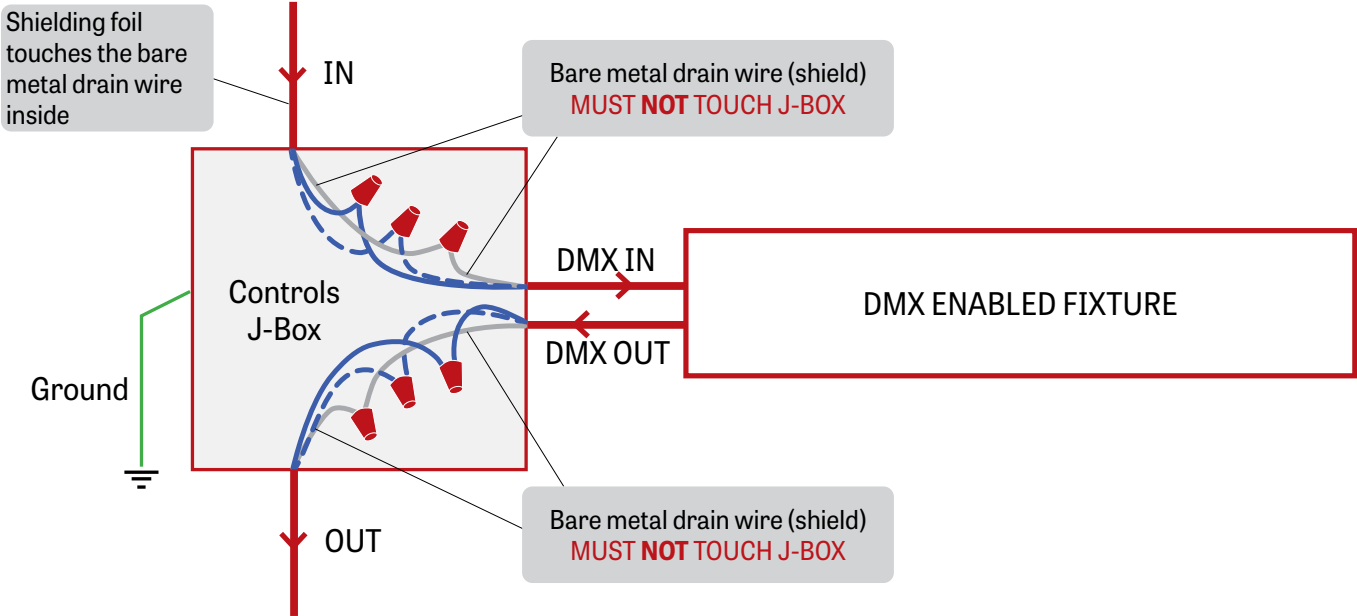
POP RECESSED REGRESSED



SQUARE AND RECTANGULAR
CHROMAWERX - SOLA, DUO

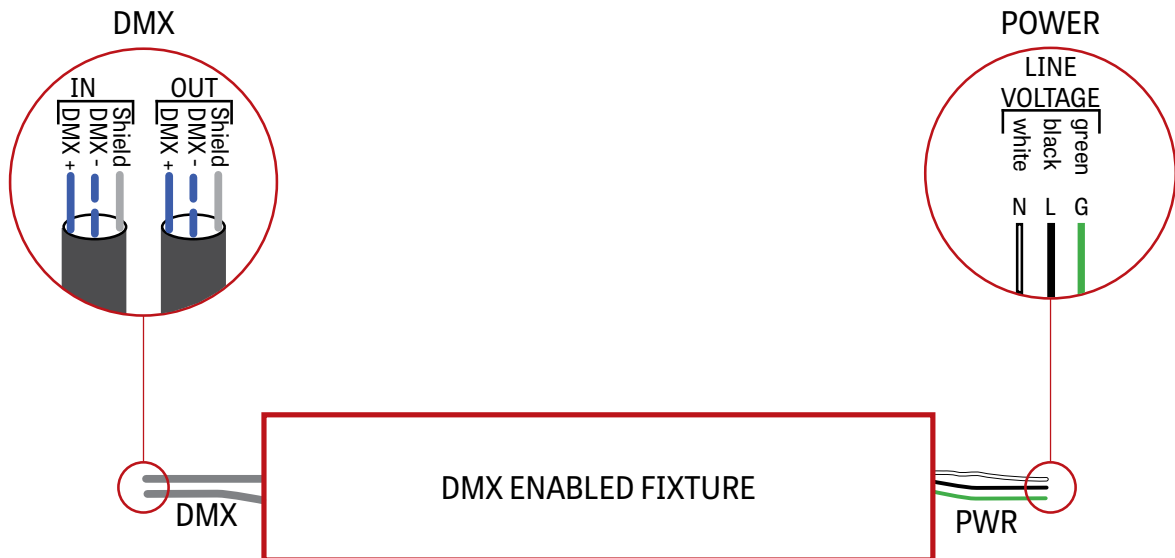
2 J-BOX DMX DAISY CHAIN DETAIL

Low capacitance DMX Cable from Previous Fixture



Low capacitance DMX cable to next fixture

3 DMX CONNECTION RECESSED & SURFACE

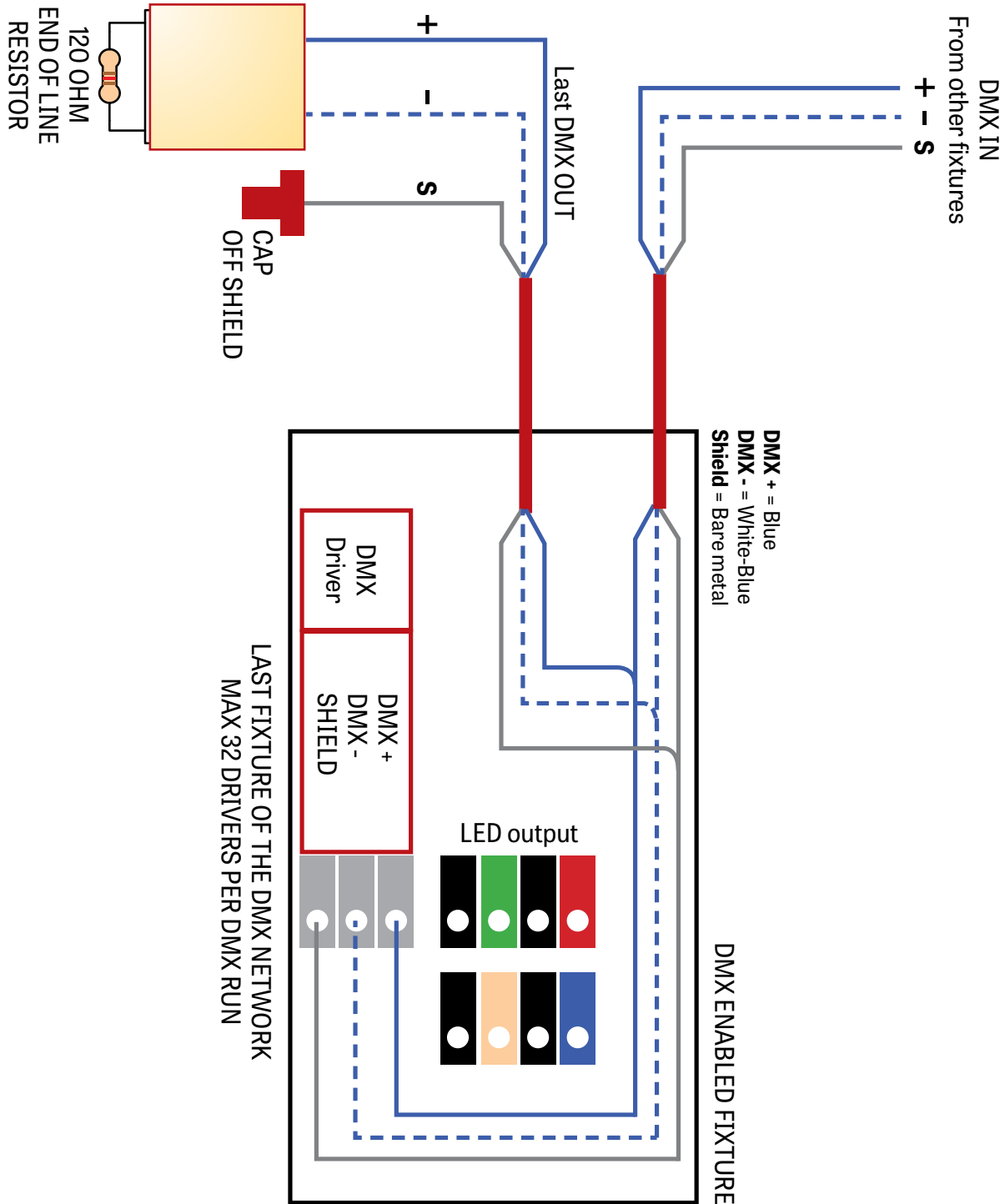


POP RECESSED REGRESSED



SQUARE AND RECTANGULAR
CHROMAWERX - SOLA, DUO

4 DMX LAST FIXTURE DETAIL



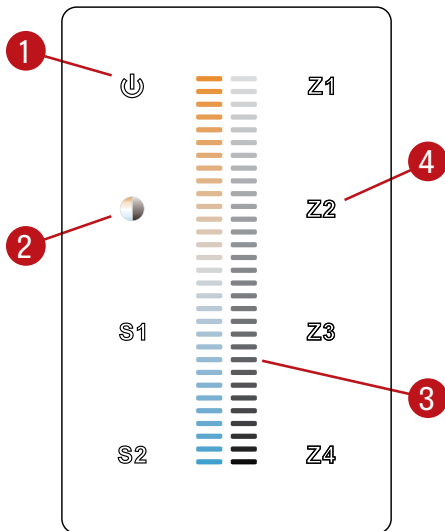
POP RECESSED REGRESSED

SQUARE AND RECTANGULAR
CHROMAWERX - SOLA, 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

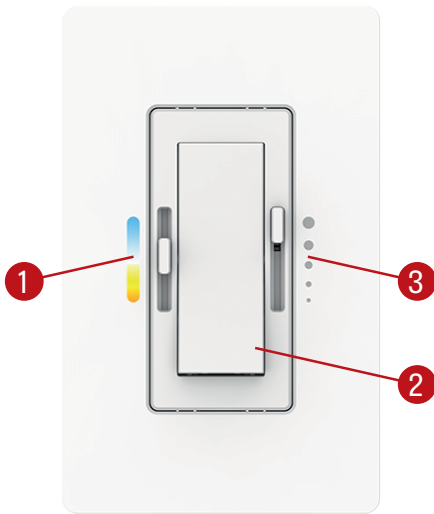
POP RECESSED REGRESSED



SQUARE AND RECTANGULAR
CHROMAWERX - SOLA, DUO

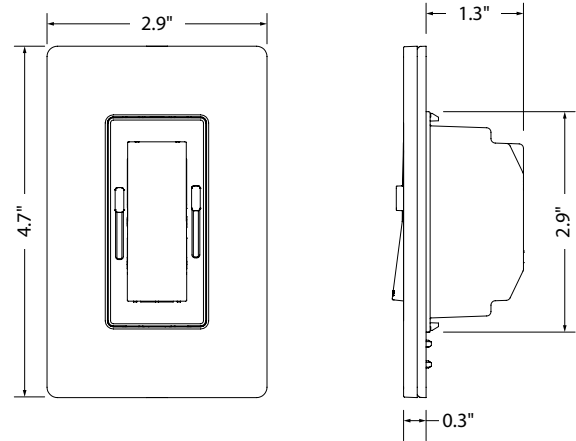
DUAL 0-10V WALL CONTROLLER

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

