

POP RECESSED

REGRESSED SQUARE AND RECTANGULAR
CHROMAWERX - SOLA AND DUO



LUMENWERX



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 Recessed Square comes in Chromawerx Sola and Duo. Consult web pages for Static White, BIOS LED, and Chromawerx Quadro solutions for Pop Recessed Square.

Order Guide

LUMINAIRE ID	SIZE	OPTIC	LIGHT SOURCE ¹	CRI	LUMEN PACKAGE			VOLTAGE	
PORRGSQ		ULO							
PORRGSQ - Pop Recessed Regressed Square	0505 - 6" X 6" 052 - 6" X 2' 054 - 6" X 4' 11 - 1' X 1' 12 - 1' X 2' 14 - 1' X 4' 22 - 2' X 2' 24 - 2' X 4' 44 - 4' X 4' 2060 - 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, BIOS, and Chromawerx Quadro also available. Consult other spec sheets.	80 - 80 CRI 90 - 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 L160 lm L630 lm L1250 lm L630 lm L1250 lm L2500 lm L2500 lm L5000 lm L10000 lm L5210 lm	Medium M220 lm M880 lm M1750 lm M880 lm M1750 lm M3500 lm M3500 lm M7000 lm M14000 lm M7300 lm	High H290 lm H1130 lm H2250 lm H1130 lm H2250 lm H4500 lm H4500 lm H9000 lm H18000 lm H9380 lm	120 -120V 277 - 277V UNV - 120V-277V
² Certain conditions apply. Remote driver boxes, or multiple fixtures per driver may be required. Consult factory.									
DRIVER ³	ELECTRICAL		MOUNTING		FINISH		OPTIONS		
	1								
SOLA SDI - Single 0-10V input DUO DMX ⁴ - DMX, to specify see pages 9 to 14 DA ⁴ - DALI DDI - Dual 0-10V input for CCT/intensity PSQO ⁴ - Lutron T-Series 1% Tunable White ³ PoE (Power-over-Ethernet) compatible. Consult factory for details. ⁴ On-site commissioning is required.	1 - 1 circuit		On-grid ⁵ GRD - Grid ceiling	Off-grid ⁶ - centered in tile GRDC - Grid ceiling, centered in tile	Drywall DF - Drywall trim kit DMF - Drywall mud flange	Side-by-side ⁷ SBS - Side-by-side mounting	W - Matte white CF# - Custom finish, specify RAL#	FU120 - Fuse 120V FU277 - Fuse 277V FWC - Flexible whip cable (6' std) CP - Chicago Plenum NA - None	
⁵ Not available with 6" X 6", 6" X 2', 6" X 4', and 1' X 1'. ⁶ Not available with 2' X 2', 2' X 4', 4' X 4', and 20" X 60". ⁷ A drawing is required to show your side-by-side mounting configuration.									

Accessories

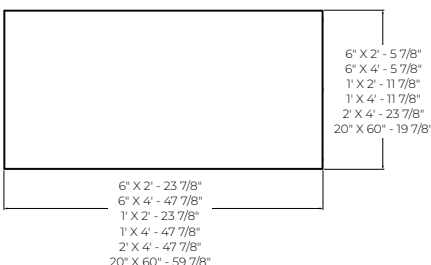
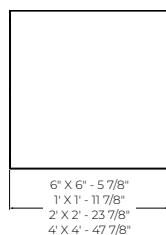
Optional, order separately

DMX WALL CONTROLLER ⁴

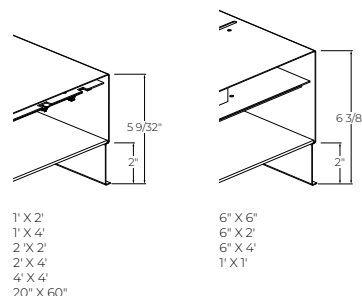
WCW - Wall controller white
WBW - Wall controller black

⁴Available with DMX only. For more information, see pages 9 to 14, or consult factory.

Top View



3D Cross section



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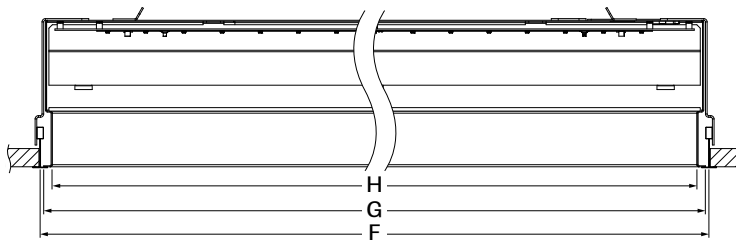
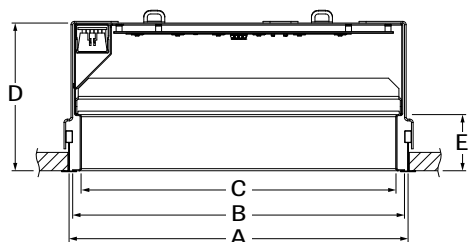


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Dimensions (shown with 1' X 4')

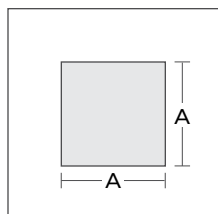
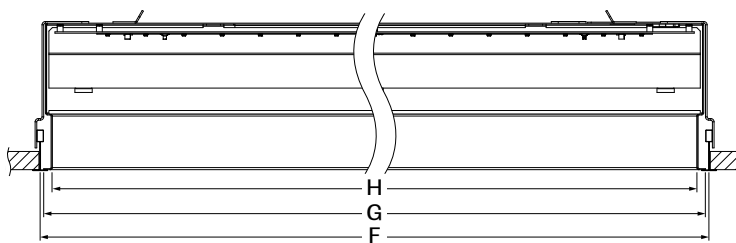
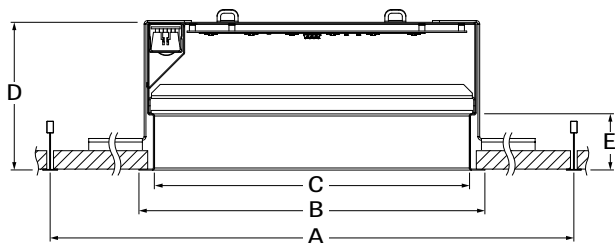
GRD - Grid ceiling, on-grid mounting

SIZE	A	B	C	D	E	F	G	H
1' X 2'	12"	11 7/8"	11 1/4"	5 9/32"	2"	24"	23 7/8"	23 1/4"
1' X 4'	12"	11 7/8"	11 1/4"	5 9/32"	2"	48"	47 7/8"	47 1/4"
2' X 2'	24"	23 7/8"	23 1/4"	5 9/32"	2"	24"	23 7/8"	23 1/4"
2' X 4'	24"	23 7/8"	23 1/4"	5 9/32"	2"	48"	47 7/8"	47 1/4"
4' X 4'	48"	47 7/8"	47 1/4"	5 9/32"	2"	48"	47 7/8"	47 1/4"
20" X 60"	20"	19 7/8"	19 1/4"	5 9/32"	2"	60"	59 7/8"	59 1/4"



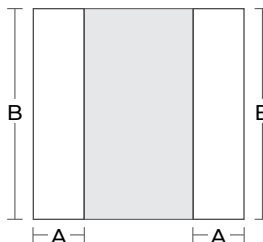
GRDC - Grid ceiling, off-grid mounting - centered in tile

SIZE	A	B	C	D	E	F	G	H
6" X 6"	N/A	6 3/8"	5 1/4"	6 3/8"	2"	N/A	6 3/8"	5 1/4"
6" X 2'	24"	6 3/8"	5 1/4"	6 3/8"	2"	24"	23 7/8"	23 1/4"
6" X 4'	24"	6 3/8"	5 1/4"	6 3/8"	2"	48"	47 7/8"	47 1/4"
1' X 1'	N/A	12 3/8"	11 1/4"	6 3/8"	2"	N/A	12 3/8"	11 1/4"
1' X 2'	24"	12 3/8"	11 1/4"	5 9/32"	2"	24"	23 7/8"	23 1/4"
1' X 4'	24"	12 3/8"	11 1/4"	5 9/32"	2"	48"	47 7/8"	47 1/4"



Cut-out dimensions

SIZE	A
6"X6"	5-3/4"
1'X1'	11-3/4"



Tile cut dimensions

SIZE	A	B
6"X2'	9"	23-3/4"
6"X4'	9"	47-3/4"
1'X2'	6"	23-3/4"
1'X4'	6"	47-3/4"

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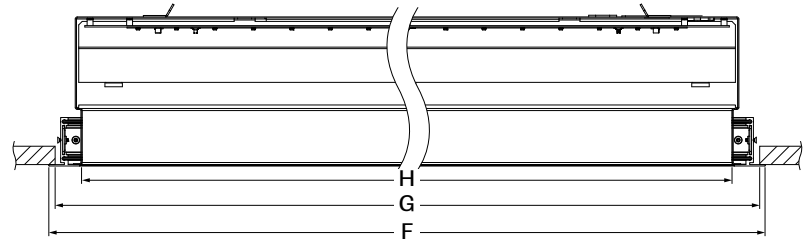
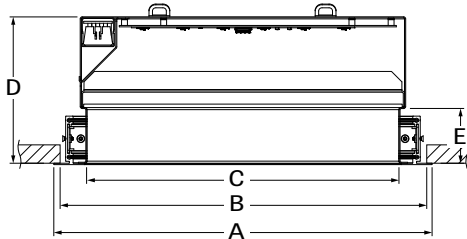
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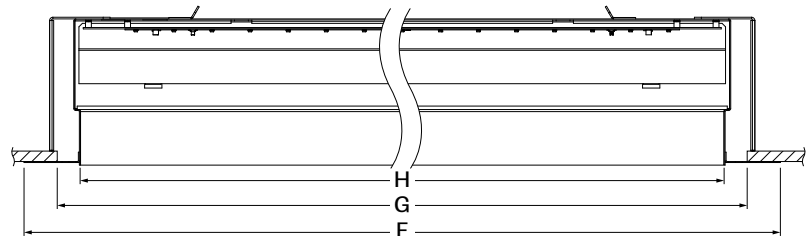
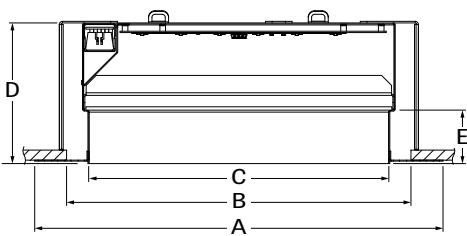
DF - Drywall trim kit

SIZE	A	B	C	D	E	F	G	H
6" X 6"	7 21/32"	7 1/4"	5 1/4"	6 3/8"	2"	7 21/32"	7 1/4"	5 1/4"
6" X 2'	7 21/32"	7 1/4"	5 1/4"	6 3/8"	2"	25 21/32"	25 1/4"	23 1/4"
6" X 4'	7 21/32"	7 1/4"	5 1/4"	6 3/8"	2"	49 21/32"	49 1/4"	47 1/4"
1' X 1'	13 21/32"	13 1/4"	11 1/4"	6 3/8"	2"	13 21/32"	13 1/4"	11 1/4"
1' X 2'	13 21/32"	13 1/4"	11 1/4"	5 9/32"	2"	25 21/32"	25 1/4"	23 1/4"
1' X 4'	13 21/32"	13 1/4"	11 1/4"	5 9/32"	2"	49 21/32"	49 1/4"	47 1/4"
2' X 2'	25 21/32"	25 1/4"	23 1/4"	5 9/32"	2"	25 21/32"	25 1/4"	23 1/4"
2' X 4'	25 21/32"	25 1/4"	23 1/4"	5 9/32"	2"	49 21/32"	49 1/4"	47 1/4"
4' X 4'	49 21/32"	49 1/4"	47 1/4"	5 9/32"	2"	49 21/32"	49 1/4"	47 1/4"
20" X 60"	21 21/32"	21 1/4"	19 1/4"	5 9/32"	2"	61 21/32"	61 1/4"	59 1/4"



DMF - Drywall mud flange

SIZE	A	B	C	D	E	F	G	H
6" X 6"	9 11/32"	7 1/8"	5 1/4"	6 3/8"	2"	9 11/32"	7 1/8"	5 1/4"
6" X 2'	9 11/32"	6 3/4"	5 1/4"	6 3/8"	2"	27 11/32"	24 3/4"	23 1/4"
6" X 4'	9 11/32"	6 3/4"	5 1/4"	6 3/8"	2"	51 11/32"	48 3/4"	47 1/4"
1' X 1'	15 11/32"	12 3/4"	11 1/4"	6 3/8"	2"	15 11/32"	12 3/4"	11 1/4"
1' X 2'	15 11/32"	12 3/4"	11 1/4"	5 9/32"	2"	27 11/32"	24 3/4"	23 1/4"
1' X 4'	15 11/32"	12 3/4"	11 1/4"	5 9/32"	2"	51 11/32"	48 3/4"	47 1/4"
2' X 2'	27 11/32"	24 3/4"	23 1/4"	5 9/32"	2"	27 11/32"	24 3/4"	23 1/4"
2' X 4'	27 11/32"	24 3/4"	23 1/4"	5 9/32"	2"	51 11/32"	48 3/4"	47 1/4"
4' X 4'	51 11/32"	48 3/4"	47 1/4"	5 9/32"	2"	51 11/32"	48 3/4"	47 1/4"
20" X 60"	23 11/32"	20 3/4"	19 1/4"	5 9/32"	2"	63 11/32"	60 3/4"	59 1/4"



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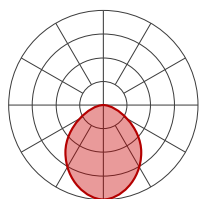
Technical Specifications

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.

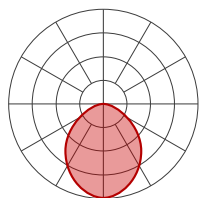
LIGHT SOURCE

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.



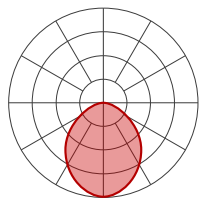
Performance for 6" X 6", at 80 CRI

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
Low output	3500K	2.9	160	55
Medium output	3500K	4.2	220	53
High output	3500K	5.7	290	51



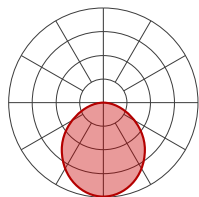
Performance for 6" X 2', at 80 CRI

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
Low output	3500K	7.5	630	84
Medium output	3500K	10.9	880	81
High output	3500K	14.7	1130	77



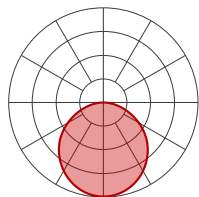
Performance for 6" X 4', at 80 CRI

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
Low output	3500K	13.7	1250	91
Medium output	3500K	20.1	1750	87
High output	3500K	27.1	2250	83



Performance for 1' X 1', at 80 CRI

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
Low output	3500K	7.4	630	85
Medium output	3500K	10.8	880	81
High output	3500K	14.5	1130	78

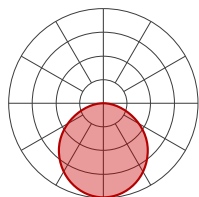


Performance for 1' X 2', at 80 CRI

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
Low output	3500K	13.1	1250	95
Medium output	3500K	19.2	1750	91
High output	3500K	25.8	2250	87

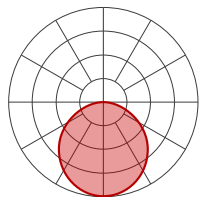
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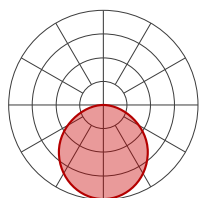
Performance for 1' X 4', at 80 CRI

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
Low output	3500K	26.2	2500	95
Medium output	3500K	38.4	3500	91
High output	3500K	51.7	4500	87



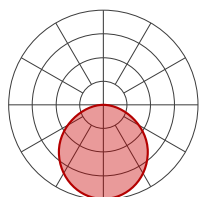
Performance for 2' X 2', at 80 CRI

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
Low output	3500K	26.2	2500	95
Medium output	3500K	38.4	3500	91
High output	3500K	51.7	4500	87



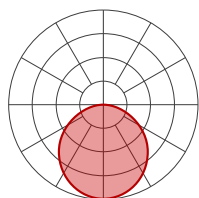
Performance for 2' X 4', at 80 CRI

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
Low output	3500K	45.7	5000	110
Medium output	3500K	66.8	7000	105
High output	3500K	89.9	9000	100



Performance for 4' X 4', at 80 CRI

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
Low output	3500K	91.3	10000	110
Medium output	3500K	133.6	14000	105
High output	3500K	179.9	18000	100



Performance for 20" X 60", at 80 CRI

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
Low output	3500K	47.6	5210	109
Medium output	3500K	69.7	7300	105
High output	3500K	93.8	9380	100

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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.

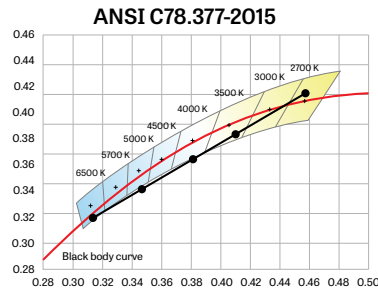
CHROMAWERX - TUNABLE WHITE

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 PSQ0) 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.



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LUMENWERX

ELECTRICAL

SOLA

SD1

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.

PSQ0

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 Quantum System.

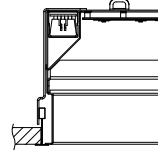
PoE

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 OPTIONS

On-grid

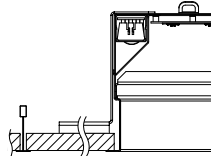
Recessed mount in a grid ceiling.



GRD - Grid ceiling

Off-grid - centered in tile

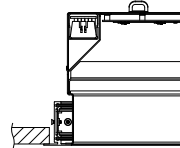
Recessed mount in the center of a tile in a grid ceiling.



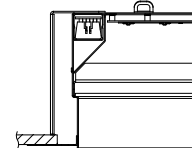
GRDC - Grid ceiling, centered in tile

Drywall

Recessed mount in drywall ceilings with trim kit, or mud flange options.



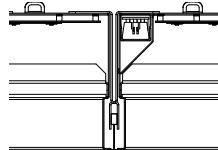
DF - Drywall trim kit



DMF - Drywall mud flange

Side-by-side

Recessed mount 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.



SBS - Side-by-side mounting

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FINISH

Interior - 95% reflective, matte white powder coating.

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

CONSTRUCTION

Housing - 20 gauge cold rolled steel.

Diffuser - 0.125" thick white 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)

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 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

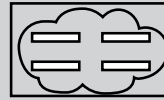
Do you require a wall controller provided by Lumenwerx?

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.

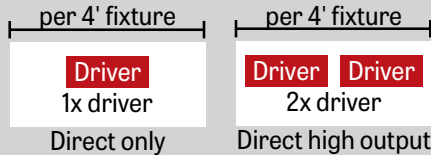


1 Zone



2 Zones

How to calculate the required number of drivers:



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. ✓

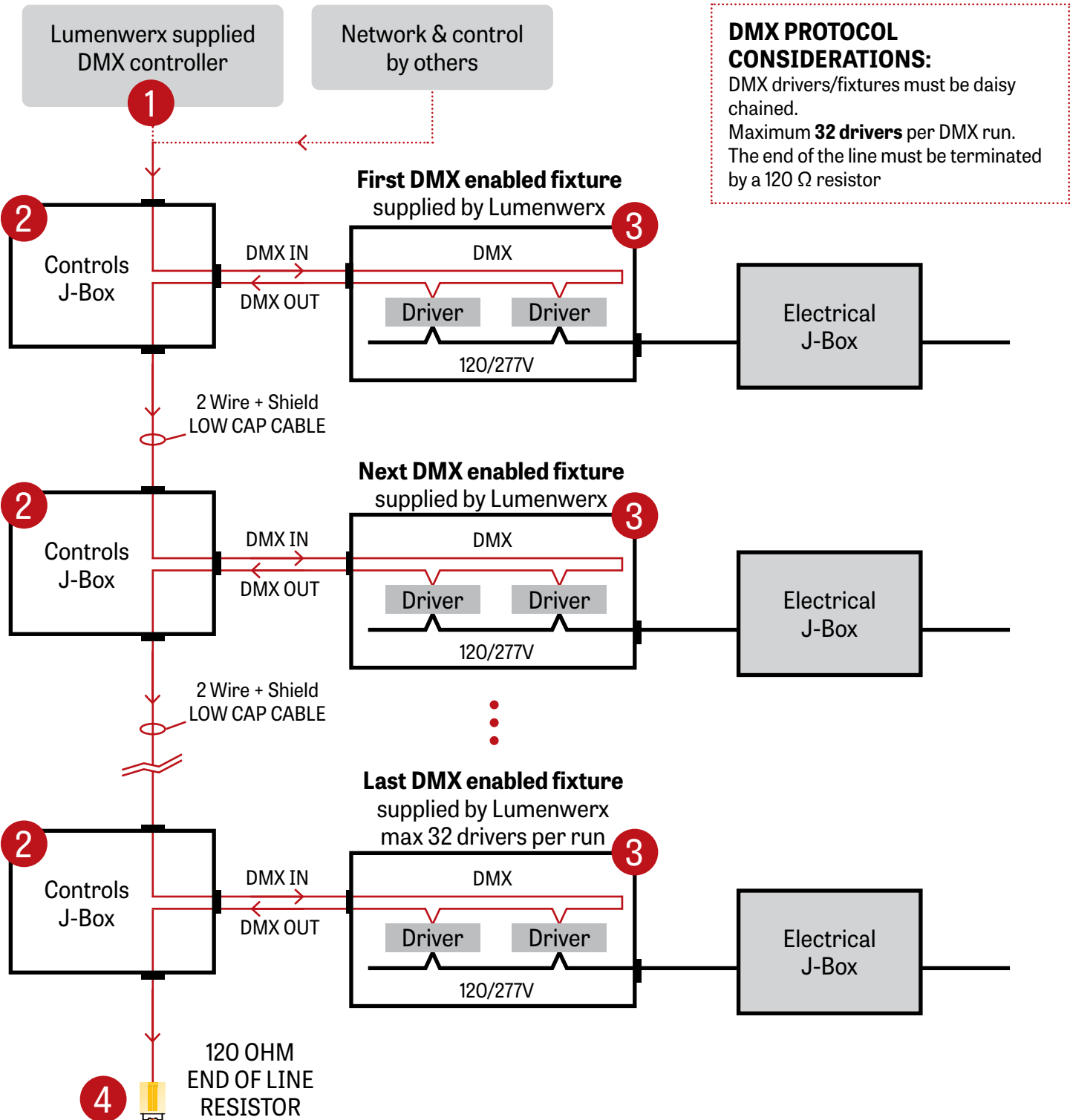
POP RECESSED

REGRESSED SQUARE AND RECTANGULAR
CHROMAWERX - SOLA AND DUO



LUMENWERX

GENERIC DMX NETWORK ARCHITECTURE



POP RECESSED

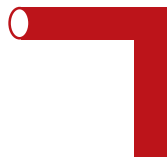
REGRESSED SQUARE AND RECTANGULAR
CHROMAWERX - SOLA AND DUO



LUMENWERX

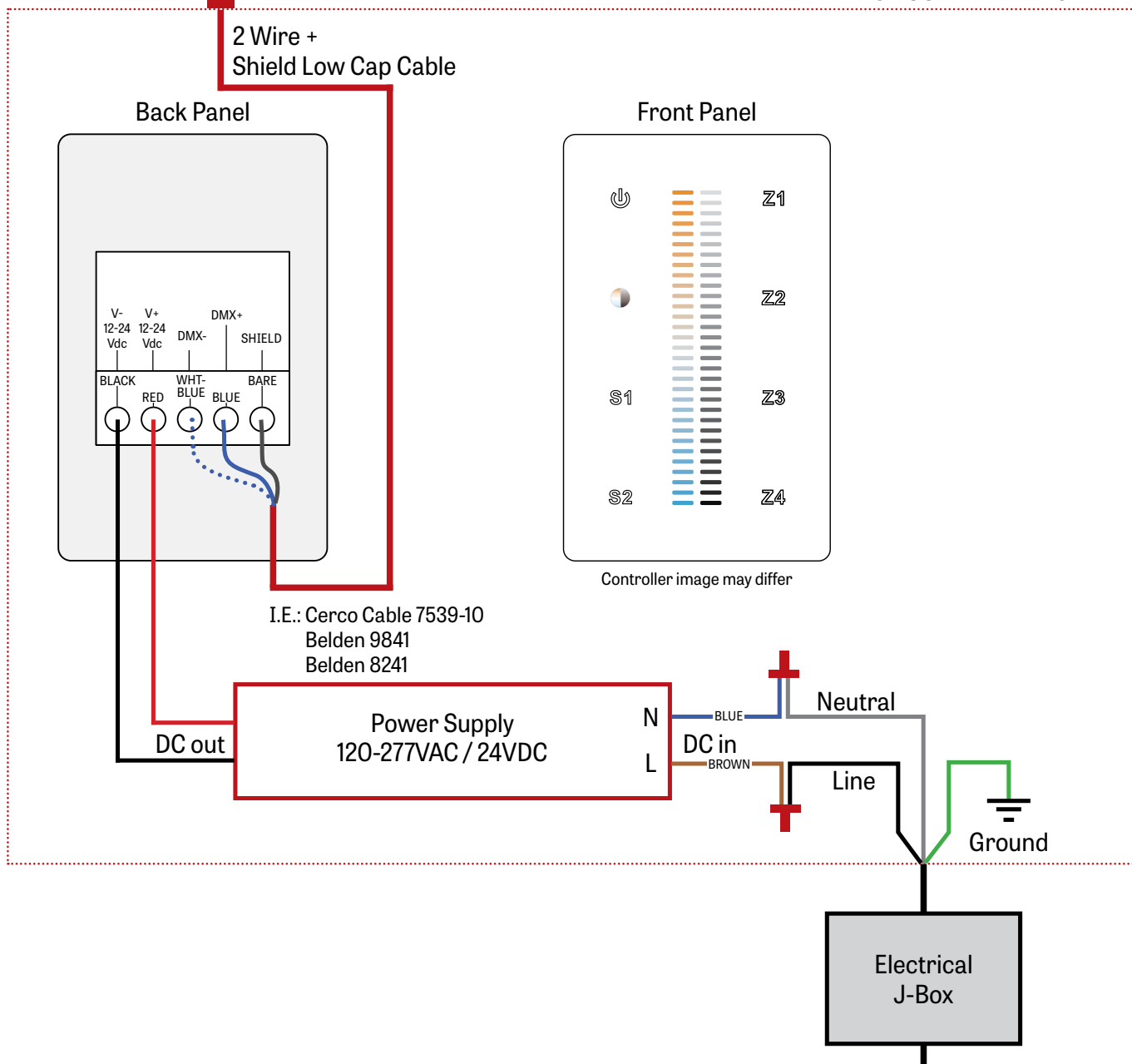
1 LUMENWERX SUPPLIED DMX CONTROLLER

To the first fixture



2 Wire +
Shield Low Cap Cable

WALL BOX SUPPLIED BY OTHERS



POP RECESSED

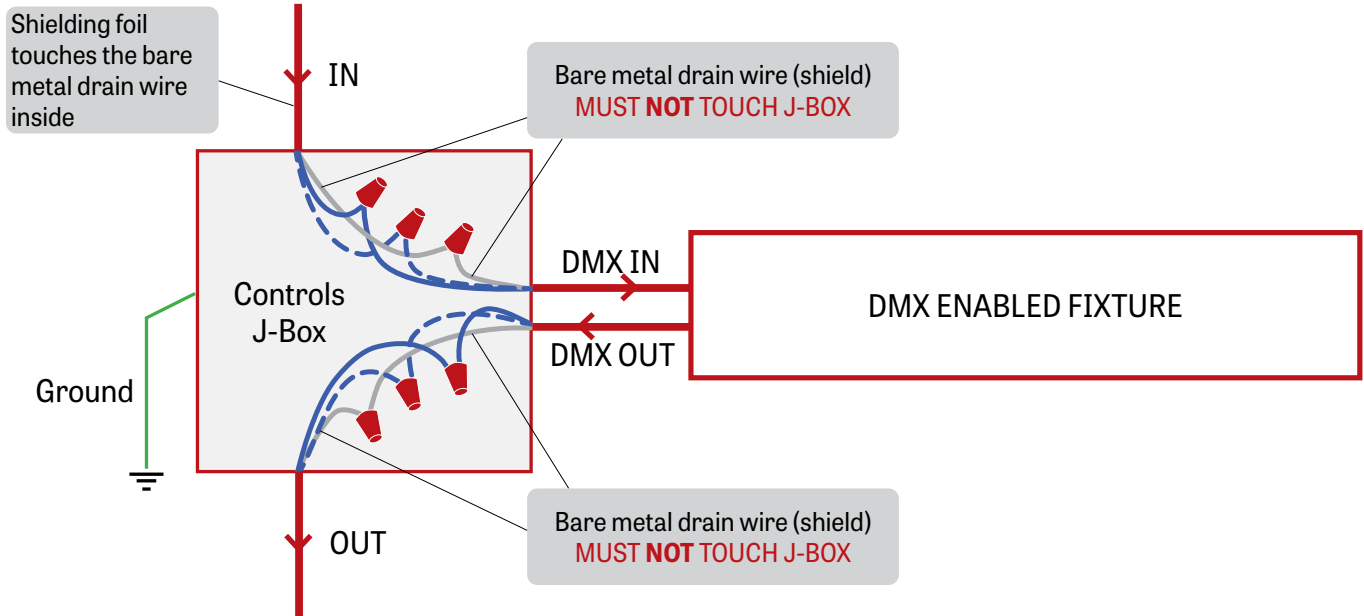
REGRESSED SQUARE AND RECTANGULAR
CHROMAWERX - SOLA AND DUO



LUMENWERX

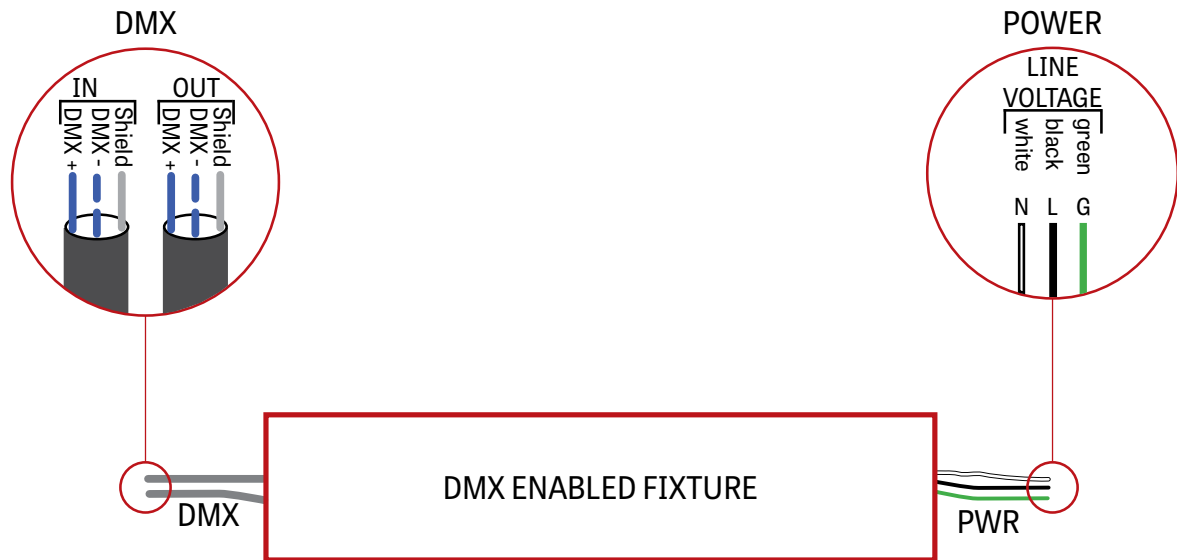
2 J-BOX DMX DAISY CHAIN DETAIL

Low capacitance DMX Cable from Previous Fixture



Low capacitance DMX cable to next fixture

3 DMX CONNECTION RECESSED & SURFACE



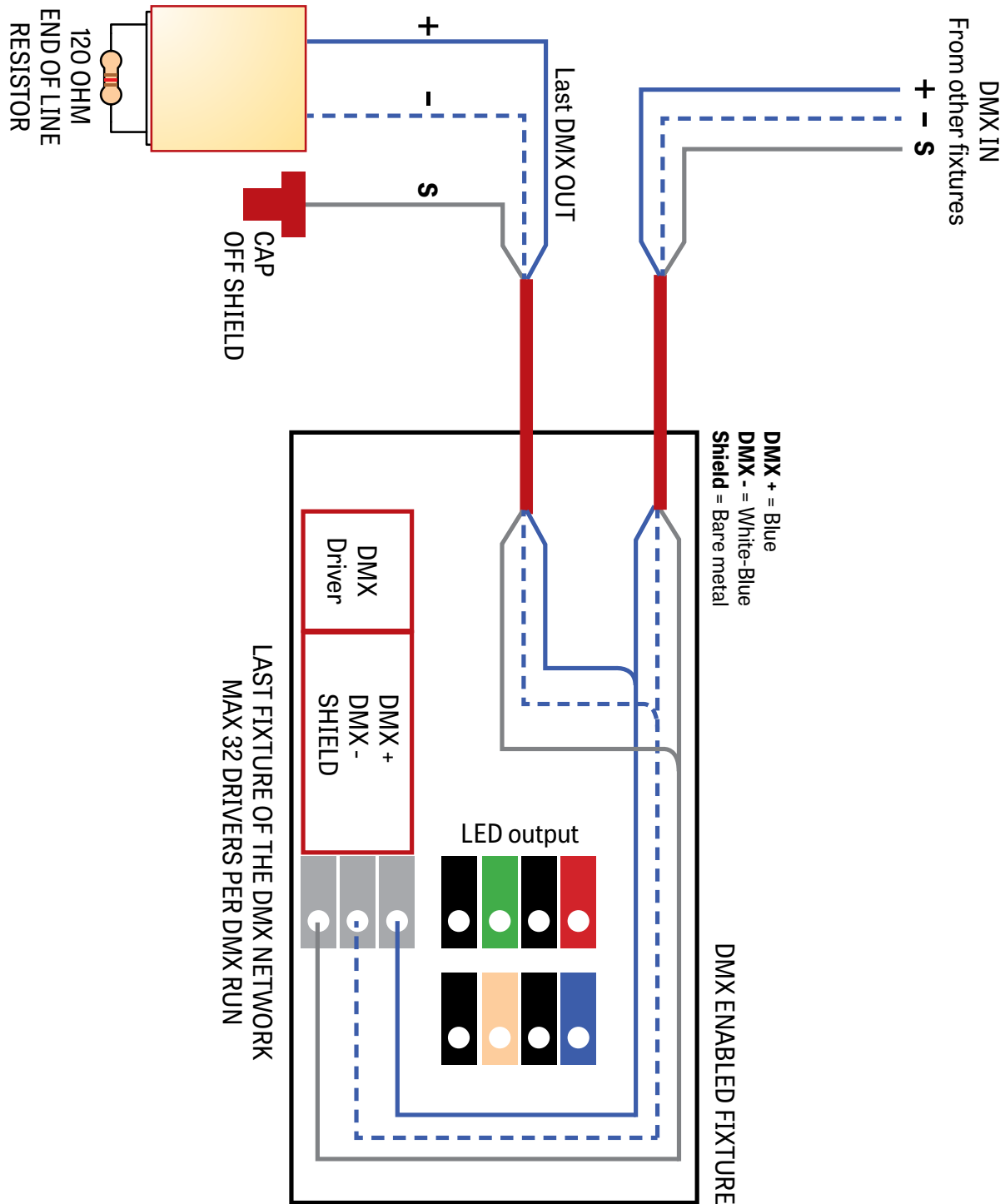
POP RECESSED

REGRESSED SQUARE AND RECTANGULAR
CHROMAWERX - SOLA AND DUO



LUMENWERX

4 DMX LAST FIXTURE DETAIL



POP RECESSED

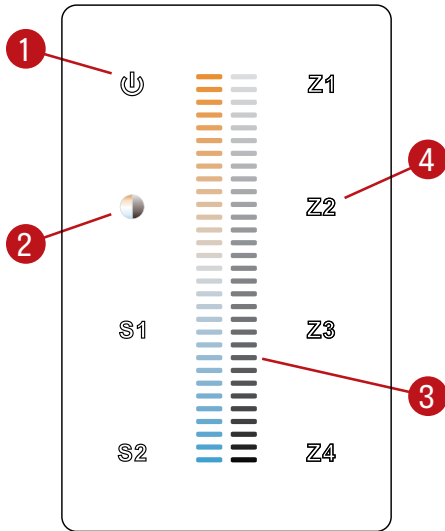
REGRESSED SQUARE AND RECTANGULAR
CHROMAWERX - SOLA AND DUO



LUMENWERX

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