SHELL
ROUND - SURFACE
STATIC WHITE, BIOS, SOLA, DUO

LUMENWERX

DESCRIPTION

Shell fixtures are sleek, balanced, and well detailed. Remarkably versatile, Shell complements general illumination in working spaces and provides functional illumination over conference tables, in break or lunch rooms, and in circulation spaces. Shell Round Surface can offer a subtle circumference glow for added visual interest. Shell is available with Chromawerx Duo, Sola, and solid colors (red, green and blue), as well as Static White and BIOS. See additional specification sheets for other mounting and shape options.

5 YEAR WARRANTY — 5

CCCHROMAWERX

Up to 95 lm/W performance

Shell Round Surface Ø24" - With up light glow

Shell Round Surface Ø12"

Shell Round Surface Ø8"
With up light glow

3737 Cote Vertu St-Laurent, Quebec, Canada H4R 2C9
T (514) 225-4304 F (514) 931 -4862
www.lumenwerx.com

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Intertek

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SHELL
ROUND - SURFACE
STATIC WHITE, BIOS, SOLA, DUO

LUMENWERX

Project: _____

_____

Type: _____

Order Guide

LUMINAIRE ID	SIZE	OPTICS	LIGHT SOURCE		CRI	LUMEN PACKAGE			
SHERS		**HLO**							

LUMINAIRE ID	SIZE	OPTICS	LIGHT SOURCE	CRI	LUMEN PACKAGE
SHERS - Shell Round Surface	**8IN** - Ø 8" **12IN** - Ø 12" **24IN** - Ø 24"	**HLO** - High-Efficiency Lambertian Optic	**SW** - Static white **BIOSST** - Static biologically-optimized lighting **BIOSDY** [1] - Dynamic biologically-optimized lighting **SOLA** - Dim-to-warm single channel control 22K to 35K **DUO** - Tunable white 2-channel control 27K to 65K **RS** - Red solid **GS** - Green solid **BS** - Blue solid [1] Available with Remote Driver Box only.	**80** - 80CRI **90** [2] - 90CRI [2] Not available with BIOS.	**SW, BIOSS, BIOSDY, SOLA, DUO** |	Low	Medium [3]	High [3]
Ø 8"	**350lm**	**500lm**	**700lm**
Ø 12"	**800lm**	**1200lm**	**1600lm**
Ø 24"	**3200lm**	**4800lm**	**6400lm**	 **Solid Colors (RS, GS, BS)** 	Ø 8"	**6W**
Ø 12"	**14W**
Ø 24"	**57W**	 [3] Not available with BIOS.

COLOR TEMP Do not specify for Sola, Duo and solid colors.	VOLTAGE	DRIVER [6]		DRIVER BOX	ELECTRICAL

COLOR TEMP Do not specify for Sola, Duo and solid colors.	VOLTAGE	DRIVER [6]		DRIVER BOX	ELECTRICAL
27 [4] - 2700K **30** - 3000K **35** - 3500K **40** - 4000K [4] Not available with BIOS.	**120** - 120V **277** - 277V **UNV** - 120V-277V **347** [5] - 347V [5] Available with static white and D1 only.	**SW, BIOS** **D1** - 1% 0-10V **DA** [7] - DALI **LDE1** [7] - Lutron Hi-lume 1% Eco **ELD1** [8] - eldoLED 1% ECOdrive **ELD0** [8] - eldoLED 0.1% SOLOdrive **SOLA** **SD1** - Single 0-10V input	**DUO** **DD1** - Dual 0-10V input for CCT/intensity **DMX** [7] - DMX, to specify see pages 7 to 10 **DA** [7] - DALI **PSQ0** [7][8] - Lutron T-Series 1% Tunable White **Solid Colors** **D1** - 0-10V [6] PoE (Power-over-Ethernet) compatible. Consult factory for details. [7] On-site commissioning is required. [8] Available with Remote Driver Box only.	**RDB** - Remote Driver Box **IDB** [9][10][11] - Integral Driver Box [9] Only available for Ø24" with static white or BIOS. [10] Not available with 6400lm. [11] Only available with D1.	**1** - 1 circuit

FINISH	UP LIGHT GLOW [12]

FINISH	UP LIGHT GLOW [12]
W - Matte white **AL -** Aluminum **B -** Matte black **RAL1028** - Yellow **RAL2004** - Orange **RAL3020** - Red **RAL4010** - Magenta **RAL5002** - Blue **RAL6018** - Green **CF#** - Custom finish specify RAL#	**WHS** - White glow **BLS** - Blue glow **RES** - Red glow **GRS** - Green glow **ORS** - Orange glow **##S** - Custom glow **NG** - No glow [12] For solid colors, glow will be the same color as the specified solid color.

Accessories
Optional, order separately

DMX WALL CONTROLLER [13]

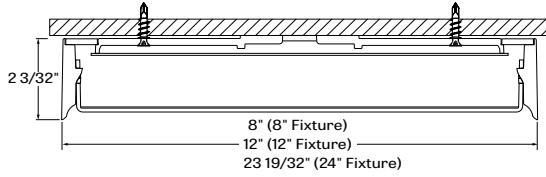| DMX WALL CONTROLLER [13] |
|---|
| **WCW** - Wall controller white
WBW - Wall controller black

[13] For more information, see pages 7 to 10, or consult factory. |

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SHELL
ROUND - SURFACE
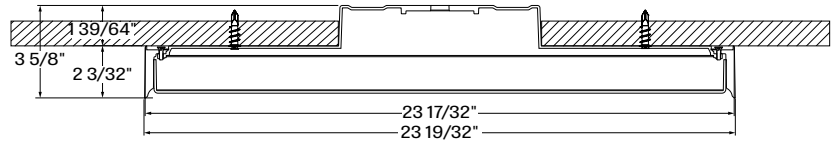### STATIC WHITE, BIOS, SOLA, DUO

LUMENWERX

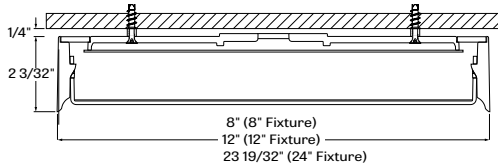Project: _____

_____

Type: _____

Section view

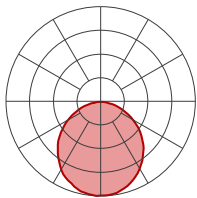**SHERS** - Remote driver

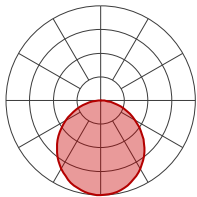**SHERS24** - Integral driver

SHERS - Up light glow

Photometrics

Performance for Ø8" - Delivered Lumens at 35K at 80 CRI

LED OUTPUT	DELIVERED LUMENS	INPUT WATTAGE	EFFICACY LPW
Low output	350	3.9	95
Medium output	500	5.4	93
High output	700	7.7	91

Performance for Ø12" - Delivered Lumens at 35K at 80 CRI

LED OUTPUT	DELIVERED LUMENS	INPUT WATTAGE	EFFICACY LPW
Low output	800	8.7	93
Medium output	1200	13.2	91
High output	1600	18	89
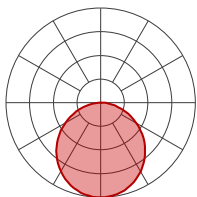
Performance for Ø24" - Delivered Lumens at 35K at 80 CRI

LED OUTPUT	DELIVERED LUMENS	INPUT WATTAGE	EFFICACY LPW
Low output	3200	34.5	93
Medium output	4800	53	91
High output	6400	72.2	89

Multiplier - CCT/CRI

CCT (K)	WATTS		LPW	
	CRI80	CRI90	CRI80	CRI90
2700	1.05	1.13	0.95	0.88
3000	1.01	1.09	0.99	0.92
3500	1	1.08	1	0.93
4000	1	1.08	1	0.93

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LUMENWERX

Project: _____

_____

Type: _____

Technical Specifications

OPTICS

High-Efficiency Lambertian Optic (HLO) - Shielding of 0.1" thick, thermoformed diffusing acrylic with up to 70% transmission and excellent source obscuration. Vertical return edge illuminates inside of housing. Luminaire brightness is controlled by the flux-to-shielding area ratio.

LIGHT SOURCE - STATIC WHITE

Custom array of mid-power LEDs mounted directly to the fixture housing for optimal thermal performance. Available in 2700K, 3000K, 3500K and 4000K with a minimum 80 CRI and an option for 90 CRI with elevated R9 value. Color consistency is maintained to within 3 SDCM. LEDs operate at a reduced drive current to optimize efficacy and lumen maintenance. All LEDs have been tested in accordance with IESNA LM-80-08 and results have shown L80 lumen maintenance is greater than 60,000 hours. Absolute product photometry is measured and presented in accordance with IESNA LM-79, unless otherwise indicated.

LIGHT SOURCE - SOLA / DUO

Custom linear 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 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 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 L80 lumen maintenance greater than 60,000 hours. Absolute product photometry is measured and presented in accordance with IESNA LM-79, unless otherwise indicated.

BIOS SkyBlue™ Technology is designed to provide the specific circadian stimulus to improve overall sleep quality, recovery during the night, and overall feelings of well-being.
The non-visual light signals that stimulate our circadian system have peak intensity in the "sky blue" region. As the diagram below illustrates, BIOS SkyBlue technology shifts the peak LED spectral intensity (460 nm) to align better with the peak response of circadian stimulus. Also note the enhanced deep-red (near 660 nm) spectrum.
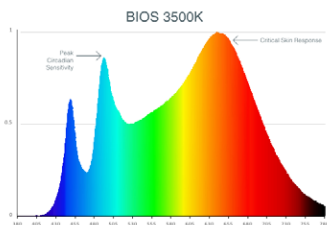
WELL for Light - The WELL building standard focuses on light quality in several features. There are three categories that are fully attributed to the constriction and features of a luminaire. In WELL V1, it's Feature 54 Circadian Lighting, Feature 55 Glare Control, and Feature 58 Color Quality. In WELL 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 BIOS LED or 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.

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STATIC WHITE, BIOS, SOLA, DUO
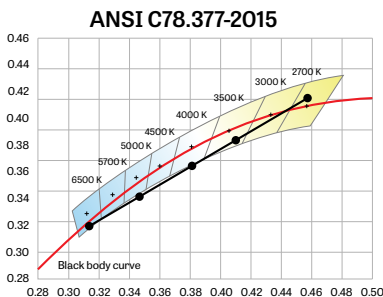
LUMENWERX

CHROMAWERX

A custom array of alternating color temperature LEDs mounts directly to the housing for optimal thermal performance. Mid-flux LEDs operate at reduced drive current to optimize efficacy and lumen maintenance.

Chromawerx Sola

Chromawerx Sola dims output while warming the color temperature in a pre-determined relationship. Dimming range is programmable, but the default option runs from 3500K at 100% full power to 2200K at 5% full power.

Chromawerx Duo

Chromawerx Duo enables the user to set color temperature and light output independently. Commonly called "tunable white", Chromawerx Duo provides the range from warm to cool color that can be useful for helping to entrain circadian rhythms, stimulate alertness, 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.

ANSI C78.377-2015

Chromawerx Solid colors

For dramatic coloration, Shell offers Chromawerx options for solid colors like red, green, or blue. Consult Lumenwerx for implementations of Chromawerx Duo with white and solid color LEDs, enabling muted colors or the ability to switch between white and colored light


**RS** - Red solid   **BS** - Blue solid   **GS** - Green solid

ELECTRICAL

Factory-set, adjustable output current LED driver with universal (120-277VAC) input. Dimmable from 100% to 1% with 0-10V dimming control. Rated life (90% survivorship) of 50,000 hours at 50°C max. ambient (and 70°C max. case) temperature. At maximum driver load: Efficiency>84%, PF>0.9, THD<20%. Other specifiable options include Lutron Hi-Lume 1%, DMX (RDM compatible), eldoLED 1% ECOdrive, eldoLED 0.1% SOLOdrive, and DALI protocol drivers. All of our standard 0-10V drivers are NEMA 410 compliant.

REMOTE DRIVER BOX (RDB)
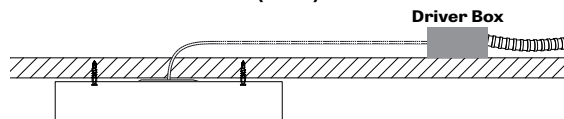
Driver is recessed with brackets for mounting to ceiling joists or other supporting members.

INTEGRAL DRIVER (IDB)
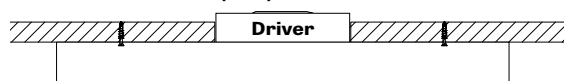
Only available with Shell Round Ø24". Driver is housed in the die-cast aluminum back plate. Access is through the bottom of the luminaire by removing the diffuser and LED array. Recommended for inaccessible ceilings.

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.

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LUMENWERX

FINISH
Interior - 95% reflective, matte white powder coating.
Exterior - powder coating in a range of vibrant colors.

HOUSING COLOR OPTIONS

W - Matte white

AL - Aluminum

B - Matte black

RAL1028 - Yellow

RAL2004 - Orange

RAL3020 - Red

RAL4010 - Magenta

RAL5002 - Blue

RAL6018 - Green

CONSTRUCTION
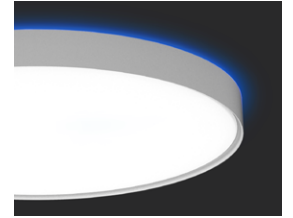**Housing** - Die-cast aluminum ring with light-weight die-cast backplate
Diffuser - High-Efficiency Lambertian Optic, thermoformed acrylic

UP LIGHT GLOW
Subtle up light glow is emitted at the upper edge of the housing. Optional acrylic filters add a touch of color.

WHS - White glow

BLS - Blue glow
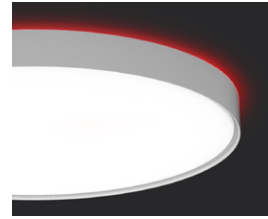
RES - Red glow
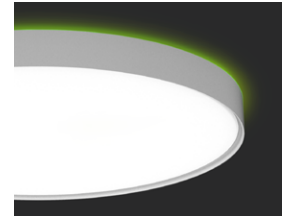
GRS - Green glow
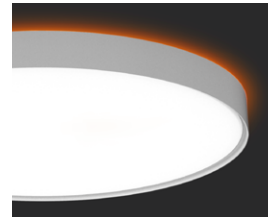
ORS - Orange glow

WEIGHT
SHERS Ø8" - 2.36 lbs - 1.06 kg
SHERS Ø12" - 4 lbs - 1.78 kg
SHERS Ø24" - 13.11 lbs - 5.95 kg
SHERS Ø24" (Integral driver) - 16.51 lbs - 7.49 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.

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.

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DUO DMX SPECIFICATION

A qualified DMX integrator is required to assure proper installation and commissioning of the DMX network. **When placing the PO, please provide the contact information of your DMX integrator.**

Please answer the following questions to help us identify your DMX network requirements.

YES .... Do you require a wall controller provided by Lumenwerx? .... NO ....

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

DMX controller supplied by Lumenwerx

How many zones do you have?
A zone consists of one or more luminaires behaving identically.

→ **1 Zone**   **2 Zones**

How to calculate the required number of drivers:
Per fixture

| **1 x** Driver | / | **50W per side** |

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 and approval. Please contact our controls specialist at controls@lumenwerx.com
Additional costs and equipment will be required. ✓

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

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LUMENWERX

Project: _____

Type: _____

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

First DMX enabled fixture
supplied by Lumenwerx **(3)**
DMX IN
DMX
DMX OUT
Driver   Driver
120/277V

Electrical J-Box

2 Wire + Shield
LOW CAP CABLE

(2) Controls J-Box

Next DMX enabled fixture
supplied by Lumenwerx **(3)**
DMX IN
DMX
DMX OUT
Driver   Driver
120/277V

Electrical J-Box

2 Wire + Shield
LOW CAP CABLE

(2) Controls J-Box

Last DMX enabled fixture
supplied by Lumenwerx
max 32 drivers per run **(3)**
DMX IN
DMX
DMX OUT
Driver   Driver
120/277V

Electrical J-Box

(4) 120 OHM END OF LINE RESISTOR

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Project: _____
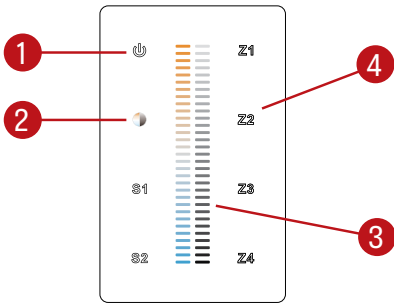
Type: _____

DMX WALL CONTROLLER - TUNABLE WHITE

Default DMX Addresses:

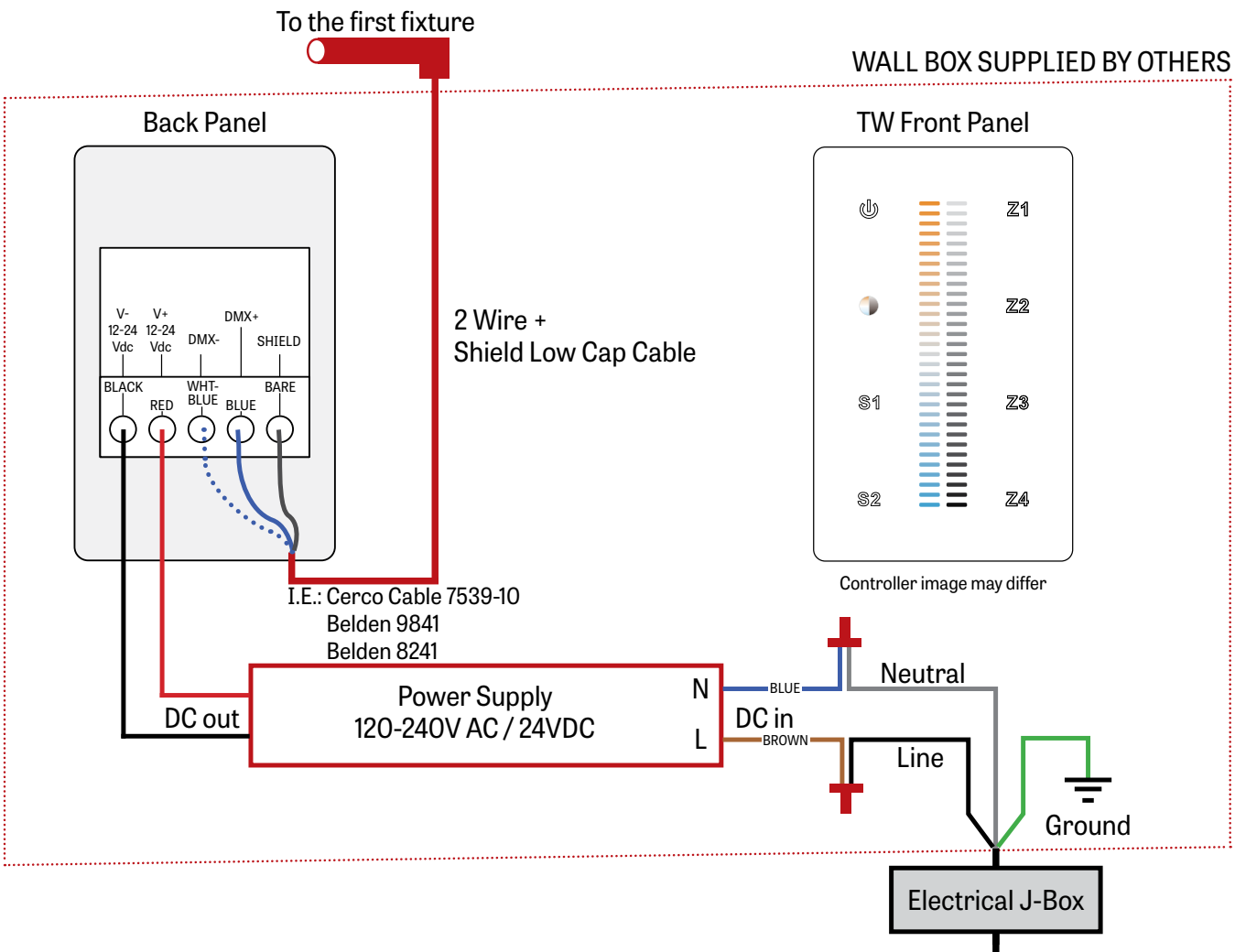1. WARM | 2. COOL

DUO 1-4 ZONE

① Power | Z1
② | Z2
S1 | Z3
S2 | Z4
④
③

(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.

1 LUMENWERX SUPPLIED DMX CONTROLLER

To the first fixture

WALL BOX SUPPLIED BY OTHERS

Back Panel

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

2 Wire + Shield Low Cap Cable

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

TW Front Panel

Z1
Z2
S1 | Z3
S2 | Z4

Controller image may differ

DC out

Power Supply
120-240V AC / 24VDC

N — BLUE — Neutral
DC in
L — BROWN — Line

Ground

Electrical J-Box

ETL LISTED Intertek

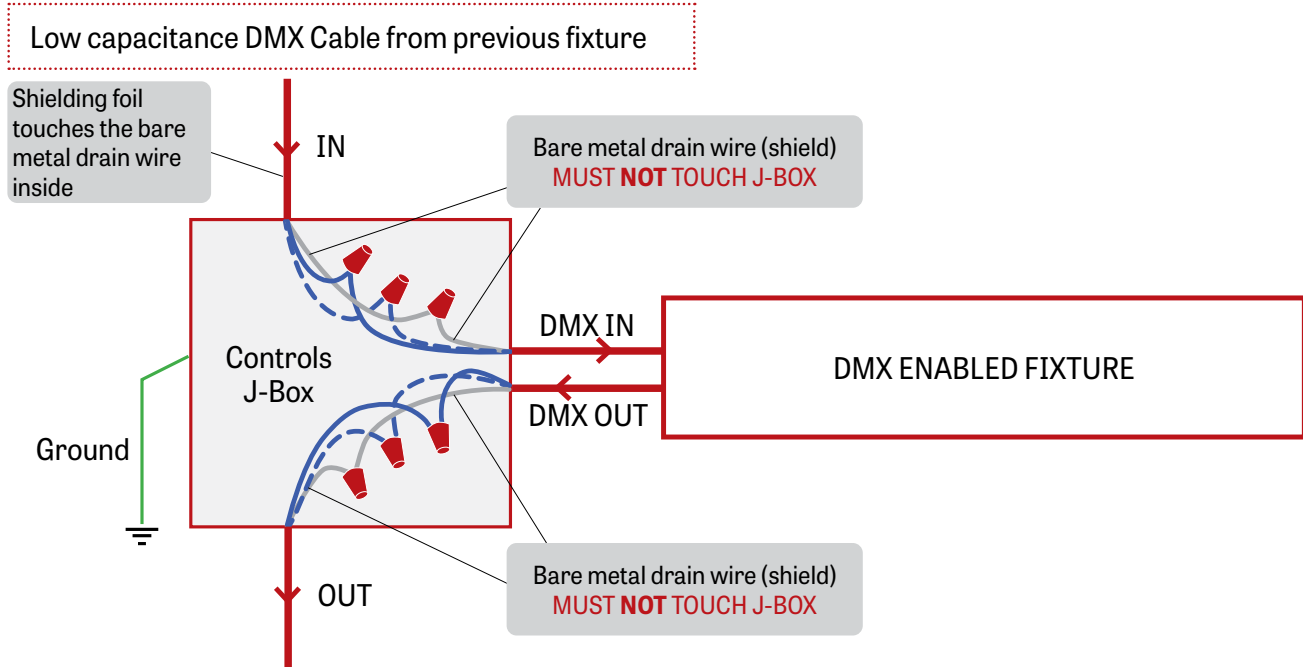bios | PoE Power over Ethernet | WELL | WELL

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LUMENWERX

Project: _____

Type: _____

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

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

OUT

Low capacitance DMX cable to next fixture

3 DMX CONNECTION RECESSED & SURFACE

DMX

IN
Shield
DMX -
DMX +

OUT
Shield
DMX -
DMX +

POWER

LINE VOLTAGE

green
black
white

N L G

DMX ENABLED FIXTURE

DMX

PWR

c ETL US
LISTED
Intertek

bios   PoE Power over Ethernet   WELL   WELL