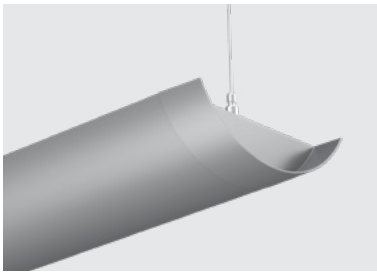
PAZ LED

PENDANT INDIRECT

LUMENWERX
WWW.LUMENWERX.COM

WIDESPREAD INDIRECT OPTICS - CHROMAWERX TUNABLE WHITE AND DIM TO WARM

IMPORTANT: a qualified DMX integration consultant is required to ensure proper installation and function of any DMX network



Shown with regressed end cap

Shown with sloped end cap

PROJECT: _____

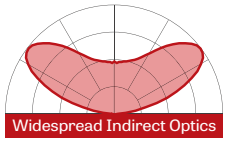
TYPE: _____

NOTES: _____

CHROMAWERX

DESCRIPTION

Constructed of extruded and die-cast aluminum, Paz measures just over 6" across - the smallest curved profile available today. A choice of end cap treatments and suspension options, as well as continuous runs in 2' increments, provide design flexibility. Paz incorporates our high performance widespread indirect optics and delivers comfortable totally indirect lighting with up to 109 lumens per watt. Paz is an ideal vehicle for ChromaWerx white tuning in education, office, and healthcare applications where modular luminaires are used.



Widespread Indirect Optics

up to 109 lm/w performance

ORDER GUIDE

PAZPI		WIO	LED			
LUMINAIRE ID	**END CAP**	**OPTICS**	**LIGHT SOURCE**	**CRI**	**LUMEN PACKAGES**	**CHROMAWERX**
PAZPI - Paz pendant indirect	**RE** - Regressed end cap **SL** - Sloped end cap	**WIO** - Widespread indirect optics	**LED** - High performance LED	**80** - 80CRI **90** - 90CRI	**500** - min. low output 500lm/ft **750** - medium output 750lm/ft **1000** - high output 1000lm/ft **1200** - max. ultra high output 1200lm/ft **####** - other required lm/ft	**DUO** - tunable white 2 channel control 2700K to 6500K **SOLA** - dim to warm single channel control 2200K to 3500K

			1
LUMINAIRE LENGTH	**VOLTAGE**	**DRIVER**	**ELECTRICAL**
Available sections - 4', 6', 8', 10' & 12' **#FT** - nominal length in feet **(2' increments only)** Continuous Run - for luminaires over 12' Minimum Individual section 4'	**120** - 120V **277** - 277V	**DMX** - to specify see pages 5 to 10 **DA** - Dali (duo only) local on-site commissioning is required **0-10** - Single 0-10V input (Sola) or dual 0-10V input for CCT/Intensity (Duo) **PSQO** - Lutron T-Series 1% Tunable White	**1** - 1 circuit

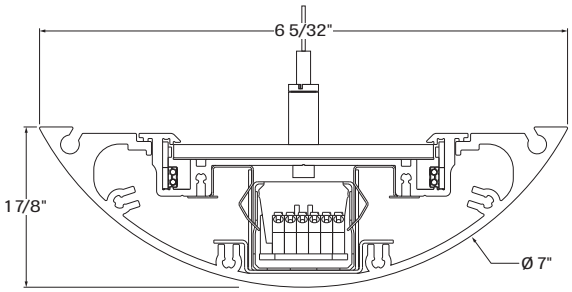
MOUNTING
53WAC36 - power 5" + non power 3" white canopy (36" aircraft cable) **SC53WAC36** - Sliding cables suspenion , power 5" + non power 3" white canopy (36" sliding aircraft cable) **55W2SW18** - power 5" + non power 5" white canopy & two stems (18" stems - max 4') For all other options refer to our Pendant Mounting Guide

DMX WALL CONTROLS
To specify see pages 5 to 10

FINISH	**OPTIONS**
W - matte white **AL** - aluminum **CF#** - custom finish specify RAL#	**FU** - fuse **TB#** - T-bar caddy clip specify grid size **TG#** - Tegular caddy clip specify grid size **ST** - Screw Slots caddy clip **CU** - custom

See page 2 for ordering code detailed information

CROSS SECTION



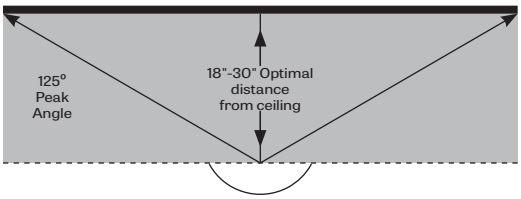
PAZPI - aircraft cable

WIDESPREAD INDIRECT OPTICS - CHROMAWERX TUNABLE WHITE AND DIM TO WARM

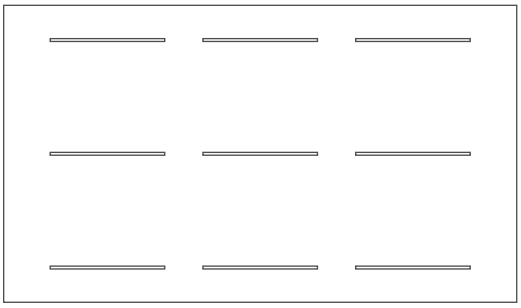
OPTICS

Widespread Indirect Optics (WIO) -

The LumenWerx Widespread Indirect Optic (WIO) uses two vertically oriented LED arrays that couple light into the edges of a linear light guide. A specially designed TIR/microstructure extracts light into the desired "batwing" distribution. Peak intensity hits at 125° while suppressing direct uplight. Peak-to-zenith intensity ratio is 2:1, outstanding for a narrow luminaire. The Widespread Indirect Optic produces noticeably smoother ceiling brightness than a typical lambertian uplight distribution, permitting generally wider spacing as well.



SPACE CALCULATION



Room: 58'Wx36'Lx11.5'H
Suspension: 30"
Fixture spacing: 12'x16'
PAZPI-WIO-LED-80-1200-35-12FT

Indirect Lumen Output: 1200 lm/ft
Efficacy: 105LPW
LLF: 0.9
LPD: 0.59Watt/Sq.Ft.

For Workplane:
Avg Illuminance= 40.67FC
Uniformity Max/Min=3.09
Uniformity Avg/Min= 2.36

For Ceiling:
Avg Illuminance= 69.08FC
Uniformity Max/Min= 12.93
Uniformity Avg/Min= 6.71

LIGHT SOURCE - LED

PERFORMANCE PER 4' AT 4000K

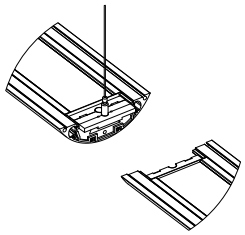
LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
low output	4000K	18.5	2000	109
medium output	4000K	28	3000	108
high output	4000K	36.5	4000	109
ultra high ouput	4000K	44	4800	109

Lumen Adjustment Factors	
2700K	0.917
3000K	0.959
3500K	0.988
4000K	1.000
6500K	1.053

Custom linear array of alternating color temperature mid-flux LED's are mounted directly to the housing for optimal thermal performance. For the Duo products, a color temperature range from 2700K-6500K is achievable with color points on or below the black body curve. For the Sola products, a color temperature range from 2200K-3500K is controlled synchronously with intensity. Color consistency between fixtures is maintained to within 3SDCM. LEDs are operate 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.

LUMINAIRE LENGTH

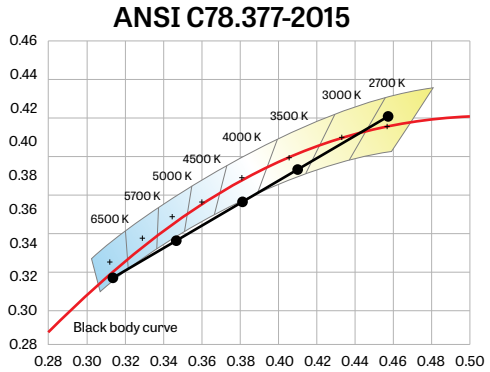
Paz is made up of standard 2, 4, 6, 8 and 12 foot sections that may be joined together to create longer continuous run lengths. Exact run length must be noted in the product code. The minimum individual section available is 2 foot, and continuous run lengths can be ordered in 2 feet increments. All individual sections are joined together onsite using the joiner kits provided. LumenWerx offers joiner kits that are extremely simple to work with in the field and result in a fixture that appears virtually seamless with no light leak at any connection.



joining system Paz indirect

WIDESPREAD INDIRECT OPTICS - CHROMAWERX TUNABLE WHITE AND DIM TO WARM

CHROMAWERX - TUNABLE WHITE



ChromaWerx Sola is single-channel control that dims output while warming the color temperature in a pre-determined relationship. A simple digital or analog control sends a common signal to dual output digital drivers, which are programmed to adjust a specially populated LED array to emulate the effect of dimming a filament source. Dimming range is programmable but the default option runs from 3500K at 100% of full power to 2200K at 5% of full power. CRI is maintained above 80 throughout the dimming range.

ChromaWerx Duo is two-channel control. It uses an analog (0-10V) protocol for separate control of luminaire CCT and intensity or a digital (DMX, DALI) protocol for synchronous control of both warm and cool LED arrays to enable the user to set color temperature and light output. Commonly called "tunable white", ChromaWerx two-channel control provides the range of warm (2700K) to cool (6500K) color that can be useful for helping to entrain circadian rhythms, stimulate alertness for improved educational and work productivity, and compensate for jet lag, among other applications. The ChromaWerx drivers are programmed to limit maximum light output and power usage across all color temperatures. CRI is maintained above 80.

ELECTRICAL

DMX (Duo only)

Factory-set, adjustable output current, multi-channel LED driver with universal (120-277VAC) input. Using DMX wall controls (optionally supplied by LumenWerx) or an existing DMX control system, two channels of LEDs (warm-white & cool-white) are independently adjustable. Each DMX driver has multiple output channels that can be independently addressed at the factory or on-site using built-in RDM (Remote Device Management) functionality. Dimming range from 100%-0%. At maximum driver load, efficiency<89%, PF>0.9, THD<20%.

Dali (Duo Only)

Factory-set, adjustable output current LED driver with universal (120-277VAC) 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 range from 100%-0%. At maximum driver load, efficiency<86%, PF>0.9, THD<20%.

0-10V (Sola)

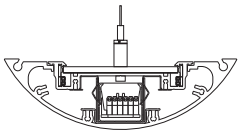
Factory-set, adjustable output current LED driver with universal (120-277VAC) input. Using a single 0-10V control signal, the light output warms in color temperature as it dims down to 1% and 2200K. At maximum driver load, efficiency<86%, PF>0.9, THD<20%.

0-10V (Duo)

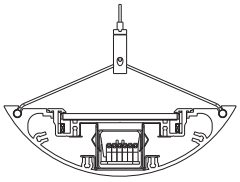
Factory-set adjustable output current LED driver with universal (120-277VAC) input. Controlled via two individual 0-10V signals, one for setting light output down to a minimum of 1% and the other for adjusting the CCT (default range of 2700K-6500K). Rated life of 50,000 hours at 70°C maximum driver case temperature and 100% load conditions. Typical efficiency of 86%, PF>0.9, THD<20% at 100% load conditions.

MOUNTING OPTIONS

Fixtures can be suspended using aircraft cable or stems.
Unless otherwise specified, LumenWerx provides the following hardware:
For cable-mounted fixtures - 53WAC36 (5" white canopy for all power mounting point, 3" white canopy for non power mounting point, and a 36" cable)
53WAAC36 (5" white canopy for all power mounting point, 3" white canopy for non power mounting point, and a 36" adjustable cable)



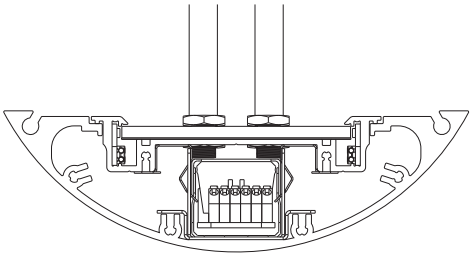
53WAC36 - aircraft cable



53WAAC36 - sliding cable

WIDESPREAD INDIRECT OPTICS - CHROMAWERX TUNABLE WHITE AND DIM TO WARM

For stem mounted fixtures - 55W2SW18 (5" white canopy for all power mounting point, and non power mounting point, and two 18" white stems)



55W2SW18 - double stems

Caddy clips, if required specify under **OPTIONS**
For all other options, see our website for a detailed Pendant Mounting Guide

FINISH

Interior - 95%, reflective matte powder coated white paint
Exterior - matte white, matte black or aluminum powder coating.
Custom finishes are also available.

CONSTRUCTION

Housing - Extruded Aluminum (0.095" nominal) up to 90% Recycled Content
Interior brackets - Die formed cold rolled sheet steel 20 gauge thick
Joining system - Die cast Zinc (0.95" nominal)
Reflectors - Cold rolled steel 0.024" thick precisely die formed, 95% reflective matte white painted
Light guide - Clear PMMA Laminated with microstructure film formed into optical TIR/extraction form
End caps - Die cast Aluminum (0.95" nominal)
Hanger - Chromed Griplock securely attached in end caps and/or joiners
Aircraft cable suspension - 7x7 braids Aluminum aircraft cable 0.06" thick
(Double) Stem - 0.375" diameter threaded steel tube matte white or silver powder coating. Custom finishes are also available

WEIGHT

Paz 4ft - 12.08lbs - 5.48kg
Paz 8ft - 23.59lbs - 10.7kg
Paz 12ft - 35.1lbs - 15.92kg

CERTIFICATIONS

ETL - Rated for Dry/Damp locations. Conforms to UL Standard 1598 and certified to CAN/CSA Standard C22.2 No. 250.0.

WARRANTY

For all ChromaWerx products, LumenWerx provides a three-year limited warranty of electrical and mechanical performance of the luminaires, including the LED boards, drivers, and auxiliary electronics. LumenWerx will repair or replace defective luminaires or components at our discretion, provided they have been installed and operated in accordance with our specifications. Other limitations apply, please refer to the full warranty on our website.
Wall controllers are covered by the manufacturer warranty.

WIDESPREAD INDIRECT OPTICS - CHROMAWERX TUNABLE WHITE

DUO DMX SPECIFICATION

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

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

Do you require a wall controller provided by Lumenwerx?

YES → DMX controller supplied 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. ✓

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

1 - 4 Zones

Do you have more than 32 drivers in total?

To Calculate # of drivers

How to calculate the required number of drivers:

per 4' fixture	per 4' fixture
Driver	Driver Driver
1x driver	2x driver
Direct only	Direct high output

NO → 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. ✓

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

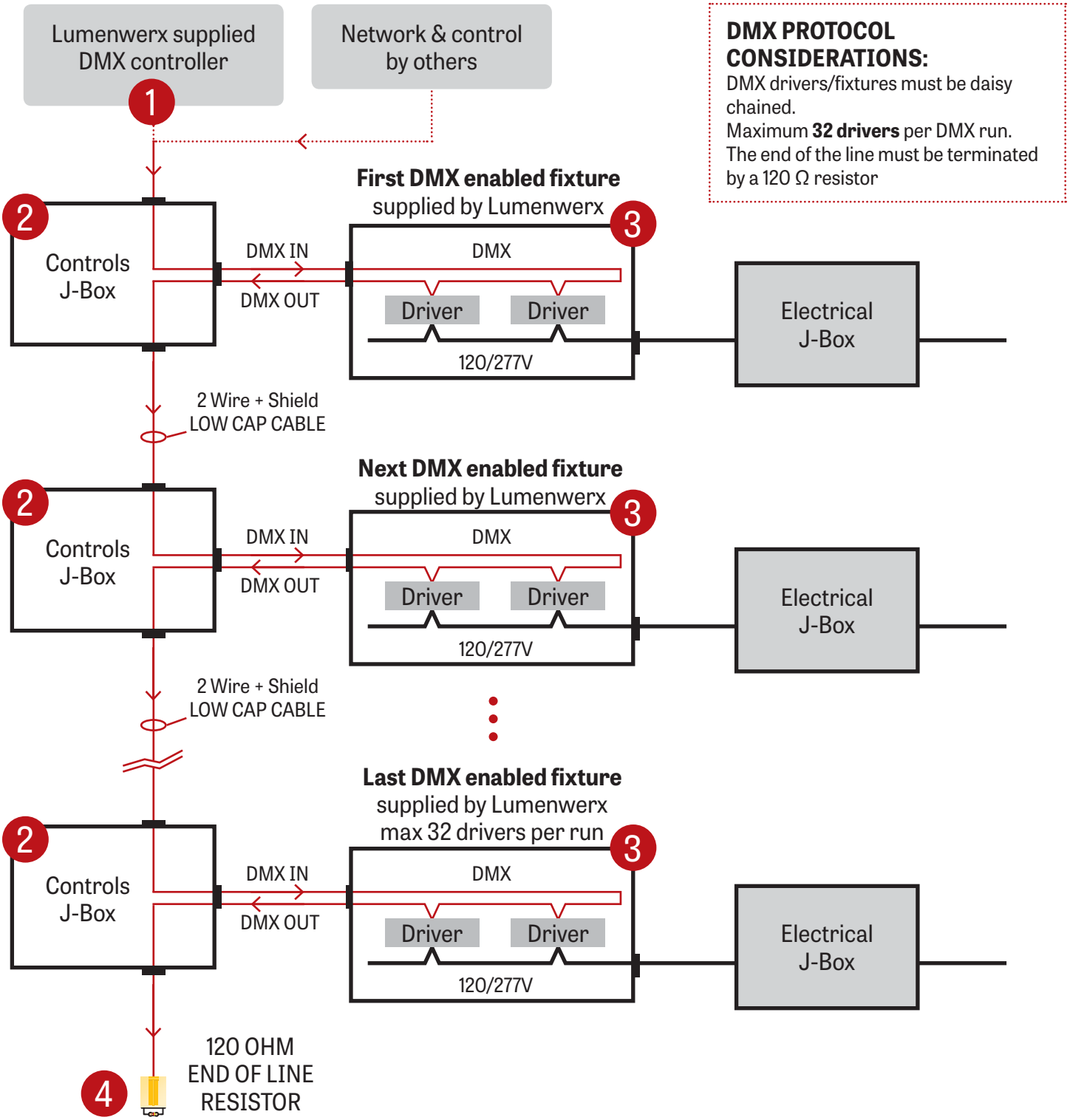
5 or more Zones

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

Intertek

WIDESPREAD INDIRECT OPTICS - CHROMAWERX TUNABLE WHITE

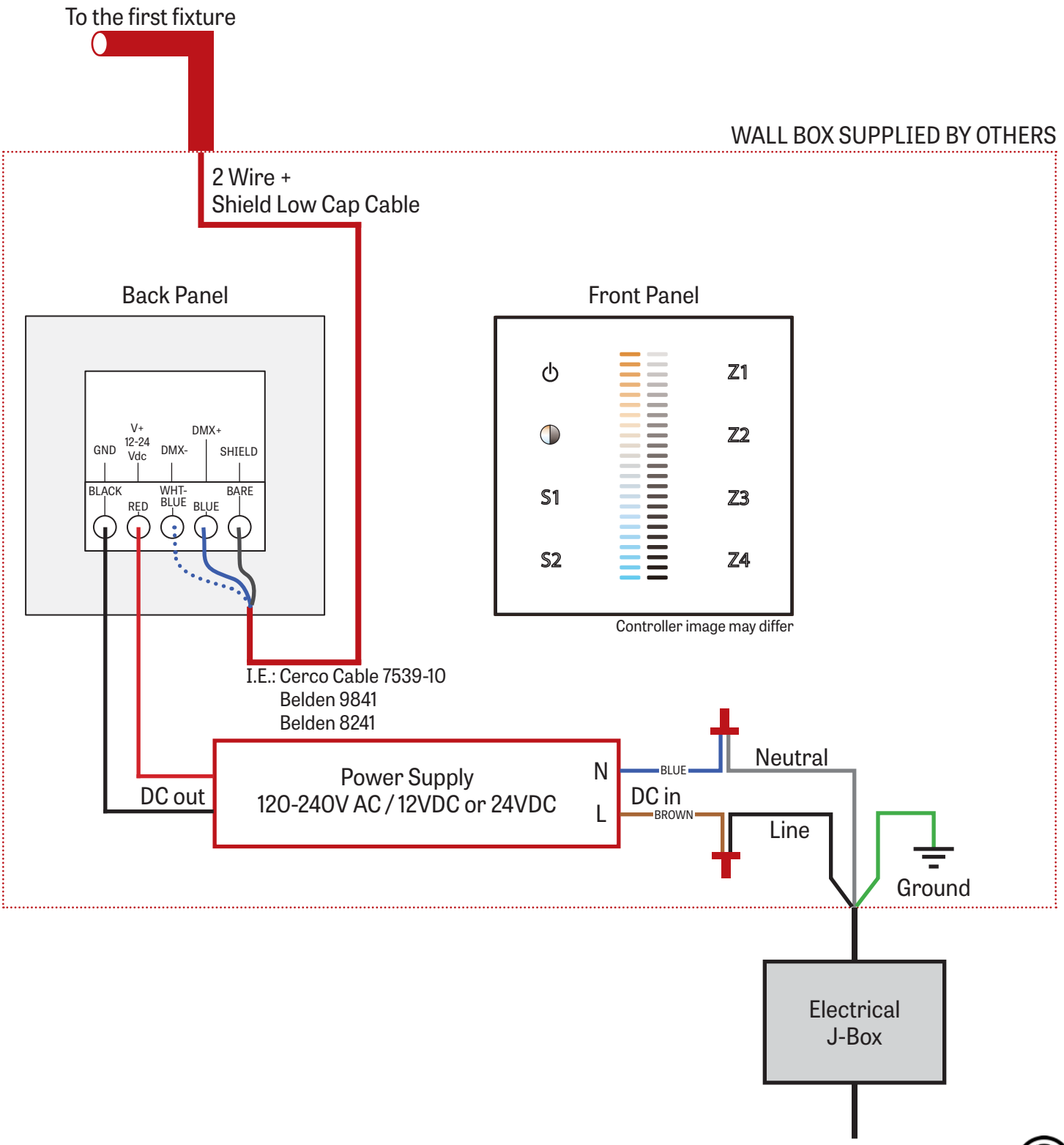
GENERIC DMX NETWORK ARCHITECTURE



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

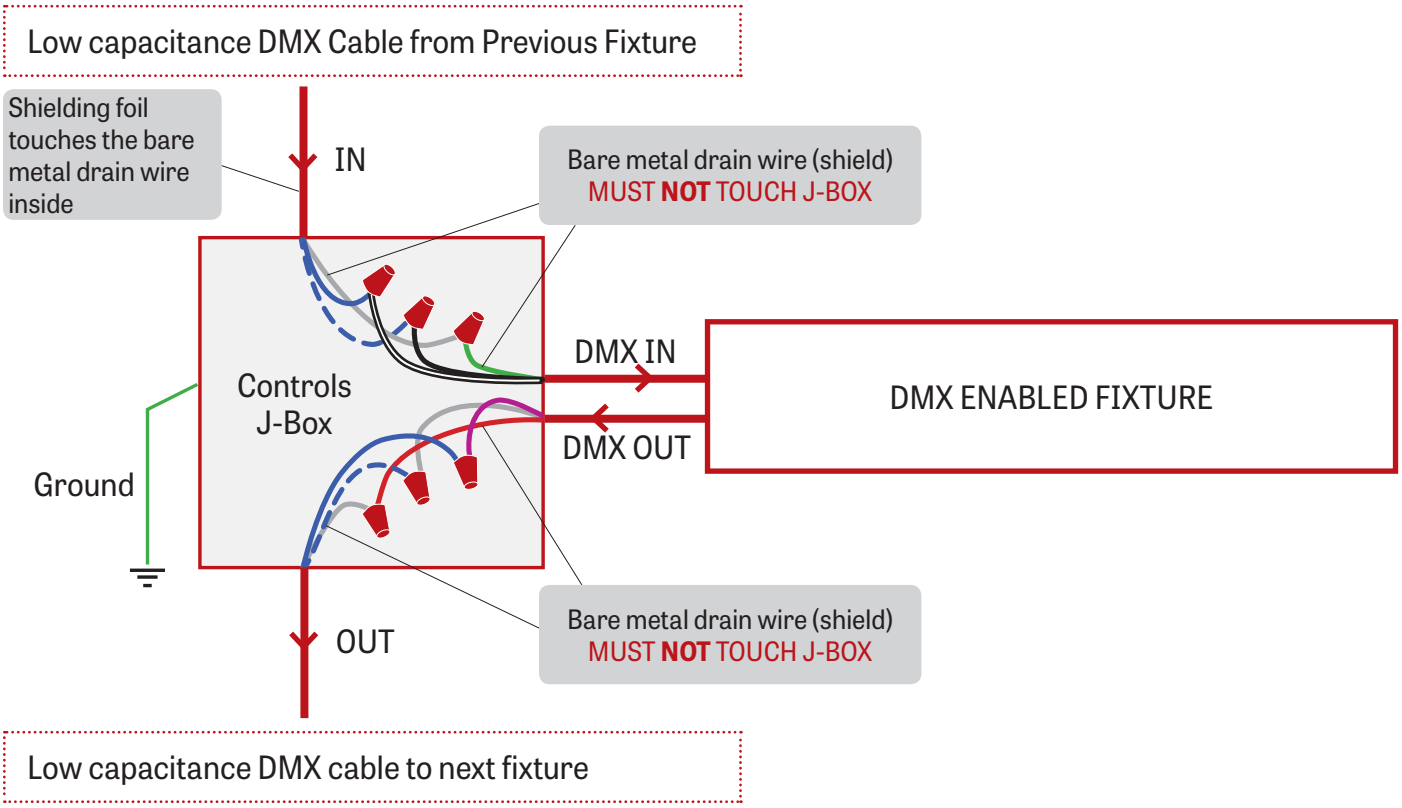
WIDESPREAD INDIRECT OPTICS - CHROMAWERX TUNABLE WHITE

1 LUMENWERX SUPPLIED DMX CONTROLLER

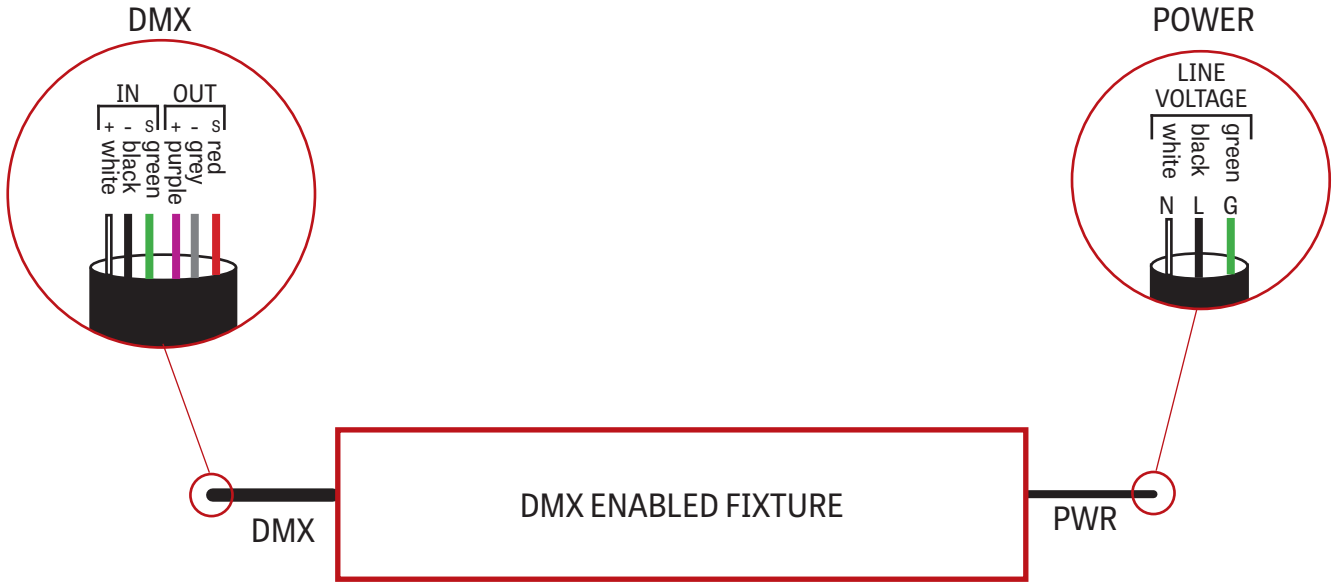


WIDESPREAD INDIRECT OPTICS - CHROMAWERX TUNABLE WHITE

2 J-BOX DMX DAISY CHAIN DETAIL

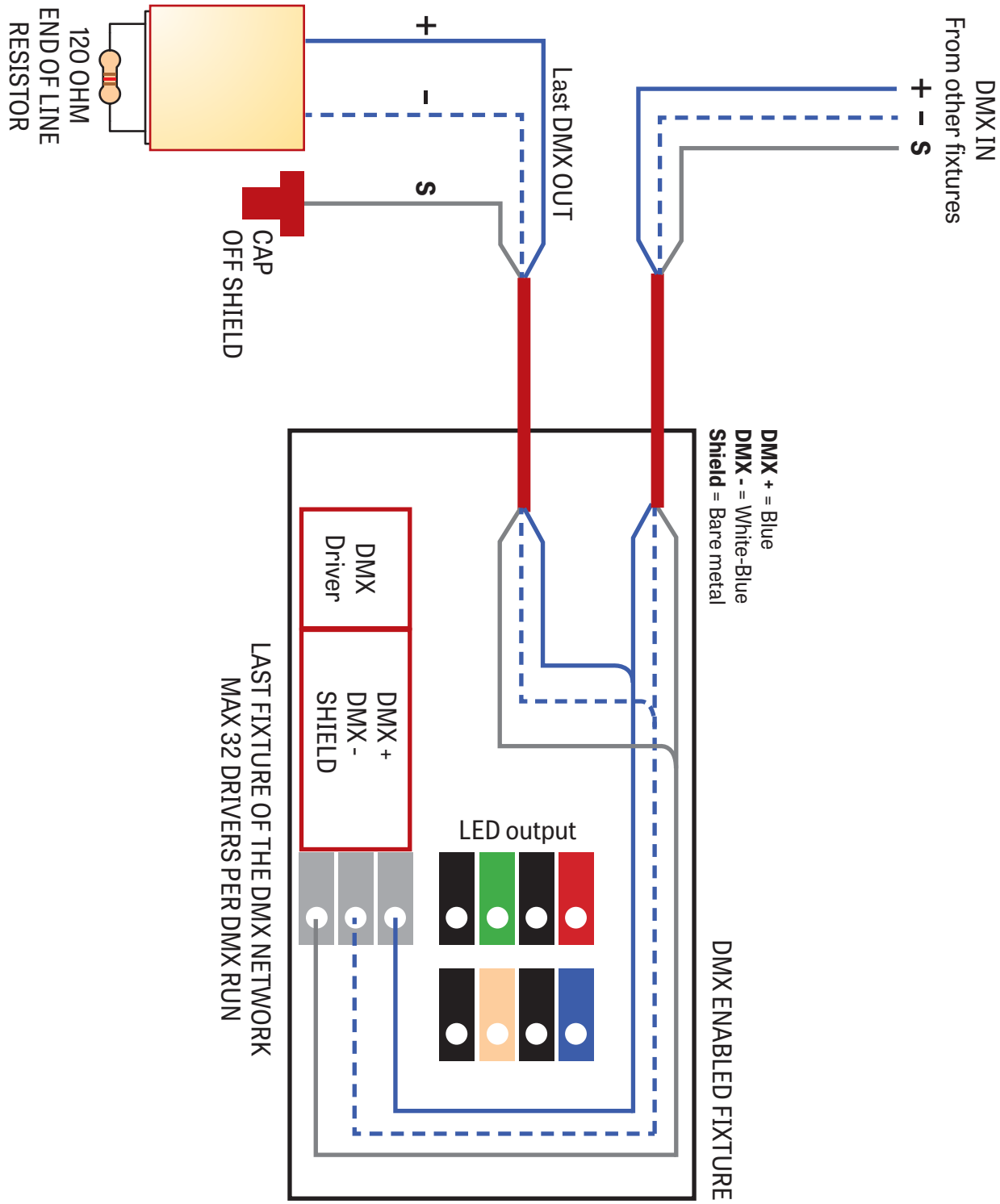


3 DMX CONNECTION PENDANT & WALL



WIDESPREAD INDIRECT OPTICS - CHROMAWERX TUNABLE WHITE

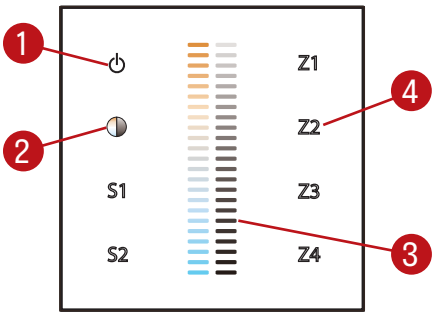
4 DMX LAST FIXTURE DETAIL



WIDESPREAD INDIRECT OPTICS - CHROMAWERX TUNABLE WHITE

DMX WALL CONTROLLER

DUO 1-4 ZONE



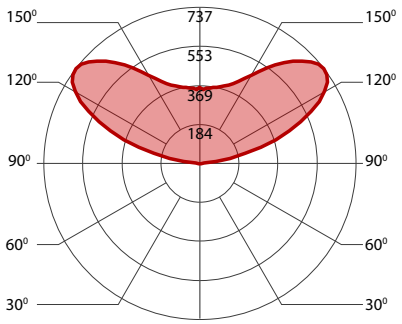
(1) Power:	Use this button to turn ON or OFF the fixture
(2) Brightness/CCT:	Use the color/brightness toggle button to chose between color/brightness. when Blue: brightness is selected, when Yellow: color is selected.
(3) Slider:	Depending on the mode chosen in 2, the slider will allow the user to set desired color or brightness.
(4) Zone select:	Up to 4 zones can be selected either independently or together. Once selected the commands will be sent to the zone identified by a Blue LED.

Default DMX Addresses:

1 Warm
2 Cool

WIDESPREAD INDIRECT OPTICS - CHROMAWERX TUNABLE WHITE AND DIM TO WARM

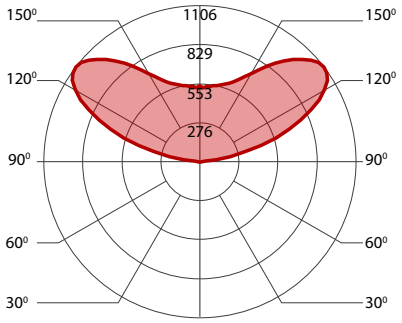
500 LUMEN AT 80CRI - LOW OUTPUT



PERFORMANCE PER 4'

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
low output	2700K	20	2000	100
low output	3000K	19.5	2000	103
low output	3500K	19	2000	105
low output	4000K	18.5	2000	109
low output	6500K	17.5	2000	113

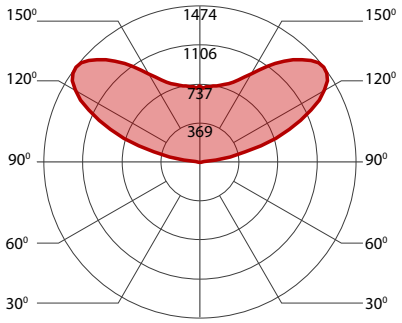
750 LUMEN AT 80CRI - MEDIUM OUTPUT



PERFORMANCE PER 4'

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
medium output	2700K	30.5	3000	99
medium output	3000K	29.5	3000	102
medium output	3500K	29	3000	104
medium output	4000K	28	3000	108
medium output	6500K	27	3000	112

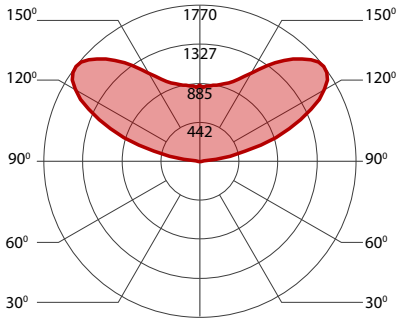
1000 LUMEN AT 80CRI - HIGH OUTPUT



PERFORMANCE PER 4'

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
high output	2700K	40	4000	100
high output	3000K	39	4000	103
high output	3500K	38	4000	105
high output	4000K	36.5	4000	109
high output	6500K	35.5	4000	113

1200 LUMEN AT 80CRI - ULTRA HIGH OUTPUT



PERFORMANCE PER 4'

LED output	Color Temp	Watts	Nominal Delivered Lumens	Efficacy LPW
ultra high ouput	2700K	48	4800	100
ultra high ouput	3000K	46.5	4800	103
ultra high ouput	3500K	45.5	4800	105
ultra high ouput	4000K	44	4800	109
ultra high ouput	6500K	42.5	4800	113