FORMA CARET PENDANT

DIRECT

LUMENWERX

5 YEAR WARRANTY **5**

DESCRIPTION

Timeless in appearance and flexible in function, the decorative Forma pendants embody the simple beauty of geometric design and the sophisticated power of innovative technology. The conical Caret, the truncated-cone-shaped Tote, and the hemisphere Cupola luminaires are each equipped with our Unity Pointed (UP) technology, which delivers lens brightness uniformity across all shapes and sizes within the same lumen output.

CCC⟨HROMAWERX

CARET 8"

CARET 12"

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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Project: _____

Type: _____

Order Guide

LUMINAIRE ID	SIZE	DISTRIBUTION	OPTIC	LIGHT SOURCE	CRI Specify NA for Solid Color	LUMEN PACKAGE
FCARP		**D**	**HLO**			
FCARP - Forma Caret Pendant	8IN - 8" diameter 12IN - 12" diameter	D - Direct	HLO - High-Efficiency Lambertian Optic	SW - Static white FS - Full spectrum BIOSST - Static biologically-optimized lighting BIOSDY - Dynamic biologically-optimized lighting SOLA - Dim-to-warm single channel control 35K to 22K DUO - Tunable White 2-channel control 65K to 27K RS - Red solid GS - Green solid BS - Blue solid	**80CRI** [1] - 80 CRI **90CRI** [1,2] - 90 CRI **95CRI** [3] - 95 CRI **NA** - Not applicable [1] Not available with full spectrum. [2] Not available with BIOS. [3] Only available with full spectrum.	SW, SOLA, DUO <table><tr><td></td><td>Low</td><td>Medium</td><td>High [4]</td></tr><tr><td>8"</td><td>x</td><td>500LM</td><td>700LM</td></tr><tr><td>12"</td><td>800LM</td><td>1200LM</td><td>1600LM</td></tr></table>[4] Not available with full spectrum or BIOS. Solid Colors (RS, GS, BS) <table><tr><td>8"</td><td>6W</td></tr><tr><td>12"</td><td>14W</td></tr></table>

COLOR TEMPERATURE Specify NA for Sola, Duo and Solid Color	VOLTAGE	DRIVER [6]		ELECTRICAL
				1C
27K [5] - 2700K **30K** - 3000K **35K** - 3500K **40K** - 4000K **NA** - Not applicable [5] Not available with BIOS.	**120V** - 120V **277V** - 277V **UNV** - 120V-277V	<u>SW</u> **D1** - 1% 0-10V **DA** [7] - DALI **LTEA2W** [8] - Lutron 1% - 2 wire FP 120V **LDE1** [7] - Lutron Hi-lume 1% Eco **ELD1** - eldoLED 1% ECOdrive 0-10V **ELD0** - eldoLED 0.1% SOLOdrive 0-10V <u>SOLA</u> **SD1** - Single 0-10V input	<u>DUO</u> **DDA** [7] - DALI DT6 **DDA8** [8] - DALI DT8 **DD1** - Dual 0-10V input for CCT/intensity **PSQ0** [7] - Lutron T-Series 1% tunable white **RDMX** [7] - Remote DMX <u>Soild Colors</u> **D1** - 0-10V [6] PoE (Power-over-Ethernet) compatible. Consult factory for details. [7] On-site commissioning is required. [8] Available with 120V only.	**1C -** 1 circuit

MOUNTING [9]	BODY FINISH [10]	INNER TRIM FINISH [11]
PCS - Power cord, standard **STS** - Stem, standard **PCC( )** - Power cord, custom **STC( )** - Stem, custom [9] See page 3 for ordering details.	**TMW** - Textured matte white **TMB** - Textured matte black **CF#** - Custom finish, specify RAL# [10] See page 4 for more finish options.	**TMW** - Textured matte white **TMB** - Textured matte black **CF#** - Custom finish, specify RAL# [11] See page 4 for more finish options.

Accessories
Optional, order separately

DMX WALL CONTROLLER [12]
WCW - Wall controller white **WBW** - Wall controller black [12] Available with DMX only. For more information, see pages 8 to 11, or consult factory.

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Pendant Mounting Code

Standard

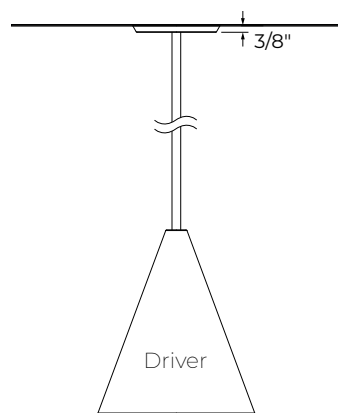For a standard mounting, please refer to the information below.

MOUNTING

PCS - Power cord	**STS** - Stem
Ø5" canopy Canopy is white Power cord is white for all fixture finishes (except black fixture is black power cord) Power cord length is 36"	Ø5" canopy Canopy is white Stem finish is the same color as fixture Stem length is 18" Stem is not field adjustable

↕ 3/8" Driver | ↕ 3/8" Driver

Custom

Power cord

For a custom mounting, specify the options in the parentheses.

Example: PCC(36IN-TMW-PCW)

MOUNTING
PCC( )

	POWER CORD LENGTH	CANOPY FINISH	POWER CORD COLOR
PCC	**36IN** - 36" **72IN** - 72" **#IN** [1] - Other lengths, specify in inches [1] Minimum length is 18". Maximum length is 72". For longer lengths, please consult factory.	**TMW** - Textured matte white **TMB** - Textured matte black **CF#** - Custom finish, specify RAL#	**PCW** - White **PCB** - Black

Stem

For a custom mounting, specify the options in the parentheses.

Example: STC(18IN-TMW-STW)

MOUNTING
STC( )

	STEM LENGTH	CANOPY FINISH	STEM COLOR
STC	**18IN** - 18" **36IN** - 36" **#IN** [2] - Specify length in inches [2] Minimum length is 7". Maximum length is 72". Stem is not field adjustable.	**TMW** - Textured matte white **TMB** - Textured matte black **CF#** - Custom finish, specify RAL#	**STW** - White **STB** - Black **STCF#** - Custom finish, specify RAL#

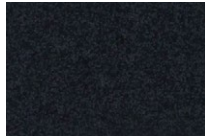cETLus Intertek   bios   PoE

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Fixture Finishes

Standard
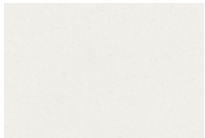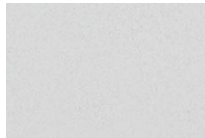
TMW - Textured Matte White
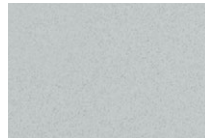**TMB** - Textured Matte Black
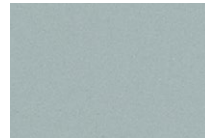
Custom

Neutrals

CRM - Cream
GRY - Gray
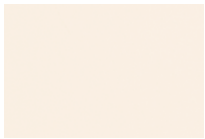**STG** - Steel Gray
SAG - Sage Gray
MOG - Moss Gray
BLB - Black Blue

Designer

ALM - Almond
QRZ - Quartzite Texture
RST - Rust Fine Texture
GRB - Green Beige
YLW - Yellow
SLM - Salmon Pink
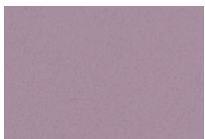
VIO - Pastel Violet
RED - Red
PRR - Purple Red
SMB - Storm Blue
DPB - Deep Blue
OCB - Ocean Blue

BLG - Blue Green
GNS - Green Smoke
MNG - Mint Green
LMG - Lime Green
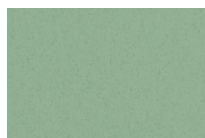
Metallics
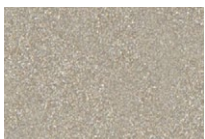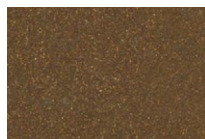
SND - Sand
GLD - Gold
DGD - Dark Gold
IRN - Iron Ore
CNY - Canyon
SBP - Sandblast Copper
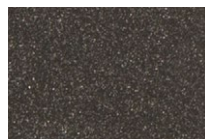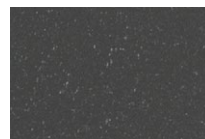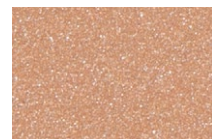
SWD - Sandalwood

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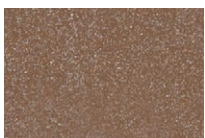
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Dimensions

Ø8"

Ø 1 3/32"

10 1/2"

Ø 8 7/8"

Ø12"

Ø 1 9/16"

12 1/2"
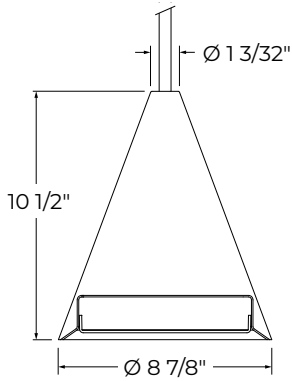
Ø 13 1/2"
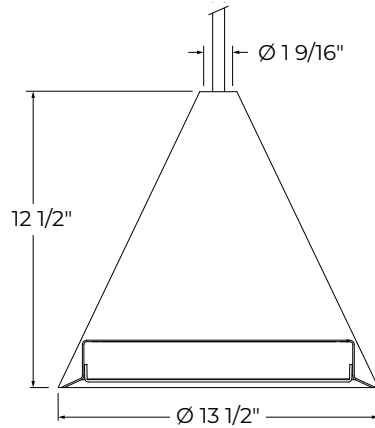
Photometrics

Delivered Lumens at 35K at 80 CRI

Ø8"

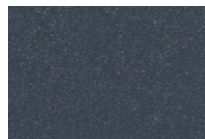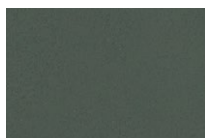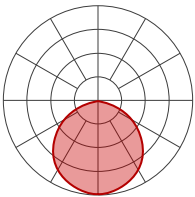| LED OUTPUT	DELIVERED LUMENS	INPUT WATTAGE	EFFICACY LPW
Medium output	500	5.3	94
High output	700	7.6	92

Ø12"
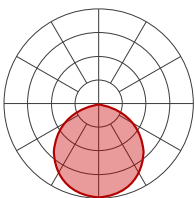
LED OUTPUT	DELIVERED LUMENS	INPUT WATTAGE	EFFICACY LPW
Low output	800	8.8	91
Medium output	1200	13.5	89
High output	1600	18.4	87

Multiplier - CCT/CRI

CCT (K)	WATTS		LPW	
	CRI80	CRI90	CRI80	CRI90
2700	1.05	1.26	0.95	0.79
3000	1.01	1.23	0.99	0.81
3500	1.00	1.20	1.00	0.84
4000	1.00	1.17	1.00	0.85

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Technical Specifications

OPTIC

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-flux LEDs are mounted directly to the 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 maintained to within 3 SDCM. LEDs 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. Optional full spectrum LEDs can be incorporated in the fixture to increase Cyanosis Observation Index (COI) and assist in regulating circadian rhythms.

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 (490 nm) to align better with the peak response of circadian stimulus. Also note the enhanced deep-red (near 660 nm) spectrum.
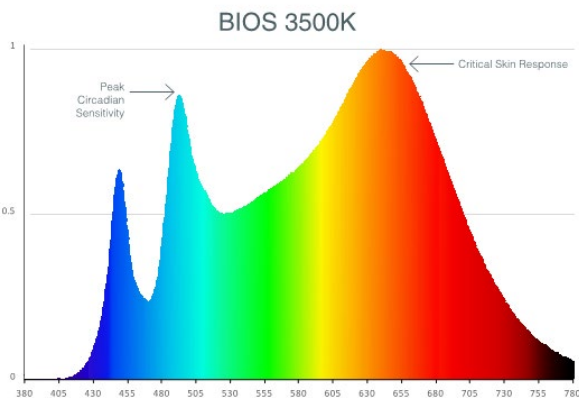
CHROMAWERX - TUNABLE WHITE

Chromawerx SOLA
Chromawerx SOLA is single-channel control that dims output while warming the color temperature in a pre-determined relationship. A simple analog control adjusts a specially populated LED array to emulate the effect of dimming a filament source.

Chromawerx DUO
Chromawerx DUO offers a two-channel control system which uses analog or digital protocols for synchronous control of both cool (6500K) to warm (2700K) LED arrays - maintaining a CRI above 90. The range of color DUO offers is useful for entraining circadian rhythms, stimulating alertness, and compensating for jet lag among other applications. The Chromawerx drivers are programmed to limit maximum light output and power usage across all color temperatures.

Chromawerx Solid colors
For dramatic coloration, Forma Caret 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 (and70°C max. case) temperature. At maximum driver load: Efficiency>84%, PF>0.9, THD<20%. Other specifiable options include Lutron Hi-Lume 1% (specify 2-wire, or Ecosystem Dim-to-Off), 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.

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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FINISH

Interior - 95% reflective, matte white powder coating.
Exterior - Standard powder-coat paint available in textured matte white and black. Custom colors are also available in over 30 colors.

CONSTRUCTION

Housing - Spun aluminum
Canopy - Spun sheet metal
Lens - Thermoformed acrylic

WEIGHT

8" - 3.1 lbs - 1.4 kg
12" - 5.9 lbs - 2.8 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.

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** <u>contact information of your DMX integrator.</u>

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

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

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GENERIC DMX NETWORK ARCHITECTURE

Lumenwerx supplied DMX controller

Network & control by others

(1)

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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DMX WALL CONTROLLER - TUNABLE WHITE

Default DMX Addresses:

1. WARM | 2. COOL

DUO 1-4 ZONE

① ⏻   Z1   ④
②   Z2
S1   Z3
S2   Z4   ③
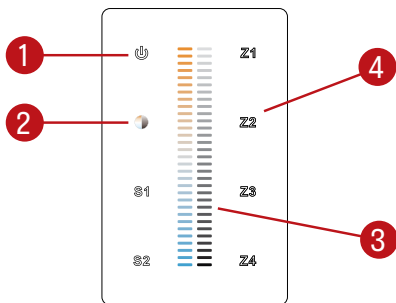
(1) Power: Use this button to turn ON or OFF the fixture.

(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

Power Supply 120-240V AC / 24VDC

DC out

N   BLUE   Neutral
L   DC in   BROWN   Line
Ground

Electrical J-Box

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bios   PoE

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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 REMOTE DRIVER BOX

DMX OUT

Ground

OUT

Bare metal drain wire (shield) MUST **NOT** TOUCH J-BOX
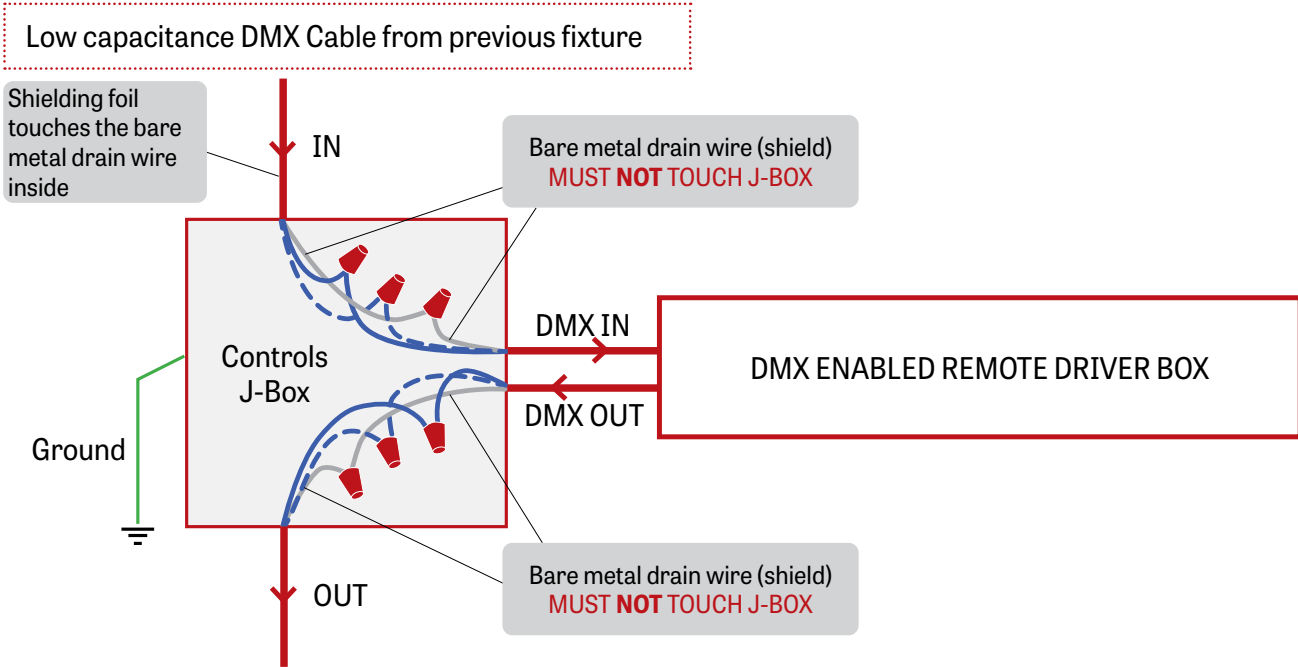
Low capacitance DMX cable to next fixture

3 DMX CONNECTION PENDANT & WALL REMOTE DRIVER

DMX

IN   OUT

| Shield | DMX - | DMX + | Shield | DMX - | DMX + |

DMX + = Blue
DMX - = White-Blue
Shield = Bare metal

POWER

LINE VOLTAGE

white   black   green

N   L   G

PWR

DMX ENABLED REMOTE DRIVER BOX

LOW VOLTAGE LED OUTPUT

DMX

cETLus
Intertek

biOs   PoE