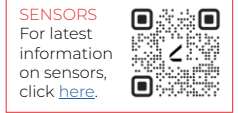


TOGO

PENDANT

STATIC WHITE, SOLA, DUO, QUADRO

 Lumenwerx



DESCRIPTION

Togo provides generous ambient illumination from a minimal and elegant ring form. Nestled in a crisp 4" high opaque band, the distinctive, annular diffuser glows inwardly. The diffuser's softly rounded compound curve lends Togo a slender appearance. Available in \varnothing 18", \varnothing 24", \varnothing 36", and \varnothing 48". Togo delivers efficient, widespread, direct/indirect illumination (65/35) with spacing criteria of 1.6 and a range of light outputs.

Togo's outer housing of extruded aluminum is welded and buffed to a seamless band that can be painted in our nine standard finishes, or an RAL custom color, to coordinate with virtually any interior finish.

Togo supports the full range of Chromawerx SOLA, DUO, and QUADRO options for tunable white and RGBW expressive color.



Project: _____

Type: _____

Order Guide

LUMINAIRE ID	SIZE	OPTIC	LIGHT SOURCE	CRI	LUMEN PACKAGE				
TOGP		ULO		90CRI					
TOGP - Togo Pendant	18IN - Ø 18" 24IN - Ø 24" 36IN - Ø 36" 48IN - Ø 48"	ULO - Uniform Lambertian Optic	SW - Static white SOLA - Dim-to-warm single channel control 35K to 22K DUO - Tunable white 2-channel control 65K to 27K QUADRO - RGBW 4-channel control	90CRI - 90+ CRI	<u>SW, SOLA, DUO</u>			<u>QUADRO</u>	
					Low	Medium	High		
					Ø 18"	1800LM	2500LM	3200LM	41W - 41 W output
					Ø 24"	2500LM	3500LM	4500LM	54W - 54 W output
					Ø 36"	3800LM	5300LM	6800LM	81W - 81 W output
					Ø 48"	5000LM	7000LM	9000LM	109W ¹ - 109 W output

¹Two power cords will be required.

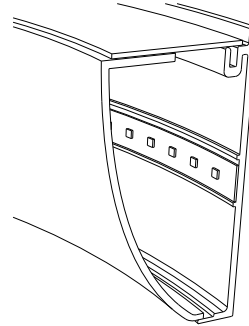
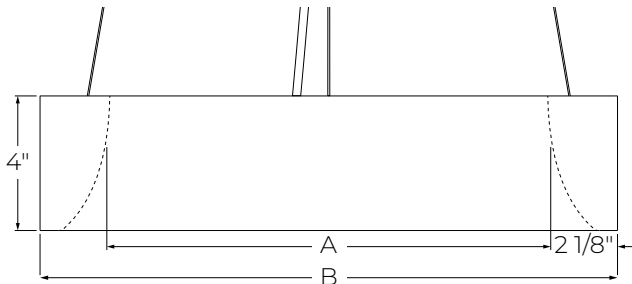
COLOR TEMPERATURE	VOLTAGE	DRIVER	ELECTRICAL ⁷
Specify NA for SOLA, DUO			1C
27K - 2700K 30K - 3000K 35K - 3500K 40K - 4000K 50K - 5000K NA - Not applicable	120V - 120V 277V - 277V UNV - 120V-277V 347V ² - 347V ² Available with RD1 only.	CANOPY DRIVER ³ <u>SW</u> DI ⁴ - 1% 0-10V ELV ⁴ - ELV 120V TRI ⁴ - TRIAC 120V DA ⁵ - DALI LDEI ⁵ - Lutron Hi-lume 1% Eco ELDI - eldoLED 1% ECOdrive 0-10V ELDO - eldoLED 0.1% SOLOdrive 0-10V <u>SOLA</u> SDI - single 0-10V input <u>DUO</u> DDA ⁵ - DALI DT6 DDA8 ⁵ - DALI DT8 DDI - Dual 0-10V input for CCT/intensity LD2 ⁵ - Lutron DALI-2 digital ³ Only available with RCD option. ⁴ Available with 120V only. ⁵ On-site commissioning is required. ⁶ Only available with RDB option.	REMOTE DRIVER ⁶ <u>SW</u> RD1 - 1% 0-10V RELV ⁴ - ELV 120V RTRI ⁴ - TRIAC 120V RDA ⁵ - DALI RLDEI ⁵ - Lutron Hi-lume 1% Eco RELDI ⁵ - eldoLED 1% ECOdrive 0-10V RELDO - eldoLED 0.1% SOLOdrive 0-10V <u>SOLA</u> RSDI - single 0-10V input <u>DUO</u> RDMX ⁵ - DMX RDDA ⁵ - DALI DT6 RDDA8 ⁵ - DALI DT8 RDDI - Dual 0-10V input for CCT/intensity RLD2 ⁵ - Lutron DALI-2 digital <u>QUADRO</u> RDMX ⁵ - DMX ⁷ For other circuit configurations, consult factory.

MOUNTING ⁸				FINISH											
DRIVER BOX RCD ^{9,10,11} - Round canopy driver box RDB - Remote driver box ⁸ For more information, see page 4 ⁹ For SOLA and DUO, RCD is only available for lumen packages of 3500 lm or less. ¹⁰ For static white, RCD is not available for lumen packages over 6000 lm. ¹¹ RCD is not available with 347V.	CANOPY FINISH W - Matte white AL - Aluminum B - Matte black CF# - Custom finish, specify RAL#	POWER POC ¹² - Power-over-aircraft cable BAC - Black power cord + aircraft cable WAC - White power cord + aircraft cable ¹² Not available with DMX.	MOUNTING POINTS SC - Single canopy MC ^{13,14} - Multiple canopies ¹³ 4 canopies provided. ¹⁴ With the RCD option, the type of each canopy may differ based on the selected lumen package and driver options. Consult factory for details.	MOUNTING CABLE LENGTH ¹⁵ 18IN - 18" 24IN - 24" 36IN - 36" 48IN - 48" 60IN - 60" 72IN - 72" 96IN - 96" 120IN - 120" ##IN - Specify nominal length in inches ¹⁵ For single canopy option, the minimum required mounting heights are (distance from ceiling to top of fixture in inches): <table border="1"> <thead> <tr> <th>Fixture size</th> <th>Minimum height</th> </tr> </thead> <tbody> <tr> <td>Ø 18"</td> <td>11"</td> </tr> <tr> <td>Ø 24"</td> <td>15"</td> </tr> <tr> <td>Ø 36"</td> <td>22"</td> </tr> <tr> <td>Ø 48"</td> <td>29"</td> </tr> </tbody> </table>	Fixture size	Minimum height	Ø 18"	11"	Ø 24"	15"	Ø 36"	22"	Ø 48"	29"	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#
Fixture size	Minimum height														
Ø 18"	11"														
Ø 24"	15"														
Ø 36"	22"														
Ø 48"	29"														

PENDANT

STATIC WHITE, SOLA, DUO, QUADRO

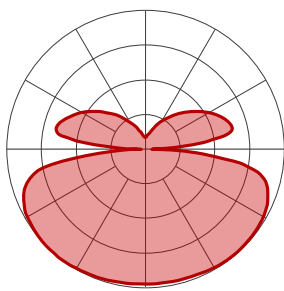
Dimensions



NOMINAL LENGTH	A	B
Ø 18"	Ø 14 1/4"	Ø 18 3/8"
Ø 24"	Ø 19 7/8"	Ø 24 1/8"
Ø 36"	Ø 31 3/8"	Ø 35 5/8"
Ø 48"	Ø 43 3/4"	Ø 48"

Photometrics

Values calculated based on 3500K and 90+ CRI.



Ø 18"

LM	WATTS	LM/W
1800	19	95
2500	27	92
3200	35.5	90

Ø 24"

LM	WATTS	LM/W
2500	26.5	95
3500	38	92
4500	50.5	89

Ø 36"

LM	WATTS	LM/W
3800	40	95
5300	57.5	92
6800	76.5	89

Ø 48"

LM	WATTS	LM/W
5000	52.5	95
7000	76	92
9000	101	89

MULTIPLIER TABLE

Use this table to get results for different color temperatures for all photometric tables.

CCT	WATTS	LPW
2700K	1.07	0.93
3000K	1.04	0.97
3500K	1.00	1.00
4000K	0.98	1.02
5000K	0.92	1.09

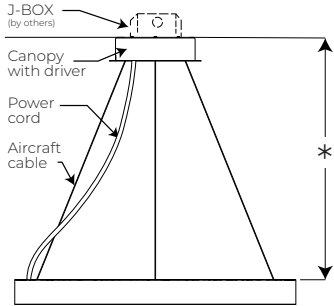
PENDANT
 STATIC WHITE, SOLA, DUO, QUADRO

Mounting Options

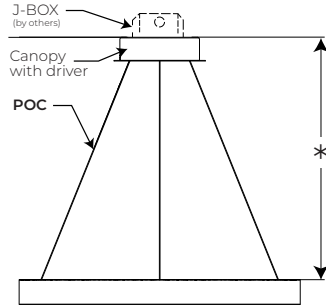
RCD - ROUND CANOPY DRIVER BOX

SC - SINGLE CANOPY

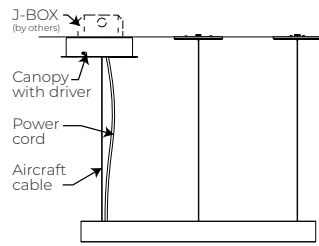
MC - MULTIPLE CANOPY



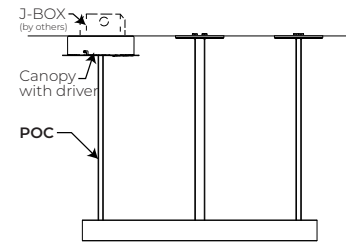
AC - Aircraft cable



POC - Power-over-aircraft cable



AC - Aircraft cable

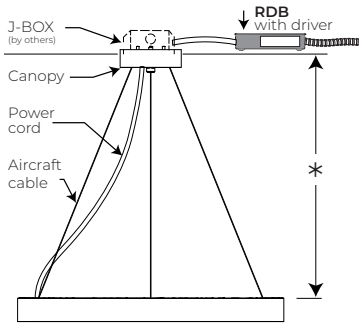


POC - Power-over-aircraft cable

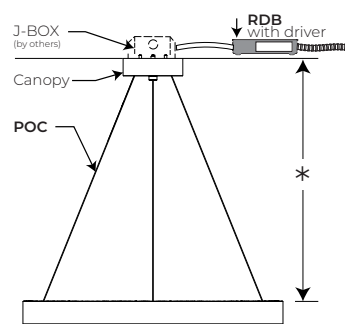
RDB - REMOTE DRIVER BOX

SC - SINGLE CANOPY

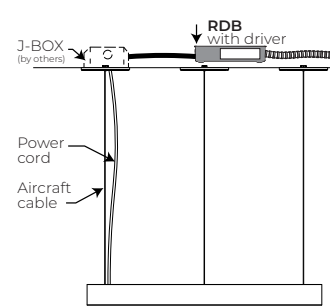
MC - MULTIPLE CANOPY



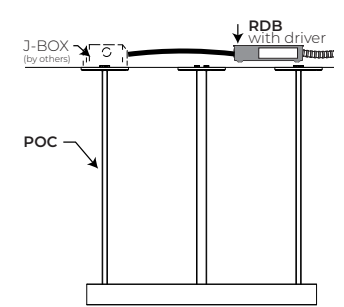
AC - Aircraft cable



POC - Power-over-aircraft cable



AC - Aircraft cable



POC - Power-over-aircraft cable

*minimum height

For single canopy option, the minimum required mounting heights:

Fixture size	* Minimum height
Ø 18"	11"
Ø 24"	15"
Ø 36"	22"
Ø 48"	29"

Technical Specifications

OPTIC

Uniform Lambertian Optic (ULO)

Thermoformed from impact-modified white PMMA, the ULO provides even luminosity, with up to 88% transmission. Combined with the LED array running around the inside of the housing, the open form and ULO create a widespread 67% inward and 33% outward light distribution with spacing criteria of 1.6.

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, 4000K, and 5000K with 90+ CRI with elevated R9 value. Color consistency is maintained to 3 SDCM. LEDs are operated 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 are greater than 60,000 hours. Absolute product photometry is measured and presented in accordance with IESNA LM-79, unless otherwise indicated.

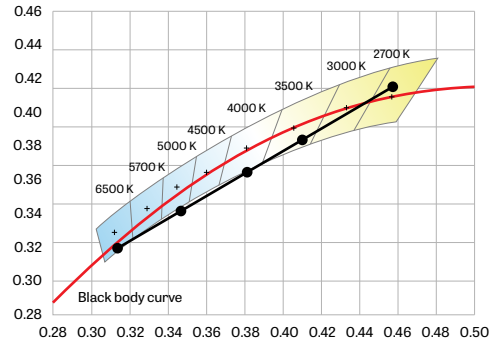
Chromawerx SOLA

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

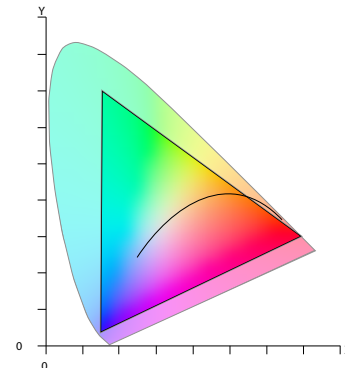
It is a two-channel control. It uses an analog (0-10V) protocol for separate control of luminaire CCT and intensity or a digital (DMX, DALI and LD2) protocol for synchronous control of both warm and cool LED arrays to enable the user to set color temperature and light output. Commonly called "tunable 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.

ANSI C78.377-2015



Chromawerx QUADRO

Chromawerx QUADRO is a four-channel control that operates an RGBW LED array and addresses the need for more expressive color in architectural applications. The DMX driver supports familiar programming tools for both dynamic multi-hued color and precise white color point control. While a typical user interface will be a DMX controller by others, Lumenwerx also offers a simple control station for stand-alone color changing applications.



ELECTRICAL

Static white

Factory-set, adjustable output current LED driver with universal (120-277 VAC) 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% Eco, eldoLED 1% ECOdrive 0-10V, eldoLED 0.1% SOLOdrive 0-10V, ELV, TRIAC, and DALI protocol drivers. All of our standard 0-10V drivers are NEMA 4i0 compliant. ELV and TRIAC dimming performance (including minimum dimming percentage) subject to dimmer selection.

PENDANT

STATIC WHITE, SOLA, DUO, QUADRO

SOLASD1

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%.

DUODMX

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%.

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.

QUADRODMX

Factory-set, adjustable output current, multi-channel LED driver with universal (120-277 VAC) input. Using DMX wall controls (optionally supplied by Lumenwerx) or an existing DMX control system, four channels of LEDs (Red/Green/Blue/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%.

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

Pendant fixtures can be mounted either with power-over-aircraft cable or with aircraft cable.

FINISH

Interior: 95% reflective matte powder coated white paint

Exterior: Matte white, matte black, aluminum and a range of vibrant color powder coating. Custom finishes are also available.

CONSTRUCTION

Housing: Rolled and seamlessly welded aluminum

Lens: Acrylic

WEIGHT

Ø 18": 4.4 lbs - 2 kg

Ø 24": 9.3 lbs - 4.2 kg

Ø 36": 12 lbs - 5.4 kg

Ø 48": 15 lbs - 6.8 kg

CERTIFICATION

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 on 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.