

RECESSED PATTERN

DIRECT

SEALWERX SERIES



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RECESSED PATTERN DIRECT

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Туре:	

Order Guide

DRIVER 16

LUMINAIRE ID	DISTRIBUTION	ENVIRONMENT 1	OPTIC	LIGHT SOURCE 3	CRI
V2SEALRPAT	D				
Via 2" Seal IP Recessed Pattern IP	IP66 - IP66-Rated IP65EC - IP65-Rated Electrical Components IP44 - IP44-Rated	Protected Direct Optic ASDO - Asymmetric Soft	SW - Static white FS - Full spectrum static white	80CRI ⁵ - 80+ CRI 90CRI ^{5,6} - 90+ CRI 95CRI ⁷ - 95+ CRI	
	See page 4 for more information on the features and installation details for each environment option. Fixture must be installed with direct lens facing down.		BIOSST ⁴ - BIOS Biological Static BIOSDY ⁴ - BIOS Biological Dynamic BIOSTU ⁴ - BIOS Biological Tunable	⁵ Not available with full spectrur ⁶ Not available with BIOS.	
		Direct Optic	Chromawerx SOLA and DUO also available. Consult factory for RGBW. See page 6 for details.	⁷ Only available with full spectrum.	

LUMEN PACKAGE	COLOR TEMP.	PATTERN LENGTH	CORNER TYPE ¹¹		VOLTAGE
350LMF - Low output 350 lm/ft 500LMF - Medium output 500 lm/ft	27K ⁹ - 2700K 30K - 3000K	##FT##IN(#X#FT#IN-#X#FT#IN) ¹⁰ -	#LEV2C(A##) - 2-way leveled corner	<u>ANGLE (A##):</u> (A90) - 90°	120V - 120V 277V - 277V
750LMF * - High output 750 lm/ft *Not available with BIOS.	35K - 3500K 40K - 4000K 50K ⁹ - 5000K	##FT##IN: total nominal length of pattern in feet and/or inches #X: quantity of each section	#INN2C(A90) ^{12,13} - 2-way inner corner	(A##) ¹⁴ - Custom	UNV - 120V-277V 347V 15 - 347V
	⁹ Not available with BIOS.	#FT#IN: nominal length of each section in feet and/or inches	¹¹ Specify quantity (#) and angle (A##) for each requi If more than one option is specified, separate code 1LEV2C(A60)+2INN2C(A90).		¹⁵ Available with D1 driver only.
		Continuous runs: lengths over 12'	¹² Only available with 90°. ¹³ Only available with IP65EC environment option. ¹⁴ Minimum angle is 45°.		
		¹⁰ Minimum 2'.	- Inminian angle is is :		

D1 - 1% 0-10V	1C - 1 circuit	#EC## ²⁵ - Emergency-powered section
ELV 17 - ELV 120V	#MC ¹⁹ - Multi circuit	#NL## 25 - Night light section
TRI 17 - TRIAC 120V	EC - Emergency-powered fixture	#DL## ²⁵ - Daylight section
DA 18 - DALI	NL - Night light fixture	#GTD## ^{25, 26, 27, 28} - Generator transfer device section
LDE1 18 - Lutron Hi-lume 1% Eco	DL - Daylight fixture	#EMB ^{27, 28, 29, 30} - Emergency battery
ELD1 - eldoLED 1% ECOdrive 0-10V	GTD ^{20, 21, 22} - Generator transfer device fixture	NA - None
ELDO - eldoLED 0.1% SOLOdrive 0-10V		
RLTD10 - Low-temperature 10% 0-10V	¹⁹ Specify total number of circuits (#), including any circuits	²³ Specify with multi circuit (#MC) electrical option only.
	required for electrical section options. Provide drawing or layout	²⁴ Provide drawing or layout specifications. Consult factory for other configurations. Default
¹⁶ See page 4 for driver temperature ranges.	specifications. Minimum 4' section per circuit.	section length is 4'.
¹⁷ Available with 120V only.	²⁰ Minimum 4' fixture.	²⁵ Specify quantity (#), and section length in inches (##).
¹⁸ On-site commissioning is required.	²¹ Not available with 347V.	²⁶ Minimum 4' section.
	²² Not available for environments where the ambient temperature	²⁷ Not available with 347V.
	falls below 0°C (32°F).	²⁸ Not available for environments where the ambient temperature falls below 0°C (32°F).
		²⁹ Specify quantity (#). All batteries will be on the same circuit. Each battery powers a 4' section.
		³⁰ Only available with IP44.

POWER FEED	MOUNTING	FINISH	OPTION
TF - Top feed EF - End feed	TG9 - Tegular 9/16" TG15 - Tegular 15/16" TB9 - T-bar 9/16" TB15 - T-bar 15/16" ST - Screw slot T-bar DTR - Trim DTL - Trimless DMF - Drywall mud flange	W - Matte white AL - Aluminum B - Matte black WA - White antimicrobial Silverwerx CF# - Custom finish, specify RAL#	CRF - Corrosion-resistant finish NA - None

ELECTRICAL

ELECTRICAL SECTIONS (optional) 23,24





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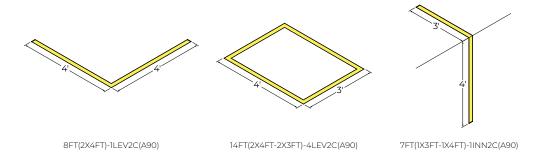
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Pattern Layout

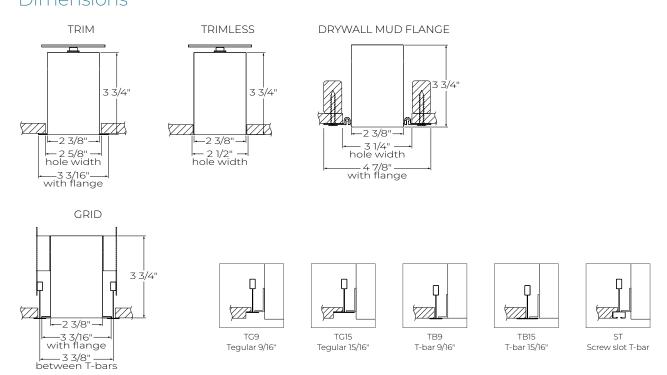
CORNER TYPES



EXAMPLES



Dimensions







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Environment Options

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IP6	6		5 EC Components	IP4	4		
Dust tight	High water resistance	Dust tight	Moderate water resistance	Particles larger than 1mm protected	Water splash resistance		
	OUTDOOR						
	oosed to the nents		exposure to ements	Under canopy, not exposed			
		IND	OOR				
Wipe down application Healthcare application Cleanroom application							
	lens gasket external end cap gasket internal end cap gasket						
External joiner gasket every 12' Continuous line of light over 12'							
	sealed enclos onnections: v		st proof				
LED boards	s: conformal c	coated for ma	aximum				

Ambient Temperature Range based on driver selection					
LDE1	ELV / TRI	DA/ELD1/ELD0	DI	RLTD10	
0 °C / 32 °F	-10 °C / 14 °F	-20 °C / -4 °F	-30 °C / -22 °F	-40 °C / -40 °F	
	LDE1	based on di	based on driver selection LDE1 ELV/TRI DA/ELD1/ELD0	based on driver selection LDE1 ELV/TRI DA/ELD1/ELD0 D1	

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Photometrics

Values calculated based on a 4' fixture at 3500K and 80+ CRI for all optics.

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LM/FT	W/FT	LM/W
350	3.5	99
500	5.2	97
750	8.2	92



LM/FT	W/FT	LM/W
350	4.3	82
500	6.3	79
750	10.0	75

MULTIPLIERS

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

Multiplier - CCT/CRI

ССТ	WATTS		LP	w
	80+ CRI	90+ CRI	80+ CRI	90+ CRI
2700K	1.05	1.27	0.95	0.79
3000K	1.02	1.23	0.98	0.81
3500K	1.00	1.19	1.00	0.84
4000K	1.00	1.19	1.00	0.84
5000K	0.96	1.12	1.04	0.89

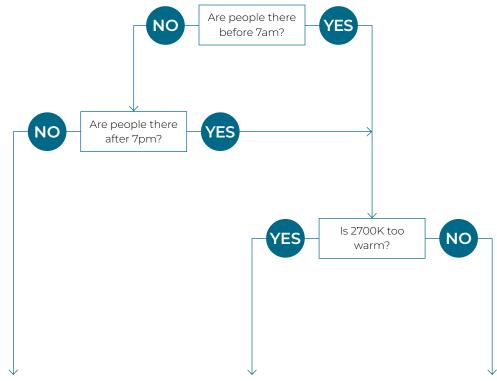




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BIOS

Three BIOS Circadian LED solutions are offered – Biological Static, Biological Dynamic, and Biological Tunable. Use the decision tree below to identify when and where to use BIOS Wellness LED Lighting Solutions.



Biological Static BIOSST	Biological Dynamic BIOSDY	Biological Tunable BIOSTU
No CCT change when dimmed	500K shift when dimmed	Dims to 2700K
Daytime solution	Daytime + evening solution	Daytime + evening solution
Spaces in operation during daytime hours, between 7am and 7pm	Spaces in operation overnight, after 7pm and before 7am, and when CCT color shift in the evening is not preferred	Suitable for spaces in operation overnight, after 7pm and before 7am, and where people do not sleep (CCT color shift in the evening is preferred)
E.g. offices, medical/dental offices	E.g. hospitals	E.g. offices, shiftwork
360 400 500 140 500 100 100 100 100 100 100 100 100 10	Daytime	Daytime



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Technical Specifications

OPTICS

Environmentally Protected Direct Optic (EPDO)

The Environmentally Protected Direct Optic creates a seal that blocks debris and moisture, and withstands UV distortion and moderate impact. This extruded snap-in lens has a gasket to ensure proper sealing. The lens is 1/16" thick and made of frosted polycarbonate. Internally, white, side kicking reflectors guide the light through the lens. The EPDO suits moderate climate environments.

Asymmetric Soft Direct Optic (ASDO)

The Asymmetric Soft Direct Optic creates a seal that blocks debris and moisture, and withstands UV distortion and moderate impact. This extruded snap-in lens has a gasket to ensure proper sealing. The lens is 1/16" thick and made of frosted polycarbonate. Internally, white, side kicking reflectors specifically angled to guide the light through the lens to create a nice asymmetric distribution. The ASDO suits moderate climate environments.

LIGHT SOURCE

Static white

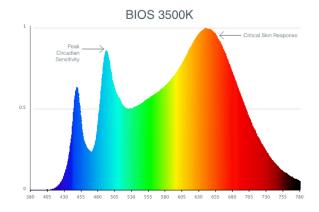
Custom linear array of mid-flux LEDs are cartridge-mounted with quick-connect wiring to facilitate service and thermal management. Available in 2700K, 3000K, 3500K, 4000K, and 5000K with a minimum 80+ CRI and an option for 90+ CRI with elevated R9 value. Color consistency maintained to within 3 SDCM. 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.

Full spectrum static white

The full spectrum LED option offers improved color particularly in the cyan region which helps increase Cyanosis Observation Index (COI) and assist in regulating circadian rhythms. The cyan region in full spectrum LED is richer at the 480 nm range.

BIOS

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.



Three BIOS solutions are offered: BIOS Biological Static (BIOSST), BIOS Biological Dynamic (BIOSDY), and BIOS Biological Tunable (BIOSTU). See page 6 for details.

WELL BUILDING STANDARD



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 BIOS LED is selected
- Feature 58 or L07 when 90+ CRI 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.





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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

PATTERN LENGTH

Via 2 Seal can be ordered in 1' and/or 1" increments. Continuous runs are available for run lengths over 12'. The minimum length is 2'. All individual sections are joined together onsite using the joiner kits provided. Lumenwerx joiner kits 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.

TEMPERATURE VARIATION PROTECTION

The intergrated pressure equalization and moisture control GORE® protective vent allows air to flow while blocking water, dust, and contaminants. It reduces internal condensation, supports thermal stability, and preserves the fixture's sealed performance over time.



Location may vary.

ELECTRICAL

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% Ecosystem, eldoLED 1% ECOdrive 0-10V, eldoLED 0.1% SOLOdrive 0-10V, and DALI protocol drivers. All of our standard 0-10V drivers are NEMA 410 compliant. An optional low-temperature 10% 0-10V driver, suitable for temperatures down to -40°C/F is also available.

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.

ELECTRICAL SECTION OPTIONS

Electrical section options are available for fixtures specified as multi circuit (#MC). With MC, specify the total number of circuits (#), including any circuits required for optional electrical sections. A drawing is required to specify the layout. Please consult factory for custom configurations.

Electrical sections

Options include emergency-powered light (#EC##), night light (#NL##), daylight (#DL##), and generator transfer device (#GTD##) sections. Specify the quantity (#), as well as the section length in inches (##).

Example 1: A 32' Direct fixture with two 8' emergency light sections on a second circuit.

Code: 2MC-2EC96

Example 2: A 24' Direct fixture with one 4' generator transfer device section.

Code: 1MC-1GTD48

Batterv

Each emergency battery (#EMB) powers a 4' section. All batteries will be on the same circuit. Specify the number of batteries (#) required.

Factory installed long life, high temperature, maintenance-free Lithium-Ion battery pack with self-test functionality, test switch and charge indicator. Minimum of 90 minutes operation, up to 1000 lumens per 4' (25°C) emergency lighting output and recharge time of 24 hours. Suited for ambient temperatures of 0°C (32°F) to 55°C (131°F).

Generator Transfer Device (GTD)

A UL924 listed shunt relay that can bypass both line voltage (120-277V) and 0-10V dimming signal. Suited for ambient temperatures of 0°C (32°F) to 60°C (140°F).

MOUNTING

Recessed fixtures can be mounted into exposed or concealed T-bar or tegular ceiling, as well as in ceilings with trim, trimless, or mud flange options.

FINISH

Interior: 95%, reflective matte powder coated white paint **Exterior**: Powder-coat paint in matte white, matte black, or aluminum. Custom finishes are also available. Optional antimicrobial finish.





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CONSTRUCTION

Housing: Extruded aluminum, up to 90% recycled content **Interior brackets**: Die-formed cold rolled sheet steel

Gaskets: closed-cell silicone foam

Reflectors: Die-formed cold rolled sheet steel, 95% reflective

matte white painted

Recessed flanges: Extruded aluminum, up to 90% recycled

content

Mud flange: Extruded aluminum, up to 90% recycled content

End cap: Die-cast aluminum

Mounting bracket: Aluminum bracket with stainless steel PEM

studs and sealing washers

CERTIFICATIONS

ETL: IP44-Rated environment option is rated for dry/damp locations. IP66-Rated and IP65-Rated Electrical Components environment options are ETL Wet Listed. Conforms to UL Standard 1598 and certified to CAN/CSA Standard C22.2 No. 250.0. During the installation of Wet Listed fixtures, the contractor is responsible for properly sealing all mounting and electrical connection points.

IC rated: Suitable for direct contact with insulation

IK08: Impact resistance rated to IK08

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.