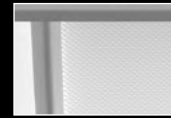# Equation® 2 2x4

LED

opal acrylic lens

MicroGlow lens
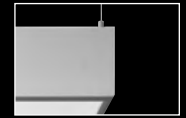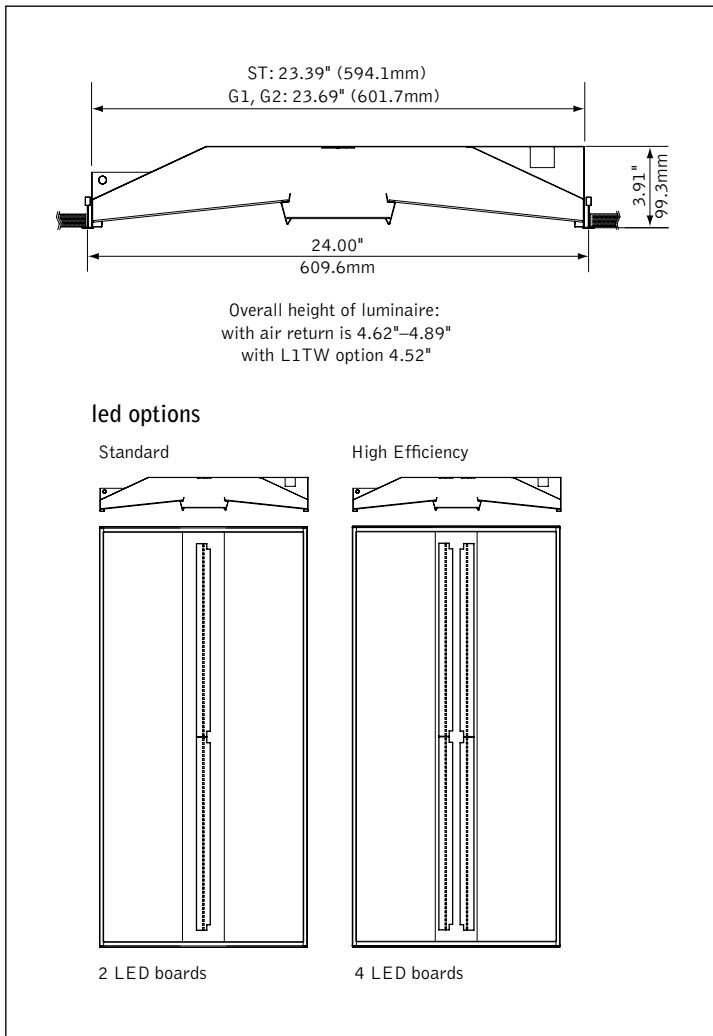
suspended or surface mount
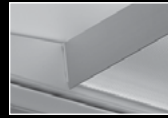
air return

DIMENSIONAL DATA

ST: 23.39" (594.1mm)
G1, G2: 23.69" (601.7mm)

3.91"
99.3mm

24.00"
609.6mm

Overall height of luminaire:
with air return is 4.62"–4.89"
with L1TW option 4.52"

led options

Standard

High Efficiency

2 LED boards

4 LED boards

FEATURES

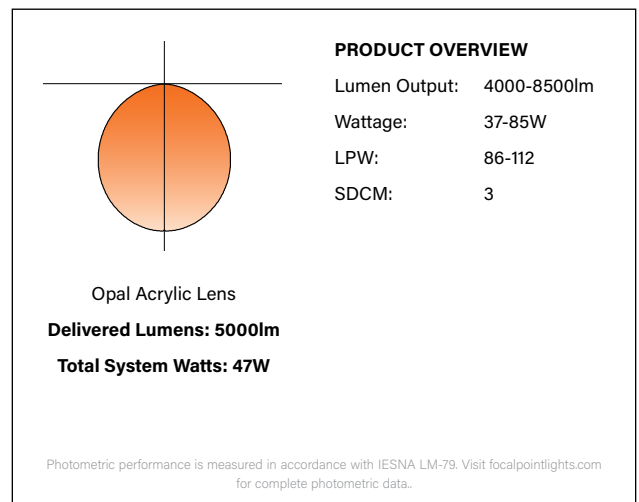Equation™ 2 blends sleek aesthetics with uniform diffuse illumination.

Center diffuser features MicroGlow prismatic lens for brightness control and visual comfort. Opal acrylic center lens may also be specified.

Tunable White: Supports human activity, well-being, and preferences with a light quality that evolves throughout the day.

Connected Solutions: Integrates with wired and wireless building lighting control systems.

PoE compatible: Integrates with Power over Ethernet lighting systems via standard, low-voltage wires.

PERFORMANCE

PRODUCT OVERVIEW

Lumen Output:	4000-8500lm
Wattage:	37-85W
LPW:	86-112
SDCM:	3

Opal Acrylic Lens

Delivered Lumens: 5000lm

Total System Watts: 47W

Photometric performance is measured in accordance with IESNA LM-79. Visit focalpointlights.com for complete photometric data.

MOUNTING INFORMATION

grid

G1
15/16"

G2
9/16"

"ST" slot tee
9/16"

drywall frame kit

specify "F" Drywall Frame Kit for drywall ceiling conditions.

Use tie-wire or screws to secure frame kit.

Cut out dimensions:
2': Min: 24.25"
    Max: 24.563"

4': Min: 48.25"
    Max: 48.563"

STANDARD WHITE PERFORMANCE CHART

Lumen Output		Tested System Watts	LPW	Lumen Output		Tested System Watts	LPW
4000	4000L	33	119	6000	6000LH	47	123
	4000LH	31	126	6500	6500LH	51	122
4500	4500L	39	112	7000	7000LH	55	121
	4500LH	34	129	7500	7500LH	59	120
5000	5000L	45	106	8000	8000LH	63	119
	5000LH	37	129	8500	8500LH	67	118
5500	5500L	51	106				
	5500LH	43	124				

Based on 3500K, 80 CRI, Opal Acrylic Lens. Lumen multipliers: 90+ CRI = 0.87, MicroGlow Prismatic Lens = 0.94.
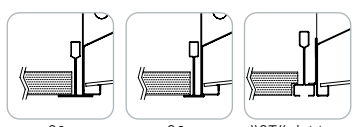Lumen output may vary +/- 5%. Actual wattage may vary +/- 5%.

STANDARD WHITE

Luminaire Series		**FEQ2**
Equation 2	FEQ2	
Nominal Size		**24**
2' x 4'	24	
Shielding		
Opal Acrylic Lens	AC	
MicroGlow Prismatic Lens	MG	
Lumen Output		
Standard Output	4000 Lumens	4000L
	4500 Lumens	4500L
	5000 Lumens	5000L
	5500 Lumens	5500L
High Efficiency	4000 Lumens	4000LH
	4500 Lumens	4500LH
	5000 Lumens	5000LH
	5500 Lumens	5500LH
	6000 Lumens	6000LH
	6500 Lumens	6500LH
	7000 Lumens	7000LH
	7500 Lumens	7500LH
	8000 Lumens	8000LH
	8500 Lumens	8500LH
Color Temperature		
2700K, 80+ CRI **or** 90+ CRI	27K **or** 927K	
3000K, 80+ CRI **or** 90+ CRI	30K **or** 930K	
3500K, 80+ CRI **or** 90+ CRI	35K **or** 935K	
4000K, 80+ CRI **or** 90+ CRI	40K **or** 940K	
Circuit		**1C**
Single Circuit	1C	
Voltage		
UNV 120/277 Volt	UNV	
347 Volt	347	
(Transformer required for all drivers except LD1 and CLM1. Not available with EM)		
Low Voltage	LV	
Control System & Dimming Level		
0-10V - 10% Dimming	LD1	
(Not Right Light as standard, consult factory)		
0-10V - 1% Dimming	L11	
Low Voltage, PoE compatible	LVN	
(No driver. Not available with EM. LV Voltage only.)		
Lutron Hi-Lume EcoSystem (LDE1) - 1% Dimming	LH1	
Step Dimming	SD5	
Wattstopper DLM - 1% Dimming	DLM1	
(Not available with CP.)		
Wattstopper Fixture Sensor Low Density – 1% Dimming	LMFS1	
Wattstopper Fixture Sensor High Density – 1% Dimming	LMFSD	
Lutron Athena Wireless Node	LAW1	
(0-10V standard. Consult factory for DALI.)		
Lutron Athena Wireless Sensor	LAWS	
(0-10V standard. Consult factory for DALI.)		
Encelium CLM Connected Lighting Module - 1% Dimming	CLM1	
(Maximum 5500 Lumens)		
Current NX Enabled – 1% Dimming	NXE1	
(Not available with CP.)		
WaveLinx Pro – 1% Dimming	WLXP	
Mounting		
24" Aircraft Cable	C24	
48" Aircraft Cable	C48	
96" Aircraft Cable	C96	
Drywall Frame Kit	F	
(Not available with CLM1, DLM1, NLT1 or NXE1.) (Cut out dimensions: Min: 24.25"/Max: 24.563" Min: 48.25"/Max: 48.563")		
15/16" Grid	G1	
9/16" Grid	G2	
Slot Tee	ST	
Surface Mount	SM	
(Not available with CLM1, DLM1, NLT1 or NXE1. Consult factory for LAW1.)		
Factory Options		
Air Return	AR	
(Overall height with Air Return is 4.62"–4.89")		
Chicago Plenum	CP	
(Not available with flex whip)		
Emergency Battery† with Integral Test Switch	EM	
(Cannot combine with 347V)		
6' New York City Flex Whip (120V)	FNY1	
6' New York City Flex Whip (277V)	FNY2	
6' Flex Whip	FW	
Finish		**WH**
Matte Satin White	WH	

fixture: project:

MOUNTING INFORMATION

grid

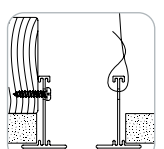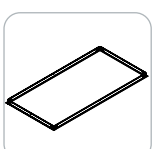| G1	G2	"ST" slot tee
15/16"	9/16"	9/16"

drywall frame kit

specify "F" Drywall Frame Kit for drywall ceiling conditions.

Use tie-wire or screws to secure frame kit.

Cut out dimensions:
2': Min: 24.25"
     Max: 24.563"

4': Min: 48.25"
     Max: 48.563"

TUNABLE WHITE PERFORMANCE CHART

Lumen Output		Delivered Lumens	Tested System Watts	LPW
4000	4000L	3998	41	98
	4000LH	4002	40	101
4500	4500L	4497	46	98
	4500LH	4510	45	101
5000	5000L	5011	51	98
	5000LH	5015	50	101
5500	5500L	5517	61	91
	5500LH	5517	59	94
6000	6000LH	6061	64	95
6500	6500LH	6512	67	98
7000	7000LH	7006	71	98
7500	7500LH	7519	77	98
8000	8000LH	8006	82	98
8500	8500LH	8512	86	99

Based on 2700K, 80 CRI, Opal Acrylic Lens. Lumen output may vary +/- 5%. Actual wattage may vary +/- 5%.

Lumen Multipliers

CRI	Multiplier
80+	1.00
90+	0.89

Shielding	Multiplier
AC	1.00
MG	0.94

Wattage Multipliers

CCT	Multiplier
2700K	1.00
3000K	0.92
3500K	0.88
4000K	0.86
5000K	0.85
5700K	0.87
6500K	0.90

TUNABLE WHITE

Luminaire Series		**FEQ2**
Equation 2	FEQ2	
Nominal Size		**24**
2' x 4'	24	
Shielding		_____
Opal Acrylic Lens	AC	
MicroGlow Prismatic Lens	MG	
Lumen Output		_____
Standard Output	4000 Lumens 4000L	
	4500 Lumens 4500L	
	5000 Lumens 5000L	
	5500 Lumens 5500L	
High Efficiency	4000 Lumens 4000LH	
	4500 Lumens 4500LH	
	5000 Lumens 5000LH	
	5500 Lumens 5500LH	
	6000 Lumens 6000LH	
	6500 Lumens 6500LH	
	7000 Lumens 7000LH	
	7500 Lumens 7500LH	
	8000 Lumens 8000LH	
	8500 Lumens 8500LH	
Color Temperature		_____
Tunable White: 2700-6500K, 80+ CRI	2765T	
Tunable White: 2700-6500K, 90+ CRI	92765T	
Circuit		**1C**
Single Circuit	1C	
Voltage		**UNV**
UNV 120/277 Volt	UNV	
Control System & Dimming Level		_____
0-10V - 1% Dimming	L1TW	
(Not available with surface or cable mount. Overall luminaire height increases to 4.52")		
DALI - 1% Dimming	D1TW	
(Default driver offers DT6 control. It requires two addresses, one for intensity & one for CCT tuning. Consult factory for DT8. Extended lead time applies.)		
Mounting		_____
24" Aircraft Cable (Not available with L1TW)	C24	
48" Aircraft Cable (Not available with L1TW)	C48	
96" Aircraft Cable (Not available with L1TW)	C96	
Drywall Frame Kit	F	
(Cut out dimensions: Min: 24.25"/Max: 24.563" Min: 48.25"/Max: 48.563")		
15/16" Grid	G1	
9/16" Grid	G2	
Slot Tee	ST	
Surface Mount (Not available with L1TW)	SM	
Factory Options		
Air Return	AR	_____
(Overall height with Air Return is 4.62"–4.89")		
Chicago Plenum	CP	_____
(Not available with flex whip)		
Emergency Battery with Integral Test Switch	EM	
6' New York City Flex Whip (120V)	FNY1	_____
6' New York City Flex Whip (277V)	FNY2	_____
6' Flex Whip	FW	_____
Finish		**WH**
Matte Satin White	WH	

SPECIFICATIONS

LED System

Proprietary linear LED module incorporates premium LEDs on a robust platform to achieve excellent thermal management. LEDs are placed to promote a uniform appearance. Available in 2700K, 3000K, 3500K, 4000K or Tunable White (2700K-6500K), with CRI>80 or CRI>90, 3SDCM. 3500K and 4000K with CRI>90 have a cyanosis observation index (COI) of 3.3 or less. Contact factory for additional color temperature and CRI options. 0-10V dimming driver standard. LED modules and drivers are replaceable from below.

Construction

One piece 24 Ga. steel reflector and housing. Bottom access 24 Ga. steel driver compartment. Positional brackets supplied as standard. Standard weight: 27.3 lbs. Surface-mount/suspended weight: 35.5 lbs.

Optic

24 Ga. steel reflectors finished in matte satin white powder coat. .080" thick frosted white acrylic diffusers. Center shielding options include .080" thick opal acrylic lens or MicroGlow prismatic lens with optical filter overlay.

Electrical

Standard 120-277V driver includes 0-10V analog dimming. Power factor > .9. Optional Lutron EcoSystem or Step-dimming drivers available. PoE compatible: Integrates with Power over Ethernet lighting systems via standard, low-voltage wires.

Emergency

Emergency battery output—10 watts for 90 minutes. Emergency Circuit with Connected Solutions (DLM1, LMFS1, LMFSD, LAW1, LAWS, CLM1, NXE1, WLXP) requires a UL924 compliant device, consult factory.

Labels

UL and cUL listed. Suitable for Dry or Damp Locations, indoor use only.

Finish

Polyester powder coat applied over a multi-stage pre–treatment.

Lumen Maintenance

Reported: L70 at >61,000 hours   Calculated: L70 at 190,000 hours
L80 at >61,000 hours   L80 at 115,000 hours
(Derived from EPA TM-21 calculator. Based on typical conditions, consult factory for additional data.)

Reliability

At Focal Point, our products are designed to stand the test of time. Each luminaire is engineered using superior components, manufactured with the utmost care and rigorously tested. Contact us for reliability data.

Warranty

LED system rated for operation in ambient environments up to 25°C. 5-year limited warranty.

Declare.

Equation® 2
Focal Point, LLC

Final Assembly: Chicago, Illinois, USA
Life Expectancy: 10 Year(s)
End of Life Options: Recyclable (55%), Landfill (45%)

Ingredients:

UNS G1008; Polymethyl methacrylate; Steel, carbon; Small Electrical Components - RoHS Compliant[1]; Copper; Steel; Polyvinyl chloride; Poly[imino(1,6-dioxo-1,6- hexanediyl)imino-1,6-hexanediyl]; Methyl methacrylate; Benzene, ethenyl-, homopolymer, brominated; Bis(pentabromophenyl) ether (decabromodiphenyl ether) (DecaBDE); Steel manufacture, chemicals

[1]LBC Temp Exception RL-002 - Small Electrical Components

Living Building Challenge Criteria:

I-13 Red List:
☐ LBC Red List Free   % Disclosed: 100% at 100ppm
☐ LBC Red List Approved   VOC Content: Not Applicable
■ Declared

I-10 Interior Performance: Not Applicable
I-14 Responsible Sourcing: Not Applicable

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INTERNATIONAL LIVING FUTURE INSTITUTE™ living-future.org/declare

Focal Point provides flexibility in meeting the needs of each project by integrating with several building lighting control systems. A variety of sensors, drivers and other components can be specified that allow the luminaires to communicate with wired and wireless networks. All zoning can be digitally reconfigured through the application software. Daylight harvesting, occupancy sensing, integration with HVAC systems, and individual controls enable the monitoring and modulating of light levels and temperature in order to save energy, reduce costs and maximize occupants' comfort. All Connected Solutions luminaires require a compatible building control system.†

Connected Solution		Ordering Code	Model #**	Protocol	Compatible Networks*	Occupancy & Daylight	Temperature Reporting	Communication to Luminaire	Drivers
legrand® WATTSTOPPER®		DLM1	LMFC-011	DLM	DLM	Enabled	No	Wired	**Advance by Signify**, Optotronic by eldoLED
		LMFS1	LMFS-601 & LMFI-111	DLM Wireless	DLM	Enabled	No	Wireless	**Advance by Signify**
		LMFSD	LMFS-601						**Optotronic by eldoLED (Dexal)**
COOPER Lighting Solutions		WLXP	OEM-WAA	WaveLinx Wireless	WaveLinx Pro Trellix	Enabled	No	Wireless (WaveLinx Pro Wireless Area Controller)	**Advance by Signify**
CRESTRON®		L11	Specified Driver	0-10V	Crestron Zūm Wireless & SpaceBuilder	Enabled	No	Wired	**Advance by Signify**
ENCELIUM		CLM1	ZBHA-CLM-DIM-ENC	ZigBee	Encelium X Light Management System	Enabled	No	Wireless	**Optotronic by eldoLED** Advance by Signify
LUTRON		LAW1	A-WN-D01-RF-WH	**0-10V** DALI[1]	Athena Wireless	Enabled	No	Wireless	**Advance by Signify**
		LAWS	A-WN-D01-OCC-WH	**0-10V** DALI[1]	Athena Wireless	Integrated	No	Wireless	**Advance by Signify**
		LH1	LDE1	EcoSystem	Quantum, Energi Savr Node, Energi TriPak	Enabled	No	Wired	**Lutron Hi-Lume**
NX LIGHTING CONTROLS™		NXE1	NXFM-LV	NX	NX Distributed Intelligence	Enabled	No	Wired	**Optotronic by eldoLED**

*Not all compatible networks may be listed. **For performance data and additional control system details please visit the connected solutions manufacturer websites. Primary drivers are listed in **bold.** To specify a particular driver please consult factory.
†Controls systems supplied by others. [1]0-10V standard with Lutron Athena options, consult factory for DALI.