



Columbia
LIGHTING

SERRANO[®] LED FAMILY
Architectural Luminaire with Advanced Solid State Technology



SERRANO® LED

Architectural Luminaire with Advanced Solid State Technology

Serrano® LED brings cutting edge solid state technology into an architecturally styled luminaire. Perfect for relight, retrofit or new construction, Serrano LED delivers a powerful combination of performance and energy savings. Superior color consistency and serviceability put the finishing touches on this versatile luminaire.



THREE SIZES

1' x 4'

2



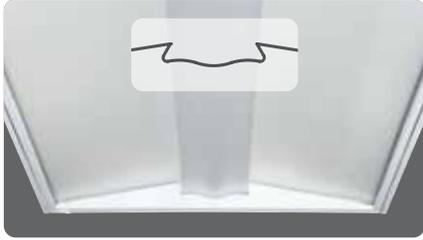
2' x 2'

3

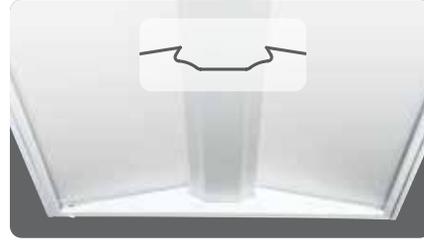


LENS OPTIONS

Serrano® LED is available with two architectural center lens options.



Contour



Rail

OUTPUT CHOICES

Serrano LED offers multiple lumen output levels for each size to meet a variety of light output and wattage necessities.

PERFORMANCE **createchange**

Serrano® LED luminaires deliver high efficacies up to 138 lumens per watt, long life of 60,000 hours at 80% lumen maintenance (L80), and CRI greater than 80.

ENERGY SAVINGS

Serrano® LED's low watt 2x4 uses 52% less energy than a 3-lamp T8 fluorescent fixture. A simple one-for-one replacement relight of older spaces with T12, provides even more dramatic energy savings per unit.

COLOR CONSISTENCY

Color consistency is especially important in indoor applications with multiple fixtures in the occupants' line of sight. Serrano® LED maintains a 3-step MacAdam ellipse within the fixture, from fixture-to-fixture, and over time to keep color consistent across the ceiling.

FULL FAMILY

Serrano® LED offers 2x4, 2x2, and 1x4 luminaires for a full family offering to provide aesthetic continuity throughout a wide variety of spaces.

SERVICEABILITY

Serrano® LED's serviceability is second to none. LED modules and drivers are replaceable and upgradeable from below the ceiling with easy, tool-less access through our hinged optical assembly and reflectors.

ENERGY CODE COMPLIANCE

With its wide range of choices, Serrano® LED enables you to meet even the most restrictive lighting power density codes.

INTEGRAL EMERGENCY PACK

Egress lighting can be easily accommodated with Serrano® LED's factory installed 1400 lumen battery pack option. Integral Dimming Bypass Module option is for emergency circuit control loads including sensors and wireless systems CSA certified to UL 924.

DESIGNLIGHTS CONSORTIUM® QUALIFIED

Serrano® LED is DLC® (DesignLights Consortium) Qualified, making it rebate and specification friendly. Please refer to the DLC website for specific product qualifications at www.designlights.org.



5 YEAR LIMITED WARRANTY



SERRANO® LED DESIGN OPTIONS

As lighting technology evolves, so does the ability to design for luminaire placement. Whether the design is based on a minimum average light level, a maximum watt per square foot (LPD or Lighting Power Density) requirement, or designed for the fewest possible luminaires to reduce initial cost calculations, LSER provides a solution.

In addition, Serrano® LED offers a full family approach, allowing for 2x4 designs, 2x2 designs, and 1x4 narrow luminaire designs in private offices, open areas, and corridors.

NATIONAL CODE COMPLIANCE

Energy codes vary from state-to-state. Serrano® LED complies with them all. Not only does it aggressively reduce energy requirements per fixture, Serrano® LED also offers fixed, step dimming, and 0-10V continuous dimming driver options to integrate with lighting control requirements.

Energy Codes (LPD)	Office	Education	Hospital	Clinic
ASHRAE 90.1-2010	0.9	0.99	1.21	0.87
ASHRAE 2004/2007	1.0	1.2	1.2	1.0
CA Title 24 2013	0.8	1.0	1.1	1.1

Whole Building Method allowances shown above.

Best Practice Light Level Recommendations

Office	Education	Patient Services	IESNA Avg fc
30-50fc	30-50fc	40fc	

IESNA levels based on 10th Edition handbook, median age group, specific areas.

RELIGHT PROJECTS BENEFIT FROM SERRANO® LED

Serrano® LED offers a fresh, attractive relighting option for existing spaces with outdated technology. LSER allows direct replacement (one-for-one) in equivalent sizes, or you may choose to update designs with 2x2 or 1x4 installations—all while saving significant energy to reduce operating costs and meet the most stringent national, state, and local energy codes.

Replace outdated 2x4 Troffers and existing 2x4 Parabolics...

4-Lamp T12 Lensed Troffer
 Watts: 164
 Initial Lumens: 6150
 Lumens per Watt: 38

3-Lamp T12 18-cell
 Watts: 115
 Initial Lumens: 4827
 Lumens per Watt: 38

...with Serrano® LED

1x4 High Lumen LSER
 Watts: 50
 Initial Lumens: 4974
 Lumens per Watt: 99

2x2 Very High Lumen LSER
 Watts: 42
 Initial Lumens: 4293
 Lumens per Watt: 103

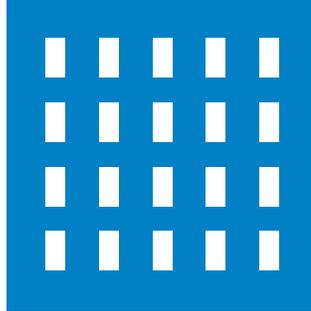
2x4 High Lumen LSER
 Watts: 50
 Initial Lumens: 5615
 Lumens per Watt: 112

DESIGN FOR AVERAGE LIGHT LEVEL

Serrano® LED makes lighting design a simple process. Designing for a 40fc average is as simple as selecting the desired product size and dropping the luminaires into standard 8' x 8' or 8' x 10' on-center spacings.

Design Range	Avg fc at 2.5' Horizontal	LSER	LPD
35fc	36	2x2, LW	0.47
	38	1x4, LW	0.47
	41	2x2, ML	0.55
40fc	43	2x4, LW	0.51
	46	2x2, HL	0.64
	49	1x4, ML	0.64
50fc	52	2x4, ML	0.65
	56	2x2, VL	0.81

2x2 and 1x4: 25 luminaires placed 8' x 8' on-center
2x4: 20 luminaires placed 8' x 10' on-center



40x40x9 Room, 80/50/20 reflectances, Very Clean environment. LLF: BF 1.0, LLD 0.9 (L80), LDD 0.9

DESIGN FOR LPD

Lighting designs shown range from 0.47 to 0.81 LPD; well below energy code restrictions.

DESIGN FOR FEWEST LUMINAIRES

The powerful LED technology offered by Serrano® LED allows designers to opt for wider on-center luminaire spacings in order to reduce the number of luminaires required to light interior spaces without sacrifice to lighting quality or average lighting levels.

Design Range	Avg fc at 2.5' Horizontal	Number of Luminaires	LSER	On-Center Spacing	LPD	Luminaires Reduced
35fc	35	16	2x4, LW	10x10	0.41	4
	37	20	2x2, HL	8x10	0.51	5
	39	16	1x4, HL	10x10	0.52	9
40fc	42	16	2x4, ML	10x10	0.52	4
	45	20	2x2, VL	8x10	0.65	5
50fc	49	16	1x4, VL	10x10	0.61	9
	51	16	2x4, HL	10x10	0.62	4

Average-to-Min Ratio is 2:1 or better for all designs shown in chart above.

HALLWAY LIGHTING

Hallways are increasingly recognized as more than passageways; they create an impression for the occupant or visitor. Serrano® LED provides high quality lighting with aesthetic continuity to improve the visitor experience and enhance the overall perception of the architecture.

40' L x 8' W x 10' H, 4 Luminaires



40' L x 8' W x 10' H, 4 Luminaires



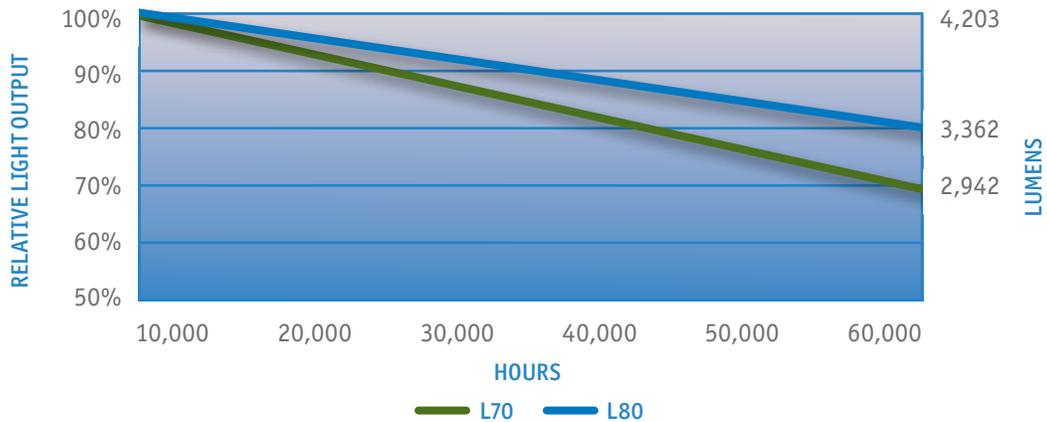
10' on Center Spacing

LSER14	Avg fc	LPD
LW	15	0.38
ML	19	0.51
HL	24	0.65
VL	29	0.76

In addition to the 1x4 shown above, 2x4 and 2x2 LSER may be placed in hallways to match or supplement new or existing lighting designs.

LUMEN MAINTENANCE

Despite the widespread presence of L70 luminaires in the LED market, Columbia recognizes the importance of lumen maintenance, so we've adopted a minimum threshold of L80 (80% lumen maintenance) for Serrano® LED. If we'd settled for L70, we would have lost 50% more lumens at 60,000 hours.



SOLID STATE DESIGN STRATEGY

Columbia Lighting sets exacting design goals for its LED luminaires. Serrano® LED is just one example of our dedication to product integrity in solid state lighting.

Cost of Ownership

low initial and operating cost

Lumen Maintenance

L80 or better at 60,000 hours

Maintenance-Friendly

below the ceiling access and tool-less entry

Ongoing Improvement

multi-generational approach to state-of-the-art technology

Easy to Upgrade

modular design: light engine components fully accessible and replaceable

DLC® (DesignLights Consortium) Qualified

Please refer to the DLC website for specific product qualifications at www.designlights.org.

Color Consistency

3-step MacAdam ellipse

Traceability

every fixture labeled with data record

Industry Standards

adherence to LM79, LM80, and TM21



Serrano® LED qualifies as a createchange® product family, which requires the following criteria be met:

- Save at least 20% in energy versus traditional solutions
- Maintain lighting quality
- Maintain lighting levels

ORDERING INFORMATION

LSER						
MODEL	COLOR TEMP	CEILING TYPE	DRIVER	VOLTAGE	OPTIONS	
LSER Serrano® LED Architectural Luminaire	30 3000K 35 3500K 40 4000K 50 5000K	G Grid ¹ SM Surface Mount CM Cable Mount ²	E Fixed Output ED 0-10V Dimming ED1 0-10V Dimming to 1% EDD 0-10V Dimming, Dim to Dark ^{3,4} ESD Step Dimming ³ LUTH Hi-Lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology ^{3,5}	U 120V-277V 347 347V	ELL14 Emergency Battery Pack, 1400 Lumens ⁶ C388 3-Wire Flex C488 4-Wire Flex C588 5-Wire Flex GLR Fast Blow Fuse GTD Generator Transfer Device ^{3,7} DTS Dimming Bypass Module ^{3,8} EOR End of Row (SM/CM only) ⁹ INT Intermediate (SM/CM only) ⁹ CP Chicago Plenum	
SIZE		SHIELDING				
14 1' x 4'		C Contour 				
22 2' x 2'		R Rail 				
24 2' x 4'						
		LUMEN OUTPUT				
		XW Extra Low Watt VW Very Low Watt MW Medium Low Watt LW Low Watt ML Medium Lumen HL High Lumen VL Very High Lumen XL Extra High Lumen				

¹ For drywall, order G with Flange Kit Accessory.

² Order hanger accessories separately.

³ Not available in 347V.

⁴ Not available in all lumen packages; see specification sheet driver availability tables.

⁵ Not available on VL or XL

⁶ For compatibility with Dual-Lite LiteGear® inverters in lieu of installed Battery Pack, contact representative.

⁷ GTD available for E (fixed output) driver option only

⁸ For emergency circuit control loads including sensors and wireless systems CSA certified to UL 924. Only available with 0-10V drivers

⁹ Provides ends with wiring access for continuous row mounting.

See Product Availability Table below.

ACCESSORIES (ORDER SEPARATELY)

FK14	1' x 4' Single Flange Kit
FK22	2' x 2' Single Flange Kit
FK24	2' x 4' Single Flange Kit
FKCR	Flange Kit Row Adaptor
CM48Y1SC3F-KIT	48" Cable Mount Kit for 1' wide CM ceiling type, 3 Wire Feed Cord
CM48Y2SC3F-KIT	48" Cable Mount Kit for 2' wide CM ceiling type, 3 Wire Feed Cord

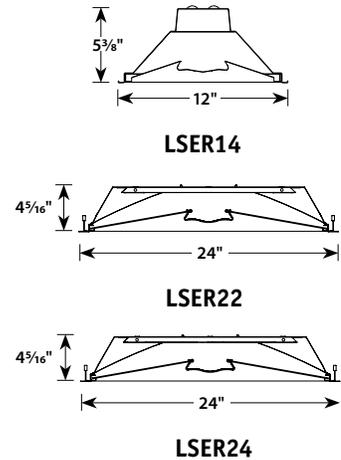
Damp Label - standard

PRODUCT AVAILABILITY

SIZE	LUMEN PACKAGE	NOMINAL LUMENS (3500K)	NOMINAL WATTS
14	XW	2,143	20
	VW	2,888	27
	MW	3,262	31
	LW	3,539	34
	ML	4,256	43
	HL	4,974	50
22	VL	6,181	59
	VW	1,403	13
	MW	1,901	18
	LW	2,466	24
24	ML	3,445	31
	HL	3,750	35
	VL	4,293	42

PRODUCT AVAILABILITY

SIZE	LUMEN PACKAGE	NOMINAL LUMENS (3500K)	NOMINAL WATTS
24	XW	2398	19
	VW	3252	27
	MW	3674	31
	LW	4033	34
	ML	4795	42
	HL	5615	50
	VL	6992	59
	XL	8276	72
Lumens vary according to color temperatures and other factors. See specific photometric test(s).			





Current 

Current Lighting Solutions, LLC

701 Millennium Blvd.
Greenville, SC 29607

currentlighting.com/columbialighting

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