Columbia
LIGHTING

Latest Technology
Columbia
LIGHTING
SERRANO LED

SERRANO® LED FAMILY
Architectural Luminaire with Advanced Solid State Technology

SEЯRANO 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.
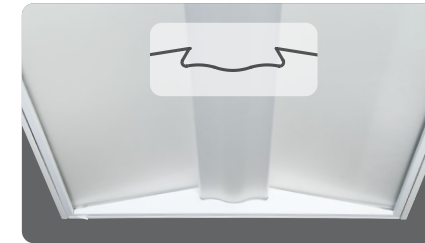
Superior color consistency

Below-the-ceiling access to all replaceable/upgradeable light engine components

Uniform light appearance across lenses without pixilation

Choice of lumen packages

1 2' x 4'
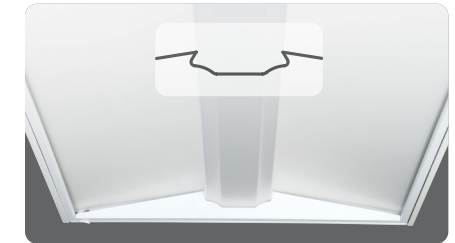
THREE SIZES

2 1' x 4'

3 2' x 2'

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.

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 reduces 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	
30–50fc	30–50fc	40fc	IESNA Avg fc

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

1' x 4'
1x4 High Lumen LSER
Watts: 50
Initial Lumens: 4974
Lumens per Watt: 99

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

2' x 4'
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

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

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

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.

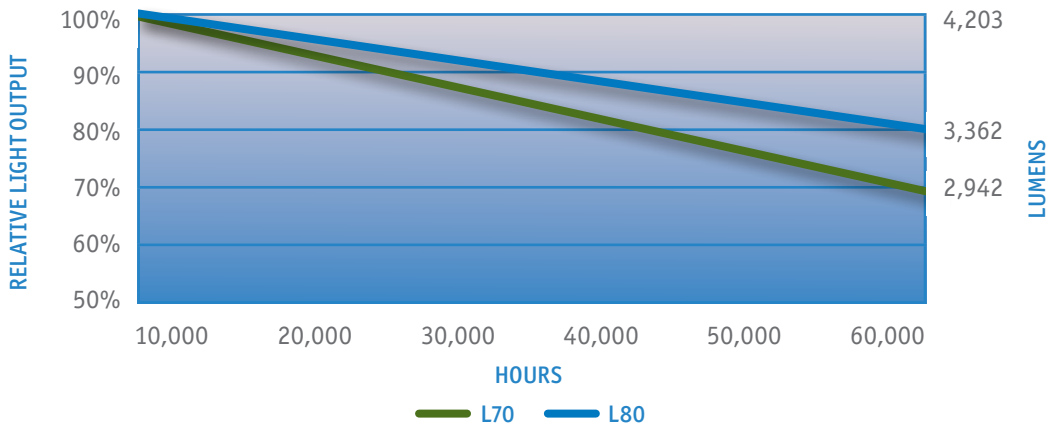40' L x 8' W x 10' H, 4 Luminaires

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

Maintenance-Friendly
below the ceiling access and tool-less entry

Easy to Upgrade
modular design: light engine components fully accessible and replaceable

Color Consistency
3-step MacAdam ellipse

Industry Standards
adherance to LM79, LM80, and TM21

Lumen Maintenance
L80 or better at 60,000 hours

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

Traceability
every fixture labeled with data record

Serrano® LED qualifies as a create**change**® 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	
LSER	Serrano® LED Architectural Luminaire

SIZE	
14	1' x 4'
22	2' x 2'
24	2' x 4'

COLOR TEMP	
30	3000K
35	3500K
40	4000K
50	5000K

CEILING TYPE	
G	Grid[1]
SM	Surface Mount
CM	Cable Mount[2]

SHIELDING	
C	Contour
R	Rail

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

See Product Availability Table below.

DRIVER	
E	Fixed Output
ED	0-10V Dimming
ED1	0-10V Dimming to 1%
EDD	0-10V Dimming, Dim to Off[3,4]
ESD	Step Dimming[3]
LUTH	Hi-lume 1% EcoSystem LED driver with Soft-on, Fade-to-Black dimming technology[3,5]

VOLTAGE	
U	120V-277V
347	347V

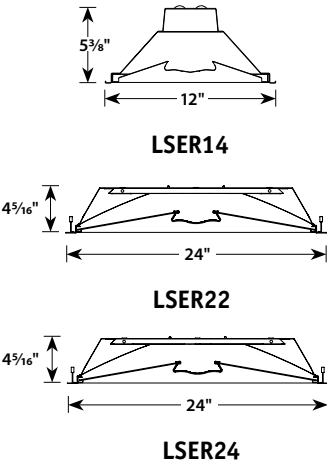| OPTIONS	
ELL14	Emergency Battery Pack, 1400 Lumens[6]
C388	3-Wire Flex
C488	4-Wire Flex
C588	5-Wire Flex
GLR	Fast Blow Fuse
GTD	Generator Transfer Device[3,7]
DTS	Dimming Bypass Module[3,8]
EOR	End of Row (SM/CM only)[9]
INT	Intermediate (SM/CM only)[9]
CP	Chicago Plenum

[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.

Damp Label - standard

ACCESSORIES (ORDER SEPARATELY)	
FK14	1' x 4' Single Flange Kit
FK22	2' × 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

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
	VL	6,181	59
22	VW	1,403	13
	MW	1,901	18
	LW	2,466	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).

LSER14

LSER22

LSER24

Current ◉

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