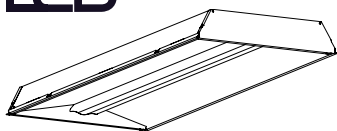


LED



createchange

## FEATURES

- Architecturally enhanced triple lens design
- Up to 101 lumens per watt
- Long-life, 50,000 hour LEDs at L80 (80% lumen maintenance) reduce life cycle maintenance costs
- Four LED Color Choices
- Four Lumen packages
- Superior color consistency within a 3-step MacAdam ellipse and greater than 80 CRI
- Rigorous testing and QR code record
- Lens design and materials provide uniform appearance without pixilation
- Hinged optical system allows easy access to lamps and electrical from below the ceiling
- Lenses interlock for structural integrity
- Two optional lens aesthetics
- Most configurations produce low W/ft2 to meet the most restrictive lighting power density codes
- Optional architecturally styled integration of daylight, occupancy, or daylight and occupancy sensor(s)

### HUBBELL SUSTAINABLE DESIGN SOLUTION FEATURES\*

- Made with 90% recycled steel
  - Made of 80% recyclable materials by weight
  - Job pack available for minimizing amount of packaging material at job site
  - Individual cartons made of 100% recycled corrugated
- \*Please go to [www.hubbell.com/recovery/hsi.htm](http://www.hubbell.com/recovery/hsi.htm) for Hubbell Sustainable Design Solutions Feature Criteria.

## PROJECT INFORMATION

Project Name \_\_\_\_\_

Type \_\_\_\_\_

Catalog No. \_\_\_\_\_

Date \_\_\_\_\_

## CONSTRUCTION

Housing is constructed of heavy gauge steel, die formed for extra rigidity. Four T-bar clips integral to housing. Optical system hinges and latches from either side for easy access to LED module and electrical components. Mechanical light trap prevents light leaks. Latches are spring loaded. Optional integrated sensor(s) are placed within luminous opening and do not interfere with hinging and latching mechanisms.

## FINISH

All visible parts are custom formulated soft, non-glare high reflectance white powder coat finish, painted after fabrication.

## SHIELDING

Lenses are high transmission extruded acrylic with an interlocking design for structural integrity and ease of maintenance. Optional integrated sensors are placed in an architecturally styled lens opening at one or both ends of the luminaire.

## INSTALLATION

An access plate or mounting collar is furnished with luminaire for fast wiring connections without the necessity to open the fixture or wireway.

## CEILING COMPATIBILITY

Designed for recessed installation in standard inverted tee grid ceilings (G), recessed installation in hard ceilings (G with FK accessory), Surface mount at ceiling plane (SM) or cable mount suspension below ceiling plane (CM). For compatibility with specific ceilings contact your Hubbell Lighting representative.

## CERTIFICATION

All luminaires are built to UL1598 and 2108 standards, and bear appropriate CSA labels. Damp location labeling is standard. Emergency equipped fixtures labeled UL924. Adheres to LM79, LM80 and TM21 standards. IC rating is standard. Designlights Consortium(R) (DLC) qualified. Please refer to the DLC website for specific product qualifications at [www.designlights.org](http://www.designlights.org).

## WARRANTY

Five year warranty (Terms and Conditions apply).

## ORDERING INFORMATION

## EXAMPLE LSER24-35HLG-C-EU

LSER	24	-	-	-	U	-
MODEL	COLOR TEMP	CEILING TYPE	SHIELDING	DRIVER	VOLTAGE	OPTIONS
LSER Serrano® LED Architectural Luminaire	30 3000K 35 3500K 40 4000K 50 5000K	G Grid <sup>1</sup> SM Surface Mount CM Cable Mount <sup>2</sup>	C Contour R Rail	E Fixed Output ESD Step Dimming ED 0-10V Dimming ED1 0-10V Dimming to 1% LUTS Lutron 5 Series -EcoSystem	U 120V-277V	C388 3-Wire Flex C488 4-Wire Flex C588 5-Wire Flex ELL14 Emergency Battery Pack Installed, 1400 Lumens <sup>3</sup> GLR Fast Blow Fuse NYC NYC Compliant GTD Generator Transfer Device EOR End of Row (SM and CM only) <sup>6</sup> INT Intermediate (SM and CM only) <sup>6</sup> ODP Occupancy and Daylight Sensors, Philips <sup>7</sup> DP Daylight Sensor, Philips <sup>7</sup> DPO Daylight Sensor with Dim-to-Off, Philips <sup>7</sup> ODW Occupancy and Daylight Sensors, WattStopper <sup>7</sup> DW Daylight Sensor, WattStopper <sup>7</sup> OW Occupancy Sensor, WattStopper <sup>7</sup> CP Chicago Plenum
SIZE	LUMEN OUTPUT	ACCESSORIES (ORDER SEPARATELY)				
24 2' x 4'	LW Low Watt ML Medium Lumen HL High Lumen VL Very High Lumen	FK24 2' x 4' Flange Kit, Single Mounting (for rows add FKCR) FKCR Flange Kit Row Adapter CM 48Y2SC3F-KIT 48" Cable Mount Kit for 2' wide Cable Mount Fixtures, 3-Wire WSR WattStopper Sensor Commissioning Remote <sup>7</sup> WSOR WattStopper Sensor Occupant Remote <sup>7</sup>				

PRODUCT AVAILABILITY			
SIZE	OUTPUT	NOMINAL LUMENS	NOMINAL WATTS
2' x 4'	LW	4,200	41
	ML	5,075	52
	HL	6,175	62
	VL	7,950	82

Actual lumens will vary according to color temperature and shielding. For exact lumens and watts see specific photometric test(s).

<sup>1</sup> For drywall order Flange Kit accessories separately.

<sup>2</sup> Order hanger accessories separately.

<sup>3</sup> For compatibility with Dual-Lite LiteGear® inverters in lieu of installed Battery Pack, contact Hubbell Lighting Representative.

<sup>4</sup> In-Fixture Module Antenna adds 2" to overall fixture height at power feed location.

<sup>5</sup> Not available with Surface Mount ceiling types.

<sup>6</sup> Provides ends with wiring access for continuous row mounting.

<sup>7</sup> For details, see sensor table, page 3.

Damp Label - standard



### PHOTOMETRIC DATA

Test ITL78458 Test Date 9/13/2013

#### LUMINAIRE DATA

Luminaire	LSER24-35LWG-C-ESD LSER Serrano LED, Recessed Architectural 2 x 4 LED with Contour center lens and frosted linear prisms side lenses
Ballast	D255CQ42UNVA-A
Ballast Factor	1.00
Lamp	LED
Fixture Lumens	4203
Watts	41.20
Mounting	Recessed
Shielding Angle	0° = 90 90° = 90
Spacing Criterion	0° = 1.26 90° = 1.57
Luminous Opening in Feet	Length: 3.81 Width: 1.82 Height: 0.00

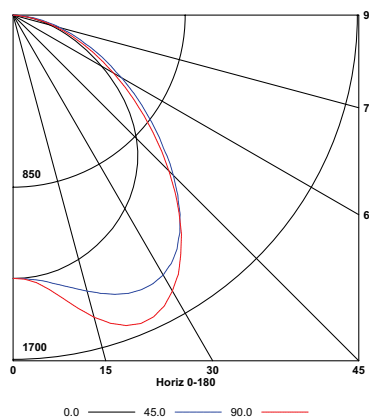
#### ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	1189	28.3	28.3
0-40	2012	47.9	47.9
0-60	3470	82.6	82.6
0-90	4203	100.0	100.0
0-180	4203	100.0	100.0

#### ENERGY DATA

Total Luminaire Efficiency	100%
Total Lumens Per Watt	102
ANSI/IESNA RP-1-2004 Compliance	Noncompliant
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$2.33 based on 3000 hrs. and \$0.08 per KWH

#### INDOOR CANDELA PLOT



#### AVG. LUMINANCE (Candela/Sq. M.)

	0.0	22.5	45.0	67.5	90.0
0	2018	2018	2018	2018	2018
30	1979	2215	2656	2805	2819
40	1937	2223	2600	2602	2584
45	1890	2165	2457	2419	2388
50	1816	2060	2280	2227	2178
55	1705	1922	2100	2022	1973
60	1565	1763	1922	1832	1779
65	1425	1605	1752	1653	1601
70	1284	1443	1593	1489	1434
75	1122	1284	1439	1337	1278
80	939	1126	1296	1126	1001
85	730	962	962	695	570

#### COEFFICIENTS OF UTILIZATION (%)

RCR	RW	80				70				50				0			
		70	50	30	10	70	50	30	10	50	30	10	0	50	30	10	0
1	109	105	101	97	107	103	99	95	98	95	92	85					
2	100	92	85	80	97	90	84	79	86	81	77	71					
3	91	81	73	67	89	79	72	66	76	70	65	61					
4	84	72	63	57	81	71	63	56	68	61	56	52					
5	77	64	55	49	75	63	55	49	61	54	48	45					
6	71	58	49	43	69	57	49	43	55	48	42	39					
7	66	52	44	38	64	52	43	38	50	43	37	35					
8	61	48	39	34	60	47	39	33	46	39	33	31					
9	57	44	36	30	56	43	35	30	42	35	30	28					
10	54	40	33	27	52	40	32	27	39	32	27	25					

RCR = Room Cavity Ratio

RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance

Test ITL78374 Test Date 8/21/13

#### LUMINAIRE DATA

Luminaire	LSER24-35MLG-C-ESD LSER Serrano LED, Recessed Architectural 2 x 4 LED with Contour center lens and frosted linear prisms side lenses
Ballast	D310CQ50UNVA-A
Ballast Factor	1.00
Lamp	LED
Fixture Lumens	5086
Watts	51.60
Mounting	Recessed
Shielding Angle	0° = 90 90° = 90
Spacing Criterion	0° = 1.26 90° = 1.57
Luminous Opening in Feet	Length: 3.81 Width: 1.82 Height: 0.00

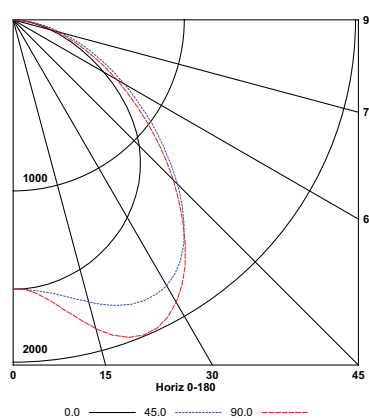
#### ZONAL LUMEN SUMMARY

Zone	Lumens	% Lamp	% Fixt.
0-30	1438	28.3	28.3
0-40	2432	47.8	47.8
0-60	4198	82.5	82.5
0-90	5086	100.0	100.0
0-180	5086	100.0	100.0

#### ENERGY DATA

Total Luminaire Efficiency	100%
Total Lumens Per Watt	99
ANSI/IESNA RP-1-2004 Compliance	Noncompliant
Comparative Yearly Lighting Energy Cost per 1000 Lumens	\$2.45 based on 3000 hrs. and \$0.08 per KWH

#### INDOOR CANDELA PLOT



#### AVG. LUMINANCE (Candela/Sq. M.)

	0.0	22.5	45.0	67.5	90.0
0	2440	2440	2440	2440	2440
30	2389	2676	3212	3391	3413
40	2338	2687	3147	3149	3125
45	2285	2617	2979	2931	2904
50	2195	2492	2768	2695	2652
55	2062	2322	2541	2449	2398
60	1897	2136	2325	2217	2167
65	1715	1943	2127	2013	1939
70	1548	1747	1929	1811	1738
75	1349	1553	1745	1613	1559
80	1135	1359	1564	1377	1225
85	855	1176	1158	855	712

#### COEFFICIENTS OF UTILIZATION (%)

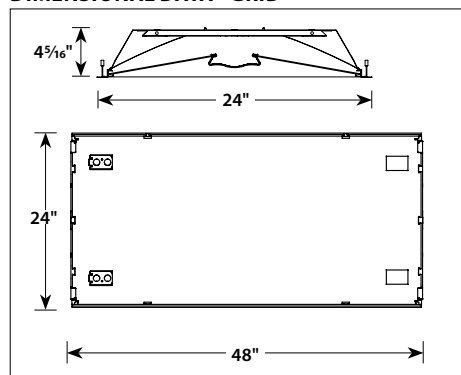
RCR	RW	80				70				50				0			
		70	50	30	10	70	50	30	10	50	30	10	0	50	30	10	0
1	109	105	101	97	107	103	99	95	98	95	92	85					
2	100	92	85	80	97	90	84	79	86	81	77	71					
3	91	81	73	67	89	79	72	66	76	70	65	61					
4	84	72	63	57	81	71	63	56	68	61	56	52					
5	77	64	55	49	75	63	55	49	61	54	48	45					
6	71	58	49	43	69	57	49	43	55	48	42	39					
7	66	52	44	38	64	52	43	38	50	43	37	35					
8	61	48	39	34	60	47	39	33	46	39	33	31					
9	57	44	36	30	56	43	35	30	42	35	30	28					
10	54	40	33	27	52	40	32	27	39	32	27	25					

RCR = Room Cavity Ratio

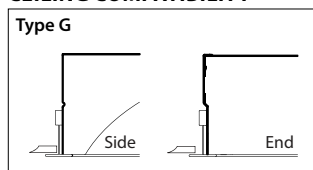
RC = Effective Ceiling Cavity Reflectance RW = Wall Reflectance



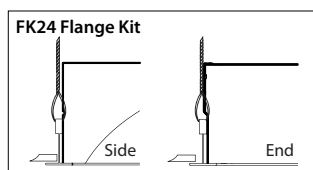
### DIMENSIONAL DATA - GRID



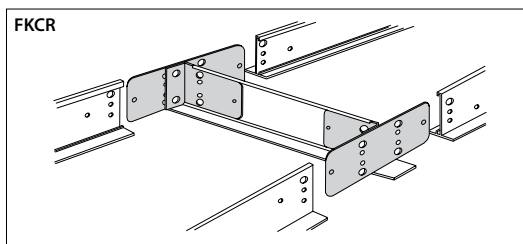
## CEILING COMPATIBILITY



For lay-in installation in exposed grid ceilings. Maximum tee widths of 1" and maximum tee heights of 2" allowed.



For hard ceiling applications, order FK24 flange kit. Flange kit wires directly into concealed ceiling opening for a clean, finished appearance.

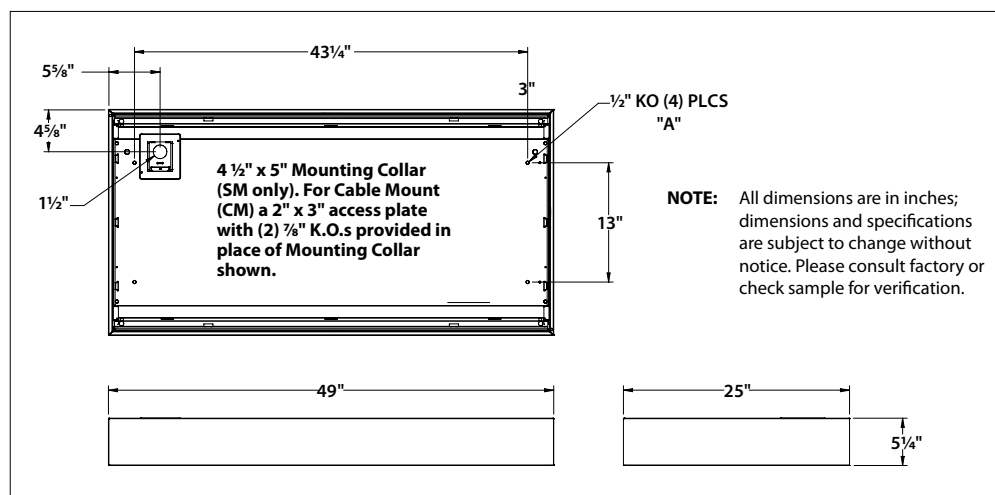


For flanged fixtures in row configurations, the FKCR adapter bracket kit is required in addition to the FK24 kit. Order one less FKCR than the total number of fixtures in row. (Example: Row of two, order (2) FK24 & (1) FKCR)

Row cut out dimensions using FK24s & FKCR adapters:  
Width  $24\frac{3}{8}$ ", Length  $[48" \times (\# \text{ in row})] + \frac{3}{8}"$ .  
Example:  $(48" \times 2) + \frac{3}{8}" = 96\frac{3}{8}"$

**Flange kit cut out dimension for single unit only: 24<sup>3</sup>/<sub>8</sub>" x 48<sup>3</sup>/<sub>8</sub>"**

### DIMENSIONAL DATA - SURFACE MOUNT



## SURFACE MOUNT

Order SM ceiling type. Mounting collar required for surface mounting. (4) Mounting knock outs, 1/4" to 1/2" provided as shown, marked "A".

### CABLE MOUNT

Order CM ceiling type. Access plate supplied for cable mounting or suspension. Use CM48Y2C3F-KIT 48" cable mount kit. Includes 3-wire feed cord. For other wiring needs, contact Hubbell representative. Mounting knock-outs, 1/4" to 1/2", provided as shown, marked "A".

OPTIONAL INTEGRAL SENSORS				
CAT # SUFFIX	SENSOR MANUFACTURER	SENSOR FUNCTION	DIM-TO-OFF DAYLIGHTING	POWERPACK INCLUDED IN LUMINAIRE HOUSING
ODP	Philips	Occupancy and Daylight Sensors	No	Yes
DP	Philips	Daylight Sensor	No	No
DPO	Philips	Daylight Sensor with Dim-to-Off	Yes	Yes
ODW	WattStopper	Occupancy and Daylight Sensors	No	Yes
DW	WattStopper	Daylight Sensor	No	Yes
OW	WattStopper	Occupancy Sensor	No	Yes
OPTIONAL SENSOR HANDHELD REMOTES				
ACCESSORY	SENSOR MANUFACTURER	FUNCTION	OPTIONAL?	# PER PROJECT
WSR	WattStopper	Commissioning	Yes	1
WSOR	WattStopper	Dimming Remote	Yes	Determined by others.

**Note:** WSR, if selected, requires a minimum of one per project. WSOR, if selected, allows individual control; therefore the quantity needed is determined by others.