

Project	
Notes	
Type	Date
Cat. No.	

LLS™ XE Series

LED Linear Strip Luminaire

DESCRIPTION

The Aleo LLS™ XE Series Linear Strip Luminaire delivers industry-leading performance with deep energy savings and continuous dimming. Low profile design offers easy handling and storage. This versatile luminaire produces energy-efficient, comfortable illumination for a myriad of applications.

APPLICATIONS

Excellent for general utility applications: Parking garage, warehouse, offices, restrooms, storage units, stairwell.



LLS Series

- 2' 20W
- 4' 25W, 41W
- 8' 52W, 68W, 78W



Specification Features

Construction

Integral LED gear tray and reflector with driver on board allows for easy installation and handling. Luminaire features matte white durable finish. Diffuser requires no additional frame or fastener for easy installation.

Optical System

Reflector systems features highly reflective coating and delivers balanced, comfortable illuminance for productive spaces. Diffuser lens reduces glare and improves occupant comfort while maintaining high efficiency emission.

Certification

UL Listed. All components have UL certification. UL Class 2. Driver: SCP, OTP, OVP protection, FCC Part 15 Class B, UL8750 Class 2. DLC Premium

Warranty

7-year Limited Warranty. See warranty documentation for more information.

Electrical

Luminaire utilizes high-efficacy LED packages maintained at cool temperatures for long life, high efficacy. Reliable driver features continuous dimming. Universal voltage (120-277V) for convenient installation. Comes equipped with luminaire quick-disconnect.

Installation / Mounting

Luminaire back housing includes holes and slots for various mounting methods.

Controls / Dimming

Continuous dimming (0-10V) comes standard. Suitable for use with dimmers, sensors, daylight harvesting and other control strategies to achieve deeper energy-savings and code compliance. Sensor accessory available: occupancy sensing with daylight cut-off.

Rated Life 75,000 hours
Limited Warranty 7-years
Efficacy Up to 130 LPW
Continuous Dimming



Quick Ship

- LLS-2HE-20/840 XE G3
- LLS-4HE-25/840 XE G3
- LLS-4HE-25/850 XE G3
- LLS-4VHE-41/840 XE G3
- LLS-8HE-52/840 XE G3
- LLS-8HE-52/850 XE G3
- LLS-8H-68/840 XE G3
- LLS-8VHE-78/850 XE G3

Ordering Information

Example: LLS-4HE-25/840 XE G3

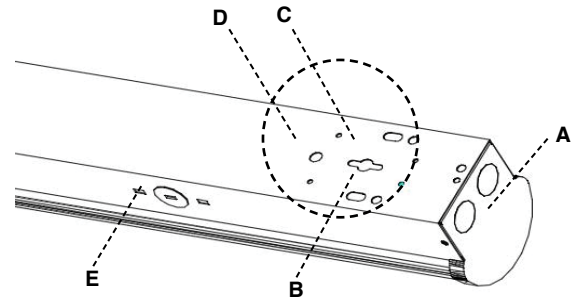
LLS	2	HE	52	8	40	[Blank]	Options
Series	Form Factor	Lumen Package	Nom. Wattage	CRI	Color Temp	Dimming	Emergency Backup
LLS	2 2'	HE High Lumen	20 20W (2')	8 83+	40 4000K	Blank	EM700 700lm
LED Linear Strip Luminaire	4 4'	VHE Very High Lumen	25 25W (4')		50 5000K	0-10V Continuous Dimming	EM1400 1400lm
	8 8'		41 40W (4')				EM2000 2000lm
			52 52W (8')				
			68 68W (8')				
			78 78W (8')				
				Controls*			
				OS Occupancy Sensor		SB Integrated Sensor Box	
				OSDL Occ. Sensor w/ Daylight			
				OSDL/IR Multi-Level Occ. Sensor w/ wireless config.			
				* Will be supplied with side fixture-mount sensor, unless SB is specified			
				* Contact factory for other control options and wireless capabilities			

Specifications and Dimensions subject to change without notice.

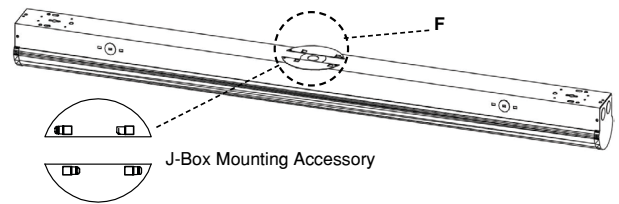
Performance Summary

Input Voltage	120V-277V
Input Frequency	50/60 Hz
Rated Wattage	See Performance Table
Delivered Lumens	See Performance Table
Efficacy	> 130 LPW (typ.)
CRI	84+, R9 > 0
Available CCT ¹	4000K, 5000K
Color Consistency ²	5-step MacAdam Ellipse
Rated Life	75,000 hours
L70 ³	> 72,000 hours
Power Factor	> 0.9
THD	< 20%
Dimming	0-10V Continuous (10-100%)
Operating Temp.	-20°C to 40°C

Mounting Information



- A: End Cap
- B: Suspension-mount with v-hook
- C: Surface Mount
- D: T-Bar Clip Mounting hole
- E: Wiring Knockout



Performance Data

Form Factor	Catalog No.	Rated Wattage (W)	Tested Wattage (W)	4000K		5000K	
				Delivered Lumens (lm)	Efficacy (lm/W)	Delivered Lumens (lm)	Efficacy (lm/W)
2'	LLS-2HE-20 XE G3	20	18.5	2600	130	2620	131
4'	LLS-4VHE-41 XE G3	41	38	5200	130	5240	131
	LLS-4HE-25 XE G3	25	25	3325	133	3350	134
8'	LLS-8HE-52 XE G3	52	-	6916	130	6968	134
	LLS-8H-68 XE G3	65	-	8580	132	8645	133
	LLS-8VHE-78 XE G3	75	-	9750	130	9825	131

NOTES:

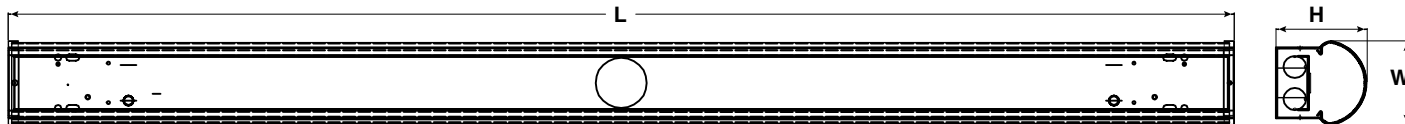
¹ Quick ship: 4000K. Other CCTs may require a lead time or be special order

² Typical color consistency. May vary or be changed.

³ L70 hours calculated based on LED package manufacturer LM80 report and ISTMT report of LED in luminaire. Stated values are for select catalog numbers. Contact manufacturer for detailed information

Specifications and Dimensions subject to change without notice.

Product Dimensions

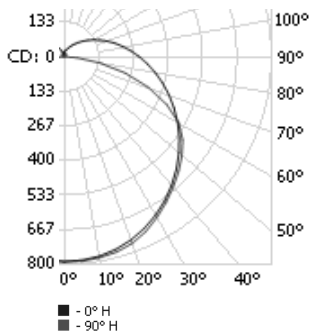


Model No.	L	W	H
LLS-2	25.87" (657.2mm)	3.56" (90.5mm)	3.35" (85.2mm)
LLS-4	47.99" (1219mm)	3.56" (90.5mm)	3.35" (85.2mm)
LLS-8	92.44" (2438mm)	3.56" (90.5mm)	3.35" (85.2mm)

Photometric Data

LLS-4HE-26/840 Tested in accordance to IESNA LM-79

Polar Graph



Zonal Lumen Summary

ZONE	LUMENS	% LUMINAIRE
0-30	626.9	17.5%
0-40	1,047.9	29.3%
0-60	1,997.0	55.7%
60-90	1,064.4	29.7%
70-100	795.7	22.2%
90-120	394.2	11.0%
0-90	3,061.4	85.5%
90-180	521.1	14.5%
0-180	3,582.5	100.0%

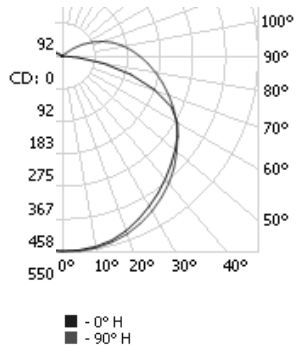
Coefficients of Utilization

EFFECTIVE FLOOR CAVITY REFLECTANCE: 20%

RCC%	80				70				50		
	70	50	30	0	70	50	30	0	50	30	20
RW%											
RCR											
0	1.16	1.16	1.16	1.16	1.11	1.11	1.11	0.85	1.03	1.03	1.11
1	1.02	0.96	0.91	0.86	0.98	0.93	0.88	0.66	0.86	0.82	0.9
2	0.92	0.82	0.74	0.68	0.88	0.79	0.72	0.53	0.73	0.67	0.73
3	0.83	0.71	0.62	0.55	0.79	0.68	0.6	0.44	0.63	0.56	0.61
4	0.75	0.62	0.53	0.45	0.72	0.6	0.51	0.37	0.56	0.48	0.52
5	0.69	0.55	0.46	0.39	0.66	0.53	0.44	0.32	0.49	0.42	0.44
6	0.64	0.49	0.4	0.33	0.61	0.48	0.39	0.27	0.44	0.37	0.39
7	0.59	0.45	0.35	0.29	0.56	0.43	0.34	0.24	0.4	0.33	0.34
8	0.55	0.4	0.32	0.26	0.52	0.39	0.31	0.22	0.37	0.29	0.3
9	0.51	0.37	0.29	0.23	0.49	0.36	0.28	0.19	0.34	0.26	0.27
10	0.48	0.34	0.26	0.2	0.46	0.33	0.25	0.17	0.31	0.24	0.25

LLS-4VHE-41/840 Tested in accordance to IESNA LM-79

Polar Graph



Zonal Lumen Summary

ZONE	LUMENS	% LUMINAIRE
0-30	860	19.8%
0-40	1,415	32.6%
0-60	2,577	59.4%
60-90	1,225	28.3%
70-100	942	21.7%
90-120	421	9.7%
0-90	3,803	87.7%
90-180	533	12.3%
0-180	4,336	100.0%

Coefficients of Utilization

EFFECTIVE FLOOR CAVITY REFLECTANCE: 20%

RCC%	80				70				50		
	70	50	30	0	70	50	30	0	50	30	20
RW%											
RCR											
0	1.16	1.16	1.16	1.16	1.12	1.12	1.12	0.88	1.04	1.04	1.11
1	1.03	0.97	0.92	0.87	0.99	0.94	0.89	0.69	0.87	0.83	0.9
2	0.93	0.83	0.76	0.69	0.89	0.8	0.73	0.56	0.75	0.69	0.73
3	0.84	0.73	0.64	0.56	0.8	0.7	0.62	0.47	0.65	0.58	0.61
4	0.77	0.64	0.54	0.47	0.73	0.62	0.53	0.4	0.58	0.5	0.52
5	0.7	0.57	0.47	0.4	0.67	0.55	0.46	0.34	0.51	0.44	0.44
6	0.65	0.51	0.42	0.35	0.62	0.49	0.41	0.3	0.46	0.39	0.39
7	0.6	0.46	0.37	0.31	0.57	0.45	0.36	0.26	0.42	0.34	0.34
8	0.56	0.42	0.33	0.27	0.54	0.41	0.32	0.24	0.38	0.31	0.3
9	0.52	0.38	0.3	0.24	0.5	0.37	0.29	0.21	0.35	0.28	0.27
10	0.49	0.35	0.27	0.22	0.47	0.34	0.27	0.19	0.33	0.26	0.25

Specifications and Dimensions subject to change without notice.

Control Pre-Commissioning

Example: LLS-4HE-25/840 XE G3-OSDL L2-10H-3L-10M-30M-5S-30S

L2	10H	3L	10M	30M	5S	30S
Lens / Coverage	High Level	Low Level	Time Delay	Cut-Off	Ramp Up	Fade Down
L2 8' height (48' dia.)	10H 100%	1L 10%	30S 30 sec.	#M 1-59 min.	#S 1-60 sec.	#S 1-60 sec.
L3 20' height (40' dia.)	9H 90%	2L 20%	#M 1-30 min.	#H 1-5 hrs.	0 Disabled	0 Disabled
L4 40' height (60' dia.)	8H 80%	3L 30%	# = enter no. of minutes from 1 to 30 min.	0 Disabled		
L7 40' height (100' dia.)	7H 70%	4L 40%		# = enter no. of minutes or hours		
	6H 60%	5L 50%				
	5H 50%	6L 60%				
		7L 70%				

High Level When the sensor detects motion the dimming control output ramps up to the selected HIGH light level.

Low Level After the sensor stops detecting motion and the time delay expires the dimming control output fades down to the selected LOW light level.

Time Delay The selected time period that must elapse after the last time the sensor detects motion for the electric lights to fade to LOW mode

Cut-Off The time period that must elapse after the lights fade to LOW mode and the sensor detects no motion for the electric lights to turn OFF.

Ramp Up Time period for light level to increase from LOW to HIGH.

Fade Down Time period for light level to decrease from HIGH to LOW.

DLC QPL Data

QPL Model No.	Product ID	Technical Req.	Classification	Primary Use
LLS-2HE-20/840 XE G3	PL9D6W8SVGW0	4.2	Premium	Direct Linear Ambient Luminaires
LLS-4HE-25/840 XE G3	PKAWQTMQ	4.2	Premium	Direct Linear Ambient Luminaires
LLS-4HE-25/840 XE G3(LD3)	PL991UW1CBA7	4.3	Premium	Direct Linear Ambient Luminaires
LLS-4HE-25/850 XE G3	PYWAPQ83	4.2	Premium	Direct Linear Ambient Luminaires
LLS-4HE-25/850 XE G3(LD3)	PLUVBINE8V6J	4.3	Premium	Direct Linear Ambient Luminaires
LLS-4VHE-41/840 XE G3	P7TVVE7E	4.2	Premium	Direct Linear Ambient Luminaires
LLS-4VHE-41/840 XE G3	PLNZ07WORKCB	4.2	Premium	Low-Bay Luminaires for Commercial and Industrial Buildings
LLS-4VHE-41/850 XE G3	PJPSQY61	4.2	Premium	Direct Linear Ambient Luminaires
LLS-4VHE-41/850 XE G3	PL2ZAMO0RWUI	4.2	Premium	Low-Bay Luminaires for Commercial and Industrial Buildings
LLS-8HE-52/840 XE G3	P64ZDJZZ	4.2	Premium	Direct Linear Ambient Luminaires
LLS-8HE-52/840 XE G3	PLQCMYYL5L	4.2	Premium	Low-Bay Luminaires for Commercial and Industrial Buildings
LLS-8HE-52/850 XE G3	PWDHCKQA	4.2	Premium	Direct Linear Ambient Luminaires
LLS-8HE-52/850 XE G3	PLEFZABXQTBP	4.2	Premium	Low-Bay Luminaires for Commercial and Industrial Buildings
LLS-8H-68/840 XE G3	PPTS8AR1	4.2	Premium	Direct Linear Ambient Luminaires
LLS-8H-68/840 XE G3	PL9Q44OQECE	4.2	Premium	Low-Bay Luminaires for Commercial and Industrial Buildings
LLS-8H-68/850 XE G3	PJA4EE62	4.2	Premium	Direct Linear Ambient Luminaires
LLS-8H-68/850 XE G3	PLNDP1ZM3HK1	4.2	Premium	Low-Bay Luminaires for Commercial and Industrial Buildings
LLS-8VHE-78/850 XE G3	P2A9716K	4.2	Premium	Direct Linear Ambient Luminaires
LLS-8VHE-78/850 XE G3	PLR1PKJ2L9ZY	4.2	Premium	Low-Bay Luminaires for Commercial and Industrial Buildings



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