

4" LED Lens Downlight

LF4SL LENS

120V-277V 0-10V Dimming

LiteFrame LF4SL is a 4" specification grade LED lensed downlight that utilizes high efficiency LEDs to obtain color consistency, energy savings, and low maintenance costs. 50,000 hours minimum life up to 35°C (95°F) in open plenum applications.

HOUSING:

APPLICATIONS:

One-piece 22 gauge non-corrosive steel platform. Pre-wired j-box with snap-on cover for easy access. Snap-in- connection from driver compartment allows easy installation of light engine/trim assembly without tools above or below the ceiling and can be upgraded to accommodate technology improvements. Approved for 8 (4 in/4 out) No. 12 AWG conductors rated for 90°C through wiring.

High purity aluminum, Alzak, iridescence suppressed, semi-diffuse reflector. Self-trim standard.

IP65 AND VR:

IP65 and vandal-resistant (VR) options are made of 16GA cold rolled steel stampings and come standard with a clear high impact polycarbonate lens. Each option uses self tapping stainless steel screws painted to match the white trim color standard; tamper-resistant screws are used on the VR option only. The IP65 rated option is completely sealed without the use of silicone on standard non-porous ceiling

LED LIGHT ENGINE:

The LF4SL uses the Philips Fortimo DLM LED Module. This module provides controlled color consistency (3 SDCM) from fixture to fixture. The system is designed for optimal life and lumen maintenance (>50,000 hours at 70% lumen Both reflector and light engine assembly are mechanically retained to housing.

LED DRIVER:

The LF4SL utilizes the Philips Fortimo LED Driver specifically designed to optimize efficiency of the Fortimo DLM Module. Driver is designed to match the 50,000 hours minimum life expectancy of the system. Meets UL Class 2, inherent short circuit protection, self limited, overload protected. If critical temperatures are reached on driver or LED module, integrated thermal feedback loop will gradually reduce current to protect system life. Driver is universal 120V-277V. Optional Lutron Series A driver is also available to 1%.

Comes standard with 0-10V dimming capability. Flickerfree dimming to 10%. 0-10V control may consume up to 1mA. 0-10V, Lutron 2 wire and EcoSystem dimming available to 1% and DMX with RDM (remote device management) dimming to less than 0.1%.

INSTALLATION:

Adjustable Bar hangers included (not with CP option). Universal adjustable mounting brackets also accept 1/2" EMT conduit or 1 1/2" or 3/4" lathing channel (by others) or Prescolite 24" bar hangers (B24 or B6).

CERTIFICATIONS:

CSA certified to US and Canadian safety standards. Suitable for wet locations. Approved for through wiring Non-IC rated. EMR is damp rated use only.

WARRANTY:

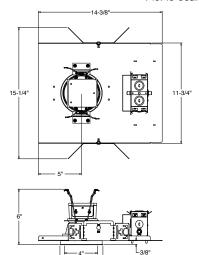
5 year warranty. See www.prescolite.com for details.

DATE: FIRM NAME

LiteFrame

PROJECT:

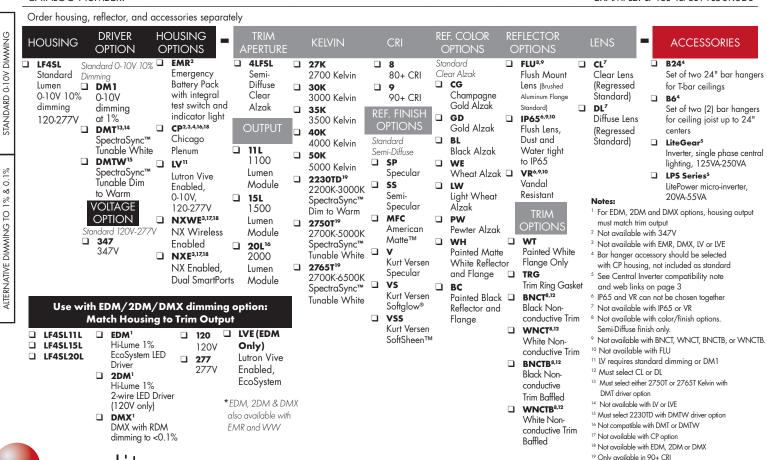
Ceiling Cutout: 5" Maximum Ceiling Thickness 5/8" For conversion to millimeters, multiply inches by 25.4 Not to Scale



See page 4 for EMR, CP and NX(W)E line art.

EXAMPLE: LF4SL-4LFSL11L30K8DL

CATALOG NUMBER:



DRIVER DATA	4LFSL20L	4LFSL15L	4LFSL11L	
Input Voltage	120-277V	120-277V	120-277V	
Input Frequency	50/60 Hz	50/60 Hz	50/60 Hz	<u>Lumen Multiplier Table</u>
Input Current	0.105A (120V)	0.133A (120V)	0.184A (120V)	Photometrics published below are for the 3000K, 80 CRI.
	0.045A (277V)	0.058A (277V)	0.08A (277V)	This table may be used to approximate the lumen values at
Input Power	22.1W	16.2W	12.7W	different Kelvin temperatures and CRI.
Power Factor	≥0.90	≥0.90	≥0.90	
THD	<20%	<20%	<20%	4000 Kelvin 1.07
EMI Filtering	FCC 47CFR	FCC 47CFR	FCC 47CFR	3500 Kelvin 1.00
_	Part 15, Class A	Part 15, Class A	Part 15, Class A	3000 Kelvin 1.00
Operating Temperature	-20°C to 35°C	-20°C to 35°C	-20°C to 35°C	2700 Kelvin 0.95
Dimming	0-10V	0-10V	0-10V	
Over-voltage, over-curre	nt, short-circuit protec	ted	1	80 CRI1.00
*Power consumption an	d photometric output	may vary slightly with vari	ious driver and CRI options.	90 CRI0.91

When operating in EM mode, the fixture will deliver approximately 30% of the published full lumen output.

Delivered Lumens

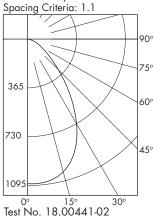
The table below shows the delivered lumens for the various lumen outputs.

Output	CRI	Lens	Delivered Lumens	Input Watts	Lumens Per Watt	Full Catalog String
11L	80	CL	1055	12.7	83	LF4SL-4LFSL11L30K8CL
15L	80	CL	1390	16.2	86	LF4SL-4LFSL1.5L30K8CL
20L	80	CL	1845	21.6	85	LF4SL-4LFSL20L30K8CL
11L	80	DL	961	12.5	77	LF4SL-4LFSL11L30K8DL
15L	80	DL	1266	16.2	78	LF4SL-4LFSL15L30K8DL
20L	80	DL	1681	21.6	78	LF4SL-4LFSL20L30K8 DL
11L	80	FLUDL	91 <i>7</i>	12.7	72	LF4SL-4LFSL11L30K8FLUDL
15L	80	FLUDL	1208	15.8	76	LF4SL-4LFSL15L30K8FLUDL
20L	80	FLUDL	1603	21.6	74	LF4SL-4LFSL20L30K8FLUDL
11L	80	VR/IP65	1022	12.7	80	LF4SL-4LFSL11L30K8VR/IP65
15L	80	VR/IP65	1346	15.9	85	LF4SL-4LFSL15L30K8VR/IP65
20L	80	VR/IP65	1 <i>787</i>	21.6	83	LF4SL-4LFSL20L30K8VR/IP65

LF4SL-4LFSL20L30K8DL

LED Light Engine: 3000K, 80 CRI System Wattage: 21.6W Fixture Delivered Lumens: 1681

Fixture Efficacy: 78



CANDELA	DISTRIBUTION
DEG	CANDELA
0	1088
5	1088
15	1034
25	864
35	591
45	327
55	164
65	84
<i>7</i> 5	30
85	0
90	0

ZONAL LUM	ZONAL LUMEN SUMMARY											
ZONE	LUMENS	%LUMINAIRE										
0-30	788	47										
0-40	1156	69										
0-60	1562	93										
0-90	1681	100										
90-180	0	0										
0-180	1681	100										

MAL LUI	MEIN SOMIMA	KI	LUMINANCE DAIA	IN CANDELA/ SQ.
ONE	LUMENS	%LUMINAIRE	METER	
30	788	47	Angle in Vertical	Average
10	1156	69	45°	57006
50	1562	93	55°	35326
90	1681	100	65°	24483
-180	0	0	75°	14159
180	1681	100	85°	0

₹					90	Effe	ctive	Ceili	ng C	avity	Refle	ctan	ce				
Cavity		8	ю			70			50			30					
m Ca Ratio					20	9% E	ffecti	ve Flo	oor C	avity	Refi	ectan	се				
Room						% Wall Reflectance											
ĕ	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82
3	97	89	82	77	95	87	81	76	84	79	75	82	78	74	79	76	73
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65
5	84	74	67	61	83	73	66	61	71	65	60	69	64	60	67	63	59
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	45
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41
10	62	50	43	39	61	50	43	39	49	43	39	48	42	38	47	42	38

Tested at 25°C Ambient in accordance to IESNA LM-79-2008



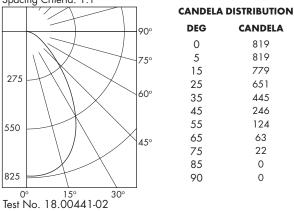




LF4SL-4LFSL15L30K8DL

LED Light Engine: 3000K, 80 CRI System Wattage: 16.2W Fixture Delivered Lumens: 1266 Fixture Efficacy: 78

Spacing Criteria: 1.1



819

819

779

651

115

246

124

63

22

0

0

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

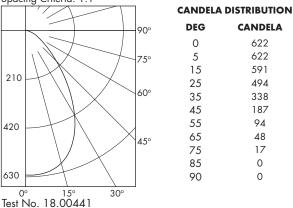
ZONAL LUA	MEN SUMMAI	RY	LUMINANCE DATA IN CANDELA/SQ.					
ZONE	LUMENS	%LUMINAIRE	METER					
0-30	593	47	Angle in Vertical	Average				
0-40	871	69	45°	42932				
0-60	1176	93	55°	26605				
0-90	1266	100	65°	18438				
90-180	0	0	75°	10663				
0-180	1266	100	85°	0				

₹		% Effective Ceiling Cavity Reflectance																	
6 0		8	ю			7	0			50			30			10			
m Ca Ratio	19159				20	20% Effective Floor Cavity Reflectance											A 480 g		
Room Cavity Ratio							96	Wall	Refi	ectar	nce								
ĕ	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10		
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92		
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82		
3	97	89	82	77	95	87	81	76	84	79	75	82	78	74	79	76	73		
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65		
5	84	74	67	61	83	73	66	61	71	65	60	69	64	60	67	63	59		
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54		
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49		
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45		
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41		
10	62	50	43	39	61	50	43	39	49	43	39	48	42	38	47	42	38		

LF4SL-4LFSL11L30K8DL

LED Light Engine: 3000K, 80 CRI System Wattage: 12.5W Fixture Delivered Lumens: 961

Fixture Efficacy: 77 Spacing Criteria: 1.1



Tested at 25°C Ambient in accordance to IESNA LM-79-2008

ZONAL LUM	NEN SUMMA	RY				
ZONE	LUMENS	%LUMINAIRE				
0-30	450	46.9				
0-40	661	68.8				
0-60	893	92.9				
0-90	961	100.0				
90-180	0	0.0				
0-180	961	100.0				

LUMINANCE DATA IN CANDELA/SQ. METER									
Angle in Vertical	Average								
45°	32620								
55°	20214								
65°	14009								
75°	8102								
85°	0								

١.		8	ю		ı ´		ctive			50		l .	30		1	10	
m Ca Ratio		20% Effective Floor Cavity Reflectance															
Room Cavity Ratio	% Wall Reflec									lectance							
ĕ	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82
3	97	89	82	77	95	87	81	76	84	79	75	82	78	74	79	76	73
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65
5	84	74	67	61	83	73	66	61	71	65	60	69	64	60	67	63	59
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41
10	62	50	43	39	61	50	43	39	49	43	39	48	42	38	47	42	38





Dimming Compatibility Table

Dimming Ballast	Manufacturer	Web Link
DM/DM1	Lutron DVTV	http://bit.ly/11jSvZg
DM/DM1	Leviton AWRMG-7xx, AWSMG-7xx, AWSMT-7xx	http://bit.ly/1BJn2R9
EDM	Lutron	http://bit.ly/1vtjHAl
2DM	Lutron	http://bit.ly/1S4WjXK

DMX

See instruction sheet on www.prescolite.com for connection & installation information.

Other useful links: http://www.eldoled.com/led-drivers/powerdrive/50-watt/ac-561s/

Central Inverters

For full fixture output in back-up mode, we recommend you visit www.dual-lite.com for your Central Lighting Inverter options. Please contact your local Hubbell representative for any assistance with proper sizing and loading of your inverter selection. Central lighting inverters must be ordered separately.

LiteGear: <u>www.dual-lite.com/products/litegear_lg_series</u> **LPS Series:** <u>www.dual-lite.com/products/lps</u>

<u>SpectraSync™ Color Tuning Technology:</u>



Control your space based on the needs of the application, specific activities throughout the day and preferences of the occupants with two distinct SpectraSync™ Color Tuning Technology.

Dim to Warm: Dim to Warm mimics the familiar warming effect that occurs with traditional incandescent sources as they are dimmed. (Available with 2200K-3000K).

Tunable White: Tunable White offers users the ability to tailor CCT to their personal preference, enhancing task visibility, material and colors or the aesthetics of the space. (Available with 2700K-5000K or 2700K-6500K).

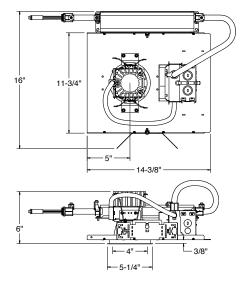
See separate SpectraSyncTM Tech Sheet for additional details.

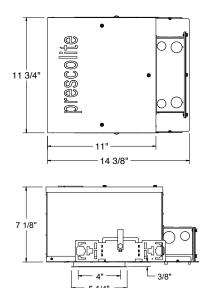
NX Distrubuted Intelligence: NX DISTRIBUTED INTELLIGENCE

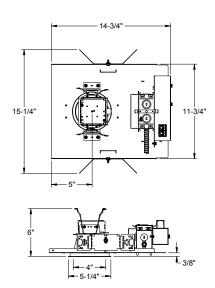
Supports indoor and outdoor applications, wired, wireless and hybrid networked NX lighting control deployments and enables emerging applications such as Hubbell Lighting's SpectraSync™ color tuning technology.

See separate NX™ Solutions Guide for additional details.

See Hubbell Controls Solution NX Brochure.







LF4SL EMR LF4SL CP LF4SL LENS NX(W)E





