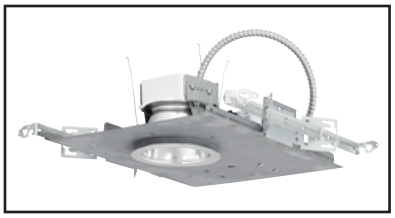


4" LED Downlight

LF4SL

120V–277V

0-10V Dimming

DATE: TYPE:

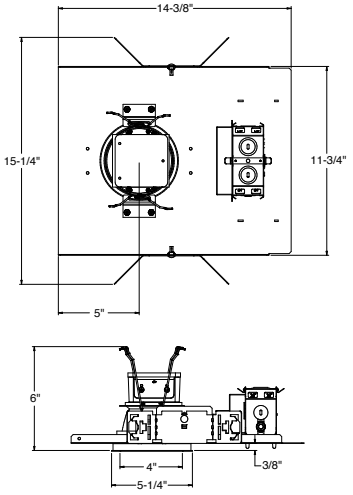
FIRM NAME:

PROJECT:

LiteFrame®

ENERGY STAR

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



See page 5 for EM/EMR, CP, LV(E) and NX(W)E line art

APPLICATIONS:
LiteFrame LF4SL is a 4" specification grade LED open 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:
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. Approve for 8 (4 in/4 out) No. 12 AWG conductors rated for 90°C through wiring.

REFLECTOR:
High purity aluminum, Alzak, iridescence suppressed, semi-diffuse reflector. Self-trim standard. Painted white self-trim (WT) available as option.

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 maintenance). 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.

DIMMING:
Comes standard with 0-10V dimming capability. Flicker-free 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. EM and EMR are damp rated use only. ENERGY STAR qualified with open clear Alzak reflector. UL approved for NSF2 splash zone applications.

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

STANDARD 0-10V DIMMING

ALTERNATIVE DIMMING TO 1% & 0.1%

CATALOG NUMBER: EXAMPLE: LF4SLDM1-4LFSL15L35K8WT

Order housing, reflector, and accessories separately

HOUSING
- ❑ **LF4SL** Standard Lumen 0-10V 10% dimming 120-277V

DRIVER OPTION
Standard 0-10V 10% Dimming
- ❑ **DM1** 0-10V dimming at 1%
- ❑ **DMT[8,9]** SpectraSync™ Tunable White
- ❑ **DMTW[10]** SpectraSync™ Tunable Dim to Warm

VOLTAGE OPTION
Standard 120V-277V
- ❑ **347** 347V

HOUSING OPTIONS
- ❑ **EM[2,15]** Emergency Battery Pack with integral test switch and indicator light
- ❑ **EMR[2]** Emergency Battery Pack with remote test switch and indicator light
- ❑ **CP[2,4,5,11,13]** Chicago Plenum
- ❑ **LV[7]** Lutron Vive Enabled, 0-10V, 120-277V
- ❑ **NXWE[4,12,13]** NX Wireless Enabled
- ❑ **NXE[4,12,13]** NX Enabled, Dual SmartPorts

TRIM APERTURE
- ❑ **4LFSL** Semi-Diffuse Clear Alzak

OUTPUT
- ❑ **11L** 1100 Lumen Module
- ❑ **15L** 1500 Lumen Module
- ❑ **20L[11]** 2000 Lumen Module

KELVIN
- ❑ **27K** 2700 Kelvin
- ❑ **30K** 3000 Kelvin
- ❑ **35K** 3500 Kelvin
- ❑ **40K** 4000 Kelvin
- ❑ **50K** 5000 Kelvin
- ❑ **2230TD[14]** 2200K-3000K SpectraSync™ Dim to Warm
- ❑ **2750T[14]** 2700K-5000K SpectraSync™ Tunable White
- ❑ **2765T[14]** 2700K-6500K SpectraSync™ Tunable White

CRI
- ❑ **8** 80+ CRI
- ❑ **9** 90+ CRI

REF. FINISH OPTION
Standard Semi-Diffuse
- ❑ **SP** Specular
- ❑ **SS** Semi-Specular
- ❑ **MFC** American Matte™
- ❑ **V** Kurt Versen Specular
- ❑ **VS** Kurt Versen Softglow®
- ❑ **VSS** Kurt Versen SoftSheen™

REF. COLOR OPTIONS
Standard Clear Alzak
- ❑ **CG** Champagne Gold Alzak
- ❑ **GD** Gold Alzak
- ❑ **BL** Black Alzak
- ❑ **WE** Wheat Alzak
- ❑ **LW** Light Wheat Alzak
- ❑ **PW** Pewter Alzak
- ❑ **WH** Painted Matte White Reflector and Flange
- ❑ **BC** Painted Black Reflector and Flange

REFLECTOR OPTIONS
- ❑ **EM[2,15]** Pre-punched reflector for integral switch
- ❑ **AM[3]** Antimicrobial coating on clear Alzak reflector only

TRIM OPTIONS
- ❑ **WT** Painted White Flange Only
- ❑ **TRG** Trim Ring Gasket

ACCESSORIES
- ❑ **B24[5]** Set of two 24" bar hangers for T-bar ceilings
- ❑ **B6[5]** Set of two (2) bar hangers for ceiling joist up to 24" centers
- ❑ **LiteGear[6]** Inverter, single phase central lighting, 125VA-250VA
- ❑ **LPS Series[6]** LitePower micro-inverter, 20VA-55VA

Use with EDM/2DM/DMX dimming option: Match Housing to Trim Output
- ❑ **LF4SL11L**
- ❑ **LF4SL15L**
- ❑ **LF4SL20L**

- ❑ **EDM[1]** Hi-Lume 1% EcoSystem LED Driver
- ❑ **2DM[1]** Hi-Lume 1% 2-wire LED Driver (120V only)
- ❑ **DMX[1]** DMX with RDM dimming to <0.1%

- ❑ **120** 120V
- ❑ **277** 277V

- ❑ **LVE (EDM Only)** Lutron Vive Enabled, EcoSystem

**EDM, 2DM & DMX also available with EMR and WW*

Notes:
1. For EDM, 2DM, and DMX options, housing output must match trim output
2. Not available with 347V
3. Clear Alzak standard. Consult factory for other colors
4. Not available with EM, EMR, DMX, LV or LVE
5. Bar hanger accessory should be selected with CP housing, not included as standard
6. See Central Inverter compatibility note and web links on page 3
7. LV requires standard dimming or DM1
8. Must select either 2750T or 2765T Kelvin with DMT driver option
9. Not available with LV or LVE
10. Must select 2230TD with DMTW driver option
11. Not compatible with DMT or DMTW
12. Not available with CP option
13. Not available with EDM, 2DM or DMX
14. Only available in 90+ CRI
15. EM option required on both housing and trim

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PHOTOMETRIC DATA

DRIVER DATA	4LFSL20L	4LFSL15L	4LFSL11L
Input Voltage	120-277V	120-277V	120-277V
Input Frequency	50/60 Hz	50/60 Hz	50/60 Hz
Input Current	0.105A (120V) 0.045A (277V)	0.133A (120V) 0.058A (277V)	0.184A (120V) 0.08A (277V)
Input Power	22.1W	16.2W	12.7W
Power Factor	≥0.90	≥0.90	≥0.90
THD	<20%	<20%	<20%
EMI Filtering	FCC 47CFR Part 15, Class A	FCC 47CFR Part 15, Class A	FCC 47CFR Part 15, Class A
Operating Temperature	-20°C to 35°C	-20°C to 55°C	-20°C to 35°C
Dimming	0-10V	0-10V	0-10V

Over-voltage, over-current, short-circuit protected

Power consumption and photometric output may vary with various driver and CRI options.

Lumen Multiplier Table

Photometrics published below are for the 3000K, 80 CRI. This table may be used to approximate the lumen values at different Kelvin temperatures and CRI.

4000 Kelvin	1.07
3500 Kelvin	1.00
3000 Kelvin	1.00
2700 Kelvin	0.95

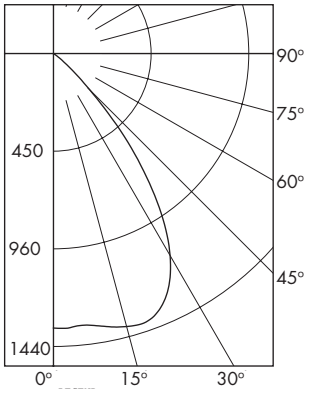
80 CRI.....1.00
90 CRI.....0.91

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	Open	1055	12.7	83	LF4SL-4LFSL11L30K8
15L	80	Open	1390	16.2	86	LF4SL-4LFSL15L30K8
20L	80	Open	1901	22.1	86	LF4SL-4LFSL20L30K8
11L	90	Open	959	13.9	69	LF4SL-4LFSL11L30K9
15L	90	Open	1323	19.1	69	LF4SL-4LFSL15L30K9
20L	90	Open	1698	25.1	68	LF4SL-4LFSL20L30K9

LF4SL-4LFSL20L30K8
LED Light Engine: 3000K, 80 CRI
System Wattage: 22.1W
Fixture Delivered Lumens: 1901
Fixture Efficacy: 86
Spacing Criteria: 1.1



CANDELA DISTRIBUTION

DEG	CANDELA
0	1346
5	1340
15	1385
25	1309
35	885
45	252
55	22
65	3
75	1
85	0
90	0

Test No. 18.00264-01
Tested at 25°C Ambient in accordance to IESNA LM-79-2008

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	1115	59
0-40	1657	87
0-60	1897	100
0-90	1901	100
90-180	0	0
0-180	1901	100

LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	Average
45°	43855
55°	4701
65°	797
75°	651
85°	0

COEFFICIENTS OF UTILIZATION ZONAL CAVITY METHOD

Room Cavity Ratio	% Effective Ceiling Cavity Reflectance: 80				70				50				30				10		
	20% Effective Floor Cavity Reflectance																		
	% Wall Reflectance																		
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
1	113	110	107	105	111	108	106	103	104	102	100	100	99	97	97	96	94			
2	107	102	97	94	105	100	96	93	97	93	91	94	91	89	91	89	87			
3	101	94	89	84	99	92	88	84	90	86	82	87	84	81	85	82	80			
4	95	87	81	76	93	86	80	76	83	79	75	81	77	74	80	76	73			
5	90	80	74	69	88	79	74	69	78	72	68	76	71	68	74	70	67			
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62			
7	80	69	63	58	78	69	63	58	67	62	58	66	61	57	65	61	57			
8	75	65	58	54	74	64	58	54	63	57	53	62	57	53	61	56	53			
9	71	61	54	50	70	60	54	50	59	53	49	58	53	49	57	53	49			
10	67	57	50	46	66	56	50	46	55	50	46	55	49	46	54	49	46			

LF4SL-4LFSL20L30K8 Test No. 18.00264-01

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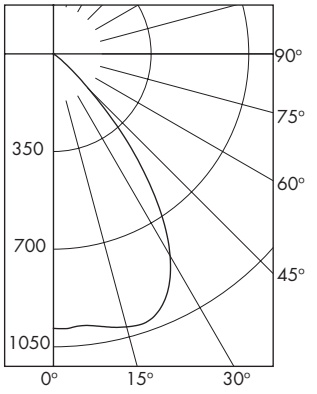
HUBBELL Lighting

PHOTOMETRIC DATA

LF4SL-4LFSL15L30K8
LED Light Engine: 3000K, 80 CRI
System Wattage: 16.2W
Fixture Delivered Lumens: 1390
Fixture Efficacy: 86
Spacing Criteria: 1.1



CANDELA DISTRIBUTION

DEG	CANDELA
0	984
5	980
15	1013
25	957
35	647
45	184
55	16
65	2
75	1
85	0
90	0

Test No. 18.00264
Tested at 25°C Ambient in accordance to IESNA LM-79-2008

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	816	58.7
0-40	1212	87.2
0-60	1387	99.8
0-90	1390	100.0
90-180	0	0.0
0-180	1390	100.0

LUMINANCE DATA IN CANDELA/SQ. METER

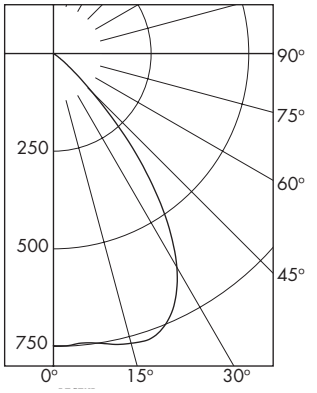
Angle in Vertical	Average
45°	32096
55°	3441
65°	584
75°	477
85°	0

COEFFICIENTS OF UTILIZATION ZONAL CAVITY METHOD

Room Cavity Ratio	% Effective Ceiling Cavity Reflectance: 80				70				50				30				10			
	20% Effective Floor Cavity Reflectance																			
	% Wall Reflectance																			
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
1	113	110	107	105	111	108	106	103	104	102	100	100	99	97	97	96	94			
2	107	102	97	94	105	100	96	93	97	93	91	94	91	89	91	89	87			
3	101	94	89	84	99	92	88	84	90	86	82	87	84	81	85	82	80			
4	95	87	81	76	93	86	80	76	83	79	75	81	77	74	80	76	73			
5	90	80	74	69	88	79	74	69	78	72	68	76	71	68	74	70	67			
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62			
7	80	69	63	58	78	69	63	58	67	62	58	66	61	57	65	61	57			
8	75	65	58	54	74	64	58	54	63	57	53	62	57	53	61	56	53			
9	71	61	54	50	70	60	54	50	59	53	49	58	53	49	57	53	49			
10	67	57	50	46	66	56	50	46	55	50	46	55	49	46	54	49	46			

LF4SL-4LFSL15L30K8 Test No. 18.00264

LF4SL-4LFSL11L30K8
LED Light Engine: 3000K, 80 CRI
System Wattage: 12.7W
Fixture Delivered Lumens: 1055
Fixture Efficacy: 83
Spacing Criteria: 1.1



CANDELA DISTRIBUTION

DEG	CANDELA
0	748
5	745
15	768
25	723
35	490
45	142
55	13
65	2
75	0
85	0
90	0

Test No. 18.00263
Tested at 25°C Ambient in accordance to IESNA LM-79-2008

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	617	58.8
0-40	917	86.9
0-60	1053	99.8
0-90	1055	100.0
90-180	0	0.0
0-180	1055	100.0

LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	Average
45°	24770
55°	2796
65°	584
75°	0
85°	0

COEFFICIENTS OF UTILIZATION ZONAL CAVITY METHOD

Room Cavity Ratio	% Effective Ceiling Cavity Reflectance: 80				70				50				30				10			
	20% Effective Floor Cavity Reflectance																			
	% Wall Reflectance																			
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
1	113	110	107	105	111	108	106	103	104	102	100	100	99	97	97	96	94			
2	107	102	97	94	105	100	96	93	97	93	91	94	91	89	91	89	87			
3	101	94	88	84	99	92	87	83	90	86	82	87	84	81	85	82	80			
4	95	87	81	76	93	86	80	76	83	79	75	81	77	74	79	76	73			
5	90	80	74	69	88	79	73	69	78	72	68	76	71	68	74	70	67			
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62			
7	80	69	63	58	78	69	62	58	67	62	58	66	61	57	65	60	57			
8	75	65	58	54	74	64	58	54	63	57	53	62	57	53	61	56	53			
9	71	60	54	50	70	60	54	50	59	53	49	58	53	49	57	52	49			
10	67	57	50	46	66	56	50	46	55	50	46	54	49	46	54	49	46			

LF4SL-4LFSL11L30K8 Test No. 18.00263

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HUBBELL Lighting

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

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: www.dual-lite.com/products/litegear_lg_series
LPS Series: www.dual-lite.com/products/lps

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/

SpectraSync™ Color Tuning Technology: SpectraSync™ Color Tuning Technology

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 SpectraSync™ Tech Sheet for additional details.

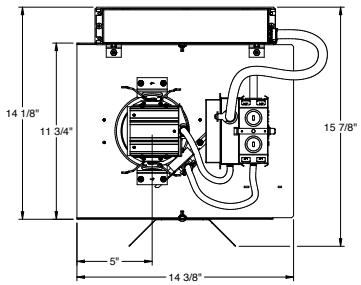
NX Distrubuted Intelligence: NX DISTRIBUTED INTELLIGENCE

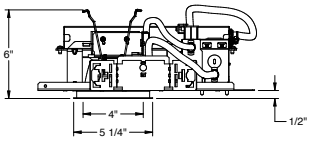
Supports indoor and outdoor applications, wired, wireless and hybrid networked NX lighting control deployments and enables emerging applications such as Hubbell Lighting's SpectraSync™ color tuning technology.

See separate NX™ Solutions Guide for additional details.

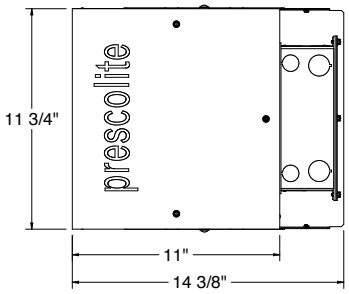
See Hubbell Controls Solution NX Brochure.

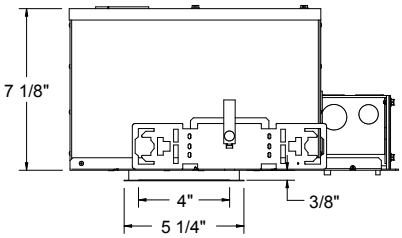
HUBBELL Lighting



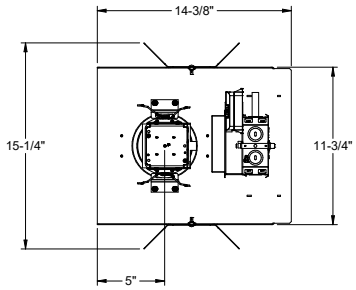


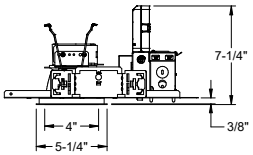
LF4SL EM/EMR



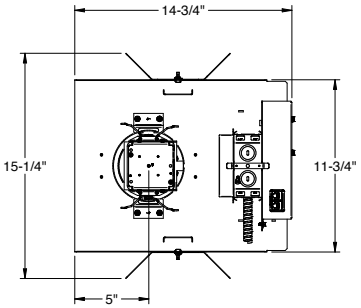


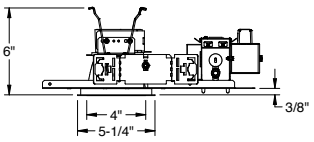
LF4SL CP





LF4SL LV(E)





LF4SL NX(W)E