

DESCRIPTION

Recessed 3.5" aperture directional luminaire with slot cut shielding reflector utilizing a LED array. Housing is air tight and suitable for 2x8 residential or commercial constructions. Insulation must be kept 3" from top and sides on housing. Housing platform + primary reflector + optical element combination supports various distributions and reflector types providing design flexibility. Use where excellent light control and low aperture brightness are demanded.

Catalog #		Type
Project		
Comments		Date
Prepared By		

SPECIFICATION FEATURES

Frame

Galvanized steel plaster frame with integral bar hanger receivers. Setscrews provide positive horizontal locking. Integral gun sights facilitate the use of guide strings or laser lines. Shipped with overspray protector installed.

Housing

Steel housing painted matte black for visually dark interior. Removable access panels allow splice inspection and service of all electrical components including LED module and driver from below the ceiling thru the aperture. Removable hinged top allow top access. All fasteners are captive.

Bar Hangers

Captive preinstalled bar hangers adjust from 8-1/2" to 24" wide; pass thru feature allows shortening without removal. Captive nail penetrates standard and engineered lumber. Mounting flange levels platform with ceiling. Integral clip attached directly to tee-bar.

Universal Mounting Bracket

Accepts 1/2" EMT, C channel and bar hangers and adjusts 3" vertically from above the ceiling.

Gaskets

Closed cell gaskets achieve restrictive airflow requirements without additional caulking.

Adjustment Mechanism

Dynamic aiming rotates 365°, tilts 45° and locks in position. Angle markings assist in repeatable settings. Translating center beam optics aligns axis of primary reflector with aperture from nadir to 45°.

LED Module

Field replaceable module utilizes Cree® MT-G2 LED array and conforms to Zhaga standards for interchangeability. Proximity phosphors over chip on board LEDs provide a uniform source with high efficiency and no pixilation. Color accuracy within 2 SDCM and optional 90 CRI provides excellent color. Passive cooling achieves L70 at 40,000 hours.

Primary Optic

Borosilicate glass segmented optic with > 95% reflective multi-layer hard coating delivers a highly efficient and uniform beam. Various distributions are available and can be interchanged without tools. Elastomeric glare shield accepts theatrical color filters and diffusion films.

Media

Optional media holder accepts one or two 2 inch [50mm] diameter L series color filters or beam modifying lens. Order media holder, color filters and lens separately.

Lower Reflector

Spun 0.04" thick aluminum angle cut parabolic contour provides 50° room side cutoff and is available in a wide range of specular and semi-specular Alzak® finishes. Light trap eliminates spill light at edge of flange and reflector. Metal trim ring can be removed for painting and can be installed flush mount with optional flush mount collar accessory.

Trim Retention

Retained with two torsion springs holding the flange tightly to the finished ceiling surface and accommodates ceiling thickness from 1/2" - 1" thick. Use optional plaster lip extender for ceilings up to 2" thick.

Junction Box

(6) 1/2" and (2) 3/4" trade size pry outs positioned to allow straight conduit runs.

Driver

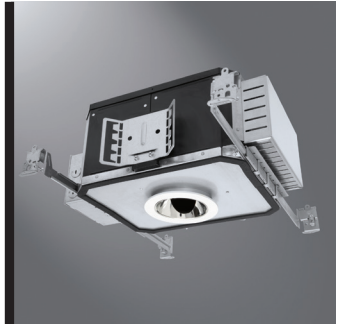
Integral constant current driver provides noise free operation. Continuous, flicker-free 1% dimming, available with 2 or 3 wire phase cut and EcoSystem/DALI digital control interfaces. The DALI option is Fifth Light compatible.

Compliance

Type Non-IC inherently protected and cULus listed for damp locations. Insulation must be kept 3" from top and sides on housing. Restrictive airflow per ASTM-E283. EMI/RFI emissions per FCC 47CFR Part 18 consumer limits. Contains no mercury or lead and RoHS compliant. Photometric testing in accordance with IES LM-79-08. Lumen maintenance projections in accordance with IES LM-80-08 and TM-21-11. Meets California Title 24 residential fixture program and listed on appliance database. Energy Star listed. Zhaga compliant. Meets EMI/RFI emission per FCC 47CFR Part 18 consumer limits at 120V input. Lighting Facts Labeled.

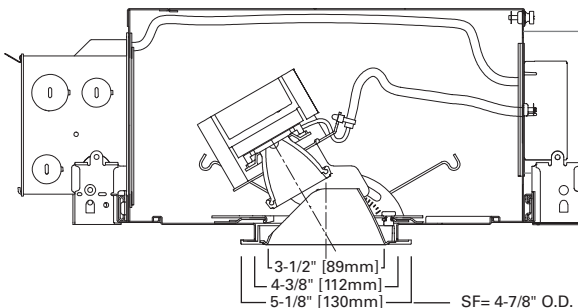
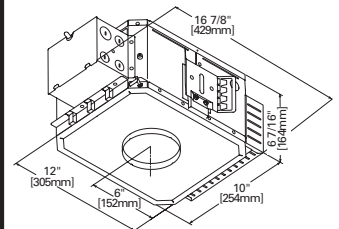
Warranty

5 year warranty.



**PN3LED12
E3SLOT**

**LED Directional Slot Cut
3.5" Aperture
1,200 Lumen Series**



E Driver Option		
Input Voltage	120V	277V
Input Current (A)	0.16	0.08
Input Power (W)	19.5	20
Inrush Current (A)	0.24	0.5
THD: ≤ 20%		
PF: ≥ 0.90		
T Ambient: -20 to +40°C		
T Plenum: +65°C Max.		
Sound Rating: Class A		
E010 Driver Option		
Input Voltage	120V	277V
Input Current (A)	0.17	0.08
Input Power (W)	20	20.7
Inrush Current (A)	0.7	1.21
THD: ≤ 20%		
PF: ≥ 0.90		
T Ambient: -20 to +40°C		
T Plenum: +65°C Max.		
Sound Rating: Class A		



Zhaga

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ORDERING INFORMATION

Complete luminaire consists of a housing platform and optical element. Housing platform can be ordered without primary optic. Order primary optics separately.

Example: PN3LED12830E RG50SP15 E3SLOTH

Platform	Lumens ¹	Distribution	Color	Driver
PN3LED				
PN3LED = 3.5" Aperture Non-IC, AT LED Housing Platform	12 = 1,200 Lumens (Nominal)	[blank] = Omit Primary Optic NSP10 = 10° Beam SP15 = 15° Beam NFL25 = 25° Beam FL40 = 40° Beam	827 = 80 CRI Minimum, 2,700 K CCT 927 = 90 CRI Minimum, 2,700 K CCT 830 = 80 CRI Minimum, 3,000 K CCT 930 = 90 CRI Minimum, 3,000 K CCT 835 = 80 CRI Minimum, 3,500 K CCT 840 = 80 CRI Minimum, 4,000 K CCT	E = 120 – 277V 50/60Hz Leading or Trailing Edge Phase Cut 1% Dimming (phase cut dimming at 120V only) E010 = 120 – 277V 50/60Hz 0 -10V 10% Dimming ED010 = 120 – 277V 50/60Hz 0 -10V 1% Dimming E5LT = 120 – 277V 50/60Hz DALI 1% Dimming EDMX = 120 – 277V 50/60Hz DMX 1% Dimming 1ELTE = 120V 60Hz Leading Edge 1% Dimming, Lutron A-Series EL3D = 120 – 277V 50/60Hz 3-wire and EcoSystem 1% Dimming, Lutron A-Series

Optical Element	Finishes	Options	Accessories
E3SLOT			
E3SLOT = 3.5" Aperture Open 1.8" Slotted Reflector	Alzak® Finishes C = Specular Clear H = Semi-Specular Clear G = Gold WMH = Warm Haze WH = Wheat WHH = Wheat Haze GP = Graphite GPH = Graphite Haze K = Cognac KH = Cognac Haze CC = Chocolate CCH = Chocolate Haze B = Black	Painted Finishes MW = Matte white W = Gloss white [Blank] = Metal Trim Ring, Matte White SF = Self-flanged SFWF = Self-flanged, Matte White Flange	RG50NSP10 = 10° Beam Glass Reflector, 50mm RG50SP15 = 15° Beam Glass Reflector, 50mm RG50NFL25 = 25° Beam Glass Reflector, 50mm RG50FL40 = 40° Beam Glass Reflector, 50mm RG50MH = Media Holder for two inch [50mm] diameter L series color filters or beam modifying lens. Attaches directly to RG50 series 50mm Reflectors FMC3 = Flush Mount Collar Accessory PLE3 = Plaster Lip Extender for Up to 2" Thick Ceilings ZLM03 = Replacement LED module, see specification sheet for catalog number and performance data

ENERGY DATA

PN3LED E3SLOT

1ELTE Driver Option			EL3D Driver Option			E5LT Driver Option			EDMX Driver Option		
Input Voltage	120V	277V	Input Voltage	120V	277V	Input Voltage	120V	277V	Input Voltage	120V	277V
Input Current (A)	0.17		Input Current (A)	0.16	0.08	Input Current (A)	0.17	0.08	Input Current (A)	0.17	0.08
Input Power (W)	20.1		Input Power (W)	19.2	19.8	Input Power (W)	19.5	20.2	Input Power (W)	20	21.3
Inrush Current (A)	1.9		Inrush Current (A)	1.9	2	Inrush Current (A)	1.73	1.8	Inrush Current (A)	1.82	1.89
THD: ≤ 20%			THD: ≤ 20%			THD: ≤ 20%			THD: ≤ 20%		
PF: ≥ 0.90			PF	≥0.90	≥0.85	PF	≥0.90	≥0.85	PF	≥0.90	≥0.70
T Ambient: -20 to +40°C			T Ambient: -20 to +40°C			T Ambient: -20 to +40°C			T Ambient: -20 to +40°C		
T Plenum: +65°C Max.			T Plenum: +65°C Max.			T Plenum: +65°C Max.			T Plenum: +65°C Max.		
Sound Rating: Class A			Sound Rating: Class A			Sound Rating: Class A			Sound Rating: Class A		

LIGHTING FACTS

LED lighting facts
A Program of the U.S. DOE

Light Output (Lumens) **1172**
Watts **18.3**
Lumens per Watt (Efficacy) **64**

Color Accuracy
Color Rendering Index (CRI) **80**

Light Color
Correlated Color Temperature (CCT) **3000 (Bright White)**

2700K 3000K 4500K 6500K

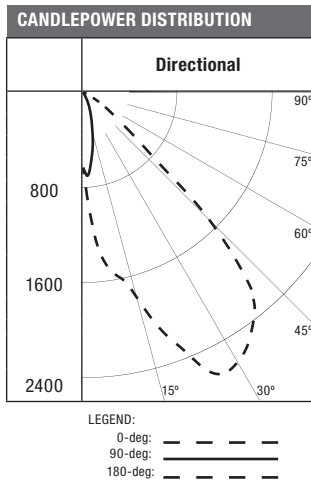
Warm White Bright White Daylight

All results are according to IESNA LM-79-2008. Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit www.lightingfacts.com for the Label Reference Guide.

Registration Number: F4QJ-H1J5UP (10/11/2013)
Model Number: PN3LED12830E1830E E3SLOTIC (D07-08)
Type: Luminaire - Downlight

Please see LightingFacts.com for a complete listing of products.



Test Number	P108924	
Platform	PN3LED12	
Element	E3SLOT RG50FL40	
Lumens	1063 Lm	
Efficacy	57.5 Lm/W	

ZONAL LUMEN SUMMARY

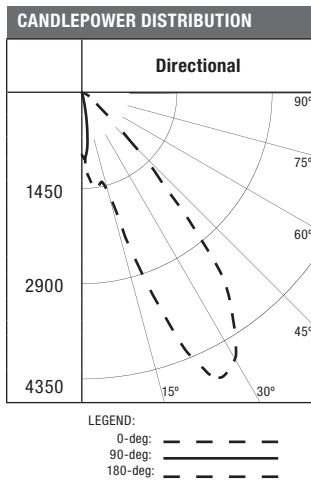
Zone	Lumens	%Fixture
0-30	545	51.3
0-40	852	80.1
0-60	1061	99.8
0-90	1063	100
90-180	0	0
0-180	1063	100

30° HORIZONTAL PLANE						30° VERTICAL PLANE				
	MH	FC	L	W	CB	D	FC	L	W	CB
	5.5'	23.6	6.2	4.2	3.2	5.5'	62.1	3.3	3.4	9.5
	7'	14.6	7.9	5.2	4	7'	38.3	4.3	4.4	12.1
	8'	11.1	9.1	6	4.6	8'	29.3	4.8	5	13.9
	9'	8.8	10.3	6.8	5.2	9'	23.2	5.5	5.8	15.6
	10'	7.1	11.4	7.6	5.8	10'	18.8	6.1	6.4	17.3
12'	5	13.7	9.2	6.9	12'	13	7.4	7.6	20.8	

SINGLE UNIT FOOTCANDLES

3' FROM WALL
(Distance From Fixture Along Wall)

DD	●	1'	2'	3'	4'	5'	6'
1'	0.1	0	0	0	0	0	0
2'	14.4	8	0	0	0	0	0
3'	57.2	24.6	7.4	0.1	0	0	0
4'	57.5	42.1	11.4	3.3	0.4	0	0
5'	39.2	32.1	15.7	3.9	1.5	0.3	0
6'	26.1	21.9	12.8	4.4	1.6	0.6	0.1
7'	16.7	15.4	9.5	4.7	1.9	0.7	0.2
8'	10.8	11.3	6.9	4.2	2.1	0.8	0.3
9'	7.3	7.5	5.1	3.4	2	0.9	0.3
10'	5.1	5	3.9	2.7	1.7	1	0.4



Test Number	P108882	
Platform	PN3LED12	
Element	E3SLOT RG50NFL25	
Lumens	1092 Lm	
Efficacy	59.7 Lm/W	

ZONAL LUMEN SUMMARY

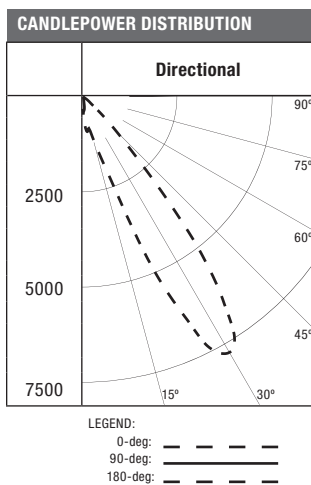
Zone	Lumens	%Fixture
0-30	658	60.3
0-40	1004	92
0-60	1091	99.9
0-90	1092	100
90-180	0	0
0-180	1092	100

30° HORIZONTAL PLANE						30° VERTICAL PLANE				
	MH	FC	L	W	CB	D	FC	L	W	CB
	5.5'	32.6	7.1	3.8	3.2	5.5'	97.1	2.8	2.6	9.5
	7'	20.1	9	4.8	4	7'	59.9	3.6	3.2	12.1
	8'	15.4	10.3	5.6	4.6	8'	45.9	4	3.8	13.9
	9'	12.2	11.7	6.2	5.2	9'	36.3	4.6	4.2	15.6
	10'	9.9	13	7	5.8	10'	29.4	5.1	4.8	17.3
12'	6.9	15.6	8.4	6.9	12'	20.4	6.2	5.6	20.8	

SINGLE UNIT FOOTCANDLES

3' FROM WALL
(Distance From Fixture Along Wall)

DD	●	1'	2'	3'	4'	5'	6'
1'	0.1	0	0	0	0	0	0
2'	0.4	0.4	0.1	0	0	0	0
3'	29.7	8.4	0.1	0.1	0	0	0
4'	83.5	36.5	7.8	0.1	0	0	0
5'	66.5	43.7	13.9	1.5	0	0	0
6'	46.7	33.9	14.3	3.5	0.7	0	0
7'	30.3	23.4	11.6	3.9	1.4	0.3	0
8'	18.3	15.7	8.6	3.4	1.6	0.5	0.1
9'	10.8	10.3	6.3	2.8	1.5	0.6	0.2
10'	6.5	6.4	4.8	2.2	1.3	0.6	0.2



Test Number	P108936	
Platform	PN3LED12	
Element	E3SLOT RG50SP15	
Lumens	827 Lm	
Efficacy	45.2 Lm/W	

ZONAL LUMEN SUMMARY

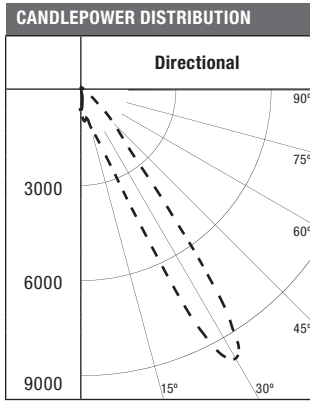
Zone	Lumens	%Fixture
0-30	387	46.7
0-40	718	86.8
0-60	809	97.8
0-90	827	100
90-180	0	0
0-180	827	100

30° HORIZONTAL PLANE						30° VERTICAL PLANE				
	MH	FC	L	W	CB	D	FC	L	W	CB
	5.5'	43.1	4.6	2.4	3.2	5.5'	173.5	2.1	1.6	9.5
	7'	26.6	5.9	3	4	7'	107.1	2.6	2	12.1
	8'	20.4	6.8	3.6	4.6	8'	82	3.1	2.4	13.9
	9'	16.1	7.7	4	5.2	9'	64.8	3.4	2.6	15.6
	10'	13	8.6	4.4	5.8	10'	52.5	3.8	3	17.3
12'	9.1	10.2	5.4	6.9	12'	36.4	4.6	3.6	20.8	

SINGLE UNIT FOOTCANDLES

3' FROM WALL
(Distance From Fixture Along Wall)

DD	●	1'	2'	3'	4'	5'	6'
1'	1.4	0.3	0	0.2	0.2	0.1	0.1
2'	3.5	0.8	0.1	0	0.2	0.1	0
3'	32.5	7.3	1.7	0	0	0	0.1
4'	128.4	20.1	3.5	0.2	0	0	0
5'	117.9	33.8	6	0.8	0.2	0	0
6'	74.4	28.8	7.2	1	0.3	0.1	0
7'	38.6	16.8	6.3	0.8	0.4	0.1	0
8'	16.8	9.3	4.4	0.6	0.3	0.1	0
9'	7.8	5.1	2.9	0.5	0.3	0.1	0
10'	3.9	2.8	1.8	0.5	0.3	0.1	0



LEGEND:
 0-deg: ———
 90-deg: - - - -
 180-deg: ·····

Test Number	P108990	
Platform	PN3LED12	
Element	E3SLOT RG50NSP10	
Lumens	1148 Lm	
Efficacy	62.1 Lm/W	

ZONAL LUMEN SUMMARY		
Zone	Lumens	%Fixture
0-30	594	51.7
0-40	1003	87.3
0-60	1137	99
0-90	1148	100
90-180	0	0
0-180	1148	100

30° HORIZONTAL PLANE						30° VERTICAL PLANE					
	MH	FC	L	W	CB		D	FC	L	W	CB
	5.5'	48.1	4	2.2	3.2		5.5'	218.5	1.4	1.4	9.5
	7'	29.7	5.1	2.8	4		7'	134.9	1.9	1.8	12.1
	8'	22.7	5.8	3.2	4.6		8'	103.3	2.1	2	13.9
	9'	18	6.5	3.6	5.2		9'	81.6	2.4	2.2	15.6
	10'	14.5	7.1	4	5.8		10'	66.1	2.7	2.4	17.3
	12'	10.1	8.6	4.8	6.9		12'	45.9	3.3	3	20.8

SINGLE UNIT FOOTCANDLES							
3' FROM WALL (Distance From Fixture Along Wall)							
DD	●	1'	2'	3'	4'	5'	6'
1'	0.5	0.3	0.6	0.2	0.1	0.1	0.1
2'	0.3	0	0.1	0.2	0	0	0
3'	50.4	19.3	0	0	0	0	0
4'	103.4	35.7	11.3	0.1	0	0	0
5'	149.4	34.6	13.2	2.6	0.1	0	0
6'	85.2	25.6	11.7	3.8	1.1	0.1	0.1
7'	27.6	15.8	8.7	3.9	1.5	0.4	0
8'	11.1	10.8	6.4	3.3	1.5	0.5	0.1
9'	6.3	7	5	2.7	1.4	0.6	0.2
10'	4	4.4	3.9	2.1	1.3	0.7	0.2