

DESCRIPTION

Recessed 3.5" aperture open downlight luminaire utilizing an LED array. Housing is suitable for 2x8 residential or commercial constructions, airtight and can be used in direct contact with insulation. Housing platform + primary reflector + optical element combination supports various distributions, providing design flexibility. Use where high efficiency, excellent light control and low aperture brightness are demanded.

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 a visually dark interior. Removable hinged top allows 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

LED array is field replaceable and conforms to emerging industry standards. Proximity phosphors over chip on board LEDs provide a uniform source with high efficiency and no pixilation. Color rendering index 85 typical, accuracy within 3 SDCM provides excellent color. Proportional active cooling achieves L70B50 at 50,000 hours in IC and non IC applications.

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 3.0mm thick color filters or beam modifying lens. Order media holder, color filters and lens separately.

Lower Reflector

Spun 0.04" thick high purity aluminum parabolic contour provides 50° lamp and lamp image 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

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Comments		Date
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holding the flange tightly to the finished ceiling surface and accommodates ceiling thickness from 1/2 - 1" thick.

Junction Box

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

Driver

Integral 120 or 277V 60 Hz constant current driver provides noise free operation. Monitors LED array and reduces power if safe operating temperature of LED's is exceeded. Continuous, flicker-free dimming from 100% to 10%. Available with trailing edge phase cut, 0 -10V and DALI digital control interfaces.

Compliance

Type IC inherently protected, suitable for direct contact to insulation and cULus listed for damp locations. Restrictive airflow per ASTM E283. Optional City of Chicago environmental air (CCEA) marking for plenum applications. EMI/RFI emissions per FCC 47CFR Part 18 consumer limits. Contains no mercury or lead and RoHS compliant. Photometric testing is in accordance with IES LM79. LED life claims are in accordance with IES LM80 testing. Can be used for State of California Title 24 high efficacy luminaire compliance, reference the California Energy Commission Appliance Efficiency Database for current listings. Can also be used for international Energy Conservation Code (IECC) high efficiency luminaire compliance. Energy Star listed pending. Zhaga compliance pending.

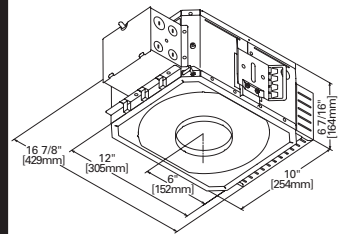
Warranty

5 year warranty.



P3LED E3MR

LED Open Downlight 3.5" Aperture 900 Lumen Series

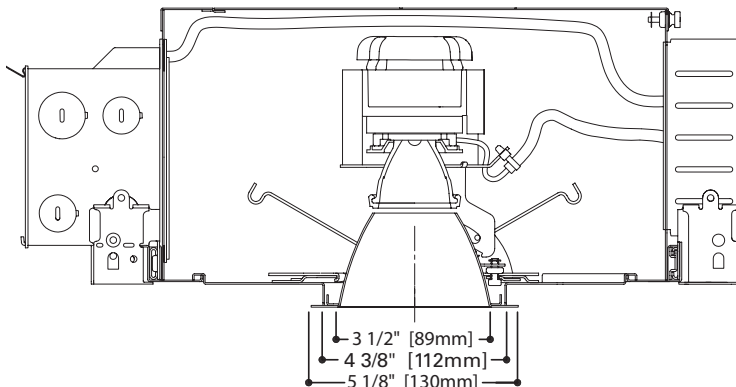


Energy Data

Lumens	900 Series	
Input Voltage (V)	120	277
Input Current (A)	0.18	0.09
Input Power (W)	20.4	22
THD: ≤ 20%		
PF: ≥ 0.90		
T Ambient -20 to +40°C		
Sound Rating: A		



Cooper Lighting is
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Zhaga Consortium



ORDERING INFORMATION

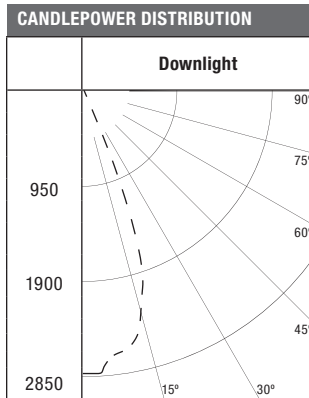
Complete luminaire consists of a housing platform and optical element. Housing platform can be ordered without primary optic. Order primary optics separately.

Example: P3LED9NFL258301E0-10V/TE = 3.5" aperture LED housing platform, 900 lumens nominal, 25° narrow flood 3,000°K, 85 CRI, 120V 60Hz, 0 – 10V and trailing edge 10% dimming
E3MRH = 3.5" aperture open downlight reflector, Semi-specular clear, matte white metal trim ring

Platform	Lumens	Distribution	Color	Driver	Optical Element	Finish	Flange Style	Accessories
P3LED					E3MR			
P3LED = 3.5" aperture LED housing platform P3LEDCEP = 3.5" aperture LED housing platform, CCEA listed for City of Chicago plenum requirements	9 = 900 lumens (nominal)	[blank] = omit primary optic NSP10 = 10° beam SP15 = 15° beam NFL25 = 25° beam FL40 = 40° beam	830 = 85 CRI typical, 3,000° K CCT	1E 0-10V/TE = 120V 60Hz 0 – 10V and trailing edge 10% dimming 2E 0-10V = 277V 60Hz 0 – 10V – 10% dimming 1E DALI = 120V 60Hz DALI – 10% dimming	E3MR = 3.5" aperture open downlight reflector	Finishes Alzak® Finishes C = Specular Clear H = Semi-Specular Clear WMH = Warm Haze G = Gold 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 BB = Black baffle WB = White baffle	[Blank] = Metal trim ring, matte white SF = Self flanged (not available with BB or WB) SFWF = Self flanged, matte white flange (not available with BB or WB)	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 50mm reflector FMC3 = Flush mount collar accessory PLE3 = Plaster lip extender for up to 2" thick ceilings

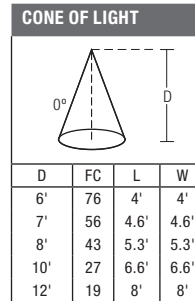
PHOTOMETRICS

P3LED E3MR



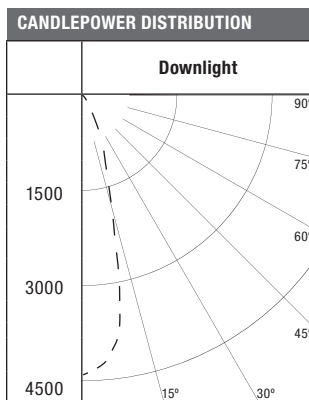
Test Number	P21938	
Platform	P3LED	
Element	E3MRC RG50FL40	
Lumens	967	
Efficacy	50.4 Lm/W	
SC	0.58	

ZONAL LUMEN SUMMARY		
Zone	Lumens	%Fixture
0-30	962	99.5
0-40	967	100.0
0-60	967	100.0
0-90	967	100.0
90-180	0	0.0
0-180	967	100.0



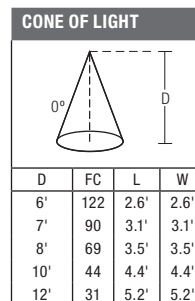
COEFFICIENTS OF UTILIZATION

Ceiling Wall % RCR	80%				70%				50%	
	70	50	30	10	50	30	10	50	10	
0	119	119	119	119	116	116	116	111	111	
1	115	113	111	109	111	109	108	107	104	
2	111	108	105	102	106	103	101	103	99	
3	108	103	99	97	102	98	96	99	94	
4	104	99	95	92	98	94	91	96	90	
5	101	95	91	88	94	91	88	93	87	
6	98	92	88	85	91	87	84	90	84	
7	95	89	85	82	88	84	81	87	81	
8	93	86	82	79	85	82	79	85	78	
9	90	83	79	76	83	79	76	82	76	
10	88	81	77	74	80	77	74	80	74	



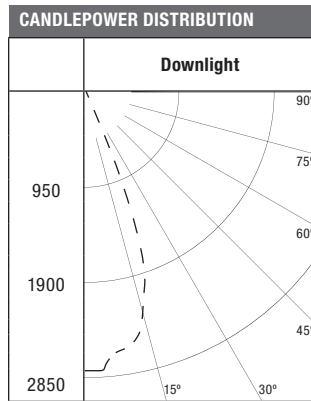
Test Number	P21937	
Platform	P3LED	
Element	E3MRC RG50NFL25	
Lumens	951	
Efficacy	49.5 Lm/W	
SC	0.42	

ZONAL LUMEN SUMMARY		
Zone	Lumens	%Fixture
0-30	947	99.6
0-40	950	100.0
0-60	951	100.0
0-90	951	100.0
90-180	0	0.0
0-180	951	100.0



COEFFICIENTS OF UTILIZATION

Ceiling Wall % RCR	80%				70%				50%	
	70	50	30	10	50	30	10	50	10	
0	119	119	119	119	116	116	116	111	111	
1	115	113	111	110	111	109	108	107	105	
2	112	108	105	103	107	104	102	104	100	
3	108	104	101	98	103	100	97	100	96	
4	105	100	97	94	99	96	93	97	92	
5	102	97	93	90	96	93	90	95	89	
6	100	94	90	87	93	90	87	92	86	
7	97	91	87	85	91	87	84	90	84	
8	95	89	85	82	88	85	82	87	82	
9	93	86	83	80	86	82	80	85	80	
10	90	84	80	78	84	80	78	83	78	

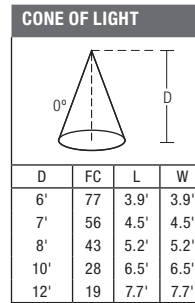


Test Number	P21940
Platform	P3LED
Element	E3MRBB RG50FL40
Lumens	940
Efficacy	49.0 Lm/W
SC	0.56

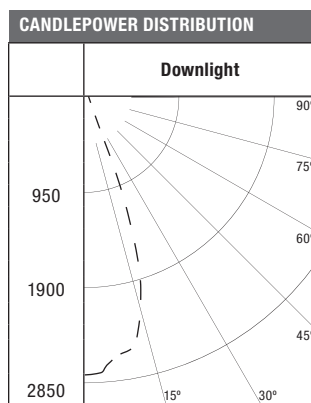


ZONAL LUMEN SUMMARY

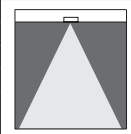
Zone	Lumens	%Fixture
0-30	935	99.5
0-40	939	99.9
0-60	940	100.0
0-90	940	100.0
90-180	0	0.0
0-180	940	100.0



COEFFICIENTS OF UTILIZATION									
Ceiling Wall % RCR	80%				70%			50%	
	70	50	30	10	50	30	10	50	10
Zonal cavity method -- floor reflectance = 20%									
0	119	119	119	119	116	116	116	111	111
1	115	113	111	109	111	109	108	107	104
2	111	108	105	102	106	103	101	103	99
3	108	103	99	97	102	98	96	99	94
4	104	99	95	92	98	94	91	96	90
5	101	95	91	88	94	91	88	93	87
6	98	92	88	85	91	87	84	90	84
7	95	89	85	82	88	84	81	87	81
8	93	86	82	79	85	82	79	85	78
9	90	83	79	76	83	79	76	82	76
10	88	81	77	74	81	77	74	80	74

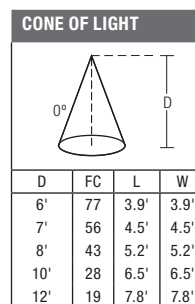


Test Number	P21939
Platform	P3LED
Element	E3MRWB RG50FL40
Lumens	976
Efficacy	50.6 Lm/W
SC	0.56



ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixture
0-30	947	97.0
0-40	956	97.9
0-60	966	99.0
0-90	976	100.0
90-180	0	0.0
0-180	976	100.0



COEFFICIENTS OF UTILIZATION									
Ceiling	80%				70%			50%	
Wall %	70	50	30	10	50	30	10	50	10
RCR	Zonal cavity method -- floor reflectance = 20%								
0	119	119	119	119	116	116	116	111	111
1	115	113	111	109	112	109	107	106	104
2	111	107	104	101	109	102	100	102	98
3	107	102	98	95	105	97	95	98	93
4	104	98	94	91	102	93	90	95	89
5	100	94	90	87	99	89	86	92	86
6	97	91	86	83	96	86	83	89	82
7	94	88	83	80	93	83	80	86	80
8	92	85	80	77	91	80	77	83	77
9	89	82	78	75	88	77	75	81	74
10	86	79	75	72	86	75	72	78	72

