

## DESCRIPTION

Recessed 3.5" aperture downlight luminaire 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.

## 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 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 holding the flange tightly to the finished ceiling surface and accommodates ceiling thickness from 1/2 - 1" thick. Use optional plaster lip

### Catalog #

### Project

### Comments

### Prepared By

### Type

### Date

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

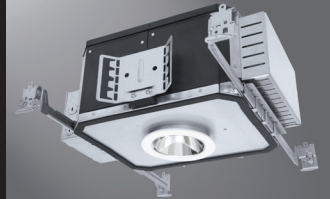
Integral constant current driver provides noise free operation. Continuous, flicker-free 1% dimming, available with 2 or 3 wire phase cut and EcoSystem/DALI digital control interfaces. The DALI option is Fifth Light compatible.

### 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.

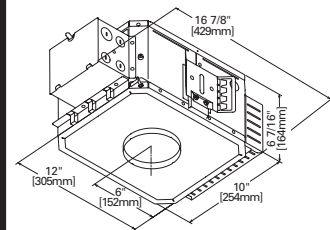
### Warranty

5 year warranty.



## PN3LED12 E3MR

LED Downlight  
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   |      |      |

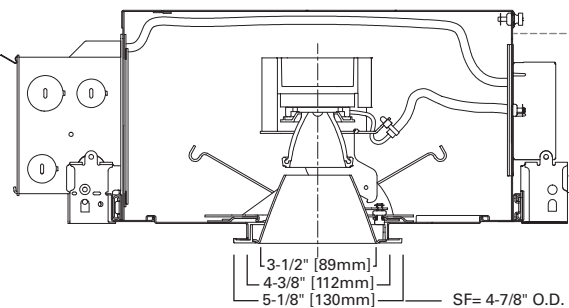
### E010 Driver Option

|                         |      |      |
|-------------------------|------|------|
| 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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Cooper Lighting Solutions  
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Zhaga Consortium



## ORDERING INFORMATION

## PN3LED E3MR

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

Example: PN3LED12830E RG50FL40 E3MRH

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

| Optical Element                               | Finishes   | Options   | Accessories   |
|---|--|---|---|
| <b>E3MR</b>                                   |  |   |   |
| E3MR = 3.5" Aperture Open Downlight Reflector | Alzak® Finishes<br>C = Specular Clear<br>H = Semi-Specular Clear<br>G = Gold<br>WMH = Warm Haze<br>WH = Wheat<br>WHH = Wheat Haze<br>GP = Graphite<br>GPH = Graphite Haze<br>K = Cognac<br>KH = Cognac Haze<br>CC = Chocolate<br>CCH = Chocolate Haze<br>B = Black | Painted Finishes<br>MW = Matte white<br>W = Gloss white<br>BB = Black baffle<br>WB = White baffle<br><br>[Blank] = Metal Trim Ring, Matte White<br><br><u>Not available with BB or WB</u><br>SF = Self-flanged<br>SFWF = Self-flanged, Matte White Flange | RG50NSP10 = 10° Beam Glass Reflector, 50mm<br>RG50SP15 = 15° Beam Glass Reflector, 50mm<br>RG50NFL25 = 25° Beam Glass Reflector, 50mm<br>RG50FL40 = 40° Beam Glass Reflector, 50mm<br>RG50MH = Media Holder for two inch [50mm] diameter L series color filters or beam modifying lens. Attaches directly to RG50 series 50mm Reflectors<br>FMC3 = Flush Mount Collar Accessory<br>PLE3 = Plaster Lip Extender for Up to 2" Thick Ceilings<br>ZLM03 = Replacement LED module, see specification sheet for catalog number and performance data |

## ENERGY DATA

## PN3LED E3MR

| 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   |       |       |

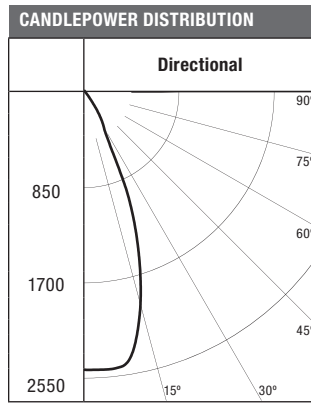
## LIGHTING FACTS

|   |                     |
|---|---------------------|
|   |                     |
| Light Output (Lumens)   | 1152                |
| Watts   | 18.5                |
| Lumens per Watt (Efficacy)  | 62                  |
| Color Accuracy<br>Color Rendering Index (CRI)   | 80                  |
| Light Color<br>Correlated Color Temperature (CCT)   | 3000 (Bright White) |
| <small>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.</small> |                     |
| <small>Visit <a href="http://www.lightingfacts.com">www.lightingfacts.com</a> for the Label Reference Guide.</small>  |                     |
| <small>Registration Number: FADJ-APPTPA (10/11/2013)<br/>Model Number: PN3LED12FL2530E E3MR30 3" H8<br/>Type: Luminaire - Downlight</small>   |                     |


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

PHOTOMETRICS

P3LED E3MR

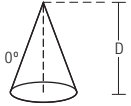


|             |                |
|-------------|----------------|
| Test Number | P108684        |
| Platform    | PN3LED12830E   |
| Element     | E3MRC RG50FL40 |
| Lumens      | 1136 Lm        |
| Efficacy    | 61.1 Lm/W      |

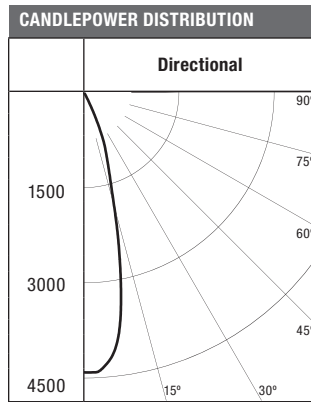


| ZONAL LUMEN SUMMARY |        |          |
|---------------------|--------|----------|
| Zone                | Lumens | %Fixture |
| 0-30                | 1055   | 92.9     |
| 0-40                | 1134   | 99.8     |
| 0-60                | 1135   | 99.9     |
| 0-90                | 1136   | 100      |
| 90-180              | 0      | 0        |
| 0-180               | 1136   | 100      |


**CONE OF LIGHT**



| MH   | FC   | L   | W   |
|------|------|-----|-----|
| 5.5' | 81.1 | 3.6 | 3.6 |
| 7'   | 50.1 | 4.6 | 4.6 |
| 8'   | 38.4 | 5.4 | 5.4 |
| 9'   | 30.3 | 6   | 6   |
| 10'  | 24.5 | 6.8 | 6.8 |
| 12'  | 17   | 8.2 | 8.2 |

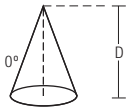


|             |                 |
|-------------|-----------------|
| Test Number | P108702         |
| Platform    | PN3LED12830E    |
| Element     | E3MRC RG50NFL25 |
| Lumens      | 1152 Lm         |
| Efficacy    | 62.3 Lm/W       |

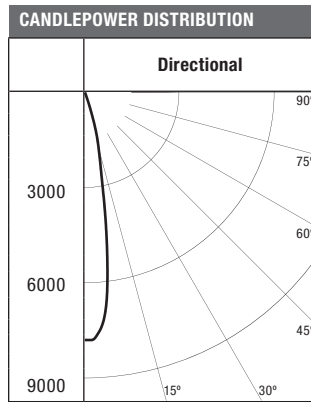


| ZONAL LUMEN SUMMARY |        |          |
|---------------------|--------|----------|
| Zone                | Lumens | %Fixture |
| 0-30                | 1146   | 99.5     |
| 0-40                | 1151   | 99.9     |
| 0-60                | 1152   | 100      |
| 0-90                | 1152   | 100      |
| 90-180              | 0      | 0        |
| 0-180               | 1152   | 100      |


**CONE OF LIGHT**



| MH   | FC    | L   | W   |
|------|-------|-----|-----|
| 5.5' | 144.8 | 2.6 | 2.6 |
| 7'   | 89.4  | 3.2 | 3.2 |
| 8'   | 68.4  | 3.8 | 3.8 |
| 9'   | 54.1  | 4.2 | 4.2 |
| 10'  | 43.8  | 4.6 | 4.6 |
| 12'  | 30.4  | 5.6 | 5.6 |

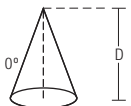


|             |                |
|-------------|----------------|
| Test Number | P108708        |
| Platform    | PN3LED12830E   |
| Element     | E3MRC RG50SP15 |
| Lumens      | 1340 Lm        |
| Efficacy    | 72.4 Lm/W      |

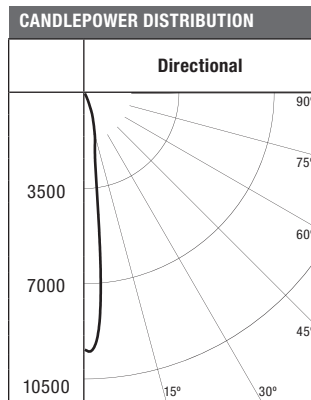


| ZONAL LUMEN SUMMARY |        |          |
|---------------------|--------|----------|
| Zone                | Lumens | %Fixture |
| 0-30                | 1313   | 98       |
| 0-40                | 1321   | 98.5     |
| 0-60                | 1330   | 99.2     |
| 0-90                | 1340   | 100      |
| 90-180              | 0      | 0        |
| 0-180               | 1340   | 100      |


**CONE OF LIGHT**



| MH   | FC    | L   | W   |
|------|-------|-----|-----|
| 5.5' | 265   | 1.8 | 1.8 |
| 7'   | 163.6 | 2.4 | 2.4 |
| 8'   | 125.3 | 2.6 | 2.6 |
| 9'   | 99    | 3   | 3   |
| 10'  | 80.2  | 3.4 | 3.4 |
| 12'  | 55.7  | 4   | 4   |

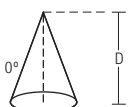


|             |                 |
|-------------|-----------------|
| Test Number | P108714         |
| Platform    | PN3LED12830E    |
| Element     | E3MRC RG50NSP10 |
| Lumens      | 1249 Lm         |
| Efficacy    | 67.5 Lm/W       |



| ZONAL LUMEN SUMMARY |        |          |
|---------------------|--------|----------|
| Zone                | Lumens | %Fixture |
| 0-30                | 1229   | 98.3     |
| 0-40                | 1235   | 98.8     |
| 0-60                | 1241   | 99.3     |
| 0-90                | 1251   | 100.1    |
| 90-180              | -2     | -0.1     |
| 0-180               | 1249   | 100      |

**CONE OF LIGHT**



| MH   | FC    | L   | W   |
|------|-------|-----|-----|
| 5.5' | 314.6 | 1.2 | 1.2 |
| 7'   | 194.2 | 1.6 | 1.6 |
| 8'   | 148.7 | 2   | 2   |
| 9'   | 117.5 | 2.2 | 2.2 |
| 10'  | 95.2  | 2.4 | 2.4 |
| 12'  | 66.1  | 3   | 3   |