

R2SQRM

2" Square LED Recessed Downlight: New Construction and Remodel Housing

Specifications/Features

Housing/Mounting

Specification grade 2" downlight for remodel and new construction applications. Three wattage/lumen packages available:

- 8W/900Lm: Insulated ceiling (IC), Stopaire housing. Thermally protected for use in applications with direct contact with insulation materials.
- 10W/1100Lm: Insulated ceiling (IC), Stopaire housing. Thermally protected for use in applications with direct contact with insulation materials.
- 14W/1400Lm: Non-insulated ceiling (Non-IC), Stopaire housing. Requires minimum 3" clearance around housing from insulation material.

Thermal protection provided in case of improper insulation use.

Housing employs a die-cast aluminum collar and heat sink with the driver compartment and junction box made from 16 gauge steel. Housing has a black painted finish.

LED Drivers are fully accessible from below the ceiling.

Four spring steel mounting clips provide secure support in ceiling thicknesses from 1/2" - 1". Minimum plenum clearance required to install housing in either 1/2" or 1" thick ceiling is 6".

NOTE: Certain regions require the use of a housing mounting frame in conjunction with the R2SQRM housing. The NCSQF1 new construction mounting frame (refer below) should be specified when required (ordered separately)

Electrical

Driver with Class 2 output. RoHS compliant.

Output over voltage, over-current and short circuit protection.

Pre-wired junction box with a convenient screwdriver pry-out. (1) 1/2" Pryout.

A duplex electrical connector is provided to simplify daisy-chain wiring

Lamp

Light engine consists of a high output multi-chip LED array arranged into a single LED package, enabling precise optical control without requiring lensing to diffuse multiple LED sources.

Precision TIR Optics produce 12°, 27°, 36°, and 63° beam distributions.

Optics are interchangeable and can be field replaced.

The Wall Wash housing/trim combination utilizes a unique angled TIR optic mounted to the trim to create a smooth, uniform beam distribution. Wall Wash housing is dedicated for use only with Wall Wash trim. There is no interchangeability with other housings or optics.

Excellent fixture-to-fixture color consistency with a 2-step MacAdam Ellipse tolerance.

System designed and rated for 50,000 hours at 70% lumen maintenance

Dimming

All R2SQ downlights are available for non-dimming and dimming applications. For a list of compatible dimmers, refer to [LED Dimming Catalog](#).

Trims

Specification Grade trims are available in different styles and finishes.

Warranty

This complete fixture is covered by ConTech's full five (5) year replacement guarantee after date of purchase.

Labels/Usage

cCSAus Certified using U.S. (UL) and Canadian (CSA) Standards.

Suitable for damp locations.

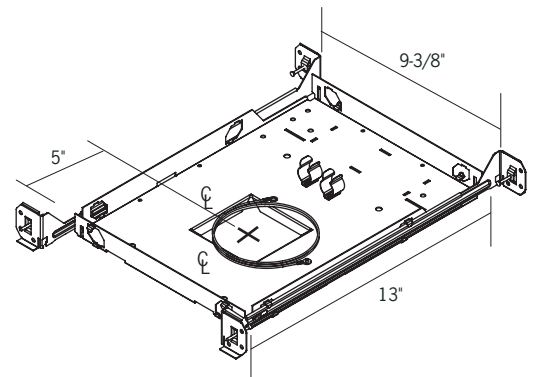
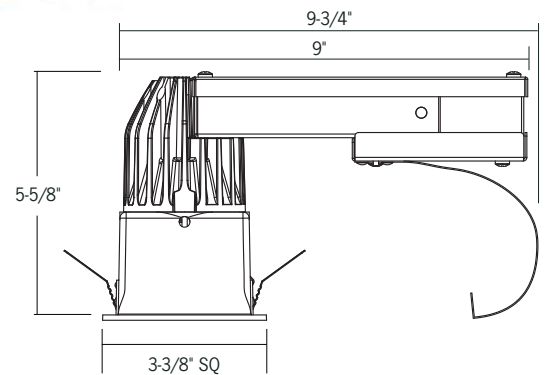
Conforms to Washington State Energy Code (WSEC) for low air infiltration.

Tested in accordance with ASTM E283 (2.0 CFM or less).

The CP housing is Chicago Plenum CCEA listed.

R2SQRM130KCMVDF-CP Housing with C2322SQ-WHT trim can be used to comply with 2016 Title 24, Part 6 high efficacy LED light source requirements.

Assembled in the USA.



Mounting Frame Ceiling Cut-out: 3-1/4"

| | Series 05 | Series 1 | Series 2 |
|----------------------------------|-------------------------|----------|----------|
| Input Wattage (W) | 8 | 10 | 14 |
| Input Current (A) 120/277 | .07/.03 | .08/.04 | .12/.05 |
| Input Voltage | 120 - 277V AC, 50-60Hz | | |
| Color Temp | 2700K/3000K/3500K/4000K | | |
| CRI Standard/High | 83 (80min) / 90+ | | |
| Driver | | | |
| Power Factor | > 0.90 | | |
| THD | < 20% | | |

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Ordering Information

Example Order: R2SQRMI27KMVDS-CP

| Housing | LED Series | Color Temp | Electrical/Dimming | Beam Dist. | Options |
|---------------------------|--|--|---|--|----------------------------|
| R2SQRM¹ | 05 - 8W, 900lm, IC, Stopaire Remodel 1 - 10W, 1100lm, IC, Stopaire Remodel 2 - 14W, 1400lm, Non-IC, Stopaire Remodel | 27K - 2700K 30K - 3000K 35K - 3500K 40K - 4000K 27KC - 2700K, 90+ CRI 30KC - 3000K, 90+ CRI 35KC - 3500K, 90+ CRI 40KC - 4000K, 90+ CRI | MVD² - 120/277V TRIAC, ELV, 0-10V Dimming | S - 12° M - 27° F - 36° WF - 63° WW - Wall Wash | CP - Chicago Plenum |

1. Series-2 is not available for use in insulated ceilings (IC).
2. 120V TRIAC and ELV dimming only.

Accessories



- 2INOPTIC-S-RA2** - 2" TIR Optic, 12° Beam
- 2INOPTIC-M** - 2" TIR Optic, 27° Beam
- 2INOPTIC-F** - 2" TIR Optic, 36° Beam
- 2INOPTIC-WF** - 2" TIR Optic, 63° Beam
- NCSQF1** - New Construction Mounting Frame (Standard Hanger Bars Supplied with Frame)
- RL-KIT** - Commercial Mounting Brackets, For Use with NCSQF1
- HB-24** - 27" Flat Hanger Bars for RL-KIT, For Use with NCSQF1
- HBC-24** - 25" C-Channel Hanger Bars for RL-KIT in Grid Ceiling Construction
- HB-30** - T-Bar Hanger Set, For Use with NCSQF1

Trims

Reflector Trim

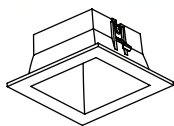
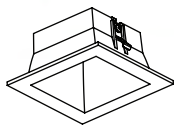


Reflector is available in painted satin silver, painted matte white, and painted matte black finishes. Trims are wet location certified when used with an LF50 lens. Trim accepts one (1) FA-55 2-1/8" Square Black Honeycomb Louver or (1) LF50 2-1/8" Square Tempered Glass Lens.

Aperture: 2-5/8" SQ; Trim Frame: 3-5/8" SQ

- C2322SQ-BLK*** - Painted Matte Black
- C2322SQ-SL*** - Painted Satin Silver
- C2322SQ-WHT** - Painted Matte White

*Available with White Painted Flange, add "WPF" to part number.



ISOWET Dead Front Square Reflector Trim

Isolated, wet location approved thermoplastic reflector with clear glass lens. Lens is deeply regressed inside top of reflector. Cannot be used with additional lens or louver.

Trim flange: 3-5/8" SQ; Aperture 2-5/8" SQ

- C2322SQDF-SL** - Satin Silver Paint
- C2322SQDF-SL-WPF** - Satin Silver Paint with White Painted Flange
- C2322SQDF-WHT** - Matte White Paint



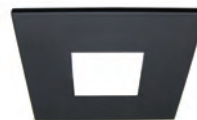
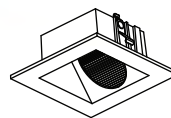
Wall Wash Trim

An angled TIR optic enables precise light control. Reflector is available in painted satin silver, painted matte white, and painted matte black finishes. Cannot be used with lenses or louvers.

Aperture: 2-3/8" SQ; Trim Frame: 3-3/4" SQ

- C2323SQ-BLK*** - Painted Matte Black
- C2323SQ-SL*** - Painted Satin Silver
- C2323SQ-WHT** - Painted Matte White

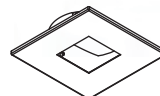
*Available with White Painted Flange, add "WPF" to part number.



Pinhole Trim

2" Pinhole Trim. Cannot be used with lenses or louvers. SQ: 3-5/8"; 1-1/2" Aperture

- C2305SQ-BLK** - Painted Matte Black
- C2305SQ-WHT** - Painted Matte White



Accessories

2-1/8" Square Lenses/Louver:

- | | | | |
|---------------------------------|-----------------------------|---|------------------------------------|
| FA-55 - Honeycomb Louver | LF50-LB - Light Blue | LF50-73 - Prismatic Spread | LF50-SOL - Solite |
| LF50-A - Amber | LF50-R - Red | LF50-CL - Clear | LF50-UV - Optivex UV Filter |
| LF50-B - Blue | LF50-RO - Rose | LF50-LS - Linear Spread | |
| LF50-G - Green | LF50-Y - Yellow | LF50-SL - Soft Light Sandblasted | |

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Photometrics

Multiplication Factors

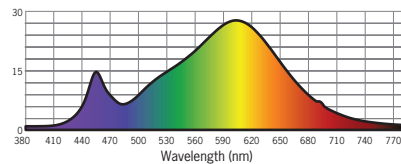
| CCT | STANDARD CRI | HIGH CRI | SERIES 05, 8W | SERIES 1, 11W | WHT REFLECTOR | BLK REFLECTOR |
|-------|--------------|----------|---------------|---------------|---------------|---------------|
| 2700K | 0.94 | 0.70 | 0.60 | 0.78 | 1.0 | 0.94 |
| 3000K | N/A | 0.75 | 0.60 | 0.78 | 1.0 | 0.94 |
| 3500K | 1.0 | 0.81 | 0.60 | 0.78 | 1.0 | 0.94 |
| 4000K | 1.0 | 0.87 | 0.60 | 0.78 | 1.0 | 0.94 |

R2SQRM230KMVDF-C2322SQ-SL

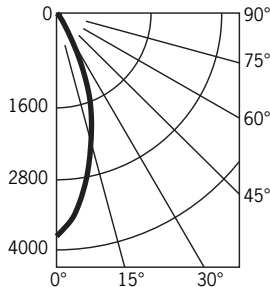
Designed for 50,000 Hour Lamp Life¹; LM-63 Test No. G17062003

Light Output (Fixture Delivered Lumens): 1445
Total Watts@120V: 14; Lumens Per Watt: 103.2
Center Beam Candle Power: 3810
Color Rendering Index (CRI)²: 82
Color Temperature (CCT)³: 3018K
Spectral Power Distribution Chart⁴

LM-79 Test No. 87849



Candela Curve



Candlepower Summary

| FROM 0 | CANDELA | LUMENS |
|--------|---------|--------|
| 0 | 3810 | |
| 5 | 3529 | 358 |
| 15 | 2281 | 649 |
| 25 | 932 | 436 |
| 35 | 75 | 48 |
| 45 | 8 | 9 |
| 55 | 4 | 4 |
| 65 | 2 | 2 |
| 75 | 1 | 1 |
| 85 | 0 | 0 |
| 95 | 0 | 0 |

Intensity Distribution

| DISTANCE (FT.) | FOOTCANDLES (FC) | BEAM DIAMETER (FT.) |
|----------------|------------------|---------------------|
| 4' | 238.1 | 2.6 |
| 6' | 105.8 | 3.9 |
| 8' | 59.5 | 5.2 |
| 10' | 38.1 | 6.5 |
| 12' | 26.5 | 7.8 |
| 14' | 19.4 | 9.1 |

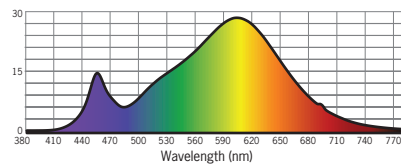
Beam Distribution: 36°
Spacing Criteria: 0.57

R2SQRM230KMVDM-C2322SQ-SL

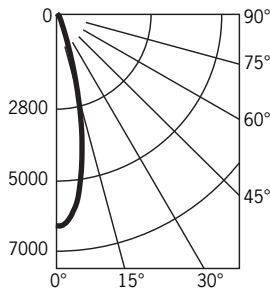
Designed for 50,000 Hour Lamp Life¹; LM-63 Test No. G10762009

Light Output (Fixture Delivered Lumens): 1439
Total Watts@120V: 14; Lumens Per Watt: 102.8
Center Beam Candle Power: 6314
Color Rendering Index (CRI)²: 82
Color Temperature (CCT)³: 3012K
Spectral Power Distribution Chart⁴

LM-79 Test No. 87848



Candela Curve



Candlepower Summary

| FROM 0 | CANDELA | LUMENS |
|--------|---------|--------|
| 0 | 6314 | |
| 5 | 5712 | 584 |
| 15 | 2704 | 773 |
| 25 | 286 | 133 |
| 35 | 30 | 19 |
| 45 | 7 | 5 |
| 55 | 4 | 3 |
| 65 | 2 | 2 |
| 75 | 1 | 1 |
| 85 | 0 | 0 |
| 95 | 0 | 0 |

Intensity Distribution

| DISTANCE (FT.) | FOOTCANDLES (FC) | BEAM DIAMETER (FT.) |
|----------------|------------------|---------------------|
| 4' | 394.6 | 2.0 |
| 6' | 175.4 | 2.9 |
| 8' | 98.7 | 3.9 |
| 10' | 63.1 | 4.9 |
| 12' | 43.8 | 5.9 |
| 14' | 32.2 | 6.8 |

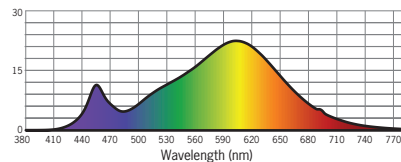
Beam Distribution: 27°
Spacing Criteria: 0.46

R2SQRM230KMVDS-C2322SQ-SL

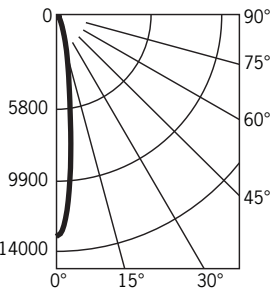
Designed for 50,000 Hour Lamp Life¹; LM-63 Test No. G17062104

Light Output (Fixture Delivered Lumens): 1154
Total Watts@120V: 14; Lumens Per Watt: 82.4
Center Beam Candle Power: 13,174
Color Rendering Index (CRI)²: 82
Color Temperature (CCT)³: 3010K
Spectral Power Distribution Chart⁴

LM-79 Test No. 87847



Candela Curve



Candlepower Summary

| FROM 0 | CANDELA | LUMENS |
|--------|---------|--------|
| 0 | 13174 | |
| 5 | 8185 | 862 |
| 15 | 1511 | 436 |
| 25 | 92 | 46 |
| 35 | 20 | 13 |
| 45 | 10 | 7 |
| 55 | 5 | 4 |
| 65 | 3 | 3 |
| 75 | 1 | 1 |
| 85 | 0 | 0 |
| 95 | 0 | 0 |

Intensity Distribution

| DISTANCE (FT.) | FOOTCANDLES (FC) | BEAM DIAMETER (FT.) |
|----------------|------------------|---------------------|
| 4' | 823.4 | 0.9 |
| 6' | 365.9 | 1.3 |
| 8' | 205.8 | 1.7 |
| 10' | 131.7 | 2.2 |
| 12' | 91.5 | 2.6 |
| 14' | 67.2 | 3.0 |

Beam Distribution: 12°
Spacing Criteria: 0.21

1. Dependent on surrounding temperatures, 2. Accuracy of rendering colors, 3. Color appearance of light source, 4. Colors present within the light source