

DATE

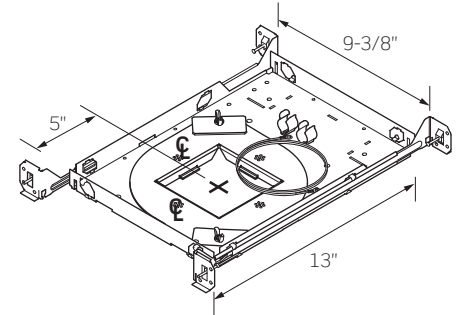
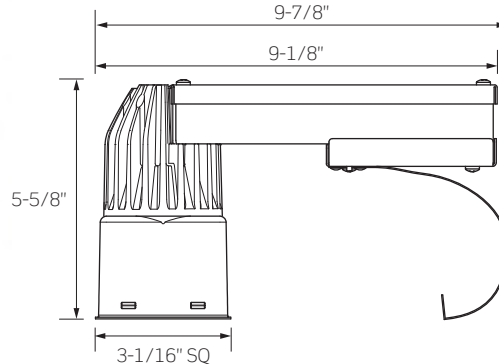
PROJECT

TYPE




# RN2SQRM | 2 In Square Trimless Downlight: Static White LED New Construction and Remodel Housing



Ceiling Thickness: 1/2" - 1"



NCSQF1 Optional Mounting Frame

	RN2SQRM05	RN2SQRM1	RN2SQRM2
WATTAGE	8W	10W	14W
LUMEN OUTPUT <sup>1</sup>	900Lm	1100Lm	1400Lm
COLOR TEMPERATURE	2700K / 3000K / 3500K / 4000K		
CRI	83 (80min) / 90+		
BEAM SPREAD	12° Spot (S) / 27° Medium (M) / 36° Flood (F) / 63° Wide Flood (WF)		
INPUT WATTAGE	8W	10W	14W
INPUT CURRENT (A) 120V/277V	.07/.03	.08/.04	.12/.05
INPUT VOLTAGE	Standard Driver (TRIAC, ELV, 0-10V) 90-305V AC, 50/60Hz Lutron Eco-System® Driver 120-277V AC, 50/60Hz		
DRIVER POWER FACTOR	> 0.90		
TOTAL HARMONIC DISTORTION (THD)	< 20%		
LISTINGS	   cCSAus Certified using U.S. (UL) and Canadian (CSA) Standards Suitable for Wet Locations with any Trim Conforms to Washington State Energy Code for Low Air Infiltration; Tested in accordance with ASTM E283 CP Housings are Chicago Plenum CCEA listed		
WARRANTY	Five (5) year replacement after date of purchase		
SYSTEM RATING	50,000 Hours @ 70% Lumen Maintenance		

1. Approximate lumen output based on 3000K performance; see photometric test results for additional information

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## ORDERING INFORMATION

**HOUSING + MUD FRAME + TRIM = COMPLETE LUMINAIRE**

### HOUSING

Example Order:  -

Housing/LED Series	Color Temp/CRI	Electrical/Dimming	Beam Distribution	Options
<b>RN2SQRM05</b> - 8W/900lm IC/StopAire™	83 (80 Min) CRI <b>27K</b> - 2700K <b>30K</b> - 3000K <b>35K</b> - 3500K <b>40K</b> - 4000K	<b>MVD<sup>2</sup></b> - 120/277V TRIAC/ELV/0-10V Dimming <b>MVD4</b> - Lutron Hi-lume 1% EcoSystem LED Driver with Soft-on, Fade-to-Black	<b>S</b> - 12° Spot <b>M</b> - 27° Medium <b>F</b> - 36° Flood <b>WF</b> - 63° Wide Flood	<b>CP</b> - Chicago Plenum
<b>RN2SQRM1</b> - 10W/1100lm IC/StopAire™	<b>90+ CRI</b> <b>27KC</b> - 2700K <b>30KC</b> - 3000K <b>35KC</b> - 3500K <b>40KC</b> - 4000K			
<b>RN2SQRM2<sup>1</sup></b> - 14W/1400lm Non-IC/StopAire™				

1. LED Series 2 (14W) is not available for use in Insulated Ceilings (IC)  
2. 120V TRIAC and ELV Dimming only

## HOUSING ACCESSORY & REPLACEMENT OPTIC ORDERING INFORMATION

### Accessories

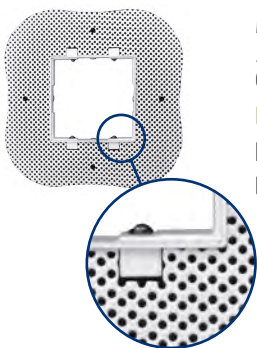
Standard Hanger Bars Supplied with Housing

- NCSQF1** - New Construction Mounting Frame
- HB-30** - T-Bar Hanger Set for NCSQF1
- RL-KIT** - Commercial Mounting Brackets for NCSQF1
- HB-24** - 27 Inch Flat Hanger Bars for RL-KIT
- HBC-24** - 25 Inch C-Channel Hanger Bars for RL-KIT in Grid Ceiling Construction

### Replacement Optics

- 2INOPTIC-S-RA2** - Spot Beam Replacement Optic
- 2INOPTIC-M** - Medium Beam Replacement Optic
- 2INOPTIC-F** - Flood Beam Replacement Optic
- 2INOPTIC-WF** - Wide Flood Beam Replacement Optic

### MUD FRAME



**MF2SQ Series**  
2 Inch Square Mud Frame  
6-3/4 In. Square Trim Frame

**REQUIRED - ORDERED SEPARATELY**

Die-cast Collar with Steel Mesh Frame, painted white.

### Mud Frame

**MF2SQ** - 2 Inch Square Mud Frame

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## Trims



**CN2322SQ-BLK**  
Matte Black Painted Reflector



**CN2322SQ-SL**  
Satin Silver Painted Reflector



**CN2322SQ-WHT**  
Matte White Painted Reflector



### CN2322SQ Series

#### Reflector Trim

Aperture: 2-5/8" SQ; Trim Frame: 3-1/16" SQ

Trims are wet location certified without the need for lensing. Trim accepts one (1) FA-55 2-1/8" Square Black Honeycomb Louver or (1) LF50 2-1/8" Square Tempered Glass Lens.

### 2-3/8" Dia. Lenses/Louver

- FA-55** - 2-1/8" Square Honeycomb Louver
- LF50-\*\*** - 2-1/8" Square Lenses and Filters

#### \*\*Color/Pattern Legend

-A (Amber), -B (Blue), -CL (Clear), -DPE (Dichroic Peach), -G (Green), -LB (Light Blue), -R (Red), -RO (Rose), -Y (Yellow), -73 (Spread Lens), -LS (Linear Spread Lens), -SL (Soft Light), -SOL (Solite), -UV (Optivex UV Filter)

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# RN2SQRM | 2 In Square Trimless Downlight: Static White LED New Construction and Remodel Housing

## PRODUCT DETAILS

### Construction

- The RN2SQRM05 (8W/900lm) and RN2SQRM1 (10W/1100lm) Series Housings are Insulated Ceiling (IC)/StopAire™ rated; thermally protected for use in applications with direct contact with insulation materials
- The RN2SQRM2 (14W/1400lm) Series is a Non-Insulated Ceiling (Non-IC)/StopAire™ rated housing, requiring minimum 3 inch clearance around Housing from insulation material. Thermal Protection provided in case of improper insulation use.
- Die-cast Aluminum Collar and Heat Sink, Driver Compartment and Junction Box made from 16-gauge steel. All Housings have a black painted finish.
- Driver with Class 2 output, RoHS Compliant; Drivers are fully accessible from below the ceiling
- A metal perforated Mud Frame is required (MF2SQ ordered separately). When fastened to the ceiling, the Mud Frame utilizes three (3) Spring And Ball De-tent Points to securely support the Housing.
- **NOTE:** Certain regions require the use of a Housing Mounting Frame in conjunction with the RN2SQRM Housing. The New Construction Mounting Frame (NCSQF1) should be specified when required (ordered separately).
- Mounting Frame features a Post Installation Mechanism that allows 1/4 inch adjustment in all directions, as well as 5° of rotation adjustment to ensure proper alignment
- Pre-wired Junction Box with a convenient 1/2 inch pry-out with screwdriver pry-out
- A Duplex Electrical Connector is provided to simplify Daisy-Chain wiring
- Output over voltage, over current and short circuit protection

### Performance Summary

- 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
- Select from 2700K, 3000K, 3500K and 4000K Color Temperatures with a CRI of 80 minimum, 83 typical or a high CRI of 90+
- Excellent fixture-to-fixture color consistency within a 2-step MacAdam Ellipse tolerance
- Precision TIR Optics produce 12° Spot, 27° Medium, 36° Flood and 63° Wide Flood Beam Distributions; Optics are interchangeable and can be field replaced
- All RN2SQRM Downlights are available for non-dimming and dimming applications. For a list of compatible dimmers, refer to the Dimming Specifications sheet.
- Assembled in the USA

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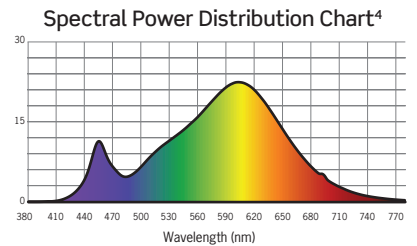
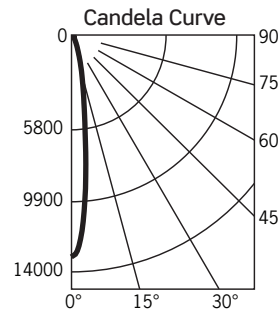
# R2SQRM & RN2SQRM | 2 Inch Square Downlights: Static White LED Photometrics

## PHOTOMETRICS

### R2SQRM230KMVDS / C2322SQ-SL

Fixture Delivered Lumens: 1154  
 Total Watts@120V: 14  
 Lumens Per Watt: 82.4  
 Center Beam Candle Power: 13174  
 Beam Distribution: 12°  
 Spacing Criterion: 0.21  
 Color Rendering Index (CRI)<sup>1</sup>: 82  
 Color Temperature (CCT)<sup>2</sup>: 3010K  
 Designed for 50,000 Hour Lamp Life<sup>3</sup>  
 LM-63 Test No. G17062104  
 LM-79 Test No. 87847

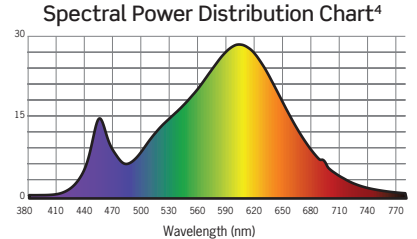
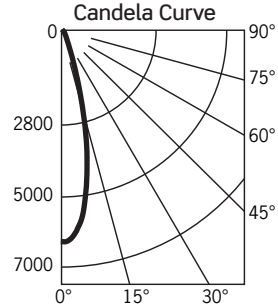
Intensity Distribution		
DISTANCE (FT.)	FOOTCANDLES (FC)	BEAM DIAMETER (FT.)
6'	365.9	1.3
8'	205.8	1.7
10'	131.7	2.2
12'	91.5	2.6
14'	67.2	3.0
16'	51.5	3.5



### R2SQRM230KMVDM / C2322SQ-SL

Fixture Delivered Lumens: 1439  
 Total Watts@120V: 14  
 Lumens Per Watt: 102.8  
 Center Beam Candle Power: 6314  
 Beam Distribution: 27°  
 Spacing Criterion: 0.46  
 Color Rendering Index (CRI)<sup>1</sup>: 82  
 Color Temperature (CCT)<sup>2</sup>: 3012K  
 Designed for 50,000 Hour Lamp Life<sup>3</sup>  
 LM-63 Test No. G10762009  
 LM-79 Test No. 87848

Intensity Distribution		
DISTANCE (FT.)	FOOTCANDLES (FC)	BEAM DIAMETER (FT.)
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
16'	24.7	7.9



1. Accuracy of Rendering Colors 2. Color Appearance of Light Source 3. Dependent on Surrounding Temperatures 4. Colors Present within the Light Source

## PHOTOMETRIC MULTIPLICATION FACTORS

Lumen output values fluctuate based on Color Temperature, Luminaire Wattage/Output and Trim Selection. To estimate lumen output of these various options, multiply 3000K results by the following:

CCT MULTIPLIERS						OUTPUT MULTIPLIERS		TRIM MULTIPLIERS	
CCT	STD CRI	HIGH CRI	CCT	STD CRI	HIGH CRI	8W/SERIES 05	10W/SERIES 1	C2322-(SL/WHT)	C2322SQ-BLK
2700K	0.94	0.70	3500K	1.0	0.81	0.60	0.78	1.0	0.94
3000K	N/A	0.75	4000K	1.0	0.87				

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# R2SQRM & RN2SQRM | 2 Inch Square Downlights: Static White LED Photometrics

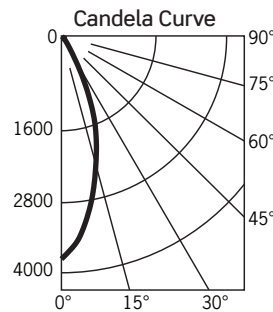
## PHOTOMETRICS

### R2SQRM230KMVDF / C2322SQ-SL

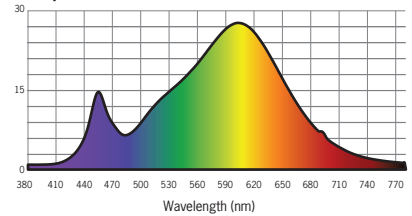
Fixture Delivered Lumens: 1445  
 Total Watts@120V: 14  
 Lumens Per Watt: 103.2  
 Center Beam Candle Power: 3810  
 Beam Distribution: 36°  
 Spacing Criterion: 0.57  
 Color Rendering Index (CRI)<sup>1</sup>: 82  
 Color Temperature (CCT)<sup>2</sup>: 3018K  
 Designed for 50,000 Hour Lamp Life<sup>3</sup>  
 LM-63 Test No. G17062003  
 LM-79 Test No. 87849

#### Intensity Distribution

DISTANCE (FT.)	FOOTCANDLES (FC)	BEAM DIAMETER (FT.)
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
16'	14.9	10.4



#### Spectral Power Distribution Chart<sup>4</sup>

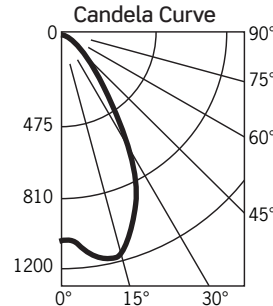


### R2SQRM230KMVDWF / C2322SQ-SL

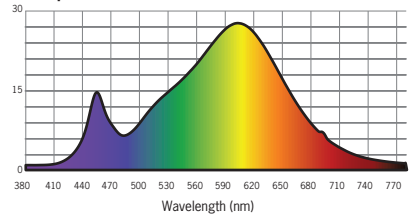
Fixture Delivered Lumens: 1201.5  
 Total Watts@120V: 14  
 Lumens Per Watt: 85.2  
 Center Beam Candle Power: 1033  
 Beam Distribution: 63°  
 Spacing Criterion: 1.05  
 Color Rendering Index (CRI)<sup>1</sup>: 82  
 Color Temperature (CCT)<sup>2</sup>: 3018K  
 Designed for 50,000 Hour Lamp Life<sup>3</sup>  
 LM-63 Test No. G17062109  
 LM-79 Test No. 87849

#### Intensity Distribution

DISTANCE (FT.)	FOOTCANDLES (FC)	BEAM DIAMETER (FT.)
6'	28.7	7.4
8'	16.1	9.8
10'	10.3	12.3
12'	7.2	14.8
14'	5.3	17.2
16'	4.0	19.7



#### Spectral Power Distribution Chart<sup>4</sup>



1. Accuracy of Rendering Colors 2. Color Appearance of Light Source 3. Dependent on Surrounding Temperatures 4. Colors Present within the Light Source

## PHOTOMETRIC MULTIPLICATION FACTORS

Lumen output values fluctuate based on Color Temperature, Luminaire Wattage/Output and Trim Selection. To estimate lumen output of these various options, multiply 3000K results by the following:

CCT MULTIPLIERS						OUTPUT MULTIPLIERS		TRIM MULTIPLIERS	
CCT	STD CRI	HIGH CRI	CCT	STD CRI	HIGH CRI	8W/SERIES 05	10W/SERIES 1	C2322-(SL/WHT)	C2322SQ-BLK
2700K	0.94	0.70	3500K	1.0	0.81	0.60	0.78	1.0	0.94
3000K	N/A	0.75	4000K	1.0	0.87				

## DIMMING SPECIFICATIONS | R2RM, R2RMWD, RN2RM, RN2RMWD, R2SQRM, R2SQRMWD, RN2SQRM and RN2SQRMWD Series

- Incandescent 120VAC dimmers adjust the light with “forward phase control,” where the dimmer “chops” the forward part of the AC wave to deliver less or more power to the light source. No neutral wire connection required.
- Electronic low voltage 120VAC dimmers adjust the light with “reverse phase control,” where the dimmer “chops” the back part of the AC wave to deliver less or more power to the light source. Neutral wire connection required.
- 0-10V DC low voltage dimmers operate using two low voltage dimming wires that are separate from the 120V or 277V AC power. The dimmer sends a variable output voltage to the fixture based upon the dimming level. 10V corresponds to undimmed operation, 5V to 50% and so on. Switching on/off is controlled with the line voltage power (120V or 277V AC) input to the dimmer and then dimming operation is controlled with the 0-10V DC low voltage wiring connection between the dimmer and the LED driver. The control signal runs on two low voltage control wires (color coded violet and gray).

			R2RM*, RN2RM*, R2RMWD*, RN2RMWD* R2SQRM*, RN2SQRM*, R2SQRMWD*, RN2SQRMWD* Dimming Option MVD
Manufacturer	Product	Model	Light Output
Leviton	IllumaTech	IPI06-1LZ	1%-100%
Leviton	SureSlide	6631-2	1%-100%
Leviton	Renoir	AWSMT7	22%-100%
Leviton	Vizia	VPE06	9%-100%
Leviton	Trimatron	6683-IW	4%-100%
Leviton	Decora	6161	15%-100%
Leviton	SureSlide	6633-P	0%-100%
Leviton	IllumaTech	IPE04	6%-100%
Leviton	IllumaTech	IP710-DLX	NA
Cooper	Devine	DLC03P	1%-100%
Cooper	Skye	SLC03P	0%-100%
Cooper	Decorator	DAL06P	0%-100%
Pass & Seymour	Titan	CD4FB-W	NA
Synergy		ISD BC	NA
Watt Stopper	Miro Decorator	DCLV1	NA
Lutron	Ariadni	TGCL-153P	4%-100%
Lutron	Ariadni	TG-600P	11%-100%
Lutron	Diva	DVCL-153P	0%-100%
Lutron	Diva	DV600P	0%-100%
Lutron	Diva	DVELV303P	6%-100%
Lutron	Diva	DVTV	NA
Lutron	Diva	DVSTWH	8%-100%
Lutron	Faedra	FAELV500	12%-100%
Lutron	Lumea	LG600P	5%-100%
Lutron	Maestro	MAELV600	11%-100%
Lutron	Nova	NFTV	NA
Lutron	Nova T	NFTTV	NA
Lutron	Skylark	S-603PG	4%-96%
Lutron	Skylark	S600P	1%-100%
Lutron	Skylark	SELV300P	7%-100%
Lutron	Skylark	CT103P	9%-100%

\*277V Triac and ELV dimming is not available

### Notes

1. Testing was performed with a single fixture connected to dimmer.
2. Testing has been performed on these dimmers, but this does not imply any warranty of compatibility.
3. Dimming performance can be influenced by different loads, as well as variations in dimmer switches within the same model.
4. Dimmer maximum load rating with LED may differ from published traditional source dimmer ratings. Consult manufacturer for maximum dimmer information.
5. Consult factory for additional dimming information.