

DATE

PROJECT

TYPE

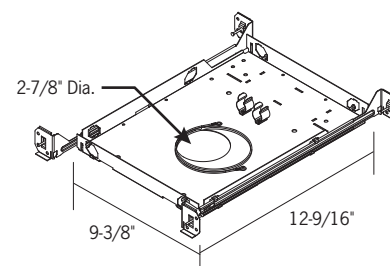
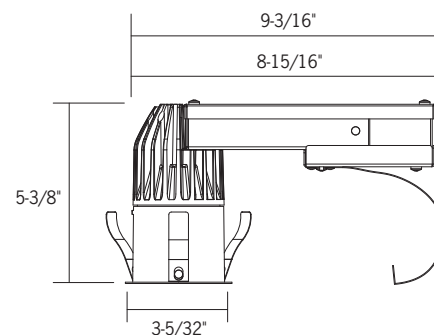
R2RM | 2" LED Downlight: New Construction and Remodel Housing

WATTAGE	8W	10W	14W
LUMEN OUTPUT ¹	800Lm	1100Lm	1400Lm
BEAM SPREAD	12° Spot/27° Medium/40° Flood/65° Wide Flood/Wall Wash		
COLOR TEMPERATURE	2700K/3000K/3500K/4000K		
CRI	83 (80min) / 90+		
SYSTEM RATING	50,000 Hours @ 70% Lumen Maintenance		
DRIVER INPUT WATTAGE	8W	10W	14W
DRIVER INPUT CURRENT (A) 120/277	.07/.03	.08/.04	.12/.05
DRIVER INPUT VOLTAGE Dimming (Triac, ELV, 0-10V) Lutron EcoSystem® Dimming	90-305V AC, 50/60Hz 120-277V AC, 50/60Hz		
DRIVER Power Factor THD	> 0.90 < 20%		
LISTING	<p>cCSAus Certified using U.S. (UL) and Canadian (CSA) Standards</p> <p>Housings with S, M, F, WF beam distributions are suitable for wet locations with any trim; Wall Wash (WW) housing is only suitable for wet locations with CTR2323L trims</p> <p>Series 05, 1 and 2 in S, M and F beam distributions are ENERGY STAR® Certified with CST2322L and CST2322LSQ trims; WF and WW beam distributions are not ENERGY STAR® Certified</p> <p>Lutron driver option is not ENERGY STAR® Certified</p> <p>Conforms to Washington State Energy Code for low air infiltration; tested in accordance with ASTM E283</p> <p>CP Housings are Chicago Plenum CCEA listed</p> <p>R2RM130KCMVDF-CP Housing with CST2322L-CLR trim can be used to comply with 2016 Title 24 JA8 Part 6 high efficacy LED light source requirements</p> <p>Assembled in the USA</p>		
WARRANTY	Five (5) Year Replacement After Date of Purchase		

1. Lumen values are approximate, see page 6 for photometric test results



Ceiling Opening: 2-7/8"
Ceiling Thickness: 1/2" - 1"



Optional Mounting Frame: NCF1

DATE

PROJECT

TYPE

R2RM | 2" LED Downlight: New Construction and Remodel Housing

Ordering Information

Example Order: R2RM1MVD4M-CP

Housing	LED Series	Color Temp/CRI	Electrical/Dimming	Beam Distribution	Options
R2RM	05 - 8W, 800lm, IC, Stopaire Remodel 1 - 10W, 1100lm, IC, Stopaire Remodel 2 ¹ - 14W, 1400lm, Non-IC, Stopaire Remodel	83 (80min) CRI 27K - 2700K 30K - 3000K 35K - 3500K 40K - 4000K 90 CRI 27KC - 2700K 30KC - 3000K 35KC - 3500K 40KC - 4000K	MVD ² - 120/277V Triac, ELV and 0-10V Dimming MVD4 - Lutron Hi-lume 1% EcoSystem LED Driver with Soft-on, Fade-to-Black	S - 12° Spot M - 27° Medium F - 40° Flood WF - 65° Wide Flood WW - Wall Wash <i>For use with CTR2323L trims</i>	CP - Chicago Plenum

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

Replacement Optics and Accessories

Standard Hanger Bars Supplied with Housing

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
NCF1	- New Construction Mounting Frame
RL-KIT	- Commercial Mounting Brackets, used with NCF1
HB-24	- 27" Flat Hanger Bars for RL-KIT
HBC-24	- 25" C-Channel Hanger Bars for RL-KIT in Grid Ceiling Construction
HB-30	- T-Bar Hanger Set, used with NCF1

R2RM | 2" LED Downlight: New Construction and Remodel Housing

Trims

Note: R2A and R2RM Series trims are NOT compatible with each other.



CST2322L-BLK

Matte Black Painted Reflector



CST2322L-WHT

Matte White Painted Reflector



CST2322L-CLR*

Anodized Clear Reflector



CST2322L-PL*

Anodized Platinum Reflector



CST2322LDF-SL*

Satin Silver Painted Reflector



CST2322LDF-WHT

Matte White Painted Reflector



CST2322L-PLWHE

Anodized Platinum Wheat
Reflector



CST2322L Series

Specification Grade Reflector Trim

OD: 3-1/2"; ID: 2-1/2"

Trim is wet location certified without the need for lensing. Accepts one (1) FA-16 60MM 2-3/8" Dia. Black Honeycomb Louver or (1) LF16 60MM 2-3/8" Dia. Tempered Glass Lens.

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



CST2322LDF Series

ISOWET Dead Front Reflector Trim

OD: 3-1/2"; ID: 2-1/2"

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.

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



CTR2323L-BLK

Matte Black Painted
Wall Wash Reflector



CTR2323L-CLR*

Anodized Clear
Wall Wash Reflector



CTR2323L-PL*

Anodized Platinum
Wall Wash Reflector



CTR2323L-WHT

Matte White Painted
Wall Wash Reflector

2-3/8" Dia. Lenses/Louver

FA-16 60MM - Honeycomb Louver

LF16- 60MM** - 2-3/8" Diameter Lenses

**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)



CTR2323L Series

Wall Wash Reflector

OD: 3-1/2"; ID: 2-5/16"

Angled TIR optic enables precise light control. Cannot be used with lenses or louvers.

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

R2RM | 2" LED Downlight: New Construction and Remodel Housing

Trims

Note: R2A and R2RM Series trims are NOT compatible with each other.



CST2322LSQ-CLR-(B,P)
Clear Specular Reflector
Black or White Square Trim Plate



CST2322LSQ-PL-(B,P)
Platinum Reflector
Black or White Square Trim Plate



CST2322LSQ-BLK-(B,P)
Black Reflector
Black or White Square Trim Plate



CST2322LSQ-WHT-P
White Reflector
White Square Trim Plate



CTR2323LSQ-CLR-(B,P)
Clear Wall Wash Trim
Black or White Square Trim Plate



CTR2323LSQ-PL-(B,P)
Platinum Wall Wash Trim
Black or White Square Trim Plate



CTR2323LSQ-BLK-(B,P)
Black Wall Wash Trim
Black or White Square Trim Plate



CTR2323LSQ-WHT-P
White Wall Wash Trim
White Square Trim Plate

CST2322LSQ Series
Specification Grade Reflector with Square Trim Plate
OD: 3-1/2" SQ.; ID 2-1/2"

Trim is wet location certified without the need for lensing. Accepts one (1) FA-16 60MM 2-3/8" Dia. Black Honeycomb Louver or (1) LF16 60MM 2-3/8" Dia. Tempered Glass Lens.

CTR2323LSQ Series
Wall Wash Trim with Square Trim Plate
OD: 3-1/2" Sq.; ID 2-5/16"

Angled TIR optic enables precise light control. Cannot be used with lenses or louvers. Suitable for wet locations.

2-3/8" Dia. Lenses/Louver

FA-16 60MM - Honeycomb Louver
LF16- 60MM** - 2-3/8" Diameter Lenses

**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)

R2RM | 2" LED Downlight: New Construction and Remodel Housing

Features

- LED Series 05 (8W/800lm) and 1 (10W/1100lm) are Insulated Ceiling (IC), Stopaire housings; thermally protected for use in applications with direct contact with insulation materials
- LED Series 2 (14W/1400lm) is a Non-Insulated Ceiling (Non-IC), Stopaire housing, requiring minimum 3" 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. Housing has a black painted finish.
- LED Drivers are fully accessible from below the ceiling
- Three spring steel friction springs provide secure support in ceiling thicknesses from 1/2" - 1". **NOTE:** Certain regions require the use of a housing mounting frame in conjunction with the R2RM housing. The NCF1 new construction mounting frame should be specified when required (ordered separately).
- Minimum plenum clearance required to install housing in ceiling is 6"
- 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. Output over voltage, over-current and short circuit protection.
- Many trim options available to complement any design style. See ordering information for details.

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
- Precision TIR Optics produce 12°, 27°, 40°, and 65° 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 within a 2-step MacAdam Ellipse tolerance
- Driver with Class 2 output, RoHS Compliant
- All R2RM downlights are available for non-dimming and dimming applications. For a list of compatible dimmers, refer to the Dimming Specifications sheet.
- cCSAus Certified using U.S. (UL) and Canadian (CSA) Standards
- Housings with S, M, F, WF beam distributions are suitable for wet locations with any trim; Wall Wash (WW) housing is only suitable for wet locations with CTR2323L trims
- Series 05, 1 and 2 in S, M and F beam distributions are ENERGY STAR® Certified with CST2322L and CST2322LSQ trims; WF and WW beam distributions are not ENERGY STAR® Certified
- Lutron driver option is not ENERGY STAR® Certified
- Conforms to Washington State Energy Code for low air infiltration; tested in accordance with ASTM E283
- CP housings are Chicago Plenum CCEA listed
- R2RM130KCMVDF-CP Housing with CST2322L-CLR trim can be used to comply with 2016 Title 24 JA8 Part 6 high efficacy LED light source requirements
- Assembled in the USA

Warranty

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

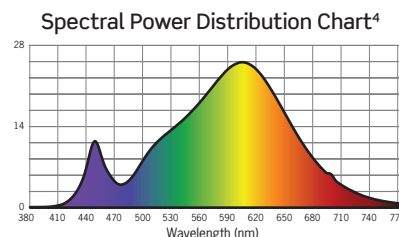
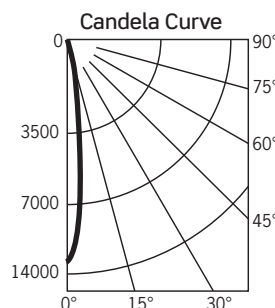
R2RM | 2" LED Downlight: New Construction and Remodel Housing

Photometrics

R2RM230KMVDS/CST2322L-CLR

Fixture Delivered Lumens: 1200
Total Watts@120V: 13.9
Lumens Per Watt: 86.3
Center Beam Candle Power: 13157
Beam Distribution: 14°
Spacing Criterion: 0.27
Color Rendering Index (CRI)¹: 84
Color Temperature (CCT)²: 2939K
Designed for 50,000 Hour Lamp Life³
LM-63 Test No. G17030704
LM-79 Test No. S17030704

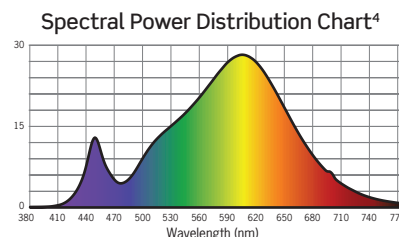
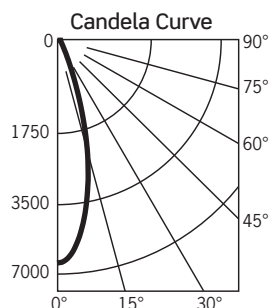
Intensity Distribution		
DISTANCE (FT.)	FOOTCANDLES (FC)	BEAM DIAMETER (FT.)
6'	365.5	1.5
8'	205.6	2.0
10'	131.6	2.5
12'	91.4	3.0
14'	67.1	3.4
16'	51.4	3.9



R2RM230KMVDM/CST2322L-CLR

Fixture Delivered Lumens: 1442
Total Watts@120V: 13.9
Lumens Per Watt: 103.7
Center Beam Candle Power: 6569
Beam Distribution: 27°
Spacing Criterion: 0.44
Color Rendering Index (CRI)¹: 84
Color Temperature (CCT)²: 2934K
Designed for 50,000 Hour Lamp Life³
LM-63 Test No. G17030612
LM-79 Test No. S17030612

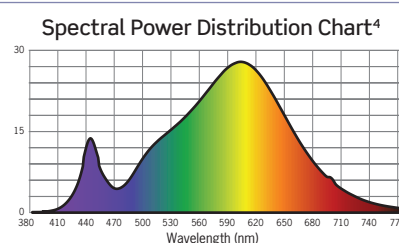
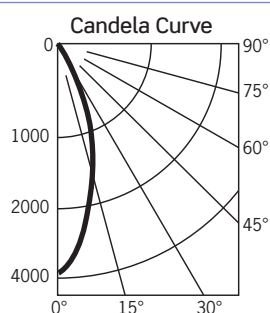
Intensity Distribution		
DISTANCE (FT.)	FOOTCANDLES (FC)	BEAM DIAMETER (FT.)
6'	182.5	2.9
8'	102.6	3.9
10'	65.7	4.8
12'	45.6	5.8
14'	33.5	6.8
16'	25.7	7.7



R2RM230KMVDF/CST2322L-CLR

Fixture Delivered Lumens: 1443
Total Watts@120V: 13.9
Lumens Per Watt: 103.8
Center Beam Candle Power: 3974
Beam Distribution: 36°
Spacing Criterion: 0.60
Color Rendering Index (CRI)¹: 84
Color Temperature (CCT)²: 2941K
Designed for 50,000 Hour Lamp Life³
LM-63 Test No. G17030603
LM-79 Test No. S17030603

Intensity Distribution		
DISTANCE (FT.)	FOOTCANDLES (FC)	BEAM DIAMETER (FT.)
6'	110.4	3.9
8'	62.1	5.2
10'	39.7	6.5
12'	27.6	7.8
14'	20.3	9.1
16'	15.5	10.4



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 CCT. To estimate lumen output of the various CCT options, multiply 3000K results by the following:

CCT	STANDARD CRI	HIGH CRI	SERIES 05, 8W	SERIES 1, 10W	WHT/PL/PLWHE REFL	BLK REFL
2700K	0.94	0.70	0.61	0.74	1.0	0.94
3000K	N/A	0.75	0.61	0.74	1.0	0.94
3500K	1.0	0.81	0.61	0.74	1.0	0.94
4000K	1.0	0.87	0.61	0.74	1.0	0.94

R2RM | 2" LED Downlight: New Construction and Remodel Housing

Photometrics

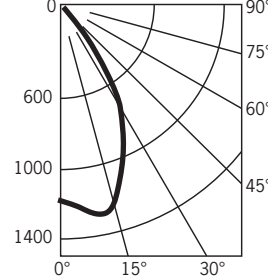
R2RM230KMVDWF/CST2322L-CLR

Fixture Delivered Lumens: 1229
Total Watts@120V: 13.9
Lumens Per Watt: 87.2
Center Beam Candle Power: 1179
Beam Distribution: 65°
Spacing Criterion: 0.97
Color Rendering Index (CRI)¹: 84
Color Temperature (CCT)²: 2941K
Designed for 50,000 Hour Lamp Life³
LM-63 Test No. G17071105

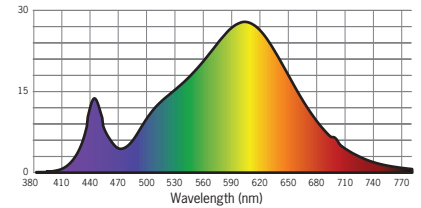
Intensity Distribution

DISTANCE (FT.)	FOOTCANDLES (FC)	BEAM DIAMETER (FT.)
6'	365.5	1.5
8'	205.6	2.0
10'	131.6	2.5
12'	91.4	3.0
14'	20.2	3.4
16'	51.4	4.6

Candela Curve



Spectral Power Distribution Chart⁴



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 CCT. To estimate lumen output of the various CCT options, multiply 3000K results by the following:

CCT	STANDARD CRI	HIGH CRI	SERIES 05, 8W	SERIES 1, 10W	WHT/PL/PLWHE REFL	BLK REFL
2700K	0.94	0.70	0.61	0.74	1.0	0.94
3000K	N/A	0.75	0.61	0.74	1.0	0.94
3500K	1.0	0.81	0.61	0.74	1.0	0.94
4000K	1.0	0.87	0.61	0.74	1.0	0.94

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	IlumaTech	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	IlumaTech	IPE04	6%-100%
Leviton	IlumaTech	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	NTFTV	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.