

Specifications/Features

Housing/Mounting

Specification grade 2" downlight for remodel and new construction applications.

Two wattages available:

11W: Insulated ceiling (IC), Stopaire housing. Thermally protected for use in applications with direct contact with insulation materials.

16W: 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.

Two 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 RA2LRM housing. The NCF1 new construction mounting frame (refer below) should be specified when required (ordered separately).

Electrical

UL8750 and Class 2 Compliant; RoHS Compliant, US only.

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 Spot (12°), Medium (27°), and Flood (40°) 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 RA2L downlights are available for non-dimming and dimming applications.

Trims

Specification Grade trims are available in different styles and finishes. Featuring a high quality Alzak™ finish; optically designed for reduced glare while maintaining maximum lumen output.

Warranty

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

Labels/Usage

cCSAus Certified to UL Standards. Suitable for damp locations.

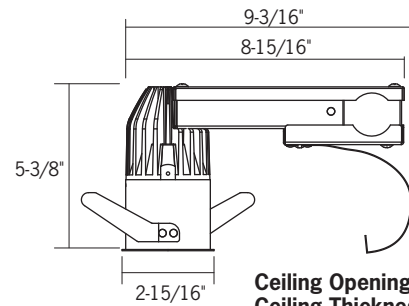
Energy Star approved when used with CST2322L and CST2322LSQ trims (all finishes).

CTR2323L Wall Wash Housing/trim combination is not Energy Star approved.

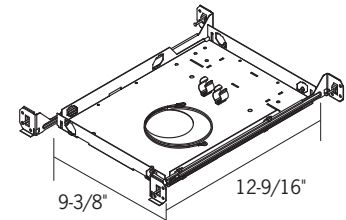
Conforms to Washington State Energy Code (WSEC) for low air infiltration. Tested in accordance with ASTM E283 (2.0 CFM or less).

The CP housing is Chicago Plenum CCEA listed.

Assembled in the USA.



Ceiling Opening: 2-3/4"
Ceiling Thickness: 1/2" - 1"



Optional Mounting Frame:
NCF1

	Series 1	Series 2
Input Voltage		
Non-Dimming: 120V	90-135V AC, 47-63Hz	90-135V AC, 47-63Hz
Non-Dimming: 277V	277V AC, 47-63Hz	277V AC, 47-63Hz
0-10V Dimming	Not Available	90-305V AC, 47-63Hz
Triac Dimming: 120V (F. Phase)	90-135V AC, 47-63Hz	90-135V AC, 47-63Hz
Triac Dimming: 277V (F. Phase)	Not Available	277V AC, 47-63Hz
ELV Dimming (R. Phase)	Not Available	90-305V AC, 47-63Hz
Lutron HiLume® Dimming	Not Available	Not Available
Input Wattage	11	16
Output Current (mA)	250	350
Color Temperature	2700K/3000K/3500K/4000K	2700K/3000K/3500K/4000K
CRI Standard/High	83 (80min)/90+	83 (80min)/90+
Driver		
Power Factor	> 0.90	> 0.90
THD	< 20%	< 20%
Dimming		
0-10V	Not Available	10-100%
Triac Dimming: (F. Phase)	10-100% (120V Only)	10-100% (120/277V)
ELV Dimming (R. Phase)	Not Available	10-100%
Lutron HiLume® Dimming	Not Available	Not Available
Emergency Battery Backup	Not Available	Not Available

Ordering Information

Example Order: —

Housing	LED Module/Color Temp	Electrical/Dimming	Beam Dist.	
<input type="text" value="RA2LRM"/>	<input type="text" value="11W Series 1 (IC, StopAire® Remodel)"/>	<input type="text" value="12 - 120V Non-Dimming"/>	<input type="text" value="S - Spot"/>	<input type="text" value="CP - Chicago Plenum"/>
	11W Series 1 (IC, StopAire® Remodel) 127K - 2700K, 83 CRI 127KC - 2700K, 93+ CRI 130K - 3000K, 83 CRI 130KC - 3000K, 93+ CRI 135K - 3500K, 83 CRI 135KC - 3500K, 93+ CRI 140K - 4000K, 83 CRI 140KC - 4000K, 90+ CRI	12 - 120V Non-Dimming 27 - 277V Non-Dimming 12D1 - 120V Triac (F. Phase) Dimming 27D1² - 277V Triac (F. Phase) Dimming MVD2² - 120/277V 0-10V Dimming MVD5² - 120/277V ELV (R. Phase) Dimming	S - Spot M - Medium F - Flood WW - Wall Wash	
	16W Series 2 (Non-IC, StopAire® Remodel)¹ 227K - 2700K, 83 CRI 227KC - 2700K, 93+ CRI 230K - 3000K, 83 CRI 230KC - 3000K, 93+ CRI 235K - 3500K, 83 CRI 235KC - 3500K, 93+ CRI 240K - 4000K, 83 CRI 240KC - 4000K, 90+ CRI			

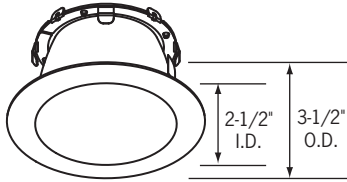
1. Series-2 is not available for use in Insulated Ceilings (IC).
 2. Series-1 is not available for use with 27D1, MVD2, or MVD5 dimming options.

Trim
 See below sheet for trim information and details.

Options

NCF1 - New Construction Mounting Plate
RL-KIT - Commercial Mounting Brackets
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

Trims and Accessories

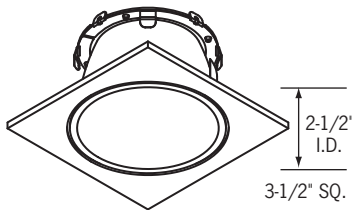


Specification Grade Reflector Trim



Reflector is available in anodized clear specular, anodized platinum, painted matte white, and painted matte black finishes. Trims are wet location certified when used with an LF16 60MM lens. Trim accepts one (1) FA-16 60MM 2-3/8" Dia. Black Honeycomb Louver or (1) LF16 60MM 2-3/8" Dia. Tempered Glass Lens.

CST2322L-(BLK, CLR, PL, WHT)

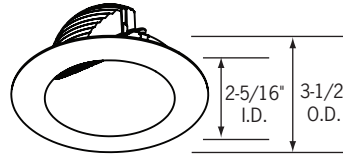


Specification Grade Reflector with Square Trim Plate



Reflector available in anodized clear specular, anodized platinum, painted matte white, and painted matte black. Trim Plate is available in painted matte white and painted matte black. Wet location certified when used with an LF16 60MM lens. Accepts one (1) FA-16 60MM 2-3/8" Dia. Black Honeycomb Louver or (1) LF16 60MM 2-3/8" Dia. Tempered Glass Lens.

- CST2322LSQ-CLR-B**
Clear Specular Reflector, Black Trim Plate
- CST2322LSQ-CLR-P**
Clear Specular Reflector, White Trim Plate
- CST2322LSQ-PL-B**
Platinum Reflector, Black Trim Plate
- CST2322LSQ-PL-P**
Platinum Reflector, White Trim Plate
- CST2322LSQ-WHT-P**
White Reflector, White Trim Plate
- CST2322LSQ-BLK-B**
Black Reflector, Black Trim Plate
- CST2322LSQ-BLK-P**
Black Reflector, White Trim Plate

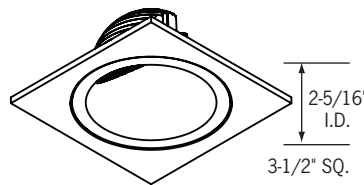


Wall Wash Trim



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

CTR2323L- (BLK, CLR, PL, WHT)



Wall Wash Trim with Square Trim Plate



An angled TIR optic enables precise light control. Reflector is available in anodized clear specular, anodized platinum, painted matte white, and painted matte black finishes. Trim Plate is available in painted matte white and painted matte black finishes. Cannot be used with lenses or louvers.

- CTR2323LSQ-CLR-B**
Clear Reflector, Black Trim Plate
- CTR2323LSQ-CLR-P**
Clear Reflector, White Trim Plate
- CTR2323LSQ-PL-B**
Platinum Reflector, Black Trim Plate
- CTR2323LSQ-PL-P**
Platinum Reflector, White Trim Plate
- CTR2323LSQ-WHT-P**
White Reflector, White Trim Plate
- CST2323LSQ-BLK-B**
Black Reflector, Black Trim Plate
- CTR2323LSQ-BLK-P**
Black Reflector, White Trim Plate

Optics and 2-3/8" Dia. Lenses/Louver



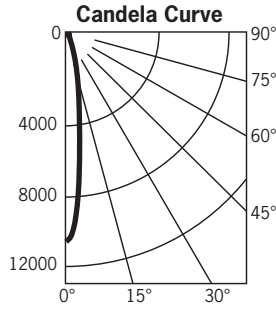
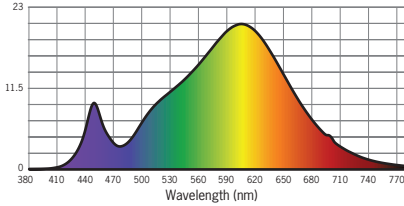
- 7000085** - 12° Spot Beam Optic
- 7000076** - 27° Medium Beam Optic
- 7000075** - 40° Flood Beam Optic
- FA-16 60MM** - Honeycomb Louver
- LF16-A 60MM** - Amber
- LF16-B 60MM** - Blue
- LF16-G 60MM** - Green
- LF16-LB 60MM** - Light Blue
- LF16-R 60MM** - Red
- LF16-RO 60MM** - Rose
- LF16-Y 60MM** - Yellow
- LF16-73 60MM** - Prismatic Spread
- LF16-CL 60MM** - Clear
- LF16-LS 60MM** - Linear Spread
- LF16-SL 60MM** - Soft Light Sandblasted
- LF16-SOL 60MM** - Solite
- LF16-UV 60MM** - Optivex UV Filter

Finishes: -BLK (black reflector), -CLR (clear reflector),
-PL (matte platinum), -WHT (white reflector)

RA2LRM230K12S/CST2322L-PL

Designed for 50,000 Hour Lamp Life*; LM-63 Test No. 80870

Light Output (Fixture Delivered Lumens): 916
Total Watts@120V: 14.7
Lumens Per Watt: 62
Color Rendering Index (CRI)¹: 83
Color Temperature (CCT)²: 2986K Warm White
Spectral Power Distribution Chart³



Candlepower Summary

FROM 0	CANDELA	LUMENS
0	10531	
5	6474	500
15	1200	332
25	97	49
35	29	19
45	13	10
55	4	4
65	1	1
75	1	1
85	0	0
95	0	0

Intensity Distribution

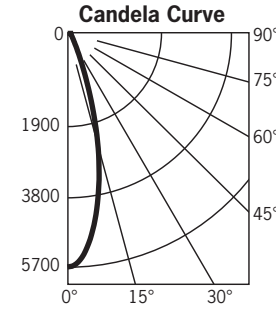
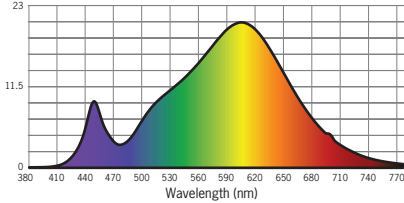
DISTANCE (FT.)	FOOTCANDLES (FC)	BEAM DIAMETER (FT.)
6'	292.5	1.3
8'	164.5	1.7
10'	105.3	2.1
12'	73.1	2.6
14'	53.7	3.0
16'	41.1	3.4

Beam Distribution: 12°
Spacing Criteria: 0.21

RA2LRM230K12M/CST2322L-PL

Designed for 50,000 Hour Lamp Life*; LM-63 Test No. 80928

Light Output (Fixture Delivered Lumens): 1245
Total Watts@120V: 14.7
Lumens Per Watt: 85
Color Rendering Index (CRI)¹: 83
Color Temperature (CCT)²: 2986K Warm White
Spectral Power Distribution Chart³



Candlepower Summary

FROM 0	CANDELA	LUMENS
0	5672	
5	5125	450
15	2391	631
25	220	142
35	21	16
45	5	4
55	2	2
65	1	1
75	0	0
85	0	0
95	0	0

Intensity Distribution

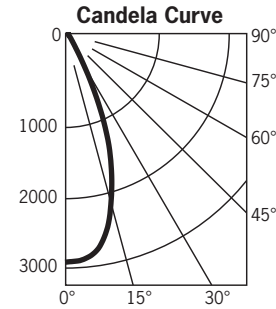
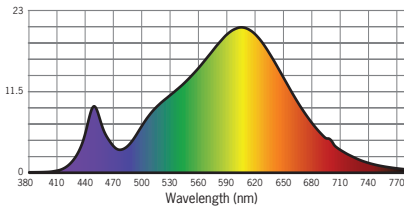
DISTANCE (FT.)	FOOTCANDLES (FC)	BEAM DIAMETER (FT.)
6'	157.6	2.7
8'	88.6	3.7
10'	56.7	4.6
12'	39.4	5.5
14'	28.9	6.4
16'	22.2	7.3

Beam Distribution: 27°
Spacing Criteria: 0.44

RA2LRM230K12F/CST2322L-PL

Designed for 50,000 Hour Lamp Life*; LM-63 Test No. 80872

Light Output (Fixture Delivered Lumens): 1239
Total Watts@120V: 14.7
Lumens Per Watt: 84
Color Rendering Index (CRI)¹: 83
Color Temperature (CCT)²: 2968K Warm White
Spectral Power Distribution Chart³



Candlepower Summary

FROM 0	CANDELA	LUMENS
0	2894	
5	2849	265
15	2112	578
25	729	339
35	67	47
45	7	7
55	2	2
65	1	1
75	0	0
85	0	0
95	0	0

Intensity Distribution

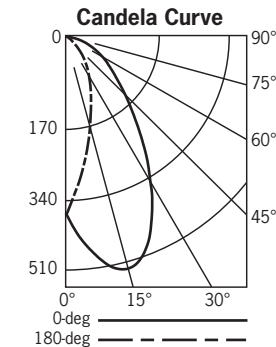
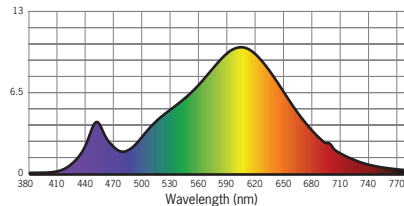
DISTANCE (FT.)	FOOTCANDLES (FC)	BEAM DIAMETER (FT.)
6'	80.4	4.0
8'	45.2	5.3
10'	28.9	6.7
12'	20.1	8.0
14'	14.8	9.4
16'	11.3	10.7

Beam Distribution: 41°
Spacing Criteria: 0.62

RA2LRM230K12WW/CTR2323L-PL

Designed for 50,000 Hour Lamp Life*; LM-63 Test No. 83072

Light Output (Fixture Delivered Lumens): 496
Total Watts@120V: 14.7
Lumens Per Watt: 34
Color Rendering Index (CRI)¹: 83
Color Temperature (CCT)²: 2906K Warm White
Spectral Power Distribution Chart³



Candlepower Summary

FROM 0	CANDELA	LUMENS
0	386	
5	452	35
15	520	89
25	428	107
35	283	96
45	174	72
55	110	50
65	68	31
75	32	13
85	2	2
95	0	0

Footcandles on Wall, Single Unit

	0'	1'	2'	3'	4'	
Distance From Ceiling	1'	2.1	1.9	1.5	1.0	0.6
	2'	3.1	2.9	2.3	1.6	1.0
	3'	3.6	3.4	2.8	2.0	1.3
	4'	3.6	3.4	2.8	2.0	1.4
	5'	3.4	3.2	2.6	1.9	1.4
	6'	3.1	2.9	2.4	1.8	1.3
	7'	2.7	2.6	2.2	1.7	1.3
	8'	2.4	2.2	1.9	1.5	1.2
	9'	2.1	2.0	1.8	1.4	1.1

▼ is the beam center, 3' from wall

Multiplication Factors

CCT	STANDARD CRI	HIGH CRI	SERIES 1, 11W	WHITE REFLECTOR	BLACK REFLECTOR	CLEAR REFLECTOR
2700K	0.94	0.70	0.73	1.0	0.94	1.0
3000K	N/A	0.75	0.73	1.0	0.94	1.0
3500K	1.0	0.81	0.73	1.0	0.94	1.0
4000K	1.0	0.87	0.73	1.0	0.94	1.0

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