

Project		Catalog #		Type	
Prepared by		Notes		Date	



# HALO

## RLS 4" Adjustable Sloped Ceiling Canless Downlight

These downlights are designed to deliver bright, powerful lighting down where you need it instead of up in the rafters. Use the internal mechanism to tilt and aim your lighting straight down from sloped ceilings between 9° and 45° (12-2 and 12-12 pitches). The RLS offers 5-color seleCCTable™ technology and flicker-free dimming to 5% in matte white or matte black finishes.

Typical Applications Residential

### Interactive Menu

- Order Information page 2
- Product Specifications page 3
- Energy Data page 4
- Photometric Data page 4
- Product Warranty



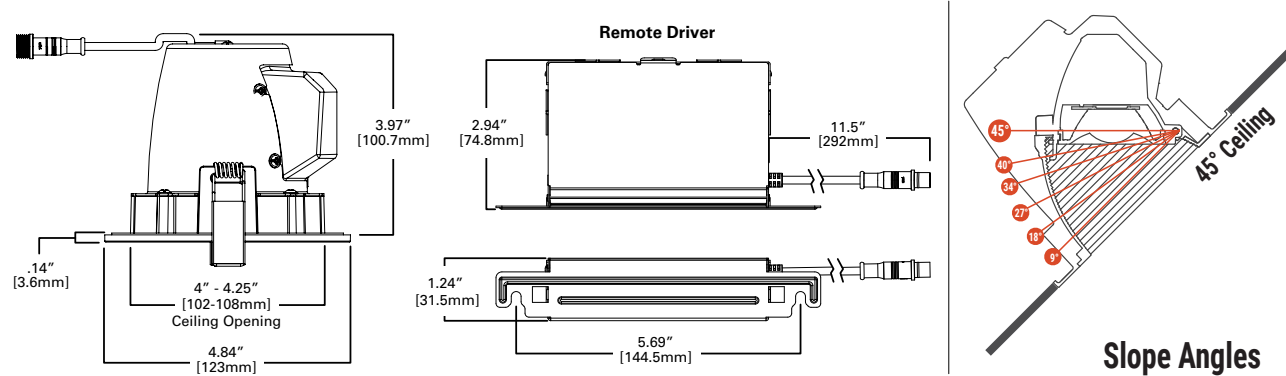
Refer to ENERGY STAR® Certified Products List.  
Can be used to comply with Title 24 High Efficacy requirements.<sup>(1)</sup>  
Certified to California Appliance Efficiency Database under JAB. <sup>(1)</sup>



### Top Product Features

- Round 4" Canless LED Adjustable Downlights suitable for remodel and retrofit installations (For new construction, use with canless mounting frames/plates)
- Installs in 2x4 framing and rated for IC (insulation contact) or non-IC applications (no housing required)
- **Lens & Trim:** Recessed baffle trim, integrated optic
- **5-Color Field-SeleCCTable:** 2700K, 3000K, 3500K, 4000K, 5000K; 90+ CRI
- **Brightness:** 900 lumens (nominal)
- **Dimming:** Dims to 5% (phase cut LE/TE); 120V input
- Meets AIR-TITE and code compliance for additional energy savings
- **Life:** 50,000 hrs of maintenance-free operation in damp locations
- 5-year warranty

### Dimensional and Mounting Details



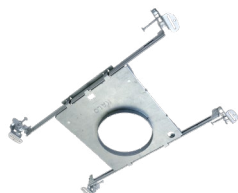
## Order Information

Catalog Number	Module	Lumens (nominal)	CRI/CCT	Driver	Finish	Mounting	Packaging
<b>RLS4099FS1EWHDMR</b>	RLS 4-inch Adjustable Sloped Ceiling Canless Downlight	900 lm	90+ CRI, field selectable CCT: 2700K, 3000K, 3500K, 4000K, 5000K	120V 60Hz, LE & TE phase cut 5% dimming	Matte White	Canless Direct Mount	Recyclable 4-color plastic-free packaging
<b>RLS4099FS1EMBDMR</b>	RLS 4-inch Adjustable Sloped Ceiling Canless Downlight	900 lm	90+ CRI, field selectable CCT: 2700K, 3000K, 3500K, 4000K, 5000K	120V 60Hz, LE & TE phase cut 5% dimming	Matte Black	Canless Direct Mount	Recyclable 4-color plastic-free packaging

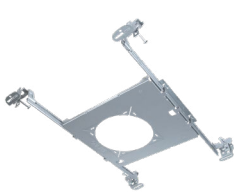


## Accessories (sold separately)

Accessories	
<b>Extension Cables</b> <b>HLB06FSEC</b> = 6 ft. Extension Cable <b>HLB12FSEC</b> = 12 ft. Extension Cable <b>HLB20FSEC</b> = 20 ft. Extension Cable	<b>New Construction Mounting Frames*</b> <b>MF4RC</b> = 4" Round Mounting Frame with Drywall Collar <b>HL4RSMF</b> = 4" Round or Square Mounting Frame  <b>New Construction Smash Plate*</b> <b>SP346RS</b> = 3", 4", and 6" Canless New Construction Smash Plate



MF4RC



HL4RSMF



SP346RS

\* New Construction Mounting Frames / Smash Plates reserve ceiling positions and holds canless junction boxes during rough-in wiring phase.

## Product Specifications

### Selectable System

- Use the 5-position color selector switch to choose between: 2700K, 3000K, 3500K, 4000K, and 5000K

### Module – Trim

- LED module consists of LED (chip on board), optical assembly, driver and self-flanged trim
- Regressed baffle style trim
- Installs in 2x6 (5.5" tall ceiling plenum spaces) [2x4 (3.5" tall ceiling plenum spaces)]
- Adjustment mechanism tilts the light engine from 9° up to 45° to match 2/12 to 12/12 ceiling pitches
- Heat sink designed to conduct heat away from the LED array, keeping the junction temperatures below specified maximums, even when installed in insulated ceiling environments
- Achieving L70 at 50,000 hours in IC and non-IC applications

### LED Array

- Mid power LED array provides a uniform source with high efficiency and no pixilation
- 90 CRI minimum, R9 greater than 50
- Chip on board LEDs provide a uniform source with high efficiency and no pixilation
- Color accuracy at 4 SDCM in between endpoints, provide excellent color quality and uniformity
- Available in 5-color field selectable CCT: 2700K, 3000K, 3500K, 4000K, 5000K

### Optical Assembly

- Regressed lens
- Impact-resistant polycarbonate
- Integrated optical assembly provides flood distribution useful for general and task lighting in sloped ceiling applications
- Diffuse injection molded lens with contoured profile provides uniformity and a familiar lamp like appearance
- Meets ENERGY STAR® color angular uniformity requirements

### Driver

- Remote 120V 60 Hz constant current driver provides noise-free, high-efficiency operation
- Dimmable: Continuous, flicker-free phase cut (leading-edge/trailing-edge - LE/TE) dimming from 100% to 5% output with compatible dimmers
- See this fixture's Dimming Guide for compatible dimmers
  - **Tip:** For optimal dimming performance, consider dimmers with low-end trim adjustment; note that some dimmers require a neutral wire in the box
- Consult dimmer manufacturer for compatibility and conditions of use

### Junction Box

- Die formed metal driver / junction box with captive hinged junction box cover
- Listed for (6) #12 AWG 90° C splice conductors, 2-in, 2-out plus (2) ground
- (3) 1/2" conduit pry-outs
- (2) Slide-N-Side™ non-metallic (NM) wire traps accept 14-2, 14-3, 12-2, 12-3 U.S. and 14-2, 14-3, 12-2 Canadian NM cable
- (3) 4-port push wire nuts for quick and reliable mains voltage connections
- Integral mounting facilitates direct mounting to building structure or mounting frame

### Installation & Retention

- No additional housing or junction box required (Not for installation in recessed cans)
- The included remote driver / junction box may be used in direct contact with insulation (IC)
- Can be installed in 1/2" to 1-1/4" thick ceilings
- 4" round ceiling cutout
- Installer must cut hole and install fixture into aperture with the clips compressed
- When released, the spring clips will rest on the back side of the ceiling material holding the fixture in place
- For new construction applications, use HALO Canless Mounting Frames or Smash Plates prior to drywall installation
- Fixture and junction box can be removed from below the ceiling for service or replacement

### Gasket

- Open cell gaskets achieve restrictive airflow requirements without additional caulking

### Compliance

- UL Certified US and Canada Type IC suitable for direct contact with air permeable insulation
- Damp location listed
- Not recommended for use in direct contact with spray foam insulation, reference NEMA LSD57-2013
- Airtight certified per ASTM-E283
- Suitable for use in clothes closets when installed in accordance with the NEC 410.16 spacing requirements
- EMI/RFI emissions per FCC 47CFR Part 15 consumer limits
- Contains no mercury or lead and RoHS compliant<sup>1</sup>
- Photometric testing in accordance with IES LM79-08
- Lumen maintenance projections in accordance with IES LM-80-08 and TM-21-11
- Compliant with California Title 24 High Efficiency LED under JA8, reference Modernized Appliance Efficiency Database System (MAEDBS) for 2019 JA8 High Efficacy Lighting<sup>1</sup>
- Can be used International Energy Conservation Code (IECC) high efficiency luminaire compliance.
- ENERGY STAR® listed, reference database for current listings

### Warranty

- Five year limited warranty, consult website for details. [www.cooperlighting.com/warranty](http://www.cooperlighting.com/warranty)

## Energy Data

	RLS4099FS1EWHDMR	RLS4099FS1EMBDMR
Lumens	900 Series	900 Series
Input Voltage	120V	120V
Input Current	93.76 (mA)	93.76 (mA)
Input Power	11.1 (W)	11.1 (W)
Efficiency	87.0 (LPW)	82.9 (LPW)
Inrush (A)	1.66 (A)	1.66 (A)
THD	≤ 20%	≤ 20%
PF	≥ 0.90	≥ 0.90
T Ambient (C)	-30 to +40	-30 to +40
Sound Rating	≤ 22 dba	≤ 22 dba

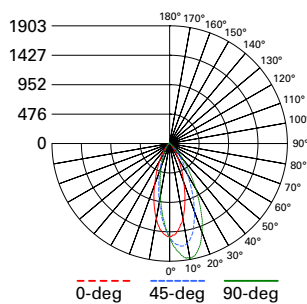
RLS4099FS1EWHDMR (Equivalent to 60W Incandescent)

CCT	Watts	Lumens	LPW	CRI
2700K	11.1	950	85.6	92
3000K	11.1	966	87.0	93
3500K	11.1	986	88.8	93
4000K	11.2	1003	89.6	92
5000K	11.2	1027	91.7	90

RLS4099FS1EMBDMR (Equivalent to 60W Incandescent)

CCT	Watts	Lumens	LPW	CRI
2700K	11	895	81.4	94
3000K	11.1	920	82.9	93
3500K	11.1	945	85.1	95
4000K	11.2	970	86.6	95
5000K	11.3	1000	88.5	93

## Photometric Data

[View IES files](#)


## RLS4099FS1EWHDMR-3000K

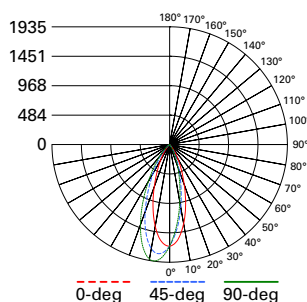
Spacing criterion:  
(0-180) 0.61 | (90-270) 0.76 | (Diagonal) 0.7

Beam Angle: 37°  
Field Angle: 73°  
Lumens: 966  
Input Watts: 11.1 W  
Efficacy: 87.0 LPW  
UGR: 5.8  
Test Report: P571718

Zonal Lumen	Lumens	% Lumens
0-30	693	71.8
0-40	849	87.9
0-60	946	98
0-90	963	99.7

TM-30-15	Rf = 92
	Rg = 98
CRI/CIE	Ra = 94
	R9 = 63

CCT - Range of 2700K- 5000K



## RLS4099FS1EMBDMR-3000K

Spacing criterion:  
(0-180) 0.59 | (90-270) 0.67 | (Diagonal) 0.67

Beam Angle: 37°  
Field Angle: 73°  
Lumens: 920  
Input Watts: 11.1 W  
Efficacy: 82.9 LPW  
UGR: 5.8  
Test Report: P888017

Zonal Lumen	Lumens	% Lumens
0-30	709	77
0-40	845	91.9
0-60	913	99.3
0-90	918	99.8

TM-30-15	Rf = 93
	Rg = 99
CRI/CIE	Ra = 93
	R9 = 77

CCT - Range of 2700K- 5000K

