Project		Catalog #		Type	
Prepared by		Notes		Date	

HALO

ML4 Canless Downlighting System

A LED fixture fitting with remote driver suitable for direct mount without a housing or junction box can be used with round and square open, lens and lens wall wash trims providing various downlight and wall wash distributions.

Typical Applications

Residential • Hospitality • Retail

Interactive Menu

- Order Information page 2
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- Product Warranty
- Dimming Guide

Product Certification

Refer to ENERGY STAR® Certified Products List.
Can be used to comply with California Title 24 High Efficacy requirements.
Certified to California Appliance Efficiency Database under JA8.

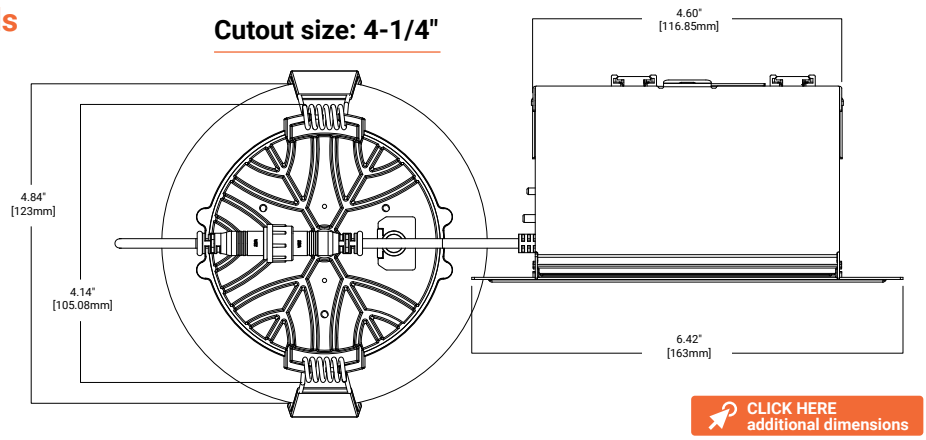
Product Features

Top Product Features

- Field selectable 2700, 3000, 3500, 4000 or 5000K CCT, 90 CRI minimum
- Optional full spectrum color, 95 CRI minimum
- Optional warm dimming, field selectable 2700 – 1800 or 3000 – 1800K CCT ranges
- Field selectable 600, 800 or 1000 lumens
- Field interchangeable 25°, 40°, 55° or wall wash distribution patterns, ships with 40 degree installed
- Installs from below, does not require a recessed housing or junction box
- Remote driver / junction box
- 120V LE/TE phase cut or 120-277V 0-10V dimming to 5% with select controls

Dimensional and Mounting Details

Cutout size: 4-1/4"



CLICK HERE additional dimensions

Order Information

SAMPLE ORDER NUMBER: **ML4DM10LSFL9FS1E - TL41RMW**

A complete luminaire consists of a fixture fitting + trim, order separately.

Fixture Fitting

Catalog Number	Description
ML4DM10LSFL9FS1E	4" Canless, Lumen Select(600/800/1000lms), 5CCT selectable, 90CRI, 40° optic, 120V, LE/TE 5% Dim
ML4DM10LSFL9FSE010	4" Canless, Lumen Select(600/800/1000lms), 5CCT selectable, 90CRI, 40° optic, 120-277V 0-10V 5% Dim
ML4DM08LSFL95FS1E	4" Canless, Lumen Select(400/600/800lms), 5CCT selectable, 95CRI, 40° optic, 120V LE/TE 5% Dim
ML4DM06FLD2W1E	4" Canless, 600lms, Selectable D2W, 90CRI, 40° optic 120V LE/TE 5% Dim

Accessories

Accessories
TIR4D25NFL = 25° narrow flood optic **TIR4D40FL** = 40° flood optic **TIR4D55WFL** = 55° wide flood optic **TIR4D25AWW** = 25° narrow flood asymmetric wall wash optic **TIR45MH12PK** = replacement media holder, package of 12 **L100 Series** = 2.0" lens and filters, see spec sheet **HL4RSMF** = 4" Mounting Frame (Round or Square)

Trims / Shielding / Flange Finish

Trims	Shielding	Flange Finish
TL40R = 3-1/2" conical reflector [8]	**2G** = Diffuse lens	**MW** = Matte white reflector and flange
TL41R = 2" round pinhole **TL42S** = 2" square pinhole	None	**MW**=Matte white flange **MB**=Matte black flange **BN**=Brushed nickel flange **ORB**=Oil rubbed bronze flange **GB**=German bronze flange **BCu**=Brushed copper flange
TL43R = 2" round lens pinhole **TL44S** = 2" square lens pinhole	**2G** = Diffuse lens	**MWWB** = Matte white flange, white lens frame **MWBB** = Matte white flange, black lens frame **MBBB** = Matte black flange, black lens frame **BNBB** = Brushed nickel flange, black lens frame **ORBBB** = Oil rubbed bronze flange, black lens frame **GBBB** = German bronze flange, black lens frame **BCuBB** = Brushed copper, black lens frame
TL45R = 2" round lens wall wash **TL46S** = 2" square lens wall wash	**6G** = Linear spread lens	**MWWB** = Matte white flange, white lens frame **MWBB** = Matte white flange, black lens frame
Notes (8) TL40R trim provides 1.15" lens regression to ML4 fixture.	**Notes**	**Notes**

Product Specifications

Housing
- Die cast aluminum housing provides passive thermal cooling achieving L70 at 50,000 hours in IC and non-IC applications
- Retention springs holds housing securely in 3/8" to 1-1/2" thick ceilings, can be removed for service or replacement
- Not suitable for 2x4 framing

Optional Mounting Frame
- Pre-galvanized steel mounting frame locates fixture fittings during electrical rough-in and provides cutout guidance for drywall contractor
- Provides attachment of remote driver / junction box

LED Array
- Proximity phosphors over chip on board LEDs provide a uniform source with high efficiency and no pixilation
- Available in 90 CRI minimum, R9 greater than 50 and color accuracy within 3 SDCM at end points and 4 SDCM in the middle providing color accuracy and uniformity

VividTune
- Field selectable 2700, 3000, 3500, 4000 or 5000K CCT, factory set at 3000K CCT
- Optional full spectrum color, 95 CRI minimum with R1-R15 values ranging from 92 to 100, excellent TM-30 metrics; Rf ranging from 96-98 and Rg >98
- Field selectable 600, 800 and 1000 lumens

VividTune
- D2W™ dim-to-warm option shifts color temperature from 3000 to 1800 K CCT or 2700 to 1800 K CCT as fixture dims mimicking the black body dimming response of halogen or incandescent lamps

Trims
- Field interchangeable trims are available in 3-1/2" aperture conical and 2-inch round or square pinhole apertures
- Available in a broad range of painted or plated finishes, can be painted in the field to match any décor
- Magnetic attachment holds trim tightly to ceiling and minimizes light leaks
- Conical trim provides 1.15" lens regression to ML4 fixture.

Primary Optic
- Precision molded TIR optic organizes source flux into useful beams without stray lumens in the field
- Low glare, UGR < 17
- Two-piece construction with matte black mounting ring and polarized turn and lock mounting aligns optic to source and minimizes backlight in the housing
- Meets ENERGY STAR® color angular uniformity requirements, color deviation is typically less than 0.004 u' v'
- Available in narrow flood, flood, wide flood and asymmetric wall wash distributions, ships with flood optic factory installed, order alternate distributions or replacements separately

Media
- Integral media holder accepts (2) lens or louver 2" diameter 3.0mm thick color filters, lens or louvers
- Order media separately

Driver
- Integral 120V 60 Hz constant current driver provides noise free operation
- Continuous, flicker-free dimming from 100% to 5% with select leading or trailing edge 120V phase cut control
- Optional UNV 120-277V 50/60 Hz driver with 0 -10V analog dimming from 100% to 5%

Remote Driver / Junction Box
- Pre-galvanized steel driver/junction box with captive hinged junction box cover
- Listed for six #12 AWG 90° C splice conductors, two in, two out plus ground
- Two 1⁄2" conduit pry-outs
- Two Slide-N-Side™ non-metallic (NM) wire traps allow wiring outside the box
- Accepts NM cable types: 14-2, 14-3, 12-2, 12-3 (U.S.) and 14-2, 14-3, 12-2 (Canadian)
- Three 4-port push wire nuts with clear caps for quick and reliable mains voltage connections
- Integral mounting holes facilitate direct mounting to building structure or mounting frame

Compliance
- UL Certified US and Canada
- UL Certified for US and Canada, type IC suitable for direct contact with air permeable insulation
- Not for use in direct contact with spray foam insulation, reference NEMA LSD57-2013
- Damp and wet location listed, covered ceilings only and IP65, below the ceiling only with lens trims
- Airtight per ASTM-E283
- Suitable for use in clothes closets when installed in accordance with the NEC 410.16 spacing requirements
- Suitable for use in plenum spaces per NEC 300.22(C)(2) requirements
- EMI/RFI emissions per FCC 47CFR Part 15 consumer limits
- Contains no mercury or lead and RoHS compliant
- Photometric testing in accordance with IES LM-79-08
- Lumen maintenance projections in accordance with IES LM-80-08 and TM-21-11
- ENERGY STAR® certified, reference Certified Light Fixtures database
- Can be used for State of California Title 24 high efficacy LED compliance under JA8, reference Modernized Appliance Efficiency Database System (MAEDBS) for 2019 JA8 High Efficacy Lighting

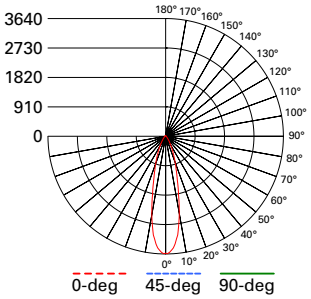
Warranty
- Five-year limited warranty, consult website for details www.cooperlighting.com

Energy Data

	ML4DM10LSFL9FS1E	ML4DM10LSFL9FSE010		ML4DM08LSFL95FS1E	ML4DM06FLD2W1E
Lumens (nom)	1000	1000	1000	800	600
Input Voltage (VAC)	120	120	277	120	120
Input Current (A)	0.11	0.10	0.05	0.11	0.08
Efficiency (LpW)	83.7	82.3	N/A	65.5	74.7
Inrush Current (A)	3.1	1.8	2.8	3.1	2.2
Inrush Duration (ms)	0.036	0.048	0.043	0.036	0.039
THD	≤ 20%	≤ 20%	≤ 20%	≤ 20%	≤ 20%
PF	≥ 0.90	≥ 0.90	≥ 0.90	≥ 0.90	≥ 0.90
T Ambient (C)	-30 to +40	-30 to +40	-30 to +40	-30 to +40	-30 to +40
Sound Rating	≤ 22 dba	≤ 22 dba	≤ 22 dba	≤ 22 dba	≤ 22 dba

Photometric Data

View IES files



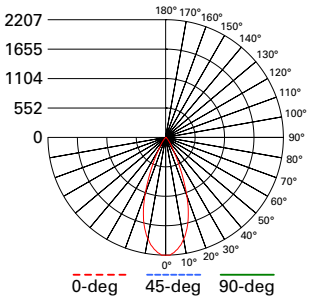
ML4DM10LSNFL9FS1E - TIR4D25NFL - TL41R_ TL42S_ 3000K

Spacing criterion:
(0-180) 0.43 | (90-270) 0.43 | (Diagonal) 0.46
Beam Angle: 25°
Field Angle: 56°
Lumens: 1056
Input Watts: 12.9 W
Efficacy: 81.9 LPW
UGR: 11
Test Report: P601453

Zonal Lumen	Lumens	% Lumens
0-30	930	88.1
0-40	1023	96.9
0-60	1054	99.8
0-90	1056	100

TM-30-15	Rf = 94
	Rg = 99
CRI/CIE	Ra = 96.4
	R9 = 74

CCT - Range of 2700K- 5000K



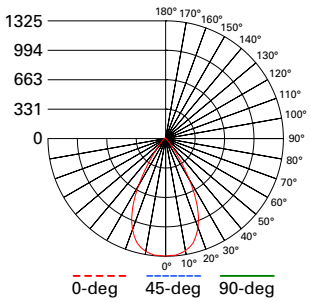
ML4DM10LSFL9FS1E - TIR4D40FL - TL41R_ TL42S_ 3000K

Spacing criterion:
(0-180) 0.67 | (90-270) 0.67 | (Diagonal) 0.63
Beam Angle: 40°
Field Angle: 64°
Lumens: 1050
Input Watts: 12.9 W
Efficacy: 81.4 LPW
UGR: 11
Test Report: P601443

Zonal Lumen	Lumens	% Lumens
0-30	924	88
0-40	1017	96.9
0-60	1049	99.9
0-90	1050	100

TM-30-15	Rf = 94
	Rg = 99
CRI/CIE	Ra = 96.4
	R9 = 74

CCT - Range of 2700K- 5000K



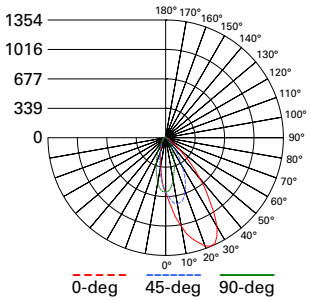
ML4DM10LSWFL9FS1E - TIR4D55WFL - TL41R_ TL42S_ 3000K

Spacing criterion:
(0-180) 0.91 | (90-270) 0.91 | (Diagonal) 0.84
Beam Angle: 56°
Field Angle: 79°
Lumens: 1062
Input Watts: 12.9 W
Efficacy: 82.3 LPW
UGR: 12
Test Report: P601463

Zonal Lumen	Lumens	% Lumens
0-30	846	79.7
0-40	1021	96.2
0-60	1062	100
0-90	1062	100

TM-30-15	Rf = 94
	Rg = 99
CRI/CIE	Ra = 96.4
	R9 = 74

CCT - Range of 2700K- 5000K



ML4DM10LSAWW9FS1E - TIR4D25AWW - TL41R_ TL42S_ 3000K

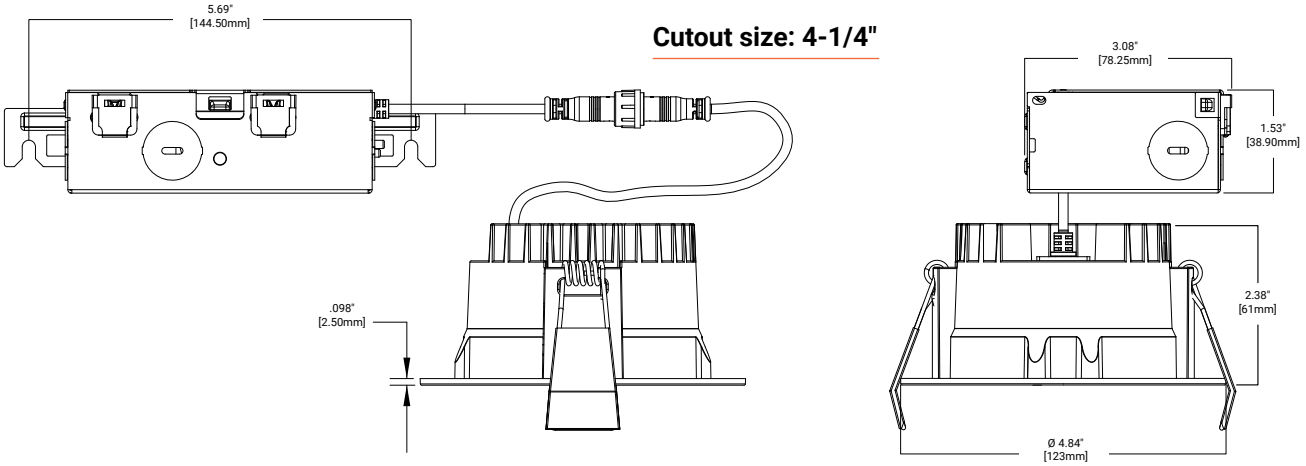
Spacing criterion:
(0-180) 1.31 | (90-270) 0.61 | (Diagonal) 0.81
Beam Angle: 25°
Tilt Angle: 23°
Lumens: 625
Input Watts: 12.9 W
Efficacy: 48.4 LPW
Test Report: P601428

Zonal Lumen	Lumens	% Lumens
0-30	389	62.2
0-40	525	84.1
0-60	618	98.9
0-90	625	100

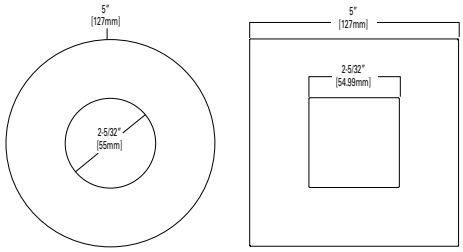
TM-30-15	Rf = 94
	Rg = 99
CRI/CIE	Ra = 96.4
	R9 = 74

CCT - Range of 2700K- 5000K

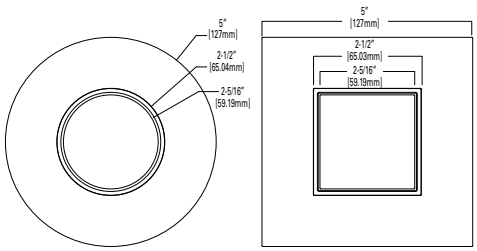
Dimensional and Mounting Details



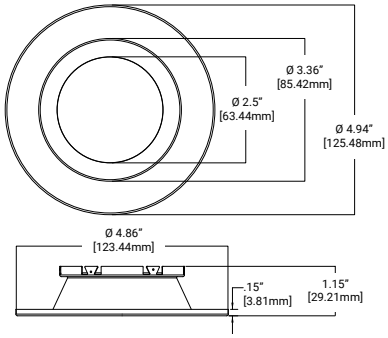
Lens Pinhole Downlight



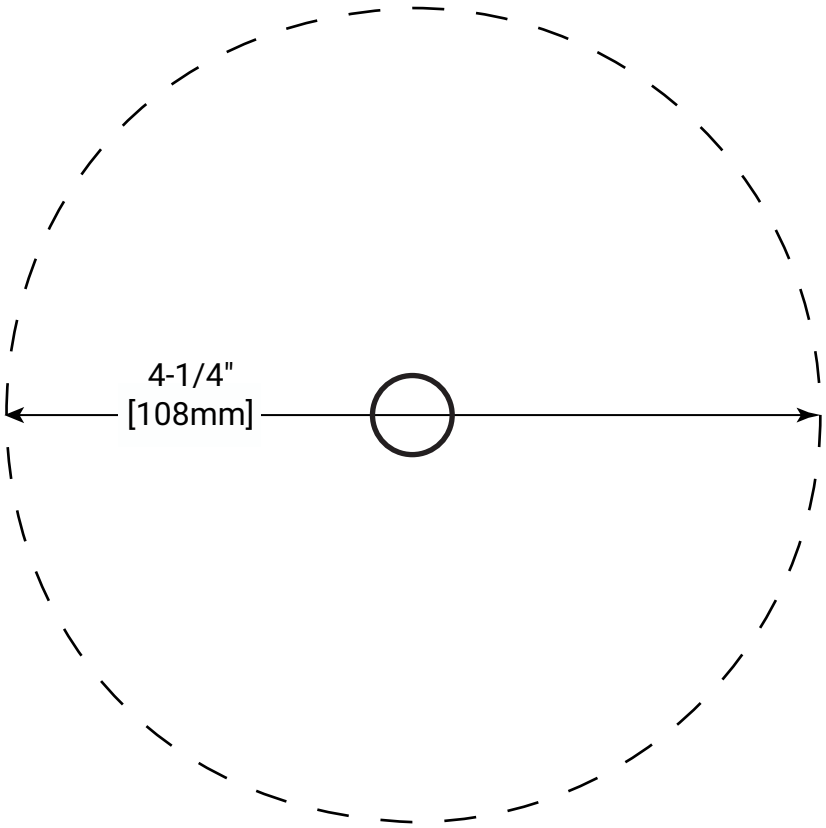
Lens Wall Wash



Lens Conical Reflector



Cutout dimension



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Specifications and dimensions
subject to change without notice.