

# M Series Commercial

Project:	Type:
Product Code:	Date:

V 112724



## 4" Square Adjustable

**Versatile Solution** for all spaces providing high quality lighting ranging from 750lm all the way up to 3500lm

**Expedite Install** with our easily adjustable universal housing and bar hanger systems allowing for application in most ceiling types

**Enhanced Serviceability** features are achieved through our fully integrated driver solutions allow for ease of maintenance & implementation of design changes all below the ceiling plane

**Seamless Integration** with several control systems allowing two-channel control dimming options down as low as 0.1%

### INSTALLATION

#### Ceiling Thickness

New Construction: 1/2" up to 2"  
Remodel: 1/2" up to 1 1/4"

#### Ceiling Material

Drywall, Millwork

### TRIMS

#### Aperture

4"

#### Shape

Square

#### Style

Standard, Pinhole, Flangeless

#### Finish

White, Black, Clear Diffuse,  
Custom Color (RAL)

### SPECIALTY LENS

 Hexcell Louver

### LIGHT OUTPUT & DISTRIBUTION

#### Module

Adjustable

#### Adjustment

360° rotation, 40° tilt







#### Lumens (Power)

750 lm (9.5W), 1000 lm (12.5W),  
1250 lm (14.3W), 1500 lm (14.3W),  
2000 lm (24.5W), 2500 lm (27.5W),  
3000 lm (34.0W), 3500 lm (40.5W)




#### Color Quality

93 CRI, 2-step SDCM

#### Color Temperature

 2700K  3000K  3500K  
 4000K  Warm Dim (3000K–1800K)  
 Tunable White (6500–2700K)

#### Beam Spread

 15° Narrow Spot  25° Spot  
 40° Flood

### POWER & CONTROLS

#### Input Voltage

120/277V

#### Dimming


0-10V (1%), Lutron Athena Wireless Node (1%), DALI-2 (0.1%)


### RATINGS & CERTIFICATIONS

#### Housing

 RoHS Compliant

#### Module and Trim

 UL Listed for Damp Location  
(Under Covered Areas Only)

 NSF Listed  
(White and Black Finish Only)

#### Warranty

5 year limited warranty; 50,000 hours





### PRODUCT BUILDER | SQUARE | ADJUSTABLE | EMBEDDED 0-10V

#### HOUSING

PRODUCT CODE	
<b>M4NCSN</b>	4" Square Housing, New Construction, Non-IC Rated
<b>M4RMSN</b>	4" Square Housing, Remodel, Non-IC Rated <sup>1</sup>

#### LIGHT MODULE

PRODUCT CODE		LUMENS		CRI		CCT		BEAM SPREAD		DIMMING	
<b>MA</b>				<b>9</b>						<b>O</b>	
<b>MA</b>	Adjustable Module	<b>07</b>	750 lm	<b>9</b>	93 CRI	<b>27</b>	2700K	<b>NS</b>	Narrow Spot (15°) <sup>3</sup>	<b>O</b>	0-10V
		<b>10</b>	1000 lm			<b>30</b>	3000K	<b>SP</b>	Spot (25°)		
		<b>12</b>	1250 lm			<b>35</b>	3500K	<b>FL</b>	Flood (40°)		
		<b>15</b>	1500 lm			<b>40</b>	4000K	<b>NH</b>	Narrow Spot Hex Louver <sup>3</sup>		
		<b>20</b>	2000 lm			<b>3W</b>	Warm Dim (3000-1800K) <sup>2</sup>	<b>SH</b>	Spot Hex Louver <sup>4</sup>		
		<b>25</b>	2500 lm					<b>FH</b>	Flood Hex Louver <sup>4</sup>		
		<b>30</b>	3000 lm								
		<b>35</b>	3500 lm								

#### TRIM

PRODUCT CODE		FINISH		OPTION	
<b>M4TSA</b>	Standard Trim	<b>WH</b>	White	<b>[Blank]</b>	None
<b>M4TSP</b>	Pinhole Trim <sup>5,6</sup>	<b>BK</b>	Black	<b>FL</b>	Flangeless <sup>7</sup>
		<b>CW</b>	Clear Diffuse, White Flange		
		<b>CC</b>	Custom Color (RAL)		

#### ACCESSORIES

<b>M4XSMUD</b>	Flangeless Mud Plate <sup>8</sup>
<b>M4KSTEMPLATE</b>	Flangeless Wood Template <sup>9</sup>

<sup>1</sup> Not available with flangeless trim options

<sup>2</sup> Only available in 1000 lm; Not Available in NS beam spread

<sup>3</sup> Only available 750 - 2000 lm

<sup>4</sup> Not available in 3500 lm

<sup>5</sup> Only available in White, Black or Custom Color finish

<sup>6</sup> Only available in 750 - 1500 lm

<sup>7</sup> Mud plate is required for all FL trims except for wood ceiling applications; Not compatible with remodel housing; Not available in Clear Diffuse finish

<sup>8</sup> Required for Flangeless Trim drywall installation

<sup>9</sup> Recommended for Flangeless Trim wood installation

#### OPTIC ACCESSORIES

<b>MALX-NS</b>	Low Lumen (750 lm-2000 lm) Adjustable Optic NS 15° Beam Spread
<b>MALX-SP</b>	Low Lumen (750 lm-2000 lm) Adjustable Optic SP 25° Beam Spread
<b>MALX-FL</b>	Low Lumen (750 lm-2000 lm) Adjustable Optic FL 40° Beam Spread
<b>MAHX-SP</b>	High Lumen (2500 lm-3500 lm) Adjustable Optic SP 25° Beam Spread
<b>MAHX-FL</b>	High Lumen (2500 lm-3500 lm) Adjustable Optic FL 40° Beam Spread
<b>MALX-NH</b>	Low Lumen (750lm-2000lm) Adjustable Optic NS 15° Beam Spread with Hex Louver
<b>MALX-SH</b>	Low Lumen (750lm-2000lm) Adjustable Optic SP 25° Beam Spread with Hex Louver
<b>MALX-FH</b>	Low Lumen (750lm-2000lm) Adjustable Optic FL 40° Beam Spread with Hex Louver
<b>MAHX-SH</b>	High Lumen (2500lm-3500lm) Adjustable Optic SP 25° Beam Spread with Hex Louver
<b>MAHX-FH</b>	High Lumen (2500lm-3500lm) Adjustable Optic FL 40° Beam Spread with Hex Louver

## PRODUCT BUILDER | SQUARE | ADJUSTABLE | ATHENA WIRELESS NODE/DALI-2

### HOUSING

PRODUCT CODE		INSTALLATION		SHAPE		RATING		OUTPUT		DIMMING		WIRELESS	
M4		NC		S		N							
M4	4" Housing	NC	New Construction	S	Square	N	Non-IC	07	750 lm	O	0-10V (AWN Only)	[Blank]	None (DALI-2 Only)
								10	1000 lm	DS	DALI-2 (Static CCT) <sup>1</sup>	AWN	Athena Wireless Node
								12	1250 lm	DT	DALI-2 (Tunable White) <sup>2,3</sup>		
								15	1500 lm				
								20	2000 lm				
								25	2500 lm				
								30	3000 lm				
								35	3500 lm				

### LIGHT MODULE

PRODUCT CODE		LUMENS		CRI		CCT		BEAM SPREAD		DIMMING	
MA				9						A	
MA	Adjustable Module	07	750 lm	9	93 CRI	27	2700K	NS	Narrow Spot (15°) <sup>4</sup>	A	Alternate
		10	1000 lm			30	3000K	SP	Spot (25°)		
		12	1250 lm			35	3500K	FL	Flood (40°)		
		15	1500 lm			40	4000K	NH	Narrow Spot Hex Louver <sup>4</sup>		
		20	2000 lm			3W	Warm Dim (3000–1800K) <sup>2,5</sup>	SH	Spot Hex Louver <sup>1</sup>		
		25	2500 lm			T2	Tunable White (6500–2700K) <sup>2,3,6</sup>	FH	Flood Hex Louver <sup>1</sup>		
		30	3000 lm								
		35	3500 lm								

### TRIM | STANDARD

PRODUCT CODE		FINISH		OPTION	
M4TSA	Standard Trim	WH	White	[Blank]	None
M4TSP	Pinhole Trim <sup>3,7</sup>	BK	Black	FL	Flangeless <sup>8</sup>
		CW	Clear Diffuse, White Flange		
		CC	Custom Color (RAL)		

<sup>1</sup> Not available for 3500 lm

<sup>2</sup> Not available in NS beam spread

<sup>3</sup> Only available in 750 - 1500 lm

<sup>4</sup> Only available in 750 - 2000 lm

<sup>5</sup> Only available in 1000 lm

<sup>6</sup> Only available in DALI-2

<sup>7</sup> Only available in White, Black or Custom Color finish

<sup>8</sup> Mud Plate Required for FL install except wood ceiling; Not available in Clear Diffuse finish

### ACCESSORIES

M4XSMUD	Flangeless Mud Plate (Required for Flangeless Trim drywall installation)
M4KSTEMPLATE	Flangeless Wood Template (Recommended for Flangeless Trim wood installation)

## PRODUCT BUILDER | SQUARE | DOWNLIGHT | EMERGENCY

### HOUSING

PRODUCT CODE		INSTALLATION		SHAPE		RATING		OUTPUT		DIMMING		WIRELESS		OPTION	
M4		NC		S		N									
M4	4" Housing	NC	New Construction	S	Square	N	Non-IC	07	750 lm	O	0-10V	[Blank]	None (DALI-2 Only)	EMS	Emergency driver, Remote switch
								10	1000 lm	DS	DALI-2 Static CCT <sup>1</sup>	AWN	Athena Wireless Node		
								12	1250 lm	DT	DALI-2 Tunable White CCT <sup>2,3</sup>				
								15	1500 lm						
								20	2000 lm						
								25	2500 lm						
								30	3000 lm						
								35	3500 lm						

### LIGHT MODULE

PRODUCT CODE		LUMENS		CRI		CCT		BEAM SPREAD		DIMMING	
MA				9						A	
MA	Adjustable Module	07	750 lm	9	93 CRI	27	2700K	NS	Narrow Spot (15°) <sup>4</sup>	A	Alternate
		10	1000 lm			30	3000K	SP	Spot (25°)		
		12	1250 lm			35	3500K	FL	Flood (40°)		
		15	1500 lm			40	4000K	NH	Narrow Spot Hex Louver <sup>4</sup>		
		20	2000 lm			3W	Warm Dim (3000–1800K) <sup>2,5</sup>	SH	Spot Hex Louver <sup>1</sup>		
		25	2500 lm			T2	Tunable White (6500–2700K) <sup>2,3,6</sup>	FH	Flood Hex Louver <sup>1</sup>		
		30	3000 lm								
		35	3500 lm								

### TRIM | STANDARD

PRODUCT CODE		FINISH		OPTION	
M4TSA	Standard Trim	WH	White	[Blank]	None
M4TSP	Pinhole Trim <sup>3,7</sup>	BK	Black	FL	Flangeless <sup>8</sup>
		CW	Clear Diffuse, White Flange		
		CC	Custom Color (RAL)		

<sup>1</sup> Not available in 3500 lm

<sup>2</sup> Not available in NS beam spread

<sup>3</sup> Only available in 750 - 1500 lm

<sup>4</sup> Only available in 750 - 2000 lm

<sup>5</sup> Only available in 1000 lm

<sup>6</sup> Only available in DALI-2

<sup>7</sup> Only available in White, Black or Custom Color finish

<sup>8</sup> Mud Plate required for FL Install except for wood ceiling; Not available in Clear Diffuse finish

### ACCESSORIES

M4XSMUD	Flangeless Mud Plate (Required for Flangeless Trim drywall installation)
M4KSTEMPLATE	Flangeless Wood Template (Recommended for Flangeless Trim wood installation)

## MODULE



## 4" Adjustable

MA

### SUMMARY

**INPUT VOLTAGE:** 120/277V, 50/60Hz

**COLOR QUALITY:** 93 CRI <sup>1</sup>

**MAX INPUT CURRENT (120V):** 0.350 amps

**MAX INPUT CURRENT (277V):** 0.165 amps

**AC CONNECTOR:** 6 pin Molex

**DC CONNECTOR:** Male 4-Pin Low Voltage Connector

**POWER FACTOR:** Greater than 0.9

**TOTAL HARMONIC DISTORTION:** Less than 20%

**AMBIENT OPERATING TEMPERATURE:** -20°C to 40°C

**LISTINGS:** ENERGY STAR® qualified <sup>2</sup>, UL Listed for Damp Location (Under covered ceilings only), UL Certified US•CA, Declare, RoHS Compliant, NSF/ANSI 2 listed, suitable for splash zone <sup>3</sup>, DALI-2 Compliant, Compliant to FCC Title 47 Part 15; Class B

**WARRANTY:** 5 year limited warranty; 50,000 hours at 70% lumen maintenance

<sup>1</sup> Tested in accordance to IESNA LM-79-2008

<sup>2</sup> Refer to ENERGY STAR Certified light fixtures database

<sup>3</sup> White and Black Finish only

## MODULE PERFORMANCE

Based on 93 CRI, 3000K Module + STD White + Trim (M4TSAWH)

(Please refer to IES files for other trim types)

		STATIC CCT							WARM DIM	T2	
LED CHIP		CREE 93 CRI							Bridgelux 93 CRI		
SDCM		2-STEP							3-STEP		
		07	10	12	15	20	25	30	35	10	07
NS	Lumens	417	567	645	739	1024	N/A				
	LPW <sup>1</sup>	43.9	45.5	45.1	44.8	47.8					
	CBCP <sup>2</sup>	1900	2591	2937	3368	4664					
	UGR <sup>3</sup>	3.1	4.2	4.6	5.1	6.2					
SP	Lumens	424	578.7	656	752	1042	1605	1975	2346	515	637
	LPW	44.7	46.3	45.9	45.6	42.5	58.4	58.1	57.9	41.2	43.9
	CBCP	1224	1668.5	1891	2169	3003	3904	4805	5707	1485	1835
	UGR	4.4	5.5	6	6.4	7.6	12.3	13	13.6	5.1	5.9
FL	Lumens	328	447	507	581	805	1498	1845	2191	507	627
	LPW	34.5	35.8	35.4	35.2	32.9	54.5	54.3	54.1	40.6	43.2
	CBCP	658	898	1017	1167	1616	2667	3283	3899	819	1012
	UGR	1.9	3	3.4	3.9	5	11	11.7	12.3	8.1	8.8

CCT MULTIPLIER	STATIC				WARM DIM		T2 TUNABLE WHITE		
	2700K	3000K	3500K	4000K	1800K	3000K	2700K	3000K	6500K
	0.93	1	1.05	1.07	0.05	1	0.96	1	1.07

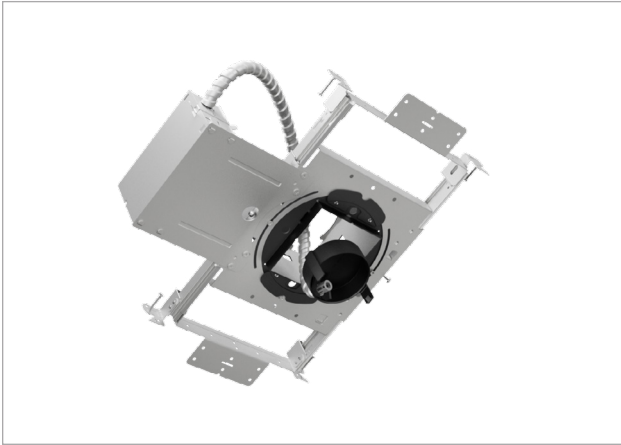
HEX LOUVER MULTIPLIER	0.6
EMERGENCY BATTERY MULTIPLIER	LPW x 5

<sup>1</sup> LPW: Lumens per watt

<sup>2</sup> CBCP: Center beam candlepower

<sup>3</sup> UGR: Unified glare ratio (0.7/0.5/0.2, 4H/8H)

## HOUSING



## New Construction

M4NCSN

## SUMMARY

**JUNCTION BOX:** Equipped with 6 knockouts: two 1/2" and two 3/4" trade size knockouts on top, two 1/2" trade size knockouts on side. Approved for 8 (four in, four out) #12 AWG 70°C

**BAR HANGER MOUNTING:** Adjustable Bar Hangers for 14"-24" joist spacing compatible with traditional joists, Armstrong ceiling™, Hat Channel, T-Bar

**CEILING:** Thickness ranging from 1/2" to 2"

**CUTOUT:** 4" (101mm) square opening

**WARRANTY:** 5 year limited warranty

## ALTERNATE DIMMING SPECIFICATIONS

**INPUT VOLTAGE:** 120/277V, 50/60Hz

**MAX INPUT CURRENT (120V):** 0.130 amps

**MAX INPUT CURRENT (277V):** 0.065 amps

**POWER FACTOR:** Greater than 0.9

**TOTAL HARMONIC DISTORTION:** Less than 20%

**LISTINGS:** Compliant to FCC Title 47 Part 15; Class B

## EMERGENCY BATTERY SPECIFICATIONS

**EMERGENCY BATTERY :** Emergency Battery Back up is designed to provide output for 90 minutes when in an emergency state

**INPUT VOLTAGE:** 120/277V 50/60Hz

**ILLUMINATION TIME:** 90min

**CUTOUT:** 4 1/4" (107mm) square opening

**WATTAGE IN EM STATE:** 5W

**LUMEN OUTPUT IN EM STATE:** LPW x 5

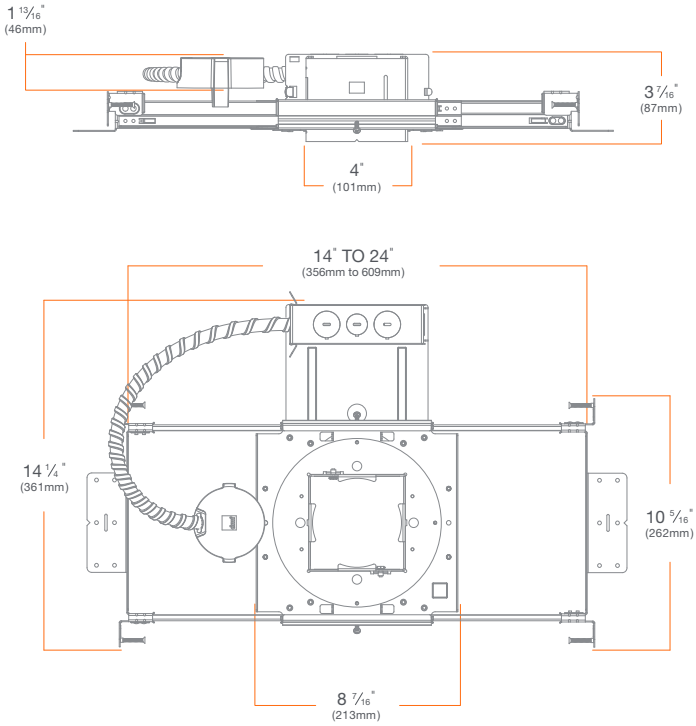
## TEST SWITCH OPTIONS:

- **REMOTE TEST SWITCH(-EMS HOUSING):** Must be installed according to local code can be used with any flanged, flangeless, or decorative trim type

New Construction

M4NCSN

(Dimensions not including module)

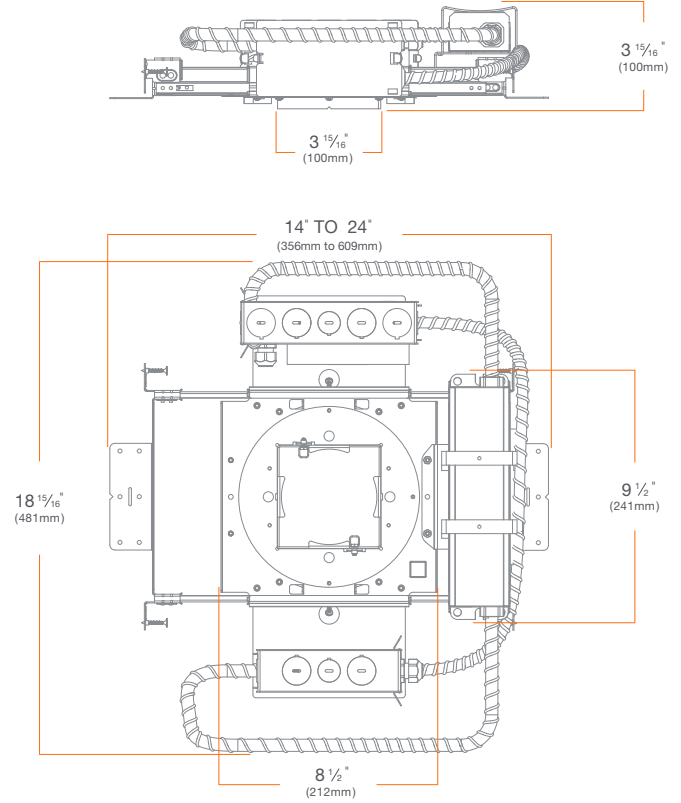


Emergency Lighting

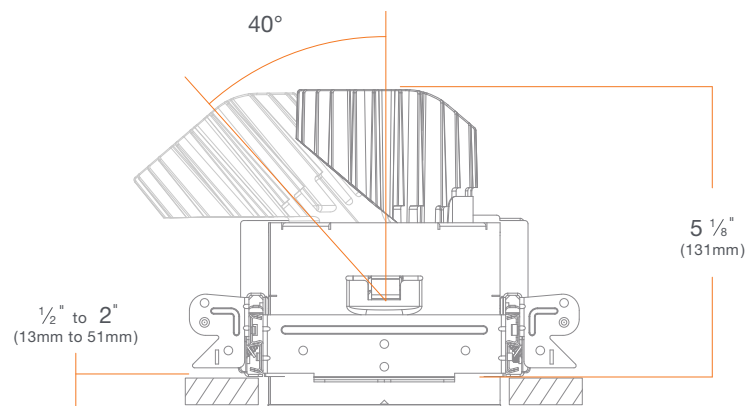
M4NCSNxxxEMS

M4NCSNxxxAWNEMS

(Dimensions not including module)



Total Height in Plenum



**New Construction**    Static DALI/Lutron Athena Node

**M4NCSNxxDS**  
**M4NCSNxxOAWN**  
**M4NCSNxxDSAWN**

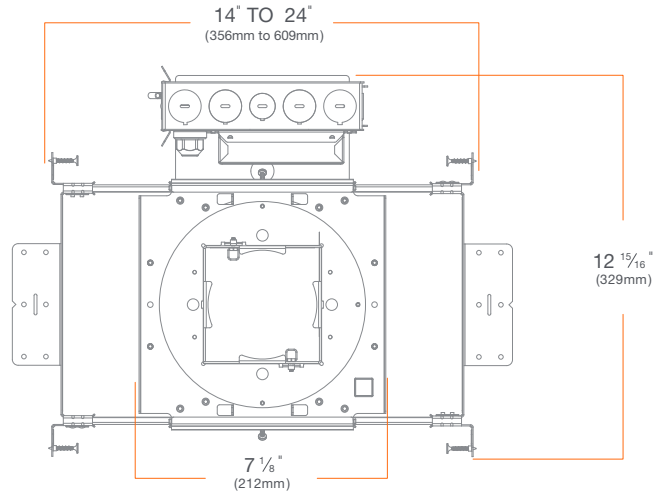
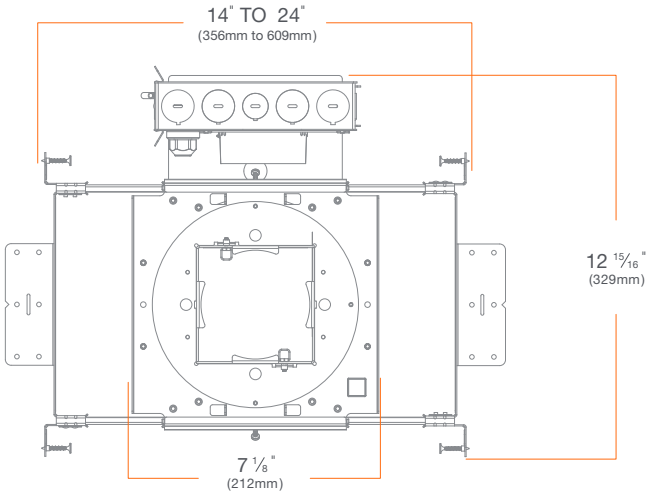
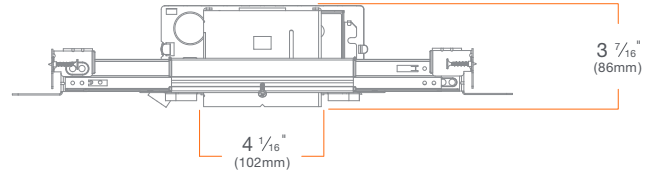
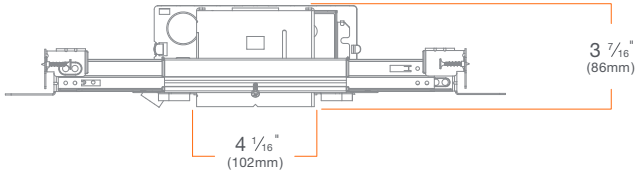
(Dimensions not including module)

**New Construction**

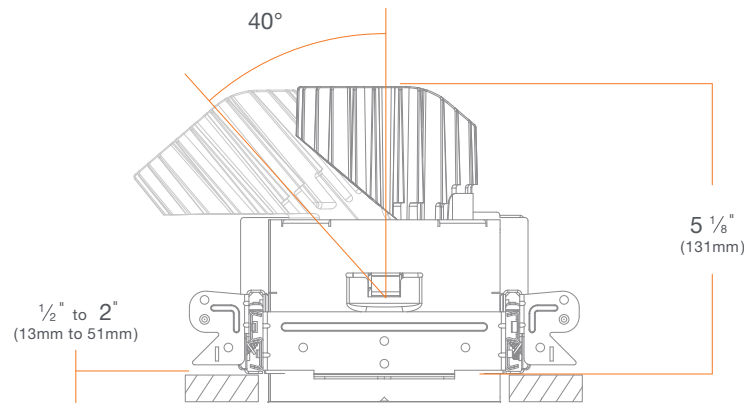
Tunable White DALI-2

**M4NCSNxxDT**

(Dimensions not including module)

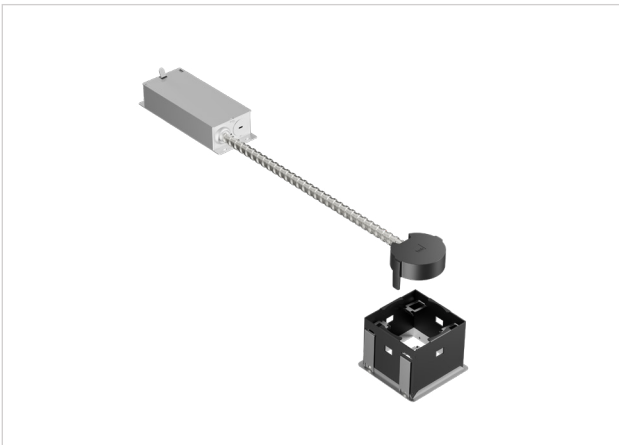


**Total Height in Plenum**



## HOUSING

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## Remodel

**M4RMSN**

### SUMMARY

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**JUNCTION BOX:** Equipped with 3 knockouts: two ½" trade size and one ¾" trade size knockouts #12 AWG 70°C. Approved for 4 (2 in and 2 out)

**CEILING:** ½" up to 1 ¼"

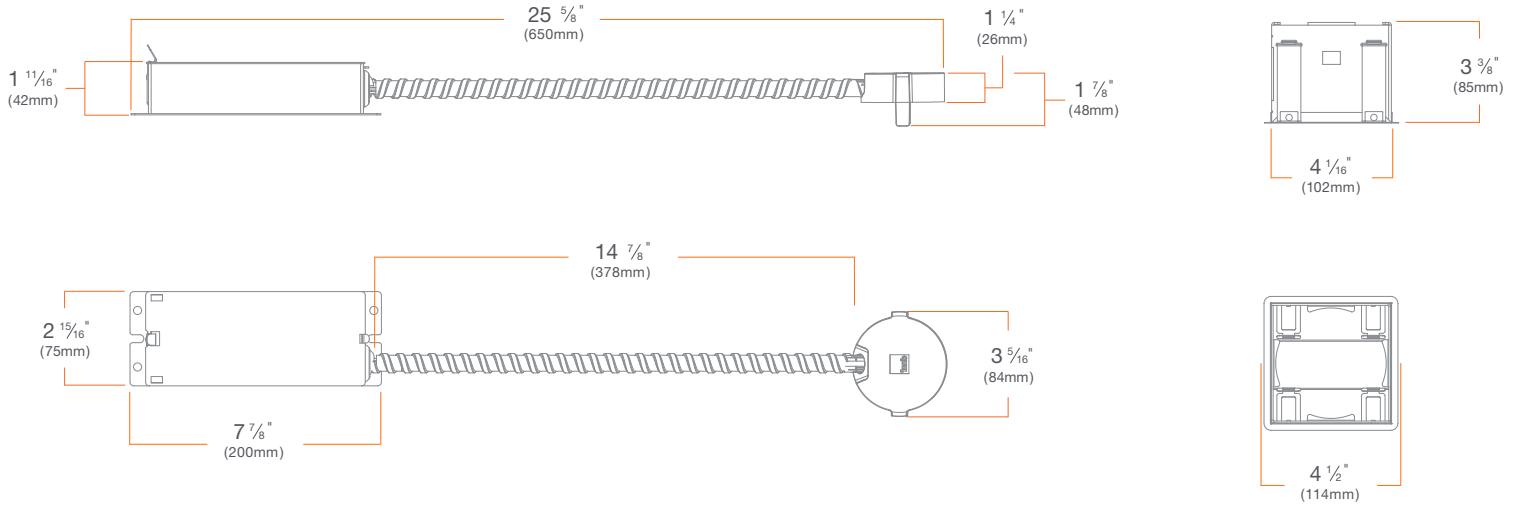
**CUTOUT:** 4 ¼" (106mm) square opening

**WARRANTY:** 5 year limited warranty

### Standard

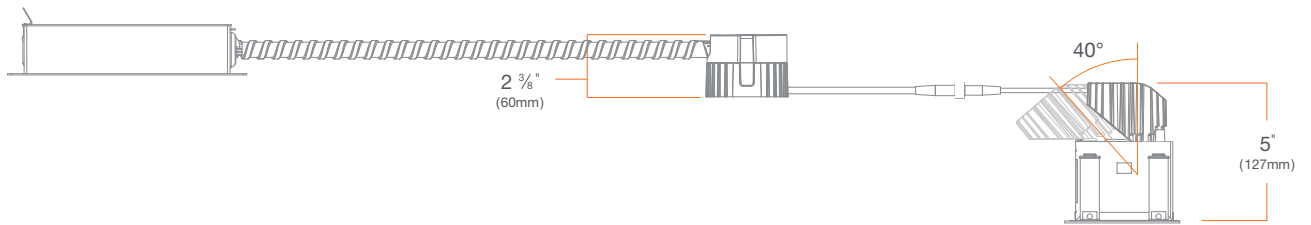
#### M4RMSN

(Dimensions not including module)

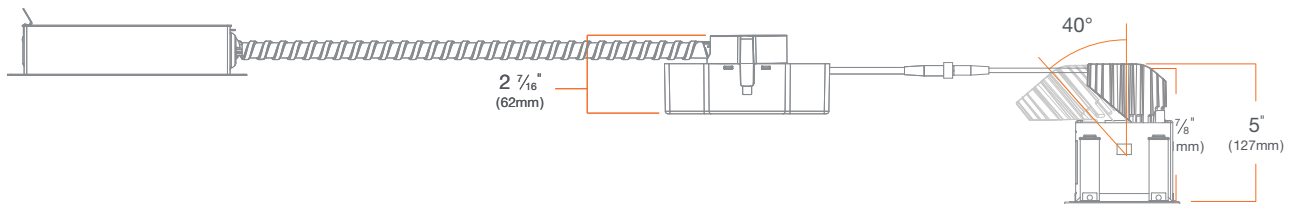


### Total Height in Plenum

#### Low Lumen



#### High Lumen



## TRIMS



### 4" Square Trims

M4TS

#### SUMMARY

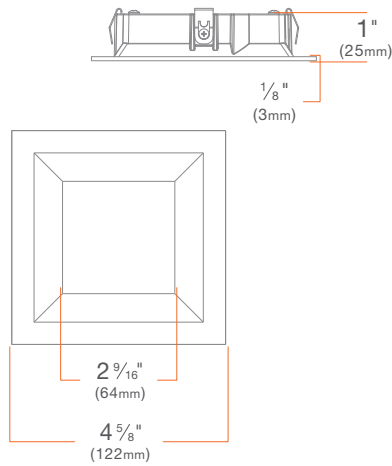
**CONSTRUCTION:** Die-cast aluminum

**DECORATIVE:** Acrylic diffuser

**INSTALLATION:** Twist & Lock

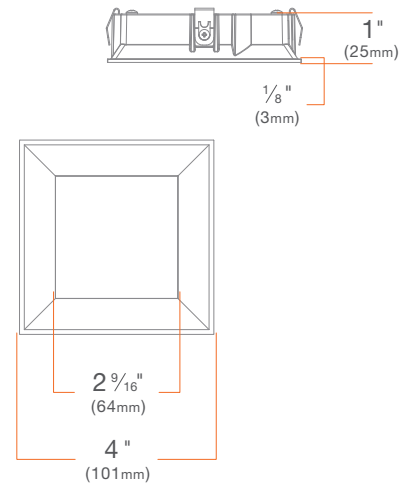
### Standard Adjustable

M4TSAWH



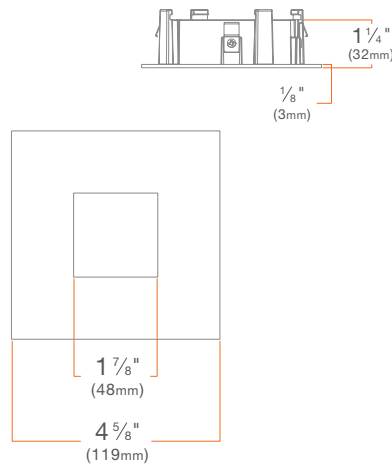
### Flangeless Adjustable

M4TSAWHFL



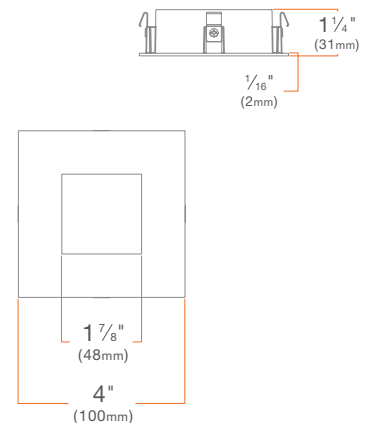
### Pinhole

M4TSPWH



### Pinhole Flangeless

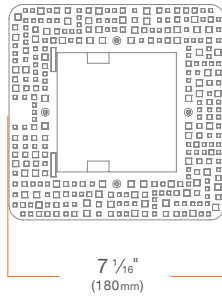
M4TSPWHFL



## ACCESSORIES

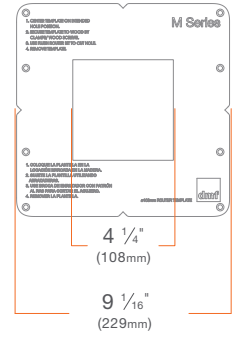
### Flangeless Mud Plate

#### M4XSMUD



### Router Template

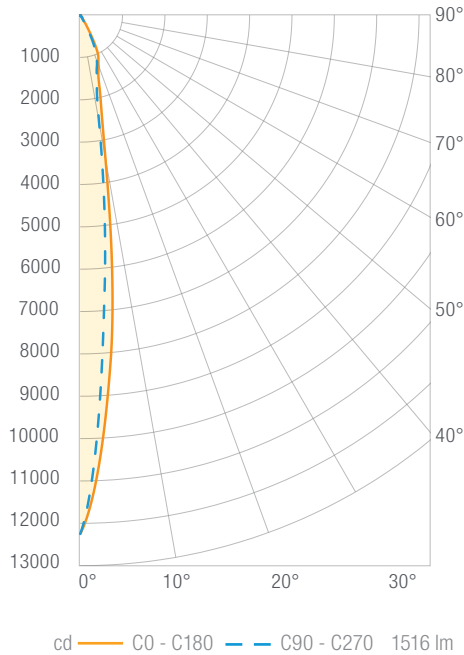
#### M4KSTEMPLATE



## PHOTOMETRY

### MA 2000 lm, 3000K, Narrow Spot

MA20930NS | M4TSAWH



Luminous Intensity

Gamma	C 0°
0°	12252
5°	8229
10°	3435
15°	1758
20°	1267
25°	969
30°	363
35°	100
40°	75
45°	19
50°	8
55°	3
60°	3
65°	2
70°	1
75°	1
80°	0
85°	0
90°	0

Values in candela

Zonal Lumen Summary

Zone	Lumens	Luminaire %
0-30	1389	92
0-40	1491	98
0-60	1513	100
0-90	1516	100
0-180	1516	100

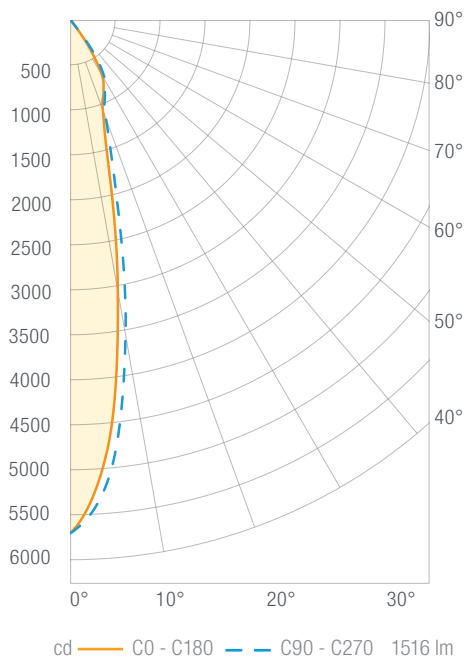
Illuminance Chart

Distance from LED	Foot Candles	Diameter
3'	1361.3	0.8'
6'	340.3	1.5'
9'	151.3	2.3'
12'	85.1	3.0'

Beam Angle: 14° x 11°

### MA 2000 lm, 3000K, Spot

MA20930SP | M4TSAWH



Luminous Intensity

Gamma	C 0°
0°	5707
5°	4786
10°	3061
15°	1636
20°	1068
25°	883
30°	713
35°	357
40°	71
45°	33
50°	16
55°	6
60°	4
65°	3
70°	2
75°	1
80°	1
85°	0
90°	0

Values in candela

Zonal Lumen Summary

Zone	Lumens	Luminaire %
0-30	1312	87
0-40	1476	97
0-60	1511	100.8
0-90	1516	100
0-180	1516	100

Illuminance Chart

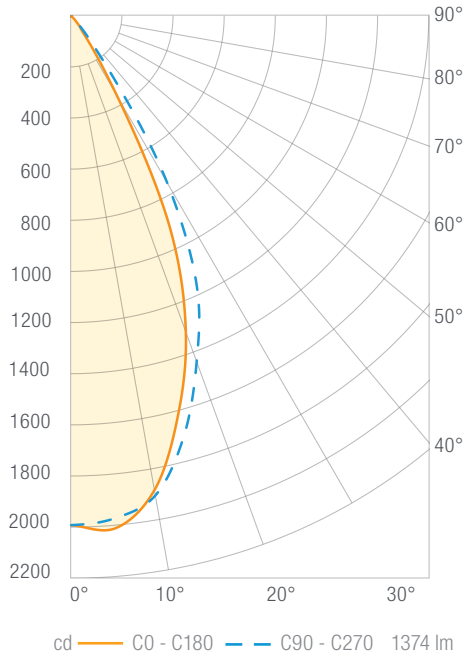
Distance from LED	Foot Candles	Diameter
3'	634.2	1.1'
6'	158.5	2.3'
9'	70.5	3.4'
12'	39.6	4.5'

Beam Angle: 21° x 24°

## PHOTOMETRY

### MA 2000 lm, 3000K, Flood

MA20930FL | M4TSAWH



#### Luminous Intensity

Gamma	C 0°
0°	1992
5°	1992
10°	1992
15°	1620
20°	1316
25°	923
30°	364
35°	109
40°	52
45°	23
50°	8
55°	3
60°	3
65°	3
70°	1
75°	1
80°	1
85°	0
90°	0

Values in candela

#### Zonal Lumen Summary

Zone	Lumens	Luminaire %
0-30	1139	83
0-40	1339	97
0-60	1371	100
0-90	1374	100
0-180	1374	100

#### Illuminance Chart

Distance from LED	Foot Candles	Diameter
3'	221.4	2.7'
6'	55.3	5.3'
9'	24.6	8.0'
12'	13.8	10.6'

Beam Angle: 48° x 54°