

RAIL 4 RM4DI

LED . BED LIGHT . DIRECT / INDIRECT



FEATURES

- Two Pull Chain options available to control Reading and Ambient lighting
- Option for Antimicrobial finish
- Internal drivers
- Optional Illuminated by BIOS version for Healthy Lighting and Well Building Applications

ORDERING LOGIC

Example Part Number: RM4DI-2L35K-4-MBMB-AM-L31-W-1-PC4-90

RM4DI		4					W			
1	2	3	4	5	6	7	8	9	10	11
1. SERIES RM4DI	2. COLOR TEMP 2L30K 3000K 2L35K 3500K 2L40K 4000K 90 CRI is available under OPTIONS BIOS is available under OPTIONS. See p2 for BIOS Naming Convention Reference	3. LENGTH 4 4 ft	4. OPTICS MBMB UP: Meta Blanc DOWN: Meta Blanc MAMA UP: Meta Ice Asymmetric DOWN: Meta Ice Asymmetric Meta Blanc: Opal diffuse lens Meta Ice: High output semi-diffuse lens				5. FINISH W White AM Antimicrobial White C Custom Finish Specify RAL:		6. LIGHT LEVEL / DRIVER L1 L2 L3 L4 Select Driver below. See Light Level Performance chart on page 2.	
7. CIRCUITRY 1 1 Circuit UD Up/Down Switching (2 Circuits) EM (Emergency / Night Light)	8. MOUNTING W Wall	9. VOLTAGE 1 120 V 2 277 V 3 347 V 4 UNV (120 - 277V)	10. CONTROLS / SENSORS PC2 2 Position Pull Chain - Reading (PC2 Pull chain controls Direct. Wall switch** controls Indirect. Requires two wire entries.) PC4 4 Position Pull Chain - Reading & Ambient (PC4 Pull chain controls Direct and Indirect. Requires one wire entry) _ None (leave space empty)				11. OPTIONS 90 90 CRI, High R9 BS BIOS Static BD BIOS Dynamic _ None (leave space empty)			

*Consult factory. | ** Wall switch provided by others. | † Not available with BIOS*

Select Driver:

- Factory option 0-10V, 1% Dimming
- LHE** Lutron H-Series Hi-lume 1% EcoSystem LED Driver
- LA2** Lutron A-Series Hi-lume 1% 2-wire LED Driver
- L5E** Lutron 5-Series EcoSystem LED Driver

PART #:	
PREP BY:	DATE:
PROJECT:	
NOTES:	
APPROVAL SIGNATURE:	DATE (DD/MM/YYYY):

PERFORMANCE SUMMARY @ 3500K

		MBMB (UP: Meta Blanc / DOWN: Meta Blanc)	MAMA (UP: Meta Ice Asymmetric / DOWN: Meta Ice Asymmetric)
		L3	
Lumens per foot	80 CRI	1274	1402
	90 CRI	1115	1234
Distribution (Up / Down %)		51 / 49	52 / 48
Wattage per foot		12.1	12.0
Efficacy	80 CRI	106	117
	90 CRI	92	103
L70 Estimate (h)		≥ 60,000 hrs	

See page 2 for the complete Light Level Performance chart.

Light Level Performance

3500K, 80 CRI, 0-10V Dimming (Standard)

Optics	MBMB (UP: Meta Blanc / DOWN: Meta Blanc)			MAMA (UP: Meta Ice Asymmetric / DOWN: Meta Ice Asymmetric)		
	Lumens per foot	Wattage per foot	Efficacy (lm/W)	Lumens per foot	Wattage per foot	Efficacy (lm/W)
L1	749	7.0	107	768	6.8	113
L2	937	8.9	106	979	8.7	113
L3	1274	12.1	106	1402	12.0	117
L4	2363	25.0	95	2689	23.9	113
Distribution % (Up / Down)	51 / 49			52 / 48		

Standard Lumen Adjustment Factor

Color Temp	80 CRI	90 CRI
3000K	0.984	0.880
3500K	1.000	0.875
4000K	1.032	0.879

BIOS 3500K

		MBMB (UP: Meta Blanc / DOWN: Meta Blanc)			MAMA (UP: Meta Ice Asymmetric / DOWN: Meta Ice Asymmetric)		
		Lumens per foot	Wattage per foot	Efficacy (lm/W)	Lumens per foot	Wattage per foot	Efficacy (lm/W)
Static	L2	1244	18.9	66	1300	18.9	69
	L3	1659	26.6	62	1733	26.6	65
	L4	2016	34.4	59	2106	34.4	61
Dynamic	L2	1119	18.9	59	1170	18.9	62
	L3	1493	26.6	56	1560	26.6	59
	L4	1814	34.4	53	1896	34.4	55
Distribution % (Up / Down)		51 / 49			52 / 48		

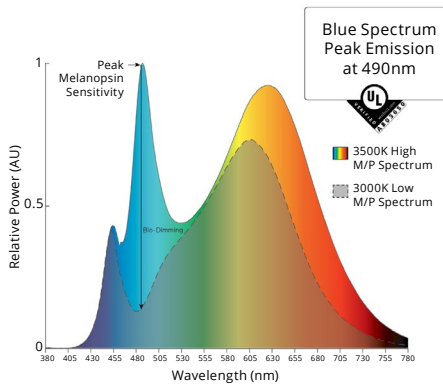
BIOS Lumen Adjustment Factor(LAF)

Color Temp	LAF
3500K	1.00
4000K	1.05

BIOS Naming Convention Reference

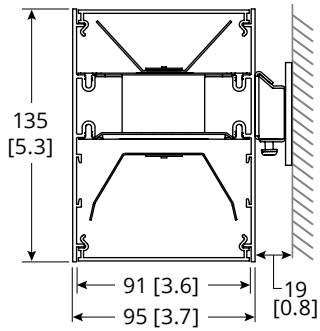
BIOS	Static	
	3500K	35BIOSST
Dynamic	4000K	40BIOSST
	3500K	35BIOSDY
Dynamic	4000K	40BIOSDY

* EML or M/P is a ratio that describes the relative melanopic lux (M) versus the photopic lux (P). BIOS provides the following m/p values: 3000K = 0.7, 3500K = 0.8, 4000K = 0.9. ** COI - Cyanosis Observation Index.

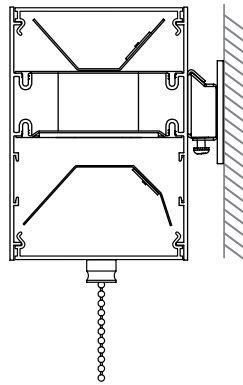


Metalumen's light level performance metrics are subject to manufacturers component tolerances.

CROSS SECTIONS

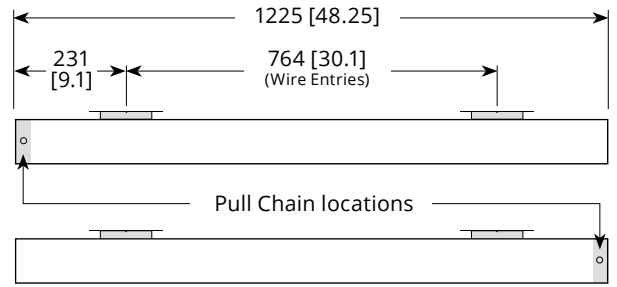


UP: Meta Blanc
DOWN: Meta Blanc



UP: Meta Ice Asymmetric
DOWN: Meta Ice Asymmetric

BODY



4 Position Pull Chain requires one (1) wire entry.
2 Position Pull Chain requires two (2) wire entries.

SPECIFICATIONS

Due to the Continuous Improvement Policy at Metalumen, we reserve the right to change our specifications without notice.

Housing: Rigid extruded aluminum body, 2.0mm (0.08”) nominal wall thickness. Aluminum end caps.
Optical System: Metalumen luminaires are designed to utilize leading edge LED technology combined with luminaire optimized reflectors and our custom diffusers, resulting in industry leading optical performance.
BIOS LED: BIOS SkyBlue® solutions have a peak wavelength at 490nm to provide an enhanced spectrum with high M/P (melanopic to photopic)

ratios while also providing a low Cyanosis Observation Index (COI), making it ideally suited for Healthcare and Healthy Lighting projects. BIOS® SkyBlue® lighting solutions also contribute to satisfying Circadian Lighting Design Feature for WELL Building Standard v1 and v2.
CRI: 83+ for 3500K, 80 minimum for all CCTs in standard configurations.
Lumen Maintenance: Minimum 50,000h with TM-21 lumen maintenance of 85% @ 25°C ambient

temperature (calculated based on IESNA LM-80-08 LED test data). L70: ≥ 60 000hrs.
Finish: White and antimicrobial white are standard options. For custom finish, contact factory.
Mounting: Mounting plate provided.
Electrical: Factory prewired with easy wire quick connect sections.
Drivers: Metalumen offers 0-10V dimming* as a standard on our entire LED product offering. Dimming range is 1%-100%. Power factor is > 90%. Class

2 rating. Drivers are integral.
Approvals: All components are UL/ CSA/QPS recognized or listed. RoHS compliant. cULus listed.
Environment: Suitable for dry or damp locations.
**Standard drivers compatible with passive/ sinking dimmers. Please contact Metalumen if active/sourcing dimmer support is required.*

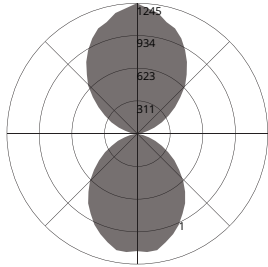
WARRANTY

Metalumen will warrant defective luminaires for 5 years from date of purchase. Warranty is valid if luminaire is installed and used according to specification. If defective, Metalumen will send replacement boards or drivers at no cost along with detailed replacement instructions and instructions on how to return defective components to Metalumen.

PHOTOMETRIC DATA - 3500K, 80 CRI

Optics Up: **Meta Blanc**
 Optics Down: **Meta Blanc**
 IES File: **RM4DI-2L35K-4-MBMB-L3**
 Lumens: **1274/ft** Wattage: **12.1/ft**
 Efficacy: **106 lm/W**

PHOTOMETRIC CURVE
 51% Up
 49% Down



ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-20	403	7.9
0-30	830	16.3
0-40	1309	25.6
0-60	2117	41.5
0-80	2470	48.4
0-90	2498	48.9
10-90	2391	46.8
20-40	907	17.8
20-50	1355	26.5
40-70	1045	20.5
60-80	353	6.9
70-80	115	2.3
80-90	28	0.5
90-110	132	2.6
90-120	375	7.3
90-130	751	14.7
90-150	1731	33.9
90-180	2607	51.1
110-180	2475	48.5
0-180	5105	100.0

COEFFICIENTS OF UTILIZATION

Zonal Cavity Method | Effective Floor Cavity Reflectance = .20

RC	80				70				50			
	RW	70	50	30	10	70	50	30	10	50	30	10
RCR												
0	106	106	106	106	98	98	98	98	81	81	81	
1	97	93	89	85	89	85	82	79	71	69	67	
2	88	81	75	70	81	75	69	65	63	59	55	
3	81	71	64	58	74	66	59	54	55	51	47	
4	74	63	55	49	68	58	52	46	49	44	40	
5	68	56	48	43	62	52	45	40	44	39	35	
6	63	51	43	37	57	47	40	35	40	34	30	
7	58	46	38	32	53	43	36	31	36	31	27	
8	54	42	34	29	49	39	32	27	33	28	24	
9	50	38	31	26	46	35	29	24	30	25	21	
10	47	35	28	23	43	33	26	22	28	23	19	

CANDELA DISTRIBUTION

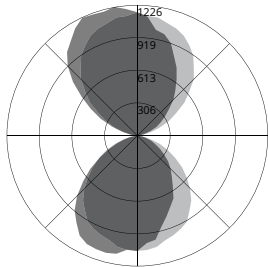
Vertical Angle	Horizontal Angle			
	0	22.5	45	67.5 90
0	1114	1114	1114	1114
10	1121	1090	1085	1101 1099
20	1013	1001	987	987 985
30	874	879	856	832 819
40	716	707	673	646 643
50	527	516	491	464 451
60	347	342	314	290 286
70	189	184	170	153 145
80	65	61	55	51 50
90	4	3	2	2 3
100	57	54	48	44 42
110	180	178	166	157 151
120	352	341	325	312 313
130	544	541	514	492 486
140	739	736	711	693 685
150	923	919	898	885 882
160	1068	1051	1052	1048 1033
170	1171	1151	1154	1149 1142
180	1245	1245	1245	1245

LUMINANCE DATA (CD/M²)

Vertical Angle	Horizontal Angle		
	0	45	90
45	6785	3356	2698
55	5602	2338	1768
65	4291	1432	1063
75	2799	698	472
85	1096	154	111

Optics Up: **Meta Ice Asymmetric**
 Optics Down: **Meta Ice Asymmetric**
 IES File: **RM4DI-2L35K-4-MAMA-L3**
 Lumens: **1402/ft** Wattage: **12.0/ft**
 Efficacy: **117 lm/W**

PHOTOMETRIC CURVE
 52% Up
 48% Down



ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-20	390	6.9
0-30	826	14.7
0-40	1343	23.9
0-60	2264	40.3
0-80	2672	47.6
0-90	2703	48.1
10-90	2602	46.3
20-40	953	17
20-50	1462	26
40-70	1197	21.3
60-80	408	7.3
70-80	132	2.4
80-90	31	0.5
90-110	163	2.9
90-120	462	8.2
90-130	914	16.3
90-150	2025	36.1
90-180	2914	51.9
110-180	2752	49
0-180	5617	100

COEFFICIENTS OF UTILIZATION

Zonal Cavity Method | Effective Floor Cavity Reflectance = .20

RC	80				70				50			
	RW	70	50	30	10	70	50	30	10	50	30	10
RCR												
0	107	107	107	107	98	98	98	98	82	82	82	
1	98	94	90	86	90	86	83	80	73	70	68	
2	89	82	76	71	82	76	71	66	64	60	57	
3	81	72	65	59	75	67	60	55	57	52	48	
4	75	64	56	50	68	59	52	47	50	45	41	
5	68	57	49	43	63	53	46	41	45	40	35	
6	63	51	43	37	58	48	40	35	41	35	31	
7	58	46	38	33	54	43	36	31	37	31	27	
8	54	42	34	29	50	39	32	27	34	28	24	
9	50	38	31	26	46	36	29	24	31	25	22	
10	47	35	28	23	43	33	26	22	28	23	20	

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angle			
	0	22.5	45	67.5 90
0	1079	1079	1079	1079
10	987	972	998	1027 1056
20	802	841	890	937 990
30	679	695	726	839 930
40	504	535	586	682 788
50	376	383	424	510 603
60	246	253	280	336 409
70	138	142	156	181 222
80	52	54	54	63 76
90	4	3	4	3 4
100	36	40	45	55 69
110	133	134	150	179 221
120	251	254	289	350 417
130	391	411	458	536 631
140	555	575	630	728 826
150	739	752	795	882 976
160	920	906	943	992 1070
170	1007	1030	1060	1089 1125
180	1157	1157	1157	1157

LUMINANCE DATA (CD/M²)

Vertical Angle	Horizontal Angle		
	0	45	90
45	2035	2665	6370
55	1440	1849	5474
65	904	1217	4301
75	451	629	2716
85	129	168	923

■ Vertical Plane Through Horizontal Angles (0-180)
 ■ Vertical Plane Through Horizontal Angles (90-270)

Photometric performance is measured and scaled in accordance with IESNA LM-79.