

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: METALUX

Report Number: P893488

Luminaire Tested: 4MB-4SL-ASMF-UNV-L950

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893488  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2407-185-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-4SL-ASMF-UNV-L950  
Description: 4000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 5000K CCT  
Light Source: -  
Ballast/Driver: -

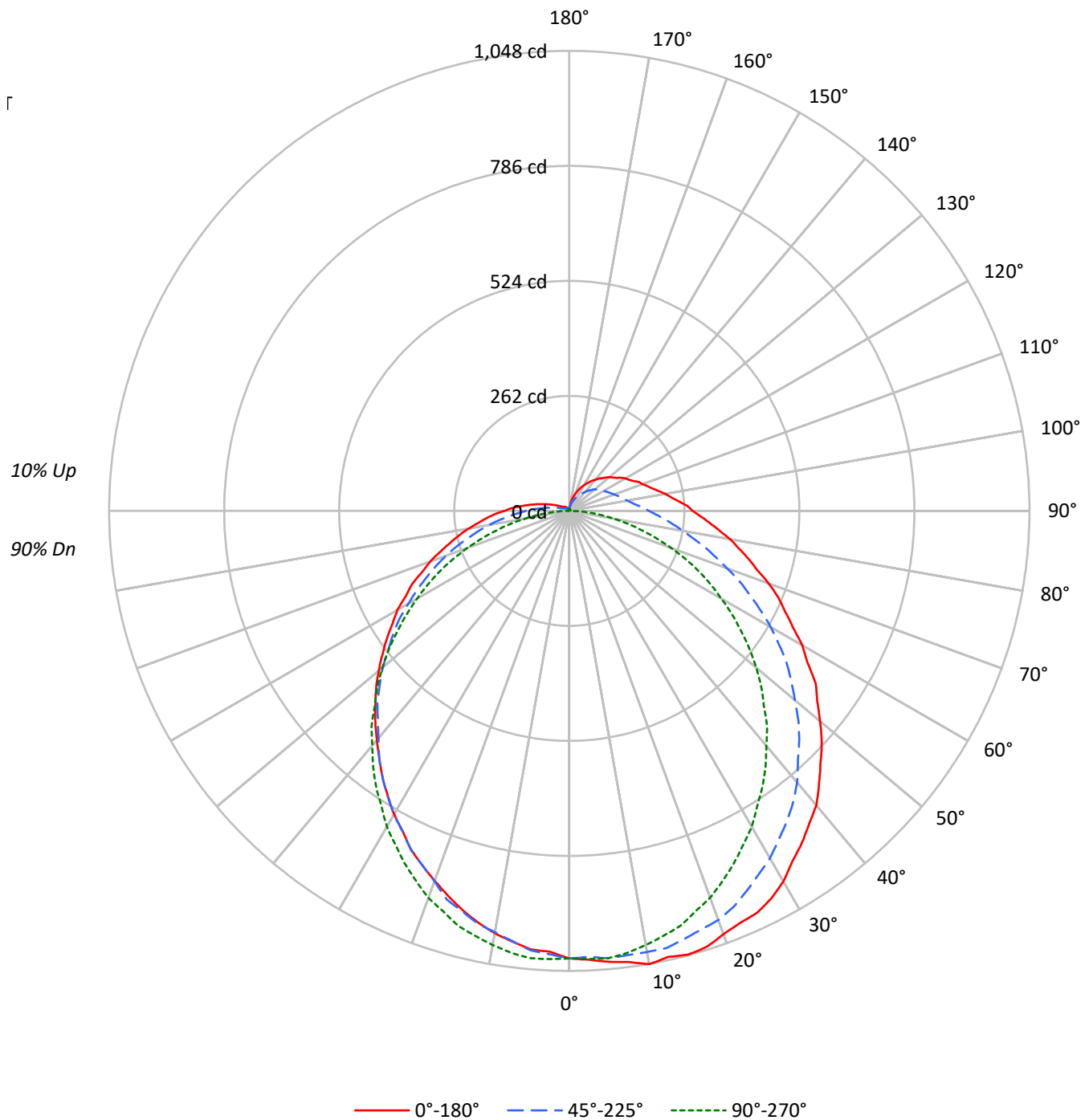
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3505.0 lumens  
Efficiency: N/A  
Efficacy: 117.6 lumens/watt  
Spacing Criteria (0/90/45): 1.28 / 1.21 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 3.98' x H: 0.12')  
CIE Type: Direct

Input Watts (W): 29.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.99  
Total Harmonic Distortion (THDi): 5.5  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20				
RC	80				70				50				30				10			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93	93	93	93	90
1	105	99	95	90	101	96	92	88	90	87	83	85	82	79	79	77	75	75	75	75	72
2	95	86	79	72	91	83	76	71	78	72	68	73	69	65	69	65	62	62	62	62	59
3	86	75	66	60	83	73	65	58	68	62	56	64	59	54	60	56	52	52	52	52	49
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	44	44	44	44	42
5	72	59	50	43	69	57	49	42	54	47	41	51	45	40	48	43	38	38	38	38	36
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	34	34	34	31
7	62	48	39	33	59	47	38	32	44	37	32	42	36	31	40	34	30	30	30	30	28
8	57	44	35	29	55	43	35	29	41	33	28	39	32	27	37	31	27	27	27	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	24	24	24	22
10	50	37	29	24	49	36	29	23	34	28	23	33	27	22	31	26	22	22	22	22	20

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	10383	10383	10383	10383	10383
5°	10513	10143	10045	9967	10222
10°	10783	9932	9589	9485	10049
15°	10942	9722	9163	9089	9839
20°	10995	9520	8678	8615	9607
25°	11194	9214	8168	8222	9434
30°	11263	8919	7684	7795	9219
35°	11236	8598	7173	7386	9023
40°	11337	8265	6651	6924	8828
45°	11302	7872	6136	6572	8719
50°	11388	7469	5640	6169	8649
55°	11642	7117	5072	5765	8619
60°	11836	6680	4490	5337	8733
65°	12246	6208	3900	4909	8929
70°	13245	5756	3197	4503	9235
75°	14884	5426	2446	4028	9876
80°	18498	5109	1639	3611	11594
85°	27651	5042	822	3179	16258

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 91063 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.7	2.8
10°-20°	277.2	7.9
20°-30°	418.0	11.9
30°-40°	501.8	14.3
40°-50°	522.5	14.9
50°-60°	484.3	13.8
60°-70°	398.9	11.4
70°-80°	287.7	8.2
80°-90°	182.7	5.2
90°-100°	112.6	3.2
100°-110°	75.1	2.1
110°-120°	53.5	1.5
120°-130°	39.2	1.1
130°-140°	26.9	0.8
140°-150°	16.4	0.5
150°-160°	8.1	0.2
160°-170°	3.0	0.1
170°-180°	0.5	0.0
0°-30°	792.0	22.6
0°-40°	1293.7	36.9
0°-60°	2300.5	65.6
0°-90°	3169.7	90.4
90°-120°	241.1	6.9
90°-150°	323.7	9.2
90°-180°	335.0	9.6
0°-180°	3505.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1020	1020	1020	1020	1020	
5°	1031	1023	1023	1005	1003	99
15°	1046	1010	979	944	941	295
25°	1011	956	886	853	852	465
35°	924	864	767	742	742	579
45°	809	741	626	618	624	626
55°	685	604	478	489	507	609
65°	542	454	325	359	396	540
75°	423	321	171	238	280	448
85°	322	218	45	138	189	273
90°	281	182	4	98	147	155
95°	250	153	2	66	114	199
105°	196	120	2	27	60	210
115°	161	99	3	13	28	161
125°	131	83	4	10	16	119
135°	105	66	4	8	12	82
145°	80	47	4	6	9	51
155°	55	31	4	4	6	26
165°	32	18	4	2	3	9
175°	5	8	5	2	0	1
180°	3	3	3	3	3	



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CATALOG NUMBER: 4MB-4SL-ASMF-UNV-L950

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1019.5	1019.5	1019.5	1019.5	1019.5	1019.5	1019.5	1019.5	1019.5
2.5°	1023.5	1026.6	1016.9	1023.0	1022.0	1023.0	1010.8	1021.0	1005.2
5°	1031.2	1032.7	1023.0	1026.6	1023.0	1014.4	1005.2	1001.6	1002.6
7.5°	1036.3	1044.4	1020.5	1021.5	1015.4	1006.2	988.9	991.9	989.9
10°	1048.5	1039.3	1020.5	1015.9	1004.2	994.5	974.6	976.1	977.1
12.5°	1040.9	1038.8	1020.0	1003.1	991.4	983.3	962.9	957.8	960.3
15°	1046.5	1037.8	1009.8	996.5	978.7	964.4	944.0	940.4	941.0
17.5°	1041.4	1034.2	999.6	981.2	956.2	947.6	928.2	922.1	919.0
20°	1026.1	1022.5	991.9	960.3	937.9	921.1	897.6	894.1	896.6
22.5°	1015.9	1007.2	976.6	945.0	912.4	897.6	874.2	873.7	874.2
25°	1010.8	999.6	955.7	922.6	886.4	873.2	852.8	845.1	851.8
27.5°	995.5	985.3	933.8	897.6	857.4	839.5	822.7	821.2	822.2
30°	975.1	955.2	913.9	869.6	830.9	812.5	798.7	788.5	798.2
32.5°	946.1	934.8	887.9	839.5	796.7	784.0	770.2	769.2	769.2
35°	923.6	915.5	863.5	813.0	767.1	749.8	741.7	738.1	741.7
37.5°	897.6	885.4	837.5	780.9	734.0	719.2	711.1	708.0	710.6
40°	875.2	852.8	806.9	747.8	697.8	684.6	675.9	679.0	681.5
42.5°	842.1	829.3	770.7	714.1	666.7	652.5	645.3	647.9	654.0
45°	809.4	797.7	740.6	679.0	626.5	618.8	618.3	616.8	624.4
47.5°	779.9	763.1	707.5	644.3	592.8	584.1	585.2	590.3	596.9
50°	745.7	725.9	670.8	607.1	555.6	550.0	554.1	557.6	566.3
52.5°	711.6	695.8	637.2	571.9	517.9	513.8	519.4	531.1	536.2
55°	685.1	656.5	604.0	530.6	477.6	478.1	489.3	496.0	507.2
57.5°	642.8	621.4	566.3	493.9	439.9	443.5	458.8	470.0	477.1
60°	612.7	585.7	529.6	454.7	400.1	405.7	423.1	439.9	452.1
62.5°	574.0	550.5	491.4	415.9	363.4	371.6	391.0	410.8	419.5
65°	542.4	515.8	453.7	377.2	325.2	334.9	358.8	381.3	395.5
67.5°	515.3	487.8	420.0	341.5	286.5	300.7	328.8	350.7	361.9
70°	483.2	451.1	381.8	301.8	246.2	263.0	298.7	324.2	336.9
72.5°	449.1	423.1	348.7	265.1	209.0	229.4	268.6	295.1	307.4
75°	422.6	393.5	320.6	228.4	171.3	195.7	238.0	268.1	280.4
77.5°	395.5	369.0	289.0	194.7	137.6	165.2	211.0	244.2	256.9
80°	371.6	341.0	262.5	167.2	102.5	135.1	185.5	218.2	232.9
82.5°	345.1	318.6	239.6	138.1	72.9	107.6	160.6	196.2	208.5
85°	321.6	294.1	218.2	115.2	44.9	83.1	137.6	174.3	189.1
87.5°	300.2	277.3	198.3	97.9	22.4	63.2	115.7	152.9	169.7
90°	280.9	254.9	181.5	82.1	4.1	45.9	97.9	134.6	147.3
92.5°	268.6	237.5	167.7	71.9	2.5	32.6	81.6	117.7	132.5
95°	250.3	222.8	153.4	64.2	2.5	21.9	65.8	100.9	113.7
97.5°	234.5	209.0	143.2	59.6	2.0	14.8	54.0	84.6	97.9
100°	222.2	198.3	134.1	55.6	2.5	10.7	42.8	71.9	83.6
102.5°	208.5	186.6	126.9	53.0	2.5	7.6	33.6	60.7	71.4
105°	196.2	176.9	120.3	50.5	2.5	6.6	27.0	50.0	59.6
107.5°	187.1	166.7	114.7	48.9	2.5	6.6	21.4	40.8	48.9
110°	177.9	158.5	109.1	47.4	2.5	6.1	16.8	33.6	40.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	171.8	150.9	104.0	45.9	3.1	6.1	13.8	28.0	33.6
115°	161.1	144.3	99.4	45.4	3.1	5.6	12.7	22.9	28.5
117.5°	153.4	138.1	94.8	43.8	3.1	5.6	12.2	18.9	22.9
120°	147.8	131.0	90.7	42.3	3.1	5.1	11.2	16.8	19.4
122.5°	140.7	124.4	87.2	41.3	3.1	5.1	10.7	15.8	17.3
125°	131.0	118.3	83.1	39.2	3.6	5.1	10.2	14.8	16.3
127.5°	124.9	112.6	80.0	36.7	3.6	4.6	9.7	13.8	15.3
130°	119.8	106.5	76.5	34.2	3.6	4.6	9.2	12.7	14.3
132.5°	112.1	100.4	71.4	32.1	3.6	4.1	8.2	11.7	13.3
135°	105.0	95.3	66.3	30.1	3.6	4.1	7.6	11.2	12.2
137.5°	100.4	90.2	61.7	28.0	3.6	3.6	7.1	10.2	11.2
140°	92.8	84.6	56.6	26.0	3.6	3.6	6.6	9.7	10.2
142.5°	87.2	79.0	52.0	24.0	3.6	3.6	6.1	8.7	9.7
145°	80.5	73.4	46.9	21.9	3.6	3.1	5.6	8.2	8.7
147.5°	74.4	66.8	42.8	20.4	3.6	3.1	5.1	7.1	7.6
150°	68.3	60.1	38.7	18.9	3.6	3.1	4.6	6.1	7.1
152.5°	61.7	52.0	34.7	17.3	3.6	3.1	4.1	5.6	6.1
155°	55.1	45.4	31.1	15.8	4.1	3.1	3.6	4.6	5.6
157.5°	49.4	39.2	27.5	14.3	4.1	2.5	3.6	4.1	4.6
160°	42.8	33.6	24.5	12.7	4.1	2.5	3.1	3.6	4.1
162.5°	37.7	28.0	21.4	11.7	4.1	2.5	3.1	3.1	3.6
165°	32.1	23.4	17.8	10.7	4.1	2.5	2.5	2.5	3.1
167.5°	26.0	18.4	14.8	9.7	4.1	2.5	2.5	2.0	2.5
170°	19.4	13.8	12.2	8.7	4.1	2.5	2.0	1.5	2.0
172.5°	8.7	10.7	9.7	7.6	4.6	2.5	2.0	1.5	1.0
175°	4.6	7.6	7.6	6.6	4.6	2.5	2.0	1.5	0.5
177.5°	3.6	4.6	5.6	5.6	4.6	3.1	2.0	1.0	0.5
180°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1



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**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	18.49	19.97	19.00	20.47	21.02	17.47	18.94	17.97	19.45	19.99
	3H	20.58	21.93	21.10	22.44	23.02	19.34	20.68	19.86	21.20	21.78
	4H	21.52	22.80	22.06	23.33	23.92	20.08	21.36	20.62	21.89	22.48
	6H	22.44	23.63	23.00	24.17	24.78	20.72	21.90	21.27	22.45	23.06
	8H	22.87	24.01	23.44	24.57	25.19	20.97	22.11	21.54	22.67	23.29
	12H	23.29	24.38	23.86	24.94	25.59	21.20	22.29	21.77	22.85	23.50
4H	2H	18.99	20.26	19.53	20.79	21.39	18.03	19.31	18.57	19.83	20.43
	3H	21.30	22.39	21.85	22.96	23.58	20.09	21.18	20.64	21.74	22.36
	4H	22.41	23.41	22.99	23.99	24.64	20.94	21.94	21.51	22.51	23.16
	6H	23.52	24.40	24.11	25.00	25.66	21.70	22.58	22.29	23.18	23.84
	8H	24.05	24.87	24.64	25.48	26.15	22.01	22.84	22.61	23.44	24.12
	12H	24.57	25.33	25.19	25.96	26.64	22.31	23.06	22.92	23.69	24.37
8H	4H	22.67	23.50	23.27	24.10	24.78	21.28	22.11	21.88	22.71	23.38
	6H	23.95	24.65	24.58	25.30	25.98	22.16	22.86	22.79	23.51	24.19
	8H	24.62	25.25	25.26	25.91	26.60	22.56	23.20	23.20	23.85	24.54
	12H	25.33	25.89	25.97	26.53	27.29	22.95	23.52	23.59	24.16	24.92
12H	4H	22.69	23.44	23.31	24.07	24.75	21.34	22.09	21.96	22.72	23.40
	6H	24.01	24.64	24.65	25.29	25.99	22.27	22.91	22.91	23.56	24.25
	8H	24.75	25.32	25.39	25.96	26.71	22.74	23.30	23.38	23.94	24.70