

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: P893594

Luminaire Tested: 4MB-5SL-ASMF-UNV-L835

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893594  
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-5SL-ASMF-UNV-L835  
Description: 5000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 3500K CCT  
Light Source: -  
Ballast/Driver: -

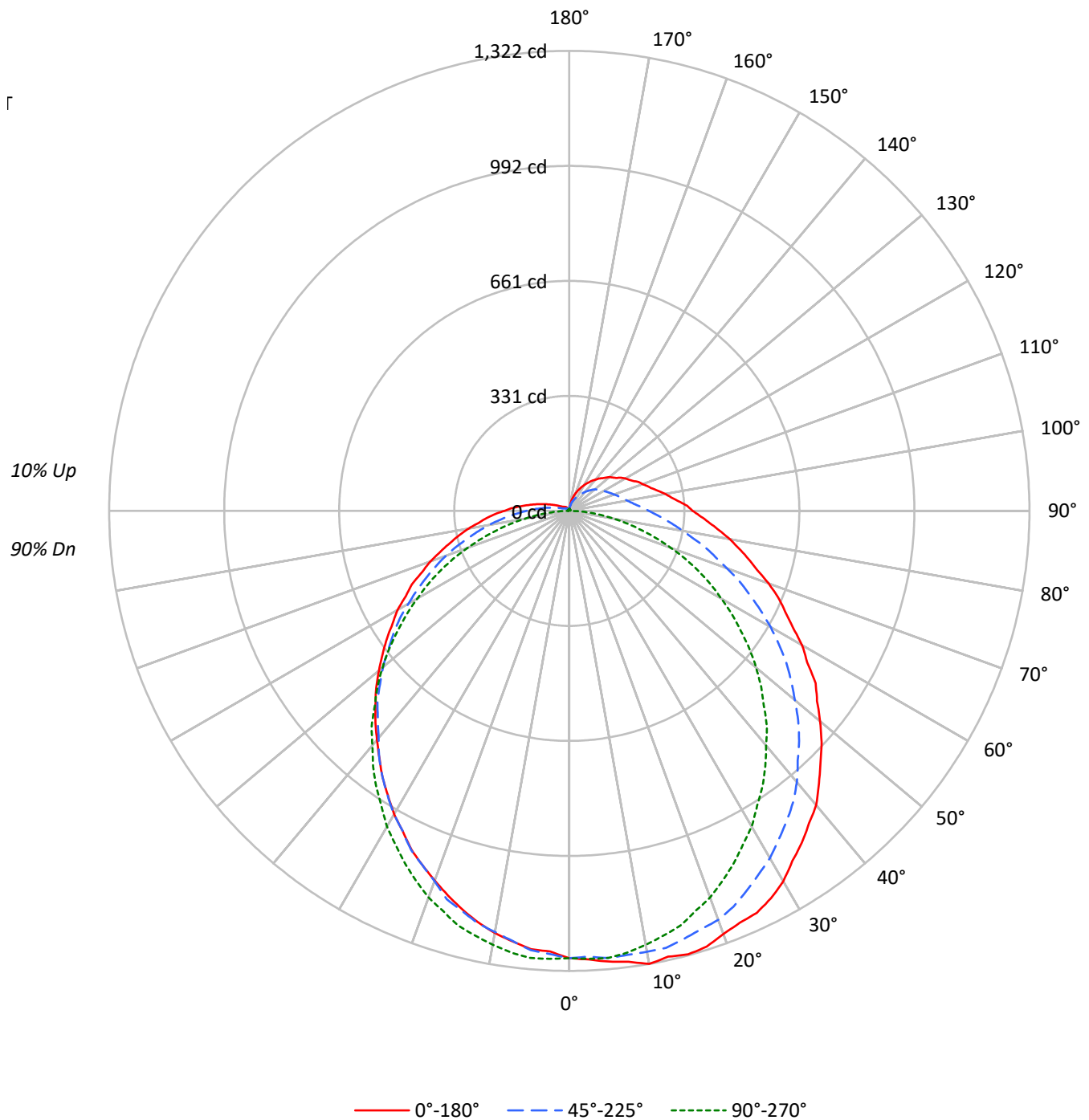
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4419.0 lumens  
Efficiency: N/A  
Efficacy: 126.3 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): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.995  
Total Harmonic Distortion (THDi): 9.55  
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°	13090	13090	13090	13090	13090
5°	13255	12789	12664	12566	12888
10°	13595	12521	12089	11958	12670
15°	13795	12257	11553	11459	12403
20°	13862	12003	10942	10862	12113
25°	14114	11618	10299	10366	11893
30°	14200	11246	9687	9828	11624
35°	14166	10840	9045	9311	11376
40°	14292	10421	8385	8729	11129
45°	14250	9926	7735	8286	10992
50°	14359	9416	7111	7778	10904
55°	14677	8972	6395	7269	10865
60°	14923	8422	5661	6728	11011
65°	15438	7826	4917	6190	11259
70°	16699	7255	4031	5677	11644
75°	18765	6841	3082	5079	12450
80°	23322	6443	2065	4553	14620
85°	34864	6356	1037	4009	20497

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 114793 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.0	2.8
10°-20°	349.5	7.9
20°-30°	527.0	11.9
30°-40°	632.6	14.3
40°-50°	658.7	14.9
50°-60°	610.6	13.8
60°-70°	502.9	11.4
70°-80°	362.7	8.2
80°-90°	230.3	5.2
90°-100°	142.0	3.2
100°-110°	94.7	2.1
110°-120°	67.4	1.5
120°-130°	49.4	1.1
130°-140°	34.0	0.8
140°-150°	20.7	0.5
150°-160°	10.3	0.2
160°-170°	3.8	0.1
170°-180°	0.6	0.0
0°-30°	998.5	22.6
0°-40°	1631.1	36.9
0°-60°	2900.4	65.6
0°-90°	3996.3	90.4
90°-120°	304.0	6.9
90°-150°	408.1	9.2
90°-180°	423.0	9.6
0°-180°	4419.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1285	1285	1285	1285	1285	
5°	1300	1290	1290	1267	1264	125
15°	1319	1273	1234	1190	1186	372
25°	1274	1205	1118	1075	1074	586
35°	1164	1089	967	935	935	730
45°	1020	934	790	780	787	790
55°	864	762	602	617	639	767
65°	684	572	410	452	499	681
75°	533	404	216	300	354	565
85°	406	275	57	174	238	344
90°	354	229	5	123	186	195
95°	316	193	3	83	143	251
105°	247	152	3	34	75	264
115°	203	125	4	16	36	203
125°	165	105	4	13	21	150
135°	132	84	4	10	15	104
145°	102	59	4	7	11	64
155°	69	39	5	4	7	33
165°	40	22	5	3	4	12
175°	6	10	6	3	1	1
180°	4	4	4	4	4	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1285.3	1285.3	1285.3	1285.3	1285.3	1285.3	1285.3	1285.3	1285.3
2.5°	1290.4	1294.3	1282.1	1289.8	1288.5	1289.8	1274.4	1287.2	1267.3
5°	1300.1	1302.0	1289.8	1294.3	1289.8	1278.9	1267.3	1262.8	1264.1
7.5°	1306.5	1316.8	1286.6	1287.9	1280.2	1268.6	1246.7	1250.6	1248.0
10°	1321.9	1310.4	1286.6	1280.8	1266.0	1253.8	1228.7	1230.7	1232.0
12.5°	1312.3	1309.7	1285.9	1264.7	1250.0	1239.7	1214.0	1207.5	1210.8
15°	1319.4	1308.4	1273.1	1256.4	1233.9	1215.9	1190.2	1185.7	1186.3
17.5°	1312.9	1303.9	1260.2	1237.1	1205.6	1194.7	1170.3	1162.6	1158.7
20°	1293.7	1289.2	1250.6	1210.8	1182.5	1161.3	1131.7	1127.2	1130.4
22.5°	1280.8	1269.9	1231.3	1191.5	1150.3	1131.7	1102.1	1101.5	1102.1
25°	1274.4	1260.2	1205.0	1163.2	1117.6	1100.9	1075.2	1065.5	1073.9
27.5°	1255.1	1242.2	1177.3	1131.7	1080.9	1058.4	1037.2	1035.3	1036.6
30°	1229.4	1204.3	1152.3	1096.4	1047.5	1024.4	1007.0	994.2	1006.4
32.5°	1192.8	1178.6	1119.5	1058.4	1004.5	988.4	971.0	969.8	969.8
35°	1164.5	1154.2	1088.6	1025.0	967.2	945.3	935.1	930.6	935.1
37.5°	1131.7	1116.3	1055.9	984.5	925.4	906.8	896.5	892.6	895.9
40°	1103.4	1075.2	1017.3	942.8	879.8	863.1	852.2	856.0	859.2
42.5°	1061.7	1045.6	971.7	900.4	840.6	822.6	813.6	816.8	824.5
45°	1020.5	1005.7	933.8	856.0	789.8	780.2	779.5	777.6	787.2
47.5°	983.3	962.0	892.0	812.3	747.4	736.5	737.8	744.2	752.5
50°	940.2	915.1	845.7	765.4	700.5	693.4	698.6	703.1	714.0
52.5°	897.1	877.2	803.3	721.1	652.9	647.8	654.9	669.6	676.1
55°	863.7	827.7	761.5	669.0	602.2	602.8	616.9	625.3	639.4
57.5°	810.4	783.4	714.0	622.7	554.6	559.1	578.4	592.5	601.5
60°	772.5	738.4	667.7	573.2	504.5	511.5	533.4	554.6	570.0
62.5°	723.6	694.1	619.5	524.4	458.2	468.5	492.9	518.0	528.9
65°	683.8	650.4	572.0	475.6	410.0	422.2	452.4	480.7	498.7
67.5°	649.7	615.0	529.5	430.6	361.2	379.2	414.5	442.1	456.3
70°	609.2	568.7	481.3	380.4	310.4	331.6	376.6	408.7	424.8
72.5°	566.2	533.4	439.6	334.2	263.5	289.2	338.7	372.1	387.5
75°	532.8	496.1	404.2	287.9	215.9	246.8	300.1	338.0	353.5
77.5°	498.7	465.3	364.4	245.5	173.5	208.2	266.1	307.8	323.9
80°	468.5	429.9	331.0	210.8	129.2	170.3	233.9	275.1	293.7
82.5°	435.1	401.7	302.0	174.2	91.9	135.6	202.4	247.4	262.8
85°	405.5	370.8	275.1	145.2	56.6	104.8	173.5	219.8	238.4
87.5°	378.5	349.6	250.0	123.4	28.3	79.7	145.9	192.8	214.0
90°	354.1	321.3	228.8	103.5	5.1	57.8	123.4	169.7	185.7
92.5°	338.7	299.5	211.4	90.6	3.2	41.1	102.8	148.5	167.1
95°	315.5	280.8	193.4	81.0	3.2	27.6	82.9	127.2	143.3
97.5°	295.6	263.5	180.6	75.2	2.6	18.6	68.1	106.7	123.4
100°	280.2	250.0	169.0	70.0	3.2	13.5	54.0	90.6	105.4
102.5°	262.8	235.2	160.0	66.8	3.2	9.6	42.4	76.5	90.0
105°	247.4	223.0	151.7	63.6	3.2	8.4	34.1	63.0	75.2
107.5°	235.9	210.1	144.6	61.7	3.2	8.4	27.0	51.4	61.7
110°	224.3	199.9	137.5	59.8	3.2	7.7	21.2	42.4	51.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	216.6	190.2	131.1	57.8	3.9	7.7	17.4	35.3	42.4
115°	203.1	181.9	125.3	57.2	3.9	7.1	16.1	28.9	36.0
117.5°	193.4	174.2	119.5	55.3	3.9	7.1	15.4	23.8	28.9
120°	186.4	165.2	114.4	53.3	3.9	6.4	14.1	21.2	24.4
122.5°	177.4	156.8	109.9	52.1	3.9	6.4	13.5	19.9	21.9
125°	165.2	149.1	104.8	49.5	4.5	6.4	12.9	18.6	20.6
127.5°	157.4	142.0	100.9	46.3	4.5	5.8	12.2	17.4	19.3
130°	151.0	134.3	96.4	43.1	4.5	5.8	11.6	16.1	18.0
132.5°	141.4	126.6	90.0	40.5	4.5	5.1	10.3	14.8	16.7
135°	132.4	120.2	83.5	37.9	4.5	5.1	9.6	14.1	15.4
137.5°	126.6	113.7	77.8	35.3	4.5	4.5	9.0	12.9	14.1
140°	117.0	106.7	71.3	32.8	4.5	4.5	8.4	12.2	12.9
142.5°	109.9	99.6	65.6	30.2	4.5	4.5	7.7	10.9	12.2
145°	101.5	92.5	59.1	27.6	4.5	3.9	7.1	10.3	10.9
147.5°	93.8	84.2	54.0	25.7	4.5	3.9	6.4	9.0	9.6
150°	86.1	75.8	48.8	23.8	4.5	3.9	5.8	7.7	9.0
152.5°	77.8	65.6	43.7	21.9	4.5	3.9	5.1	7.1	7.7
155°	69.4	57.2	39.2	19.9	5.1	3.9	4.5	5.8	7.1
157.5°	62.3	49.5	34.7	18.0	5.1	3.2	4.5	5.1	5.8
160°	54.0	42.4	30.8	16.1	5.1	3.2	3.9	4.5	5.1
162.5°	47.6	35.3	27.0	14.8	5.1	3.2	3.9	3.9	4.5
165°	40.5	29.6	22.5	13.5	5.1	3.2	3.2	3.2	3.9
167.5°	32.8	23.1	18.6	12.2	5.1	3.2	3.2	2.6	3.2
170°	24.4	17.4	15.4	10.9	5.1	3.2	2.6	1.9	2.6
172.5°	10.9	13.5	12.2	9.6	5.8	3.2	2.6	1.9	1.3
175°	5.8	9.6	9.6	8.4	5.8	3.2	2.6	1.9	0.6
177.5°	4.5	5.8	7.1	7.1	5.8	3.9	2.6	1.3	0.6
180°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9



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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	19.30	20.78	19.81	21.28	21.82	18.27	19.75	18.78	20.25	20.79
	3H	21.39	22.73	21.90	23.24	23.83	20.14	21.49	20.66	22.00	22.58
	4H	22.33	23.61	22.87	24.13	24.73	20.89	22.16	21.43	22.69	23.29
	6H	23.25	24.44	23.80	24.98	25.59	21.52	22.71	22.07	23.25	23.86
	8H	23.68	24.82	24.24	25.38	26.00	21.78	22.91	22.34	23.48	24.10
	12H	24.10	25.19	24.67	25.75	26.39	22.01	23.10	22.58	23.66	24.30
4H	2H	19.79	21.07	20.33	21.60	22.19	18.83	20.11	19.37	20.64	21.23
	3H	22.11	23.19	22.66	23.76	24.38	20.89	21.98	21.45	22.55	23.17
	4H	23.22	24.21	23.79	24.79	25.44	21.75	22.74	22.32	23.32	23.97
	6H	24.32	25.20	24.92	25.81	26.47	22.50	23.38	23.09	23.98	24.65
	8H	24.85	25.68	25.45	26.28	26.96	22.82	23.64	23.41	24.25	24.92
	12H	25.38	26.13	26.00	26.76	27.44	23.11	23.86	23.73	24.49	25.17
8H	4H	23.48	24.30	24.07	24.91	25.58	22.08	22.91	22.68	23.51	24.19
	6H	24.76	25.46	25.39	26.10	26.78	22.97	23.67	23.60	24.31	24.99
	8H	25.43	26.06	26.07	26.71	27.41	23.37	24.00	24.01	24.65	25.35
	12H	26.13	26.69	26.77	27.34	28.09	23.76	24.32	24.40	24.96	25.72
12H	4H	23.49	24.24	24.11	24.87	25.56	22.15	22.90	22.77	23.53	24.21
	6H	24.81	25.45	25.45	26.10	26.79	23.08	23.71	23.72	24.36	25.06
	8H	25.56	26.12	26.20	26.76	27.52	23.54	24.11	24.18	24.75	25.51