

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: P893597

Luminaire Tested: 4MB-5SL-ASMF-UNV-L930

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893597  
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-L930  
Description: 5000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 3000K CCT  
Light Source: -  
Ballast/Driver: -

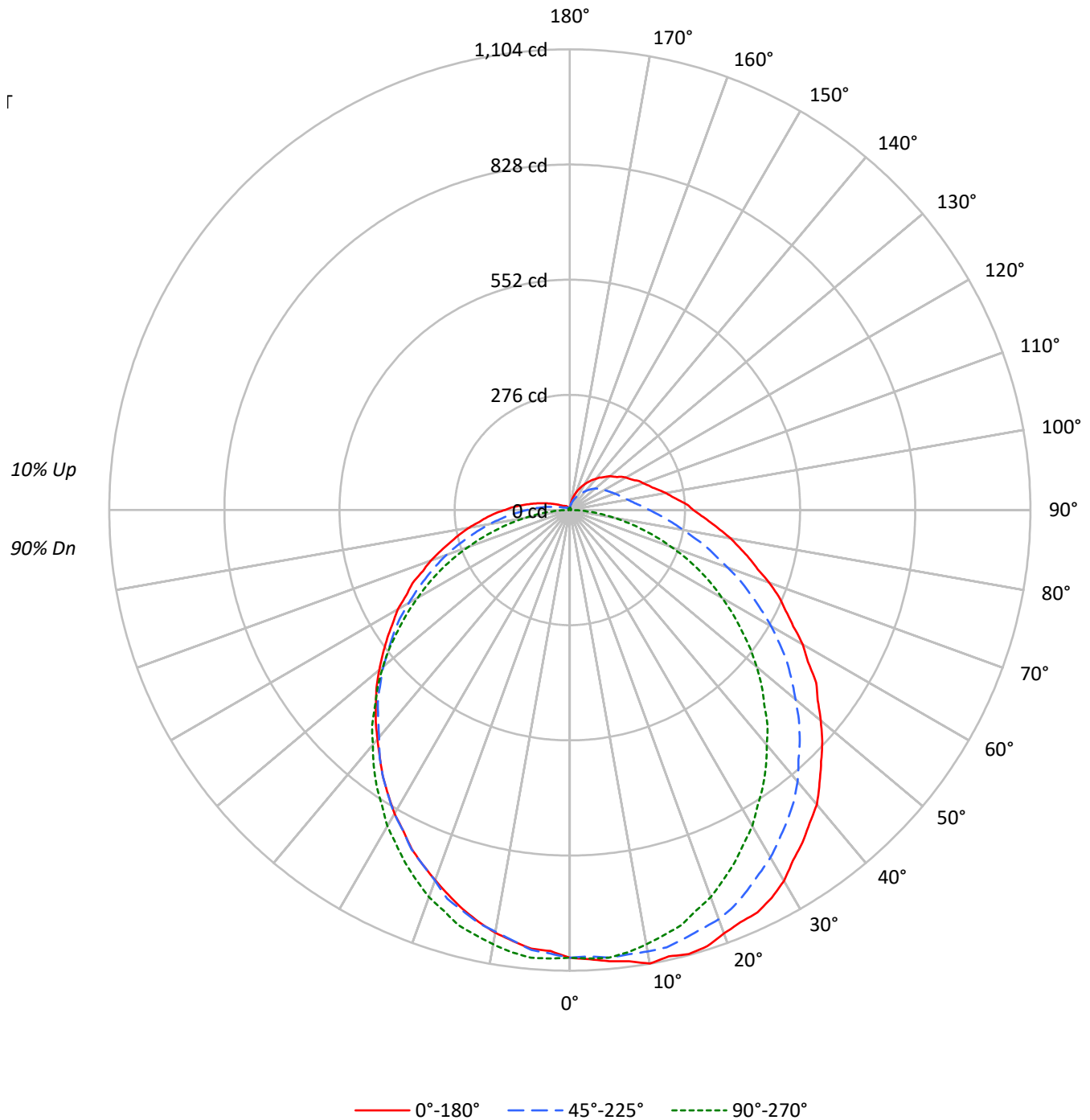
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3689.0 lumens  
Efficiency: N/A  
Efficacy: 105.4 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°	10928	10928	10928	10928	10928
5°	11065	10676	10572	10490	10759
10°	11350	10452	10092	9983	10576
15°	11516	10232	9645	9566	10355
20°	11571	10020	9134	9068	10112
25°	11782	9698	8598	8653	9929
30°	11854	9388	8087	8205	9703
35°	11826	9049	7550	7773	9496
40°	11931	8700	7001	7287	9291
45°	11896	8286	6457	6918	9177
50°	11987	7860	5936	6493	9102
55°	12252	7490	5338	6068	9071
60°	12458	7031	4725	5617	9193
65°	12887	6533	4106	5168	9399
70°	13941	6057	3365	4739	9720
75°	15662	5712	2574	4240	10393
80°	19469	5378	1723	3801	12206
85°	29104	5305	865	3348	17110

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 95829 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	101.8	2.8
10°-20°	291.8	7.9
20°-30°	440.0	11.9
30°-40°	528.1	14.3
40°-50°	549.9	14.9
50°-60°	509.7	13.8
60°-70°	419.8	11.4
70°-80°	302.8	8.2
80°-90°	192.2	5.2
90°-100°	118.5	3.2
100°-110°	79.0	2.1
110°-120°	56.3	1.5
120°-130°	41.2	1.1
130°-140°	28.4	0.8
140°-150°	17.3	0.5
150°-160°	8.6	0.2
160°-170°	3.1	0.1
170°-180°	0.5	0.0
0°-30°	833.6	22.6
0°-40°	1361.7	36.9
0°-60°	2421.3	65.6
0°-90°	3336.1	90.4
90°-120°	253.8	6.9
90°-150°	340.7	9.2
90°-180°	353.0	9.6
0°-180°	3689.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1073	1073	1073	1073	1073	
5°	1085	1077	1077	1058	1055	104
15°	1101	1063	1030	994	990	311
25°	1064	1006	933	898	896	489
35°	972	909	807	781	781	609
45°	852	780	659	651	657	659
55°	721	636	503	515	534	641
65°	571	478	342	378	416	568
75°	445	338	180	250	295	471
85°	338	230	47	145	199	287
90°	296	191	4	103	155	163
95°	263	162	3	69	120	209
105°	206	127	3	28	63	221
115°	170	105	3	13	30	170
125°	138	87	4	11	17	125
135°	110	70	4	8	13	87
145°	85	49	4	6	9	54
155°	58	33	4	4	6	27
165°	34	19	4	3	3	10
175°	5	8	5	2	0	1
180°	3	3	3	3	3	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1073.0	1073.0	1073.0	1073.0	1073.0	1073.0	1073.0	1073.0	1073.0
2.5°	1077.3	1080.5	1070.3	1076.7	1075.7	1076.7	1063.9	1074.6	1058.0
5°	1085.3	1086.9	1076.7	1080.5	1076.7	1067.6	1058.0	1054.2	1055.3
7.5°	1090.7	1099.3	1074.0	1075.1	1068.7	1059.0	1040.8	1044.0	1041.9
10°	1103.6	1093.9	1074.0	1069.2	1056.9	1046.7	1025.8	1027.4	1028.4
12.5°	1095.5	1093.4	1073.5	1055.8	1043.5	1034.9	1013.4	1008.1	1010.7
15°	1101.4	1092.3	1062.8	1048.8	1030.1	1015.0	993.6	989.8	990.4
17.5°	1096.0	1088.5	1052.1	1032.7	1006.4	997.3	976.9	970.5	967.3
20°	1079.9	1076.2	1044.0	1010.7	987.1	969.4	944.8	941.0	943.7
22.5°	1069.2	1060.1	1027.9	994.6	960.3	944.8	920.1	919.5	920.1
25°	1063.9	1052.1	1005.9	971.0	933.0	919.0	897.5	889.5	896.5
27.5°	1047.8	1037.0	982.8	944.8	902.4	883.6	865.9	864.3	865.4
30°	1026.3	1005.4	961.9	915.2	874.5	855.2	840.7	829.9	840.1
32.5°	995.7	983.9	934.6	883.6	838.5	825.1	810.6	809.6	809.6
35°	972.1	963.5	908.8	855.7	807.4	789.2	780.6	776.8	780.6
37.5°	944.8	931.9	881.4	821.9	772.5	757.0	748.4	745.2	747.9
40°	921.1	897.5	849.3	787.0	734.5	720.5	711.4	714.6	717.3
42.5°	886.3	872.9	811.2	751.6	701.7	686.7	679.2	681.9	688.3
45°	851.9	839.6	779.5	714.6	659.3	651.3	650.8	649.1	657.2
47.5°	820.8	803.1	744.6	678.1	623.9	614.8	615.9	621.3	628.2
50°	784.9	764.0	706.0	639.0	584.8	578.9	583.2	586.9	596.0
52.5°	748.9	732.3	670.6	601.9	545.1	540.8	546.7	559.0	564.4
55°	721.0	691.0	635.7	558.5	502.7	503.2	515.0	522.0	533.8
57.5°	676.5	654.0	596.0	519.9	463.0	466.7	482.8	494.6	502.2
60°	644.9	616.4	557.4	478.5	421.1	427.0	445.3	463.0	475.9
62.5°	604.1	579.4	517.2	437.8	382.5	391.1	411.5	432.4	441.5
65°	570.8	542.9	477.5	397.0	342.3	352.5	377.7	401.3	416.3
67.5°	542.4	513.4	442.1	359.4	301.5	316.5	346.0	369.1	380.9
70°	508.6	474.8	401.8	317.6	259.1	276.8	314.4	341.2	354.6
72.5°	472.6	445.3	367.0	279.0	220.0	241.4	282.7	310.6	323.5
75°	444.7	414.2	337.5	240.3	180.3	206.0	250.5	282.2	295.1
77.5°	416.3	388.4	304.2	204.9	144.9	173.8	222.1	257.0	270.4
80°	391.1	358.9	276.3	176.0	107.8	142.2	195.3	229.6	245.2
82.5°	363.2	335.3	252.1	145.4	76.7	113.2	169.0	206.5	219.4
85°	338.5	309.6	229.6	121.2	47.2	87.4	144.9	183.5	199.0
87.5°	316.0	291.8	208.7	103.0	23.6	66.5	121.8	160.9	178.7
90°	295.6	268.2	191.0	86.4	4.3	48.3	103.0	141.6	155.0
92.5°	282.7	250.0	176.5	75.6	2.7	34.3	85.8	123.9	139.5
95°	263.4	234.4	161.5	67.6	2.7	23.1	69.2	106.2	119.6
97.5°	246.8	220.0	150.8	62.8	2.1	15.6	56.9	89.1	103.0
100°	233.9	208.7	141.1	58.5	2.7	11.3	45.1	75.6	88.0
102.5°	219.4	196.4	133.6	55.8	2.7	8.0	35.4	63.8	75.1
105°	206.5	186.2	126.6	53.1	2.7	7.0	28.4	52.6	62.8
107.5°	196.9	175.4	120.7	51.5	2.7	7.0	22.5	42.9	51.5
110°	187.2	166.8	114.8	49.9	2.7	6.4	17.7	35.4	42.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	180.8	158.8	109.4	48.3	3.2	6.4	14.5	29.5	35.4
115°	169.5	151.8	104.6	47.7	3.2	5.9	13.4	24.1	30.0
117.5°	161.5	145.4	99.8	46.1	3.2	5.9	12.9	19.9	24.1
120°	155.6	137.9	95.5	44.5	3.2	5.4	11.8	17.7	20.4
122.5°	148.1	130.9	91.7	43.5	3.2	5.4	11.3	16.6	18.2
125°	137.9	124.5	87.4	41.3	3.8	5.4	10.7	15.6	17.2
127.5°	131.4	118.6	84.2	38.6	3.8	4.8	10.2	14.5	16.1
130°	126.1	112.1	80.5	35.9	3.8	4.8	9.7	13.4	15.0
132.5°	118.0	105.7	75.1	33.8	3.8	4.3	8.6	12.3	13.9
135°	110.5	100.3	69.7	31.7	3.8	4.3	8.0	11.8	12.9
137.5°	105.7	95.0	64.9	29.5	3.8	3.8	7.5	10.7	11.8
140°	97.6	89.1	59.6	27.4	3.8	3.8	7.0	10.2	10.7
142.5°	91.7	83.2	54.7	25.2	3.8	3.8	6.4	9.1	10.2
145°	84.8	77.3	49.4	23.1	3.8	3.2	5.9	8.6	9.1
147.5°	78.3	70.3	45.1	21.5	3.8	3.2	5.4	7.5	8.0
150°	71.9	63.3	40.8	19.9	3.8	3.2	4.8	6.4	7.5
152.5°	64.9	54.7	36.5	18.2	3.8	3.2	4.3	5.9	6.4
155°	57.9	47.7	32.7	16.6	4.3	3.2	3.8	4.8	5.9
157.5°	52.0	41.3	29.0	15.0	4.3	2.7	3.8	4.3	4.8
160°	45.1	35.4	25.8	13.4	4.3	2.7	3.2	3.8	4.3
162.5°	39.7	29.5	22.5	12.3	4.3	2.7	3.2	3.2	3.8
165°	33.8	24.7	18.8	11.3	4.3	2.7	2.7	2.7	3.2
167.5°	27.4	19.3	15.6	10.2	4.3	2.7	2.7	2.1	2.7
170°	20.4	14.5	12.9	9.1	4.3	2.7	2.1	1.6	2.1
172.5°	9.1	11.3	10.2	8.0	4.8	2.7	2.1	1.6	1.1
175°	4.8	8.0	8.0	7.0	4.8	2.7	2.1	1.6	0.5
177.5°	3.8	4.8	5.9	5.9	4.8	3.2	2.1	1.1	0.5
180°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2



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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	18.67	20.15	19.18	20.65	21.20	17.64	19.12	18.15	19.62	20.17
	3H	20.76	22.11	21.28	22.62	23.20	19.51	20.86	20.03	21.37	21.96
	4H	21.70	22.98	22.24	23.51	24.10	20.26	21.54	20.80	22.06	22.66
	6H	22.62	23.81	23.17	24.35	24.96	20.89	22.08	21.45	22.62	23.23
	8H	23.05	24.19	23.61	24.75	25.37	21.15	22.29	21.71	22.85	23.47
	12H	23.47	24.56	24.04	25.12	25.77	21.38	22.47	21.95	23.03	23.68
4H	2H	19.16	20.44	19.71	20.97	21.57	18.21	19.48	18.75	20.01	20.61
	3H	21.48	22.57	22.03	23.14	23.75	20.27	21.35	20.82	21.92	22.54
	4H	22.59	23.59	23.16	24.17	24.82	21.12	22.11	21.69	22.69	23.34
	6H	23.70	24.58	24.29	25.18	25.84	21.87	22.75	22.47	23.36	24.02
	8H	24.22	25.05	24.82	25.65	26.33	22.19	23.02	22.79	23.62	24.29
	12H	24.75	25.50	25.37	26.13	26.81	22.48	23.23	23.10	23.86	24.54
8H	4H	22.85	23.68	23.45	24.28	24.95	21.46	22.28	22.05	22.89	23.56
	6H	24.13	24.83	24.76	25.48	26.16	22.34	23.04	22.97	23.69	24.37
	8H	24.80	25.43	25.44	26.09	26.78	22.74	23.37	23.38	24.03	24.72
	12H	25.50	26.07	26.15	26.71	27.47	23.13	23.69	23.77	24.34	25.09
12H	4H	22.87	23.62	23.49	24.25	24.93	21.52	22.27	22.14	22.90	23.58
	6H	24.19	24.82	24.83	25.47	26.17	22.45	23.08	23.09	23.74	24.43
	8H	24.93	25.49	25.57	26.14	26.89	22.91	23.48	23.56	24.12	24.88