

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: P893595

Luminaire Tested: 4MB-5SL-ASMF-UNV-L840

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893595  
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-L840  
Description: 5000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 4000K CCT  
Light Source: -  
Ballast/Driver: -

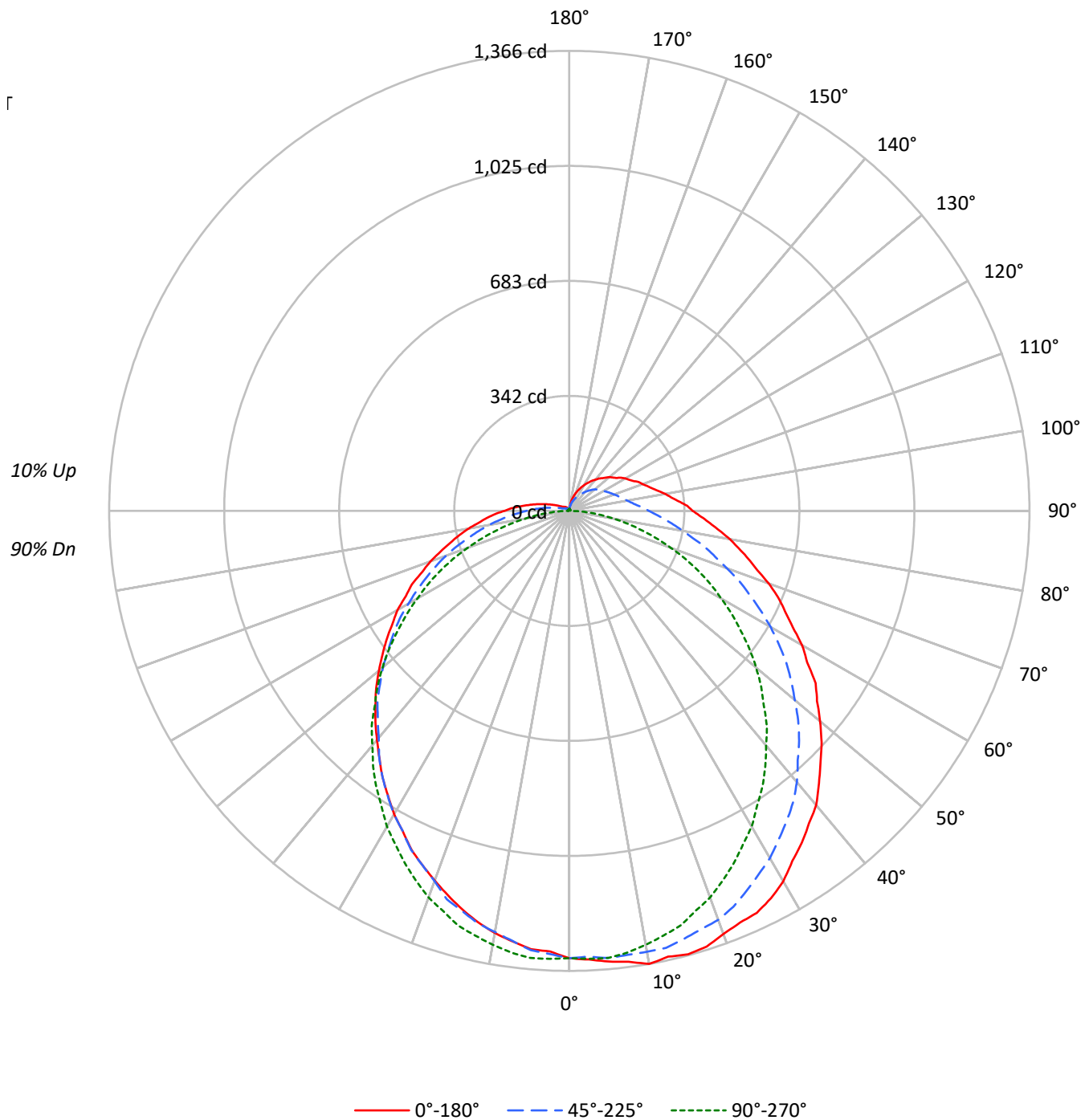
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4566.0 lumens  
Efficiency: N/A  
Efficacy: 130.5 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				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°	13526	13526	13526	13526	13526
5°	13695	13214	13086	12984	13316
10°	14047	12938	12491	12356	13091
15°	14253	12664	11937	11840	12816
20°	14323	12402	11305	11224	12515
25°	14583	12004	10640	10710	12289
30°	14672	11620	10009	10155	12011
35°	14637	11201	9346	9621	11754
40°	14768	10768	8665	9019	11500
45°	14725	10255	7993	8562	11358
50°	14837	9730	7347	8036	11266
55°	15166	9272	6607	7511	11227
60°	15419	8702	5850	6951	11378
65°	15951	8086	5081	6397	11634
70°	17255	7498	4165	5866	12031
75°	19388	7070	3185	5249	12862
80°	24098	6657	2134	4705	15108
85°	36025	6567	1070	4143	21185

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 118619 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.0	2.8
10°-20°	361.1	7.9
20°-30°	544.6	11.9
30°-40°	653.6	14.3
40°-50°	680.6	14.9
50°-60°	630.9	13.8
60°-70°	519.6	11.4
70°-80°	374.8	8.2
80°-90°	237.9	5.2
90°-100°	146.7	3.2
100°-110°	97.8	2.1
110°-120°	69.7	1.5
120°-130°	51.0	1.1
130°-140°	35.1	0.8
140°-150°	21.4	0.5
150°-160°	10.6	0.2
160°-170°	3.9	0.1
170°-180°	0.6	0.0
0°-30°	1031.7	22.6
0°-40°	1685.4	36.9
0°-60°	2996.9	65.6
0°-90°	4129.3	90.4
90°-120°	314.1	6.9
90°-150°	421.6	9.2
90°-180°	437.0	9.6
0°-180°	4566.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1328	1328	1328	1328	1328	
5°	1343	1333	1333	1310	1306	129
15°	1363	1315	1275	1230	1226	384
25°	1317	1245	1155	1111	1110	606
35°	1203	1125	999	966	966	754
45°	1054	965	816	806	813	816
55°	892	787	622	638	661	793
65°	706	591	424	468	515	704
75°	550	418	223	310	365	583
85°	419	284	58	179	246	356
90°	366	236	5	128	192	202
95°	326	200	3	86	148	259
105°	256	157	3	35	78	273
115°	210	130	4	17	37	210
125°	171	108	5	13	21	155
135°	137	86	5	10	16	107
145°	105	61	5	7	11	66
155°	72	40	5	5	7	34
165°	42	23	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°	1328.1	1328.1	1328.1	1328.1	1328.1	1328.1	1328.1	1328.1	1328.1
2.5°	1333.4	1337.4	1324.7	1332.7	1331.4	1332.7	1316.8	1330.0	1309.5
5°	1343.3	1345.3	1332.7	1337.4	1332.7	1321.4	1309.5	1304.8	1306.1
7.5°	1350.0	1360.6	1329.4	1330.7	1322.7	1310.8	1288.2	1292.2	1289.5
10°	1365.9	1354.0	1329.4	1323.4	1308.1	1295.5	1269.6	1271.6	1272.9
12.5°	1355.9	1353.3	1328.7	1306.8	1291.5	1280.9	1254.3	1247.7	1251.0
15°	1363.2	1352.0	1315.4	1298.2	1274.9	1256.3	1229.8	1225.1	1225.8
17.5°	1356.6	1347.3	1302.2	1278.3	1245.7	1234.4	1209.2	1201.2	1197.2
20°	1336.7	1332.0	1292.2	1251.0	1221.8	1199.9	1169.4	1164.7	1168.0
22.5°	1323.4	1312.1	1272.3	1231.1	1188.6	1169.4	1138.8	1138.1	1138.8
25°	1316.8	1302.2	1245.1	1201.9	1154.7	1137.5	1110.9	1101.0	1109.6
27.5°	1296.8	1283.6	1216.5	1169.4	1116.9	1093.7	1071.7	1069.7	1071.1
30°	1270.3	1244.4	1190.6	1132.8	1082.4	1058.5	1040.5	1027.3	1039.9
32.5°	1232.4	1217.8	1156.7	1093.7	1037.9	1021.3	1003.3	1002.0	1002.0
35°	1203.2	1192.6	1124.9	1059.1	999.4	976.8	966.2	961.5	966.2
37.5°	1169.4	1153.4	1091.0	1017.3	956.2	936.9	926.3	922.3	925.7
40°	1140.1	1110.9	1051.2	974.1	909.1	891.8	880.5	884.5	887.8
42.5°	1097.0	1080.4	1004.0	930.3	868.5	850.0	840.7	844.0	851.9
45°	1054.5	1039.2	964.8	884.5	816.1	806.1	805.5	803.5	813.4
47.5°	1016.0	994.0	921.7	839.3	772.3	761.0	762.3	768.9	777.6
50°	971.5	945.6	873.9	790.9	723.8	716.5	721.8	726.4	737.7
52.5°	927.0	906.4	830.0	745.0	674.7	669.3	676.6	691.9	698.6
55°	892.5	855.3	786.9	691.3	622.2	622.9	637.5	646.1	660.7
57.5°	837.3	809.4	737.7	643.4	573.1	577.7	597.6	612.2	621.5
60°	798.2	763.0	689.9	592.3	521.3	528.6	551.1	573.1	589.0
62.5°	747.7	717.1	640.1	541.8	473.5	484.1	509.3	535.2	546.5
65°	706.5	672.0	591.0	491.4	423.6	436.3	467.5	496.7	515.3
67.5°	671.3	635.5	547.2	444.9	373.2	391.8	428.3	456.9	471.5
70°	629.5	587.7	497.4	393.1	320.7	342.6	389.1	422.3	438.9
72.5°	585.0	551.1	454.2	345.3	272.3	298.8	349.9	384.5	400.4
75°	550.5	512.6	417.7	297.5	223.1	255.0	310.1	349.3	365.2
77.5°	515.3	480.8	376.5	253.7	179.3	215.1	274.9	318.1	334.7
80°	484.1	444.2	342.0	217.8	133.5	176.0	241.7	284.2	303.5
82.5°	449.5	415.0	312.1	180.0	95.0	140.1	209.2	255.7	271.6
85°	419.0	383.1	284.2	150.1	58.4	108.2	179.3	227.1	246.4
87.5°	391.1	361.2	258.3	127.5	29.2	82.3	150.7	199.2	221.1
90°	365.9	332.0	236.4	106.9	5.3	59.8	127.5	175.3	191.9
92.5°	349.9	309.4	218.5	93.6	3.3	42.5	106.2	153.4	172.6
95°	326.0	290.2	199.9	83.7	3.3	28.6	85.7	131.5	148.1
97.5°	305.5	272.3	186.6	77.7	2.7	19.3	70.4	110.2	127.5
100°	289.5	258.3	174.6	72.4	3.3	13.9	55.8	93.6	108.9
102.5°	271.6	243.0	165.3	69.1	3.3	10.0	43.8	79.0	93.0
105°	255.7	230.4	156.7	65.7	3.3	8.6	35.2	65.1	77.7
107.5°	243.7	217.1	149.4	63.7	3.3	8.6	27.9	53.1	63.7
110°	231.7	206.5	142.1	61.8	3.3	8.0	21.9	43.8	53.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	223.8	196.6	135.5	59.8	4.0	8.0	17.9	36.5	43.8
115°	209.8	187.9	129.5	59.1	4.0	7.3	16.6	29.9	37.2
117.5°	199.9	180.0	123.5	57.1	4.0	7.3	15.9	24.6	29.9
120°	192.6	170.7	118.2	55.1	4.0	6.6	14.6	21.9	25.2
122.5°	183.3	162.0	113.5	53.8	4.0	6.6	13.9	20.6	22.6
125°	170.7	154.1	108.2	51.1	4.6	6.6	13.3	19.3	21.2
127.5°	162.7	146.8	104.3	47.8	4.6	6.0	12.6	17.9	19.9
130°	156.0	138.8	99.6	44.5	4.6	6.0	12.0	16.6	18.6
132.5°	146.1	130.8	93.0	41.8	4.6	5.3	10.6	15.3	17.3
135°	136.8	124.2	86.3	39.2	4.6	5.3	10.0	14.6	15.9
137.5°	130.8	117.5	80.3	36.5	4.6	4.6	9.3	13.3	14.6
140°	120.9	110.2	73.7	33.9	4.6	4.6	8.6	12.6	13.3
142.5°	113.5	102.9	67.7	31.2	4.6	4.6	8.0	11.3	12.6
145°	104.9	95.6	61.1	28.6	4.6	4.0	7.3	10.6	11.3
147.5°	96.9	87.0	55.8	26.6	4.6	4.0	6.6	9.3	10.0
150°	89.0	78.4	50.5	24.6	4.6	4.0	6.0	8.0	9.3
152.5°	80.3	67.7	45.2	22.6	4.6	4.0	5.3	7.3	8.0
155°	71.7	59.1	40.5	20.6	5.3	4.0	4.6	6.0	7.3
157.5°	64.4	51.1	35.9	18.6	5.3	3.3	4.6	5.3	6.0
160°	55.8	43.8	31.9	16.6	5.3	3.3	4.0	4.6	5.3
162.5°	49.1	36.5	27.9	15.3	5.3	3.3	4.0	4.0	4.6
165°	41.8	30.5	23.2	13.9	5.3	3.3	3.3	3.3	4.0
167.5°	33.9	23.9	19.3	12.6	5.3	3.3	3.3	2.7	3.3
170°	25.2	17.9	15.9	11.3	5.3	3.3	2.7	2.0	2.7
172.5°	11.3	13.9	12.6	10.0	6.0	3.3	2.7	2.0	1.3
175°	6.0	10.0	10.0	8.6	6.0	3.3	2.7	2.0	0.7
177.5°	4.6	6.0	7.3	7.3	6.0	4.0	2.7	1.3	0.7
180°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0



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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	19.41	20.89	19.92	21.39	21.94	18.38	19.86	18.89	20.36	20.91
	3H	21.50	22.85	22.02	23.36	23.94	20.26	21.60	20.77	22.11	22.70
	4H	22.44	23.72	22.98	24.25	24.84	21.00	22.28	21.54	22.81	23.40
	6H	23.36	24.55	23.91	25.09	25.70	21.63	22.82	22.19	23.36	23.98
	8H	23.79	24.93	24.36	25.49	26.11	21.89	23.03	22.45	23.59	24.21
	12H	24.21	25.30	24.78	25.86	26.51	22.12	23.21	22.69	23.77	24.42
4H	2H	19.91	21.18	20.45	21.71	22.31	18.95	20.22	19.49	20.75	21.35
	3H	22.22	23.31	22.77	23.88	24.50	21.01	22.09	21.56	22.66	23.28
	4H	23.33	24.33	23.91	24.91	25.56	21.86	22.86	22.43	23.43	24.08
	6H	24.44	25.32	25.03	25.92	26.58	22.62	23.49	23.21	24.10	24.76
	8H	24.97	25.79	25.56	26.39	27.07	22.93	23.76	23.53	24.36	25.04
	12H	25.49	26.24	26.11	26.87	27.55	23.22	23.97	23.84	24.60	25.28
8H	4H	23.59	24.42	24.19	25.02	25.69	22.20	23.02	22.80	23.63	24.30
	6H	24.87	25.57	25.50	26.22	26.90	23.08	23.78	23.71	24.43	25.11
	8H	25.54	26.17	26.18	26.83	27.52	23.48	24.11	24.12	24.77	25.46
	12H	26.24	26.81	26.89	27.45	28.21	23.87	24.43	24.51	25.08	25.83
12H	4H	23.61	24.36	24.23	24.99	25.67	22.26	23.01	22.88	23.64	24.32
	6H	24.93	25.56	25.57	26.21	26.91	23.19	23.82	23.83	24.48	25.17
	8H	25.67	26.23	26.31	26.88	27.63	23.66	24.22	24.30	24.86	25.62