

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: P892815

Luminaire Tested: 2MB-5HL-ASMF-UNV-L840

Issue Date: 11/11/2024

**Test Information**

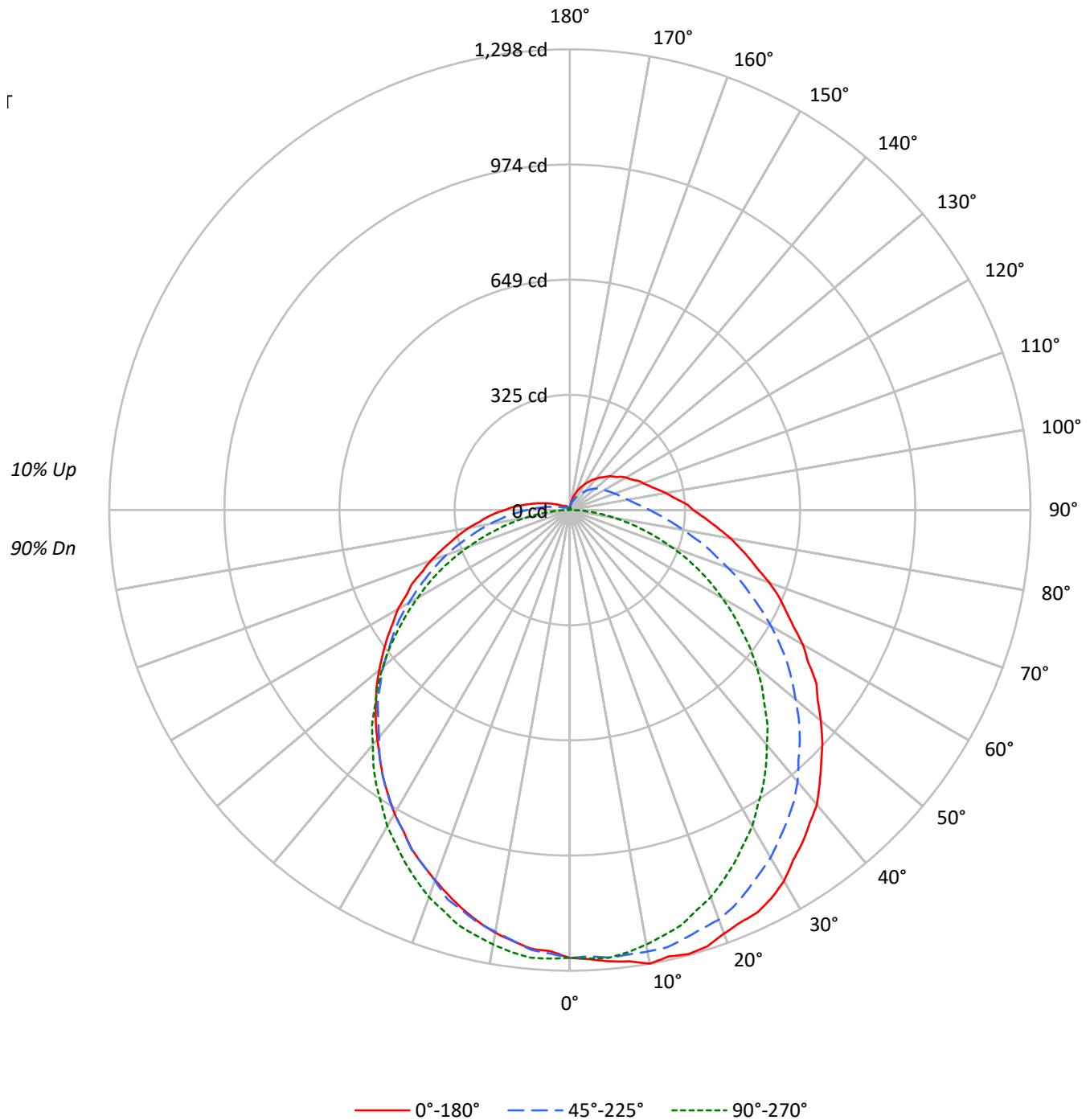
Test Method: LM-79-2019  
Report Number: P892815  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2407-185-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 2MB-5HL-ASMF-UNV-L840  
Description: 5000 Lumen 2FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 4000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4338.0 lumens  
Efficiency: N/A  
Efficacy: 128.7 lumens/watt  
Spacing Criteria (0/90/45): 1.28 / 1.21 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 1.98' x H: 0.12')  
CIE Type: Direct  
  
Input Watts (W): 33.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.99  
Total Harmonic Distortion (THDi): 4.5  
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
RCR																				
0	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93	90	90	90
1	105	99	95	90	101	96	92	88	90	87	83	85	82	79	79	77	75	72	72	72
2	95	86	79	72	91	83	76	71	78	72	68	73	69	65	69	65	62	59	59	59
3	86	75	66	60	83	73	65	58	68	62	56	64	59	54	60	56	52	49	49	49
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	44	42	42	42
5	72	59	50	43	69	57	49	42	54	47	41	51	45	40	48	43	38	36	36	36
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	31	31	31
7	62	48	39	33	59	47	38	32	44	37	32	42	36	31	40	34	30	28	28	28
8	57	44	35	29	55	43	35	29	41	33	28	39	32	27	37	31	27	25	25	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22	22	22
10	50	37	29	24	49	36	29	23	34	28	23	33	27	22	31	26	22	20	20	20

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

	0°	45°	90°	135°	180°
0°	25835	25835	25835	25835	25835
5°	26088	25194	24997	24755	25366
10°	26685	24622	23861	23515	24869
15°	27000	24061	22803	22494	24277
20°	27050	23521	21596	21285	23638
25°	27456	22726	20327	20276	23136
30°	27532	21959	19119	19193	22536
35°	27364	21130	17852	18149	21973
40°	27497	20275	16551	16982	21412
45°	27287	19272	15267	16087	21049
50°	27345	18242	14034	15069	20765
55°	27765	17342	12620	14048	20555
60°	27992	16233	11173	12967	20657
65°	28641	15036	9706	11892	20892
70°	30513	13888	7956	10866	21274
75°	33484	13034	6085	9677	22216
80°	39928	12200	4075	8621	25030
85°	54316	11937	2044	7529	31940

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 112686 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.7	2.8
10°-20°	343.1	7.9
20°-30°	517.4	11.9
30°-40°	621.0	14.3
40°-50°	646.6	14.9
50°-60°	599.4	13.8
60°-70°	493.6	11.4
70°-80°	356.1	8.2
80°-90°	226.1	5.2
90°-100°	139.4	3.2
100°-110°	92.9	2.1
110°-120°	66.2	1.5
120°-130°	48.5	1.1
130°-140°	33.3	0.8
140°-150°	20.3	0.5
150°-160°	10.1	0.2
160°-170°	3.7	0.1
170°-180°	0.6	0.0
0°-30°	980.2	22.6
0°-40°	1601.2	36.9
0°-60°	2847.3	65.6
0°-90°	3923.0	90.4
90°-120°	298.5	6.9
90°-150°	400.6	9.2
90°-180°	415.0	9.6
0°-180°	4338.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1262	1262	1262	1262	1262	
5°	1276	1266	1266	1244	1241	122
15°	1295	1250	1211	1168	1165	365
25°	1251	1183	1097	1055	1054	575
35°	1143	1069	950	918	918	716
45°	1002	917	775	765	773	775
55°	848	748	591	606	628	753
65°	671	562	402	444	490	668
75°	523	397	212	295	347	554
85°	398	270	56	170	234	338
90°	348	225	5	121	182	192
95°	310	190	3	81	141	246
105°	243	149	3	33	74	259
115°	199	123	4	16	35	200
125°	162	103	4	13	20	148
135°	130	82	4	10	15	102
145°	100	58	4	7	11	63
155°	68	38	5	4	7	32
165°	40	22	5	3	4	12
175°	6	10	6	2	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°	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7
2.5°	1266.8	1270.6	1258.6	1266.2	1264.9	1266.2	1251.0	1263.6	1244.1
5°	1276.2	1278.1	1266.2	1270.6	1266.2	1255.4	1244.1	1239.7	1240.9
7.5°	1282.6	1292.7	1263.0	1264.3	1256.7	1245.3	1223.9	1227.7	1225.1
10°	1297.7	1286.3	1263.0	1257.3	1242.8	1230.8	1206.2	1208.1	1209.4
12.5°	1288.2	1285.7	1262.4	1241.6	1227.0	1216.9	1191.7	1185.4	1188.6
15°	1295.2	1284.5	1249.8	1233.4	1211.3	1193.6	1168.4	1164.0	1164.6
17.5°	1288.9	1280.0	1237.1	1214.4	1183.5	1172.8	1148.8	1141.2	1137.5
20°	1269.9	1265.5	1227.7	1188.6	1160.8	1140.0	1111.0	1106.5	1109.7
22.5°	1257.3	1246.6	1208.7	1169.6	1129.3	1111.0	1081.9	1081.3	1081.9
25°	1251.0	1237.1	1182.9	1141.9	1097.1	1080.7	1055.4	1046.0	1054.2
27.5°	1232.1	1219.5	1155.8	1111.0	1061.1	1039.0	1018.2	1016.3	1017.6
30°	1206.9	1182.3	1131.1	1076.3	1028.3	1005.6	988.6	976.0	987.9
32.5°	1170.9	1157.0	1099.0	1039.0	986.0	970.3	953.2	952.0	952.0
35°	1143.1	1133.0	1068.7	1006.2	949.5	928.0	917.9	913.5	917.9
37.5°	1111.0	1095.8	1036.5	966.5	908.5	890.2	880.1	876.3	879.4
40°	1083.2	1055.4	998.7	925.5	863.7	847.3	836.5	840.3	843.5
42.5°	1042.2	1026.4	953.9	883.8	825.2	807.5	798.7	801.8	809.4
45°	1001.8	987.3	916.7	840.3	775.3	765.9	765.2	763.4	772.8
47.5°	965.2	944.4	875.6	797.4	733.7	723.0	724.2	730.5	738.7
50°	923.0	898.4	830.2	751.4	687.6	680.7	685.8	690.2	700.9
52.5°	880.7	861.1	788.6	707.8	641.0	635.9	642.9	657.4	663.7
55°	847.9	812.6	747.6	656.7	591.1	591.8	605.6	613.8	627.7
57.5°	795.5	769.0	700.9	611.3	544.4	548.9	567.8	581.7	590.5
60°	758.3	724.9	655.5	562.7	495.2	502.2	523.6	544.4	559.6
62.5°	710.4	681.3	608.2	514.8	449.8	459.9	483.9	508.5	519.2
65°	671.2	638.4	561.5	466.8	402.5	414.5	444.1	471.9	489.6
67.5°	637.8	603.7	519.8	422.7	354.5	372.2	406.9	434.0	447.9
70°	598.1	558.3	472.5	373.5	304.7	325.5	369.7	401.2	417.0
72.5°	555.8	523.6	431.5	328.1	258.7	283.9	332.5	365.3	380.4
75°	523.0	487.0	396.8	282.6	212.0	242.3	294.6	331.8	347.0
77.5°	489.6	456.7	357.7	241.0	170.3	204.4	261.2	302.2	318.0
80°	459.9	422.1	324.9	206.9	126.8	167.2	229.6	270.0	288.3
82.5°	427.1	394.3	296.5	171.0	90.2	133.1	198.7	242.9	258.0
85°	398.1	364.0	270.0	142.6	55.5	102.8	170.3	215.8	234.1
87.5°	371.6	343.2	245.4	121.1	27.8	78.2	143.2	189.3	210.1
90°	347.6	315.4	224.6	101.6	5.0	56.8	121.1	166.5	182.3
92.5°	332.5	294.0	207.6	89.0	3.2	40.4	100.9	145.7	164.0
95°	309.8	275.7	189.9	79.5	3.2	27.1	81.4	124.9	140.7
97.5°	290.2	258.7	177.3	73.8	2.5	18.3	66.9	104.7	121.1
100°	275.1	245.4	165.9	68.8	3.2	13.2	53.0	89.0	103.5
102.5°	258.0	230.9	157.1	65.6	3.2	9.5	41.6	75.1	88.3
105°	242.9	218.9	148.9	62.5	3.2	8.2	33.4	61.8	73.8
107.5°	231.5	206.3	141.9	60.6	3.2	8.2	26.5	50.5	60.6
110°	220.2	196.2	135.0	58.7	3.2	7.6	20.8	41.6	50.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	212.6	186.7	128.7	56.8	3.8	7.6	17.0	34.7	41.6
115°	199.4	178.5	123.0	56.1	3.8	6.9	15.8	28.4	35.3
117.5°	189.9	171.0	117.3	54.3	3.8	6.9	15.1	23.3	28.4
120°	183.0	162.1	112.3	52.4	3.8	6.3	13.9	20.8	24.0
122.5°	174.1	153.9	107.9	51.1	3.8	6.3	13.2	19.6	21.4
125°	162.1	146.4	102.8	48.6	4.4	6.3	12.6	18.3	20.2
127.5°	154.6	139.4	99.0	45.4	4.4	5.7	12.0	17.0	18.9
130°	148.3	131.9	94.6	42.3	4.4	5.7	11.4	15.8	17.7
132.5°	138.8	124.3	88.3	39.7	4.4	5.0	10.1	14.5	16.4
135°	130.0	118.0	82.0	37.2	4.4	5.0	9.5	13.9	15.1
137.5°	124.3	111.7	76.3	34.7	4.4	4.4	8.8	12.6	13.9
140°	114.8	104.7	70.0	32.2	4.4	4.4	8.2	12.0	12.6
142.5°	107.9	97.8	64.3	29.7	4.4	4.4	7.6	10.7	12.0
145°	99.7	90.8	58.0	27.1	4.4	3.8	6.9	10.1	10.7
147.5°	92.1	82.6	53.0	25.2	4.4	3.8	6.3	8.8	9.5
150°	84.5	74.4	47.9	23.3	4.4	3.8	5.7	7.6	8.8
152.5°	76.3	64.3	42.9	21.4	4.4	3.8	5.0	6.9	7.6
155°	68.1	56.1	38.5	19.6	5.0	3.8	4.4	5.7	6.9
157.5°	61.2	48.6	34.1	17.7	5.0	3.2	4.4	5.0	5.7
160°	53.0	41.6	30.3	15.8	5.0	3.2	3.8	4.4	5.0
162.5°	46.7	34.7	26.5	14.5	5.0	3.2	3.8	3.8	4.4
165°	39.7	29.0	22.1	13.2	5.0	3.2	3.2	3.2	3.8
167.5°	32.2	22.7	18.3	12.0	5.0	3.2	3.2	2.5	3.2
170°	24.0	17.0	15.1	10.7	5.0	3.2	2.5	1.9	2.5
172.5°	10.7	13.2	12.0	9.5	5.7	3.2	2.5	1.9	1.3
175°	5.7	9.5	9.5	8.2	5.7	3.2	2.5	1.9	0.6
177.5°	4.4	5.7	6.9	6.9	5.7	3.8	2.5	1.3	0.6
180°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8



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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	21.63	23.11	22.14	23.61	24.15	20.51	21.98	21.01	22.49	23.03
	3H	23.72	25.07	24.24	25.58	26.16	22.34	23.69	22.86	24.20	24.78
	4H	24.66	25.94	25.20	26.47	27.07	23.07	24.34	23.60	24.87	25.47
	6H	25.59	26.77	26.14	27.31	27.93	23.67	24.85	24.22	25.39	26.01
	8H	26.02	27.15	26.58	27.72	28.34	23.90	25.04	24.46	25.60	26.22
	12H	26.44	27.53	27.01	28.09	28.74	24.10	25.19	24.67	25.75	26.40
4H	2H	22.11	23.39	22.65	23.92	24.51	21.08	22.35	21.62	22.88	23.48
	3H	24.43	25.52	24.98	26.08	26.70	23.10	24.19	23.66	24.76	25.38
	4H	25.54	26.54	26.11	27.12	27.77	23.93	24.93	24.51	25.51	26.16
	6H	26.65	27.53	27.24	28.13	28.79	24.66	25.54	25.25	26.14	26.80
	8H	27.18	28.01	27.78	28.61	29.28	24.95	25.78	25.55	26.38	27.05
	12H	27.71	28.46	28.33	29.09	29.77	25.21	25.96	25.83	26.59	27.27
8H	4H	25.79	26.62	26.39	27.22	27.90	24.28	25.10	24.88	25.71	26.38
	6H	27.07	27.77	27.70	28.42	29.10	25.13	25.83	25.76	26.48	27.16
	8H	27.74	28.38	28.38	29.03	29.72	25.51	26.14	26.15	26.79	27.49
	12H	28.45	29.01	29.09	29.66	30.41	25.87	26.43	26.51	27.07	27.83
12H	4H	25.81	26.56	26.42	27.19	27.87	24.34	25.10	24.96	25.73	26.41
	6H	27.13	27.76	27.77	28.41	29.11	25.24	25.88	25.88	26.53	27.22
	8H	27.87	28.43	28.51	29.07	29.83	25.68	26.25	26.33	26.89	27.65