

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: P892816

Luminaire Tested: 2MB-5HL-ASMF-UNV-L850

Issue Date: 11/11/2024

**Test Information**

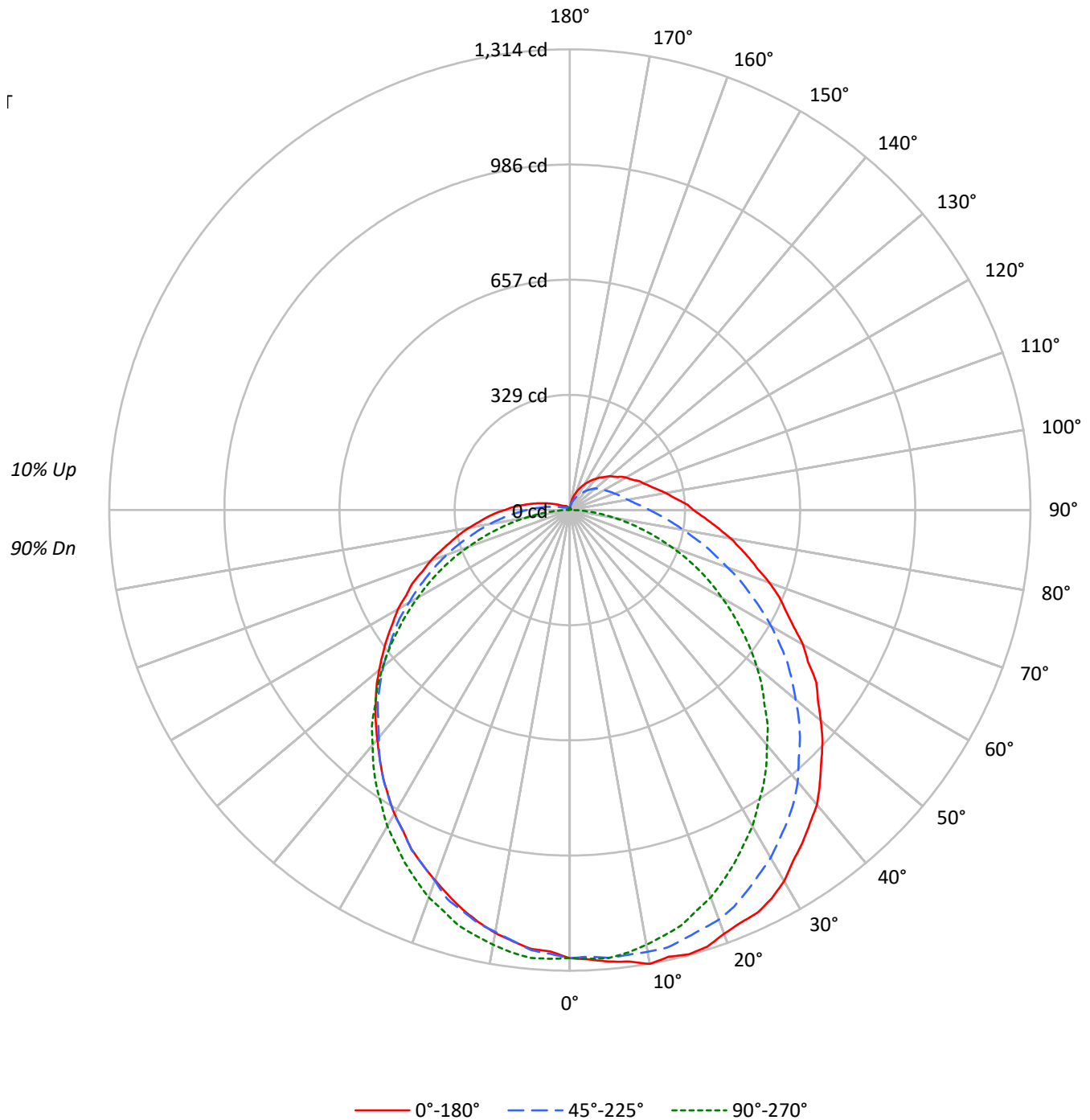
Test Method: LM-79-2019  
Report Number: P892816  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2407-185-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 2MB-5HL-ASMF-UNV-L850  
Description: 5000 Lumen 2FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 5000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4394.0 lumens  
Efficiency: N/A  
Efficacy: 130.4 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	93	90	
1	105	99	95	90	101	96	92	88	90	87	83	85	82	79	79	77	75	75	72	
2	95	86	79	72	91	83	76	71	78	72	68	73	69	65	69	65	62	62	59	
3	86	75	66	60	83	73	65	58	68	62	56	64	59	54	60	56	52	52	49	
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	44	44	42	
5	72	59	50	43	69	57	49	42	54	47	41	51	45	40	48	43	38	38	36	
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	34	31	
7	62	48	39	33	59	47	38	32	44	37	32	42	36	31	40	34	30	30	28	
8	57	44	35	29	55	43	35	29	41	33	28	39	32	27	37	31	27	27	25	
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	24	22	
10	50	37	29	24	49	36	29	23	34	28	23	33	27	22	31	26	22	22	20	

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

	0°	45°	90°	135°	180°
0°	26169	26169	26169	26169	26169
5°	26425	25519	25319	25073	25693
10°	27031	24940	24170	23819	25190
15°	27348	24371	23097	22785	24590
20°	27399	23824	21875	21559	23942
25°	27811	23020	20588	20540	23435
30°	27886	22244	19366	19439	22828
35°	27718	21403	18082	18384	22258
40°	27852	20536	16764	17201	21689
45°	27641	19520	15464	16295	21322
50°	27697	18477	14215	15262	21031
55°	28122	17564	12785	14231	20820
60°	28354	16441	11317	13135	20923
65°	29012	15229	9832	12047	21161
70°	30905	14067	8058	11007	21549
75°	33913	13201	6163	9802	22504
80°	40440	12357	4127	8734	25351
85°	55012	12092	2070	7627	32350

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 114145 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.3	2.8
10°-20°	347.5	7.9
20°-30°	524.1	11.9
30°-40°	629.0	14.3
40°-50°	655.0	14.9
50°-60°	607.2	13.8
60°-70°	500.0	11.4
70°-80°	360.7	8.2
80°-90°	229.0	5.2
90°-100°	141.2	3.2
100°-110°	94.1	2.1
110°-120°	67.0	1.5
120°-130°	49.1	1.1
130°-140°	33.8	0.8
140°-150°	20.6	0.5
150°-160°	10.2	0.2
160°-170°	3.7	0.1
170°-180°	0.6	0.0
0°-30°	992.9	22.6
0°-40°	1621.9	36.9
0°-60°	2884.0	65.6
0°-90°	3973.7	90.4
90°-120°	302.3	6.9
90°-150°	405.8	9.2
90°-180°	420.0	9.6
0°-180°	4394.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1278	1278	1278	1278	1278	
5°	1293	1282	1282	1260	1257	124
15°	1312	1266	1227	1184	1180	370
25°	1267	1198	1111	1069	1068	583
35°	1158	1082	962	930	930	725
45°	1015	928	785	775	783	785
55°	859	757	599	614	636	763
65°	680	569	408	450	496	677
75°	530	402	215	298	352	561
85°	403	274	56	172	237	342
90°	352	228	5	123	185	194
95°	314	192	3	82	142	249
105°	246	151	3	34	75	263
115°	202	125	4	16	36	202
125°	164	104	4	13	20	149
135°	132	83	4	10	15	103
145°	101	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°	1278.0	1278.0	1278.0	1278.0	1278.0	1278.0	1278.0	1278.0	1278.0
2.5°	1283.1	1287.0	1274.8	1282.5	1281.2	1282.5	1267.2	1279.9	1260.1
5°	1292.7	1294.6	1282.5	1287.0	1282.5	1271.6	1260.1	1255.7	1256.9
7.5°	1299.1	1309.3	1279.3	1280.6	1272.9	1261.4	1239.7	1243.5	1241.0
10°	1314.5	1302.9	1279.3	1273.6	1258.9	1246.7	1221.8	1223.7	1225.0
12.5°	1304.9	1302.3	1278.7	1257.6	1242.9	1232.7	1207.1	1200.7	1203.9
15°	1311.9	1301.0	1265.9	1249.3	1226.9	1209.0	1183.5	1179.0	1179.6
17.5°	1305.5	1296.6	1253.1	1230.1	1198.8	1187.9	1163.6	1156.0	1152.1
20°	1286.3	1281.9	1243.5	1203.9	1175.8	1154.7	1125.3	1120.8	1124.0
22.5°	1273.6	1262.7	1224.4	1184.7	1143.8	1125.3	1095.9	1095.3	1095.9
25°	1267.2	1253.1	1198.2	1156.6	1111.2	1094.6	1069.1	1059.5	1067.8
27.5°	1248.0	1235.2	1170.7	1125.3	1074.8	1052.5	1031.4	1029.5	1030.7
30°	1222.4	1197.5	1145.8	1090.2	1041.6	1018.6	1001.3	988.6	1000.7
32.5°	1186.0	1172.0	1113.2	1052.5	998.8	982.8	965.5	964.3	964.3
35°	1157.9	1147.7	1082.5	1019.2	961.7	940.0	929.8	925.3	929.8
37.5°	1125.3	1110.0	1049.9	979.0	920.2	901.6	891.4	887.6	890.8
40°	1097.2	1069.1	1011.6	937.4	874.8	858.2	847.3	851.2	854.4
42.5°	1055.7	1039.7	966.2	895.3	835.8	817.9	809.0	812.2	819.9
45°	1014.8	1000.1	928.5	851.2	785.3	775.8	775.1	773.2	782.8
47.5°	977.7	956.6	887.0	807.7	743.2	732.3	733.6	740.0	748.3
50°	934.9	910.0	840.9	761.1	696.5	689.5	694.6	699.1	709.9
52.5°	892.1	872.3	798.8	717.0	649.2	644.1	651.2	665.9	672.2
55°	858.8	823.0	757.2	665.2	598.8	599.4	613.5	621.8	635.8
57.5°	805.8	779.0	709.9	619.2	551.5	555.9	575.1	589.2	598.1
60°	768.1	734.2	663.9	570.0	501.6	508.7	530.4	551.5	566.8
62.5°	719.5	690.1	616.0	521.4	455.6	465.8	490.1	515.0	525.9
65°	679.9	646.7	568.7	472.9	407.7	419.8	449.9	478.0	495.9
67.5°	646.0	611.5	526.5	428.1	359.1	377.0	412.2	439.6	453.7
70°	605.8	565.5	478.6	378.3	308.6	329.7	374.5	406.4	422.4
72.5°	563.0	530.4	437.1	332.3	262.0	287.6	336.8	370.0	385.3
75°	529.7	493.3	401.9	286.3	214.7	245.4	298.4	336.1	351.5
77.5°	495.9	462.6	362.3	244.1	172.5	207.0	264.6	306.1	322.1
80°	465.8	427.5	329.1	209.6	128.4	169.3	232.6	273.5	292.0
82.5°	432.6	399.4	300.3	173.2	91.4	134.8	201.3	246.0	261.4
85°	403.2	368.7	273.5	144.4	56.2	104.2	172.5	218.5	237.1
87.5°	376.4	347.6	248.6	122.7	28.1	79.2	145.1	191.7	212.8
90°	352.1	319.5	227.5	102.9	5.1	57.5	122.7	168.7	184.7
92.5°	336.8	297.8	210.2	90.1	3.2	40.9	102.2	147.6	166.1
95°	313.8	279.2	192.3	80.5	3.2	27.5	82.4	126.5	142.5
97.5°	293.9	262.0	179.6	74.8	2.6	18.5	67.7	106.1	122.7
100°	278.6	248.6	168.1	69.7	3.2	13.4	53.7	90.1	104.8
102.5°	261.4	233.9	159.1	66.5	3.2	9.6	42.2	76.0	89.5
105°	246.0	221.7	150.8	63.3	3.2	8.3	33.9	62.6	74.8
107.5°	234.5	209.0	143.8	61.3	3.2	8.3	26.8	51.1	61.3
110°	223.0	198.7	136.7	59.4	3.2	7.7	21.1	42.2	51.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	215.3	189.1	130.4	57.5	3.8	7.7	17.3	35.1	42.2
115°	201.9	180.8	124.6	56.9	3.8	7.0	16.0	28.8	35.8
117.5°	192.3	173.2	118.9	55.0	3.8	7.0	15.3	23.6	28.8
120°	185.3	164.2	113.7	53.0	3.8	6.4	14.1	21.1	24.3
122.5°	176.4	155.9	109.3	51.8	3.8	6.4	13.4	19.8	21.7
125°	164.2	148.3	104.2	49.2	4.5	6.4	12.8	18.5	20.4
127.5°	156.6	141.2	100.3	46.0	4.5	5.8	12.1	17.3	19.2
130°	150.2	133.6	95.9	42.8	4.5	5.8	11.5	16.0	17.9
132.5°	140.6	125.9	89.5	40.3	4.5	5.1	10.2	14.7	16.6
135°	131.6	119.5	83.1	37.7	4.5	5.1	9.6	14.1	15.3
137.5°	125.9	113.1	77.3	35.1	4.5	4.5	8.9	12.8	14.1
140°	116.3	106.1	70.9	32.6	4.5	4.5	8.3	12.1	12.8
142.5°	109.3	99.0	65.2	30.0	4.5	4.5	7.7	10.9	12.1
145°	101.0	92.0	58.8	27.5	4.5	3.8	7.0	10.2	10.9
147.5°	93.3	83.7	53.7	25.6	4.5	3.8	6.4	8.9	9.6
150°	85.6	75.4	48.6	23.6	4.5	3.8	5.8	7.7	8.9
152.5°	77.3	65.2	43.5	21.7	4.5	3.8	5.1	7.0	7.7
155°	69.0	56.9	39.0	19.8	5.1	3.8	4.5	5.8	7.0
157.5°	62.0	49.2	34.5	17.9	5.1	3.2	4.5	5.1	5.8
160°	53.7	42.2	30.7	16.0	5.1	3.2	3.8	4.5	5.1
162.5°	47.3	35.1	26.8	14.7	5.1	3.2	3.8	3.8	4.5
165°	40.3	29.4	22.4	13.4	5.1	3.2	3.2	3.2	3.8
167.5°	32.6	23.0	18.5	12.1	5.1	3.2	3.2	2.6	3.2
170°	24.3	17.3	15.3	10.9	5.1	3.2	2.6	1.9	2.6
172.5°	10.9	13.4	12.1	9.6	5.8	3.2	2.6	1.9	1.3
175°	5.8	9.6	9.6	8.3	5.8	3.2	2.6	1.9	0.6
177.5°	4.5	5.8	7.0	7.0	5.8	3.8	2.6	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	21.67	23.15	22.18	23.65	24.20	20.55	22.03	21.06	22.53	23.07
	3H	23.76	25.11	24.28	25.62	26.21	22.39	23.74	22.91	24.25	24.83
	4H	24.71	25.99	25.25	26.51	27.11	23.11	24.39	23.65	24.91	25.51
	6H	25.63	26.82	26.18	27.36	27.97	23.71	24.90	24.26	25.44	26.05
	8H	26.06	27.20	26.63	27.76	28.38	23.94	25.08	24.51	25.65	26.26
	12H	26.48	27.58	27.05	28.13	28.78	24.15	25.24	24.72	25.80	26.44
4H	2H	22.16	23.43	22.70	23.96	24.56	21.12	22.40	21.66	22.93	23.52
	3H	24.47	25.56	25.03	26.13	26.75	23.15	24.24	23.70	24.80	25.42
	4H	25.59	26.58	26.16	27.16	27.81	23.98	24.97	24.55	25.55	26.20
	6H	26.69	27.57	27.29	28.18	28.84	24.70	25.58	25.29	26.18	26.85
	8H	27.22	28.05	27.82	28.65	29.33	24.99	25.82	25.59	26.42	27.10
	12H	27.75	28.50	28.37	29.14	29.82	25.26	26.01	25.88	26.64	27.32
8H	4H	25.83	26.66	26.43	27.26	27.94	24.32	25.15	24.92	25.75	26.43
	6H	27.12	27.82	27.75	28.46	29.14	25.18	25.88	25.80	26.52	27.20
	8H	27.79	28.42	28.43	29.07	29.77	25.55	26.18	26.19	26.84	27.53
	12H	28.49	29.06	29.14	29.70	30.46	25.91	26.47	26.55	27.12	27.87
12H	4H	25.85	26.60	26.47	27.23	27.91	24.39	25.14	25.01	25.77	26.45
	6H	27.17	27.80	27.81	28.46	29.15	25.29	25.92	25.93	26.57	27.27
	8H	27.91	28.48	28.56	29.12	29.88	25.73	26.29	26.37	26.94	27.69