

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: P893915

Luminaire Tested: 4MB-8HL-ASMF-UNV-L840

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893915  
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-8HL-ASMF-UNV-L840  
Description: 8000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 4000K CCT  
Light Source: -  
Ballast/Driver: -

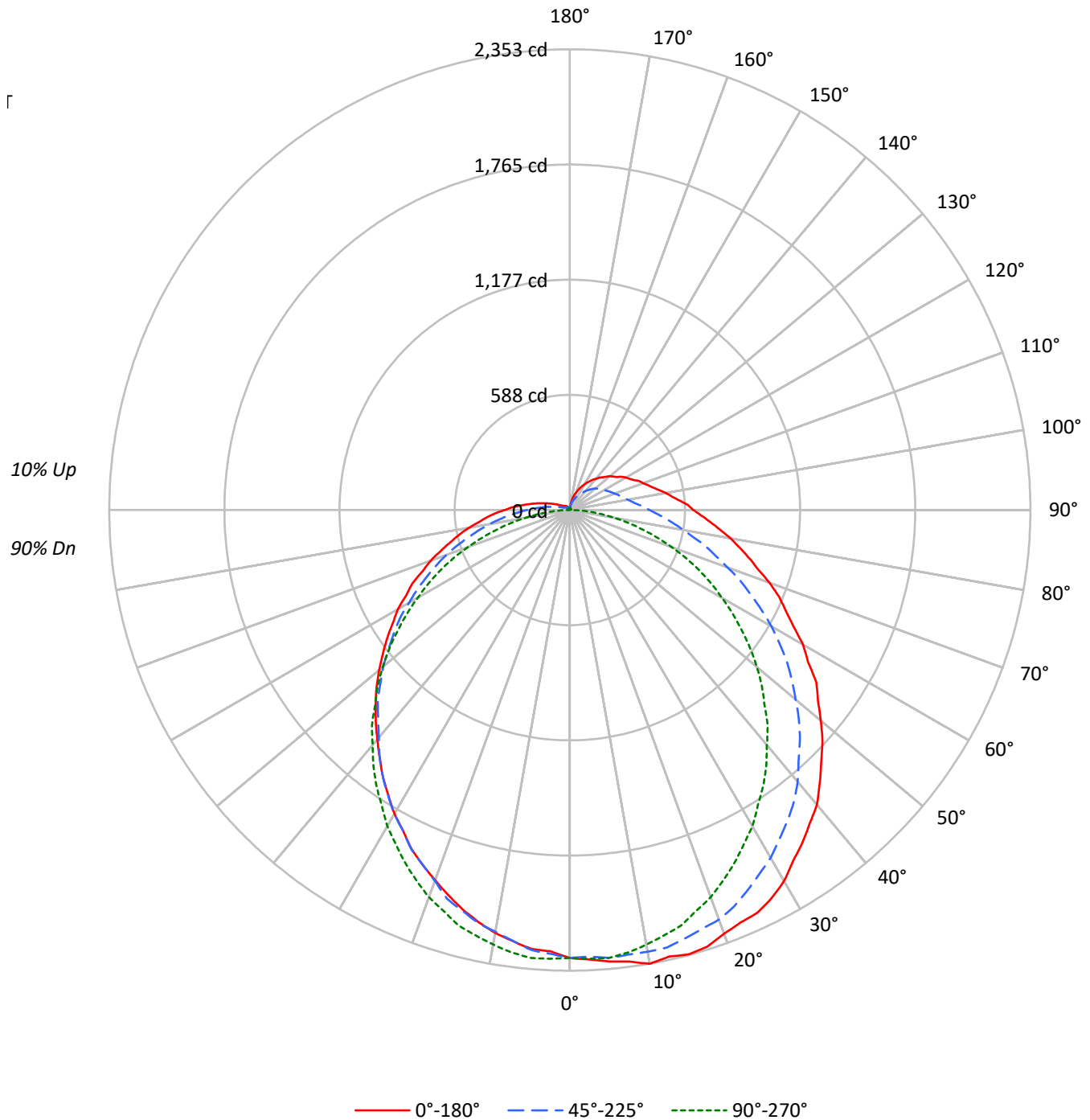
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7867.0 lumens  
Efficiency: N/A  
Efficacy: 135.9 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): 57.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.999  
Total Harmonic Distortion (THDi): 4.23  
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		0
RCR																			
0	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93		90
1	105	99	95	90	101	96	92	88	90	87	83	85	82	79	79	77	75		72
2	95	86	79	72	91	83	76	71	78	72	68	73	69	65	69	65	62		59
3	86	75	66	60	83	73	65	58	68	62	56	64	59	54	60	56	52		49
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	44		42
5	72	59	50	43	69	57	49	42	54	47	41	51	45	40	48	43	38		36
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34		31
7	62	48	39	33	59	47	38	32	44	37	32	42	36	31	40	34	30		28
8	57	44	35	29	55	43	35	29	41	33	28	39	32	27	37	31	27		25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24		22
10	50	37	29	24	49	36	29	23	34	28	23	33	27	22	31	26	22		20

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

	0°	45°	90°	135°	180°
0°	23304	23304	23304	23304	23304
5°	23597	22767	22546	22370	22943
10°	24203	22292	21522	21289	22556
15°	24558	21820	20566	20400	22082
20°	24677	21369	19478	19337	21565
25°	25125	20682	18334	18454	21173
30°	25279	20020	17245	17497	20693
35°	25219	19299	16102	16575	20250
40°	25445	18552	14928	15540	19813
45°	25370	17670	13771	14752	19571
50°	25562	16763	12659	13846	19412
55°	26130	15974	11384	12941	19345
60°	26565	14994	10078	11978	19603
65°	27483	13931	8754	11020	20044
70°	29730	12918	7176	10106	20728
75°	33402	12180	5488	9044	22160
80°	41516	11468	3677	8105	26025
85°	62068	11315	1845	7137	36498

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 204365 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	217.1	2.8
10°-20°	622.2	7.9
20°-30°	938.3	11.9
30°-40°	1126.2	14.3
40°-50°	1172.7	14.9
50°-60°	1087.1	13.8
60°-70°	895.2	11.4
70°-80°	645.8	8.2
80°-90°	410.0	5.2
90°-100°	252.7	3.2
100°-110°	168.5	2.1
110°-120°	120.0	1.5
120°-130°	87.9	1.1
130°-140°	60.5	0.8
140°-150°	36.8	0.5
150°-160°	18.3	0.2
160°-170°	6.7	0.1
170°-180°	1.1	0.0
0°-30°	1777.6	22.6
0°-40°	2903.8	36.9
0°-60°	5163.5	65.6
0°-90°	7114.5	90.4
90°-120°	541.3	6.9
90°-150°	726.5	9.2
90°-180°	753.0	9.6
0°-180°	7867.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2288	2288	2288	2288	2288	
5°	2314	2296	2296	2256	2250	222
15°	2349	2266	2197	2119	2112	662
25°	2269	2145	1990	1914	1912	1043
35°	2073	1938	1722	1665	1665	1299
45°	1817	1662	1406	1388	1402	1406
55°	1538	1356	1072	1098	1138	1366
65°	1217	1018	730	805	888	1212
75°	948	720	384	534	629	1005
85°	722	490	101	309	424	613
90°	630	407	9	220	331	348
95°	562	344	6	148	255	446
105°	440	270	6	61	134	470
115°	362	223	7	29	64	362
125°	294	186	8	23	37	268
135°	236	149	8	17	28	185
145°	181	105	8	13	19	114
155°	124	70	9	8	13	58
165°	72	40	9	6	7	21
175°	10	17	10	5	1	2
180°	7	7	7	7	7	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	2288.2	2288.2	2288.2	2288.2	2288.2	2288.2	2288.2	2288.2	2288.2
2.5°	2297.3	2304.2	2282.5	2296.2	2293.9	2296.2	2268.7	2291.6	2256.1
5°	2314.5	2317.9	2296.2	2304.2	2296.2	2276.7	2256.1	2248.1	2250.4
7.5°	2325.9	2344.2	2290.5	2292.8	2279.0	2258.4	2219.5	2226.4	2221.8
10°	2353.4	2332.8	2290.5	2280.2	2253.9	2232.1	2187.5	2190.9	2193.2
12.5°	2336.2	2331.7	2289.3	2251.6	2225.3	2206.9	2161.2	2149.7	2155.5
15°	2348.8	2329.4	2266.4	2236.7	2196.6	2164.6	2118.9	2110.8	2112.0
17.5°	2337.4	2321.4	2243.6	2202.4	2146.3	2126.9	2083.4	2069.7	2062.8
20°	2303.0	2295.0	2226.4	2155.5	2105.1	2067.4	2014.7	2006.7	2012.5
22.5°	2280.2	2260.7	2192.1	2121.1	2047.9	2014.7	1962.1	1961.0	1962.1
25°	2268.7	2243.6	2145.2	2070.8	1989.6	1959.8	1914.1	1896.9	1911.8
27.5°	2234.4	2211.5	2096.0	2014.7	1924.4	1884.3	1846.6	1843.1	1845.4
30°	2188.6	2144.0	2051.3	1951.8	1864.9	1823.7	1792.8	1769.9	1791.6
32.5°	2123.4	2098.3	1993.0	1884.3	1788.2	1759.6	1728.7	1726.4	1726.4
35°	2073.1	2054.8	1938.1	1824.8	1721.9	1683.0	1664.6	1656.6	1664.6
37.5°	2014.7	1987.3	1879.7	1752.7	1647.5	1614.3	1596.0	1589.1	1594.9
40°	1964.4	1914.1	1811.1	1678.4	1566.3	1536.5	1517.1	1523.9	1529.6
42.5°	1890.0	1861.4	1729.9	1602.9	1496.5	1464.4	1448.4	1454.1	1467.9
45°	1816.8	1790.5	1662.4	1523.9	1406.1	1388.9	1387.8	1384.3	1401.5
47.5°	1750.5	1712.7	1588.0	1446.1	1330.6	1311.1	1313.4	1324.9	1339.7
50°	1673.8	1629.2	1505.6	1362.6	1247.1	1234.5	1243.6	1251.6	1271.1
52.5°	1597.1	1561.7	1430.1	1283.7	1162.4	1153.2	1165.8	1192.1	1203.6
55°	1537.7	1473.6	1355.7	1191.0	1072.0	1073.2	1098.3	1113.2	1138.4
57.5°	1442.7	1394.6	1271.1	1108.6	987.3	995.4	1029.7	1054.8	1070.9
60°	1375.2	1314.6	1188.7	1020.5	898.1	910.7	949.6	987.3	1014.8
62.5°	1288.2	1235.6	1102.9	933.6	815.7	834.0	877.5	922.1	941.6
65°	1217.3	1157.8	1018.2	846.6	729.9	751.7	805.4	855.8	887.8
67.5°	1156.7	1094.9	942.7	766.5	643.0	675.0	737.9	787.1	812.3
70°	1084.6	1012.5	856.9	677.3	552.6	590.3	670.4	727.6	756.2
72.5°	1007.9	949.6	782.6	594.9	469.1	514.8	602.9	662.4	689.9
75°	948.4	883.2	719.6	512.6	384.4	439.3	534.3	601.8	629.2
77.5°	887.8	828.3	648.7	437.0	308.9	370.7	473.7	548.0	576.6
80°	834.0	765.4	589.2	375.3	230.0	303.2	416.4	489.7	522.8
82.5°	774.5	715.1	537.7	310.0	163.6	241.4	360.4	440.5	467.9
85°	721.9	660.1	489.7	258.6	100.7	186.5	308.9	391.3	424.5
87.5°	673.9	622.4	445.1	219.7	50.3	141.9	259.7	343.2	381.0
90°	630.4	572.0	407.3	184.2	9.2	103.0	219.7	302.0	330.6
92.5°	602.9	533.1	376.4	161.3	5.7	73.2	183.1	264.3	297.5
95°	561.7	500.0	344.4	144.2	5.7	49.2	147.6	226.5	255.1
97.5°	526.3	469.1	321.5	133.9	4.6	33.2	121.3	189.9	219.7
100°	498.8	445.1	300.9	124.7	5.7	24.0	96.1	161.3	187.6
102.5°	467.9	418.7	284.9	119.0	5.7	17.2	75.5	136.1	160.2
105°	440.5	397.0	270.0	113.3	5.7	14.9	60.6	112.1	133.9
107.5°	419.9	374.1	257.4	109.8	5.7	14.9	48.1	91.5	109.8
110°	399.3	355.8	244.8	106.4	5.7	13.7	37.8	75.5	91.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	385.6	338.6	233.4	103.0	6.9	13.7	30.9	62.9	75.5
115°	361.5	323.8	223.1	101.8	6.9	12.6	28.6	51.5	64.1
117.5°	344.4	310.0	212.8	98.4	6.9	12.6	27.5	42.3	51.5
120°	331.8	294.0	203.6	95.0	6.9	11.4	25.2	37.8	43.5
122.5°	315.8	279.2	195.6	92.7	6.9	11.4	24.0	35.5	38.9
125°	294.0	265.4	186.5	88.1	8.0	11.4	22.9	33.2	36.6
127.5°	280.3	252.8	179.6	82.4	8.0	10.3	21.7	30.9	34.3
130°	268.9	239.1	171.6	76.7	8.0	10.3	20.6	28.6	32.0
132.5°	251.7	225.4	160.2	72.1	8.0	9.2	18.3	26.3	29.7
135°	235.7	213.9	148.7	67.5	8.0	9.2	17.2	25.2	27.5
137.5°	225.4	202.5	138.4	62.9	8.0	8.0	16.0	22.9	25.2
140°	208.2	189.9	127.0	58.3	8.0	8.0	14.9	21.7	22.9
142.5°	195.6	177.3	116.7	53.8	8.0	8.0	13.7	19.4	21.7
145°	180.8	164.7	105.3	49.2	8.0	6.9	12.6	18.3	19.4
147.5°	167.0	149.9	96.1	45.8	8.0	6.9	11.4	16.0	17.2
150°	153.3	135.0	87.0	42.3	8.0	6.9	10.3	13.7	16.0
152.5°	138.4	116.7	77.8	38.9	8.0	6.9	9.2	12.6	13.7
155°	123.6	101.8	69.8	35.5	9.2	6.9	8.0	10.3	12.6
157.5°	111.0	88.1	61.8	32.0	9.2	5.7	8.0	9.2	10.3
160°	96.1	75.5	54.9	28.6	9.2	5.7	6.9	8.0	9.2
162.5°	84.7	62.9	48.1	26.3	9.2	5.7	6.9	6.9	8.0
165°	72.1	52.6	40.0	24.0	9.2	5.7	5.7	5.7	6.9
167.5°	58.3	41.2	33.2	21.7	9.2	5.7	5.7	4.6	5.7
170°	43.5	30.9	27.5	19.4	9.2	5.7	4.6	3.4	4.6
172.5°	19.4	24.0	21.7	17.2	10.3	5.7	4.6	3.4	2.3
175°	10.3	17.2	17.2	14.9	10.3	5.7	4.6	3.4	1.1
177.5°	8.0	10.3	12.6	12.6	10.3	6.9	4.6	2.3	1.1
180°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9



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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	21.30	22.78	21.81	23.28	23.83	20.27	21.75	20.78	22.25	22.80
	3H	23.39	24.74	23.91	25.25	25.83	22.15	23.49	22.66	24.00	24.59
	4H	24.33	25.61	24.87	26.14	26.73	22.89	24.17	23.43	24.70	25.29
	6H	25.25	26.44	25.80	26.98	27.59	23.52	24.71	24.08	25.25	25.87
	8H	25.68	26.82	26.25	27.38	28.00	23.78	24.92	24.34	25.48	26.10
	12H	26.10	27.19	26.67	27.75	28.40	24.01	25.10	24.58	25.66	26.31
4H	2H	21.80	23.07	22.34	23.60	24.20	20.84	22.11	21.38	22.64	23.24
	3H	24.11	25.20	24.66	25.77	26.39	22.90	23.98	23.45	24.55	25.17
	4H	25.22	26.22	25.80	26.80	27.45	23.75	24.75	24.32	25.32	25.97
	6H	26.33	27.21	26.92	27.81	28.47	24.51	25.38	25.10	25.99	26.65
	8H	26.86	27.68	27.45	28.29	28.96	24.82	25.65	25.42	26.25	26.93
	12H	27.38	28.13	28.00	28.76	29.44	25.11	25.86	25.73	26.49	27.18
8H	4H	25.48	26.31	26.08	26.91	27.58	24.09	24.91	24.69	25.52	26.19
	6H	26.76	27.46	27.39	28.11	28.79	24.97	25.67	25.60	26.32	27.00
	8H	27.43	28.06	28.07	28.72	29.41	25.37	26.00	26.01	26.66	27.35
	12H	28.13	28.70	28.78	29.34	30.10	25.76	26.32	26.40	26.97	27.72
12H	4H	25.50	26.25	26.12	26.88	27.56	24.15	24.90	24.77	25.53	26.21
	6H	26.82	27.45	27.46	28.10	28.80	25.08	25.71	25.72	26.37	27.06
	8H	27.56	28.12	28.20	28.77	29.52	25.55	26.11	26.19	26.75	27.51