

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: P893168

Luminaire Tested: 4MB-10HL-ASMF-UNV-L950

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893168
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-10HL-ASMF-UNV-L950
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 5000K CC
Light Source: -
Ballast/Driver: -

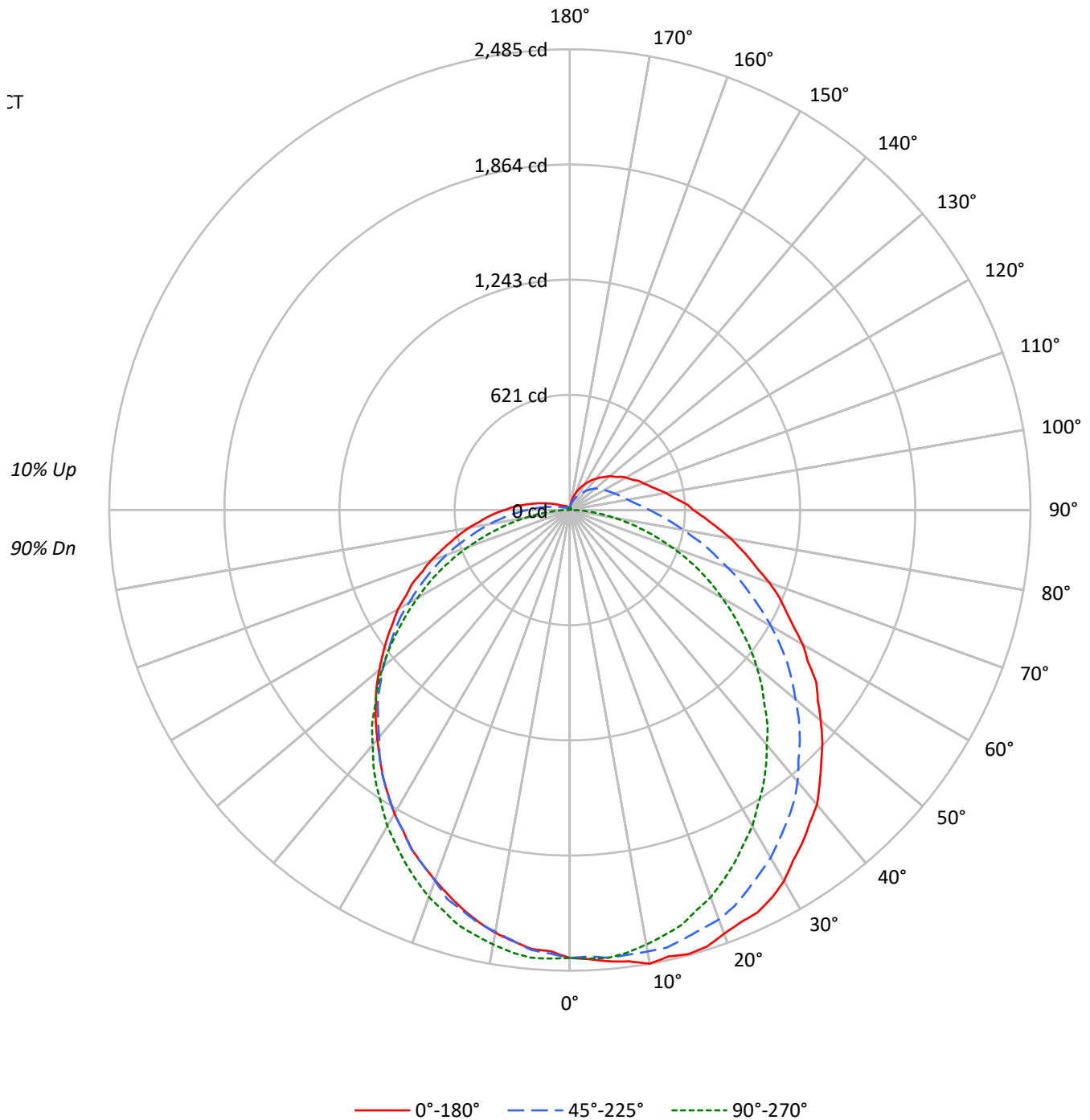
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8306.0 lumens
Efficiency: N/A
Efficacy: 110.0 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): 75.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.997
Total Harmonic Distortion (THDi): 7.45
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°	24604	24604	24604	24604	24604
5°	24913	24037	23804	23618	24224
10°	25554	23535	22723	22477	23814
15°	25928	23038	21714	21538	23314
20°	26055	22561	20566	20416	22768
25°	26527	21836	19357	19484	22354
30°	26690	21137	18207	18473	21848
35°	26627	20375	17000	17501	21380
40°	26865	19588	15761	16407	20919
45°	26786	18656	14539	15574	20662
50°	26989	17698	13365	14619	20495
55°	27589	16865	12019	13663	20424
60°	28047	15830	10640	12646	20697
65°	29016	14710	9244	11635	21164
70°	31388	13638	7576	10670	21885
75°	35269	12860	5795	9548	23400
80°	43836	12109	3881	8558	27478
85°	65533	11945	1947	7535	38527

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 215777 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	229.2	2.8
10°-20°	657.0	7.9
20°-30°	990.6	11.9
30°-40°	1189.0	14.3
40°-50°	1238.1	14.9
50°-60°	1147.7	13.8
60°-70°	945.2	11.4
70°-80°	681.8	8.2
80°-90°	432.8	5.2
90°-100°	266.8	3.2
100°-110°	177.9	2.1
110°-120°	126.7	1.5
120°-130°	92.8	1.1
130°-140°	63.8	0.8
140°-150°	38.9	0.5
150°-160°	19.3	0.2
160°-170°	7.1	0.1
170°-180°	1.2	0.0
0°-30°	1876.8	22.6
0°-40°	3065.9	36.9
0°-60°	5451.7	65.6
0°-90°	7511.5	90.4
90°-120°	571.4	6.9
90°-150°	767.0	9.2
90°-180°	794.0	9.6
0°-180°	8306.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2416	2416	2416	2416	2416	
5°	2444	2424	2424	2382	2376	234
15°	2480	2393	2319	2237	2230	699
25°	2395	2265	2101	2021	2018	1102
35°	2189	2046	1818	1758	1758	1371
45°	1918	1755	1484	1465	1480	1484
55°	1624	1431	1132	1160	1202	1442
65°	1285	1075	771	850	937	1280
75°	1001	760	406	564	664	1061
85°	762	517	106	326	448	647
90°	666	430	10	232	349	367
95°	593	364	6	156	269	471
105°	465	285	6	64	141	497
115°	382	236	7	30	68	382
125°	310	197	8	24	39	282
135°	249	157	8	18	29	195
145°	191	111	8	13	20	121
155°	130	74	10	8	13	62
165°	76	42	10	6	7	22
175°	11	18	11	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°	2415.9	2415.9	2415.9	2415.9	2415.9	2415.9	2415.9	2415.9	2415.9
2.5°	2425.5	2432.8	2409.8	2424.3	2421.9	2424.3	2395.3	2419.5	2382.0
5°	2443.6	2447.3	2424.3	2432.8	2424.3	2403.8	2382.0	2373.6	2376.0
7.5°	2455.7	2475.1	2418.3	2420.7	2406.2	2384.5	2343.4	2350.6	2345.8
10°	2484.7	2463.0	2418.3	2407.4	2379.6	2356.7	2309.6	2313.2	2315.6
12.5°	2466.6	2461.8	2417.1	2377.2	2349.4	2330.1	2281.8	2269.7	2275.7
15°	2479.9	2459.3	2392.9	2361.5	2319.2	2285.4	2237.1	2228.6	2229.8
17.5°	2467.8	2450.9	2368.8	2325.3	2266.1	2245.5	2199.6	2185.1	2177.9
20°	2431.6	2423.1	2350.6	2275.7	2222.6	2182.7	2127.2	2118.7	2124.8
22.5°	2407.4	2386.9	2314.4	2239.5	2162.2	2127.2	2071.6	2070.4	2071.6
25°	2395.3	2368.8	2264.9	2186.4	2100.6	2069.2	2020.9	2002.7	2018.5
27.5°	2359.1	2334.9	2212.9	2127.2	2031.7	1989.5	1949.6	1946.0	1948.4
30°	2310.8	2263.7	2165.8	2060.7	1968.9	1925.4	1892.8	1868.7	1891.6
32.5°	2241.9	2215.3	2104.2	1989.5	1888.0	1857.8	1825.2	1822.8	1822.8
35°	2188.8	2169.4	2046.2	1926.6	1817.9	1776.9	1757.5	1749.1	1757.5
37.5°	2127.2	2098.2	1984.6	1850.6	1739.4	1704.4	1685.1	1677.8	1683.9
40°	2074.0	2020.9	1912.2	1772.0	1653.7	1622.3	1601.7	1609.0	1615.0
42.5°	1995.5	1965.3	1826.4	1692.3	1580.0	1546.2	1529.2	1535.3	1549.8
45°	1918.2	1890.4	1755.1	1609.0	1484.5	1466.4	1465.2	1461.6	1479.7
47.5°	1848.1	1808.3	1676.6	1526.8	1404.8	1384.3	1386.7	1398.8	1414.5
50°	1767.2	1720.1	1589.6	1438.6	1316.6	1303.4	1313.0	1321.5	1342.0
52.5°	1686.3	1648.8	1509.9	1355.3	1227.3	1217.6	1230.9	1258.7	1270.7
55°	1623.5	1555.8	1431.4	1257.5	1131.8	1133.0	1159.6	1175.3	1201.9
57.5°	1523.2	1472.5	1342.0	1170.5	1042.4	1050.9	1087.1	1113.7	1130.6
60°	1451.9	1387.9	1255.0	1077.5	948.2	961.5	1002.6	1042.4	1071.4
62.5°	1360.1	1304.6	1164.4	985.7	861.3	880.6	926.5	973.6	994.1
65°	1285.2	1222.4	1075.1	893.9	770.7	793.6	850.4	903.5	937.4
67.5°	1221.2	1156.0	995.3	809.3	678.9	712.7	779.1	831.1	857.6
70°	1145.1	1069.0	904.7	715.1	583.4	623.3	707.8	768.2	798.4
72.5°	1064.2	1002.6	826.2	628.1	495.3	543.6	636.6	699.4	728.4
75°	1001.4	932.5	759.8	541.2	405.9	463.8	564.1	635.4	664.4
77.5°	937.4	874.5	684.9	461.4	326.1	391.4	500.1	578.6	608.8
80°	880.6	808.1	622.1	396.2	242.8	320.1	439.7	517.0	552.0
82.5°	817.8	755.0	567.7	327.3	172.7	254.9	380.5	465.1	494.0
85°	762.2	697.0	517.0	273.0	106.3	196.9	326.1	413.1	448.1
87.5°	711.5	657.1	469.9	231.9	53.1	149.8	274.2	362.4	402.2
90°	665.6	604.0	430.0	194.5	9.7	108.7	231.9	318.9	349.1
92.5°	636.6	562.9	397.4	170.3	6.0	77.3	193.3	279.0	314.1
95°	593.1	527.9	363.6	152.2	6.0	51.9	155.8	239.2	269.4
97.5°	555.6	495.3	339.4	141.3	4.8	35.0	128.0	200.5	231.9
100°	526.7	469.9	317.7	131.7	6.0	25.4	101.5	170.3	198.1
102.5°	494.0	442.1	300.8	125.6	6.0	18.1	79.7	143.7	169.1
105°	465.1	419.2	285.1	119.6	6.0	15.7	64.0	118.4	141.3
107.5°	443.3	395.0	271.8	116.0	6.0	15.7	50.7	96.6	116.0
110°	421.6	375.7	258.5	112.3	6.0	14.5	39.9	79.7	96.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	407.1	357.5	246.4	108.7	7.2	14.5	32.6	66.4	79.7
115°	381.7	341.8	235.5	107.5	7.2	13.3	30.2	54.4	67.6
117.5°	363.6	327.3	224.7	103.9	7.2	13.3	29.0	44.7	54.4
120°	350.3	310.4	215.0	100.3	7.2	12.1	26.6	39.9	45.9
122.5°	333.4	294.7	206.6	97.8	7.2	12.1	25.4	37.4	41.1
125°	310.4	280.2	196.9	93.0	8.5	12.1	24.2	35.0	38.7
127.5°	295.9	267.0	189.6	87.0	8.5	10.9	23.0	32.6	36.2
130°	283.9	252.5	181.2	80.9	8.5	10.9	21.7	30.2	33.8
132.5°	265.7	238.0	169.1	76.1	8.5	9.7	19.3	27.8	31.4
135°	248.8	225.9	157.0	71.3	8.5	9.7	18.1	26.6	29.0
137.5°	238.0	213.8	146.2	66.4	8.5	8.5	16.9	24.2	26.6
140°	219.8	200.5	134.1	61.6	8.5	8.5	15.7	23.0	24.2
142.5°	206.6	187.2	123.2	56.8	8.5	8.5	14.5	20.5	23.0
145°	190.9	173.9	111.1	51.9	8.5	7.2	13.3	19.3	20.5
147.5°	176.4	158.2	101.5	48.3	8.5	7.2	12.1	16.9	18.1
150°	161.9	142.5	91.8	44.7	8.5	7.2	10.9	14.5	16.9
152.5°	146.2	123.2	82.1	41.1	8.5	7.2	9.7	13.3	14.5
155°	130.5	107.5	73.7	37.4	9.7	7.2	8.5	10.9	13.3
157.5°	117.2	93.0	65.2	33.8	9.7	6.0	8.5	9.7	10.9
160°	101.5	79.7	58.0	30.2	9.7	6.0	7.2	8.5	9.7
162.5°	89.4	66.4	50.7	27.8	9.7	6.0	7.2	7.2	8.5
165°	76.1	55.6	42.3	25.4	9.7	6.0	6.0	6.0	7.2
167.5°	61.6	43.5	35.0	23.0	9.7	6.0	6.0	4.8	6.0
170°	45.9	32.6	29.0	20.5	9.7	6.0	4.8	3.6	4.8
172.5°	20.5	25.4	23.0	18.1	10.9	6.0	4.8	3.6	2.4
175°	10.9	18.1	18.1	15.7	10.9	6.0	4.8	3.6	1.2
177.5°	8.5	10.9	13.3	13.3	10.9	7.2	4.8	2.4	1.2
180°	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2



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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	21.49	22.97	22.00	23.47	24.02	20.46	21.94	20.97	22.44	22.99
	3H	23.58	24.93	24.10	25.44	26.02	22.33	23.68	22.85	24.19	24.78
	4H	24.52	25.80	25.06	26.33	26.92	23.08	24.36	23.62	24.88	25.48
	6H	25.44	26.63	25.99	27.17	27.78	23.71	24.90	24.27	25.44	26.05
	8H	25.87	27.01	26.43	27.57	28.19	23.97	25.11	24.53	25.67	26.29
	12H	26.29	27.38	26.86	27.94	28.59	24.20	25.29	24.77	25.85	26.50
4H	2H	21.98	23.26	22.53	23.79	24.39	21.03	22.30	21.57	22.83	23.43
	3H	24.30	25.39	24.85	25.96	26.57	23.09	24.17	23.64	24.74	25.36
	4H	25.41	26.41	25.98	26.99	27.64	23.94	24.93	24.51	25.51	26.16
	6H	26.52	27.40	27.11	28.00	28.66	24.69	25.57	25.29	26.18	26.84
	8H	27.04	27.87	27.64	28.47	29.15	25.01	25.84	25.61	26.44	27.11
	12H	27.57	28.32	28.19	28.95	29.63	25.30	26.05	25.92	26.68	27.36
8H	4H	25.67	26.49	26.27	27.10	27.77	24.28	25.10	24.87	25.71	26.38
	6H	26.95	27.65	27.58	28.30	28.98	25.16	25.86	25.79	26.51	27.19
	8H	27.62	28.25	28.26	28.90	29.60	25.56	26.19	26.20	26.85	27.54
	12H	28.32	28.89	28.97	29.53	30.29	25.95	26.51	26.59	27.16	27.91
12H	4H	25.69	26.44	26.31	27.07	27.75	24.34	25.09	24.96	25.72	26.40
	6H	27.01	27.64	27.65	28.29	28.99	25.27	25.90	25.91	26.56	27.25
	8H	27.75	28.31	28.39	28.95	29.71	25.73	26.30	26.38	26.94	27.70