

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: P893167

Luminaire Tested: 4MB-10HL-ASMF-UNV-L940

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893167
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-L940
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 4000K CCT
Light Source: -
Ballast/Driver: -

Summary

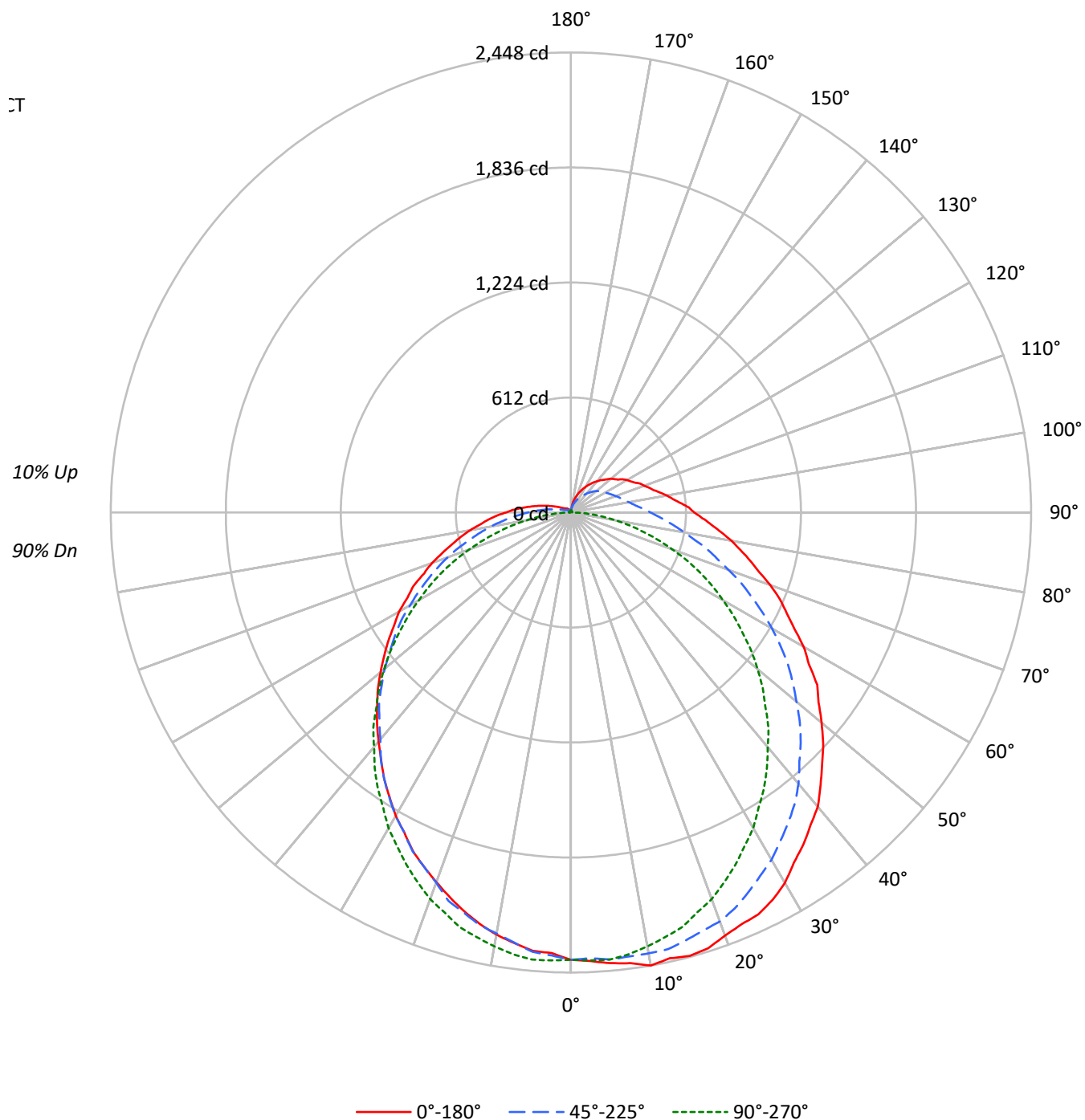
Lumens per Lamp: N/A
Luminaire Lumens: 8182.0 lumens
Efficiency: N/A
Efficacy: 108.4 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.21 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 3.98' x H: 0.12')
CIE Type: Direct

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
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°	24236	24236	24236	24236	24236
5°	24542	23678	23448	23266	23862
10°	25172	23184	22384	22142	23459
15°	25542	22695	21390	21217	22966
20°	25666	22224	20258	20111	22427
25°	26132	21510	19068	19193	22020
30°	26292	20822	17935	18198	21523
35°	26229	20072	16746	17240	21061
40°	26464	19295	15526	16162	20607
45°	26386	18377	14322	15342	20354
50°	26586	17434	13166	14400	20190
55°	27176	16613	11839	13459	20118
60°	27630	15594	10482	12457	20388
65°	28585	14490	9106	11462	20848
70°	30919	13435	7463	10512	21559
75°	34741	12667	5708	9406	23048
80°	43179	11928	3824	8430	27070
85°	64552	11768	1918	7424	37959

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 90°

Luminance: 212535 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	225.8	2.8
10°-20°	647.2	7.9
20°-30°	975.9	11.9
30°-40°	1171.3	14.3
40°-50°	1219.6	14.9
50°-60°	1130.6	13.8
60°-70°	931.1	11.4
70°-80°	671.6	8.2
80°-90°	426.4	5.2
90°-100°	262.9	3.2
100°-110°	175.3	2.1
110°-120°	124.8	1.5
120°-130°	91.4	1.1
130°-140°	62.9	0.8
140°-150°	38.3	0.5
150°-160°	19.0	0.2
160°-170°	6.9	0.1
170°-180°	1.2	0.0
0°-30°	1848.8	22.6
0°-40°	3020.1	36.9
0°-60°	5370.3	65.6
0°-90°	7399.4	90.4
90°-120°	562.9	6.9
90°-150°	755.5	9.2
90°-180°	783.0	9.6
0°-180°	8182.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2380	2380	2380	2380	2380	
5°	2407	2388	2388	2346	2340	231
15°	2443	2357	2285	2204	2197	689
25°	2360	2231	2069	1991	1988	1085
35°	2156	2016	1791	1731	1731	1351
45°	1890	1729	1462	1443	1458	1462
55°	1599	1410	1115	1142	1184	1421
65°	1266	1059	759	838	923	1261
75°	986	748	400	556	654	1045
85°	751	509	105	321	442	637
90°	656	424	10	228	344	362
95°	584	358	6	154	265	464
105°	458	281	6	63	139	489
115°	376	232	7	30	67	377
125°	306	194	8	24	38	278
135°	245	155	8	18	29	192
145°	188	110	8	13	20	119
155°	128	73	10	8	13	61
165°	75	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°	2379.8	2379.8	2379.8	2379.8	2379.8	2379.8	2379.8	2379.8	2379.8
2.5°	2389.3	2396.5	2373.8	2388.1	2385.7	2388.1	2359.6	2383.4	2346.5
5°	2407.2	2410.7	2388.1	2396.5	2388.1	2367.9	2346.5	2338.1	2340.5
7.5°	2419.1	2438.1	2382.2	2384.6	2370.3	2348.9	2308.4	2315.5	2310.8
10°	2447.6	2426.2	2382.2	2371.5	2344.1	2321.5	2275.1	2278.7	2281.0
12.5°	2429.8	2425.0	2381.0	2341.7	2314.4	2295.3	2247.7	2235.8	2241.8
15°	2442.9	2422.6	2357.2	2326.3	2284.6	2251.3	2203.7	2195.4	2196.6
17.5°	2431.0	2414.3	2333.4	2290.6	2232.2	2212.0	2166.8	2152.5	2145.4
20°	2395.3	2386.9	2315.5	2241.8	2189.4	2150.1	2095.4	2087.1	2093.0
22.5°	2371.5	2351.2	2279.8	2206.1	2129.9	2095.4	2040.7	2039.5	2040.7
25°	2359.6	2333.4	2231.1	2153.7	2069.2	2038.3	1990.7	1972.9	1988.3
27.5°	2323.9	2300.1	2179.9	2095.4	2001.4	1959.8	1920.5	1916.9	1919.3
30°	2276.3	2229.9	2133.5	2030.0	1939.5	1896.7	1864.6	1840.8	1863.4
32.5°	2208.5	2182.3	2072.8	1959.8	1859.8	1830.1	1797.9	1795.6	1795.6
35°	2156.1	2137.1	2015.7	1897.9	1790.8	1750.3	1731.3	1723.0	1731.3
37.5°	2095.4	2066.9	1955.0	1822.9	1713.5	1678.9	1659.9	1652.8	1658.7
40°	2043.1	1990.7	1883.6	1745.6	1629.0	1598.0	1577.8	1584.9	1590.9
42.5°	1965.7	1936.0	1799.1	1667.0	1556.4	1523.1	1506.4	1512.4	1526.6
45°	1889.6	1862.2	1728.9	1584.9	1462.4	1444.5	1443.3	1439.8	1457.6
47.5°	1820.5	1781.3	1651.6	1504.0	1383.9	1363.6	1366.0	1377.9	1393.4
50°	1740.8	1694.4	1565.9	1417.2	1297.0	1283.9	1293.4	1301.7	1322.0
52.5°	1661.1	1624.2	1487.4	1335.1	1208.9	1199.4	1212.5	1239.9	1251.8
55°	1599.2	1532.6	1410.0	1238.7	1114.9	1116.1	1142.3	1157.8	1183.9
57.5°	1500.5	1450.5	1322.0	1153.0	1026.9	1035.2	1070.9	1097.1	1113.7
60°	1430.3	1367.2	1236.3	1061.4	934.1	947.2	987.6	1026.9	1055.4
62.5°	1339.8	1285.1	1147.1	971.0	848.4	867.4	912.7	959.1	979.3
65°	1266.1	1204.2	1059.0	880.5	759.2	781.8	837.7	890.0	923.4
67.5°	1203.0	1138.7	980.5	797.2	668.7	702.0	767.5	818.6	844.8
70°	1128.0	1053.1	891.2	704.4	574.7	614.0	697.3	756.8	786.5
72.5°	1048.3	987.6	813.9	618.7	487.9	535.5	627.1	689.0	717.5
75°	986.4	918.6	748.4	533.1	399.8	456.9	555.7	625.9	654.4
77.5°	923.4	861.5	674.7	454.5	321.3	385.5	492.6	570.0	599.7
80°	867.4	796.0	612.8	390.3	239.2	315.3	433.1	509.3	543.8
82.5°	805.6	743.7	559.3	322.5	170.2	251.1	374.8	458.1	486.7
85°	750.8	686.6	509.3	268.9	104.7	194.0	321.3	406.9	441.5
87.5°	700.8	647.3	462.9	228.5	52.4	147.5	270.1	357.0	396.2
90°	655.6	594.9	423.6	191.6	9.5	107.1	228.5	314.1	343.9
92.5°	627.1	554.5	391.5	167.8	5.9	76.2	190.4	274.9	309.4
95°	584.2	520.0	358.2	149.9	5.9	51.2	153.5	235.6	265.3
97.5°	547.4	487.9	334.4	139.2	4.8	34.5	126.1	197.5	228.5
100°	518.8	462.9	312.9	129.7	5.9	25.0	100.0	167.8	195.1
102.5°	486.7	435.5	296.3	123.7	5.9	17.8	78.5	141.6	166.6
105°	458.1	412.9	280.8	117.8	5.9	15.5	63.1	116.6	139.2
107.5°	436.7	389.1	267.7	114.2	5.9	15.5	50.0	95.2	114.2
110°	415.3	370.1	254.6	110.7	5.9	14.3	39.3	78.5	95.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	401.0	352.2	242.7	107.1	7.1	14.3	32.1	65.4	78.5
115°	376.0	336.7	232.0	105.9	7.1	13.1	29.7	53.5	66.6
117.5°	358.2	322.5	221.3	102.3	7.1	13.1	28.6	44.0	53.5
120°	345.1	305.8	211.8	98.8	7.1	11.9	26.2	39.3	45.2
122.5°	328.4	290.3	203.5	96.4	7.1	11.9	25.0	36.9	40.5
125°	305.8	276.1	194.0	91.6	8.3	11.9	23.8	34.5	38.1
127.5°	291.5	263.0	186.8	85.7	8.3	10.7	22.6	32.1	35.7
130°	279.6	248.7	178.5	79.7	8.3	10.7	21.4	29.7	33.3
132.5°	261.8	234.4	166.6	75.0	8.3	9.5	19.0	27.4	30.9
135°	245.1	222.5	154.7	70.2	8.3	9.5	17.8	26.2	28.6
137.5°	234.4	210.6	144.0	65.4	8.3	8.3	16.7	23.8	26.2
140°	216.6	197.5	132.1	60.7	8.3	8.3	15.5	22.6	23.8
142.5°	203.5	184.4	121.4	55.9	8.3	8.3	14.3	20.2	22.6
145°	188.0	171.3	109.5	51.2	8.3	7.1	13.1	19.0	20.2
147.5°	173.7	155.9	100.0	47.6	8.3	7.1	11.9	16.7	17.8
150°	159.4	140.4	90.4	44.0	8.3	7.1	10.7	14.3	16.7
152.5°	144.0	121.4	80.9	40.5	8.3	7.1	9.5	13.1	14.3
155°	128.5	105.9	72.6	36.9	9.5	7.1	8.3	10.7	13.1
157.5°	115.4	91.6	64.3	33.3	9.5	5.9	8.3	9.5	10.7
160°	100.0	78.5	57.1	29.7	9.5	5.9	7.1	8.3	9.5
162.5°	88.1	65.4	50.0	27.4	9.5	5.9	7.1	7.1	8.3
165°	75.0	54.7	41.6	25.0	9.5	5.9	5.9	5.9	7.1
167.5°	60.7	42.8	34.5	22.6	9.5	5.9	5.9	4.8	5.9
170°	45.2	32.1	28.6	20.2	9.5	5.9	4.8	3.6	4.8
172.5°	20.2	25.0	22.6	17.8	10.7	5.9	4.8	3.6	2.4
175°	10.7	17.8	17.8	15.5	10.7	5.9	4.8	3.6	1.2
177.5°	8.3	10.7	13.1	13.1	10.7	7.1	4.8	2.4	1.2
180°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1

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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	21.44	22.92	21.95	23.42	23.96	20.41	21.89	20.92	22.39	22.93
	3H	23.53	24.87	24.05	25.39	25.97	22.28	23.63	22.80	24.14	24.72
	4H	24.47	25.75	25.01	26.27	26.87	23.03	24.31	23.57	24.83	25.43
	6H	25.39	26.58	25.94	27.12	27.73	23.66	24.85	24.21	25.39	26.00
	8H	25.82	26.96	26.38	27.52	28.14	23.92	25.06	24.48	25.62	26.24
	12H	26.24	27.33	26.81	27.89	28.53	24.15	25.24	24.72	25.80	26.44
4H	2H	21.93	23.21	22.47	23.74	24.33	20.97	22.25	21.51	22.78	23.37
	3H	24.25	25.33	24.80	25.90	26.52	23.03	24.12	23.59	24.69	25.31
	4H	25.36	26.36	25.93	26.93	27.58	23.89	24.88	24.46	25.46	26.11
	6H	26.46	27.34	27.06	27.95	28.61	24.64	25.52	25.23	26.12	26.79
	8H	26.99	27.82	27.59	28.42	29.10	24.96	25.78	25.55	26.39	27.06
	12H	27.52	28.27	28.14	28.90	29.58	25.25	26.00	25.87	26.63	27.31
8H	4H	25.62	26.44	26.21	27.05	27.72	24.22	25.05	24.82	25.65	26.33
	6H	26.90	27.60	27.53	28.24	28.92	25.11	25.81	25.74	26.45	27.13
	8H	27.57	28.20	28.21	28.85	29.55	25.51	26.14	26.15	26.79	27.49
	12H	28.27	28.83	28.91	29.48	30.23	25.90	26.46	26.54	27.10	27.86
12H	4H	25.63	26.38	26.25	27.02	27.70	24.29	25.04	24.91	25.67	26.35
	6H	26.95	27.59	27.59	28.24	28.93	25.22	25.85	25.86	26.50	27.20
	8H	27.70	28.26	28.34	28.90	29.66	25.68	26.25	26.32	26.89	27.65

END OF REPORT