

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: P893913

Luminaire Tested: 4MB-8HL-ASMF-UNV-L830

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893913
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-L830
Description: 8000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 3000K CCT
Light Source: -
Ballast/Driver: -

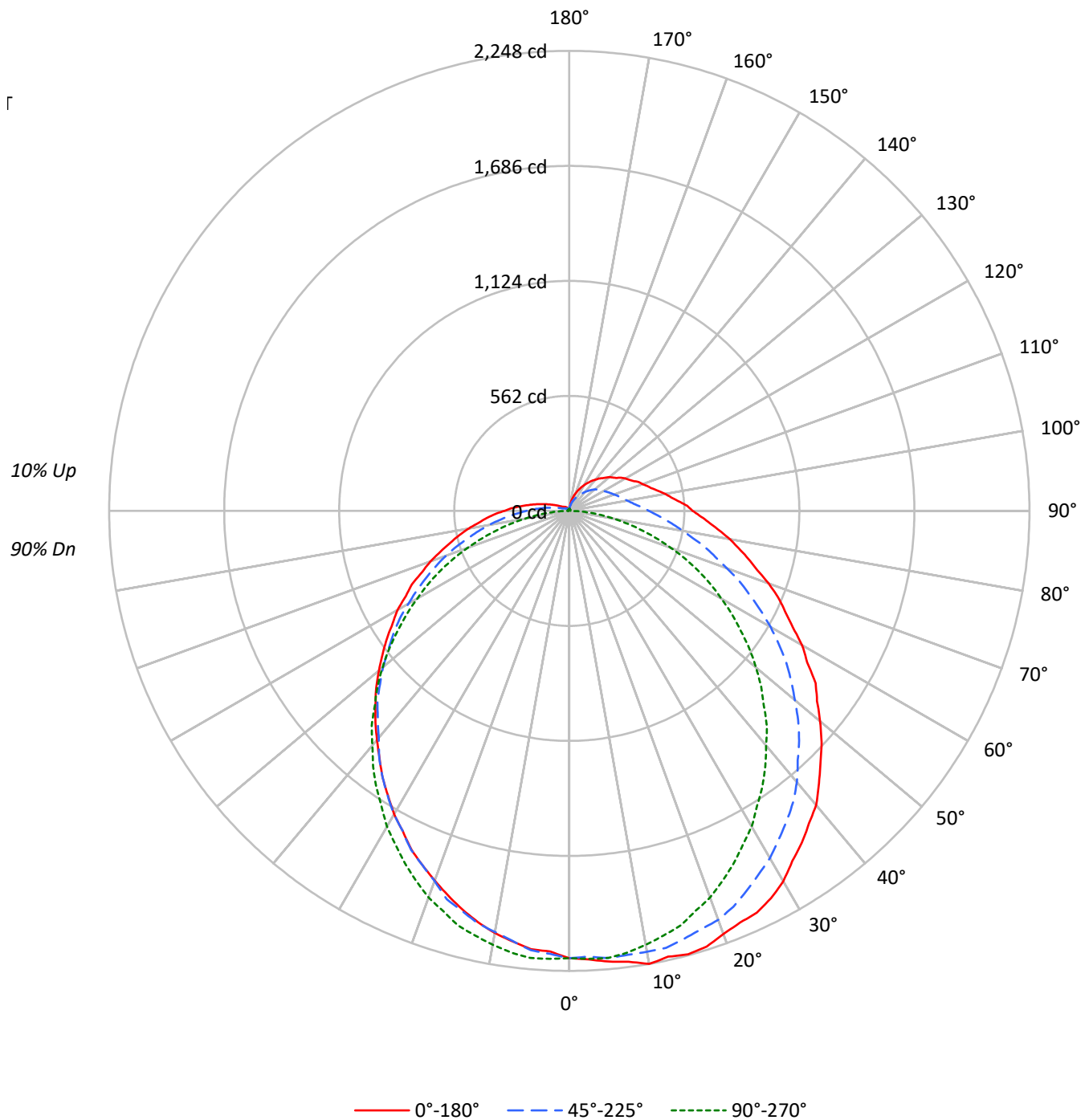
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7514.0 lumens
Efficiency: N/A
Efficacy: 129.8 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_{in}): 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	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°	22258	22258	22258	22258	22258
5°	22537	21746	21535	21366	21913
10°	23117	21291	20556	20333	21544
15°	23456	20841	19644	19485	21091
20°	23570	20410	18605	18469	20596
25°	23998	19754	17511	17626	20223
30°	24145	19122	16471	16711	19765
35°	24088	18433	15379	15833	19342
40°	24304	17719	14258	14843	18924
45°	24232	16878	13153	14089	18692
50°	24415	16012	12091	13225	18540
55°	24958	15257	10873	12360	18477
60°	25373	14321	9626	11440	18724
65°	26250	13306	8362	10526	19145
70°	28395	12339	6854	9654	19799
75°	31905	11633	5242	8637	21167
80°	39654	10955	3510	7743	24860
85°	59282	10806	1762	6816	34856

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 195191 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.4	2.8
10°-20°	594.3	7.9
20°-30°	896.2	11.9
30°-40°	1075.7	14.3
40°-50°	1120.0	14.9
50°-60°	1038.3	13.8
60°-70°	855.1	11.4
70°-80°	616.8	8.2
80°-90°	391.6	5.2
90°-100°	241.4	3.2
100°-110°	161.0	2.1
110°-120°	114.6	1.5
120°-130°	84.0	1.1
130°-140°	57.7	0.8
140°-150°	35.2	0.5
150°-160°	17.4	0.2
160°-170°	6.4	0.1
170°-180°	1.1	0.0
0°-30°	1697.9	22.6
0°-40°	2773.5	36.9
0°-60°	4931.8	65.6
0°-90°	6795.3	90.4
90°-120°	517.0	6.9
90°-150°	693.8	9.2
90°-180°	719.0	9.6
0°-180°	7514.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2186	2186	2186	2186	2186	
5°	2211	2193	2193	2155	2149	212
15°	2243	2165	2098	2024	2017	633
25°	2167	2049	1900	1828	1826	997
35°	1980	1851	1645	1590	1590	1241
45°	1735	1588	1343	1326	1339	1343
55°	1469	1295	1024	1049	1087	1305
65°	1163	972	697	769	848	1158
75°	906	687	367	510	601	960
85°	690	468	96	295	405	585
90°	602	389	9	210	316	332
95°	536	329	6	141	244	426
105°	421	258	6	58	128	449
115°	345	213	7	27	61	346
125°	281	178	8	22	35	256
135°	225	142	8	16	26	177
145°	173	100	8	12	19	109
155°	118	67	9	8	12	56
165°	69	38	9	6	7	20
175°	10	16	10	4	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°	2185.5	2185.5	2185.5	2185.5	2185.5	2185.5	2185.5	2185.5	2185.5
2.5°	2194.2	2200.8	2180.0	2193.2	2191.0	2193.2	2166.9	2188.8	2154.9
5°	2210.6	2213.9	2193.2	2200.8	2193.2	2174.6	2154.9	2147.3	2149.4
7.5°	2221.6	2239.0	2187.7	2189.9	2176.8	2157.1	2119.9	2126.5	2122.1
10°	2247.8	2228.1	2187.7	2177.9	2152.7	2132.0	2089.3	2092.6	2094.8
12.5°	2231.4	2227.0	2186.6	2150.5	2125.4	2107.9	2064.2	2053.3	2058.7
15°	2243.4	2224.8	2164.7	2136.3	2098.1	2067.5	2023.8	2016.1	2017.2
17.5°	2232.5	2217.2	2142.9	2103.5	2050.0	2031.4	1989.9	1976.8	1970.2
20°	2199.7	2192.1	2126.5	2058.7	2010.7	1974.6	1924.3	1916.7	1922.1
22.5°	2177.9	2159.3	2093.7	2026.0	1956.0	1924.3	1874.1	1873.0	1874.1
25°	2166.9	2142.9	2048.9	1977.9	1900.3	1871.9	1828.2	1811.8	1826.0
27.5°	2134.1	2112.3	2001.9	1924.3	1838.0	1799.8	1763.7	1760.4	1762.6
30°	2090.4	2047.8	1959.3	1864.2	1781.2	1741.8	1712.3	1690.5	1711.2
32.5°	2028.1	2004.1	1903.6	1799.8	1708.0	1680.7	1651.1	1649.0	1649.0
35°	1980.1	1962.6	1851.1	1742.9	1644.6	1607.4	1590.0	1582.3	1590.0
37.5°	1924.3	1898.1	1795.4	1674.1	1573.6	1541.9	1524.4	1517.8	1523.3
40°	1876.3	1828.2	1729.8	1603.1	1496.0	1467.6	1449.0	1455.5	1461.0
42.5°	1805.2	1777.9	1652.2	1530.9	1429.3	1398.7	1383.4	1388.9	1402.0
45°	1735.3	1710.2	1587.8	1455.5	1343.0	1326.6	1325.5	1322.2	1338.6
47.5°	1671.9	1635.8	1516.7	1381.2	1270.9	1252.3	1254.5	1265.4	1279.6
50°	1598.7	1556.1	1438.1	1301.5	1191.1	1179.1	1187.8	1195.5	1214.0
52.5°	1525.5	1491.6	1365.9	1226.1	1110.2	1101.5	1113.5	1138.6	1149.6
55°	1468.7	1407.5	1294.9	1137.6	1023.9	1025.0	1049.0	1063.2	1087.3
57.5°	1378.0	1332.1	1214.0	1058.9	943.0	950.7	983.5	1007.5	1022.8
60°	1313.5	1255.6	1135.4	974.7	857.8	869.8	907.0	943.0	969.3
62.5°	1230.4	1180.2	1053.4	891.7	779.1	796.6	838.1	880.8	899.3
65°	1162.7	1105.9	972.5	808.6	697.2	717.9	769.3	817.4	848.0
67.5°	1104.8	1045.8	900.4	732.1	614.1	644.7	704.8	751.8	775.9
70°	1035.9	967.1	818.5	646.9	527.8	563.9	640.4	695.0	722.3
72.5°	962.7	907.0	747.4	568.2	448.0	491.7	575.9	632.7	658.9
75°	905.9	843.6	687.3	489.6	367.2	419.6	510.3	574.8	601.0
77.5°	848.0	791.2	619.6	417.4	295.0	354.1	452.4	523.4	550.7
80°	796.6	731.1	562.8	358.4	219.6	289.6	397.8	467.7	499.4
82.5°	739.8	683.0	513.6	296.1	156.3	230.6	344.2	420.7	446.9
85°	689.5	630.5	467.7	247.0	96.2	178.1	295.0	373.7	405.4
87.5°	643.6	594.5	425.1	209.8	48.1	135.5	248.1	327.8	363.9
90°	602.1	546.4	389.0	175.9	8.7	98.3	209.8	288.5	315.8
92.5°	575.9	509.2	359.5	154.1	5.5	69.9	174.8	252.4	284.1
95°	536.5	477.5	328.9	137.7	5.5	47.0	141.0	216.4	243.7
97.5°	502.7	448.0	307.1	127.9	4.4	31.7	115.8	181.4	209.8
100°	476.4	425.1	287.4	119.1	5.5	22.9	91.8	154.1	179.2
102.5°	446.9	399.9	272.1	113.6	5.5	16.4	72.1	130.0	153.0
105°	420.7	379.2	257.9	108.2	5.5	14.2	57.9	107.1	127.9
107.5°	401.0	357.3	245.9	104.9	5.5	14.2	45.9	87.4	104.9
110°	381.4	339.8	233.8	101.6	5.5	13.1	36.1	72.1	87.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	368.3	323.5	222.9	98.3	6.6	13.1	29.5	60.1	72.1
115°	345.3	309.2	213.1	97.3	6.6	12.0	27.3	49.2	61.2
117.5°	328.9	296.1	203.3	94.0	6.6	12.0	26.2	40.4	49.2
120°	316.9	280.8	194.5	90.7	6.6	10.9	24.0	36.1	41.5
122.5°	301.6	266.6	186.9	88.5	6.6	10.9	22.9	33.9	37.2
125°	280.8	253.5	178.1	84.1	7.6	10.9	21.9	31.7	35.0
127.5°	267.7	241.5	171.6	78.7	7.6	9.8	20.8	29.5	32.8
130°	256.8	228.4	163.9	73.2	7.6	9.8	19.7	27.3	30.6
132.5°	240.4	215.3	153.0	68.8	7.6	8.7	17.5	25.1	28.4
135°	225.1	204.3	142.1	64.5	7.6	8.7	16.4	24.0	26.2
137.5°	215.3	193.4	132.2	60.1	7.6	7.6	15.3	21.9	24.0
140°	198.9	181.4	121.3	55.7	7.6	7.6	14.2	20.8	21.9
142.5°	186.9	169.4	111.5	51.4	7.6	7.6	13.1	18.6	20.8
145°	172.7	157.4	100.5	47.0	7.6	6.6	12.0	17.5	18.6
147.5°	159.5	143.2	91.8	43.7	7.6	6.6	10.9	15.3	16.4
150°	146.4	128.9	83.0	40.4	7.6	6.6	9.8	13.1	15.3
152.5°	132.2	111.5	74.3	37.2	7.6	6.6	8.7	12.0	13.1
155°	118.0	97.3	66.7	33.9	8.7	6.6	7.6	9.8	12.0
157.5°	106.0	84.1	59.0	30.6	8.7	5.5	7.6	8.7	9.8
160°	91.8	72.1	52.5	27.3	8.7	5.5	6.6	7.6	8.7
162.5°	80.9	60.1	45.9	25.1	8.7	5.5	6.6	6.6	7.6
165°	68.8	50.3	38.2	22.9	8.7	5.5	5.5	5.5	6.6
167.5°	55.7	39.3	31.7	20.8	8.7	5.5	5.5	4.4	5.5
170°	41.5	29.5	26.2	18.6	8.7	5.5	4.4	3.3	4.4
172.5°	18.6	22.9	20.8	16.4	9.8	5.5	4.4	3.3	2.2
175°	9.8	16.4	16.4	14.2	9.8	5.5	4.4	3.3	1.1
177.5°	7.6	9.8	12.0	12.0	9.8	6.6	4.4	2.2	1.1
180°	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6



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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	21.14	22.62	21.65	23.12	23.67	20.11	21.59	20.62	22.09	22.64
	3H	23.23	24.58	23.75	25.09	25.67	21.99	23.33	22.50	23.84	24.43
	4H	24.17	25.45	24.71	25.98	26.57	22.73	24.01	23.27	24.54	25.13
	6H	25.09	26.28	25.64	26.82	27.43	23.37	24.55	23.92	25.09	25.71
	8H	25.52	26.66	26.09	27.22	27.84	23.62	24.76	24.19	25.32	25.94
	12H	25.94	27.03	26.51	27.59	28.24	23.85	24.94	24.42	25.50	26.15
4H	2H	21.64	22.91	22.18	23.44	24.04	20.68	21.96	21.22	22.48	23.08
	3H	23.95	25.04	24.50	25.61	26.23	22.74	23.82	23.29	24.39	25.01
	4H	25.06	26.06	25.64	26.64	27.29	23.59	24.59	24.16	25.16	25.81
	6H	26.17	27.05	26.76	27.65	28.31	24.35	25.23	24.94	25.83	26.49
	8H	26.70	27.52	27.29	28.13	28.80	24.66	25.49	25.26	26.09	26.77
	12H	27.22	27.97	27.84	28.61	29.29	24.95	25.70	25.57	26.34	27.02
8H	4H	25.32	26.15	25.92	26.75	27.42	23.93	24.76	24.53	25.36	26.03
	6H	26.60	27.30	27.23	27.95	28.63	24.81	25.51	25.44	26.16	26.84
	8H	27.27	27.90	27.91	28.56	29.25	25.21	25.84	25.85	26.50	27.19
	12H	27.98	28.54	28.62	29.18	29.94	25.60	26.16	26.24	26.81	27.56
12H	4H	25.34	26.09	25.96	26.72	27.40	23.99	24.74	24.61	25.37	26.05
	6H	26.66	27.29	27.30	27.94	28.64	24.92	25.56	25.56	26.21	26.90
	8H	27.40	27.96	28.04	28.61	29.36	25.39	25.95	26.03	26.59	27.35