

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: P893819

Luminaire Tested: 4MB-7HL-ASMF-UNV-L840

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893819
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-7HL-ASMF-UNV-L840
Description: 7000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 4000K CCT
Light Source: -
Ballast/Driver: -

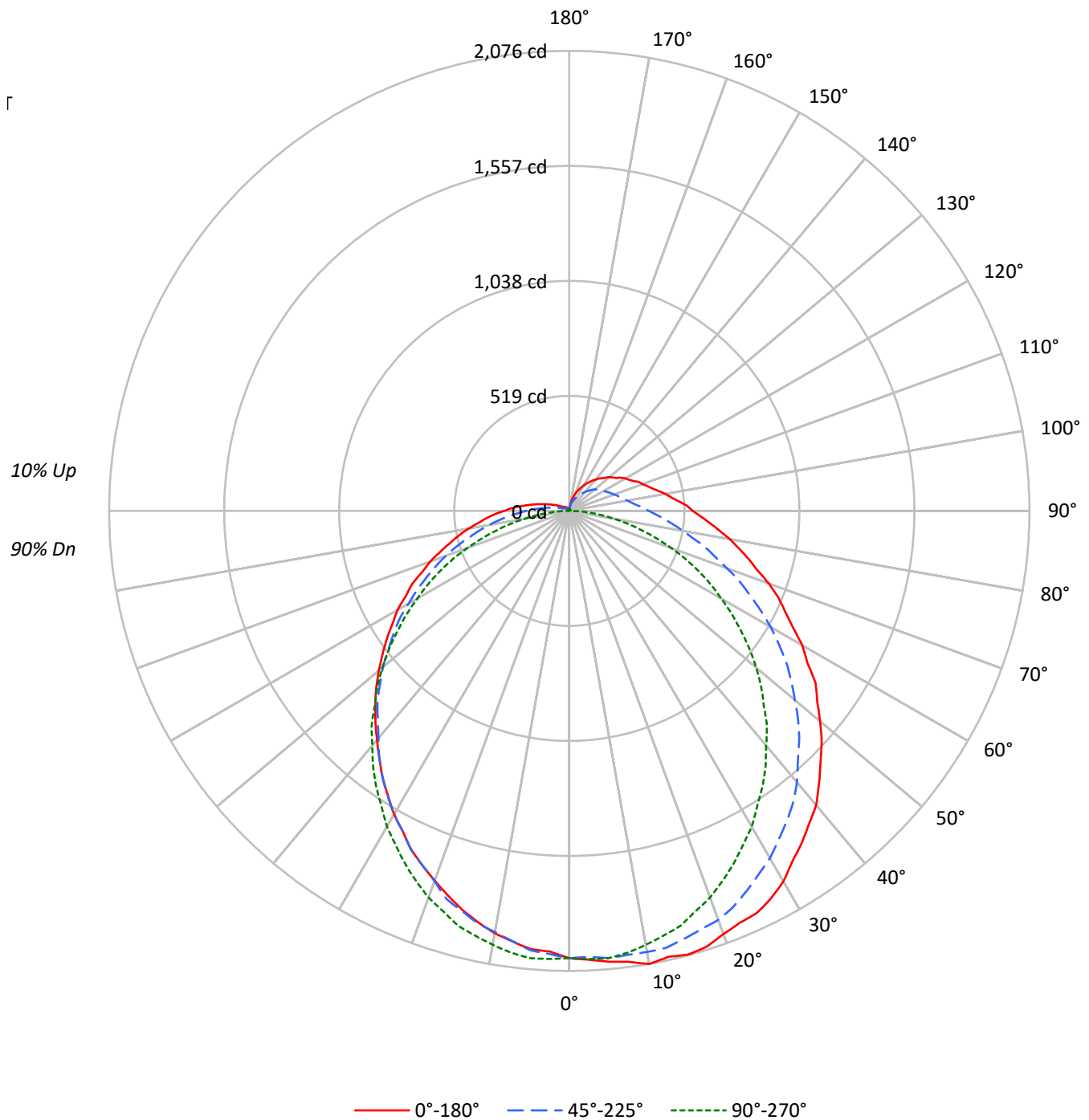
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6941.0 lumens
Efficiency: N/A
Efficacy: 134.0 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): 51.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 4
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°	20560	20560	20560	20560	20560
5°	20819	20087	19892	19737	20242
10°	21354	19668	18989	18783	19901
15°	21667	19253	18146	17998	19483
20°	21773	18853	17186	17061	19026
25°	22168	18248	16176	16282	18680
30°	22303	17664	15215	15438	18259
35°	22251	17028	14206	14625	17867
40°	22450	16368	13171	13711	17481
45°	22384	15590	12150	13015	17266
50°	22554	14790	11169	12216	17128
55°	23055	14094	10043	11417	17068
60°	23438	13229	8892	10567	17297
65°	24248	12292	7724	9723	17684
70°	26229	11398	6332	8917	18288
75°	29472	10746	4842	7979	19554
80°	36633	10119	3243	7151	22963
85°	54759	9981	1627	6296	32199

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 180311 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	191.6	2.8
10°-20°	549.0	7.9
20°-30°	827.8	11.9
30°-40°	993.6	14.3
40°-50°	1034.6	14.9
50°-60°	959.1	13.8
60°-70°	789.9	11.4
70°-80°	569.8	8.2
80°-90°	361.7	5.2
90°-100°	223.0	3.2
100°-110°	148.7	2.1
110°-120°	105.9	1.5
120°-130°	77.6	1.1
130°-140°	53.4	0.8
140°-150°	32.5	0.5
150°-160°	16.1	0.2
160°-170°	5.9	0.1
170°-180°	1.0	0.0
0°-30°	1568.4	22.6
0°-40°	2562.0	36.9
0°-60°	4555.8	65.6
0°-90°	6277.1	90.4
90°-120°	477.5	6.9
90°-150°	640.9	9.2
90°-180°	664.0	9.6
0°-180°	6941.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2019	2019	2019	2019	2019	
5°	2042	2026	2026	1991	1986	196
15°	2072	2000	1938	1869	1863	584
25°	2002	1893	1755	1689	1687	921
35°	1829	1710	1519	1469	1469	1146
45°	1603	1467	1241	1224	1236	1240
55°	1357	1196	946	969	1004	1205
65°	1074	898	644	711	783	1070
75°	837	635	339	471	555	887
85°	637	432	89	272	374	541
90°	556	359	8	194	292	307
95°	496	304	5	130	225	394
105°	389	238	5	54	118	415
115°	319	197	6	25	56	319
125°	259	164	7	20	32	236
135°	208	131	7	15	24	163
145°	160	93	7	11	17	101
155°	109	62	8	7	11	51
165°	64	35	8	5	6	18
175°	9	15	9	4	1	2
180°	6	6	6	6	6	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	2018.8	2018.8	2018.8	2018.8	2018.8	2018.8	2018.8	2018.8	2018.8
2.5°	2026.9	2033.0	2013.8	2025.9	2023.9	2025.9	2001.7	2021.9	1990.6
5°	2042.1	2045.1	2025.9	2033.0	2025.9	2008.7	1990.6	1983.5	1985.5
7.5°	2052.2	2068.3	2020.9	2022.9	2010.8	1992.6	1958.3	1964.3	1960.3
10°	2076.4	2058.2	2020.9	2011.8	1988.6	1969.4	1930.0	1933.0	1935.1
12.5°	2061.2	2057.2	2019.9	1986.5	1963.3	1947.2	1906.8	1896.7	1901.7
15°	2072.3	2055.2	1999.7	1973.4	1938.1	1909.8	1869.4	1862.4	1863.4
17.5°	2062.2	2048.1	1979.5	1943.1	1893.7	1876.5	1838.2	1826.0	1820.0
20°	2032.0	2024.9	1964.3	1901.7	1857.3	1824.0	1777.6	1770.5	1775.6
22.5°	2011.8	1994.6	1934.1	1871.5	1806.9	1777.6	1731.2	1730.1	1731.2
25°	2001.7	1979.5	1892.7	1827.1	1755.4	1729.1	1688.8	1673.6	1686.7
27.5°	1971.4	1951.2	1849.3	1777.6	1697.8	1662.5	1629.2	1626.2	1628.2
30°	1931.0	1891.7	1809.9	1722.1	1645.4	1609.0	1581.8	1561.6	1580.8
32.5°	1873.5	1851.3	1758.4	1662.5	1577.7	1552.5	1525.2	1523.2	1523.2
35°	1829.1	1812.9	1710.0	1610.0	1519.2	1484.9	1468.7	1461.6	1468.7
37.5°	1777.6	1753.4	1658.5	1546.4	1453.6	1424.3	1408.1	1402.1	1407.1
40°	1733.2	1688.8	1597.9	1480.8	1381.9	1355.7	1338.5	1344.5	1349.6
42.5°	1667.6	1642.3	1526.2	1414.2	1320.3	1292.1	1277.9	1283.0	1295.1
45°	1603.0	1579.7	1466.7	1344.5	1240.6	1225.4	1224.4	1221.4	1236.5
47.5°	1544.4	1511.1	1401.1	1275.9	1174.0	1156.8	1158.8	1168.9	1182.0
50°	1476.8	1437.4	1328.4	1202.2	1100.3	1089.2	1097.2	1104.3	1121.5
52.5°	1409.2	1377.9	1261.8	1132.6	1025.6	1017.5	1028.6	1051.8	1061.9
55°	1356.7	1300.1	1196.2	1050.8	945.8	946.8	969.0	982.2	1004.4
57.5°	1272.9	1230.5	1121.5	978.1	871.1	878.2	908.5	930.7	944.8
60°	1213.3	1159.8	1048.8	900.4	792.4	803.5	837.8	871.1	895.4
62.5°	1136.6	1090.2	973.1	823.7	719.7	735.9	774.2	813.6	830.8
65°	1074.0	1021.5	898.4	747.0	644.0	663.2	710.6	755.0	783.3
67.5°	1020.5	966.0	831.8	676.3	567.3	595.6	651.1	694.5	716.7
70°	956.9	893.3	756.1	597.6	487.6	520.9	591.5	642.0	667.2
72.5°	889.3	837.8	690.4	524.9	413.9	454.2	532.0	584.5	608.7
75°	836.8	779.3	634.9	452.2	339.2	387.6	471.4	531.0	555.2
77.5°	783.3	730.8	572.3	385.6	272.5	327.1	417.9	483.5	508.7
80°	735.9	675.3	519.9	331.1	202.9	267.5	367.4	432.0	461.3
82.5°	683.4	630.9	474.4	273.6	144.3	213.0	318.0	388.6	412.9
85°	636.9	582.4	432.0	228.1	88.8	164.5	272.5	345.2	374.5
87.5°	594.5	549.1	392.7	193.8	44.4	125.2	229.1	302.8	336.1
90°	556.2	504.7	359.4	162.5	8.1	90.8	193.8	266.5	291.7
92.5°	532.0	470.4	332.1	142.3	5.0	64.6	161.5	233.2	262.4
95°	495.6	441.1	303.8	127.2	5.0	43.4	130.2	199.9	225.1
97.5°	464.3	413.9	283.6	118.1	4.0	29.3	107.0	167.6	193.8
100°	440.1	392.7	265.5	110.0	5.0	21.2	84.8	142.3	165.5
102.5°	412.9	369.4	251.3	105.0	5.0	15.1	66.6	120.1	141.3
105°	388.6	350.3	238.2	99.9	5.0	13.1	53.5	98.9	118.1
107.5°	370.5	330.1	227.1	96.9	5.0	13.1	42.4	80.8	96.9
110°	352.3	313.9	216.0	93.9	5.0	12.1	33.3	66.6	80.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	340.2	298.8	205.9	90.8	6.1	12.1	27.3	55.5	66.6
115°	319.0	285.7	196.8	89.8	6.1	11.1	25.2	45.4	56.5
117.5°	303.8	273.6	187.8	86.8	6.1	11.1	24.2	37.3	45.4
120°	292.7	259.4	179.7	83.8	6.1	10.1	22.2	33.3	38.4
122.5°	278.6	246.3	172.6	81.8	6.1	10.1	21.2	31.3	34.3
125°	259.4	234.2	164.5	77.7	7.1	10.1	20.2	29.3	32.3
127.5°	247.3	223.1	158.5	72.7	7.1	9.1	19.2	27.3	30.3
130°	237.2	211.0	151.4	67.6	7.1	9.1	18.2	25.2	28.3
132.5°	222.1	198.9	141.3	63.6	7.1	8.1	16.2	23.2	26.2
135°	207.9	188.8	131.2	59.6	7.1	8.1	15.1	22.2	24.2
137.5°	198.9	178.7	122.1	55.5	7.1	7.1	14.1	20.2	22.2
140°	183.7	167.6	112.0	51.5	7.1	7.1	13.1	19.2	20.2
142.5°	172.6	156.5	103.0	47.4	7.1	7.1	12.1	17.2	19.2
145°	159.5	145.4	92.9	43.4	7.1	6.1	11.1	16.2	17.2
147.5°	147.4	132.2	84.8	40.4	7.1	6.1	10.1	14.1	15.1
150°	135.3	119.1	76.7	37.3	7.1	6.1	9.1	12.1	14.1
152.5°	122.1	103.0	68.6	34.3	7.1	6.1	8.1	11.1	12.1
155°	109.0	89.8	61.6	31.3	8.1	6.1	7.1	9.1	11.1
157.5°	97.9	77.7	54.5	28.3	8.1	5.0	7.1	8.1	9.1
160°	84.8	66.6	48.5	25.2	8.1	5.0	6.1	7.1	8.1
162.5°	74.7	55.5	42.4	23.2	8.1	5.0	6.1	6.1	7.1
165°	63.6	46.4	35.3	21.2	8.1	5.0	5.0	5.0	6.1
167.5°	51.5	36.3	29.3	19.2	8.1	5.0	5.0	4.0	5.0
170°	38.4	27.3	24.2	17.2	8.1	5.0	4.0	3.0	4.0
172.5°	17.2	21.2	19.2	15.1	9.1	5.0	4.0	3.0	2.0
175°	9.1	15.1	15.1	13.1	9.1	5.0	4.0	3.0	1.0
177.5°	7.1	9.1	11.1	11.1	9.1	6.1	4.0	2.0	1.0
180°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1



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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	20.87	22.35	21.37	22.85	23.39	19.84	21.32	20.34	21.82	22.36
	3H	22.96	24.30	23.47	24.81	25.40	21.71	23.06	22.23	23.57	24.15
	4H	23.90	25.17	24.44	25.70	26.30	22.46	23.73	23.00	24.26	24.86
	6H	24.82	26.01	25.37	26.55	27.16	23.09	24.28	23.64	24.82	25.43
	8H	25.25	26.38	25.81	26.95	27.57	23.35	24.48	23.91	25.05	25.66
	12H	25.67	26.76	26.24	27.32	27.96	23.58	24.67	24.15	25.22	25.87
4H	2H	21.36	22.64	21.90	23.17	23.76	20.40	21.68	20.94	22.21	22.80
	3H	23.68	24.76	24.23	25.33	25.95	22.46	23.55	23.01	24.12	24.74
	4H	24.79	25.78	25.36	26.36	27.01	23.32	24.31	23.89	24.89	25.54
	6H	25.89	26.77	26.48	27.38	28.04	24.07	24.95	24.66	25.55	26.22
	8H	26.42	27.25	27.02	27.85	28.53	24.39	25.21	24.98	25.82	26.49
	12H	26.95	27.70	27.57	28.33	29.01	24.68	25.43	25.30	26.06	26.74
8H	4H	25.04	25.87	25.64	26.47	27.15	23.65	24.48	24.25	25.08	25.76
	6H	26.33	27.03	26.96	27.67	28.35	24.54	25.24	25.17	25.88	26.56
	8H	27.00	27.63	27.64	28.28	28.97	24.94	25.57	25.58	26.22	26.91
	12H	27.70	28.26	28.34	28.91	29.66	25.33	25.89	25.97	26.53	27.29
12H	4H	25.06	25.81	25.68	26.44	27.12	23.72	24.47	24.34	25.10	25.78
	6H	26.38	27.02	27.02	27.67	28.36	24.65	25.28	25.29	25.93	26.63
	8H	27.13	27.69	27.77	28.33	29.09	25.11	25.67	25.75	26.32	27.07