

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: P893916

Luminaire Tested: 4MB-8HL-ASMF-UNV-L850

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893916
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-L850
Description: 8000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 5000K CCT
Light Source: -
Ballast/Driver: -

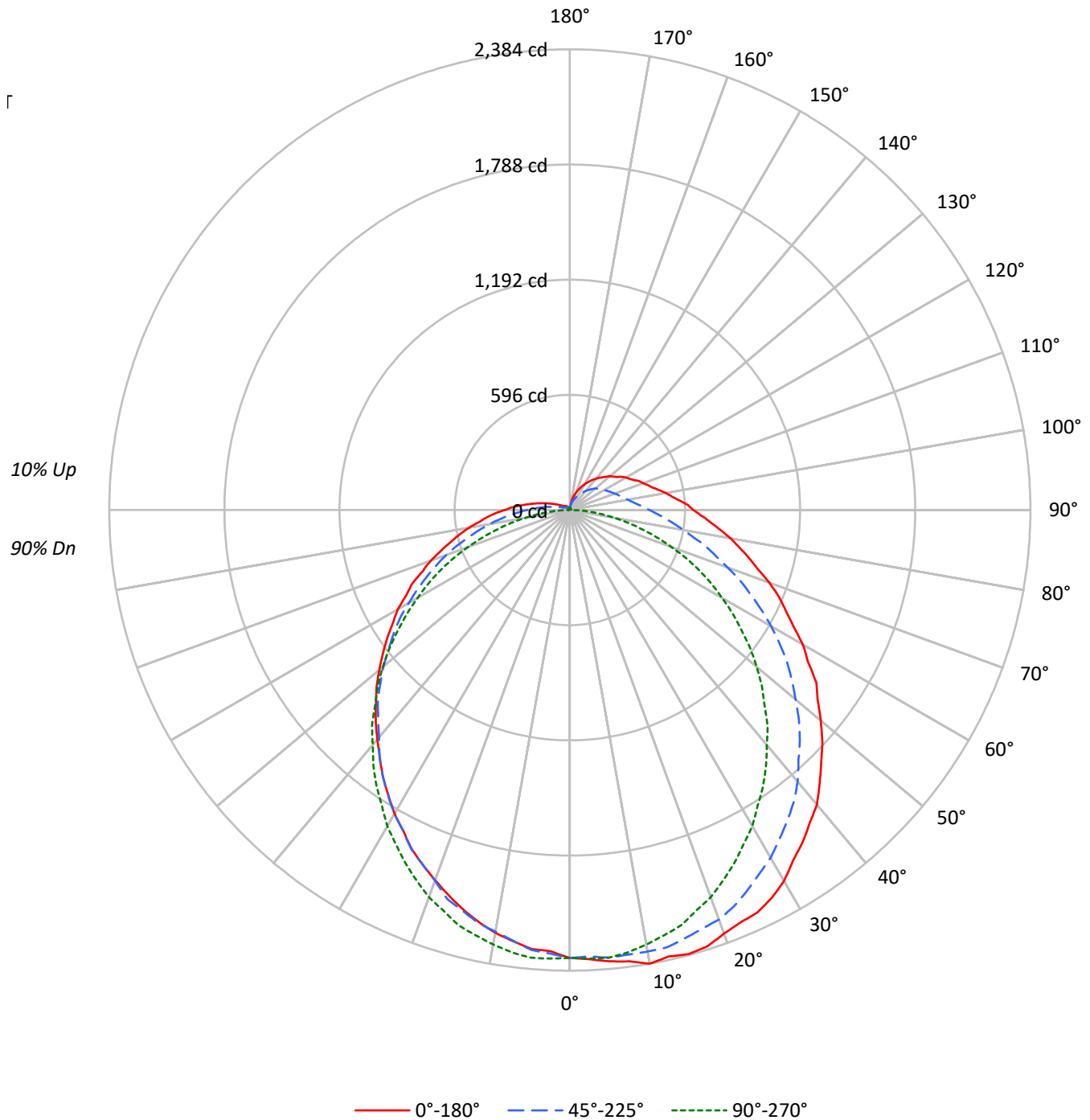
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7968.0 lumens
Efficiency: N/A
Efficacy: 137.6 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	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	93	93	90		
	1	105	99	95	90	101	96	92	88	90	87	83	85	82	79	79	77	75	75	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	62	62	59		
	3	86	75	66	60	83	73	65	58	68	62	56	64	59	54	60	56	52	52	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	44	44	42		
	5	72	59	50	43	69	57	49	42	54	47	41	51	45	40	48	43	38	38	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	34	34	31		
	7	62	48	39	33	59	47	38	32	44	37	32	42	36	31	40	34	30	30	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	27	27	25		
	9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	24	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	22	22	20		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	23603	23603	23603	23603	23603
5°	23899	23060	22836	22657	23238
10°	24514	22578	21798	21563	22846
15°	24874	22100	20831	20662	22365
20°	24994	21643	19728	19585	21841
25°	25449	20947	18569	18690	21444
30°	25603	20277	17466	17721	20959
35°	25543	19547	16309	16789	20510
40°	25771	18790	15120	15739	20068
45°	25695	17897	13947	14941	19822
50°	25891	16978	12822	14024	19661
55°	26465	16179	11530	13107	19593
60°	26905	15187	10207	12132	19854
65°	27835	14111	8867	11162	20301
70°	30111	13083	7268	10236	20997
75°	33832	12337	5558	9159	22445
80°	42049	11616	3723	8210	26363
85°	62867	11460	1868	7230	36962

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 206991 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.9	2.8
10°-20°	630.2	7.9
20°-30°	950.3	11.9
30°-40°	1140.6	14.3
40°-50°	1187.7	14.9
50°-60°	1101.0	13.8
60°-70°	906.7	11.4
70°-80°	654.1	8.2
80°-90°	415.2	5.2
90°-100°	256.0	3.2
100°-110°	170.7	2.1
110°-120°	121.5	1.5
120°-130°	89.0	1.1
130°-140°	61.2	0.8
140°-150°	37.3	0.5
150°-160°	18.5	0.2
160°-170°	6.8	0.1
170°-180°	1.1	0.0
0°-30°	1800.5	22.6
0°-40°	2941.1	36.9
0°-60°	5229.8	65.6
0°-90°	7205.8	90.4
90°-120°	548.2	6.9
90°-150°	735.8	9.2
90°-180°	762.0	9.6
0°-180°	7968.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2318	2318	2318	2318	2318	
5°	2344	2326	2326	2285	2279	225
15°	2379	2296	2225	2146	2139	671
25°	2298	2173	2015	1939	1936	1057
35°	2100	1963	1744	1686	1686	1316
45°	1840	1684	1424	1406	1420	1424
55°	1557	1373	1086	1112	1153	1384
65°	1233	1031	739	816	899	1228
75°	961	729	389	541	637	1018
85°	731	496	102	313	430	621
90°	638	412	9	222	335	352
95°	569	349	6	150	258	452
105°	446	274	6	61	136	476
115°	366	226	7	29	65	367
125°	298	189	8	23	37	271
135°	239	151	8	17	28	187
145°	183	107	8	13	20	116
155°	125	71	9	8	13	59
165°	73	41	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°	2317.6	2317.6	2317.6	2317.6	2317.6	2317.6	2317.6	2317.6	2317.6
2.5°	2326.8	2333.8	2311.8	2325.7	2323.3	2325.7	2297.9	2321.0	2285.1
5°	2344.2	2347.7	2325.7	2333.8	2325.7	2306.0	2285.1	2277.0	2279.3
7.5°	2355.8	2374.3	2319.9	2322.2	2308.3	2287.4	2248.0	2255.0	2250.3
10°	2383.6	2362.7	2319.9	2309.4	2282.8	2260.8	2215.6	2219.1	2221.4
12.5°	2366.2	2361.6	2318.7	2280.5	2253.8	2235.3	2188.9	2177.3	2183.1
15°	2379.0	2359.3	2295.5	2265.4	2224.9	2192.4	2146.1	2137.9	2139.1
17.5°	2367.4	2351.2	2272.4	2230.6	2173.9	2154.2	2110.1	2096.2	2089.3
20°	2332.6	2324.5	2255.0	2183.1	2132.1	2093.9	2040.6	2032.5	2038.3
22.5°	2309.4	2289.7	2220.2	2148.4	2074.2	2040.6	1987.3	1986.1	1987.3
25°	2297.9	2272.4	2172.7	2097.4	2015.1	1985.0	1938.6	1921.3	1936.3
27.5°	2263.1	2239.9	2122.9	2040.6	1949.1	1908.5	1870.3	1866.8	1869.1
30°	2216.7	2171.5	2077.7	1976.9	1888.8	1847.1	1815.8	1792.6	1814.6
32.5°	2150.7	2125.2	2018.6	1908.5	1811.2	1782.2	1750.9	1748.6	1748.6
35°	2099.7	2081.2	1963.0	1848.2	1744.0	1704.6	1686.0	1677.9	1686.0
37.5°	2040.6	2012.8	1903.9	1775.2	1668.6	1635.0	1616.5	1609.5	1615.3
40°	1989.6	1938.6	1834.3	1699.9	1586.4	1556.2	1536.5	1543.5	1549.3
42.5°	1914.3	1885.3	1752.1	1623.4	1515.7	1483.2	1467.0	1472.8	1486.7
45°	1840.1	1813.5	1683.7	1543.5	1424.1	1406.8	1405.6	1402.1	1419.5
47.5°	1772.9	1734.7	1608.4	1464.7	1347.7	1328.0	1330.3	1341.9	1356.9
50°	1695.3	1650.1	1524.9	1380.1	1263.1	1250.3	1259.6	1267.7	1287.4
52.5°	1617.7	1581.7	1448.5	1300.1	1177.3	1168.0	1180.8	1207.4	1219.0
55°	1557.4	1492.5	1373.1	1206.3	1085.8	1086.9	1112.4	1127.5	1153.0
57.5°	1461.2	1412.5	1287.4	1122.9	1000.0	1008.1	1042.9	1068.4	1084.6
60°	1392.8	1331.4	1204.0	1033.6	909.6	922.4	961.8	1000.0	1027.8
62.5°	1304.8	1251.5	1117.1	945.6	826.2	844.7	888.8	934.0	953.7
65°	1232.9	1172.7	1031.3	857.5	739.3	761.3	815.8	866.8	899.2
67.5°	1171.5	1108.9	954.8	776.4	651.2	683.7	747.4	797.2	822.7
70°	1098.5	1025.5	867.9	686.0	559.7	597.9	679.0	737.0	766.0
72.5°	1020.9	961.8	792.6	602.6	475.1	521.4	610.7	670.9	698.7
75°	960.6	894.6	728.9	519.1	389.3	445.0	541.1	609.5	637.3
77.5°	899.2	839.0	657.0	442.7	312.9	375.4	479.7	555.1	584.0
80°	844.7	775.2	596.8	380.1	232.9	307.1	421.8	496.0	529.6
82.5°	784.5	724.2	544.6	314.0	165.7	244.5	365.0	446.1	473.9
85°	731.2	668.6	496.0	261.9	102.0	188.9	312.9	396.3	429.9
87.5°	682.5	630.4	450.8	222.5	51.0	143.7	263.0	347.6	385.9
90°	638.5	579.4	412.5	186.6	9.3	104.3	222.5	305.9	334.9
92.5°	610.7	540.0	381.2	163.4	5.8	74.2	185.4	267.7	301.3
95°	569.0	506.4	348.8	146.0	5.8	49.8	149.5	229.4	258.4
97.5°	533.0	475.1	325.6	135.6	4.6	33.6	122.8	192.4	222.5
100°	505.2	450.8	304.8	126.3	5.8	24.3	97.3	163.4	190.0
102.5°	473.9	424.1	288.5	120.5	5.8	17.4	76.5	137.9	162.2
105°	446.1	402.1	273.5	114.7	5.8	15.1	61.4	113.6	135.6
107.5°	425.3	378.9	260.7	111.2	5.8	15.1	48.7	92.7	111.2
110°	404.4	360.4	248.0	107.8	5.8	13.9	38.2	76.5	92.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	390.5	343.0	236.4	104.3	7.0	13.9	31.3	63.7	76.5
115°	366.2	327.9	226.0	103.1	7.0	12.7	29.0	52.1	64.9
117.5°	348.8	314.0	215.5	99.7	7.0	12.7	27.8	42.9	52.1
120°	336.0	297.8	206.3	96.2	7.0	11.6	25.5	38.2	44.0
122.5°	319.8	282.7	198.2	93.9	7.0	11.6	24.3	35.9	39.4
125°	297.8	268.8	188.9	89.2	8.1	11.6	23.2	33.6	37.1
127.5°	283.9	256.1	181.9	83.4	8.1	10.4	22.0	31.3	34.8
130°	272.3	242.2	173.8	77.6	8.1	10.4	20.9	29.0	32.4
132.5°	254.9	228.3	162.2	73.0	8.1	9.3	18.5	26.7	30.1
135°	238.7	216.7	150.6	68.4	8.1	9.3	17.4	25.5	27.8
137.5°	228.3	205.1	140.2	63.7	8.1	8.1	16.2	23.2	25.5
140°	210.9	192.4	128.6	59.1	8.1	8.1	15.1	22.0	23.2
142.5°	198.2	179.6	118.2	54.5	8.1	8.1	13.9	19.7	22.0
145°	183.1	166.9	106.6	49.8	8.1	7.0	12.7	18.5	19.7
147.5°	169.2	151.8	97.3	46.4	8.1	7.0	11.6	16.2	17.4
150°	155.3	136.7	88.1	42.9	8.1	7.0	10.4	13.9	16.2
152.5°	140.2	118.2	78.8	39.4	8.1	7.0	9.3	12.7	13.9
155°	125.1	103.1	70.7	35.9	9.3	7.0	8.1	10.4	12.7
157.5°	112.4	89.2	62.6	32.4	9.3	5.8	8.1	9.3	10.4
160°	97.3	76.5	55.6	29.0	9.3	5.8	7.0	8.1	9.3
162.5°	85.7	63.7	48.7	26.7	9.3	5.8	7.0	7.0	8.1
165°	73.0	53.3	40.6	24.3	9.3	5.8	5.8	5.8	7.0
167.5°	59.1	41.7	33.6	22.0	9.3	5.8	5.8	4.6	5.8
170°	44.0	31.3	27.8	19.7	9.3	5.8	4.6	3.5	4.6
172.5°	19.7	24.3	22.0	17.4	10.4	5.8	4.6	3.5	2.3
175°	10.4	17.4	17.4	15.1	10.4	5.8	4.6	3.5	1.2
177.5°	8.1	10.4	12.7	12.7	10.4	7.0	4.6	2.3	1.2
180°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0



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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	21.35	22.83	21.85	23.33	23.87	20.32	21.80	20.82	22.30	22.84
	3H	23.43	24.78	23.95	25.29	25.88	22.19	23.54	22.71	24.05	24.63
	4H	24.38	25.65	24.92	26.18	26.78	22.94	24.21	23.48	24.74	25.34
	6H	25.30	26.48	25.85	27.02	27.64	23.57	24.76	24.12	25.30	25.91
	8H	25.73	26.86	26.29	27.43	28.04	23.82	24.96	24.39	25.53	26.14
	12H	26.15	27.24	26.72	27.79	28.44	24.06	25.15	24.63	25.70	26.35
4H	2H	21.84	23.12	22.38	23.64	24.24	20.88	22.16	21.42	22.69	23.28
	3H	24.15	25.24	24.71	25.81	26.43	22.94	24.03	23.49	24.60	25.22
	4H	25.27	26.26	25.84	26.84	27.49	23.79	24.79	24.37	25.37	26.02
	6H	26.37	27.25	26.96	27.86	28.52	24.55	25.43	25.14	26.03	26.69
	8H	26.90	27.73	27.50	28.33	29.00	24.87	25.69	25.46	26.29	26.97
	12H	27.43	28.18	28.05	28.81	29.49	25.16	25.91	25.78	26.54	27.22
8H	4H	25.52	26.35	26.12	26.95	27.63	24.13	24.96	24.73	25.56	26.24
	6H	26.81	27.51	27.44	28.15	28.83	25.02	25.72	25.65	26.36	27.04
	8H	27.48	28.11	28.12	28.76	29.45	25.42	26.05	26.06	26.70	27.39
	12H	28.18	28.74	28.82	29.39	30.14	25.80	26.37	26.45	27.01	27.77
12H	4H	25.54	26.29	26.16	26.92	27.60	24.20	24.95	24.82	25.58	26.26
	6H	26.86	27.50	27.50	28.15	28.84	25.13	25.76	25.77	26.41	27.10
	8H	27.60	28.17	28.25	28.81	29.57	25.59	26.15	26.23	26.80	27.55