

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: P893919

Luminaire Tested: 4MB-8HL-ASMF-UNV-L940

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893919  
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-L940  
Description: 8000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 4000K CCT  
Light Source: -  
Ballast/Driver: -

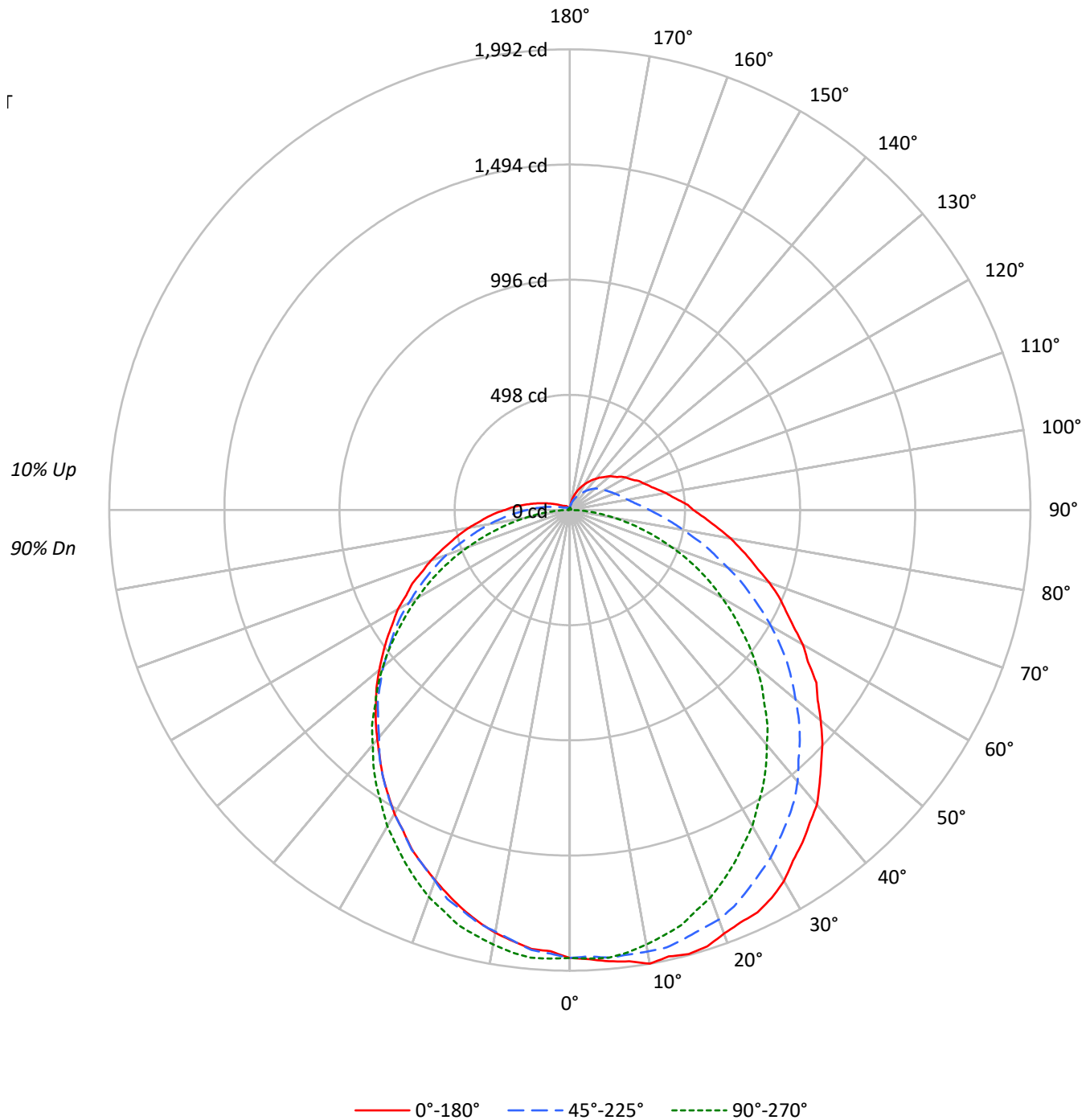
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6658.0 lumens  
Efficiency: N/A  
Efficacy: 115.0 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): 57.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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°	19722	19722	19722	19722	19722
5°	19970	19268	19081	18932	19418
10°	20483	18866	18215	18017	19090
15°	20783	18467	17407	17264	18688
20°	20885	18084	16485	16365	18250
25°	21265	17504	15516	15618	17919
30°	21394	16944	14595	14808	17514
35°	21344	16333	13627	14028	17138
40°	21535	15701	12634	13152	16769
45°	21471	14955	11655	12484	16563
50°	21634	14187	10713	11718	16428
55°	22113	13519	9635	10952	16371
60°	22483	12689	8530	10137	16592
65°	23259	11791	7410	9327	16964
70°	25160	10932	6074	8553	17543
75°	28271	10308	4644	7654	18754
80°	35139	9707	3111	6859	22027
85°	52533	9575	1561	6040	30883

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 172952 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	183.7	2.8
10°-20°	526.6	7.9
20°-30°	794.1	11.9
30°-40°	953.1	14.3
40°-50°	992.5	14.9
50°-60°	920.0	13.8
60°-70°	757.7	11.4
70°-80°	546.5	8.2
80°-90°	347.0	5.2
90°-100°	213.9	3.2
100°-110°	142.6	2.1
110°-120°	101.6	1.5
120°-130°	74.4	1.1
130°-140°	51.2	0.8
140°-150°	31.2	0.5
150°-160°	15.4	0.2
160°-170°	5.7	0.1
170°-180°	0.9	0.0
0°-30°	1504.5	22.6
0°-40°	2457.6	36.9
0°-60°	4370.0	65.6
0°-90°	6021.1	90.4
90°-120°	458.1	6.9
90°-150°	614.8	9.2
90°-180°	637.0	9.6
0°-180°	6658.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1936	1936	1936	1936	1936	
5°	1959	1943	1943	1909	1905	188
15°	1988	1918	1859	1793	1787	560
25°	1920	1816	1684	1620	1618	883
35°	1754	1640	1457	1409	1409	1099
45°	1538	1407	1190	1174	1186	1190
55°	1301	1147	907	930	963	1156
65°	1030	862	618	682	751	1026
75°	803	609	325	452	532	851
85°	611	414	85	261	359	519
90°	534	345	8	186	280	294
95°	475	291	5	125	216	378
105°	373	228	5	51	113	398
115°	306	189	6	24	54	306
125°	249	158	7	19	31	226
135°	200	126	7	14	23	156
145°	153	89	7	11	16	97
155°	105	59	8	7	11	49
165°	61	34	8	5	6	18
175°	9	14	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°	1936.5	1936.5	1936.5	1936.5	1936.5	1936.5	1936.5	1936.5	1936.5
2.5°	1944.3	1950.1	1931.7	1943.3	1941.4	1943.3	1920.1	1939.4	1909.4
5°	1958.8	1961.7	1943.3	1950.1	1943.3	1926.8	1909.4	1902.6	1904.6
7.5°	1968.5	1984.0	1938.5	1940.4	1928.8	1911.4	1878.4	1884.2	1880.4
10°	1991.7	1974.3	1938.5	1929.8	1907.5	1889.1	1851.3	1854.2	1856.2
12.5°	1977.2	1973.3	1937.5	1905.5	1883.3	1867.8	1829.1	1819.4	1824.2
15°	1987.8	1971.4	1918.1	1893.0	1859.1	1832.0	1793.2	1786.4	1787.4
17.5°	1978.2	1964.6	1898.8	1863.9	1816.5	1800.0	1763.2	1751.6	1745.8
20°	1949.1	1942.3	1884.2	1824.2	1781.6	1749.7	1705.1	1698.3	1703.2
22.5°	1929.8	1913.3	1855.2	1795.2	1733.2	1705.1	1660.6	1659.6	1660.6
25°	1920.1	1898.8	1815.5	1752.6	1683.8	1658.6	1619.9	1605.4	1618.0
27.5°	1891.0	1871.7	1773.9	1705.1	1628.6	1594.7	1562.8	1559.9	1561.8
30°	1852.3	1814.5	1736.1	1651.9	1578.3	1543.4	1517.3	1497.9	1516.3
32.5°	1797.1	1775.8	1686.7	1594.7	1513.4	1489.2	1463.0	1461.1	1461.1
35°	1754.5	1739.0	1640.2	1544.4	1457.2	1424.3	1408.8	1402.0	1408.8
37.5°	1705.1	1681.9	1590.9	1483.4	1394.3	1366.2	1350.7	1344.9	1349.8
40°	1662.5	1619.9	1532.8	1420.4	1325.6	1300.4	1283.9	1289.7	1294.6
42.5°	1599.6	1575.4	1464.0	1356.5	1266.5	1239.4	1225.8	1230.7	1242.3
45°	1537.6	1515.3	1406.9	1289.7	1190.0	1175.5	1174.5	1171.6	1186.1
47.5°	1481.4	1449.5	1344.0	1223.9	1126.1	1109.6	1111.6	1121.3	1133.8
50°	1416.6	1378.8	1274.2	1153.2	1055.4	1044.8	1052.5	1059.3	1075.7
52.5°	1351.7	1321.7	1210.3	1086.4	983.8	976.0	986.7	1008.9	1018.6
55°	1301.3	1247.1	1147.4	1008.0	907.3	908.2	929.5	942.1	963.4
57.5°	1221.0	1180.3	1075.7	938.2	835.6	842.4	871.4	892.7	906.3
60°	1163.9	1112.5	1006.0	863.7	760.1	770.7	803.7	835.6	858.9
62.5°	1090.3	1045.7	933.4	790.1	690.4	705.9	742.7	780.4	796.9
65°	1030.2	979.9	861.8	716.5	617.8	636.1	681.7	724.3	751.4
67.5°	978.9	926.6	797.8	648.7	544.2	571.3	624.5	666.2	687.5
70°	917.9	856.9	725.2	573.2	467.7	499.6	567.4	615.8	640.0
72.5°	853.0	803.7	662.3	503.5	397.0	435.7	510.3	560.6	583.9
75°	802.7	747.5	609.0	433.8	325.3	371.8	452.2	509.3	532.5
77.5°	751.4	701.0	549.0	369.9	261.4	313.7	400.9	463.8	488.0
80°	705.9	647.8	498.7	317.6	194.6	256.6	352.4	414.4	442.5
82.5°	655.5	605.2	455.1	262.4	138.5	204.3	305.0	372.8	396.0
85°	611.0	558.7	414.4	218.8	85.2	157.8	261.4	331.1	359.2
87.5°	570.3	526.7	376.7	185.9	42.6	120.1	219.8	290.5	322.4
90°	533.5	484.1	344.7	155.9	7.7	87.1	185.9	255.6	279.8
92.5°	510.3	451.2	318.6	136.5	4.8	62.0	154.9	223.7	251.7
95°	475.4	423.1	291.4	122.0	4.8	41.6	124.9	191.7	215.9
97.5°	445.4	397.0	272.1	113.3	3.9	28.1	102.6	160.7	185.9
100°	422.2	376.7	254.7	105.5	4.8	20.3	81.3	136.5	158.8
102.5°	396.0	354.4	241.1	100.7	4.8	14.5	63.9	115.2	135.6
105°	372.8	336.0	228.5	95.9	4.8	12.6	51.3	94.9	113.3
107.5°	355.4	316.6	217.9	93.0	4.8	12.6	40.7	77.5	93.0
110°	337.9	301.1	207.2	90.0	4.8	11.6	32.0	63.9	77.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	326.3	286.6	197.5	87.1	5.8	11.6	26.1	53.3	63.9
115°	306.0	274.0	188.8	86.2	5.8	10.7	24.2	43.6	54.2
117.5°	291.4	262.4	180.1	83.3	5.8	10.7	23.2	35.8	43.6
120°	280.8	248.8	172.4	80.4	5.8	9.7	21.3	32.0	36.8
122.5°	267.2	236.3	165.6	78.4	5.8	9.7	20.3	30.0	32.9
125°	248.8	224.6	157.8	74.6	6.8	9.7	19.4	28.1	31.0
127.5°	237.2	214.0	152.0	69.7	6.8	8.7	18.4	26.1	29.0
130°	227.5	202.4	145.2	64.9	6.8	8.7	17.4	24.2	27.1
132.5°	213.0	190.7	135.6	61.0	6.8	7.7	15.5	22.3	25.2
135°	199.5	181.1	125.9	57.1	6.8	7.7	14.5	21.3	23.2
137.5°	190.7	171.4	117.2	53.3	6.8	6.8	13.6	19.4	21.3
140°	176.2	160.7	107.5	49.4	6.8	6.8	12.6	18.4	19.4
142.5°	165.6	150.1	98.8	45.5	6.8	6.8	11.6	16.5	18.4
145°	153.0	139.4	89.1	41.6	6.8	5.8	10.7	15.5	16.5
147.5°	141.4	126.8	81.3	38.7	6.8	5.8	9.7	13.6	14.5
150°	129.7	114.3	73.6	35.8	6.8	5.8	8.7	11.6	13.6
152.5°	117.2	98.8	65.8	32.9	6.8	5.8	7.7	10.7	11.6
155°	104.6	86.2	59.1	30.0	7.7	5.8	6.8	8.7	10.7
157.5°	93.9	74.6	52.3	27.1	7.7	4.8	6.8	7.7	8.7
160°	81.3	63.9	46.5	24.2	7.7	4.8	5.8	6.8	7.7
162.5°	71.7	53.3	40.7	22.3	7.7	4.8	5.8	5.8	6.8
165°	61.0	44.5	33.9	20.3	7.7	4.8	4.8	4.8	5.8
167.5°	49.4	34.9	28.1	18.4	7.7	4.8	4.8	3.9	4.8
170°	36.8	26.1	23.2	16.5	7.7	4.8	3.9	2.9	3.9
172.5°	16.5	20.3	18.4	14.5	8.7	4.8	3.9	2.9	1.9
175°	8.7	14.5	14.5	12.6	8.7	4.8	3.9	2.9	1.0
177.5°	6.8	8.7	10.7	10.7	8.7	5.8	3.9	1.9	1.0
180°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8



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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	20.72	22.20	21.23	22.70	23.25	19.69	21.17	20.20	21.67	22.22
	3H	22.81	24.16	23.33	24.67	25.25	21.57	22.91	22.08	23.42	24.01
	4H	23.75	25.03	24.29	25.56	26.15	22.31	23.59	22.85	24.12	24.71
	6H	24.67	25.86	25.22	26.40	27.01	22.95	24.13	23.50	24.67	25.29
	8H	25.10	26.24	25.67	26.80	27.42	23.20	24.34	23.76	24.90	25.52
	12H	25.52	26.61	26.09	27.17	27.82	23.43	24.52	24.00	25.08	25.73
4H	2H	21.22	22.49	21.76	23.02	23.62	20.26	21.53	20.80	22.06	22.66
	3H	23.53	24.62	24.08	25.19	25.81	22.32	23.40	22.87	23.97	24.59
	4H	24.64	25.64	25.22	26.22	26.87	23.17	24.17	23.74	24.74	25.39
	6H	25.75	26.63	26.34	27.23	27.89	23.93	24.80	24.52	25.41	26.07
	8H	26.28	27.10	26.87	27.71	28.38	24.24	25.07	24.84	25.67	26.35
	12H	26.80	27.55	27.42	28.18	28.87	24.53	25.28	25.15	25.91	26.60
8H	4H	24.90	25.73	25.50	26.33	27.00	23.51	24.34	24.11	24.94	25.61
	6H	26.18	26.88	26.81	27.53	28.21	24.39	25.09	25.02	25.74	26.42
	8H	26.85	27.48	27.49	28.14	28.83	24.79	25.42	25.43	26.08	26.77
	12H	27.56	28.12	28.20	28.76	29.52	25.18	25.74	25.82	26.39	27.14
12H	4H	24.92	25.67	25.54	26.30	26.98	23.57	24.32	24.19	24.95	25.63
	6H	26.24	26.87	26.88	27.52	28.22	24.50	25.13	25.14	25.79	26.48
	8H	26.98	27.54	27.62	28.19	28.94	24.97	25.53	25.61	26.17	26.93