

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: P893818

Luminaire Tested: 4MB-7HL-ASMF-UNV-L835

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893818  
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-L835  
Description: 7000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 3500K CCT  
Light Source: -  
Ballast/Driver: -

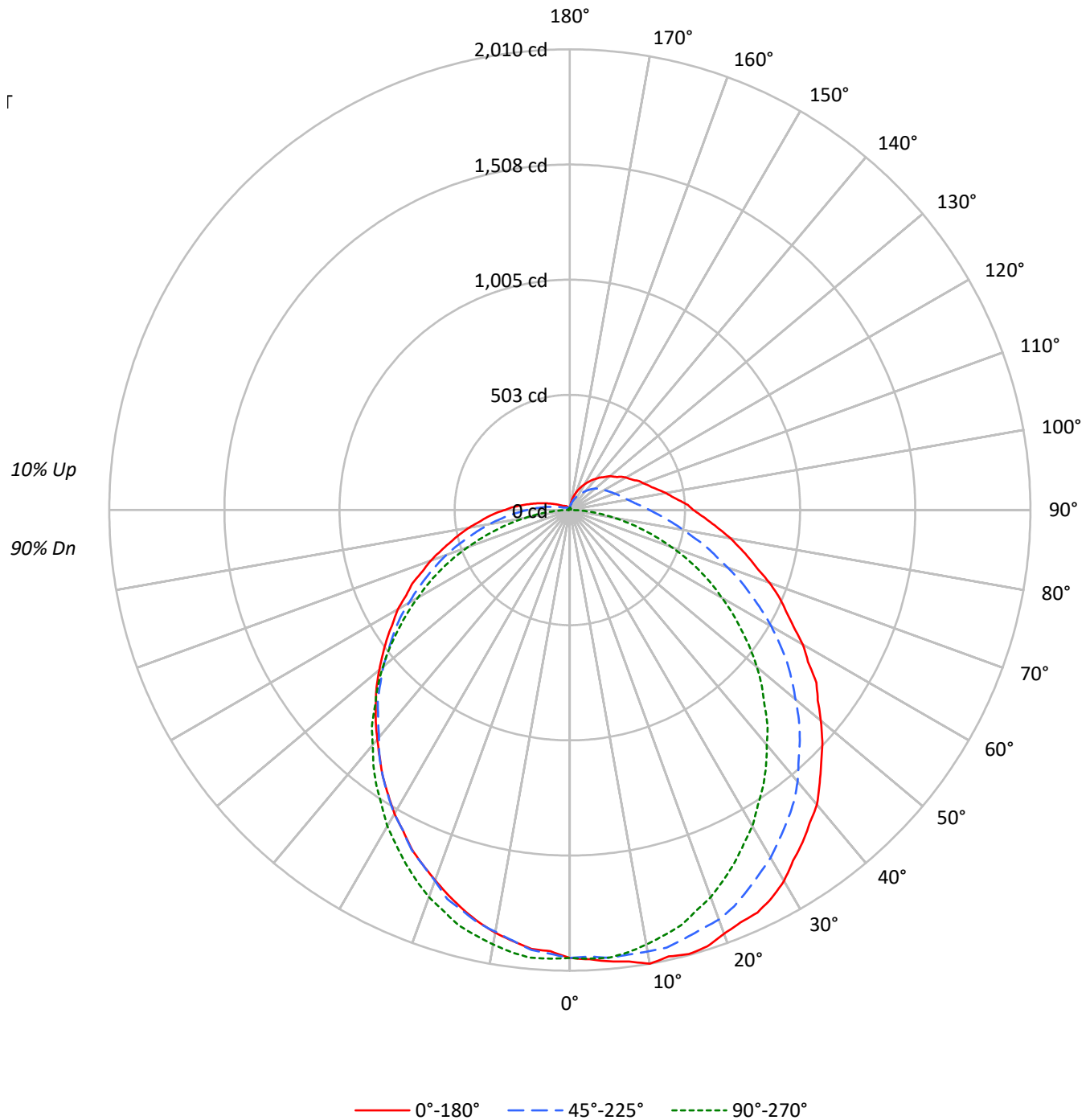
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6719.0 lumens  
Efficiency: N/A  
Efficacy: 129.7 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<sub>in</sub>): 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	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	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	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	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	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	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	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	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	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	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	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	22	20		

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	19903	19903	19903	19903	19903
5°	20153	19445	19256	19106	19595
10°	20672	19038	18382	18183	19265
15°	20975	18636	17566	17423	18860
20°	21077	18250	16636	16515	18417
25°	21460	17664	15658	15760	18083
30°	21591	17099	14728	14944	17674
35°	21539	16483	13752	14157	17295
40°	21731	15845	12750	13272	16922
45°	21668	15092	11761	12599	16715
50°	21831	14317	10812	11825	16579
55°	22317	13643	9723	11053	16521
60°	22688	12805	8608	10229	16742
65°	23473	11900	7477	9412	17120
70°	25391	11033	6130	8632	17705
75°	28528	10403	4687	7723	18927
80°	35458	9794	3140	6923	22232
85°	53014	9663	1575	6095	31167

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 174541 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	185.4	2.8
10°-20°	531.4	7.9
20°-30°	801.4	11.9
30°-40°	961.8	14.3
40°-50°	1001.5	14.9
50°-60°	928.4	13.8
60°-70°	764.6	11.4
70°-80°	551.5	8.2
80°-90°	350.1	5.2
90°-100°	215.9	3.2
100°-110°	143.9	2.1
110°-120°	102.5	1.5
120°-130°	75.1	1.1
130°-140°	51.6	0.8
140°-150°	31.4	0.5
150°-160°	15.6	0.2
160°-170°	5.7	0.1
170°-180°	1.0	0.0
0°-30°	1518.2	22.6
0°-40°	2480.1	36.9
0°-60°	4410.0	65.6
0°-90°	6076.3	90.4
90°-120°	462.3	6.9
90°-150°	620.4	9.2
90°-180°	643.0	9.6
0°-180°	6719.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1954	1954	1954	1954	1954	
5°	1977	1961	1961	1927	1922	189
15°	2006	1936	1876	1810	1804	566
25°	1938	1832	1699	1635	1633	891
35°	1771	1655	1471	1422	1422	1109
45°	1552	1420	1201	1185	1197	1201
55°	1313	1158	916	938	972	1167
65°	1040	870	623	688	758	1035
75°	810	615	328	456	537	858
85°	617	418	86	264	362	523
90°	538	348	8	188	282	297
95°	480	294	5	126	218	381
105°	376	231	5	52	114	402
115°	309	190	6	24	55	309
125°	251	159	7	20	31	229
135°	201	127	7	15	24	158
145°	154	90	7	11	17	98
155°	106	60	8	7	11	50
165°	62	34	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°	1954.3	1954.3	1954.3	1954.3	1954.3	1954.3	1954.3	1954.3	1954.3
2.5°	1962.1	1968.0	1949.4	1961.1	1959.2	1961.1	1937.7	1957.2	1926.9
5°	1976.7	1979.7	1961.1	1968.0	1961.1	1944.5	1926.9	1920.1	1922.0
7.5°	1986.5	2002.2	1956.2	1958.2	1946.5	1928.9	1895.6	1901.5	1897.6
10°	2010.0	1992.4	1956.2	1947.4	1925.0	1906.4	1868.3	1871.2	1873.2
12.5°	1995.3	1991.4	1955.2	1923.0	1900.5	1884.9	1845.8	1836.0	1840.9
15°	2006.1	1989.4	1935.7	1910.3	1876.1	1848.7	1809.7	1802.8	1803.8
17.5°	1996.3	1982.6	1916.2	1881.0	1833.1	1816.5	1779.4	1767.6	1761.8
20°	1967.0	1960.1	1901.5	1840.9	1797.9	1765.7	1720.7	1713.9	1718.8
22.5°	1947.4	1930.8	1872.2	1811.6	1749.1	1720.7	1675.8	1674.8	1675.8
25°	1937.7	1916.2	1832.1	1768.6	1699.2	1673.8	1634.7	1620.1	1632.8
27.5°	1908.3	1888.8	1790.1	1720.7	1643.5	1609.3	1577.1	1574.2	1576.1
30°	1869.3	1831.2	1752.0	1667.0	1592.7	1557.6	1531.2	1511.6	1530.2
32.5°	1813.6	1792.1	1702.2	1609.3	1527.3	1502.8	1476.5	1474.5	1474.5
35°	1770.6	1754.9	1655.3	1558.5	1470.6	1437.4	1421.7	1414.9	1421.7
37.5°	1720.7	1697.3	1605.4	1497.0	1407.1	1378.7	1363.1	1357.2	1362.1
40°	1677.7	1634.7	1546.8	1433.5	1337.7	1312.3	1295.7	1301.5	1306.4
42.5°	1614.2	1589.8	1477.4	1369.0	1278.1	1250.7	1237.1	1241.9	1253.7
45°	1551.7	1529.2	1419.8	1301.5	1200.9	1186.2	1185.3	1182.3	1197.0
47.5°	1495.0	1462.8	1356.3	1235.1	1136.4	1119.8	1121.8	1131.5	1144.2
50°	1429.5	1391.4	1285.9	1163.8	1065.1	1054.3	1062.1	1069.0	1085.6
52.5°	1364.1	1333.8	1221.4	1096.3	992.8	985.0	995.7	1018.2	1027.9
55°	1313.3	1258.6	1157.9	1017.2	915.6	916.6	938.1	950.8	972.2
57.5°	1232.2	1191.1	1085.6	946.8	843.3	850.1	879.4	900.9	914.6
60°	1174.5	1122.7	1015.2	871.6	767.1	777.8	811.0	843.3	866.7
62.5°	1100.3	1055.3	942.0	797.3	696.7	712.3	749.5	787.6	804.2
65°	1039.7	988.9	869.7	723.1	623.4	642.0	687.9	730.9	758.3
67.5°	987.9	935.1	805.2	654.7	549.2	576.5	630.3	672.3	693.8
70°	926.3	864.8	731.9	578.5	472.0	504.2	572.6	621.5	645.9
72.5°	860.9	811.0	668.4	508.1	400.6	439.7	515.0	565.8	589.2
75°	810.0	754.3	614.6	437.8	328.3	375.2	456.3	514.0	537.4
77.5°	758.3	707.4	554.0	373.3	263.8	316.6	404.5	468.0	492.5
80°	712.3	653.7	503.2	320.5	196.4	258.9	355.7	418.2	446.6
82.5°	661.5	610.7	459.3	264.8	139.7	206.2	307.8	376.2	399.6
85°	616.6	563.8	418.2	220.8	86.0	159.3	263.8	334.2	362.5
87.5°	575.5	531.6	380.1	187.6	43.0	121.2	221.8	293.1	325.4
90°	538.4	488.6	347.9	157.3	7.8	87.9	187.6	258.0	282.4
92.5°	515.0	455.3	321.5	137.8	4.9	62.5	156.3	225.7	254.1
95°	479.8	427.0	294.1	123.1	4.9	42.0	126.1	193.5	217.9
97.5°	449.5	400.6	274.6	114.3	3.9	28.3	103.6	162.2	187.6
100°	426.0	380.1	257.0	106.5	4.9	20.5	82.1	137.8	160.3
102.5°	399.6	357.6	243.3	101.6	4.9	14.7	64.5	116.3	136.8
105°	376.2	339.1	230.6	96.7	4.9	12.7	51.8	95.8	114.3
107.5°	358.6	319.5	219.9	93.8	4.9	12.7	41.0	78.2	93.8
110°	341.0	303.9	209.1	90.9	4.9	11.7	32.2	64.5	78.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	329.3	289.2	199.3	87.9	5.9	11.7	26.4	53.7	64.5
115°	308.8	276.5	190.5	87.0	5.9	10.7	24.4	44.0	54.7
117.5°	294.1	264.8	181.7	84.0	5.9	10.7	23.5	36.2	44.0
120°	283.4	251.1	173.9	81.1	5.9	9.8	21.5	32.2	37.1
122.5°	269.7	238.4	167.1	79.1	5.9	9.8	20.5	30.3	33.2
125°	251.1	226.7	159.3	75.2	6.8	9.8	19.5	28.3	31.3
127.5°	239.4	215.9	153.4	70.4	6.8	8.8	18.6	26.4	29.3
130°	229.6	204.2	146.6	65.5	6.8	8.8	17.6	24.4	27.4
132.5°	215.0	192.5	136.8	61.6	6.8	7.8	15.6	22.5	25.4
135°	201.3	182.7	127.0	57.7	6.8	7.8	14.7	21.5	23.5
137.5°	192.5	173.0	118.2	53.7	6.8	6.8	13.7	19.5	21.5
140°	177.8	162.2	108.5	49.8	6.8	6.8	12.7	18.6	19.5
142.5°	167.1	151.5	99.7	45.9	6.8	6.8	11.7	16.6	18.6
145°	154.4	140.7	89.9	42.0	6.8	5.9	10.7	15.6	16.6
147.5°	142.7	128.0	82.1	39.1	6.8	5.9	9.8	13.7	14.7
150°	130.9	115.3	74.3	36.2	6.8	5.9	8.8	11.7	13.7
152.5°	118.2	99.7	66.4	33.2	6.8	5.9	7.8	10.7	11.7
155°	105.5	87.0	59.6	30.3	7.8	5.9	6.8	8.8	10.7
157.5°	94.8	75.2	52.8	27.4	7.8	4.9	6.8	7.8	8.8
160°	82.1	64.5	46.9	24.4	7.8	4.9	5.9	6.8	7.8
162.5°	72.3	53.7	41.0	22.5	7.8	4.9	5.9	5.9	6.8
165°	61.6	44.9	34.2	20.5	7.8	4.9	4.9	4.9	5.9
167.5°	49.8	35.2	28.3	18.6	7.8	4.9	4.9	3.9	4.9
170°	37.1	26.4	23.5	16.6	7.8	4.9	3.9	2.9	3.9
172.5°	16.6	20.5	18.6	14.7	8.8	4.9	3.9	2.9	2.0
175°	8.8	14.7	14.7	12.7	8.8	4.9	3.9	2.9	1.0
177.5°	6.8	8.8	10.7	10.7	8.8	5.9	3.9	2.0	1.0
180°	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9



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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	20.75	22.23	21.26	22.74	23.28	19.73	21.20	20.23	21.71	22.25
	3H	22.84	24.19	23.36	24.70	25.28	21.60	22.94	22.12	23.46	24.04
	4H	23.78	25.06	24.32	25.59	26.19	22.34	23.62	22.88	24.15	24.74
	6H	24.70	25.89	25.26	26.43	27.04	22.98	24.17	23.53	24.71	25.32
	8H	25.13	26.27	25.70	26.84	27.45	23.23	24.37	23.80	24.93	25.55
	12H	25.55	26.65	26.12	27.20	27.85	23.46	24.55	24.03	25.11	25.76
4H	2H	21.25	22.52	21.79	23.05	23.65	20.29	21.57	20.83	22.09	22.69
	3H	23.56	24.65	24.12	25.22	25.84	22.35	23.44	22.90	24.01	24.62
	4H	24.68	25.67	25.25	26.25	26.90	23.20	24.20	23.77	24.78	25.43
	6H	25.78	26.66	26.37	27.26	27.92	23.96	24.84	24.55	25.44	26.10
	8H	26.31	27.13	26.90	27.74	28.41	24.27	25.10	24.87	25.70	26.38
	12H	26.84	27.59	27.45	28.22	28.90	24.57	25.32	25.18	25.95	26.63
8H	4H	24.93	25.76	25.53	26.36	27.04	23.54	24.37	24.14	24.97	25.65
	6H	26.21	26.91	26.84	27.56	28.24	24.43	25.13	25.05	25.77	26.45
	8H	26.88	27.51	27.52	28.17	28.86	24.82	25.46	25.46	26.11	26.80
	12H	27.59	28.15	28.23	28.79	29.55	25.21	25.78	25.85	26.42	27.18
12H	4H	24.95	25.70	25.57	26.33	27.01	23.60	24.36	24.22	24.99	25.67
	6H	26.27	26.90	26.91	27.56	28.25	24.53	25.17	25.17	25.82	26.51
	8H	27.01	27.58	27.65	28.22	28.98	25.00	25.56	25.64	26.20	26.96