

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: P893918

Luminaire Tested: 4MB-8HL-ASMF-UNV-L935

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893918
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-L935
Description: 8000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 3500K CCT
Light Source: -
Ballast/Driver: -

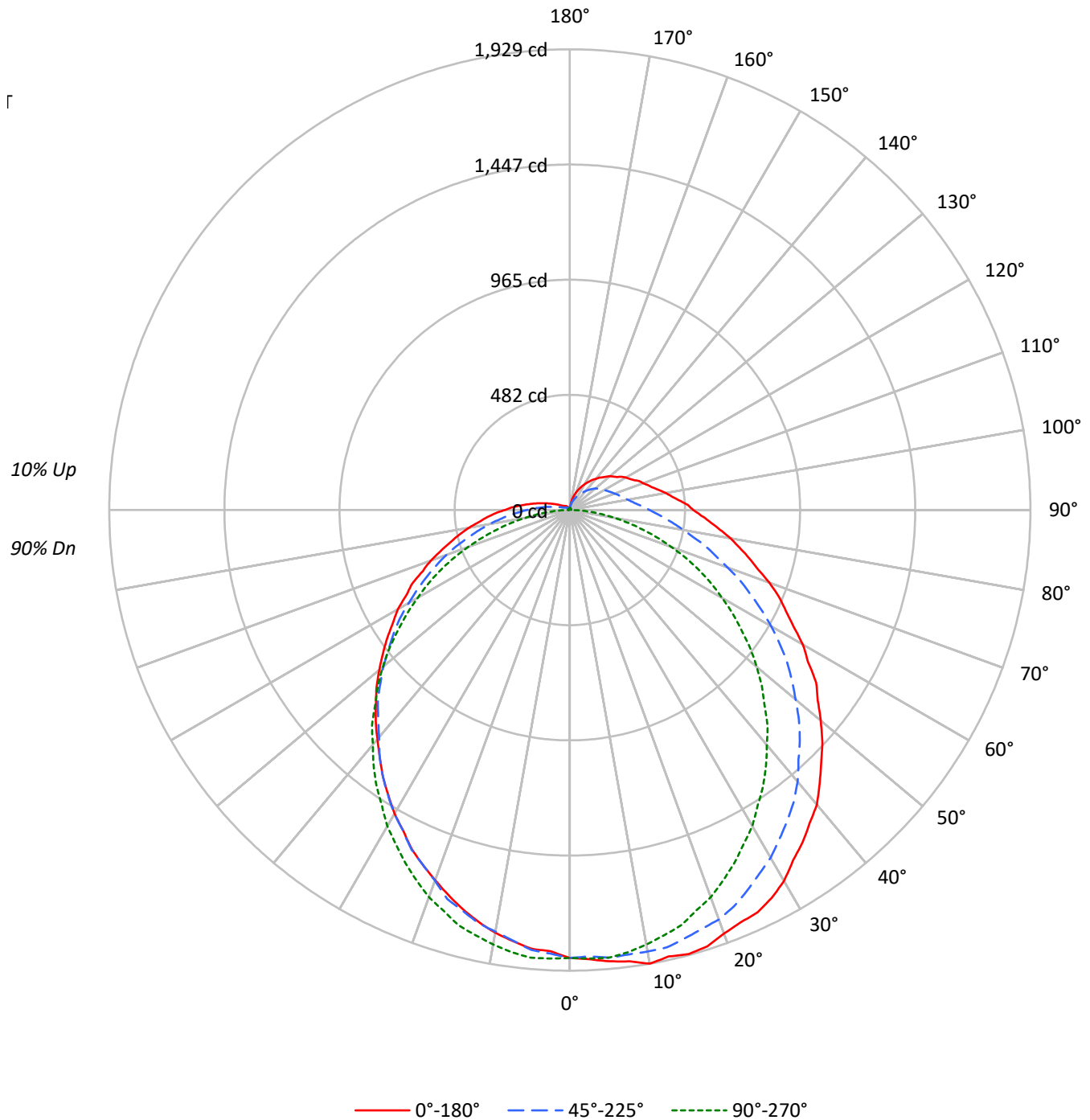
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6447.0 lumens
Efficiency: N/A
Efficacy: 111.3 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°	19097	19097	19097	19097	19097
5°	19337	18657	18476	18332	18802
10°	19834	18267	17637	17447	18484
15°	20125	17882	16855	16718	18096
20°	20223	17511	15962	15847	17672
25°	20590	16949	15024	15123	17351
30°	20716	16407	14133	14339	16958
35°	20667	15816	13196	13584	16596
40°	20852	15203	12233	12735	16237
45°	20791	14481	11285	12089	16038
50°	20949	13738	10374	11346	15909
55°	21413	13090	9329	10605	15853
60°	21771	12287	8259	9816	16064
65°	22523	11417	7175	9032	16427
70°	24363	10585	5881	8282	16986
75°	27376	9981	4497	7410	18163
80°	34024	9399	3013	6643	21331
85°	50865	9272	1511	5848	29903

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 167473 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.9	2.8
10°-20°	509.9	7.9
20°-30°	768.9	11.9
30°-40°	922.9	14.3
40°-50°	961.0	14.9
50°-60°	890.8	13.8
60°-70°	733.6	11.4
70°-80°	529.2	8.2
80°-90°	336.0	5.2
90°-100°	207.1	3.2
100°-110°	138.1	2.1
110°-120°	98.3	1.5
120°-130°	72.1	1.1
130°-140°	49.6	0.8
140°-150°	30.2	0.5
150°-160°	15.0	0.2
160°-170°	5.5	0.1
170°-180°	0.9	0.0
0°-30°	1456.8	22.6
0°-40°	2379.7	36.9
0°-60°	4231.5	65.6
0°-90°	5830.3	90.4
90°-120°	443.6	6.9
90°-150°	595.3	9.2
90°-180°	617.0	9.6
0°-180°	6447.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1875	1875	1875	1875	1875	
5°	1897	1882	1882	1849	1844	182
15°	1925	1857	1800	1736	1731	543
25°	1859	1758	1630	1569	1567	855
35°	1699	1588	1411	1364	1364	1064
45°	1489	1362	1152	1137	1148	1152
55°	1260	1111	878	900	933	1119
65°	998	834	598	660	728	993
75°	777	590	315	438	516	824
85°	592	401	82	253	348	502
90°	517	334	8	180	271	285
95°	460	282	5	121	209	366
105°	361	221	5	50	110	386
115°	296	183	6	23	52	297
125°	241	153	7	19	30	219
135°	193	122	7	14	22	151
145°	148	86	7	10	16	94
155°	101	57	8	7	10	48
165°	59	33	8	5	6	17
175°	8	14	8	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°	1875.2	1875.2	1875.2	1875.2	1875.2	1875.2	1875.2	1875.2	1875.2
2.5°	1882.7	1888.3	1870.5	1881.7	1879.8	1881.7	1859.2	1878.0	1848.9
5°	1896.7	1899.5	1881.7	1888.3	1881.7	1865.8	1848.9	1842.3	1844.2
7.5°	1906.1	1921.1	1877.0	1878.9	1867.7	1850.8	1818.9	1824.5	1820.8
10°	1928.6	1911.7	1877.0	1868.6	1847.0	1829.2	1792.7	1795.5	1797.3
12.5°	1914.5	1910.8	1876.1	1845.2	1823.6	1808.6	1771.1	1761.7	1766.4
15°	1924.8	1908.9	1857.3	1833.0	1800.2	1773.9	1736.4	1729.8	1730.8
17.5°	1915.5	1902.3	1838.6	1804.8	1758.9	1743.0	1707.3	1696.1	1690.5
20°	1887.3	1880.8	1824.5	1766.4	1725.1	1694.2	1651.1	1644.5	1649.2
22.5°	1868.6	1852.7	1796.4	1738.3	1678.3	1651.1	1607.9	1607.0	1607.9
25°	1859.2	1838.6	1758.0	1697.0	1630.4	1606.1	1568.6	1554.5	1566.7
27.5°	1831.1	1812.3	1717.6	1651.1	1577.0	1544.2	1513.3	1510.4	1512.3
30°	1793.6	1757.0	1681.1	1599.5	1528.3	1494.5	1469.2	1450.4	1468.2
32.5°	1740.1	1719.5	1633.3	1544.2	1465.4	1442.0	1416.7	1414.8	1414.8
35°	1698.9	1683.9	1588.3	1495.4	1411.1	1379.2	1364.2	1357.6	1364.2
37.5°	1651.1	1628.6	1540.4	1436.4	1350.1	1322.9	1307.9	1302.3	1307.0
40°	1609.8	1568.6	1484.2	1375.4	1283.5	1259.2	1243.2	1248.9	1253.5
42.5°	1548.9	1525.4	1417.6	1313.5	1226.4	1200.1	1187.0	1191.7	1202.9
45°	1488.9	1467.3	1362.3	1248.9	1152.3	1138.2	1137.3	1134.5	1148.5
47.5°	1434.5	1403.6	1301.4	1185.1	1090.4	1074.5	1076.3	1085.7	1097.9
50°	1371.7	1335.1	1233.9	1116.7	1022.0	1011.6	1019.1	1025.7	1041.7
52.5°	1308.9	1279.8	1172.0	1052.0	952.6	945.1	955.4	977.0	986.3
55°	1260.1	1207.6	1111.0	976.0	878.5	879.4	900.1	912.3	932.9
57.5°	1182.3	1142.9	1041.7	908.5	809.1	815.7	843.8	864.4	877.6
60°	1127.0	1077.3	974.1	836.3	736.0	746.3	778.2	809.1	831.6
62.5°	1055.7	1012.6	903.8	765.1	668.5	683.5	719.1	755.7	771.6
65°	997.6	948.8	834.4	693.8	598.2	616.0	660.1	701.3	727.6
67.5°	947.9	897.3	772.6	628.2	526.9	553.2	604.7	645.1	665.7
70°	888.8	829.8	702.2	555.0	452.9	483.8	549.4	596.3	619.7
72.5°	826.0	778.2	641.3	487.5	384.4	421.9	494.1	542.9	565.4
75°	777.3	723.8	589.7	420.0	315.0	360.0	437.8	493.2	515.7
77.5°	727.6	678.8	531.6	358.2	253.1	303.8	388.2	449.1	472.5
80°	683.5	627.2	482.9	307.5	188.5	248.5	341.3	401.3	428.5
82.5°	634.7	586.0	440.7	254.1	134.1	197.8	295.3	361.0	383.5
85°	591.6	541.0	401.3	211.9	82.5	152.8	253.1	320.7	347.8
87.5°	552.2	510.0	364.7	180.0	41.3	116.3	212.8	281.3	312.2
90°	516.6	468.8	333.8	151.0	7.5	84.4	180.0	247.5	271.0
92.5°	494.1	436.9	308.5	132.2	4.7	60.0	150.0	216.6	243.8
95°	460.4	409.7	282.2	118.1	4.7	40.3	120.9	185.6	209.1
97.5°	431.3	384.4	263.5	109.7	3.8	27.2	99.4	155.6	180.0
100°	408.8	364.7	246.6	102.2	4.7	19.7	78.8	132.2	153.8
102.5°	383.5	343.2	233.5	97.5	4.7	14.1	61.9	111.6	131.3
105°	361.0	325.3	221.3	92.8	4.7	12.2	49.7	91.9	109.7
107.5°	344.1	306.6	211.0	90.0	4.7	12.2	39.4	75.0	90.0
110°	327.2	291.6	200.6	87.2	4.7	11.3	30.9	61.9	75.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	316.0	277.5	191.3	84.4	5.6	11.3	25.3	51.6	61.9
115°	296.3	265.3	182.8	83.4	5.6	10.3	23.4	42.2	52.5
117.5°	282.2	254.1	174.4	80.6	5.6	10.3	22.5	34.7	42.2
120°	271.9	241.0	166.9	77.8	5.6	9.4	20.6	30.9	35.6
122.5°	258.8	228.8	160.3	75.9	5.6	9.4	19.7	29.1	31.9
125°	241.0	217.5	152.8	72.2	6.6	9.4	18.8	27.2	30.0
127.5°	229.7	207.2	147.2	67.5	6.6	8.4	17.8	25.3	28.1
130°	220.3	196.0	140.6	62.8	6.6	8.4	16.9	23.4	26.3
132.5°	206.3	184.7	131.3	59.1	6.6	7.5	15.0	21.6	24.4
135°	193.1	175.3	121.9	55.3	6.6	7.5	14.1	20.6	22.5
137.5°	184.7	166.0	113.4	51.6	6.6	6.6	13.1	18.8	20.6
140°	170.6	155.6	104.1	47.8	6.6	6.6	12.2	17.8	18.8
142.5°	160.3	145.3	95.6	44.1	6.6	6.6	11.3	15.9	17.8
145°	148.1	135.0	86.3	40.3	6.6	5.6	10.3	15.0	15.9
147.5°	136.9	122.8	78.8	37.5	6.6	5.6	9.4	13.1	14.1
150°	125.6	110.6	71.3	34.7	6.6	5.6	8.4	11.3	13.1
152.5°	113.4	95.6	63.8	31.9	6.6	5.6	7.5	10.3	11.3
155°	101.3	83.4	57.2	29.1	7.5	5.6	6.6	8.4	10.3
157.5°	90.9	72.2	50.6	26.3	7.5	4.7	6.6	7.5	8.4
160°	78.8	61.9	45.0	23.4	7.5	4.7	5.6	6.6	7.5
162.5°	69.4	51.6	39.4	21.6	7.5	4.7	5.6	5.6	6.6
165°	59.1	43.1	32.8	19.7	7.5	4.7	4.7	4.7	5.6
167.5°	47.8	33.8	27.2	17.8	7.5	4.7	4.7	3.8	4.7
170°	35.6	25.3	22.5	15.9	7.5	4.7	3.8	2.8	3.8
172.5°	15.9	19.7	17.8	14.1	8.4	4.7	3.8	2.8	1.9
175°	8.4	14.1	14.1	12.2	8.4	4.7	3.8	2.8	0.9
177.5°	6.6	8.4	10.3	10.3	8.4	5.6	3.8	1.9	0.9
180°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6



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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	20.61	22.09	21.12	22.59	23.14	19.58	21.06	20.09	21.56	22.11
	3H	22.70	24.05	23.22	24.56	25.14	21.45	22.80	21.97	23.31	23.90
	4H	23.64	24.92	24.18	25.45	26.04	22.20	23.48	22.74	24.00	24.60
	6H	24.56	25.75	25.11	26.29	26.90	22.83	24.02	23.39	24.56	25.17
	8H	24.99	26.13	25.55	26.69	27.31	23.09	24.23	23.65	24.79	25.41
	12H	25.41	26.50	25.98	27.06	27.71	23.32	24.41	23.89	24.97	25.62
4H	2H	21.10	22.38	21.64	22.91	23.51	20.15	21.42	20.69	21.95	22.55
	3H	23.42	24.51	23.97	25.08	25.69	22.21	23.29	22.76	23.86	24.48
	4H	24.53	25.53	25.10	26.11	26.76	23.06	24.05	23.63	24.63	25.28
	6H	25.64	26.52	26.23	27.12	27.78	23.81	24.69	24.41	25.30	25.96
	8H	26.16	26.99	26.76	27.59	28.27	24.13	24.96	24.73	25.56	26.23
	12H	26.69	27.44	27.31	28.07	28.75	24.42	25.17	25.04	25.80	26.48
8H	4H	24.79	25.61	25.39	26.22	26.89	23.40	24.22	23.99	24.83	25.50
	6H	26.07	26.77	26.70	27.42	28.10	24.28	24.98	24.91	25.63	26.31
	8H	26.74	27.37	27.38	28.02	28.72	24.68	25.31	25.32	25.97	26.66
	12H	27.44	28.01	28.09	28.65	29.41	25.07	25.63	25.71	26.27	27.03
12H	4H	24.81	25.56	25.42	26.19	26.87	23.46	24.21	24.08	24.84	25.52
	6H	26.13	26.76	26.77	27.41	28.11	24.39	25.02	25.03	25.68	26.37
	8H	26.87	27.43	27.51	28.07	28.83	24.85	25.42	25.50	26.06	26.82