

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: P893823

Luminaire Tested: 4MB-7HL-ASMF-UNV-L940

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893823
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-L940
Description: 7000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 4000K CCT
Light Source: -
Ballast/Driver: -

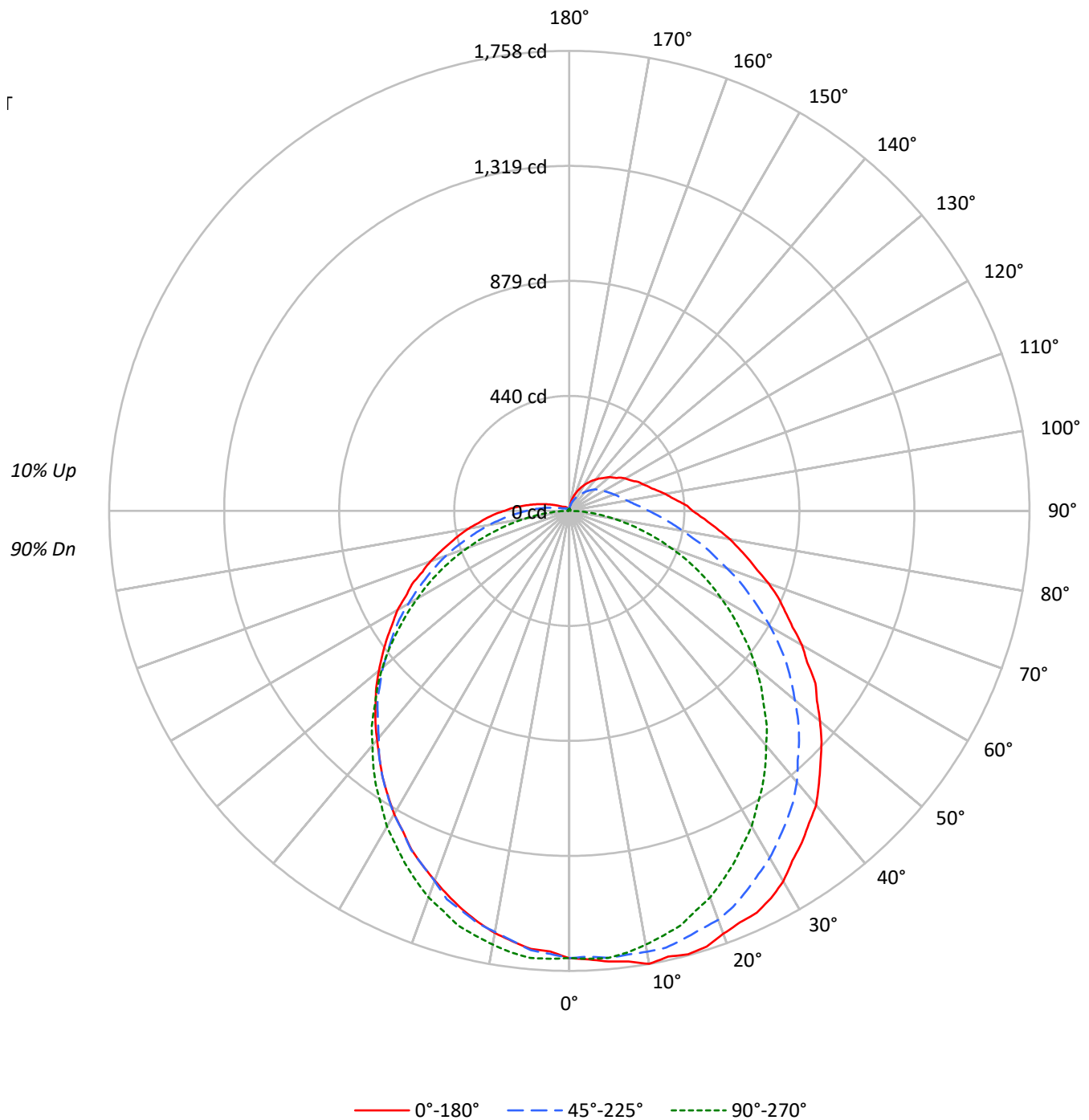
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5875.0 lumens
Efficiency: N/A
Efficacy: 113.4 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	0
RCR																		
0	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93	90
1	105	99	95	90	101	96	92	88	90	87	83	85	82	79	79	77	75	72
2	95	86	79	72	91	83	76	71	78	72	68	73	69	65	69	65	62	59
3	86	75	66	60	83	73	65	58	68	62	56	64	59	54	60	56	52	49
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	44	42
5	72	59	50	43	69	57	49	42	54	47	41	51	45	40	48	43	38	36
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	31
7	62	48	39	33	59	47	38	32	44	37	32	42	36	31	40	34	30	28
8	57	44	35	29	55	43	35	29	41	33	28	39	32	27	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22
10	50	37	29	24	49	36	29	23	34	28	23	33	27	22	31	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	17403	17403	17403	17403	17403
5°	17621	17003	16837	16706	17134
10°	18075	16647	16073	15898	16845
15°	18340	16296	15359	15234	16490
20°	18429	15958	14547	14441	16104
25°	18764	15445	13692	13781	15811
30°	18879	14951	12879	13066	15454
35°	18834	14412	12025	12378	15122
40°	19002	13854	11148	11605	14796
45°	18946	13195	10283	11016	14615
50°	19090	12519	9454	10340	14496
55°	19513	11930	8502	9664	14446
60°	19839	11197	7526	8944	14639
65°	20525	10404	6538	8230	14968
70°	22203	9646	5359	7548	15482
75°	24946	9096	4099	6753	16550
80°	31008	8564	2745	6053	19439
85°	46351	8450	1378	5330	27255

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 152626 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.1	2.8
10°-20°	464.7	7.9
20°-30°	700.7	11.9
30°-40°	841.0	14.3
40°-50°	875.7	14.9
50°-60°	811.8	13.8
60°-70°	668.5	11.4
70°-80°	482.3	8.2
80°-90°	306.1	5.2
90°-100°	188.8	3.2
100°-110°	125.9	2.1
110°-120°	89.6	1.5
120°-130°	65.7	1.1
130°-140°	45.2	0.8
140°-150°	27.5	0.5
150°-160°	13.6	0.2
160°-170°	5.0	0.1
170°-180°	0.8	0.0
0°-30°	1327.5	22.6
0°-40°	2168.6	36.9
0°-60°	3856.1	65.6
0°-90°	5313.0	90.4
90°-120°	404.2	6.9
90°-150°	542.5	9.2
90°-180°	562.0	9.6
0°-180°	5875.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1709	1709	1709	1709	1709	
5°	1728	1715	1715	1685	1681	166
15°	1754	1693	1640	1582	1577	495
25°	1694	1602	1486	1429	1428	779
35°	1548	1447	1286	1243	1243	970
45°	1357	1241	1050	1036	1047	1050
55°	1148	1012	801	820	850	1020
65°	909	760	545	602	663	905
75°	708	537	287	399	470	751
85°	539	366	75	231	317	458
90°	471	304	7	164	247	260
95°	420	257	4	110	190	333
105°	329	202	4	45	100	351
115°	270	167	5	21	48	270
125°	220	139	6	17	27	200
135°	176	111	6	13	20	138
145°	135	79	6	9	14	85
155°	92	52	7	6	9	44
165°	54	30	7	4	5	16
175°	8	13	8	3	1	1
180°	5	5	5	5	5	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1708.8	1708.8	1708.8	1708.8	1708.8	1708.8	1708.8	1708.8	1708.8
2.5°	1715.6	1720.7	1704.5	1714.8	1713.1	1714.8	1694.3	1711.4	1684.9
5°	1728.4	1731.0	1714.8	1720.7	1714.8	1700.2	1684.9	1678.9	1680.6
7.5°	1737.0	1750.7	1710.5	1712.2	1702.0	1686.6	1657.5	1662.7	1659.2
10°	1757.5	1742.1	1710.5	1702.8	1683.2	1666.9	1633.6	1636.2	1637.9
12.5°	1744.7	1741.3	1709.6	1681.4	1661.8	1648.1	1613.9	1605.4	1609.7
15°	1754.1	1739.5	1692.6	1670.3	1640.4	1616.5	1582.3	1576.4	1577.2
17.5°	1745.5	1733.6	1675.5	1644.7	1602.8	1588.3	1555.9	1545.6	1540.5
20°	1719.9	1713.9	1662.7	1609.7	1572.1	1543.9	1504.6	1498.6	1502.9
22.5°	1702.8	1688.3	1637.0	1584.0	1529.4	1504.6	1465.3	1464.4	1465.3
25°	1694.3	1675.5	1602.0	1546.5	1485.8	1463.6	1429.4	1416.6	1427.7
27.5°	1668.6	1651.5	1565.2	1504.6	1437.1	1407.2	1379.0	1376.4	1378.1
30°	1634.5	1601.1	1531.9	1457.6	1392.7	1361.9	1338.8	1321.7	1338.0
32.5°	1585.8	1567.0	1488.4	1407.2	1335.4	1314.1	1291.0	1289.3	1289.3
35°	1548.2	1534.5	1447.3	1362.8	1285.9	1256.8	1243.1	1237.2	1243.1
37.5°	1504.6	1484.1	1403.8	1308.9	1230.3	1205.5	1191.9	1186.8	1191.0
40°	1467.0	1429.4	1352.5	1253.4	1169.7	1147.5	1132.9	1138.1	1142.3
42.5°	1411.5	1390.1	1291.8	1197.0	1117.5	1093.6	1081.7	1085.9	1096.2
45°	1356.8	1337.1	1241.4	1138.1	1050.0	1037.2	1036.4	1033.8	1046.6
47.5°	1307.2	1279.0	1185.9	1080.0	993.7	979.1	980.8	989.4	1000.5
50°	1250.0	1216.7	1124.4	1017.6	931.3	921.9	928.7	934.7	949.2
52.5°	1192.7	1166.2	1068.0	958.6	868.1	861.2	870.6	890.3	898.8
55°	1148.3	1100.5	1012.5	889.4	800.6	801.4	820.2	831.3	850.1
57.5°	1077.4	1041.5	949.2	827.9	737.3	743.3	769.0	787.8	799.7
60°	1027.0	981.7	887.7	762.1	670.7	680.1	709.1	737.3	757.8
62.5°	962.0	922.7	823.6	697.2	609.2	622.9	655.3	688.6	703.2
65°	909.1	864.6	760.4	632.3	545.1	561.3	601.5	639.1	663.0
67.5°	863.8	817.7	704.0	572.4	480.2	504.1	551.1	587.8	606.6
70°	810.0	756.1	639.9	505.8	412.7	440.9	500.7	543.4	564.8
72.5°	752.7	709.1	584.4	444.3	350.3	384.5	450.3	494.7	515.2
75°	708.3	659.6	537.4	382.8	287.1	328.1	399.0	449.4	469.9
77.5°	663.0	618.6	484.4	326.4	230.7	276.8	353.7	409.3	430.6
80°	622.9	571.6	440.0	280.2	171.7	226.4	311.0	365.7	390.5
82.5°	578.4	534.0	401.6	231.5	122.2	180.3	269.1	328.9	349.4
85°	539.1	493.0	365.7	193.1	75.2	139.3	230.7	292.2	317.0
87.5°	503.2	464.8	332.4	164.0	37.6	105.9	193.9	256.3	284.5
90°	470.8	427.2	304.2	137.6	6.8	76.9	164.0	225.6	246.9
92.5°	450.3	398.1	281.1	120.5	4.3	54.7	136.7	197.4	222.1
95°	419.5	373.4	257.2	107.7	4.3	36.7	110.2	169.2	190.5
97.5°	393.0	350.3	240.1	100.0	3.4	24.8	90.6	141.8	164.0
100°	372.5	332.4	224.7	93.1	4.3	17.9	71.8	120.5	140.1
102.5°	349.4	312.7	212.7	88.9	4.3	12.8	56.4	101.7	119.6
105°	328.9	296.5	201.6	84.6	4.3	11.1	45.3	83.7	100.0
107.5°	313.6	279.4	192.2	82.0	4.3	11.1	35.9	68.4	82.0
110°	298.2	265.7	182.8	79.5	4.3	10.3	28.2	56.4	68.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	287.9	252.9	174.3	76.9	5.1	10.3	23.1	47.0	56.4
115°	270.0	241.8	166.6	76.0	5.1	9.4	21.4	38.4	47.8
117.5°	257.2	231.5	158.9	73.5	5.1	9.4	20.5	31.6	38.4
120°	247.8	219.6	152.1	70.9	5.1	8.5	18.8	28.2	32.5
122.5°	235.8	208.5	146.1	69.2	5.1	8.5	17.9	26.5	29.0
125°	219.6	198.2	139.3	65.8	6.0	8.5	17.1	24.8	27.3
127.5°	209.3	188.8	134.1	61.5	6.0	7.7	16.2	23.1	25.6
130°	200.8	178.6	128.2	57.2	6.0	7.7	15.4	21.4	23.9
132.5°	188.0	168.3	119.6	53.8	6.0	6.8	13.7	19.7	22.2
135°	176.0	159.8	111.1	50.4	6.0	6.8	12.8	18.8	20.5
137.5°	168.3	151.2	103.4	47.0	6.0	6.0	12.0	17.1	18.8
140°	155.5	141.8	94.8	43.6	6.0	6.0	11.1	16.2	17.1
142.5°	146.1	132.4	87.1	40.2	6.0	6.0	10.3	14.5	16.2
145°	135.0	123.0	78.6	36.7	6.0	5.1	9.4	13.7	14.5
147.5°	124.7	111.9	71.8	34.2	6.0	5.1	8.5	12.0	12.8
150°	114.5	100.8	64.9	31.6	6.0	5.1	7.7	10.3	12.0
152.5°	103.4	87.1	58.1	29.0	6.0	5.1	6.8	9.4	10.3
155°	92.3	76.0	52.1	26.5	6.8	5.1	6.0	7.7	9.4
157.5°	82.9	65.8	46.1	23.9	6.8	4.3	6.0	6.8	7.7
160°	71.8	56.4	41.0	21.4	6.8	4.3	5.1	6.0	6.8
162.5°	63.2	47.0	35.9	19.7	6.8	4.3	5.1	5.1	6.0
165°	53.8	39.3	29.9	17.9	6.8	4.3	4.3	4.3	5.1
167.5°	43.6	30.8	24.8	16.2	6.8	4.3	4.3	3.4	4.3
170°	32.5	23.1	20.5	14.5	6.8	4.3	3.4	2.6	3.4
172.5°	14.5	17.9	16.2	12.8	7.7	4.3	3.4	2.6	1.7
175°	7.7	12.8	12.8	11.1	7.7	4.3	3.4	2.6	0.9
177.5°	6.0	7.7	9.4	9.4	7.7	5.1	3.4	1.7	0.9
180°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1



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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	20.29	21.77	20.79	22.27	22.81	19.26	20.74	19.77	21.24	21.78
	3H	22.38	23.72	22.89	24.23	24.82	21.13	22.48	21.65	22.99	23.57
	4H	23.32	24.60	23.86	25.12	25.72	21.88	23.15	22.42	23.68	24.28
	6H	24.24	25.43	24.79	25.97	26.58	22.51	23.70	23.06	24.24	24.85
	8H	24.67	25.80	25.23	26.37	26.99	22.77	23.90	23.33	24.47	25.09
	12H	25.09	26.18	25.66	26.74	27.38	23.00	24.09	23.57	24.65	25.29
4H	2H	20.78	22.06	21.32	22.59	23.18	19.82	21.10	20.36	21.63	22.22
	3H	23.10	24.18	23.65	24.75	25.37	21.88	22.97	22.44	23.54	24.16
	4H	24.21	25.20	24.78	25.78	26.43	22.74	23.73	23.31	24.31	24.96
	6H	25.31	26.19	25.91	26.80	27.46	23.49	24.37	24.08	24.97	25.64
	8H	25.84	26.67	26.44	27.27	27.95	23.81	24.63	24.40	25.24	25.91
	12H	26.37	27.12	26.99	27.75	28.43	24.10	24.85	24.72	25.48	26.16
8H	4H	24.47	25.29	25.06	25.89	26.57	23.07	23.90	23.67	24.50	25.18
	6H	25.75	26.45	26.38	27.09	27.77	23.96	24.66	24.59	25.30	25.98
	8H	26.42	27.05	27.06	27.70	28.39	24.36	24.99	25.00	25.64	26.34
	12H	27.12	27.68	27.76	28.33	29.08	24.75	25.31	25.39	25.95	26.71
12H	4H	24.48	25.23	25.10	25.86	26.54	23.14	23.89	23.76	24.52	25.20
	6H	25.80	26.44	26.44	27.09	27.78	24.07	24.70	24.71	25.35	26.05
	8H	26.55	27.11	27.19	27.75	28.51	24.53	25.09	25.17	25.74	26.49