

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: P893824

Luminaire Tested: 4MB-7HL-ASMF-UNV-L950

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893824
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-L950
Description: 7000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 5000K CCT
Light Source: -
Ballast/Driver: -

Summary

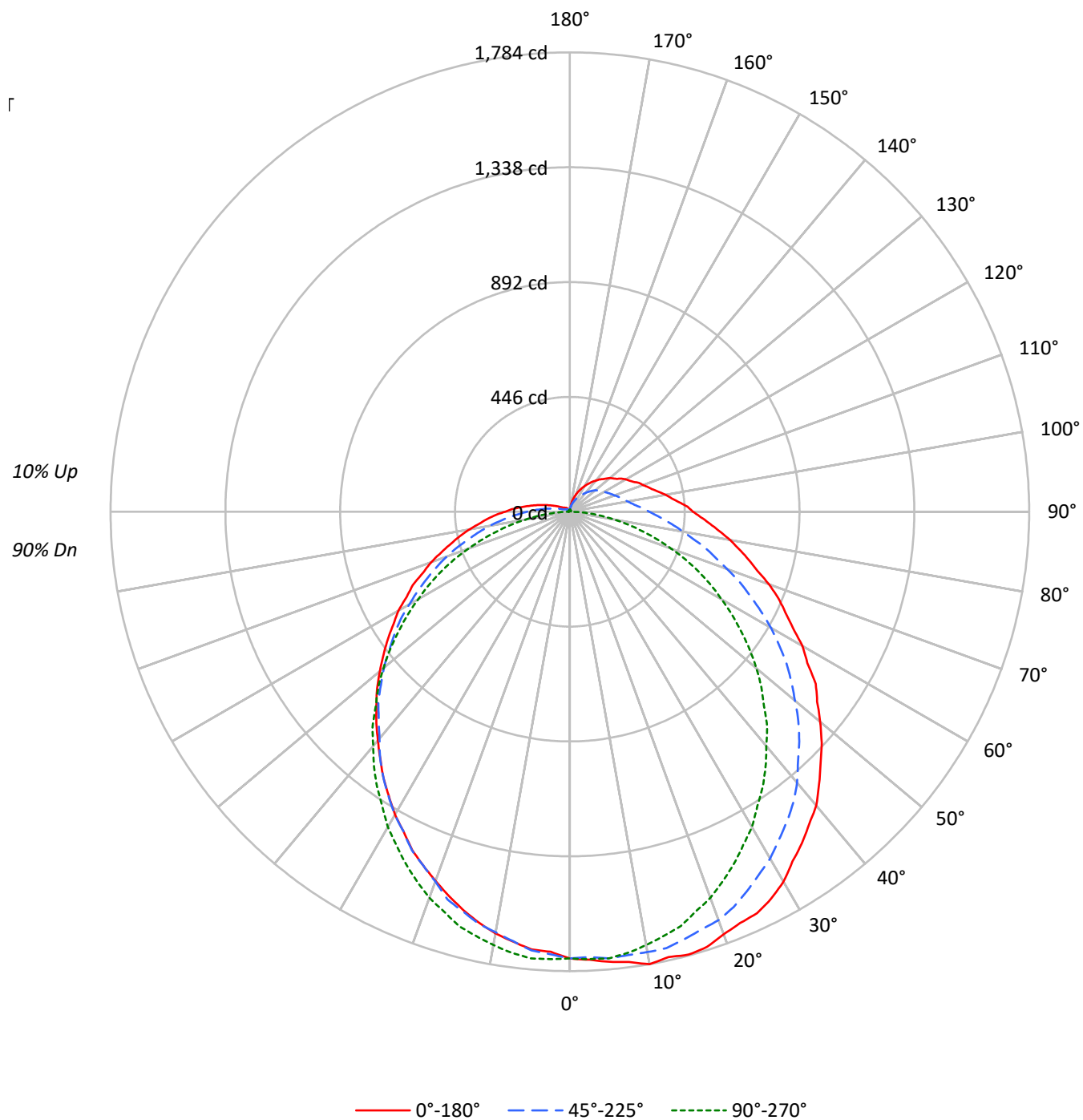
Lumens per Lamp: N/A
Luminaire Lumens: 5964.0 lumens
Efficiency: N/A
Efficacy: 115.1 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.21 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 3.98' x H: 0.12')
CIE Type: Direct

Input Watts (W): 51.8
Input Voltage (V): 120
Input Current (Ain): 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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93
1	105	99	95	90	101	96	92	88	90	87	83	85	82	79	79	77	75
2	95	86	79	72	91	83	76	71	78	72	68	73	69	65	69	65	62
3	86	75	66	60	83	73	65	58	68	62	56	64	59	54	60	56	52
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	44
5	72	59	50	43	69	57	49	42	54	47	41	51	45	40	48	43	38
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34
7	62	48	39	33	59	47	38	32	44	37	32	42	36	31	40	34	30
8	57	44	35	29	55	43	35	29	41	33	28	39	32	27	37	31	27
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24
10	50	37	29	24	49	36	29	23	34	28	23	33	27	22	31	26	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	17667	17667	17667	17667	17667
5°	17888	17259	17092	16959	17394
10°	18348	16899	16316	16139	17100
15°	18617	16542	15592	15465	16740
20°	18708	16199	14767	14660	16347
25°	19048	15679	13899	13990	16051
30°	19164	15177	13074	13264	15688
35°	19119	14631	12206	12567	15352
40°	19290	14064	11317	11781	15020
45°	19233	13395	10440	11183	14837
50°	19379	12708	9597	10497	14716
55°	19809	12110	8630	9810	14665
60°	20138	11367	7641	9080	14861
65°	20834	10561	6637	8354	15197
70°	22537	9793	5440	7662	15715
75°	25323	9235	4160	6855	16800
80°	31476	8695	2786	6145	19733
85°	47056	8577	1398	5411	27668

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 90°

Luminance: 154927 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.6	2.8
10°-20°	471.7	7.9
20°-30°	711.3	11.9
30°-40°	853.8	14.3
40°-50°	889.0	14.9
50°-60°	824.1	13.8
60°-70°	678.7	11.4
70°-80°	489.6	8.2
80°-90°	310.8	5.2
90°-100°	191.6	3.2
100°-110°	127.8	2.1
110°-120°	91.0	1.5
120°-130°	66.7	1.1
130°-140°	45.8	0.8
140°-150°	27.9	0.5
150°-160°	13.8	0.2
160°-170°	5.1	0.1
170°-180°	0.8	0.0
0°-30°	1347.6	22.6
0°-40°	2201.4	36.9
0°-60°	3914.5	65.6
0°-90°	5393.5	90.4
90°-120°	410.3	6.9
90°-150°	550.7	9.2
90°-180°	570.0	9.6
0°-180°	5964.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1735	1735	1735	1735	1735	
5°	1755	1741	1741	1710	1706	168
15°	1781	1718	1665	1606	1601	502
25°	1720	1626	1508	1451	1449	791
35°	1572	1469	1305	1262	1262	985
45°	1377	1260	1066	1052	1062	1066
55°	1166	1028	813	833	863	1036
65°	923	772	553	611	673	919
75°	719	546	291	405	477	762
85°	547	371	76	234	322	465
90°	478	309	7	166	251	264
95°	426	261	4	112	193	338
105°	334	205	4	46	102	357
115°	274	169	5	22	49	274
125°	223	141	6	17	28	203
135°	179	113	6	13	21	140
145°	137	80	6	10	15	87
155°	94	53	7	6	10	44
165°	55	30	7	4	5	16
175°	8	13	8	4	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°	1734.7	1734.7	1734.7	1734.7	1734.7	1734.7	1734.7	1734.7	1734.7
2.5°	1741.6	1746.8	1730.3	1740.7	1739.0	1740.7	1719.9	1737.3	1710.4
5°	1754.6	1757.2	1740.7	1746.8	1740.7	1726.0	1710.4	1704.3	1706.1
7.5°	1763.3	1777.2	1736.4	1738.1	1727.7	1712.1	1682.6	1687.8	1684.4
10°	1784.1	1768.5	1736.4	1728.6	1708.7	1692.2	1658.3	1661.0	1662.7
12.5°	1771.1	1767.6	1735.5	1706.9	1687.0	1673.1	1638.4	1629.7	1634.1
15°	1780.6	1765.9	1718.2	1695.6	1665.3	1641.0	1606.3	1600.2	1601.1
17.5°	1772.0	1759.8	1700.8	1669.6	1627.1	1612.4	1579.4	1569.0	1563.8
20°	1745.9	1739.9	1687.8	1634.1	1595.9	1567.3	1527.4	1521.3	1525.6
22.5°	1728.6	1713.9	1661.8	1608.0	1552.5	1527.4	1487.5	1486.6	1487.5
25°	1719.9	1700.8	1626.3	1569.9	1508.3	1485.7	1451.1	1438.0	1449.3
27.5°	1693.9	1676.6	1589.0	1527.4	1458.9	1428.5	1399.9	1397.3	1399.0
30°	1659.2	1625.4	1555.1	1479.7	1413.8	1382.5	1359.1	1341.8	1358.2
32.5°	1609.8	1590.7	1510.9	1428.5	1355.6	1334.0	1310.5	1308.8	1308.8
35°	1571.6	1557.7	1469.3	1383.4	1305.3	1275.9	1262.0	1255.9	1262.0
37.5°	1527.4	1506.6	1425.0	1328.8	1249.0	1223.8	1209.9	1204.7	1209.1
40°	1489.2	1451.1	1373.0	1272.4	1187.4	1164.8	1150.1	1155.3	1159.6
42.5°	1432.8	1411.2	1311.4	1215.1	1134.5	1110.2	1098.0	1102.4	1112.8
45°	1377.3	1357.4	1260.2	1155.3	1066.0	1052.9	1052.1	1049.5	1062.5
47.5°	1327.0	1298.4	1203.9	1096.3	1008.7	994.0	995.7	1004.4	1015.7
50°	1268.9	1235.1	1141.4	1033.0	945.4	935.9	942.8	948.9	963.6
52.5°	1210.8	1183.9	1084.2	973.2	881.2	874.3	883.8	903.8	912.4
55°	1165.7	1117.1	1027.8	902.9	812.7	813.6	832.6	843.9	863.0
57.5°	1093.7	1057.3	963.6	840.4	748.5	754.6	780.6	799.7	811.8
60°	1042.5	996.6	901.2	773.7	680.9	690.4	719.9	748.5	769.3
62.5°	976.6	936.7	836.1	707.7	618.4	632.3	665.2	699.1	713.8
65°	922.8	877.7	771.9	641.8	553.4	569.8	610.6	648.8	673.1
67.5°	876.9	830.0	714.7	581.1	487.4	511.7	559.4	596.7	615.8
70°	822.2	767.6	649.6	513.5	418.9	447.5	508.3	551.6	573.3
72.5°	764.1	719.9	593.3	451.0	355.6	390.3	457.1	502.2	523.0
75°	719.0	669.6	545.6	388.6	291.4	333.1	405.0	456.2	477.0
77.5°	673.1	628.0	491.8	331.3	234.2	281.0	359.1	415.5	437.1
80°	632.3	580.2	446.7	284.5	174.3	229.8	315.7	371.2	396.4
82.5°	587.2	542.1	407.6	235.0	124.0	183.0	273.2	333.9	354.7
85°	547.3	500.5	371.2	196.0	76.3	141.4	234.2	296.6	321.8
87.5°	510.9	471.8	337.4	166.5	38.2	107.5	196.9	260.2	288.8
90°	477.9	433.7	308.8	139.6	6.9	78.1	166.5	229.0	250.7
92.5°	457.1	404.2	285.4	122.3	4.3	55.5	138.8	200.4	225.5
95°	425.9	379.0	261.1	109.3	4.3	37.3	111.9	171.7	193.4
97.5°	399.0	355.6	243.7	101.5	3.5	25.2	91.9	144.0	166.5
100°	378.2	337.4	228.1	94.5	4.3	18.2	72.9	122.3	142.2
102.5°	354.7	317.4	216.0	90.2	4.3	13.0	57.2	103.2	121.4
105°	333.9	301.0	204.7	85.9	4.3	11.3	46.0	85.0	101.5
107.5°	318.3	283.6	195.2	83.3	4.3	11.3	36.4	69.4	83.3
110°	302.7	269.7	185.6	80.7	4.3	10.4	28.6	57.2	69.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	292.3	256.7	176.9	78.1	5.2	10.4	23.4	47.7	57.2
115°	274.1	245.5	169.1	77.2	5.2	9.5	21.7	39.0	48.6
117.5°	261.1	235.0	161.3	74.6	5.2	9.5	20.8	32.1	39.0
120°	251.5	222.9	154.4	72.0	5.2	8.7	19.1	28.6	33.0
122.5°	239.4	211.6	148.3	70.3	5.2	8.7	18.2	26.9	29.5
125°	222.9	201.2	141.4	66.8	6.1	8.7	17.3	25.2	27.8
127.5°	212.5	191.7	136.2	62.4	6.1	7.8	16.5	23.4	26.0
130°	203.8	181.3	130.1	58.1	6.1	7.8	15.6	21.7	24.3
132.5°	190.8	170.9	121.4	54.6	6.1	6.9	13.9	19.9	22.6
135°	178.7	162.2	112.8	51.2	6.1	6.9	13.0	19.1	20.8
137.5°	170.9	153.5	104.9	47.7	6.1	6.1	12.1	17.3	19.1
140°	157.9	144.0	96.3	44.2	6.1	6.1	11.3	16.5	17.3
142.5°	148.3	134.4	88.5	40.8	6.1	6.1	10.4	14.7	16.5
145°	137.0	124.9	79.8	37.3	6.1	5.2	9.5	13.9	14.7
147.5°	126.6	113.6	72.9	34.7	6.1	5.2	8.7	12.1	13.0
150°	116.2	102.3	65.9	32.1	6.1	5.2	7.8	10.4	12.1
152.5°	104.9	88.5	59.0	29.5	6.1	5.2	6.9	9.5	10.4
155°	93.7	77.2	52.9	26.9	6.9	5.2	6.1	7.8	9.5
157.5°	84.1	66.8	46.8	24.3	6.9	4.3	6.1	6.9	7.8
160°	72.9	57.2	41.6	21.7	6.9	4.3	5.2	6.1	6.9
162.5°	64.2	47.7	36.4	19.9	6.9	4.3	5.2	5.2	6.1
165°	54.6	39.9	30.4	18.2	6.9	4.3	4.3	4.3	5.2
167.5°	44.2	31.2	25.2	16.5	6.9	4.3	4.3	3.5	4.3
170°	33.0	23.4	20.8	14.7	6.9	4.3	3.5	2.6	3.5
172.5°	14.7	18.2	16.5	13.0	7.8	4.3	3.5	2.6	1.7
175°	7.8	13.0	13.0	11.3	7.8	4.3	3.5	2.6	0.9
177.5°	6.1	7.8	9.5	9.5	7.8	5.2	3.5	1.7	0.9
180°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2

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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	20.34	21.82	20.85	22.32	22.86	19.31	20.79	19.82	21.29	21.84
	3H	22.43	23.77	22.95	24.29	24.87	21.18	22.53	21.70	23.04	23.62
	4H	23.37	24.65	23.91	25.18	25.77	21.93	23.21	22.47	23.73	24.33
	6H	24.29	25.48	24.84	26.02	26.63	22.56	23.75	23.12	24.29	24.90
	8H	24.72	25.86	25.28	26.42	27.04	22.82	23.96	23.38	24.52	25.14
	12H	25.14	26.23	25.71	26.79	27.44	23.05	24.14	23.62	24.70	25.35
4H	2H	20.83	22.11	21.37	22.64	23.23	19.88	21.15	20.42	21.68	22.28
	3H	23.15	24.24	23.70	24.80	25.42	21.93	23.02	22.49	23.59	24.21
	4H	24.26	25.26	24.83	25.83	26.48	22.79	23.78	23.36	24.36	25.01
	6H	25.37	26.24	25.96	26.85	27.51	23.54	24.42	24.14	25.03	25.69
	8H	25.89	26.72	26.49	27.32	28.00	23.86	24.68	24.46	25.29	25.96
	12H	26.42	27.17	27.04	27.80	28.48	24.15	24.90	24.77	25.53	26.21
8H	4H	24.52	25.34	25.11	25.95	26.62	23.13	23.95	23.72	24.56	25.23
	6H	25.80	26.50	26.43	27.15	27.83	24.01	24.71	24.64	25.36	26.04
	8H	26.47	27.10	27.11	27.75	28.45	24.41	25.04	25.05	25.69	26.39
	12H	27.17	27.74	27.82	28.38	29.14	24.80	25.36	25.44	26.00	26.76
12H	4H	24.54	25.29	25.15	25.92	26.60	23.19	23.94	23.81	24.57	25.25
	6H	25.86	26.49	26.50	27.14	27.83	24.12	24.75	24.76	25.41	26.10
	8H	26.60	27.16	27.24	27.80	28.56	24.58	25.15	25.23	25.79	26.55