

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: P893820

Luminaire Tested: 4MB-7HL-ASMF-UNV-L850

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893820
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-L850
Description: 7000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 5000K CCT
Light Source: -
Ballast/Driver: -

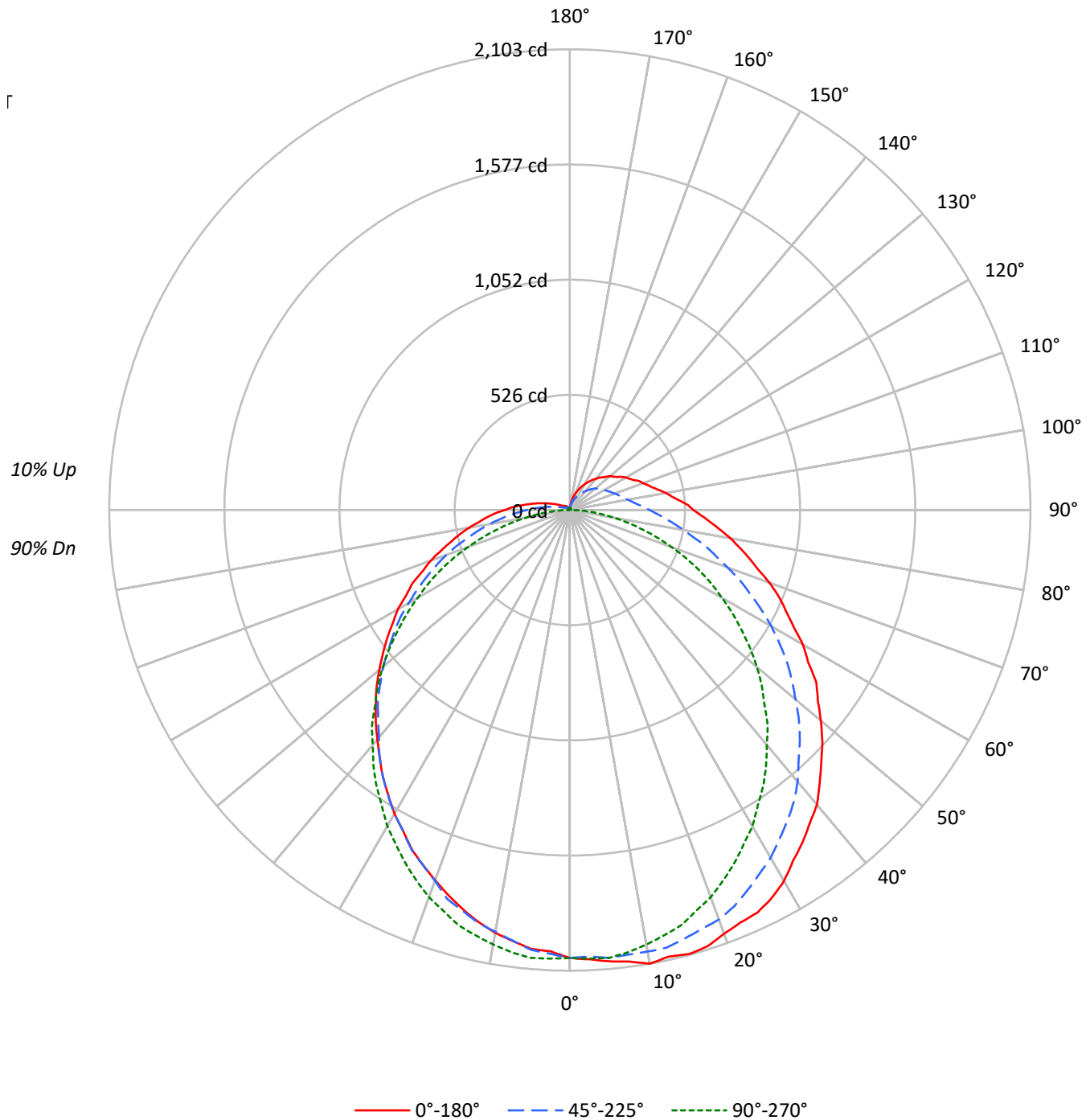
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7030.0 lumens
Efficiency: N/A
Efficacy: 135.7 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_{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	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°	20824	20824	20824	20824	20824
5°	21085	20345	20147	19990	20502
10°	21628	19920	19233	19024	20156
15°	21945	19499	18378	18229	19733
20°	22052	19095	17406	17280	19269
25°	22452	18481	16383	16490	18920
30°	22590	17890	15411	15635	18492
35°	22536	17246	14389	14812	18095
40°	22738	16578	13340	13887	17706
45°	22671	15790	12306	13182	17488
50°	22842	14979	11312	12373	17346
55°	23350	14274	10173	11565	17287
60°	23739	13398	9007	10704	17517
65°	24559	12450	7824	9847	17913
70°	26567	11544	6413	9031	18524
75°	29849	10885	4904	8080	19804
80°	37101	10248	3285	7243	23257
85°	55465	10111	1649	6377	32612

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 182613 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	194.0	2.8
10°-20°	556.0	7.9
20°-30°	838.5	11.9
30°-40°	1006.4	14.3
40°-50°	1047.9	14.9
50°-60°	971.4	13.8
60°-70°	800.0	11.4
70°-80°	577.1	8.2
80°-90°	366.3	5.2
90°-100°	225.9	3.2
100°-110°	150.6	2.1
110°-120°	107.2	1.5
120°-130°	78.6	1.1
130°-140°	54.0	0.8
140°-150°	32.9	0.5
150°-160°	16.3	0.2
160°-170°	6.0	0.1
170°-180°	1.0	0.0
0°-30°	1588.5	22.6
0°-40°	2594.9	36.9
0°-60°	4614.2	65.6
0°-90°	6357.6	90.4
90°-120°	483.7	6.9
90°-150°	649.2	9.2
90°-180°	672.0	9.6
0°-180°	7030.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2045	2045	2045	2045	2045	
5°	2068	2052	2052	2016	2011	198
15°	2099	2025	1963	1893	1887	592
25°	2027	1917	1778	1710	1708	932
35°	1852	1732	1539	1488	1488	1161
45°	1624	1486	1256	1240	1252	1256
55°	1374	1212	958	982	1017	1221
65°	1088	910	652	720	793	1083
75°	848	643	344	477	562	898
85°	645	438	90	276	379	548
90°	563	364	8	196	296	311
95°	502	308	5	132	228	399
105°	394	241	5	54	120	420
115°	323	199	6	26	57	323
125°	263	167	7	20	33	239
135°	211	133	7	15	24	165
145°	162	94	7	11	17	102
155°	110	62	8	7	11	52
165°	64	36	8	5	6	19
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°	2044.7	2044.7	2044.7	2044.7	2044.7	2044.7	2044.7	2044.7	2044.7
2.5°	2052.9	2059.0	2039.6	2051.9	2049.8	2051.9	2027.3	2047.8	2016.1
5°	2068.2	2071.3	2051.9	2059.0	2051.9	2034.5	2016.1	2008.9	2011.0
7.5°	2078.5	2094.8	2046.8	2048.8	2036.5	2018.1	1983.4	1989.5	1985.4
10°	2103.0	2084.6	2046.8	2037.6	2014.1	1994.6	1954.8	1957.8	1959.9
12.5°	2087.7	2083.6	2045.8	2012.0	1988.5	1972.1	1931.2	1921.0	1926.1
15°	2098.9	2081.5	2025.3	1998.7	1962.9	1934.3	1893.4	1886.3	1887.3
17.5°	2088.7	2074.4	2004.9	1968.1	1918.0	1900.6	1861.7	1849.5	1843.3
20°	2058.0	2050.9	1989.5	1926.1	1881.1	1847.4	1800.4	1793.2	1798.3
22.5°	2037.6	2020.2	1958.8	1895.5	1830.0	1800.4	1753.4	1752.3	1753.4
25°	2027.3	2004.9	1916.9	1850.5	1777.9	1751.3	1710.4	1695.1	1708.4
27.5°	1996.7	1976.2	1873.0	1800.4	1719.6	1683.8	1650.1	1647.0	1649.1
30°	1955.8	1915.9	1833.1	1744.2	1666.5	1629.6	1602.0	1581.6	1601.0
32.5°	1897.5	1875.0	1781.0	1683.8	1598.0	1572.4	1544.8	1542.7	1542.7
35°	1852.5	1836.2	1731.9	1630.7	1538.7	1503.9	1487.5	1480.4	1487.5
37.5°	1800.4	1775.8	1679.7	1566.3	1472.2	1442.6	1426.2	1420.1	1425.2
40°	1755.4	1710.4	1618.4	1499.8	1399.6	1373.0	1355.7	1361.8	1366.9
42.5°	1688.9	1663.4	1545.8	1432.3	1337.3	1308.6	1294.3	1299.4	1311.7
45°	1623.5	1600.0	1485.5	1361.8	1256.5	1241.1	1240.1	1237.1	1252.4
47.5°	1564.2	1530.5	1419.0	1292.3	1189.0	1171.6	1173.7	1183.9	1197.2
50°	1495.7	1455.8	1345.4	1217.6	1114.4	1103.1	1111.3	1118.5	1135.8
52.5°	1427.2	1395.5	1278.0	1147.1	1038.7	1030.5	1041.8	1065.3	1075.5
55°	1374.1	1316.8	1211.5	1064.3	958.0	959.0	981.5	994.8	1017.3
57.5°	1289.2	1246.3	1135.8	990.7	882.3	889.5	920.1	942.6	956.9
60°	1228.9	1174.7	1062.2	911.9	802.6	813.8	848.6	882.3	906.8
62.5°	1151.2	1104.2	985.6	834.2	728.9	745.3	784.2	824.0	841.4
65°	1087.8	1034.6	909.9	756.5	652.3	671.7	719.7	764.7	793.4
67.5°	1033.6	978.4	842.4	685.0	574.6	603.2	659.4	703.4	725.9
70°	969.2	904.8	765.8	605.2	493.8	527.5	599.1	650.2	675.8
72.5°	900.7	848.6	699.3	531.6	419.2	460.1	538.8	591.9	616.5
75°	847.5	789.3	643.1	458.0	343.5	392.6	477.4	537.8	562.3
77.5°	793.4	740.2	579.7	390.5	276.0	331.2	423.3	489.7	515.3
80°	745.3	684.0	526.5	335.3	205.5	270.9	372.1	437.6	467.2
82.5°	692.1	639.0	480.5	277.1	146.2	215.7	322.0	393.6	418.1
85°	645.1	589.9	437.6	231.1	90.0	166.6	276.0	349.6	379.3
87.5°	602.2	556.2	397.7	196.3	45.0	126.8	232.1	306.7	340.4
90°	563.3	511.2	364.0	164.6	8.2	92.0	196.3	269.9	295.5
92.5°	538.8	476.4	336.4	144.2	5.1	65.4	163.6	236.2	265.8
95°	502.0	446.8	307.7	128.8	5.1	44.0	131.9	202.4	228.0
97.5°	470.3	419.2	287.3	119.6	4.1	29.6	108.4	169.7	196.3
100°	445.8	397.7	268.9	111.4	5.1	21.5	85.9	144.2	167.7
102.5°	418.1	374.2	254.6	106.3	5.1	15.3	67.5	121.7	143.1
105°	393.6	354.8	241.3	101.2	5.1	13.3	54.2	100.2	119.6
107.5°	375.2	334.3	230.0	98.1	5.1	13.3	42.9	81.8	98.1
110°	356.8	318.0	218.8	95.1	5.1	12.3	33.7	67.5	81.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	344.5	302.6	208.6	92.0	6.1	12.3	27.6	56.2	67.5
115°	323.1	289.3	199.4	91.0	6.1	11.2	25.6	46.0	57.3
117.5°	307.7	277.1	190.2	87.9	6.1	11.2	24.5	37.8	46.0
120°	296.5	262.7	182.0	84.9	6.1	10.2	22.5	33.7	38.8
122.5°	282.2	249.5	174.8	82.8	6.1	10.2	21.5	31.7	34.8
125°	262.7	237.2	166.6	78.7	7.2	10.2	20.4	29.6	32.7
127.5°	250.5	225.9	160.5	73.6	7.2	9.2	19.4	27.6	30.7
130°	240.3	213.7	153.4	68.5	7.2	9.2	18.4	25.6	28.6
132.5°	224.9	201.4	143.1	64.4	7.2	8.2	16.4	23.5	26.6
135°	210.6	191.2	132.9	60.3	7.2	8.2	15.3	22.5	24.5
137.5°	201.4	181.0	123.7	56.2	7.2	7.2	14.3	20.4	22.5
140°	186.1	169.7	113.5	52.1	7.2	7.2	13.3	19.4	20.4
142.5°	174.8	158.5	104.3	48.1	7.2	7.2	12.3	17.4	19.4
145°	161.5	147.2	94.1	44.0	7.2	6.1	11.2	16.4	17.4
147.5°	149.3	133.9	85.9	40.9	7.2	6.1	10.2	14.3	15.3
150°	137.0	120.6	77.7	37.8	7.2	6.1	9.2	12.3	14.3
152.5°	123.7	104.3	69.5	34.8	7.2	6.1	8.2	11.2	12.3
155°	110.4	91.0	62.4	31.7	8.2	6.1	7.2	9.2	11.2
157.5°	99.2	78.7	55.2	28.6	8.2	5.1	7.2	8.2	9.2
160°	85.9	67.5	49.1	25.6	8.2	5.1	6.1	7.2	8.2
162.5°	75.7	56.2	42.9	23.5	8.2	5.1	6.1	6.1	7.2
165°	64.4	47.0	35.8	21.5	8.2	5.1	5.1	5.1	6.1
167.5°	52.1	36.8	29.6	19.4	8.2	5.1	5.1	4.1	5.1
170°	38.8	27.6	24.5	17.4	8.2	5.1	4.1	3.1	4.1
172.5°	17.4	21.5	19.4	15.3	9.2	5.1	4.1	3.1	2.0
175°	9.2	15.3	15.3	13.3	9.2	5.1	4.1	3.1	1.0
177.5°	7.2	9.2	11.2	11.2	9.2	6.1	4.1	2.0	1.0
180°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1



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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	20.91	22.39	21.42	22.89	23.44	19.88	21.36	20.39	21.86	22.41
	3H	23.00	24.35	23.52	24.86	25.44	21.75	23.10	22.27	23.61	24.20
	4H	23.94	25.22	24.48	25.75	26.34	22.50	23.78	23.04	24.31	24.90
	6H	24.86	26.05	25.41	26.59	27.20	23.13	24.32	23.69	24.86	25.48
	8H	25.29	26.43	25.85	26.99	27.61	23.39	24.53	23.95	25.09	25.71
	12H	25.71	26.80	26.28	27.36	28.01	23.62	24.71	24.19	25.27	25.92
4H	2H	21.41	22.68	21.95	23.21	23.81	20.45	21.72	20.99	22.25	22.85
	3H	23.72	24.81	24.27	25.38	25.99	22.51	23.59	23.06	24.16	24.78
	4H	24.83	25.83	25.40	26.41	27.06	23.36	24.35	23.93	24.93	25.58
	6H	25.94	26.82	26.53	27.42	28.08	24.12	24.99	24.71	25.60	26.26
	8H	26.46	27.29	27.06	27.89	28.57	24.43	25.26	25.03	25.86	26.53
	12H	26.99	27.74	27.61	28.37	29.05	24.72	25.47	25.34	26.10	26.78
8H	4H	25.09	25.92	25.69	26.52	27.19	23.70	24.52	24.29	25.13	25.80
	6H	26.37	27.07	27.00	27.72	28.40	24.58	25.28	25.21	25.93	26.61
	8H	27.04	27.67	27.68	28.33	29.02	24.98	25.61	25.62	26.27	26.96
	12H	27.74	28.31	28.39	28.95	29.71	25.37	25.93	26.01	26.58	27.33
12H	4H	25.11	25.86	25.73	26.49	27.17	23.76	24.51	24.38	25.14	25.82
	6H	26.43	27.06	27.07	27.71	28.41	24.69	25.32	25.33	25.98	26.67
	8H	27.17	27.73	27.81	28.38	29.13	25.15	25.72	25.80	26.36	27.12