

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: P893914

Luminaire Tested: 4MB-8HL-ASMF-UNV-L835

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893914
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-L835
Description: 8000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 3500K CCT
Light Source: -
Ballast/Driver: -

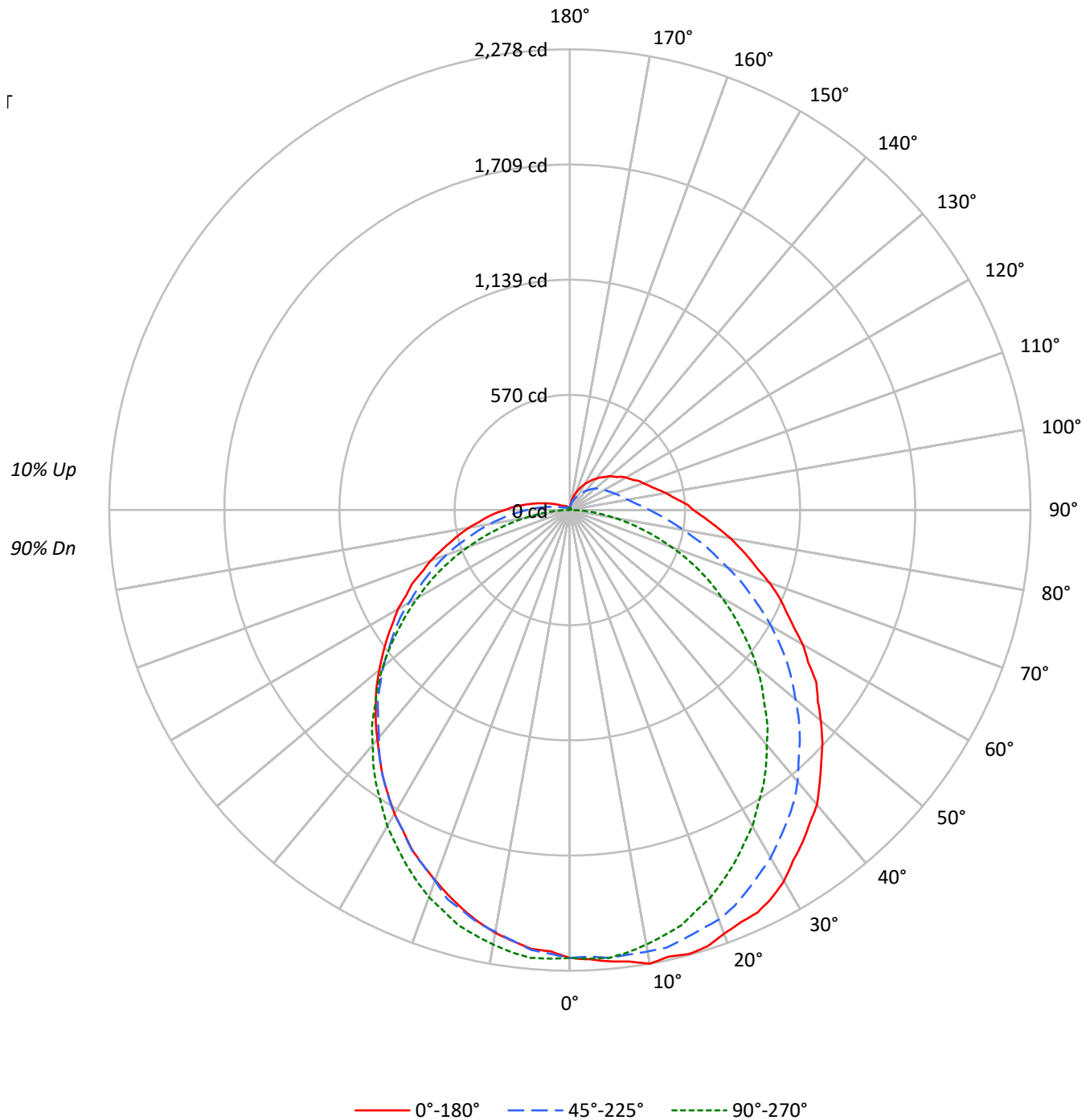
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7615.0 lumens
Efficiency: N/A
Efficacy: 131.5 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°	22557	22557	22557	22557	22557
5°	22841	22037	21823	21654	22208
10°	23428	21577	20833	20607	21834
15°	23772	21121	19908	19746	21374
20°	23888	20684	18855	18718	20873
25°	24321	20019	17746	17862	20494
30°	24469	19379	16692	16937	20032
35°	24412	18681	15586	16045	19602
40°	24630	17958	14450	15043	19178
45°	24557	17104	13329	14279	18944
50°	24744	16226	12253	13403	18791
55°	25293	15462	11019	12526	18725
60°	25713	14513	9755	11594	18975
65°	26602	13485	8474	10667	19403
70°	28779	12504	6946	9783	20065
75°	32335	11791	5312	8754	21452
80°	40187	11100	3558	7846	25193
85°	60082	10952	1786	6908	35328

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 197817 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	210.2	2.8
10°-20°	602.3	7.9
20°-30°	908.2	11.9
30°-40°	1090.1	14.3
40°-50°	1135.1	14.9
50°-60°	1052.2	13.8
60°-70°	866.5	11.4
70°-80°	625.1	8.2
80°-90°	396.8	5.2
90°-100°	244.6	3.2
100°-110°	163.1	2.1
110°-120°	116.1	1.5
120°-130°	85.1	1.1
130°-140°	58.5	0.8
140°-150°	35.6	0.5
150°-160°	17.7	0.2
160°-170°	6.5	0.1
170°-180°	1.1	0.0
0°-30°	1720.7	22.6
0°-40°	2810.8	36.9
0°-60°	4998.1	65.6
0°-90°	6886.6	90.4
90°-120°	523.9	6.9
90°-150°	703.2	9.2
90°-180°	728.0	9.6
0°-180°	7615.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2215	2215	2215	2215	2215	
5°	2240	2223	2223	2184	2178	215
15°	2274	2194	2126	2051	2044	641
25°	2196	2076	1926	1853	1850	1010
35°	2007	1876	1667	1611	1611	1257
45°	1759	1609	1361	1343	1357	1361
55°	1488	1312	1038	1063	1102	1322
65°	1178	986	706	780	859	1173
75°	918	697	372	517	609	973
85°	699	474	98	299	411	593
90°	610	394	9	213	320	337
95°	544	333	6	143	247	432
105°	426	261	6	59	130	455
115°	350	216	7	28	62	350
125°	285	180	8	22	35	259
135°	228	144	8	17	27	179
145°	175	102	8	12	19	111
155°	120	68	9	8	12	56
165°	70	39	9	6	7	20
175°	10	17	10	4	1	2
180°	7	7	7	7	7	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	2214.9	2214.9	2214.9	2214.9	2214.9	2214.9	2214.9	2214.9	2214.9
2.5°	2223.7	2230.4	2209.3	2222.6	2220.4	2222.6	2196.1	2218.2	2183.9
5°	2240.4	2243.7	2222.6	2230.4	2222.6	2203.8	2183.9	2176.1	2178.3
7.5°	2251.4	2269.1	2217.1	2219.3	2206.0	2186.1	2148.4	2155.1	2150.6
10°	2278.0	2258.1	2217.1	2207.1	2181.7	2160.6	2117.4	2120.7	2123.0
12.5°	2261.4	2257.0	2216.0	2179.4	2154.0	2136.3	2092.0	2080.9	2086.4
15°	2273.6	2254.7	2193.8	2165.0	2126.3	2095.3	2051.0	2043.2	2044.3
17.5°	2262.5	2247.0	2171.7	2131.8	2077.6	2058.7	2016.6	2003.4	1996.7
20°	2229.3	2221.5	2155.1	2086.4	2037.7	2001.1	1950.2	1942.4	1948.0
22.5°	2207.1	2188.3	2121.9	2053.2	1982.3	1950.2	1899.3	1898.2	1899.3
25°	2196.1	2171.7	2076.4	2004.5	1925.8	1897.0	1852.7	1836.1	1850.5
27.5°	2162.8	2140.7	2028.8	1950.2	1862.7	1824.0	1787.4	1784.1	1786.3
30°	2118.5	2075.3	1985.6	1889.3	1805.1	1765.3	1735.4	1713.2	1734.3
32.5°	2055.4	2031.0	1929.2	1824.0	1730.9	1703.2	1673.3	1671.1	1671.1
35°	2006.7	1989.0	1876.0	1766.4	1666.7	1629.0	1611.3	1603.6	1611.3
37.5°	1950.2	1923.6	1819.5	1696.6	1594.7	1562.6	1544.9	1538.2	1543.8
40°	1901.5	1852.7	1753.1	1624.6	1516.1	1487.3	1468.5	1475.1	1480.6
42.5°	1829.5	1801.8	1674.4	1551.5	1448.5	1417.5	1402.0	1407.6	1420.8
45°	1758.6	1733.1	1609.1	1475.1	1361.0	1344.4	1343.3	1340.0	1356.6
47.5°	1694.4	1657.8	1537.1	1399.8	1288.0	1269.1	1271.3	1282.4	1296.8
50°	1620.2	1577.0	1457.4	1319.0	1207.1	1194.9	1203.8	1211.5	1230.4
52.5°	1546.0	1511.7	1384.3	1242.5	1125.2	1116.3	1128.5	1154.0	1165.0
55°	1488.4	1426.4	1312.3	1152.8	1037.7	1038.8	1063.1	1077.5	1101.9
57.5°	1396.5	1350.0	1230.4	1073.1	955.7	963.5	996.7	1021.1	1036.6
60°	1331.1	1272.4	1150.6	987.8	869.3	881.5	919.2	955.7	982.3
62.5°	1247.0	1196.0	1067.6	903.7	789.6	807.3	849.4	892.6	911.4
65°	1178.3	1120.7	985.6	819.5	706.5	727.6	779.6	828.4	859.4
67.5°	1119.6	1059.8	912.5	742.0	622.4	653.4	714.3	761.9	786.3
70°	1049.9	980.1	829.5	655.6	534.9	571.4	649.0	704.3	732.0
72.5°	975.7	919.2	757.5	575.9	454.1	498.3	583.6	641.2	667.8
75°	918.1	854.9	696.6	496.1	372.1	425.3	517.2	582.5	609.1
77.5°	859.4	801.8	627.9	423.0	299.0	358.8	458.5	530.5	558.1
80°	807.3	740.9	570.3	363.2	222.6	293.5	403.1	474.0	506.1
82.5°	749.7	692.1	520.5	300.1	158.4	233.7	348.8	426.4	452.9
85°	698.8	639.0	474.0	250.3	97.5	180.5	299.0	378.7	410.9
87.5°	652.3	602.4	430.8	212.6	48.7	137.3	251.4	332.2	368.8
90°	610.2	553.7	394.2	178.3	8.9	99.7	212.6	292.4	320.1
92.5°	583.6	516.1	364.3	156.1	5.5	70.9	177.2	255.8	287.9
95°	543.8	484.0	333.3	139.5	5.5	47.6	142.9	219.3	247.0
97.5°	509.4	454.1	311.2	129.6	4.4	32.1	117.4	183.8	212.6
100°	482.8	430.8	291.3	120.7	5.5	23.3	93.0	156.1	181.6
102.5°	452.9	405.3	275.8	115.2	5.5	16.6	73.1	131.8	155.0
105°	426.4	384.3	261.4	109.6	5.5	14.4	58.7	108.5	129.6
107.5°	406.4	362.1	249.2	106.3	5.5	14.4	46.5	88.6	106.3
110°	386.5	344.4	237.0	103.0	5.5	13.3	36.5	73.1	88.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	373.2	327.8	225.9	99.7	6.6	13.3	29.9	60.9	73.1
115°	350.0	313.4	216.0	98.6	6.6	12.2	27.7	49.8	62.0
117.5°	333.3	300.1	206.0	95.2	6.6	12.2	26.6	41.0	49.8
120°	321.2	284.6	197.1	91.9	6.6	11.1	24.4	36.5	42.1
122.5°	305.7	270.2	189.4	89.7	6.6	11.1	23.3	34.3	37.7
125°	284.6	256.9	180.5	85.3	7.8	11.1	22.1	32.1	35.4
127.5°	271.3	244.7	173.9	79.7	7.8	10.0	21.0	29.9	33.2
130°	260.2	231.5	166.1	74.2	7.8	10.0	19.9	27.7	31.0
132.5°	243.6	218.2	155.0	69.8	7.8	8.9	17.7	25.5	28.8
135°	228.1	207.1	144.0	65.3	7.8	8.9	16.6	24.4	26.6
137.5°	218.2	196.0	134.0	60.9	7.8	7.8	15.5	22.1	24.4
140°	201.6	183.8	122.9	56.5	7.8	7.8	14.4	21.0	22.1
142.5°	189.4	171.7	113.0	52.0	7.8	7.8	13.3	18.8	21.0
145°	175.0	159.5	101.9	47.6	7.8	6.6	12.2	17.7	18.8
147.5°	161.7	145.1	93.0	44.3	7.8	6.6	11.1	15.5	16.6
150°	148.4	130.7	84.2	41.0	7.8	6.6	10.0	13.3	15.5
152.5°	134.0	113.0	75.3	37.7	7.8	6.6	8.9	12.2	13.3
155°	119.6	98.6	67.6	34.3	8.9	6.6	7.8	10.0	12.2
157.5°	107.4	85.3	59.8	31.0	8.9	5.5	7.8	8.9	10.0
160°	93.0	73.1	53.2	27.7	8.9	5.5	6.6	7.8	8.9
162.5°	82.0	60.9	46.5	25.5	8.9	5.5	6.6	6.6	7.8
165°	69.8	50.9	38.8	23.3	8.9	5.5	5.5	5.5	6.6
167.5°	56.5	39.9	32.1	21.0	8.9	5.5	5.5	4.4	5.5
170°	42.1	29.9	26.6	18.8	8.9	5.5	4.4	3.3	4.4
172.5°	18.8	23.3	21.0	16.6	10.0	5.5	4.4	3.3	2.2
175°	10.0	16.6	16.6	14.4	10.0	5.5	4.4	3.3	1.1
177.5°	7.8	10.0	12.2	12.2	10.0	6.6	4.4	2.2	1.1
180°	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6



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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	21.19	22.67	21.70	23.17	23.71	20.16	21.64	20.67	22.14	22.68
	3H	23.28	24.62	23.80	25.14	25.72	22.03	23.38	22.55	23.89	24.47
	4H	24.22	25.50	24.76	26.02	26.62	22.78	24.06	23.32	24.58	25.18
	6H	25.14	26.33	25.69	26.87	27.48	23.41	24.60	23.96	25.14	25.75
	8H	25.57	26.71	26.13	27.27	27.89	23.67	24.81	24.23	25.37	25.99
	12H	25.99	27.08	26.56	27.64	28.29	23.90	24.99	24.47	25.55	26.19
4H	2H	21.68	22.96	22.22	23.49	24.08	20.72	22.00	21.27	22.53	23.13
	3H	24.00	25.08	24.55	25.65	26.27	22.78	23.87	23.34	24.44	25.06
	4H	25.11	26.11	25.68	26.68	27.33	23.64	24.63	24.21	25.21	25.86
	6H	26.22	27.09	26.81	27.70	28.36	24.39	25.27	24.98	25.88	26.54
	8H	26.74	27.57	27.34	28.17	28.85	24.71	25.53	25.30	26.14	26.81
	12H	27.27	28.02	27.89	28.65	29.33	25.00	25.75	25.62	26.38	27.06
8H	4H	25.37	26.19	25.96	26.80	27.47	23.98	24.80	24.57	25.41	26.08
	6H	26.65	27.35	27.28	27.99	28.67	24.86	25.56	25.49	26.21	26.89
	8H	27.32	27.95	27.96	28.60	29.30	25.26	25.89	25.90	26.54	27.24
	12H	28.02	28.59	28.66	29.23	29.99	25.65	26.21	26.29	26.85	27.61
12H	4H	25.38	26.14	26.00	26.77	27.45	24.04	24.79	24.66	25.42	26.10
	6H	26.70	27.34	27.35	27.99	28.68	24.97	25.60	25.61	26.25	26.95
	8H	27.45	28.01	28.09	28.65	29.41	25.43	26.00	26.07	26.64	27.40