

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: P893223

Luminaire Tested: 4MB-10HL-RND-UNV-L940

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893223
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-1)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-10HL-RND-UNV-L940
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with ROUND FROSTED LENS, 90CRI, 4000K CCT
Light Source: -
Ballast/Driver: -

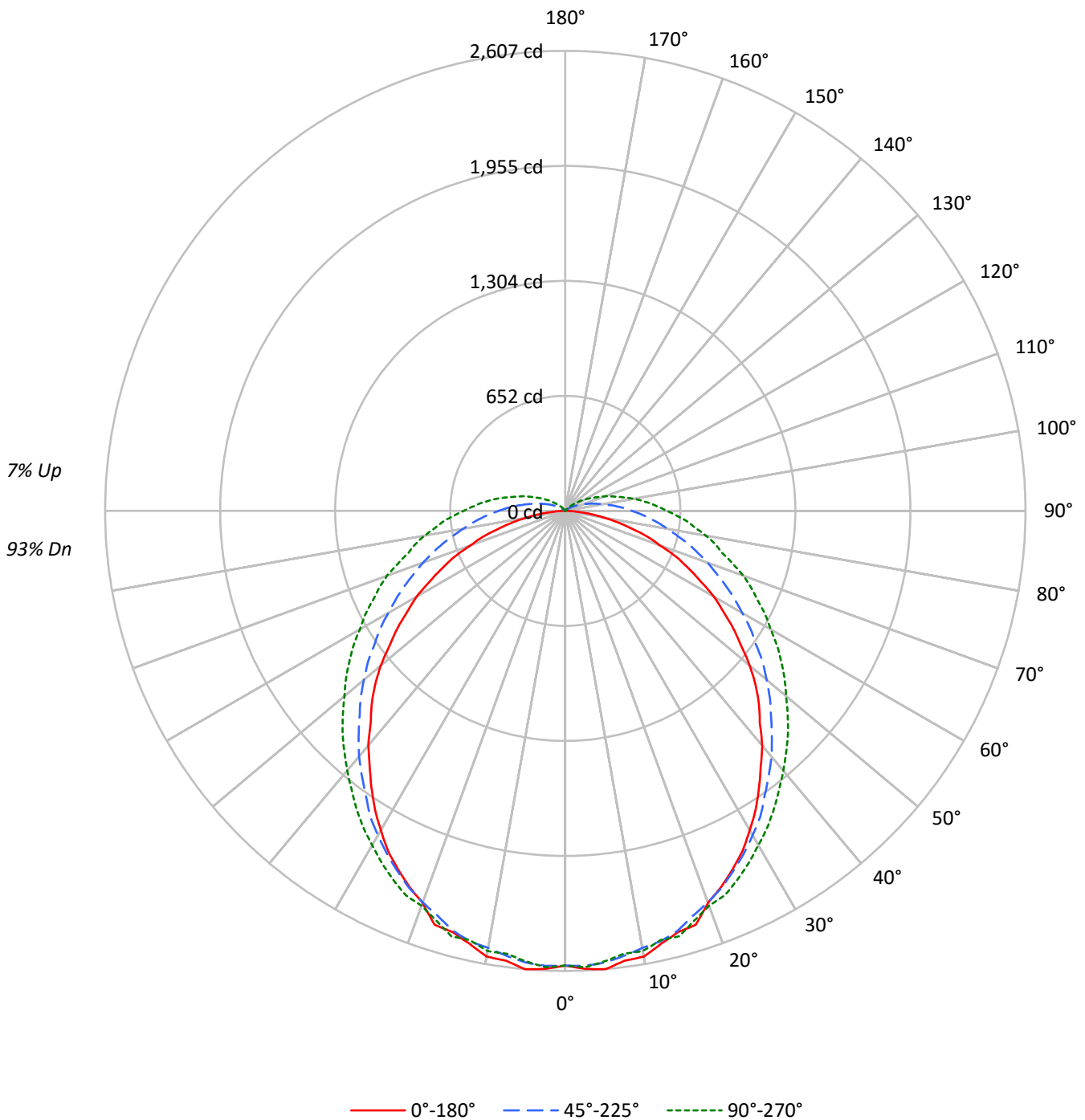
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8487.1 lumens
Efficiency: N/A
Efficacy: 112.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.26 / 1.35
Luminous Opening: Rectangular (W 0.38' x L: 3.98' x H: 0')
CIE Type: Direct

Input Watts (W): 75.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.997
Total Harmonic Distortion (THDi): 7.45
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				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	114	114	114	114	107	107	107	101	101	101	96	96	96	96	96	96	93
1	105	100	95	90	102	97	92	88	91	87	84	86	83	80	81	79	77	77	77	77	74
2	95	86	79	72	92	84	77	71	79	73	68	74	70	66	70	67	63	63	63	63	60
3	86	75	66	60	83	73	65	59	69	62	57	65	60	55	62	57	53	53	53	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	50	45	45	45	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	39	39	39	37
6	67	53	44	37	65	52	43	37	49	42	36	47	40	35	45	39	34	34	34	34	32
7	62	48	39	33	60	47	39	33	45	37	32	43	36	31	41	35	30	30	30	30	28
8	58	44	35	29	56	43	35	29	41	34	28	39	33	28	38	32	27	27	27	27	25
9	54	40	32	26	52	39	32	26	38	31	26	36	30	25	35	29	25	25	25	25	23
10	51	37	29	24	49	36	29	24	35	28	23	34	27	23	32	27	22	22	22	22	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18332	18332	18332
5°	18621	18352	18301
10°	18530	18172	18300
15°	18198	18137	18380
20°	17893	17876	18027
25°	17599	17674	18109
30°	17169	17440	17973
35°	16626	17108	17906
40°	16126	16881	17844
45°	15619	16580	17956
50°	15108	16478	18070
55°	14417	16360	18540
60°	13854	16471	19121
65°	12938	16906	20280
70°	11893	17851	22338
75°	10790	19765	25305
80°	9272	24146	33176
85°	7502	39063	56769

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 87.5°
 Luminance: 103056 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	244.3	2.9
10°-20°	695.4	8.2
20°-30°	1042.1	12.3
30°-40°	1238.4	14.6
40°-50°	1282.1	15.1
50°-60°	1188.1	14.0
60°-70°	989.2	11.7
70°-80°	734.2	8.7
80°-90°	485.6	5.7
90°-100°	295.5	3.5
100°-110°	165.7	2.0
110°-120°	81.6	1.0
120°-130°	33.2	0.4
130°-140°	9.6	0.1
140°-150°	1.4	0.0
150°-160°	0.4	0.0
160°-170°	0.3	0.0
170°-180°	0.1	0.0
0°-30°	1981.8	23.4
0°-40°	3220.2	37.9
0°-60°	5690.5	67.0
0°-90°	7899.4	93.1
90°-120°	542.7	6.4
90°-150°	587.0	6.9
90°-180°	588.0	6.9
0°-180°	8487.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2577	2577	2577	2577	2577	
5°	2607	2579	2570	2582	2562	246
15°	2470	2461	2462	2466	2495	700
25°	2242	2240	2251	2295	2307	1032
35°	1914	1928	1970	2032	2062	1198
45°	1552	1575	1648	1750	1784	1196
55°	1162	1212	1319	1451	1495	1039
65°	768	840	1004	1152	1205	763
75°	392	512	719	873	920	420
85°	92	258	478	648	695	103
90°	5	167	378	529	576	7
95°	1	104	294	437	486	1
105°	1	34	159	270	308	1
115°	1	8	74	148	178	1
125°	1	2	27	68	87	1
135°	2	1	7	22	31	1
145°	2	1	0	2	4	2
155°	2	2	0	0	0	1
165°	4	2	0	0	0	1
175°	4	2	0	0	0	0
180°	1	1	1	1	1	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2576.6	2576.6	2576.6	2576.6	2576.6
2.5°	2597.8	2584.8	2580.1	2574.2	2588.4
5°	2607.2	2578.9	2569.5	2582.5	2562.4
7.5°	2570.7	2563.6	2543.6	2550.7	2531.8
10°	2564.8	2525.9	2515.3	2538.9	2533.0
12.5°	2511.8	2478.8	2497.6	2514.1	2491.7
15°	2470.5	2461.1	2462.3	2465.8	2495.3
17.5°	2459.9	2417.5	2405.7	2435.1	2432.8
20°	2363.2	2355.0	2360.9	2399.8	2380.9
22.5°	2306.7	2280.7	2312.6	2350.3	2358.5
25°	2241.8	2239.5	2251.3	2294.9	2306.7
27.5°	2173.5	2158.2	2190.0	2240.7	2250.1
30°	2089.8	2083.9	2122.8	2166.4	2187.6
32.5°	2007.3	2010.8	2055.6	2092.1	2128.7
35°	1914.2	1928.3	1969.6	2032.0	2061.5
37.5°	1819.9	1837.6	1893.0	1964.9	1989.6
40°	1736.2	1739.7	1817.5	1890.6	1921.2
42.5°	1631.3	1666.6	1732.7	1829.3	1852.9
45°	1552.3	1574.7	1647.8	1750.3	1784.5
47.5°	1462.7	1488.7	1572.4	1672.5	1709.1
50°	1364.9	1388.5	1488.7	1603.0	1632.5
52.5°	1256.5	1304.8	1409.7	1527.6	1566.5
55°	1162.2	1211.7	1318.9	1450.9	1494.6
57.5°	1060.8	1110.3	1244.7	1367.3	1423.8
60°	973.6	1020.7	1157.5	1309.5	1343.7
62.5°	865.1	932.3	1080.8	1230.5	1278.9
65°	768.5	840.4	1004.2	1151.6	1204.6
67.5°	680.1	754.4	925.3	1083.2	1141.0
70°	571.7	669.5	858.1	1013.7	1073.8
72.5°	491.5	589.3	786.2	940.6	994.8
75°	392.5	511.5	719.0	873.4	920.5
77.5°	310.0	438.5	649.4	822.7	869.9
80°	226.3	372.5	589.3	755.5	809.7
82.5°	154.4	311.2	533.9	693.1	744.9
85°	91.9	258.1	478.5	648.3	695.4
87.5°	40.1	211.0	427.9	583.4	631.8
90°	4.7	167.4	378.4	529.2	576.4
92.5°	1.2	134.4	334.7	480.9	526.9
95°	1.2	103.7	293.5	437.3	485.6
97.5°	1.2	80.1	252.2	392.5	438.5
100°	1.2	61.3	218.1	345.4	394.9
102.5°	1.2	46.0	185.1	306.5	348.9
105°	1.2	34.2	159.1	269.9	307.6
107.5°	1.2	24.8	133.2	235.7	273.5
110°	1.2	17.7	112.0	203.9	241.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.2	13.0	90.8	175.6	207.4
115°	1.2	8.3	74.3	148.5	178.0
117.5°	1.2	5.9	58.9	124.9	153.2
120°	1.2	4.7	47.1	103.7	128.5
122.5°	1.2	3.5	36.5	84.9	108.4
125°	1.2	2.4	27.1	68.4	87.2
127.5°	1.2	2.4	20.0	54.2	70.7
130°	1.2	1.2	14.1	41.3	55.4
132.5°	1.2	1.2	9.4	30.6	41.3
135°	2.4	1.2	7.1	22.4	30.6
137.5°	2.4	1.2	4.7	15.3	21.2
140°	2.4	1.2	2.4	9.4	13.0
142.5°	2.4	1.2	1.2	4.7	7.1
145°	2.4	1.2	0.0	2.4	3.5
147.5°	2.4	1.2	0.0	1.2	1.2
150°	2.4	1.2	0.0	0.0	0.0
152.5°	2.4	1.2	0.0	0.0	0.0
155°	2.4	2.4	0.0	0.0	0.0
157.5°	2.4	2.4	0.0	0.0	0.0
160°	2.4	2.4	0.0	0.0	0.0
162.5°	2.4	2.4	0.0	0.0	0.0
165°	3.5	2.4	0.0	0.0	0.0
167.5°	3.5	2.4	0.0	0.0	0.0
170°	3.5	2.4	0.0	0.0	0.0
172.5°	3.5	2.4	0.0	0.0	0.0
175°	3.5	2.4	0.0	0.0	0.0
177.5°	3.5	2.4	0.0	0.0	0.0
180°	1.2	1.2	1.2	1.2	1.2



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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	20.33	21.87	20.80	22.33	22.81	21.91	23.45	22.38	23.90	24.38
	3H	22.10	23.50	22.58	23.97	24.49	24.49	25.90	24.98	26.36	26.89
	4H	22.76	24.09	23.26	24.57	25.11	25.75	27.08	26.25	27.57	28.10
	6H	23.23	24.47	23.75	24.97	25.52	27.13	28.37	27.65	28.87	29.42
	8H	23.38	24.57	23.91	25.09	25.65	27.86	29.05	28.39	29.57	30.13
	12H	23.48	24.62	24.01	25.13	25.72	28.71	29.85	29.24	30.36	30.95
4H	2H	21.29	22.62	21.79	23.10	23.64	22.48	23.81	22.98	24.29	24.83
	3H	23.33	24.47	23.85	24.99	25.55	25.35	26.48	25.86	27.01	27.57
	4H	24.14	25.18	24.68	25.72	26.31	26.83	27.87	27.36	28.40	29.00
	6H	24.79	25.71	25.35	26.28	26.88	28.45	29.37	29.00	29.93	30.53
	8H	25.02	25.89	25.58	26.45	27.07	29.30	30.17	29.86	30.73	31.35
	12H	25.19	25.98	25.77	26.57	27.19	30.29	31.08	30.88	31.67	32.30
8H	4H	24.99	25.86	25.55	26.42	27.04	27.20	28.06	27.76	28.63	29.24
	6H	25.92	26.65	26.51	27.26	27.88	29.08	29.81	29.67	30.41	31.04
	8H	26.30	26.96	26.90	27.58	28.21	30.14	30.80	30.74	31.42	32.05
	12H	26.62	27.21	27.22	27.82	28.52	31.39	31.99	32.00	32.59	33.29
12H	4H	25.25	26.04	25.84	26.63	27.26	27.24	28.03	27.82	28.62	29.24
	6H	26.34	27.01	26.94	27.62	28.26	29.19	29.85	29.79	30.47	31.10
	8H	26.88	27.47	27.48	28.08	28.78	30.36	30.96	30.97	31.56	32.26