

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: P894068

Luminaire Tested: 4MB-9HL-RND-UNV-L850

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894068
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-9HL-RND-UNV-L850
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with ROUND FROSTED LENS, 80CRI, 5000K CCT
Light Source: -
Ballast/Driver: -

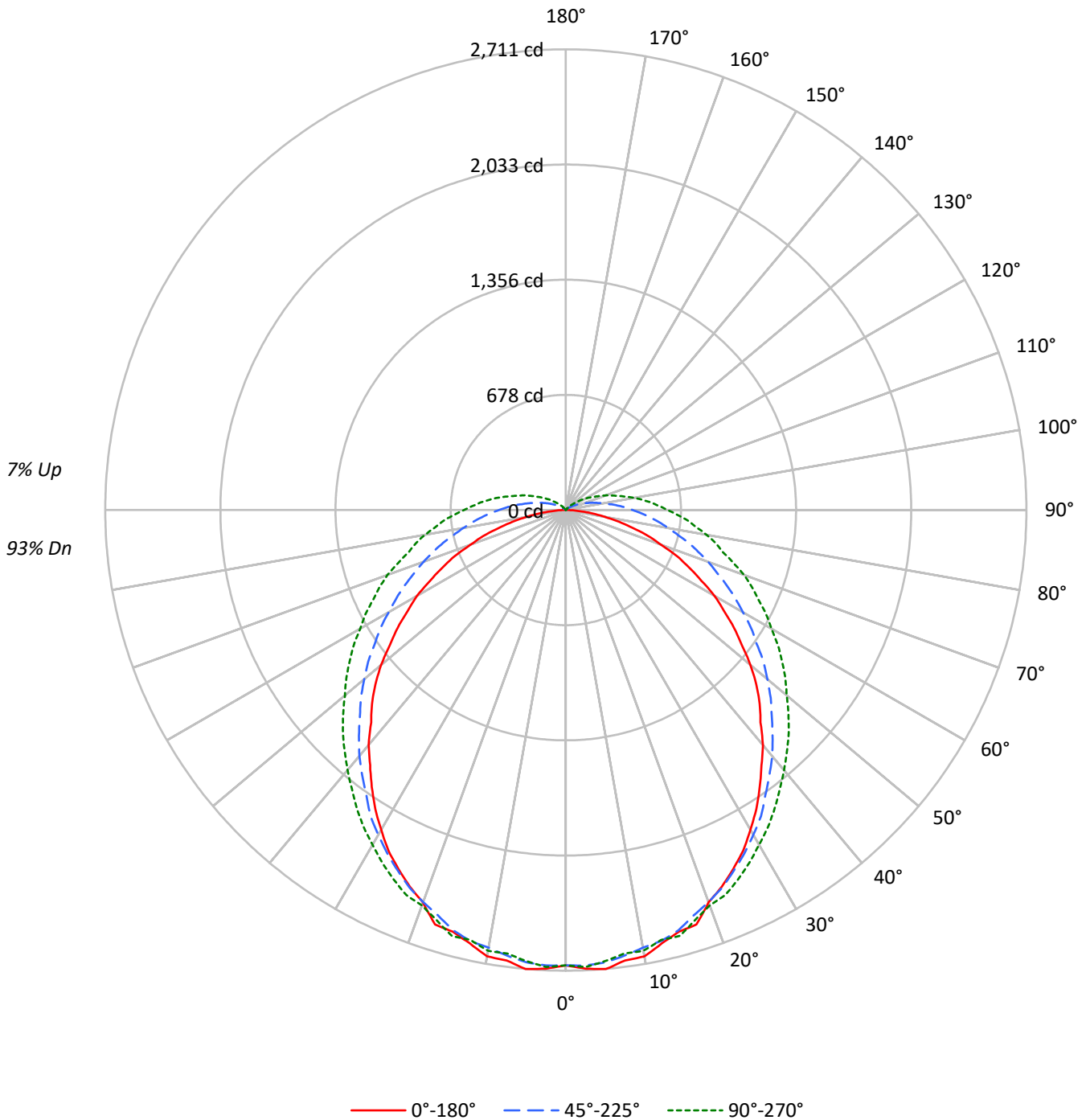
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8825.0 lumens
Efficiency: N/A
Efficacy: 137.0 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): 64.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 8.94
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	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	96	96	93		
	1	105	100	95	90	102	97	92	88	91	87	84	86	83	80	81	79	77	77	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	63	63	60		
	3	86	75	66	60	83	73	65	59	69	62	57	65	60	55	62	57	53	53	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	45	45	43		
	5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	39	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	34	34	32		
	7	62	48	39	33	60	47	39	33	45	37	32	43	36	31	41	35	30	30	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	27	27	25		
	9	54	40	32	26	52	39	32	26	38	31	26	36	30	25	35	29	25	25	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	22	22	21		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19062	19062	19062
5°	19363	19082	19030
10°	19268	18896	19029
15°	18922	18859	19112
20°	18607	18588	18745
25°	18300	18377	18829
30°	17853	18134	18688
35°	17288	17789	18619
40°	16768	17553	18556
45°	16241	17240	18671
50°	15710	17135	18790
55°	14991	17013	19278
60°	14406	17127	19882
65°	13453	17580	21088
70°	12365	18560	23226
75°	11219	20552	26314
80°	9641	25109	34500
85°	7804	40622	59031

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 87.5°
 Luminance: 107151 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	254.0	2.9
10°-20°	723.1	8.2
20°-30°	1083.6	12.3
30°-40°	1287.7	14.6
40°-50°	1333.2	15.1
50°-60°	1235.4	14.0
60°-70°	1028.5	11.7
70°-80°	763.4	8.7
80°-90°	504.9	5.7
90°-100°	307.3	3.5
100°-110°	172.2	2.0
110°-120°	84.8	1.0
120°-130°	34.5	0.4
130°-140°	10.0	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°	2060.8	23.4
0°-40°	3348.5	37.9
0°-60°	5917.1	67.0
0°-90°	8214.0	93.1
90°-120°	564.3	6.4
90°-150°	610.3	6.9
90°-180°	611.0	6.9
0°-180°	8825.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2679	2679	2679	2679	2679	
5°	2711	2682	2672	2685	2664	256
15°	2569	2559	2560	2564	2595	728
25°	2331	2329	2341	2386	2398	1073
35°	1990	2005	2048	2113	2144	1245
45°	1614	1637	1713	1820	1856	1244
55°	1208	1260	1372	1509	1554	1081
65°	799	874	1044	1197	1253	794
75°	408	532	748	908	957	437
85°	96	268	498	674	723	107
90°	5	174	393	550	599	7
95°	1	108	305	455	505	1
105°	1	36	166	281	320	1
115°	1	9	77	154	185	1
125°	1	2	28	71	91	1
135°	2	1	7	23	32	2
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°	2679.2	2679.2	2679.2	2679.2	2679.2
2.5°	2701.3	2687.8	2682.9	2676.7	2691.5
5°	2711.1	2681.6	2671.8	2685.3	2664.5
7.5°	2673.1	2665.7	2644.9	2652.2	2632.6
10°	2666.9	2626.5	2615.5	2640.0	2633.8
12.5°	2611.8	2577.5	2597.1	2614.2	2591.0
15°	2568.9	2559.1	2560.3	2564.0	2594.6
17.5°	2557.9	2513.7	2501.5	2532.1	2529.7
20°	2457.4	2448.8	2454.9	2495.4	2475.7
22.5°	2398.5	2371.6	2404.7	2443.9	2452.5
25°	2331.1	2328.7	2340.9	2386.3	2398.5
27.5°	2260.0	2244.1	2277.2	2329.9	2339.7
30°	2173.0	2166.9	2207.3	2252.7	2274.7
32.5°	2087.2	2090.9	2137.5	2175.5	2213.5
35°	1990.4	2005.1	2048.0	2113.0	2143.6
37.5°	1892.4	1910.7	1968.3	2043.1	2068.8
40°	1805.3	1809.0	1889.9	1965.9	1997.8
42.5°	1696.3	1733.0	1801.7	1902.2	1926.7
45°	1614.1	1637.4	1713.4	1820.0	1855.6
47.5°	1521.0	1548.0	1635.0	1739.1	1777.1
50°	1419.3	1443.8	1548.0	1666.8	1697.5
52.5°	1306.5	1356.8	1465.8	1588.4	1628.8
55°	1208.5	1259.9	1371.5	1508.7	1554.1
57.5°	1103.1	1154.5	1294.3	1421.7	1480.5
60°	1012.4	1061.4	1203.6	1361.7	1397.2
62.5°	899.6	969.5	1123.9	1279.5	1329.8
65°	799.1	873.9	1044.2	1197.4	1252.6
67.5°	707.2	784.4	962.1	1126.3	1186.4
70°	594.4	696.1	892.2	1054.0	1116.5
72.5°	511.1	612.8	817.5	978.0	1034.4
75°	408.1	531.9	747.6	908.2	957.2
77.5°	322.3	455.9	675.3	855.5	904.5
80°	235.3	387.3	612.8	785.6	842.0
82.5°	160.6	323.6	555.2	720.7	774.6
85°	95.6	268.4	497.6	674.1	723.1
87.5°	41.7	219.4	444.9	606.7	656.9
90°	4.9	174.0	393.4	550.3	599.3
92.5°	1.2	139.7	348.1	500.1	547.9
95°	1.2	107.9	305.2	454.7	505.0
97.5°	1.2	83.3	262.3	408.1	455.9
100°	1.2	63.7	226.7	359.1	410.6
102.5°	1.2	47.8	192.4	318.7	362.8
105°	1.2	35.5	165.5	280.7	319.9
107.5°	1.2	25.7	138.5	245.1	284.3
110°	1.2	18.4	116.4	212.0	251.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.2	13.5	94.4	182.6	215.7
115°	1.2	8.6	77.2	154.4	185.1
117.5°	1.2	6.1	61.3	129.9	159.3
120°	1.2	4.9	49.0	107.9	133.6
122.5°	1.2	3.7	38.0	88.2	112.8
125°	1.2	2.5	28.2	71.1	90.7
127.5°	1.2	2.5	20.8	56.4	73.5
130°	1.2	1.2	14.7	42.9	57.6
132.5°	1.2	1.2	9.8	31.9	42.9
135°	2.5	1.2	7.4	23.3	31.9
137.5°	2.5	1.2	4.9	15.9	22.1
140°	2.5	1.2	2.5	9.8	13.5
142.5°	2.5	1.2	1.2	4.9	7.4
145°	2.5	1.2	0.0	2.5	3.7
147.5°	2.5	1.2	0.0	1.2	1.2
150°	2.5	1.2	0.0	0.0	0.0
152.5°	2.5	1.2	0.0	0.0	0.0
155°	2.5	2.5	0.0	0.0	0.0
157.5°	2.5	2.5	0.0	0.0	0.0
160°	2.5	2.5	0.0	0.0	0.0
162.5°	2.5	2.5	0.0	0.0	0.0
165°	3.7	2.5	0.0	0.0	0.0
167.5°	3.7	2.5	0.0	0.0	0.0
170°	3.7	2.5	0.0	0.0	0.0
172.5°	3.7	2.5	0.0	0.0	0.0
175°	3.7	2.5	0.0	0.0	0.0
177.5°	3.7	2.5	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	20.47	22.01	20.94	22.46	22.95	22.04	23.58	22.51	24.04	24.52
	3H	22.23	23.64	22.72	24.10	24.63	24.63	26.03	25.11	26.50	27.02
	4H	22.89	24.22	23.39	24.70	25.24	25.89	27.22	26.39	27.70	28.24
	6H	23.37	24.61	23.88	25.10	25.66	27.27	28.51	27.78	29.01	29.56
	8H	23.52	24.71	24.04	25.23	25.78	28.00	29.19	28.53	29.71	30.27
	12H	23.62	24.76	24.15	25.27	25.86	28.84	29.98	29.38	30.50	31.09
4H	2H	21.43	22.76	21.93	23.24	23.78	22.62	23.95	23.12	24.43	24.97
	3H	23.47	24.60	23.98	25.13	25.69	25.48	26.62	26.00	27.14	27.70
	4H	24.28	25.32	24.81	25.86	26.45	26.96	28.00	27.50	28.54	29.13
	6H	24.93	25.85	25.48	26.41	27.02	28.58	29.50	29.14	30.06	30.67
	8H	25.16	26.02	25.72	26.58	27.20	29.44	30.30	30.00	30.87	31.48
	12H	25.33	26.11	25.91	26.70	27.33	30.43	31.22	31.01	31.81	32.43
8H	4H	25.13	25.99	25.69	26.56	27.17	27.33	28.20	27.89	28.76	29.38
	6H	26.05	26.79	26.64	27.39	28.02	29.21	29.95	29.80	30.55	31.18
	8H	26.43	27.10	27.04	27.71	28.35	30.27	30.94	30.88	31.55	32.19
	12H	26.76	27.35	27.36	27.95	28.66	31.53	32.12	32.13	32.73	33.43
12H	4H	25.39	26.18	25.97	26.77	27.39	27.38	28.16	27.96	28.75	29.38
	6H	26.48	27.14	27.08	27.76	28.39	29.32	29.99	29.93	30.60	31.24
	8H	27.02	27.61	27.62	28.21	28.92	30.50	31.09	31.10	31.69	32.40