

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: P893220

Luminaire Tested: 4MB-10HL-RND-UNV-L850

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893220  
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-L850  
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with ROUND FROSTED LENS, 80CRI, 5000K CCT  
Light Source: -  
Ballast/Driver: -

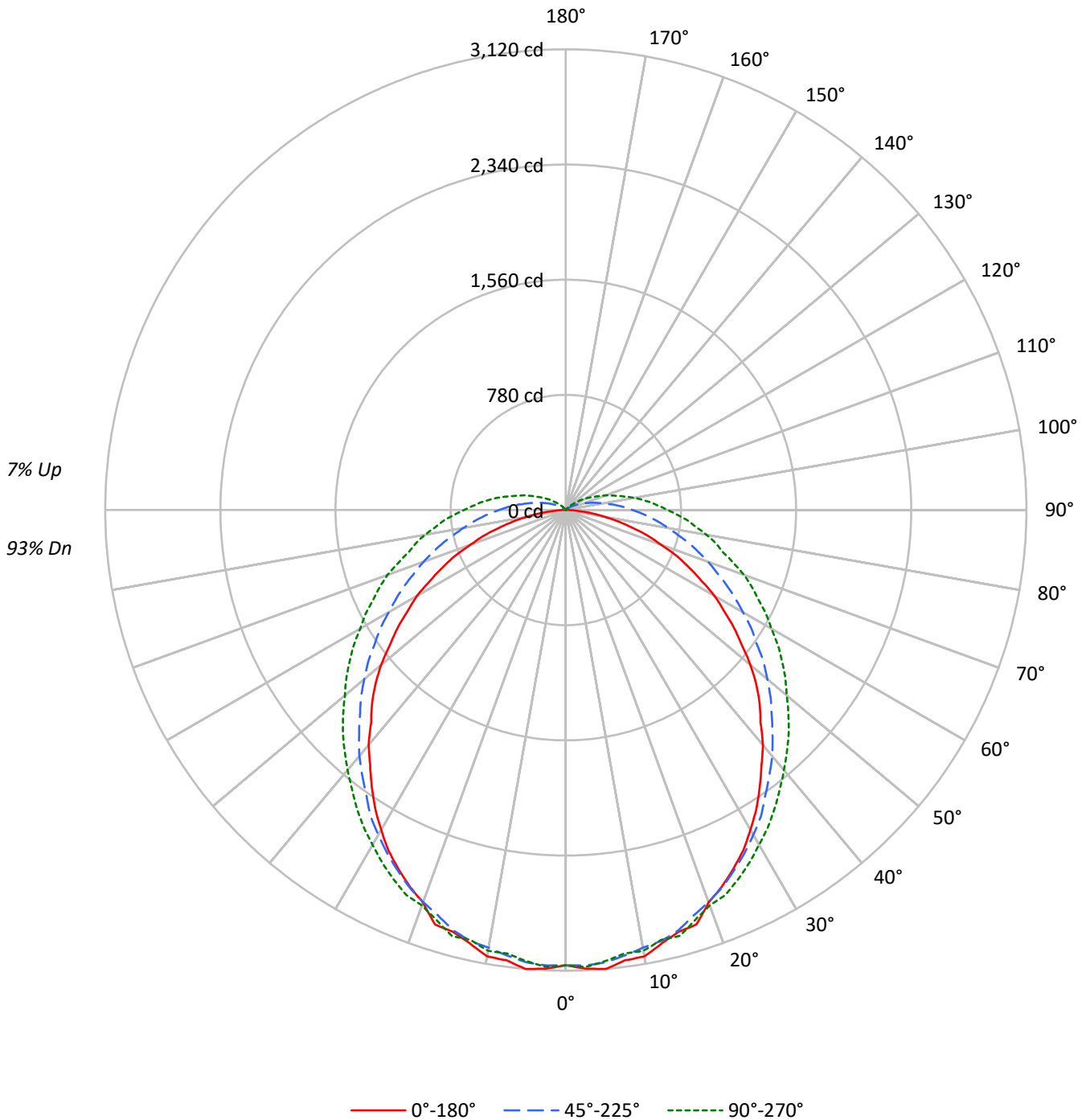
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10156.0 lumens  
Efficiency: N/A  
Efficacy: 134.5 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<sub>in</sub>): 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°	21938	21938	21938
5°	22283	21961	21901
10°	22174	21746	21899
15°	21776	21704	21995
20°	21413	21391	21572
25°	21061	21149	21670
30°	20546	20869	21507
35°	19896	20472	21427
40°	19297	20200	21354
45°	18691	19840	21487
50°	18079	19718	21623
55°	17251	19578	22186
60°	16578	19710	22880
65°	15482	20231	24268
70°	14231	21360	26730
75°	12912	23653	30283
80°	11096	28895	39703
85°	8980	46744	67937

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 87.5°  
 Luminance: 123315 cd/sqm



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 CATALOG NUMBER: 4MB-10HL-RND-UNV-L850

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	292.3	2.9
10°-20°	832.2	8.2
20°-30°	1247.1	12.3
30°-40°	1481.9	14.6
40°-50°	1534.2	15.1
50°-60°	1421.8	14.0
60°-70°	1183.7	11.7
70°-80°	878.5	8.7
80°-90°	581.1	5.7
90°-100°	353.6	3.5
100°-110°	198.2	2.0
110°-120°	97.6	1.0
120°-130°	39.7	0.4
130°-140°	11.5	0.1
140°-150°	1.6	0.0
150°-160°	0.4	0.0
160°-170°	0.3	0.0
170°-180°	0.1	0.0
0°-30°	2371.6	23.4
0°-40°	3853.5	37.9
0°-60°	6809.5	67.0
0°-90°	9452.8	93.1
90°-120°	649.4	6.4
90°-150°	702.3	6.9
90°-180°	703.0	6.9
0°-180°	10156.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3083	3083	3083	3083	3083	
5°	3120	3086	3075	3090	3066	295
15°	2956	2945	2946	2951	2986	837
25°	2683	2680	2694	2746	2760	1235
35°	2291	2308	2357	2432	2467	1433
45°	1858	1884	1972	2094	2135	1431
55°	1391	1450	1578	1736	1788	1244
65°	920	1006	1202	1378	1442	914
75°	470	612	860	1045	1102	503
85°	110	309	573	776	832	123
90°	6	200	453	633	690	8
95°	1	124	351	523	581	1
105°	1	41	190	323	368	1
115°	1	10	89	178	213	1
125°	1	3	32	82	104	1
135°	3	1	8	27	37	2
145°	3	1	0	3	4	2
155°	3	3	0	0	0	1
165°	4	3	0	0	0	1
175°	4	3	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°	3083.3	3083.3	3083.3	3083.3	3083.3
2.5°	3108.7	3093.1	3087.5	3080.5	3097.4
5°	3119.9	3086.1	3074.8	3090.3	3066.4
7.5°	3076.2	3067.8	3043.8	3052.2	3029.7
10°	3069.2	3022.6	3009.9	3038.1	3031.1
12.5°	3005.7	2966.2	2988.8	3008.5	2981.7
15°	2956.3	2945.1	2946.5	2950.7	2986.0
17.5°	2943.6	2892.9	2878.8	2914.0	2911.2
20°	2828.0	2818.1	2825.2	2871.7	2849.1
22.5°	2760.3	2729.2	2767.3	2812.5	2822.3
25°	2682.7	2679.9	2694.0	2746.2	2760.3
27.5°	2600.9	2582.6	2620.6	2681.3	2692.6
30°	2500.8	2493.7	2540.2	2592.4	2617.8
32.5°	2402.0	2406.3	2459.9	2503.6	2547.3
35°	2290.6	2307.5	2356.9	2431.6	2466.9
37.5°	2177.8	2198.9	2265.2	2351.2	2380.9
40°	2077.6	2081.8	2174.9	2262.4	2299.1
42.5°	1952.1	1994.4	2073.4	2189.0	2217.3
45°	1857.6	1884.4	1971.8	2094.5	2135.4
47.5°	1750.4	1781.4	1881.6	2001.4	2045.2
50°	1633.3	1661.5	1781.4	1918.2	1953.5
52.5°	1503.6	1561.4	1686.9	1828.0	1874.5
55°	1390.7	1450.0	1578.3	1736.3	1788.5
57.5°	1269.4	1328.7	1489.5	1636.1	1703.8
60°	1165.0	1221.5	1385.1	1567.0	1607.9
62.5°	1035.3	1115.7	1293.4	1472.5	1530.4
65°	919.6	1005.7	1201.7	1378.0	1441.5
67.5°	813.8	902.7	1107.2	1296.2	1365.3
70°	684.1	801.1	1026.8	1213.0	1284.9
72.5°	588.2	705.2	940.8	1125.6	1190.4
75°	469.7	612.1	860.4	1045.2	1101.6
77.5°	371.0	524.7	777.2	984.5	1040.9
80°	270.8	445.7	705.2	904.1	969.0
82.5°	184.8	372.4	638.9	829.4	891.4
85°	110.0	308.9	572.6	775.8	832.2
87.5°	48.0	252.5	512.0	698.2	756.0
90°	5.6	200.3	452.8	633.3	689.7
92.5°	1.4	160.8	400.6	575.5	630.5
95°	1.4	124.1	351.2	523.3	581.1
97.5°	1.4	95.9	301.8	469.7	524.7
100°	1.4	73.3	260.9	413.3	472.5
102.5°	1.4	55.0	221.4	366.7	417.5
105°	1.4	40.9	190.4	323.0	368.1
107.5°	1.4	29.6	159.4	282.1	327.2
110°	1.4	21.2	134.0	244.0	289.1



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 CATALOG NUMBER: 4MB-10HL-RND-UNV-L850

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.4	15.5	108.6	210.2	248.2
115°	1.4	9.9	88.9	177.7	213.0
117.5°	1.4	7.1	70.5	149.5	183.4
120°	1.4	5.6	56.4	124.1	153.7
122.5°	1.4	4.2	43.7	101.6	129.8
125°	1.4	2.8	32.4	81.8	104.4
127.5°	1.4	2.8	24.0	64.9	84.6
130°	1.4	1.4	16.9	49.4	66.3
132.5°	1.4	1.4	11.3	36.7	49.4
135°	2.8	1.4	8.5	26.8	36.7
137.5°	2.8	1.4	5.6	18.3	25.4
140°	2.8	1.4	2.8	11.3	15.5
142.5°	2.8	1.4	1.4	5.6	8.5
145°	2.8	1.4	0.0	2.8	4.2
147.5°	2.8	1.4	0.0	1.4	1.4
150°	2.8	1.4	0.0	0.0	0.0
152.5°	2.8	1.4	0.0	0.0	0.0
155°	2.8	2.8	0.0	0.0	0.0
157.5°	2.8	2.8	0.0	0.0	0.0
160°	2.8	2.8	0.0	0.0	0.0
162.5°	2.8	2.8	0.0	0.0	0.0
165°	4.2	2.8	0.0	0.0	0.0
167.5°	4.2	2.8	0.0	0.0	0.0
170°	4.2	2.8	0.0	0.0	0.0
172.5°	4.2	2.8	0.0	0.0	0.0
175°	4.2	2.8	0.0	0.0	0.0
177.5°	4.2	2.8	0.0	0.0	0.0
180°	1.4	1.4	1.4	1.4	1.4



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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	20.96	22.50	21.43	22.95	23.43	22.53	24.07	23.00	24.52	25.01
	3H	22.72	24.13	23.20	24.59	25.11	25.12	26.52	25.60	26.99	27.51
	4H	23.38	24.71	23.88	25.19	25.73	26.38	27.71	26.88	28.19	28.73
	6H	23.86	25.10	24.37	25.59	26.15	27.76	29.00	28.27	29.49	30.05
	8H	24.01	25.19	24.53	25.71	26.27	28.49	29.68	29.01	30.20	30.75
	12H	24.10	25.25	24.64	25.76	26.35	29.33	30.47	29.86	30.98	31.57
4H	2H	21.91	23.25	22.42	23.73	24.26	23.10	24.43	23.61	24.92	25.45
	3H	23.95	25.09	24.47	25.62	26.18	25.97	27.11	26.49	27.63	28.19
	4H	24.77	25.81	25.30	26.34	26.94	27.45	28.49	27.98	29.03	29.62
	6H	25.42	26.34	25.97	26.90	27.51	29.07	29.99	29.62	30.55	31.16
	8H	25.64	26.51	26.20	27.07	27.69	29.93	30.79	30.49	31.35	31.97
	12H	25.81	26.60	26.39	27.19	27.81	30.92	31.71	31.50	32.30	32.92
8H	4H	25.62	26.48	26.18	27.04	27.66	27.82	28.69	28.38	29.25	29.87
	6H	26.54	27.28	27.13	27.88	28.50	29.70	30.44	30.29	31.04	31.66
	8H	26.92	27.59	27.53	28.20	28.84	30.76	31.43	31.36	32.04	32.68
	12H	27.24	27.84	27.85	28.44	29.14	32.02	32.61	32.62	33.21	33.92
12H	4H	25.88	26.67	26.46	27.26	27.88	27.86	28.65	28.45	29.24	29.87
	6H	26.96	27.63	27.57	28.24	28.88	29.81	30.48	30.41	31.09	31.73
	8H	27.50	28.10	28.11	28.70	29.40	30.98	31.58	31.59	32.18	32.88