

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: P893218

Luminaire Tested: 4MB-10HL-RND-UNV-L835

Issue Date: 11/11/2024

**Test Information**

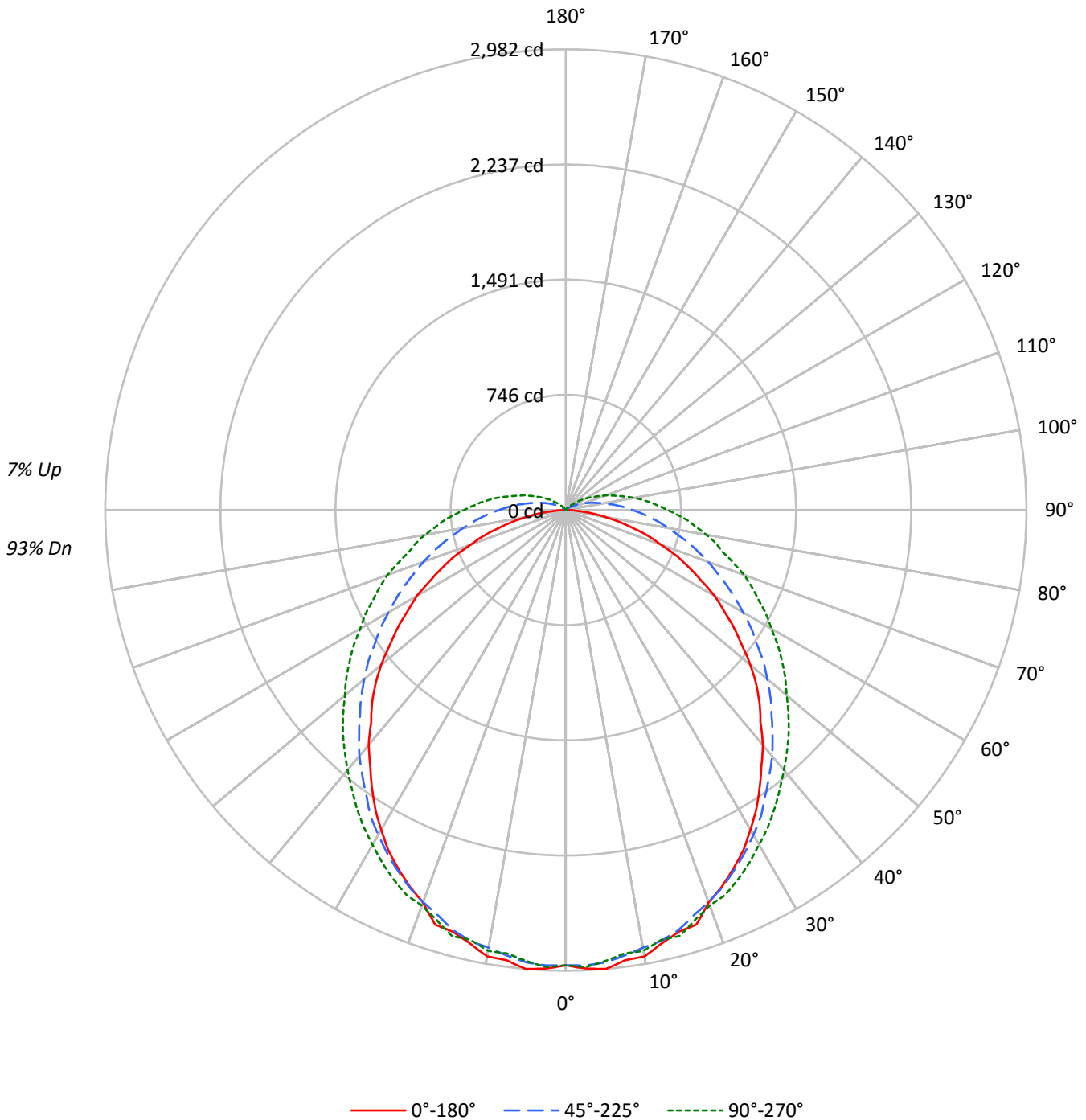
Test Method: LM-79-2019  
Report Number: P893218  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-10HL-RND-UNV-L835  
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with ROUND FROSTED LENS, 80CRI, 3500K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9705.9 lumens  
Efficiency: N/A  
Efficacy: 128.6 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	0			
RCR																					
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	93			
1	105	100	95	90	102	97	92	88	91	87	84	86	83	80	81	79	77	74			
2	95	86	79	72	92	84	77	71	79	73	68	74	70	66	70	67	63	60			
3	86	75	66	60	83	73	65	59	69	62	57	65	60	55	62	57	53	50			
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	50	45	43			
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	37			
6	67	53	44	37	65	52	43	37	49	42	36	47	40	35	45	39	34	32			
7	62	48	39	33	60	47	39	33	45	37	32	43	36	31	41	35	30	28			
8	58	44	35	29	56	43	35	29	41	34	28	39	33	28	38	32	27	25			
9	54	40	32	26	52	39	32	26	38	31	26	36	30	25	35	29	25	23			
10	51	37	29	24	49	36	29	24	35	28	23	34	27	23	32	27	22	21			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	20966	20966	20966
5°	21296	20988	20930
10°	21192	20783	20929
15°	20811	20742	21020
20°	20464	20443	20617
25°	20127	20212	20710
30°	19635	19945	20554
35°	19014	19565	20478
40°	18442	19306	20408
45°	17863	18962	20535
50°	17278	18845	20665
55°	16487	18711	21202
60°	15844	18836	21867
65°	14797	19336	23193
70°	13601	20414	25546
75°	12340	22605	28942
80°	10604	27616	37946
85°	8580	44679	64925

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 87.5°

Luminance: 117851 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	279.4	2.9
10°-20°	795.3	8.2
20°-30°	1191.8	12.3
30°-40°	1416.3	14.6
40°-50°	1466.3	15.1
50°-60°	1358.8	14.0
60°-70°	1131.2	11.7
70°-80°	839.6	8.7
80°-90°	555.3	5.7
90°-100°	337.9	3.5
100°-110°	189.4	2.0
110°-120°	93.3	1.0
120°-130°	38.0	0.4
130°-140°	11.0	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°	2266.5	23.4
0°-40°	3682.8	37.9
0°-60°	6507.8	67.0
0°-90°	9033.9	93.1
90°-120°	620.6	6.4
90°-150°	671.2	6.9
90°-180°	672.0	6.9
0°-180°	9705.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2947	2947	2947	2947	2947	
5°	2982	2949	2939	2953	2930	282
15°	2825	2815	2816	2820	2854	800
25°	2564	2561	2575	2624	2638	1180
35°	2189	2205	2252	2324	2358	1370
45°	1775	1801	1884	2002	2041	1368
55°	1329	1386	1508	1659	1709	1189
65°	879	961	1148	1317	1378	873
75°	449	585	822	999	1053	480
85°	105	295	547	741	795	118
90°	5	191	433	605	659	8
95°	1	119	336	500	555	1
105°	1	39	182	309	352	1
115°	1	9	85	170	204	1
125°	1	3	31	78	100	1
135°	3	1	8	26	35	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°	2946.7	2946.7	2946.7	2946.7	2946.7
2.5°	2970.9	2956.1	2950.7	2944.0	2960.1
5°	2981.7	2949.4	2938.6	2953.4	2930.5
7.5°	2939.9	2931.8	2908.9	2917.0	2895.4
10°	2933.2	2888.7	2876.6	2903.5	2896.8
12.5°	2872.5	2834.8	2856.3	2875.2	2849.6
15°	2825.3	2814.6	2815.9	2820.0	2853.7
17.5°	2813.2	2764.7	2751.2	2784.9	2782.2
20°	2702.7	2693.2	2700.0	2744.5	2722.9
22.5°	2638.0	2608.3	2644.7	2687.9	2697.3
25°	2563.8	2561.1	2574.6	2624.5	2638.0
27.5°	2485.7	2468.1	2504.5	2562.5	2573.3
30°	2389.9	2383.2	2427.7	2477.6	2501.8
32.5°	2295.6	2299.6	2350.9	2392.6	2434.4
35°	2189.1	2205.3	2252.5	2323.9	2357.6
37.5°	2081.3	2101.5	2164.8	2247.1	2275.4
40°	1985.6	1989.6	2078.6	2162.1	2197.2
42.5°	1865.6	1906.0	1981.5	2092.0	2119.0
45°	1775.3	1800.9	1884.5	2001.7	2040.8
47.5°	1672.8	1702.5	1798.2	1912.8	1954.6
50°	1560.9	1587.9	1702.5	1833.2	1866.9
52.5°	1436.9	1492.2	1612.2	1747.0	1791.5
55°	1329.1	1385.7	1508.4	1659.3	1709.2
57.5°	1213.2	1269.8	1423.5	1563.6	1628.3
60°	1113.4	1167.3	1323.7	1497.6	1536.7
62.5°	989.4	1066.2	1236.1	1407.3	1462.5
65°	878.9	961.1	1148.5	1317.0	1377.6
67.5°	777.8	862.7	1058.2	1238.8	1304.8
70°	653.8	765.6	981.3	1159.3	1228.0
72.5°	562.1	674.0	899.1	1075.7	1137.7
75°	448.9	585.0	822.3	998.8	1052.8
77.5°	354.5	501.4	742.7	940.9	994.8
80°	258.8	426.0	674.0	864.0	926.1
82.5°	176.6	355.9	610.6	792.6	851.9
85°	105.1	295.2	547.3	741.4	795.3
87.5°	45.8	241.3	489.3	667.2	722.5
90°	5.4	191.4	432.7	605.2	659.2
92.5°	1.3	153.7	382.8	550.0	602.5
95°	1.3	118.6	335.6	500.1	555.4
97.5°	1.3	91.7	288.5	448.9	501.4
100°	1.3	70.1	249.4	395.0	451.6
102.5°	1.3	52.6	211.6	350.5	399.0
105°	1.3	39.1	182.0	308.7	351.8
107.5°	1.3	28.3	152.3	269.6	312.7
110°	1.3	20.2	128.1	233.2	276.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	14.8	103.8	200.8	237.2
115°	1.3	9.4	84.9	169.8	203.5
117.5°	1.3	6.7	67.4	142.9	175.2
120°	1.3	5.4	53.9	118.6	146.9
122.5°	1.3	4.0	41.8	97.1	124.0
125°	1.3	2.7	31.0	78.2	99.7
127.5°	1.3	2.7	22.9	62.0	80.9
130°	1.3	1.3	16.2	47.2	63.4
132.5°	1.3	1.3	10.8	35.0	47.2
135°	2.7	1.3	8.1	25.6	35.0
137.5°	2.7	1.3	5.4	17.5	24.3
140°	2.7	1.3	2.7	10.8	14.8
142.5°	2.7	1.3	1.3	5.4	8.1
145°	2.7	1.3	0.0	2.7	4.0
147.5°	2.7	1.3	0.0	1.3	1.3
150°	2.7	1.3	0.0	0.0	0.0
152.5°	2.7	1.3	0.0	0.0	0.0
155°	2.7	2.7	0.0	0.0	0.0
157.5°	2.7	2.7	0.0	0.0	0.0
160°	2.7	2.7	0.0	0.0	0.0
162.5°	2.7	2.7	0.0	0.0	0.0
165°	4.0	2.7	0.0	0.0	0.0
167.5°	4.0	2.7	0.0	0.0	0.0
170°	4.0	2.7	0.0	0.0	0.0
172.5°	4.0	2.7	0.0	0.0	0.0
175°	4.0	2.7	0.0	0.0	0.0
177.5°	4.0	2.7	0.0	0.0	0.0
180°	1.3	1.3	1.3	1.3	1.3



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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	20.80	22.34	21.27	22.79	23.28	22.37	23.91	22.84	24.37	24.85
	3H	22.56	23.97	23.05	24.43	24.96	24.96	26.36	25.44	26.83	27.35
	4H	23.22	24.55	23.72	25.03	25.57	26.22	27.55	26.72	28.03	28.57
	6H	23.70	24.94	24.21	25.44	25.99	27.60	28.84	28.12	29.34	29.89
	8H	23.85	25.04	24.38	25.56	26.12	28.33	29.52	28.86	30.04	30.60
	12H	23.95	25.09	24.48	25.60	26.19	29.17	30.31	29.71	30.83	31.42
4H	2H	21.76	23.09	22.26	23.57	24.11	22.95	24.28	23.45	24.76	25.30
	3H	23.80	24.93	24.31	25.46	26.02	25.81	26.95	26.33	27.48	28.04
	4H	24.61	25.65	25.14	26.19	26.78	27.29	28.33	27.83	28.87	29.46
	6H	25.26	26.18	25.81	26.74	27.35	28.91	29.83	29.47	30.39	31.00
	8H	25.49	26.35	26.05	26.92	27.53	29.77	30.63	30.33	31.20	31.82
	12H	25.66	26.44	26.24	27.03	27.66	30.76	31.55	31.34	32.14	32.76
8H	4H	25.46	26.32	26.02	26.89	27.50	27.66	28.53	28.22	29.09	29.71
	6H	26.38	27.12	26.97	27.72	28.35	29.54	30.28	30.13	30.88	31.51
	8H	26.76	27.43	27.37	28.04	28.68	30.60	31.27	31.21	31.88	32.52
	12H	27.09	27.68	27.69	28.28	28.99	31.86	32.45	32.46	33.06	33.76
12H	4H	25.72	26.51	26.30	27.10	27.72	27.71	28.49	28.29	29.08	29.71
	6H	26.81	27.47	27.41	28.09	28.72	29.65	30.32	30.26	30.93	31.57
	8H	27.35	27.94	27.95	28.54	29.25	30.83	31.42	31.43	32.02	32.73