

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: P893899

Luminaire Tested: 4MB-8HL-ACL-UNV-L840

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893899  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-20)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-8HL-ACL-UNV-L840  
Description: 8000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS, 80CRI, 4000K (C)  
Light Source: -  
Ballast/Driver: -

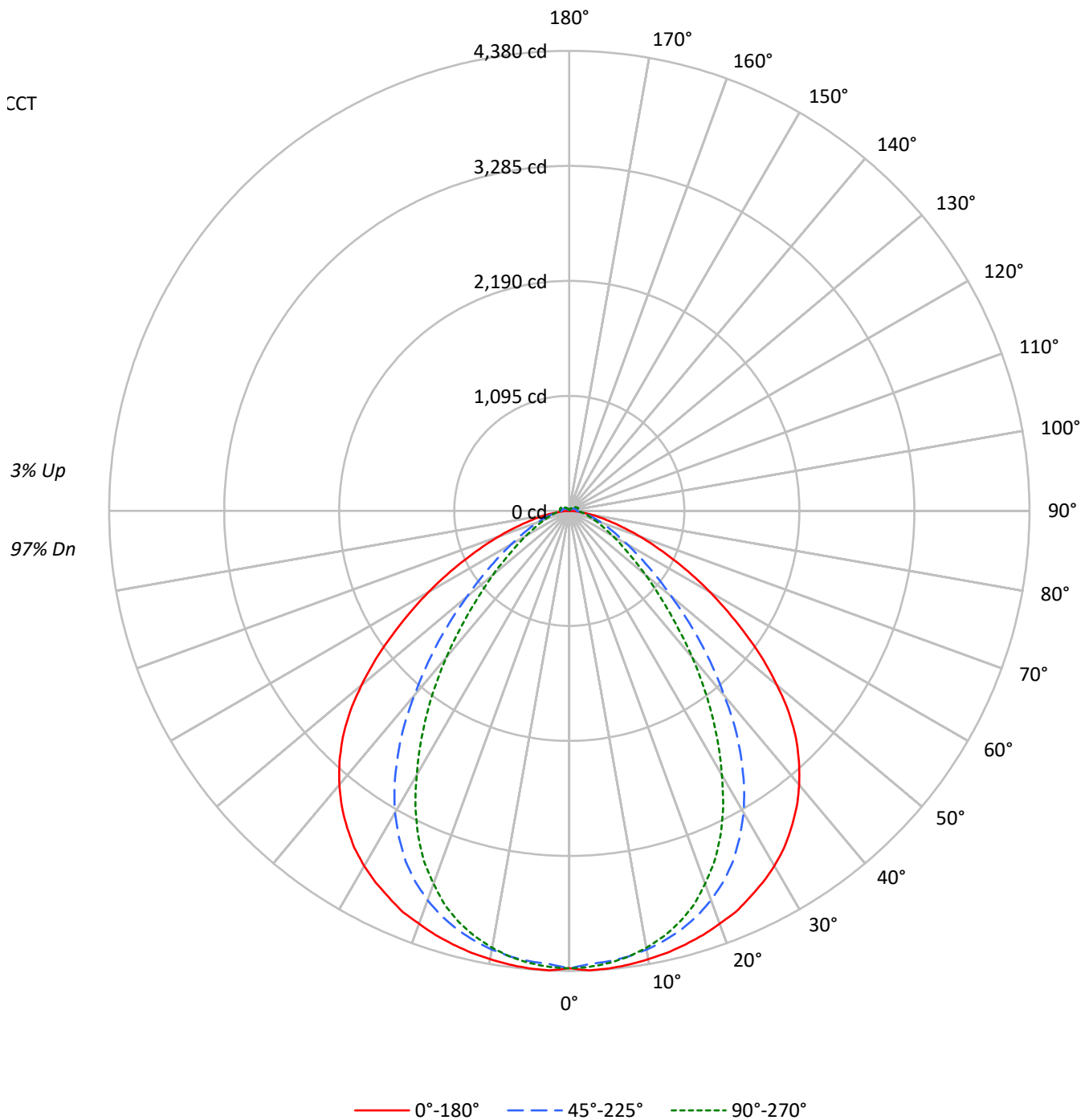
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8834.0 lumens  
Efficiency: N/A  
Efficacy: 152.6 lumens/watt  
Spacing Criteria (0/90/45): 1.32 / 1.05 / 1.15  
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 3.98' x H: 0.08')  
CIE Type: Direct

Input Watts (W): 57.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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				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	118	118	118	118	115	115	115	115	110	110	110	104	104	104	100	100	100	97				97
1	110	106	102	99	107	103	100	97	99	96	94	94	92	90	90	89	87	85				85
2	101	94	89	84	99	92	87	83	88	84	80	85	81	78	82	79	76	74				74
3	94	85	78	72	91	83	76	71	80	74	70	77	72	68	74	70	67	65				65
4	87	76	69	63	84	75	68	62	72	66	61	70	64	60	67	63	59	57				57
5	81	69	61	55	78	68	60	55	66	59	54	63	58	53	61	56	52	50				50
6	75	63	55	49	73	62	54	49	60	53	48	58	52	48	56	51	47	45				45
7	70	58	50	44	68	57	49	44	55	48	43	53	47	43	52	47	42	41				41
8	65	53	45	40	64	52	45	40	51	44	39	49	43	39	48	43	39	37				37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	36	45	39	35	34				34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	36	32	31				31

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

	0°	45°	90°
0°	44352	44352	44352
5°	44619	43119	43001
10°	44654	42102	41389
15°	44806	40895	39436
20°	44995	39358	36749
25°	45199	37276	33386
30°	45360	34329	28920
35°	45151	30353	24108
40°	44481	25457	19166
45°	43013	20506	14491
50°	39888	15676	10930
55°	35411	12008	8142
60°	30388	9238	6301
65°	25069	7239	4985
70°	20248	5802	4077
75°	15409	4742	3477
80°	11528	3882	3069
85°	7845	3287	2791

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 43013 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	412.0	4.7
10°-20°	1169.8	13.2
20°-30°	1702.8	19.3
30°-40°	1827.3	20.7
40°-50°	1512.0	17.1
50°-60°	1002.1	11.3
60°-70°	571.0	6.5
70°-80°	283.1	3.2
80°-90°	114.5	1.3
90°-100°	67.3	0.8
100°-110°	59.8	0.7
110°-120°	45.1	0.5
120°-130°	30.0	0.3
130°-140°	18.4	0.2
140°-150°	10.5	0.1
150°-160°	5.4	0.1
160°-170°	2.3	0.0
170°-180°	0.6	0.0
0°-30°	3284.5	37.2
0°-40°	5111.8	57.9
0°-60°	7626.0	86.3
0°-90°	8594.6	97.3
90°-120°	172.2	1.9
90°-150°	231.2	2.6
90°-180°	239.0	2.7
0°-180°	8834.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4355	4355	4355	4355	4355	
5°	4372	4361	4305	4338	4322	416
15°	4274	4239	4125	4087	4055	1208
25°	4062	3956	3683	3483	3406	1874
35°	3685	3392	2846	2474	2365	2303
45°	3049	2476	1761	1418	1322	2336
55°	2054	1452	905	716	664	1838
65°	1087	729	453	365	346	1092
75°	422	314	227	198	192	466
85°	83	89	104	110	110	96
90°	11	37	71	87	89	10
95°	13	38	72	87	89	11
105°	10	29	65	83	88	11
115°	6	19	50	71	77	6
125°	4	13	36	53	59	3
135°	3	10	24	37	41	2
145°	4	8	17	25	29	2
155°	4	7	11	16	20	2
165°	4	5	8	10	12	1
175°	4	5	6	6	5	0
180°	5	5	5	5	5	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4355.0	4355.0	4355.0	4355.0	4355.0
2.5°	4379.5	4369.9	4320.0	4357.6	4346.2
5°	4372.5	4361.1	4305.1	4337.5	4321.7
7.5°	4357.6	4343.6	4280.6	4302.4	4283.2
10°	4334.0	4316.5	4241.1	4245.5	4223.6
12.5°	4308.6	4281.4	4189.5	4177.2	4150.0
15°	4273.5	4239.4	4124.6	4087.0	4054.6
17.5°	4233.3	4186.0	4044.1	3977.5	3935.4
20°	4183.3	4120.3	3944.2	3842.6	3777.8
22.5°	4135.2	4042.3	3825.1	3679.7	3611.4
25°	4061.6	3955.6	3683.2	3482.6	3405.5
27.5°	3988.9	3846.1	3508.9	3262.7	3173.4
30°	3903.9	3716.5	3317.9	3014.9	2904.5
32.5°	3805.8	3574.6	3096.3	2757.4	2640.0
35°	3684.9	3392.4	2845.8	2473.6	2364.9
37.5°	3555.3	3191.8	2587.4	2203.8	2091.7
40°	3404.6	2979.0	2294.9	1923.5	1821.0
42.5°	3237.3	2735.5	2023.3	1659.8	1557.4
45°	3049.0	2476.2	1760.6	1418.1	1321.7
47.5°	2832.7	2210.8	1506.6	1200.0	1119.4
50°	2580.4	1945.4	1268.3	1007.3	947.7
52.5°	2326.4	1695.8	1076.5	854.0	790.1
55°	2054.0	1452.3	904.8	715.6	663.9
57.5°	1790.4	1236.8	755.9	600.0	564.1
60°	1546.0	1044.1	639.4	506.3	477.4
62.5°	1311.2	880.3	535.2	428.3	402.9
65°	1087.0	728.8	452.8	365.3	346.0
67.5°	889.9	608.8	381.9	311.8	296.9
70°	719.1	492.3	321.5	267.2	254.9
72.5°	559.7	395.0	269.8	231.2	220.7
75°	422.2	314.5	226.9	198.0	191.8
77.5°	318.0	244.4	187.4	170.8	166.4
80°	219.9	182.2	155.0	148.0	145.4
82.5°	140.1	130.5	127.0	127.0	127.0
85°	83.2	89.3	104.2	110.4	109.5
87.5°	39.4	58.7	84.1	95.5	97.2
90°	11.4	36.8	70.9	86.7	89.3
92.5°	13.1	37.7	70.9	86.7	89.3
95°	13.1	38.5	71.8	86.7	89.3
97.5°	13.1	36.8	70.9	87.6	90.2
100°	13.1	35.9	70.1	86.7	90.2
102.5°	11.4	33.3	67.4	85.8	89.3
105°	10.5	28.9	64.8	83.2	87.6
107.5°	8.8	26.3	62.2	80.6	85.8
110°	7.9	23.6	58.7	78.0	84.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	7.0	21.0	54.3	75.3	80.6
115°	6.1	19.3	49.9	70.9	77.1
117.5°	5.3	17.5	45.5	66.6	73.6
120°	4.4	15.8	42.0	62.2	68.3
122.5°	4.4	14.9	38.5	56.9	63.9
125°	3.5	13.1	35.9	52.6	58.7
127.5°	3.5	12.3	32.4	48.2	53.4
130°	2.6	12.3	29.8	44.7	49.9
132.5°	2.6	11.4	26.3	40.3	45.5
135°	2.6	10.5	24.5	36.8	41.2
137.5°	2.6	10.5	21.9	34.2	38.5
140°	3.5	9.6	19.3	30.7	35.0
142.5°	3.5	8.8	18.4	28.0	31.5
145°	3.5	7.9	16.6	25.4	28.9
147.5°	3.5	7.9	14.9	22.8	26.3
150°	3.5	7.0	14.0	20.1	23.6
152.5°	3.5	7.0	13.1	17.5	21.9
155°	3.5	7.0	11.4	15.8	20.1
157.5°	3.5	6.1	10.5	14.0	17.5
160°	4.4	6.1	9.6	12.3	15.8
162.5°	4.4	6.1	8.8	11.4	14.0
165°	4.4	5.3	7.9	9.6	12.3
167.5°	4.4	5.3	7.9	8.8	10.5
170°	4.4	5.3	7.0	7.0	7.9
172.5°	4.4	5.3	6.1	7.0	5.3
175°	4.4	5.3	6.1	6.1	5.3
177.5°	4.4	5.3	5.3	6.1	5.3
180°	5.3	5.3	5.3	5.3	5.3



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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	21.84	23.23	22.25	23.60	23.98	16.96	18.35	17.37	18.72	19.10
	3H	22.94	24.17	23.36	24.56	24.99	18.10	19.34	18.53	19.73	20.16
	4H	23.23	24.39	23.68	24.79	25.24	18.61	19.77	19.05	20.17	20.62
	6H	23.38	24.44	23.83	24.87	25.33	19.11	20.18	19.57	20.61	21.07
	8H	23.39	24.40	23.86	24.85	25.32	19.38	20.39	19.85	20.84	21.31
	12H	23.38	24.35	23.86	24.79	25.28	19.67	20.65	20.15	21.08	21.58
4H	2H	21.81	22.97	22.26	23.38	23.83	17.46	18.62	17.91	19.03	19.47
	3H	23.05	24.01	23.51	24.46	24.93	18.78	19.74	19.24	20.19	20.66
	4H	23.42	24.28	23.90	24.75	25.26	19.38	20.24	19.86	20.71	21.21
	6H	23.65	24.40	24.16	24.89	25.42	20.01	20.75	20.51	21.25	21.77
	8H	23.69	24.38	24.20	24.88	25.41	20.33	21.03	20.84	21.52	22.06
	12H	23.69	24.32	24.22	24.84	25.38	20.71	21.33	21.23	21.86	22.39
8H	4H	23.40	24.10	23.92	24.60	25.13	19.62	20.32	20.13	20.82	21.35
	6H	23.68	24.25	24.22	24.80	25.34	20.35	20.93	20.90	21.47	22.01
	8H	23.74	24.26	24.30	24.82	25.37	20.76	21.28	21.32	21.84	22.39
	12H	23.78	24.24	24.34	24.78	25.41	21.26	21.72	21.81	22.26	22.88
12H	4H	23.38	24.00	23.91	24.53	25.07	19.64	20.26	20.17	20.79	21.32
	6H	23.66	24.17	24.22	24.73	25.29	20.39	20.91	20.95	21.47	22.02
	8H	23.75	24.21	24.31	24.75	25.38	20.85	21.31	21.41	21.85	22.48