

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: P894000

Luminaire Tested: 4MB-9HL-ACL-UNV-L950

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P894000  
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-9HL-ACL-UNV-L950  
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS, 90CRI, 5000K (C)  
Light Source: -  
Ballast/Driver: -

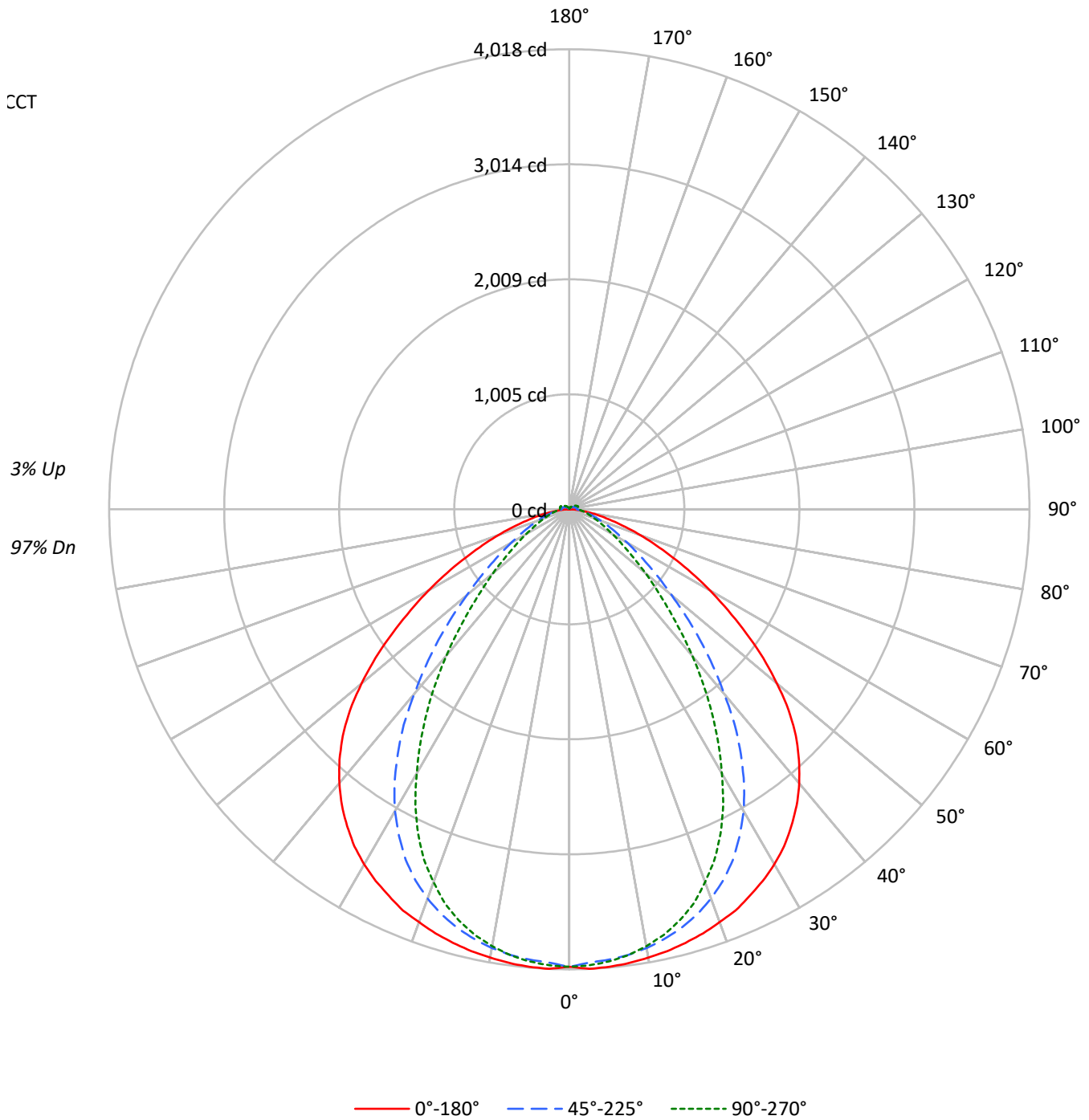
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8104.0 lumens  
Efficiency: N/A  
Efficacy: 125.8 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): 64.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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				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	100	100	100	97
1	110	106	102	99	107	103	100	97	99	96	94	94	92	90	90	89	87	87	87	87	85
2	101	94	89	84	99	92	87	83	88	84	80	85	81	78	82	79	76	76	76	76	74
3	94	85	78	72	91	83	76	71	80	74	70	77	72	68	74	70	67	67	67	67	65
4	87	76	69	63	84	75	68	62	72	66	61	70	64	60	67	63	59	59	59	59	57
5	81	69	61	55	78	68	60	55	66	59	54	63	58	53	61	56	52	52	52	52	50
6	75	63	55	49	73	62	54	49	60	53	48	58	52	48	56	51	47	47	47	47	45
7	70	58	50	44	68	57	49	44	55	48	43	53	47	43	52	47	42	42	42	42	41
8	65	53	45	40	64	52	45	40	51	44	39	49	43	39	48	43	39	39	39	39	37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	36	45	39	35	35	35	35	34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	36	32	32	32	32	31

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

	0°	45°	90°
0°	40687	40687	40687
5°	40932	39556	39448
10°	40964	38624	37969
15°	41104	37516	36177
20°	41277	36106	33712
25°	41463	34196	30627
30°	41612	31493	26530
35°	41420	27846	22116
40°	40806	23352	17582
45°	39460	18812	13294
50°	36593	14380	10027
55°	32486	11016	7470
60°	27876	8476	5780
65°	22998	6641	4573
70°	18575	5322	3740
75°	14135	4349	3191
80°	10574	3562	2816
85°	7194	3016	2559

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 39460 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	377.9	4.7
10°-20°	1073.1	13.2
20°-30°	1562.0	19.3
30°-40°	1676.3	20.7
40°-50°	1387.1	17.1
50°-60°	919.3	11.3
60°-70°	523.8	6.5
70°-80°	259.7	3.2
80°-90°	105.0	1.3
90°-100°	61.7	0.8
100°-110°	54.9	0.7
110°-120°	41.4	0.5
120°-130°	27.5	0.3
130°-140°	16.9	0.2
140°-150°	9.6	0.1
150°-160°	4.9	0.1
160°-170°	2.1	0.0
170°-180°	0.5	0.0
0°-30°	3013.1	37.2
0°-40°	4689.4	57.9
0°-60°	6995.8	86.3
0°-90°	7884.3	97.3
90°-120°	158.0	2.0
90°-150°	212.1	2.6
90°-180°	220.0	2.7
0°-180°	8104.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3995	3995	3995	3995	3995	
5°	4011	4001	3949	3979	3965	382
15°	3920	3889	3784	3749	3720	1108
25°	3726	3629	3379	3195	3124	1719
35°	3380	3112	2611	2269	2170	2112
45°	2797	2272	1615	1301	1212	2143
55°	1884	1332	830	656	609	1686
65°	997	668	415	335	317	1002
75°	387	288	208	182	176	428
85°	76	82	96	101	100	88
90°	10	34	65	80	82	9
95°	12	35	66	80	82	10
105°	10	26	60	76	80	10
115°	6	18	46	65	71	6
125°	3	12	33	48	54	3
135°	2	10	22	34	38	2
145°	3	7	15	23	26	2
155°	3	6	10	14	18	2
165°	4	5	7	9	11	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°	3995.1	3995.1	3995.1	3995.1	3995.1
2.5°	4017.6	4008.8	3963.0	3997.5	3987.1
5°	4011.2	4000.8	3949.3	3979.1	3964.6
7.5°	3997.5	3984.7	3926.8	3946.9	3929.2
10°	3975.8	3959.8	3890.7	3894.7	3874.6
12.5°	3952.5	3927.6	3843.3	3832.0	3807.1
15°	3920.4	3889.1	3783.8	3749.2	3719.5
17.5°	3883.4	3840.0	3709.9	3648.8	3610.2
20°	3837.6	3779.8	3618.3	3525.1	3465.6
22.5°	3793.4	3708.3	3509.0	3375.6	3312.9
25°	3725.9	3628.7	3378.8	3194.8	3124.1
27.5°	3659.3	3528.3	3218.9	2993.1	2911.2
30°	3581.3	3409.4	3043.8	2765.7	2664.5
32.5°	3491.3	3279.2	2840.5	2529.5	2421.8
35°	3380.4	3112.1	2610.7	2269.2	2169.5
37.5°	3261.5	2928.0	2373.6	2021.7	1918.8
40°	3123.3	2732.8	2105.2	1764.5	1670.5
42.5°	2969.8	2509.4	1856.1	1522.7	1428.7
45°	2797.1	2271.6	1615.1	1300.9	1212.5
47.5°	2598.6	2028.1	1382.1	1100.8	1026.9
50°	2367.2	1784.6	1163.5	924.1	869.4
52.5°	2134.2	1555.6	987.5	783.4	724.8
55°	1884.3	1332.2	830.0	656.5	609.1
57.5°	1642.4	1134.6	693.4	550.4	517.5
60°	1418.2	957.8	586.6	464.4	437.9
62.5°	1202.9	807.5	491.0	392.9	369.6
65°	997.2	668.5	415.4	335.1	317.4
67.5°	816.4	558.5	350.3	286.1	272.4
70°	659.7	451.6	294.9	245.1	233.8
72.5°	513.5	362.4	247.5	212.1	202.5
75°	387.3	288.5	208.1	181.6	176.0
77.5°	291.7	224.2	172.0	156.7	152.7
80°	201.7	167.1	142.2	135.8	133.4
82.5°	128.6	119.7	116.5	116.5	116.5
85°	76.3	82.0	95.6	101.2	100.4
87.5°	36.2	53.8	77.1	87.6	89.2
90°	10.4	33.7	65.1	79.5	82.0
92.5°	12.1	34.6	65.1	79.5	82.0
95°	12.1	35.4	65.9	79.5	82.0
97.5°	12.1	33.7	65.1	80.4	82.8
100°	12.1	32.9	64.3	79.5	82.8
102.5°	10.4	30.5	61.9	78.7	82.0
105°	9.6	26.5	59.5	76.3	80.4
107.5°	8.0	24.1	57.1	73.9	78.7
110°	7.2	21.7	53.8	71.5	77.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	6.4	19.3	49.8	69.1	73.9
115°	5.6	17.7	45.8	65.1	70.7
117.5°	4.8	16.1	41.8	61.1	67.5
120°	4.0	14.5	38.6	57.1	62.7
122.5°	4.0	13.7	35.4	52.2	58.7
125°	3.2	12.1	32.9	48.2	53.8
127.5°	3.2	11.2	29.7	44.2	49.0
130°	2.4	11.2	27.3	41.0	45.8
132.5°	2.4	10.4	24.1	37.0	41.8
135°	2.4	9.6	22.5	33.7	37.8
137.5°	2.4	9.6	20.1	31.3	35.4
140°	3.2	8.8	17.7	28.1	32.1
142.5°	3.2	8.0	16.9	25.7	28.9
145°	3.2	7.2	15.3	23.3	26.5
147.5°	3.2	7.2	13.7	20.9	24.1
150°	3.2	6.4	12.9	18.5	21.7
152.5°	3.2	6.4	12.1	16.1	20.1
155°	3.2	6.4	10.4	14.5	18.5
157.5°	3.2	5.6	9.6	12.9	16.1
160°	4.0	5.6	8.8	11.2	14.5
162.5°	4.0	5.6	8.0	10.4	12.9
165°	4.0	4.8	7.2	8.8	11.2
167.5°	4.0	4.8	7.2	8.0	9.6
170°	4.0	4.8	6.4	6.4	7.2
172.5°	4.0	4.8	5.6	6.4	4.8
175°	4.0	4.8	5.6	5.6	4.8
177.5°	4.0	4.8	4.8	5.6	4.8
180°	4.8	4.8	4.8	4.8	4.8



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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	21.54	22.93	21.95	23.30	23.68	16.66	18.05	17.07	18.42	18.80
	3H	22.64	23.87	23.06	24.26	24.69	17.80	19.04	18.23	19.43	19.86
	4H	22.93	24.09	23.38	24.50	24.94	18.31	19.47	18.75	19.87	20.32
	6H	23.08	24.14	23.54	24.57	25.03	18.82	19.88	19.28	20.31	20.77
	8H	23.09	24.11	23.56	24.55	25.02	19.08	20.10	19.55	20.54	21.01
	12H	23.08	24.05	23.56	24.49	24.98	19.37	20.35	19.85	20.78	21.28
4H	2H	21.51	22.67	21.96	23.08	23.53	17.16	18.32	17.61	18.73	19.17
	3H	22.75	23.71	23.21	24.16	24.63	18.48	19.44	18.94	19.89	20.36
	4H	23.12	23.98	23.60	24.45	24.96	19.08	19.94	19.56	20.41	20.91
	6H	23.35	24.10	23.86	24.59	25.12	19.71	20.45	20.21	20.95	21.47
	8H	23.39	24.08	23.90	24.58	25.11	20.03	20.73	20.54	21.22	21.76
	12H	23.39	24.02	23.92	24.54	25.08	20.41	21.03	20.94	21.56	22.09
8H	4H	23.11	23.80	23.62	24.30	24.83	19.32	20.02	19.83	20.52	21.05
	6H	23.38	23.95	23.92	24.50	25.04	20.06	20.63	20.60	21.17	21.72
	8H	23.44	23.96	24.00	24.52	25.07	20.46	20.98	21.02	21.54	22.09
	12H	23.48	23.94	24.04	24.48	25.11	20.96	21.42	21.51	21.96	22.58
12H	4H	23.08	23.70	23.61	24.23	24.77	19.34	19.96	19.87	20.49	21.02
	6H	23.36	23.87	23.92	24.43	24.99	20.09	20.61	20.65	21.17	21.72
	8H	23.45	23.91	24.01	24.45	25.08	20.55	21.01	21.11	21.55	22.18