

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: P893999

Luminaire Tested: 4MB-9HL-ACL-UNV-L940

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893999  
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-L940  
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS, 90CRI, 4000K (C)  
Light Source: -  
Ballast/Driver: -

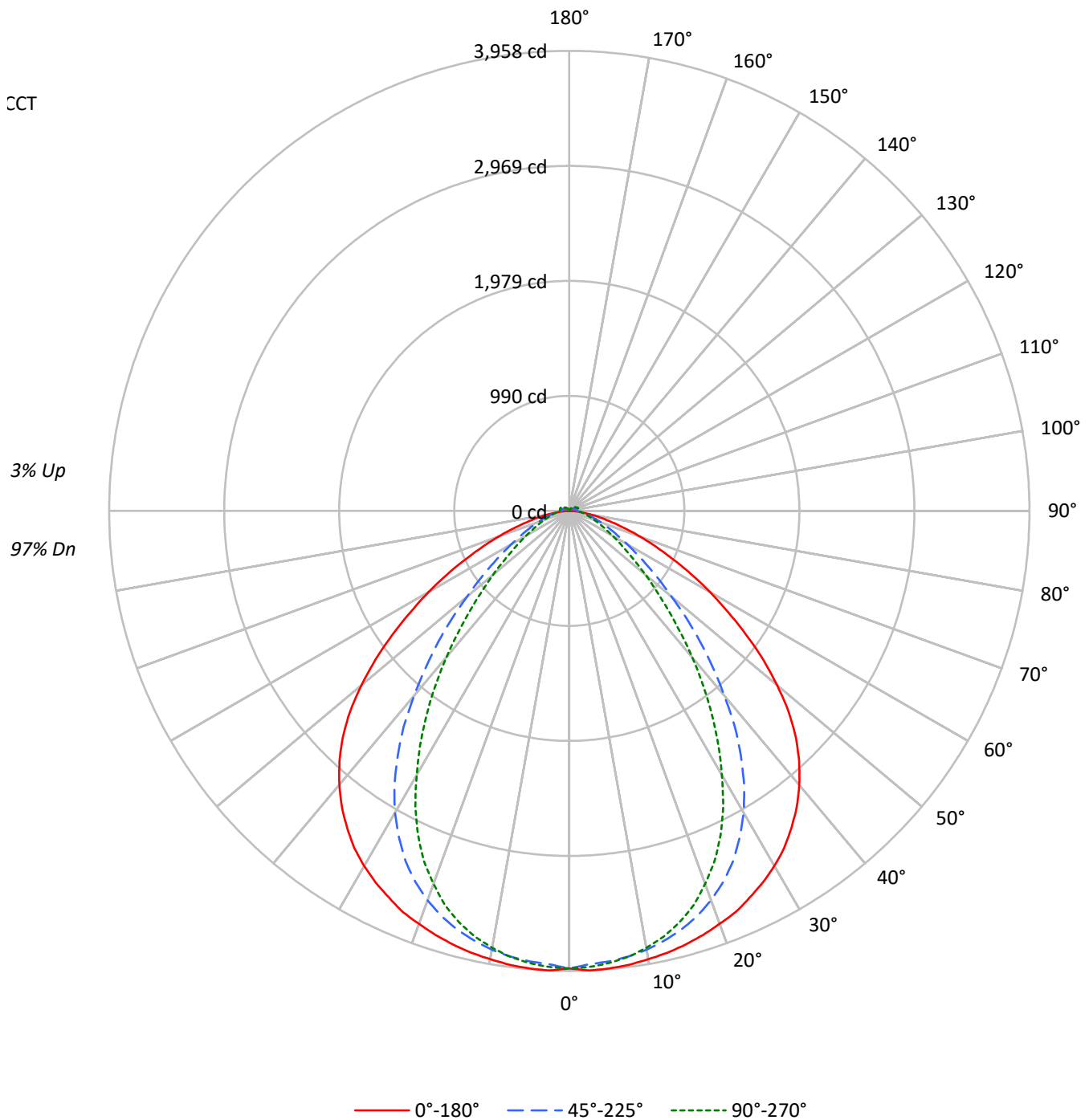
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7984.0 lumens  
Efficiency: N/A  
Efficacy: 124.0 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	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°	40085	40085	40085
5°	40326	38970	38864
10°	40358	38052	37406
15°	40495	36961	35641
20°	40666	35571	33213
25°	40850	33690	30173
30°	40996	31026	26137
35°	40807	27433	21789
40°	40202	23007	17322
45°	38876	18533	13098
50°	36050	14168	9878
55°	32005	10854	7359
60°	27463	8350	5694
65°	22657	6544	4505
70°	18299	5243	3685
75°	13927	4284	3144
80°	10417	3509	2774
85°	7091	2972	2523

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 38876 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	372.3	4.7
10°-20°	1057.2	13.2
20°-30°	1538.9	19.3
30°-40°	1651.5	20.7
40°-50°	1366.5	17.1
50°-60°	905.7	11.3
60°-70°	516.0	6.5
70°-80°	255.9	3.2
80°-90°	103.5	1.3
90°-100°	60.8	0.8
100°-110°	54.1	0.7
110°-120°	40.8	0.5
120°-130°	27.1	0.3
130°-140°	16.7	0.2
140°-150°	9.5	0.1
150°-160°	4.9	0.1
160°-170°	2.1	0.0
170°-180°	0.5	0.0
0°-30°	2968.5	37.2
0°-40°	4620.0	57.9
0°-60°	6892.2	86.3
0°-90°	7767.6	97.3
90°-120°	155.7	1.9
90°-150°	209.0	2.6
90°-180°	216.0	2.7
0°-180°	7984.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3936	3936	3936	3936	3936	
5°	3952	3942	3891	3920	3906	376
15°	3862	3832	3728	3694	3664	1092
25°	3671	3575	3329	3148	3078	1694
35°	3330	3066	2572	2236	2137	2081
45°	2756	2238	1591	1282	1195	2112
55°	1856	1312	818	647	600	1661
65°	982	659	409	330	313	987
75°	382	284	205	179	173	421
85°	75	81	94	100	99	87
90°	10	33	64	78	81	9
95°	12	35	65	78	81	10
105°	10	26	59	75	79	10
115°	6	17	45	64	70	5
125°	3	12	32	48	53	3
135°	2	10	22	33	37	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°	3936.0	3936.0	3936.0	3936.0	3936.0
2.5°	3958.1	3949.4	3904.3	3938.3	3928.1
5°	3951.8	3941.5	3890.8	3920.1	3905.9
7.5°	3938.3	3925.7	3868.7	3888.5	3871.1
10°	3917.0	3901.1	3833.1	3837.0	3817.2
12.5°	3894.0	3869.5	3786.4	3775.3	3750.7
15°	3862.3	3831.5	3727.8	3693.7	3664.4
17.5°	3825.9	3783.2	3654.9	3594.8	3556.8
20°	3780.8	3723.8	3564.7	3472.9	3414.3
22.5°	3737.3	3653.4	3457.0	3325.6	3263.9
25°	3670.8	3575.0	3328.8	3147.5	3077.8
27.5°	3605.1	3476.0	3171.3	2948.8	2868.1
30°	3528.3	3358.9	2998.7	2724.8	2625.0
32.5°	3439.6	3230.6	2798.4	2492.0	2386.0
35°	3330.4	3066.0	2572.0	2235.6	2137.4
37.5°	3213.2	2884.7	2338.5	1991.7	1890.4
40°	3077.1	2692.3	2074.1	1738.4	1645.8
42.5°	2925.9	2472.3	1828.7	1500.1	1407.5
45°	2755.7	2237.9	1591.2	1281.6	1194.6
47.5°	2560.1	1998.1	1361.6	1084.5	1011.7
50°	2332.1	1758.2	1146.3	910.4	856.5
52.5°	2102.6	1532.6	972.9	771.8	714.0
55°	1856.4	1312.5	817.8	646.8	600.1
57.5°	1618.1	1117.8	683.2	542.3	509.8
60°	1397.2	943.6	577.9	457.6	431.4
62.5°	1185.1	795.6	483.7	387.1	364.1
65°	982.4	658.6	409.3	330.1	312.7
67.5°	804.3	550.2	345.1	281.8	268.4
70°	649.9	444.9	290.5	241.4	230.4
72.5°	505.8	357.0	243.8	209.0	199.5
75°	381.6	284.2	205.0	178.9	173.4
77.5°	287.4	220.9	169.4	154.4	150.4
80°	198.7	164.7	140.1	133.8	131.4
82.5°	126.7	118.0	114.8	114.8	114.8
85°	75.2	80.7	94.2	99.7	99.0
87.5°	35.6	53.0	76.0	86.3	87.9
90°	10.3	33.2	64.1	78.4	80.7
92.5°	11.9	34.0	64.1	78.4	80.7
95°	11.9	34.8	64.9	78.4	80.7
97.5°	11.9	33.2	64.1	79.2	81.5
100°	11.9	32.5	63.3	78.4	81.5
102.5°	10.3	30.1	61.0	77.6	80.7
105°	9.5	26.1	58.6	75.2	79.2
107.5°	7.9	23.7	56.2	72.8	77.6
110°	7.1	21.4	53.0	70.5	76.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	6.3	19.0	49.1	68.1	72.8
115°	5.5	17.4	45.1	64.1	69.7
117.5°	4.7	15.8	41.2	60.2	66.5
120°	4.0	14.2	38.0	56.2	61.7
122.5°	4.0	13.5	34.8	51.5	57.8
125°	3.2	11.9	32.5	47.5	53.0
127.5°	3.2	11.1	29.3	43.5	48.3
130°	2.4	11.1	26.9	40.4	45.1
132.5°	2.4	10.3	23.7	36.4	41.2
135°	2.4	9.5	22.2	33.2	37.2
137.5°	2.4	9.5	19.8	30.9	34.8
140°	3.2	8.7	17.4	27.7	31.7
142.5°	3.2	7.9	16.6	25.3	28.5
145°	3.2	7.1	15.0	23.0	26.1
147.5°	3.2	7.1	13.5	20.6	23.7
150°	3.2	6.3	12.7	18.2	21.4
152.5°	3.2	6.3	11.9	15.8	19.8
155°	3.2	6.3	10.3	14.2	18.2
157.5°	3.2	5.5	9.5	12.7	15.8
160°	4.0	5.5	8.7	11.1	14.2
162.5°	4.0	5.5	7.9	10.3	12.7
165°	4.0	4.7	7.1	8.7	11.1
167.5°	4.0	4.7	7.1	7.9	9.5
170°	4.0	4.7	6.3	6.3	7.1
172.5°	4.0	4.7	5.5	6.3	4.7
175°	4.0	4.7	5.5	5.5	4.7
177.5°	4.0	4.7	4.7	5.5	4.7
180°	4.7	4.7	4.7	4.7	4.7



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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	21.49	22.88	21.90	23.25	23.63	16.61	18.00	17.02	18.37	18.75
	3H	22.58	23.82	23.01	24.21	24.64	17.75	18.99	18.18	19.38	19.81
	4H	22.88	24.04	23.33	24.44	24.89	18.26	19.41	18.70	19.82	20.27
	6H	23.02	24.09	23.48	24.52	24.98	18.76	19.83	19.22	20.26	20.72
	8H	23.04	24.05	23.51	24.50	24.97	19.03	20.04	19.50	20.49	20.96
	12H	23.03	24.00	23.51	24.44	24.93	19.32	20.29	19.80	20.73	21.23
4H	2H	21.46	22.62	21.91	23.03	23.47	17.11	18.27	17.56	18.68	19.12
	3H	22.70	23.65	23.16	24.11	24.58	18.43	19.39	18.89	19.84	20.31
	4H	23.07	23.93	23.55	24.40	24.90	19.03	19.89	19.51	20.36	20.86
	6H	23.30	24.05	23.80	24.54	25.07	19.65	20.40	20.16	20.90	21.42
	8H	23.33	24.03	23.84	24.53	25.06	19.98	20.68	20.49	21.17	21.71
	12H	23.34	23.96	23.87	24.49	25.03	20.35	20.98	20.88	21.51	22.04
8H	4H	23.05	23.75	23.56	24.25	24.78	19.27	19.97	19.78	20.46	21.00
	6H	23.33	23.90	23.87	24.45	24.99	20.00	20.58	20.55	21.12	21.66
	8H	23.39	23.91	23.95	24.47	25.02	20.41	20.93	20.97	21.49	22.04
	12H	23.43	23.89	23.98	24.43	25.06	20.90	21.36	21.46	21.90	22.53
12H	4H	23.03	23.65	23.56	24.18	24.72	19.29	19.91	19.82	20.44	20.97
	6H	23.30	23.82	23.86	24.38	24.93	20.04	20.56	20.60	21.12	21.67
	8H	23.40	23.86	23.96	24.40	25.03	20.50	20.96	21.06	21.50	22.13