

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: P893990

Luminaire Tested: 4MB-9HL-A-UNV-L935

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893990  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-21)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-9HL-A-UNV-L935  
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTIC, 90CRI, 3500K CCT  
Light Source: -  
Ballast/Driver: -

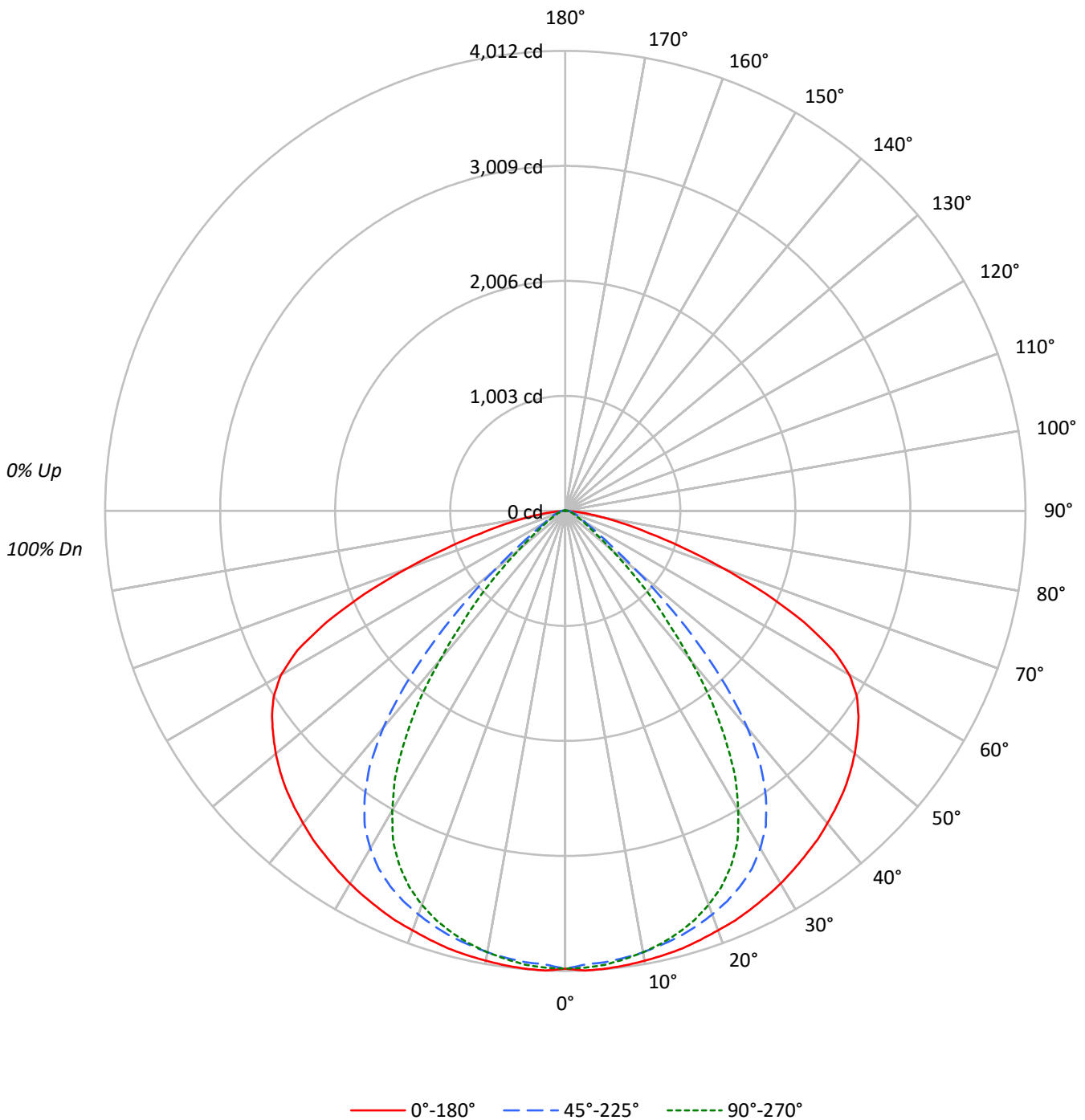
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8084.1 lumens  
Efficiency: N/A  
Efficacy: 125.5 lumens/watt  
Spacing Criteria (0/90/45): 1.41 / 1.14 / 1.22  
Luminous Opening: Rectangular (W 0.27' x L: 3.98' x H: 0')  
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				
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	91	90	90	90	90	88
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	79	79	79	77
3	95	86	80	74	93	85	79	74	82	77	72	79	75	71	77	73	70	70	70	70	68
4	88	78	71	65	86	77	70	64	74	68	64	72	67	63	70	66	62	62	62	62	60
5	82	71	63	57	80	70	63	57	68	61	56	66	60	56	64	59	55	55	55	55	53
6	76	65	57	51	75	64	56	51	62	55	50	60	55	50	59	54	50	50	50	50	48
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45	45	45	45	43
8	67	55	47	42	65	54	47	41	53	46	41	51	45	41	50	45	41	41	41	41	39
9	63	50	43	38	61	50	43	38	49	42	38	48	42	37	47	41	37	37	37	37	35
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	43	38	34	34	34	34	32

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

	0°	45°	90°
0°	40657	40657	40657
5°	40974	40388	40619
10°	41191	40418	40426
15°	41646	40515	40165
20°	42195	40592	39619
25°	43054	40578	38398
30°	44142	39971	35472
35°	45496	37915	30277
40°	47275	32838	22645
45°	49531	23629	15075
50°	52191	12949	8263
55°	55421	6365	4757
60°	58288	4196	3290
65°	55322	3436	2600
70°	43548	3124	2403
75°	30200	3089	2286
80°	19870	3097	2833
85°	11381	4768	4849

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 60°  
 Luminance: 58288 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	378.6	4.7
10°-20°	1092.7	13.5
20°-30°	1664.8	20.6
30°-40°	1890.6	23.4
40°-50°	1518.1	18.8
50°-60°	814.3	10.1
60°-70°	430.7	5.3
70°-80°	195.3	2.4
80°-90°	62.2	0.8
90°-100°	19.3	0.2
100°-110°	6.9	0.1
110°-120°	2.1	0.0
120°-130°	1.6	0.0
130°-140°	1.7	0.0
140°-150°	1.8	0.0
150°-160°	1.7	0.0
160°-170°	1.2	0.0
170°-180°	0.5	0.0
0°-30°	3136.1	38.8
0°-40°	5026.7	62.2
0°-60°	7359.1	91.0
0°-90°	8047.3	99.5
90°-120°	28.3	0.4
90°-150°	33.4	0.4
90°-180°	37.0	0.5
0°-180°	8084.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3992	3992	3992	3992	3992	
5°	4008	4000	3951	3984	3973	382
15°	3950	3925	3843	3832	3810	1117
25°	3831	3770	3611	3485	3417	1770
35°	3659	3504	3050	2607	2435	2296
45°	3439	2910	1641	1141	1047	2656
55°	3121	1164	358	280	268	2783
65°	2296	271	143	116	108	2220
75°	768	155	78	62	58	868
85°	97	58	41	41	42	133
90°	4	26	29	34	32	6
95°	4	11	23	20	20	3
105°	2	2	4	11	13	3
115°	2	2	2	3	3	1
125°	2	2	2	2	2	1
135°	2	2	2	2	2	2
145°	2	2	3	3	3	1
155°	3	3	4	4	4	1
165°	3	4	4	5	4	1
175°	4	4	5	6	5	0
180°	5	5	5	5	5	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3992.2	3992.2	3992.2	3992.2	3992.2
2.5°	4012.5	4005.0	3959.7	3997.4	3987.6
5°	4008.0	3999.7	3950.7	3983.9	3973.3
7.5°	3998.2	3987.6	3932.5	3959.7	3943.1
10°	3983.1	3972.5	3908.4	3927.3	3909.2
12.5°	3968.0	3949.9	3876.7	3882.7	3865.4
15°	3949.9	3925.0	3842.7	3832.2	3809.5
17.5°	3922.0	3894.1	3798.2	3773.3	3741.6
20°	3893.3	3855.6	3745.4	3694.8	3655.6
22.5°	3866.9	3814.8	3685.0	3604.3	3551.4
25°	3831.4	3770.3	3611.1	3485.0	3417.1
27.5°	3792.9	3718.2	3519.7	3331.1	3250.3
30°	3753.7	3655.6	3399.0	3137.9	3016.4
32.5°	3707.7	3586.9	3254.1	2903.9	2760.6
35°	3659.4	3503.9	3049.6	2607.4	2435.3
37.5°	3613.3	3408.1	2797.5	2247.4	2094.9
40°	3556.0	3296.4	2470.0	1861.0	1703.3
42.5°	3499.4	3124.3	2077.6	1490.5	1339.5
45°	3439.0	2910.0	1640.6	1141.1	1046.7
47.5°	3370.3	2616.4	1200.7	830.9	749.4
50°	3294.1	2193.8	817.3	566.0	521.5
52.5°	3210.3	1699.5	531.3	390.2	364.5
55°	3121.3	1164.4	358.5	280.0	267.9
57.5°	3014.1	729.8	265.6	210.6	203.8
60°	2861.7	473.2	206.0	169.8	161.5
62.5°	2632.3	338.8	172.8	138.9	132.1
65°	2295.7	270.9	142.6	115.5	107.9
67.5°	1892.7	231.7	122.3	98.9	93.6
70°	1462.5	203.8	104.9	86.0	80.7
72.5°	1091.2	178.1	90.6	74.7	67.9
75°	767.5	154.7	78.5	61.9	58.1
77.5°	539.6	133.6	64.9	52.8	52.1
80°	338.8	110.9	52.8	49.1	48.3
82.5°	206.0	87.5	46.0	45.3	44.5
85°	97.4	58.1	40.8	40.8	41.5
87.5°	31.7	38.5	34.7	36.2	36.2
90°	3.8	26.4	29.4	34.0	32.5
92.5°	3.8	18.9	27.2	27.2	21.9
95°	3.8	10.6	23.4	20.4	19.6
97.5°	3.8	5.3	17.4	19.6	18.9
100°	3.8	3.0	12.8	17.4	18.9
102.5°	3.0	2.3	8.3	14.3	15.8
105°	2.3	1.5	4.5	10.6	12.8
107.5°	1.5	1.5	3.0	7.5	9.1
110°	1.5	0.8	2.3	5.3	6.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.5	0.8	2.3	3.8	3.8
115°	1.5	1.5	1.5	3.0	3.0
117.5°	1.5	1.5	1.5	2.3	2.3
120°	1.5	1.5	1.5	2.3	1.5
122.5°	1.5	1.5	1.5	2.3	1.5
125°	1.5	1.5	1.5	2.3	1.5
127.5°	1.5	1.5	2.3	2.3	1.5
130°	1.5	1.5	2.3	2.3	1.5
132.5°	1.5	1.5	2.3	2.3	2.3
135°	2.3	1.5	2.3	2.3	2.3
137.5°	2.3	2.3	2.3	3.0	2.3
140°	2.3	2.3	3.0	3.0	2.3
142.5°	2.3	2.3	3.0	3.0	3.0
145°	2.3	2.3	3.0	3.0	3.0
147.5°	2.3	2.3	3.0	3.8	3.0
150°	2.3	3.0	3.8	3.8	3.0
152.5°	2.3	3.0	3.8	3.8	3.8
155°	3.0	3.0	3.8	4.5	3.8
157.5°	3.0	3.0	3.8	4.5	3.8
160°	3.0	3.0	4.5	4.5	4.5
162.5°	3.0	3.8	4.5	5.3	4.5
165°	3.0	3.8	4.5	5.3	4.5
167.5°	3.0	3.8	4.5	5.3	5.3
170°	3.0	3.8	5.3	5.3	5.3
172.5°	3.8	3.8	5.3	6.0	5.3
175°	3.8	3.8	5.3	6.0	5.3
177.5°	3.8	3.8	5.3	6.0	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	22.54	23.93	22.91	24.25	24.58	10.75	12.14	11.12	12.46	12.79
	3H	25.44	26.67	25.82	27.01	27.39	11.71	12.94	12.10	13.28	13.66
	4H	26.22	27.37	26.63	27.73	28.12	12.13	13.28	12.54	13.64	14.03
	6H	26.66	27.72	27.08	28.10	28.50	12.61	13.67	13.03	14.05	14.45
	8H	26.76	27.76	27.19	28.16	28.58	12.92	13.92	13.35	14.32	14.74
	12H	26.80	27.76	27.24	28.15	28.59	13.32	14.28	13.76	14.67	15.12
4H	2H	22.35	23.50	22.76	23.86	24.26	11.27	12.42	11.68	12.78	13.17
	3H	25.27	26.21	25.69	26.62	27.04	12.48	13.42	12.90	13.83	14.25
	4H	26.06	26.91	26.51	27.33	27.79	13.01	13.86	13.46	14.29	14.74
	6H	26.59	27.32	27.06	27.77	28.25	13.65	14.38	14.12	14.83	15.31
	8H	26.73	27.42	27.21	27.87	28.35	14.05	14.73	14.53	15.19	15.67
	12H	26.81	27.42	27.31	27.91	28.39	14.58	15.19	15.07	15.68	16.16
8H	4H	25.95	26.63	26.43	27.09	27.57	13.58	14.26	14.05	14.71	15.20
	6H	26.48	27.04	26.99	27.54	28.04	14.35	14.91	14.86	15.41	15.91
	8H	26.65	27.15	27.17	27.67	28.17	14.87	15.38	15.40	15.90	16.40
	12H	26.77	27.21	27.29	27.71	28.29	15.57	16.02	16.10	16.52	17.10
12H	4H	25.91	26.52	26.40	27.01	27.49	13.82	14.43	14.32	14.92	15.40
	6H	26.43	26.93	26.95	27.45	27.95	14.62	15.13	15.15	15.65	16.15
	8H	26.62	27.06	27.14	27.57	28.15	15.22	15.67	15.74	16.17	16.75