

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: P893994

Luminaire Tested: 4MB-9HL-ACL-UNV-L835

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893994  
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-L835  
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS, 80CRI, 3500K (C)  
Light Source: -  
Ballast/Driver: -

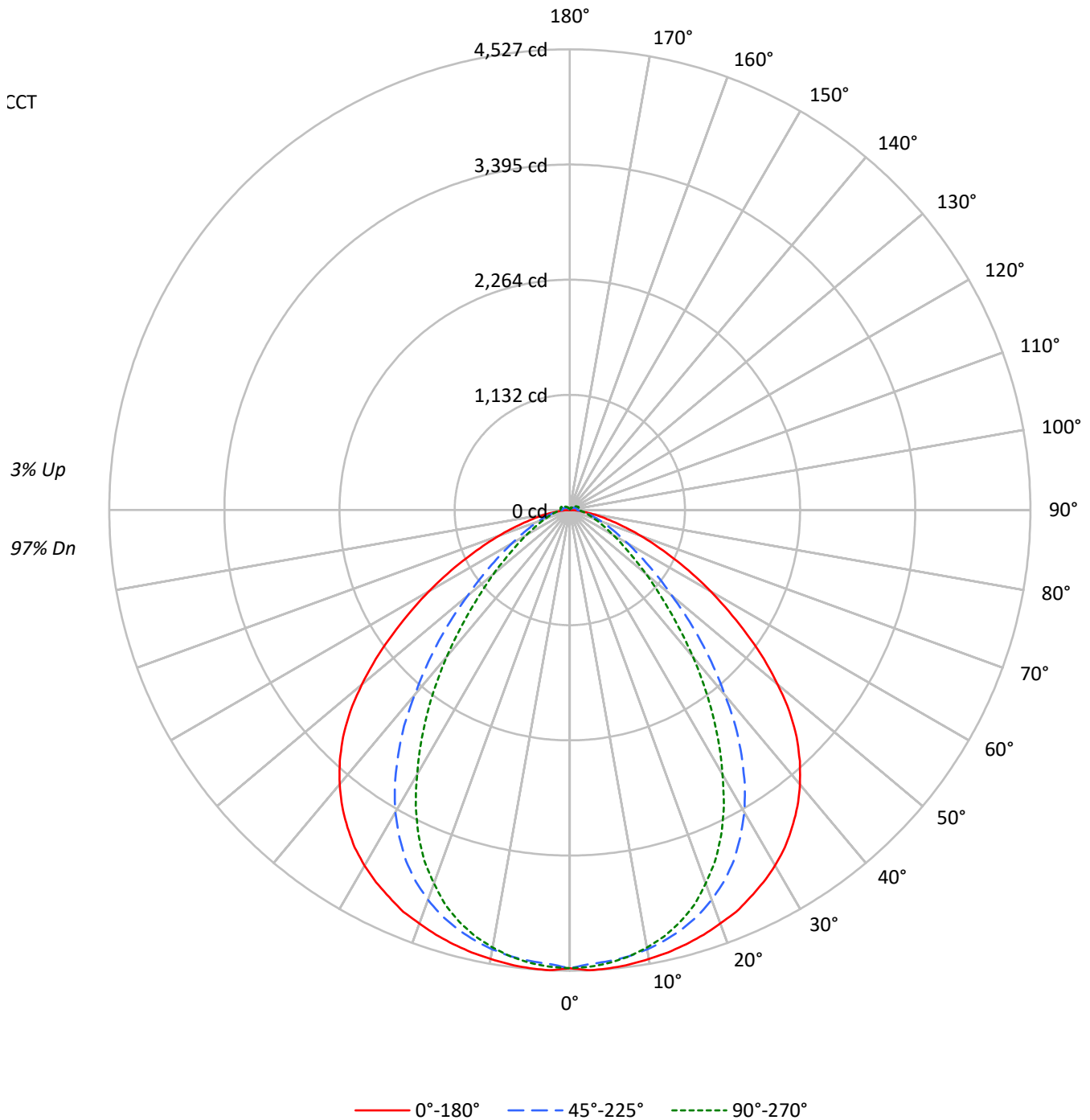
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9130.9 lumens  
Efficiency: N/A  
Efficacy: 141.8 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				
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°	45843	45843	45843
5°	46119	44568	44447
10°	46156	43518	42780
15°	46313	42271	40761
20°	46508	40681	37984
25°	46718	38529	34508
30°	46886	35484	29893
35°	46669	31374	24920
40°	45977	26312	19810
45°	44459	21196	14979
50°	41230	16203	11298
55°	36603	12412	8416
60°	31408	9549	6512
65°	25911	7484	5152
70°	20929	5997	4215
75°	15927	4901	3595
80°	11911	4013	3173
85°	8109	3398	2885

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 44459 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	425.8	4.7
10°-20°	1209.1	13.2
20°-30°	1760.0	19.3
30°-40°	1888.7	20.7
40°-50°	1562.8	17.1
50°-60°	1035.8	11.3
60°-70°	590.2	6.5
70°-80°	292.6	3.2
80°-90°	118.4	1.3
90°-100°	69.5	0.8
100°-110°	61.9	0.7
110°-120°	46.7	0.5
120°-130°	31.0	0.3
130°-140°	19.0	0.2
140°-150°	10.9	0.1
150°-160°	5.6	0.1
160°-170°	2.4	0.0
170°-180°	0.6	0.0
0°-30°	3394.9	37.2
0°-40°	5283.7	57.9
0°-60°	7882.3	86.3
0°-90°	8883.5	97.3
90°-120°	178.0	1.9
90°-150°	238.9	2.6
90°-180°	247.0	2.7
0°-180°	9130.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4501	4501	4501	4501	4501	
5°	4520	4508	4450	4483	4467	430
15°	4417	4382	4263	4224	4191	1248
25°	4198	4089	3807	3600	3520	1937
35°	3809	3506	2942	2557	2444	2380
45°	3152	2559	1820	1466	1366	2415
55°	2123	1501	935	740	686	1900
65°	1124	753	468	378	358	1128
75°	436	325	234	205	198	482
85°	86	92	108	114	113	99
90°	12	38	73	90	92	11
95°	14	40	74	90	92	11
105°	11	30	67	86	90	11
115°	6	20	52	73	80	6
125°	4	14	37	54	61	3
135°	3	11	25	38	43	2
145°	4	8	17	26	30	2
155°	4	7	12	16	21	2
165°	4	5	8	10	13	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°	4501.4	4501.4	4501.4	4501.4	4501.4
2.5°	4526.8	4516.8	4465.2	4504.1	4492.4
5°	4519.5	4507.8	4449.8	4483.3	4467.0
7.5°	4504.1	4489.7	4424.5	4447.1	4427.2
10°	4479.7	4461.6	4383.7	4388.3	4365.6
12.5°	4453.4	4425.4	4330.3	4317.6	4289.6
15°	4417.2	4381.9	4263.3	4224.4	4190.9
17.5°	4375.6	4326.7	4180.0	4111.2	4067.8
20°	4324.0	4258.8	4076.8	3971.8	3904.8
22.5°	4274.2	4178.2	3953.7	3803.4	3732.8
25°	4198.1	4088.6	3807.0	3599.7	3520.0
27.5°	4123.0	3975.4	3626.8	3372.4	3280.1
30°	4035.2	3841.4	3429.5	3116.2	3002.2
32.5°	3933.8	3694.7	3200.4	2850.1	2728.7
35°	3808.8	3506.4	2941.5	2556.7	2444.5
37.5°	3674.8	3299.1	2674.4	2277.9	2162.0
40°	3519.1	3079.1	2372.0	1988.2	1882.2
42.5°	3346.2	2827.4	2091.4	1715.6	1609.7
45°	3151.5	2559.4	1819.8	1465.8	1366.2
47.5°	2927.9	2285.1	1557.2	1240.3	1157.0
50°	2667.2	2010.8	1311.0	1041.2	979.6
52.5°	2404.6	1752.8	1112.7	882.7	816.6
55°	2123.1	1501.1	935.2	739.7	686.3
57.5°	1850.5	1278.4	781.3	620.2	583.0
60°	1597.9	1079.2	660.9	523.3	493.4
62.5°	1355.3	909.9	553.2	442.7	416.5
65°	1123.5	753.3	468.1	377.5	357.6
67.5°	919.8	629.2	394.7	322.3	306.9
70°	743.3	508.8	332.3	276.1	263.5
72.5°	578.5	408.3	278.8	239.0	228.1
75°	436.4	325.0	234.5	204.6	198.3
77.5°	328.6	252.6	193.7	176.5	172.0
80°	227.2	188.3	160.2	153.0	150.3
82.5°	144.9	134.9	131.3	131.3	131.3
85°	86.0	92.3	107.7	114.1	113.2
87.5°	40.7	60.7	86.9	98.7	100.5
90°	11.8	38.0	73.3	89.6	92.3
92.5°	13.6	38.9	73.3	89.6	92.3
95°	13.6	39.8	74.2	89.6	92.3
97.5°	13.6	38.0	73.3	90.5	93.3
100°	13.6	37.1	72.4	89.6	93.3
102.5°	11.8	34.4	69.7	88.7	92.3
105°	10.9	29.9	67.0	86.0	90.5
107.5°	9.1	27.2	64.3	83.3	88.7
110°	8.1	24.4	60.7	80.6	86.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	7.2	21.7	56.1	77.9	83.3
115°	6.3	19.9	51.6	73.3	79.7
117.5°	5.4	18.1	47.1	68.8	76.0
120°	4.5	16.3	43.5	64.3	70.6
122.5°	4.5	15.4	39.8	58.8	66.1
125°	3.6	13.6	37.1	54.3	60.7
127.5°	3.6	12.7	33.5	49.8	55.2
130°	2.7	12.7	30.8	46.2	51.6
132.5°	2.7	11.8	27.2	41.6	47.1
135°	2.7	10.9	25.3	38.0	42.6
137.5°	2.7	10.9	22.6	35.3	39.8
140°	3.6	10.0	19.9	31.7	36.2
142.5°	3.6	9.1	19.0	29.0	32.6
145°	3.6	8.1	17.2	26.3	29.9
147.5°	3.6	8.1	15.4	23.5	27.2
150°	3.6	7.2	14.5	20.8	24.4
152.5°	3.6	7.2	13.6	18.1	22.6
155°	3.6	7.2	11.8	16.3	20.8
157.5°	3.6	6.3	10.9	14.5	18.1
160°	4.5	6.3	10.0	12.7	16.3
162.5°	4.5	6.3	9.1	11.8	14.5
165°	4.5	5.4	8.1	10.0	12.7
167.5°	4.5	5.4	8.1	9.1	10.9
170°	4.5	5.4	7.2	7.2	8.1
172.5°	4.5	5.4	6.3	7.2	5.4
175°	4.5	5.4	6.3	6.3	5.4
177.5°	4.5	5.4	5.4	6.3	5.4
180°	5.4	5.4	5.4	5.4	5.4



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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	21.96	23.34	22.37	23.71	24.10	17.07	18.46	17.49	18.83	19.22
	3H	23.05	24.29	23.48	24.68	25.11	18.22	19.46	18.64	19.84	20.27
	4H	23.34	24.50	23.79	24.91	25.36	18.72	19.88	19.17	20.29	20.73
	6H	23.49	24.56	23.95	24.98	25.44	19.23	20.30	19.69	20.72	21.18
	8H	23.50	24.52	23.98	24.96	25.43	19.49	20.51	19.97	20.95	21.42
	12H	23.50	24.47	23.97	24.90	25.40	19.79	20.76	20.27	21.20	21.69
4H	2H	21.93	23.09	22.38	23.49	23.94	17.58	18.74	18.02	19.14	19.59
	3H	23.16	24.12	23.62	24.58	25.04	18.90	19.85	19.35	20.31	20.78
	4H	23.54	24.40	24.02	24.87	25.37	19.49	20.35	19.97	20.82	21.33
	6H	23.77	24.51	24.27	25.01	25.53	20.12	20.87	20.63	21.36	21.89
	8H	23.80	24.50	24.31	24.99	25.53	20.45	21.14	20.96	21.64	22.17
	12H	23.81	24.43	24.34	24.96	25.50	20.82	21.44	21.35	21.97	22.51
8H	4H	23.52	24.22	24.03	24.71	25.25	19.74	20.44	20.25	20.93	21.46
	6H	23.79	24.37	24.34	24.91	25.45	20.47	21.05	21.01	21.59	22.13
	8H	23.86	24.37	24.42	24.93	25.49	20.88	21.40	21.44	21.95	22.51
	12H	23.90	24.35	24.45	24.90	25.52	21.37	21.83	21.93	22.37	23.00
12H	4H	23.50	24.12	24.03	24.65	25.18	19.75	20.37	20.28	20.90	21.44
	6H	23.77	24.29	24.33	24.85	25.40	20.51	21.02	21.07	21.58	22.14
	8H	23.87	24.33	24.42	24.87	25.49	20.97	21.43	21.53	21.97	22.60