

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: P893998

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

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893998  
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-L935  
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS, 90CRI, 3500K (C)  
Light Source: -  
Ballast/Driver: -

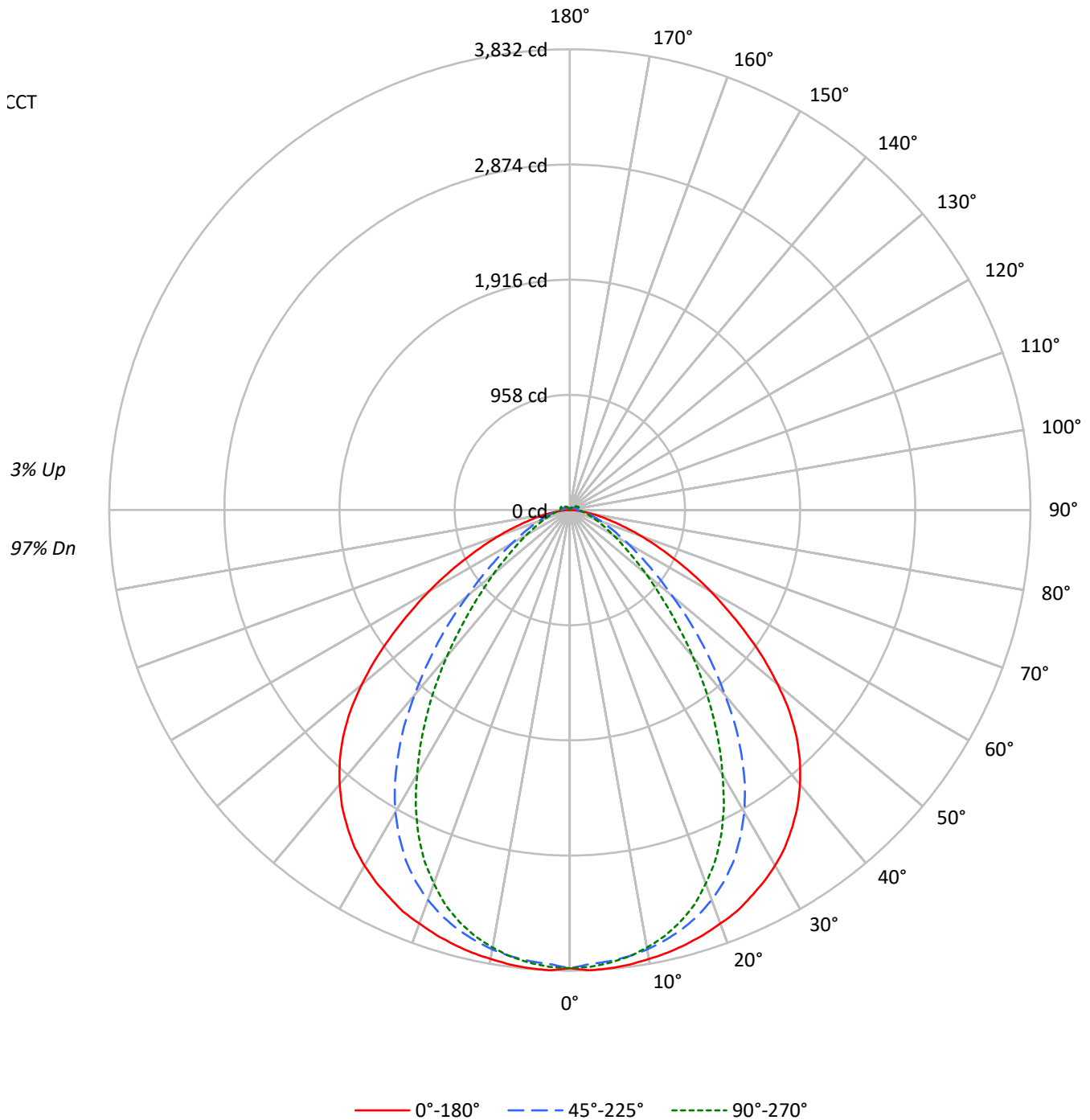
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7730.0 lumens  
Efficiency: N/A  
Efficacy: 120.0 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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CATALOG NUMBER: 4MB-9HL-ACL-UNV-L935

### 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°	38810	38810	38810
5°	39043	37731	37627
10°	39074	36841	36217
15°	39207	35785	34508
20°	39372	34439	32156
25°	39550	32618	29213
30°	39691	30039	25306
35°	39509	26560	21096
40°	38923	22275	16771
45°	37638	17943	12681
50°	34903	13717	9565
55°	30986	10507	7125
60°	26590	8084	5513
65°	21937	6336	4361
70°	17716	5077	3567
75°	13482	4148	3044
80°	10086	3399	2685
85°	6864	2877	2442

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 37638 cd/sqm



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 CATALOG NUMBER: 4MB-9HL-ACL-UNV-L935

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	360.5	4.7
10°-20°	1023.6	13.2
20°-30°	1490.0	19.3
30°-40°	1599.0	20.7
40°-50°	1323.0	17.1
50°-60°	876.9	11.3
60°-70°	499.6	6.5
70°-80°	247.7	3.2
80°-90°	100.2	1.3
90°-100°	58.9	0.8
100°-110°	52.4	0.7
110°-120°	39.5	0.5
120°-130°	26.2	0.3
130°-140°	16.1	0.2
140°-150°	9.2	0.1
150°-160°	4.7	0.1
160°-170°	2.0	0.0
170°-180°	0.5	0.0
0°-30°	2874.0	37.2
0°-40°	4473.0	57.9
0°-60°	6672.9	86.3
0°-90°	7520.5	97.3
90°-120°	150.7	2.0
90°-150°	202.3	2.6
90°-180°	210.0	2.7
0°-180°	7730.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3811	3811	3811	3811	3811	
5°	3826	3816	3767	3795	3782	364
15°	3740	3710	3609	3576	3548	1057
25°	3554	3461	3223	3047	2980	1640
35°	3224	2968	2490	2164	2069	2015
45°	2668	2167	1540	1241	1157	2044
55°	1797	1271	792	626	581	1608
65°	951	638	396	320	303	955
75°	369	275	198	173	168	408
85°	73	78	91	97	96	84
90°	10	32	62	76	78	9
95°	12	34	63	76	78	9
105°	9	25	57	73	77	10
115°	5	17	44	62	67	5
125°	3	12	31	46	51	3
135°	2	9	22	32	36	2
145°	3	7	15	22	25	2
155°	3	6	10	14	18	1
165°	4	5	7	8	11	1
175°	4	5	5	5	5	0
180°	5	5	5	5	5	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3810.8	3810.8	3810.8	3810.8	3810.8
2.5°	3832.2	3823.8	3780.1	3813.1	3803.1
5°	3826.1	3816.1	3767.1	3795.4	3781.6
7.5°	3813.1	3800.8	3745.6	3764.8	3747.9
10°	3792.4	3777.0	3711.1	3714.9	3695.8
12.5°	3770.1	3746.4	3665.9	3655.2	3631.4
15°	3739.5	3709.6	3609.2	3576.2	3547.9
17.5°	3704.2	3662.8	3538.7	3480.4	3443.6
20°	3660.5	3605.3	3451.3	3362.4	3305.7
22.5°	3618.4	3537.1	3347.1	3219.8	3160.0
25°	3554.0	3461.3	3222.9	3047.4	2979.9
27.5°	3490.4	3365.4	3070.4	2855.0	2776.8
30°	3416.0	3252.0	2903.3	2638.1	2541.5
32.5°	3330.2	3127.9	2709.4	2412.8	2310.1
35°	3224.4	2968.4	2490.2	2164.4	2069.4
37.5°	3111.0	2792.9	2264.1	1928.4	1830.3
40°	2979.2	2606.7	2008.1	1683.1	1593.4
42.5°	2832.8	2393.6	1770.5	1452.4	1362.7
45°	2668.0	2166.7	1540.5	1240.9	1156.6
47.5°	2478.7	1934.5	1318.3	1050.0	979.5
50°	2257.9	1702.3	1109.8	881.4	829.3
52.5°	2035.7	1483.8	942.0	747.3	691.3
55°	1797.3	1270.8	791.7	626.2	581.0
57.5°	1566.6	1082.2	661.4	525.0	493.6
60°	1352.8	913.6	559.5	443.0	417.7
62.5°	1147.4	770.3	468.3	374.8	352.6
65°	951.2	637.7	396.3	319.6	302.7
67.5°	778.7	532.7	334.2	272.9	259.8
70°	629.2	430.7	281.3	233.8	223.0
72.5°	489.8	345.7	236.1	202.3	193.1
75°	369.4	275.2	198.5	173.2	167.9
77.5°	278.2	213.8	164.0	149.5	145.6
80°	192.4	159.4	135.7	129.5	127.2
82.5°	122.6	114.2	111.1	111.1	111.1
85°	72.8	78.2	91.2	96.6	95.8
87.5°	34.5	51.4	73.6	83.5	85.1
90°	10.0	32.2	62.1	75.9	78.2
92.5°	11.5	33.0	62.1	75.9	78.2
95°	11.5	33.7	62.8	75.9	78.2
97.5°	11.5	32.2	62.1	76.6	78.9
100°	11.5	31.4	61.3	75.9	78.9
102.5°	10.0	29.1	59.0	75.1	78.2
105°	9.2	25.3	56.7	72.8	76.6
107.5°	7.7	23.0	54.4	70.5	75.1
110°	6.9	20.7	51.4	68.2	73.6



TEST NUMBER: P893998

CATALOG NUMBER: 4MB-9HL-ACL-UNV-L935

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	6.1	18.4	47.5	65.9	70.5
115°	5.4	16.9	43.7	62.1	67.4
117.5°	4.6	15.3	39.9	58.2	64.4
120°	3.8	13.8	36.8	54.4	59.8
122.5°	3.8	13.0	33.7	49.8	56.0
125°	3.1	11.5	31.4	46.0	51.4
127.5°	3.1	10.7	28.4	42.2	46.8
130°	2.3	10.7	26.1	39.1	43.7
132.5°	2.3	10.0	23.0	35.3	39.9
135°	2.3	9.2	21.5	32.2	36.0
137.5°	2.3	9.2	19.2	29.9	33.7
140°	3.1	8.4	16.9	26.8	30.7
142.5°	3.1	7.7	16.1	24.5	27.6
145°	3.1	6.9	14.6	22.2	25.3
147.5°	3.1	6.9	13.0	19.9	23.0
150°	3.1	6.1	12.3	17.6	20.7
152.5°	3.1	6.1	11.5	15.3	19.2
155°	3.1	6.1	10.0	13.8	17.6
157.5°	3.1	5.4	9.2	12.3	15.3
160°	3.8	5.4	8.4	10.7	13.8
162.5°	3.8	5.4	7.7	10.0	12.3
165°	3.8	4.6	6.9	8.4	10.7
167.5°	3.8	4.6	6.9	7.7	9.2
170°	3.8	4.6	6.1	6.1	6.9
172.5°	3.8	4.6	5.4	6.1	4.6
175°	3.8	4.6	5.4	5.4	4.6
177.5°	3.8	4.6	4.6	5.4	4.6
180°	4.6	4.6	4.6	4.6	4.6



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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	21.38	22.76	21.79	23.14	23.52	16.50	17.88	16.91	18.25	18.64
	3H	22.47	23.71	22.90	24.10	24.53	17.64	18.88	18.06	19.26	19.70
	4H	22.77	23.92	23.21	24.33	24.78	18.14	19.30	18.59	19.71	20.16
	6H	22.91	23.98	23.37	24.40	24.86	18.65	19.72	19.11	20.14	20.60
	8H	22.93	23.94	23.40	24.39	24.85	18.92	19.93	19.39	20.38	20.84
	12H	22.92	23.89	23.39	24.32	24.82	19.21	20.18	19.69	20.62	21.11
4H	2H	21.35	22.51	21.80	22.91	23.36	17.00	18.16	17.45	18.56	19.01
	3H	22.59	23.54	23.04	24.00	24.47	18.32	19.27	18.78	19.73	20.20
	4H	22.96	23.82	23.44	24.29	24.79	18.91	19.77	19.39	20.24	20.75
	6H	23.19	23.93	23.69	24.43	24.95	19.54	20.29	20.05	20.78	21.31
	8H	23.22	23.92	23.73	24.41	24.95	19.87	20.56	20.38	21.06	21.59
	12H	23.23	23.85	23.76	24.38	24.92	20.24	20.86	20.77	21.39	21.93
8H	4H	22.94	23.64	23.45	24.13	24.67	19.16	19.86	19.67	20.35	20.88
	6H	23.21	23.79	23.76	24.33	24.87	19.89	20.47	20.43	21.01	21.55
	8H	23.28	23.80	23.84	24.35	24.91	20.30	20.82	20.86	21.37	21.93
	12H	23.32	23.78	23.87	24.32	24.94	20.79	21.25	21.35	21.79	22.42
12H	4H	22.92	23.54	23.45	24.07	24.60	19.17	19.80	19.70	20.32	20.86
	6H	23.19	23.71	23.75	24.27	24.82	19.93	20.45	20.49	21.00	21.56
	8H	23.29	23.75	23.84	24.29	24.92	20.39	20.85	20.95	21.39	22.02