

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: P893149

Luminaire Tested: 4MB-10HL-ACL-UNV-L930

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893149  
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-10HL-ACL-UNV-L930  
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS, 90CRI, 3000K  
Light Source: -  
Ballast/Driver: -

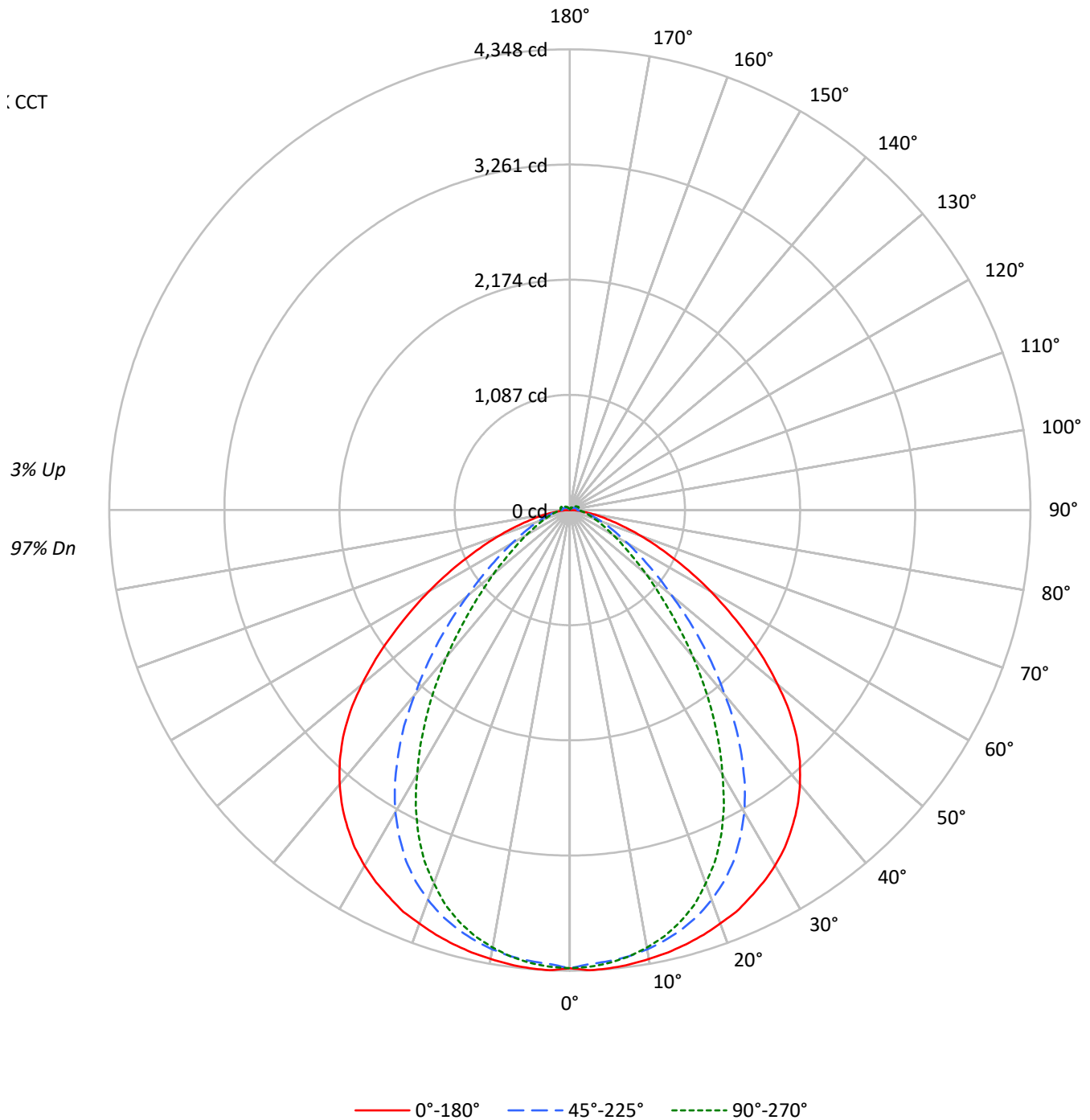
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8770.0 lumens  
Efficiency: N/A  
Efficacy: 116.2 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): 75.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.997  
Total Harmonic Distortion (THDi): 7.45  
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°	44031	44031	44031
5°	44295	42807	42690
10°	44331	41798	41089
15°	44482	40600	39150
20°	44669	39072	36482
25°	44872	37006	33144
30°	45032	34081	28711
35°	44824	30133	23934
40°	44160	25271	19027
45°	42701	20357	14387
50°	39599	15562	10852
55°	35154	11922	8083
60°	30168	9172	6255
65°	24887	7188	4949
70°	20101	5759	4047
75°	15296	4706	3452
80°	11444	3855	3046
85°	7788	3265	2771

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 42701 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	409.0	4.7
10°-20°	1161.3	13.2
20°-30°	1690.4	19.3
30°-40°	1814.1	20.7
40°-50°	1501.0	17.1
50°-60°	994.9	11.3
60°-70°	566.8	6.5
70°-80°	281.1	3.2
80°-90°	113.7	1.3
90°-100°	66.8	0.8
100°-110°	59.4	0.7
110°-120°	44.8	0.5
120°-130°	29.8	0.3
130°-140°	18.3	0.2
140°-150°	10.4	0.1
150°-160°	5.3	0.1
160°-170°	2.3	0.0
170°-180°	0.5	0.0
0°-30°	3260.7	37.2
0°-40°	5074.8	57.9
0°-60°	7570.7	86.3
0°-90°	8532.3	97.3
90°-120°	171.0	2.0
90°-150°	229.5	2.6
90°-180°	238.0	2.7
0°-180°	8770.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4324	4324	4324	4324	4324	
5°	4341	4330	4274	4306	4290	413
15°	4243	4209	4095	4057	4025	1199
25°	4032	3927	3656	3457	3381	1861
35°	3658	3368	2825	2456	2348	2286
45°	3027	2458	1748	1408	1312	2319
55°	2039	1442	898	710	659	1824
65°	1079	724	450	363	344	1084
75°	419	312	225	196	190	463
85°	83	89	104	110	109	95
90°	11	36	70	86	89	10
95°	13	38	71	86	89	11
105°	10	29	64	83	87	11
115°	6	19	50	70	76	6
125°	4	13	36	52	58	3
135°	3	10	24	36	41	2
145°	4	8	16	25	29	2
155°	4	7	11	16	20	2
165°	4	5	8	10	12	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°	4323.5	4323.5	4323.5	4323.5	4323.5
2.5°	4347.8	4338.2	4288.7	4326.1	4314.8
5°	4340.8	4329.5	4273.9	4306.1	4290.4
7.5°	4326.1	4312.1	4249.5	4271.3	4252.1
10°	4302.6	4285.2	4210.4	4214.8	4193.0
12.5°	4277.4	4250.4	4159.1	4146.9	4120.0
15°	4242.6	4208.7	4094.8	4057.4	4025.2
17.5°	4202.6	4155.6	4014.8	3948.7	3906.9
20°	4153.0	4090.4	3915.6	3814.8	3750.4
22.5°	4105.2	4013.0	3797.4	3653.0	3585.2
25°	4032.2	3926.9	3656.5	3457.4	3380.9
27.5°	3960.0	3818.2	3483.5	3239.1	3150.4
30°	3875.6	3689.5	3293.9	2993.0	2883.5
32.5°	3778.2	3548.7	3073.9	2737.4	2620.9
35°	3658.2	3367.8	2825.2	2455.6	2347.8
37.5°	3529.5	3168.7	2568.7	2187.8	2076.5
40°	3380.0	2957.4	2278.2	1909.6	1807.8
42.5°	3213.9	2715.6	2008.7	1647.8	1546.1
45°	3026.9	2458.2	1747.8	1407.8	1312.2
47.5°	2812.2	2194.8	1495.6	1191.3	1111.3
50°	2561.7	1931.3	1259.1	1000.0	940.9
52.5°	2309.6	1683.5	1068.7	847.8	784.3
55°	2039.1	1441.7	898.3	710.4	659.1
57.5°	1777.4	1227.8	750.4	595.6	560.0
60°	1534.8	1036.5	634.8	502.6	473.9
62.5°	1301.7	873.9	531.3	425.2	400.0
65°	1079.1	723.5	449.6	362.6	343.5
67.5°	883.5	604.3	379.1	309.6	294.8
70°	713.9	488.7	319.1	265.2	253.0
72.5°	555.6	392.2	267.8	229.6	219.1
75°	419.1	312.2	225.2	196.5	190.4
77.5°	315.7	242.6	186.1	169.6	165.2
80°	218.3	180.9	153.9	147.0	144.3
82.5°	139.1	129.6	126.1	126.1	126.1
85°	82.6	88.7	103.5	109.6	108.7
87.5°	39.1	58.3	83.5	94.8	96.5
90°	11.3	36.5	70.4	86.1	88.7
92.5°	13.0	37.4	70.4	86.1	88.7
95°	13.0	38.3	71.3	86.1	88.7
97.5°	13.0	36.5	70.4	87.0	89.6
100°	13.0	35.7	69.6	86.1	89.6
102.5°	11.3	33.0	67.0	85.2	88.7
105°	10.4	28.7	64.3	82.6	87.0
107.5°	8.7	26.1	61.7	80.0	85.2
110°	7.8	23.5	58.3	77.4	83.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	7.0	20.9	53.9	74.8	80.0
115°	6.1	19.1	49.6	70.4	76.5
117.5°	5.2	17.4	45.2	66.1	73.0
120°	4.3	15.7	41.7	61.7	67.8
122.5°	4.3	14.8	38.3	56.5	63.5
125°	3.5	13.0	35.7	52.2	58.3
127.5°	3.5	12.2	32.2	47.8	53.0
130°	2.6	12.2	29.6	44.3	49.6
132.5°	2.6	11.3	26.1	40.0	45.2
135°	2.6	10.4	24.3	36.5	40.9
137.5°	2.6	10.4	21.7	33.9	38.3
140°	3.5	9.6	19.1	30.4	34.8
142.5°	3.5	8.7	18.3	27.8	31.3
145°	3.5	7.8	16.5	25.2	28.7
147.5°	3.5	7.8	14.8	22.6	26.1
150°	3.5	7.0	13.9	20.0	23.5
152.5°	3.5	7.0	13.0	17.4	21.7
155°	3.5	7.0	11.3	15.7	20.0
157.5°	3.5	6.1	10.4	13.9	17.4
160°	4.3	6.1	9.6	12.2	15.7
162.5°	4.3	6.1	8.7	11.3	13.9
165°	4.3	5.2	7.8	9.6	12.2
167.5°	4.3	5.2	7.8	8.7	10.4
170°	4.3	5.2	7.0	7.0	7.8
172.5°	4.3	5.2	6.1	7.0	5.2
175°	4.3	5.2	6.1	6.1	5.2
177.5°	4.3	5.2	5.2	6.1	5.2
180°	5.2	5.2	5.2	5.2	5.2



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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	21.81	23.20	22.23	23.57	23.96	16.93	18.32	17.35	18.69	19.08
	3H	22.91	24.15	23.34	24.54	24.97	18.08	19.32	18.50	19.70	20.13
	4H	23.20	24.36	23.65	24.77	25.22	18.58	19.74	19.03	20.15	20.59
	6H	23.35	24.42	23.81	24.84	25.30	19.09	20.16	19.55	20.58	21.04
	8H	23.36	24.38	23.84	24.82	25.29	19.35	20.37	19.83	20.81	21.28
	12H	23.36	24.33	23.83	24.76	25.26	19.65	20.62	20.13	21.06	21.55
4H	2H	21.79	22.95	22.24	23.35	23.80	17.44	18.59	17.88	19.00	19.45
	3H	23.02	23.98	23.48	24.44	24.90	18.76	19.71	19.21	20.17	20.64
	4H	23.40	24.26	23.88	24.73	25.23	19.35	20.21	19.83	20.68	21.19
	6H	23.63	24.37	24.13	24.87	25.39	19.98	20.73	20.49	21.22	21.75
	8H	23.66	24.36	24.17	24.85	25.39	20.31	21.00	20.82	21.50	22.03
	12H	23.67	24.29	24.20	24.82	25.36	20.68	21.30	21.21	21.83	22.37
8H	4H	23.38	24.08	23.89	24.57	25.11	19.60	20.29	20.11	20.79	21.32
	6H	23.65	24.23	24.20	24.77	25.31	20.33	20.91	20.87	21.45	21.99
	8H	23.72	24.23	24.28	24.79	25.35	20.74	21.26	21.30	21.81	22.37
	12H	23.76	24.21	24.31	24.76	25.38	21.23	21.69	21.79	22.23	22.86
12H	4H	23.36	23.98	23.89	24.51	25.04	19.61	20.23	20.14	20.76	21.30
	6H	23.63	24.15	24.19	24.71	25.26	20.37	20.88	20.93	21.44	22.00
	8H	23.73	24.19	24.28	24.73	25.35	20.83	21.29	21.38	21.83	22.46