

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: P893796

Luminaire Tested: 4MB-7HL-A-UNV-L850

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893796  
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-7HL-A-UNV-L850  
Description: 7000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTIC, 80CRI, 5000K CCT  
Light Source: -  
Ballast/Driver: -

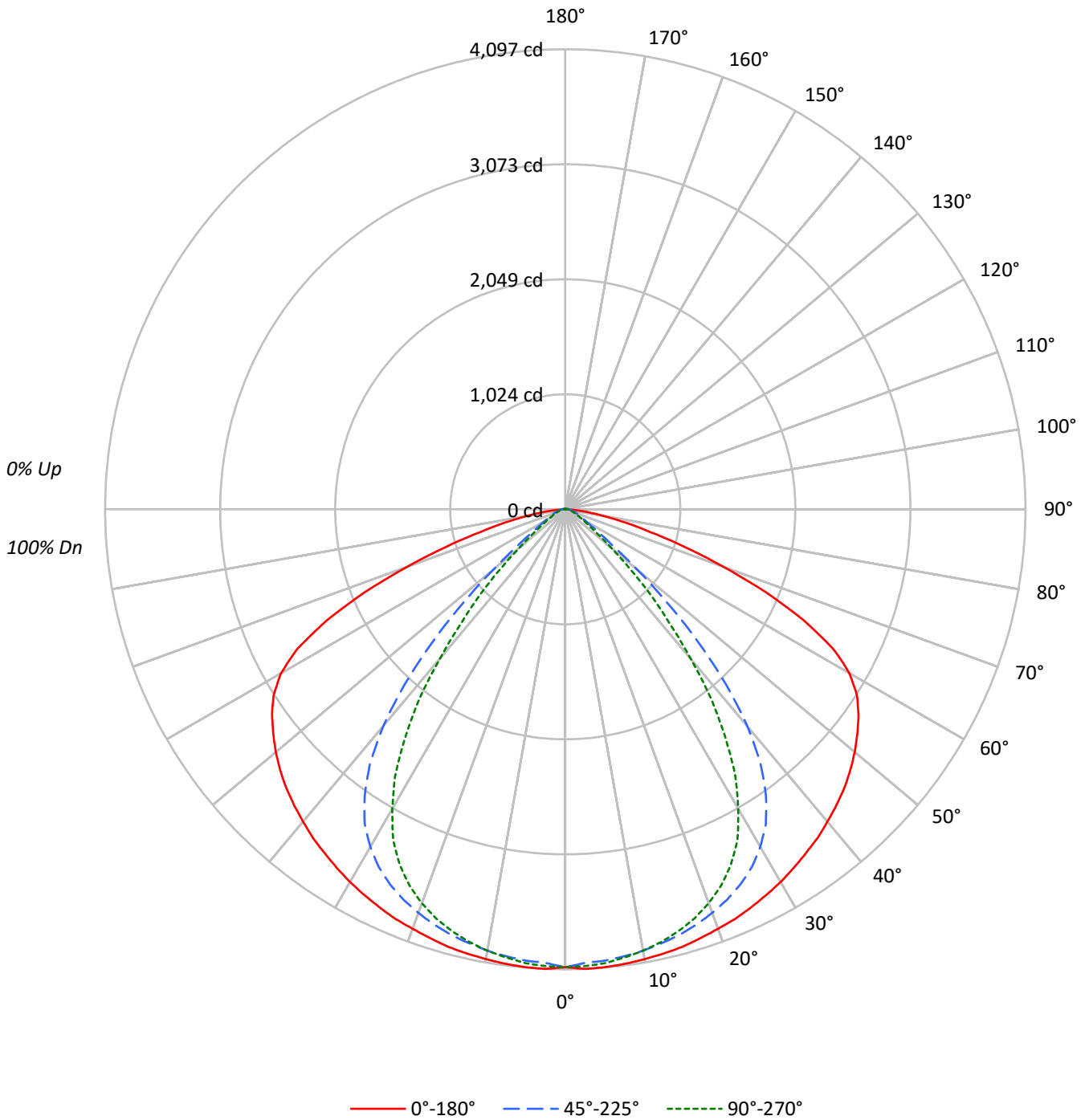
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8255.0 lumens  
Efficiency: N/A  
Efficacy: 159.4 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): 51.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.99  
Total Harmonic Distortion (THDi): 4  
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	91	90	88				88
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77				77
3	95	86	80	74	93	85	79	74	82	77	72	79	75	71	77	73	70	68				68
4	88	78	71	65	86	77	70	64	74	68	64	72	67	63	70	66	62	60				60
5	82	71	63	57	80	70	63	57	68	61	56	66	60	56	64	59	55	53				53
6	76	65	57	51	75	64	56	51	62	55	50	60	55	50	59	54	50	48				48
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45	43				43
8	67	55	47	42	65	54	47	41	53	46	41	51	45	41	50	45	41	39				39
9	63	50	43	38	61	50	43	38	49	42	38	48	42	37	47	41	37	35				35
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	43	38	34	32				32

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

	0°	45°	90°
0°	41517	41517	41517
5°	41841	41242	41478
10°	42062	41273	41280
15°	42527	41373	41015
20°	43088	41450	40456
25°	43965	41435	39211
30°	45076	40817	36222
35°	46458	38716	30917
40°	48275	33533	23123
45°	50578	24129	15395
50°	53295	13223	8437
55°	56593	6499	4858
60°	59521	4286	3359
65°	56490	3509	2656
70°	44471	3189	2457
75°	30838	3152	2333
80°	20292	3161	2891
85°	11615	4861	4954

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 60°  
 Luminance: 59521 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	386.6	4.7
10°-20°	1115.8	13.5
20°-30°	1700.0	20.6
30°-40°	1930.6	23.4
40°-50°	1550.2	18.8
50°-60°	831.6	10.1
60°-70°	439.8	5.3
70°-80°	199.4	2.4
80°-90°	63.5	0.8
90°-100°	19.6	0.2
100°-110°	7.1	0.1
110°-120°	2.2	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°	1.3	0.0
170°-180°	0.5	0.0
0°-30°	3202.4	38.8
0°-40°	5133.0	62.2
0°-60°	7514.8	91.0
0°-90°	8217.5	99.5
90°-120°	28.9	0.3
90°-150°	34.0	0.4
90°-180°	37.0	0.4
0°-180°	8255.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4077	4077	4077	4077	4077	
5°	4093	4084	4034	4068	4057	390
15°	4034	4008	3924	3913	3890	1140
25°	3912	3850	3687	3559	3489	1808
35°	3737	3578	3114	2662	2487	2345
45°	3512	2972	1675	1165	1069	2712
55°	3187	1189	366	286	274	2842
65°	2344	277	146	118	110	2267
75°	784	158	80	63	59	887
85°	99	59	42	42	42	136
90°	4	27	30	35	33	6
95°	4	11	24	21	20	3
105°	2	2	5	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	5	4	1
165°	3	4	5	5	5	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°	4076.6	4076.6	4076.6	4076.6	4076.6
2.5°	4097.4	4089.7	4043.5	4082.0	4072.0
5°	4092.8	4084.3	4034.2	4068.1	4057.3
7.5°	4082.8	4072.0	4015.7	4043.5	4026.5
10°	4067.4	4056.6	3991.1	4010.3	3991.8
12.5°	4052.0	4033.5	3958.7	3964.9	3947.1
15°	4033.5	4008.0	3924.0	3913.2	3890.1
17.5°	4004.9	3976.4	3878.6	3853.1	3820.8
20°	3975.7	3937.1	3824.6	3773.0	3732.9
22.5°	3948.7	3895.5	3763.0	3680.5	3626.6
25°	3912.5	3850.0	3687.4	3558.8	3489.4
27.5°	3873.2	3796.9	3594.2	3401.5	3319.1
30°	3833.1	3732.9	3470.9	3204.3	3080.2
32.5°	3786.1	3662.8	3322.9	2965.4	2819.0
35°	3736.8	3578.0	3114.1	2662.5	2486.8
37.5°	3689.8	3480.1	2856.7	2294.9	2139.3
40°	3631.2	3366.1	2522.3	1900.4	1739.3
42.5°	3573.4	3190.4	2121.5	1522.0	1367.9
45°	3511.7	2971.5	1675.3	1165.2	1068.9
47.5°	3441.6	2671.8	1226.1	848.5	765.2
50°	3363.8	2240.2	834.6	578.0	532.5
52.5°	3278.2	1735.5	542.5	398.4	372.2
55°	3187.3	1189.1	366.0	285.9	273.6
57.5°	3077.9	745.2	271.3	215.0	208.1
60°	2922.2	483.2	210.4	173.4	164.9
62.5°	2687.9	346.0	176.5	141.8	134.9
65°	2344.2	276.7	145.6	117.9	110.2
67.5°	1932.7	236.6	124.8	101.0	95.6
70°	1493.5	208.1	107.1	87.9	82.5
72.5°	1114.3	181.9	92.5	76.3	69.4
75°	783.7	158.0	80.1	63.2	59.3
77.5°	551.0	136.4	66.3	53.9	53.2
80°	346.0	113.3	53.9	50.1	49.3
82.5°	210.4	89.4	47.0	46.2	45.5
85°	99.4	59.3	41.6	41.6	42.4
87.5°	32.4	39.3	35.4	37.0	37.0
90°	3.9	27.0	30.1	34.7	33.1
92.5°	3.9	19.3	27.7	27.7	22.3
95°	3.9	10.8	23.9	20.8	20.0
97.5°	3.9	5.4	17.7	20.0	19.3
100°	3.9	3.1	13.1	17.7	19.3
102.5°	3.1	2.3	8.5	14.6	16.2
105°	2.3	1.5	4.6	10.8	13.1
107.5°	1.5	1.5	3.1	7.7	9.2
110°	1.5	0.8	2.3	5.4	6.2



TEST NUMBER: P893796

CATALOG NUMBER: 4MB-7HL-A-UNV-L850

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.5	0.8	2.3	3.9	3.9
115°	1.5	1.5	1.5	3.1	3.1
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	3.1	2.3
140°	2.3	2.3	3.1	3.1	2.3
142.5°	2.3	2.3	3.1	3.1	3.1
145°	2.3	2.3	3.1	3.1	3.1
147.5°	2.3	2.3	3.1	3.9	3.1
150°	2.3	3.1	3.9	3.9	3.1
152.5°	2.3	3.1	3.9	3.9	3.9
155°	3.1	3.1	3.9	4.6	3.9
157.5°	3.1	3.1	3.9	4.6	3.9
160°	3.1	3.1	4.6	4.6	4.6
162.5°	3.1	3.9	4.6	5.4	4.6
165°	3.1	3.9	4.6	5.4	4.6
167.5°	3.1	3.9	4.6	5.4	5.4
170°	3.1	3.9	5.4	5.4	5.4
172.5°	3.9	3.9	5.4	6.2	5.4
175°	3.9	3.9	5.4	6.2	5.4
177.5°	3.9	3.9	5.4	6.2	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	22.61	24.00	22.99	24.32	24.65	10.82	12.21	11.20	12.53	12.86
	3H	25.51	26.74	25.90	27.08	27.46	11.78	13.02	12.17	13.35	13.73
	4H	26.29	27.44	26.70	27.80	28.20	12.20	13.35	12.61	13.71	14.11
	6H	26.73	27.79	27.15	28.17	28.57	12.68	13.74	13.10	14.12	14.52
	8H	26.83	27.84	27.27	28.24	28.65	12.99	13.99	13.43	14.39	14.81
	12H	26.87	27.83	27.31	28.22	28.66	13.39	14.36	13.83	14.75	15.19
4H	2H	22.42	23.58	22.83	23.94	24.33	11.34	12.49	11.75	12.85	13.24
	3H	25.34	26.28	25.76	26.70	27.11	12.55	13.49	12.97	13.91	14.32
	4H	26.14	26.98	26.58	27.41	27.86	13.09	13.93	13.53	14.36	14.81
	6H	26.66	27.39	27.13	27.85	28.32	13.72	14.45	14.19	14.91	15.38
	8H	26.81	27.49	27.28	27.94	28.42	14.12	14.81	14.60	15.26	15.74
	12H	26.89	27.49	27.38	27.98	28.47	14.65	15.26	15.15	15.75	16.23
8H	4H	26.02	26.71	26.50	27.16	27.64	13.65	14.33	14.13	14.79	15.27
	6H	26.55	27.11	27.06	27.62	28.11	14.42	14.98	14.93	15.49	15.98
	8H	26.72	27.22	27.25	27.75	28.25	14.94	15.45	15.47	15.97	16.47
	12H	26.84	27.29	27.36	27.79	28.37	15.65	16.09	16.17	16.60	17.18
12H	4H	25.98	26.59	26.48	27.08	27.56	13.90	14.50	14.39	14.99	15.48
	6H	26.50	27.00	27.03	27.53	28.03	14.70	15.20	15.22	15.72	16.22
	8H	26.69	27.14	27.21	27.64	28.22	15.29	15.74	15.81	16.24	16.82