

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: P893252

Luminaire Tested: 4MB-2SL-AOL-UNV-L850

Issue Date: 11/11/2024

**Test Information**

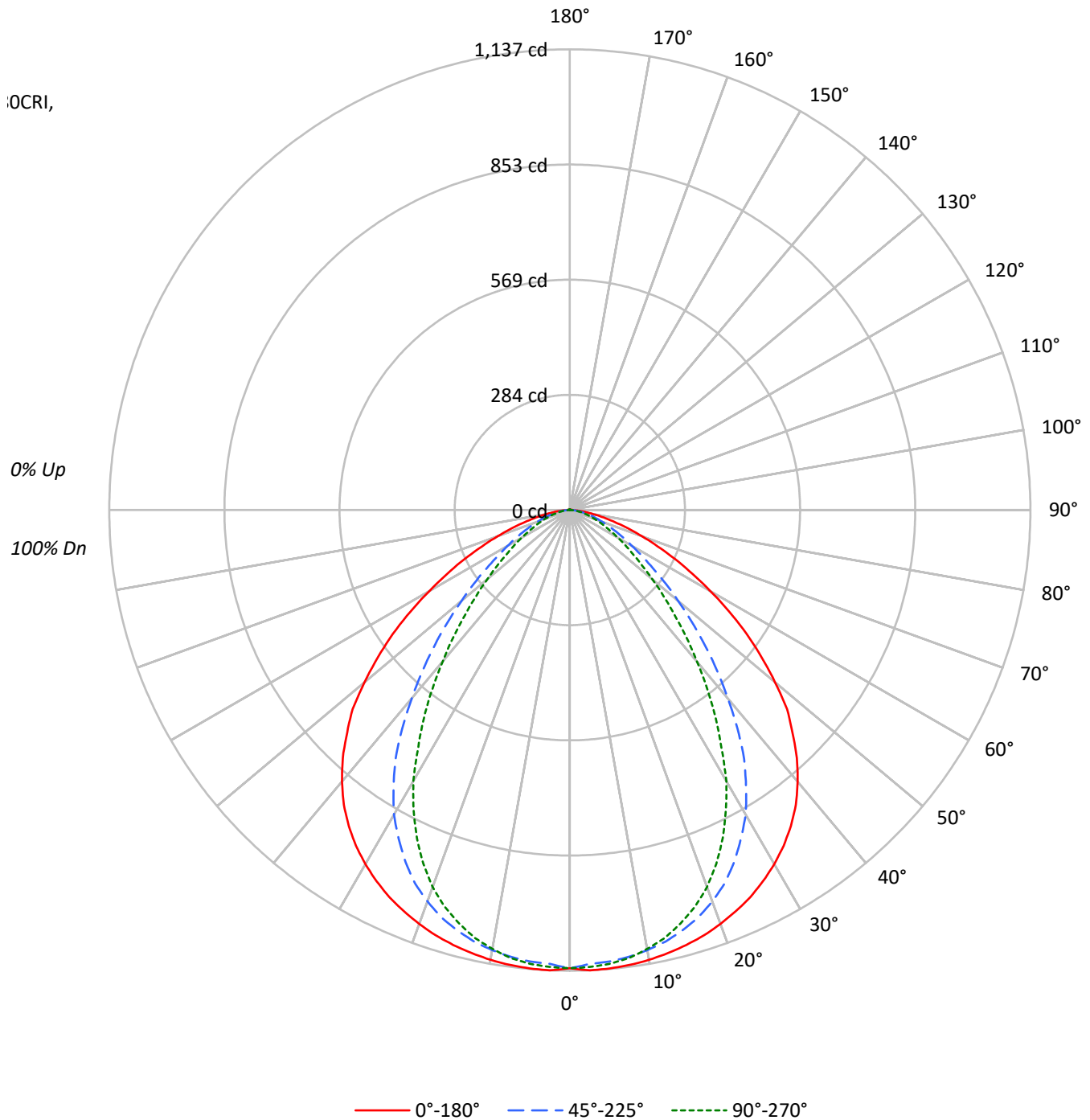
Test Method: LM-79-2019  
Report Number: P893252  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-2SL-AOL-UNV-L850  
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 8  
5000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2258.9 lumens  
Efficiency: N/A  
Efficacy: 163.7 lumens/watt  
Spacing Criteria (0/90/45): 1.32 / 1.06 / 1.16  
Luminous Opening: Rectangular (W 0.27' x L: 3.98' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 13.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.996  
Total Harmonic Distortion (THDi): 5.92  
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	102	102	102	100
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	89	89	89	87
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	78	78	78	76
3	94	85	78	73	92	84	77	72	81	75	71	78	73	70	76	72	68	68	68	68	66
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	60	60	60	58
5	81	70	62	56	79	69	61	55	67	60	55	65	59	54	63	58	54	54	54	54	52
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	48	48	48	46
7	70	58	50	45	69	57	50	44	56	49	44	54	48	44	53	48	43	43	43	43	42
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	39	39	39	38
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	36	36	36	34
10	58	46	38	34	57	45	38	33	44	38	33	43	37	33	43	37	33	33	33	33	31

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

	0°	45°	90°
0°	11517	11517	11517
5°	11610	11435	11495
10°	11658	11406	11375
15°	11718	11325	11136
20°	11782	11141	10731
25°	11847	10779	10036
30°	11868	10212	9087
35°	11830	9328	7816
40°	11631	8074	6494
45°	11199	6784	5256
50°	10481	5525	4210
55°	9469	4441	3375
60°	8168	3613	2795
65°	6911	3010	2299
70°	5640	2561	1950
75°	4517	2156	1661
80°	3519	1847	1425
85°	2734	1624	1285

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11199 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	107.1	4.7
10°-20°	304.7	13.5
20°-30°	444.2	19.7
30°-40°	478.8	21.2
40°-50°	401.4	17.8
50°-60°	271.7	12.0
60°-70°	154.9	6.9
70°-80°	70.9	3.1
80°-90°	18.6	0.8
90°-100°	2.3	0.1
100°-110°	1.5	0.1
110°-120°	0.8	0.0
120°-130°	0.5	0.0
130°-140°	0.4	0.0
140°-150°	0.4	0.0
150°-160°	0.3	0.0
160°-170°	0.3	0.0
170°-180°	0.1	0.0
0°-30°	856.0	37.9
0°-40°	1334.8	59.1
0°-60°	2007.9	88.9
0°-90°	2252.2	99.7
90°-120°	4.6	0.2
90°-150°	5.9	0.3
90°-180°	7.0	0.3
0°-180°	2258.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1131	1131	1131	1131	1131	
5°	1136	1132	1118	1128	1124	108
15°	1111	1102	1074	1067	1056	314
25°	1054	1026	959	915	893	486
35°	952	880	750	658	629	594
45°	778	649	471	388	365	599
55°	533	390	250	203	190	475
65°	287	200	125	101	95	286
75°	115	84	55	45	42	125
85°	23	20	14	12	11	27
90°	3	3	2	2	1	3
95°	5	3	2	1	1	4
105°	3	2	1	1	0	4
115°	2	1	1	0	0	2
125°	1	1	1	0	0	1
135°	0	1	1	1	0	0
145°	1	1	1	1	1	0
155°	1	1	1	1	1	0
165°	1	1	1	1	1	0
175°	1	1	1	1	1	0
180°	1	1	1	1	1	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1130.9	1130.9	1130.9	1130.9	1130.9
2.5°	1137.3	1134.4	1121.4	1132.2	1128.9
5°	1135.7	1132.2	1118.5	1127.6	1124.4
7.5°	1132.5	1127.9	1112.7	1119.5	1115.3
10°	1127.3	1121.8	1103.0	1106.9	1100.0
12.5°	1120.2	1113.3	1091.0	1090.0	1081.9
15°	1111.4	1101.7	1074.1	1066.9	1056.2
17.5°	1100.7	1088.4	1054.0	1039.7	1026.7
20°	1087.1	1071.2	1028.0	1005.3	990.1
22.5°	1071.5	1050.1	997.9	961.5	945.0
25°	1054.3	1026.4	959.2	915.1	893.1
27.5°	1032.9	997.9	914.5	857.4	834.7
30°	1009.2	964.8	868.4	795.4	772.7
32.5°	982.3	926.8	809.7	728.6	696.8
35°	951.5	879.8	750.3	658.5	628.7
37.5°	916.8	830.8	679.3	587.8	557.6
40°	874.9	772.7	607.3	516.8	488.5
42.5°	829.8	713.7	538.2	449.3	425.0
45°	777.6	648.8	471.0	388.3	364.9
47.5°	727.3	583.3	408.1	332.5	313.4
50°	661.5	513.5	348.7	281.6	265.7
52.5°	597.2	449.0	298.1	240.7	225.8
55°	533.3	390.3	250.1	202.7	190.1
57.5°	465.8	332.8	210.5	171.6	163.2
60°	401.0	283.2	177.4	144.0	137.2
62.5°	341.6	237.5	150.2	121.6	115.2
65°	286.8	199.5	124.9	101.2	95.4
67.5°	234.9	164.1	104.1	84.3	80.1
70°	189.4	133.0	86.0	69.4	65.5
72.5°	150.2	106.4	68.8	56.8	52.6
75°	114.8	84.3	54.8	44.8	42.2
77.5°	85.6	63.6	42.2	34.4	32.4
80°	60.0	46.1	31.5	26.0	24.3
82.5°	40.9	31.8	22.1	18.2	17.2
85°	23.4	19.8	13.9	11.7	11.0
87.5°	12.0	10.4	7.5	5.5	4.9
90°	3.2	3.2	1.9	1.6	1.3
92.5°	5.2	2.9	1.9	1.3	1.0
95°	4.9	2.9	1.6	1.0	1.0
97.5°	4.5	2.9	1.3	1.0	0.6
100°	4.2	2.6	1.3	0.6	0.6
102.5°	3.9	2.6	1.3	0.6	0.6
105°	3.2	2.3	1.0	0.6	0.3
107.5°	2.9	1.9	1.0	0.6	0.3
110°	2.3	1.6	1.0	0.6	0.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.9	1.6	0.6	0.6	0.3
115°	1.6	1.3	0.6	0.3	0.3
117.5°	1.3	1.0	0.6	0.3	0.3
120°	1.0	1.0	0.6	0.3	0.3
122.5°	1.0	0.6	0.6	0.3	0.3
125°	0.6	0.6	0.6	0.3	0.3
127.5°	0.6	0.6	0.6	0.3	0.3
130°	0.6	0.6	0.6	0.3	0.3
132.5°	0.6	0.6	0.6	0.6	0.3
135°	0.3	0.6	0.6	0.6	0.3
137.5°	0.6	0.6	0.6	0.6	0.6
140°	0.6	0.6	0.6	0.6	0.6
142.5°	0.6	0.6	0.6	0.6	0.6
145°	0.6	0.6	0.6	0.6	0.6
147.5°	0.6	0.6	0.6	0.6	0.6
150°	0.6	0.6	0.6	0.6	0.6
152.5°	0.6	0.6	0.6	0.6	0.6
155°	0.6	0.6	0.6	1.0	1.0
157.5°	0.6	0.6	1.0	1.0	1.0
160°	0.6	0.6	1.0	1.0	1.0
162.5°	0.6	0.6	1.0	1.0	1.0
165°	0.6	1.0	1.0	1.0	1.0
167.5°	0.6	1.0	1.0	1.0	1.3
170°	0.6	1.0	1.0	1.3	1.3
172.5°	0.6	1.0	1.0	1.3	1.3
175°	1.0	1.0	1.0	1.3	1.3
177.5°	1.0	1.0	1.0	1.3	1.3
180°	1.0	1.0	1.0	1.0	1.0



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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	18.86	20.30	19.23	20.62	20.94	13.70	15.14	14.07	15.46	15.78
	3H	20.17	21.45	20.55	21.79	22.16	14.71	16.00	15.10	16.33	16.70
	4H	20.59	21.79	21.00	22.15	22.53	15.05	16.25	15.46	16.61	16.99
	6H	20.86	21.96	21.28	22.34	22.74	15.27	16.38	15.69	16.75	17.15
	8H	20.93	21.98	21.36	22.38	22.79	15.34	16.39	15.78	16.79	17.20
	12H	20.97	21.97	21.41	22.36	22.80	15.39	16.39	15.82	16.78	17.21
4H	2H	18.86	20.06	19.26	20.41	20.80	14.33	15.53	14.73	15.88	16.27
	3H	20.32	21.31	20.74	21.72	22.13	15.52	16.51	15.94	16.92	17.33
	4H	20.85	21.73	21.29	22.16	22.60	15.94	16.82	16.38	17.25	17.70
	6H	21.23	21.99	21.69	22.44	22.91	16.25	17.02	16.71	17.47	17.94
	8H	21.34	22.05	21.81	22.50	22.98	16.34	17.06	16.81	17.51	17.99
	12H	21.41	22.05	21.90	22.54	23.02	16.41	17.05	16.90	17.54	18.02
8H	4H	20.83	21.55	21.30	22.00	22.47	16.27	16.99	16.74	17.44	17.92
	6H	21.26	21.85	21.77	22.35	22.84	16.67	17.26	17.17	17.76	18.24
	8H	21.42	21.95	21.94	22.46	22.96	16.81	17.34	17.33	17.86	18.35
	12H	21.55	22.02	22.06	22.52	23.09	16.93	17.40	17.45	17.90	18.47
12H	4H	20.80	21.44	21.29	21.92	22.40	16.32	16.96	16.81	17.44	17.92
	6H	21.23	21.76	21.75	22.28	22.77	16.73	17.26	17.26	17.78	18.28
	8H	21.42	21.89	21.94	22.39	22.96	16.93	17.39	17.44	17.89	18.47