

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: P893249

Luminaire Tested: 4MB-2SL-AOL-UNV-L830

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893249
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-L830
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 8
3000K CCT
Light Source: -
Ballast/Driver: -

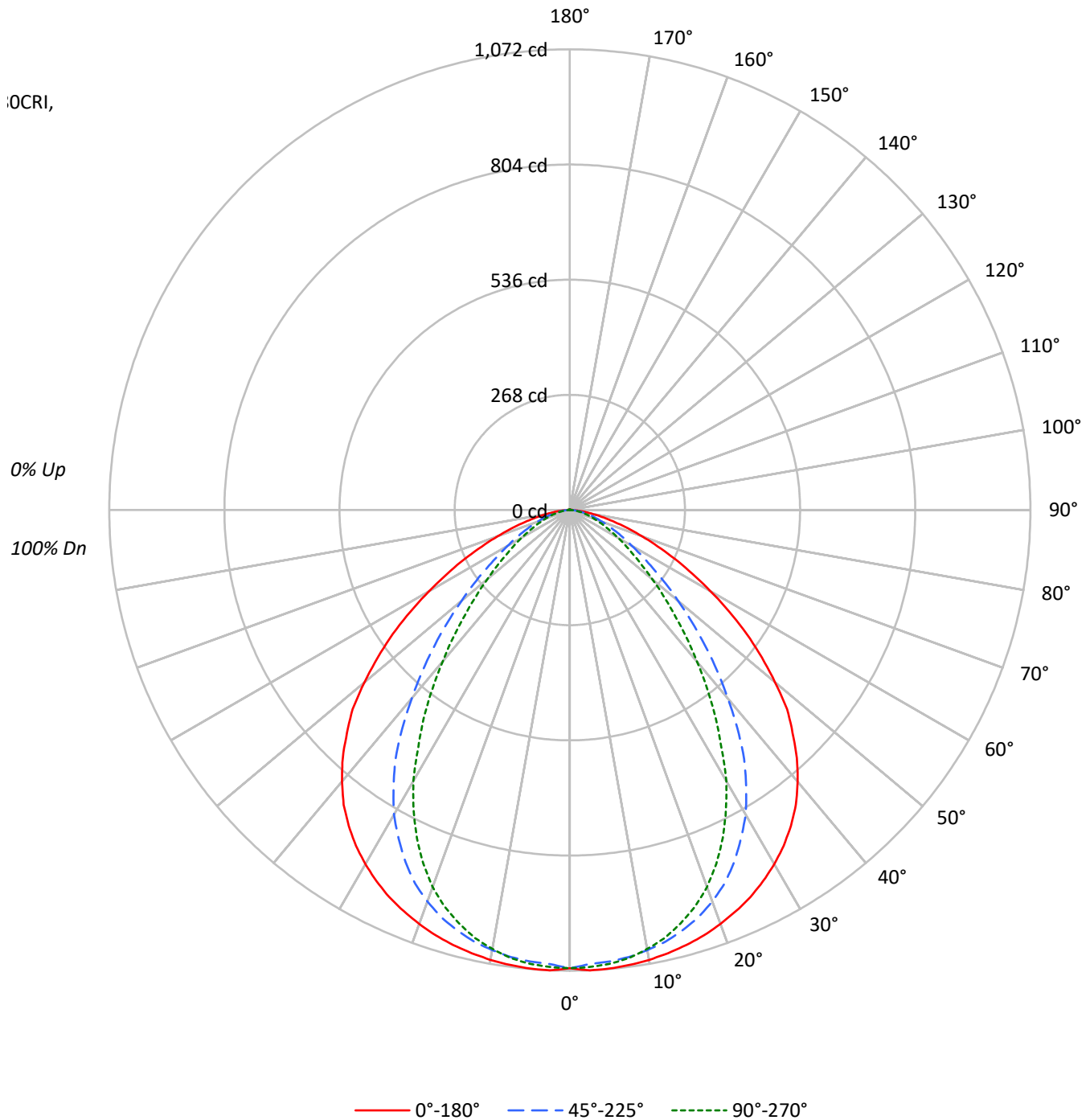
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2129.9 lumens
Efficiency: N/A
Efficacy: 154.3 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°	10859	10859	10859
5°	10948	10782	10839
10°	10992	10755	10726
15°	11049	10678	10500
20°	11109	10505	10117
25°	11171	10164	9463
30°	11191	9629	8568
35°	11153	8796	7370
40°	10967	7612	6123
45°	10560	6396	4956
50°	9882	5209	3969
55°	8929	4187	3182
60°	7701	3408	2636
65°	6516	2839	2166
70°	5318	2415	1840
75°	4261	2034	1566
80°	3320	1742	1343
85°	2571	1542	1215

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10560 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.0	4.7
10°-20°	287.3	13.5
20°-30°	418.8	19.7
30°-40°	451.4	21.2
40°-50°	378.4	17.8
50°-60°	256.2	12.0
60°-70°	146.1	6.9
70°-80°	66.8	3.1
80°-90°	17.5	0.8
90°-100°	2.2	0.1
100°-110°	1.4	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°	0.2	0.0
170°-180°	0.1	0.0
0°-30°	807.1	37.9
0°-40°	1258.5	59.1
0°-60°	1893.2	88.9
0°-90°	2123.6	99.7
90°-120°	4.4	0.2
90°-150°	5.6	0.3
90°-180°	6.0	0.3
0°-180°	2129.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1066	1066	1066	1066	1066	
5°	1071	1068	1055	1063	1060	102
15°	1048	1039	1013	1006	996	296
25°	994	968	904	863	842	458
35°	897	830	708	621	593	560
45°	733	612	444	366	344	564
55°	503	368	236	191	179	448
65°	270	188	118	95	90	270
75°	108	80	52	42	40	118
85°	22	19	13	11	10	26
90°	3	3	2	2	1	3
95°	5	3	2	1	1	4
105°	3	2	1	1	0	3
115°	2	1	1	0	0	1
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°	1066.3	1066.3	1066.3	1066.3	1066.3
2.5°	1072.4	1069.6	1057.4	1067.5	1064.4
5°	1070.9	1067.5	1054.7	1063.2	1060.2
7.5°	1067.8	1063.5	1049.2	1055.6	1051.6
10°	1062.9	1057.7	1040.0	1043.6	1037.2
12.5°	1056.2	1049.8	1028.7	1027.7	1020.1
15°	1047.9	1038.8	1012.8	1006.0	995.9
17.5°	1037.8	1026.2	993.8	980.3	968.1
20°	1025.0	1010.0	969.3	947.9	933.5
22.5°	1010.3	990.1	940.9	906.6	891.0
25°	994.1	967.8	904.5	862.9	842.1
27.5°	973.9	940.9	862.3	808.4	787.0
30°	951.6	909.7	818.8	750.0	728.6
32.5°	926.2	873.9	763.5	687.0	657.0
35°	897.1	829.5	707.5	620.9	592.8
37.5°	864.4	783.3	640.5	554.2	525.8
40°	824.9	728.6	572.6	487.3	460.6
42.5°	782.4	672.9	507.4	423.6	400.7
45°	733.2	611.7	444.1	366.1	344.1
47.5°	685.8	550.0	384.8	313.5	295.5
50°	623.7	484.2	328.8	265.5	250.5
52.5°	563.1	423.3	281.1	227.0	212.9
55°	502.9	368.0	235.8	191.2	179.2
57.5°	439.2	313.8	198.5	161.8	153.9
60°	378.1	267.0	167.3	135.8	129.4
62.5°	322.1	223.9	141.6	114.7	108.6
65°	270.4	188.1	117.8	95.4	89.9
67.5°	221.5	154.8	98.2	79.5	75.6
70°	178.6	125.4	81.1	65.5	61.8
72.5°	141.6	100.3	64.8	53.5	49.6
75°	108.3	79.5	51.7	42.2	39.8
77.5°	80.8	60.0	39.8	32.4	30.6
80°	56.6	43.4	29.7	24.5	22.9
82.5°	38.5	30.0	20.8	17.1	16.2
85°	22.0	18.7	13.2	11.0	10.4
87.5°	11.3	9.8	7.0	5.2	4.6
90°	3.1	3.1	1.8	1.5	1.2
92.5°	4.9	2.8	1.8	1.2	0.9
95°	4.6	2.8	1.5	0.9	0.9
97.5°	4.3	2.8	1.2	0.9	0.6
100°	4.0	2.4	1.2	0.6	0.6
102.5°	3.7	2.4	1.2	0.6	0.6
105°	3.1	2.1	0.9	0.6	0.3
107.5°	2.8	1.8	0.9	0.6	0.3
110°	2.1	1.5	0.9	0.6	0.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.8	1.5	0.6	0.6	0.3
115°	1.5	1.2	0.6	0.3	0.3
117.5°	1.2	0.9	0.6	0.3	0.3
120°	0.9	0.9	0.6	0.3	0.3
122.5°	0.9	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	0.9	0.9
157.5°	0.6	0.6	0.9	0.9	0.9
160°	0.6	0.6	0.9	0.9	0.9
162.5°	0.6	0.6	0.9	0.9	0.9
165°	0.6	0.9	0.9	0.9	0.9
167.5°	0.6	0.9	0.9	0.9	1.2
170°	0.6	0.9	0.9	1.2	1.2
172.5°	0.6	0.9	0.9	1.2	1.2
175°	0.9	0.9	0.9	1.2	1.2
177.5°	0.9	0.9	0.9	1.2	1.2
180°	0.9	0.9	0.9	0.9	0.9



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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	18.66	20.09	19.03	20.41	20.74	13.50	14.94	13.87	15.26	15.58
	3H	19.96	21.25	20.35	21.58	21.95	14.51	15.79	14.89	16.13	16.50
	4H	20.39	21.59	20.79	21.94	22.33	14.85	16.05	15.25	16.40	16.79
	6H	20.65	21.76	21.07	22.13	22.53	15.07	16.18	15.49	16.55	16.95
	8H	20.73	21.78	21.16	22.17	22.58	15.14	16.19	15.57	16.58	16.99
	12H	20.76	21.77	21.20	22.16	22.59	15.18	16.19	15.62	16.57	17.01
4H	2H	18.65	19.85	19.06	20.21	20.60	14.12	15.32	14.53	15.68	16.07
	3H	20.12	21.11	20.54	21.51	21.92	15.32	16.31	15.74	16.71	17.12
	4H	20.64	21.53	21.08	21.95	22.40	15.74	16.62	16.17	17.04	17.49
	6H	21.02	21.79	21.49	22.24	22.71	16.05	16.81	16.51	17.26	17.73
	8H	21.13	21.85	21.60	22.30	22.78	16.14	16.86	16.61	17.31	17.78
	12H	21.21	21.85	21.70	22.33	22.81	16.21	16.85	16.70	17.33	17.81
8H	4H	20.63	21.34	21.10	21.79	22.27	16.07	16.79	16.54	17.24	17.71
	6H	21.06	21.65	21.56	22.15	22.63	16.46	17.05	16.97	17.55	18.04
	8H	21.21	21.74	21.74	22.26	22.76	16.60	17.13	17.13	17.65	18.15
	12H	21.34	21.81	21.86	22.31	22.89	16.73	17.19	17.24	17.69	18.27
12H	4H	20.60	21.23	21.09	21.72	22.20	16.12	16.75	16.60	17.24	17.72
	6H	21.02	21.55	21.55	22.07	22.57	16.53	17.06	17.05	17.58	18.07
	8H	21.21	21.68	21.73	22.18	22.76	16.72	17.19	17.24	17.69	18.26