

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: P893243

Luminaire Tested: 4MB-2SL-ACL-UNV-L840

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893243
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-15)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-2SL-ACL-UNV-L840
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS, 80CRI, 4000K (C)
Light Source: -
Ballast/Driver: -

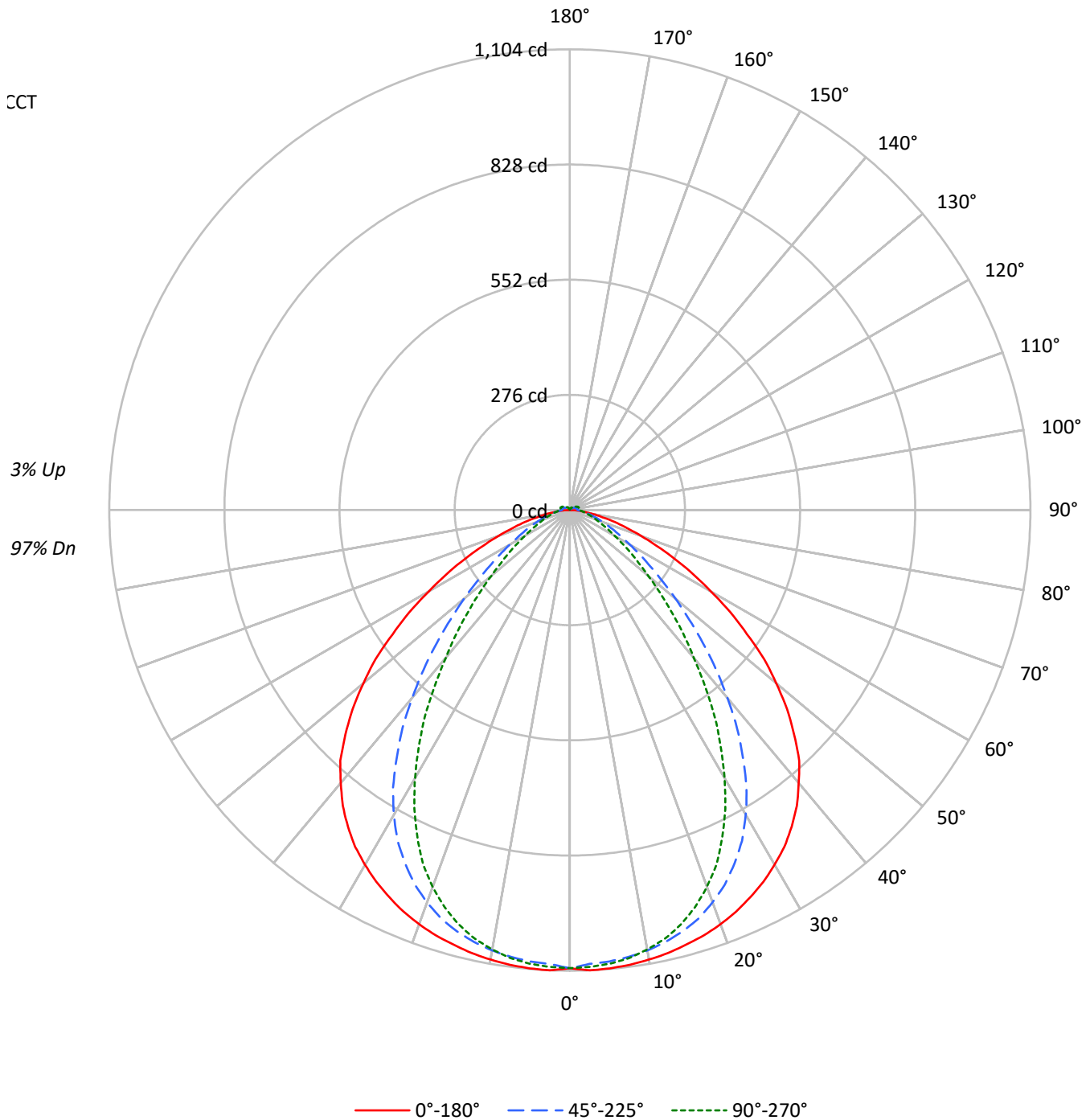
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2252.0 lumens
Efficiency: N/A
Efficacy: 163.2 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.06 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 3.98' x H: 0.08')
CIE Type: Direct

Input Watts (W): 13.8
Input Voltage (V): 120
Input Current (A_{in}): 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	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	93	94	92	90	90	89	87	85				85
2	101	94	88	84	99	92	87	82	88	84	80	85	81	78	82	79	76	74				74
3	94	85	77	72	91	83	76	71	80	74	69	77	72	68	74	70	66	64				64
4	87	76	68	62	84	75	67	62	72	66	61	69	64	60	67	62	59	57				57
5	80	69	61	55	78	68	60	55	65	59	54	63	58	53	61	56	52	50				50
6	75	63	55	49	73	62	54	49	60	53	48	58	52	47	56	51	47	45				45
7	70	57	50	44	68	57	49	44	55	48	43	53	47	43	52	46	42	40				40
8	65	53	45	40	64	52	45	40	51	44	39	49	43	39	48	42	38	37				37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	33				33
10	58	45	38	33	56	45	38	33	44	37	33	43	37	32	42	36	32	31				31

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11180	11180	11180
5°	11251	10876	10860
10°	11271	10641	10479
15°	11306	10364	10001
20°	11360	9983	9348
25°	11393	9454	8480
30°	11404	8727	7388
35°	11356	7713	6180
40°	11155	6515	4864
45°	10726	5259	3771
50°	9984	4081	2829
55°	8939	3124	2164
60°	7679	2401	1649
65°	6404	1895	1310
70°	5122	1520	1070
75°	4080	1225	912
80°	2988	1012	798
85°	2055	858	734

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10726 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.0	4.6
10°-20°	296.2	13.2
20°-30°	431.9	19.2
30°-40°	464.0	20.6
40°-50°	386.2	17.1
50°-60°	258.3	11.5
60°-70°	147.8	6.6
70°-80°	73.5	3.3
80°-90°	30.1	1.3
90°-100°	17.5	0.8
100°-110°	15.4	0.7
110°-120°	11.3	0.5
120°-130°	7.3	0.3
130°-140°	4.3	0.2
140°-150°	2.4	0.1
150°-160°	1.2	0.1
160°-170°	0.5	0.0
170°-180°	0.1	0.0
0°-30°	832.1	36.9
0°-40°	1296.1	57.6
0°-60°	1940.5	86.2
0°-90°	2191.9	97.3
90°-120°	44.2	2.0
90°-150°	58.2	2.6
90°-180°	60.0	2.7
0°-180°	2252.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1098	1098	1098	1098	1098	
5°	1103	1099	1086	1095	1091	105
15°	1078	1071	1045	1038	1028	305
25°	1024	1000	934	887	865	472
35°	927	860	723	634	606	579
45°	760	632	452	365	344	584
55°	518	374	235	186	176	464
65°	278	188	118	96	91	278
75°	112	81	59	52	50	120
85°	22	24	27	28	29	25
90°	3	10	19	22	23	3
95°	5	10	18	22	23	4
105°	3	8	16	22	22	3
115°	2	5	13	18	19	2
125°	1	3	9	13	14	1
135°	1	3	6	9	10	0
145°	1	2	4	6	7	0
155°	1	2	3	4	4	0
165°	1	1	2	2	3	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°	1097.8	1097.8	1097.8	1097.8	1097.8
2.5°	1104.2	1101.3	1088.8	1098.8	1095.9
5°	1102.6	1099.1	1085.9	1094.9	1091.4
7.5°	1099.1	1095.2	1080.2	1087.2	1083.4
10°	1093.9	1089.1	1071.9	1075.4	1069.3
12.5°	1087.5	1081.5	1060.0	1059.0	1052.3
15°	1078.3	1070.9	1045.3	1037.6	1028.3
17.5°	1068.7	1057.8	1026.4	1010.7	997.9
20°	1056.2	1041.8	1000.4	977.1	961.0
22.5°	1041.8	1022.2	971.3	935.4	918.8
25°	1023.8	999.5	934.1	887.1	865.0
27.5°	1004.6	972.3	893.8	832.0	806.7
30°	981.5	941.5	843.5	769.2	742.0
32.5°	957.2	902.4	788.4	703.3	673.5
35°	926.8	859.5	723.1	634.1	606.2
37.5°	893.8	808.3	658.4	563.3	531.9
40°	853.8	754.2	587.3	493.2	462.1
42.5°	814.1	695.2	519.1	429.8	402.9
45°	760.3	631.8	451.5	365.4	343.9
47.5°	706.1	563.9	386.9	313.2	292.1
50°	645.9	497.3	330.2	262.9	245.3
52.5°	587.3	435.2	278.6	222.2	207.2
55°	518.5	374.0	235.4	186.1	176.5
57.5°	456.3	317.4	198.6	157.6	148.6
60°	390.7	269.0	166.2	133.2	124.9
62.5°	333.1	226.1	139.9	113.0	107.3
65°	277.7	188.3	118.5	96.1	90.9
67.5°	226.7	157.2	99.9	82.0	77.8
70°	181.9	127.5	84.2	69.8	66.9
72.5°	143.1	102.5	70.1	60.2	57.6
75°	111.8	81.3	58.6	51.9	50.3
77.5°	80.7	63.4	49.0	44.5	43.6
80°	57.0	48.0	40.4	38.4	37.8
82.5°	37.8	34.9	33.3	33.3	33.0
85°	21.8	24.3	27.2	28.5	28.8
87.5°	11.2	16.3	21.8	24.3	24.7
90°	3.2	10.2	18.6	22.1	22.7
92.5°	4.8	10.2	18.3	22.1	22.7
95°	4.8	10.2	18.3	22.1	22.7
97.5°	4.5	9.9	18.3	22.1	22.7
100°	4.2	9.3	17.9	22.1	22.7
102.5°	3.5	9.0	17.3	21.8	22.7
105°	3.2	8.3	16.3	21.5	22.4
107.5°	2.9	7.0	15.4	20.5	21.8
110°	2.2	6.1	14.7	19.5	21.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.9	5.4	13.8	18.6	20.2
115°	1.6	4.8	12.8	17.6	19.2
117.5°	1.3	4.5	11.5	16.3	17.9
120°	1.0	4.2	10.6	15.4	16.7
122.5°	1.0	3.8	9.3	14.1	15.4
125°	1.0	3.2	8.6	12.8	14.1
127.5°	0.6	2.9	7.7	11.5	12.8
130°	0.6	2.9	7.0	10.6	11.5
132.5°	0.6	2.6	6.4	9.6	10.6
135°	0.6	2.6	5.8	8.6	9.6
137.5°	0.6	2.2	5.1	8.0	9.0
140°	0.6	2.2	4.8	7.0	8.0
142.5°	0.6	1.9	4.2	6.7	7.4
145°	0.6	1.9	3.8	5.8	6.7
147.5°	0.6	1.9	3.5	5.4	6.1
150°	0.6	1.6	3.2	4.5	5.4
152.5°	0.6	1.6	2.9	4.2	5.1
155°	0.6	1.6	2.6	3.5	4.5
157.5°	0.6	1.6	2.6	3.2	3.8
160°	1.0	1.3	2.2	2.9	3.5
162.5°	1.0	1.3	1.9	2.6	3.2
165°	1.0	1.3	1.9	2.2	2.9
167.5°	1.0	1.3	1.6	1.9	2.2
170°	1.0	1.0	1.6	1.6	1.6
172.5°	1.0	1.0	1.3	1.6	1.3
175°	1.0	1.0	1.3	1.3	1.3
177.5°	1.0	1.0	1.3	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	17.12	18.51	17.53	18.89	19.27	12.42	13.81	12.83	14.18	14.57
	3H	18.22	19.46	18.64	19.85	20.27	13.56	14.80	13.98	15.19	15.62
	4H	18.52	19.69	18.97	20.09	20.54	14.06	15.22	14.50	15.63	16.07
	6H	18.67	19.74	19.13	20.16	20.62	14.56	15.63	15.02	16.06	16.51
	8H	18.69	19.71	19.16	20.15	20.62	14.82	15.84	15.29	16.28	16.75
	12H	18.68	19.66	19.16	20.09	20.59	15.11	16.09	15.59	16.53	17.02
4H	2H	17.10	18.27	17.55	18.67	19.12	12.92	14.08	13.36	14.48	14.93
	3H	18.34	19.30	18.80	19.76	20.22	14.23	15.19	14.69	15.64	16.11
	4H	18.73	19.59	19.20	20.06	20.56	14.82	15.69	15.30	16.16	16.66
	6H	18.96	19.71	19.46	20.20	20.73	15.44	16.19	15.95	16.69	17.21
	8H	19.00	19.70	19.51	20.19	20.73	15.76	16.47	16.27	16.96	17.49
	12H	19.01	19.64	19.54	20.16	20.70	16.14	16.76	16.67	17.29	17.83
8H	4H	18.71	19.41	19.22	19.91	20.44	15.06	15.76	15.57	16.26	16.79
	6H	18.99	19.57	19.53	20.11	20.65	15.79	16.37	16.33	16.91	17.45
	8H	19.06	19.58	19.62	20.14	20.69	16.19	16.71	16.75	17.27	17.82
	12H	19.11	19.57	19.66	20.11	20.74	16.68	17.14	17.24	17.68	18.31
12H	4H	18.69	19.32	19.22	19.84	20.38	15.08	15.70	15.61	16.23	16.77
	6H	18.97	19.49	19.53	20.05	20.60	15.82	16.34	16.38	16.90	17.45
	8H	19.08	19.54	19.63	20.08	20.70	16.28	16.75	16.84	17.29	17.91