

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: P893244

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

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893244
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-L850
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS, 80CRI, 5000K (C)
Light Source: -
Ballast/Driver: -

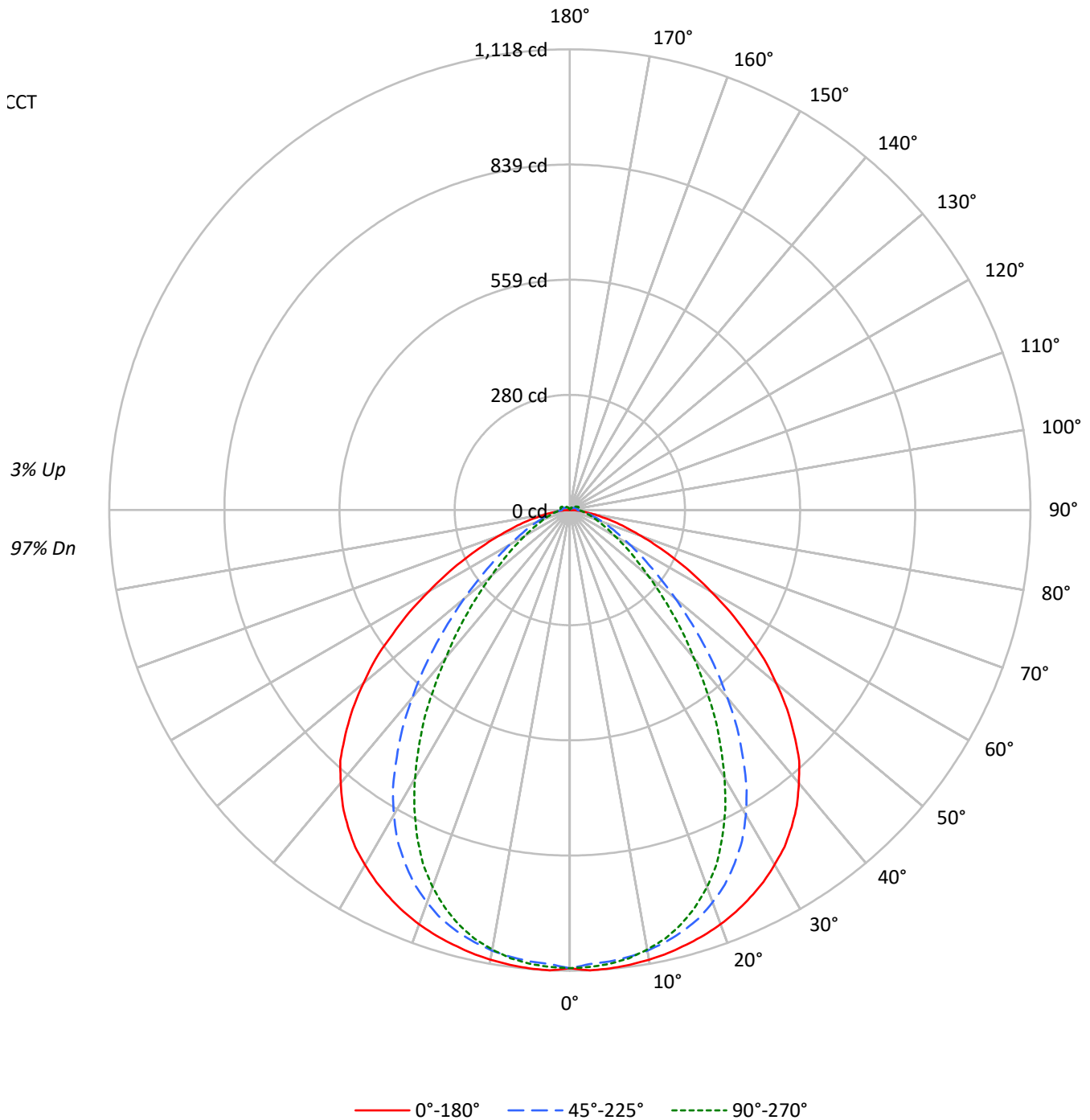
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2281.0 lumens
Efficiency: N/A
Efficacy: 165.3 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°	11324	11324	11324
5°	11396	11016	10999
10°	11416	10778	10614
15°	11450	10497	10130
20°	11507	10111	9469
25°	11540	9576	8589
30°	11552	8840	7484
35°	11502	7812	6259
40°	11299	6599	4927
45°	10863	5328	3820
50°	10113	4133	2866
55°	9053	3164	2191
60°	7778	2432	1670
65°	6485	1919	1327
70°	5187	1539	1084
75°	4131	1241	923
80°	3025	1024	808
85°	2084	871	744

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10863 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.3	4.6
10°-20°	300.0	13.2
20°-30°	437.4	19.2
30°-40°	470.0	20.6
40°-50°	391.1	17.1
50°-60°	261.6	11.5
60°-70°	149.7	6.6
70°-80°	74.5	3.3
80°-90°	30.5	1.3
90°-100°	17.7	0.8
100°-110°	15.6	0.7
110°-120°	11.4	0.5
120°-130°	7.4	0.3
130°-140°	4.4	0.2
140°-150°	2.5	0.1
150°-160°	1.2	0.1
160°-170°	0.5	0.0
170°-180°	0.1	0.0
0°-30°	842.8	36.9
0°-40°	1312.7	57.6
0°-60°	1965.5	86.2
0°-90°	2220.2	97.3
90°-120°	44.7	2.0
90°-150°	58.9	2.6
90°-180°	61.0	2.7
0°-180°	2281.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1112	1112	1112	1112	1112	
5°	1117	1113	1100	1109	1105	106
15°	1092	1085	1059	1051	1042	309
25°	1037	1012	946	898	876	478
35°	939	871	732	642	614	586
45°	770	640	457	370	348	592
55°	525	379	238	188	179	470
65°	281	191	120	97	92	281
75°	113	82	59	52	51	121
85°	22	25	28	29	29	26
90°	3	10	19	22	23	3
95°	5	10	18	22	23	4
105°	3	8	16	22	23	3
115°	2	5	13	18	20	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°	1111.9	1111.9	1111.9	1111.9	1111.9
2.5°	1118.4	1115.5	1102.8	1112.9	1110.0
5°	1116.8	1113.2	1099.9	1109.0	1105.4
7.5°	1113.2	1109.3	1094.1	1101.2	1097.3
10°	1108.0	1103.2	1085.7	1089.2	1083.1
12.5°	1101.5	1095.4	1073.7	1072.7	1065.9
15°	1092.1	1084.7	1058.7	1050.9	1041.5
17.5°	1082.4	1071.4	1039.6	1023.7	1010.7
20°	1069.8	1055.2	1013.3	989.6	973.4
22.5°	1055.2	1035.4	983.8	947.5	930.6
25°	1037.0	1012.3	946.2	898.5	876.1
27.5°	1017.5	984.8	905.3	842.7	817.1
30°	994.2	953.6	854.4	779.1	751.6
32.5°	969.5	914.1	798.6	712.3	682.1
35°	938.7	870.6	732.4	642.2	614.0
37.5°	905.3	818.7	666.9	570.6	538.8
40°	864.8	763.9	594.9	499.5	468.1
42.5°	824.5	704.2	525.8	435.3	408.1
45°	770.0	640.0	457.4	370.1	348.4
47.5°	715.2	571.2	391.8	317.2	295.8
50°	654.2	503.7	334.4	266.3	248.5
52.5°	594.9	440.8	282.2	225.1	209.9
55°	525.1	378.9	238.4	188.5	178.7
57.5°	462.2	321.4	201.1	159.6	150.5
60°	395.7	272.5	168.3	134.9	126.5
62.5°	337.3	229.0	141.7	114.5	108.7
65°	281.2	190.7	120.0	97.3	92.1
67.5°	229.7	159.3	101.2	83.0	78.8
70°	184.2	129.1	85.3	70.7	67.8
72.5°	145.0	103.8	71.0	61.0	58.4
75°	113.2	82.4	59.4	52.5	50.9
77.5°	81.7	64.2	49.6	45.1	44.1
80°	57.7	48.7	40.9	38.9	38.3
82.5°	38.3	35.4	33.7	33.7	33.4
85°	22.1	24.7	27.6	28.9	29.2
87.5°	11.4	16.5	22.1	24.7	25.0
90°	3.2	10.4	18.8	22.4	23.0
92.5°	4.9	10.4	18.5	22.4	23.0
95°	4.9	10.4	18.5	22.4	23.0
97.5°	4.5	10.1	18.5	22.4	23.0
100°	4.2	9.4	18.2	22.4	23.0
102.5°	3.6	9.1	17.5	22.1	23.0
105°	3.2	8.4	16.5	21.7	22.7
107.5°	2.9	7.1	15.6	20.8	22.1
110°	2.3	6.2	14.9	19.8	21.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.9	5.5	13.9	18.8	20.4
115°	1.6	4.9	13.0	17.8	19.5
117.5°	1.3	4.5	11.7	16.5	18.2
120°	1.0	4.2	10.7	15.6	16.9
122.5°	1.0	3.9	9.4	14.3	15.6
125°	1.0	3.2	8.8	13.0	14.3
127.5°	0.6	2.9	7.8	11.7	13.0
130°	0.6	2.9	7.1	10.7	11.7
132.5°	0.6	2.6	6.5	9.7	10.7
135°	0.6	2.6	5.8	8.8	9.7
137.5°	0.6	2.3	5.2	8.1	9.1
140°	0.6	2.3	4.9	7.1	8.1
142.5°	0.6	1.9	4.2	6.8	7.5
145°	0.6	1.9	3.9	5.8	6.8
147.5°	0.6	1.9	3.6	5.5	6.2
150°	0.6	1.6	3.2	4.5	5.5
152.5°	0.6	1.6	2.9	4.2	5.2
155°	0.6	1.6	2.6	3.6	4.5
157.5°	0.6	1.6	2.6	3.2	3.9
160°	1.0	1.3	2.3	2.9	3.6
162.5°	1.0	1.3	1.9	2.6	3.2
165°	1.0	1.3	1.9	2.3	2.9
167.5°	1.0	1.3	1.6	1.9	2.3
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	17.17	18.56	17.58	18.93	19.31	12.46	13.85	12.87	14.23	14.61
	3H	18.26	19.50	18.68	19.89	20.32	13.60	14.84	14.03	15.23	15.66
	4H	18.57	19.73	19.01	20.14	20.58	14.10	15.27	14.55	15.67	16.12
	6H	18.71	19.79	19.17	20.21	20.67	14.60	15.68	15.06	16.10	16.56
	8H	18.73	19.75	19.20	20.19	20.66	14.86	15.88	15.34	16.33	16.79
	12H	18.72	19.70	19.20	20.14	20.63	15.16	16.13	15.63	16.57	17.06
4H	2H	17.15	18.31	17.59	18.72	19.16	12.96	14.12	13.41	14.53	14.97
	3H	18.38	19.35	18.84	19.80	20.27	14.27	15.23	14.73	15.69	16.16
	4H	18.77	19.63	19.25	20.10	20.61	14.87	15.73	15.34	16.20	16.70
	6H	19.00	19.75	19.50	20.25	20.77	15.49	16.24	15.99	16.73	17.26
	8H	19.04	19.74	19.55	20.24	20.77	15.81	16.51	16.32	17.00	17.54
	12H	19.05	19.68	19.58	20.21	20.74	16.18	16.81	16.71	17.34	17.87
8H	4H	18.76	19.46	19.27	19.95	20.48	15.11	15.81	15.61	16.30	16.83
	6H	19.03	19.61	19.58	20.16	20.70	15.83	16.41	16.37	16.95	17.49
	8H	19.11	19.63	19.67	20.19	20.74	16.23	16.76	16.79	17.31	17.86
	12H	19.15	19.61	19.71	20.15	20.78	16.73	17.19	17.28	17.73	18.35
12H	4H	18.73	19.36	19.26	19.89	20.42	15.12	15.75	15.65	16.27	16.81
	6H	19.01	19.54	19.57	20.09	20.64	15.87	16.39	16.43	16.95	17.50
	8H	19.12	19.58	19.67	20.12	20.75	16.33	16.79	16.88	17.33	17.95