

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: P893233

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

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893233
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-16)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-2SL-A-UNV-L830
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTIC, 80CRI, 3000K CCT
Light Source: -
Ballast/Driver: -

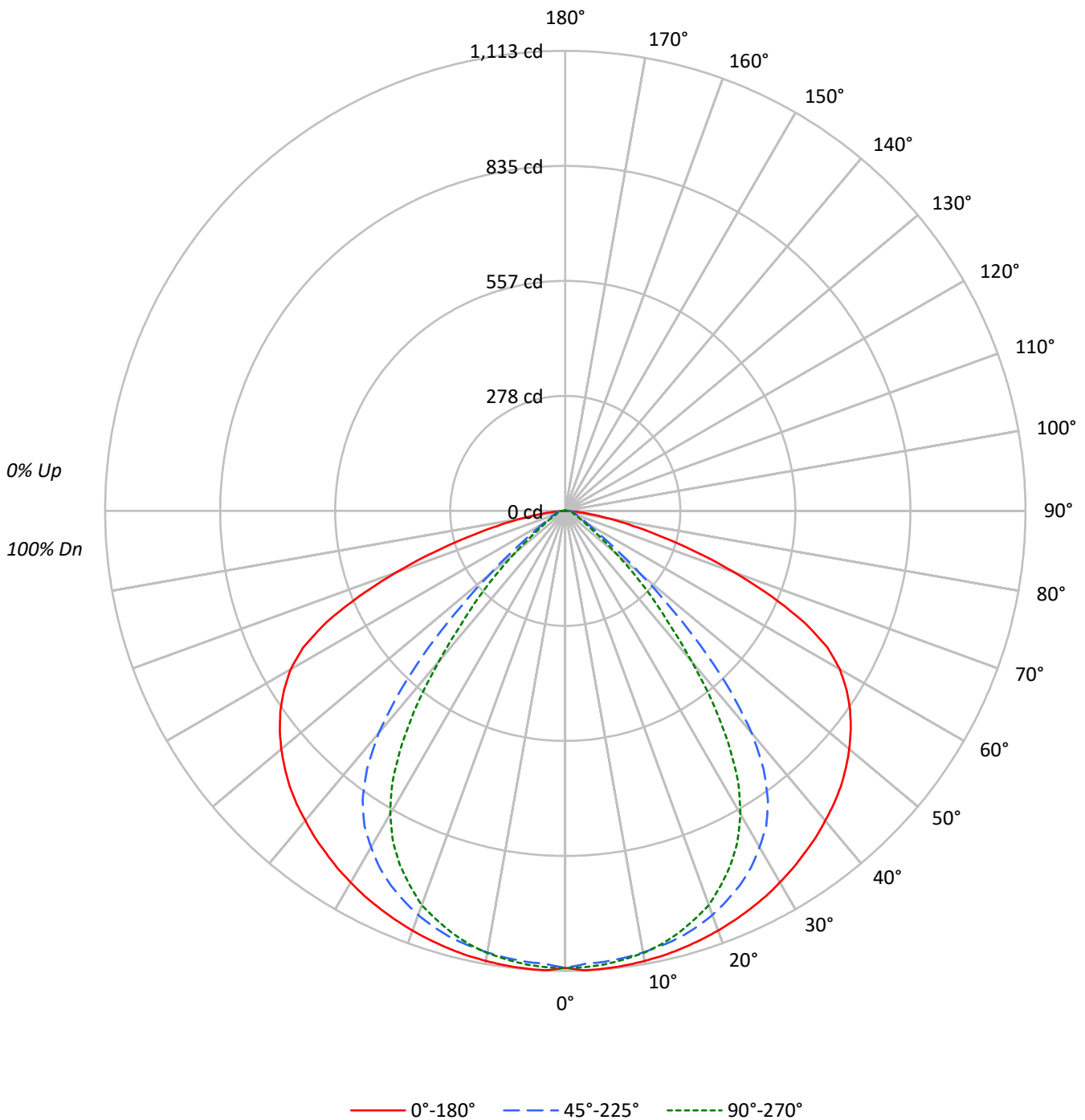
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2266.9 lumens
Efficiency: N/A
Efficacy: 164.3 lumens/watt
Spacing Criteria (0/90/45): 1.4 / 1.15 / 1.23
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 (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				
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	105	102	99	100	98	96	97	95	93	93	91	90	90	90	90	88
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	84	81	79	79	79	79	77
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	69	69	69	67
4	88	78	70	65	86	77	70	64	74	68	63	72	67	62	70	65	62	62	62	62	60
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	55	55	55	53
6	76	64	56	51	74	63	56	51	62	55	50	60	54	50	59	53	49	49	49	49	47
7	71	59	51	46	69	58	51	45	57	50	45	55	49	45	54	49	45	45	45	45	43
8	66	54	47	41	65	54	46	41	52	46	41	51	45	41	50	44	40	40	40	40	39
9	62	50	43	38	61	50	42	37	48	42	37	47	41	37	46	41	37	37	37	37	35
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	34	34	34	32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11263	11263	11263
5°	11362	11193	11259
10°	11433	11218	11234
15°	11547	11267	11150
20°	11710	11276	11000
25°	11928	11227	10628
30°	12207	11051	9960
35°	12554	10626	8564
40°	13002	9333	6330
45°	13574	6735	4257
50°	14206	3763	2540
55°	14931	1944	1390
60°	15619	1265	984
65°	15353	1039	781
70°	12947	956	730
75°	9522	976	783
80°	6352	1150	985
85°	3470	1858	1507

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 62.5°
 Luminance: 15752 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.0	4.6
10°-20°	303.5	13.4
20°-30°	461.6	20.4
30°-40°	527.2	23.3
40°-50°	425.3	18.8
50°-60°	232.8	10.3
60°-70°	122.7	5.4
70°-80°	60.2	2.7
80°-90°	21.2	0.9
90°-100°	4.5	0.2
100°-110°	0.6	0.0
110°-120°	0.4	0.0
120°-130°	0.3	0.0
130°-140°	0.4	0.0
140°-150°	0.4	0.0
150°-160°	0.4	0.0
160°-170°	0.3	0.0
170°-180°	0.1	0.0
0°-30°	870.1	38.4
0°-40°	1397.2	61.6
0°-60°	2055.3	90.7
0°-90°	2259.5	99.7
90°-120°	5.5	0.2
90°-150°	6.7	0.3
90°-180°	7.0	0.3
0°-180°	2266.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1106	1106	1106	1106	1106	
5°	1111	1108	1095	1105	1101	106
15°	1095	1088	1069	1067	1058	310
25°	1062	1046	999	965	946	490
35°	1010	967	855	738	689	633
45°	942	810	468	320	296	727
55°	841	346	110	85	78	750
65°	637	80	43	35	32	616
75°	242	45	25	21	20	267
85°	30	24	16	14	13	41
90°	1	12	10	9	8	2
95°	1	2	3	5	5	1
105°	0	0	0	1	1	0
115°	0	0	0	1	0	0
125°	0	0	0	1	0	0
135°	0	0	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	2	1	0
180°	1	1	1	1	1	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1105.9	1105.9	1105.9	1105.9	1105.9
2.5°	1112.6	1109.6	1097.0	1107.7	1104.7
5°	1111.4	1108.0	1094.9	1104.7	1101.3
7.5°	1109.3	1105.0	1090.6	1099.5	1094.3
10°	1105.6	1101.3	1084.8	1091.8	1086.3
12.5°	1101.3	1095.5	1077.1	1080.8	1073.8
15°	1095.2	1088.4	1068.6	1066.7	1057.5
17.5°	1088.4	1080.2	1056.0	1048.1	1037.0
20°	1080.5	1070.4	1040.4	1024.8	1015.0
22.5°	1071.6	1058.5	1020.8	996.9	981.6
25°	1061.5	1046.2	999.1	965.1	945.8
27.5°	1050.8	1030.0	972.8	928.1	902.1
30°	1038.0	1012.9	939.7	879.4	847.0
32.5°	1025.1	991.4	904.2	816.7	778.2
35°	1009.8	967.3	854.7	738.4	688.8
37.5°	995.4	938.2	787.6	640.2	586.9
40°	978.0	903.9	702.0	527.2	476.1
42.5°	961.5	864.1	590.9	418.3	373.9
45°	942.5	809.7	467.6	319.5	295.6
47.5°	920.4	735.3	340.0	237.8	222.8
50°	896.6	633.1	237.5	172.6	160.3
52.5°	870.3	495.1	160.0	120.0	113.2
55°	840.9	346.1	109.5	84.8	78.3
57.5°	806.9	225.2	79.6	64.0	59.7
60°	766.8	143.8	62.1	50.8	48.3
62.5°	714.2	101.0	51.1	41.9	39.8
65°	637.1	79.9	43.1	34.9	32.4
67.5°	539.5	67.6	37.0	29.4	27.8
70°	434.8	58.8	32.1	25.4	24.5
72.5°	334.2	51.4	27.8	22.6	22.0
75°	242.0	45.0	24.8	20.8	19.9
77.5°	167.7	38.9	22.0	18.7	18.1
80°	108.3	33.7	19.6	17.1	16.8
82.5°	62.1	28.2	17.7	16.5	16.2
85°	29.7	23.6	15.9	14.4	12.9
87.5°	9.5	17.4	12.5	11.0	9.8
90°	1.2	12.2	9.8	8.6	8.0
92.5°	1.2	6.7	7.0	7.0	6.7
95°	0.9	1.5	3.4	5.2	4.9
97.5°	0.9	0.6	2.1	3.7	3.7
100°	0.6	0.3	0.9	2.4	2.4
102.5°	0.6	0.3	0.3	1.5	1.5
105°	0.3	0.0	0.3	0.6	0.6
107.5°	0.3	0.3	0.3	0.6	0.3
110°	0.3	0.3	0.3	0.6	0.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.3	0.3	0.3	0.6	0.3
115°	0.3	0.3	0.3	0.6	0.3
117.5°	0.3	0.3	0.3	0.6	0.3
120°	0.3	0.3	0.3	0.6	0.3
122.5°	0.3	0.3	0.3	0.6	0.3
125°	0.3	0.3	0.3	0.6	0.3
127.5°	0.3	0.3	0.3	0.6	0.3
130°	0.3	0.3	0.6	0.6	0.3
132.5°	0.3	0.3	0.6	0.6	0.3
135°	0.3	0.3	0.6	0.6	0.3
137.5°	0.3	0.3	0.6	0.6	0.6
140°	0.6	0.3	0.6	0.6	0.6
142.5°	0.6	0.6	0.6	0.9	0.6
145°	0.6	0.6	0.6	0.9	0.6
147.5°	0.6	0.6	0.9	0.9	0.6
150°	0.6	0.6	0.9	0.9	0.6
152.5°	0.6	0.6	0.9	0.9	0.9
155°	0.6	0.6	0.9	1.2	0.9
157.5°	0.6	0.6	0.9	1.2	0.9
160°	0.6	0.9	1.2	1.2	0.9
162.5°	0.6	0.9	1.2	1.2	1.2
165°	0.6	0.9	1.2	1.2	1.2
167.5°	0.9	0.9	1.2	1.5	1.2
170°	0.9	0.9	1.2	1.5	1.2
172.5°	0.9	0.9	1.2	1.5	1.2
175°	0.9	0.9	1.2	1.5	1.2
177.5°	0.9	0.9	1.2	1.5	1.5
180°	1.2	1.2	1.2	1.2	1.2



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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	18.32	19.72	18.69	20.04	20.36	6.84	8.24	7.21	8.56	8.88
	3H	21.23	22.47	21.61	22.81	23.18	7.77	9.02	8.16	9.35	9.73
	4H	22.12	23.29	22.53	23.64	24.03	8.29	9.45	8.70	9.81	10.20
	6H	22.62	23.69	23.04	24.07	24.47	8.92	9.99	9.34	10.37	10.77
	8H	22.73	23.75	23.17	24.15	24.56	9.34	10.36	9.78	10.75	11.17
	12H	22.78	23.75	23.21	24.14	24.57	9.79	10.76	10.23	11.15	11.59
4H	2H	18.13	19.30	18.54	19.65	20.04	7.35	8.52	7.76	8.87	9.26
	3H	21.06	22.02	21.48	22.43	22.84	8.55	9.50	8.96	9.91	10.32
	4H	21.97	22.82	22.41	23.24	23.69	9.21	10.07	9.65	10.49	10.94
	6H	22.56	23.30	23.03	23.75	24.22	10.04	10.78	10.50	11.23	11.70
	8H	22.72	23.41	23.19	23.87	24.34	10.57	11.26	11.04	11.71	12.19
	12H	22.81	23.43	23.30	23.91	24.40	11.15	11.76	11.64	12.25	12.73
8H	4H	21.86	22.55	22.33	23.00	23.48	9.80	10.50	10.28	10.95	11.43
	6H	22.46	23.03	22.96	23.53	24.01	10.81	11.38	11.31	11.88	12.37
	8H	22.64	23.16	23.17	23.68	24.17	11.48	11.99	12.00	12.51	13.01
	12H	22.79	23.25	23.31	23.75	24.32	12.25	12.70	12.77	13.20	13.78
12H	4H	21.82	22.43	22.31	22.92	23.40	10.06	10.68	10.55	11.17	11.65
	6H	22.40	22.92	22.93	23.44	23.94	11.12	11.63	11.64	12.15	12.65
	8H	22.62	23.08	23.14	23.58	24.15	11.88	12.33	12.40	12.83	13.41