

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: P893481

Luminaire Tested: 4MB-4SL-ASMF-UNV-L830

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893481
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2407-185-1)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-4SL-ASMF-UNV-L830
Description: 4000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 3000K CCT
Light Source: -
Ballast/Driver: -

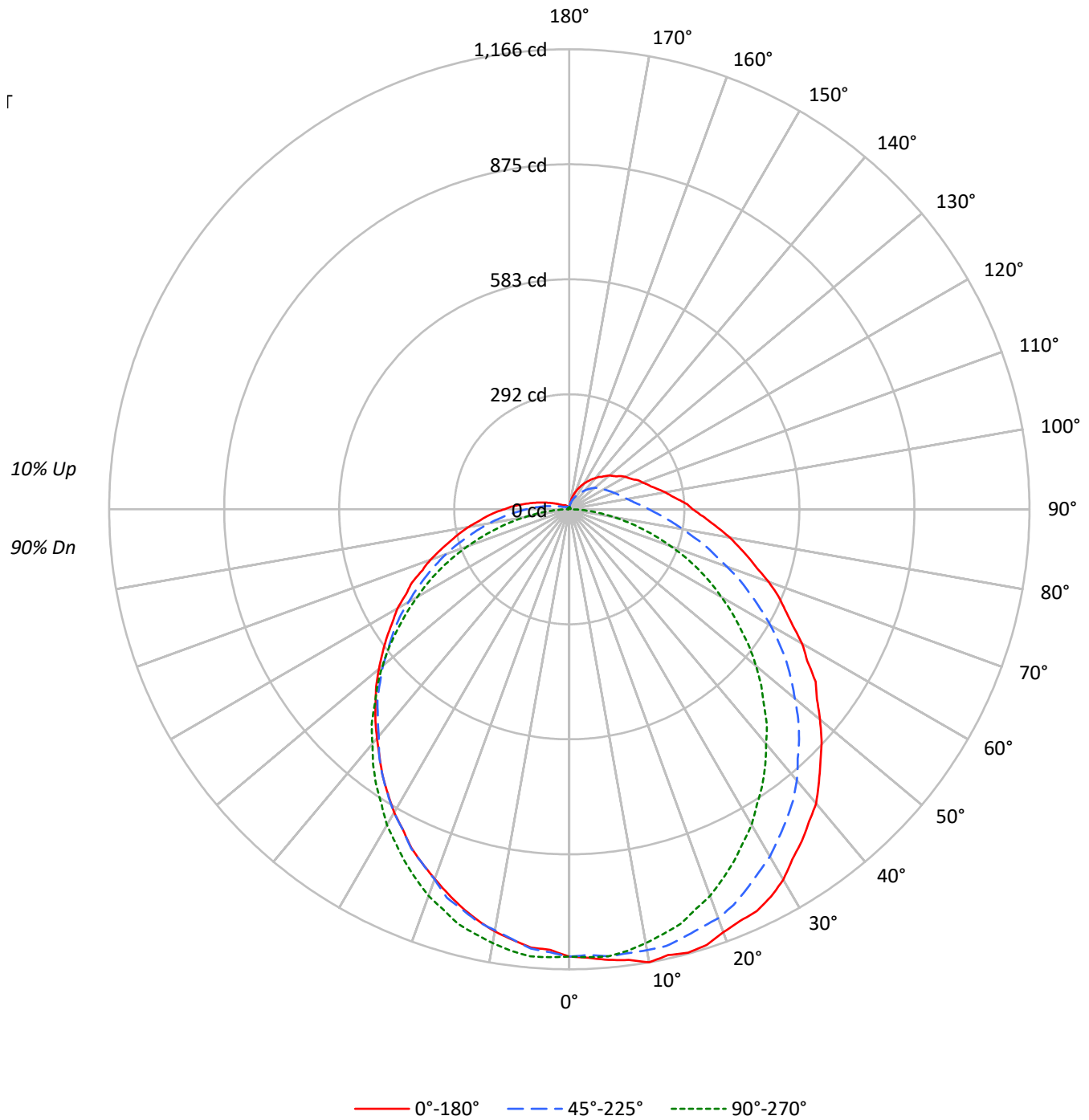
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3897.0 lumens
Efficiency: N/A
Efficacy: 130.8 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.21 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 3.98' x H: 0.12')
CIE Type: Direct

Input Watts (W): 29.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 5.5
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	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93	93	93	93	90
1	105	99	95	90	101	96	92	88	90	87	83	85	82	79	79	77	75	75	75	75	72
2	95	86	79	72	91	83	76	71	78	72	68	73	69	65	69	65	62	62	62	62	59
3	86	75	66	60	83	73	65	58	68	62	56	64	59	54	60	56	52	52	52	52	49
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	44	44	44	44	42
5	72	59	50	43	69	57	49	42	54	47	41	51	45	40	48	43	38	38	38	38	36
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	34	34	34	31
7	62	48	39	33	59	47	38	32	44	37	32	42	36	31	40	34	30	30	30	30	28
8	57	44	35	29	55	43	35	29	41	33	28	39	32	27	37	31	27	27	27	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	24	24	24	22
10	50	37	29	24	49	36	29	23	34	28	23	33	27	22	31	26	22	22	22	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	11544	11544	11544	11544	11544
5°	11689	11278	11168	11081	11365
10°	11989	11042	10661	10546	11173
15°	12165	10809	10188	10105	10939
20°	12224	10585	9649	9579	10682
25°	12446	10245	9082	9141	10488
30°	12523	9918	8543	8667	10251
35°	12492	9560	7976	8211	10031
40°	12605	9189	7395	7698	9815
45°	12568	8753	6821	7308	9695
50°	12662	8304	6270	6858	9615
55°	12944	7913	5639	6411	9582
60°	13159	7427	4993	5933	9711
65°	13614	6901	4337	5459	9929
70°	14728	6399	3554	5006	10268
75°	16546	6034	2718	4480	10978
80°	20569	5682	1821	4015	12893
85°	30746	5605	914	3535	18081

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 101243 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.5	2.8
10°-20°	308.2	7.9
20°-30°	464.8	11.9
30°-40°	557.9	14.3
40°-50°	580.9	14.9
50°-60°	538.5	13.8
60°-70°	443.5	11.4
70°-80°	319.9	8.2
80°-90°	203.1	5.2
90°-100°	125.2	3.2
100°-110°	83.5	2.1
110°-120°	59.4	1.5
120°-130°	43.6	1.1
130°-140°	30.0	0.8
140°-150°	18.2	0.5
150°-160°	9.0	0.2
160°-170°	3.3	0.1
170°-180°	0.6	0.0
0°-30°	880.6	22.6
0°-40°	1438.4	36.9
0°-60°	2557.8	65.6
0°-90°	3524.2	90.4
90°-120°	268.1	6.9
90°-150°	359.9	9.2
90°-180°	373.0	9.6
0°-180°	3897.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1134	1134	1134	1134	1134	
5°	1146	1137	1137	1118	1115	110
15°	1164	1123	1088	1050	1046	328
25°	1124	1063	986	948	947	517
35°	1027	960	853	825	825	643
45°	900	824	696	688	694	696
55°	762	672	531	544	564	677
65°	603	504	362	399	440	600
75°	470	356	190	265	312	498
85°	358	243	50	153	210	304
90°	312	202	4	109	164	172
95°	278	171	3	73	126	221
105°	218	134	3	30	66	233
115°	179	110	3	14	32	179
125°	146	92	4	11	18	133
135°	117	74	4	8	14	92
145°	90	52	4	6	10	57
155°	61	35	4	4	6	29
165°	36	20	4	3	3	10
175°	5	8	5	2	1	1
180°	3	3	3	3	3	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1133.5	1133.5	1133.5	1133.5	1133.5	1133.5	1133.5	1133.5	1133.5
2.5°	1138.0	1141.4	1130.6	1137.4	1136.3	1137.4	1123.8	1135.2	1117.6
5°	1146.5	1148.2	1137.4	1141.4	1137.4	1127.8	1117.6	1113.6	1114.8
7.5°	1152.2	1161.2	1134.6	1135.7	1128.9	1118.7	1099.5	1102.9	1100.6
10°	1165.8	1155.6	1134.6	1129.5	1116.5	1105.7	1083.6	1085.3	1086.4
12.5°	1157.3	1155.0	1134.0	1115.3	1102.3	1093.2	1070.6	1064.9	1067.7
15°	1163.5	1153.9	1122.7	1108.0	1088.1	1072.3	1049.6	1045.6	1046.2
17.5°	1157.8	1149.9	1111.4	1091.0	1063.2	1053.6	1032.0	1025.2	1021.8
20°	1140.8	1136.9	1102.9	1067.7	1042.8	1024.1	998.0	994.1	996.9
22.5°	1129.5	1119.9	1085.9	1050.7	1014.5	998.0	972.0	971.4	972.0
25°	1123.8	1111.4	1062.6	1025.8	985.6	970.8	948.1	939.6	947.0
27.5°	1106.8	1095.5	1038.3	998.0	953.2	933.4	914.7	913.0	914.1
30°	1084.2	1062.1	1016.2	966.9	923.8	903.4	888.1	876.7	887.5
32.5°	1051.9	1039.4	987.3	933.4	885.8	871.6	856.3	855.2	855.2
35°	1026.9	1017.9	960.1	903.9	852.9	833.7	824.6	820.6	824.6
37.5°	998.0	984.4	931.1	868.2	816.1	799.7	790.6	787.2	790.0
40°	973.1	948.1	897.1	831.4	775.9	761.1	751.5	754.9	757.7
42.5°	936.2	922.1	856.9	794.0	741.3	725.4	717.5	720.3	727.1
45°	900.0	886.9	823.5	754.9	696.5	688.0	687.5	685.8	694.3
47.5°	867.1	848.4	786.6	716.4	659.1	649.5	650.6	656.3	663.6
50°	829.1	807.0	745.8	675.0	617.7	611.5	616.0	620.0	629.6
52.5°	791.2	773.6	708.4	635.9	575.8	571.3	577.5	590.5	596.2
55°	761.7	730.0	671.6	590.0	531.0	531.6	544.1	551.4	563.9
57.5°	714.7	690.9	629.6	549.2	489.1	493.1	510.1	522.5	530.5
60°	681.2	651.2	588.8	505.5	444.9	451.1	470.4	489.1	502.7
62.5°	638.1	612.1	546.3	462.5	404.1	413.2	434.7	456.8	466.4
65°	603.0	573.5	504.4	419.4	361.6	372.3	399.0	423.9	439.8
67.5°	573.0	542.4	467.0	379.7	318.5	334.4	365.5	389.9	402.4
70°	537.3	501.6	424.5	335.5	273.7	292.4	332.1	360.4	374.6
72.5°	499.3	470.4	387.6	294.7	232.4	255.0	298.7	328.1	341.7
75°	469.8	437.5	356.5	253.9	190.4	217.6	264.7	298.1	311.7
77.5°	439.8	410.3	321.3	216.5	153.0	183.6	234.6	271.5	285.6
80°	413.2	379.1	291.9	185.9	113.9	150.2	206.3	242.6	259.0
82.5°	383.7	354.2	266.4	153.6	81.0	119.6	178.5	218.2	231.8
85°	357.6	327.0	242.6	128.1	49.9	92.4	153.0	193.8	210.3
87.5°	333.8	308.3	220.5	108.8	24.9	70.3	128.6	170.0	188.7
90°	312.3	283.4	201.8	91.2	4.5	51.0	108.8	149.6	163.8
92.5°	298.7	264.1	186.5	79.9	2.8	36.3	90.7	130.9	147.4
95°	278.3	247.7	170.6	71.4	2.8	24.4	73.1	112.2	126.4
97.5°	260.7	232.4	159.3	66.3	2.3	16.4	60.1	94.1	108.8
100°	247.1	220.5	149.1	61.8	2.8	11.9	47.6	79.9	92.9
102.5°	231.8	207.4	141.1	58.9	2.8	8.5	37.4	67.4	79.3
105°	218.2	196.7	133.7	56.1	2.8	7.4	30.0	55.5	66.3
107.5°	208.0	185.3	127.5	54.4	2.8	7.4	23.8	45.3	54.4
110°	197.8	176.3	121.3	52.7	2.8	6.8	18.7	37.4	45.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	191.0	167.8	115.6	51.0	3.4	6.8	15.3	31.2	37.4
115°	179.1	160.4	110.5	50.4	3.4	6.2	14.2	25.5	31.7
117.5°	170.6	153.6	105.4	48.7	3.4	6.2	13.6	21.0	25.5
120°	164.4	145.7	100.9	47.0	3.4	5.7	12.5	18.7	21.5
122.5°	156.4	138.3	96.9	45.9	3.4	5.7	11.9	17.6	19.3
125°	145.7	131.5	92.4	43.6	4.0	5.7	11.3	16.4	18.1
127.5°	138.9	125.2	89.0	40.8	4.0	5.1	10.8	15.3	17.0
130°	133.2	118.4	85.0	38.0	4.0	5.1	10.2	14.2	15.9
132.5°	124.7	111.6	79.3	35.7	4.0	4.5	9.1	13.0	14.7
135°	116.7	106.0	73.7	33.4	4.0	4.5	8.5	12.5	13.6
137.5°	111.6	100.3	68.6	31.2	4.0	4.0	7.9	11.3	12.5
140°	103.1	94.1	62.9	28.9	4.0	4.0	7.4	10.8	11.3
142.5°	96.9	87.8	57.8	26.6	4.0	4.0	6.8	9.6	10.8
145°	89.5	81.6	52.1	24.4	4.0	3.4	6.2	9.1	9.6
147.5°	82.7	74.2	47.6	22.7	4.0	3.4	5.7	7.9	8.5
150°	75.9	66.9	43.1	21.0	4.0	3.4	5.1	6.8	7.9
152.5°	68.6	57.8	38.5	19.3	4.0	3.4	4.5	6.2	6.8
155°	61.2	50.4	34.6	17.6	4.5	3.4	4.0	5.1	6.2
157.5°	55.0	43.6	30.6	15.9	4.5	2.8	4.0	4.5	5.1
160°	47.6	37.4	27.2	14.2	4.5	2.8	3.4	4.0	4.5
162.5°	41.9	31.2	23.8	13.0	4.5	2.8	3.4	3.4	4.0
165°	35.7	26.1	19.8	11.9	4.5	2.8	2.8	2.8	3.4
167.5°	28.9	20.4	16.4	10.8	4.5	2.8	2.8	2.3	2.8
170°	21.5	15.3	13.6	9.6	4.5	2.8	2.3	1.7	2.3
172.5°	9.6	11.9	10.8	8.5	5.1	2.8	2.3	1.7	1.1
175°	5.1	8.5	8.5	7.4	5.1	2.8	2.3	1.7	0.6
177.5°	4.0	5.1	6.2	6.2	5.1	3.4	2.3	1.1	0.6
180°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4



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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	20.34	19.37	20.84	21.39	17.83	19.31	18.34	19.81	20.36
	3H	20.95	22.30	21.47	22.81	23.39	19.71	21.05	20.22	21.56	22.15
	4H	21.89	23.17	22.43	23.70	24.29	20.45	21.73	20.99	22.26	22.85
	6H	22.81	24.00	23.36	24.54	25.15	21.08	22.27	21.64	22.81	23.43
	8H	23.24	24.38	23.80	24.94	25.56	21.34	22.48	21.90	23.04	23.66
	12H	23.66	24.75	24.23	25.31	25.96	21.57	22.66	22.14	23.22	23.87
4H	2H	19.36	20.63	19.90	21.16	21.76	18.40	19.67	18.94	20.20	20.80
	3H	21.67	22.76	22.22	23.33	23.94	20.46	21.54	21.01	22.11	22.73
	4H	22.78	23.78	23.35	24.36	25.01	21.31	22.31	21.88	22.88	23.53
	6H	23.89	24.77	24.48	25.37	26.03	22.07	22.94	22.66	23.55	24.21
	8H	24.41	25.24	25.01	25.84	26.52	22.38	23.21	22.98	23.81	24.48
	12H	24.94	25.69	25.56	26.32	27.00	22.67	23.42	23.29	24.05	24.73
8H	4H	23.04	23.87	23.64	24.47	25.14	21.65	22.47	22.24	23.08	23.75
	6H	24.32	25.02	24.95	25.67	26.35	22.53	23.23	23.16	23.88	24.56
	8H	24.99	25.62	25.63	26.28	26.97	22.93	23.56	23.57	24.22	24.91
	12H	25.69	26.26	26.34	26.90	27.66	23.32	23.88	23.96	24.53	25.28
12H	4H	23.06	23.81	23.68	24.44	25.12	21.71	22.46	22.33	23.09	23.77
	6H	24.38	25.01	25.02	25.66	26.36	22.64	23.27	23.28	23.93	24.62
	8H	25.12	25.68	25.76	26.33	27.08	23.10	23.67	23.75	24.31	25.07