

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: P893484

Luminaire Tested: 4MB-4SL-ASMF-UNV-L850

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893484
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-L850
Description: 4000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 5000K CCT
Light Source: -
Ballast/Driver: -

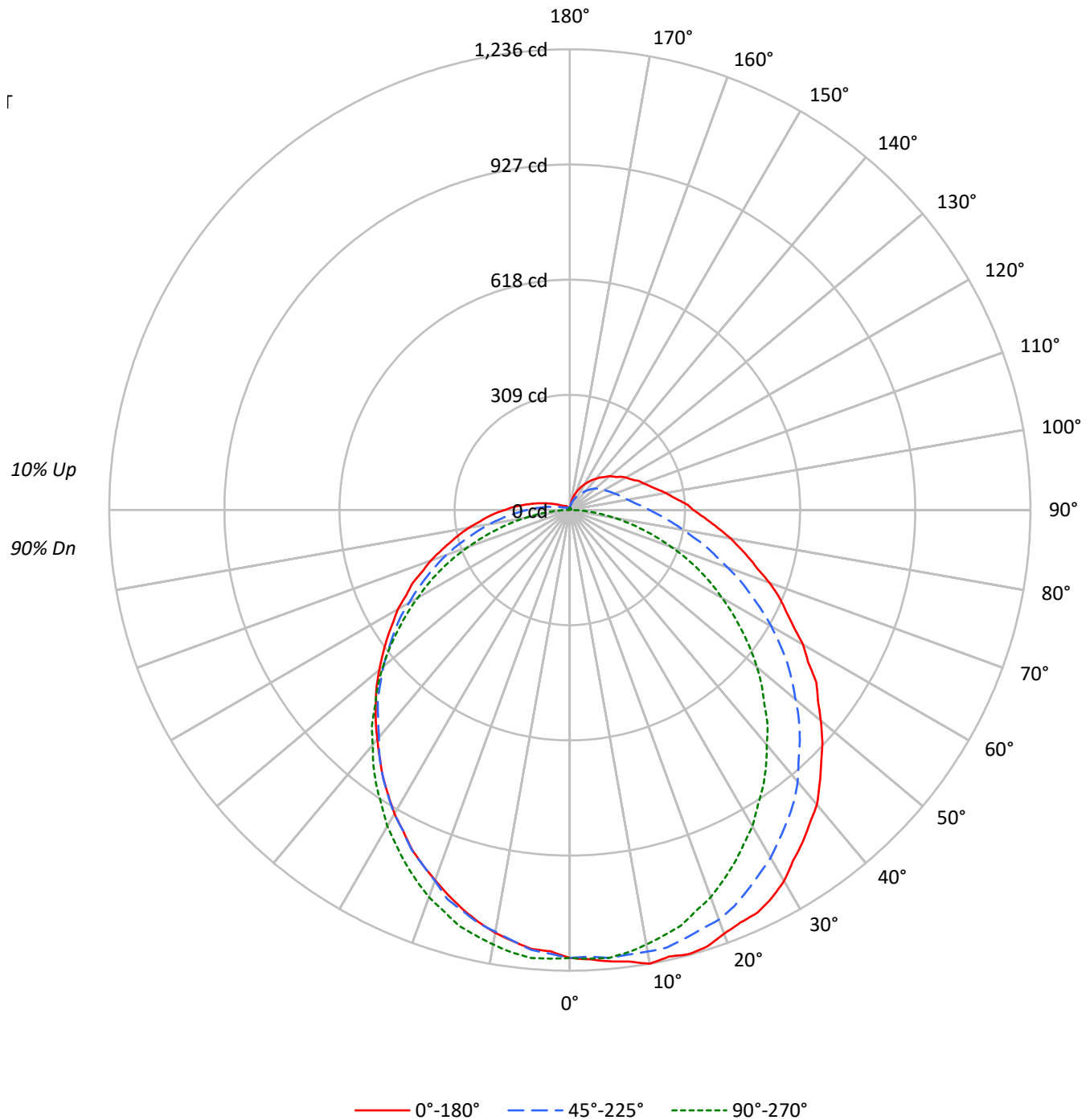
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4132.0 lumens
Efficiency: N/A
Efficacy: 138.7 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	0
RCR																		
0	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93	90
1	105	99	95	90	101	96	92	88	90	87	83	85	82	79	79	77	75	72
2	95	86	79	72	91	83	76	71	78	72	68	73	69	65	69	65	62	59
3	86	75	66	60	83	73	65	58	68	62	56	64	59	54	60	56	52	49
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	44	42
5	72	59	50	43	69	57	49	42	54	47	41	51	45	40	48	43	38	36
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	31
7	62	48	39	33	59	47	38	32	44	37	32	42	36	31	40	34	30	28
8	57	44	35	29	55	43	35	29	41	33	28	39	32	27	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22
10	50	37	29	24	49	36	29	23	34	28	23	33	27	22	31	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	12239	12239	12239	12239	12239
5°	12393	11958	11842	11749	12051
10°	12712	11708	11304	11181	11847
15°	12899	11461	10803	10715	11598
20°	12961	11224	10231	10156	11326
25°	13197	10863	9630	9692	11120
30°	13277	10515	9058	9190	10869
35°	13247	10136	8457	8706	10636
40°	13365	9744	7840	8162	10407
45°	13324	9281	7233	7748	10279
50°	13426	8805	6649	7273	10196
55°	13724	8390	5980	6797	10160
60°	13953	7875	5293	6292	10296
65°	14436	7317	4598	5788	10528
70°	15616	6785	3769	5308	10888
75°	17546	6398	2882	4749	11640
80°	21808	6024	1931	4257	13669
85°	32603	5943	969	3748	19165

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 107337 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.0	2.8
10°-20°	326.8	7.9
20°-30°	492.8	11.9
30°-40°	591.5	14.3
40°-50°	615.9	14.9
50°-60°	571.0	13.8
60°-70°	470.2	11.4
70°-80°	339.2	8.2
80°-90°	215.3	5.2
90°-100°	132.7	3.2
100°-110°	88.5	2.1
110°-120°	63.0	1.5
120°-130°	46.2	1.1
130°-140°	31.8	0.8
140°-150°	19.3	0.5
150°-160°	9.6	0.2
160°-170°	3.5	0.1
170°-180°	0.6	0.0
0°-30°	933.7	22.6
0°-40°	1525.2	36.9
0°-60°	2712.1	65.6
0°-90°	3736.8	90.4
90°-120°	284.3	6.9
90°-150°	381.5	9.2
90°-180°	395.0	9.6
0°-180°	4132.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1202	1202	1202	1202	1202	
5°	1216	1206	1206	1185	1182	117
15°	1234	1190	1154	1113	1109	348
25°	1192	1127	1045	1005	1004	548
35°	1089	1018	904	874	874	682
45°	954	873	738	729	736	738
55°	808	712	563	577	598	717
65°	639	535	383	423	466	637
75°	498	378	202	281	330	528
85°	379	257	53	162	223	322
90°	331	214	5	115	174	183
95°	295	181	3	78	134	234
105°	231	142	3	32	70	247
115°	190	117	4	15	34	190
125°	154	98	4	12	19	141
135°	124	78	4	9	14	97
145°	95	55	4	7	10	60
155°	65	37	5	4	7	31
165°	38	21	5	3	4	11
175°	5	9	5	2	1	1
180°	4	4	4	4	4	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1201.8	1201.8	1201.8	1201.8	1201.8	1201.8	1201.8	1201.8	1201.8
2.5°	1206.6	1210.2	1198.8	1206.0	1204.8	1206.0	1191.6	1203.6	1185.0
5°	1215.6	1217.4	1206.0	1210.2	1206.0	1195.8	1185.0	1180.8	1182.0
7.5°	1221.7	1231.3	1203.0	1204.2	1197.0	1186.2	1165.8	1169.4	1167.0
10°	1236.1	1225.3	1203.0	1197.6	1183.8	1172.4	1148.9	1150.7	1151.9
12.5°	1227.1	1224.7	1202.4	1182.6	1168.8	1159.2	1135.1	1129.1	1132.1
15°	1233.7	1223.5	1190.4	1174.8	1153.8	1136.9	1112.9	1108.7	1109.3
17.5°	1227.7	1219.2	1178.4	1156.8	1127.3	1117.1	1094.3	1087.0	1083.4
20°	1209.6	1205.4	1169.4	1132.1	1105.7	1085.8	1058.2	1054.0	1057.0
22.5°	1197.6	1187.4	1151.3	1114.1	1075.6	1058.2	1030.6	1030.0	1030.6
25°	1191.6	1178.4	1126.7	1087.6	1045.0	1029.4	1005.3	996.3	1004.1
27.5°	1173.6	1161.6	1100.9	1058.2	1010.7	989.7	969.9	968.1	969.3
30°	1149.5	1126.1	1077.4	1025.2	979.5	957.9	941.6	929.6	941.0
32.5°	1115.3	1102.1	1046.8	989.7	939.2	924.2	908.0	906.8	906.8
35°	1088.9	1079.2	1017.9	958.5	904.4	883.9	874.3	870.1	874.3
37.5°	1058.2	1043.8	987.3	920.6	865.3	847.9	838.3	834.7	837.7
40°	1031.8	1005.3	951.2	881.5	822.6	807.0	796.8	800.4	803.4
42.5°	992.7	977.7	908.6	841.9	786.0	769.2	760.8	763.8	771.0
45°	954.2	940.4	873.1	800.4	738.5	729.5	728.9	727.1	736.1
47.5°	919.4	899.6	834.1	759.6	698.9	688.6	689.8	695.9	703.7
50°	879.1	855.7	790.8	715.7	655.0	648.4	653.2	657.4	667.6
52.5°	838.9	820.2	751.1	674.2	610.5	605.7	612.3	626.1	632.2
55°	807.6	774.0	712.1	625.5	563.1	563.7	576.9	584.7	597.9
57.5°	757.7	732.5	667.6	582.3	518.6	522.8	540.8	554.0	562.5
60°	722.3	690.4	624.3	536.0	471.7	478.3	498.8	518.6	533.0
62.5°	676.6	649.0	579.3	490.3	428.4	438.1	460.9	484.3	494.6
65°	639.4	608.1	534.8	444.7	383.4	394.8	423.0	449.5	466.3
67.5°	607.5	575.1	495.2	402.6	337.7	354.5	387.6	413.4	426.6
70°	569.7	531.8	450.1	355.7	290.2	310.1	352.1	382.2	397.2
72.5°	529.4	498.8	411.0	312.5	246.4	270.4	316.7	347.9	362.3
75°	498.2	463.9	378.0	269.2	201.9	230.8	280.6	316.1	330.5
77.5°	466.3	435.1	340.7	229.5	162.2	194.7	248.8	287.8	302.9
80°	438.1	402.0	309.5	197.1	120.8	159.2	218.7	257.2	274.6
82.5°	406.8	375.6	282.4	162.8	85.9	126.8	189.3	231.4	245.8
85°	379.2	346.7	257.2	135.8	52.9	97.9	162.2	205.5	222.9
87.5°	353.9	326.9	233.8	115.4	26.4	74.5	136.4	180.3	200.1
90°	331.1	300.5	213.9	96.7	4.8	54.1	115.4	158.6	173.7
92.5°	316.7	280.0	197.7	84.7	3.0	38.5	96.1	138.8	156.2
95°	295.0	262.6	180.9	75.7	3.0	25.8	77.5	119.0	134.0
97.5°	276.4	246.4	168.9	70.3	2.4	17.4	63.7	99.8	115.4
100°	262.0	233.8	158.0	65.5	3.0	12.6	50.5	84.7	98.5
102.5°	245.8	219.9	149.6	62.5	3.0	9.0	39.7	71.5	84.1
105°	231.4	208.5	141.8	59.5	3.0	7.8	31.8	58.9	70.3
107.5°	220.5	196.5	135.2	57.7	3.0	7.8	25.2	48.1	57.7
110°	209.7	186.9	128.6	55.9	3.0	7.2	19.8	39.7	48.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	202.5	177.9	122.6	54.1	3.6	7.2	16.2	33.1	39.7
115°	189.9	170.1	117.2	53.5	3.6	6.6	15.0	27.0	33.7
117.5°	180.9	162.8	111.8	51.7	3.6	6.6	14.4	22.2	27.0
120°	174.3	154.4	107.0	49.9	3.6	6.0	13.2	19.8	22.8
122.5°	165.9	146.6	102.8	48.7	3.6	6.0	12.6	18.6	20.4
125°	154.4	139.4	97.9	46.3	4.2	6.0	12.0	17.4	19.2
127.5°	147.2	132.8	94.3	43.3	4.2	5.4	11.4	16.2	18.0
130°	141.2	125.6	90.1	40.3	4.2	5.4	10.8	15.0	16.8
132.5°	132.2	118.4	84.1	37.9	4.2	4.8	9.6	13.8	15.6
135°	123.8	112.4	78.1	35.5	4.2	4.8	9.0	13.2	14.4
137.5°	118.4	106.4	72.7	33.1	4.2	4.2	8.4	12.0	13.2
140°	109.4	99.8	66.7	30.6	4.2	4.2	7.8	11.4	12.0
142.5°	102.8	93.1	61.3	28.2	4.2	4.2	7.2	10.2	11.4
145°	94.9	86.5	55.3	25.8	4.2	3.6	6.6	9.6	10.2
147.5°	87.7	78.7	50.5	24.0	4.2	3.6	6.0	8.4	9.0
150°	80.5	70.9	45.7	22.2	4.2	3.6	5.4	7.2	8.4
152.5°	72.7	61.3	40.9	20.4	4.2	3.6	4.8	6.6	7.2
155°	64.9	53.5	36.7	18.6	4.8	3.6	4.2	5.4	6.6
157.5°	58.3	46.3	32.4	16.8	4.8	3.0	4.2	4.8	5.4
160°	50.5	39.7	28.8	15.0	4.8	3.0	3.6	4.2	4.8
162.5°	44.5	33.1	25.2	13.8	4.8	3.0	3.6	3.6	4.2
165°	37.9	27.6	21.0	12.6	4.8	3.0	3.0	3.0	3.6
167.5°	30.6	21.6	17.4	11.4	4.8	3.0	3.0	2.4	3.0
170°	22.8	16.2	14.4	10.2	4.8	3.0	2.4	1.8	2.4
172.5°	10.2	12.6	11.4	9.0	5.4	3.0	2.4	1.8	1.2
175°	5.4	9.0	9.0	7.8	5.4	3.0	2.4	1.8	0.6
177.5°	4.2	5.4	6.6	6.6	5.4	3.6	2.4	1.2	0.6
180°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6



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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	19.07	20.54	19.57	21.05	21.59	18.04	19.51	18.54	20.02	20.56
	3H	21.15	22.50	21.67	23.01	23.59	19.91	21.26	20.43	21.77	22.35
	4H	22.10	23.37	22.63	23.90	24.50	20.65	21.93	21.19	22.46	23.06
	6H	23.01	24.20	23.57	24.74	25.36	21.29	22.48	21.84	23.02	23.63
	8H	23.44	24.58	24.01	25.15	25.76	21.54	22.68	22.11	23.25	23.86
	12H	23.86	24.96	24.44	25.51	26.16	21.77	22.87	22.34	23.42	24.07
4H	2H	19.56	20.84	20.10	21.36	21.96	18.60	19.88	19.14	20.41	21.00
	3H	21.87	22.96	22.43	23.53	24.15	20.66	21.75	21.21	22.32	22.93
	4H	22.99	23.98	23.56	24.56	25.21	21.51	22.51	22.08	23.09	23.74
	6H	24.09	24.97	24.68	25.57	26.24	22.27	23.15	22.86	23.75	24.41
	8H	24.62	25.44	25.22	26.05	26.72	22.58	23.41	23.18	24.01	24.69
	12H	25.15	25.90	25.77	26.53	27.21	22.88	23.63	23.50	24.26	24.94
8H	4H	23.24	24.07	23.84	24.67	25.35	21.85	22.68	22.45	23.28	23.96
	6H	24.53	25.23	25.15	25.87	26.55	22.74	23.44	23.36	24.08	24.76
	8H	25.19	25.83	25.83	26.48	27.17	23.13	23.77	23.78	24.42	25.11
	12H	25.90	26.46	26.54	27.10	27.86	23.52	24.09	24.17	24.73	25.49
12H	4H	23.26	24.01	23.88	24.64	25.32	21.92	22.67	22.53	23.30	23.98
	6H	24.58	25.21	25.22	25.87	26.56	22.84	23.48	23.48	24.13	24.82
	8H	25.32	25.89	25.97	26.53	27.29	23.31	23.87	23.95	24.51	25.27