

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: P893482

Luminaire Tested: 4MB-4SL-ASMF-UNV-L835

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893482
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-L835
Description: 4000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 3500K CCT
Light Source: -
Ballast/Driver: -

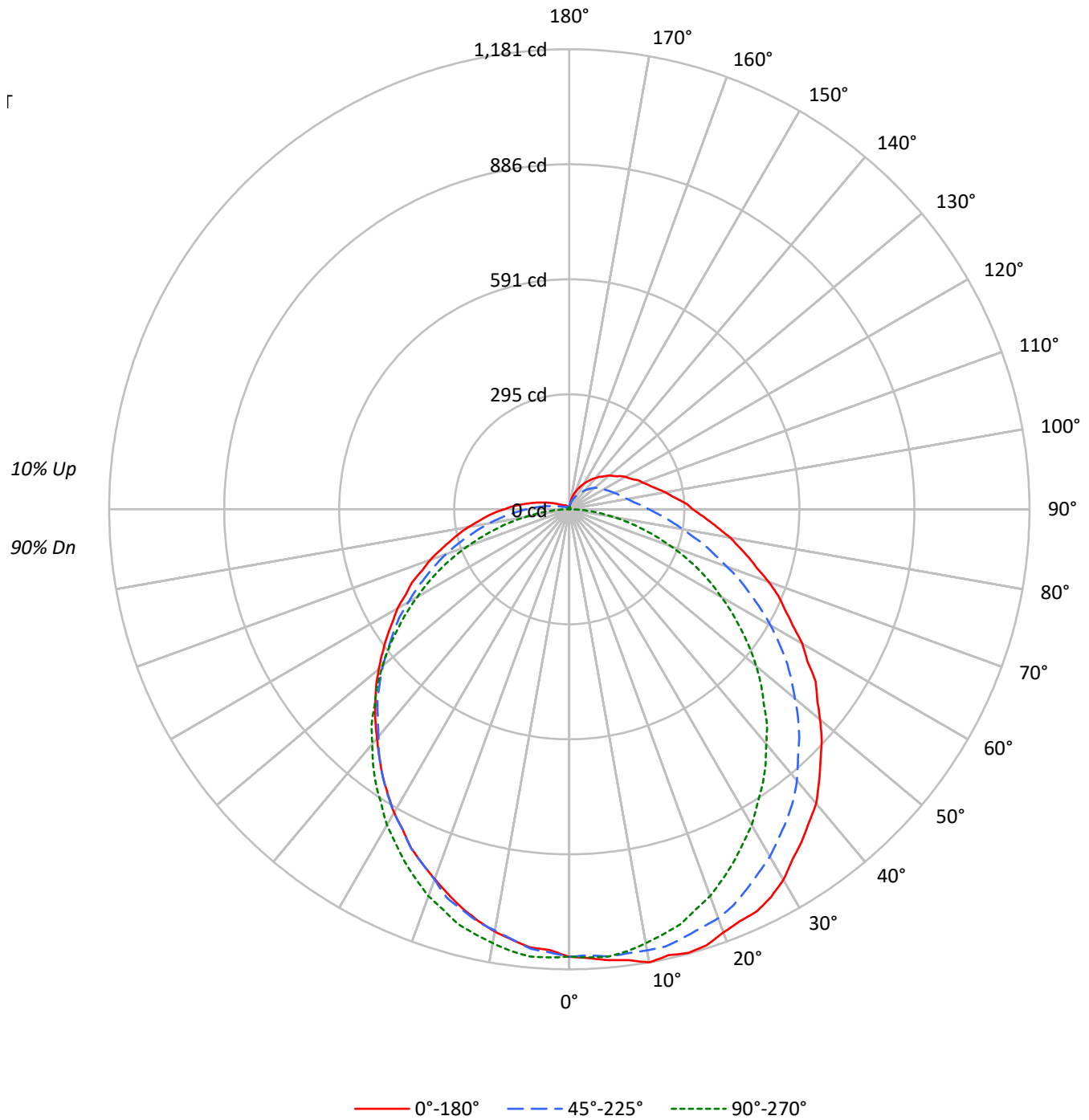
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3949.0 lumens
Efficiency: N/A
Efficacy: 132.5 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°	11698	11698	11698	11698	11698
5°	11845	11428	11317	11229	11516
10°	12149	11189	10804	10687	11322
15°	12327	10953	10324	10240	11085
20°	12388	10726	9778	9706	10825
25°	12612	10382	9203	9263	10628
30°	12689	10049	8656	8783	10388
35°	12659	9688	8082	8321	10165
40°	12773	9312	7493	7800	9945
45°	12735	8870	6912	7405	9824
50°	12832	8415	6354	6951	9744
55°	13117	8018	5714	6496	9710
60°	13335	7526	5059	6013	9840
65°	13797	6993	4395	5532	10063
70°	14922	6484	3602	5073	10405
75°	16768	6114	2755	4540	11126
80°	20843	5758	1845	4068	13067
85°	31158	5679	925	3584	18322

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 102572 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.0	2.8
10°-20°	312.3	7.9
20°-30°	471.0	11.9
30°-40°	565.3	14.3
40°-50°	588.6	14.9
50°-60°	545.7	13.8
60°-70°	449.4	11.4
70°-80°	324.2	8.2
80°-90°	205.8	5.2
90°-100°	126.9	3.2
100°-110°	84.6	2.1
110°-120°	60.2	1.5
120°-130°	44.1	1.1
130°-140°	30.3	0.8
140°-150°	18.5	0.5
150°-160°	9.2	0.2
160°-170°	3.4	0.1
170°-180°	0.6	0.0
0°-30°	892.3	22.6
0°-40°	1457.6	36.9
0°-60°	2591.9	65.6
0°-90°	3571.3	90.4
90°-120°	271.7	6.9
90°-150°	364.6	9.2
90°-180°	378.0	9.6
0°-180°	3949.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1149	1149	1149	1149	1149	
5°	1162	1153	1153	1132	1130	111
15°	1179	1138	1103	1064	1060	332
25°	1139	1077	999	961	960	524
35°	1041	973	864	836	836	652
45°	912	834	706	697	704	706
55°	772	680	538	551	571	686
65°	611	511	366	404	446	609
75°	476	361	193	268	316	505
85°	362	246	50	155	213	308
90°	316	204	5	110	166	175
95°	282	173	3	74	128	224
105°	221	136	3	30	67	236
115°	182	112	3	14	32	182
125°	148	94	4	12	18	134
135°	118	75	4	9	14	93
145°	91	53	4	6	10	57
155°	62	35	5	4	6	29
165°	36	20	5	3	3	11
175°	5	9	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°	1148.6	1148.6	1148.6	1148.6	1148.6	1148.6	1148.6	1148.6	1148.6
2.5°	1153.2	1156.6	1145.7	1152.6	1151.5	1152.6	1138.8	1150.3	1132.5
5°	1161.8	1163.5	1152.6	1156.6	1152.6	1142.9	1132.5	1128.5	1129.6
7.5°	1167.5	1176.7	1149.7	1150.9	1144.0	1133.7	1114.1	1117.6	1115.3
10°	1181.3	1171.0	1149.7	1144.6	1131.4	1120.5	1098.1	1099.8	1100.9
12.5°	1172.7	1170.4	1149.2	1130.2	1117.0	1107.8	1084.8	1079.1	1082.0
15°	1179.0	1169.3	1137.7	1122.8	1102.7	1086.6	1063.6	1059.6	1060.2
17.5°	1173.3	1165.3	1126.2	1105.5	1077.4	1067.6	1045.8	1038.9	1035.5
20°	1156.1	1152.0	1117.6	1082.0	1056.7	1037.8	1011.3	1007.3	1010.2
22.5°	1144.6	1134.8	1100.4	1064.7	1028.0	1011.3	984.9	984.3	984.9
25°	1138.8	1126.2	1076.8	1039.5	998.7	983.8	960.8	952.2	959.7
27.5°	1121.6	1110.1	1052.1	1011.3	966.0	945.9	926.9	925.2	926.3
30°	1098.6	1076.2	1029.7	979.8	936.1	915.4	899.9	888.4	899.4
32.5°	1065.9	1053.3	1000.4	945.9	897.6	883.3	867.8	866.6	866.6
35°	1040.6	1031.4	972.9	916.0	864.3	844.8	835.6	831.6	835.6
37.5°	1011.3	997.6	943.6	879.8	827.0	810.3	801.1	797.7	800.6
40°	986.1	960.8	909.1	842.5	786.2	771.3	761.5	765.0	767.8
42.5°	948.7	934.4	868.3	804.6	751.2	735.1	727.1	729.9	736.8
45°	912.0	898.8	834.5	765.0	705.8	697.2	696.6	694.9	703.5
47.5°	878.7	859.7	797.1	725.9	667.9	658.1	659.3	665.0	672.5
50°	840.2	817.8	755.8	684.0	626.0	619.7	624.3	628.3	638.0
52.5°	801.7	783.9	717.9	644.4	583.5	578.9	585.2	598.4	604.2
55°	771.9	739.7	680.5	597.8	538.1	538.7	551.3	558.8	571.4
57.5°	724.2	700.1	638.0	556.5	495.6	499.6	516.9	529.5	537.5
60°	690.3	659.9	596.7	512.3	450.8	457.1	476.7	495.6	509.4
62.5°	646.7	620.2	553.6	468.6	409.5	418.7	440.5	462.9	472.6
65°	611.1	581.2	511.1	425.0	366.4	377.3	404.3	429.6	445.7
67.5°	580.6	549.6	473.2	384.8	322.8	338.8	370.4	395.1	407.8
70°	544.4	508.3	430.1	340.0	277.4	296.3	336.5	365.3	379.6
72.5°	506.0	476.7	392.8	298.6	235.5	258.4	302.7	332.5	346.3
75°	476.1	443.4	361.2	257.3	193.0	220.5	268.2	302.1	315.9
77.5°	445.7	415.8	325.6	219.4	155.1	186.1	237.8	275.1	289.4
80°	418.7	384.2	295.8	188.4	115.4	152.2	209.0	245.8	262.5
82.5°	388.8	358.9	269.9	155.6	82.1	121.2	180.9	221.1	234.9
85°	362.4	331.4	245.8	129.8	50.5	93.6	155.1	196.4	213.1
87.5°	338.3	312.4	223.4	110.3	25.3	71.2	130.4	172.3	191.2
90°	316.4	287.1	204.5	92.5	4.6	51.7	110.3	151.6	166.0
92.5°	302.7	267.6	188.9	81.0	2.9	36.8	91.9	132.7	149.3
95°	282.0	251.0	172.9	72.4	2.9	24.7	74.1	113.7	128.1
97.5°	264.2	235.5	161.4	67.2	2.3	16.7	60.9	95.3	110.3
100°	250.4	223.4	151.0	62.6	2.9	12.1	48.2	81.0	94.2
102.5°	234.9	210.2	143.0	59.7	2.9	8.6	37.9	68.3	80.4
105°	221.1	199.3	135.5	56.9	2.9	7.5	30.4	56.3	67.2
107.5°	210.8	187.8	129.2	55.1	2.9	7.5	24.1	45.9	55.1
110°	200.4	178.6	122.9	53.4	2.9	6.9	19.0	37.9	45.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	193.5	170.0	117.2	51.7	3.4	6.9	15.5	31.6	37.9
115°	181.5	162.5	112.0	51.1	3.4	6.3	14.4	25.8	32.2
117.5°	172.9	155.6	106.8	49.4	3.4	6.3	13.8	21.2	25.8
120°	166.5	147.6	102.2	47.7	3.4	5.7	12.6	19.0	21.8
122.5°	158.5	140.1	98.2	46.5	3.4	5.7	12.1	17.8	19.5
125°	147.6	133.2	93.6	44.2	4.0	5.7	11.5	16.7	18.4
127.5°	140.7	126.9	90.2	41.3	4.0	5.2	10.9	15.5	17.2
130°	135.0	120.0	86.1	38.5	4.0	5.2	10.3	14.4	16.1
132.5°	126.3	113.1	80.4	36.2	4.0	4.6	9.2	13.2	14.9
135°	118.3	107.4	74.7	33.9	4.0	4.6	8.6	12.6	13.8
137.5°	113.1	101.7	69.5	31.6	4.0	4.0	8.0	11.5	12.6
140°	104.5	95.3	63.7	29.3	4.0	4.0	7.5	10.9	11.5
142.5°	98.2	89.0	58.6	27.0	4.0	4.0	6.9	9.8	10.9
145°	90.7	82.7	52.8	24.7	4.0	3.4	6.3	9.2	9.8
147.5°	83.8	75.2	48.2	23.0	4.0	3.4	5.7	8.0	8.6
150°	77.0	67.8	43.6	21.2	4.0	3.4	5.2	6.9	8.0
152.5°	69.5	58.6	39.1	19.5	4.0	3.4	4.6	6.3	6.9
155°	62.0	51.1	35.0	17.8	4.6	3.4	4.0	5.2	6.3
157.5°	55.7	44.2	31.0	16.1	4.6	2.9	4.0	4.6	5.2
160°	48.2	37.9	27.6	14.4	4.6	2.9	3.4	4.0	4.6
162.5°	42.5	31.6	24.1	13.2	4.6	2.9	3.4	3.4	4.0
165°	36.2	26.4	20.1	12.1	4.6	2.9	2.9	2.9	3.4
167.5°	29.3	20.7	16.7	10.9	4.6	2.9	2.9	2.3	2.9
170°	21.8	15.5	13.8	9.8	4.6	2.9	2.3	1.7	2.3
172.5°	9.8	12.1	10.9	8.6	5.2	2.9	2.3	1.7	1.1
175°	5.2	8.6	8.6	7.5	5.2	2.9	2.3	1.7	0.6
177.5°	4.0	5.2	6.3	6.3	5.2	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	18.91	20.39	19.41	20.89	21.43	17.88	19.36	18.39	19.86	20.40
	3H	21.00	22.34	21.51	22.85	23.44	19.75	21.10	20.27	21.61	22.19
	4H	21.94	23.22	22.48	23.74	24.34	20.50	21.77	21.04	22.30	22.90
	6H	22.86	24.05	23.41	24.59	25.20	21.13	22.32	21.68	22.86	23.47
	8H	23.29	24.42	23.85	24.99	25.61	21.39	22.52	21.95	23.09	23.71
	12H	23.71	24.80	24.28	25.36	26.00	21.62	22.71	22.19	23.27	23.91
4H	2H	19.40	20.68	19.94	21.21	21.80	18.44	19.72	18.98	20.25	20.84
	3H	21.72	22.80	22.27	23.37	23.99	20.50	21.59	21.06	22.16	22.78
	4H	22.83	23.82	23.40	24.40	25.05	21.36	22.35	21.93	22.93	23.58
	6H	23.93	24.81	24.53	25.42	26.08	22.11	22.99	22.70	23.59	24.26
	8H	24.46	25.29	25.06	25.89	26.57	22.43	23.25	23.02	23.86	24.53
	12H	24.99	25.74	25.61	26.37	27.05	22.72	23.47	23.34	24.10	24.78
8H	4H	23.09	23.91	23.68	24.51	25.19	21.69	22.52	22.29	23.12	23.80
	6H	24.37	25.07	25.00	25.71	26.39	22.58	23.28	23.21	23.92	24.60
	8H	25.04	25.67	25.68	26.32	27.01	22.98	23.61	23.62	24.26	24.96
	12H	25.74	26.30	26.38	26.95	27.70	23.37	23.93	24.01	24.57	25.33
12H	4H	23.10	23.85	23.72	24.48	25.16	21.76	22.51	22.38	23.14	23.82
	6H	24.42	25.06	25.06	25.71	26.40	22.69	23.32	23.33	23.97	24.67
	8H	25.17	25.73	25.81	26.37	27.13	23.15	23.71	23.79	24.36	25.11