

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: P893600

Luminaire Tested: 4MB-5SL-ASMF-UNV-L950

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893600  
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-5SL-ASMF-UNV-L950  
Description: 5000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 5000K CCT  
Light Source: -  
Ballast/Driver: -

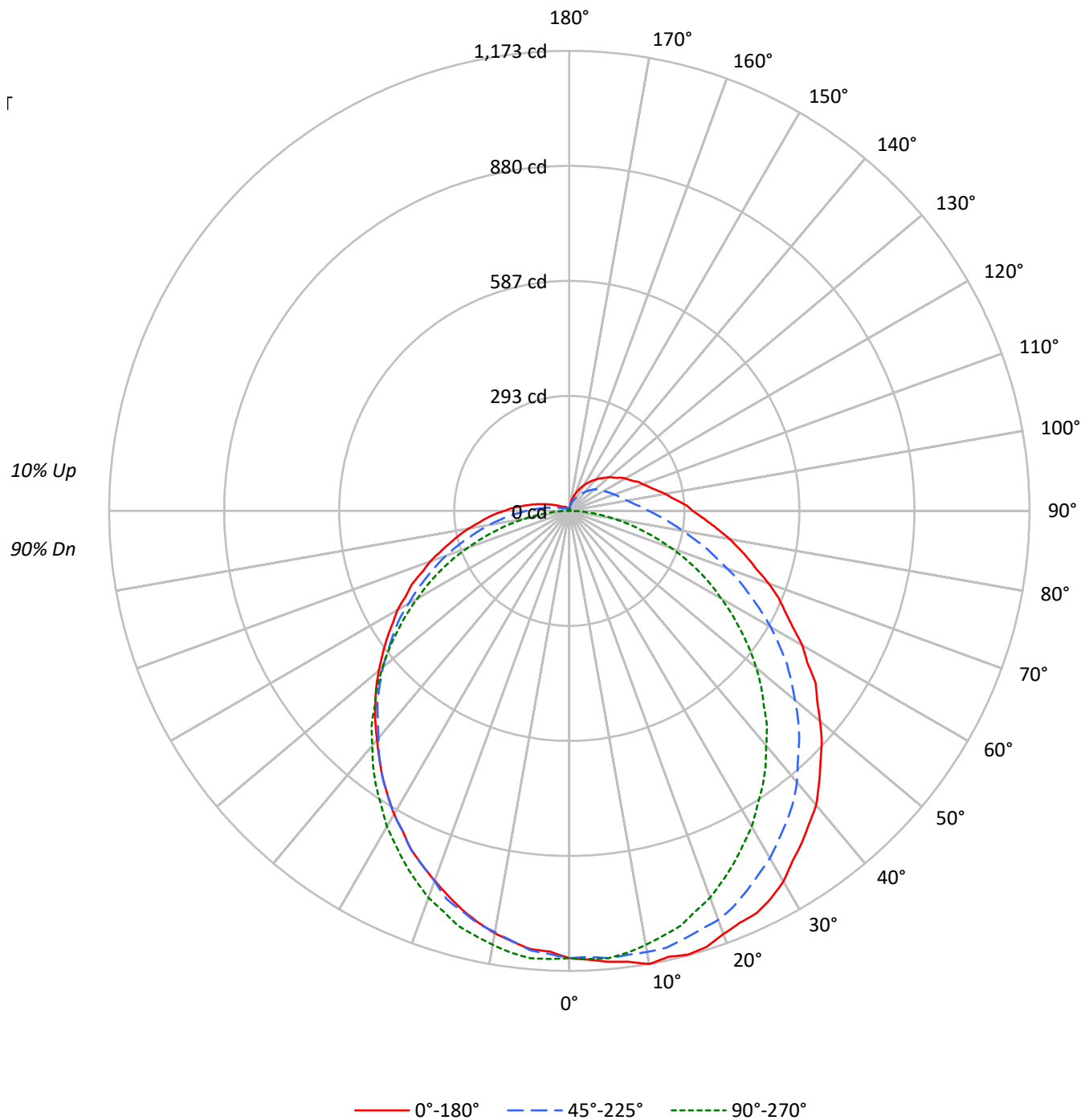
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3922.0 lumens  
Efficiency: N/A  
Efficacy: 112.1 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): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.995  
Total Harmonic Distortion (THDi): 9.55  
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°	11617	11617	11617	11617	11617
5°	11764	11350	11240	11153	11438
10°	12067	11113	10729	10614	11245
15°	12243	10878	10253	10170	11009
20°	12303	10653	9711	9640	10751
25°	12526	10310	9140	9200	10555
30°	12602	9981	8597	8723	10317
35°	12573	9621	8027	8264	10096
40°	12685	9249	7442	7747	9878
45°	12647	8809	6865	7355	9757
50°	12745	8357	6311	6903	9678
55°	13027	7964	5675	6452	9644
60°	13244	7475	5024	5971	9773
65°	13702	6945	4365	5493	9993
70°	14821	6440	3578	5038	10334
75°	16652	6073	2735	4509	11048
80°	20698	5717	1832	4041	12978
85°	30944	5640	920	3558	18193

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 101891 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.2	2.8
10°-20°	310.2	7.9
20°-30°	467.8	11.9
30°-40°	561.4	14.3
40°-50°	584.6	14.9
50°-60°	541.9	13.8
60°-70°	446.3	11.4
70°-80°	321.9	8.2
80°-90°	204.4	5.2
90°-100°	126.0	3.2
100°-110°	84.0	2.1
110°-120°	59.8	1.5
120°-130°	43.8	1.1
130°-140°	30.2	0.8
140°-150°	18.3	0.5
150°-160°	9.1	0.2
160°-170°	3.3	0.1
170°-180°	0.6	0.0
0°-30°	886.2	22.6
0°-40°	1447.7	36.9
0°-60°	2574.2	65.6
0°-90°	3546.8	90.4
90°-120°	269.9	6.9
90°-150°	362.2	9.2
90°-180°	375.0	9.6
0°-180°	3922.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1141	1141	1141	1141	1141	
5°	1154	1145	1145	1125	1122	111
15°	1171	1130	1095	1056	1053	330
25°	1131	1069	992	954	953	520
35°	1034	966	858	830	830	648
45°	906	829	701	692	699	701
55°	767	676	534	548	568	681
65°	607	508	364	402	443	604
75°	473	359	192	266	314	501
85°	360	244	50	154	212	305
90°	314	203	5	110	165	173
95°	280	172	3	74	127	223
105°	220	135	3	30	67	235
115°	180	111	3	14	32	180
125°	147	93	4	11	18	133
135°	118	74	4	9	14	92
145°	90	52	4	6	10	57
155°	62	35	5	4	6	29
165°	36	20	5	3	3	10
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°	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7
2.5°	1145.3	1148.7	1137.9	1144.7	1143.6	1144.7	1131.0	1142.5	1124.8
5°	1153.9	1155.6	1144.7	1148.7	1144.7	1135.0	1124.8	1120.8	1121.9
7.5°	1159.6	1168.7	1141.9	1143.0	1136.2	1125.9	1106.5	1109.9	1107.7
10°	1173.3	1163.0	1141.9	1136.8	1123.6	1112.8	1090.6	1092.3	1093.4
12.5°	1164.7	1162.4	1141.3	1122.5	1109.4	1100.2	1077.4	1071.7	1074.6
15°	1171.0	1161.3	1129.9	1115.1	1095.1	1079.1	1056.3	1052.3	1052.9
17.5°	1165.3	1157.3	1118.5	1098.0	1070.0	1060.3	1038.6	1031.8	1028.4
20°	1148.2	1144.2	1109.9	1074.6	1049.5	1030.7	1004.4	1000.4	1003.3
22.5°	1136.8	1127.1	1092.8	1057.5	1021.0	1004.4	978.2	977.6	978.2
25°	1131.0	1118.5	1069.4	1032.4	991.9	977.0	954.2	945.7	953.1
27.5°	1113.9	1102.5	1044.9	1004.4	959.4	939.4	920.6	918.9	920.0
30°	1091.1	1068.9	1022.7	973.1	929.7	909.2	893.8	882.4	893.2
32.5°	1058.6	1046.1	993.6	939.4	891.5	877.2	861.8	860.7	860.7
35°	1033.5	1024.4	966.2	909.7	858.4	839.0	829.9	825.9	829.9
37.5°	1004.4	990.7	937.1	873.8	821.3	804.8	795.7	792.2	795.1
40°	979.3	954.2	902.9	836.7	780.8	766.0	756.3	759.7	762.6
42.5°	942.3	928.0	862.4	799.1	746.0	730.1	722.1	724.9	731.8
45°	905.7	892.6	828.7	759.7	701.0	692.4	691.9	690.1	698.7
47.5°	872.7	853.8	791.7	720.9	663.3	653.6	654.8	660.5	667.9
50°	834.5	812.2	750.6	679.3	621.7	615.4	620.0	624.0	633.7
52.5°	796.2	778.6	713.0	640.0	579.5	574.9	581.2	594.3	600.0
55°	766.6	734.6	675.9	593.8	534.4	535.0	547.6	555.0	567.5
57.5°	719.2	695.3	633.7	552.7	492.2	496.2	513.3	525.9	533.9
60°	685.6	655.4	592.6	508.8	447.7	454.0	473.4	492.2	505.9
62.5°	642.2	616.0	549.8	465.4	406.7	415.8	437.5	459.7	469.4
65°	606.9	577.2	507.6	422.1	363.9	374.7	401.5	426.6	442.6
67.5°	576.6	545.8	470.0	382.1	320.5	336.5	367.9	392.4	405.0
70°	540.7	504.8	427.2	337.7	275.5	294.3	334.2	362.8	377.0
72.5°	502.5	473.4	390.1	296.6	233.9	256.7	300.6	330.2	343.9
75°	472.8	440.3	358.8	255.5	191.6	219.0	266.4	300.0	313.7
77.5°	442.6	412.9	323.4	217.9	154.0	184.8	236.1	273.2	287.5
80°	415.8	381.6	293.7	187.1	114.6	151.1	207.6	244.1	260.7
82.5°	386.1	356.5	268.1	154.6	81.6	120.3	179.7	219.6	233.3
85°	359.9	329.1	244.1	128.9	50.2	93.0	154.0	195.1	211.6
87.5°	335.9	310.3	221.9	109.5	25.1	70.7	129.5	171.1	189.9
90°	314.3	285.2	203.1	91.8	4.6	51.3	109.5	150.6	164.8
92.5°	300.6	265.8	187.7	80.4	2.9	36.5	91.3	131.8	148.3
95°	280.1	249.3	171.7	71.9	2.9	24.5	73.6	112.9	127.2
97.5°	262.4	233.9	160.3	66.7	2.3	16.5	60.5	94.7	109.5
100°	248.7	221.9	150.0	62.2	2.9	12.0	47.9	80.4	93.5
102.5°	233.3	208.8	142.0	59.3	2.9	8.6	37.6	67.9	79.9
105°	219.6	197.9	134.6	56.5	2.9	7.4	30.2	55.9	66.7
107.5°	209.3	186.5	128.3	54.8	2.9	7.4	24.0	45.6	54.8
110°	199.1	177.4	122.1	53.0	2.9	6.8	18.8	37.6	45.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	192.2	168.8	116.4	51.3	3.4	6.8	15.4	31.4	37.6
115°	180.2	161.4	111.2	50.8	3.4	6.3	14.3	25.7	31.9
117.5°	171.7	154.6	106.1	49.1	3.4	6.3	13.7	21.1	25.7
120°	165.4	146.6	101.5	47.3	3.4	5.7	12.5	18.8	21.7
122.5°	157.4	139.2	97.5	46.2	3.4	5.7	12.0	17.7	19.4
125°	146.6	132.3	93.0	43.9	4.0	5.7	11.4	16.5	18.3
127.5°	139.7	126.1	89.5	41.1	4.0	5.1	10.8	15.4	17.1
130°	134.0	119.2	85.6	38.2	4.0	5.1	10.3	14.3	16.0
132.5°	125.5	112.4	79.9	35.9	4.0	4.6	9.1	13.1	14.8
135°	117.5	106.7	74.1	33.7	4.0	4.6	8.6	12.5	13.7
137.5°	112.4	101.0	69.0	31.4	4.0	4.0	8.0	11.4	12.5
140°	103.8	94.7	63.3	29.1	4.0	4.0	7.4	10.8	11.4
142.5°	97.5	88.4	58.2	26.8	4.0	4.0	6.8	9.7	10.8
145°	90.1	82.1	52.5	24.5	4.0	3.4	6.3	9.1	9.7
147.5°	83.3	74.7	47.9	22.8	4.0	3.4	5.7	8.0	8.6
150°	76.4	67.3	43.3	21.1	4.0	3.4	5.1	6.8	8.0
152.5°	69.0	58.2	38.8	19.4	4.0	3.4	4.6	6.3	6.8
155°	61.6	50.8	34.8	17.7	4.6	3.4	4.0	5.1	6.3
157.5°	55.3	43.9	30.8	16.0	4.6	2.9	4.0	4.6	5.1
160°	47.9	37.6	27.4	14.3	4.6	2.9	3.4	4.0	4.6
162.5°	42.2	31.4	24.0	13.1	4.6	2.9	3.4	3.4	4.0
165°	35.9	26.2	20.0	12.0	4.6	2.9	2.9	2.9	3.4
167.5°	29.1	20.5	16.5	10.8	4.6	2.9	2.9	2.3	2.9
170°	21.7	15.4	13.7	9.7	4.6	2.9	2.3	1.7	2.3
172.5°	9.7	12.0	10.8	8.6	5.1	2.9	2.3	1.7	1.1
175°	5.1	8.6	8.6	7.4	5.1	2.9	2.3	1.7	0.6
177.5°	4.0	5.1	6.3	6.3	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	18.88	20.36	19.39	20.86	21.41	17.85	19.33	18.36	19.83	20.38
	3H	20.97	22.32	21.49	22.83	23.41	19.73	21.07	20.25	21.59	22.17
	4H	21.91	23.19	22.45	23.72	24.32	20.47	21.75	21.01	22.28	22.87
	6H	22.83	24.02	23.39	24.56	25.17	21.11	22.29	21.66	22.83	23.45
	8H	23.26	24.40	23.83	24.96	25.58	21.36	22.50	21.93	23.06	23.68
	12H	23.68	24.77	24.25	25.33	25.98	21.59	22.68	22.16	23.24	23.89
4H	2H	19.38	20.65	19.92	21.18	21.78	18.42	19.70	18.96	20.22	20.82
	3H	21.69	22.78	22.24	23.35	23.97	20.48	21.57	21.03	22.14	22.75
	4H	22.80	23.80	23.38	24.38	25.03	21.33	22.33	21.90	22.91	23.55
	6H	23.91	24.79	24.50	25.39	26.05	22.09	22.97	22.68	23.57	24.23
	8H	24.44	25.26	25.03	25.87	26.54	22.40	23.23	23.00	23.83	24.51
	12H	24.97	25.72	25.58	26.35	27.03	22.70	23.45	23.31	24.08	24.76
8H	4H	23.06	23.89	23.66	24.49	25.17	21.67	22.50	22.27	23.10	23.77
	6H	24.34	25.04	24.97	25.69	26.37	22.55	23.25	23.18	23.90	24.58
	8H	25.01	25.64	25.65	26.30	26.99	22.95	23.58	23.59	24.24	24.93
	12H	25.72	26.28	26.36	26.92	27.68	23.34	23.91	23.98	24.55	25.31
12H	4H	23.08	23.83	23.70	24.46	25.14	21.73	22.48	22.35	23.11	23.80
	6H	24.40	25.03	25.04	25.69	26.38	22.66	23.30	23.30	23.95	24.64
	8H	25.14	25.71	25.78	26.35	27.11	23.13	23.69	23.77	24.33	25.09