

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: P893598

Luminaire Tested: 4MB-5SL-ASMF-UNV-L935

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893598  
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-L935  
Description: 5000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 3500K CCT  
Light Source: -  
Ballast/Driver: -

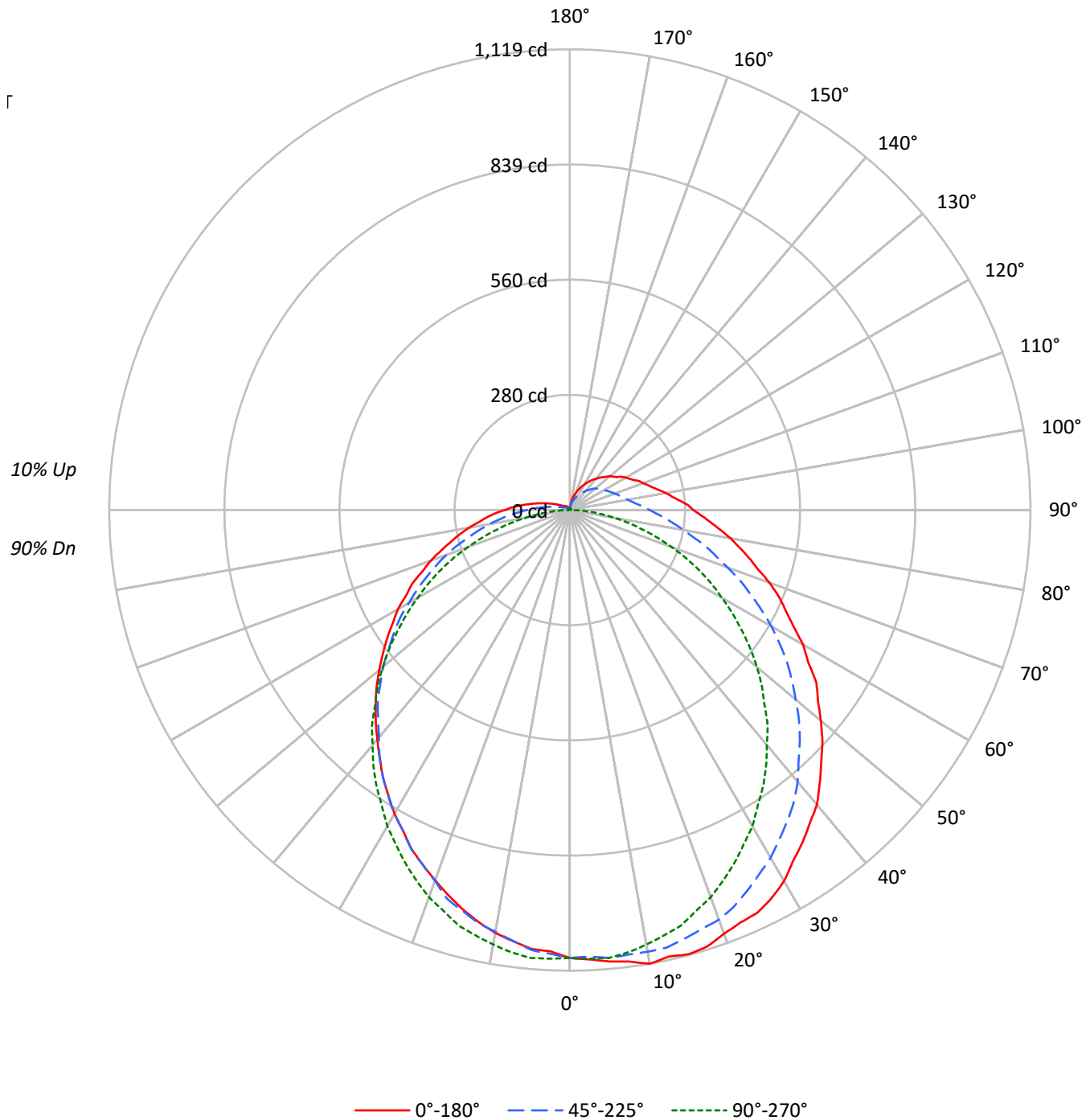
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3741.0 lumens  
Efficiency: N/A  
Efficacy: 106.9 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	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	93	93	90		
	1	105	99	95	90	101	96	92	88	90	87	83	85	82	79	79	77	75	75	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	62	62	59		
	3	86	75	66	60	83	73	65	58	68	62	56	64	59	54	60	56	52	52	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	44	44	42		
	5	72	59	50	43	69	57	49	42	54	47	41	51	45	40	48	43	38	38	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	34	34	31		
	7	62	48	39	33	59	47	38	32	44	37	32	42	36	31	40	34	30	30	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	27	27	25		
	9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	24	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	22	22	20		

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	11081	11081	11081	11081	11081
5°	11221	10826	10721	10638	10910
10°	11509	10600	10235	10123	10726
15°	11678	10377	9780	9701	10500
20°	11735	10161	9262	9196	10255
25°	11947	9835	8718	8775	10068
30°	12021	9520	8200	8320	9841
35°	11992	9177	7657	7882	9630
40°	12099	8822	7099	7390	9422
45°	12063	8403	6548	7014	9307
50°	12155	7972	6019	6585	9230
55°	12425	7596	5414	6154	9198
60°	12632	7130	4793	5696	9323
65°	13070	6625	4163	5240	9532
70°	14138	6143	3413	4806	9857
75°	15884	5792	2610	4301	10538
80°	19743	5454	1749	3854	12375
85°	29516	5381	877	3394	17350

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 97190 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	103.2	2.8
10°-20°	295.9	7.9
20°-30°	446.2	11.9
30°-40°	535.5	14.3
40°-50°	557.6	14.9
50°-60°	516.9	13.8
60°-70°	425.7	11.4
70°-80°	307.1	8.2
80°-90°	195.0	5.2
90°-100°	120.2	3.2
100°-110°	80.1	2.1
110°-120°	57.1	1.5
120°-130°	41.8	1.1
130°-140°	28.8	0.8
140°-150°	17.5	0.5
150°-160°	8.7	0.2
160°-170°	3.2	0.1
170°-180°	0.5	0.0
0°-30°	845.3	22.6
0°-40°	1380.9	36.9
0°-60°	2455.4	65.6
0°-90°	3383.2	90.4
90°-120°	257.4	6.9
90°-150°	345.5	9.2
90°-180°	358.0	9.6
0°-180°	3741.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1088	1088	1088	1088	1088	
5°	1101	1092	1092	1073	1070	106
15°	1117	1078	1045	1008	1004	315
25°	1079	1020	946	910	909	496
35°	986	922	819	792	792	618
45°	864	790	669	660	666	668
55°	731	645	510	522	541	650
65°	579	484	347	383	422	576
75°	451	342	183	254	299	478
85°	343	233	48	147	202	291
90°	300	194	4	104	157	165
95°	267	164	3	70	121	212
105°	210	128	3	29	64	224
115°	172	106	3	14	30	172
125°	140	89	4	11	17	127
135°	112	71	4	8	13	88
145°	86	50	4	6	9	54
155°	59	33	4	4	6	28
165°	34	19	4	3	3	10
175°	5	8	5	2	0	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°	1088.1	1088.1	1088.1	1088.1	1088.1	1088.1	1088.1	1088.1	1088.1
2.5°	1092.5	1095.7	1085.4	1091.9	1090.8	1091.9	1078.8	1089.7	1072.9
5°	1100.6	1102.2	1091.9	1095.7	1091.9	1082.7	1072.9	1069.1	1070.1
7.5°	1106.1	1114.8	1089.2	1090.3	1083.7	1074.0	1055.5	1058.7	1056.5
10°	1119.1	1109.3	1089.2	1084.3	1071.8	1061.4	1040.2	1041.9	1042.9
12.5°	1110.9	1108.8	1088.6	1070.7	1058.2	1049.5	1027.7	1022.3	1025.0
15°	1116.9	1107.7	1077.8	1063.6	1044.6	1029.3	1007.6	1003.8	1004.3
17.5°	1111.5	1103.9	1066.9	1047.3	1020.6	1011.4	990.7	984.2	980.9
20°	1095.2	1091.4	1058.7	1025.0	1001.0	983.1	958.1	954.3	957.0
22.5°	1084.3	1075.0	1042.4	1008.7	973.8	958.1	933.0	932.5	933.0
25°	1078.8	1066.9	1020.1	984.7	946.1	932.0	910.2	902.0	909.1
27.5°	1062.5	1051.6	996.7	958.1	915.1	896.0	878.1	876.5	877.6
30°	1040.8	1019.5	975.5	928.1	886.8	867.2	852.5	841.6	852.0
32.5°	1009.8	997.8	947.7	896.0	850.3	836.7	822.1	821.0	821.0
35°	985.8	977.1	921.6	867.8	818.8	800.3	791.6	787.8	791.6
37.5°	958.1	945.0	893.9	833.5	783.4	767.7	758.9	755.7	758.4
40°	934.1	910.2	861.2	798.1	744.8	730.7	721.4	724.7	727.4
42.5°	898.8	885.2	822.6	762.2	711.6	696.4	688.8	691.5	698.0
45°	863.9	851.4	790.5	724.7	668.6	660.5	659.9	658.3	666.5
47.5°	832.4	814.4	755.1	687.7	632.7	623.5	624.6	630.0	637.1
50°	795.9	774.7	716.0	648.0	593.0	587.0	591.4	595.2	604.4
52.5°	759.5	742.6	680.1	610.4	552.8	548.4	554.4	566.9	572.3
55°	731.2	700.7	644.7	566.4	509.8	510.3	522.3	529.4	541.3
57.5°	686.0	663.2	604.4	527.2	469.5	473.3	489.6	501.6	509.2
60°	653.9	625.1	565.3	485.3	427.1	433.1	451.6	469.5	482.6
62.5°	612.6	587.6	524.5	443.9	387.9	396.6	417.3	438.5	447.8
65°	578.9	550.6	484.2	402.6	347.1	357.4	383.0	406.9	422.2
67.5°	550.0	520.7	448.3	364.5	305.8	321.0	350.9	374.3	386.3
70°	515.8	481.5	407.5	322.1	262.8	280.7	318.8	346.0	359.6
72.5°	479.3	451.6	372.1	282.9	223.1	244.8	286.7	315.0	328.1
75°	451.0	420.0	342.2	243.7	182.8	208.9	254.1	286.2	299.2
77.5°	422.2	393.9	308.5	207.8	146.9	176.3	225.2	260.6	274.2
80°	396.6	364.0	280.2	178.4	109.4	144.2	198.0	232.9	248.6
82.5°	368.3	340.0	255.7	147.4	77.8	114.8	171.4	209.5	222.5
85°	343.3	313.9	232.9	123.0	47.9	88.7	146.9	186.1	201.8
87.5°	320.4	296.0	211.6	104.5	23.9	67.5	123.5	163.2	181.2
90°	299.8	272.0	193.7	87.6	4.4	49.0	104.5	143.6	157.2
92.5°	286.7	253.5	179.0	76.7	2.7	34.8	87.0	125.7	141.5
95°	267.1	237.7	163.8	68.6	2.7	23.4	70.2	107.7	121.3
97.5°	250.3	223.1	152.9	63.7	2.2	15.8	57.7	90.3	104.5
100°	237.2	211.6	143.1	59.3	2.7	11.4	45.7	76.7	89.2
102.5°	222.5	199.1	135.5	56.6	2.7	8.2	35.9	64.7	76.2
105°	209.5	188.8	128.4	53.9	2.7	7.1	28.8	53.3	63.7
107.5°	199.7	177.9	122.4	52.2	2.7	7.1	22.9	43.5	52.2
110°	189.9	169.2	116.4	50.6	2.7	6.5	18.0	35.9	43.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	183.3	161.0	111.0	49.0	3.3	6.5	14.7	29.9	35.9
115°	171.9	154.0	106.1	48.4	3.3	6.0	13.6	24.5	30.5
117.5°	163.8	147.4	101.2	46.8	3.3	6.0	13.1	20.1	24.5
120°	157.8	139.8	96.8	45.2	3.3	5.4	12.0	18.0	20.7
122.5°	150.2	132.7	93.0	44.1	3.3	5.4	11.4	16.9	18.5
125°	139.8	126.2	88.7	41.9	3.8	5.4	10.9	15.8	17.4
127.5°	133.3	120.2	85.4	39.2	3.8	4.9	10.3	14.7	16.3
130°	127.9	113.7	81.6	36.5	3.8	4.9	9.8	13.6	15.2
132.5°	119.7	107.2	76.2	34.3	3.8	4.4	8.7	12.5	14.1
135°	112.1	101.7	70.7	32.1	3.8	4.4	8.2	12.0	13.1
137.5°	107.2	96.3	65.8	29.9	3.8	3.8	7.6	10.9	12.0
140°	99.0	90.3	60.4	27.7	3.8	3.8	7.1	10.3	10.9
142.5°	93.0	84.3	55.5	25.6	3.8	3.8	6.5	9.2	10.3
145°	86.0	78.3	50.1	23.4	3.8	3.3	6.0	8.7	9.2
147.5°	79.4	71.3	45.7	21.8	3.8	3.3	5.4	7.6	8.2
150°	72.9	64.2	41.3	20.1	3.8	3.3	4.9	6.5	7.6
152.5°	65.8	55.5	37.0	18.5	3.8	3.3	4.4	6.0	6.5
155°	58.8	48.4	33.2	16.9	4.4	3.3	3.8	4.9	6.0
157.5°	52.8	41.9	29.4	15.2	4.4	2.7	3.8	4.4	4.9
160°	45.7	35.9	26.1	13.6	4.4	2.7	3.3	3.8	4.4
162.5°	40.3	29.9	22.9	12.5	4.4	2.7	3.3	3.3	3.8
165°	34.3	25.0	19.0	11.4	4.4	2.7	2.7	2.7	3.3
167.5°	27.7	19.6	15.8	10.3	4.4	2.7	2.7	2.2	2.7
170°	20.7	14.7	13.1	9.2	4.4	2.7	2.2	1.6	2.2
172.5°	9.2	11.4	10.3	8.2	4.9	2.7	2.2	1.6	1.1
175°	4.9	8.2	8.2	7.1	4.9	2.7	2.2	1.6	0.5
177.5°	3.8	4.9	6.0	6.0	4.9	3.3	2.2	1.1	0.5
180°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3



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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	18.72	20.20	19.23	20.70	21.24	17.69	19.17	18.20	19.67	20.21
	3H	20.81	22.15	21.33	22.67	23.25	19.56	20.91	20.08	21.42	22.00
	4H	21.75	23.03	22.29	23.55	24.15	20.31	21.59	20.85	22.11	22.71
	6H	22.67	23.86	23.22	24.40	25.01	20.94	22.13	21.49	22.67	23.28
	8H	23.10	24.24	23.66	24.80	25.42	21.20	22.34	21.76	22.90	23.52
	12H	23.52	24.61	24.09	25.17	25.82	21.43	22.52	22.00	23.08	23.73
4H	2H	19.21	20.49	19.75	21.02	21.61	18.25	19.53	18.80	20.06	20.66
	3H	21.53	22.62	22.08	23.18	23.80	20.31	21.40	20.87	21.97	22.59
	4H	22.64	23.64	23.21	24.21	24.86	21.17	22.16	21.74	22.74	23.39
	6H	23.75	24.62	24.34	25.23	25.89	21.92	22.80	22.51	23.41	24.07
	8H	24.27	25.10	24.87	25.70	26.38	22.24	23.06	22.84	23.67	24.34
	12H	24.80	25.55	25.42	26.18	26.86	22.53	23.28	23.15	23.91	24.59
8H	4H	22.90	23.72	23.49	24.33	25.00	21.51	22.33	22.10	22.94	23.61
	6H	24.18	24.88	24.81	25.53	26.21	22.39	23.09	23.02	23.74	24.42
	8H	24.85	25.48	25.49	26.13	26.83	22.79	23.42	23.43	24.07	24.77
	12H	25.55	26.12	26.19	26.76	27.52	23.18	23.74	23.82	24.38	25.14
12H	4H	22.92	23.67	23.53	24.30	24.98	21.57	22.32	22.19	22.95	23.63
	6H	24.24	24.87	24.88	25.52	26.21	22.50	23.13	23.14	23.79	24.48
	8H	24.98	25.54	25.62	26.18	26.94	22.96	23.53	23.61	24.17	24.93