

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: P894152

Luminaire Tested: 4MB-SC3-ASMF-UNV-CC93-MID-5000K

Issue Date: 11/11/2024

**Test Information**

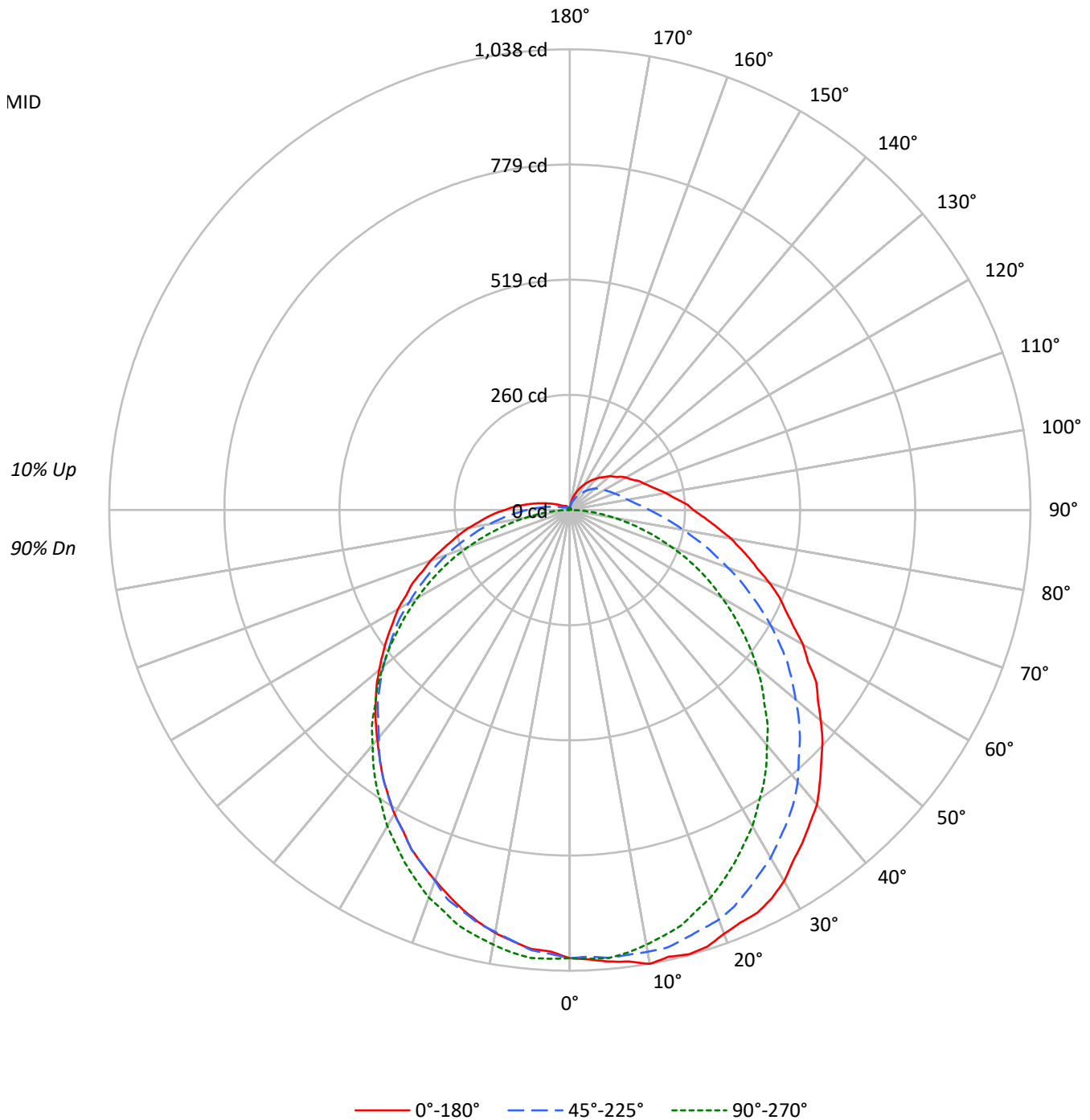
Test Method: LM-79-2019  
Report Number: P894152  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2407-185-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-SC3-ASMF-UNV-CC93-MID-5000K  
Description: Selectable 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 5000K CCT, 1 lumen setting  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3471.0 lumens  
Efficiency: N/A  
Efficacy: 103.6 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): 33.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.9948  
Total Harmonic Distortion (THDi): 5.65231997856897  
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°	10282	10282	10282	10282	10282
5°	10411	10045	9947	9870	10123
10°	10678	9835	9495	9393	9952
15°	10835	9628	9074	9001	9742
20°	10888	9428	8594	8531	9514
25°	11086	9125	8089	8142	9342
30°	11154	8833	7609	7720	9130
35°	11127	8515	7104	7314	8935
40°	11226	8186	6586	6856	8742
45°	11194	7796	6076	6508	8635
50°	11278	7396	5585	6109	8565
55°	11528	7048	5023	5710	8536
60°	11720	6616	4447	5285	8648
65°	12126	6147	3863	4863	8843
70°	13116	5700	3166	4459	9147
75°	14739	5374	2421	3989	9777
80°	18319	5061	1623	3576	11484
85°	27384	4991	813	3149	16104

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 90156 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	95.8	2.8
10°-20°	274.5	7.9
20°-30°	414.0	11.9
30°-40°	496.9	14.3
40°-50°	517.4	14.9
50°-60°	479.6	13.8
60°-70°	395.0	11.4
70°-80°	284.9	8.2
80°-90°	180.9	5.2
90°-100°	111.5	3.2
100°-110°	74.4	2.1
110°-120°	52.9	1.5
120°-130°	38.8	1.1
130°-140°	26.7	0.8
140°-150°	16.2	0.5
150°-160°	8.0	0.2
160°-170°	2.9	0.1
170°-180°	0.5	0.0
0°-30°	784.3	22.6
0°-40°	1281.2	36.9
0°-60°	2278.2	65.6
0°-90°	3139.0	90.4
90°-120°	238.8	6.9
90°-150°	320.5	9.2
90°-180°	332.0	9.6
0°-180°	3471.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1010	1010	1010	1010	1010	
5°	1021	1013	1013	995	993	98
15°	1036	1000	969	935	932	292
25°	1001	946	878	844	844	460
35°	915	855	760	734	734	573
45°	802	733	620	612	618	620
55°	678	598	473	485	502	603
65°	537	449	322	355	392	535
75°	418	318	170	236	278	443
85°	318	216	44	136	187	270
90°	278	180	4	97	146	153
95°	248	152	2	65	113	197
105°	194	119	2	27	59	208
115°	160	98	3	13	28	160
125°	130	82	4	10	16	118
135°	104	66	4	8	12	82
145°	80	46	4	6	9	50
155°	54	31	4	4	6	26
165°	32	18	4	2	3	9
175°	4	8	4	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°	1009.6	1009.6	1009.6	1009.6	1009.6	1009.6	1009.6	1009.6	1009.6
2.5°	1013.6	1016.6	1007.0	1013.1	1012.1	1013.1	1001.0	1011.1	995.4
5°	1021.2	1022.7	1013.1	1016.6	1013.1	1004.5	995.4	991.9	992.9
7.5°	1026.2	1034.3	1010.6	1011.6	1005.5	996.4	979.3	982.3	980.3
10°	1038.3	1029.3	1010.6	1006.0	994.4	984.8	965.1	966.7	967.7
12.5°	1030.8	1028.7	1010.1	993.4	981.8	973.7	953.5	948.5	951.0
15°	1036.3	1027.7	1000.0	986.9	969.2	955.0	934.9	931.3	931.8
17.5°	1031.3	1024.2	989.9	971.7	947.0	938.4	919.2	913.2	910.1
20°	1016.1	1012.6	982.3	951.0	928.8	912.1	888.9	885.4	887.9
22.5°	1006.0	997.5	967.2	935.9	903.6	888.9	865.7	865.2	865.7
25°	1001.0	989.9	946.5	913.7	877.8	864.7	844.5	836.9	843.5
27.5°	985.8	975.7	924.8	888.9	849.0	831.4	814.7	813.2	814.2
30°	965.7	946.0	905.1	861.2	822.8	804.6	791.0	780.9	790.5
32.5°	936.9	925.8	879.3	831.4	789.0	776.4	762.7	761.7	761.7
35°	914.7	906.6	855.1	805.1	759.7	742.5	734.5	730.9	734.5
37.5°	888.9	876.8	829.4	773.3	726.9	712.2	704.2	701.1	703.7
40°	866.7	844.5	799.1	740.5	691.0	677.9	669.3	672.4	674.9
42.5°	833.9	821.3	763.2	707.2	660.3	646.1	639.1	641.6	647.6
45°	801.6	790.0	733.4	672.4	620.4	612.8	612.3	610.8	618.4
47.5°	772.3	755.7	700.6	638.0	587.1	578.5	579.5	584.5	591.1
50°	738.5	718.8	664.3	601.2	550.2	544.7	548.7	552.2	560.8
52.5°	704.7	689.0	631.0	566.4	512.9	508.8	514.4	526.0	531.0
55°	678.4	650.2	598.2	525.5	473.0	473.5	484.6	491.2	502.3
57.5°	636.5	615.3	560.8	489.1	435.6	439.2	454.3	465.4	472.5
60°	606.7	580.0	524.5	450.3	396.3	401.8	419.0	435.6	447.7
62.5°	568.4	545.2	486.6	411.9	359.9	368.0	387.2	406.9	415.4
65°	537.1	510.8	449.3	373.5	322.1	331.6	355.4	377.6	391.7
67.5°	510.3	483.1	415.9	338.2	283.7	297.8	325.6	347.3	358.4
70°	478.5	446.7	378.1	298.8	243.8	260.5	295.8	321.0	333.7
72.5°	444.7	419.0	345.3	262.5	207.0	227.2	266.0	292.3	304.4
75°	418.5	389.7	317.5	226.1	169.6	193.8	235.7	265.5	277.6
77.5°	391.7	365.5	286.2	192.8	136.3	163.5	209.0	241.8	254.4
80°	368.0	337.7	260.0	165.6	101.5	133.8	183.7	216.0	230.7
82.5°	341.7	315.5	237.2	136.8	72.2	106.5	159.0	194.3	206.5
85°	318.5	291.3	216.0	114.1	44.4	82.3	136.3	172.6	187.3
87.5°	297.3	274.6	196.4	96.9	22.2	62.6	114.6	151.4	168.1
90°	278.1	252.4	179.7	81.3	4.0	45.4	96.9	133.3	145.9
92.5°	266.0	235.2	166.1	71.2	2.5	32.3	80.8	116.6	131.2
95°	247.8	220.6	151.9	63.6	2.5	21.7	65.1	99.9	112.6
97.5°	232.2	207.0	141.8	59.1	2.0	14.6	53.5	83.8	96.9
100°	220.1	196.4	132.8	55.0	2.5	10.6	42.4	71.2	82.8
102.5°	206.5	184.8	125.7	52.5	2.5	7.6	33.3	60.1	70.7
105°	194.3	175.2	119.1	50.0	2.5	6.6	26.8	49.5	59.1
107.5°	185.3	165.1	113.6	48.5	2.5	6.6	21.2	40.4	48.5
110°	176.2	157.0	108.0	46.9	2.5	6.1	16.7	33.3	40.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	170.1	149.4	103.0	45.4	3.0	6.1	13.6	27.8	33.3
115°	159.5	142.9	98.4	44.9	3.0	5.6	12.6	22.7	28.3
117.5°	151.9	136.8	93.9	43.4	3.0	5.6	12.1	18.7	22.7
120°	146.4	129.7	89.9	41.9	3.0	5.0	11.1	16.7	19.2
122.5°	139.3	123.2	86.3	40.9	3.0	5.0	10.6	15.6	17.2
125°	129.7	117.1	82.3	38.9	3.5	5.0	10.1	14.6	16.2
127.5°	123.7	111.6	79.3	36.3	3.5	4.5	9.6	13.6	15.1
130°	118.6	105.5	75.7	33.8	3.5	4.5	9.1	12.6	14.1
132.5°	111.1	99.4	70.7	31.8	3.5	4.0	8.1	11.6	13.1
135°	104.0	94.4	65.6	29.8	3.5	4.0	7.6	11.1	12.1
137.5°	99.4	89.3	61.1	27.8	3.5	3.5	7.1	10.1	11.1
140°	91.9	83.8	56.0	25.7	3.5	3.5	6.6	9.6	10.1
142.5°	86.3	78.2	51.5	23.7	3.5	3.5	6.1	8.6	9.6
145°	79.8	72.7	46.4	21.7	3.5	3.0	5.6	8.1	8.6
147.5°	73.7	66.1	42.4	20.2	3.5	3.0	5.0	7.1	7.6
150°	67.6	59.6	38.4	18.7	3.5	3.0	4.5	6.1	7.1
152.5°	61.1	51.5	34.3	17.2	3.5	3.0	4.0	5.6	6.1
155°	54.5	44.9	30.8	15.6	4.0	3.0	3.5	4.5	5.6
157.5°	49.0	38.9	27.3	14.1	4.0	2.5	3.5	4.0	4.5
160°	42.4	33.3	24.2	12.6	4.0	2.5	3.0	3.5	4.0
162.5°	37.4	27.8	21.2	11.6	4.0	2.5	3.0	3.0	3.5
165°	31.8	23.2	17.7	10.6	4.0	2.5	2.5	2.5	3.0
167.5°	25.7	18.2	14.6	9.6	4.0	2.5	2.5	2.0	2.5
170°	19.2	13.6	12.1	8.6	4.0	2.5	2.0	1.5	2.0
172.5°	8.6	10.6	9.6	7.6	4.5	2.5	2.0	1.5	1.0
175°	4.5	7.6	7.6	6.6	4.5	2.5	2.0	1.5	0.5
177.5°	3.5	4.5	5.6	5.6	4.5	3.0	2.0	1.0	0.5
180°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0



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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	18.46	19.94	18.97	20.44	20.98	17.43	18.91	17.94	19.41	19.95
	3H	20.55	21.89	21.07	22.41	22.99	19.30	20.65	19.82	21.16	21.74
	4H	21.49	22.77	22.03	23.29	23.89	20.05	21.33	20.59	21.85	22.45
	6H	22.41	23.60	22.96	24.14	24.75	20.68	21.87	21.23	22.41	23.02
	8H	22.84	23.98	23.40	24.54	25.16	20.94	22.08	21.50	22.64	23.26
	12H	23.26	24.35	23.83	24.91	25.56	21.17	22.26	21.74	22.82	23.46
4H	2H	18.95	20.23	19.49	20.76	21.35	18.00	19.27	18.54	19.80	20.40
	3H	21.27	22.35	21.82	22.92	23.54	20.05	21.14	20.61	21.71	22.33
	4H	22.38	23.38	22.95	23.95	24.60	20.91	21.90	21.48	22.48	23.13
	6H	23.49	24.36	24.08	24.97	25.63	21.66	22.54	22.25	23.15	23.81
	8H	24.01	24.84	24.61	25.44	26.12	21.98	22.80	22.57	23.41	24.08
	12H	24.54	25.29	25.16	25.92	26.60	22.27	23.02	22.89	23.65	24.33
8H	4H	22.64	23.46	23.23	24.07	24.74	21.25	22.07	21.84	22.68	23.35
	6H	23.92	24.62	24.55	25.26	25.94	22.13	22.83	22.76	23.48	24.16
	8H	24.59	25.22	25.23	25.87	26.57	22.53	23.16	23.17	23.81	24.51
	12H	25.29	25.86	25.93	26.50	27.26	22.92	23.48	23.56	24.12	24.88
12H	4H	22.66	23.41	23.27	24.04	24.72	21.31	22.06	21.93	22.69	23.37
	6H	23.98	24.61	24.62	25.26	25.95	22.24	22.87	22.88	23.52	24.22
	8H	24.72	25.28	25.36	25.92	26.68	22.70	23.27	23.34	23.91	24.67