

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: P894149

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

Issue Date: 11/11/2024

**Test Information**

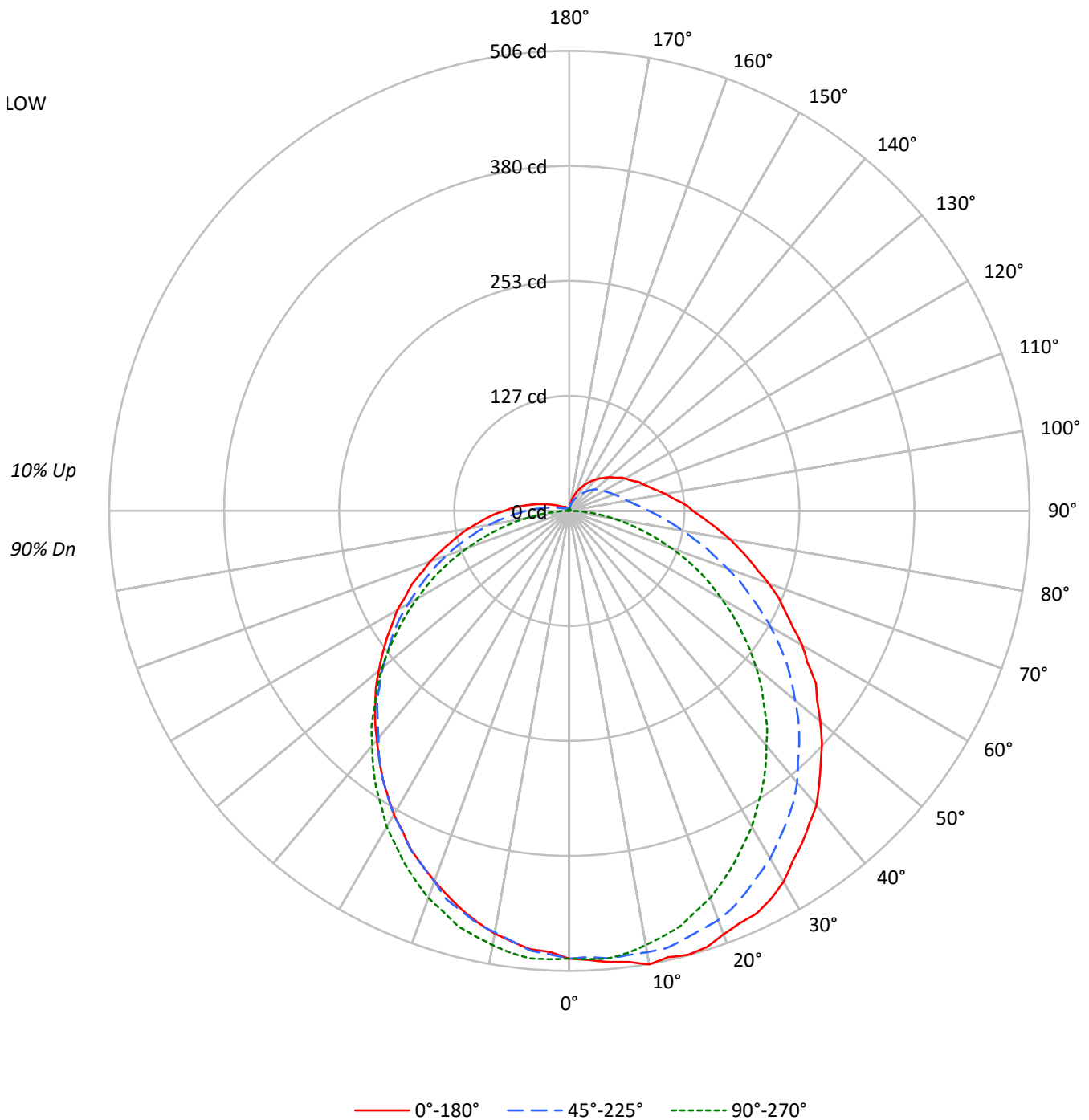
Test Method: LM-79-2019  
Report Number: P894149  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2407-185-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-SC3-ASMF-UNV-CC93-LOW-5000K  
Description: Selectable 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: 1693.0 lumens  
Efficiency: N/A  
Efficacy: 101.4 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): 16.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.9915  
Total Harmonic Distortion (THDi): 6.67573310469889  
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°	5015	5015	5015	5015	5015
5°	5078	4899	4851	4814	4937
10°	5209	4797	4631	4582	4854
15°	5285	4695	4426	4390	4752
20°	5310	4598	4192	4162	4641
25°	5407	4450	3946	3971	4556
30°	5440	4309	3711	3765	4454
35°	5427	4153	3465	3567	4358
40°	5475	3993	3213	3344	4264
45°	5460	3802	2964	3175	4212
50°	5501	3607	2725	2979	4177
55°	5623	3438	2450	2785	4163
60°	5716	3227	2169	2578	4219
65°	5915	2998	1884	2371	4314
70°	6398	2780	1544	2175	4460
75°	7188	2622	1181	1946	4769
80°	8935	2468	791	1744	5600
85°	13361	2435	398	1536	7850

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 43992 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	46.7	2.8
10°-20°	133.9	7.9
20°-30°	201.9	11.9
30°-40°	242.4	14.3
40°-50°	252.4	14.9
50°-60°	233.9	13.8
60°-70°	192.7	11.4
70°-80°	139.0	8.2
80°-90°	88.2	5.2
90°-100°	54.4	3.2
100°-110°	36.3	2.1
110°-120°	25.8	1.5
120°-130°	18.9	1.1
130°-140°	13.0	0.8
140°-150°	7.9	0.5
150°-160°	3.9	0.2
160°-170°	1.4	0.1
170°-180°	0.2	0.0
0°-30°	382.6	22.6
0°-40°	624.9	36.9
0°-60°	1111.2	65.6
0°-90°	1531.1	90.4
90°-120°	116.5	6.9
90°-150°	156.3	9.2
90°-180°	162.0	9.6
0°-180°	1693.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	492	492	492	492	492	
5°	498	494	494	486	484	48
15°	506	488	473	456	454	143
25°	488	462	428	412	411	225
35°	446	417	370	358	358	280
45°	391	358	303	299	302	303
55°	331	292	231	236	245	294
65°	262	219	157	173	191	261
75°	204	155	83	115	135	216
85°	155	105	22	66	91	132
90°	136	88	2	47	71	75
95°	121	74	1	32	55	96
105°	95	58	1	13	29	101
115°	78	48	2	6	14	78
125°	63	40	2	5	8	58
135°	51	32	2	4	6	40
145°	39	23	2	3	4	25
155°	27	15	2	2	3	13
165°	16	9	2	1	2	5
175°	2	4	2	1	0	0
180°	2	2	2	2	2	



TEST NUMBER: P894149

CATALOG NUMBER: 4MB-SC3-ASM-F-UNV-CC93-LOW-5000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	492.4	492.4	492.4	492.4	492.4	492.4	492.4	492.4	492.4
2.5°	494.4	495.9	491.2	494.1	493.7	494.1	488.2	493.2	485.5
5°	498.1	498.8	494.1	495.9	494.1	490.0	485.5	483.8	484.3
7.5°	500.5	504.5	492.9	493.4	490.5	486.0	477.6	479.1	478.1
10°	506.5	502.0	492.9	490.7	485.0	480.4	470.8	471.5	472.0
12.5°	502.8	501.8	492.7	484.5	478.9	474.9	465.1	462.6	463.9
15°	505.5	501.3	487.7	481.3	472.7	465.8	456.0	454.3	454.5
17.5°	503.0	499.6	482.8	474.0	461.9	457.7	448.3	445.4	443.9
20°	495.6	493.9	479.1	463.9	453.0	444.9	433.6	431.9	433.1
22.5°	490.7	486.5	471.7	456.5	440.7	433.6	422.3	422.0	422.3
25°	488.2	482.8	461.6	445.6	428.2	421.8	411.9	408.2	411.4
27.5°	480.8	475.9	451.1	433.6	414.1	405.5	397.4	396.6	397.1
30°	471.0	461.4	441.5	420.0	401.3	392.5	385.8	380.9	385.6
32.5°	457.0	451.6	428.9	405.5	384.8	378.7	372.0	371.5	371.5
35°	446.1	442.2	417.1	392.7	370.5	362.2	358.2	356.5	358.2
37.5°	433.6	427.7	404.5	377.2	354.5	347.4	343.5	342.0	343.2
40°	422.7	411.9	389.8	361.2	337.1	330.7	326.5	328.0	329.2
42.5°	406.7	400.6	372.3	344.9	322.0	315.1	311.7	312.9	315.9
45°	391.0	385.3	357.7	328.0	302.6	298.9	298.7	297.9	301.6
47.5°	376.7	368.6	341.7	311.2	286.3	282.2	282.7	285.1	288.3
50°	360.2	350.6	324.0	293.2	268.4	265.7	267.6	269.4	273.5
52.5°	343.7	336.1	307.8	276.2	250.2	248.2	250.9	256.6	259.0
55°	330.9	317.1	291.8	256.3	230.7	230.9	236.4	239.6	245.0
57.5°	310.5	300.1	273.5	238.6	212.5	214.2	221.6	227.0	230.5
60°	295.9	282.9	255.8	219.6	193.3	196.0	204.4	212.5	218.4
62.5°	277.2	265.9	237.3	200.9	175.5	179.5	188.8	198.4	202.6
65°	262.0	249.2	219.1	182.2	157.1	161.8	173.3	184.2	191.1
67.5°	248.9	235.6	202.9	165.0	138.4	145.3	158.8	169.4	174.8
70°	233.4	217.9	184.4	145.8	118.9	127.0	144.3	156.6	162.7
72.5°	216.9	204.4	168.4	128.0	100.9	110.8	129.8	142.6	148.5
75°	204.1	190.1	154.9	110.3	82.7	94.5	115.0	129.5	135.4
77.5°	191.1	178.3	139.6	94.1	66.5	79.8	101.9	117.9	124.1
80°	179.5	164.7	126.8	80.8	49.5	65.2	89.6	105.4	112.5
82.5°	166.7	153.9	115.7	66.7	35.2	52.0	77.6	94.8	100.7
85°	155.4	142.1	105.4	55.6	21.7	40.1	66.5	84.2	91.3
87.5°	145.0	133.9	95.8	47.3	10.8	30.5	55.9	73.9	82.0
90°	135.7	123.1	87.7	39.6	2.0	22.2	47.3	65.0	71.2
92.5°	129.8	114.7	81.0	34.7	1.2	15.8	39.4	56.9	64.0
95°	120.9	107.6	74.1	31.0	1.2	10.6	31.8	48.7	54.9
97.5°	113.3	100.9	69.2	28.8	1.0	7.1	26.1	40.9	47.3
100°	107.3	95.8	64.8	26.8	1.2	5.2	20.7	34.7	40.4
102.5°	100.7	90.1	61.3	25.6	1.2	3.7	16.2	29.3	34.5
105°	94.8	85.4	58.1	24.4	1.2	3.2	13.0	24.1	28.8
107.5°	90.4	80.5	55.4	23.6	1.2	3.2	10.3	19.7	23.6
110°	85.9	76.6	52.7	22.9	1.2	3.0	8.1	16.2	19.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	83.0	72.9	50.2	22.2	1.5	3.0	6.6	13.5	16.2
115°	77.8	69.7	48.0	21.9	1.5	2.7	6.2	11.1	13.8
117.5°	74.1	66.7	45.8	21.2	1.5	2.7	5.9	9.1	11.1
120°	71.4	63.3	43.8	20.4	1.5	2.5	5.4	8.1	9.4
122.5°	68.0	60.1	42.1	19.9	1.5	2.5	5.2	7.6	8.4
125°	63.3	57.1	40.1	19.0	1.7	2.5	4.9	7.1	7.9
127.5°	60.3	54.4	38.7	17.7	1.7	2.2	4.7	6.6	7.4
130°	57.9	51.5	36.9	16.5	1.7	2.2	4.4	6.2	6.9
132.5°	54.2	48.5	34.5	15.5	1.7	2.0	3.9	5.7	6.4
135°	50.7	46.0	32.0	14.5	1.7	2.0	3.7	5.4	5.9
137.5°	48.5	43.6	29.8	13.5	1.7	1.7	3.4	4.9	5.4
140°	44.8	40.9	27.3	12.6	1.7	1.7	3.2	4.7	4.9
142.5°	42.1	38.2	25.1	11.6	1.7	1.7	3.0	4.2	4.7
145°	38.9	35.5	22.7	10.6	1.7	1.5	2.7	3.9	4.2
147.5°	35.9	32.3	20.7	9.8	1.7	1.5	2.5	3.4	3.7
150°	33.0	29.1	18.7	9.1	1.7	1.5	2.2	3.0	3.4
152.5°	29.8	25.1	16.7	8.4	1.7	1.5	2.0	2.7	3.0
155°	26.6	21.9	15.0	7.6	2.0	1.5	1.7	2.2	2.7
157.5°	23.9	19.0	13.3	6.9	2.0	1.2	1.7	2.0	2.2
160°	20.7	16.2	11.8	6.2	2.0	1.2	1.5	1.7	2.0
162.5°	18.2	13.5	10.3	5.7	2.0	1.2	1.5	1.5	1.7
165°	15.5	11.3	8.6	5.2	2.0	1.2	1.2	1.2	1.5
167.5°	12.6	8.9	7.1	4.7	2.0	1.2	1.2	1.0	1.2
170°	9.4	6.6	5.9	4.2	2.0	1.2	1.0	0.7	1.0
172.5°	4.2	5.2	4.7	3.7	2.2	1.2	1.0	0.7	0.5
175°	2.2	3.7	3.7	3.2	2.2	1.2	1.0	0.7	0.2
177.5°	1.7	2.2	2.7	2.7	2.2	1.5	1.0	0.5	0.2
180°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5



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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	15.97	17.44	16.47	17.95	18.49	14.94	16.42	15.44	16.92	17.46
	3H	18.05	19.40	18.57	19.91	20.49	16.81	18.16	17.33	18.67	19.25
	4H	19.00	20.27	19.53	20.80	21.40	17.55	18.83	18.09	19.36	19.96
	6H	19.91	21.10	20.47	21.64	22.26	18.19	19.38	18.74	19.92	20.53
	8H	20.34	21.48	20.91	22.05	22.66	18.44	19.58	19.01	20.15	20.76
	12H	20.76	21.86	21.34	22.41	23.06	18.67	19.77	19.24	20.32	20.97
4H	2H	16.46	17.74	17.00	18.26	18.86	15.50	16.78	16.04	17.31	17.90
	3H	18.77	19.86	19.33	20.43	21.05	17.56	18.65	18.11	19.22	19.84
	4H	19.89	20.88	20.46	21.46	22.11	18.41	19.41	18.99	19.99	20.64
	6H	20.99	21.87	21.58	22.47	23.14	19.17	20.05	19.76	20.65	21.31
	8H	21.52	22.34	22.12	22.95	23.62	19.48	20.31	20.08	20.91	21.59
	12H	22.05	22.80	22.67	23.43	24.11	19.78	20.53	20.40	21.16	21.84
8H	4H	20.14	20.97	20.74	21.57	22.25	18.75	19.58	19.35	20.18	20.86
	6H	21.43	22.13	22.05	22.77	23.45	19.64	20.34	20.26	20.98	21.66
	8H	22.09	22.73	22.73	23.38	24.07	20.03	20.67	20.68	21.32	22.01
	12H	22.80	23.36	23.44	24.00	24.76	20.42	20.99	21.07	21.63	22.39
12H	4H	20.16	20.91	20.78	21.54	22.22	18.82	19.57	19.43	20.20	20.88
	6H	21.48	22.11	22.12	22.77	23.46	19.74	20.38	20.38	21.03	21.72
	8H	22.22	22.79	22.87	23.43	24.19	20.21	20.77	20.85	21.41	22.17