

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: P893263

Luminaire Tested: 4MB-2SL-ASMF-UNV-L940

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893263
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-2SL-ASMF-UNV-L940
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 4000K CCT
Light Source: -
Ballast/Driver: -

Summary

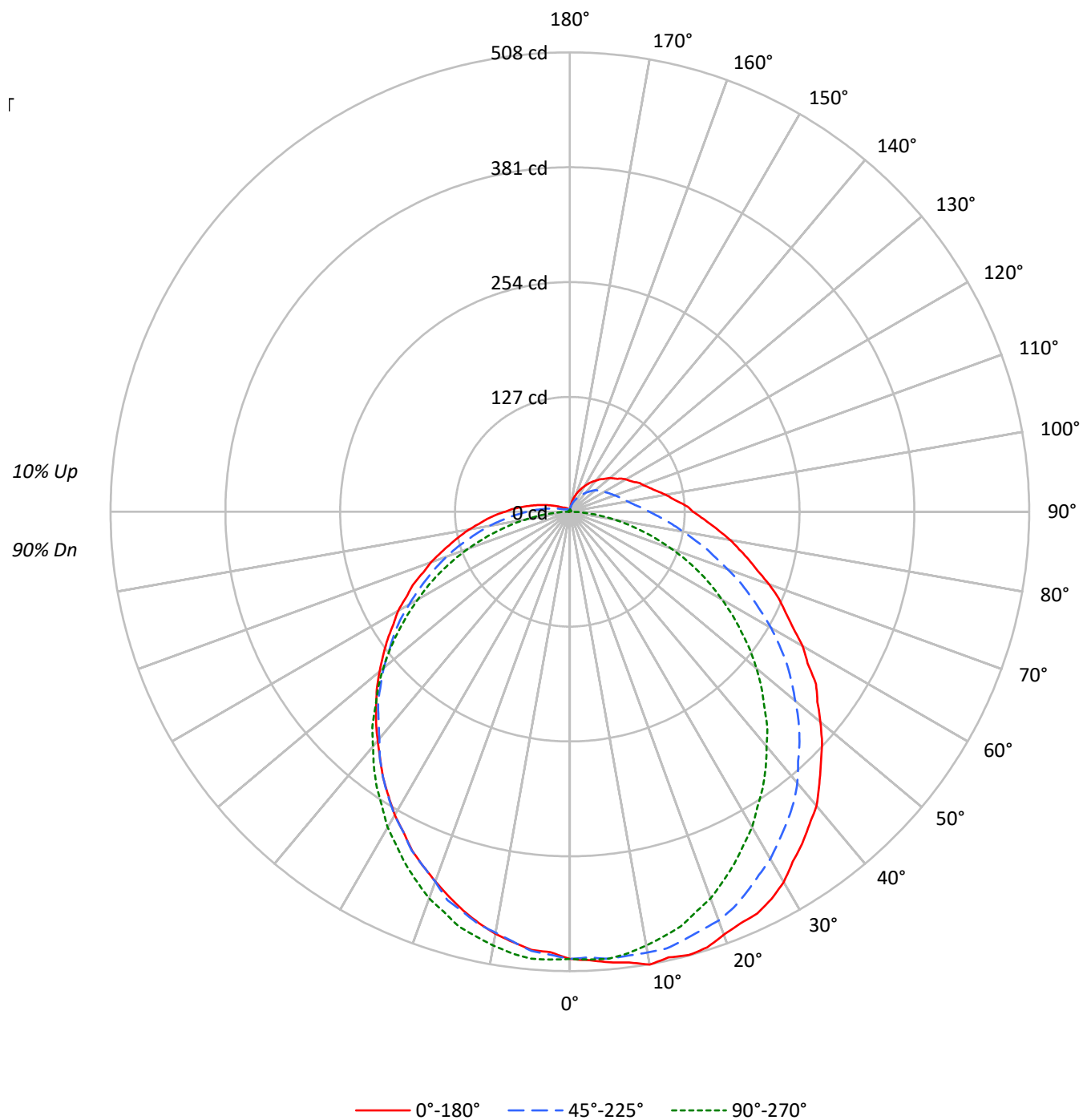
Lumens per Lamp: N/A
Luminaire Lumens: 1700.0 lumens
Efficiency: N/A
Efficacy: 123.2 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.21 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 3.98' x H: 0.12')
CIE Type: Direct

Input Watts (W): 13.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 5.92
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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93
1	105	99	95	90	101	96	92	88	90	87	83	85	82	79	79	77	75
2	95	86	79	72	91	83	76	71	78	72	68	73	69	65	69	65	62
3	86	75	66	60	83	73	65	58	68	62	56	64	59	54	60	56	52
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	44
5	72	59	50	43	69	57	49	42	54	47	41	51	45	40	48	43	38
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34
7	62	48	39	33	59	47	38	32	44	37	32	42	36	31	40	34	30
8	57	44	35	29	55	43	35	29	41	33	28	39	32	27	37	31	27
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24
10	50	37	29	24	49	36	29	23	34	28	23	33	27	22	31	26	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	5036	5036	5036	5036	5036
5°	5099	4920	4872	4834	4958
10°	5230	4817	4650	4600	4874
15°	5307	4716	4445	4409	4772
20°	5333	4617	4209	4179	4660
25°	5430	4470	3961	3988	4575
30°	5462	4326	3727	3781	4472
35°	5450	4170	3480	3582	4376
40°	5499	4009	3226	3358	4281
45°	5482	3818	2975	3188	4230
50°	5524	3623	2736	2992	4195
55°	5647	3452	2460	2796	4180
60°	5741	3240	2178	2588	4236
65°	5940	3010	1891	2381	4330
70°	6425	2792	1551	2184	4479
75°	7220	2632	1186	1955	4790
80°	8970	2478	794	1752	5625
85°	13413	2445	399	1543	7884

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 90°

Luminance: 44154 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.9	2.8
10°-20°	134.5	7.9
20°-30°	202.8	11.9
30°-40°	243.4	14.3
40°-50°	253.4	14.9
50°-60°	234.9	13.8
60°-70°	193.4	11.4
70°-80°	139.6	8.2
80°-90°	88.6	5.2
90°-100°	54.6	3.2
100°-110°	36.4	2.1
110°-120°	25.9	1.5
120°-130°	19.0	1.1
130°-140°	13.1	0.8
140°-150°	8.0	0.5
150°-160°	3.9	0.2
160°-170°	1.4	0.1
170°-180°	0.2	0.0
0°-30°	384.1	22.6
0°-40°	627.5	36.9
0°-60°	1115.8	65.6
0°-90°	1537.4	90.4
90°-120°	117.0	6.9
90°-150°	157.0	9.2
90°-180°	163.0	9.6
0°-180°	1700.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	494	494	494	494	494	
5°	500	496	496	488	486	48
15°	508	490	475	458	456	143
25°	490	464	430	414	413	225
35°	448	419	372	360	360	281
45°	393	359	304	300	303	304
55°	332	293	232	237	246	295
65°	263	220	158	174	192	262
75°	205	156	83	116	136	217
85°	156	106	22	67	92	132
90°	136	88	2	48	71	75
95°	121	74	1	32	55	96
105°	95	58	1	13	29	102
115°	78	48	2	6	14	78
125°	64	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	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	494.5	494.5	494.5	494.5	494.5	494.5	494.5	494.5	494.5
2.5°	496.4	497.9	493.2	496.2	495.7	496.2	490.3	495.2	487.5
5°	500.1	500.9	496.2	497.9	496.2	492.0	487.5	485.8	486.3
7.5°	502.6	506.6	495.0	495.4	492.5	488.0	479.6	481.1	480.1
10°	508.5	504.1	495.0	492.7	487.0	482.3	472.7	473.4	473.9
12.5°	504.8	503.9	494.7	486.5	480.9	476.9	467.0	464.5	465.8
15°	507.6	503.4	489.8	483.3	474.7	467.8	457.9	456.1	456.4
17.5°	505.1	501.6	484.8	475.9	463.8	459.6	450.2	447.2	445.8
20°	497.7	495.9	481.1	465.8	454.9	446.7	435.4	433.6	434.9
22.5°	492.7	488.5	473.7	458.4	442.5	435.4	424.0	423.8	424.0
25°	490.3	484.8	463.6	447.5	429.9	423.5	413.6	409.9	413.1
27.5°	482.8	477.9	452.9	435.4	415.8	407.2	399.0	398.3	398.8
30°	472.9	463.3	443.3	421.8	403.0	394.1	387.4	382.5	387.2
32.5°	458.9	453.4	430.7	407.2	386.4	380.2	373.6	373.1	373.1
35°	448.0	444.0	418.8	394.3	372.1	363.7	359.7	358.0	359.7
37.5°	435.4	429.4	406.2	378.8	356.0	348.8	344.9	343.4	344.6
40°	424.5	413.6	391.4	362.7	338.5	332.0	327.8	329.3	330.5
42.5°	408.4	402.2	373.8	346.4	323.4	316.5	313.0	314.2	317.2
45°	392.6	386.9	359.2	329.3	303.8	300.1	299.9	299.1	302.9
47.5°	378.3	370.1	343.2	312.5	287.5	283.3	283.8	286.3	289.5
50°	361.7	352.1	325.4	294.4	269.5	266.8	268.7	270.5	274.7
52.5°	345.1	337.5	309.0	277.4	251.2	249.2	251.9	257.6	260.1
55°	332.3	318.4	293.0	257.4	231.7	231.9	237.3	240.6	246.0
57.5°	311.8	301.4	274.7	239.6	213.4	215.1	222.5	227.9	231.4
60°	297.2	284.1	256.9	220.5	194.1	196.8	205.2	213.4	219.3
62.5°	278.4	267.0	238.3	201.7	176.3	180.2	189.6	199.3	203.5
65°	263.1	250.2	220.0	182.9	157.7	162.4	174.0	184.9	191.8
67.5°	249.9	236.6	203.7	165.6	138.9	145.9	159.5	170.1	175.5
70°	234.4	218.8	185.2	146.4	119.4	127.6	144.9	157.2	163.4
72.5°	217.8	205.2	169.1	128.6	101.4	111.3	130.3	143.1	149.1
75°	205.0	190.9	155.5	110.8	83.1	94.9	115.5	130.0	136.0
77.5°	191.8	179.0	140.2	94.4	66.8	80.1	102.4	118.4	124.6
80°	180.2	165.4	127.3	81.1	49.7	65.5	90.0	105.8	113.0
82.5°	167.4	154.5	116.2	67.0	35.4	52.2	77.9	95.2	101.1
85°	156.0	142.7	105.8	55.9	21.8	40.3	66.8	84.6	91.7
87.5°	145.6	134.5	96.2	47.5	10.9	30.7	56.1	74.2	82.3
90°	136.2	123.6	88.0	39.8	2.0	22.3	47.5	65.3	71.4
92.5°	130.3	115.2	81.3	34.9	1.2	15.8	39.6	57.1	64.3
95°	121.4	108.0	74.4	31.2	1.2	10.6	31.9	49.0	55.1
97.5°	113.7	101.4	69.5	28.9	1.0	7.2	26.2	41.0	47.5
100°	107.8	96.2	65.0	26.9	1.2	5.2	20.8	34.9	40.5
102.5°	101.1	90.5	61.6	25.7	1.2	3.7	16.3	29.4	34.6
105°	95.2	85.8	58.3	24.5	1.2	3.2	13.1	24.2	28.9
107.5°	90.7	80.8	55.6	23.7	1.2	3.2	10.4	19.8	23.7
110°	86.3	76.9	52.9	23.0	1.2	3.0	8.2	16.3	19.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	83.3	73.2	50.4	22.3	1.5	3.0	6.7	13.6	16.3
115°	78.1	70.0	48.2	22.0	1.5	2.7	6.2	11.1	13.8
117.5°	74.4	67.0	46.0	21.3	1.5	2.7	5.9	9.1	11.1
120°	71.7	63.5	44.0	20.5	1.5	2.5	5.4	8.2	9.4
122.5°	68.2	60.3	42.3	20.0	1.5	2.5	5.2	7.7	8.4
125°	63.5	57.4	40.3	19.0	1.7	2.5	4.9	7.2	7.9
127.5°	60.6	54.6	38.8	17.8	1.7	2.2	4.7	6.7	7.4
130°	58.1	51.7	37.1	16.6	1.7	2.2	4.5	6.2	6.9
132.5°	54.4	48.7	34.6	15.6	1.7	2.0	4.0	5.7	6.4
135°	50.9	46.2	32.1	14.6	1.7	2.0	3.7	5.4	5.9
137.5°	48.7	43.8	29.9	13.6	1.7	1.7	3.5	4.9	5.4
140°	45.0	41.0	27.4	12.6	1.7	1.7	3.2	4.7	4.9
142.5°	42.3	38.3	25.2	11.6	1.7	1.7	3.0	4.2	4.7
145°	39.1	35.6	22.7	10.6	1.7	1.5	2.7	4.0	4.2
147.5°	36.1	32.4	20.8	9.9	1.7	1.5	2.5	3.5	3.7
150°	33.1	29.2	18.8	9.1	1.7	1.5	2.2	3.0	3.5
152.5°	29.9	25.2	16.8	8.4	1.7	1.5	2.0	2.7	3.0
155°	26.7	22.0	15.1	7.7	2.0	1.5	1.7	2.2	2.7
157.5°	24.0	19.0	13.4	6.9	2.0	1.2	1.7	2.0	2.2
160°	20.8	16.3	11.9	6.2	2.0	1.2	1.5	1.7	2.0
162.5°	18.3	13.6	10.4	5.7	2.0	1.2	1.5	1.5	1.7
165°	15.6	11.4	8.7	5.2	2.0	1.2	1.2	1.2	1.5
167.5°	12.6	8.9	7.2	4.7	2.0	1.2	1.2	1.0	1.2
170°	9.4	6.7	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	15.98	17.46	16.49	17.96	18.50	14.95	16.43	15.46	16.93	17.47
	3H	18.07	19.41	18.59	19.93	20.51	16.82	18.17	17.34	18.68	19.26
	4H	19.01	20.29	19.55	20.82	21.41	17.57	18.85	18.11	19.37	19.97
	6H	19.93	21.12	20.48	21.66	22.27	18.20	19.39	18.76	19.93	20.54
	8H	20.36	21.50	20.92	22.06	22.68	18.46	19.60	19.02	20.16	20.78
	12H	20.78	21.87	21.35	22.43	23.08	18.69	19.78	19.26	20.34	20.99
4H	2H	16.47	17.75	17.01	18.28	18.87	15.52	16.79	16.06	17.32	17.92
	3H	18.79	19.88	19.34	20.44	21.06	17.57	18.66	18.13	19.23	19.85
	4H	19.90	20.90	20.47	21.47	22.12	18.43	19.42	19.00	20.00	20.65
	6H	21.01	21.88	21.60	22.49	23.15	19.18	20.06	19.78	20.67	21.33
	8H	21.53	22.36	22.13	22.96	23.64	19.50	20.33	20.10	20.93	21.60
	12H	22.06	22.81	22.68	23.44	24.12	19.79	20.54	20.41	21.17	21.85
8H	4H	20.16	20.98	20.75	21.59	22.26	18.77	19.59	19.36	20.20	20.87
	6H	21.44	22.14	22.07	22.78	23.47	19.65	20.35	20.28	21.00	21.68
	8H	22.11	22.74	22.75	23.39	24.09	20.05	20.68	20.69	21.33	22.03
	12H	22.81	23.38	23.45	24.02	24.78	20.44	21.00	21.08	21.64	22.40
12H	4H	20.18	20.93	20.79	21.56	22.24	18.83	19.58	19.45	20.21	20.89
	6H	21.50	22.13	22.14	22.78	23.47	19.76	20.39	20.40	21.05	21.74
	8H	22.24	22.80	22.88	23.44	24.20	20.22	20.79	20.87	21.43	22.19