

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: P893258

Luminaire Tested: 4MB-2SL-ASMF-UNV-L835

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893258  
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-L835  
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 3500K CCT  
Light Source: -  
Ballast/Driver: -

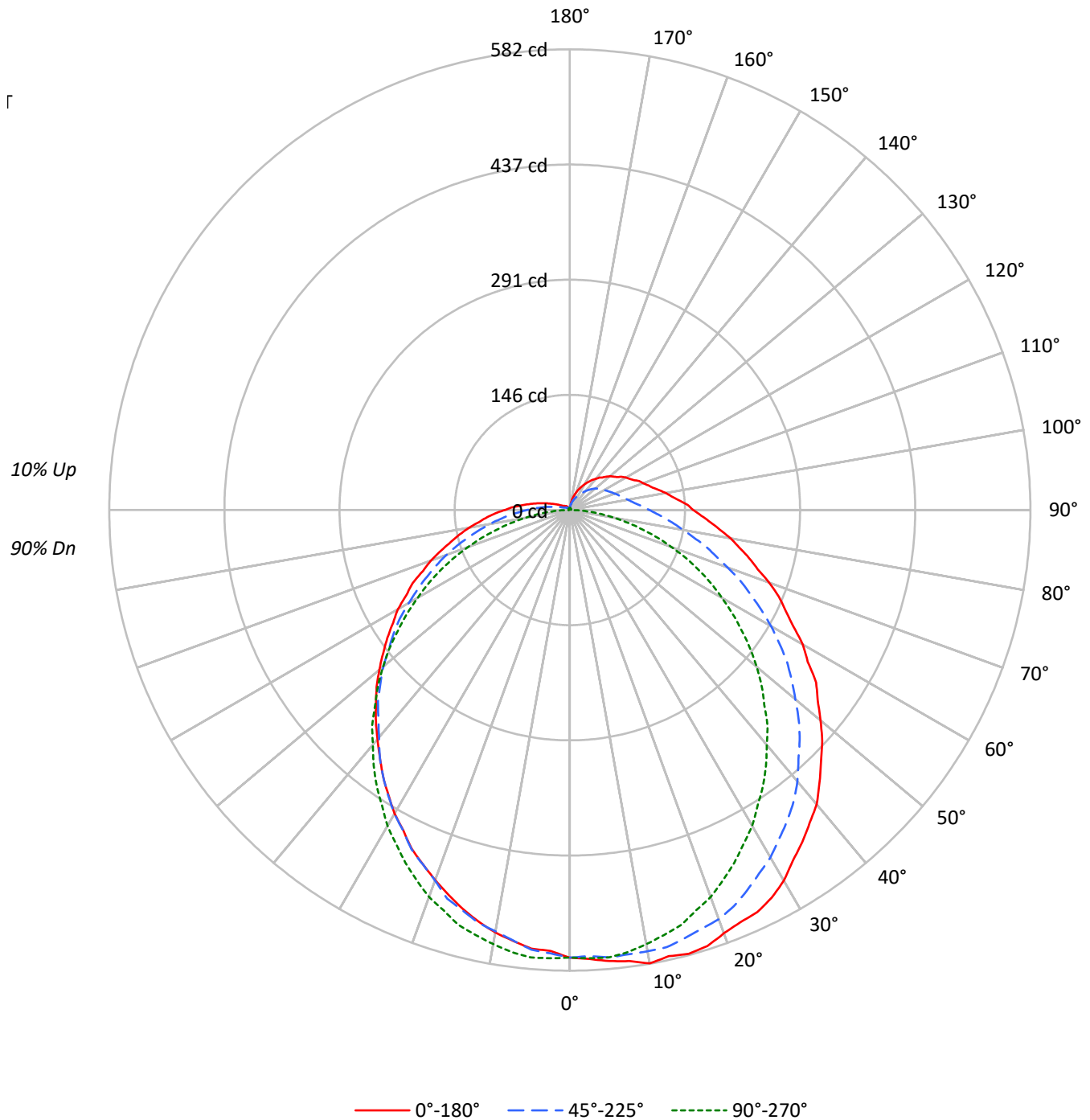
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1944.0 lumens  
Efficiency: N/A  
Efficacy: 140.9 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): 13.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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			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°	5758	5758	5758	5758	5758
5°	5831	5626	5571	5528	5669
10°	5980	5508	5318	5260	5574
15°	6068	5392	5082	5041	5457
20°	6098	5281	4813	4779	5329
25°	6209	5111	4530	4560	5232
30°	6246	4947	4261	4323	5113
35°	6232	4769	3979	4096	5003
40°	6287	4584	3689	3840	4896
45°	6268	4367	3403	3645	4836
50°	6317	4143	3129	3421	4797
55°	6457	3947	2813	3198	4780
60°	6564	3705	2490	2960	4845
65°	6791	3442	2164	2723	4953
70°	7346	3193	1774	2498	5123
75°	8255	3009	1356	2234	5477
80°	10260	2834	908	2003	6432
85°	15339	2796	456	1763	9019

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 50508 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	53.7	2.8
10°-20°	153.8	7.9
20°-30°	231.9	11.9
30°-40°	278.3	14.3
40°-50°	289.8	14.9
50°-60°	268.6	13.8
60°-70°	221.2	11.4
70°-80°	159.6	8.2
80°-90°	101.3	5.2
90°-100°	62.5	3.2
100°-110°	41.6	2.1
110°-120°	29.6	1.5
120°-130°	21.7	1.1
130°-140°	14.9	0.8
140°-150°	9.1	0.5
150°-160°	4.5	0.2
160°-170°	1.7	0.1
170°-180°	0.3	0.0
0°-30°	439.3	22.6
0°-40°	717.6	36.9
0°-60°	1276.0	65.6
0°-90°	1758.1	90.4
90°-120°	133.7	6.9
90°-150°	179.5	9.2
90°-180°	186.0	9.6
0°-180°	1944.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	565	565	565	565	565	
5°	572	567	567	558	556	55
15°	580	560	543	524	522	164
25°	561	530	492	473	472	258
35°	512	479	426	411	411	321
45°	449	411	348	343	346	347
55°	380	335	265	271	281	338
65°	301	252	180	199	219	300
75°	234	178	95	132	156	248
85°	178	121	25	76	105	151
90°	156	101	2	54	82	86
95°	139	85	1	36	63	110
105°	109	67	1	15	33	116
115°	89	55	2	7	16	89
125°	73	46	2	6	9	66
135°	58	37	2	4	7	46
145°	45	26	2	3	5	28
155°	30	17	2	2	3	14
165°	18	10	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°	565.4	565.4	565.4	565.4	565.4	565.4	565.4	565.4	565.4
2.5°	567.7	569.4	564.0	567.4	566.8	567.4	560.6	566.3	557.5
5°	571.9	572.8	567.4	569.4	567.4	562.6	557.5	555.5	556.1
7.5°	574.8	579.3	566.0	566.6	563.2	558.1	548.5	550.2	549.0
10°	581.5	576.5	566.0	563.4	556.9	551.6	540.5	541.4	542.0
12.5°	577.3	576.2	565.7	556.4	549.9	545.4	534.0	531.2	532.6
15°	580.4	575.6	560.1	552.7	542.8	534.9	523.6	521.6	521.9
17.5°	577.6	573.6	554.4	544.2	530.4	525.6	514.8	511.4	509.7
20°	569.1	567.1	550.2	532.6	520.2	510.9	497.9	495.9	497.3
22.5°	563.4	558.6	541.7	524.2	506.1	497.9	484.9	484.6	484.9
25°	560.6	554.4	530.1	511.7	491.6	484.3	473.0	468.7	472.4
27.5°	552.1	546.5	517.9	497.9	475.5	465.6	456.3	455.5	456.0
30°	540.8	529.8	506.9	482.3	460.8	450.6	443.0	437.4	442.7
32.5°	524.7	518.5	492.5	465.6	441.9	434.8	427.2	426.6	426.6
35°	512.3	507.8	478.9	450.9	425.5	415.9	411.3	409.4	411.3
37.5°	497.9	491.1	464.5	433.1	407.1	398.9	394.4	392.7	394.1
40°	485.4	473.0	447.5	414.7	387.0	379.7	374.9	376.6	378.0
42.5°	467.0	460.0	427.5	396.1	369.8	361.9	357.9	359.3	362.7
45°	448.9	442.4	410.8	376.6	347.5	343.2	342.9	342.1	346.3
47.5°	432.6	423.2	392.4	357.3	328.8	324.0	324.6	327.4	331.1
50°	413.6	402.6	372.1	336.7	308.2	305.0	307.3	309.3	314.1
52.5°	394.7	385.9	353.4	317.2	287.2	285.0	288.1	294.6	297.4
55°	380.0	364.1	335.0	294.3	264.9	265.2	271.4	275.1	281.3
57.5°	356.5	344.6	314.1	273.9	244.0	246.0	254.4	260.7	264.6
60°	339.8	324.8	293.7	252.2	221.9	225.0	234.7	244.0	250.8
62.5°	318.3	305.3	272.5	230.7	201.6	206.1	216.8	227.9	232.7
65°	300.8	286.1	251.6	209.2	180.4	185.7	199.0	211.5	219.4
67.5°	285.8	270.6	233.0	189.4	158.9	166.8	182.4	194.5	200.7
70°	268.0	250.2	211.8	167.4	136.6	145.9	165.7	179.8	186.9
72.5°	249.1	234.7	193.4	147.0	115.9	127.2	149.0	163.7	170.5
75°	234.4	218.3	177.8	126.7	95.0	108.6	132.0	148.7	155.5
77.5°	219.4	204.7	160.3	108.0	76.3	91.6	117.0	135.4	142.5
80°	206.1	189.1	145.6	92.7	56.8	74.9	102.9	121.0	129.2
82.5°	191.4	176.7	132.9	76.6	40.4	59.7	89.1	108.8	115.6
85°	178.4	163.1	121.0	63.9	24.9	46.1	76.3	96.7	104.9
87.5°	166.5	153.8	110.0	54.3	12.4	35.1	64.2	84.8	94.1
90°	155.8	141.4	100.6	45.5	2.3	25.4	54.3	74.6	81.7
92.5°	149.0	131.7	93.0	39.9	1.4	18.1	45.2	65.3	73.5
95°	138.8	123.5	85.1	35.6	1.4	12.2	36.5	56.0	63.0
97.5°	130.0	115.9	79.4	33.1	1.1	8.2	30.0	46.9	54.3
100°	123.3	110.0	74.4	30.8	1.4	5.9	23.7	39.9	46.4
102.5°	115.6	103.5	70.4	29.4	1.4	4.2	18.7	33.6	39.6
105°	108.8	98.1	66.7	28.0	1.4	3.7	15.0	27.7	33.1
107.5°	103.8	92.4	63.6	27.1	1.4	3.7	11.9	22.6	27.1
110°	98.7	87.9	60.5	26.3	1.4	3.4	9.3	18.7	22.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	95.3	83.7	57.7	25.4	1.7	3.4	7.6	15.5	18.7
115°	89.3	80.0	55.1	25.2	1.7	3.1	7.1	12.7	15.8
117.5°	85.1	76.6	52.6	24.3	1.7	3.1	6.8	10.5	12.7
120°	82.0	72.7	50.3	23.5	1.7	2.8	6.2	9.3	10.7
122.5°	78.0	69.0	48.3	22.9	1.7	2.8	5.9	8.8	9.6
125°	72.7	65.6	46.1	21.8	2.0	2.8	5.7	8.2	9.0
127.5°	69.3	62.5	44.4	20.4	2.0	2.5	5.4	7.6	8.5
130°	66.4	59.1	42.4	18.9	2.0	2.5	5.1	7.1	7.9
132.5°	62.2	55.7	39.6	17.8	2.0	2.3	4.5	6.5	7.4
135°	58.2	52.9	36.8	16.7	2.0	2.3	4.2	6.2	6.8
137.5°	55.7	50.0	34.2	15.5	2.0	2.0	4.0	5.7	6.2
140°	51.5	46.9	31.4	14.4	2.0	2.0	3.7	5.4	5.7
142.5°	48.3	43.8	28.8	13.3	2.0	2.0	3.4	4.8	5.4
145°	44.7	40.7	26.0	12.2	2.0	1.7	3.1	4.5	4.8
147.5°	41.3	37.0	23.7	11.3	2.0	1.7	2.8	4.0	4.2
150°	37.9	33.4	21.5	10.5	2.0	1.7	2.5	3.4	4.0
152.5°	34.2	28.8	19.2	9.6	2.0	1.7	2.3	3.1	3.4
155°	30.5	25.2	17.2	8.8	2.3	1.7	2.0	2.5	3.1
157.5°	27.4	21.8	15.3	7.9	2.3	1.4	2.0	2.3	2.5
160°	23.7	18.7	13.6	7.1	2.3	1.4	1.7	2.0	2.3
162.5°	20.9	15.5	11.9	6.5	2.3	1.4	1.7	1.7	2.0
165°	17.8	13.0	9.9	5.9	2.3	1.4	1.4	1.4	1.7
167.5°	14.4	10.2	8.2	5.4	2.3	1.4	1.4	1.1	1.4
170°	10.7	7.6	6.8	4.8	2.3	1.4	1.1	0.8	1.1
172.5°	4.8	5.9	5.4	4.2	2.5	1.4	1.1	0.8	0.6
175°	2.5	4.2	4.2	3.7	2.5	1.4	1.1	0.8	0.3
177.5°	2.0	2.5	3.1	3.1	2.5	1.7	1.1	0.6	0.3
180°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7



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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	16.45	17.92	16.95	18.43	18.97	15.42	16.89	15.92	17.40	17.94
	3H	18.53	19.88	19.05	20.39	20.97	17.29	18.64	17.81	19.15	19.73
	4H	19.48	20.75	20.02	21.28	21.88	18.04	19.31	18.57	19.84	20.44
	6H	20.40	21.58	20.95	22.12	22.74	18.67	19.86	19.22	20.40	21.01
	8H	20.82	21.96	21.39	22.53	23.14	18.92	20.06	19.49	20.63	21.24
	12H	21.25	22.34	21.82	22.89	23.54	19.15	20.25	19.73	20.80	21.45
4H	2H	16.94	18.22	17.48	18.74	19.34	15.98	17.26	16.52	17.79	18.38
	3H	19.25	20.34	19.81	20.91	21.53	18.04	19.13	18.59	19.70	20.32
	4H	20.37	21.36	20.94	21.94	22.59	18.89	19.89	19.47	20.47	21.12
	6H	21.47	22.35	22.06	22.95	23.62	19.65	20.53	20.24	21.13	21.79
	8H	22.00	22.83	22.60	23.43	24.10	19.96	20.79	20.56	21.39	22.07
	12H	22.53	23.28	23.15	23.91	24.59	20.26	21.01	20.88	21.64	22.32
8H	4H	20.62	21.45	21.22	22.05	22.73	19.23	20.06	19.83	20.66	21.34
	6H	21.91	22.61	22.53	23.25	23.93	20.12	20.82	20.74	21.46	22.14
	8H	22.57	23.21	23.22	23.86	24.55	20.52	21.15	21.16	21.80	22.49
	12H	23.28	23.84	23.92	24.48	25.24	20.90	21.47	21.55	22.11	22.87
12H	4H	20.64	21.39	21.26	22.02	22.70	19.30	20.05	19.91	20.68	21.36
	6H	21.96	22.59	22.60	23.25	23.94	20.22	20.86	20.87	21.51	22.20
	8H	22.70	23.27	23.35	23.91	24.67	20.69	21.25	21.33	21.89	22.65