

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: P893369

Luminaire Tested: 4MB-3SL-ASMF-UNV-L830

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893369
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-3SL-ASMF-UNV-L830
Description: 3000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 3000K CCT
Light Source: -
Ballast/Driver: -

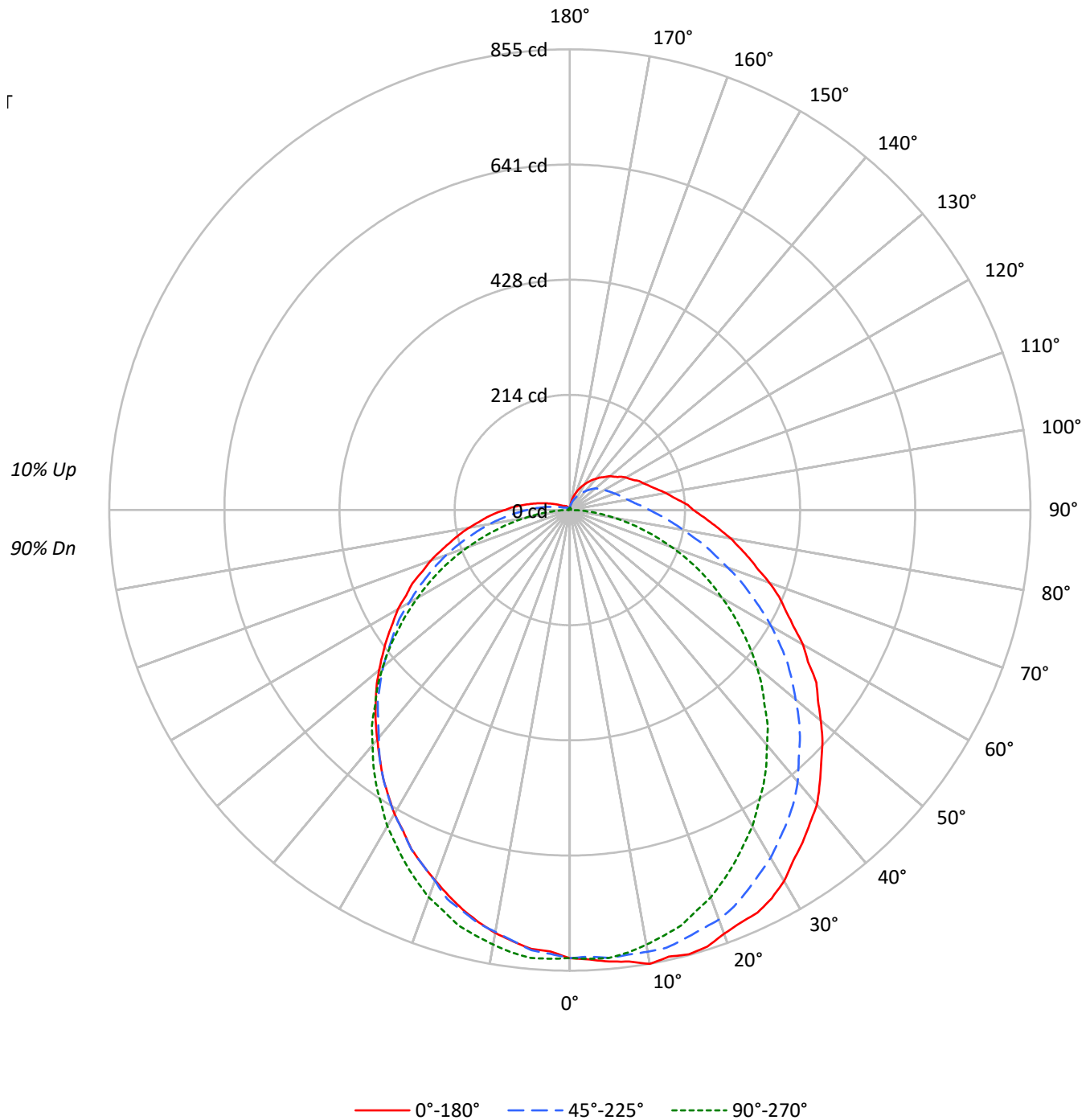
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2859.0 lumens
Efficiency: N/A
Efficacy: 135.5 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): 21.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 5.2
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°	8469	8469	8469	8469	8469
5°	8575	8274	8194	8129	8338
10°	8796	8101	7822	7737	8198
15°	8925	7930	7474	7413	8025
20°	8969	7766	7079	7028	7837
25°	9131	7516	6662	6706	7695
30°	9187	7276	6267	6358	7520
35°	9165	7013	5851	6024	7360
40°	9247	6742	5425	5647	7201
45°	9220	6421	5005	5360	7112
50°	9290	6092	4600	5032	7054
55°	9496	5805	4137	4702	7030
60°	9655	5449	3663	4353	7124
65°	9988	5062	3182	4005	7283
70°	10805	4694	2608	3672	7532
75°	12140	4426	1994	3287	8055
80°	15088	4167	1336	2945	9458
85°	22561	4113	670	2595	13266

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 74271 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.9	2.8
10°-20°	226.1	7.9
20°-30°	341.0	11.9
30°-40°	409.3	14.3
40°-50°	426.2	14.9
50°-60°	395.0	13.8
60°-70°	325.3	11.4
70°-80°	234.7	8.2
80°-90°	149.0	5.2
90°-100°	91.8	3.2
100°-110°	61.2	2.1
110°-120°	43.6	1.5
120°-130°	32.0	1.1
130°-140°	22.0	0.8
140°-150°	13.4	0.5
150°-160°	6.6	0.2
160°-170°	2.4	0.1
170°-180°	0.4	0.0
0°-30°	646.0	22.6
0°-40°	1055.3	36.9
0°-60°	1876.5	65.6
0°-90°	2585.5	90.4
90°-120°	196.7	6.9
90°-150°	264.0	9.2
90°-180°	273.0	9.5
0°-180°	2859.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	832	832	832	832	832	
5°	841	834	834	820	818	81
15°	854	824	798	770	768	241
25°	824	780	723	696	695	379
35°	753	704	626	605	605	472
45°	660	604	511	504	509	511
55°	559	493	390	399	414	496
65°	442	370	265	293	323	441
75°	345	262	140	194	229	365
85°	262	178	37	112	154	223
90°	229	148	3	80	120	126
95°	204	125	2	54	93	162
105°	160	98	2	22	49	171
115°	131	81	2	10	23	132
125°	107	68	3	8	13	97
135°	86	54	3	6	10	67
145°	66	38	3	5	7	42
155°	45	25	3	3	5	21
165°	26	15	3	2	2	8
175°	4	6	4	2	0	1
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°	831.6	831.6	831.6	831.6	831.6	831.6	831.6	831.6	831.6
2.5°	834.9	837.4	829.5	834.5	833.6	834.5	824.5	832.8	819.9
5°	841.1	842.4	834.5	837.4	834.5	827.4	819.9	817.0	817.8
7.5°	845.3	851.9	832.4	833.2	828.2	820.8	806.6	809.1	807.4
10°	855.3	847.8	832.4	828.7	819.1	811.2	795.0	796.2	797.1
12.5°	849.0	847.4	832.0	818.3	808.7	802.0	785.4	781.3	783.3
15°	853.6	846.5	823.7	812.9	798.3	786.7	770.0	767.1	767.5
17.5°	849.4	843.6	815.3	800.4	780.0	772.9	757.1	752.1	749.7
20°	837.0	834.1	809.1	783.3	765.0	751.3	732.2	729.3	731.4
22.5°	828.7	821.6	796.6	770.9	744.2	732.2	713.1	712.6	713.1
25°	824.5	815.3	779.6	752.6	723.0	712.2	695.6	689.4	694.8
27.5°	812.0	803.7	761.7	732.2	699.3	684.8	671.1	669.8	670.7
30°	795.4	779.2	745.5	709.3	677.7	662.8	651.5	643.2	651.1
32.5°	771.7	762.5	724.3	684.8	649.9	639.5	628.2	627.4	627.4
35°	753.4	746.7	704.3	663.2	625.7	611.6	605.0	602.1	605.0
37.5°	732.2	722.2	683.1	637.0	598.7	586.7	580.0	577.5	579.6
40°	713.9	695.6	658.2	610.0	569.2	558.4	551.3	553.8	555.9
42.5°	686.9	676.5	628.7	582.5	543.8	532.2	526.4	528.5	533.4
45°	660.3	650.7	604.1	553.8	511.0	504.8	504.3	503.1	509.3
47.5°	636.1	622.4	577.1	525.5	483.6	476.5	477.3	481.5	486.9
50°	608.3	592.1	547.2	495.2	453.2	448.6	452.0	454.9	461.9
52.5°	580.4	567.5	519.7	466.5	422.4	419.1	423.7	433.2	437.4
55°	558.8	535.5	492.7	432.8	389.6	390.0	399.1	404.6	413.7
57.5°	524.3	506.8	461.9	402.9	358.8	361.7	374.2	383.3	389.2
60°	499.8	477.7	432.0	370.9	326.4	331.0	345.1	358.8	368.8
62.5°	468.2	449.0	400.8	339.3	296.5	303.1	318.9	335.1	342.2
65°	442.4	420.8	370.0	307.7	265.3	273.2	292.7	311.0	322.6
67.5°	420.4	397.9	342.6	278.6	233.7	245.3	268.2	286.1	295.2
70°	394.2	368.0	311.4	246.1	200.8	214.5	243.6	264.4	274.8
72.5°	366.3	345.1	284.4	216.2	170.5	187.1	219.1	240.7	250.7
75°	344.7	321.0	261.5	186.3	139.7	159.7	194.2	218.7	228.7
77.5°	322.6	301.0	235.7	158.8	112.3	134.7	172.1	199.2	209.6
80°	303.1	278.2	214.1	136.4	83.6	110.2	151.3	178.0	190.0
82.5°	281.5	259.9	195.4	112.7	59.5	87.7	131.0	160.1	170.1
85°	262.4	239.9	178.0	94.0	36.6	67.8	112.3	142.2	154.3
87.5°	244.9	226.2	161.7	79.8	18.3	51.6	94.4	124.7	138.5
90°	229.1	207.9	148.0	66.9	3.3	37.4	79.8	109.8	120.2
92.5°	219.1	193.8	136.8	58.6	2.1	26.6	66.5	96.0	108.1
95°	204.1	181.7	125.1	52.4	2.1	17.9	53.6	82.3	92.7
97.5°	191.3	170.5	116.8	48.6	1.7	12.1	44.1	69.0	79.8
100°	181.3	161.7	109.4	45.3	2.1	8.7	34.9	58.6	68.2
102.5°	170.1	152.2	103.5	43.2	2.1	6.2	27.4	49.5	58.2
105°	160.1	144.3	98.1	41.2	2.1	5.4	22.0	40.7	48.6
107.5°	152.6	136.0	93.6	39.9	2.1	5.4	17.5	33.3	39.9
110°	145.1	129.3	89.0	38.7	2.1	5.0	13.7	27.4	33.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	140.1	123.1	84.8	37.4	2.5	5.0	11.2	22.9	27.4
115°	131.4	117.7	81.1	37.0	2.5	4.6	10.4	18.7	23.3
117.5°	125.1	112.7	77.3	35.8	2.5	4.6	10.0	15.4	18.7
120°	120.6	106.9	74.0	34.5	2.5	4.2	9.1	13.7	15.8
122.5°	114.8	101.5	71.1	33.7	2.5	4.2	8.7	12.9	14.1
125°	106.9	96.5	67.8	32.0	2.9	4.2	8.3	12.1	13.3
127.5°	101.9	91.9	65.3	29.9	2.9	3.7	7.9	11.2	12.5
130°	97.7	86.9	62.4	27.9	2.9	3.7	7.5	10.4	11.6
132.5°	91.5	81.9	58.2	26.2	2.9	3.3	6.7	9.6	10.8
135°	85.7	77.8	54.1	24.5	2.9	3.3	6.2	9.1	10.0
137.5°	81.9	73.6	50.3	22.9	2.9	2.9	5.8	8.3	9.1
140°	75.7	69.0	46.2	21.2	2.9	2.9	5.4	7.9	8.3
142.5°	71.1	64.4	42.4	19.5	2.9	2.9	5.0	7.1	7.9
145°	65.7	59.9	38.3	17.9	2.9	2.5	4.6	6.7	7.1
147.5°	60.7	54.5	34.9	16.6	2.9	2.5	4.2	5.8	6.2
150°	55.7	49.1	31.6	15.4	2.9	2.5	3.7	5.0	5.8
152.5°	50.3	42.4	28.3	14.1	2.9	2.5	3.3	4.6	5.0
155°	44.9	37.0	25.4	12.9	3.3	2.5	2.9	3.7	4.6
157.5°	40.3	32.0	22.5	11.6	3.3	2.1	2.9	3.3	3.7
160°	34.9	27.4	20.0	10.4	3.3	2.1	2.5	2.9	3.3
162.5°	30.8	22.9	17.5	9.6	3.3	2.1	2.5	2.5	2.9
165°	26.2	19.1	14.6	8.7	3.3	2.1	2.1	2.1	2.5
167.5°	21.2	15.0	12.1	7.9	3.3	2.1	2.1	1.7	2.1
170°	15.8	11.2	10.0	7.1	3.3	2.1	1.7	1.2	1.7
172.5°	7.1	8.7	7.9	6.2	3.7	2.1	1.7	1.2	0.8
175°	3.7	6.2	6.2	5.4	3.7	2.1	1.7	1.2	0.4
177.5°	2.9	3.7	4.6	4.6	3.7	2.5	1.7	0.8	0.4
180°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5



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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	17.79	19.26	18.29	19.77	20.31	16.76	18.23	17.26	18.74	19.28
	3H	19.87	21.22	20.39	21.73	22.31	18.63	19.98	19.15	20.49	21.07
	4H	20.82	22.09	21.36	22.62	23.22	19.38	20.65	19.91	21.18	21.78
	6H	21.73	22.92	22.29	23.46	24.08	20.01	21.20	20.56	21.74	22.35
	8H	22.16	23.30	22.73	23.87	24.48	20.26	21.40	20.83	21.97	22.58
	12H	22.59	23.68	23.16	24.23	24.88	20.49	21.59	21.07	22.14	22.79
4H	2H	18.28	19.56	18.82	20.08	20.68	17.32	18.60	17.86	19.13	19.72
	3H	20.59	21.68	21.15	22.25	22.87	19.38	20.47	19.93	21.04	21.65
	4H	21.71	22.70	22.28	23.28	23.93	20.23	21.23	20.81	21.81	22.46
	6H	22.81	23.69	23.40	24.29	24.96	20.99	21.87	21.58	22.47	23.13
	8H	23.34	24.17	23.94	24.77	25.44	21.30	22.13	21.90	22.73	23.41
	12H	23.87	24.62	24.49	25.25	25.93	21.60	22.35	22.22	22.98	23.66
8H	4H	21.96	22.79	22.56	23.39	24.07	20.57	21.40	21.17	22.00	22.68
	6H	23.25	23.95	23.87	24.59	25.27	21.46	22.16	22.08	22.80	23.48
	8H	23.91	24.55	24.56	25.20	25.89	21.86	22.49	22.50	23.14	23.83
	12H	24.62	25.18	25.26	25.82	26.58	22.24	22.81	22.89	23.45	24.21
12H	4H	21.98	22.73	22.60	23.36	24.04	20.64	21.39	21.25	22.02	22.70
	6H	23.30	23.93	23.94	24.59	25.28	21.56	22.20	22.21	22.85	23.54
	8H	24.04	24.61	24.69	25.25	26.01	22.03	22.59	22.67	23.23	23.99