

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: P893262

Luminaire Tested: 4MB-2SL-ASMF-UNV-L935

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893262
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-L935
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 3500K CCT
Light Source: -
Ballast/Driver: -

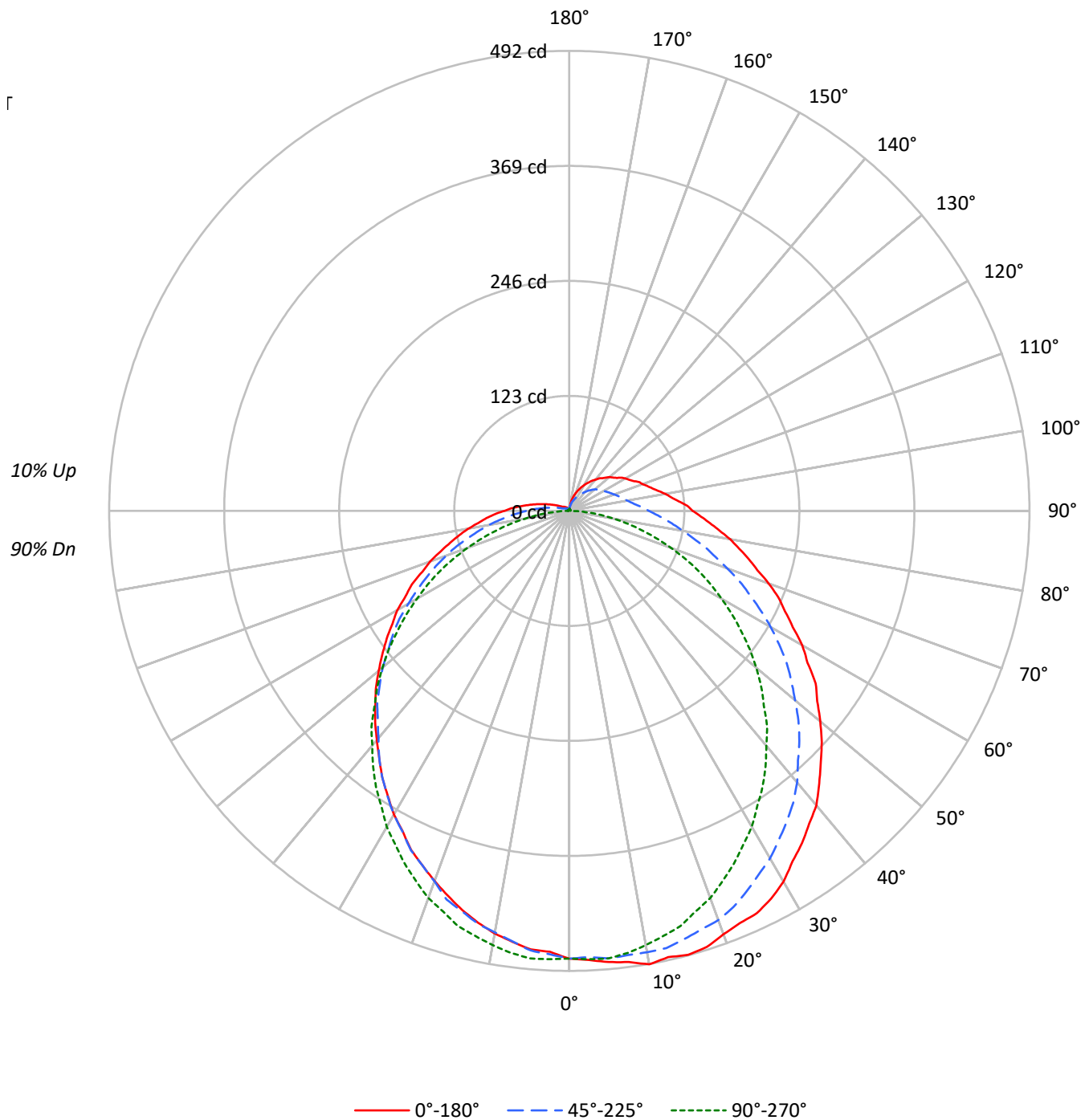
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1646.0 lumens
Efficiency: N/A
Efficacy: 119.3 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_{in}): 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°	4876	4876	4876	4876	4876
5°	4937	4763	4717	4680	4801
10°	5064	4664	4503	4454	4719
15°	5138	4565	4303	4268	4620
20°	5164	4471	4076	4045	4512
25°	5257	4327	3836	3861	4430
30°	5289	4189	3608	3661	4330
35°	5276	4038	3369	3468	4237
40°	5324	3881	3123	3251	4145
45°	5308	3697	2881	3087	4094
50°	5348	3507	2648	2897	4061
55°	5467	3343	2382	2708	4048
60°	5558	3137	2109	2506	4101
65°	5750	2914	1831	2305	4195
70°	6220	2703	1501	2115	4336
75°	6988	2549	1148	1892	4638
80°	8687	2400	769	1695	5446
85°	12983	2368	387	1493	7635

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 42760 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.4	2.8
10°-20°	130.2	7.9
20°-30°	196.3	11.9
30°-40°	235.6	14.3
40°-50°	245.3	14.9
50°-60°	227.4	13.8
60°-70°	187.3	11.4
70°-80°	135.1	8.2
80°-90°	85.8	5.2
90°-100°	52.9	3.2
100°-110°	35.3	2.1
110°-120°	25.1	1.5
120°-130°	18.4	1.1
130°-140°	12.7	0.8
140°-150°	7.7	0.5
150°-160°	3.8	0.2
160°-170°	1.4	0.1
170°-180°	0.2	0.0
0°-30°	371.9	22.6
0°-40°	607.6	36.9
0°-60°	1080.4	65.6
0°-90°	1488.5	90.4
90°-120°	113.3	6.9
90°-150°	152.0	9.2
90°-180°	157.0	9.5
0°-180°	1646.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	479	479	479	479	479	
5°	484	480	480	472	471	46
15°	491	474	460	443	442	139
25°	475	449	416	400	400	218
35°	434	406	360	348	348	272
45°	380	348	294	290	293	294
55°	322	284	224	230	238	286
65°	255	213	153	168	186	254
75°	198	151	80	112	132	210
85°	151	102	21	65	89	128
90°	132	85	2	46	69	73
95°	118	72	1	31	53	93
105°	92	56	1	13	28	98
115°	76	47	1	6	13	76
125°	62	39	2	5	8	56
135°	49	31	2	4	6	39
145°	38	22	2	3	4	24
155°	26	15	2	2	3	12
165°	15	8	2	1	1	4
175°	2	4	2	1	0	0
180°	1	1	1	1	1	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8
2.5°	480.7	482.1	477.6	480.4	479.9	480.4	474.7	479.5	472.0
5°	484.3	485.0	480.4	482.1	480.4	476.4	472.0	470.4	470.9
7.5°	486.7	490.5	479.2	479.7	476.8	472.5	464.4	465.8	464.9
10°	492.4	488.1	479.2	477.1	471.6	467.0	457.7	458.4	458.9
12.5°	488.8	487.8	479.0	471.1	465.6	461.8	452.2	449.8	451.0
15°	491.4	487.4	474.2	468.0	459.6	452.9	443.3	441.6	441.9
17.5°	489.0	485.7	469.4	460.8	449.1	445.0	435.9	433.0	431.6
20°	481.9	480.2	465.8	451.0	440.5	432.6	421.5	419.9	421.1
22.5°	477.1	473.0	458.6	443.8	428.5	421.5	410.5	410.3	410.5
25°	474.7	469.4	448.8	433.3	416.3	410.1	400.5	396.9	400.0
27.5°	467.5	462.7	438.5	421.5	402.6	394.3	386.4	385.6	386.1
30°	457.9	448.6	429.2	408.4	390.2	381.6	375.1	370.3	374.9
32.5°	444.3	439.0	417.0	394.3	374.1	368.2	361.7	361.2	361.2
35°	433.7	429.9	405.5	381.8	360.3	352.1	348.3	346.6	348.3
37.5°	421.5	415.8	393.3	366.7	344.7	337.8	333.9	332.5	333.7
40°	411.0	400.5	378.9	351.2	327.7	321.5	317.4	318.8	320.0
42.5°	395.4	389.5	361.9	335.4	313.1	306.4	303.0	304.2	307.1
45°	380.1	374.6	347.8	318.8	294.2	290.6	290.4	289.6	293.2
47.5°	366.2	358.3	332.3	302.6	278.4	274.3	274.8	277.2	280.3
50°	350.2	340.9	315.0	285.1	260.9	258.3	260.2	261.9	265.9
52.5°	334.2	326.7	299.2	268.6	243.2	241.3	243.9	249.4	251.8
55°	321.7	308.3	283.7	249.2	224.3	224.5	229.8	232.9	238.2
57.5°	301.9	291.8	265.9	232.0	206.6	208.3	215.4	220.7	224.1
60°	287.7	275.0	248.7	213.5	187.9	190.5	198.7	206.6	212.3
62.5°	269.5	258.5	230.8	195.3	170.7	174.5	183.6	192.9	197.0
65°	254.7	242.2	213.0	177.1	152.7	157.3	168.5	179.1	185.8
67.5°	242.0	229.1	197.2	160.4	134.5	141.2	154.4	164.7	170.0
70°	226.9	211.8	179.3	141.7	115.6	123.5	140.3	152.2	158.2
72.5°	210.9	198.7	163.7	124.5	98.1	107.7	126.2	138.6	144.3
75°	198.4	184.8	150.6	107.2	80.4	91.9	111.8	125.9	131.7
77.5°	185.8	173.3	135.7	91.4	64.6	77.6	99.1	114.7	120.6
80°	174.5	160.1	123.3	78.5	48.1	63.4	87.1	102.5	109.4
82.5°	162.1	149.6	112.5	64.9	34.2	50.5	75.4	92.2	97.9
85°	151.0	138.1	102.5	54.1	21.1	39.0	64.6	81.9	88.8
87.5°	141.0	130.2	93.1	46.0	10.5	29.7	54.3	71.8	79.7
90°	131.9	119.7	85.2	38.5	1.9	21.5	46.0	63.2	69.2
92.5°	126.2	111.5	78.8	33.8	1.2	15.3	38.3	55.3	62.2
95°	117.5	104.6	72.1	30.2	1.2	10.3	30.9	47.4	53.4
97.5°	110.1	98.1	67.3	28.0	1.0	6.9	25.4	39.7	46.0
100°	104.4	93.1	63.0	26.1	1.2	5.0	20.1	33.8	39.3
102.5°	97.9	87.6	59.6	24.9	1.2	3.6	15.8	28.5	33.5
105°	92.2	83.1	56.5	23.7	1.2	3.1	12.7	23.5	28.0
107.5°	87.9	78.3	53.9	23.0	1.2	3.1	10.1	19.2	23.0
110°	83.5	74.4	51.2	22.3	1.2	2.9	7.9	15.8	19.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	80.7	70.9	48.8	21.5	1.4	2.9	6.5	13.2	15.8
115°	75.6	67.7	46.7	21.3	1.4	2.6	6.0	10.8	13.4
117.5°	72.1	64.9	44.5	20.6	1.4	2.6	5.7	8.9	10.8
120°	69.4	61.5	42.6	19.9	1.4	2.4	5.3	7.9	9.1
122.5°	66.1	58.4	40.9	19.4	1.4	2.4	5.0	7.4	8.1
125°	61.5	55.5	39.0	18.4	1.7	2.4	4.8	6.9	7.7
127.5°	58.6	52.9	37.6	17.2	1.7	2.2	4.5	6.5	7.2
130°	56.3	50.0	35.9	16.0	1.7	2.2	4.3	6.0	6.7
132.5°	52.7	47.2	33.5	15.1	1.7	1.9	3.8	5.5	6.2
135°	49.3	44.8	31.1	14.1	1.7	1.9	3.6	5.3	5.7
137.5°	47.2	42.4	29.0	13.2	1.7	1.7	3.4	4.8	5.3
140°	43.6	39.7	26.6	12.2	1.7	1.7	3.1	4.5	4.8
142.5°	40.9	37.1	24.4	11.3	1.7	1.7	2.9	4.1	4.5
145°	37.8	34.5	22.0	10.3	1.7	1.4	2.6	3.8	4.1
147.5°	34.9	31.4	20.1	9.6	1.7	1.4	2.4	3.4	3.6
150°	32.1	28.2	18.2	8.9	1.7	1.4	2.2	2.9	3.4
152.5°	29.0	24.4	16.3	8.1	1.7	1.4	1.9	2.6	2.9
155°	25.9	21.3	14.6	7.4	1.9	1.4	1.7	2.2	2.6
157.5°	23.2	18.4	12.9	6.7	1.9	1.2	1.7	1.9	2.2
160°	20.1	15.8	11.5	6.0	1.9	1.2	1.4	1.7	1.9
162.5°	17.7	13.2	10.1	5.5	1.9	1.2	1.4	1.4	1.7
165°	15.1	11.0	8.4	5.0	1.9	1.2	1.2	1.2	1.4
167.5°	12.2	8.6	6.9	4.5	1.9	1.2	1.2	1.0	1.2
170°	9.1	6.5	5.7	4.1	1.9	1.2	1.0	0.7	1.0
172.5°	4.1	5.0	4.5	3.6	2.2	1.2	1.0	0.7	0.5
175°	2.2	3.6	3.6	3.1	2.2	1.2	1.0	0.7	0.2
177.5°	1.7	2.2	2.6	2.6	2.2	1.4	1.0	0.5	0.2
180°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4



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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	15.87	17.35	16.37	17.85	18.39	14.84	16.32	15.34	16.82	17.36
	3H	17.95	19.30	18.47	19.81	20.40	16.71	18.06	17.23	18.57	19.15
	4H	18.90	20.17	19.44	20.70	21.30	17.46	18.73	18.00	19.26	19.86
	6H	19.82	21.00	20.37	21.55	22.16	18.09	19.28	18.64	19.82	20.43
	8H	20.25	21.38	20.81	21.95	22.57	18.34	19.48	18.91	20.05	20.66
	12H	20.67	21.76	21.24	22.32	22.96	18.58	19.67	19.15	20.22	20.87
4H	2H	16.36	17.64	16.90	18.16	18.76	15.40	16.68	15.94	17.21	17.80
	3H	18.67	19.76	19.23	20.33	20.95	17.46	18.55	18.01	19.12	19.74
	4H	19.79	20.78	20.36	21.36	22.01	18.31	19.31	18.89	19.89	20.54
	6H	20.89	21.77	21.48	22.38	23.04	19.07	19.95	19.66	20.55	21.22
	8H	21.42	22.25	22.02	22.85	23.52	19.39	20.21	19.98	20.81	21.49
	12H	21.95	22.70	22.57	23.33	24.01	19.68	20.43	20.30	21.06	21.74
8H	4H	20.04	20.87	20.64	21.47	22.15	18.65	19.48	19.25	20.08	20.76
	6H	21.33	22.03	21.96	22.67	23.35	19.54	20.24	20.17	20.88	21.56
	8H	22.00	22.63	22.64	23.28	23.97	19.94	20.57	20.58	21.22	21.91
	12H	22.70	23.26	23.34	23.91	24.66	20.32	20.89	20.97	21.53	22.29
12H	4H	20.06	20.81	20.68	21.44	22.12	18.72	19.47	19.34	20.10	20.78
	6H	21.38	22.02	22.02	22.67	23.36	19.65	20.28	20.29	20.93	21.63
	8H	22.12	22.69	22.77	23.33	24.09	20.11	20.67	20.75	21.32	22.07