

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: P893261

Luminaire Tested: 4MB-2SL-ASMF-UNV-L930

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893261
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-L930
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 3000K CCT
Light Source: -
Ballast/Driver: -

Summary

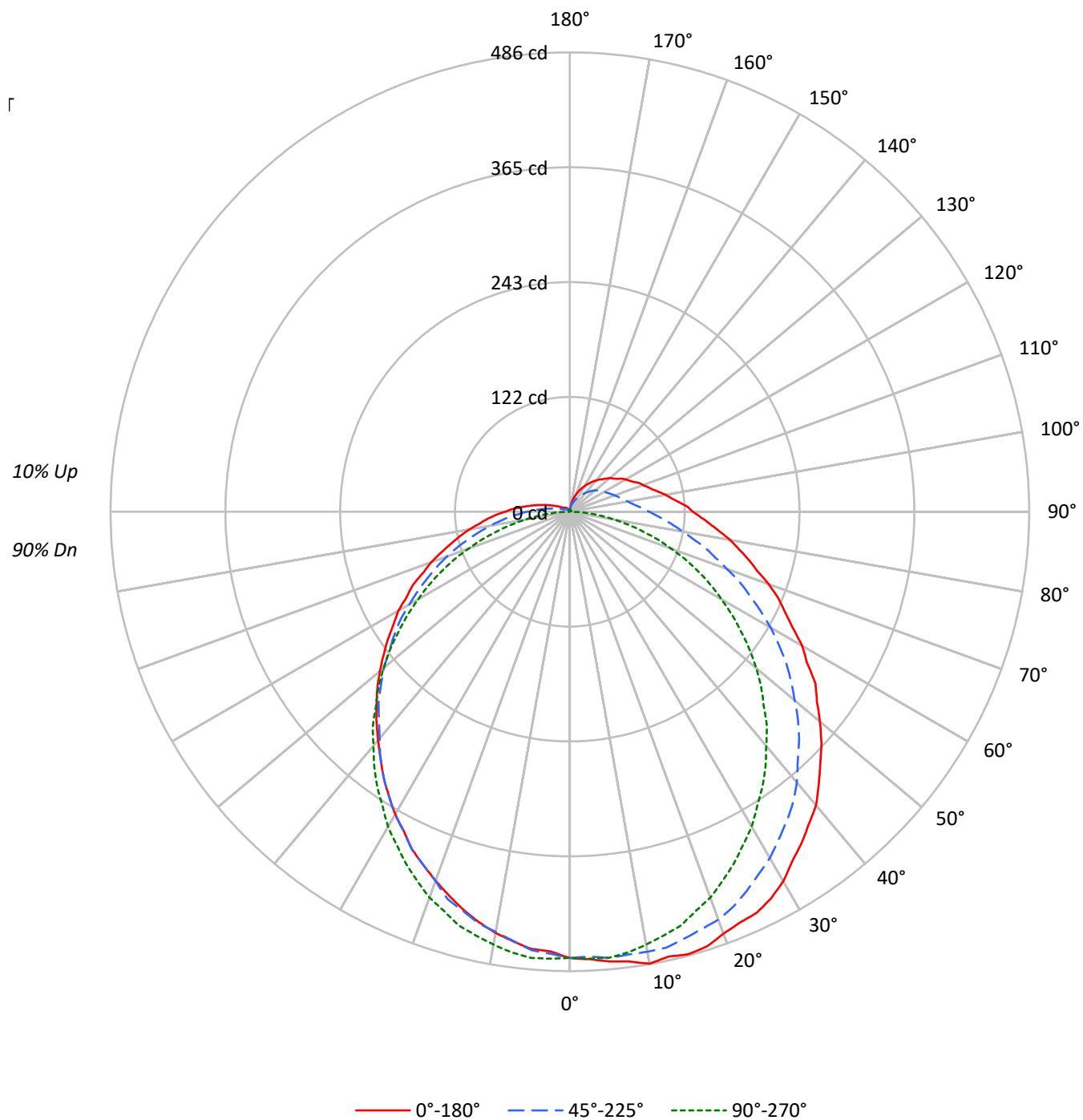
Lumens per Lamp: N/A
Luminaire Lumens: 1623.0 lumens
Efficiency: N/A
Efficacy: 117.6 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.21 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 3.98' x H: 0.12')
CIE Type: Direct

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				0
RW	70	50	30	10	70	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	90			
1	105	99	95	90	101	96	92	88	90	87	83	85	82	79	79	77	75	72			
2	95	86	79	72	91	83	76	71	78	72	68	73	69	65	69	65	62	59			
3	86	75	66	60	83	73	65	58	68	62	56	64	59	54	60	56	52	49			
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	44	42			
5	72	59	50	43	69	57	49	42	54	47	41	51	45	40	48	43	38	36			
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	31			
7	62	48	39	33	59	47	38	32	44	37	32	42	36	31	40	34	30	28			
8	57	44	35	29	55	43	35	29	41	33	28	39	32	27	37	31	27	25			
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22			
10	50	37	29	24	49	36	29	23	34	28	23	33	27	22	31	26	22	20			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	4808	4808	4808	4808	4808
5°	4868	4697	4651	4616	4734
10°	4993	4598	4440	4392	4654
15°	5067	4502	4243	4208	4555
20°	5091	4408	4019	3990	4449
25°	5183	4267	3783	3807	4368
30°	5215	4130	3557	3610	4269
35°	5203	3981	3322	3419	4177
40°	5250	3827	3079	3206	4088
45°	5234	3646	2841	3043	4037
50°	5273	3458	2612	2857	4004
55°	5390	3296	2349	2670	3992
60°	5480	3093	2079	2471	4045
65°	5669	2875	1806	2274	4136
70°	6135	2665	1480	2085	4276
75°	6892	2513	1132	1865	4571
80°	8567	2367	758	1672	5371
85°	12802	2334	381	1472	7532

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 90°

Luminance: 42176 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.8	2.8
10°-20°	128.4	7.9
20°-30°	193.6	11.9
30°-40°	232.3	14.3
40°-50°	241.9	14.9
50°-60°	224.3	13.8
60°-70°	184.7	11.4
70°-80°	133.2	8.2
80°-90°	84.6	5.2
90°-100°	52.1	3.2
100°-110°	34.8	2.1
110°-120°	24.8	1.5
120°-130°	18.1	1.1
130°-140°	12.5	0.8
140°-150°	7.6	0.5
150°-160°	3.8	0.2
160°-170°	1.4	0.1
170°-180°	0.2	0.0
0°-30°	366.7	22.6
0°-40°	599.1	36.9
0°-60°	1065.3	65.6
0°-90°	1467.7	90.4
90°-120°	111.7	6.9
90°-150°	149.9	9.2
90°-180°	155.0	9.6
0°-180°	1623.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	472	472	472	472	472	
5°	478	474	474	466	464	46
15°	485	468	453	437	436	137
25°	468	443	410	395	394	215
35°	428	400	355	343	343	268
45°	375	343	290	286	289	290
55°	317	280	221	227	235	282
65°	251	210	151	166	183	250
75°	196	148	79	110	130	207
85°	149	101	21	64	88	126
90°	130	84	2	45	68	72
95°	116	71	1	30	53	92
105°	91	56	1	12	28	97
115°	75	46	1	6	13	75
125°	61	38	2	5	8	55
135°	49	31	2	4	6	38
145°	37	22	2	3	4	24
155°	26	14	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°	472.1	472.1	472.1	472.1	472.1	472.1	472.1	472.1	472.1
2.5°	473.9	475.4	470.9	473.7	473.2	473.7	468.0	472.8	465.5
5°	477.5	478.2	473.7	475.4	473.7	469.7	465.5	463.8	464.3
7.5°	479.9	483.6	472.5	473.0	470.2	465.9	457.9	459.3	458.4
10°	485.5	481.3	472.5	470.4	465.0	460.5	451.3	452.0	452.5
12.5°	482.0	481.0	472.3	464.5	459.1	455.3	445.9	443.5	444.7
15°	484.6	480.6	467.6	461.4	453.2	446.6	437.1	435.5	435.7
17.5°	482.2	478.9	462.9	454.4	442.8	438.8	429.8	427.0	425.6
20°	475.1	473.5	459.3	444.7	434.3	426.5	415.7	414.0	415.2
22.5°	470.4	466.4	452.2	437.6	422.5	415.7	404.8	404.6	404.8
25°	468.0	462.9	442.6	427.2	410.5	404.3	394.9	391.3	394.4
27.5°	461.0	456.2	432.4	415.7	397.0	388.7	381.0	380.2	380.7
30°	451.5	442.3	423.2	402.7	384.7	376.2	369.9	365.1	369.6
32.5°	438.1	432.9	411.2	388.7	368.9	363.0	356.6	356.2	356.2
35°	427.7	423.9	399.8	376.5	355.2	347.2	343.4	341.8	343.4
37.5°	415.7	410.0	387.8	361.6	339.9	333.0	329.3	327.8	329.0
40°	405.3	394.9	373.6	346.3	323.1	317.0	313.0	314.4	315.6
42.5°	389.9	384.0	356.9	330.7	308.7	302.1	298.8	300.0	302.8
45°	374.8	369.4	343.0	314.4	290.1	286.5	286.3	285.6	289.1
47.5°	361.1	353.3	327.6	298.3	274.5	270.5	271.0	273.3	276.4
50°	345.3	336.1	310.6	281.1	257.3	254.7	256.6	258.2	262.2
52.5°	329.5	322.2	295.0	264.8	239.8	237.9	240.5	245.9	248.3
55°	317.2	304.0	279.7	245.7	221.2	221.4	226.6	229.7	234.9
57.5°	297.6	287.7	262.2	228.7	203.7	205.3	212.4	217.6	220.9
60°	283.7	271.2	245.2	210.5	185.3	187.9	195.9	203.7	209.4
62.5°	265.8	254.9	227.5	192.6	168.3	172.1	181.0	190.2	194.3
65°	251.1	238.9	210.1	174.7	150.6	155.1	166.2	176.6	183.2
67.5°	238.6	225.9	194.5	158.1	132.6	139.3	152.2	162.4	167.6
70°	223.8	208.9	176.8	139.7	114.0	121.8	138.3	150.1	156.0
72.5°	207.9	195.9	161.4	122.7	96.8	106.2	124.4	136.7	142.3
75°	195.7	182.2	148.5	105.7	79.3	90.6	110.2	124.2	129.8
77.5°	183.2	170.9	133.8	90.2	63.7	76.5	97.7	113.1	119.0
80°	172.1	157.9	121.6	77.4	47.4	62.5	85.9	101.0	107.9
82.5°	159.8	147.5	110.9	64.0	33.8	49.8	74.3	90.9	96.5
85°	148.9	136.2	101.0	53.3	20.8	38.5	63.7	80.7	87.6
87.5°	139.0	128.4	91.8	45.3	10.4	29.3	53.6	70.8	78.6
90°	130.1	118.0	84.0	38.0	1.9	21.2	45.3	62.3	68.2
92.5°	124.4	110.0	77.7	33.3	1.2	15.1	37.8	54.5	61.4
95°	115.9	103.1	71.0	29.7	1.2	10.1	30.4	46.7	52.6
97.5°	108.6	96.8	66.3	27.6	0.9	6.8	25.0	39.2	45.3
100°	102.9	91.8	62.1	25.7	1.2	5.0	19.8	33.3	38.7
102.5°	96.5	86.4	58.8	24.5	1.2	3.5	15.6	28.1	33.0
105°	90.9	81.9	55.7	23.4	1.2	3.1	12.5	23.1	27.6
107.5°	86.6	77.2	53.1	22.7	1.2	3.1	9.9	18.9	22.7
110°	82.4	73.4	50.5	22.0	1.2	2.8	7.8	15.6	18.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	79.5	69.9	48.2	21.2	1.4	2.8	6.4	13.0	15.6
115°	74.6	66.8	46.0	21.0	1.4	2.6	5.9	10.6	13.2
117.5°	71.0	64.0	43.9	20.3	1.4	2.6	5.7	8.7	10.6
120°	68.4	60.7	42.0	19.6	1.4	2.4	5.2	7.8	9.0
122.5°	65.1	57.6	40.4	19.1	1.4	2.4	5.0	7.3	8.0
125°	60.7	54.8	38.5	18.2	1.7	2.4	4.7	6.8	7.6
127.5°	57.8	52.2	37.1	17.0	1.7	2.1	4.5	6.4	7.1
130°	55.5	49.3	35.4	15.8	1.7	2.1	4.2	5.9	6.6
132.5°	51.9	46.5	33.0	14.9	1.7	1.9	3.8	5.4	6.1
135°	48.6	44.1	30.7	13.9	1.7	1.9	3.5	5.2	5.7
137.5°	46.5	41.8	28.6	13.0	1.7	1.7	3.3	4.7	5.2
140°	43.0	39.2	26.2	12.0	1.7	1.7	3.1	4.5	4.7
142.5°	40.4	36.6	24.1	11.1	1.7	1.7	2.8	4.0	4.5
145°	37.3	34.0	21.7	10.1	1.7	1.4	2.6	3.8	4.0
147.5°	34.5	30.9	19.8	9.4	1.7	1.4	2.4	3.3	3.5
150°	31.6	27.9	17.9	8.7	1.7	1.4	2.1	2.8	3.3
152.5°	28.6	24.1	16.1	8.0	1.7	1.4	1.9	2.6	2.8
155°	25.5	21.0	14.4	7.3	1.9	1.4	1.7	2.1	2.6
157.5°	22.9	18.2	12.7	6.6	1.9	1.2	1.7	1.9	2.1
160°	19.8	15.6	11.3	5.9	1.9	1.2	1.4	1.7	1.9
162.5°	17.5	13.0	9.9	5.4	1.9	1.2	1.4	1.4	1.7
165°	14.9	10.9	8.3	5.0	1.9	1.2	1.2	1.2	1.4
167.5°	12.0	8.5	6.8	4.5	1.9	1.2	1.2	0.9	1.2
170°	9.0	6.4	5.7	4.0	1.9	1.2	0.9	0.7	0.9
172.5°	4.0	5.0	4.5	3.5	2.1	1.2	0.9	0.7	0.5
175°	2.1	3.5	3.5	3.1	2.1	1.2	0.9	0.7	0.2
177.5°	1.7	2.1	2.6	2.6	2.1	1.4	0.9	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	15.82	17.30	16.32	17.80	18.34	14.79	16.27	15.30	16.77	17.31
	3H	17.91	19.25	18.42	19.76	20.35	16.66	18.01	17.18	18.52	19.10
	4H	18.85	20.13	19.39	20.65	21.25	17.41	18.68	17.95	19.21	19.81
	6H	19.77	20.96	20.32	21.50	22.11	18.04	19.23	18.59	19.77	20.38
	8H	20.20	21.34	20.76	21.90	22.52	18.30	19.43	18.86	20.00	20.62
	12H	20.62	21.71	21.19	22.27	22.91	18.53	19.62	19.10	20.18	20.82
4H	2H	16.31	17.59	16.85	18.12	18.71	15.35	16.63	15.89	17.16	17.75
	3H	18.63	19.71	19.18	20.28	20.90	17.41	18.50	17.97	19.07	19.69
	4H	19.74	20.73	20.31	21.31	21.96	18.27	19.26	18.84	19.84	20.49
	6H	20.84	21.72	21.44	22.33	22.99	19.02	19.90	19.61	20.50	21.17
	8H	21.37	22.20	21.97	22.80	23.48	19.34	20.16	19.93	20.77	21.44
	12H	21.90	22.65	22.52	23.28	23.96	19.63	20.38	20.25	21.01	21.69
8H	4H	20.00	20.82	20.59	21.43	22.10	18.60	19.43	19.20	20.03	20.71
	6H	21.28	21.98	21.91	22.62	23.30	19.49	20.19	20.12	20.83	21.51
	8H	21.95	22.58	22.59	23.23	23.93	19.89	20.52	20.53	21.17	21.87
	12H	22.65	23.21	23.29	23.86	24.61	20.28	20.84	20.92	21.48	22.24
12H	4H	20.01	20.76	20.63	21.39	22.07	18.67	19.42	19.29	20.05	20.73
	6H	21.33	21.97	21.97	22.62	23.31	19.60	20.23	20.24	20.88	21.58
	8H	22.08	22.64	22.72	23.28	24.04	20.06	20.62	20.70	21.27	22.02