

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: P893371

Luminaire Tested: 4MB-3SL-ASMF-UNV-L840

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893371
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-L840
Description: 3000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 4000K CCT
Light Source: -
Ballast/Driver: -

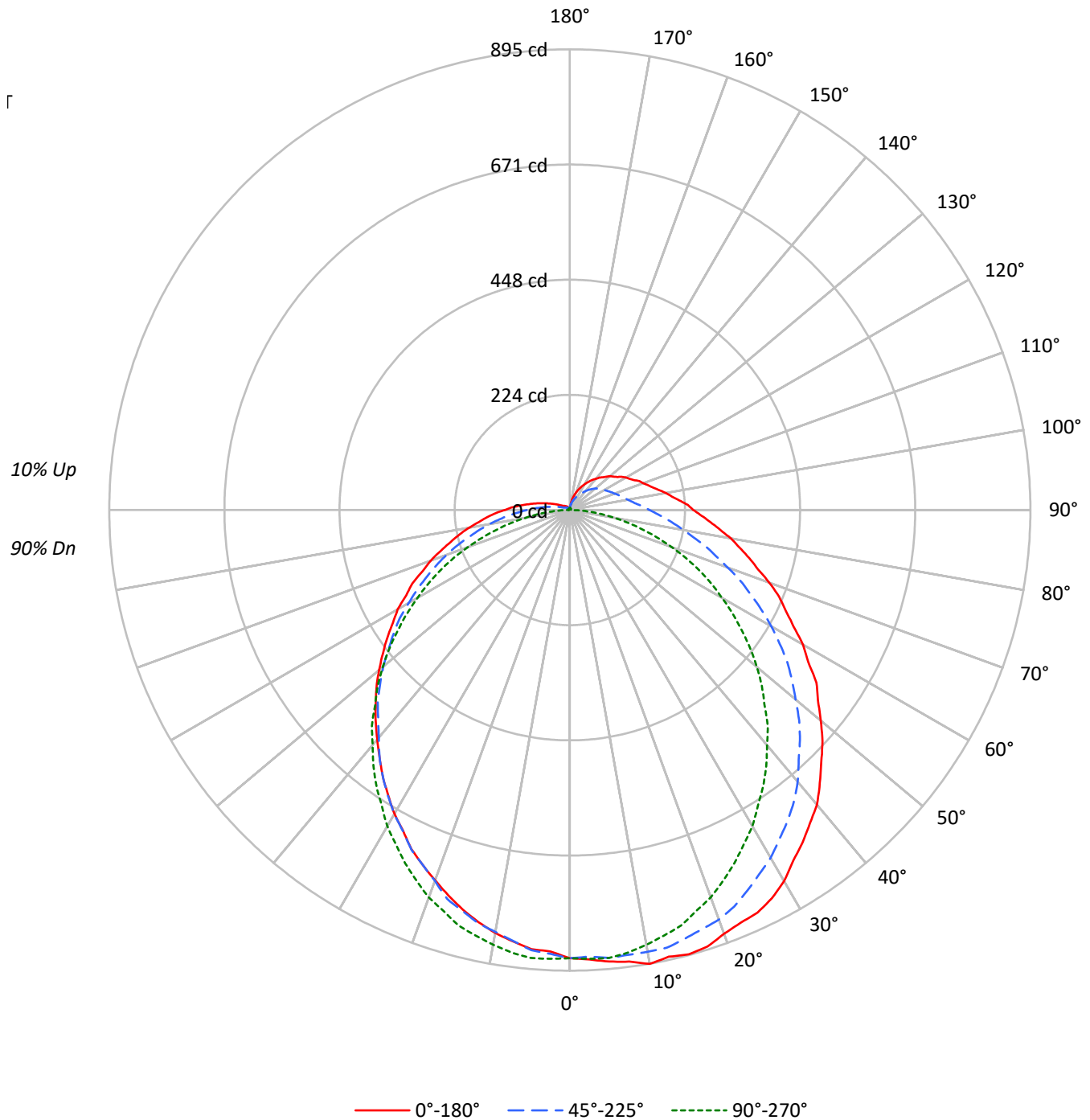
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2993.0 lumens
Efficiency: N/A
Efficacy: 141.8 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°	8865	8865	8865	8865	8865
5°	8977	8662	8578	8510	8729
10°	9208	8481	8188	8099	8581
15°	9343	8302	7825	7761	8401
20°	9389	8129	7411	7357	8204
25°	9559	7868	6975	7021	8055
30°	9618	7616	6561	6657	7873
35°	9595	7342	6126	6306	7704
40°	9681	7058	5680	5913	7539
45°	9652	6722	5239	5612	7446
50°	9725	6377	4816	5267	7386
55°	9941	6077	4330	4924	7360
60°	10107	5704	3834	4557	7458
65°	10455	5301	3331	4192	7626
70°	11310	4914	2730	3846	7886
75°	12707	4634	2089	3441	8432
80°	15795	4364	1399	3083	9901
85°	23618	4305	702	2715	13885

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 77739 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.6	2.8
10°-20°	236.7	7.9
20°-30°	357.0	11.9
30°-40°	428.5	14.3
40°-50°	446.1	14.9
50°-60°	413.6	13.8
60°-70°	340.6	11.4
70°-80°	245.7	8.2
80°-90°	156.0	5.2
90°-100°	96.2	3.2
100°-110°	64.1	2.1
110°-120°	45.7	1.5
120°-130°	33.4	1.1
130°-140°	23.0	0.8
140°-150°	14.0	0.5
150°-160°	6.9	0.2
160°-170°	2.5	0.1
170°-180°	0.4	0.0
0°-30°	676.3	22.6
0°-40°	1104.8	36.9
0°-60°	1964.5	65.6
0°-90°	2706.7	90.4
90°-120°	205.9	6.9
90°-150°	276.4	9.2
90°-180°	286.0	9.6
0°-180°	2993.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	870	870	870	870	870	
5°	880	874	874	858	856	84
15°	894	862	836	806	804	252
25°	863	816	757	728	727	397
35°	789	737	655	633	633	494
45°	691	632	535	528	533	535
55°	585	516	408	418	433	520
65°	463	387	278	306	338	461
75°	361	274	146	203	239	382
85°	275	186	38	118	162	233
90°	240	155	4	84	126	132
95°	214	131	2	56	97	170
105°	168	103	2	23	51	179
115°	138	85	3	11	24	138
125°	112	71	3	9	14	102
135°	90	57	3	6	10	70
145°	69	40	3	5	7	44
155°	47	27	4	3	5	22
165°	27	15	4	2	3	8
175°	4	6	4	2	0	1
180°	3	3	3	3	3	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	870.5	870.5	870.5	870.5	870.5	870.5	870.5	870.5	870.5
2.5°	874.0	876.6	868.4	873.6	872.7	873.6	863.1	871.8	858.3
5°	880.5	881.9	873.6	876.6	873.6	866.2	858.3	855.3	856.2
7.5°	884.9	891.9	871.4	872.3	867.1	859.2	844.4	847.0	845.3
10°	895.3	887.5	871.4	867.5	857.5	849.2	832.2	833.5	834.4
12.5°	888.8	887.1	871.0	856.6	846.6	839.6	822.2	817.9	820.0
15°	893.6	886.2	862.3	850.9	835.7	823.5	806.1	803.1	803.5
17.5°	889.3	883.2	853.6	837.9	816.6	809.2	792.6	787.4	784.8
20°	876.2	873.1	847.0	820.0	800.9	786.5	766.5	763.5	765.6
22.5°	867.5	860.1	834.0	807.0	779.1	766.5	746.5	746.0	746.5
25°	863.1	853.6	816.1	787.8	756.9	745.6	728.2	721.7	727.3
27.5°	850.1	841.4	797.4	766.5	732.1	716.9	702.5	701.2	702.1
30°	832.7	815.7	780.4	742.6	709.5	693.8	682.1	673.4	681.6
32.5°	807.9	798.3	758.2	716.9	680.3	669.4	657.7	656.8	656.8
35°	788.7	781.7	737.3	694.3	655.1	640.3	633.3	630.3	633.3
37.5°	766.5	756.1	715.1	666.8	626.8	614.2	607.2	604.6	606.8
40°	747.4	728.2	689.0	638.5	595.9	584.6	577.2	579.8	582.0
42.5°	719.1	708.2	658.1	609.8	569.3	557.1	551.0	553.2	558.4
45°	691.2	681.2	632.4	579.8	534.9	528.4	528.0	526.7	533.2
47.5°	666.0	651.6	604.2	550.2	506.2	498.8	499.7	504.0	509.7
50°	636.8	619.8	572.8	518.4	474.4	469.7	473.1	476.2	483.6
52.5°	607.6	594.1	544.1	488.4	442.2	438.8	443.5	453.5	457.9
55°	585.0	560.6	515.8	453.1	407.8	408.3	417.9	423.5	433.1
57.5°	548.9	530.6	483.6	421.8	375.6	378.7	391.7	401.3	407.4
60°	523.2	500.1	452.2	388.3	341.7	346.5	361.3	375.6	386.1
62.5°	490.1	470.1	419.6	355.2	310.3	317.3	333.9	350.8	358.2
65°	463.1	440.5	387.4	322.1	277.7	286.0	306.4	325.6	337.8
67.5°	440.1	416.6	358.7	291.6	244.6	256.8	280.7	299.5	309.0
70°	412.6	385.2	326.0	257.7	210.2	224.6	255.1	276.8	287.7
72.5°	383.5	361.3	297.7	226.3	178.5	195.9	229.4	252.0	262.5
75°	360.8	336.0	273.8	195.0	146.3	167.1	203.3	229.0	239.4
77.5°	337.8	315.1	246.8	166.3	117.5	141.0	180.2	208.5	219.4
80°	317.3	291.2	224.2	142.8	87.5	115.3	158.4	186.3	198.9
82.5°	294.7	272.0	204.6	118.0	62.2	91.8	137.1	167.6	178.0
85°	274.7	251.1	186.3	98.4	38.3	70.9	117.5	148.9	161.5
87.5°	256.4	236.8	169.3	83.6	19.2	54.0	98.8	130.6	144.9
90°	239.8	217.6	155.0	70.1	3.5	39.2	83.6	114.9	125.8
92.5°	229.4	202.8	143.2	61.4	2.2	27.9	69.6	100.5	113.2
95°	213.7	190.2	131.0	54.8	2.2	18.7	56.1	86.2	97.1
97.5°	200.2	178.5	122.3	50.9	1.7	12.6	46.1	72.3	83.6
100°	189.8	169.3	114.5	47.4	2.2	9.1	36.6	61.4	71.4
102.5°	178.0	159.3	108.4	45.3	2.2	6.5	28.7	51.8	60.9
105°	167.6	151.0	102.7	43.1	2.2	5.7	23.1	42.7	50.9
107.5°	159.7	142.3	97.9	41.8	2.2	5.7	18.3	34.8	41.8
110°	151.9	135.4	93.1	40.5	2.2	5.2	14.4	28.7	34.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	146.7	128.8	88.8	39.2	2.6	5.2	11.8	23.9	28.7
115°	137.5	123.2	84.9	38.7	2.6	4.8	10.9	19.6	24.4
117.5°	131.0	118.0	81.0	37.4	2.6	4.8	10.4	16.1	19.6
120°	126.2	111.9	77.5	36.1	2.6	4.4	9.6	14.4	16.5
122.5°	120.1	106.2	74.4	35.3	2.6	4.4	9.1	13.5	14.8
125°	111.9	101.0	70.9	33.5	3.0	4.4	8.7	12.6	13.9
127.5°	106.6	96.2	68.3	31.3	3.0	3.9	8.3	11.8	13.1
130°	102.3	91.0	65.3	29.2	3.0	3.9	7.8	10.9	12.2
132.5°	95.8	85.7	60.9	27.4	3.0	3.5	7.0	10.0	11.3
135°	89.7	81.4	56.6	25.7	3.0	3.5	6.5	9.6	10.4
137.5°	85.7	77.0	52.7	23.9	3.0	3.0	6.1	8.7	9.6
140°	79.2	72.3	48.3	22.2	3.0	3.0	5.7	8.3	8.7
142.5°	74.4	67.5	44.4	20.5	3.0	3.0	5.2	7.4	8.3
145°	68.8	62.7	40.0	18.7	3.0	2.6	4.8	7.0	7.4
147.5°	63.5	57.0	36.6	17.4	3.0	2.6	4.4	6.1	6.5
150°	58.3	51.4	33.1	16.1	3.0	2.6	3.9	5.2	6.1
152.5°	52.7	44.4	29.6	14.8	3.0	2.6	3.5	4.8	5.2
155°	47.0	38.7	26.6	13.5	3.5	2.6	3.0	3.9	4.8
157.5°	42.2	33.5	23.5	12.2	3.5	2.2	3.0	3.5	3.9
160°	36.6	28.7	20.9	10.9	3.5	2.2	2.6	3.0	3.5
162.5°	32.2	23.9	18.3	10.0	3.5	2.2	2.6	2.6	3.0
165°	27.4	20.0	15.2	9.1	3.5	2.2	2.2	2.2	2.6
167.5°	22.2	15.7	12.6	8.3	3.5	2.2	2.2	1.7	2.2
170°	16.5	11.8	10.4	7.4	3.5	2.2	1.7	1.3	1.7
172.5°	7.4	9.1	8.3	6.5	3.9	2.2	1.7	1.3	0.9
175°	3.9	6.5	6.5	5.7	3.9	2.2	1.7	1.3	0.4
177.5°	3.0	3.9	4.8	4.8	3.9	2.6	1.7	0.9	0.4
180°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6



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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	17.95	19.42	18.45	19.93	20.47	16.92	18.39	17.42	18.90	19.44
	3H	20.03	21.38	20.55	21.89	22.47	18.79	20.13	19.31	20.65	21.23
	4H	20.98	22.25	21.51	22.78	23.38	19.53	20.81	20.07	21.34	21.93
	6H	21.89	23.08	22.45	23.62	24.24	20.17	21.36	20.72	21.90	22.51
	8H	22.32	23.46	22.89	24.03	24.64	20.42	21.56	20.99	22.12	22.74
	12H	22.74	23.84	23.32	24.39	25.04	20.65	21.74	21.22	22.30	22.95
4H	2H	18.44	19.72	18.98	20.24	20.84	17.48	18.76	18.02	19.28	19.88
	3H	20.75	21.84	21.31	22.41	23.03	19.54	20.63	20.09	21.20	21.81
	4H	21.87	22.86	22.44	23.44	24.09	20.39	21.39	20.96	21.97	22.62
	6H	22.97	23.85	23.56	24.45	25.12	21.15	22.03	21.74	22.63	23.29
	8H	23.50	24.32	24.09	24.93	25.60	21.46	22.29	22.06	22.89	23.57
	12H	24.03	24.78	24.64	25.41	26.09	21.76	22.51	22.37	23.14	23.82
8H	4H	22.12	22.95	22.72	23.55	24.23	20.73	21.56	21.33	22.16	22.84
	6H	23.40	24.11	24.03	24.75	25.43	21.62	22.32	22.24	22.96	23.64
	8H	24.07	24.71	24.71	25.36	26.05	22.01	22.65	22.65	23.30	23.99
	12H	24.78	25.34	25.42	25.98	26.74	22.40	22.97	23.04	23.61	24.37
12H	4H	22.14	22.89	22.76	23.52	24.20	20.80	21.55	21.41	22.18	22.86
	6H	23.46	24.09	24.10	24.75	25.44	21.72	22.36	22.36	23.01	23.70
	8H	24.20	24.77	24.85	25.41	26.17	22.19	22.75	22.83	23.39	24.15