

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: P893157

Luminaire Tested: 4MB-10HL-AOL-UNV-L930

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893157
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-19)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-10HL-AOL-UNV-L930
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 3000K CCT
Light Source: -
Ballast/Driver: -

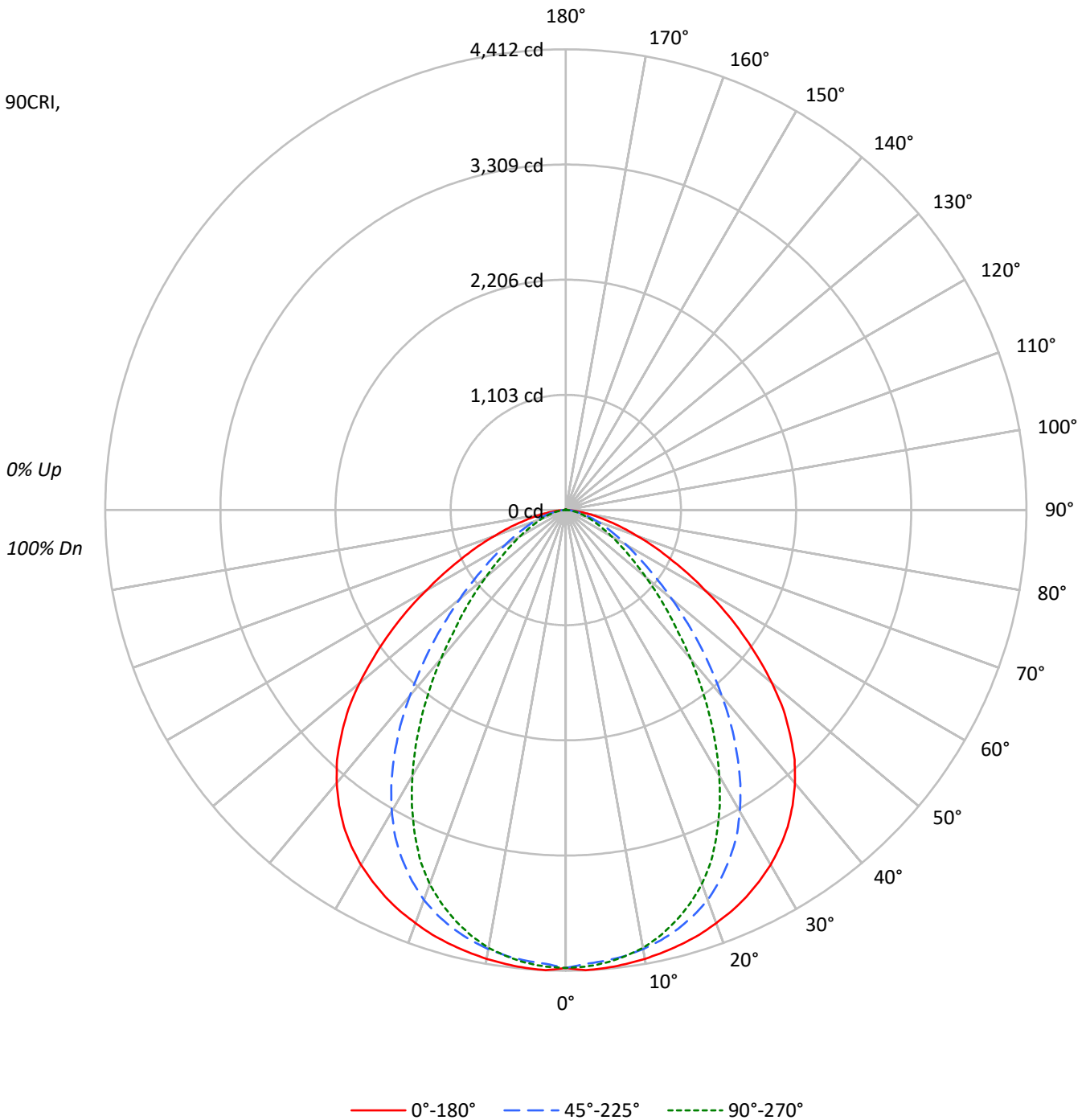
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8669.0 lumens
Efficiency: N/A
Efficacy: 114.8 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.05 / 1.16
Luminous Opening: Rectangular (W 0.27' x L: 3.98' x H: 0')
CIE Type: Direct

Input Watts (W): 75.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.997
Total Harmonic Distortion (THDi): 7.45
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				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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	89	89	89	87
2	102	95	90	85	100	93	88	84	90	86	82	87	83	80	84	81	78	78	78	78	76
3	95	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	68	68	68	68	67
4	87	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	61	61	61	59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	54	54	54	52
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	52	48	48	48	48	46
7	70	58	50	45	69	57	50	45	56	49	44	55	48	44	53	48	44	44	44	44	42
8	66	54	46	40	64	53	45	40	52	45	40	50	44	40	49	44	40	40	40	40	38
9	62	49	42	37	61	49	42	37	48	41	37	47	41	36	46	40	36	36	36	36	34
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	33	33	33	32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	44664	44664	44664
5°	45012	44310	44506
10°	45138	44157	44041
15°	45360	43783	42958
20°	45627	43074	41312
25°	45949	41593	38465
30°	46144	39202	34581
35°	46072	35575	29857
40°	45393	30910	24760
45°	43742	25935	19936
50°	40845	21036	15828
55°	36589	16797	12674
60°	31471	13708	10359
65°	26421	11398	8569
70°	21567	9579	7352
75°	17105	8110	6260
80°	13307	6932	5407
85°	10259	6193	4674

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 43742 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	414.8	4.8
10°-20°	1177.7	13.6
20°-30°	1713.7	19.8
30°-40°	1842.3	21.3
40°-50°	1538.6	17.7
50°-60°	1033.4	11.9
60°-70°	587.1	6.8
70°-80°	267.4	3.1
80°-90°	68.3	0.8
90°-100°	7.6	0.1
100°-110°	5.5	0.1
110°-120°	3.2	0.0
120°-130°	2.2	0.0
130°-140°	2.0	0.0
140°-150°	1.9	0.0
150°-160°	1.6	0.0
160°-170°	1.2	0.0
170°-180°	0.5	0.0
0°-30°	3306.2	38.1
0°-40°	5148.5	59.4
0°-60°	7720.4	89.1
0°-90°	8643.2	99.7
90°-120°	16.4	0.2
90°-150°	22.4	0.3
90°-180°	26.0	0.3
0°-180°	8669.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4386	4386	4386	4386	4386	
5°	4403	4391	4334	4369	4354	419
15°	4302	4267	4153	4120	4074	1216
25°	4089	3971	3701	3509	3423	1885
35°	3706	3408	2861	2519	2402	2312
45°	3037	2505	1801	1473	1384	2334
55°	2061	1482	946	758	714	1842
65°	1096	754	473	379	356	1101
75°	435	314	206	168	159	478
85°	88	71	53	43	40	100
90°	11	10	7	6	5	11
95°	14	10	6	4	4	11
105°	10	8	4	3	2	11
115°	5	4	3	2	2	5
125°	4	3	3	2	2	3
135°	3	3	3	3	3	2
145°	3	3	4	4	3	2
155°	3	4	4	4	4	1
165°	4	4	4	5	5	1
175°	4	4	5	5	5	0
180°	5	5	5	5	5	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4385.6	4385.6	4385.6	4385.6	4385.6
2.5°	4411.7	4399.5	4350.0	4388.2	4377.8
5°	4403.0	4390.8	4334.3	4369.1	4353.5
7.5°	4386.5	4374.3	4308.2	4333.5	4312.6
10°	4364.8	4347.4	4270.0	4276.9	4258.7
12.5°	4336.1	4310.0	4218.7	4206.5	4177.8
15°	4302.2	4267.4	4152.6	4119.6	4074.4
17.5°	4263.0	4212.6	4072.6	4003.1	3953.5
20°	4210.0	4145.7	3974.4	3863.9	3811.8
22.5°	4155.2	4067.4	3847.4	3701.4	3638.8
25°	4089.1	3970.9	3701.4	3509.2	3423.1
27.5°	4010.0	3862.2	3537.0	3295.3	3192.7
30°	3923.9	3734.4	3333.6	3055.3	2940.6
32.5°	3820.5	3584.0	3111.0	2792.8	2673.6
35°	3705.7	3408.3	2861.4	2518.9	2401.5
37.5°	3566.6	3204.9	2602.3	2238.9	2125.9
40°	3414.4	2995.3	2325.0	1960.7	1862.4
42.5°	3243.1	2753.6	2055.4	1705.0	1599.0
45°	3037.1	2505.0	1800.7	1472.9	1384.2
47.5°	2826.7	2230.2	1546.8	1249.4	1186.0
50°	2578.0	1972.0	1327.7	1064.2	999.0
52.5°	2319.8	1718.1	1123.4	903.4	845.1
55°	2060.7	1481.6	946.0	758.2	713.8
57.5°	1808.5	1264.2	795.6	640.8	602.5
60°	1545.1	1072.9	673.0	539.9	508.6
62.5°	1319.0	906.9	565.2	454.7	428.7
65°	1096.4	753.8	473.0	379.1	355.6
67.5°	909.5	622.5	392.1	314.7	294.8
70°	724.3	506.9	321.7	260.0	246.9
72.5°	577.3	404.3	260.8	211.3	198.2
75°	434.7	313.9	206.1	167.8	159.1
77.5°	326.9	238.2	159.1	130.4	120.9
80°	226.9	170.4	118.2	96.5	92.2
82.5°	145.2	117.4	81.7	68.7	63.5
85°	87.8	71.3	53.0	42.6	40.0
87.5°	41.7	34.8	27.0	20.9	19.1
90°	11.3	9.6	7.0	6.1	5.2
92.5°	13.0	9.6	6.1	4.3	3.5
95°	13.9	9.6	6.1	3.5	3.5
97.5°	13.9	10.4	5.2	3.5	2.6
100°	13.0	9.6	5.2	3.5	2.6
102.5°	11.3	8.7	4.3	2.6	2.6
105°	10.4	7.8	4.3	2.6	1.7
107.5°	8.7	7.0	3.5	2.6	1.7
110°	7.8	6.1	3.5	2.6	1.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	6.1	5.2	3.5	2.6	1.7
115°	5.2	4.3	2.6	1.7	1.7
117.5°	4.3	3.5	2.6	1.7	1.7
120°	4.3	3.5	2.6	1.7	1.7
122.5°	3.5	3.5	2.6	1.7	1.7
125°	3.5	2.6	2.6	1.7	1.7
127.5°	2.6	2.6	2.6	1.7	1.7
130°	2.6	2.6	2.6	2.6	1.7
132.5°	2.6	2.6	2.6	2.6	1.7
135°	2.6	2.6	2.6	2.6	2.6
137.5°	2.6	2.6	2.6	2.6	2.6
140°	2.6	2.6	2.6	2.6	2.6
142.5°	2.6	2.6	3.5	2.6	2.6
145°	2.6	2.6	3.5	3.5	2.6
147.5°	2.6	2.6	3.5	3.5	3.5
150°	2.6	2.6	3.5	3.5	3.5
152.5°	2.6	3.5	3.5	3.5	3.5
155°	2.6	3.5	3.5	3.5	3.5
157.5°	3.5	3.5	3.5	4.3	4.3
160°	3.5	3.5	4.3	4.3	4.3
162.5°	3.5	3.5	4.3	4.3	4.3
165°	3.5	3.5	4.3	5.2	5.2
167.5°	3.5	4.3	4.3	5.2	5.2
170°	3.5	4.3	4.3	5.2	5.2
172.5°	3.5	4.3	5.2	5.2	5.2
175°	3.5	4.3	5.2	5.2	5.2
177.5°	4.3	4.3	5.2	5.2	5.2
180°	5.2	5.2	5.2	5.2	5.2



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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	23.50	24.94	23.87	25.25	25.58	18.18	19.61	18.55	19.93	20.26
	3H	24.82	26.10	25.20	26.43	26.80	19.19	20.47	19.57	20.80	21.17
	4H	25.23	26.43	25.64	26.79	27.17	19.53	20.73	19.94	21.08	21.47
	6H	25.49	26.60	25.91	26.97	27.37	19.76	20.86	20.18	21.23	21.64
	8H	25.56	26.60	25.99	27.00	27.41	19.83	20.87	20.26	21.27	21.68
	12H	25.59	26.59	26.03	26.98	27.42	19.87	20.87	20.30	21.26	21.69
4H	2H	23.49	24.69	23.90	25.05	25.43	18.82	20.02	19.23	20.38	20.76
	3H	24.97	25.95	25.38	26.36	26.77	20.02	21.00	20.43	21.41	21.82
	4H	25.48	26.36	25.92	26.78	27.23	20.44	21.32	20.88	21.74	22.19
	6H	25.85	26.61	26.31	27.06	27.53	20.75	21.51	21.21	21.96	22.43
	8H	25.94	26.66	26.42	27.11	27.59	20.84	21.56	21.31	22.01	22.48
	12H	26.01	26.65	26.50	27.13	27.61	20.91	21.54	21.40	22.03	22.51
8H	4H	25.46	26.17	25.93	26.62	27.10	20.78	21.49	21.25	21.94	22.42
	6H	25.88	26.46	26.38	26.96	27.45	21.17	21.76	21.68	22.26	22.74
	8H	26.02	26.54	26.54	27.06	27.56	21.31	21.84	21.84	22.36	22.85
	12H	26.13	26.60	26.65	27.10	27.67	21.43	21.90	21.95	22.40	22.97
12H	4H	25.43	26.06	25.92	26.55	27.03	20.82	21.46	21.31	21.94	22.42
	6H	25.84	26.37	26.36	26.89	27.38	21.24	21.77	21.76	22.28	22.78
	8H	26.02	26.48	26.53	26.98	27.55	21.43	21.89	21.94	22.39	22.97