

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: P892710

Luminaire Tested: 2MB-4HL-AOL-UNV-L835

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P892710
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-6)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 2MB-4HL-AOL-UNV-L835
Description: 4000 Lumen 2FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 8
3500K CCT
Light Source: -
Ballast/Driver: -

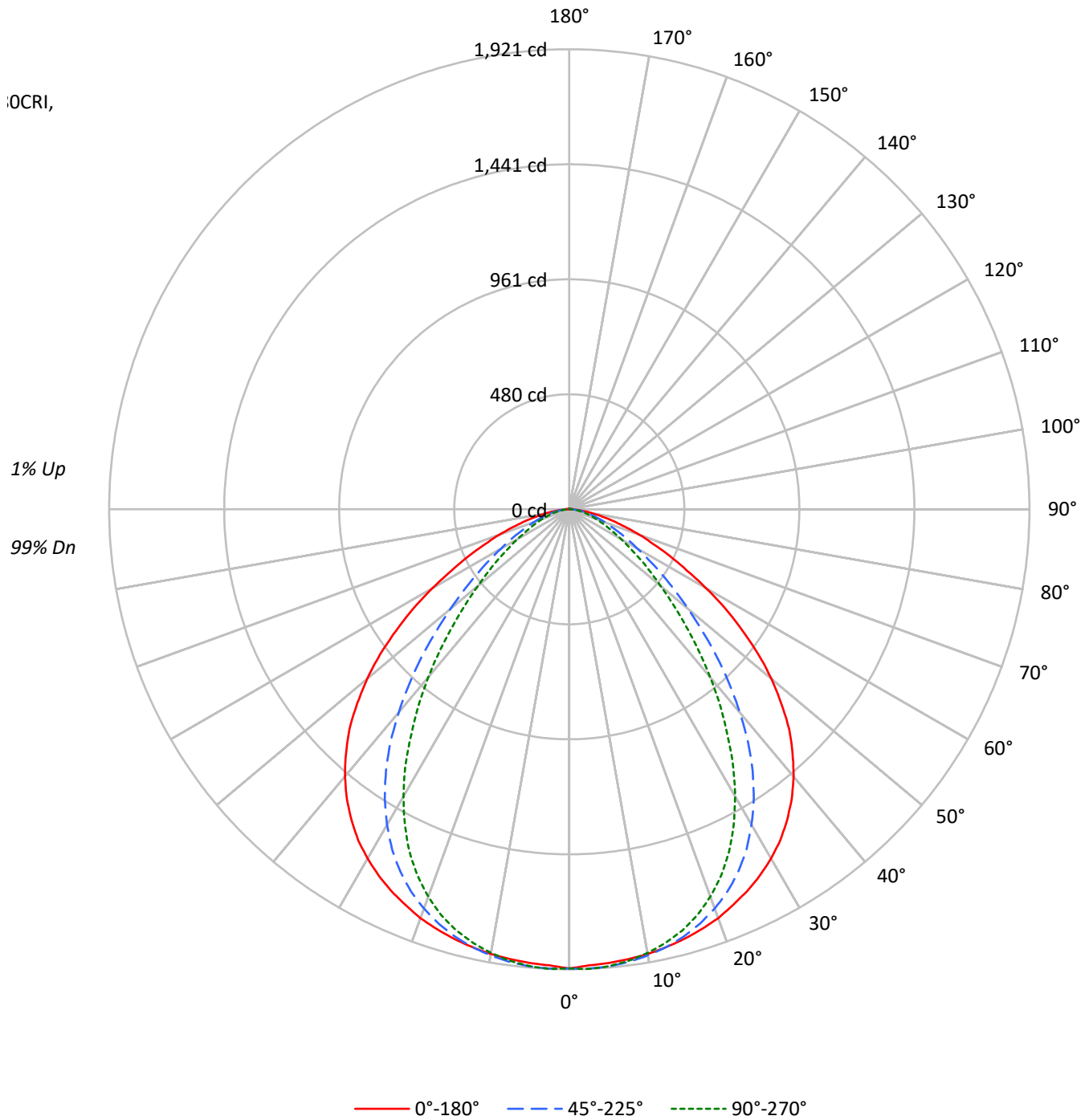
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3974.0 lumens
Efficiency: N/A
Efficacy: 144.0 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 1.1 / 1.2
Luminous Opening: Rectangular (W 0.27' x L: 1.98' x H: 0')
CIE Type: Direct

Input Watts (W): 27.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 6.5
Total Harmonic Distortion (THDi): 0.99
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	101	101	101	99				99
1	110	106	103	100	108	104	101	98	100	97	95	96	94	92	92	91	89	87				87
2	102	95	89	84	99	93	88	83	89	85	81	86	83	79	83	80	77	75				75
3	94	85	78	72	92	83	77	72	80	75	70	78	73	69	75	71	68	66				66
4	87	76	69	63	85	75	68	62	73	66	61	70	65	61	68	64	60	58				58
5	81	69	61	55	79	68	61	55	66	59	54	64	58	54	62	57	53	51				51
6	75	63	55	49	73	62	54	49	60	53	48	59	53	48	57	52	48	46				46
7	70	58	50	44	68	57	49	44	55	48	43	54	48	43	53	47	43	41				41
8	65	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	37				37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	36	45	40	35	34				34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	36	32	31				31

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	39258	39258	39258
5°	39085	39375	39358
10°	39212	39325	39115
15°	39364	39148	38601
20°	39594	38657	37513
25°	39726	37710	35659
30°	39817	35968	32731
35°	39611	33351	28794
40°	38946	29598	24453
45°	37593	25220	19894
50°	35099	20665	15829
55°	31455	16732	12766
60°	27045	13490	10255
65°	22520	11149	8532
70°	18691	9513	7262
75°	15048	8173	6313
80°	11898	7287	5542
85°	10478	7166	5521

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 37593 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.8	4.6
10°-20°	519.7	13.1
20°-30°	766.4	19.3
30°-40°	841.6	21.2
40°-50°	716.3	18.0
50°-60°	486.0	12.2
60°-70°	273.9	6.9
70°-80°	127.6	3.2
80°-90°	37.3	0.9
90°-100°	8.9	0.2
100°-110°	5.7	0.1
110°-120°	3.5	0.1
120°-130°	1.9	0.0
130°-140°	1.2	0.0
140°-150°	0.9	0.0
150°-160°	0.7	0.0
160°-170°	0.5	0.0
170°-180°	0.2	0.0
0°-30°	1467.8	36.9
0°-40°	2309.4	58.1
0°-60°	3511.7	88.4
0°-90°	3950.5	99.4
90°-120°	18.1	0.5
90°-150°	22.1	0.6
90°-180°	24.0	0.6
0°-180°	3974.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1917	1917	1917	1917	1917	
5°	1902	1911	1916	1917	1915	181
15°	1857	1859	1847	1831	1821	525
25°	1758	1736	1669	1606	1578	811
35°	1585	1504	1334	1204	1152	990
45°	1298	1132	871	727	687	995
55°	881	691	469	379	358	788
65°	465	351	230	187	176	465
75°	190	149	103	84	80	206
85°	45	39	30	25	24	48
90°	8	9	9	7	7	7
95°	13	10	8	6	6	10
105°	4	8	6	4	4	4
115°	2	5	3	3	3	3
125°	2	2	2	2	2	1
135°	1	2	2	2	2	1
145°	1	2	2	2	2	1
155°	1	2	2	2	2	0
165°	2	2	2	2	2	0
175°	2	2	2	2	2	0
180°	2	2	2	2	2	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1917.2	1917.2	1917.2	1917.2	1917.2
2.5°	1906.2	1914.0	1919.5	1922.6	1921.1
5°	1901.5	1910.9	1915.6	1917.2	1914.8
7.5°	1894.5	1903.9	1906.2	1905.4	1901.5
10°	1885.9	1892.9	1891.3	1887.4	1881.2
12.5°	1872.6	1878.0	1872.6	1862.4	1854.6
15°	1856.9	1859.3	1846.7	1831.1	1820.9
17.5°	1838.1	1836.6	1813.9	1791.2	1777.1
20°	1817.0	1808.4	1774.0	1739.5	1721.5
22.5°	1788.0	1774.7	1727.0	1677.7	1655.8
25°	1758.3	1736.4	1669.1	1606.5	1578.3
27.5°	1723.9	1688.7	1601.8	1522.0	1486.8
30°	1684.0	1637.0	1521.2	1426.5	1384.3
32.5°	1639.4	1575.2	1433.6	1319.3	1273.9
35°	1584.6	1504.0	1334.2	1204.3	1151.9
37.5°	1525.1	1422.6	1226.2	1079.1	1035.3
40°	1457.0	1331.8	1107.3	957.8	914.8
42.5°	1379.6	1234.0	989.1	837.3	798.9
45°	1298.2	1131.5	870.9	727.0	687.0
47.5°	1200.4	1018.1	753.6	622.1	586.9
50°	1101.8	904.6	648.7	529.0	496.9
52.5°	995.4	796.6	551.7	449.2	422.6
55°	881.1	691.0	468.7	378.7	357.6
57.5°	773.1	591.6	394.4	316.9	297.4
60°	660.4	499.2	329.4	266.8	250.4
62.5°	554.0	418.6	278.6	222.2	208.9
65°	464.8	350.6	230.1	187.0	176.1
67.5°	378.7	291.1	191.7	155.7	146.3
70°	312.2	235.5	158.9	128.3	121.3
72.5°	243.4	190.9	128.3	104.9	98.6
75°	190.2	148.7	103.3	84.5	79.8
77.5°	140.9	115.0	81.4	66.5	63.4
80°	100.9	85.3	61.8	50.9	47.0
82.5°	70.4	59.5	44.6	36.8	34.4
85°	44.6	39.1	30.5	25.0	23.5
87.5°	23.5	21.9	18.0	14.9	14.1
90°	7.8	9.4	8.6	7.0	7.0
92.5°	13.3	10.2	7.8	7.0	6.3
95°	13.3	10.2	7.8	6.3	6.3
97.5°	12.5	9.4	7.0	6.3	5.5
100°	6.3	9.4	6.3	5.5	4.7
102.5°	3.9	8.6	6.3	4.7	4.7
105°	3.9	7.8	5.5	3.9	3.9
107.5°	3.1	7.0	4.7	3.9	3.9
110°	3.1	6.3	4.7	3.9	3.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.1	5.5	3.9	3.1	3.1
115°	2.3	4.7	3.1	3.1	3.1
117.5°	2.3	3.9	3.1	3.1	3.1
120°	1.6	3.1	2.3	2.3	2.3
122.5°	1.6	2.3	2.3	2.3	2.3
125°	1.6	2.3	2.3	2.3	2.3
127.5°	1.6	1.6	2.3	2.3	2.3
130°	0.8	1.6	1.6	2.3	2.3
132.5°	0.8	1.6	1.6	1.6	1.6
135°	0.8	1.6	1.6	1.6	1.6
137.5°	0.8	1.6	1.6	1.6	1.6
140°	0.8	1.6	1.6	1.6	1.6
142.5°	0.8	1.6	1.6	1.6	1.6
145°	0.8	1.6	1.6	1.6	1.6
147.5°	0.8	1.6	1.6	1.6	1.6
150°	0.8	1.6	1.6	1.6	1.6
152.5°	0.8	1.6	1.6	1.6	1.6
155°	0.8	1.6	1.6	1.6	1.6
157.5°	1.6	1.6	1.6	1.6	2.3
160°	1.6	1.6	1.6	1.6	2.3
162.5°	1.6	1.6	1.6	2.3	2.3
165°	1.6	1.6	1.6	2.3	2.3
167.5°	1.6	1.6	1.6	2.3	2.3
170°	1.6	1.6	1.6	2.3	2.3
172.5°	1.6	1.6	1.6	2.3	2.3
175°	1.6	1.6	2.3	2.3	2.3
177.5°	1.6	1.6	2.3	2.3	2.3
180°	2.3	2.3	2.3	2.3	2.3



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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	23.18	24.63	23.56	24.95	25.28	18.39	19.83	18.77	20.16	20.49
	3H	24.41	25.69	24.80	26.04	26.41	19.40	20.69	19.79	21.03	21.41
	4H	24.81	26.01	25.22	26.37	26.77	19.75	20.96	20.16	21.32	21.71
	6H	25.06	26.17	25.49	26.55	26.96	20.01	21.12	20.43	21.50	21.91
	8H	25.14	26.19	25.58	26.59	27.01	20.09	21.15	20.53	21.55	21.97
	12H	25.19	26.19	25.63	26.59	27.03	20.15	21.16	20.60	21.56	22.00
4H	2H	23.20	24.41	23.61	24.77	25.16	19.01	20.22	19.43	20.58	20.98
	3H	24.60	25.59	25.02	26.01	26.42	20.22	21.21	20.64	21.62	22.04
	4H	25.11	26.00	25.55	26.42	26.88	20.65	21.54	21.10	21.97	22.42
	6H	25.48	26.25	25.95	26.71	27.18	21.00	21.77	21.47	22.23	22.70
	8H	25.60	26.32	26.07	26.77	27.26	21.12	21.84	21.59	22.29	22.78
	12H	25.69	26.33	26.18	26.82	27.31	21.21	21.85	21.71	22.35	22.83
8H	4H	25.11	25.83	25.58	26.28	26.77	20.99	21.71	21.47	22.17	22.65
	6H	25.55	26.14	26.05	26.64	27.14	21.43	22.03	21.94	22.53	23.03
	8H	25.71	26.25	26.24	26.77	27.27	21.60	22.14	22.13	22.66	23.16
	12H	25.87	26.34	26.39	26.85	27.43	21.77	22.24	22.29	22.74	23.32
12H	4H	25.08	25.72	25.57	26.21	26.70	21.04	21.68	21.53	22.17	22.66
	6H	25.52	26.05	26.05	26.58	27.08	21.51	22.04	22.04	22.57	23.07
	8H	25.73	26.20	26.25	26.70	27.28	21.73	22.21	22.26	22.71	23.29