

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: P892711

Luminaire Tested: 2MB-4HL-AOL-UNV-L840

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P892711
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-L840
Description: 4000 Lumen 2FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 8
4000K CCT
Light Source: -
Ballast/Driver: -

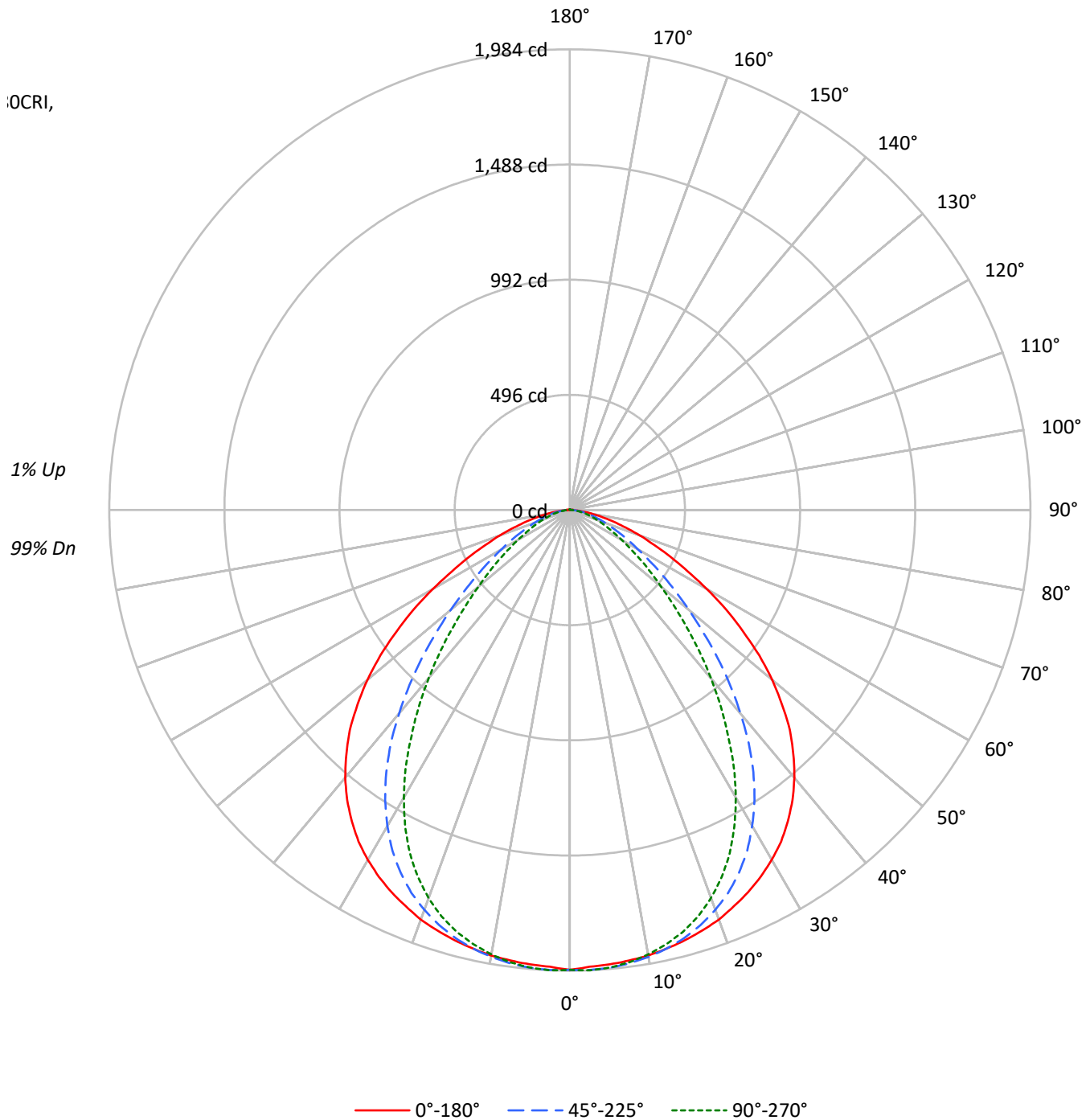
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4104.9 lumens
Efficiency: N/A
Efficacy: 148.7 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 (Ain): 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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CATALOG NUMBER: 2MB-4HL-AOL-UNV-L840

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°	40552	40552	40552
5°	40374	40672	40655
10°	40504	40622	40404
15°	40661	40439	39873
20°	40899	39929	38750
25°	41036	38953	36836
30°	41129	37155	33809
35°	40915	34451	29742
40°	40232	30574	25257
45°	38833	26051	20552
50°	36255	21347	16352
55°	32494	17286	13187
60°	27938	13936	10595
65°	23262	11512	8813
70°	19308	9825	7502
75°	15538	8442	6519
80°	12299	7535	5719
85°	10831	7401	5686

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 38833 cd/sqm



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CATALOG NUMBER: 2MB-4HL-AOL-UNV-L840

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.8	4.6
10°-20°	536.8	13.1
20°-30°	791.6	19.3
30°-40°	869.3	21.2
40°-50°	739.9	18.0
50°-60°	502.0	12.2
60°-70°	282.9	6.9
70°-80°	131.9	3.2
80°-90°	38.5	0.9
90°-100°	9.2	0.2
100°-110°	5.9	0.1
110°-120°	3.6	0.1
120°-130°	2.0	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°	1516.2	36.9
0°-40°	2385.5	58.1
0°-60°	3627.4	88.4
0°-90°	4080.7	99.4
90°-120°	18.7	0.5
90°-150°	22.8	0.6
90°-180°	24.0	0.6
0°-180°	4104.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1980	1980	1980	1980	1980	
5°	1964	1974	1979	1980	1978	187
15°	1918	1920	1908	1891	1881	542
25°	1816	1794	1724	1660	1630	837
35°	1637	1554	1378	1244	1190	1022
45°	1341	1169	900	751	710	1028
55°	910	714	484	391	369	814
65°	480	362	238	193	182	481
75°	196	154	107	87	82	213
85°	46	40	32	26	24	50
90°	8	10	9	7	7	7
95°	14	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°	1980.4	1980.4	1980.4	1980.4	1980.4
2.5°	1969.0	1977.1	1982.8	1986.0	1984.4
5°	1964.2	1973.9	1978.7	1980.4	1977.9
7.5°	1956.9	1966.6	1969.0	1968.2	1964.2
10°	1948.0	1955.3	1953.7	1949.6	1943.2
12.5°	1934.3	1939.9	1934.3	1923.8	1915.7
15°	1918.1	1920.5	1907.6	1891.4	1880.9
17.5°	1898.7	1897.1	1873.7	1850.2	1835.7
20°	1876.9	1868.0	1832.4	1796.9	1778.3
22.5°	1847.0	1833.2	1783.9	1733.0	1710.4
25°	1816.3	1793.6	1724.1	1659.5	1630.4
27.5°	1780.7	1744.3	1654.6	1572.2	1535.8
30°	1739.5	1691.0	1571.4	1473.5	1429.9
32.5°	1693.4	1627.1	1480.8	1362.8	1315.9
35°	1636.8	1553.6	1378.2	1244.0	1189.8
37.5°	1575.4	1469.5	1266.6	1114.7	1069.4
40°	1505.1	1375.7	1143.8	989.4	944.9
42.5°	1425.0	1274.7	1021.7	864.9	825.3
45°	1341.0	1168.8	899.6	750.9	709.7
47.5°	1239.9	1051.6	778.4	642.6	606.2
50°	1138.1	934.4	670.1	546.4	513.3
52.5°	1028.2	822.9	569.9	464.0	436.5
55°	910.2	713.7	484.2	391.2	369.4
57.5°	798.6	611.1	407.4	327.4	307.2
60°	682.2	515.7	340.3	275.6	258.7
62.5°	572.3	432.4	287.8	229.6	215.8
65°	480.1	362.1	237.6	193.2	181.9
67.5°	391.2	300.7	198.0	160.9	151.2
70°	322.5	243.3	164.1	132.6	125.3
72.5°	251.4	197.2	132.6	108.3	101.8
75°	196.4	153.6	106.7	87.3	82.4
77.5°	145.5	118.8	84.1	68.7	65.5
80°	104.3	88.1	63.9	52.5	48.5
82.5°	72.7	61.4	46.1	38.0	35.6
85°	46.1	40.4	31.5	25.9	24.2
87.5°	24.2	22.6	18.6	15.4	14.5
90°	8.1	9.7	8.9	7.3	7.3
92.5°	13.7	10.5	8.1	7.3	6.5
95°	13.7	10.5	8.1	6.5	6.5
97.5°	12.9	9.7	7.3	6.5	5.7
100°	6.5	9.7	6.5	5.7	4.8
102.5°	4.0	8.9	6.5	4.8	4.8
105°	4.0	8.1	5.7	4.0	4.0
107.5°	3.2	7.3	4.8	4.0	4.0
110°	3.2	6.5	4.8	4.0	3.2



TEST NUMBER: P892711

CATALOG NUMBER: 2MB-4HL-AOL-UNV-L840

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.2	5.7	4.0	3.2	3.2
115°	2.4	4.8	3.2	3.2	3.2
117.5°	2.4	4.0	3.2	3.2	3.2
120°	1.6	3.2	2.4	2.4	2.4
122.5°	1.6	2.4	2.4	2.4	2.4
125°	1.6	2.4	2.4	2.4	2.4
127.5°	1.6	1.6	2.4	2.4	2.4
130°	0.8	1.6	1.6	2.4	2.4
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	2.4
160°	1.6	1.6	1.6	1.6	2.4
162.5°	1.6	1.6	1.6	2.4	2.4
165°	1.6	1.6	1.6	2.4	2.4
167.5°	1.6	1.6	1.6	2.4	2.4
170°	1.6	1.6	1.6	2.4	2.4
172.5°	1.6	1.6	1.6	2.4	2.4
175°	1.6	1.6	2.4	2.4	2.4
177.5°	1.6	1.6	2.4	2.4	2.4
180°	2.4	2.4	2.4	2.4	2.4



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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	23.30	24.74	23.67	25.06	25.39	18.50	19.95	18.88	20.27	20.60
	3H	24.52	25.81	24.91	26.15	26.53	19.52	20.80	19.90	21.14	21.52
	4H	24.92	26.12	25.33	26.49	26.88	19.87	21.07	20.28	21.43	21.83
	6H	25.18	26.28	25.60	26.67	27.07	20.12	21.23	20.55	21.61	22.02
	8H	25.25	26.30	25.69	26.71	27.12	20.21	21.26	20.64	21.66	22.08
	12H	25.30	26.31	25.74	26.70	27.15	20.27	21.28	20.71	21.67	22.12
4H	2H	23.32	24.52	23.73	24.88	25.28	19.13	20.33	19.54	20.69	21.09
	3H	24.71	25.71	25.14	26.12	26.54	20.33	21.32	20.75	21.73	22.15
	4H	25.22	26.11	25.66	26.54	26.99	20.77	21.65	21.21	22.08	22.54
	6H	25.59	26.36	26.06	26.82	27.30	21.11	21.89	21.58	22.34	22.82
	8H	25.71	26.43	26.18	26.89	27.37	21.23	21.95	21.70	22.41	22.89
	12H	25.80	26.44	26.29	26.93	27.42	21.33	21.97	21.82	22.46	22.94
8H	4H	25.22	25.94	25.69	26.40	26.88	21.10	21.82	21.58	22.28	22.76
	6H	25.66	26.25	26.17	26.76	27.25	21.55	22.14	22.06	22.65	23.14
	8H	25.83	26.36	26.35	26.88	27.39	21.72	22.25	22.24	22.77	23.28
	12H	25.98	26.45	26.50	26.96	27.54	21.88	22.35	22.40	22.86	23.44
12H	4H	25.19	25.84	25.69	26.33	26.81	21.15	21.79	21.65	22.28	22.77
	6H	25.63	26.17	26.16	26.69	27.19	21.62	22.16	22.15	22.68	23.18
	8H	25.84	26.31	26.36	26.82	27.40	21.85	22.32	22.37	22.82	23.41