

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: P892693

Luminaire Tested: 2MB-4HL-A-UNV-L830

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P892693
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-8)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 2MB-4HL-A-UNV-L830
Description: 4000 Lumen 2FT MICROBAY LINEAR BAY with AISLE OPTIC, 80CRI, 3000K CCT
Light Source: -
Ballast/Driver: -

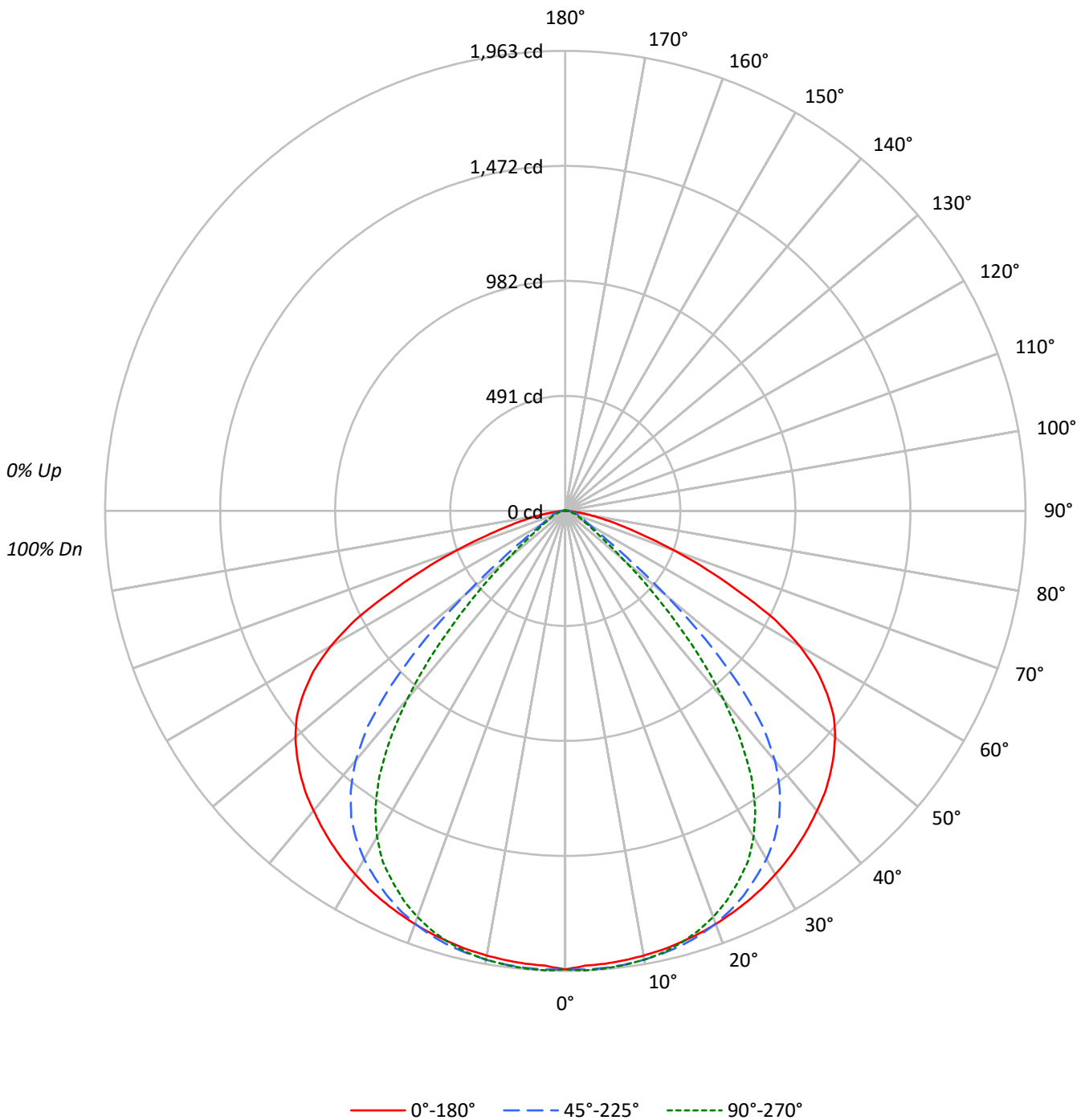
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4161.0 lumens
Efficiency: N/A
Efficacy: 150.8 lumens/watt
Spacing Criteria (0/90/45): 1.37 / 1.21 / 1.29
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			
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
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	100	
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	90	88	
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77	77	
3	95	86	80	74	93	85	78	73	82	77	72	79	75	71	77	73	70	70	68	
4	88	78	70	65	86	77	70	64	74	68	63	72	67	62	70	65	62	62	60	
5	82	71	63	57	80	70	62	57	68	61	56	66	60	55	64	59	55	55	53	
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	49	47	
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	48	44	44	43	
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	40	38	
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	37	35	
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	37	33	33	32	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	40062	40062	40062
5°	39866	40232	40279
10°	40054	40422	40439
15°	40394	40689	40460
20°	40884	40849	40193
25°	41536	40819	39423
30°	42354	40583	37973
35°	43388	39798	34566
40°	44639	37190	28005
45°	46237	30339	18959
50°	47863	17881	10305
55°	48705	7965	5594
60°	47366	4869	3985
65°	39880	4080	3406
70°	29725	3927	3095
75°	20095	4090	2627
80°	13655	3738	3007
85°	8340	5451	5263

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 55°
 Luminance: 48705 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.2	4.5
10°-20°	540.7	13.0
20°-30°	829.6	19.9
30°-40°	977.3	23.5
40°-50°	833.4	20.0
50°-60°	455.3	10.9
60°-70°	201.8	4.9
70°-80°	88.6	2.1
80°-90°	31.6	0.8
90°-100°	9.8	0.2
100°-110°	2.5	0.1
110°-120°	0.7	0.0
120°-130°	0.7	0.0
130°-140°	0.6	0.0
140°-150°	0.7	0.0
150°-160°	0.7	0.0
160°-170°	0.6	0.0
170°-180°	0.2	0.0
0°-30°	1556.4	37.4
0°-40°	2533.8	60.9
0°-60°	3822.6	91.9
0°-90°	4144.6	99.6
90°-120°	12.9	0.3
90°-150°	15.0	0.4
90°-180°	16.0	0.4
0°-180°	4161.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1956	1956	1956	1956	1956	
5°	1940	1950	1957	1962	1960	185
15°	1906	1916	1919	1914	1909	539
25°	1838	1838	1807	1770	1745	849
35°	1736	1703	1592	1447	1383	1088
45°	1597	1465	1048	730	655	1232
55°	1364	836	223	164	157	1211
65°	823	178	84	75	70	818
75°	254	90	52	39	33	287
85°	36	32	23	22	22	46
90°	3	13	18	18	15	3
95°	3	5	12	10	10	2
105°	1	1	2	4	5	1
115°	1	1	1	1	1	0
125°	1	1	1	1	1	1
135°	1	1	1	1	1	1
145°	1	1	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°	1956.5	1956.5	1956.5	1956.5	1956.5
2.5°	1942.6	1952.6	1958.8	1963.4	1962.7
5°	1939.5	1950.3	1957.3	1961.9	1959.6
7.5°	1934.1	1945.7	1952.6	1957.3	1953.4
10°	1926.4	1938.0	1944.1	1947.2	1944.9
12.5°	1917.9	1928.7	1933.3	1934.9	1930.2
15°	1905.5	1916.3	1919.4	1914.0	1908.6
17.5°	1892.4	1901.7	1900.1	1890.1	1880.1
20°	1876.2	1883.9	1874.6	1855.3	1844.5
22.5°	1857.7	1863.1	1843.8	1815.2	1799.8
25°	1838.4	1838.4	1806.7	1769.6	1744.9
27.5°	1816.7	1811.3	1761.9	1712.5	1687.0
30°	1791.3	1778.9	1716.4	1646.1	1606.0
32.5°	1765.0	1744.9	1660.0	1559.6	1507.9
35°	1735.7	1703.2	1592.1	1446.9	1382.8
37.5°	1704.0	1658.5	1503.3	1304.1	1225.3
40°	1670.0	1603.6	1391.3	1135.0	1047.7
42.5°	1636.8	1541.1	1246.2	940.4	860.1
45°	1596.7	1465.4	1047.7	729.6	654.7
47.5°	1551.9	1372.0	809.2	525.8	480.2
50°	1502.5	1244.6	561.3	362.1	323.5
52.5°	1443.8	1071.7	353.6	240.9	222.4
55°	1364.3	836.2	223.1	163.7	156.7
57.5°	1274.0	584.5	152.1	124.3	119.7
60°	1156.6	374.5	118.9	101.9	97.3
62.5°	1011.4	248.6	98.8	86.5	81.8
65°	823.1	177.6	84.2	74.9	70.3
67.5°	652.4	142.1	74.1	65.6	59.5
70°	496.5	118.9	65.6	57.9	51.7
72.5°	353.6	103.5	58.7	49.4	43.2
75°	254.0	89.6	51.7	39.4	33.2
77.5°	175.3	78.0	43.2	30.1	28.6
80°	115.8	67.9	31.7	27.0	25.5
82.5°	70.3	54.8	27.0	23.2	24.7
85°	35.5	32.4	23.2	22.4	22.4
87.5°	13.9	19.3	19.3	21.6	21.6
90°	3.1	13.1	17.8	17.8	14.7
92.5°	3.1	10.0	16.2	12.4	10.8
95°	3.1	5.4	12.4	10.0	10.0
97.5°	2.3	2.3	8.5	8.5	8.5
100°	0.8	1.5	5.4	7.7	7.7
102.5°	0.8	0.8	3.1	5.4	6.2
105°	0.8	0.8	1.5	3.9	4.6
107.5°	0.0	0.0	0.8	2.3	3.1
110°	0.0	0.0	0.8	1.5	1.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	0.0	0.8	0.8	0.8
115°	0.8	0.8	0.8	0.8	0.8
117.5°	0.8	0.8	0.8	0.8	0.8
120°	0.8	0.8	0.8	0.8	0.8
122.5°	0.8	0.8	0.8	0.8	0.8
125°	0.8	0.8	0.8	0.8	0.8
127.5°	0.8	0.8	0.8	0.8	0.8
130°	0.8	0.8	0.8	0.8	0.8
132.5°	0.8	0.8	0.8	0.8	0.8
135°	0.8	0.8	0.8	0.8	0.8
137.5°	0.8	0.8	0.8	0.8	0.8
140°	0.8	0.8	0.8	0.8	0.8
142.5°	0.8	0.8	0.8	1.5	0.8
145°	0.8	0.8	1.5	1.5	1.5
147.5°	0.8	0.8	1.5	1.5	1.5
150°	0.8	0.8	1.5	1.5	1.5
152.5°	0.8	1.5	1.5	1.5	1.5
155°	0.8	1.5	1.5	1.5	1.5
157.5°	0.8	1.5	1.5	2.3	1.5
160°	1.5	1.5	1.5	2.3	1.5
162.5°	1.5	1.5	2.3	2.3	2.3
165°	1.5	1.5	2.3	2.3	2.3
167.5°	1.5	1.5	2.3	2.3	2.3
170°	1.5	1.5	2.3	2.3	2.3
172.5°	1.5	1.5	2.3	2.3	2.3
175°	1.5	1.5	2.3	2.3	2.3
177.5°	1.5	1.5	2.3	3.1	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	23.91	25.31	24.28	25.63	25.96	11.81	13.21	12.18	13.53	13.86
	3H	25.20	26.45	25.59	26.78	27.16	12.98	14.22	13.36	14.56	14.93
	4H	25.60	26.76	26.01	27.12	27.51	13.41	14.57	13.81	14.93	15.32
	6H	25.83	26.90	26.25	27.28	27.68	13.79	14.85	14.21	15.23	15.63
	8H	25.88	26.90	26.32	27.29	27.71	14.03	15.05	14.47	15.44	15.86
	12H	25.90	26.87	26.34	27.26	27.70	14.37	15.34	14.81	15.73	16.17
4H	2H	23.72	24.89	24.13	25.24	25.63	12.33	13.49	12.74	13.85	14.24
	3H	25.06	26.01	25.48	26.42	26.83	13.79	14.73	14.21	15.15	15.56
	4H	25.49	26.34	25.93	26.76	27.21	14.34	15.19	14.78	15.62	16.07
	6H	25.81	26.55	26.28	27.00	27.47	14.85	15.58	15.32	16.04	16.51
	8H	25.91	26.59	26.38	27.05	27.52	15.17	15.85	15.64	16.31	16.79
	12H	25.95	26.56	26.45	27.05	27.53	15.61	16.22	16.10	16.71	17.19
8H	4H	25.39	26.08	25.86	26.53	27.01	14.92	15.61	15.39	16.06	16.54
	6H	25.74	26.30	26.24	26.80	27.29	15.55	16.12	16.06	16.62	17.11
	8H	25.87	26.38	26.39	26.90	27.40	15.96	16.47	16.48	16.99	17.49
	12H	25.96	26.42	26.48	26.92	27.49	16.55	17.00	17.07	17.50	18.08
12H	4H	25.35	25.96	25.84	26.45	26.93	15.12	15.73	15.61	16.22	16.70
	6H	25.69	26.20	26.21	26.72	27.22	15.79	16.30	16.32	16.82	17.32
	8H	25.85	26.30	26.37	26.80	27.38	16.27	16.72	16.79	17.23	17.80