

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: P892811

Luminaire Tested: 2MB-5HL-AOL-UNV-L940

Issue Date: 11/11/2024

**Test Information**

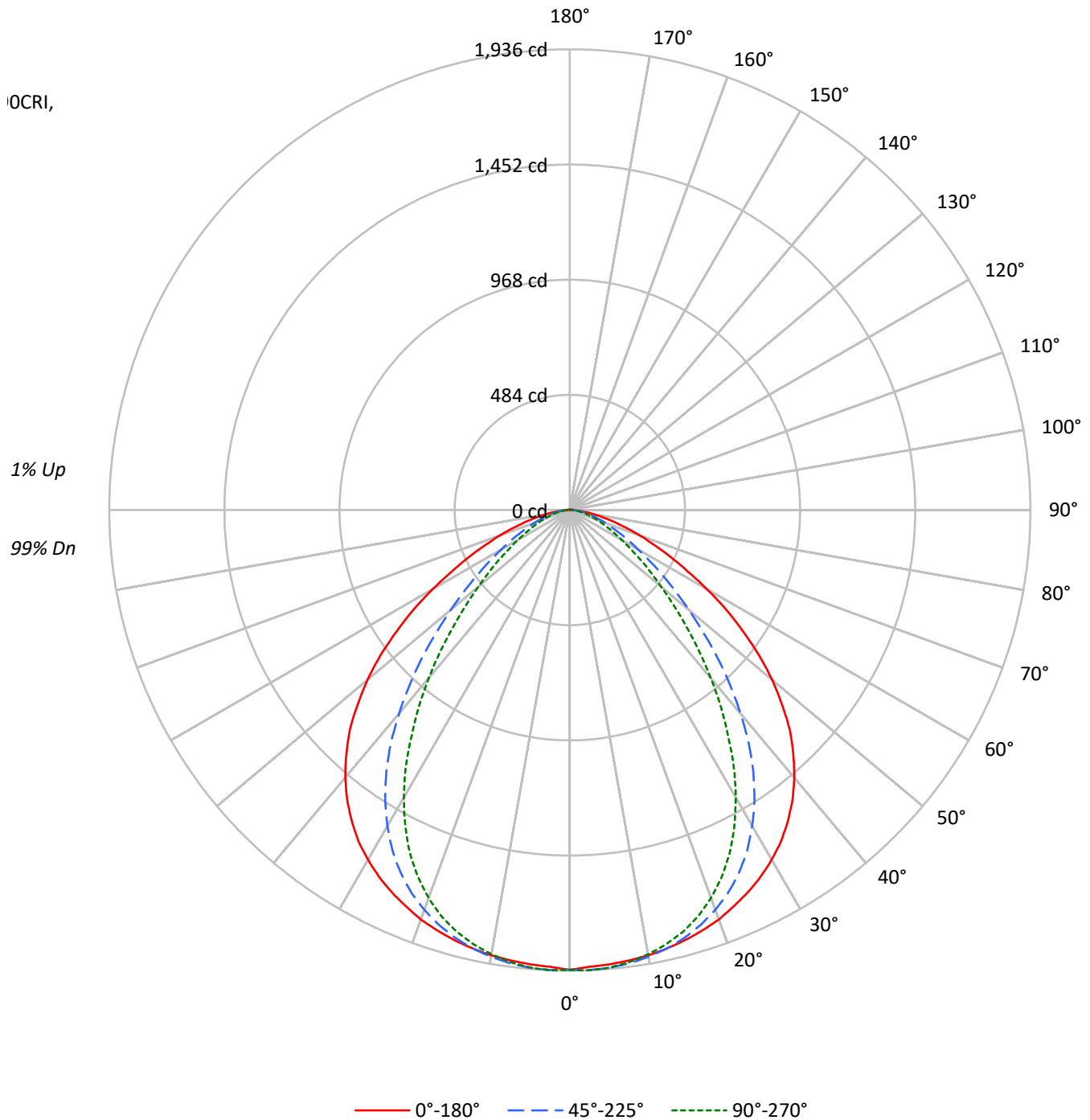
Test Method: LM-79-2019  
Report Number: P892811  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 2MB-5HL-AOL-UNV-L940  
Description: 5000 Lumen 2FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 9  
4000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4005.1 lumens  
Efficiency: N/A  
Efficacy: 118.8 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): 33.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.99  
Total Harmonic Distortion (THDi): 4.5  
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°	39563	39563	39563
5°	39389	39681	39664
10°	39518	39632	39418
15°	39671	39453	38902
20°	39903	38957	37807
25°	40035	38004	35937
30°	40127	36249	32986
35°	39920	33611	29017
40°	39251	29828	24643
45°	37886	25417	20051
50°	35373	20827	15953
55°	31701	16865	12866
60°	27258	13596	10337
65°	22695	11236	8595
70°	18841	9585	7316
75°	15158	8236	6361
80°	11992	7346	5578
85°	10572	7236	5568

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 37886 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	183.2	4.6
10°-20°	523.7	13.1
20°-30°	772.3	19.3
30°-40°	848.1	21.2
40°-50°	721.8	18.0
50°-60°	489.8	12.2
60°-70°	276.0	6.9
70°-80°	128.6	3.2
80°-90°	37.6	0.9
90°-100°	9.0	0.2
100°-110°	5.8	0.1
110°-120°	3.5	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°	1479.3	36.9
0°-40°	2327.4	58.1
0°-60°	3539.1	88.4
0°-90°	3981.3	99.4
90°-120°	18.2	0.5
90°-150°	22.4	0.6
90°-180°	24.0	0.6
0°-180°	4005.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1932	1932	1932	1932	1932	
5°	1916	1926	1930	1932	1930	182
15°	1871	1874	1861	1845	1835	529
25°	1772	1750	1682	1619	1591	817
35°	1597	1516	1345	1214	1161	997
45°	1308	1140	878	733	692	1003
55°	888	696	472	382	360	794
65°	468	353	232	188	177	469
75°	192	150	104	85	80	207
85°	45	39	31	25	24	49
90°	8	10	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°	1932.1	1932.1	1932.1	1932.1	1932.1
2.5°	1921.1	1929.0	1934.5	1937.6	1936.1
5°	1916.3	1925.8	1930.5	1932.1	1929.7
7.5°	1909.2	1918.7	1921.1	1920.3	1916.3
10°	1900.6	1907.7	1906.1	1902.1	1895.8
12.5°	1887.2	1892.7	1887.2	1876.9	1869.0
15°	1871.4	1873.8	1861.1	1845.4	1835.1
17.5°	1852.5	1850.9	1828.0	1805.1	1791.0
20°	1831.2	1822.5	1787.8	1753.1	1735.0
22.5°	1802.0	1788.6	1740.5	1690.8	1668.7
25°	1772.0	1749.9	1682.1	1619.0	1590.6
27.5°	1737.3	1701.8	1614.3	1533.9	1498.4
30°	1697.1	1649.8	1533.1	1437.6	1395.1
32.5°	1652.2	1587.5	1444.7	1329.6	1283.9
35°	1597.0	1515.7	1344.6	1213.7	1160.8
37.5°	1537.0	1433.7	1235.8	1087.5	1043.3
40°	1468.4	1342.2	1115.9	965.3	921.9
42.5°	1390.3	1243.6	996.8	843.8	805.2
45°	1308.3	1140.3	877.7	732.6	692.4
47.5°	1209.7	1026.0	759.4	627.0	591.5
50°	1110.4	911.6	653.8	533.1	500.8
52.5°	1003.1	802.8	556.0	452.7	425.9
55°	888.0	696.3	472.4	381.7	360.4
57.5°	779.2	596.2	397.5	319.4	299.7
60°	665.6	503.1	332.0	268.9	252.4
62.5°	558.3	421.9	280.7	224.0	210.6
65°	468.4	353.3	231.9	188.5	177.4
67.5°	381.7	293.4	193.2	156.9	147.5
70°	314.7	237.4	160.1	129.3	122.2
72.5°	245.3	192.4	129.3	105.7	99.4
75°	191.6	149.8	104.1	85.2	80.4
77.5°	142.0	115.9	82.0	67.0	63.9
80°	101.7	86.0	62.3	51.3	47.3
82.5°	71.0	59.9	45.0	37.1	34.7
85°	45.0	39.4	30.8	25.2	23.7
87.5°	23.7	22.1	18.1	15.0	14.2
90°	7.9	9.5	8.7	7.1	7.1
92.5°	13.4	10.3	7.9	7.1	6.3
95°	13.4	10.3	7.9	6.3	6.3
97.5°	12.6	9.5	7.1	6.3	5.5
100°	6.3	9.5	6.3	5.5	4.7
102.5°	3.9	8.7	6.3	4.7	4.7
105°	3.9	7.9	5.5	3.9	3.9
107.5°	3.2	7.1	4.7	3.9	3.9
110°	3.2	6.3	4.7	3.9	3.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	3.2	5.5	3.9	3.2	3.2
115°	2.4	4.7	3.2	3.2	3.2
117.5°	2.4	3.9	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	23.21	24.65	23.59	24.98	25.31	18.42	19.86	18.79	20.19	20.52
	3H	24.44	25.72	24.82	26.06	26.44	19.43	20.71	19.82	21.06	21.43
	4H	24.83	26.04	25.25	26.40	26.80	19.78	20.98	20.19	21.35	21.74
	6H	25.09	26.20	25.51	26.58	26.99	20.04	21.15	20.46	21.53	21.93
	8H	25.16	26.22	25.60	26.62	27.04	20.12	21.17	20.56	21.58	21.99
	12H	25.21	26.22	25.65	26.62	27.06	20.18	21.19	20.62	21.58	22.03
4H	2H	23.23	24.43	23.64	24.80	25.19	19.04	20.25	19.45	20.61	21.00
	3H	24.63	25.62	25.05	26.03	26.45	20.24	21.23	20.66	21.65	22.06
	4H	25.13	26.02	25.58	26.45	26.91	20.68	21.57	21.12	22.00	22.45
	6H	25.51	26.28	25.98	26.73	27.21	21.03	21.80	21.50	22.25	22.73
	8H	25.62	26.34	26.10	26.80	27.28	21.14	21.86	21.62	22.32	22.80
	12H	25.71	26.36	26.21	26.85	27.33	21.24	21.88	21.73	22.37	22.86
8H	4H	25.13	25.85	25.61	26.31	26.79	21.02	21.74	21.49	22.20	22.68
	6H	25.57	26.17	26.08	26.67	27.16	21.46	22.06	21.97	22.56	23.05
	8H	25.74	26.27	26.27	26.80	27.30	21.63	22.17	22.16	22.69	23.19
	12H	25.90	26.37	26.42	26.87	27.45	21.79	22.27	22.31	22.77	23.35
12H	4H	25.11	25.75	25.60	26.24	26.73	21.07	21.71	21.56	22.20	22.68
	6H	25.55	26.08	26.07	26.60	27.11	21.54	22.07	22.06	22.59	23.10
	8H	25.75	26.23	26.27	26.73	27.31	21.76	22.23	22.28	22.74	23.32