

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: P892713

Luminaire Tested: 2MB-4HL-AOL-UNV-L930

Issue Date: 11/11/2024

**Test Information**

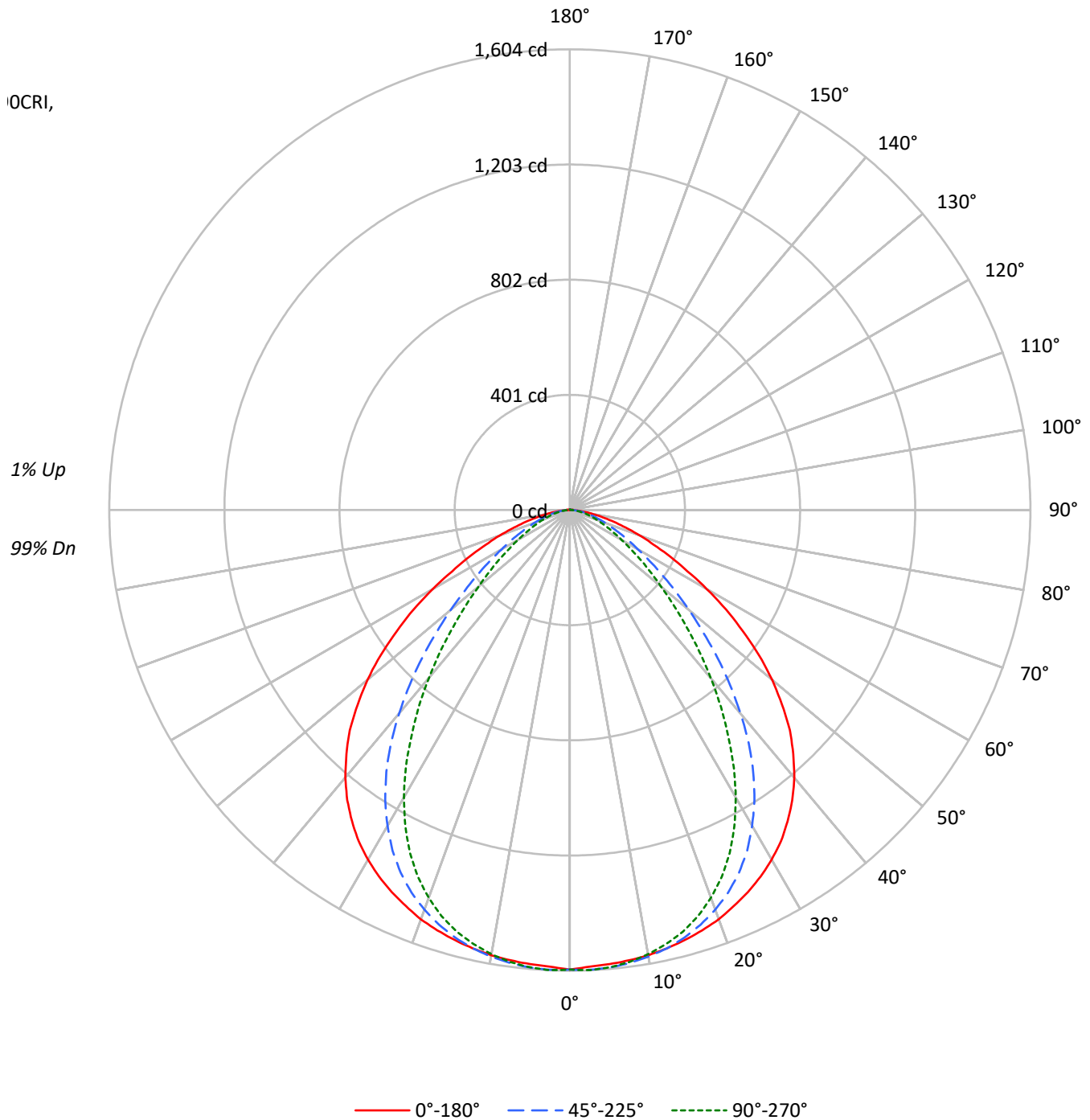
Test Method: LM-79-2019  
Report Number: P892713  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 2MB-4HL-AOL-UNV-L930  
Description: 4000 Lumen 2FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 9  
3000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3317.0 lumens  
Efficiency: N/A  
Efficacy: 120.2 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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### 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°	32766	32766	32766
5°	32622	32865	32851
10°	32729	32825	32648
15°	32856	32676	32220
20°	33048	32265	31311
25°	33158	31477	29764
30°	33234	30021	27319
35°	33061	27837	24032
40°	32509	24704	20408
45°	31379	21053	16607
50°	29295	17250	13211
55°	26254	13966	10656
60°	22577	11262	8559
65°	18799	9303	7122
70°	15602	7939	6059
75°	12556	6820	5269
80°	9941	6085	4622
85°	8740	5991	4605

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 31379 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	151.8	4.6
10°-20°	433.7	13.1
20°-30°	639.7	19.3
30°-40°	702.4	21.2
40°-50°	597.9	18.0
50°-60°	405.7	12.2
60°-70°	228.6	6.9
70°-80°	106.5	3.2
80°-90°	31.1	0.9
90°-100°	7.4	0.2
100°-110°	4.8	0.1
110°-120°	2.9	0.1
120°-130°	1.6	0.0
130°-140°	1.0	0.0
140°-150°	0.8	0.0
150°-160°	0.6	0.0
160°-170°	0.4	0.0
170°-180°	0.2	0.0
0°-30°	1225.2	36.9
0°-40°	1927.6	58.1
0°-60°	2931.1	88.4
0°-90°	3297.3	99.4
90°-120°	15.1	0.5
90°-150°	18.5	0.6
90°-180°	20.0	0.6
0°-180°	3317.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1600	1600	1600	1600	1600	
5°	1587	1595	1599	1600	1598	151
15°	1550	1552	1541	1528	1520	438
25°	1468	1449	1393	1341	1317	677
35°	1323	1255	1114	1005	961	826
45°	1084	944	727	607	574	830
55°	735	577	391	316	298	658
65°	388	293	192	156	147	388
75°	159	124	86	70	67	172
85°	37	33	26	21	20	40
90°	6	8	7	6	6	6
95°	11	8	6	5	5	8
105°	3	6	5	3	3	3
115°	2	4	3	3	3	2
125°	1	2	2	2	2	1
135°	1	1	1	1	1	1
145°	1	1	1	1	1	0
155°	1	1	1	1	1	0
165°	1	1	1	2	2	0
175°	1	1	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°	1600.2	1600.2	1600.2	1600.2	1600.2
2.5°	1591.1	1597.6	1602.2	1604.8	1603.5
5°	1587.1	1595.0	1598.9	1600.2	1598.2
7.5°	1581.3	1589.1	1591.1	1590.4	1587.1
10°	1574.1	1580.0	1578.7	1575.4	1570.2
12.5°	1563.0	1567.5	1563.0	1554.5	1548.0
15°	1549.9	1551.9	1541.4	1528.4	1519.9
17.5°	1534.2	1532.9	1514.0	1495.0	1483.3
20°	1516.6	1509.4	1480.7	1451.9	1436.9
22.5°	1492.4	1481.3	1441.5	1400.3	1382.1
25°	1467.6	1449.3	1393.2	1340.9	1317.4
27.5°	1438.9	1409.5	1337.0	1270.4	1241.0
30°	1405.6	1366.4	1269.7	1190.7	1155.4
32.5°	1368.3	1314.8	1196.6	1101.2	1063.3
35°	1322.6	1255.3	1113.6	1005.2	961.4
37.5°	1273.0	1187.4	1023.5	900.7	864.1
40°	1216.2	1111.7	924.2	799.4	763.5
42.5°	1151.5	1030.0	825.6	698.9	666.9
45°	1083.6	944.4	727.0	606.8	573.5
47.5°	1001.9	849.7	629.0	519.3	489.9
50°	919.6	755.0	541.5	441.5	414.7
52.5°	830.8	664.9	460.5	374.9	352.7
55°	735.4	576.7	391.2	316.1	298.5
57.5°	645.3	493.8	329.2	264.5	248.2
60°	551.3	416.7	275.0	222.7	209.0
62.5°	462.4	349.4	232.5	185.5	174.4
65°	388.0	292.6	192.0	156.1	147.0
67.5°	316.1	243.0	160.0	130.0	122.1
70°	260.6	196.6	132.6	107.1	101.2
72.5°	203.1	159.4	107.1	87.5	82.3
75°	158.7	124.1	86.2	70.5	66.6
77.5°	117.6	96.0	67.9	55.5	52.9
80°	84.3	71.2	51.6	42.5	39.2
82.5°	58.8	49.6	37.2	30.7	28.7
85°	37.2	32.7	25.5	20.9	19.6
87.5°	19.6	18.3	15.0	12.4	11.8
90°	6.5	7.8	7.2	5.9	5.9
92.5°	11.1	8.5	6.5	5.9	5.2
95°	11.1	8.5	6.5	5.2	5.2
97.5°	10.5	7.8	5.9	5.2	4.6
100°	5.2	7.8	5.2	4.6	3.9
102.5°	3.3	7.2	5.2	3.9	3.9
105°	3.3	6.5	4.6	3.3	3.3
107.5°	2.6	5.9	3.9	3.3	3.3
110°	2.6	5.2	3.9	3.3	2.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.6	4.6	3.3	2.6	2.6
115°	2.0	3.9	2.6	2.6	2.6
117.5°	2.0	3.3	2.6	2.6	2.6
120°	1.3	2.6	2.0	2.0	2.0
122.5°	1.3	2.0	2.0	2.0	2.0
125°	1.3	2.0	2.0	2.0	2.0
127.5°	1.3	1.3	2.0	2.0	2.0
130°	0.7	1.3	1.3	2.0	2.0
132.5°	0.7	1.3	1.3	1.3	1.3
135°	0.7	1.3	1.3	1.3	1.3
137.5°	0.7	1.3	1.3	1.3	1.3
140°	0.7	1.3	1.3	1.3	1.3
142.5°	0.7	1.3	1.3	1.3	1.3
145°	0.7	1.3	1.3	1.3	1.3
147.5°	0.7	1.3	1.3	1.3	1.3
150°	0.7	1.3	1.3	1.3	1.3
152.5°	0.7	1.3	1.3	1.3	1.3
155°	0.7	1.3	1.3	1.3	1.3
157.5°	1.3	1.3	1.3	1.3	2.0
160°	1.3	1.3	1.3	1.3	2.0
162.5°	1.3	1.3	1.3	2.0	2.0
165°	1.3	1.3	1.3	2.0	2.0
167.5°	1.3	1.3	1.3	2.0	2.0
170°	1.3	1.3	1.3	2.0	2.0
172.5°	1.3	1.3	1.3	2.0	2.0
175°	1.3	1.3	2.0	2.0	2.0
177.5°	1.3	1.3	2.0	2.0	2.0
180°	2.0	2.0	2.0	2.0	2.0



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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	22.56	24.00	22.93	24.32	24.65	17.76	19.20	18.14	19.53	19.86
	3H	23.78	25.07	24.17	25.41	25.79	18.77	20.06	19.16	20.40	20.78
	4H	24.18	25.38	24.59	25.75	26.14	19.12	20.33	19.54	20.69	21.09
	6H	24.44	25.54	24.86	25.92	26.33	19.38	20.49	19.80	20.87	21.28
	8H	24.51	25.56	24.95	25.97	26.38	19.46	20.52	19.90	20.92	21.34
	12H	24.56	25.57	25.00	25.96	26.40	19.53	20.53	19.97	20.93	21.37
4H	2H	22.58	23.78	22.99	24.14	24.54	18.39	19.59	18.80	19.95	20.35
	3H	23.97	24.96	24.40	25.38	25.79	19.59	20.58	20.01	20.99	21.41
	4H	24.48	25.37	24.92	25.80	26.25	20.02	20.91	20.47	21.34	21.80
	6H	24.85	25.62	25.32	26.08	26.56	20.37	21.14	20.84	21.60	22.08
	8H	24.97	25.69	25.44	26.15	26.63	20.49	21.21	20.96	21.66	22.15
	12H	25.06	25.70	25.55	26.19	26.68	20.58	21.23	21.08	21.72	22.20
8H	4H	24.48	25.20	24.95	25.65	26.14	20.36	21.08	20.84	21.54	22.02
	6H	24.92	25.51	25.43	26.02	26.51	20.81	21.40	21.31	21.90	22.40
	8H	25.09	25.62	25.61	26.14	26.65	20.98	21.51	21.50	22.03	22.54
	12H	25.24	25.71	25.76	26.22	26.80	21.14	21.61	21.66	22.11	22.69
12H	4H	24.45	25.09	24.95	25.59	26.07	20.41	21.05	20.90	21.54	22.03
	6H	24.89	25.43	25.42	25.95	26.45	20.88	21.41	21.41	21.94	22.44
	8H	25.10	25.57	25.62	26.08	26.66	21.11	21.58	21.63	22.08	22.66