

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: P892715

Luminaire Tested: 2MB-4HL-AOL-UNV-L940

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P892715
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-L940
Description: 4000 Lumen 2FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 9
4000K CCT
Light Source: -
Ballast/Driver: -

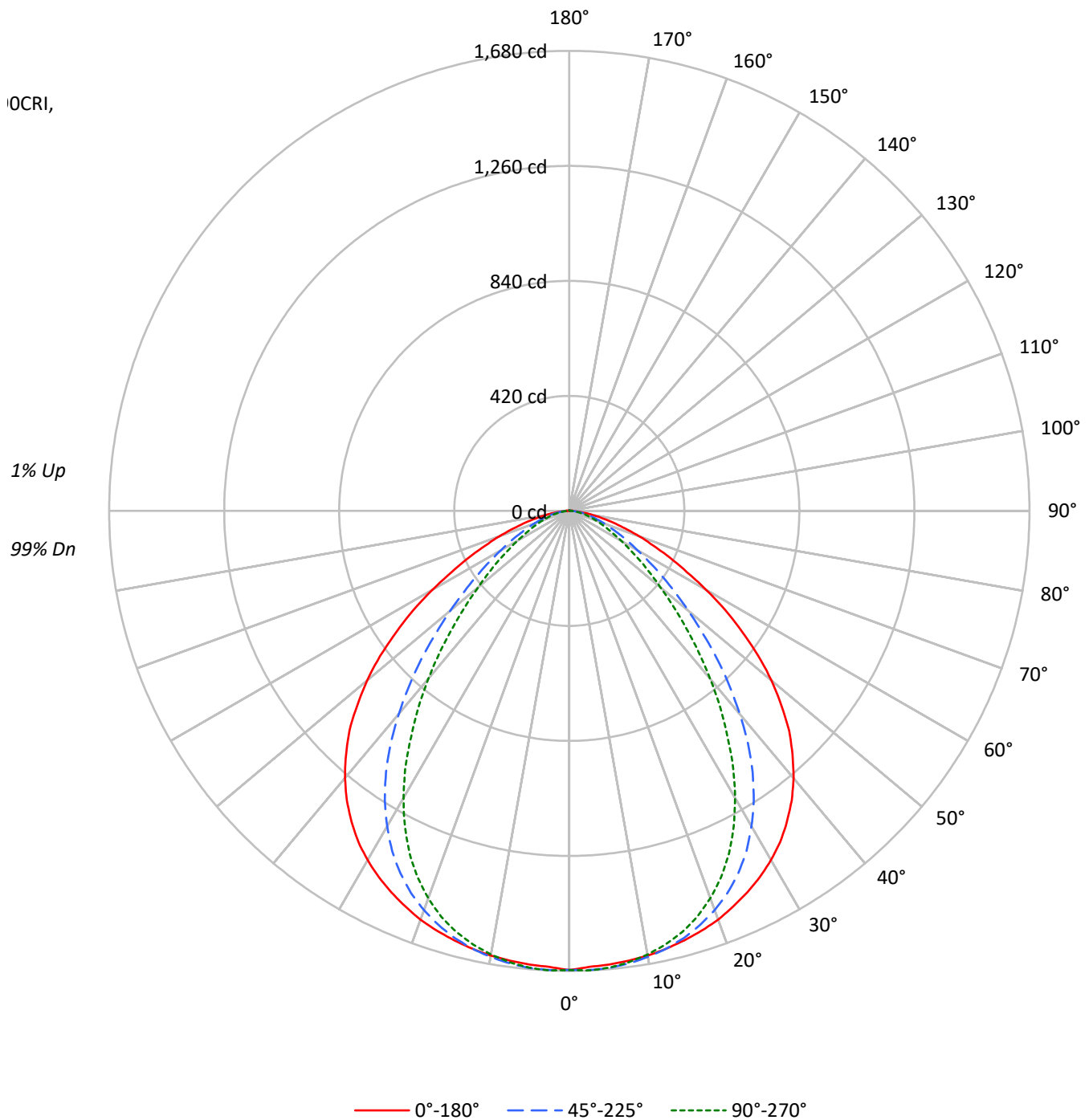
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3475.1 lumens
Efficiency: N/A
Efficacy: 125.9 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°	34327	34327	34327
5°	34176	34431	34417
10°	34289	34386	34203
15°	34421	34232	33755
20°	34621	33802	32804
25°	34737	32975	31181
30°	34816	31452	28619
35°	34636	29164	25177
40°	34057	25880	21381
45°	32873	22055	17398
50°	30690	18069	13841
55°	27507	14633	11163
60°	23650	11799	8969
65°	19691	9748	7462
70°	16344	8316	6352
75°	13157	7144	5522
80°	10412	6379	4846
85°	9163	6273	4816

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 32873 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.0	4.6
10°-20°	454.4	13.1
20°-30°	670.1	19.3
30°-40°	735.9	21.2
40°-50°	626.3	18.0
50°-60°	425.0	12.2
60°-70°	239.5	6.9
70°-80°	111.6	3.2
80°-90°	32.6	0.9
90°-100°	7.8	0.2
100°-110°	5.0	0.1
110°-120°	3.0	0.1
120°-130°	1.7	0.1
130°-140°	1.0	0.0
140°-150°	0.8	0.0
150°-160°	0.6	0.0
160°-170°	0.5	0.0
170°-180°	0.2	0.0
0°-30°	1283.5	36.9
0°-40°	2019.4	58.1
0°-60°	3070.7	88.4
0°-90°	3454.4	99.4
90°-120°	15.8	0.5
90°-150°	19.4	0.6
90°-180°	21.0	0.6
0°-180°	3475.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1676	1676	1676	1676	1676	
5°	1663	1671	1675	1676	1674	158
15°	1624	1626	1615	1601	1592	459
25°	1538	1518	1460	1405	1380	709
35°	1386	1315	1167	1053	1007	865
45°	1135	989	762	636	601	870
55°	770	604	410	331	313	689
65°	406	306	201	164	154	407
75°	166	130	90	74	70	180
85°	39	34	27	22	20	42
90°	7	8	8	6	6	6
95°	12	9	7	6	6	8
105°	3	7	5	3	3	4
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°	1676.4	1676.4	1676.4	1676.4	1676.4
2.5°	1666.8	1673.7	1678.5	1681.2	1679.8
5°	1662.7	1671.0	1675.1	1676.4	1674.4
7.5°	1656.6	1664.8	1666.8	1666.2	1662.7
10°	1649.1	1655.2	1653.8	1650.4	1645.0
12.5°	1637.4	1642.2	1637.4	1628.5	1621.7
15°	1623.7	1625.8	1614.8	1601.2	1592.3
17.5°	1607.3	1605.9	1586.1	1566.3	1553.9
20°	1588.8	1581.3	1551.2	1521.1	1505.4
22.5°	1563.5	1551.9	1510.2	1467.0	1447.9
25°	1537.5	1518.4	1459.5	1404.8	1380.1
27.5°	1507.4	1476.6	1400.7	1330.9	1300.1
30°	1472.5	1431.5	1330.2	1247.4	1210.4
32.5°	1433.5	1377.4	1253.6	1153.7	1114.0
35°	1385.6	1315.1	1166.7	1053.1	1007.2
37.5°	1333.6	1244.0	1072.2	943.6	905.3
40°	1274.1	1164.6	968.2	837.5	799.9
42.5°	1206.3	1079.1	864.9	732.2	698.6
45°	1135.2	989.4	761.6	635.7	600.8
47.5°	1049.6	890.2	658.9	544.0	513.2
50°	963.4	791.0	567.2	462.6	434.5
52.5°	870.4	696.6	482.4	392.8	369.5
55°	770.5	604.2	409.9	331.2	312.7
57.5°	676.0	517.3	344.9	277.1	260.0
60°	577.5	436.6	288.1	233.3	219.0
62.5°	484.5	366.1	243.6	194.3	182.7
65°	406.4	306.5	201.2	163.5	154.0
67.5°	331.2	254.5	167.6	136.2	128.0
70°	273.0	206.0	138.9	112.2	106.1
72.5°	212.8	167.0	112.2	91.7	86.2
75°	166.3	130.0	90.3	73.9	69.8
77.5°	123.2	100.6	71.2	58.2	55.4
80°	88.3	74.6	54.1	44.5	41.1
82.5°	61.6	52.0	39.0	32.2	30.1
85°	39.0	34.2	26.7	21.9	20.5
87.5°	20.5	19.2	15.7	13.0	12.3
90°	6.8	8.2	7.5	6.2	6.2
92.5°	11.6	8.9	6.8	6.2	5.5
95°	11.6	8.9	6.8	5.5	5.5
97.5°	10.9	8.2	6.2	5.5	4.8
100°	5.5	8.2	5.5	4.8	4.1
102.5°	3.4	7.5	5.5	4.1	4.1
105°	3.4	6.8	4.8	3.4	3.4
107.5°	2.7	6.2	4.1	3.4	3.4
110°	2.7	5.5	4.1	3.4	2.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.7	4.8	3.4	2.7	2.7
115°	2.1	4.1	2.7	2.7	2.7
117.5°	2.1	3.4	2.7	2.7	2.7
120°	1.4	2.7	2.1	2.1	2.1
122.5°	1.4	2.1	2.1	2.1	2.1
125°	1.4	2.1	2.1	2.1	2.1
127.5°	1.4	1.4	2.1	2.1	2.1
130°	0.7	1.4	1.4	2.1	2.1
132.5°	0.7	1.4	1.4	1.4	1.4
135°	0.7	1.4	1.4	1.4	1.4
137.5°	0.7	1.4	1.4	1.4	1.4
140°	0.7	1.4	1.4	1.4	1.4
142.5°	0.7	1.4	1.4	1.4	1.4
145°	0.7	1.4	1.4	1.4	1.4
147.5°	0.7	1.4	1.4	1.4	1.4
150°	0.7	1.4	1.4	1.4	1.4
152.5°	0.7	1.4	1.4	1.4	1.4
155°	0.7	1.4	1.4	1.4	1.4
157.5°	1.4	1.4	1.4	1.4	2.1
160°	1.4	1.4	1.4	1.4	2.1
162.5°	1.4	1.4	1.4	2.1	2.1
165°	1.4	1.4	1.4	2.1	2.1
167.5°	1.4	1.4	1.4	2.1	2.1
170°	1.4	1.4	1.4	2.1	2.1
172.5°	1.4	1.4	1.4	2.1	2.1
175°	1.4	1.4	2.1	2.1	2.1
177.5°	1.4	1.4	2.1	2.1	2.1
180°	2.1	2.1	2.1	2.1	2.1



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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	22.72	24.16	23.09	24.49	24.82	17.92	19.37	18.30	19.69	20.02
	3H	23.94	25.23	24.33	25.57	25.95	18.93	20.22	19.32	20.56	20.94
	4H	24.34	25.54	24.75	25.91	26.30	19.29	20.49	19.70	20.85	21.25
	6H	24.60	25.71	25.02	26.09	26.49	19.54	20.65	19.97	21.03	21.44
	8H	24.67	25.72	25.11	26.13	26.54	19.63	20.68	20.06	21.08	21.50
	12H	24.72	25.73	25.16	26.12	26.57	19.69	20.70	20.13	21.09	21.54
4H	2H	22.74	23.94	23.15	24.30	24.70	18.55	19.75	18.96	20.11	20.51
	3H	24.13	25.13	24.56	25.54	25.96	19.75	20.74	20.17	21.15	21.57
	4H	24.64	25.53	25.08	25.96	26.41	20.19	21.08	20.63	21.50	21.96
	6H	25.01	25.79	25.48	26.24	26.72	20.54	21.31	21.00	21.76	22.24
	8H	25.13	25.85	25.61	26.31	26.79	20.65	21.37	21.12	21.83	22.31
	12H	25.22	25.86	25.72	26.35	26.84	20.75	21.39	21.24	21.88	22.37
8H	4H	24.64	25.36	25.12	25.82	26.30	20.52	21.25	21.00	21.70	22.18
	6H	25.08	25.67	25.59	26.18	26.67	20.97	21.56	21.48	22.07	22.56
	8H	25.25	25.78	25.77	26.30	26.81	21.14	21.67	21.67	22.20	22.70
	12H	25.40	25.88	25.92	26.38	26.96	21.30	21.77	21.82	22.28	22.86
12H	4H	24.61	25.26	25.11	25.75	26.23	20.57	21.21	21.07	21.71	22.19
	6H	25.05	25.59	25.58	26.11	26.61	21.04	21.58	21.57	22.10	22.60
	8H	25.26	25.73	25.78	26.24	26.82	21.27	21.74	21.79	22.25	22.83