

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: P894030

Luminaire Tested: 4MB-9HL-FLTU-UNV-L935

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894030
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-6)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-9HL-FLTU-UNV-L935
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with FLAT FROSTED LENS WITH UPLIGHT, 90CRI, 350
Light Source: -
Ballast/Driver: -

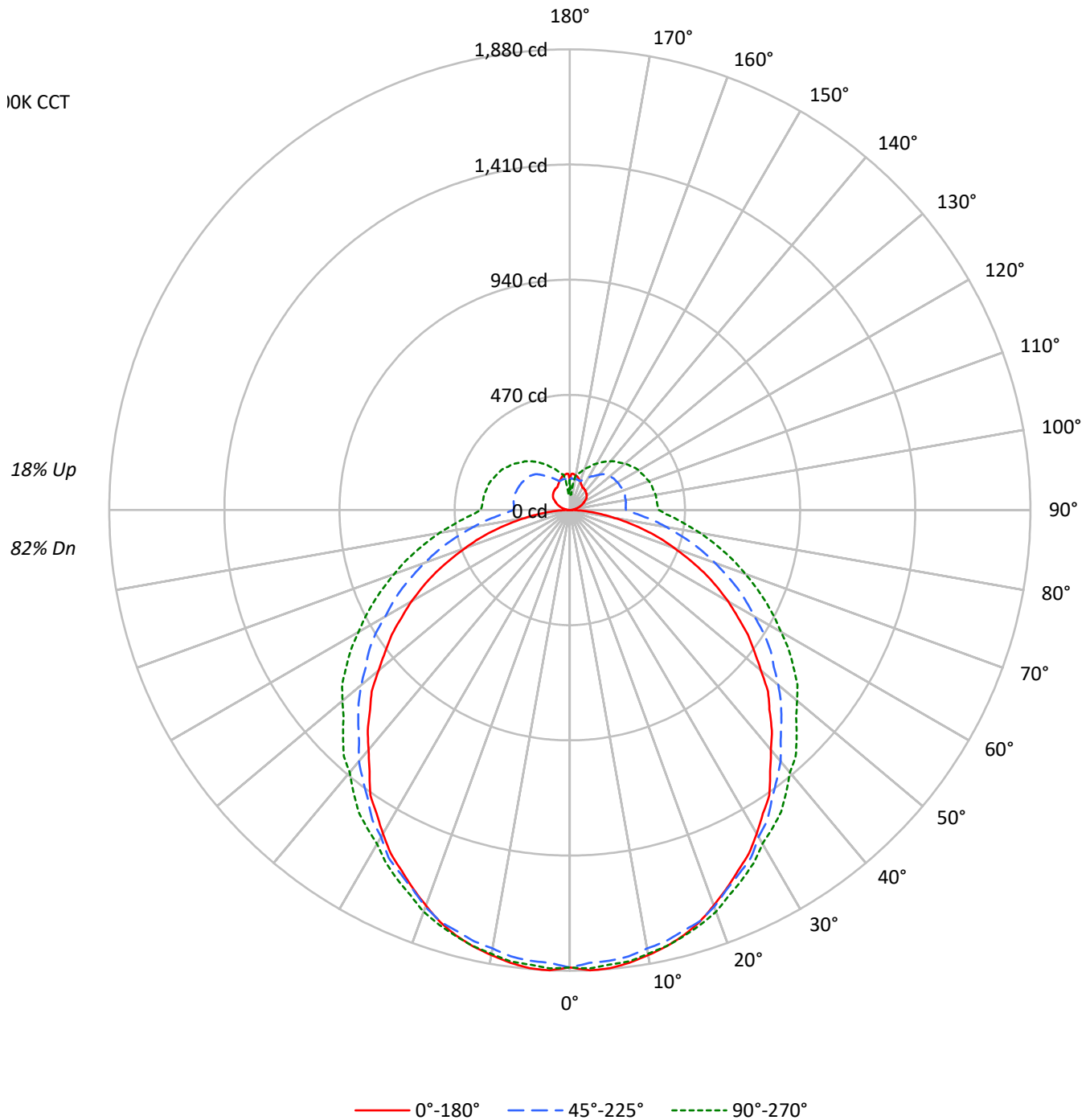
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7017.0 lumens
Efficiency: N/A
Efficacy: 109.0 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.26 / 1.36
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 3.98' x H: 0.21')
CIE Type: Semi-Direct

Input Watts (W): 64.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 8.94
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	115	115	115	115	110	110	110	110	101	101	101	93	93	93	86	86	86	86	82	
1	103	98	93	89	99	94	90	86	87	83	80	80	77	74	73	71	69	69	66	
2	93	85	77	71	89	81	75	69	75	70	65	69	65	61	63	60	57	57	54	
3	85	74	66	59	81	71	63	57	66	59	54	60	55	51	56	51	48	48	45	
4	78	65	56	49	74	63	55	48	58	51	46	54	48	43	50	45	41	41	38	
5	71	58	49	42	68	56	48	41	52	45	39	48	42	37	44	39	35	35	33	
6	66	52	43	37	63	50	42	36	47	40	34	43	37	33	40	35	31	31	28	
7	61	47	38	32	58	46	37	32	42	35	30	39	33	29	37	31	27	27	25	
8	56	43	34	29	54	42	34	28	39	32	27	36	30	26	34	28	24	24	22	
9	53	39	31	26	50	38	30	25	36	29	24	33	27	23	31	26	22	22	20	
10	49	36	28	23	47	35	28	23	33	26	22	31	25	21	29	24	20	20	18	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13280	13280	13280
5°	13348	12716	12694
10°	13205	12213	12114
15°	13054	11767	11561
20°	12763	11298	11012
25°	12449	10724	10405
30°	12164	10163	9817
35°	11899	9628	9438
40°	11365	9170	8891
45°	11019	8623	8510
50°	10612	8165	8109
55°	10244	7728	7750
60°	9730	7133	7270
65°	9142	6651	6817
70°	8260	6057	6324
75°	7320	5465	5856
80°	5797	4819	5382
85°	3999	4192	4938

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11019 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.8	2.5
10°-20°	504.9	7.2
20°-30°	758.4	10.8
30°-40°	908.9	13.0
40°-50°	952.9	13.6
50°-60°	893.9	12.7
60°-70°	742.5	10.6
70°-80°	530.9	7.6
80°-90°	314.8	4.5
90°-100°	231.0	3.3
100°-110°	227.6	3.2
110°-120°	212.3	3.0
120°-130°	186.3	2.7
130°-140°	150.0	2.1
140°-150°	107.6	1.5
150°-160°	68.4	1.0
160°-170°	37.9	0.5
170°-180°	11.9	0.2
0°-30°	1440.0	20.5
0°-40°	2349.0	33.5
0°-60°	4195.8	59.8
0°-90°	5784.0	82.4
90°-120°	670.8	9.6
90°-150°	1114.7	15.9
90°-180°	1233.0	17.6
0°-180°	7017.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1866	1866	1866	1866	1866	
5°	1877	1873	1847	1856	1862	178
15°	1797	1786	1779	1792	1800	506
25°	1624	1639	1636	1655	1664	750
35°	1420	1425	1438	1480	1504	881
45°	1152	1185	1221	1301	1309	891
55°	888	916	1001	1082	1114	790
65°	604	650	755	856	881	595
75°	318	392	514	620	649	336
85°	78	172	300	402	439	86
90°	3	104	229	327	363	6
95°	9	109	229	323	357	9
105°	32	120	233	319	349	34
115°	58	130	228	304	333	57
125°	82	134	221	282	307	72
135°	95	129	205	255	276	74
145°	103	119	169	224	240	65
155°	113	119	138	174	196	52
165°	135	131	127	126	158	38
175°	149	143	128	106	64	14
180°	123	123	123	123	123	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1866.5	1866.5	1866.5	1866.5	1866.5
2.5°	1880.3	1865.5	1849.6	1873.4	1872.4
5°	1877.4	1873.4	1846.6	1855.6	1862.5
7.5°	1863.5	1853.6	1837.7	1859.5	1857.5
10°	1844.6	1832.7	1816.9	1829.8	1838.7
12.5°	1823.8	1813.9	1803.0	1816.9	1822.8
15°	1797.0	1786.1	1779.2	1792.1	1800.0
17.5°	1762.3	1759.4	1760.3	1761.3	1774.2
20°	1717.7	1719.7	1722.7	1740.5	1744.5
22.5°	1672.1	1683.0	1675.1	1702.8	1700.8
25°	1624.5	1639.4	1636.4	1655.2	1664.1
27.5°	1581.8	1582.8	1600.7	1627.5	1624.5
30°	1525.3	1542.2	1540.2	1572.9	1572.9
32.5°	1467.8	1492.6	1500.5	1529.3	1539.2
35°	1420.2	1425.1	1438.0	1479.7	1503.5
37.5°	1342.8	1366.6	1387.4	1442.0	1450.9
40°	1277.4	1301.2	1338.9	1402.3	1397.4
42.5°	1220.8	1245.6	1273.4	1346.8	1364.6
45°	1152.4	1185.1	1220.8	1301.2	1309.1
47.5°	1096.9	1122.7	1169.3	1242.7	1252.6
50°	1018.5	1060.2	1110.8	1196.0	1210.9
52.5°	949.1	984.8	1049.3	1137.5	1171.2
55°	887.6	916.4	1000.7	1082.0	1113.7
57.5°	812.2	851.9	940.2	1030.4	1059.2
60°	745.8	784.5	869.8	972.9	995.7
62.5°	675.4	721.0	813.2	913.4	939.2
65°	604.0	649.6	754.7	855.9	880.7
67.5°	526.6	583.1	690.3	795.4	821.2
70°	454.2	515.7	630.7	735.9	761.7
72.5°	388.8	455.2	572.2	680.3	708.1
75°	318.3	391.7	513.7	619.8	648.6
77.5°	249.9	329.3	453.2	560.3	594.1
80°	183.5	270.7	400.7	503.8	539.5
82.5°	128.9	218.2	352.1	453.2	486.0
85°	78.3	171.6	300.5	401.7	439.3
87.5°	34.7	132.9	259.8	360.0	393.7
90°	3.0	104.1	229.1	327.3	363.0
92.5°	6.0	106.1	228.1	323.3	359.0
95°	8.9	109.1	229.1	323.3	357.0
97.5°	12.9	113.1	231.1	323.3	356.0
100°	18.8	115.0	232.1	323.3	356.0
102.5°	24.8	118.0	231.1	318.3	352.1
105°	31.7	120.0	233.1	319.3	349.1
107.5°	38.7	122.0	233.1	314.4	348.1
110°	45.6	125.0	231.1	311.4	344.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	51.6	127.9	230.1	305.5	337.2
115°	57.5	129.9	228.1	303.5	333.2
117.5°	63.5	130.9	227.1	298.5	327.3
120°	68.4	132.9	225.1	292.6	324.3
122.5°	74.4	133.9	222.2	286.6	318.3
125°	82.3	133.9	221.2	281.7	307.4
127.5°	86.3	134.9	217.2	275.7	302.5
130°	90.2	131.9	215.2	268.8	294.5
132.5°	93.2	130.9	210.2	261.8	284.6
135°	95.2	128.9	205.3	254.9	275.7
137.5°	98.2	126.0	198.3	249.9	269.8
140°	100.2	124.0	188.4	240.0	259.8
142.5°	102.1	121.0	178.5	231.1	249.9
145°	103.1	119.0	168.6	224.1	240.0
147.5°	106.1	116.0	162.6	215.2	229.1
150°	105.1	114.1	153.7	204.3	218.2
152.5°	108.1	117.0	145.8	189.4	209.3
155°	113.1	119.0	137.9	173.6	196.4
157.5°	118.0	123.0	131.9	159.7	186.4
160°	125.0	125.0	125.0	148.8	178.5
162.5°	128.9	128.9	126.0	135.9	167.6
165°	134.9	130.9	126.9	126.0	157.7
167.5°	140.8	132.9	128.9	122.0	150.7
170°	141.8	135.9	127.9	115.0	145.8
172.5°	145.8	138.8	126.9	109.1	113.1
175°	148.8	142.8	127.9	106.1	64.5
177.5°	147.8	142.8	130.9	106.1	62.5
180°	123.0	123.0	123.0	123.0	123.0



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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	16.71	18.03	17.32	18.66	19.38	19.22	20.55	19.83	21.17	21.89
	3H	18.14	19.35	18.77	19.98	20.73	21.59	22.79	22.21	23.43	24.18
	4H	18.61	19.75	19.25	20.40	21.16	22.70	23.84	23.35	24.49	25.26
	6H	18.87	19.93	19.53	20.60	21.37	23.82	24.88	24.47	25.54	26.32
	8H	18.93	19.94	19.59	20.62	21.41	24.37	25.38	25.03	26.06	26.85
	12H	18.94	19.91	19.62	20.59	21.40	24.95	25.92	25.62	26.60	27.41
4H	2H	17.58	18.72	18.23	19.37	20.14	19.57	20.71	20.21	21.36	22.12
	3H	19.24	20.21	19.89	20.89	21.68	22.15	23.12	22.80	23.80	24.59
	4H	19.82	20.71	20.49	21.40	22.21	23.42	24.31	24.10	25.00	25.81
	6H	20.19	20.97	20.89	21.69	22.51	24.71	25.49	25.40	26.21	27.03
	8H	20.28	21.02	20.98	21.73	22.57	25.35	26.09	26.05	26.80	27.64
	12H	20.33	20.99	21.05	21.73	22.57	26.05	26.71	26.77	27.45	28.29
8H	4H	20.44	21.18	21.14	21.89	22.73	23.58	24.31	24.28	25.03	25.86
	6H	20.98	21.60	21.71	22.35	23.19	25.01	25.63	25.74	26.39	27.22
	8H	21.15	21.70	21.89	22.46	23.31	25.78	26.34	26.52	27.09	27.94
	12H	21.25	21.75	22.00	22.50	23.41	26.63	27.12	27.37	27.87	28.78
12H	4H	20.60	21.27	21.32	22.00	22.84	23.57	24.23	24.29	24.97	25.81
	6H	21.22	21.78	21.96	22.54	23.39	25.03	25.59	25.77	26.35	27.20
	8H	21.47	21.97	22.21	22.71	23.63	25.85	26.35	26.59	27.09	28.01