

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: P894028

Luminaire Tested: 4MB-9HL-FLTU-UNV-L850

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894028
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-L850
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with FLAT FROSTED LENS WITH UPLIGHT, 80CRI, 500
Light Source: -
Ballast/Driver: -

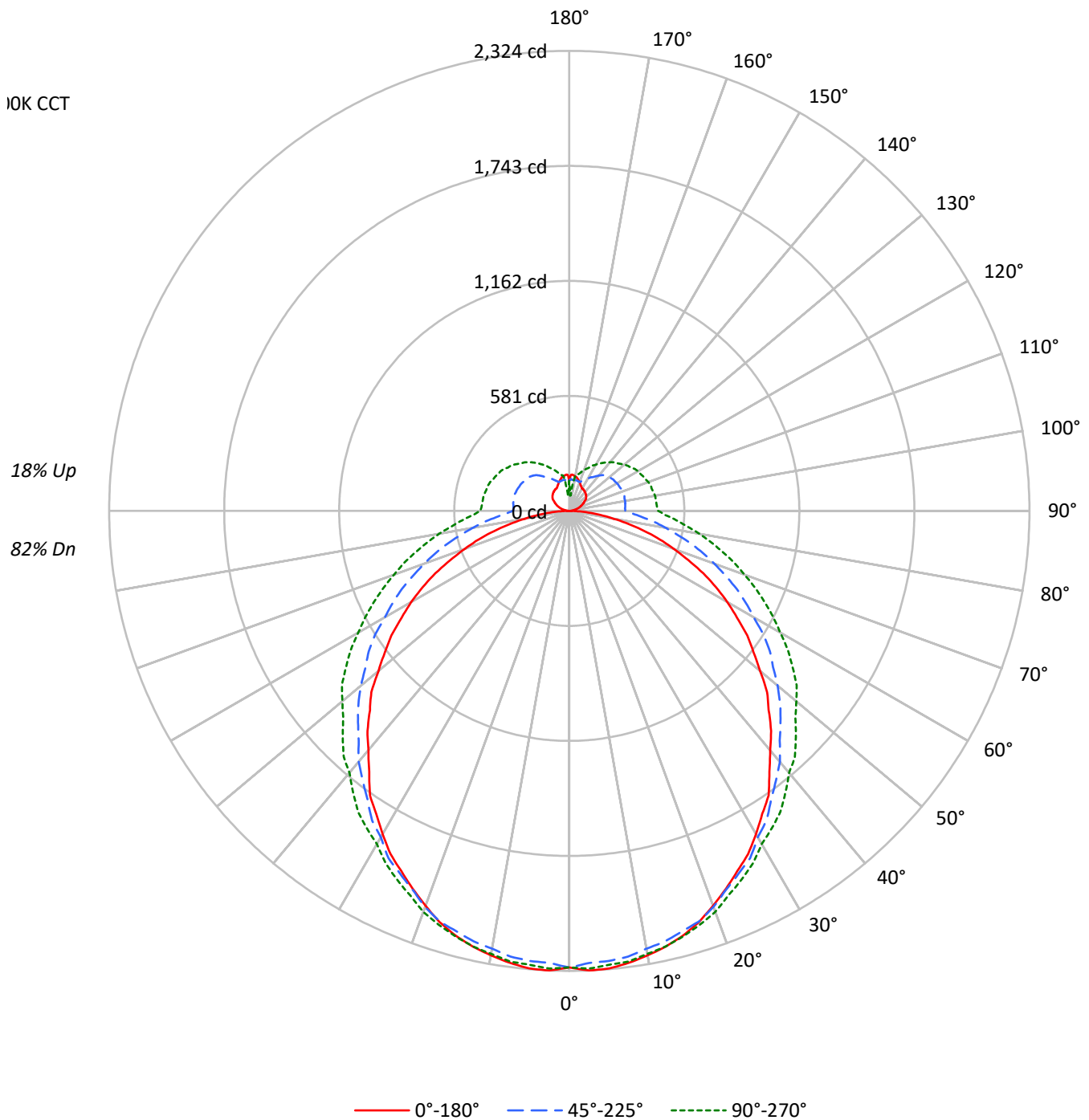
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8672.0 lumens
Efficiency: N/A
Efficacy: 134.7 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°	16412	16412	16412
5°	16496	15716	15688
10°	16320	15093	14971
15°	16133	14542	14289
20°	15772	13963	13609
25°	15385	13253	12860
30°	15033	12560	12132
35°	14705	11900	11664
40°	14045	11332	10988
45°	13618	10658	10517
50°	13114	10090	10021
55°	12661	9551	9578
60°	12025	8815	8985
65°	11298	8220	8425
70°	10208	7486	7816
75°	9047	6754	7237
80°	7162	5955	6652
85°	4944	5181	6103

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13618 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	218.5	2.5
10°-20°	623.9	7.2
20°-30°	937.2	10.8
30°-40°	1123.3	13.0
40°-50°	1177.7	13.6
50°-60°	1104.8	12.7
60°-70°	917.6	10.6
70°-80°	656.1	7.6
80°-90°	389.1	4.5
90°-100°	285.4	3.3
100°-110°	281.2	3.2
110°-120°	262.3	3.0
120°-130°	230.2	2.7
130°-140°	185.4	2.1
140°-150°	133.0	1.5
150°-160°	84.5	1.0
160°-170°	46.9	0.5
170°-180°	14.8	0.2
0°-30°	1779.7	20.5
0°-40°	2903.0	33.5
0°-60°	5185.4	59.8
0°-90°	7148.2	82.4
90°-120°	829.0	9.6
90°-150°	1377.6	15.9
90°-180°	1524.0	17.6
0°-180°	8672.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2307	2307	2307	2307	2307	
5°	2320	2315	2282	2293	2302	220
15°	2221	2207	2199	2215	2225	625
25°	2008	2026	2022	2046	2057	926
35°	1755	1761	1777	1829	1858	1089
45°	1424	1465	1509	1608	1618	1102
55°	1097	1132	1237	1337	1376	976
65°	746	803	933	1058	1088	736
75°	393	484	635	766	802	416
85°	97	212	371	496	543	106
90°	4	129	283	404	449	8
95°	11	135	283	400	441	11
105°	39	148	288	395	431	42
115°	71	161	282	375	412	70
125°	102	166	273	348	380	89
135°	118	159	254	315	341	91
145°	128	147	208	277	297	80
155°	140	147	170	214	243	65
165°	167	162	157	156	195	47
175°	184	176	158	131	80	17
180°	152	152	152	152	152	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2306.7	2306.7	2306.7	2306.7	2306.7
2.5°	2323.8	2305.4	2285.8	2315.3	2314.0
5°	2320.2	2315.3	2282.2	2293.2	2301.8
7.5°	2303.0	2290.7	2271.1	2298.1	2295.6
10°	2279.7	2265.0	2245.4	2261.3	2272.4
12.5°	2254.0	2241.7	2228.2	2245.4	2252.7
15°	2220.9	2207.4	2198.8	2214.8	2224.6
17.5°	2178.0	2174.3	2175.5	2176.8	2192.7
20°	2122.8	2125.3	2129.0	2151.0	2155.9
22.5°	2066.4	2079.9	2070.1	2104.4	2102.0
25°	2007.6	2026.0	2022.3	2045.6	2056.6
27.5°	1954.9	1956.1	1978.2	2011.3	2007.6
30°	1885.1	1905.9	1903.4	1943.9	1943.9
32.5°	1814.0	1844.6	1854.4	1890.0	1902.2
35°	1755.1	1761.3	1777.2	1828.7	1858.1
37.5°	1659.5	1688.9	1714.7	1782.1	1793.1
40°	1578.6	1608.1	1654.6	1733.1	1726.9
42.5°	1508.8	1539.4	1573.7	1664.4	1686.5
45°	1424.2	1464.7	1508.8	1608.1	1617.9
47.5°	1355.6	1387.4	1445.0	1535.7	1548.0
50°	1258.7	1310.2	1372.7	1478.1	1496.5
52.5°	1172.9	1217.1	1296.7	1405.8	1447.5
55°	1097.0	1132.5	1236.7	1337.2	1376.4
57.5°	1003.8	1052.8	1161.9	1273.5	1309.0
60°	921.7	969.5	1074.9	1202.4	1230.6
62.5°	834.7	891.0	1005.0	1128.8	1160.7
65°	746.4	802.8	932.7	1057.7	1088.4
67.5°	650.8	720.7	853.1	983.0	1014.8
70°	561.3	637.3	779.5	909.4	941.3
72.5°	480.5	562.6	707.2	840.8	875.1
75°	393.4	484.1	634.9	766.0	801.6
77.5°	308.9	406.9	560.1	692.5	734.2
80°	226.7	334.6	495.2	622.6	666.8
82.5°	159.3	269.6	435.1	560.1	600.6
85°	96.8	212.0	371.4	496.4	543.0
87.5°	42.9	164.2	321.1	444.9	486.6
90°	3.7	128.7	283.1	404.5	448.6
92.5°	7.4	131.1	281.9	399.6	443.7
95°	11.0	134.8	283.1	399.6	441.2
97.5°	15.9	139.7	285.6	399.6	440.0
100°	23.3	142.2	286.8	399.6	440.0
102.5°	30.6	145.9	285.6	393.4	435.1
105°	39.2	148.3	288.0	394.7	431.4
107.5°	47.8	150.8	288.0	388.5	430.2
110°	56.4	154.4	285.6	384.9	425.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	63.7	158.1	284.4	377.5	416.7
115°	71.1	160.6	281.9	375.0	411.8
117.5°	78.4	161.8	280.7	368.9	404.5
120°	84.6	164.2	278.2	361.6	400.8
122.5°	91.9	165.5	274.5	354.2	393.4
125°	101.7	165.5	273.3	348.1	380.0
127.5°	106.6	166.7	268.4	340.7	373.8
130°	111.5	163.0	266.0	332.2	364.0
132.5°	115.2	161.8	259.8	323.6	351.8
135°	117.7	159.3	253.7	315.0	340.7
137.5°	121.3	155.7	245.1	308.9	333.4
140°	123.8	153.2	232.9	296.6	321.1
142.5°	126.2	149.5	220.6	285.6	308.9
145°	127.5	147.1	208.4	277.0	296.6
147.5°	131.1	143.4	201.0	266.0	283.1
150°	129.9	140.9	190.0	252.5	269.6
152.5°	133.6	144.6	180.2	234.1	258.6
155°	139.7	147.1	170.4	214.5	242.7
157.5°	145.9	152.0	163.0	197.3	230.4
160°	154.4	154.4	154.4	183.8	220.6
162.5°	159.3	159.3	155.7	167.9	207.1
165°	166.7	161.8	156.9	155.7	194.9
167.5°	174.0	164.2	159.3	150.8	186.3
170°	175.3	167.9	158.1	142.2	180.2
172.5°	180.2	171.6	156.9	134.8	139.7
175°	183.8	176.5	158.1	131.1	79.7
177.5°	182.6	176.5	161.8	131.1	77.2
180°	152.0	152.0	152.0	152.0	152.0



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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	17.44	18.77	18.06	19.40	20.11	19.96	21.28	20.57	21.91	22.63
	3H	18.88	20.08	19.50	20.72	21.47	22.32	23.53	22.95	24.16	24.91
	4H	19.34	20.48	19.99	21.13	21.90	23.44	24.58	24.08	25.23	25.99
	6H	19.61	20.67	20.27	21.33	22.11	24.55	25.61	25.21	26.27	27.05
	8H	19.66	20.68	20.33	21.36	22.14	25.10	26.12	25.77	26.80	27.58
	12H	19.68	20.65	20.35	21.33	22.14	25.68	26.66	26.36	27.33	28.14
4H	2H	18.32	19.46	18.96	20.11	20.87	20.30	21.45	20.95	22.10	22.86
	3H	19.97	20.94	20.63	21.63	22.41	22.88	23.85	23.54	24.54	25.32
	4H	20.55	21.44	21.23	22.13	22.95	24.16	25.05	24.83	25.74	26.55
	6H	20.93	21.71	21.62	22.43	23.25	25.45	26.23	26.14	26.94	27.76
	8H	21.02	21.75	21.72	22.47	23.30	26.09	26.82	26.79	27.54	28.37
	12H	21.06	21.73	21.78	22.47	23.31	26.78	27.45	27.50	28.19	29.03
8H	4H	21.18	21.91	21.88	22.63	23.46	24.31	25.05	25.01	25.76	26.60
	6H	21.71	22.33	22.44	23.09	23.93	25.75	26.37	26.48	27.12	27.96
	8H	21.88	22.44	22.62	23.20	24.05	26.51	27.07	27.25	27.83	28.68
	12H	21.99	22.48	22.73	23.23	24.14	27.36	27.86	28.11	28.61	29.52
12H	4H	21.34	22.00	22.06	22.74	23.58	24.30	24.97	25.02	25.71	26.55
	6H	21.96	22.52	22.70	23.28	24.13	25.77	26.32	26.51	27.08	27.93
	8H	22.21	22.70	22.95	23.45	24.36	26.59	27.08	27.33	27.83	28.74