

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: P894071

Luminaire Tested: 4MB-9HL-RND-UNV-L940

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894071
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-1)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-9HL-RND-UNV-L940
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with ROUND FROSTED LENS, 90CRI, 4000K CCT
Light Source: -
Ballast/Driver: -

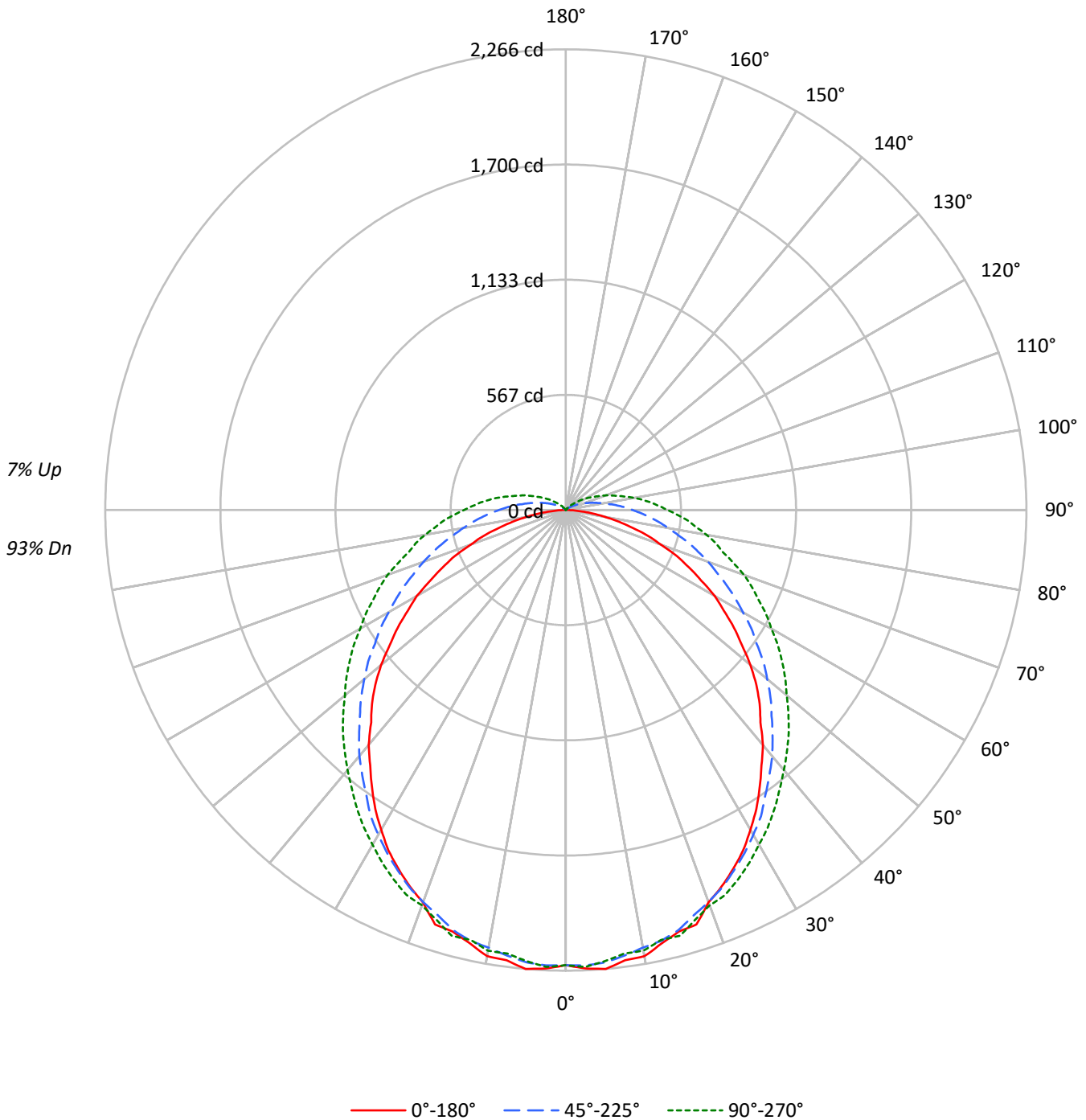
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7375.0 lumens
Efficiency: N/A
Efficacy: 114.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.26 / 1.35
Luminous Opening: Rectangular (W 0.38' x L: 3.98' x H: 0')
CIE Type: 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				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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	96	96	96	93
1	105	100	95	90	102	97	92	88	91	87	84	86	83	80	81	79	77	77	77	77	74
2	95	86	79	72	92	84	77	71	79	73	68	74	70	66	70	67	63	63	63	63	60
3	86	75	66	60	83	73	65	59	69	62	57	65	60	55	62	57	53	53	53	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	50	45	45	45	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	39	39	39	37
6	67	53	44	37	65	52	43	37	49	42	36	47	40	35	45	39	34	34	34	34	32
7	62	48	39	33	60	47	39	33	45	37	32	43	36	31	41	35	30	30	30	30	28
8	58	44	35	29	56	43	35	29	41	34	28	39	33	28	38	32	27	27	27	27	25
9	54	40	32	26	52	39	32	26	38	31	26	36	30	25	35	29	25	25	25	25	23
10	51	37	29	24	49	36	29	24	35	28	23	34	27	23	32	27	22	22	22	22	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15930	15930	15930
5°	16181	15947	15903
10°	16102	15791	15902
15°	15813	15760	15972
20°	15549	15534	15666
25°	15294	15358	15736
30°	14920	15155	15618
35°	14448	14866	15560
40°	14013	14669	15506
45°	13573	14408	15603
50°	13129	14319	15702
55°	12527	14217	16110
60°	12039	14313	16615
65°	11243	14692	17623
70°	10335	15511	19411
75°	9377	17176	21989
80°	8060	20983	28833
85°	6523	33944	49332

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 87.5°
 Luminance: 89550 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	212.3	2.9
10°-20°	604.3	8.2
20°-30°	905.6	12.3
30°-40°	1076.2	14.6
40°-50°	1114.1	15.1
50°-60°	1032.4	14.0
60°-70°	859.6	11.7
70°-80°	638.0	8.7
80°-90°	422.0	5.7
90°-100°	256.8	3.5
100°-110°	143.9	2.0
110°-120°	70.9	1.0
120°-130°	28.8	0.4
130°-140°	8.3	0.1
140°-150°	1.2	0.0
150°-160°	0.3	0.0
160°-170°	0.2	0.0
170°-180°	0.1	0.0
0°-30°	1722.2	23.4
0°-40°	2798.3	37.9
0°-60°	4944.9	67.0
0°-90°	6864.4	93.1
90°-120°	471.6	6.4
90°-150°	510.0	6.9
90°-180°	511.0	6.9
0°-180°	7375.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2239	2239	2239	2239	2239	
5°	2266	2241	2233	2244	2227	214
15°	2147	2139	2140	2143	2168	608
25°	1948	1946	1956	1994	2004	897
35°	1663	1676	1712	1766	1791	1041
45°	1349	1368	1432	1521	1551	1039
55°	1010	1053	1146	1261	1299	903
65°	668	730	873	1001	1047	663
75°	341	444	625	759	800	365
85°	80	224	416	563	604	90
90°	4	145	329	460	501	6
95°	1	90	255	380	422	1
105°	1	30	138	235	267	1
115°	1	7	64	129	155	1
125°	1	2	24	59	76	1
135°	2	1	6	20	27	1
145°	2	1	0	2	3	1
155°	2	2	0	0	0	1
165°	3	2	0	0	0	1
175°	3	2	0	0	0	0
180°	1	1	1	1	1	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2239.0	2239.0	2239.0	2239.0	2239.0
2.5°	2257.4	2246.2	2242.1	2236.9	2249.2
5°	2265.6	2241.0	2232.8	2244.1	2226.7
7.5°	2233.9	2227.7	2210.3	2216.5	2200.1
10°	2228.7	2194.9	2185.7	2206.2	2201.1
12.5°	2182.7	2154.0	2170.4	2184.7	2165.2
15°	2146.8	2138.6	2139.6	2142.7	2168.3
17.5°	2137.6	2100.7	2090.5	2116.1	2114.0
20°	2053.6	2046.4	2051.6	2085.4	2069.0
22.5°	2004.4	1981.9	2009.6	2042.3	2049.5
25°	1948.1	1946.1	1956.3	1994.2	2004.4
27.5°	1888.7	1875.4	1903.0	1947.1	1955.3
30°	1816.0	1810.9	1844.7	1882.6	1901.0
32.5°	1744.3	1747.4	1786.3	1818.0	1849.8
35°	1663.4	1675.7	1711.5	1765.8	1791.4
37.5°	1581.4	1596.8	1644.9	1707.4	1728.9
40°	1508.7	1511.8	1579.4	1642.9	1669.5
42.5°	1417.5	1448.3	1505.6	1589.6	1610.1
45°	1348.9	1368.4	1431.9	1521.0	1550.7
47.5°	1271.1	1293.6	1366.3	1453.4	1485.1
50°	1186.1	1206.6	1293.6	1393.0	1418.6
52.5°	1091.8	1133.8	1225.0	1327.4	1361.2
55°	1009.9	1052.9	1146.1	1260.8	1298.7
57.5°	921.8	964.8	1081.6	1188.1	1237.3
60°	846.0	887.0	1005.8	1137.9	1167.6
62.5°	751.8	810.2	939.2	1069.3	1111.3
65°	667.8	730.3	872.7	1000.7	1046.8
67.5°	591.0	655.5	804.0	941.3	991.5
70°	496.8	581.8	745.6	880.8	933.1
72.5°	427.1	512.1	683.2	817.3	864.5
75°	341.1	444.5	624.8	759.0	799.9
77.5°	269.4	381.0	564.4	714.9	755.9
80°	196.7	323.7	512.1	656.5	703.7
82.5°	134.2	270.4	464.0	602.3	647.3
85°	79.9	224.3	415.8	563.3	604.3
87.5°	34.8	183.3	371.8	507.0	549.0
90°	4.1	145.4	328.8	459.9	500.9
92.5°	1.0	116.8	290.9	417.9	457.8
95°	1.0	90.1	255.0	380.0	422.0
97.5°	1.0	69.6	219.2	341.1	381.0
100°	1.0	53.3	189.5	300.1	343.1
102.5°	1.0	39.9	160.8	266.3	303.2
105°	1.0	29.7	138.3	234.6	267.3
107.5°	1.0	21.5	115.7	204.8	237.6
110°	1.0	15.4	97.3	177.2	210.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	11.3	78.9	152.6	180.3
115°	1.0	7.2	64.5	129.1	154.7
117.5°	1.0	5.1	51.2	108.6	133.2
120°	1.0	4.1	41.0	90.1	111.6
122.5°	1.0	3.1	31.8	73.7	94.2
125°	1.0	2.0	23.6	59.4	75.8
127.5°	1.0	2.0	17.4	47.1	61.5
130°	1.0	1.0	12.3	35.8	48.1
132.5°	1.0	1.0	8.2	26.6	35.8
135°	2.0	1.0	6.1	19.5	26.6
137.5°	2.0	1.0	4.1	13.3	18.4
140°	2.0	1.0	2.0	8.2	11.3
142.5°	2.0	1.0	1.0	4.1	6.1
145°	2.0	1.0	0.0	2.0	3.1
147.5°	2.0	1.0	0.0	1.0	1.0
150°	2.0	1.0	0.0	0.0	0.0
152.5°	2.0	1.0	0.0	0.0	0.0
155°	2.0	2.0	0.0	0.0	0.0
157.5°	2.0	2.0	0.0	0.0	0.0
160°	2.0	2.0	0.0	0.0	0.0
162.5°	2.0	2.0	0.0	0.0	0.0
165°	3.1	2.0	0.0	0.0	0.0
167.5°	3.1	2.0	0.0	0.0	0.0
170°	3.1	2.0	0.0	0.0	0.0
172.5°	3.1	2.0	0.0	0.0	0.0
175°	3.1	2.0	0.0	0.0	0.0
177.5°	3.1	2.0	0.0	0.0	0.0
180°	1.0	1.0	1.0	1.0	1.0



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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	19.85	21.38	20.31	21.84	22.32	21.42	22.96	21.89	23.41	23.90
	3H	21.61	23.01	22.09	23.48	24.00	24.01	25.41	24.49	25.87	26.40
	4H	22.27	23.60	22.77	24.08	24.62	25.26	26.60	25.77	27.08	27.61
	6H	22.75	23.99	23.26	24.48	25.03	26.65	27.89	27.16	28.38	28.94
	8H	22.89	24.08	23.42	24.60	25.16	27.38	28.56	27.90	29.08	29.64
	12H	22.99	24.13	23.53	24.65	25.24	28.22	29.36	28.75	29.87	30.46
4H	2H	20.80	22.13	21.30	22.62	23.15	21.99	23.32	22.49	23.81	24.34
	3H	22.84	23.98	23.36	24.50	25.06	24.86	26.00	25.37	26.52	27.08
	4H	23.66	24.70	24.19	25.23	25.82	26.34	27.38	26.87	27.92	28.51
	6H	24.31	25.23	24.86	25.79	26.39	27.96	28.88	28.51	29.44	30.05
	8H	24.53	25.40	25.09	25.96	26.58	28.81	29.68	29.37	30.24	30.86
	12H	24.70	25.49	25.28	26.08	26.70	29.81	30.59	30.39	31.18	31.81
8H	4H	24.50	25.37	25.06	25.93	26.55	26.71	27.58	27.27	28.14	28.76
	6H	25.43	26.16	26.02	26.77	27.39	28.59	29.32	29.18	29.93	30.55
	8H	25.81	26.48	26.41	27.09	27.73	29.65	30.31	30.25	30.93	31.56
	12H	26.13	26.73	26.74	27.33	28.03	30.90	31.50	31.51	32.10	32.81
12H	4H	24.77	25.55	25.35	26.14	26.77	26.75	27.54	27.33	28.13	28.75
	6H	25.85	26.52	26.46	27.13	27.77	28.70	29.36	29.30	29.98	30.62
	8H	26.39	26.99	27.00	27.59	28.29	29.87	30.47	30.48	31.07	31.77