

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: P894075

Luminaire Tested: 4MB-9HL-RNDU-UNV-L840

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894075
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-3)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-9HL-RNDU-UNV-L840
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with ROUND FROSTED LENS WITH UPLIGHT, 80CRI, 4
Light Source: -
Ballast/Driver: -

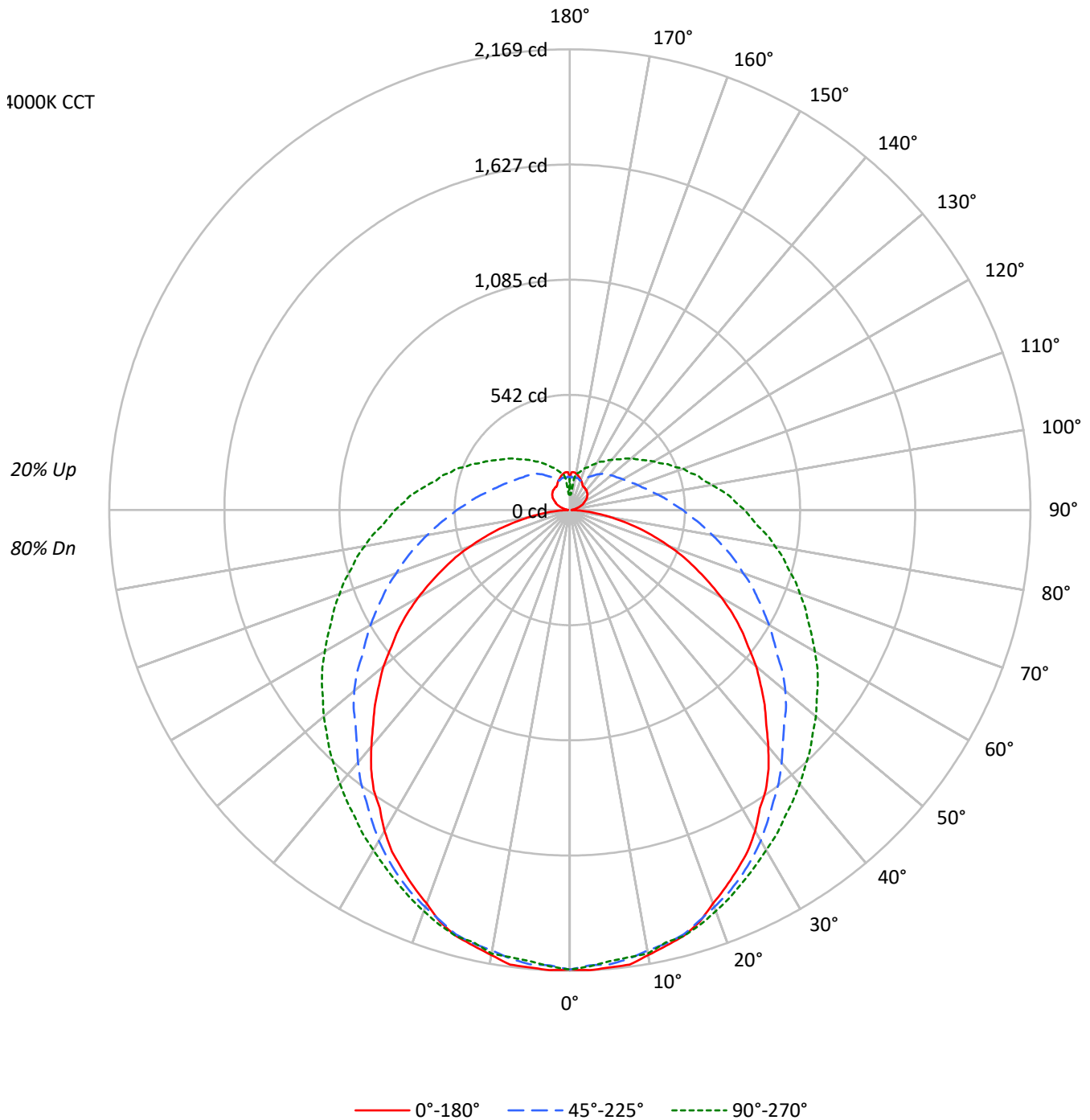
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9096.0 lumens
Efficiency: N/A
Efficacy: 141.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37
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	0
RCR																					
0	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	83	83	83	80
1	102	96	91	86	97	92	87	83	84	80	77	76	73	71	69	67	65	65	65	65	61
2	92	82	75	68	87	79	72	66	72	66	61	66	61	57	60	56	53	53	53	53	49
3	83	72	63	56	79	69	61	54	63	56	51	57	52	47	52	48	44	44	44	44	41
4	76	63	54	47	72	60	52	45	55	48	43	51	45	40	46	41	37	37	37	37	34
5	69	56	47	40	66	54	45	39	49	42	37	45	39	34	41	36	32	32	32	32	29
6	64	50	41	35	61	48	40	34	44	37	32	41	35	30	38	32	28	28	28	28	26
7	59	46	37	30	56	44	35	30	40	33	28	37	31	26	34	29	25	25	25	25	23
8	55	41	33	27	52	40	32	26	37	30	25	34	28	24	31	26	22	22	22	22	20
9	51	38	30	24	49	37	29	23	34	27	22	31	25	21	29	24	20	20	20	20	18
10	48	35	27	22	46	34	26	21	31	25	20	29	23	19	27	22	18	18	18	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15395	15395	15395
5°	15366	14784	14533
10°	15229	14153	13968
15°	15076	13686	13338
20°	14647	13048	12688
25°	14309	12483	12077
30°	13916	11866	11541
35°	13485	11198	11076
40°	12931	10625	10718
45°	12404	10079	10399
50°	11940	9740	10129
55°	11397	9215	9920
60°	10752	8882	9728
65°	9946	8586	9582
70°	9046	8344	9576
75°	7876	8252	9603
80°	6192	8207	9790
85°	4081	8390	10011

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12404 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.8	2.3
10°-20°	585.3	6.4
20°-30°	878.9	9.7
30°-40°	1055.4	11.6
40°-50°	1116.3	12.3
50°-60°	1075.8	11.8
60°-70°	954.5	10.5
70°-80°	782.7	8.6
80°-90°	605.8	6.7
90°-100°	472.6	5.2
100°-110°	376.3	4.1
110°-120°	300.7	3.3
120°-130°	237.2	2.6
130°-140°	181.0	2.0
140°-150°	127.3	1.4
150°-160°	81.4	0.9
160°-170°	45.6	0.5
170°-180°	14.5	0.2
0°-30°	1669.0	18.3
0°-40°	2724.4	30.0
0°-60°	4916.5	54.1
0°-90°	7259.6	79.8
90°-120°	1149.6	12.6
90°-150°	1695.0	18.6
90°-180°	1836.0	20.2
0°-180°	9096.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2164	2164	2164	2164	2164	
5°	2161	2167	2147	2162	2132	206
15°	2075	2077	2069	2083	2077	583
25°	1867	1898	1905	1937	1931	860
35°	1610	1634	1672	1741	1764	1003
45°	1297	1336	1427	1562	1600	1001
55°	988	1037	1193	1355	1426	881
65°	657	748	974	1176	1238	653
75°	342	492	776	985	1064	362
85°	80	300	601	818	891	90
90°	8	238	532	741	823	8
95°	11	197	471	676	756	11
105°	36	160	376	553	624	38
115°	70	156	312	451	510	68
125°	98	158	269	370	410	86
135°	115	154	241	313	338	89
145°	125	142	198	263	278	78
155°	138	145	163	206	230	63
165°	163	160	154	150	186	46
175°	179	173	154	126	80	17
180°	146	146	146	146	146	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2163.7	2163.7	2163.7	2163.7	2163.7
2.5°	2168.6	2175.8	2145.6	2163.7	2150.4
5°	2161.3	2167.4	2146.8	2162.5	2132.3
7.5°	2158.9	2156.5	2131.1	2151.6	2123.8
10°	2127.4	2135.9	2105.6	2133.5	2120.2
12.5°	2100.8	2117.7	2091.1	2112.9	2085.1
15°	2075.4	2076.6	2069.3	2082.6	2076.6
17.5°	2033.0	2043.9	2027.0	2057.2	2046.3
20°	1971.3	2005.2	1989.5	2017.3	2010.0
22.5°	1920.5	1937.4	1950.7	1982.2	1972.5
25°	1867.2	1897.5	1904.8	1937.4	1931.4
27.5°	1812.8	1826.1	1853.9	1889.0	1890.2
30°	1745.0	1759.5	1798.3	1838.2	1849.1
32.5°	1665.1	1711.1	1734.1	1794.6	1811.6
35°	1609.5	1633.7	1672.4	1741.4	1764.4
37.5°	1536.9	1564.7	1616.7	1697.8	1725.7
40°	1453.4	1494.5	1551.4	1651.8	1684.5
42.5°	1369.9	1418.3	1484.8	1602.2	1639.7
45°	1297.3	1336.0	1426.8	1562.3	1599.8
47.5°	1218.6	1265.8	1380.8	1510.3	1552.6
50°	1146.0	1194.4	1325.1	1461.8	1512.7
52.5°	1058.9	1114.5	1264.6	1406.2	1465.5
55°	987.5	1037.1	1193.2	1355.4	1425.5
57.5°	908.8	964.5	1137.5	1317.8	1382.0
60°	824.1	894.3	1083.1	1270.6	1332.4
62.5°	740.6	824.1	1027.4	1224.7	1285.2
65°	657.1	747.9	974.2	1176.3	1238.0
67.5°	582.1	680.1	925.8	1123.0	1199.2
70°	497.4	614.8	868.9	1073.4	1153.3
72.5°	417.5	555.5	822.9	1033.5	1113.3
75°	342.5	492.5	775.7	985.1	1063.7
77.5°	267.4	433.2	726.1	941.5	1027.4
80°	196.0	384.8	682.5	899.1	981.4
82.5°	135.5	342.5	640.2	864.0	941.5
85°	79.9	300.1	601.4	818.1	890.7
87.5°	36.3	266.2	561.5	783.0	854.4
90°	8.5	238.4	532.5	740.6	822.9
92.5°	8.5	216.6	497.4	709.1	784.2
95°	10.9	197.3	470.7	676.5	756.3
97.5°	14.5	182.7	446.5	646.2	716.4
100°	20.6	173.0	419.9	611.1	680.1
102.5°	27.8	165.8	395.7	579.7	643.8
105°	36.3	159.7	376.4	553.0	624.4
107.5°	44.8	157.3	357.0	527.6	588.1
110°	53.2	156.1	342.5	501.0	568.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	61.7	154.9	326.7	476.8	531.3
115°	70.2	156.1	312.2	451.4	509.5
117.5°	75.0	156.1	298.9	429.6	478.0
120°	82.3	157.3	289.2	406.6	457.4
122.5°	89.6	157.3	279.5	389.7	434.4
125°	98.0	158.5	268.7	370.3	410.2
127.5°	102.9	158.5	262.6	357.0	393.3
130°	107.7	157.3	254.1	340.0	377.6
132.5°	112.5	154.9	249.3	324.3	359.4
135°	115.0	153.7	240.8	313.4	337.6
137.5°	118.6	150.1	232.3	297.7	324.3
140°	122.2	148.8	220.2	285.6	308.6
142.5°	122.2	145.2	211.8	274.7	295.3
145°	124.6	141.6	198.5	262.6	278.3
147.5°	127.1	140.4	188.8	250.5	269.9
150°	127.1	139.2	180.3	237.2	255.3
152.5°	129.5	140.4	171.8	225.1	242.0
155°	138.0	145.2	163.4	205.7	229.9
157.5°	145.2	150.1	154.9	191.2	216.6
160°	151.3	153.7	147.6	176.7	210.6
162.5°	156.1	157.3	148.8	163.4	197.3
165°	163.4	159.7	153.7	150.1	186.4
167.5°	169.4	162.2	156.1	146.4	177.9
170°	174.3	167.0	153.7	138.0	174.3
172.5°	177.9	168.2	154.9	129.5	146.4
175°	179.1	173.0	153.7	125.9	79.9
177.5°	177.9	174.3	158.5	124.6	71.4
180°	146.4	146.4	146.4	146.4	146.4



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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	16.54	17.86	17.18	18.52	19.29	19.95	21.26	20.59	21.93	22.69
	3H	17.99	19.20	18.65	19.87	20.67	22.79	23.99	23.44	24.66	25.46
	4H	18.47	19.61	19.14	20.29	21.10	24.24	25.38	24.91	26.06	26.87
	6H	18.74	19.81	19.43	20.50	21.33	25.80	26.86	26.48	27.55	28.38
	8H	18.80	19.82	19.50	20.54	21.37	26.61	27.63	27.31	28.35	29.18
	12H	18.82	19.80	19.52	20.51	21.37	27.49	28.47	28.20	29.18	30.04
4H	2H	17.68	18.82	18.35	19.51	20.32	20.29	21.43	20.96	22.12	22.93
	3H	19.38	20.36	20.07	21.08	21.91	23.36	24.34	24.05	25.06	25.89
	4H	19.98	20.89	20.68	21.61	22.47	24.99	25.90	25.70	26.62	27.48
	6H	20.39	21.19	21.11	21.94	22.80	26.75	27.55	27.47	28.30	29.17
	8H	20.50	21.26	21.23	22.00	22.88	27.69	28.44	28.41	29.18	30.06
	12H	20.56	21.25	21.31	22.02	22.90	28.70	29.38	29.44	30.15	31.04
8H	4H	21.01	21.77	21.74	22.51	23.39	25.18	25.93	25.90	26.67	27.55
	6H	21.66	22.30	22.41	23.09	23.97	27.12	27.76	27.87	28.54	29.42
	8H	21.89	22.47	22.65	23.25	24.15	28.20	28.78	28.96	29.56	30.46
	12H	22.03	22.55	22.80	23.33	24.28	29.40	29.92	30.17	30.70	31.65
12H	4H	21.34	22.03	22.09	22.80	23.68	25.17	25.86	25.92	26.63	27.51
	6H	22.15	22.73	22.91	23.51	24.41	27.15	27.73	27.91	28.51	29.41
	8H	22.50	23.02	23.26	23.79	24.75	28.29	28.81	29.06	29.59	30.54