

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: P893225

Luminaire Tested: 4MB-10HL-RNDU-UNV-L830

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893225
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-10HL-RNDU-UNV-L830
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with ROUND FROSTED LENS WITH UPLIGHT, 80CRI, CCT
Light Source: -
Ballast/Driver: -

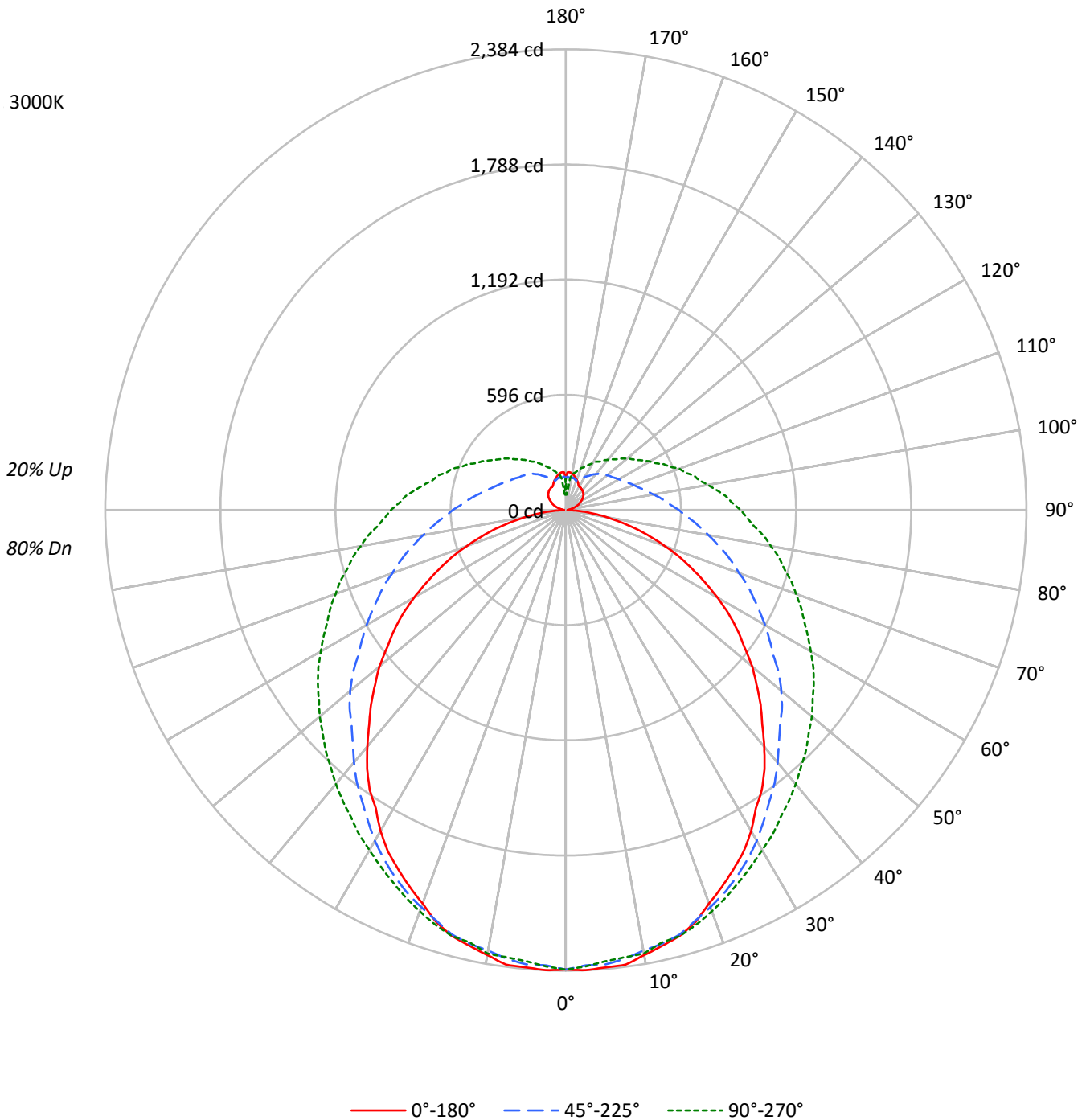
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9997.9 lumens
Efficiency: N/A
Efficacy: 132.4 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): 75.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.997
Total Harmonic Distortion (THDi): 7.45
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°	16922	16922	16922
5°	16890	16250	15973
10°	16740	15557	15353
15°	16571	15043	14660
20°	16099	14342	13947
25°	15728	13720	13274
30°	15296	13043	12685
35°	14823	12309	12174
40°	14213	11678	11781
45°	13634	11077	11430
50°	13124	10706	11134
55°	12527	10129	10904
60°	11818	9763	10692
65°	10933	9437	10532
70°	9943	9171	10525
75°	8656	9070	10556
80°	6808	9021	10760
85°	4484	9223	11004

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13634 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	225.2	2.3
10°-20°	643.3	6.4
20°-30°	966.0	9.7
30°-40°	1160.1	11.6
40°-50°	1227.0	12.3
50°-60°	1182.5	11.8
60°-70°	1049.1	10.5
70°-80°	860.4	8.6
80°-90°	665.9	6.7
90°-100°	519.5	5.2
100°-110°	413.6	4.1
110°-120°	330.5	3.3
120°-130°	260.7	2.6
130°-140°	198.9	2.0
140°-150°	139.9	1.4
150°-160°	89.4	0.9
160°-170°	50.1	0.5
170°-180°	15.9	0.2
0°-30°	1834.5	18.3
0°-40°	2994.6	30.0
0°-60°	5404.1	54.1
0°-90°	7979.4	79.8
90°-120°	1263.6	12.6
90°-150°	1863.1	18.6
90°-180°	2019.0	20.2
0°-180°	9997.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2378	2378	2378	2378	2378	
5°	2376	2382	2360	2377	2344	226
15°	2281	2282	2274	2289	2282	641
25°	2052	2086	2094	2130	2123	945
35°	1769	1796	1838	1914	1939	1103
45°	1426	1468	1568	1717	1758	1100
55°	1085	1140	1312	1490	1567	968
65°	722	822	1071	1293	1361	718
75°	376	541	853	1083	1169	398
85°	88	330	661	899	979	99
90°	9	262	585	814	904	9
95°	12	217	517	744	831	12
105°	40	176	414	608	686	42
115°	77	172	343	496	560	75
125°	108	174	295	407	451	95
135°	126	169	265	344	371	98
145°	137	156	218	289	306	86
155°	152	160	180	226	253	70
165°	180	176	169	165	205	50
175°	197	190	169	138	88	19
180°	161	161	161	161	161	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2378.3	2378.3	2378.3	2378.3	2378.3
2.5°	2383.6	2391.6	2358.3	2378.3	2363.7
5°	2375.6	2382.3	2359.7	2377.0	2343.7
7.5°	2373.0	2370.3	2342.4	2365.0	2334.4
10°	2338.4	2347.7	2314.4	2345.0	2330.4
12.5°	2309.1	2327.7	2298.5	2322.4	2291.8
15°	2281.2	2282.5	2274.5	2289.2	2282.5
17.5°	2234.6	2246.6	2228.0	2261.2	2249.3
20°	2166.8	2204.0	2186.8	2217.3	2209.4
22.5°	2110.9	2129.6	2144.2	2178.8	2168.1
25°	2052.4	2085.7	2093.6	2129.6	2122.9
27.5°	1992.6	2007.2	2037.8	2076.3	2077.7
30°	1918.1	1934.0	1976.6	2020.5	2032.5
32.5°	1830.3	1880.8	1906.1	1972.6	1991.2
35°	1769.1	1795.7	1838.3	1914.1	1939.3
37.5°	1689.3	1719.9	1777.1	1866.2	1896.8
40°	1597.5	1642.7	1705.2	1815.6	1851.6
42.5°	1505.7	1558.9	1632.1	1761.1	1802.3
45°	1425.9	1468.5	1568.2	1717.2	1758.4
47.5°	1339.5	1391.3	1517.7	1660.0	1706.6
50°	1259.6	1312.8	1456.5	1606.8	1662.7
52.5°	1163.9	1225.1	1390.0	1545.6	1610.8
55°	1085.4	1139.9	1311.5	1489.8	1566.9
57.5°	998.9	1060.1	1250.3	1448.5	1519.0
60°	905.8	983.0	1190.5	1396.6	1464.5
62.5°	814.0	905.8	1129.3	1346.1	1412.6
65°	722.3	822.0	1070.8	1292.9	1360.7
67.5°	639.8	747.5	1017.6	1234.4	1318.2
70°	546.7	675.7	955.0	1179.8	1267.6
72.5°	458.9	610.5	904.5	1135.9	1223.7
75°	376.4	541.4	852.6	1082.7	1169.2
77.5°	294.0	476.2	798.1	1034.8	1129.3
80°	215.5	423.0	750.2	988.3	1078.7
82.5°	149.0	376.4	703.6	949.7	1034.8
85°	87.8	329.9	661.1	899.2	979.0
87.5°	39.9	292.6	617.2	860.6	939.1
90°	9.3	262.0	585.3	814.0	904.5
92.5°	9.3	238.1	546.7	779.5	861.9
95°	12.0	216.8	517.4	743.5	831.3
97.5°	16.0	200.9	490.8	710.3	787.4
100°	22.6	190.2	461.6	671.7	747.5
102.5°	30.6	182.2	435.0	637.1	707.6
105°	39.9	175.6	413.7	607.9	686.4
107.5°	49.2	172.9	392.4	579.9	646.4
110°	58.5	171.6	376.4	550.7	625.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	67.8	170.3	359.1	524.1	583.9
115°	77.1	171.6	343.2	496.1	560.0
117.5°	82.5	171.6	328.5	472.2	525.4
120°	90.4	172.9	317.9	446.9	502.8
122.5°	98.4	172.9	307.3	428.3	477.5
125°	107.7	174.2	295.3	407.0	450.9
127.5°	113.1	174.2	288.6	392.4	432.3
130°	118.4	172.9	279.3	373.8	415.0
132.5°	123.7	170.3	274.0	356.5	395.1
135°	126.4	168.9	264.7	344.5	371.1
137.5°	130.4	164.9	255.4	327.2	356.5
140°	134.3	163.6	242.1	313.9	339.2
142.5°	134.3	159.6	232.8	301.9	324.6
145°	137.0	155.6	218.1	288.6	305.9
147.5°	139.7	154.3	207.5	275.3	296.6
150°	139.7	153.0	198.2	260.7	280.7
152.5°	142.3	154.3	188.9	247.4	266.0
155°	151.6	159.6	179.6	226.1	252.7
157.5°	159.6	164.9	170.3	210.2	238.1
160°	166.3	168.9	162.3	194.2	231.4
162.5°	171.6	172.9	163.6	179.6	216.8
165°	179.6	175.6	168.9	164.9	204.8
167.5°	186.2	178.2	171.6	160.9	195.5
170°	191.5	183.6	168.9	151.6	191.5
172.5°	195.5	184.9	170.3	142.3	160.9
175°	196.9	190.2	168.9	138.3	87.8
177.5°	195.5	191.5	174.2	137.0	78.5
180°	160.9	160.9	160.9	160.9	160.9



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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	16.87	18.18	17.51	18.85	19.61	20.28	21.59	20.92	22.26	23.02
	3H	18.32	19.52	18.97	20.20	20.99	23.12	24.32	23.77	24.99	25.79
	4H	18.79	19.94	19.46	20.62	21.43	24.56	25.71	25.24	26.39	27.20
	6H	19.07	20.14	19.76	20.83	21.66	26.12	27.19	26.81	27.88	28.71
	8H	19.13	20.15	19.83	20.87	21.70	26.94	27.96	27.64	28.68	29.51
	12H	19.15	20.13	19.85	20.84	21.70	27.82	28.80	28.52	29.51	30.37
4H	2H	18.01	19.15	18.68	19.83	20.64	20.62	21.76	21.29	22.44	23.26
	3H	19.71	20.69	20.40	21.41	22.24	23.69	24.67	24.37	25.39	26.22
	4H	20.31	21.21	21.01	21.94	22.80	25.32	26.23	26.03	26.95	27.81
	6H	20.72	21.52	21.44	22.27	23.13	27.08	27.88	27.80	28.63	29.49
	8H	20.83	21.59	21.56	22.33	23.21	28.01	28.77	28.74	29.51	30.39
	12H	20.89	21.58	21.64	22.34	23.23	29.02	29.71	29.77	30.48	31.37
8H	4H	21.34	22.09	22.06	22.84	23.72	25.50	26.26	26.23	27.00	27.88
	6H	21.99	22.63	22.74	23.41	24.30	27.44	28.09	28.20	28.87	29.75
	8H	22.21	22.79	22.98	23.58	24.48	28.53	29.11	29.29	29.89	30.79
	12H	22.36	22.88	23.13	23.66	24.61	29.73	30.25	30.50	31.02	31.98
12H	4H	21.67	22.36	22.42	23.12	24.01	25.50	26.19	26.25	26.95	27.84
	6H	22.48	23.06	23.24	23.84	24.74	27.48	28.06	28.24	28.84	29.74
	8H	22.83	23.34	23.59	24.12	25.07	28.62	29.14	29.39	29.92	30.87