

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: P894074

Luminaire Tested: 4MB-9HL-RNDU-UNV-L835

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894074
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-L835
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with ROUND FROSTED LENS WITH UPLIGHT, 80CRI, 5
Light Source: -
Ballast/Driver: -

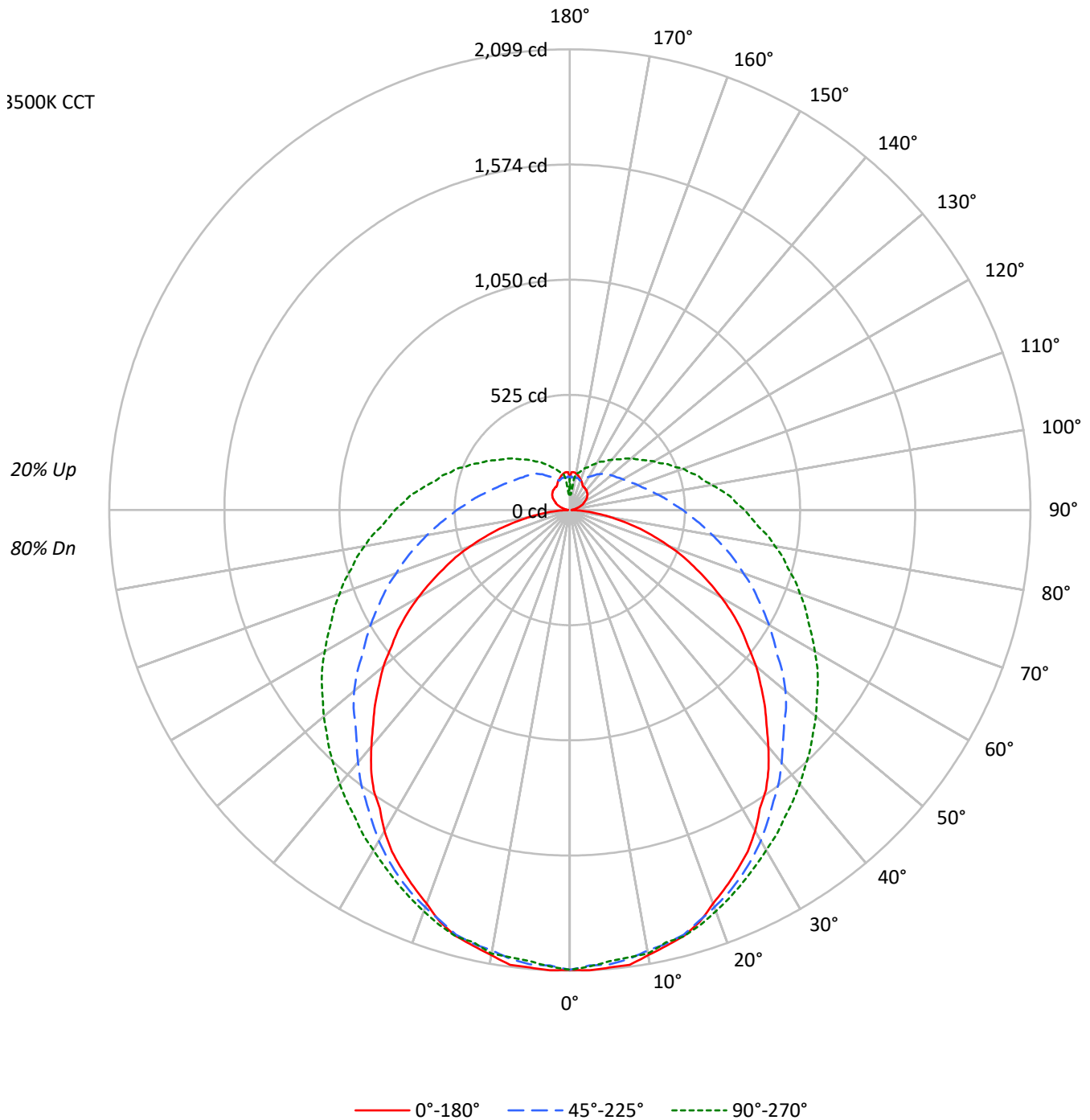
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8805.0 lumens
Efficiency: N/A
Efficacy: 136.7 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°	14902	14902	14902
5°	14875	14311	14067
10°	14743	13701	13521
15°	14594	13248	12911
20°	14178	12630	12283
25°	13852	12083	11690
30°	13471	11486	11171
35°	13054	10840	10721
40°	12517	10285	10375
45°	12007	9756	10066
50°	11558	9429	9805
55°	11033	8920	9603
60°	10407	8598	9416
65°	9628	8311	9276
70°	8757	8077	9270
75°	7623	7988	9296
80°	5996	7945	9477
85°	3948	8122	9691

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12007 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	198.3	2.3
10°-20°	566.6	6.4
20°-30°	850.8	9.7
30°-40°	1021.6	11.6
40°-50°	1080.6	12.3
50°-60°	1041.4	11.8
60°-70°	923.9	10.5
70°-80°	757.7	8.6
80°-90°	586.4	6.7
90°-100°	457.5	5.2
100°-110°	364.2	4.1
110°-120°	291.1	3.3
120°-130°	229.6	2.6
130°-140°	175.2	2.0
140°-150°	123.2	1.4
150°-160°	78.8	0.9
160°-170°	44.1	0.5
170°-180°	14.0	0.2
0°-30°	1615.6	18.3
0°-40°	2637.3	30.0
0°-60°	4759.2	54.1
0°-90°	7027.3	79.8
90°-120°	1112.8	12.6
90°-150°	1640.8	18.6
90°-180°	1778.0	20.2
0°-180°	8805.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2094	2094	2094	2094	2094	
5°	2092	2098	2078	2093	2064	199
15°	2009	2010	2003	2016	2010	564
25°	1808	1837	1844	1875	1870	833
35°	1558	1581	1619	1686	1708	971
45°	1256	1293	1381	1512	1549	969
55°	956	1004	1155	1312	1380	853
65°	636	724	943	1139	1198	632
75°	332	477	751	954	1030	351
85°	77	290	582	792	862	87
90°	8	231	515	717	797	8
95°	10	191	456	655	732	11
105°	35	155	364	535	604	37
115°	68	151	302	437	493	66
125°	95	154	260	358	397	83
135°	111	149	233	303	327	86
145°	121	137	192	254	269	76
155°	134	141	158	199	223	61
165°	158	155	149	145	180	44
175°	173	168	149	122	77	16
180°	142	142	142	142	142	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2094.5	2094.5	2094.5	2094.5	2094.5
2.5°	2099.2	2106.2	2076.9	2094.5	2081.6
5°	2092.2	2098.0	2078.1	2093.3	2064.0
7.5°	2089.8	2087.5	2062.9	2082.8	2055.8
10°	2059.4	2067.6	2038.3	2065.2	2052.3
12.5°	2033.6	2050.0	2024.2	2045.3	2018.4
15°	2009.0	2010.2	2003.1	2016.0	2010.2
17.5°	1968.0	1978.5	1962.1	1991.4	1980.9
20°	1908.2	1941.0	1925.8	1952.8	1945.7
22.5°	1859.0	1875.4	1888.3	1918.8	1909.4
25°	1807.5	1836.8	1843.8	1875.4	1869.6
27.5°	1754.8	1767.7	1794.6	1828.6	1829.8
30°	1689.2	1703.2	1740.7	1779.4	1789.9
32.5°	1611.9	1656.4	1678.6	1737.2	1753.6
35°	1558.0	1581.4	1618.9	1685.7	1707.9
37.5°	1487.7	1514.7	1565.0	1643.5	1670.4
40°	1406.9	1446.7	1501.8	1599.0	1630.6
42.5°	1326.1	1372.9	1437.3	1551.0	1587.3
45°	1255.8	1293.3	1381.1	1512.3	1548.6
47.5°	1179.6	1225.3	1336.6	1461.9	1502.9
50°	1109.3	1156.2	1282.7	1415.1	1464.3
52.5°	1025.0	1078.9	1224.1	1361.2	1418.6
55°	955.9	1003.9	1155.0	1312.0	1379.9
57.5°	879.7	933.6	1101.1	1275.7	1337.8
60°	797.7	865.7	1048.4	1230.0	1289.7
62.5°	716.9	797.7	994.5	1185.5	1244.1
65°	636.1	723.9	943.0	1138.6	1198.4
67.5°	563.5	658.3	896.1	1087.1	1160.9
70°	481.5	595.1	841.1	1039.1	1116.4
72.5°	404.1	537.7	796.6	1000.4	1077.7
75°	331.5	476.8	750.9	953.5	1029.7
77.5°	258.9	419.4	702.9	911.4	994.5
80°	189.8	372.5	660.7	870.4	950.0
82.5°	131.2	331.5	619.7	836.4	911.4
85°	77.3	290.5	582.2	791.9	862.2
87.5°	35.1	257.7	543.5	757.9	827.0
90°	8.2	230.8	515.4	716.9	796.6
92.5°	8.2	209.7	481.5	686.5	759.1
95°	10.5	190.9	455.7	654.8	732.1
97.5°	14.1	176.9	432.3	625.5	693.5
100°	19.9	167.5	406.5	591.6	658.3
102.5°	26.9	160.5	383.1	561.1	623.2
105°	35.1	154.6	364.3	535.3	604.5
107.5°	43.3	152.3	345.6	510.7	569.3
110°	51.5	151.1	331.5	485.0	550.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	59.7	149.9	316.3	461.5	514.3
115°	67.9	151.1	302.2	436.9	493.2
117.5°	72.6	151.1	289.3	415.9	462.7
120°	79.7	152.3	280.0	393.6	442.8
122.5°	86.7	152.3	270.6	377.2	420.5
125°	94.9	153.5	260.1	358.5	397.1
127.5°	99.6	153.5	254.2	345.6	380.7
130°	104.3	152.3	246.0	329.2	365.5
132.5°	108.9	149.9	241.3	313.9	347.9
135°	111.3	148.8	233.1	303.4	326.8
137.5°	114.8	145.3	224.9	288.2	313.9
140°	118.3	144.1	213.2	276.5	298.7
142.5°	118.3	140.6	205.0	265.9	285.8
145°	120.7	137.1	192.1	254.2	269.4
147.5°	123.0	135.9	182.7	242.5	261.2
150°	123.0	134.7	174.5	229.6	247.2
152.5°	125.3	135.9	166.3	217.9	234.3
155°	133.5	140.6	158.1	199.1	222.6
157.5°	140.6	145.3	149.9	185.1	209.7
160°	146.4	148.8	142.9	171.0	203.8
162.5°	151.1	152.3	144.1	158.1	190.9
165°	158.1	154.6	148.8	145.3	180.4
167.5°	164.0	157.0	151.1	141.7	172.2
170°	168.7	161.7	148.8	133.5	168.7
172.5°	172.2	162.8	149.9	125.3	141.7
175°	173.4	167.5	148.8	121.8	77.3
177.5°	172.2	168.7	153.5	120.7	69.1
180°	141.7	141.7	141.7	141.7	141.7



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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	16.43	17.74	17.07	18.41	19.17	19.84	21.15	20.48	21.82	22.58
	3H	17.88	19.08	18.53	19.75	20.55	22.67	23.87	23.33	24.55	25.35
	4H	18.35	19.49	19.02	20.18	20.99	24.12	25.26	24.79	25.95	26.76
	6H	18.63	19.70	19.32	20.39	21.22	25.68	26.75	26.37	27.44	28.27
	8H	18.69	19.71	19.38	20.43	21.26	26.50	27.52	27.20	28.24	29.07
	12H	18.71	19.69	19.41	20.40	21.26	27.38	28.36	28.08	29.07	29.93
4H	2H	17.57	18.71	18.24	19.39	20.20	20.18	21.32	20.85	22.00	22.81
	3H	19.27	20.25	19.96	20.97	21.80	23.25	24.23	23.93	24.95	25.78
	4H	19.87	20.77	20.57	21.50	22.35	24.88	25.78	25.58	26.51	27.37
	6H	20.28	21.08	21.00	21.83	22.69	26.64	27.44	27.36	28.19	29.05
	8H	20.39	21.14	21.11	21.89	22.77	27.57	28.33	28.30	29.07	29.95
	12H	20.45	21.13	21.19	21.90	22.79	28.58	29.27	29.33	30.04	30.92
8H	4H	20.90	21.65	21.62	22.40	23.28	25.06	25.82	25.79	26.56	27.44
	6H	21.55	22.19	22.30	22.97	23.85	27.00	27.65	27.76	28.43	29.31
	8H	21.77	22.35	22.54	23.14	24.03	28.09	28.67	28.85	29.45	30.35
	12H	21.92	22.44	22.69	23.22	24.17	29.29	29.81	30.06	30.58	31.54
12H	4H	21.23	21.92	21.97	22.68	23.57	25.06	25.75	25.80	26.51	27.40
	6H	22.04	22.62	22.80	23.40	24.30	27.04	27.62	27.80	28.40	29.30
	8H	22.38	22.90	23.15	23.68	24.63	28.18	28.70	28.95	29.48	30.43