

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: P894078

Luminaire Tested: 4MB-9HL-RNDU-UNV-L935

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894078
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-L935
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with ROUND FROSTED LENS WITH UPLIGHT, 90CRI, 5
Light Source: -
Ballast/Driver: -

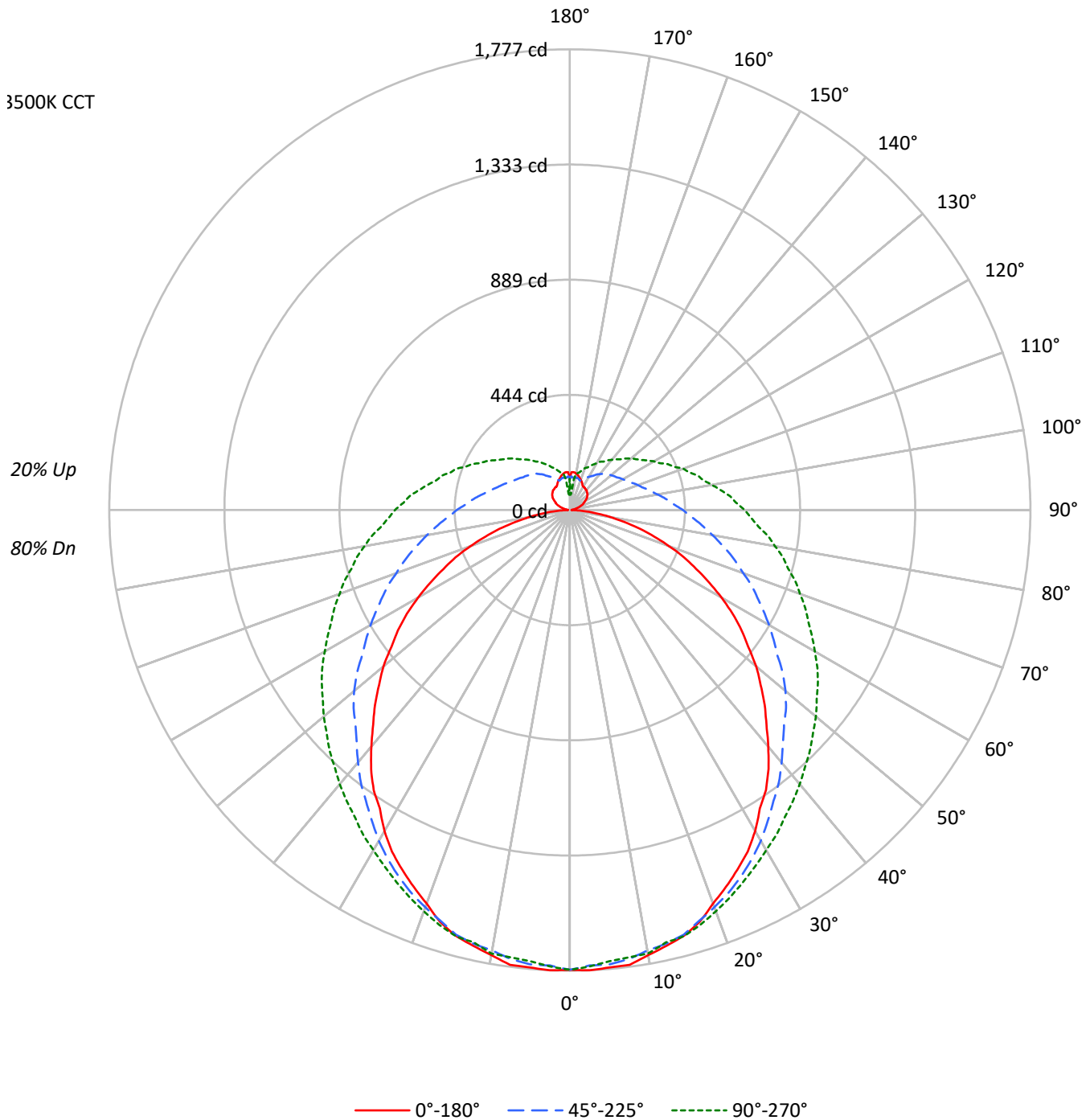
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7454.0 lumens
Efficiency: N/A
Efficacy: 115.7 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		0
RCR																			
0	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83		80
1	102	96	91	86	97	92	87	83	84	80	77	76	73	71	69	67	65		61
2	92	82	75	68	87	79	72	66	72	66	61	66	61	57	60	56	53		49
3	83	72	63	56	79	69	61	54	63	56	51	57	52	47	52	48	44		41
4	76	63	54	47	72	60	52	45	55	48	43	51	45	40	46	41	37		34
5	69	56	47	40	66	54	45	39	49	42	37	45	39	34	41	36	32		29
6	64	50	41	35	61	48	40	34	44	37	32	41	35	30	38	32	28		26
7	59	46	37	30	56	44	35	30	40	33	28	37	31	26	34	29	25		23
8	55	41	33	27	52	40	32	26	37	30	25	34	28	24	31	26	22		20
9	51	38	30	24	49	37	29	23	34	27	22	31	25	21	29	24	20		18
10	48	35	27	22	46	34	26	21	31	25	20	29	23	19	27	22	18		16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12616	12616	12616
5°	12592	12115	11909
10°	12480	11598	11446
15°	12354	11216	10930
20°	12003	10692	10398
25°	11727	10229	9896
30°	11404	9724	9457
35°	11051	9176	9076
40°	10596	8707	8783
45°	10165	8259	8522
50°	9784	7982	8301
55°	9339	7551	8129
60°	8811	7279	7971
65°	8151	7035	7853
70°	7413	6838	7847
75°	6453	6763	7870
80°	5077	6726	8023
85°	3345	6876	8204

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10165 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.9	2.3
10°-20°	479.6	6.4
20°-30°	720.2	9.7
30°-40°	864.9	11.6
40°-50°	914.8	12.3
50°-60°	881.6	11.8
60°-70°	782.1	10.5
70°-80°	641.4	8.6
80°-90°	496.5	6.7
90°-100°	387.3	5.2
100°-110°	308.4	4.1
110°-120°	246.4	3.3
120°-130°	194.4	2.6
130°-140°	148.3	2.0
140°-150°	104.3	1.4
150°-160°	66.7	0.9
160°-170°	37.4	0.5
170°-180°	11.8	0.2
0°-30°	1367.7	18.3
0°-40°	2232.6	30.0
0°-60°	4029.0	54.1
0°-90°	5949.1	79.8
90°-120°	942.1	12.6
90°-150°	1389.0	18.6
90°-180°	1505.0	20.2
0°-180°	7454.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1773	1773	1773	1773	1773	
5°	1771	1776	1759	1772	1747	168
15°	1701	1702	1696	1707	1702	478
25°	1530	1555	1561	1588	1583	705
35°	1319	1339	1370	1427	1446	822
45°	1063	1095	1169	1280	1311	820
55°	809	850	978	1111	1168	722
65°	538	613	798	964	1014	535
75°	281	404	636	807	872	297
85°	66	246	493	670	730	74
90°	7	195	436	607	674	7
95°	9	162	386	554	620	9
105°	30	131	308	453	512	32
115°	58	128	256	370	418	56
125°	80	130	220	304	336	71
135°	94	126	197	257	277	73
145°	102	116	163	215	228	64
155°	113	119	134	169	188	52
165°	134	131	126	123	153	38
175°	147	142	126	103	66	14
180°	120	120	120	120	120	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1773.1	1773.1	1773.1	1773.1	1773.1
2.5°	1777.1	1783.0	1758.3	1773.1	1762.2
5°	1771.1	1776.1	1759.2	1772.1	1747.3
7.5°	1769.2	1767.2	1746.4	1763.2	1740.4
10°	1743.4	1750.3	1725.5	1748.3	1737.4
12.5°	1721.6	1735.4	1713.6	1731.5	1708.7
15°	1700.7	1701.7	1695.8	1706.7	1701.7
17.5°	1666.0	1675.0	1661.1	1685.9	1676.9
20°	1615.5	1643.2	1630.3	1653.1	1647.2
22.5°	1573.8	1587.7	1598.6	1624.4	1616.4
25°	1530.2	1555.0	1560.9	1587.7	1582.7
27.5°	1485.5	1496.5	1519.3	1548.0	1549.0
30°	1430.0	1441.9	1473.6	1506.4	1515.3
32.5°	1364.6	1402.2	1421.1	1470.7	1484.6
35°	1318.9	1338.8	1370.5	1427.0	1445.9
37.5°	1259.4	1282.2	1324.9	1391.3	1414.1
40°	1191.0	1224.7	1271.3	1353.7	1380.4
42.5°	1122.6	1162.3	1216.8	1313.0	1343.7
45°	1063.1	1094.8	1169.2	1280.3	1311.0
47.5°	998.6	1037.3	1131.5	1237.6	1272.3
50°	939.1	978.8	1085.9	1198.0	1239.6
52.5°	867.7	913.3	1036.3	1152.3	1200.9
55°	809.2	849.9	977.8	1110.7	1168.2
57.5°	744.8	790.4	932.2	1079.9	1132.5
60°	675.3	732.9	887.6	1041.3	1091.8
62.5°	606.9	675.3	841.9	1003.6	1053.2
65°	538.5	612.9	798.3	963.9	1014.5
67.5°	477.0	557.3	758.6	920.3	982.8
70°	407.6	503.8	712.0	879.6	945.1
72.5°	342.1	455.2	674.3	846.9	912.4
75°	280.6	403.6	635.7	807.2	871.7
77.5°	219.2	355.0	595.0	771.5	841.9
80°	160.7	315.4	559.3	736.8	804.3
82.5°	111.1	280.6	524.6	708.1	771.5
85°	65.5	245.9	492.9	670.4	729.9
87.5°	29.8	218.2	460.1	641.6	700.1
90°	6.9	195.4	436.3	606.9	674.3
92.5°	6.9	177.5	407.6	581.1	642.6
95°	8.9	161.6	385.8	554.4	619.8
97.5°	11.9	149.7	365.9	529.6	587.1
100°	16.9	141.8	344.1	500.8	557.3
102.5°	22.8	135.9	324.3	475.0	527.6
105°	29.8	130.9	308.4	453.2	511.7
107.5°	36.7	128.9	292.5	432.4	482.0
110°	43.6	127.9	280.6	410.6	466.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	50.6	126.9	267.8	390.7	435.3
115°	57.5	127.9	255.9	369.9	417.5
117.5°	61.5	127.9	244.9	352.0	391.7
120°	67.4	128.9	237.0	333.2	374.9
122.5°	73.4	128.9	229.1	319.3	356.0
125°	80.3	129.9	220.2	303.5	336.2
127.5°	84.3	129.9	215.2	292.5	322.3
130°	88.3	128.9	208.3	278.7	309.4
132.5°	92.2	126.9	204.3	265.8	294.5
135°	94.2	125.9	197.3	256.8	276.7
137.5°	97.2	123.0	190.4	244.0	265.8
140°	100.2	122.0	180.5	234.0	252.9
142.5°	100.2	119.0	173.5	225.1	242.0
145°	102.1	116.0	162.6	215.2	228.1
147.5°	104.1	115.0	154.7	205.3	221.1
150°	104.1	114.0	147.8	194.4	209.2
152.5°	106.1	115.0	140.8	184.5	198.3
155°	113.1	119.0	133.9	168.6	188.4
157.5°	119.0	123.0	126.9	156.7	177.5
160°	124.0	125.9	121.0	144.8	172.6
162.5°	127.9	128.9	122.0	133.9	161.6
165°	133.9	130.9	125.9	123.0	152.7
167.5°	138.8	132.9	127.9	120.0	145.8
170°	142.8	136.9	125.9	113.1	142.8
172.5°	145.8	137.8	126.9	106.1	120.0
175°	146.8	141.8	125.9	103.1	65.5
177.5°	145.8	142.8	129.9	102.1	58.5
180°	120.0	120.0	120.0	120.0	120.0



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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	15.85	17.16	16.49	17.83	18.59	19.26	20.57	19.90	21.24	22.00
	3H	17.30	18.50	17.96	19.18	19.97	22.10	23.30	22.75	23.97	24.77
	4H	17.77	18.92	18.44	19.60	20.41	23.54	24.69	24.22	25.37	26.18
	6H	18.05	19.12	18.74	19.81	20.64	25.10	26.17	25.79	26.86	27.69
	8H	18.11	19.13	18.81	19.85	20.68	25.92	26.94	26.62	27.66	28.49
	12H	18.13	19.11	18.83	19.82	20.68	26.80	27.78	27.50	28.49	29.35
4H	2H	16.99	18.13	17.66	18.81	19.62	19.60	20.74	20.27	21.42	22.24
	3H	18.69	19.67	19.38	20.39	21.22	22.67	23.65	23.35	24.37	25.20
	4H	19.29	20.19	19.99	20.92	21.77	24.30	25.21	25.01	25.93	26.79
	6H	19.70	20.50	20.42	21.25	22.11	26.06	26.86	26.78	27.61	28.47
	8H	19.81	20.57	20.54	21.31	22.19	26.99	27.75	27.72	28.49	29.37
	12H	19.87	20.56	20.62	21.32	22.21	28.00	28.69	28.75	29.46	30.35
8H	4H	20.32	21.07	21.04	21.82	22.70	24.48	25.24	25.21	25.98	26.86
	6H	20.97	21.61	21.72	22.39	23.28	26.42	27.07	27.18	27.85	28.73
	8H	21.19	21.77	21.96	22.56	23.46	27.51	28.09	28.27	28.87	29.77
	12H	21.34	21.86	22.11	22.64	23.59	28.71	29.23	29.48	30.00	30.96
12H	4H	20.65	21.34	21.40	22.10	22.99	24.48	25.17	25.23	25.93	26.82
	6H	21.46	22.04	22.22	22.82	23.72	26.46	27.04	27.22	27.82	28.72
	8H	21.81	22.32	22.57	23.10	24.05	27.60	28.12	28.37	28.90	29.85