

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: P894027

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

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894027
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-6)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-9HL-FLTU-UNV-L840
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with FLAT FROSTED LENS WITH UPLIGHT, 80CRI, 400
Light Source: -
Ballast/Driver: -

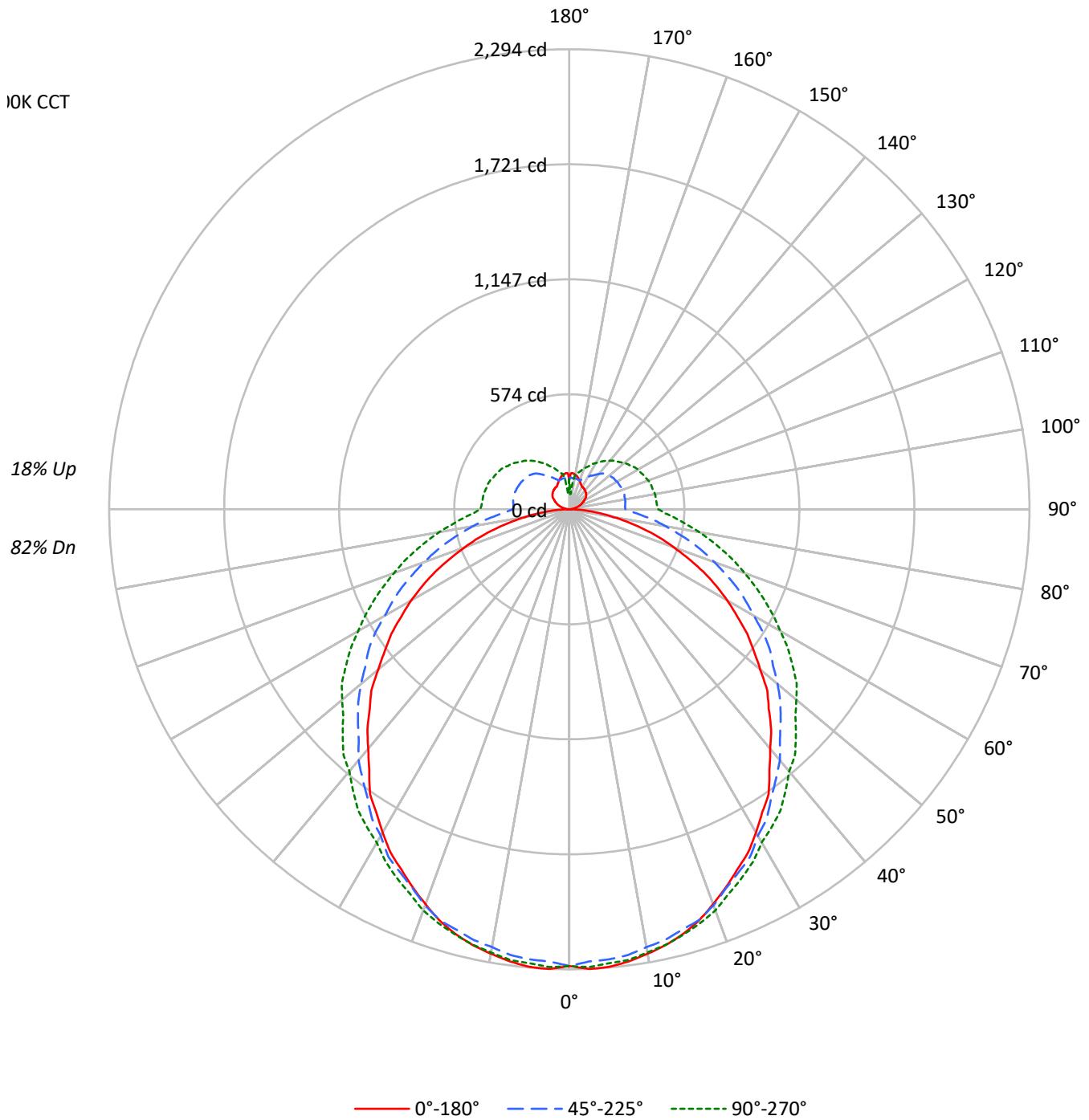
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8562.0 lumens
Efficiency: N/A
Efficacy: 133.0 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.26 / 1.36
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	115	115	115	115	110	110	110	110	101	101	101	93	93	93	86	86	86	86	86	86	82
1	103	98	93	89	99	94	90	86	87	83	80	80	77	74	73	71	69	69	69	69	66
2	93	85	77	71	89	81	75	69	75	70	65	69	65	61	63	60	57	57	57	57	54
3	85	74	66	59	81	71	63	57	66	59	54	60	55	51	56	51	48	48	48	48	45
4	78	65	56	49	74	63	55	48	58	51	46	54	48	43	50	45	41	41	41	41	38
5	71	58	49	42	68	56	48	41	52	45	39	48	42	37	44	39	35	35	35	35	33
6	66	52	43	37	63	50	42	36	47	40	34	43	37	33	40	35	31	31	31	31	28
7	61	47	38	32	58	46	37	32	42	35	30	39	33	29	37	31	27	27	27	27	25
8	56	43	34	29	54	42	34	28	39	32	27	36	30	26	34	28	24	24	24	24	22
9	53	39	31	26	50	38	30	25	36	29	24	33	27	23	31	26	22	22	22	22	20
10	49	36	28	23	47	35	28	23	33	26	22	31	25	21	29	24	20	20	20	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16204	16204	16204
5°	16286	15517	15489
10°	16113	14901	14781
15°	15928	14358	14107
20°	15573	13786	13437
25°	15190	13085	12697
30°	14842	12401	11978
35°	14519	11749	11516
40°	13867	11188	10848
45°	13444	10522	10383
50°	12949	9962	9894
55°	12500	9430	9457
60°	11873	8703	8870
65°	11155	8116	8318
70°	10079	7391	7717
75°	8932	6668	7145
80°	7074	5879	6567
85°	4882	5116	6026

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13444 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	215.7	2.5
10°-20°	616.0	7.2
20°-30°	925.3	10.8
30°-40°	1109.0	13.0
40°-50°	1162.7	13.6
50°-60°	1090.8	12.7
60°-70°	906.0	10.6
70°-80°	647.8	7.6
80°-90°	384.2	4.5
90°-100°	281.8	3.3
100°-110°	277.7	3.2
110°-120°	259.0	3.0
120°-130°	227.3	2.7
130°-140°	183.0	2.1
140°-150°	131.4	1.5
150°-160°	83.5	1.0
160°-170°	46.3	0.5
170°-180°	14.6	0.2
0°-30°	1757.1	20.5
0°-40°	2866.1	33.5
0°-60°	5119.6	59.8
0°-90°	7057.6	82.4
90°-120°	818.5	9.6
90°-150°	1360.1	15.9
90°-180°	1504.0	17.6
0°-180°	8562.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2277	2277	2277	2277	2277	
5°	2291	2286	2253	2264	2273	217
15°	2193	2179	2171	2187	2196	617
25°	1982	2000	1997	2020	2031	915
35°	1733	1739	1755	1806	1834	1076
45°	1406	1446	1490	1588	1597	1088
55°	1083	1118	1221	1320	1359	964
65°	737	793	921	1044	1075	726
75°	388	478	627	756	791	410
85°	96	209	367	490	536	105
90°	4	127	280	399	443	8
95°	11	133	280	394	436	11
105°	39	146	284	390	426	41
115°	70	158	278	370	407	69
125°	100	163	270	344	375	88
135°	116	157	250	311	336	90
145°	126	145	206	274	293	79
155°	138	145	168	212	240	64
165°	165	160	155	154	192	46
175°	182	174	156	130	79	17
180°	150	150	150	150	150	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2277.4	2277.4	2277.4	2277.4	2277.4
2.5°	2294.4	2276.2	2256.8	2285.9	2284.7
5°	2290.7	2285.9	2253.2	2264.1	2272.6
7.5°	2273.8	2261.7	2242.3	2268.9	2266.5
10°	2250.8	2236.3	2216.9	2232.6	2243.5
12.5°	2225.4	2213.3	2200.0	2216.9	2224.2
15°	2192.7	2179.4	2170.9	2186.7	2196.3
17.5°	2150.4	2146.7	2147.9	2149.1	2164.9
20°	2095.9	2098.3	2102.0	2123.7	2128.6
22.5°	2040.2	2053.5	2043.9	2077.7	2075.3
25°	1982.2	2000.3	1996.7	2019.7	2030.6
27.5°	1930.1	1931.3	1953.1	1985.8	1982.2
30°	1861.1	1881.7	1879.3	1919.2	1919.2
32.5°	1791.0	1821.2	1830.9	1866.0	1878.1
35°	1732.9	1738.9	1754.7	1805.5	1834.5
37.5°	1638.5	1667.5	1692.9	1759.5	1770.4
40°	1558.6	1587.7	1633.6	1711.1	1705.0
42.5°	1489.6	1519.9	1553.8	1643.3	1665.1
45°	1406.1	1446.1	1489.6	1587.7	1597.3
47.5°	1338.4	1369.8	1426.7	1516.3	1528.4
50°	1242.8	1293.6	1355.3	1459.4	1477.5
52.5°	1158.1	1201.6	1280.3	1388.0	1429.1
55°	1083.0	1118.1	1221.0	1320.2	1358.9
57.5°	991.1	1039.5	1147.2	1257.3	1292.4
60°	910.0	957.2	1061.3	1187.1	1214.9
62.5°	824.1	879.7	992.3	1114.5	1146.0
65°	737.0	792.6	920.9	1044.3	1074.6
67.5°	642.6	711.5	842.2	970.5	1002.0
70°	554.2	629.3	769.6	897.9	929.4
72.5°	474.4	555.4	698.2	830.1	864.0
75°	388.4	478.0	626.8	756.3	791.4
77.5°	304.9	401.8	553.0	683.7	724.9
80°	223.9	330.4	488.9	614.7	658.3
82.5°	157.3	266.2	429.6	553.0	593.0
85°	95.6	209.3	366.7	490.1	536.1
87.5°	42.4	162.2	317.0	439.3	480.4
90°	3.6	127.1	279.5	399.3	442.9
92.5°	7.3	129.5	278.3	394.5	438.1
95°	10.9	133.1	279.5	394.5	435.6
97.5°	15.7	138.0	282.0	394.5	434.4
100°	23.0	140.4	283.2	394.5	434.4
102.5°	30.3	144.0	282.0	388.4	429.6
105°	38.7	146.4	284.4	389.7	426.0
107.5°	47.2	148.8	284.4	383.6	424.7
110°	55.7	152.5	282.0	380.0	419.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	62.9	156.1	280.7	372.7	411.4
115°	70.2	158.5	278.3	370.3	406.6
117.5°	77.4	159.7	277.1	364.2	399.3
120°	83.5	162.2	274.7	357.0	395.7
122.5°	90.8	163.4	271.1	349.7	388.4
125°	100.4	163.4	269.9	343.7	375.1
127.5°	105.3	164.6	265.0	336.4	369.1
130°	110.1	160.9	262.6	327.9	359.4
132.5°	113.7	159.7	256.5	319.5	347.3
135°	116.2	157.3	250.5	311.0	336.4
137.5°	119.8	153.7	242.0	304.9	329.1
140°	122.2	151.3	229.9	292.8	317.0
142.5°	124.6	147.6	217.8	282.0	304.9
145°	125.9	145.2	205.7	273.5	292.8
147.5°	129.5	141.6	198.5	262.6	279.5
150°	128.3	139.2	187.6	249.3	266.2
152.5°	131.9	142.8	177.9	231.1	255.3
155°	138.0	145.2	168.2	211.8	239.6
157.5°	144.0	150.1	160.9	194.8	227.5
160°	152.5	152.5	152.5	181.5	217.8
162.5°	157.3	157.3	153.7	165.8	204.5
165°	164.6	159.7	154.9	153.7	192.4
167.5°	171.8	162.2	157.3	148.8	183.9
170°	173.0	165.8	156.1	140.4	177.9
172.5°	177.9	169.4	154.9	133.1	138.0
175°	181.5	174.3	156.1	129.5	78.7
177.5°	180.3	174.3	159.7	129.5	76.2
180°	150.1	150.1	150.1	150.1	150.1



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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	17.40	18.73	18.01	19.35	20.07	19.91	21.24	20.52	21.87	22.58
	3H	18.83	20.04	19.46	20.67	21.42	22.28	23.48	22.90	24.12	24.87
	4H	19.30	20.44	19.94	21.09	21.85	23.39	24.54	24.04	25.19	25.95
	6H	19.57	20.63	20.22	21.29	22.07	24.51	25.57	25.17	26.23	27.01
	8H	19.62	20.63	20.29	21.32	22.10	25.06	26.07	25.73	26.76	27.54
	12H	19.63	20.61	20.31	21.28	22.09	25.64	26.61	26.32	27.29	28.10
4H	2H	18.27	19.42	18.92	20.07	20.83	20.26	21.40	20.90	22.05	22.81
	3H	19.93	20.90	20.59	21.59	22.37	22.84	23.81	23.50	24.50	25.28
	4H	20.51	21.40	21.19	22.09	22.90	24.11	25.00	24.79	25.69	26.51
	6H	20.89	21.67	21.58	22.38	23.20	25.40	26.18	26.10	26.90	27.72
	8H	20.98	21.71	21.68	22.43	23.26	26.05	26.78	26.75	27.49	28.33
	12H	21.02	21.68	21.74	22.42	23.26	26.74	27.40	27.46	28.14	28.98
8H	4H	21.13	21.87	21.83	22.58	23.42	24.27	25.00	24.97	25.72	26.55
	6H	21.67	22.29	22.40	23.04	23.88	25.70	26.32	26.43	27.08	27.91
	8H	21.84	22.40	22.58	23.15	24.00	26.47	27.03	27.21	27.78	28.64
	12H	21.94	22.44	22.69	23.19	24.10	27.32	27.82	28.06	28.56	29.48
12H	4H	21.29	21.96	22.01	22.70	23.54	24.26	24.93	24.98	25.66	26.50
	6H	21.92	22.47	22.66	23.23	24.08	25.72	26.28	26.46	27.04	27.89
	8H	22.16	22.66	22.91	23.41	24.32	26.54	27.04	27.29	27.79	28.70