

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: P894059

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

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894059
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2408-210-7)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-9HL-RFLW-UNV-L840
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with REFLECTOR WITH WHITE FINISH, 80CRI, 4000K
Light Source: -
Ballast/Driver: -

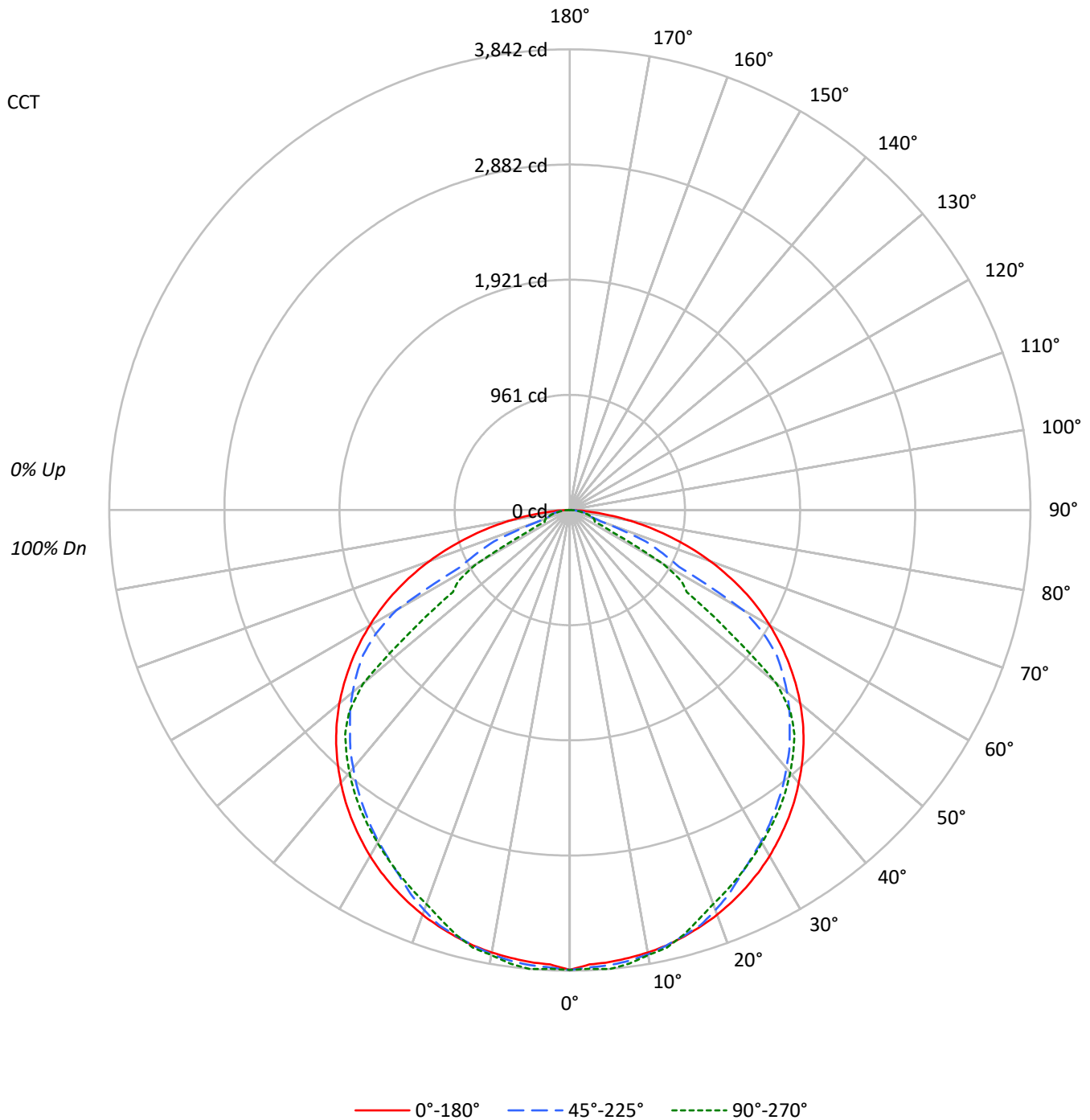
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9997.0 lumens
Efficiency: N/A
Efficacy: 155.2 lumens/watt
Spacing Criteria (0/90/45): 1.29 / 1.25 / 1.38
Luminous Opening: Rectangular (W 0.21' x L: 3.98' x H: 0')
CIE Type: 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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	88	88	88	86
2	101	93	87	82	98	91	85	81	88	83	79	85	81	77	82	78	75	75	75	75	73
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	65	65	65	62
4	85	73	65	59	82	72	64	58	70	63	57	67	61	57	65	60	56	56	56	56	54
5	78	66	57	51	76	65	56	50	62	55	50	61	54	49	59	53	49	49	49	49	47
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	48	43	43	43	43	41
7	67	54	45	39	65	53	45	39	51	44	39	50	43	39	49	43	38	38	38	38	36
8	62	49	41	35	61	48	40	35	47	40	35	46	39	35	45	39	34	34	34	34	32
9	58	45	37	32	57	44	37	31	43	36	31	42	36	31	41	35	31	31	31	31	29
10	54	42	34	29	53	41	34	29	40	33	28	39	33	28	38	32	28	28	28	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	49794	49794	49794
5°	49338	49661	50077
10°	49410	49596	49689
15°	49516	49406	49295
20°	49643	49071	48319
25°	49778	48203	48102
30°	49967	47875	48070
35°	50147	47693	48274
40°	50359	47633	48476
45°	50629	47611	48675
50°	50705	47792	45477
55°	50482	47648	26967
60°	50055	43425	23386
65°	49234	26252	7079
70°	47286	10410	8121
75°	43814	8539	8298
80°	37912	9011	7777
85°	26937	8448	7390

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 50°
 Luminance: 50705 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	363.2	3.6
10°-20°	1040.2	10.4
20°-30°	1572.0	15.7
30°-40°	1917.9	19.2
40°-50°	2028.8	20.3
50°-60°	1680.4	16.8
60°-70°	934.1	9.3
70°-80°	378.7	3.8
80°-90°	81.6	0.8
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2975.4	29.8
0°-40°	4893.3	48.9
0°-60°	8602.6	86.1
0°-90°	9997.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9997.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3835	3835	3835	3835	3835	
5°	3785	3852	3810	3816	3842	360
15°	3683	3740	3675	3673	3667	1040
25°	3474	3499	3364	3343	3357	1603
35°	3164	3124	3009	3020	3045	1980
45°	2757	2615	2593	2625	2651	2125
55°	2230	2079	2105	1444	1191	1992
65°	1602	1469	854	287	230	1580
75°	873	487	170	168	165	922
85°	181	60	57	52	50	227
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3834.7	3834.7	3834.7	3834.7	3834.7
2.5°	3793.3	3859.5	3818.2	3826.4	3830.0
5°	3785.1	3852.4	3809.9	3815.8	3841.8
7.5°	3767.3	3835.9	3791.0	3794.5	3814.6
10°	3747.3	3809.9	3761.4	3755.5	3768.5
12.5°	3720.1	3776.8	3720.1	3722.4	3739.0
15°	3683.4	3740.2	3675.2	3672.8	3666.9
17.5°	3639.7	3692.9	3629.1	3591.3	3578.3
20°	3592.5	3633.8	3551.1	3493.2	3496.7
22.5°	3535.7	3571.2	3467.2	3414.0	3429.4
25°	3474.3	3499.1	3364.4	3343.1	3357.3
27.5°	3406.9	3425.8	3275.7	3271.0	3282.8
30°	3332.5	3339.6	3193.0	3190.7	3206.0
32.5°	3249.7	3237.9	3104.4	3106.8	3126.8
35°	3163.5	3124.5	3008.7	3020.5	3045.3
37.5°	3072.5	3002.8	2914.1	2929.5	2956.7
40°	2970.9	2876.3	2810.1	2833.8	2859.8
42.5°	2866.9	2744.0	2709.7	2732.2	2757.0
45°	2757.0	2615.2	2592.7	2624.6	2650.6
47.5°	2637.6	2488.7	2485.2	2510.0	2498.2
50°	2510.0	2357.5	2365.8	2332.7	2251.2
52.5°	2372.9	2221.6	2238.2	2095.2	1693.4
55°	2229.9	2078.7	2104.7	1444.1	1191.2
57.5°	2083.4	1932.1	1915.6	1104.9	1103.7
60°	1927.4	1783.2	1672.1	976.1	900.5
62.5°	1770.2	1628.4	1026.9	735.0	413.6
65°	1602.4	1468.9	854.4	287.2	230.4
67.5°	1426.3	1307.0	684.2	216.3	224.5
70°	1245.5	1139.2	274.2	209.2	213.9
72.5°	1061.2	879.2	182.0	193.8	193.8
75°	873.3	486.9	170.2	167.8	165.4
77.5°	686.6	326.2	148.9	138.3	134.7
80°	507.0	117.0	120.5	107.5	104.0
82.5°	335.6	91.0	86.3	78.0	75.6
85°	180.8	60.3	56.7	52.0	49.6
87.5°	65.0	30.7	30.7	24.8	22.5
90°	0.0	0.0	0.0	0.0	0.0



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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	26.26	27.83	26.62	28.14	28.46	22.25	23.82	22.61	24.13	24.45
	3H	28.26	29.67	28.64	30.00	30.36	22.38	23.78	22.75	24.11	24.47
	4H	28.87	30.19	29.27	30.54	30.92	22.50	23.81	22.89	24.16	24.54
	6H	29.27	30.49	29.69	30.86	31.25	22.60	23.82	23.02	24.19	24.58
	8H	29.39	30.55	29.82	30.94	31.34	22.64	23.80	23.06	24.19	24.59
	12H	29.46	30.57	29.89	30.95	31.38	22.66	23.77	23.09	24.15	24.58
4H	2H	26.38	27.70	26.78	28.05	28.43	22.97	24.29	23.37	24.64	25.01
	3H	28.54	29.63	28.95	30.03	30.43	23.17	24.26	23.58	24.66	25.06
	4H	29.20	30.18	29.63	30.59	31.03	23.32	24.30	23.75	24.72	25.15
	6H	29.64	30.49	30.10	30.94	31.39	23.49	24.34	23.94	24.78	25.24
	8H	29.79	30.58	30.25	31.02	31.49	23.54	24.33	24.00	24.78	25.24
	12H	29.89	30.60	30.37	31.08	31.55	23.59	24.30	24.07	24.77	25.24
8H	4H	29.14	29.93	29.60	30.37	30.84	23.60	24.39	24.06	24.83	25.30
	6H	29.58	30.23	30.07	30.72	31.20	23.80	24.46	24.30	24.95	25.43
	8H	29.73	30.32	30.24	30.82	31.31	23.89	24.47	24.40	24.98	25.47
	12H	29.86	30.38	30.37	30.87	31.44	23.97	24.49	24.48	24.99	25.55
12H	4H	29.11	29.82	29.59	30.30	30.77	23.61	24.32	24.09	24.80	25.27
	6H	29.54	30.13	30.05	30.64	31.12	23.82	24.41	24.33	24.92	25.41
	8H	29.71	30.23	30.22	30.72	31.29	23.94	24.47	24.45	24.96	25.52