

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: P894061

Luminaire Tested: 4MB-9HL-RFLW-UNV-L930

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894061
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-L930
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with REFLECTOR WITH WHITE FINISH, 90CRI, 3000K
Light Source: -
Ballast/Driver: -

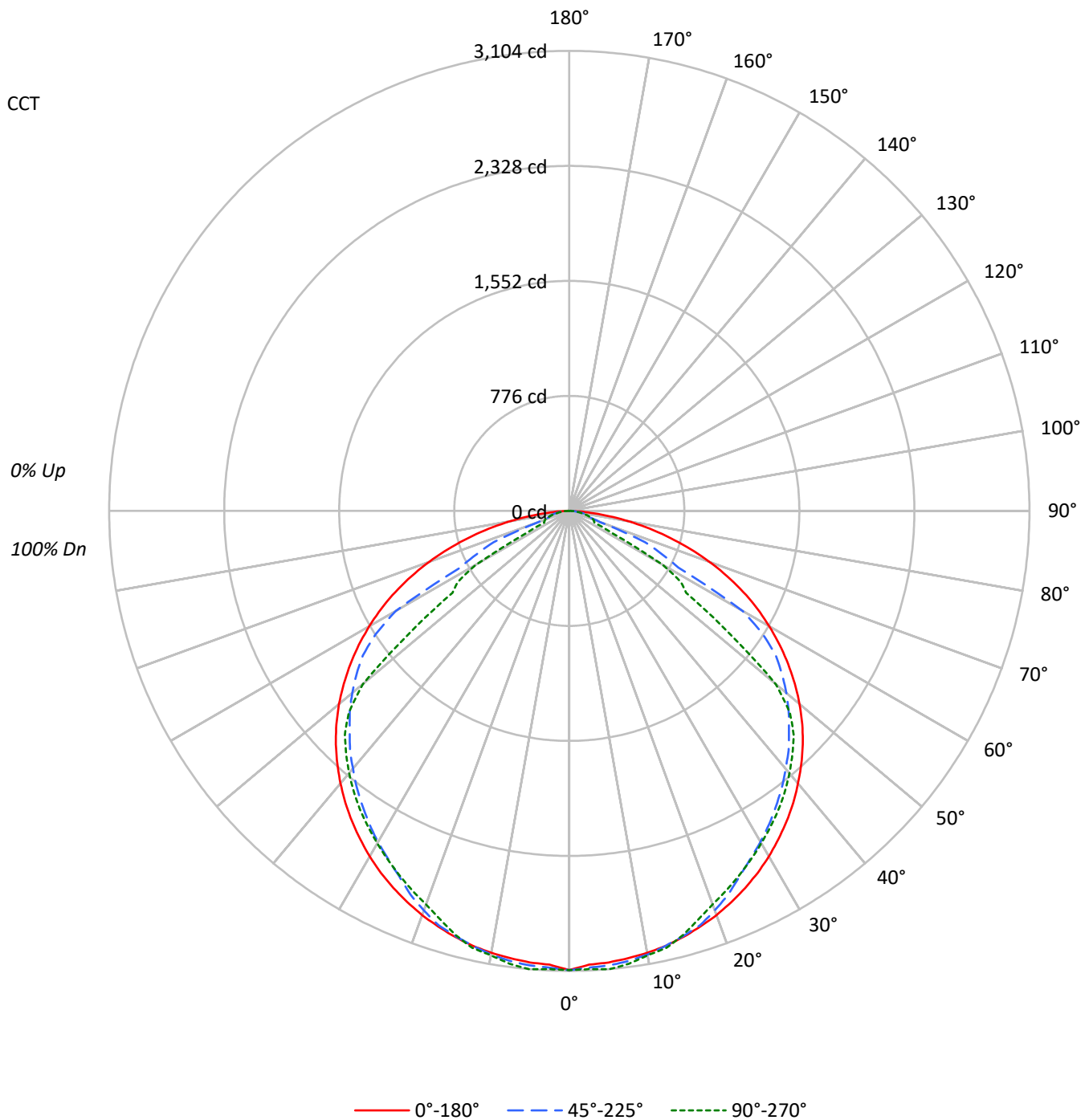
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8077.0 lumens
Efficiency: N/A
Efficacy: 125.4 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

TEST NUMBER: P894061
CATALOG NUMBER: 4MB-9HL-RFLW-UNV-L930

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°	40230	40230	40230
5°	39861	40123	40458
10°	39920	40070	40147
15°	40007	39917	39827
20°	40108	39646	39040
25°	40217	38945	38863
30°	40370	38681	38839
35°	40516	38533	39002
40°	40687	38485	39165
45°	40905	38468	39326
50°	40966	38613	36742
55°	40786	38495	21788
60°	40441	35086	18893
65°	39780	21210	5721
70°	38205	8409	6560
75°	35400	6898	6708
80°	30629	7283	6281
85°	21767	6824	5974

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 50°
 Luminance: 40966 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	293.5	3.6
10°-20°	840.4	10.4
20°-30°	1270.0	15.7
30°-40°	1549.6	19.2
40°-50°	1639.2	20.3
50°-60°	1357.7	16.8
60°-70°	754.7	9.3
70°-80°	305.9	3.8
80°-90°	66.0	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°	2403.9	29.8
0°-40°	3953.5	48.9
0°-60°	6950.4	86.1
0°-90°	8077.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8077.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3098	3098	3098	3098	3098	
5°	3058	3112	3078	3083	3104	291
15°	2976	3022	2969	2967	2963	841
25°	2807	2827	2718	2701	2712	1295
35°	2556	2524	2431	2440	2460	1600
45°	2228	2113	2095	2120	2142	1717
55°	1802	1679	1700	1167	962	1610
65°	1295	1187	690	232	186	1277
75°	706	393	138	136	134	745
85°	146	49	46	42	40	183
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3098.2	3098.2	3098.2	3098.2	3098.2
2.5°	3064.8	3118.3	3084.9	3091.5	3094.4
5°	3058.1	3112.5	3078.2	3082.9	3103.9
7.5°	3043.8	3099.2	3062.9	3065.8	3082.0
10°	3027.6	3078.2	3039.0	3034.3	3044.8
12.5°	3005.6	3051.4	3005.6	3007.5	3020.9
15°	2976.0	3021.8	2969.3	2967.4	2962.6
17.5°	2940.7	2983.6	2932.1	2901.5	2891.0
20°	2902.5	2935.9	2869.1	2822.3	2825.2
22.5°	2856.7	2885.3	2801.3	2758.3	2770.7
25°	2807.0	2827.1	2718.2	2701.0	2712.5
27.5°	2752.6	2767.9	2646.6	2642.8	2652.3
30°	2692.4	2698.2	2579.8	2577.9	2590.3
32.5°	2625.6	2616.1	2508.2	2510.1	2526.3
35°	2555.9	2524.4	2430.8	2440.4	2460.4
37.5°	2482.4	2426.1	2354.5	2366.9	2388.8
40°	2400.3	2323.9	2270.4	2289.5	2310.5
42.5°	2316.3	2217.0	2189.3	2207.4	2227.5
45°	2227.5	2112.9	2094.8	2120.5	2141.5
47.5°	2131.0	2010.7	2007.9	2027.9	2018.4
50°	2027.9	1904.8	1911.4	1884.7	1818.8
52.5°	1917.2	1795.0	1808.3	1692.8	1368.2
55°	1801.6	1679.4	1700.4	1166.7	962.4
57.5°	1683.3	1561.0	1547.7	892.7	891.8
60°	1557.2	1440.7	1351.0	788.6	727.5
62.5°	1430.2	1315.7	829.7	593.9	334.2
65°	1294.7	1186.8	690.3	232.0	186.2
67.5°	1152.4	1056.0	552.8	174.7	181.4
70°	1006.3	920.4	221.5	169.0	172.8
72.5°	857.4	710.3	147.0	156.6	156.6
75°	705.6	393.4	137.5	135.6	133.7
77.5°	554.7	263.5	120.3	111.7	108.8
80°	409.6	94.5	97.4	86.9	84.0
82.5°	271.2	73.5	69.7	63.0	61.1
85°	146.1	48.7	45.8	42.0	40.1
87.5°	52.5	24.8	24.8	20.1	18.1
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	25.51	27.09	25.88	27.40	27.71	21.50	23.08	21.87	23.39	23.70
	3H	27.52	28.93	27.90	29.26	29.62	21.64	23.04	22.01	23.37	23.73
	4H	28.13	29.45	28.53	29.80	30.18	21.75	23.07	22.15	23.42	23.80
	6H	28.53	29.75	28.94	30.12	30.51	21.86	23.08	22.27	23.45	23.84
	8H	28.65	29.81	29.08	30.20	30.60	21.90	23.06	22.32	23.45	23.85
	12H	28.72	29.83	29.15	30.21	30.64	21.92	23.03	22.35	23.41	23.84
4H	2H	25.64	26.96	26.04	27.31	27.69	22.23	23.55	22.63	23.90	24.27
	3H	27.80	28.89	28.21	29.29	29.69	22.43	23.52	22.84	23.91	24.32
	4H	28.46	29.44	28.89	29.85	30.29	22.58	23.56	23.01	23.97	24.41
	6H	28.90	29.75	29.36	30.19	30.65	22.75	23.60	23.20	24.04	24.50
	8H	29.04	29.84	29.51	30.28	30.75	22.80	23.59	23.26	24.04	24.50
	12H	29.15	29.86	29.63	30.34	30.81	22.85	23.56	23.33	24.03	24.50
8H	4H	28.39	29.19	28.86	29.63	30.10	22.85	23.65	23.32	24.09	24.56
	6H	28.84	29.49	29.33	29.98	30.46	23.06	23.72	23.56	24.21	24.68
	8H	28.98	29.57	29.50	30.08	30.57	23.14	23.73	23.66	24.24	24.73
	12H	29.12	29.64	29.63	30.13	30.69	23.23	23.75	23.74	24.24	24.81
12H	4H	28.37	29.08	28.85	29.55	30.03	22.87	23.58	23.35	24.05	24.53
	6H	28.80	29.39	29.31	29.89	30.38	23.08	23.67	23.59	24.18	24.66
	8H	28.97	29.49	29.48	29.98	30.55	23.20	23.72	23.71	24.22	24.78