

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: P894062

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

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894062
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-L935
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with REFLECTOR WITH WHITE FINISH, 90CRI, 3500K
Light Source: -
Ballast/Driver: -

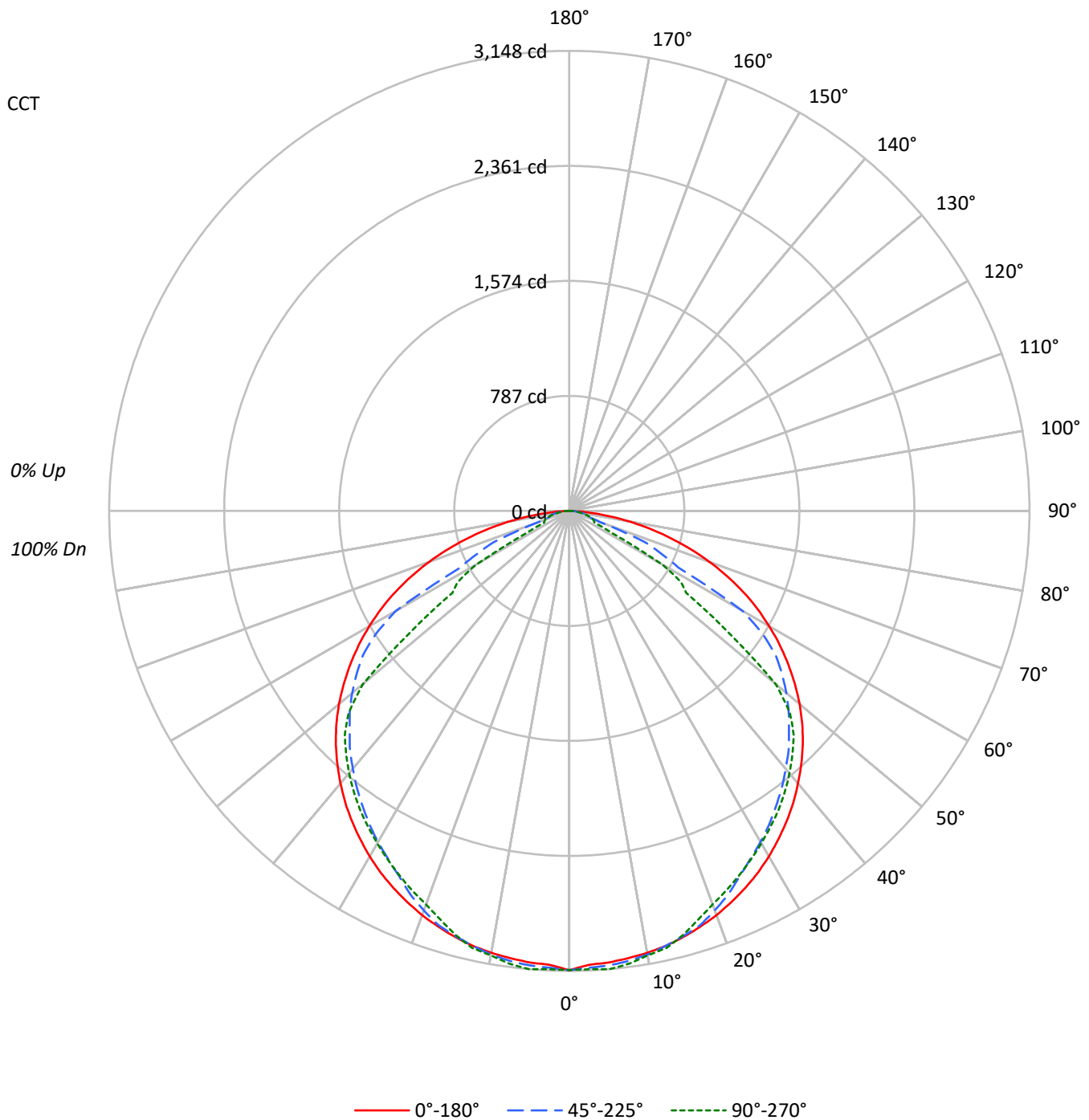
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8192.0 lumens
Efficiency: N/A
Efficacy: 127.2 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				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°	40803	40803	40803
5°	40430	40694	41034
10°	40488	40641	40718
15°	40577	40485	40394
20°	40679	40210	39595
25°	40790	39499	39416
30°	40945	39231	39392
35°	41093	39081	39558
40°	41267	39034	39723
45°	41487	39015	39886
50°	41550	39164	37265
55°	41368	39045	22098
60°	41017	35584	19163
65°	40345	21511	5801
70°	38752	8531	6655
75°	35902	6994	6803
80°	31063	7388	6371
85°	22080	6928	6064

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 50°
 Luminance: 41550 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	297.7	3.6
10°-20°	852.4	10.4
20°-30°	1288.1	15.7
30°-40°	1571.6	19.2
40°-50°	1662.5	20.3
50°-60°	1377.0	16.8
60°-70°	765.5	9.3
70°-80°	310.3	3.8
80°-90°	66.9	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°	2438.2	29.8
0°-40°	4009.8	48.9
0°-60°	7049.3	86.1
0°-90°	8192.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8192.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3142	3142	3142	3142	3142	
5°	3102	3157	3122	3127	3148	295
15°	3018	3065	3012	3010	3005	853
25°	2847	2867	2757	2740	2751	1313
35°	2592	2560	2465	2475	2496	1623
45°	2259	2143	2125	2151	2172	1742
55°	1827	1703	1725	1183	976	1633
65°	1313	1204	700	235	189	1295
75°	716	399	139	138	136	756
85°	148	49	46	43	41	186
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3142.3	3142.3	3142.3	3142.3	3142.3
2.5°	3108.4	3162.7	3128.8	3135.6	3138.5
5°	3101.7	3156.9	3122.0	3126.8	3148.1
7.5°	3087.1	3143.3	3106.5	3109.4	3125.9
10°	3070.7	3122.0	3082.3	3077.5	3088.1
12.5°	3048.4	3094.9	3048.4	3050.3	3063.9
15°	3018.4	3064.9	3011.6	3009.7	3004.8
17.5°	2982.6	3026.1	2973.8	2942.9	2932.2
20°	2943.8	2977.7	2909.9	2862.5	2865.4
22.5°	2897.3	2926.4	2841.2	2797.6	2810.2
25°	2847.0	2867.3	2756.9	2739.5	2751.1
27.5°	2791.8	2807.3	2684.3	2680.4	2690.1
30°	2730.8	2736.6	2616.5	2614.6	2627.2
32.5°	2663.0	2653.3	2543.9	2545.8	2562.3
35°	2592.3	2560.3	2465.4	2475.1	2495.5
37.5°	2517.7	2460.6	2388.0	2400.6	2422.8
40°	2434.5	2357.0	2302.8	2322.1	2343.4
42.5°	2349.2	2248.5	2220.5	2238.9	2259.2
45°	2259.2	2143.0	2124.6	2150.7	2172.0
47.5°	2161.4	2039.4	2036.5	2056.8	2047.1
50°	2056.8	1931.9	1938.7	1911.5	1844.7
52.5°	1944.5	1820.5	1834.1	1716.9	1387.7
55°	1827.3	1703.3	1724.7	1183.3	976.1
57.5°	1707.2	1583.3	1569.7	905.4	904.4
60°	1579.4	1461.3	1370.2	799.9	737.9
62.5°	1450.6	1334.4	841.5	602.3	338.9
65°	1313.1	1203.7	700.1	235.3	188.8
67.5°	1168.8	1071.0	560.7	177.2	184.0
70°	1020.7	933.5	224.7	171.4	175.3
72.5°	869.6	720.5	149.1	158.8	158.8
75°	715.6	399.0	139.4	137.5	135.6
77.5°	562.6	267.3	122.0	113.3	110.4
80°	415.4	95.9	98.8	88.1	85.2
82.5°	275.0	74.6	70.7	63.9	62.0
85°	148.2	49.4	46.5	42.6	40.7
87.5°	53.3	25.2	25.2	20.3	18.4
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	25.56	27.14	25.93	27.45	27.76	21.55	23.13	21.92	23.44	23.75
	3H	27.57	28.98	27.95	29.30	29.67	21.69	23.09	22.06	23.42	23.78
	4H	28.18	29.50	28.58	29.85	30.23	21.80	23.12	22.20	23.47	23.85
	6H	28.58	29.80	28.99	30.17	30.56	21.91	23.13	22.32	23.50	23.89
	8H	28.70	29.86	29.13	30.25	30.65	21.95	23.11	22.37	23.49	23.90
	12H	28.77	29.88	29.20	30.26	30.69	21.97	23.08	22.40	23.46	23.89
4H	2H	25.69	27.01	26.09	27.36	27.74	22.28	23.60	22.68	23.95	24.32
	3H	27.85	28.94	28.26	29.34	29.74	22.48	23.56	22.89	23.96	24.36
	4H	28.51	29.48	28.94	29.90	30.34	22.63	23.61	23.06	24.02	24.46
	6H	28.95	29.80	29.41	30.24	30.70	22.80	23.65	23.25	24.09	24.55
	8H	29.09	29.89	29.56	30.33	30.80	22.85	23.64	23.31	24.09	24.55
	12H	29.20	29.91	29.68	30.38	30.86	22.90	23.60	23.38	24.08	24.55
8H	4H	28.44	29.24	28.91	29.68	30.15	22.90	23.70	23.37	24.14	24.61
	6H	28.89	29.54	29.38	30.03	30.51	23.11	23.77	23.61	24.26	24.73
	8H	29.03	29.62	29.55	30.13	30.62	23.19	23.78	23.71	24.29	24.78
	12H	29.17	29.69	29.67	30.18	30.74	23.28	23.80	23.79	24.29	24.86
12H	4H	28.42	29.13	28.90	29.60	30.07	22.92	23.63	23.40	24.10	24.57
	6H	28.84	29.43	29.36	29.94	30.43	23.13	23.72	23.64	24.23	24.71
	8H	29.02	29.54	29.53	30.03	30.59	23.25	23.77	23.76	24.26	24.83