

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: P894057

Luminaire Tested: 4MB-9HL-RFLW-UNV-L830

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894057
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-L830
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with REFLECTOR WITH WHITE FINISH, 80CRI, 3000K
Light Source: -
Ballast/Driver: -

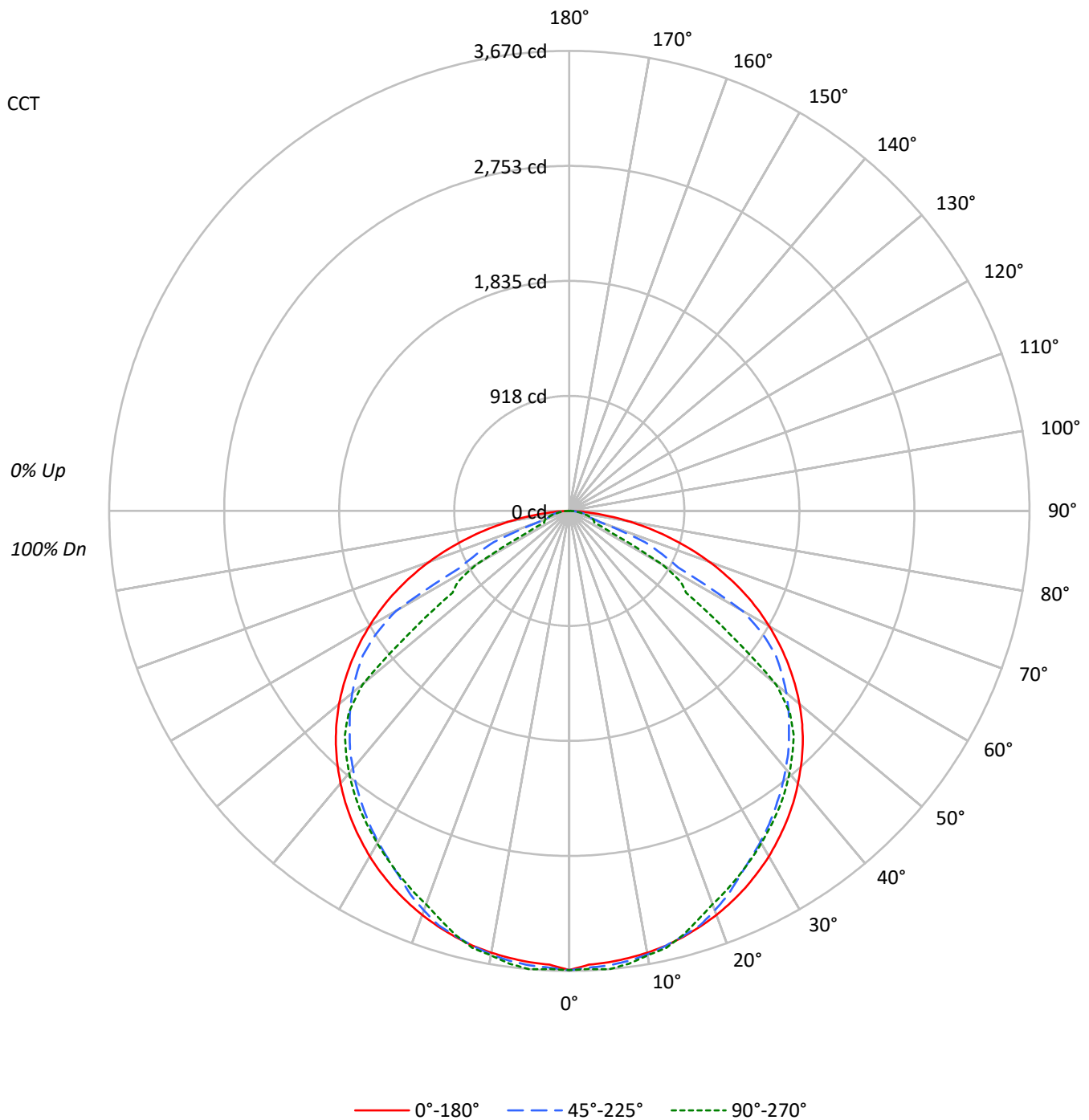
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9549.0 lumens
Efficiency: N/A
Efficacy: 148.3 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°	47563	47563	47563
5°	47126	47436	47832
10°	47194	47374	47462
15°	47298	47192	47086
20°	47418	46872	46154
25°	47547	46043	45945
30°	47727	45730	45917
35°	47900	45555	46110
40°	48101	45499	46303
45°	48359	45478	46493
50°	48432	45651	43439
55°	48221	45511	25758
60°	47811	41480	22337
65°	47028	25075	6763
70°	45168	9943	7756
75°	41852	8153	7927
80°	36208	8607	7425
85°	25730	8075	7062

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 50°
 Luminance: 48432 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	347.0	3.6
10°-20°	993.6	10.4
20°-30°	1501.5	15.7
30°-40°	1832.0	19.2
40°-50°	1937.9	20.3
50°-60°	1605.1	16.8
60°-70°	892.3	9.3
70°-80°	361.7	3.8
80°-90°	78.0	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°	2842.1	29.8
0°-40°	4674.0	48.9
0°-60°	8217.0	86.1
0°-90°	9549.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9549.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3663	3663	3663	3663	3663	
5°	3615	3680	3639	3645	3670	344
15°	3518	3573	3510	3508	3503	994
25°	3319	3342	3214	3193	3207	1531
35°	3022	2984	2874	2885	2909	1892
45°	2633	2498	2476	2507	2532	2030
55°	2130	1986	2010	1379	1138	1903
65°	1531	1403	816	274	220	1509
75°	834	465	162	160	158	881
85°	173	58	54	50	47	217
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3662.9	3662.9	3662.9	3662.9	3662.9
2.5°	3623.4	3686.6	3647.1	3655.0	3658.3
5°	3615.4	3679.8	3639.2	3644.8	3669.6
7.5°	3598.5	3664.0	3621.1	3624.5	3643.7
10°	3579.3	3639.2	3592.9	3587.2	3599.6
12.5°	3553.4	3607.5	3553.4	3555.6	3571.4
15°	3518.4	3572.6	3510.5	3508.2	3502.6
17.5°	3476.6	3527.4	3466.5	3430.3	3417.9
20°	3431.5	3471.0	3392.0	3336.6	3340.0
22.5°	3377.3	3411.1	3311.8	3261.0	3275.7
25°	3318.6	3342.3	3213.6	3193.3	3206.8
27.5°	3254.2	3272.3	3128.9	3124.4	3135.7
30°	3183.1	3189.9	3049.9	3047.7	3062.4
32.5°	3104.1	3092.8	2965.3	2967.5	2986.7
35°	3021.7	2984.5	2873.8	2885.1	2908.8
37.5°	2934.8	2868.2	2783.5	2798.2	2824.2
40°	2837.7	2747.4	2684.2	2706.8	2731.6
42.5°	2738.4	2621.0	2588.3	2609.7	2633.4
45°	2633.4	2498.0	2476.5	2507.0	2531.8
47.5°	2519.4	2377.2	2373.8	2397.5	2386.2
50°	2397.5	2251.9	2259.8	2228.2	2150.3
52.5°	2266.6	2122.1	2137.9	2001.3	1617.5
55°	2130.0	1985.5	2010.3	1379.4	1137.8
57.5°	1990.0	1845.5	1829.7	1055.4	1054.3
60°	1841.0	1703.3	1597.2	932.4	860.1
62.5°	1690.9	1555.4	980.9	702.1	395.1
65°	1530.6	1403.1	816.1	274.3	220.1
67.5°	1362.4	1248.4	653.6	206.6	214.5
70°	1189.7	1088.1	261.9	199.8	204.3
72.5°	1013.6	839.8	173.8	185.1	185.1
75°	834.2	465.1	162.5	160.3	158.0
77.5°	655.8	311.5	142.2	132.1	128.7
80°	484.2	111.7	115.1	102.7	99.3
82.5°	320.6	86.9	82.4	74.5	72.2
85°	172.7	57.6	54.2	49.7	47.4
87.5°	62.1	29.3	29.3	23.7	21.4
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	26.10	27.67	26.46	27.98	28.30	22.09	23.66	22.45	23.97	24.29
	3H	28.10	29.51	28.48	29.84	30.20	22.22	23.63	22.60	23.95	24.31
	4H	28.71	30.03	29.11	30.38	30.76	22.34	23.66	22.74	24.00	24.38
	6H	29.11	30.33	29.53	30.70	31.09	22.44	23.66	22.86	24.03	24.42
	8H	29.23	30.39	29.66	30.78	31.18	22.48	23.64	22.90	24.03	24.43
	12H	29.30	30.41	29.73	30.80	31.22	22.50	23.61	22.93	23.99	24.42
4H	2H	26.22	27.54	26.62	27.89	28.27	22.81	24.13	23.21	24.48	24.86
	3H	28.38	29.47	28.80	29.87	30.27	23.01	24.10	23.42	24.50	24.90
	4H	29.04	30.02	29.47	30.43	30.87	23.16	24.14	23.60	24.56	24.99
	6H	29.49	30.33	29.94	30.78	31.24	23.33	24.18	23.79	24.62	25.08
	8H	29.63	30.42	30.09	30.86	31.33	23.38	24.17	23.84	24.62	25.08
	12H	29.73	30.44	30.21	30.92	31.39	23.43	24.14	23.91	24.61	25.09
8H	4H	28.98	29.77	29.44	30.21	30.68	23.44	24.23	23.90	24.67	25.14
	6H	29.42	30.07	29.91	30.56	31.04	23.64	24.30	24.14	24.79	25.27
	8H	29.57	30.16	30.08	30.66	31.15	23.73	24.32	24.24	24.82	25.31
	12H	29.70	30.22	30.21	30.71	31.28	23.81	24.33	24.32	24.83	25.39
12H	4H	28.95	29.66	29.43	30.14	30.61	23.45	24.16	23.93	24.64	25.11
	6H	29.38	29.97	29.89	30.48	30.96	23.66	24.25	24.17	24.76	25.25
	8H	29.55	30.07	30.06	30.56	31.13	23.78	24.31	24.29	24.80	25.36