

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: P894058

Luminaire Tested: 4MB-9HL-RFLW-UNV-L835

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894058
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-L835
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with REFLECTOR WITH WHITE FINISH, 80CRI, 3500K
Light Source: -
Ballast/Driver: -

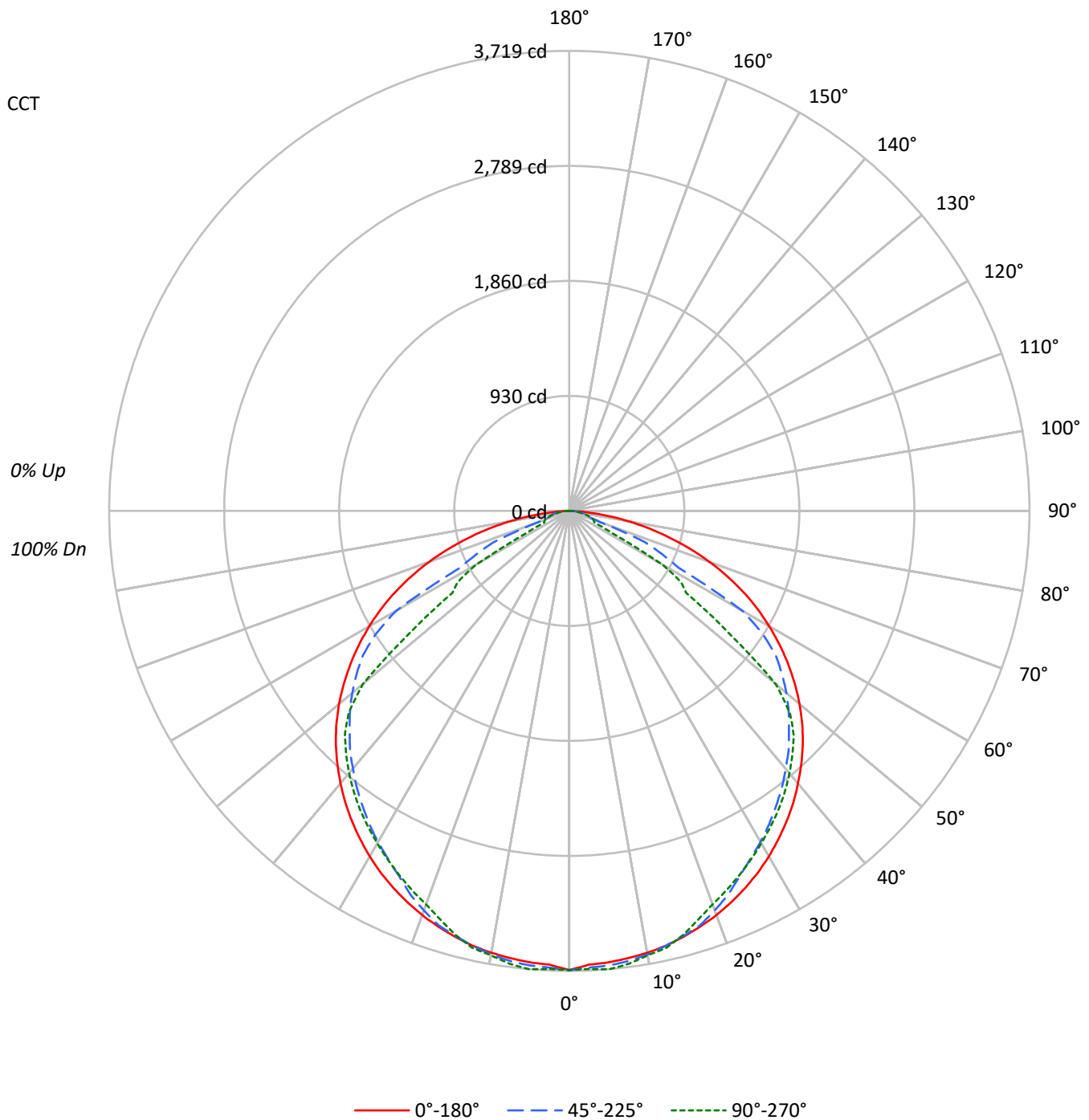
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9677.0 lumens
Efficiency: N/A
Efficacy: 150.3 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°	48201	48201	48201
5°	47758	48071	48473
10°	47827	48008	48099
15°	47932	47824	47716
20°	48054	47499	46773
25°	48185	46660	46561
30°	48367	46343	46532
35°	48542	46167	46728
40°	48747	46110	46923
45°	49007	46087	47118
50°	49081	46263	44020
55°	48866	46122	26105
60°	48453	42035	22638
65°	47658	25410	6855
70°	45775	10076	7859
75°	42409	8263	8032
80°	36694	8727	7530
85°	26073	8179	7151

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 50°
 Luminance: 49081 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	351.6	3.6
10°-20°	1006.9	10.4
20°-30°	1521.6	15.7
30°-40°	1856.6	19.2
40°-50°	1963.9	20.3
50°-60°	1626.6	16.8
60°-70°	904.2	9.3
70°-80°	366.5	3.8
80°-90°	79.0	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°	2880.2	29.8
0°-40°	4736.7	48.9
0°-60°	8327.2	86.1
0°-90°	9677.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9677.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3712	3712	3712	3712	3712	
5°	3664	3729	3688	3694	3719	349
15°	3566	3620	3558	3555	3550	1007
25°	3363	3387	3257	3236	3250	1551
35°	3062	3024	2912	2924	2948	1917
45°	2669	2532	2510	2541	2566	2057
55°	2158	2012	2037	1398	1153	1929
65°	1551	1422	827	278	223	1530
75°	845	471	165	162	160	893
85°	175	58	55	50	48	220
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3712.0	3712.0	3712.0	3712.0	3712.0
2.5°	3671.9	3736.0	3695.9	3703.9	3707.4
5°	3663.9	3729.1	3687.9	3693.7	3718.8
7.5°	3646.8	3713.1	3669.6	3673.1	3692.5
10°	3627.3	3687.9	3641.0	3635.3	3647.9
12.5°	3601.0	3655.9	3601.0	3603.3	3619.3
15°	3565.5	3620.4	3557.5	3555.2	3549.5
17.5°	3523.2	3574.7	3512.9	3476.3	3463.7
20°	3477.5	3517.5	3437.4	3381.4	3384.8
22.5°	3422.6	3456.9	3356.2	3304.7	3319.6
25°	3363.1	3387.1	3256.7	3236.1	3249.8
27.5°	3297.9	3316.2	3170.9	3166.3	3177.8
30°	3225.8	3232.7	3090.8	3088.5	3103.4
32.5°	3145.7	3134.3	3005.0	3007.3	3026.8
35°	3062.2	3024.5	2912.4	2923.8	2947.8
37.5°	2974.1	2906.7	2820.9	2835.7	2862.0
40°	2875.8	2784.3	2720.2	2743.1	2768.2
42.5°	2775.1	2656.1	2623.0	2644.7	2668.7
45°	2668.7	2531.5	2509.7	2540.6	2565.8
47.5°	2553.2	2409.1	2405.6	2429.6	2418.2
50°	2429.6	2282.1	2290.1	2258.1	2179.1
52.5°	2297.0	2150.5	2166.5	2028.1	1639.2
55°	2158.5	2012.1	2037.3	1397.8	1153.1
57.5°	2016.7	1870.3	1854.3	1069.5	1068.4
60°	1865.7	1726.1	1618.6	944.9	871.7
62.5°	1713.6	1576.3	994.0	711.5	400.4
65°	1551.1	1421.9	827.0	278.0	223.1
67.5°	1380.7	1265.2	662.3	209.3	217.3
70°	1205.7	1102.7	265.4	202.5	207.0
72.5°	1027.2	851.1	176.2	187.6	187.6
75°	845.3	471.3	164.7	162.4	160.1
77.5°	664.6	315.7	144.1	133.8	130.4
80°	490.7	113.2	116.7	104.1	100.7
82.5°	324.9	88.1	83.5	75.5	73.2
85°	175.0	58.3	54.9	50.3	48.0
87.5°	62.9	29.7	29.7	24.0	21.7
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	26.14	27.71	26.51	28.03	28.34	22.13	23.70	22.50	24.02	24.33
	3H	28.15	29.56	28.53	29.88	30.24	22.26	23.67	22.64	24.00	24.36
	4H	28.76	30.08	29.16	30.43	30.81	22.38	23.70	22.78	24.05	24.43
	6H	29.16	30.38	29.57	30.74	31.14	22.49	23.71	22.90	24.07	24.47
	8H	29.28	30.44	29.71	30.83	31.23	22.52	23.68	22.95	24.07	24.47
	12H	29.35	30.46	29.78	30.84	31.27	22.55	23.66	22.98	24.04	24.47
4H	2H	26.27	27.59	26.67	27.94	28.32	22.86	24.18	23.26	24.52	24.90
	3H	28.43	29.52	28.84	29.92	30.32	23.05	24.14	23.46	24.54	24.94
	4H	29.09	30.06	29.52	30.48	30.92	23.21	24.19	23.64	24.60	25.04
	6H	29.53	30.38	29.99	30.82	31.28	23.38	24.22	23.83	24.67	25.13
	8H	29.67	30.47	30.14	30.91	31.38	23.43	24.22	23.89	24.66	25.13
	12H	29.78	30.49	30.26	30.96	31.43	23.47	24.18	23.96	24.66	25.13
8H	4H	29.02	29.82	29.48	30.26	30.73	23.48	24.27	23.94	24.72	25.19
	6H	29.46	30.12	29.96	30.61	31.09	23.69	24.34	24.18	24.84	25.31
	8H	29.61	30.20	30.13	30.71	31.20	23.77	24.36	24.29	24.87	25.36
	12H	29.74	30.27	30.25	30.76	31.32	23.86	24.38	24.37	24.87	25.44
12H	4H	29.00	29.70	29.48	30.18	30.65	23.50	24.20	23.98	24.68	25.15
	6H	29.42	30.01	29.94	30.52	31.01	23.71	24.30	24.22	24.80	25.29
	8H	29.60	30.12	30.10	30.61	31.17	23.83	24.35	24.34	24.84	25.41