

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: P894020

Luminaire Tested: 4MB-9HL-FLT-UNV-L850

Issue Date: 11/11/2024

**Test Information**

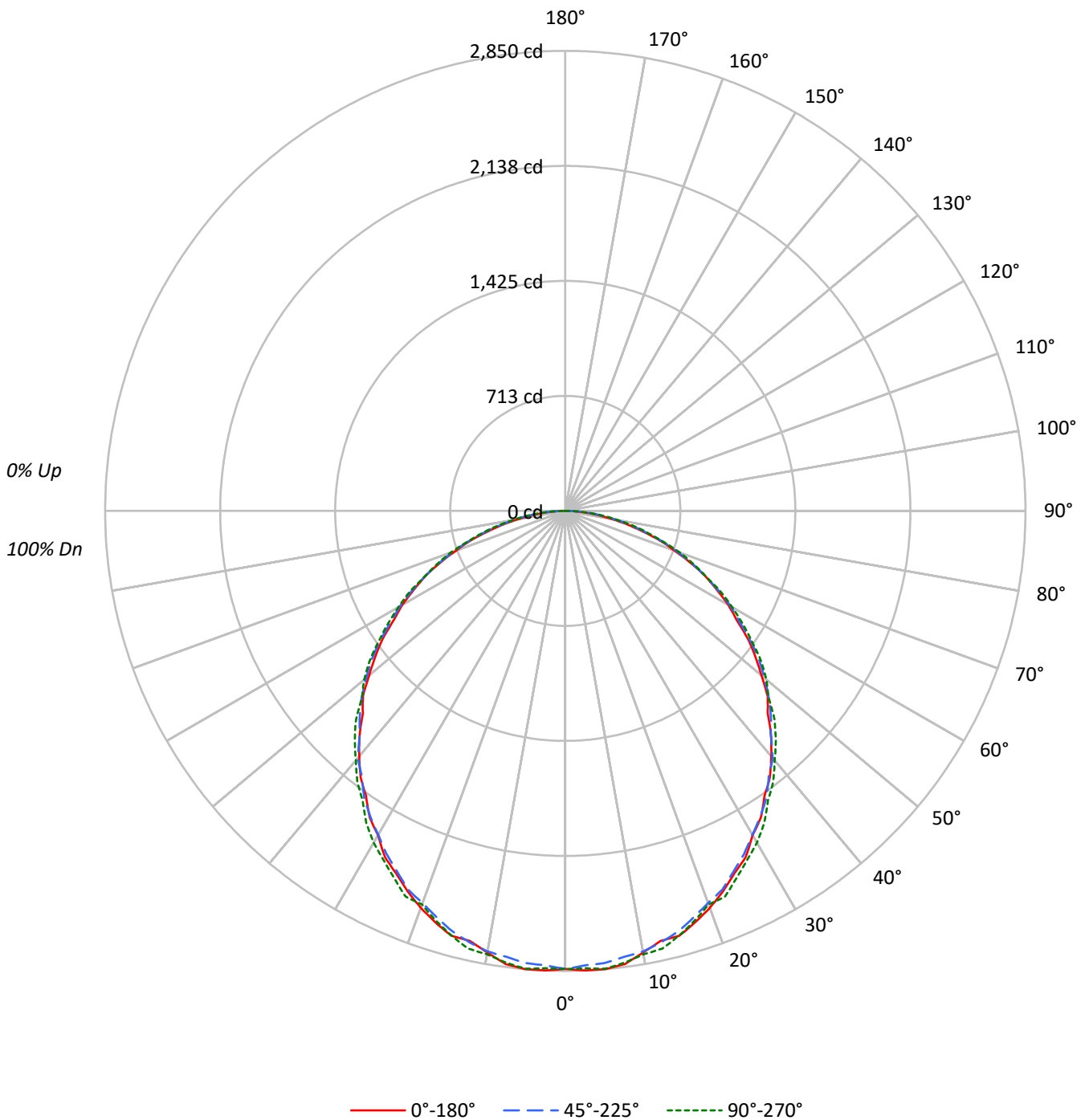
Test Method: LM-79-2019  
Report Number: P894020  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-4)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-9HL-FLT-UNV-L850  
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with FLAT FROSTED LENS, 80CRI, 5000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7862.0 lumens  
Efficiency: N/A  
Efficacy: 122.1 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.24 / 1.34  
Luminous Opening: Rectangular (W 0.38' x L: 3.98' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 64.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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: P894020  
CATALOG NUMBER: 4MB-9HL-FLT-UNV-L850

### Luminous Intensity Polar Plot





TEST NUMBER: P894020  
 CATALOG NUMBER: 4MB-9HL-FLT-UNV-L850

**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	109	104	99	96	106	102	98	94	97	94	91	93	91	88	90	88	86	86	86	86	84
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	72	72	72	70
3	90	79	71	65	88	78	70	64	75	68	63	72	67	62	69	65	61	61	61	61	59
4	82	70	62	55	80	69	61	54	67	59	54	64	58	53	62	57	52	52	52	52	50
5	76	63	54	47	74	62	53	47	60	52	46	58	51	46	56	50	45	45	45	45	43
6	70	57	48	41	68	56	47	41	54	46	41	52	45	40	51	45	40	40	40	40	38
7	65	51	43	36	63	51	42	36	49	41	36	48	41	36	46	40	35	35	35	35	33
8	60	47	38	33	59	46	38	32	45	37	32	44	37	32	42	36	32	32	32	32	30
9	57	43	35	29	55	42	35	29	41	34	29	40	34	29	39	33	29	29	29	29	27
10	53	40	32	27	52	39	32	26	38	31	26	37	31	26	36	30	26	26	26	26	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	20188	20188	20188
5°	20353	20082	20335
10°	20075	20021	20154
15°	20079	19871	20061
20°	19813	19572	19646
25°	19456	19350	19696
30°	19062	19032	19505
35°	18694	18854	19013
40°	18442	18556	18738
45°	17845	18117	18450
50°	17555	17813	17989
55°	17120	17333	17515
60°	16586	16831	16988
65°	16095	16157	16157
70°	14968	15323	15706
75°	13781	14320	14622
80°	12153	13210	13661
85°	10906	12204	13111

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 18450 cd/sqm



TEST NUMBER: P894020  
 CATALOG NUMBER: 4MB-9HL-FLT-UNV-L850

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	268.6	3.4
10°-20°	765.4	9.7
20°-30°	1148.0	14.6
30°-40°	1363.5	17.3
40°-50°	1396.0	17.8
50°-60°	1250.7	15.9
60°-70°	950.1	12.1
70°-80°	553.4	7.0
80°-90°	166.2	2.1
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°	2182.0	27.8
0°-40°	3545.5	45.1
0°-60°	6192.2	78.8
0°-90°	7862.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7862.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2837	2837	2837	2837	2837	
5°	2850	2839	2812	2829	2847	270
15°	2726	2744	2698	2709	2723	765
25°	2478	2500	2465	2497	2509	1144
35°	2152	2200	2171	2179	2189	1353
45°	1774	1818	1800	1815	1834	1379
55°	1380	1401	1397	1413	1412	1230
65°	956	956	960	972	960	939
75°	501	510	521	537	532	534
85°	134	136	150	159	161	150
90°	0	0	0	0	0	



TEST NUMBER: P894020

CATALOG NUMBER: 4MB-9HL-FLT-UNV-L850

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2837.4	2837.4	2837.4	2837.4	2837.4
2.5°	2849.7	2836.2	2817.8	2823.9	2836.2
5°	2849.7	2838.7	2811.7	2828.8	2847.2
7.5°	2831.3	2846.0	2787.2	2787.2	2821.5
10°	2778.6	2806.8	2771.2	2767.6	2789.6
12.5°	2728.3	2779.8	2738.1	2750.4	2777.4
15°	2725.9	2744.3	2697.7	2708.7	2723.4
17.5°	2673.2	2691.6	2641.3	2662.2	2662.2
20°	2616.8	2620.5	2584.9	2630.3	2594.7
22.5°	2551.8	2589.8	2540.8	2555.5	2586.2
25°	2478.3	2500.4	2464.8	2496.7	2508.9
27.5°	2418.2	2445.2	2396.2	2434.2	2437.9
30°	2320.2	2349.6	2316.5	2341.0	2374.1
32.5°	2254.0	2263.8	2246.7	2283.4	2293.2
35°	2152.3	2200.1	2170.7	2179.2	2189.0
37.5°	2081.2	2095.9	2070.2	2099.6	2115.5
40°	1985.6	2007.6	1997.8	2002.7	2017.5
42.5°	1886.3	1909.6	1883.9	1919.4	1930.4
45°	1773.5	1817.7	1800.5	1815.2	1833.6
47.5°	1700.0	1714.7	1709.8	1718.4	1706.1
50°	1586.0	1600.7	1609.3	1620.3	1625.2
52.5°	1484.3	1495.3	1511.3	1517.4	1528.4
55°	1380.1	1400.9	1397.3	1413.2	1412.0
57.5°	1258.8	1289.4	1279.6	1302.9	1302.9
60°	1165.6	1170.5	1182.8	1193.8	1193.8
62.5°	1057.8	1063.9	1070.0	1079.8	1087.2
65°	956.0	956.0	959.7	972.0	959.7
67.5°	838.4	833.5	845.7	860.4	859.2
70°	719.5	725.6	736.6	755.0	755.0
72.5°	617.7	617.7	630.0	639.8	638.6
75°	501.3	509.9	520.9	536.8	531.9
77.5°	397.1	403.2	421.6	436.3	437.6
80°	296.6	302.7	322.4	337.1	333.4
82.5°	207.1	215.7	234.1	245.1	243.9
85°	133.6	136.0	149.5	159.3	160.6
87.5°	61.3	66.2	76.0	79.7	79.7
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P894020  
 CATALOG NUMBER: 4MB-9HL-FLT-UNV-L850

**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	21.97	23.61	22.33	23.92	24.24	22.07	23.71	22.44	24.03	24.34
	3H	23.75	25.23	24.13	25.56	25.92	23.91	25.40	24.29	25.72	26.08
	4H	24.41	25.81	24.81	26.16	26.53	24.61	26.01	25.01	26.35	26.73
	6H	24.89	26.18	25.30	26.55	26.94	25.16	26.46	25.57	26.82	27.21
	8H	25.04	26.28	25.46	26.66	27.06	25.35	26.59	25.77	26.98	27.37
	12H	25.14	26.33	25.57	26.71	27.14	25.49	26.68	25.92	27.06	27.49
4H	2H	22.61	24.01	23.01	24.36	24.73	22.70	24.09	23.10	24.44	24.82
	3H	24.62	25.79	25.03	26.19	26.59	24.76	25.93	25.17	26.33	26.73
	4H	25.41	26.47	25.84	26.88	27.32	25.60	26.66	26.03	27.07	27.51
	6H	26.01	26.94	26.46	27.38	27.83	26.29	27.22	26.74	27.66	28.11
	8H	26.21	27.08	26.66	27.52	27.98	26.53	27.40	26.99	27.85	28.31
	12H	26.36	27.14	26.84	27.62	28.08	26.73	27.51	27.21	27.99	28.46
8H	4H	25.74	26.61	26.20	27.06	27.52	25.91	26.78	26.37	27.22	27.69
	6H	26.47	27.19	26.96	27.68	28.16	26.74	27.46	27.23	27.95	28.42
	8H	26.74	27.39	27.25	27.90	28.38	27.07	27.72	27.58	28.22	28.71
	12H	26.97	27.54	27.47	28.03	28.59	27.36	27.93	27.86	28.42	28.98
12H	4H	25.79	26.57	26.27	27.05	27.52	25.95	26.73	26.43	27.20	27.67
	6H	26.54	27.19	27.05	27.70	28.18	26.79	27.45	27.30	27.95	28.44
	8H	26.87	27.45	27.38	27.94	28.50	27.19	27.77	27.70	28.26	28.82