

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: P893217

Luminaire Tested: 4MB-10HL-RND-UNV-L830

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893217
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-1)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-10HL-RND-UNV-L830
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with ROUND FROSTED LENS, 80CRI, 3000K CCT
Light Source: -
Ballast/Driver: -

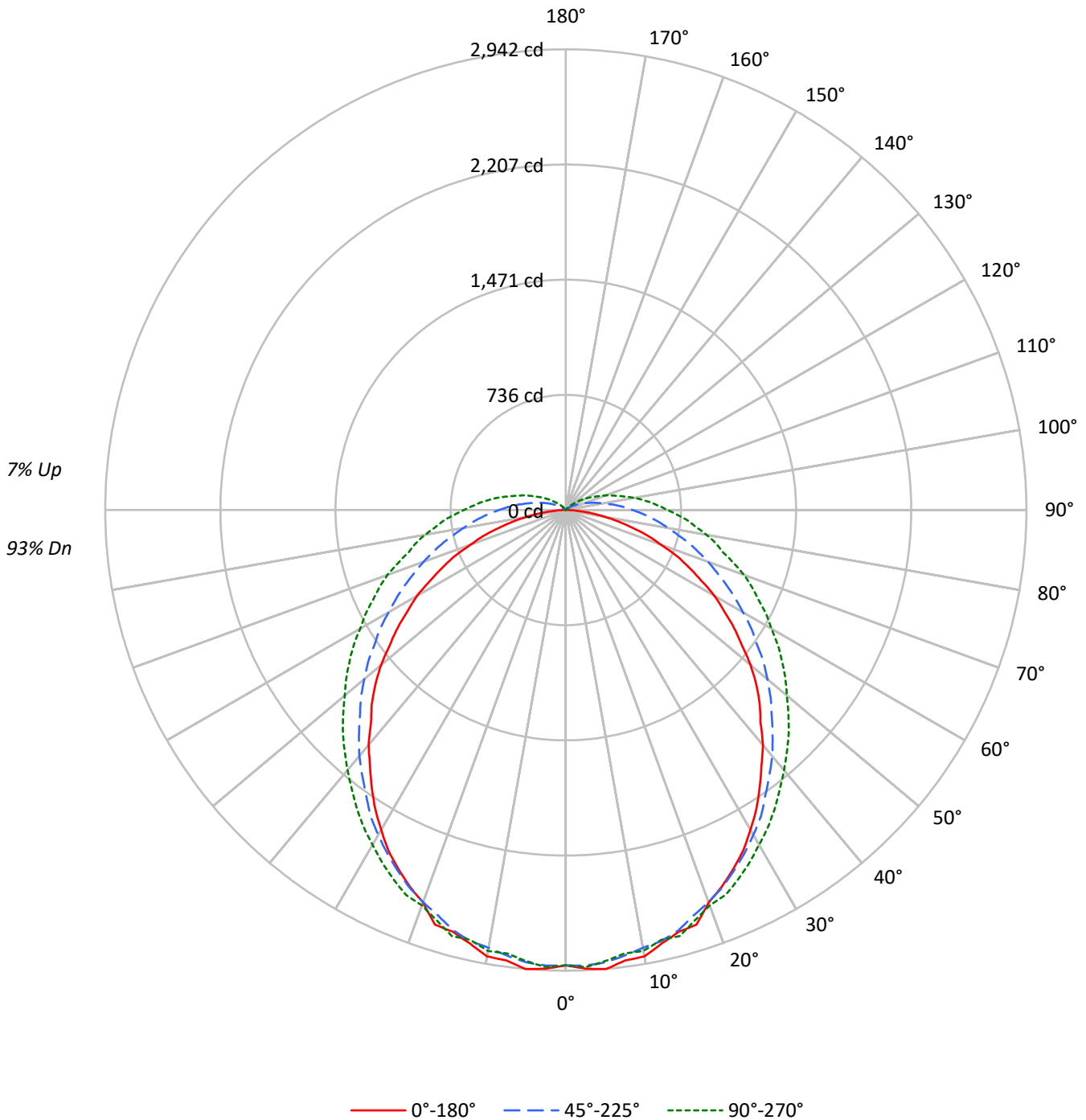
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9578.0 lumens
Efficiency: N/A
Efficacy: 126.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.26 / 1.35
Luminous Opening: Rectangular (W 0.38' x L: 3.98' x H: 0')
CIE Type: Direct

Input Watts (W): 75.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.997
Total Harmonic Distortion (THDi): 7.45
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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CATALOG NUMBER: 4MB-10HL-RND-UNV-L830

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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	96	96	96	93
1	105	100	95	90	102	97	92	88	91	87	84	86	83	80	81	79	77	77	77	77	74
2	95	86	79	72	92	84	77	71	79	73	68	74	70	66	70	67	63	63	63	63	60
3	86	75	66	60	83	73	65	59	69	62	57	65	60	55	62	57	53	53	53	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	50	45	45	45	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	39	39	39	37
6	67	53	44	37	65	52	43	37	49	42	36	47	40	35	45	39	34	34	34	34	32
7	62	48	39	33	60	47	39	33	45	37	32	43	36	31	41	35	30	30	30	30	28
8	58	44	35	29	56	43	35	29	41	34	28	39	33	28	38	32	27	27	27	27	25
9	54	40	32	26	52	39	32	26	38	31	26	36	30	25	35	29	25	25	25	25	23
10	51	37	29	24	49	36	29	24	35	28	23	34	27	23	32	27	22	22	22	22	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	20689	20689	20689
5°	21015	20711	20654
10°	20912	20508	20653
15°	20537	20469	20743
20°	20194	20174	20345
25°	19862	19946	20436
30°	19376	19682	20283
35°	18763	19307	20208
40°	18199	19051	20138
45°	17628	18712	20264
50°	17051	18596	20392
55°	16270	18464	20923
60°	15634	18587	21578
65°	14601	19080	22888
70°	13420	20145	25209
75°	12178	22306	28560
80°	10465	27252	37442
85°	8474	44091	64067

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 87.5°
 Luminance: 116301 cd/sqm



TEST NUMBER: P893217
 CATALOG NUMBER: 4MB-10HL-RND-UNV-L830

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	275.7	2.9
10°-20°	784.8	8.2
20°-30°	1176.1	12.3
30°-40°	1397.6	14.6
40°-50°	1446.9	15.1
50°-60°	1340.8	14.0
60°-70°	1116.3	11.7
70°-80°	828.5	8.7
80°-90°	548.0	5.7
90°-100°	333.5	3.5
100°-110°	186.9	2.0
110°-120°	92.1	1.0
120°-130°	37.5	0.4
130°-140°	10.9	0.1
140°-150°	1.6	0.0
150°-160°	0.4	0.0
160°-170°	0.3	0.0
170°-180°	0.1	0.0
0°-30°	2236.6	23.4
0°-40°	3634.2	37.9
0°-60°	6422.0	67.0
0°-90°	8914.8	93.1
90°-120°	612.5	6.4
90°-150°	662.4	6.9
90°-180°	663.0	6.9
0°-180°	9578.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2908	2908	2908	2908	2908	
5°	2942	2910	2900	2914	2892	278
15°	2788	2777	2779	2783	2816	790
25°	2530	2527	2541	2590	2603	1164
35°	2160	2176	2223	2293	2326	1352
45°	1752	1777	1860	1975	2014	1350
55°	1312	1367	1488	1638	1687	1173
65°	867	948	1133	1300	1360	862
75°	443	577	811	986	1039	474
85°	104	291	540	732	785	116
90°	5	189	427	597	650	8
95°	1	117	331	494	548	1
105°	1	39	180	305	347	1
115°	1	9	84	168	201	1
125°	1	3	31	77	98	1
135°	3	1	8	25	35	2
145°	3	1	0	3	4	2
155°	3	3	0	0	0	1
165°	4	3	0	0	0	1
175°	4	3	0	0	0	0
180°	1	1	1	1	1	



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 CATALOG NUMBER: 4MB-10HL-RND-UNV-L830

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2907.8	2907.8	2907.8	2907.8	2907.8
2.5°	2931.7	2917.1	2911.8	2905.1	2921.1
5°	2942.4	2910.5	2899.8	2914.5	2891.8
7.5°	2901.1	2893.2	2870.6	2878.5	2857.3
10°	2894.5	2850.6	2838.6	2865.2	2858.6
12.5°	2834.6	2797.4	2818.7	2837.3	2812.0
15°	2788.1	2777.4	2778.8	2782.8	2816.0
17.5°	2776.1	2728.2	2714.9	2748.2	2745.5
20°	2667.0	2657.7	2664.4	2708.3	2687.0
22.5°	2603.2	2573.9	2609.8	2652.4	2661.7
25°	2530.0	2527.4	2540.7	2589.9	2603.2
27.5°	2452.9	2435.6	2471.5	2528.7	2539.3
30°	2358.4	2351.8	2395.7	2444.9	2468.8
32.5°	2265.3	2269.3	2319.9	2361.1	2402.3
35°	2160.2	2176.2	2222.8	2293.3	2326.5
37.5°	2053.8	2073.8	2136.3	2217.4	2245.4
40°	1959.4	1963.4	2051.2	2133.6	2168.2
42.5°	1841.0	1880.9	1955.4	2064.5	2091.1
45°	1751.9	1777.1	1859.6	1975.3	2013.9
47.5°	1650.8	1680.0	1774.5	1887.5	1928.8
50°	1540.4	1567.0	1680.0	1809.1	1842.3
52.5°	1418.0	1472.5	1590.9	1723.9	1767.8
55°	1311.6	1367.4	1488.5	1637.5	1686.7
57.5°	1197.2	1253.0	1404.7	1543.0	1606.9
60°	1098.7	1151.9	1306.2	1477.8	1516.4
62.5°	976.4	1052.2	1219.8	1388.7	1443.3
65°	867.3	948.4	1133.3	1299.6	1359.5
67.5°	767.5	851.3	1044.2	1222.4	1287.6
70°	645.1	755.5	968.4	1144.0	1211.8
72.5°	554.7	665.1	887.2	1061.5	1122.7
75°	443.0	577.3	811.4	985.7	1038.9
77.5°	349.8	494.8	732.9	928.5	981.7
80°	255.4	420.3	665.1	852.7	913.8
82.5°	174.3	351.2	602.6	782.2	840.7
85°	103.8	291.3	540.1	731.6	784.8
87.5°	45.2	238.1	482.9	658.4	713.0
90°	5.3	188.9	427.0	597.3	650.5
92.5°	1.3	151.6	377.8	542.7	594.6
95°	1.3	117.1	331.2	493.5	548.0
97.5°	1.3	90.5	284.7	443.0	494.8
100°	1.3	69.2	246.1	389.7	445.6
102.5°	1.3	51.9	208.8	345.9	393.7
105°	1.3	38.6	179.6	304.6	347.2
107.5°	1.3	27.9	150.3	266.0	308.6
110°	1.3	20.0	126.4	230.1	272.7



TEST NUMBER: P893217
 CATALOG NUMBER: 4MB-10HL-RND-UNV-L830

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	14.6	102.4	198.2	234.1
115°	1.3	9.3	83.8	167.6	200.9
117.5°	1.3	6.7	66.5	141.0	172.9
120°	1.3	5.3	53.2	117.1	145.0
122.5°	1.3	4.0	41.2	95.8	122.4
125°	1.3	2.7	30.6	77.2	98.4
127.5°	1.3	2.7	22.6	61.2	79.8
130°	1.3	1.3	16.0	46.6	62.5
132.5°	1.3	1.3	10.6	34.6	46.6
135°	2.7	1.3	8.0	25.3	34.6
137.5°	2.7	1.3	5.3	17.3	23.9
140°	2.7	1.3	2.7	10.6	14.6
142.5°	2.7	1.3	1.3	5.3	8.0
145°	2.7	1.3	0.0	2.7	4.0
147.5°	2.7	1.3	0.0	1.3	1.3
150°	2.7	1.3	0.0	0.0	0.0
152.5°	2.7	1.3	0.0	0.0	0.0
155°	2.7	2.7	0.0	0.0	0.0
157.5°	2.7	2.7	0.0	0.0	0.0
160°	2.7	2.7	0.0	0.0	0.0
162.5°	2.7	2.7	0.0	0.0	0.0
165°	4.0	2.7	0.0	0.0	0.0
167.5°	4.0	2.7	0.0	0.0	0.0
170°	4.0	2.7	0.0	0.0	0.0
172.5°	4.0	2.7	0.0	0.0	0.0
175°	4.0	2.7	0.0	0.0	0.0
177.5°	4.0	2.7	0.0	0.0	0.0
180°	1.3	1.3	1.3	1.3	1.3



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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	20.75	22.29	21.22	22.75	23.23	22.33	23.87	22.80	24.32	24.80
	3H	22.52	23.92	23.00	24.39	24.91	24.91	26.32	25.40	26.78	27.31
	4H	23.18	24.51	23.68	24.99	25.53	26.17	27.50	26.67	27.99	28.52
	6H	23.65	24.89	24.17	25.39	25.94	27.55	28.79	28.07	29.29	29.84
	8H	23.80	24.99	24.33	25.51	26.07	28.28	29.47	28.81	29.99	30.55
	12H	23.90	25.04	24.43	25.55	26.14	29.13	30.27	29.66	30.78	31.37
4H	2H	21.71	23.04	22.21	23.52	24.06	22.90	24.23	23.40	24.71	25.25
	3H	23.75	24.89	24.27	25.41	25.97	25.77	26.90	26.28	27.43	27.99
	4H	24.56	25.60	25.10	26.14	26.73	27.25	28.29	27.78	28.82	29.42
	6H	25.21	26.13	25.77	26.70	27.30	28.87	29.79	29.42	30.35	30.95
	8H	25.44	26.31	26.00	26.87	27.49	29.72	30.59	30.28	31.15	31.77
	12H	25.61	26.40	26.19	26.99	27.61	30.71	31.50	31.30	32.09	32.72
8H	4H	25.41	26.28	25.97	26.84	27.46	27.62	28.48	28.18	29.05	29.66
	6H	26.34	27.07	26.93	27.68	28.30	29.50	30.23	30.09	30.83	31.46
	8H	26.72	27.38	27.32	28.00	28.63	30.56	31.22	31.16	31.84	32.47
	12H	27.04	27.63	27.65	28.24	28.94	31.81	32.41	32.42	33.01	33.71
12H	4H	25.67	26.46	26.26	27.05	27.68	27.66	28.45	28.24	29.04	29.66
	6H	26.76	27.43	27.36	28.04	28.68	29.61	30.27	30.21	30.89	31.52
	8H	27.30	27.89	27.91	28.50	29.20	30.78	31.38	31.39	31.98	32.68