

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: P894029

Luminaire Tested: 4MB-9HL-FLTU-UNV-L930

Issue Date: 11/11/2024

**Test Information**

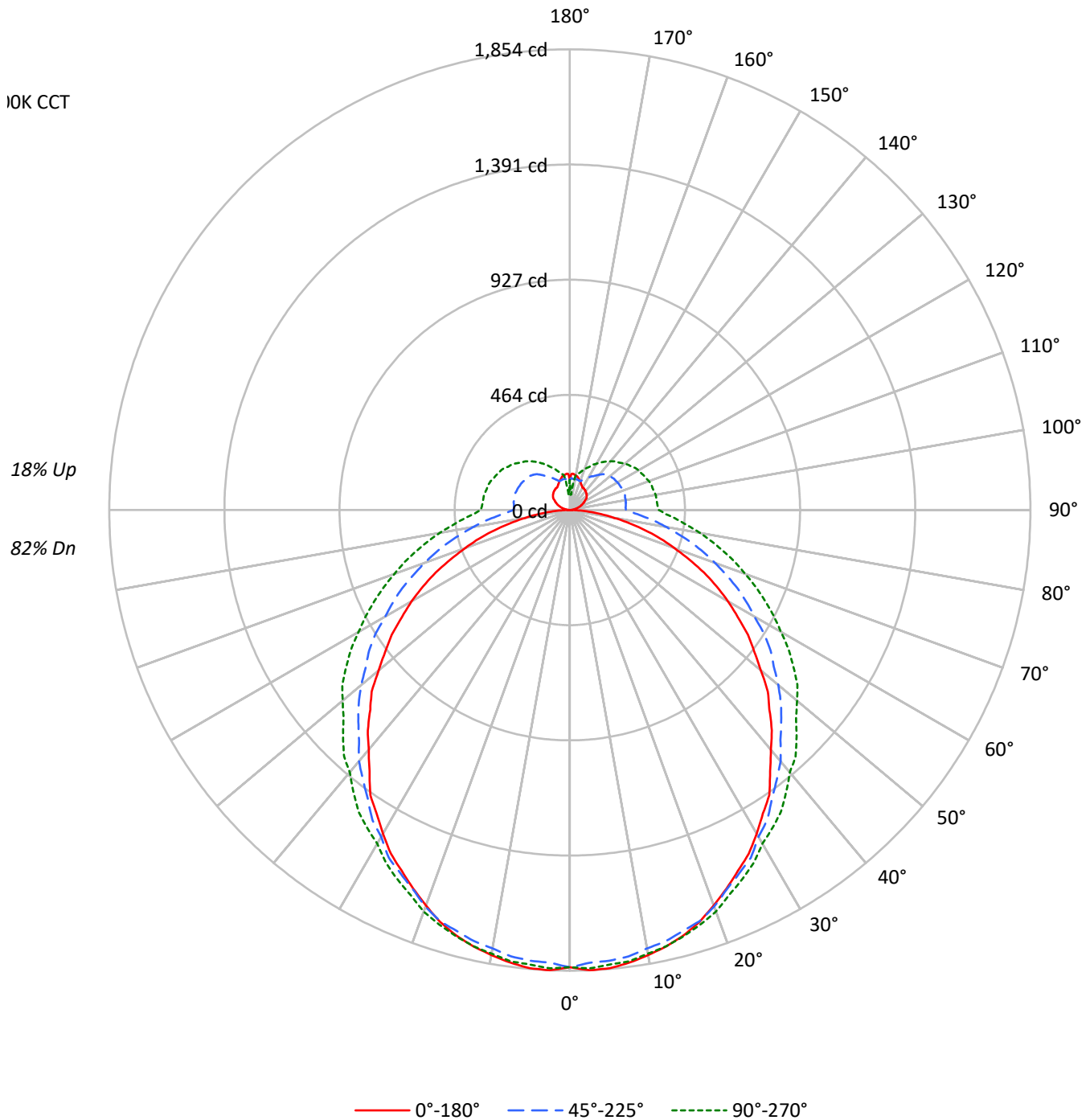
Test Method: LM-79-2019  
Report Number: P894029  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-9HL-FLTU-UNV-L930  
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with FLAT FROSTED LENS WITH UPLIGHT, 90CRI, 300  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6918.0 lumens  
Efficiency: N/A  
Efficacy: 107.4 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.26 / 1.36  
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 3.98' x H: 0.21')  
CIE Type: Semi-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: P894029  
CATALOG NUMBER: 4MB-9HL-FLTU-UNV-L930

### Luminous Intensity Polar Plot





TEST NUMBER: P894029  
 CATALOG NUMBER: 4MB-9HL-FLTU-UNV-L930

**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	115	115	115	115	110	110	110	110	101	101	101	93	93	93	86	86	86	86	86	86	82
1	103	98	93	89	99	94	90	86	87	83	80	80	77	74	73	71	69	69	69	69	66
2	93	85	77	71	89	81	75	69	75	70	65	69	65	61	63	60	57	57	57	57	54
3	85	74	66	59	81	71	63	57	66	59	54	60	55	51	56	51	48	48	48	48	45
4	78	65	56	49	74	63	55	48	58	51	46	54	48	43	50	45	41	41	41	41	38
5	71	58	49	42	68	56	48	41	52	45	39	48	42	37	44	39	35	35	35	35	33
6	66	52	43	37	63	50	42	36	47	40	34	43	37	33	40	35	31	31	31	31	28
7	61	47	38	32	58	46	37	32	42	35	30	39	33	29	37	31	27	27	27	27	25
8	56	43	34	29	54	42	34	28	39	32	27	36	30	26	34	28	24	24	24	24	22
9	53	39	31	26	50	38	30	25	36	29	24	33	27	23	31	26	22	22	22	22	20
10	49	36	28	23	47	35	28	23	33	26	22	31	25	21	29	24	20	20	20	20	18

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

	0°	45°	90°
0°	13092	13092	13092
5°	13159	12537	12515
10°	13019	12040	11943
15°	12870	11601	11398
20°	12583	11139	10857
25°	12274	10573	10259
30°	11992	10019	9678
35°	11731	9493	9305
40°	11204	9040	8766
45°	10863	8502	8389
50°	10463	8050	7994
55°	10100	7619	7641
60°	9593	7032	7167
65°	9014	6558	6720
70°	8144	5971	6235
75°	7219	5388	5773
80°	5715	4750	5306
85°	3943	4134	4868

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10863 cd/sqm



TEST NUMBER: P894029  
 CATALOG NUMBER: 4MB-9HL-FLTU-UNV-L930

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.3	2.5
10°-20°	497.7	7.2
20°-30°	747.7	10.8
30°-40°	896.1	13.0
40°-50°	939.5	13.6
50°-60°	881.3	12.7
60°-70°	732.0	10.6
70°-80°	523.4	7.6
80°-90°	310.4	4.5
90°-100°	227.7	3.3
100°-110°	224.3	3.2
110°-120°	209.3	3.0
120°-130°	183.6	2.7
130°-140°	147.9	2.1
140°-150°	106.1	1.5
150°-160°	67.4	1.0
160°-170°	37.4	0.5
170°-180°	11.8	0.2
0°-30°	1419.7	20.5
0°-40°	2315.8	33.5
0°-60°	4136.6	59.8
0°-90°	5702.4	82.4
90°-120°	661.3	9.6
90°-150°	1099.0	15.9
90°-180°	1216.0	17.6
0°-180°	6918.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1840	1840	1840	1840	1840	
5°	1851	1847	1821	1829	1836	176
15°	1772	1761	1754	1767	1775	499
25°	1602	1616	1613	1632	1641	739
35°	1400	1405	1418	1459	1482	869
45°	1136	1168	1204	1283	1291	879
55°	875	903	987	1067	1098	779
65°	596	640	744	844	868	587
75°	314	386	506	611	639	332
85°	77	169	296	396	433	85
90°	3	103	226	323	358	6
95°	9	108	226	319	352	9
105°	31	118	230	315	344	33
115°	57	128	225	299	328	56
125°	81	132	218	278	303	71
135°	94	127	202	251	272	73
145°	102	117	166	221	237	64
155°	112	117	136	171	194	52
165°	133	129	125	124	156	37
175°	147	141	126	105	64	14
180°	121	121	121	121	121	



TEST NUMBER: P894029

CATALOG NUMBER: 4MB-9HL-FLTU-UNV-L930

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1840.1	1840.1	1840.1	1840.1	1840.1
2.5°	1853.8	1839.1	1823.5	1847.0	1846.0
5°	1850.9	1847.0	1820.6	1829.4	1836.2
7.5°	1837.2	1827.4	1811.8	1833.3	1831.3
10°	1818.6	1806.9	1791.2	1804.0	1812.8
12.5°	1798.1	1788.3	1777.6	1791.2	1797.1
15°	1771.7	1760.9	1754.1	1766.8	1774.6
17.5°	1737.5	1734.5	1735.5	1736.5	1749.2
20°	1693.5	1695.4	1698.4	1716.0	1719.9
22.5°	1648.5	1659.2	1651.4	1678.8	1676.8
25°	1601.6	1616.2	1613.3	1631.9	1640.7
27.5°	1559.5	1560.5	1578.1	1604.5	1601.6
30°	1503.8	1520.4	1518.4	1550.7	1550.7
32.5°	1447.1	1471.5	1479.3	1507.7	1517.5
35°	1400.1	1405.0	1417.7	1458.8	1482.3
37.5°	1323.9	1347.3	1367.9	1421.6	1430.4
40°	1259.3	1282.8	1320.0	1382.5	1377.7
42.5°	1203.6	1228.1	1255.4	1327.8	1345.4
45°	1136.1	1168.4	1203.6	1282.8	1290.6
47.5°	1081.4	1106.8	1152.8	1225.1	1234.9
50°	1004.2	1045.2	1095.1	1179.2	1193.8
52.5°	935.7	970.9	1034.5	1121.5	1154.7
55°	875.1	903.4	986.6	1066.7	1098.0
57.5°	800.8	839.9	926.9	1015.9	1044.2
60°	735.3	773.4	857.5	959.2	981.7
62.5°	665.8	710.8	801.8	900.5	925.9
65°	595.5	640.4	744.1	843.8	868.2
67.5°	519.2	574.9	680.5	784.2	809.6
70°	447.8	508.4	621.8	725.5	750.9
72.5°	383.3	448.8	564.2	670.7	698.1
75°	313.9	386.2	506.5	611.1	639.4
77.5°	246.4	324.6	446.8	552.4	585.7
80°	180.9	266.9	395.0	496.7	531.9
82.5°	127.1	215.1	347.1	446.8	479.1
85°	77.2	169.2	296.3	396.0	433.1
87.5°	34.2	131.0	256.2	354.9	388.2
90°	2.9	102.7	225.9	322.7	357.9
92.5°	5.9	104.6	224.9	318.7	353.9
95°	8.8	107.6	225.9	318.7	352.0
97.5°	12.7	111.5	227.8	318.7	351.0
100°	18.6	113.4	228.8	318.7	351.0
102.5°	24.4	116.4	227.8	313.9	347.1
105°	31.3	118.3	229.8	314.8	344.2
107.5°	38.1	120.3	229.8	309.9	343.2
110°	45.0	123.2	227.8	307.0	339.3



TEST NUMBER: P894029

CATALOG NUMBER: 4MB-9HL-FLTU-UNV-L930

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	50.8	126.1	226.8	301.1	332.4
115°	56.7	128.1	224.9	299.2	328.5
117.5°	62.6	129.1	223.9	294.3	322.7
120°	67.5	131.0	221.9	288.4	319.7
122.5°	73.3	132.0	219.0	282.6	313.9
125°	81.2	132.0	218.0	277.7	303.1
127.5°	85.1	133.0	214.1	271.8	298.2
130°	89.0	130.0	212.2	265.0	290.4
132.5°	91.9	129.1	207.3	258.1	280.6
135°	93.9	127.1	202.4	251.3	271.8
137.5°	96.8	124.2	195.6	246.4	265.9
140°	98.8	122.2	185.8	236.6	256.2
142.5°	100.7	119.3	176.0	227.8	246.4
145°	101.7	117.3	166.2	221.0	236.6
147.5°	104.6	114.4	160.4	212.2	225.9
150°	103.6	112.4	151.6	201.4	215.1
152.5°	106.6	115.4	143.7	186.8	206.3
155°	111.5	117.3	135.9	171.1	193.6
157.5°	116.4	121.2	130.0	157.4	183.8
160°	123.2	123.2	123.2	146.7	176.0
162.5°	127.1	127.1	124.2	134.0	165.2
165°	133.0	129.1	125.2	124.2	155.5
167.5°	138.8	131.0	127.1	120.3	148.6
170°	139.8	134.0	126.1	113.4	143.7
172.5°	143.7	136.9	125.2	107.6	111.5
175°	146.7	140.8	126.1	104.6	63.6
177.5°	145.7	140.8	129.1	104.6	61.6
180°	121.2	121.2	121.2	121.2	121.2



TEST NUMBER: P894029  
 CATALOG NUMBER: 4MB-9HL-FLTU-UNV-L930

**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	16.66	17.98	17.27	18.61	19.33	19.17	20.50	19.78	21.13	21.84
	3H	18.09	19.30	18.72	19.93	20.68	21.54	22.74	22.16	23.38	24.13
	4H	18.56	19.70	19.20	20.35	21.11	22.65	23.80	23.30	24.45	25.21
	6H	18.82	19.89	19.48	20.55	21.32	23.77	24.83	24.42	25.49	26.27
	8H	18.88	19.89	19.55	20.58	21.36	24.32	25.33	24.98	26.01	26.80
	12H	18.89	19.87	19.57	20.54	21.35	24.90	25.87	25.57	26.55	27.36
4H	2H	17.53	18.67	18.18	19.32	20.09	19.52	20.66	20.16	21.31	22.07
	3H	19.19	20.16	19.85	20.84	21.63	22.10	23.07	22.76	23.75	24.54
	4H	19.77	20.66	20.44	21.35	22.16	23.37	24.26	24.05	24.95	25.77
	6H	20.14	20.93	20.84	21.64	22.46	24.66	25.44	25.35	26.16	26.98
	8H	20.24	20.97	20.93	21.68	22.52	25.31	26.04	26.00	26.75	27.59
	12H	20.28	20.94	21.00	21.68	22.52	26.00	26.66	26.72	27.40	28.24
8H	4H	20.39	21.13	21.09	21.84	22.68	23.53	24.26	24.23	24.98	25.81
	6H	20.93	21.55	21.66	22.30	23.14	24.96	25.58	25.69	26.34	27.17
	8H	21.10	21.66	21.84	22.41	23.26	25.73	26.29	26.47	27.04	27.89
	12H	21.20	21.70	21.95	22.45	23.36	26.58	27.08	27.32	27.82	28.73
12H	4H	20.55	21.22	21.27	21.96	22.80	23.52	24.18	24.24	24.92	25.76
	6H	21.17	21.73	21.92	22.49	23.34	24.98	25.54	25.72	26.30	27.15
	8H	21.42	21.92	22.17	22.67	23.58	25.80	26.30	26.54	27.04	27.96