

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: PORTFOLIO

Report Number: P183625

Luminaire Tested: **LSM90M9027D010TEP**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P183625
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27020)
Test Lab: INNOVATION CENTER-P2
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LSM90M9027D010TEP
Description: PORTFOLIO SURFACE MOUNT LED LUMINAIRE, MEDIUM DISTRIBUTION WITH CLEAR GLASS LENS
Light Source: 90 CRI, 2700K CCT LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7019.5 lumens
Efficiency: N/A
Efficacy: 71.9 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.28 / 1.33
Luminous Opening: Circular (Dia: 1.12' x H: 0')
CIE Type: Direct

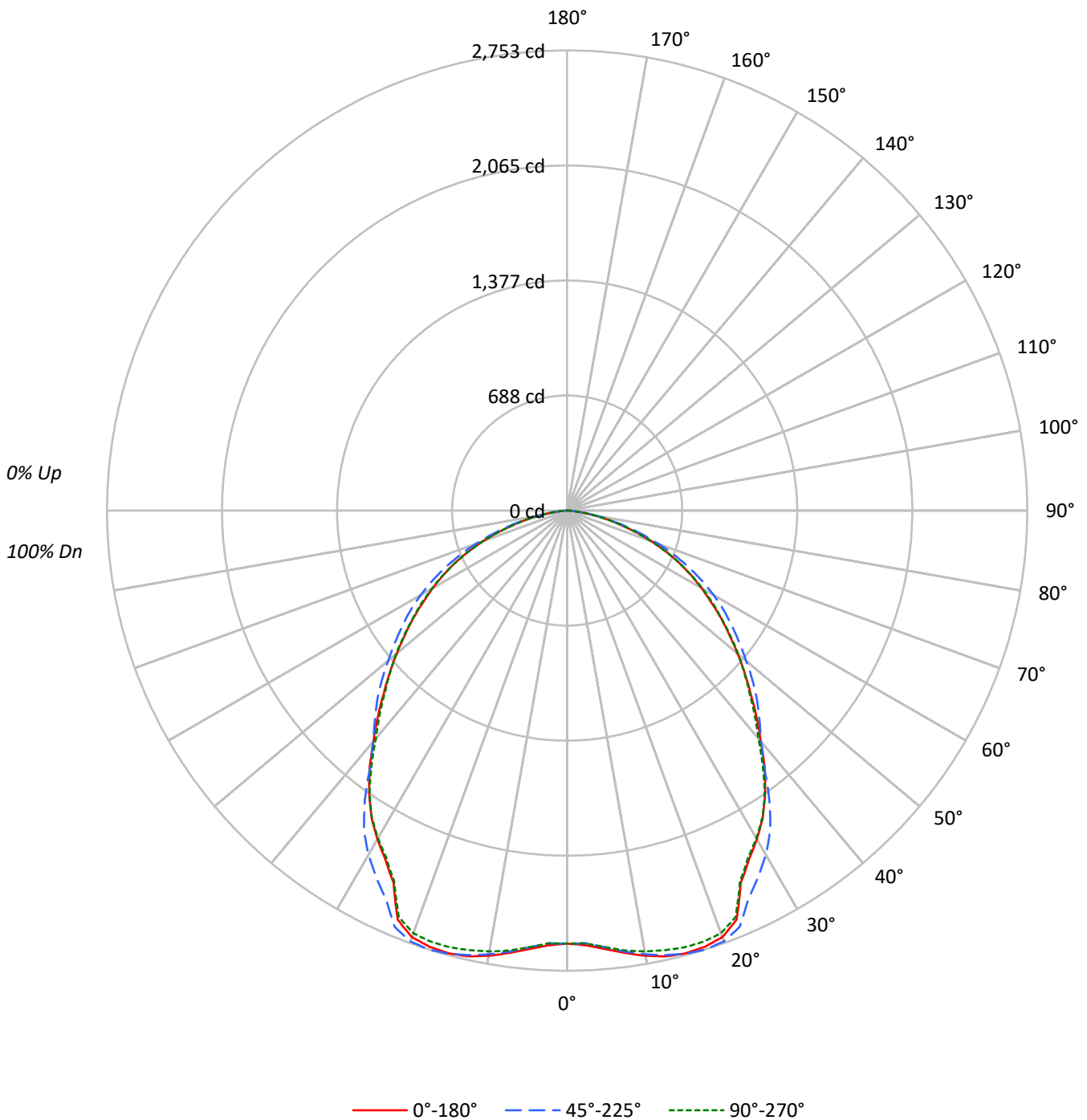
Input Watts (W): 97.58
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	110	105	101	98	107	103	99	96	99	96	93		95	92	90		91	89	87	85
2	100	92	86	80	98	90	85	79	87	82	78		84	80	76		81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66		74	69	65		72	67	64	61
4	84	73	64	58	82	71	63	57	69	62	57		67	61	56		64	59	55	53
5	78	65	56	50	76	64	56	50	62	55	49		60	54	49		58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43		54	48	43		53	47	43	41
7	67	54	45	39	65	53	45	39	51	44	39		50	43	38		48	43	38	36
8	62	49	41	35	61	48	40	35	47	40	35		46	39	34		45	39	34	32
9	58	45	37	32	57	44	37	32	43	36	31		42	36	31		41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29		39	33	28		38	33	28	27

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	28052	28052	28052
5°	28625	28513	28503
10°	29736	29643	29448
15°	30745	30767	30327
20°	31292	31604	31002
25°	29358	30639	29245
30°	28379	29719	28296
35°	27289	27881	27240
40°	25476	25490	25173
45°	23800	24614	23614
50°	22409	23556	22503
55°	21222	22736	21309
60°	20122	21919	20284
65°	18930	20555	18907
70°	16983	18341	16894
75°	13974	15066	14012
80°	10177	10876	10470
85°	5914	6262	6138



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	254.1	3.6
10°-20°	776.7	11.1
20°-30°	1166.3	16.6
30°-40°	1276.7	18.2
40°-50°	1248.8	17.8
50°-60°	1077.6	15.4
60°-70°	770.3	11.0
70°-80°	378.4	5.4
80°-90°	70.6	1.0
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°	2197.0	31.3
0°-40°	3473.7	49.5
0°-60°	5800.1	82.6
0°-90°	7019.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7019.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2590	2590	2590	2590	2590	
5°	2633	2656	2623	2644	2622	254
15°	2742	2780	2744	2747	2705	774
25°	2457	2603	2564	2586	2448	1145
35°	2064	2033	2109	2008	2061	1285
45°	1554	1658	1607	1639	1542	1203
55°	1124	1226	1204	1214	1129	1006
65°	739	779	802	771	738	728
75°	334	353	360	346	335	359
85°	48	50	50	49	49	66
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2590.5	2590.5	2590.5	2590.5	2590.5	2590.5	2590.5	2590.5	2590.5	2590.5	2590.5
2.5°	2602.6	2624.0	2606.3	2602.6	2587.7	2623.1	2610.0	2612.8	2602.6	2604.5	2590.5
5°	2633.4	2655.8	2639.0	2634.3	2619.4	2655.8	2642.7	2644.6	2634.3	2637.1	2623.1
7.5°	2669.8	2693.1	2675.3	2672.5	2658.6	2694.9	2682.8	2684.7	2673.5	2675.3	2661.4
10°	2704.3	2729.5	2711.7	2709.9	2695.9	2735.0	2722.0	2723.9	2710.8	2711.7	2695.9
12.5°	2731.3	2757.4	2739.7	2739.7	2726.7	2764.0	2753.7	2755.6	2742.5	2742.5	2723.9
15°	2742.5	2769.6	2750.9	2753.7	2740.6	2779.8	2770.5	2771.4	2760.2	2763.0	2744.4
17.5°	2736.0	2763.0	2746.2	2748.1	2736.0	2776.1	2766.8	2770.5	2761.2	2768.6	2752.8
20°	2715.5	2739.7	2719.2	2721.1	2711.7	2751.8	2745.3	2751.8	2745.3	2756.5	2742.5
22.5°	2649.2	2671.6	2660.4	2672.5	2670.7	2713.6	2709.9	2715.5	2705.2	2710.8	2695.9
25°	2457.1	2486.0	2482.3	2516.8	2549.4	2602.6	2598.9	2600.7	2579.3	2581.1	2564.3
27.5°	2354.5	2378.7	2364.7	2366.6	2353.5	2383.4	2385.2	2431.9	2459.9	2485.1	2473.9
30°	2269.6	2288.2	2254.6	2231.3	2197.7	2227.6	2225.7	2266.8	2316.2	2375.0	2376.8
32.5°	2178.2	2183.7	2136.2	2104.5	2092.3	2124.0	2122.2	2134.3	2171.6	2235.1	2263.0
35°	2064.3	2069.0	2010.2	2000.9	2000.9	2032.6	2025.2	2028.9	2049.4	2090.5	2109.1
37.5°	1942.1	1935.6	1902.0	1903.9	1911.4	1940.3	1934.7	1934.7	1941.2	1959.9	1936.5
40°	1802.2	1809.7	1799.4	1808.8	1815.3	1843.3	1840.5	1842.3	1839.5	1829.3	1803.2
42.5°	1678.2	1696.8	1708.0	1719.2	1720.1	1747.2	1745.3	1752.8	1738.8	1711.7	1703.3
45°	1554.1	1576.5	1607.3	1629.6	1631.5	1657.6	1657.6	1659.5	1630.6	1611.0	1607.3
47.5°	1442.2	1465.5	1497.2	1530.8	1536.4	1563.4	1563.4	1558.8	1528.0	1515.8	1503.7
50°	1330.2	1360.1	1389.9	1430.0	1432.8	1453.3	1454.3	1449.6	1435.6	1420.7	1398.3
52.5°	1223.9	1260.2	1289.2	1321.8	1323.7	1340.5	1336.7	1340.5	1342.3	1325.5	1298.5
55°	1124.1	1161.4	1186.6	1209.9	1214.5	1225.7	1218.3	1230.4	1241.6	1226.7	1204.3
57.5°	1021.4	1061.6	1083.0	1098.9	1102.6	1111.9	1104.5	1120.3	1135.3	1125.9	1111.0
60°	929.1	960.8	975.7	990.7	991.6	1000.9	994.4	1010.3	1027.0	1022.4	1012.1
62.5°	833.9	856.3	867.5	883.4	878.7	888.1	890.8	904.8	917.0	917.9	909.5
65°	738.8	750.9	760.3	769.6	771.4	778.9	781.7	787.3	806.0	807.8	802.2
67.5°	638.1	645.5	653.9	662.3	661.4	668.8	676.3	681.9	694.0	698.7	691.2
70°	536.4	545.7	550.4	554.1	553.2	560.6	567.2	571.8	583.0	585.8	579.3
72.5°	433.8	443.1	446.8	447.8	446.8	455.2	460.8	463.6	472.9	477.6	467.3
75°	334.0	346.1	347.9	346.1	345.1	352.6	355.4	360.1	366.6	367.5	360.1
77.5°	243.5	253.7	255.6	252.8	250.9	256.5	258.4	263.1	266.8	268.7	261.2
80°	163.2	173.5	172.6	171.6	168.8	172.6	175.4	177.2	180.0	180.0	174.4
82.5°	97.9	104.5	103.5	104.5	101.7	102.6	104.5	107.3	106.3	108.2	104.5
85°	47.6	50.4	50.4	50.4	49.4	50.4	51.3	53.2	51.3	53.2	50.4
87.5°	16.8	17.7	16.8	16.8	16.8	16.8	17.7	17.7	16.8	17.7	16.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	2590.5	2590.5	2590.5	2590.5	2590.5	2590.5	2590.5	2590.5	2590.5	2590.5
2.5°	2610.0	2595.1	2610.0	2603.5	2611.9	2609.1	2610.0	2620.3	2597.0	2591.4
5°	2642.7	2626.8	2641.8	2637.1	2643.6	2640.8	2642.7	2653.0	2628.7	2622.2
7.5°	2680.0	2663.2	2678.1	2671.6	2678.1	2675.3	2676.3	2684.7	2659.5	2653.9
10°	2714.5	2696.8	2709.9	2703.3	2707.1	2704.3	2706.1	2711.7	2684.7	2678.1
12.5°	2741.6	2723.9	2736.9	2729.5	2731.3	2727.6	2726.7	2729.5	2701.5	2694.0
15°	2764.0	2746.2	2755.6	2748.1	2747.2	2741.6	2739.7	2740.6	2712.7	2705.2
17.5°	2770.5	2750.0	2755.6	2747.2	2744.4	2739.7	2737.8	2739.7	2712.7	2705.2
20°	2757.4	2733.2	2736.0	2725.7	2722.0	2718.3	2718.3	2721.1	2694.9	2690.3
22.5°	2712.7	2692.1	2698.7	2692.1	2688.4	2684.7	2678.1	2671.6	2638.0	2631.5
25°	2582.1	2568.1	2592.3	2596.1	2585.8	2566.2	2529.8	2501.8	2453.3	2447.7
27.5°	2486.0	2457.1	2428.1	2391.8	2370.3	2361.9	2367.5	2377.8	2352.6	2343.3
30°	2378.7	2316.2	2260.2	2222.9	2208.9	2207.1	2229.5	2256.5	2261.2	2263.0
32.5°	2245.3	2166.0	2123.1	2111.0	2101.7	2098.9	2106.3	2137.1	2156.7	2174.4
35°	2094.2	2039.2	2016.8	2017.7	2008.4	2004.6	2000.0	2018.6	2039.2	2060.6
37.5°	1953.3	1929.1	1922.6	1926.3	1916.0	1910.4	1904.8	1909.5	1916.0	1923.5
40°	1820.9	1826.5	1830.2	1833.0	1819.9	1816.2	1811.6	1809.7	1798.5	1780.8
42.5°	1708.0	1722.9	1739.7	1739.7	1725.7	1723.9	1724.8	1719.2	1685.6	1661.4
45°	1611.0	1616.6	1645.5	1651.1	1639.0	1636.2	1637.1	1619.4	1566.2	1542.0
47.5°	1515.8	1518.6	1544.8	1557.8	1544.8	1542.0	1544.8	1507.4	1449.6	1437.5
50°	1419.8	1427.2	1438.4	1450.5	1438.4	1437.5	1434.7	1399.2	1342.3	1335.8
52.5°	1322.7	1337.7	1332.1	1334.9	1327.4	1328.3	1331.1	1294.8	1242.5	1231.3
55°	1223.9	1237.9	1223.9	1216.4	1213.6	1216.4	1222.0	1188.4	1147.4	1128.7
57.5°	1125.9	1134.3	1119.4	1104.5	1099.8	1106.3	1111.0	1083.0	1047.6	1033.6
60°	1024.2	1022.4	1010.3	996.3	986.9	994.4	1001.9	976.7	945.0	936.6
62.5°	917.0	915.1	900.2	888.1	878.7	884.3	891.8	867.5	846.1	838.6
65°	806.9	805.0	789.2	779.8	771.4	773.3	781.7	759.3	746.3	737.9
67.5°	700.6	694.0	678.2	672.6	662.3	666.0	671.6	653.9	641.8	634.3
70°	588.6	583.0	569.0	563.4	555.0	556.9	562.5	551.3	538.2	533.6
72.5°	474.8	473.9	460.8	453.4	448.7	449.6	454.3	448.7	436.6	432.8
75°	364.7	367.5	357.3	350.7	346.1	346.1	351.7	352.6	339.5	334.9
77.5°	268.7	268.7	260.3	261.2	253.7	253.7	257.5	261.2	247.2	244.4
80°	180.0	179.1	176.3	173.5	169.8	170.7	173.5	178.2	167.0	167.9
82.5°	106.3	106.3	106.3	104.5	101.7	100.7	104.5	108.2	100.7	100.7
85°	52.2	51.3	51.3	51.3	49.4	48.5	51.3	53.2	48.5	49.4
87.5°	17.7	16.8	16.8	17.7	16.8	16.8	16.8	16.8	15.9	16.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)