

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: P183605

Luminaire Tested: **LSM90M8027D010TEP**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P183605
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: LSM90M8027D010TEP
Description: PORTFOLIO SURFACE MOUNT LED LUMINAIRE, MEDIUM DISTRIBUTION WITH CLEAR GLASS LENS
Light Source: 80 CRI, 2700K CCT LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

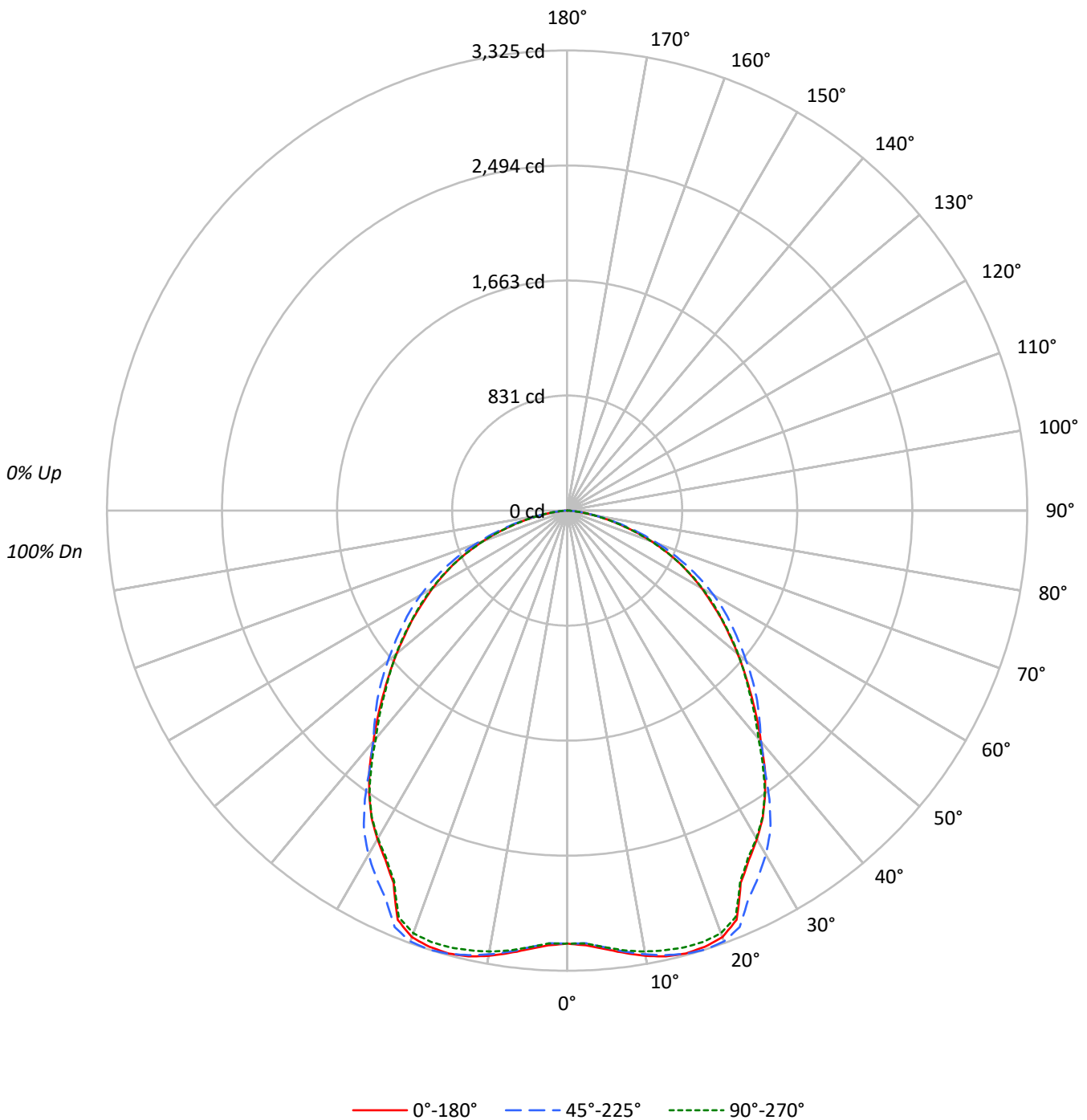
Lumens per Lamp: N/A
Luminaire Lumens: 8479.1 lumens
Efficiency: N/A
Efficacy: 86.9 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.28 / 1.33
Luminous Opening: Circular (Dia: 1.12' x H: 0')
CIE Type: Direct

Input Watts (W): 97.58
Input Voltage (V): NR
Input Current (Ain): 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°	33884	33884	33884
5°	34578	34443	34430
10°	35919	35808	35572
15°	37139	37164	36633
20°	37799	38176	37448
25°	35462	37011	35327
30°	34279	35900	34181
35°	32964	33679	32904
40°	30774	30789	30408
45°	28749	29732	28524
50°	27069	28455	27183
55°	25634	27464	25740
60°	24306	26478	24501
65°	22866	24831	22838
70°	20513	22153	20405
75°	16878	18196	16924
80°	12297	13139	12647
85°	7144	7554	7417



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	306.9	3.6
10°-20°	938.2	11.1
20°-30°	1408.8	16.6
30°-40°	1542.1	18.2
40°-50°	1508.5	17.8
50°-60°	1301.7	15.4
60°-70°	930.5	11.0
70°-80°	457.1	5.4
80°-90°	85.2	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°	2653.9	31.3
0°-40°	4196.0	49.5
0°-60°	7006.2	82.6
0°-90°	8479.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8479.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3129	3129	3129	3129	3129	
5°	3181	3208	3169	3193	3167	306
15°	3313	3358	3315	3318	3268	935
25°	2968	3144	3098	3124	2957	1383
35°	2494	2455	2548	2426	2489	1553
45°	1877	2002	1942	1980	1863	1453
55°	1358	1481	1455	1466	1363	1215
65°	892	941	969	932	891	879
75°	403	426	435	418	404	433
85°	58	61	61	60	60	80
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°	3129.1	3129.1	3129.1	3129.1	3129.1	3129.1	3129.1	3129.1	3129.1	3129.1	3129.1
2.5°	3143.8	3169.7	3148.3	3143.8	3125.8	3168.6	3152.8	3156.2	3143.8	3146.0	3129.1
5°	3181.0	3208.0	3187.7	3182.1	3164.1	3208.0	3192.2	3194.5	3182.1	3185.5	3168.6
7.5°	3224.9	3253.1	3231.7	3228.3	3211.4	3255.3	3240.7	3242.9	3229.4	3231.7	3214.8
10°	3266.6	3297.0	3275.6	3273.4	3256.5	3303.8	3288.0	3290.3	3274.5	3275.6	3256.5
12.5°	3299.3	3330.8	3309.4	3309.4	3293.7	3338.7	3326.3	3328.6	3312.8	3312.8	3290.3
15°	3312.8	3345.5	3322.9	3326.3	3310.6	3357.9	3346.6	3347.7	3334.2	3337.6	3315.1
17.5°	3304.9	3337.6	3317.3	3319.6	3304.9	3353.4	3342.1	3346.6	3335.3	3344.4	3325.2
20°	3280.1	3309.4	3284.6	3286.9	3275.6	3324.1	3316.2	3324.1	3316.2	3329.7	3312.8
22.5°	3200.1	3227.2	3213.6	3228.3	3226.0	3277.9	3273.4	3280.1	3267.7	3274.5	3256.5
25°	2968.0	3002.9	2998.4	3040.1	3079.6	3143.8	3139.3	3141.5	3115.6	3117.9	3097.6
27.5°	2844.1	2873.4	2856.4	2858.7	2842.9	2879.0	2881.2	2937.6	2971.4	3001.8	2988.3
30°	2741.5	2764.1	2723.5	2695.3	2654.8	2690.8	2688.6	2738.1	2797.9	2868.8	2871.1
32.5°	2631.1	2637.8	2580.4	2542.1	2527.4	2565.7	2563.5	2578.1	2623.2	2699.8	2733.6
35°	2493.6	2499.3	2428.3	2417.0	2417.0	2455.3	2446.3	2450.8	2475.6	2525.2	2547.7
37.5°	2346.0	2338.1	2297.6	2299.8	2308.8	2343.8	2337.0	2337.0	2344.9	2367.4	2339.2
40°	2177.0	2186.0	2173.6	2184.9	2192.8	2226.6	2223.2	2225.4	2222.1	2209.7	2178.1
42.5°	2027.1	2049.7	2063.2	2076.7	2077.8	2110.5	2108.3	2117.3	2100.4	2067.7	2057.5
45°	1877.3	1904.3	1941.5	1968.5	1970.8	2002.3	2002.3	2004.6	1969.7	1946.0	1941.5
47.5°	1742.0	1770.2	1808.5	1849.1	1855.8	1888.5	1888.5	1882.9	1845.7	1831.1	1816.4
50°	1606.8	1642.9	1678.9	1727.4	1730.8	1755.6	1756.7	1751.1	1734.2	1716.1	1689.1
52.5°	1478.4	1522.3	1557.2	1596.7	1598.9	1619.2	1614.7	1619.2	1621.5	1601.2	1568.5
55°	1357.8	1402.9	1433.3	1461.5	1467.1	1480.6	1471.6	1486.3	1499.8	1481.7	1454.7
57.5°	1233.9	1282.3	1308.2	1327.4	1331.9	1343.2	1334.1	1353.3	1371.3	1360.1	1342.0
60°	1122.3	1160.6	1178.6	1196.7	1197.8	1209.1	1201.2	1220.3	1240.6	1235.0	1222.6
62.5°	1007.4	1034.4	1047.9	1067.1	1061.4	1072.7	1076.1	1093.0	1107.6	1108.8	1098.6
65°	892.4	907.1	918.3	929.6	931.9	940.9	944.3	951.0	973.6	975.8	969.1
67.5°	770.7	779.7	789.9	800.0	798.9	807.9	816.9	823.7	838.3	844.0	835.0
70°	647.9	659.2	664.8	669.3	668.2	677.2	685.1	690.7	704.3	707.6	699.7
72.5°	524.0	535.2	539.7	540.9	539.7	549.9	556.6	560.0	571.3	576.9	564.5
75°	403.4	418.0	420.3	418.0	416.9	425.9	429.3	434.9	442.8	444.0	434.9
77.5°	294.1	306.5	308.7	305.4	303.1	309.9	312.1	317.8	322.3	324.5	315.5
80°	197.2	209.6	208.5	207.3	204.0	208.5	211.8	214.1	217.5	217.5	210.7
82.5°	118.3	126.2	125.1	126.2	122.8	123.9	126.2	129.6	128.5	130.7	126.2
85°	57.5	60.8	60.8	60.8	59.7	60.8	62.0	64.2	62.0	64.2	60.8
87.5°	20.3	21.4	20.3	20.3	20.3	20.3	21.4	21.4	20.3	21.4	20.3
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°	3129.1	3129.1	3129.1	3129.1	3129.1	3129.1	3129.1	3129.1	3129.1	3129.1
2.5°	3152.8	3134.8	3152.8	3144.9	3155.1	3151.7	3152.8	3165.2	3137.0	3130.3
5°	3192.2	3173.1	3191.1	3185.5	3193.4	3190.0	3192.2	3204.6	3175.3	3167.4
7.5°	3237.3	3217.0	3235.1	3227.2	3235.1	3231.7	3232.8	3242.9	3212.5	3205.8
10°	3279.0	3257.6	3273.4	3265.5	3270.0	3266.6	3268.9	3275.6	3242.9	3235.1
12.5°	3311.7	3290.3	3306.0	3297.0	3299.3	3294.8	3293.7	3297.0	3263.2	3254.2
15°	3338.7	3317.3	3328.6	3319.6	3318.4	3311.7	3309.4	3310.6	3276.7	3267.7
17.5°	3346.6	3321.8	3328.6	3318.4	3315.1	3309.4	3307.2	3309.4	3276.7	3267.7
20°	3330.8	3301.5	3304.9	3292.5	3288.0	3283.5	3283.5	3286.9	3255.3	3249.7
22.5°	3276.7	3252.0	3259.8	3252.0	3247.5	3242.9	3235.1	3227.2	3186.6	3178.7
25°	3119.0	3102.1	3131.4	3135.9	3123.5	3099.8	3055.9	3022.1	2963.5	2956.7
27.5°	3002.9	2968.0	2933.1	2889.1	2863.2	2853.1	2859.8	2872.2	2841.8	2830.5
30°	2873.4	2797.9	2730.2	2685.2	2668.3	2666.0	2693.1	2725.7	2731.4	2733.6
32.5°	2712.2	2616.4	2564.6	2550.0	2538.7	2535.3	2544.3	2581.5	2605.2	2626.6
35°	2529.7	2463.2	2436.2	2437.3	2426.0	2421.5	2415.9	2438.4	2463.2	2489.1
37.5°	2359.5	2330.2	2322.3	2326.9	2314.5	2307.7	2300.9	2306.6	2314.5	2323.5
40°	2199.5	2206.3	2210.8	2214.2	2198.4	2193.9	2188.3	2186.0	2172.5	2151.1
42.5°	2063.2	2081.2	2101.5	2101.5	2084.6	2082.3	2083.5	2076.7	2036.1	2006.8
45°	1946.0	1952.8	1987.7	1994.4	1979.8	1976.4	1977.5	1956.1	1891.9	1862.6
47.5°	1831.1	1834.4	1866.0	1881.8	1866.0	1862.6	1866.0	1820.9	1751.1	1736.4
50°	1715.0	1724.0	1737.5	1752.2	1737.5	1736.4	1733.0	1690.2	1621.5	1613.6
52.5°	1597.8	1615.8	1609.1	1612.5	1603.4	1604.6	1608.0	1564.0	1500.9	1487.4
55°	1478.4	1495.3	1478.4	1469.4	1466.0	1469.4	1476.1	1435.5	1386.0	1363.4
57.5°	1360.1	1370.2	1352.2	1334.1	1328.5	1336.4	1342.0	1308.2	1265.4	1248.5
60°	1237.2	1235.0	1220.3	1203.4	1192.2	1201.2	1210.2	1179.8	1141.5	1131.3
62.5°	1107.6	1105.4	1087.4	1072.7	1061.4	1068.2	1077.2	1047.9	1022.0	1013.0
65°	974.7	972.4	953.3	942.0	931.9	934.1	944.3	917.2	901.4	891.3
67.5°	846.2	838.3	819.2	812.4	800.0	804.5	811.3	789.9	775.2	766.2
70°	711.0	704.3	687.4	680.6	670.4	672.7	679.5	665.9	650.2	644.5
72.5°	573.5	572.4	556.6	547.6	542.0	543.1	548.8	542.0	527.3	522.8
75°	440.6	444.0	431.6	423.7	418.0	418.0	424.8	425.9	410.2	404.5
77.5°	324.5	324.5	314.4	315.5	306.5	306.5	311.0	315.5	298.6	295.2
80°	217.5	216.3	213.0	209.6	205.1	206.2	209.6	215.2	201.7	202.8
82.5°	128.5	128.5	128.5	126.2	122.8	121.7	126.2	130.7	121.7	121.7
85°	63.1	62.0	62.0	62.0	59.7	58.6	62.0	64.2	58.6	59.7
87.5°	21.4	20.3	20.3	21.4	20.3	20.3	20.3	20.3	19.2	20.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)