

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: P183615

Luminaire Tested: **LSM90M8035D010TEP**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P183615
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: LSM90M8035D010TEP
Description: PORTFOLIO SURFACE MOUNT LED LUMINAIRE, MEDIUM DISTRIBUTION WITH CLEAR GLASS LENS
Light Source: 80 CRI, 3500K CCT LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9613.8 lumens
Efficiency: N/A
Efficacy: 98.5 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

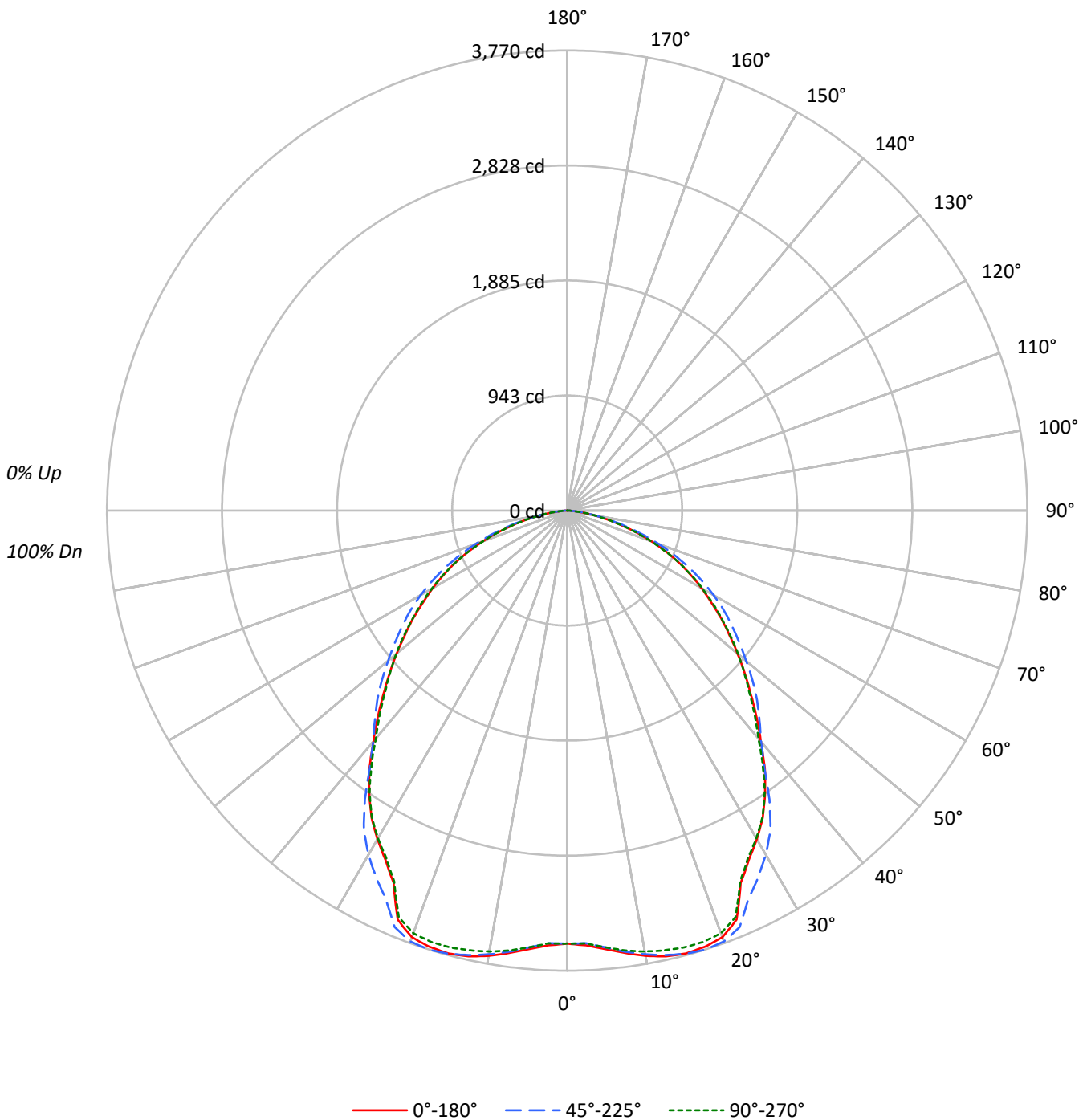
Input Watts (W): 97.58
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	38419	38419	38419
5°	39204	39052	39038
10°	40725	40598	40332
15°	42108	42138	41536
20°	42858	43284	42460
25°	40208	41963	40055
30°	38867	40704	38755
35°	37375	38185	37308
40°	34891	34910	34476
45°	32596	33711	32342
50°	30691	32263	30821
55°	29065	31139	29185
60°	27559	30021	27780
65°	25925	28152	25894
70°	23258	25120	23138
75°	19137	20631	19191
80°	13944	14898	14343
85°	8101	8573	8411



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	348.0	3.6
10°-20°	1063.8	11.1
20°-30°	1597.3	16.6
30°-40°	1748.5	18.2
40°-50°	1710.4	17.8
50°-60°	1475.8	15.4
60°-70°	1055.1	11.0
70°-80°	518.3	5.4
80°-90°	96.6	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°	3009.0	31.3
0°-40°	4757.5	49.5
0°-60°	7943.8	82.6
0°-90°	9613.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9613.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3548	3548	3548	3548	3548	
5°	3607	3637	3593	3621	3591	347
15°	3756	3807	3759	3762	3705	1060
25°	3365	3564	3512	3542	3352	1568
35°	2827	2784	2889	2751	2822	1760
45°	2128	2270	2201	2245	2112	1648
55°	1540	1679	1649	1662	1546	1377
65°	1012	1067	1099	1057	1011	997
75°	457	483	493	474	459	491
85°	65	69	69	68	68	91
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°	3547.9	3547.9	3547.9	3547.9	3547.9	3547.9	3547.9	3547.9	3547.9	3547.9	3547.9
2.5°	3564.5	3593.9	3569.6	3564.5	3544.0	3592.6	3574.7	3578.5	3564.5	3567.0	3547.9
5°	3606.6	3637.3	3614.3	3607.9	3587.5	3637.3	3619.4	3622.0	3607.9	3611.7	3592.6
7.5°	3656.5	3688.4	3664.1	3660.3	3641.1	3690.9	3674.3	3676.9	3661.6	3664.1	3645.0
10°	3703.7	3738.2	3713.9	3711.4	3692.2	3745.9	3728.0	3730.6	3712.7	3713.9	3692.2
12.5°	3740.8	3776.5	3752.3	3752.3	3734.4	3785.5	3771.4	3774.0	3756.1	3756.1	3730.6
15°	3756.1	3793.2	3767.6	3771.4	3753.5	3807.2	3794.4	3795.7	3780.4	3784.2	3758.7
17.5°	3747.2	3784.2	3761.2	3763.8	3747.2	3802.1	3789.3	3794.4	3781.7	3791.9	3770.2
20°	3719.1	3752.3	3724.2	3726.7	3713.9	3768.9	3759.9	3768.9	3759.9	3775.3	3756.1
22.5°	3628.3	3659.0	3643.7	3660.3	3657.7	3716.5	3711.4	3719.1	3705.0	3712.7	3692.2
25°	3365.2	3404.8	3399.7	3446.9	3491.6	3564.5	3559.4	3561.9	3532.5	3535.1	3512.1
27.5°	3224.6	3257.8	3238.7	3241.2	3223.4	3264.2	3266.8	3330.7	3369.0	3403.5	3388.2
30°	3108.4	3133.9	3087.9	3056.0	3010.0	3050.9	3048.3	3104.5	3172.2	3252.7	3255.3
32.5°	2983.2	2990.8	2925.7	2882.2	2865.6	2909.1	2906.5	2923.1	2974.2	3061.1	3099.4
35°	2827.3	2833.7	2753.2	2740.4	2740.4	2783.9	2773.6	2778.8	2806.9	2863.1	2888.6
37.5°	2659.9	2651.0	2605.0	2607.6	2617.8	2657.4	2649.7	2649.7	2658.7	2684.2	2652.3
40°	2468.3	2478.5	2464.5	2477.2	2486.2	2524.5	2520.7	2523.2	2519.4	2505.3	2469.6
42.5°	2298.4	2323.9	2339.3	2354.6	2355.9	2392.9	2390.4	2400.6	2381.4	2344.4	2332.9
45°	2128.5	2159.1	2201.3	2231.9	2234.5	2270.3	2270.3	2272.8	2233.2	2206.4	2201.3
47.5°	1975.1	2007.1	2050.5	2096.5	2104.2	2141.2	2141.2	2134.8	2092.7	2076.1	2059.5
50°	1821.8	1862.7	1903.6	1958.5	1962.4	1990.5	1991.8	1985.4	1966.2	1945.8	1915.1
52.5°	1676.2	1726.0	1765.6	1810.3	1812.9	1835.9	1830.8	1835.9	1838.4	1815.5	1778.4
55°	1539.5	1590.6	1625.1	1657.0	1663.4	1678.7	1668.5	1685.1	1700.5	1680.0	1649.4
57.5°	1399.0	1453.9	1483.3	1505.0	1510.1	1522.9	1512.7	1534.4	1554.8	1542.0	1521.6
60°	1272.5	1315.9	1336.4	1356.8	1358.1	1370.9	1361.9	1383.6	1406.6	1400.2	1386.2
62.5°	1142.2	1172.8	1188.2	1209.9	1203.5	1216.3	1220.1	1239.3	1255.9	1257.1	1245.6
65°	1011.8	1028.5	1041.2	1054.0	1056.6	1066.8	1070.6	1078.3	1103.8	1106.4	1098.7
67.5°	873.9	884.1	895.6	907.1	905.8	916.0	926.3	933.9	950.5	956.9	946.7
70°	734.6	747.4	753.8	758.9	757.6	767.8	776.8	783.2	798.5	802.3	793.4
72.5°	594.1	606.9	612.0	613.2	612.0	623.5	631.1	635.0	647.7	654.1	640.1
75°	457.4	474.0	476.5	474.0	472.7	482.9	486.8	493.1	502.1	503.4	493.1
77.5°	333.5	347.5	350.1	346.2	343.7	351.3	353.9	360.3	365.4	367.9	357.7
80°	223.6	237.6	236.4	235.1	231.2	236.4	240.2	242.7	246.6	246.6	238.9
82.5°	134.1	143.1	141.8	143.1	139.3	140.5	143.1	146.9	145.6	148.2	143.1
85°	65.2	69.0	69.0	69.0	67.7	69.0	70.3	72.8	70.3	72.8	69.0
87.5°	23.0	24.3	23.0	23.0	23.0	23.0	24.3	24.3	23.0	24.3	23.0
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°	3547.9	3547.9	3547.9	3547.9	3547.9	3547.9	3547.9	3547.9	3547.9	3547.9
2.5°	3574.7	3554.2	3574.7	3565.7	3577.2	3573.4	3574.7	3588.7	3556.8	3549.1
5°	3619.4	3597.7	3618.1	3611.7	3620.7	3616.8	3619.4	3633.5	3600.2	3591.3
7.5°	3670.5	3647.5	3668.0	3659.0	3668.0	3664.1	3665.4	3676.9	3642.4	3634.7
10°	3717.8	3693.5	3711.4	3702.4	3707.6	3703.7	3706.3	3713.9	3676.9	3668.0
12.5°	3754.8	3730.6	3748.4	3738.2	3740.8	3735.7	3734.4	3738.2	3699.9	3689.7
15°	3785.5	3761.2	3774.0	3763.8	3762.5	3754.8	3752.3	3753.5	3715.2	3705.0
17.5°	3794.4	3766.3	3774.0	3762.5	3758.7	3752.3	3749.7	3752.3	3715.2	3705.0
20°	3776.5	3743.3	3747.2	3733.1	3728.0	3722.9	3722.9	3726.7	3690.9	3684.6
22.5°	3715.2	3687.1	3696.1	3687.1	3682.0	3676.9	3668.0	3659.0	3613.0	3604.1
25°	3536.4	3517.2	3550.4	3555.5	3541.5	3514.6	3464.8	3426.5	3360.1	3352.4
27.5°	3404.8	3365.2	3325.6	3275.7	3246.3	3234.8	3242.5	3256.6	3222.1	3209.3
30°	3257.8	3172.2	3095.6	3044.5	3025.3	3022.8	3053.4	3090.5	3096.9	3099.4
32.5°	3075.2	2966.6	2907.8	2891.2	2878.4	2874.6	2884.8	2927.0	2953.8	2978.1
35°	2868.2	2792.8	2762.1	2763.4	2750.6	2745.5	2739.1	2764.7	2792.8	2822.2
37.5°	2675.3	2642.0	2633.1	2638.2	2624.2	2616.5	2608.8	2615.2	2624.2	2634.4
40°	2493.8	2501.5	2506.6	2510.5	2492.6	2487.5	2481.1	2478.5	2463.2	2438.9
42.5°	2339.3	2359.7	2382.7	2382.7	2363.5	2361.0	2362.3	2354.6	2308.6	2275.4
45°	2206.4	2214.1	2253.7	2261.3	2244.7	2240.9	2242.2	2217.9	2145.1	2111.9
47.5°	2076.1	2079.9	2115.7	2133.6	2115.7	2111.9	2115.7	2064.6	1985.4	1968.8
50°	1944.5	1954.7	1970.0	1986.6	1970.0	1968.8	1964.9	1916.4	1838.4	1829.5
52.5°	1811.6	1832.1	1824.4	1828.2	1818.0	1819.3	1823.1	1773.3	1701.7	1686.4
55°	1676.2	1695.4	1676.2	1666.0	1662.1	1666.0	1673.6	1627.6	1571.4	1545.9
57.5°	1542.0	1553.5	1533.1	1512.7	1506.3	1515.2	1521.6	1483.3	1434.7	1415.6
60°	1402.8	1400.2	1383.6	1364.5	1351.7	1361.9	1372.1	1337.6	1294.2	1282.7
62.5°	1255.9	1253.3	1232.9	1216.3	1203.5	1211.2	1221.4	1188.2	1158.8	1148.6
65°	1105.1	1102.6	1080.8	1068.1	1056.6	1059.1	1070.6	1040.0	1022.1	1010.6
67.5°	959.5	950.5	928.8	921.1	907.1	912.2	919.9	895.6	879.0	868.8
70°	806.2	798.5	779.3	771.7	760.2	762.7	770.4	755.1	737.2	730.8
72.5°	650.3	649.0	631.1	620.9	614.5	615.8	622.2	614.5	597.9	592.8
75°	499.5	503.4	489.3	480.4	474.0	474.0	481.7	482.9	465.0	458.7
77.5°	367.9	367.9	356.4	357.7	347.5	347.5	352.6	357.7	338.6	334.7
80°	246.6	245.3	241.5	237.6	232.5	233.8	237.6	244.0	228.7	230.0
82.5°	145.6	145.6	145.6	143.1	139.3	138.0	143.1	148.2	138.0	138.0
85°	71.5	70.3	70.3	70.3	67.7	66.4	70.3	72.8	66.4	67.7
87.5°	24.3	23.0	23.0	24.3	23.0	23.0	23.0	23.0	21.7	23.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)