

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: P183636

Luminaire Tested: **LSM45M9040D010TEP**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P183636
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: LSM45M9040D010TEP
Description: PORTFOLIO SURFACE MOUNT LED LUMINAIRE, MEDIUM DISTRIBUTION WITH CLEAR GLASS LENS
Light Source: 90 CRI, 4000K CCT LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4250.6 lumens
Efficiency: N/A
Efficacy: 95.1 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

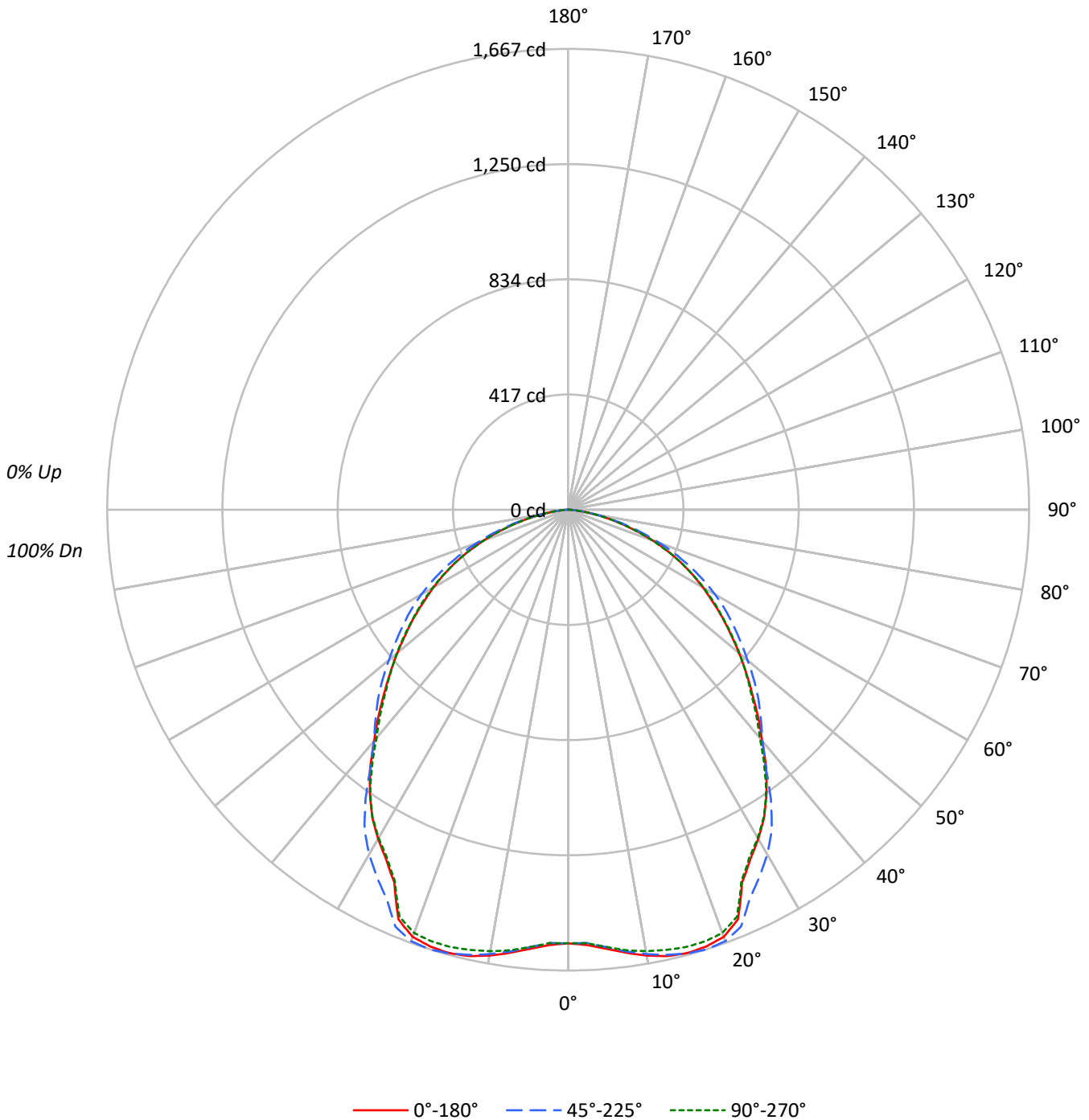
Input Watts (W): 44.68
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	16986	16986	16986
5°	17333	17266	17259
10°	18007	17951	17832
15°	18618	18630	18364
20°	18948	19137	18773
25°	17778	18553	17710
30°	17184	17997	17135
35°	16526	16884	16495
40°	15426	15435	15243
45°	14412	14905	14299
50°	13570	14264	13627
55°	12851	13767	12904
60°	12184	13274	12282
65°	11464	12448	11448
70°	10283	11107	10230
75°	8460	9121	8485
80°	6167	6585	6342
85°	3578	3789	3715



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.8	3.6
10°-20°	470.3	11.1
20°-30°	706.2	16.6
30°-40°	773.1	18.2
40°-50°	756.2	17.8
50°-60°	652.5	15.4
60°-70°	466.5	11.0
70°-80°	229.2	5.4
80°-90°	42.7	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°	1330.4	31.3
0°-40°	2103.5	49.5
0°-60°	3512.2	82.6
0°-90°	4250.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4250.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1569	1569	1569	1569	1569	
5°	1595	1608	1588	1601	1588	154
15°	1661	1683	1662	1664	1638	469
25°	1488	1576	1553	1566	1482	693
35°	1250	1231	1277	1216	1248	778
45°	941	1004	973	992	934	729
55°	681	742	729	735	684	609
65°	447	472	486	467	447	441
75°	202	214	218	210	203	217
85°	29	30	30	30	30	40
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°	1568.6	1568.6	1568.6	1568.6	1568.6	1568.6	1568.6	1568.6	1568.6	1568.6	1568.6
2.5°	1576.0	1589.0	1578.2	1576.0	1566.9	1588.4	1580.5	1582.2	1576.0	1577.1	1568.6
5°	1594.6	1608.2	1598.0	1595.2	1586.2	1608.2	1600.3	1601.4	1595.2	1596.9	1588.4
7.5°	1616.7	1630.8	1620.0	1618.4	1609.9	1631.9	1624.6	1625.7	1618.9	1620.0	1611.6
10°	1637.6	1652.8	1642.1	1640.9	1632.5	1656.2	1648.3	1649.4	1641.5	1642.1	1632.5
12.5°	1653.9	1669.8	1659.0	1659.0	1651.1	1673.7	1667.5	1668.6	1660.7	1660.7	1649.4
15°	1660.7	1677.1	1665.8	1667.5	1659.6	1683.3	1677.7	1678.2	1671.4	1673.1	1661.8
17.5°	1656.8	1673.1	1663.0	1664.1	1656.8	1681.1	1675.4	1677.7	1672.0	1676.5	1666.9
20°	1644.3	1659.0	1646.6	1647.7	1642.1	1666.4	1662.4	1666.4	1662.4	1669.2	1660.7
22.5°	1604.2	1617.8	1611.0	1618.4	1617.2	1643.2	1640.9	1644.3	1638.1	1641.5	1632.5
25°	1487.9	1505.4	1503.1	1524.0	1543.8	1576.0	1573.7	1574.9	1561.9	1563.0	1552.8
27.5°	1425.7	1440.4	1431.9	1433.1	1425.2	1443.2	1444.4	1472.6	1489.6	1504.8	1498.0
30°	1374.3	1385.6	1365.3	1351.2	1330.8	1348.9	1347.8	1372.6	1402.6	1438.2	1439.3
32.5°	1319.0	1322.4	1293.6	1274.3	1267.0	1286.2	1285.1	1292.4	1315.0	1353.4	1370.4
35°	1250.1	1252.9	1217.3	1211.6	1211.6	1230.9	1226.3	1228.6	1241.0	1265.9	1277.2
37.5°	1176.1	1172.1	1151.8	1152.9	1157.4	1174.9	1171.5	1171.5	1175.5	1186.8	1172.7
40°	1091.3	1095.8	1089.6	1095.3	1099.2	1116.2	1114.5	1115.6	1113.9	1107.7	1091.9
42.5°	1016.2	1027.5	1034.3	1041.1	1041.6	1058.0	1056.9	1061.4	1052.9	1036.5	1031.5
45°	941.1	954.6	973.3	986.8	988.0	1003.8	1003.8	1004.9	987.4	975.5	973.3
47.5°	873.3	887.4	906.6	927.0	930.3	946.7	946.7	943.9	925.3	917.9	910.6
50°	805.5	823.6	841.7	865.9	867.6	880.1	880.6	877.8	869.3	860.3	846.7
52.5°	741.1	763.1	780.6	800.4	801.5	811.7	809.5	811.7	812.8	802.7	786.3
55°	680.7	703.3	718.5	732.6	735.5	742.2	737.7	745.1	751.8	742.8	729.2
57.5°	618.5	642.8	655.8	665.4	667.7	673.3	668.8	678.4	687.4	681.8	672.8
60°	562.6	581.8	590.9	599.9	600.5	606.1	602.2	611.8	621.9	619.1	612.9
62.5°	505.0	518.6	525.3	534.9	532.1	537.8	539.5	547.9	555.3	555.8	550.7
65°	447.4	454.7	460.4	466.0	467.1	471.7	473.4	476.7	488.0	489.2	485.8
67.5°	386.4	390.9	396.0	401.1	400.5	405.0	409.5	412.9	420.3	423.1	418.6
70°	324.8	330.4	333.3	335.5	335.0	339.5	343.4	346.3	353.0	354.7	350.8
72.5°	262.7	268.3	270.6	271.1	270.6	275.7	279.0	280.7	286.4	289.2	283.0
75°	202.2	209.6	210.7	209.6	209.0	213.5	215.2	218.0	222.0	222.6	218.0
77.5°	147.4	153.6	154.8	153.1	151.9	155.3	156.5	159.3	161.6	162.7	158.2
80°	98.9	105.1	104.5	103.9	102.2	104.5	106.2	107.3	109.0	109.0	105.6
82.5°	59.3	63.3	62.7	63.3	61.6	62.1	63.3	65.0	64.4	65.5	63.3
85°	28.8	30.5	30.5	30.5	29.9	30.5	31.1	32.2	31.1	32.2	30.5
87.5°	10.2	10.7	10.2	10.2	10.2	10.2	10.7	10.7	10.2	10.7	10.2
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°	1568.6	1568.6	1568.6	1568.6	1568.6	1568.6	1568.6	1568.6	1568.6	1568.6
2.5°	1580.5	1571.5	1580.5	1576.6	1581.6	1579.9	1580.5	1586.7	1572.6	1569.2
5°	1600.3	1590.7	1599.7	1596.9	1600.8	1599.1	1600.3	1606.5	1591.8	1587.8
7.5°	1622.9	1612.7	1621.7	1617.8	1621.7	1620.0	1620.6	1625.7	1610.4	1607.1
10°	1643.8	1633.0	1640.9	1637.0	1639.3	1637.6	1638.7	1642.1	1625.7	1621.7
12.5°	1660.2	1649.4	1657.3	1652.8	1653.9	1651.7	1651.1	1652.8	1635.9	1631.3
15°	1673.7	1663.0	1668.6	1664.1	1663.5	1660.2	1659.0	1659.6	1642.6	1638.1
17.5°	1677.7	1665.2	1668.6	1663.5	1661.8	1659.0	1657.9	1659.0	1642.6	1638.1
20°	1669.8	1655.1	1656.8	1650.5	1648.3	1646.0	1646.0	1647.7	1631.9	1629.1
22.5°	1642.6	1630.2	1634.2	1630.2	1628.0	1625.7	1621.7	1617.8	1597.5	1593.5
25°	1563.6	1555.1	1569.8	1572.0	1565.8	1554.0	1531.9	1515.0	1485.6	1482.2
27.5°	1505.4	1487.9	1470.4	1448.3	1435.3	1430.2	1433.6	1439.9	1424.6	1419.0
30°	1440.4	1402.6	1368.7	1346.1	1337.6	1336.5	1350.0	1366.4	1369.2	1370.4
32.5°	1359.6	1311.6	1285.6	1278.3	1272.7	1271.0	1275.5	1294.1	1306.0	1316.7
35°	1268.1	1234.8	1221.2	1221.8	1216.2	1213.9	1211.1	1222.4	1234.8	1247.8
37.5°	1182.8	1168.2	1164.2	1166.5	1160.2	1156.9	1153.5	1156.3	1160.2	1164.8
40°	1102.6	1106.0	1108.3	1110.0	1102.1	1099.8	1097.0	1095.8	1089.1	1078.3
42.5°	1034.3	1043.3	1053.5	1053.5	1045.0	1043.9	1044.4	1041.1	1020.7	1006.0
45°	975.5	978.9	996.4	999.8	992.5	990.8	991.3	980.6	948.4	933.7
47.5°	917.9	919.6	935.4	943.3	935.4	933.7	935.4	912.8	877.8	870.5
50°	859.7	864.3	871.0	878.4	871.0	870.5	868.8	847.3	812.8	808.9
52.5°	801.0	810.0	806.6	808.3	803.8	804.4	806.1	784.0	752.4	745.6
55°	741.1	749.6	741.1	736.6	734.9	736.6	740.0	719.6	694.8	683.5
57.5°	681.8	686.9	677.8	668.8	666.0	669.9	672.8	655.8	634.3	625.9
60°	620.2	619.1	611.8	603.3	597.6	602.2	606.7	591.4	572.2	567.1
62.5°	555.3	554.1	545.1	537.8	532.1	535.5	540.0	525.3	512.3	507.8
65°	488.6	487.5	477.9	472.2	467.1	468.3	473.4	459.8	451.9	446.8
67.5°	424.2	420.3	410.7	407.3	401.1	403.3	406.7	396.0	388.6	384.1
70°	356.4	353.0	344.6	341.2	336.1	337.2	340.6	333.8	325.9	323.1
72.5°	287.5	287.0	279.0	274.5	271.7	272.3	275.1	271.7	264.4	262.1
75°	220.9	222.6	216.3	212.4	209.6	209.6	213.0	213.5	205.6	202.8
77.5°	162.7	162.7	157.6	158.2	153.6	153.6	155.9	158.2	149.7	148.0
80°	109.0	108.5	106.8	105.1	102.8	103.4	105.1	107.9	101.1	101.7
82.5°	64.4	64.4	64.4	63.3	61.6	61.0	63.3	65.5	61.0	61.0
85°	31.6	31.1	31.1	31.1	29.9	29.4	31.1	32.2	29.4	29.9
87.5°	10.7	10.2	10.2	10.7	10.2	10.2	10.2	10.2	9.6	10.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)