

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: P183621

Luminaire Tested: **LSM45M9027D010TEP**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P183621
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: LSM45M9027D010TEP
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: 3840.0 lumens
Efficiency: N/A
Efficacy: 85.9 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

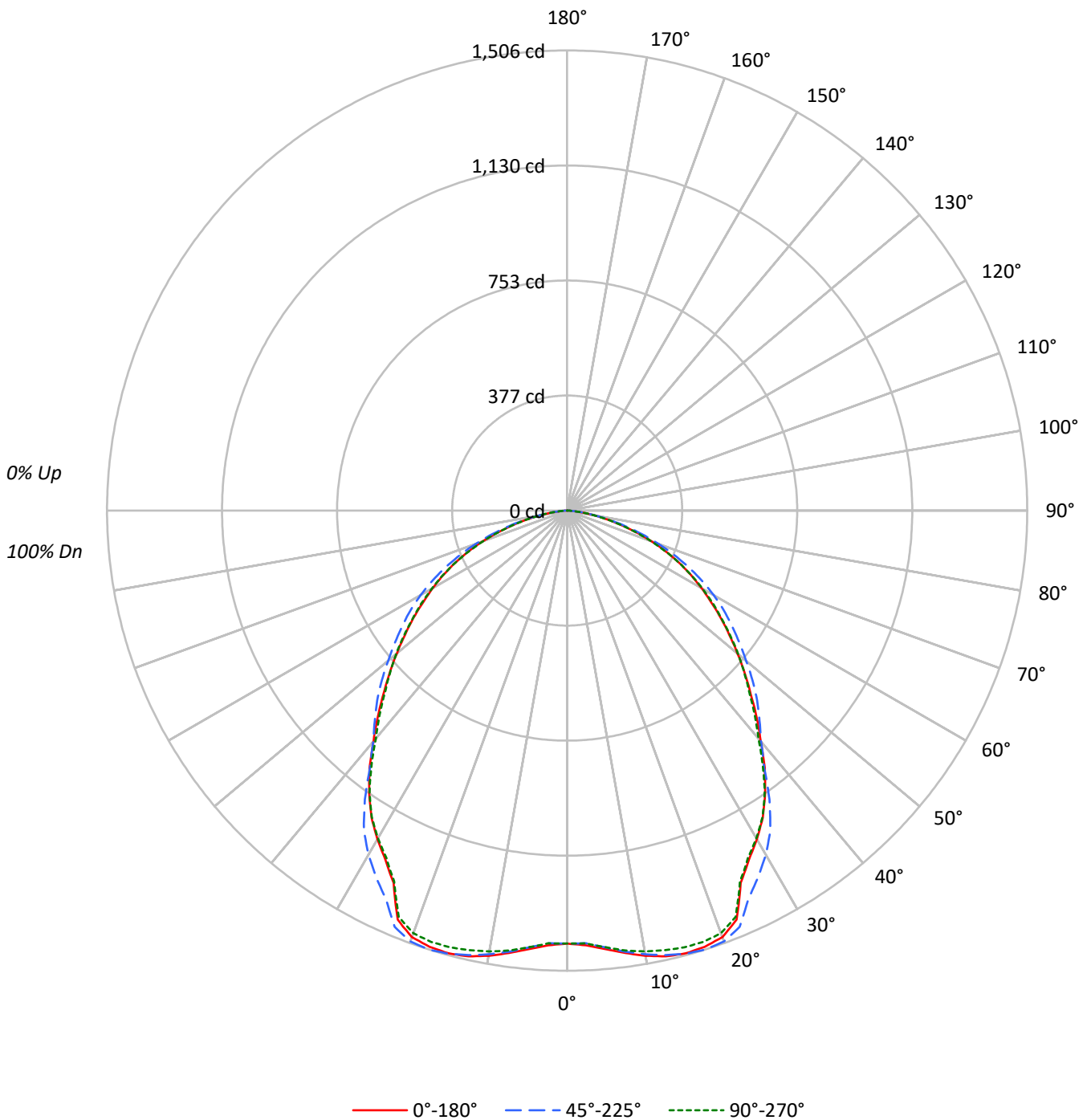
Input Watts (W): 44.68
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	15345	15345	15345
5°	15659	15599	15592
10°	16266	16216	16110
15°	16819	16831	16591
20°	17118	17289	16959
25°	16059	16761	15999
30°	15524	16258	15480
35°	14929	15253	14901
40°	13937	13944	13771
45°	13020	13464	12917
50°	12259	12886	12310
55°	11609	12438	11658
60°	11008	11992	11095
65°	10357	11246	10341
70°	9289	10033	9242
75°	7644	8242	7665
80°	5569	5949	5731
85°	3230	3429	3355



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.0	3.6
10°-20°	424.9	11.1
20°-30°	638.0	16.6
30°-40°	698.4	18.2
40°-50°	683.2	17.8
50°-60°	589.5	15.4
60°-70°	421.4	11.0
70°-80°	207.0	5.4
80°-90°	38.6	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°	1201.9	31.3
0°-40°	1900.3	49.5
0°-60°	3172.9	82.6
0°-90°	3840.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3840.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1417	1417	1417	1417	1417	
5°	1441	1453	1435	1446	1434	139
15°	1500	1521	1501	1503	1480	423
25°	1344	1424	1403	1414	1339	626
35°	1129	1112	1154	1099	1127	703
45°	850	907	879	897	844	658
55°	615	670	659	664	618	550
65°	404	426	439	422	404	398
75°	183	193	197	189	183	196
85°	26	28	28	27	27	36
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°	1417.1	1417.1	1417.1	1417.1	1417.1	1417.1	1417.1	1417.1	1417.1	1417.1	1417.1
2.5°	1423.7	1435.5	1425.8	1423.7	1415.6	1435.0	1427.8	1429.3	1423.7	1424.7	1417.1
5°	1440.6	1452.8	1443.6	1441.1	1432.9	1452.8	1445.7	1446.7	1441.1	1442.6	1435.0
7.5°	1460.5	1473.2	1463.5	1462.0	1454.3	1474.2	1467.6	1468.6	1462.5	1463.5	1455.9
10°	1479.3	1493.1	1483.4	1482.4	1474.8	1496.2	1489.0	1490.1	1482.9	1483.4	1474.8
12.5°	1494.1	1508.4	1498.7	1498.7	1491.6	1512.0	1506.4	1507.4	1500.3	1500.3	1490.1
15°	1500.3	1515.1	1504.9	1506.4	1499.2	1520.7	1515.6	1516.1	1510.0	1511.5	1501.3
17.5°	1496.7	1511.5	1502.3	1503.3	1496.7	1518.6	1513.5	1515.6	1510.5	1514.6	1505.9
20°	1485.5	1498.7	1487.5	1488.5	1483.4	1505.4	1501.8	1505.4	1501.8	1507.9	1500.3
22.5°	1449.2	1461.5	1455.4	1462.0	1461.0	1484.5	1482.4	1485.5	1479.9	1482.9	1474.8
25°	1344.1	1359.9	1357.9	1376.8	1394.6	1423.7	1421.7	1422.7	1411.0	1412.0	1402.8
27.5°	1288.0	1301.3	1293.6	1294.6	1287.5	1303.8	1304.8	1330.3	1345.7	1359.4	1353.3
30°	1241.5	1251.8	1233.4	1220.6	1202.3	1218.6	1217.6	1240.0	1267.1	1299.2	1300.2
32.5°	1191.5	1194.6	1168.6	1151.2	1144.6	1161.9	1160.9	1167.6	1188.0	1222.7	1238.0
35°	1129.3	1131.8	1099.7	1094.6	1094.6	1111.9	1107.9	1109.9	1121.1	1143.6	1153.8
37.5°	1062.4	1058.9	1040.5	1041.5	1045.6	1061.4	1058.4	1058.4	1061.9	1072.1	1059.4
40°	985.9	990.0	984.4	989.5	993.0	1008.3	1006.8	1007.8	1006.3	1000.7	986.4
42.5°	918.0	928.2	934.4	940.5	941.0	955.8	954.8	958.8	951.2	936.4	931.8
45°	850.2	862.4	879.2	891.5	892.5	906.8	906.8	907.8	892.0	881.3	879.2
47.5°	788.9	801.7	819.0	837.4	840.5	855.3	855.3	852.7	835.9	829.2	822.6
50°	727.7	744.0	760.3	782.3	783.8	795.0	795.6	793.0	785.3	777.2	764.9
52.5°	669.5	689.4	705.2	723.1	724.1	733.3	731.3	733.3	734.3	725.1	710.3
55°	614.9	635.3	649.1	661.9	664.4	670.5	666.4	673.1	679.2	671.0	658.8
57.5°	558.8	580.7	592.5	601.1	603.2	608.3	604.2	612.9	621.0	615.9	607.8
60°	508.3	525.6	533.8	541.9	542.4	547.5	544.0	552.7	561.8	559.3	553.7
62.5°	456.2	468.5	474.6	483.3	480.7	485.8	487.3	495.0	501.6	502.1	497.5
65°	404.2	410.8	415.9	421.0	422.0	426.1	427.6	430.7	440.9	441.9	438.9
67.5°	349.0	353.1	357.7	362.3	361.8	365.9	370.0	373.0	379.7	382.2	378.1
70°	293.4	298.5	301.1	303.1	302.6	306.7	310.3	312.8	318.9	320.5	316.9
72.5°	237.3	242.4	244.4	244.9	244.4	249.0	252.1	253.6	258.7	261.3	255.7
75°	182.7	189.3	190.3	189.3	188.8	192.9	194.4	197.0	200.5	201.1	197.0
77.5°	133.2	138.8	139.8	138.3	137.3	140.3	141.4	143.9	145.9	147.0	142.9
80°	89.3	94.9	94.4	93.9	92.4	94.4	95.9	97.0	98.5	98.5	95.4
82.5°	53.6	57.2	56.6	57.2	55.6	56.1	57.2	58.7	58.2	59.2	57.2
85°	26.0	27.6	27.6	27.6	27.0	27.6	28.1	29.1	28.1	29.1	27.6
87.5°	9.2	9.7	9.2	9.2	9.2	9.2	9.7	9.7	9.2	9.7	9.2
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°	1417.1	1417.1	1417.1	1417.1	1417.1	1417.1	1417.1	1417.1	1417.1	1417.1
2.5°	1427.8	1419.6	1427.8	1424.2	1428.8	1427.3	1427.8	1433.4	1420.7	1417.6
5°	1445.7	1437.0	1445.2	1442.6	1446.2	1444.6	1445.7	1451.3	1438.0	1434.4
7.5°	1466.1	1456.9	1465.1	1461.5	1465.1	1463.5	1464.0	1468.6	1454.9	1451.8
10°	1485.0	1475.3	1482.4	1478.8	1480.9	1479.3	1480.4	1483.4	1468.6	1465.1
12.5°	1499.8	1490.1	1497.2	1493.1	1494.1	1492.1	1491.6	1493.1	1477.8	1473.7
15°	1512.0	1502.3	1507.4	1503.3	1502.8	1499.8	1498.7	1499.2	1483.9	1479.9
17.5°	1515.6	1504.4	1507.4	1502.8	1501.3	1498.7	1497.7	1498.7	1483.9	1479.9
20°	1508.4	1495.2	1496.7	1491.1	1489.0	1487.0	1487.0	1488.5	1474.2	1471.7
22.5°	1483.9	1472.7	1476.3	1472.7	1470.7	1468.6	1465.1	1461.5	1443.1	1439.5
25°	1412.5	1404.8	1418.1	1420.2	1414.5	1403.8	1383.9	1368.6	1342.1	1339.0
27.5°	1359.9	1344.1	1328.3	1308.4	1296.7	1292.1	1295.1	1300.7	1287.0	1281.9
30°	1301.3	1267.1	1236.4	1216.0	1208.4	1207.4	1219.6	1234.4	1237.0	1238.0
32.5°	1228.3	1184.9	1161.4	1154.8	1149.7	1148.2	1152.2	1169.1	1179.8	1189.5
35°	1145.6	1115.5	1103.3	1103.8	1098.7	1096.6	1094.1	1104.3	1115.5	1127.2
37.5°	1068.6	1055.3	1051.7	1053.8	1048.1	1045.1	1042.0	1044.6	1048.1	1052.2
40°	996.1	999.2	1001.2	1002.7	995.6	993.5	991.0	990.0	983.9	974.2
42.5°	934.4	942.5	951.7	951.7	944.0	943.0	943.5	940.5	922.1	908.8
45°	881.3	884.3	900.2	903.2	896.6	895.1	895.6	885.9	856.8	843.5
47.5°	829.2	830.8	845.1	852.2	845.1	843.5	845.1	824.6	793.0	786.4
50°	776.7	780.8	786.9	793.5	786.9	786.4	784.8	765.4	734.3	730.7
52.5°	723.6	731.8	728.7	730.2	726.2	726.7	728.2	708.3	679.7	673.6
55°	669.5	677.2	669.5	665.4	663.9	665.4	668.5	650.1	627.7	617.5
57.5°	615.9	620.5	612.4	604.2	601.6	605.2	607.8	592.5	573.1	565.4
60°	560.3	559.3	552.7	545.0	539.9	544.0	548.1	534.3	516.9	512.3
62.5°	501.6	500.6	492.4	485.8	480.7	483.8	487.8	474.6	462.8	458.8
65°	441.4	440.4	431.7	426.6	422.0	423.0	427.6	415.4	408.2	403.6
67.5°	383.2	379.7	371.0	367.9	362.3	364.4	367.4	357.7	351.1	347.0
70°	322.0	318.9	311.3	308.2	303.6	304.6	307.7	301.6	294.4	291.9
72.5°	259.7	259.2	252.1	248.0	245.5	246.0	248.5	245.5	238.8	236.8
75°	199.5	201.1	195.4	191.9	189.3	189.3	192.4	192.9	185.7	183.2
77.5°	147.0	147.0	142.4	142.9	138.8	138.8	140.8	142.9	135.2	133.7
80°	98.5	98.0	96.4	94.9	92.9	93.4	94.9	97.5	91.3	91.9
82.5°	58.2	58.2	58.2	57.2	55.6	55.1	57.2	59.2	55.1	55.1
85°	28.6	28.1	28.1	28.1	27.0	26.5	28.1	29.1	26.5	27.0
87.5°	9.7	9.2	9.2	9.7	9.2	9.2	9.2	9.2	8.7	9.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)