

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: P183631

Luminaire Tested: **LSM45M9035D010TEP**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P183631
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: LSM45M9035D010TEP
Description: PORTFOLIO SURFACE MOUNT LED LUMINAIRE, MEDIUM DISTRIBUTION WITH CLEAR GLASS LENS
Light Source: 90 CRI, 3500K CCT LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4116.5 lumens
Efficiency: N/A
Efficacy: 92.1 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

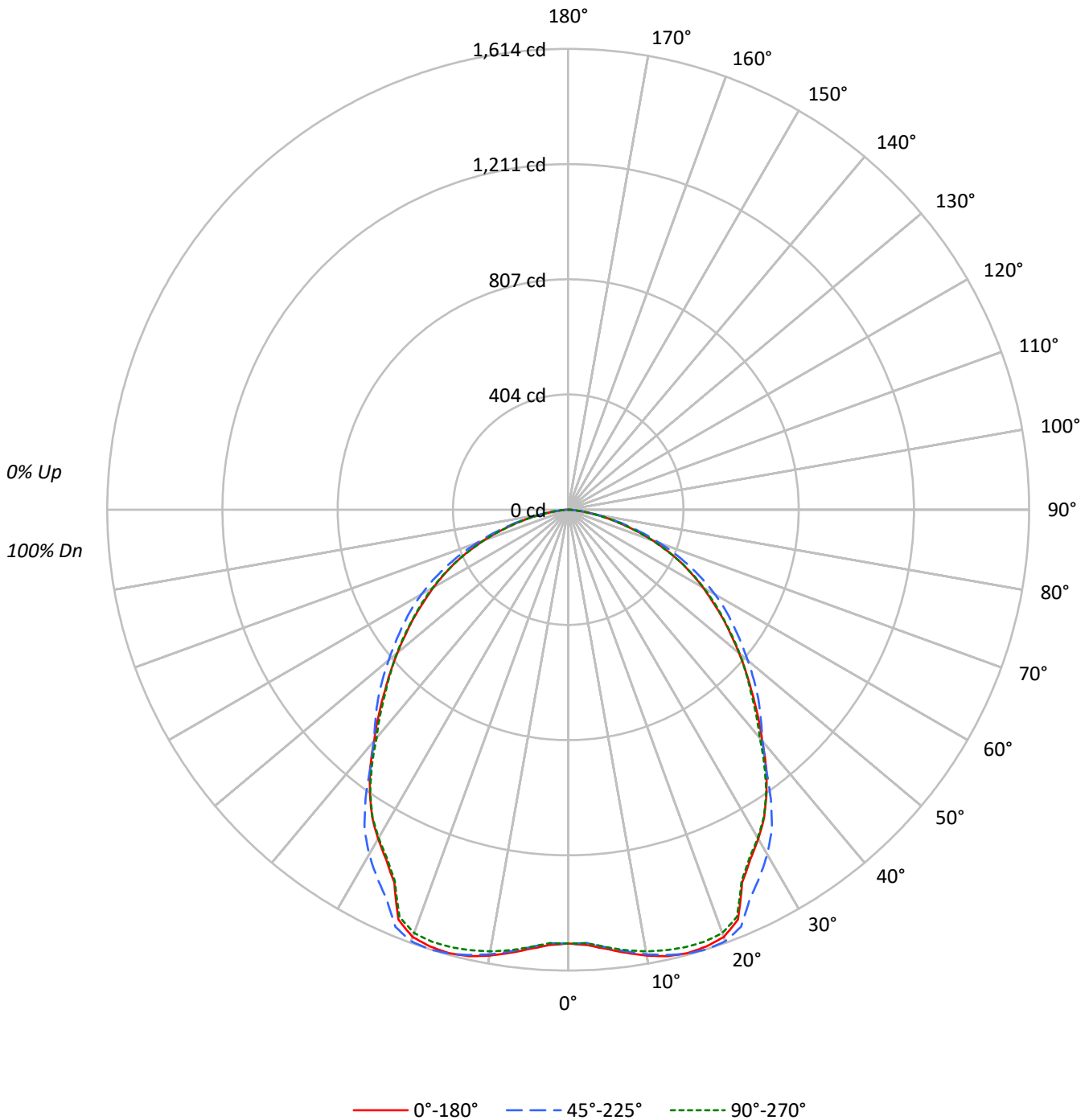
Input Watts (W): 44.68
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	16451	16451	16451
5°	16787	16721	16715
10°	17438	17384	17270
15°	18030	18042	17785
20°	18351	18533	18181
25°	17216	17968	17152
30°	16643	17429	16594
35°	16003	16351	15974
40°	14940	14947	14762
45°	13957	14435	13849
50°	13142	13814	13197
55°	12445	13333	12496
60°	11801	12854	11894
65°	11102	12056	11087
70°	9961	10755	9907
75°	8192	8836	8217
80°	5968	6379	6142
85°	3466	3665	3603



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.0	3.6
10°-20°	455.5	11.1
20°-30°	684.0	16.6
30°-40°	748.7	18.2
40°-50°	732.4	17.8
50°-60°	631.9	15.4
60°-70°	451.8	11.0
70°-80°	221.9	5.4
80°-90°	41.4	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°	1288.4	31.3
0°-40°	2037.1	49.5
0°-60°	3401.4	82.6
0°-90°	4116.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4116.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1519	1519	1519	1519	1519	
5°	1544	1557	1538	1550	1538	149
15°	1608	1630	1609	1611	1586	454
25°	1441	1526	1504	1516	1436	671
35°	1211	1192	1237	1178	1208	754
45°	911	972	943	961	904	706
55°	659	719	706	712	662	590
65°	433	457	470	452	433	427
75°	196	207	211	203	196	210
85°	28	30	30	29	29	39
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°	1519.2	1519.2	1519.2	1519.2	1519.2	1519.2	1519.2	1519.2	1519.2	1519.2	1519.2
2.5°	1526.3	1538.8	1528.5	1526.3	1517.5	1538.3	1530.6	1532.3	1526.3	1527.4	1519.2
5°	1544.3	1557.4	1547.6	1544.9	1536.1	1557.4	1549.8	1550.9	1544.9	1546.5	1538.3
7.5°	1565.6	1579.3	1568.9	1567.3	1559.1	1580.4	1573.3	1574.4	1567.8	1568.9	1560.7
10°	1585.9	1600.7	1590.3	1589.2	1581.0	1603.9	1596.3	1597.4	1589.7	1590.3	1581.0
12.5°	1601.8	1617.1	1606.7	1606.7	1599.0	1620.9	1614.9	1616.0	1608.3	1608.3	1597.4
15°	1608.3	1624.2	1613.2	1614.9	1607.2	1630.2	1624.7	1625.3	1618.7	1620.4	1609.4
17.5°	1604.5	1620.4	1610.5	1611.6	1604.5	1628.0	1622.5	1624.7	1619.3	1623.6	1614.3
20°	1592.5	1606.7	1594.6	1595.7	1590.3	1613.8	1610.0	1613.8	1610.0	1616.5	1608.3
22.5°	1553.6	1566.7	1560.2	1567.3	1566.2	1591.4	1589.2	1592.5	1586.4	1589.7	1581.0
25°	1440.9	1457.9	1455.7	1475.9	1495.1	1526.3	1524.1	1525.2	1512.6	1513.7	1503.8
27.5°	1380.7	1395.0	1386.8	1387.9	1380.2	1397.7	1398.8	1426.2	1442.6	1457.3	1450.8
30°	1331.0	1341.9	1322.2	1308.5	1288.8	1306.3	1305.3	1329.3	1358.3	1392.8	1393.9
32.5°	1277.4	1280.6	1252.7	1234.1	1227.0	1245.6	1244.5	1251.6	1273.5	1310.7	1327.1
35°	1210.6	1213.4	1178.9	1173.4	1173.4	1192.0	1187.6	1189.8	1201.9	1225.9	1236.9
37.5°	1139.0	1135.1	1115.4	1116.5	1120.9	1137.9	1134.6	1134.6	1138.4	1149.3	1135.7
40°	1056.9	1061.3	1055.3	1060.7	1064.6	1081.0	1079.3	1080.4	1078.8	1072.8	1057.4
42.5°	984.1	995.1	1001.6	1008.2	1008.8	1024.6	1023.5	1027.9	1019.7	1003.8	998.9
45°	911.4	924.5	942.6	955.7	956.8	972.1	972.1	973.2	956.2	944.8	942.6
47.5°	845.7	859.4	878.0	897.7	901.0	916.9	916.9	914.1	896.1	889.0	881.8
50°	780.1	797.6	815.1	838.6	840.3	852.3	852.8	850.1	841.9	833.2	820.0
52.5°	717.7	739.1	756.0	775.2	776.3	786.1	783.9	786.1	787.2	777.4	761.5
55°	659.2	681.1	695.8	709.5	712.3	718.8	714.4	721.6	728.1	719.4	706.2
57.5°	599.0	622.5	635.1	644.4	646.6	652.1	647.7	657.0	665.8	660.3	651.5
60°	544.9	563.5	572.2	581.0	581.5	587.0	583.2	592.5	602.3	599.6	593.5
62.5°	489.1	502.2	508.8	518.1	515.3	520.8	522.4	530.6	537.7	538.3	533.4
65°	433.3	440.4	445.8	451.3	452.4	456.8	458.4	461.7	472.6	473.7	470.5
67.5°	374.2	378.6	383.5	388.4	387.9	392.2	396.6	399.9	407.0	409.7	405.4
70°	314.6	320.0	322.8	324.9	324.4	328.8	332.6	335.3	341.9	343.5	339.7
72.5°	254.4	259.8	262.0	262.6	262.0	267.0	270.2	271.9	277.4	280.1	274.1
75°	195.8	203.0	204.0	203.0	202.4	206.8	208.4	211.2	215.0	215.5	211.2
77.5°	142.8	148.8	149.9	148.2	147.2	150.4	151.5	154.3	156.5	157.5	153.2
80°	95.7	101.8	101.2	100.7	99.0	101.2	102.8	103.9	105.6	105.6	102.3
82.5°	57.4	61.3	60.7	61.3	59.6	60.2	61.3	62.9	62.4	63.5	61.3
85°	27.9	29.5	29.5	29.5	29.0	29.5	30.1	31.2	30.1	31.2	29.5
87.5°	9.8	10.4	9.8	9.8	9.8	9.8	10.4	10.4	9.8	10.4	9.8
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°	1519.2	1519.2	1519.2	1519.2	1519.2	1519.2	1519.2	1519.2	1519.2	1519.2
2.5°	1530.6	1521.9	1530.6	1526.8	1531.7	1530.1	1530.6	1536.7	1523.0	1519.7
5°	1549.8	1540.5	1549.2	1546.5	1550.3	1548.7	1549.8	1555.8	1541.6	1537.7
7.5°	1571.7	1561.8	1570.6	1566.7	1570.6	1568.9	1569.5	1574.4	1559.6	1556.3
10°	1591.9	1581.5	1589.2	1585.3	1587.5	1585.9	1587.0	1590.3	1574.4	1570.6
12.5°	1607.8	1597.4	1605.0	1600.7	1601.8	1599.6	1599.0	1600.7	1584.2	1579.9
15°	1620.9	1610.5	1616.0	1611.6	1611.1	1607.8	1606.7	1607.2	1590.8	1586.4
17.5°	1624.7	1612.7	1616.0	1611.1	1609.4	1606.7	1605.6	1606.7	1590.8	1586.4
20°	1617.1	1602.8	1604.5	1598.5	1596.3	1594.1	1594.1	1595.7	1580.4	1577.7
22.5°	1590.8	1578.8	1582.6	1578.8	1576.6	1574.4	1570.6	1566.7	1547.0	1543.2
25°	1514.2	1506.0	1520.2	1522.4	1516.4	1504.9	1483.6	1467.2	1438.7	1435.5
27.5°	1457.9	1440.9	1424.0	1402.6	1390.0	1385.1	1388.4	1394.4	1379.7	1374.2
30°	1395.0	1358.3	1325.5	1303.6	1295.4	1294.3	1307.4	1323.3	1326.0	1327.1
32.5°	1316.7	1270.2	1245.1	1238.0	1232.5	1230.9	1235.2	1253.3	1264.8	1275.2
35°	1228.1	1195.8	1182.7	1183.3	1177.8	1175.6	1172.9	1183.8	1195.8	1208.4
37.5°	1145.5	1131.3	1127.5	1129.7	1123.6	1120.4	1117.1	1119.8	1123.6	1128.0
40°	1067.8	1071.1	1073.3	1074.9	1067.3	1065.1	1062.4	1061.3	1054.7	1044.3
42.5°	1001.6	1010.4	1020.2	1020.2	1012.0	1010.9	1011.5	1008.2	988.5	974.3
45°	944.8	948.0	965.0	968.3	961.2	959.5	960.1	949.7	918.5	904.3
47.5°	889.0	890.6	905.9	913.6	905.9	904.3	905.9	884.0	850.1	843.0
50°	832.6	837.0	843.5	850.7	843.5	843.0	841.4	820.6	787.2	783.4
52.5°	775.7	784.5	781.2	782.8	778.4	779.0	780.6	759.3	728.7	722.1
55°	717.7	725.9	717.7	713.3	711.7	713.3	716.6	696.9	672.9	661.9
57.5°	660.3	665.2	656.5	647.7	645.0	648.8	651.5	635.1	614.3	606.1
60°	600.7	599.6	592.5	584.2	578.8	583.2	587.5	572.8	554.2	549.2
62.5°	537.7	536.7	527.9	520.8	515.3	518.6	523.0	508.8	496.2	491.8
65°	473.2	472.1	462.8	457.3	452.4	453.5	458.4	445.3	437.6	432.7
67.5°	410.8	407.0	397.7	394.4	388.4	390.6	393.9	383.5	376.4	372.0
70°	345.2	341.9	333.7	330.4	325.5	326.6	329.9	323.3	315.6	312.9
72.5°	278.4	277.9	270.2	265.9	263.1	263.7	266.4	263.1	256.0	253.8
75°	213.9	215.5	209.5	205.7	203.0	203.0	206.2	206.8	199.1	196.4
77.5°	157.5	157.5	152.6	153.2	148.8	148.8	151.0	153.2	145.0	143.3
80°	105.6	105.0	103.4	101.8	99.6	100.1	101.8	104.5	97.9	98.5
82.5°	62.4	62.4	62.4	61.3	59.6	59.1	61.3	63.5	59.1	59.1
85°	30.6	30.1	30.1	30.1	29.0	28.4	30.1	31.2	28.4	29.0
87.5°	10.4	9.8	9.8	10.4	9.8	9.8	9.8	9.8	9.3	9.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)