

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: P840190

Luminaire Tested: **LD4C45D010 EU4459030 4LBCSSQMMS**

Issue Date: 5/25/2022

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P840190  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P209253)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/25/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: PORTFOLIO  
Catalog Number: LD4C45D010 EU4459030 4LBCSSQMMS  
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3000K, 90CRI LEDS  
AND 4LBCSSQ TRIM WITH MMS FINISH  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

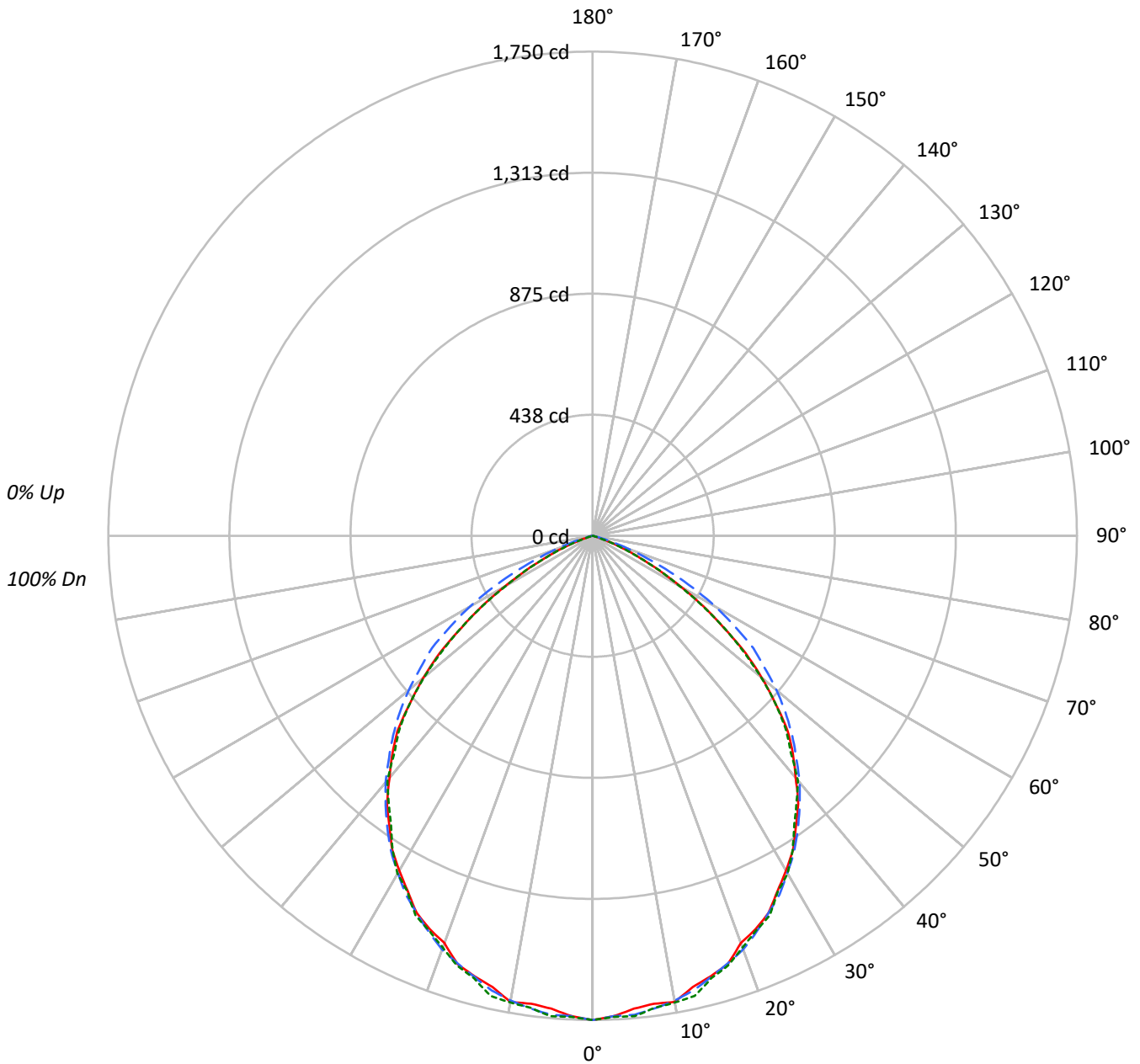
Lumens per Lamp: N/A  
Luminaire Lumens: 3739.0 lumens  
Efficiency: N/A  
Efficacy: 75.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 49.6  
Input Voltage (V):  
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	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100			100
1	111	108	104	101	109	105	102	100	101	99	96	97	95	94	94	92	91	89			89
2	103	96	91	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77			77
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67			67
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59			59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52			52
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46			46
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41			41
8	65	53	45	40	64	52	45	39	51	44	39	50	44	39	49	43	39	37			37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	33			33
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	31			31

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	168885	168885	168885
5°	166159	168329	168803
10°	167600	167110	167835
15°	164663	164903	165402
20°	160830	163387	162627
25°	160132	160132	161197
30°	155670	156784	157063
35°	150820	152280	149642
40°	143742	146551	145304
45°	136047	139103	134682
50°	119803	130251	119067
55°	97031	119203	97452
60°	70997	98843	69568
65°	43151	70389	42009
70°	16814	37888	16137
75°	1864	10215	1864
80°	1389	1389	1389
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	165.2	4.4
10°-20°	467.5	12.5
20°-30°	693.7	18.6
30°-40°	803.8	21.5
40°-50°	770.7	20.6
50°-60°	566.6	15.2
60°-70°	244.7	6.5
70°-80°	26.4	0.7
80°-90°	0.3	0.0
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°	1326.4	35.5
0°-40°	2130.2	57.0
0°-60°	3467.5	92.7
0°-90°	3739.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3739.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1750	1750	1750	1750	1750	
5°	1716	1733	1738	1740	1743	164
15°	1648	1658	1651	1653	1656	465
25°	1504	1502	1504	1507	1514	689
35°	1280	1288	1293	1290	1270	801
45°	997	1000	1019	1004	987	758
55°	577	636	709	634	579	519
65°	189	236	308	234	184	194
75°	5	8	27	5	5	15
85°	0	0	0	0	0	0
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°	1750.3	1750.3	1750.3	1750.3	1750.3	1750.3	1750.3	1750.3	1750.3	1750.3	1750.3
2.5°	1737.9	1757.7	1760.3	1747.8	1742.8	1735.4	1752.8	1740.4	1745.4	1740.4	1737.9
5°	1715.5	1737.9	1740.4	1740.4	1735.4	1732.9	1740.4	1737.9	1735.4	1730.5	1737.9
7.5°	1705.6	1718.0	1730.5	1715.5	1723.0	1720.5	1737.9	1730.5	1727.9	1727.9	1723.0
10°	1710.6	1708.0	1718.0	1703.1	1708.0	1703.1	1718.0	1718.0	1713.0	1708.0	1705.6
12.5°	1670.7	1690.6	1690.6	1688.2	1683.2	1675.7	1690.6	1700.6	1685.6	1685.6	1683.2
15°	1648.4	1653.4	1655.8	1655.8	1653.4	1658.3	1665.7	1655.8	1658.3	1645.9	1650.8
17.5°	1623.5	1613.6	1621.0	1616.0	1618.6	1623.5	1633.5	1633.5	1618.6	1616.0	1621.0
20°	1566.3	1596.2	1598.7	1583.8	1586.2	1586.2	1603.7	1588.7	1598.7	1586.2	1591.2
22.5°	1538.9	1558.8	1561.4	1541.5	1553.9	1538.9	1556.4	1534.0	1558.8	1541.5	1548.9
25°	1504.1	1501.7	1509.1	1499.2	1501.7	1501.7	1514.1	1504.1	1511.7	1501.7	1504.1
27.5°	1447.0	1466.9	1464.4	1454.4	1459.4	1457.0	1481.8	1454.4	1469.4	1457.0	1461.9
30°	1397.2	1414.7	1409.7	1399.8	1399.8	1392.3	1419.6	1412.1	1409.7	1409.7	1407.2
32.5°	1347.5	1350.1	1345.1	1347.5	1350.1	1340.1	1362.4	1352.5	1350.1	1352.5	1355.0
35°	1280.4	1280.4	1285.3	1277.9	1287.9	1287.9	1307.8	1295.3	1292.8	1285.3	1292.8
37.5°	1220.7	1213.3	1215.8	1215.8	1220.7	1225.7	1235.6	1230.7	1230.7	1223.3	1228.2
40°	1141.2	1136.2	1143.6	1143.6	1151.1	1151.1	1161.1	1156.1	1163.5	1163.5	1163.5
42.5°	1071.6	1071.6	1066.6	1074.0	1076.6	1074.0	1091.5	1089.0	1091.5	1086.5	1089.0
45°	997.0	997.0	992.0	989.5	1001.9	999.5	1019.4	1011.9	1021.8	1016.8	1019.4
47.5°	895.0	907.5	900.0	907.5	922.4	924.9	937.3	932.3	942.3	934.9	944.8
50°	798.1	798.1	805.5	815.5	830.4	832.9	847.8	857.8	862.7	865.2	867.7
52.5°	696.2	693.6	701.2	713.5	726.0	735.9	750.9	765.8	775.7	790.6	783.1
55°	576.8	581.8	589.3	604.2	624.1	636.4	648.9	668.8	686.2	693.6	708.6
57.5°	474.8	469.9	474.8	494.7	517.1	527.1	544.5	564.4	589.3	604.2	609.1
60°	367.9	370.5	375.4	392.9	410.2	425.1	432.6	464.9	487.3	502.2	512.2
62.5°	271.0	276.0	281.0	295.9	313.2	325.7	338.1	365.5	385.4	400.3	410.2
65°	189.0	191.4	198.9	206.3	223.8	236.2	246.1	268.5	288.4	300.9	308.3
67.5°	116.9	119.3	124.3	134.3	146.7	156.6	166.6	181.5	198.9	211.3	213.8
70°	59.6	62.2	64.6	72.1	82.1	87.0	94.4	106.9	119.3	129.2	134.3
72.5°	19.9	19.9	22.4	27.4	32.4	37.3	39.8	52.2	62.2	67.2	69.6
75°	5.0	5.0	5.0	5.0	5.0	7.5	7.5	14.9	19.9	24.9	27.4
77.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	5.0	5.0
80°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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°	1750.3	1750.3	1750.3	1750.3	1750.3	1750.3	1750.3	1750.3	1750.3	1750.3
2.5°	1750.3	1745.4	1742.8	1745.4	1745.4	1742.8	1750.3	1760.3	1772.7	1740.4
5°	1747.8	1742.8	1747.8	1732.9	1740.4	1735.4	1745.4	1742.8	1752.8	1742.8
7.5°	1740.4	1730.5	1732.9	1725.5	1735.4	1723.0	1730.5	1745.4	1735.4	1720.5
10°	1715.5	1710.6	1727.9	1703.1	1698.1	1708.0	1727.9	1713.0	1708.0	1713.0
12.5°	1690.6	1690.6	1698.1	1678.2	1680.7	1685.6	1695.6	1685.6	1690.6	1703.1
15°	1663.3	1658.3	1670.7	1655.8	1653.4	1648.4	1658.3	1658.3	1663.3	1655.8
17.5°	1630.9	1623.5	1623.5	1618.6	1616.0	1628.5	1633.5	1635.9	1638.5	1628.5
20°	1591.2	1588.7	1596.2	1588.7	1591.2	1593.7	1593.7	1588.7	1611.1	1583.8
22.5°	1548.9	1556.4	1546.4	1541.5	1546.4	1551.4	1551.4	1553.9	1548.9	1543.9
25°	1506.7	1511.7	1514.1	1499.2	1506.7	1499.2	1516.6	1519.1	1509.1	1514.1
27.5°	1469.4	1461.9	1459.4	1449.5	1454.4	1452.0	1454.4	1454.4	1469.4	1449.5
30°	1412.1	1404.7	1407.2	1399.8	1402.2	1399.8	1402.2	1402.2	1412.1	1409.7
32.5°	1357.5	1350.1	1352.5	1345.1	1345.1	1347.5	1342.6	1342.6	1350.1	1345.1
35°	1305.2	1287.9	1290.3	1287.9	1290.3	1280.4	1280.4	1277.9	1282.9	1270.4
37.5°	1230.7	1223.3	1220.7	1218.3	1220.7	1215.8	1220.7	1213.3	1220.7	1210.8
40°	1163.5	1158.5	1161.1	1146.2	1146.2	1148.6	1143.6	1141.2	1143.6	1153.6
42.5°	1096.5	1086.5	1081.5	1076.6	1079.0	1071.6	1069.1	1064.1	1069.1	1059.1
45°	1016.8	1016.8	1014.4	1001.9	1004.5	1004.5	994.5	984.6	987.0	987.0
47.5°	944.8	939.8	937.3	924.9	922.4	920.0	909.9	902.5	902.5	895.0
50°	865.2	860.2	852.8	840.3	835.4	820.4	813.0	803.1	793.2	793.2
52.5°	790.6	773.2	763.2	743.4	735.9	728.4	708.6	701.2	693.6	686.2
55°	701.2	686.2	666.4	643.9	634.0	621.5	601.6	586.7	576.8	579.3
57.5°	614.1	589.3	569.4	539.6	527.1	519.6	499.7	479.8	469.9	469.9
60°	507.2	487.3	462.5	435.1	425.1	412.8	387.8	375.4	367.9	360.5
62.5°	405.3	390.3	367.9	333.1	325.7	313.2	295.9	281.0	273.5	273.5
65°	303.3	288.4	268.5	243.7	233.7	223.8	208.9	194.0	186.4	184.0
67.5°	213.8	196.4	179.0	159.2	151.7	146.7	131.8	121.8	116.9	114.3
70°	129.2	119.3	106.9	92.0	84.5	79.5	69.6	62.2	59.6	57.2
72.5°	67.2	59.6	49.7	39.8	34.8	29.8	24.9	19.9	17.4	17.4
75°	24.9	19.9	12.5	7.5	5.0	5.0	5.0	5.0	5.0	5.0
77.5°	5.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
80°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-50001EG







— 0°-180°    - - 45°-225°    - - - - 90°-270°









(END OF REPORT)