

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: P840188

Luminaire Tested: **LD4C45D010 EU4459027 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: P840188
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 EU4459027 4LBCSSQMMS
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 2700K, 90CRI LEDS
AND 4LBCSSQ TRIM WITH MMS FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

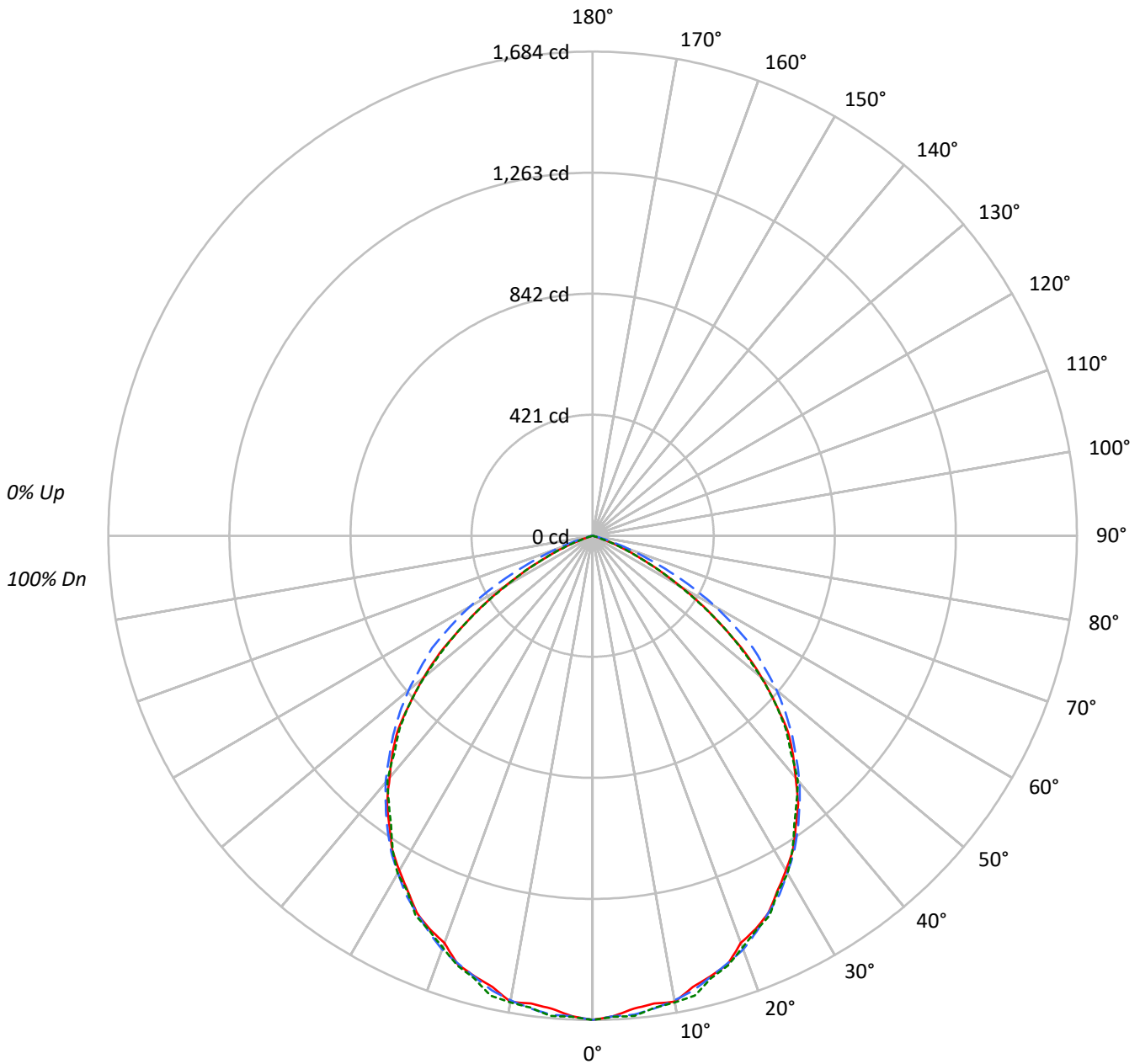
Lumens per Lamp: N/A
Luminaire Lumens: 3597.0 lumens
Efficiency: N/A
Efficacy: 72.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	162478	162478	162478
5°	159854	161936	162391
10°	161232	160761	161467
15°	158410	158640	159119
20°	154720	157185	156445
25°	154053	154053	155075
30°	149765	150824	151102
35°	145083	146497	143964
40°	138289	140984	139787
45°	130875	133822	129565
50°	115255	125312	114534
55°	93347	114661	93751
60°	68314	95080	66925
65°	41507	67717	40411
70°	16193	36449	15516
75°	1789	9805	1789
80°	1334	1334	1334
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.9	4.4
10°-20°	449.8	12.5
20°-30°	667.3	18.6
30°-40°	773.3	21.5
40°-50°	741.4	20.6
50°-60°	545.1	15.2
60°-70°	235.4	6.5
70°-80°	25.4	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°	1276.1	35.5
0°-40°	2049.3	57.0
0°-60°	3335.8	92.7
0°-90°	3597.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3597.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1684	1684	1684	1684	1684	
5°	1650	1667	1672	1674	1677	157
15°	1586	1595	1588	1591	1593	447
25°	1447	1445	1447	1450	1457	663
35°	1232	1239	1244	1241	1222	770
45°	959	962	981	966	950	729
55°	555	612	682	610	557	499
65°	182	227	297	225	177	187
75°	5	7	26	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°	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9
2.5°	1671.9	1691.0	1693.4	1681.4	1676.6	1669.5	1686.2	1674.3	1679.1	1674.3	1671.9
5°	1650.4	1671.9	1674.3	1674.3	1669.5	1667.1	1674.3	1671.9	1669.5	1664.7	1671.9
7.5°	1640.8	1652.7	1664.7	1650.4	1657.5	1655.2	1671.9	1664.7	1662.3	1662.3	1657.5
10°	1645.6	1643.2	1652.7	1638.4	1643.2	1638.4	1652.7	1652.7	1648.0	1643.2	1640.8
12.5°	1607.3	1626.4	1626.4	1624.0	1619.3	1612.0	1626.4	1636.0	1621.6	1621.6	1619.3
15°	1585.8	1590.6	1592.9	1592.9	1590.6	1595.4	1602.5	1592.9	1595.4	1583.4	1588.1
17.5°	1561.9	1552.3	1559.4	1554.7	1557.1	1561.9	1571.4	1571.4	1557.1	1554.7	1559.4
20°	1506.8	1535.5	1538.0	1523.6	1526.0	1526.0	1542.8	1528.4	1538.0	1526.0	1530.8
22.5°	1480.5	1499.6	1502.1	1482.9	1494.8	1480.5	1497.3	1475.7	1499.6	1482.9	1490.1
25°	1447.0	1444.7	1451.8	1442.2	1444.7	1444.7	1456.6	1447.0	1454.2	1444.7	1447.0
27.5°	1392.1	1411.2	1408.8	1399.2	1404.0	1401.6	1425.6	1399.2	1413.6	1401.6	1406.4
30°	1344.2	1361.0	1356.2	1346.6	1346.6	1339.4	1365.7	1358.5	1356.2	1356.2	1353.7
32.5°	1296.3	1298.8	1294.0	1296.3	1298.8	1289.2	1310.7	1301.1	1298.8	1301.1	1303.6
35°	1231.7	1231.7	1236.5	1229.4	1239.0	1239.0	1258.1	1246.1	1243.7	1236.5	1243.7
37.5°	1174.4	1167.2	1169.6	1169.6	1174.4	1179.1	1188.7	1183.9	1183.9	1176.8	1181.6
40°	1097.9	1093.1	1100.2	1100.2	1107.4	1107.4	1117.0	1112.2	1119.3	1119.3	1119.3
42.5°	1030.9	1030.9	1026.1	1033.3	1035.7	1033.3	1050.0	1047.6	1050.0	1045.3	1047.6
45°	959.1	959.1	954.3	952.0	963.9	961.5	980.7	973.4	983.0	978.2	980.7
47.5°	861.0	873.0	865.8	873.0	887.4	889.8	901.7	896.9	906.5	899.4	908.9
50°	767.8	767.8	774.9	784.5	798.8	801.3	815.6	825.2	830.0	832.3	834.8
52.5°	669.7	667.3	674.5	686.4	698.4	708.0	722.3	736.7	746.2	760.6	753.4
55°	554.9	559.7	566.9	581.2	600.4	612.3	624.3	643.4	660.2	667.3	681.6
57.5°	456.8	452.0	456.8	475.9	497.5	507.1	523.8	543.0	566.9	581.2	586.0
60°	354.0	356.4	361.2	378.0	394.6	409.0	416.2	447.2	468.8	483.2	492.7
62.5°	260.8	265.5	270.3	284.7	301.4	313.4	325.3	351.6	370.7	385.1	394.6
65°	181.8	184.1	191.4	198.5	215.3	227.2	236.7	258.3	277.4	289.4	296.6
67.5°	112.4	114.8	119.5	129.2	141.1	150.7	160.2	174.6	191.4	203.3	205.7
70°	57.4	59.8	62.2	69.4	78.9	83.7	90.9	102.9	114.8	124.3	129.2
72.5°	19.1	19.1	21.6	26.3	31.1	35.9	38.3	50.3	59.8	64.6	66.9
75°	4.8	4.8	4.8	4.8	4.8	7.2	7.2	14.3	19.1	23.9	26.3
77.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	4.8	4.8
80°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
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°	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9
2.5°	1683.9	1679.1	1676.6	1679.1	1679.1	1676.6	1683.9	1693.4	1705.3	1674.3
5°	1681.4	1676.6	1681.4	1667.1	1674.3	1669.5	1679.1	1676.6	1686.2	1676.6
7.5°	1674.3	1664.7	1667.1	1660.0	1669.5	1657.5	1664.7	1679.1	1669.5	1655.2
10°	1650.4	1645.6	1662.3	1638.4	1633.6	1643.2	1662.3	1648.0	1643.2	1648.0
12.5°	1626.4	1626.4	1633.6	1614.5	1616.8	1621.6	1631.2	1621.6	1626.4	1638.4
15°	1600.1	1595.4	1607.3	1592.9	1590.6	1585.8	1595.4	1595.4	1600.1	1592.9
17.5°	1569.0	1561.9	1561.9	1557.1	1554.7	1566.7	1571.4	1573.8	1576.2	1566.7
20°	1530.8	1528.4	1535.5	1528.4	1530.8	1533.2	1533.2	1528.4	1549.9	1523.6
22.5°	1490.1	1497.3	1487.7	1482.9	1487.7	1492.5	1492.5	1494.8	1490.1	1485.3
25°	1449.5	1454.2	1456.6	1442.2	1449.5	1442.2	1459.0	1461.4	1451.8	1456.6
27.5°	1413.6	1406.4	1404.0	1394.4	1399.2	1396.9	1399.2	1399.2	1413.6	1394.4
30°	1358.5	1351.4	1353.7	1346.6	1348.9	1346.6	1348.9	1348.9	1358.5	1356.2
32.5°	1305.9	1298.8	1301.1	1294.0	1294.0	1296.3	1291.6	1291.6	1298.8	1294.0
35°	1255.7	1239.0	1241.3	1239.0	1241.3	1231.7	1231.7	1229.4	1234.2	1222.2
37.5°	1183.9	1176.8	1174.4	1172.0	1174.4	1169.6	1174.4	1167.2	1174.4	1164.8
40°	1119.3	1114.5	1117.0	1102.6	1102.6	1105.0	1100.2	1097.9	1100.2	1109.8
42.5°	1054.8	1045.3	1040.5	1035.7	1038.0	1030.9	1028.5	1023.7	1028.5	1018.9
45°	978.2	978.2	975.9	963.9	966.3	966.3	956.7	947.2	949.5	949.5
47.5°	908.9	904.1	901.7	889.8	887.4	885.0	875.4	868.2	868.2	861.0
50°	832.3	827.5	820.4	808.4	803.6	789.3	782.2	772.6	763.0	763.0
52.5°	760.6	743.8	734.2	715.1	708.0	700.8	681.6	674.5	667.3	660.2
55°	674.5	660.2	641.0	619.5	609.9	597.9	578.8	564.4	554.9	557.3
57.5°	590.8	566.9	547.8	519.1	507.1	499.8	480.7	461.6	452.0	452.0
60°	487.9	468.8	444.9	418.6	409.0	397.1	373.1	361.2	354.0	346.8
62.5°	389.9	375.5	354.0	320.5	313.4	301.4	284.7	270.3	263.1	263.1
65°	291.8	277.4	258.3	234.4	224.8	215.3	200.9	186.6	179.4	177.0
67.5°	205.7	188.9	172.2	153.1	145.9	141.1	126.8	117.2	112.4	110.0
70°	124.3	114.8	102.9	88.5	81.3	76.5	66.9	59.8	57.4	55.0
72.5°	64.6	57.4	47.8	38.3	33.5	28.7	23.9	19.1	16.8	16.8
75°	23.9	19.1	12.0	7.2	4.8	4.8	4.8	4.8	4.8	4.8
77.5°	4.8	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
80°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
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)