

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: P840189

Luminaire Tested: **LD4C45D010 EU4459027 4LBCSSQMW**

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: P840189
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 4LBCSSQMW
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 2700K, 90CRI LEDS
AND 4LBCSSQ TRIM WITH MW FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

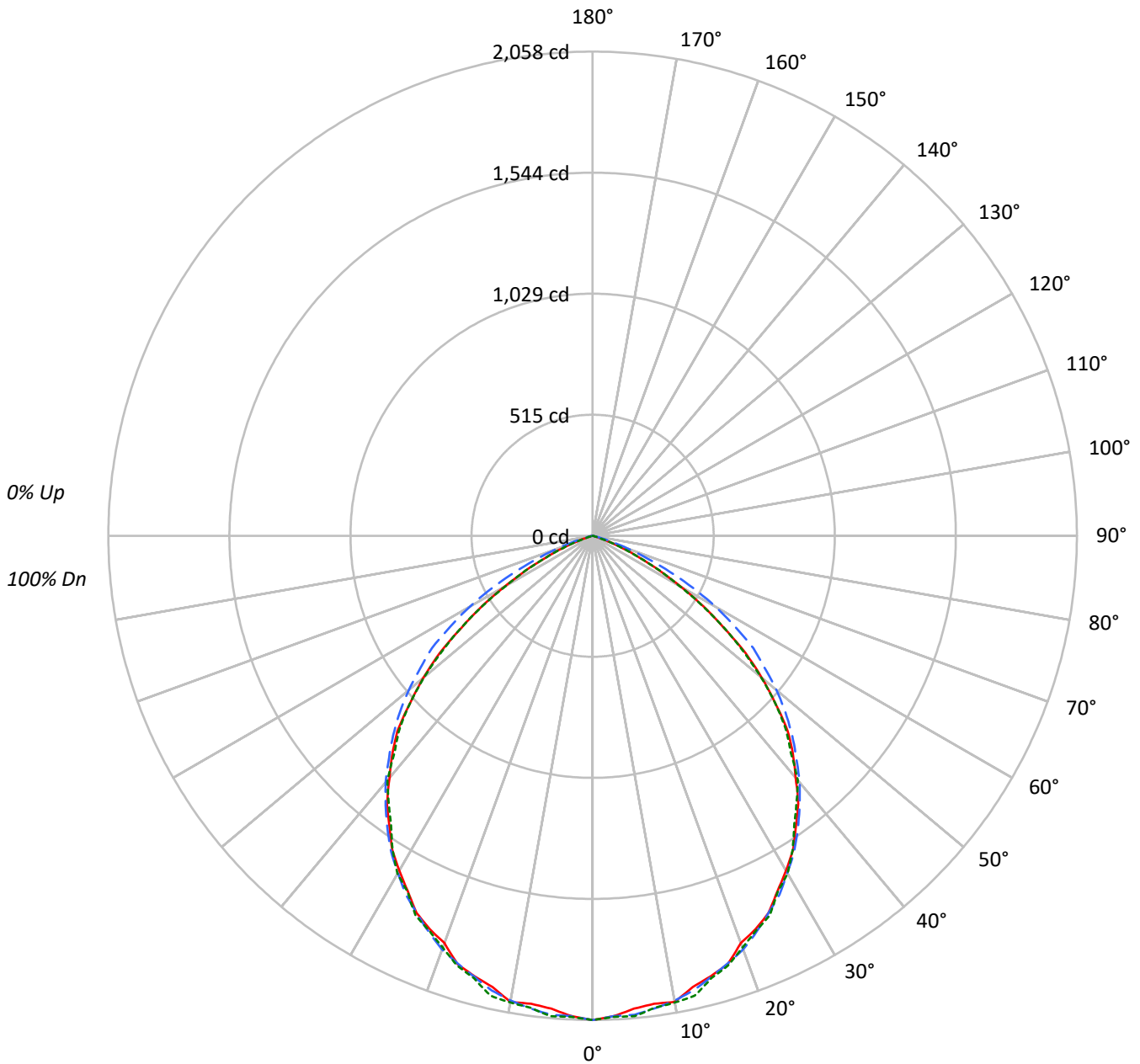
Lumens per Lamp: N/A
Luminaire Lumens: 4397.0 lumens
Efficiency: N/A
Efficacy: 88.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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				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°	198613	198613	198613
5°	195410	197948	198509
10°	197091	196523	197375
15°	193642	193922	194511
20°	189139	192137	191244
25°	188324	188324	189559
30°	183067	184371	184705
35°	177358	179090	175980
40°	169035	172347	170874
45°	159981	163583	158384
50°	140893	153172	140008
55°	114106	140180	114611
60°	83501	116231	81823
65°	50731	82763	49407
70°	19776	44546	18986
75°	2162	12004	2162
80°	1667	1667	1667
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	194.3	4.4
10°-20°	549.8	12.5
20°-30°	815.8	18.6
30°-40°	945.2	21.5
40°-50°	906.3	20.6
50°-60°	666.3	15.2
60°-70°	287.8	6.5
70°-80°	31.1	0.7
80°-90°	0.4	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°	1559.9	35.5
0°-40°	2505.1	57.0
0°-60°	4077.7	92.7
0°-90°	4397.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4397.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2058	2058	2058	2058	2058	
5°	2018	2038	2044	2047	2050	192
15°	1938	1950	1941	1944	1947	546
25°	1769	1766	1769	1772	1780	810
35°	1506	1514	1520	1517	1494	942
45°	1172	1175	1199	1181	1161	891
55°	678	748	833	746	681	610
65°	222	278	362	275	216	228
75°	6	9	32	6	6	18
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°	2058.4	2058.4	2058.4	2058.4	2058.4	2058.4	2058.4	2058.4	2058.4	2058.4	2058.4
2.5°	2043.7	2067.1	2070.1	2055.4	2049.5	2040.8	2061.2	2046.7	2052.5	2046.7	2043.7
5°	2017.5	2043.7	2046.7	2046.7	2040.8	2037.9	2046.7	2043.7	2040.8	2035.0	2043.7
7.5°	2005.8	2020.3	2035.0	2017.5	2026.2	2023.3	2043.7	2035.0	2032.0	2032.0	2026.2
10°	2011.6	2008.6	2020.3	2002.8	2008.6	2002.8	2020.3	2020.3	2014.5	2008.6	2005.8
12.5°	1964.7	1988.1	1988.1	1985.2	1979.4	1970.6	1988.1	1999.9	1982.3	1982.3	1979.4
15°	1938.5	1944.3	1947.2	1947.2	1944.3	1950.2	1958.9	1947.2	1950.2	1935.5	1941.3
17.5°	1909.3	1897.6	1906.3	1900.4	1903.4	1909.3	1920.9	1920.9	1903.4	1900.4	1906.3
20°	1842.0	1877.1	1880.0	1862.5	1865.4	1865.4	1885.9	1868.3	1880.0	1865.4	1871.2
22.5°	1809.8	1833.2	1836.1	1812.8	1827.3	1809.8	1830.3	1803.9	1833.2	1812.8	1821.5
25°	1768.9	1766.0	1774.7	1763.0	1766.0	1766.0	1780.5	1768.9	1777.7	1766.0	1768.9
27.5°	1701.7	1725.1	1722.1	1710.4	1716.2	1713.4	1742.6	1710.4	1727.9	1713.4	1719.2
30°	1643.1	1663.6	1657.8	1646.1	1646.1	1637.3	1669.5	1660.7	1657.8	1657.8	1654.8
32.5°	1584.7	1587.6	1581.8	1584.7	1587.6	1576.0	1602.2	1590.5	1587.6	1590.5	1593.5
35°	1505.7	1505.7	1511.5	1502.8	1514.5	1514.5	1537.9	1523.2	1520.4	1511.5	1520.4
37.5°	1435.6	1426.8	1429.7	1429.7	1435.6	1441.4	1453.1	1447.2	1447.2	1438.5	1444.4
40°	1342.0	1336.2	1344.9	1344.9	1353.7	1353.7	1365.4	1359.6	1368.3	1368.3	1368.3
42.5°	1260.2	1260.2	1254.3	1263.1	1266.0	1263.1	1283.6	1280.6	1283.6	1277.7	1280.6
45°	1172.4	1172.4	1166.6	1163.7	1178.2	1175.4	1198.8	1189.9	1201.6	1195.8	1198.8
47.5°	1052.5	1067.2	1058.4	1067.2	1084.7	1087.7	1102.3	1096.4	1108.1	1099.4	1111.1
50°	938.6	938.6	947.3	959.0	976.5	979.5	997.0	1008.7	1014.6	1017.4	1020.4
52.5°	818.7	815.7	824.5	839.1	853.8	865.5	883.0	900.5	912.2	929.8	920.9
55°	678.3	684.1	693.0	710.5	733.9	748.4	763.1	786.5	807.0	815.7	833.3
57.5°	558.4	552.6	558.4	581.8	608.1	619.8	640.4	663.7	693.0	710.5	716.3
60°	432.7	435.7	441.5	462.0	482.4	500.0	508.8	546.7	573.1	590.6	602.3
62.5°	318.7	324.6	330.4	348.0	368.4	383.0	397.6	429.8	453.2	470.7	482.4
65°	222.2	225.1	233.9	242.6	263.2	277.7	289.4	315.8	339.1	353.8	362.5
67.5°	137.4	140.3	146.1	157.9	172.5	184.2	195.9	213.4	233.9	248.5	251.5
70°	70.1	73.1	76.0	84.8	96.5	102.4	111.1	125.7	140.3	152.0	157.9
72.5°	23.4	23.4	26.4	32.2	38.1	43.9	46.8	61.4	73.1	79.0	81.8
75°	5.8	5.8	5.8	5.8	5.8	8.8	8.8	17.5	23.4	29.2	32.2
77.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	5.8	5.8
80°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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°	2058.4	2058.4	2058.4	2058.4	2058.4	2058.4	2058.4	2058.4	2058.4	2058.4
2.5°	2058.4	2052.5	2049.5	2052.5	2052.5	2049.5	2058.4	2070.1	2084.6	2046.7
5°	2055.4	2049.5	2055.4	2037.9	2046.7	2040.8	2052.5	2049.5	2061.2	2049.5
7.5°	2046.7	2035.0	2037.9	2029.1	2040.8	2026.2	2035.0	2052.5	2040.8	2023.3
10°	2017.5	2011.6	2032.0	2002.8	1996.9	2008.6	2032.0	2014.5	2008.6	2014.5
12.5°	1988.1	1988.1	1996.9	1973.6	1976.4	1982.3	1994.0	1982.3	1988.1	2002.8
15°	1956.0	1950.2	1964.7	1947.2	1944.3	1938.5	1950.2	1950.2	1956.0	1947.2
17.5°	1918.0	1909.3	1909.3	1903.4	1900.4	1915.1	1920.9	1923.8	1926.8	1915.1
20°	1871.2	1868.3	1877.1	1868.3	1871.2	1874.2	1874.2	1868.3	1894.6	1862.5
22.5°	1821.5	1830.3	1818.6	1812.8	1818.6	1824.4	1824.4	1827.3	1821.5	1815.6
25°	1771.8	1777.7	1780.5	1763.0	1771.8	1763.0	1783.5	1786.4	1774.7	1780.5
27.5°	1727.9	1719.2	1716.2	1704.6	1710.4	1707.5	1710.4	1710.4	1727.9	1704.6
30°	1660.7	1651.9	1654.8	1646.1	1649.0	1646.1	1649.0	1649.0	1660.7	1657.8
32.5°	1596.4	1587.6	1590.5	1581.8	1581.8	1584.7	1578.8	1578.8	1587.6	1581.8
35°	1534.9	1514.5	1517.4	1514.5	1517.4	1505.7	1505.7	1502.8	1508.7	1494.0
37.5°	1447.2	1438.5	1435.6	1432.7	1435.6	1429.7	1435.6	1426.8	1435.6	1423.9
40°	1368.3	1362.4	1365.4	1347.9	1347.9	1350.7	1344.9	1342.0	1344.9	1356.6
42.5°	1289.4	1277.7	1271.9	1266.0	1268.9	1260.2	1257.2	1251.4	1257.2	1245.5
45°	1195.8	1195.8	1192.9	1178.2	1181.2	1181.2	1169.5	1157.8	1160.7	1160.7
47.5°	1111.1	1105.2	1102.3	1087.7	1084.7	1081.9	1070.0	1061.3	1061.3	1052.5
50°	1017.4	1011.6	1002.9	988.2	982.4	964.8	956.1	944.4	932.7	932.7
52.5°	929.8	909.2	897.6	874.2	865.5	856.6	833.3	824.5	815.7	807.0
55°	824.5	807.0	783.6	757.3	745.6	730.9	707.5	690.0	678.3	681.3
57.5°	722.2	693.0	669.6	634.5	619.8	611.0	587.6	564.2	552.6	552.6
60°	596.5	573.1	543.8	511.6	500.0	485.4	456.1	441.5	432.7	424.0
62.5°	476.6	459.0	432.7	391.8	383.0	368.4	348.0	330.4	321.6	321.6
65°	356.7	339.1	315.8	286.5	274.8	263.2	245.6	228.1	219.3	216.4
67.5°	251.5	230.9	210.5	187.2	178.3	172.5	155.0	143.3	137.4	134.4
70°	152.0	140.3	125.7	108.2	99.4	93.5	81.8	73.1	70.1	67.3
72.5°	79.0	70.1	58.5	46.8	40.9	35.1	29.2	23.4	20.5	20.5
75°	29.2	23.4	14.7	8.8	5.8	5.8	5.8	5.8	5.8	5.8
77.5°	5.8	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
80°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)