

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: P#

Luminaire Tested: **LD4C50D010 EX4C509040 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: P#  
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: LD4C50D010 EX4C509040 4LBCSSQMMS  
Description: 4 INCH 5000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 4000K, 90CRI LEDS  
AND 4LBCSSQ TRIM WITH MMS FINISH  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

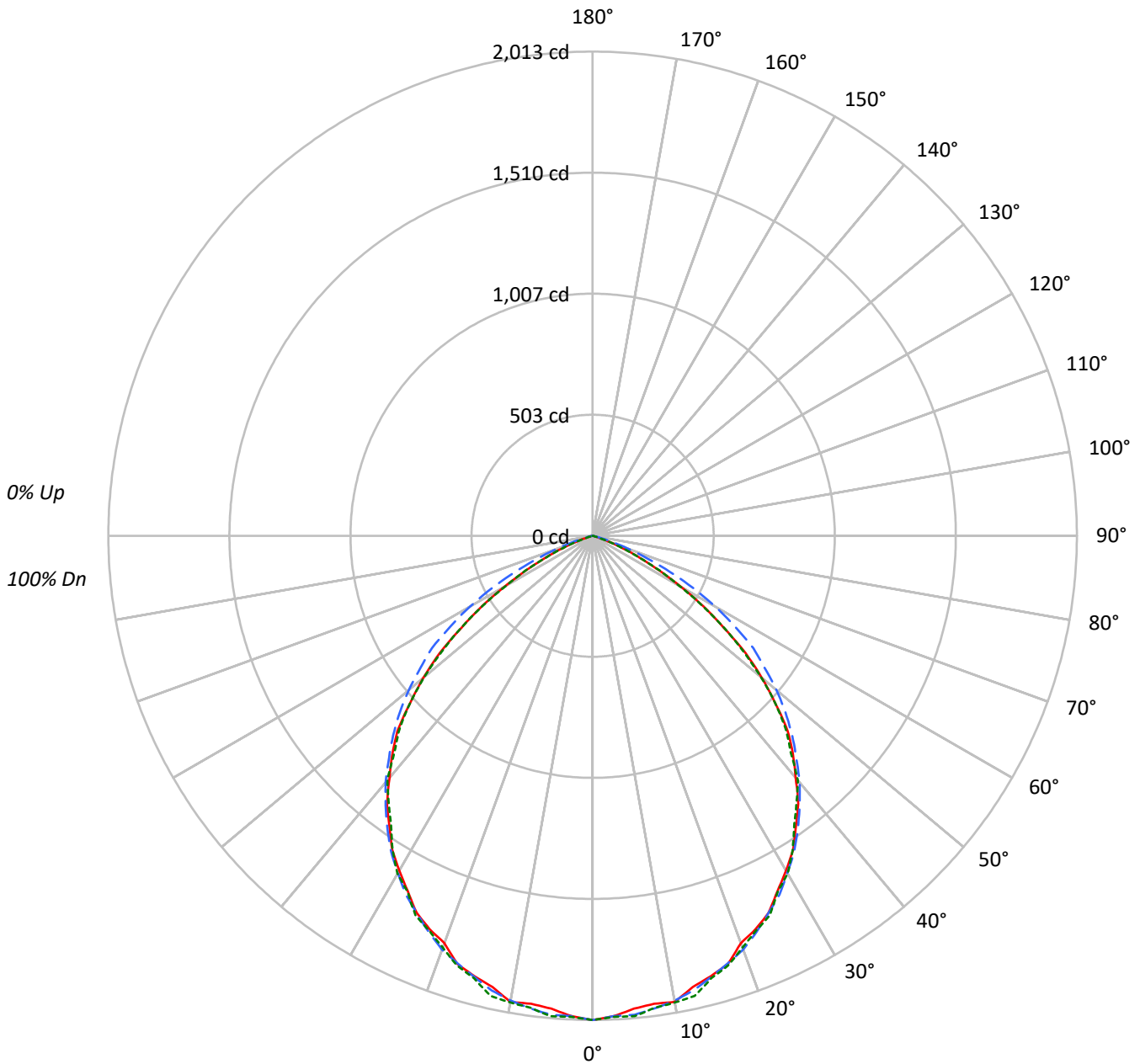
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4301.0 lumens  
Efficiency: N/A  
Efficacy: 73.6 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): 58.4  
Input Voltage (V):  
Input Current (A<sub>in</sub>): 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									
RC	80									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°	194271	194271	194271
5°	191139	193628	194180
10°	192790	192232	193064
15°	189416	189696	190266
20°	185011	187948	187065
25°	184204	184204	185428
30°	179067	180349	180672
35°	173483	175179	172140
40°	165344	168581	167145
45°	156488	160008	154932
50°	137816	149825	136960
55°	111616	137119	112104
60°	81668	113703	80028
65°	49635	80959	48334
70°	19353	43587	18563
75°	2125	11743	2125
80°	1611	1611	1611
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	190.1	4.4
10°-20°	537.8	12.5
20°-30°	798.0	18.6
30°-40°	924.6	21.5
40°-50°	886.5	20.6
50°-60°	651.8	15.2
60°-70°	281.5	6.5
70°-80°	30.4	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°	1525.8	35.5
0°-40°	2450.4	57.0
0°-60°	3988.7	92.7
0°-90°	4301.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4301.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2013	2013	2013	2013	2013	
5°	1973	1993	1999	2002	2005	188
15°	1896	1908	1899	1902	1905	534
25°	1730	1727	1730	1733	1742	792
35°	1473	1482	1487	1484	1461	921
45°	1147	1150	1173	1155	1135	872
55°	664	732	815	729	666	597
65°	217	272	355	269	212	223
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°	2013.4	2013.4	2013.4	2013.4	2013.4	2013.4	2013.4	2013.4	2013.4	2013.4	2013.4
2.5°	1999.1	2022.0	2024.9	2010.5	2004.8	1996.3	2016.2	2002.0	2007.7	2002.0	1999.1
5°	1973.4	1999.1	2002.0	2002.0	1996.3	1993.4	2002.0	1999.1	1996.3	1990.6	1999.1
7.5°	1962.0	1976.2	1990.6	1973.4	1981.9	1979.1	1999.1	1990.6	1987.6	1987.6	1981.9
10°	1967.7	1964.8	1976.2	1959.1	1964.8	1959.1	1976.2	1976.2	1970.5	1964.8	1962.0
12.5°	1921.8	1944.7	1944.7	1941.9	1936.2	1927.6	1944.7	1956.3	1939.0	1939.0	1936.2
15°	1896.2	1901.9	1904.7	1904.7	1901.9	1907.6	1916.1	1904.7	1907.6	1893.2	1899.0
17.5°	1867.6	1856.1	1864.7	1858.9	1861.9	1867.6	1879.0	1879.0	1861.9	1858.9	1864.7
20°	1801.8	1836.1	1839.0	1821.8	1824.6	1824.6	1844.7	1827.5	1839.0	1824.6	1830.4
22.5°	1770.3	1793.1	1796.0	1773.2	1787.4	1770.3	1790.3	1764.5	1793.1	1773.2	1781.7
25°	1730.2	1727.4	1736.0	1724.5	1727.4	1727.4	1741.7	1730.2	1738.9	1727.4	1730.2
27.5°	1664.5	1687.4	1684.5	1673.1	1678.8	1676.0	1704.6	1673.1	1690.2	1676.0	1681.7
30°	1607.2	1627.3	1621.6	1610.2	1610.2	1601.5	1633.0	1624.4	1621.6	1621.6	1618.7
32.5°	1550.1	1553.0	1547.3	1550.1	1553.0	1541.5	1567.2	1555.8	1553.0	1555.8	1558.7
35°	1472.8	1472.8	1478.5	1470.0	1481.5	1481.5	1504.3	1490.0	1487.2	1478.5	1487.2
37.5°	1404.2	1395.7	1398.5	1398.5	1404.2	1409.9	1421.4	1415.6	1415.6	1407.1	1412.8
40°	1312.7	1307.0	1315.5	1315.5	1324.2	1324.2	1335.6	1329.9	1338.4	1338.4	1338.4
42.5°	1232.7	1232.7	1227.0	1235.5	1238.4	1235.5	1255.5	1252.6	1255.5	1249.8	1252.6
45°	1146.8	1146.8	1141.1	1138.3	1152.5	1149.7	1172.6	1164.0	1175.4	1169.7	1172.6
47.5°	1029.5	1043.9	1035.2	1043.9	1061.0	1063.9	1078.2	1072.5	1083.9	1075.4	1086.8
50°	918.1	918.1	926.6	938.0	955.2	958.1	975.3	986.7	992.4	995.2	998.1
52.5°	800.8	797.9	806.5	820.8	835.1	846.6	863.7	880.9	892.3	909.5	900.8
55°	663.5	669.2	677.8	695.0	717.9	732.1	746.4	769.3	789.4	797.9	815.1
57.5°	546.2	540.5	546.2	569.1	594.9	606.3	626.4	649.2	677.8	695.0	700.7
60°	423.2	426.1	431.9	451.9	471.9	489.0	497.7	534.8	560.6	577.7	589.2
62.5°	311.8	317.5	323.2	340.4	360.3	374.7	388.9	420.4	443.3	460.4	471.9
65°	217.4	220.2	228.8	237.3	257.4	271.6	283.1	308.9	331.7	346.1	354.6
67.5°	134.4	137.2	142.9	154.5	168.7	180.2	191.6	208.8	228.8	243.1	246.0
70°	68.6	71.5	74.3	83.0	94.4	100.1	108.6	123.0	137.2	148.7	154.5
72.5°	22.9	22.9	25.8	31.5	37.2	42.9	45.7	60.1	71.5	77.2	80.0
75°	5.7	5.7	5.7	5.7	5.7	8.6	8.6	17.2	22.9	28.6	31.5
77.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	5.7	5.7
80°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
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°	2013.4	2013.4	2013.4	2013.4	2013.4	2013.4	2013.4	2013.4	2013.4	2013.4
2.5°	2013.4	2007.7	2004.8	2007.7	2007.7	2004.8	2013.4	2024.9	2039.1	2002.0
5°	2010.5	2004.8	2010.5	1993.4	2002.0	1996.3	2007.7	2004.8	2016.2	2004.8
7.5°	2002.0	1990.6	1993.4	1984.8	1996.3	1981.9	1990.6	2007.7	1996.3	1979.1
10°	1973.4	1967.7	1987.6	1959.1	1953.3	1964.8	1987.6	1970.5	1964.8	1970.5
12.5°	1944.7	1944.7	1953.3	1930.5	1933.3	1939.0	1950.4	1939.0	1944.7	1959.1
15°	1913.3	1907.6	1921.8	1904.7	1901.9	1896.2	1907.6	1907.6	1913.3	1904.7
17.5°	1876.1	1867.6	1867.6	1861.9	1858.9	1873.3	1879.0	1881.8	1884.7	1873.3
20°	1830.4	1827.5	1836.1	1827.5	1830.4	1833.3	1833.3	1827.5	1853.2	1821.8
22.5°	1781.7	1790.3	1778.9	1773.2	1778.9	1784.6	1784.6	1787.4	1781.7	1776.0
25°	1733.1	1738.9	1741.7	1724.5	1733.1	1724.5	1744.6	1747.4	1736.0	1741.7
27.5°	1690.2	1681.7	1678.8	1667.3	1673.1	1670.3	1673.1	1673.1	1690.2	1667.3
30°	1624.4	1615.9	1618.7	1610.2	1613.0	1610.2	1613.0	1613.0	1624.4	1621.6
32.5°	1561.5	1553.0	1555.8	1547.3	1547.3	1550.1	1544.4	1544.4	1553.0	1547.3
35°	1501.4	1481.5	1484.3	1481.5	1484.3	1472.8	1472.8	1470.0	1475.7	1461.4
37.5°	1415.6	1407.1	1404.2	1401.4	1404.2	1398.5	1404.2	1395.7	1404.2	1392.8
40°	1338.4	1332.7	1335.6	1318.4	1318.4	1321.2	1315.5	1312.7	1315.5	1327.0
42.5°	1261.3	1249.8	1244.1	1238.4	1241.2	1232.7	1229.8	1224.0	1229.8	1218.3
45°	1169.7	1169.7	1166.9	1152.5	1155.4	1155.4	1144.0	1132.6	1135.4	1135.4
47.5°	1086.8	1081.1	1078.2	1063.9	1061.0	1058.2	1046.7	1038.2	1038.2	1029.5
50°	995.2	989.5	981.0	966.6	960.9	943.8	935.2	923.8	912.4	912.4
52.5°	909.5	889.4	878.0	855.1	846.6	837.9	815.1	806.5	797.9	789.4
55°	806.5	789.4	766.5	740.7	729.3	714.9	692.1	674.9	663.5	666.4
57.5°	706.4	677.8	655.0	620.7	606.3	597.7	574.8	551.9	540.5	540.5
60°	583.4	560.6	532.0	500.5	489.0	474.8	446.1	431.9	423.2	414.7
62.5°	466.2	449.0	423.2	383.2	374.7	360.3	340.4	323.2	314.6	314.6
65°	348.9	331.7	308.9	280.3	268.8	257.4	240.3	223.1	214.5	211.7
67.5°	246.0	225.9	206.0	183.1	174.4	168.7	151.6	140.1	134.4	131.5
70°	148.7	137.2	123.0	105.8	97.2	91.5	80.0	71.5	68.6	65.8
72.5°	77.2	68.6	57.2	45.7	40.0	34.3	28.6	22.9	20.1	20.1
75°	28.6	22.9	14.4	8.6	5.7	5.7	5.7	5.7	5.7	5.7
77.5°	5.7	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
80°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
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)