

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: P840206

Luminaire Tested: **LD4C50D010 EU4509050 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: P840206  
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 EU4509050 4LBCSSQMMS  
Description: 4 INCH 5000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 5000K, 90CRI LEDS  
AND 4LBCSSQ TRIM WITH MMS FINISH  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

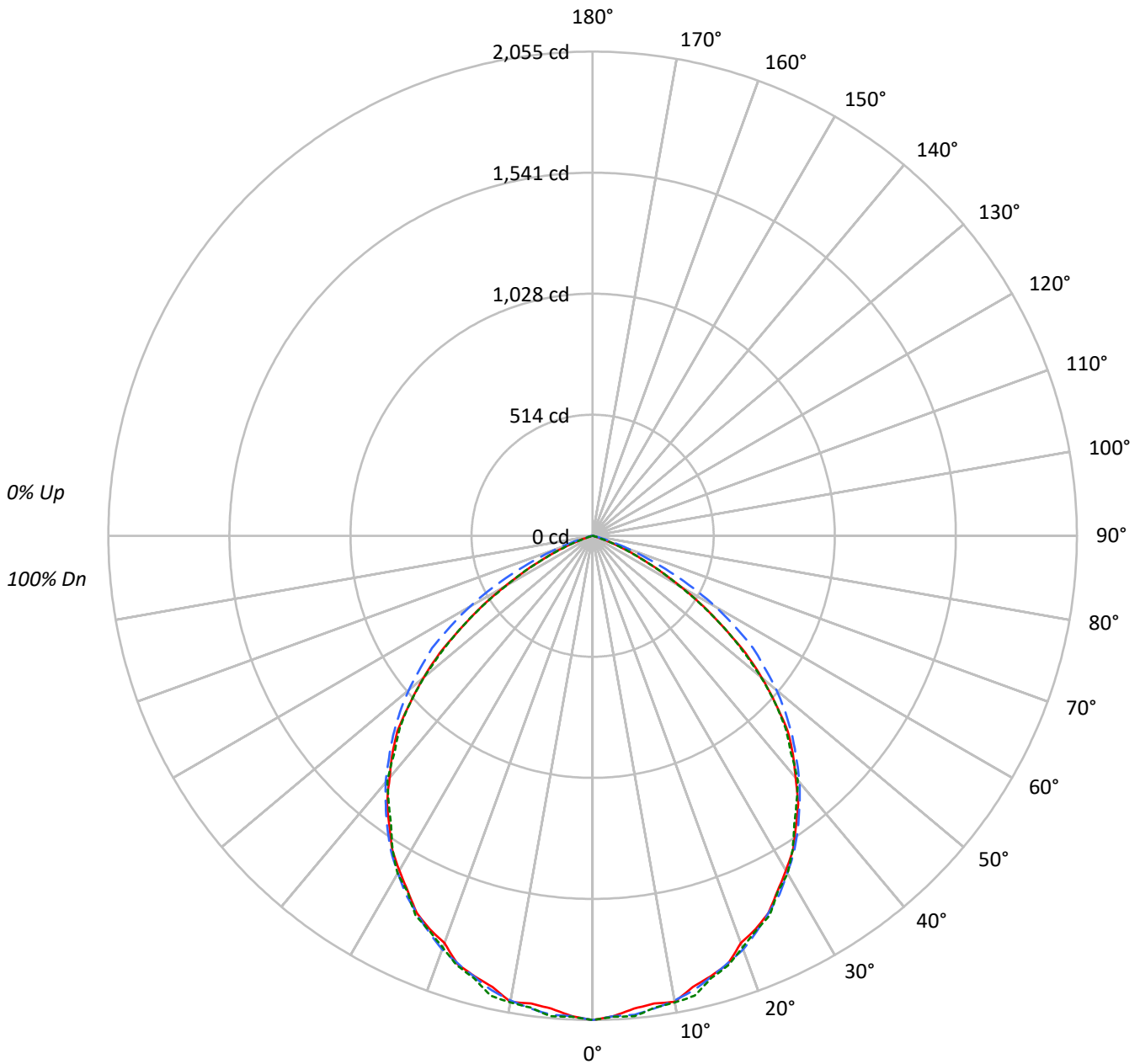
Lumens per Lamp: N/A  
Luminaire Lumens: 4390.0 lumens  
Efficiency: N/A  
Efficacy: 75.2 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

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				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°	198294	198294	198294
5°	195090	197628	198199
10°	196778	196210	197062
15°	193332	193622	194201
20°	188831	191829	190936
25°	188015	188015	189261
30°	182778	184081	184415
35°	177075	178795	175697
40°	168770	172070	170597
45°	159722	163324	158139
50°	140668	152932	139798
55°	113921	139945	114425
60°	83366	116038	81687
65°	50662	82649	49315
70°	19748	44489	18958
75°	2162	12004	2162
80°	1667	1667	1667
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	194.0	4.4
10°-20°	548.9	12.5
20°-30°	814.5	18.6
30°-40°	943.7	21.5
40°-50°	904.8	20.6
50°-60°	665.3	15.2
60°-70°	287.3	6.5
70°-80°	31.0	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°	1557.4	35.5
0°-40°	2501.1	57.0
0°-60°	4071.2	92.7
0°-90°	4390.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4390.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2055	2055	2055	2055	2055	
5°	2014	2035	2040	2043	2046	192
15°	1935	1947	1938	1941	1944	545
25°	1766	1763	1766	1769	1778	809
35°	1503	1512	1518	1515	1492	940
45°	1170	1174	1197	1179	1159	890
55°	677	747	832	744	680	609
65°	222	277	362	274	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°	2055.1	2055.1	2055.1	2055.1	2055.1	2055.1	2055.1	2055.1	2055.1	2055.1	2055.1
2.5°	2040.4	2063.8	2066.8	2052.1	2046.3	2037.6	2058.0	2043.4	2049.3	2043.4	2040.4
5°	2014.2	2040.4	2043.4	2043.4	2037.6	2034.6	2043.4	2040.4	2037.6	2031.8	2040.4
7.5°	2002.6	2017.1	2031.8	2014.2	2022.9	2020.1	2040.4	2031.8	2028.8	2028.8	2022.9
10°	2008.4	2005.4	2017.1	1999.6	2005.4	1999.6	2017.1	2017.1	2011.3	2005.4	2002.6
12.5°	1961.6	1984.9	1984.9	1982.1	1976.3	1967.4	1984.9	1996.7	1979.1	1979.1	1976.3
15°	1935.4	1941.2	1944.1	1944.1	1941.2	1947.1	1955.8	1944.1	1947.1	1932.4	1938.3
17.5°	1906.2	1894.5	1903.2	1897.4	1900.4	1906.2	1917.9	1917.9	1900.4	1897.4	1903.2
20°	1839.0	1874.1	1877.0	1859.5	1862.4	1862.4	1882.9	1865.4	1877.0	1862.4	1868.2
22.5°	1806.9	1830.2	1833.2	1809.9	1824.4	1806.9	1827.4	1801.1	1830.2	1809.9	1818.6
25°	1766.0	1763.2	1771.9	1760.2	1763.2	1763.2	1777.7	1766.0	1774.8	1763.2	1766.0
27.5°	1699.0	1722.3	1719.3	1707.7	1713.5	1710.7	1739.8	1707.7	1725.2	1710.7	1716.5
30°	1640.5	1661.0	1655.2	1643.5	1643.5	1634.7	1666.8	1658.0	1655.2	1655.2	1652.2
32.5°	1582.1	1585.1	1579.3	1582.1	1585.1	1573.4	1599.7	1588.0	1585.1	1588.0	1591.0
35°	1503.3	1503.3	1509.1	1500.4	1512.1	1512.1	1535.5	1520.8	1517.9	1509.1	1517.9
37.5°	1433.3	1424.6	1427.4	1427.4	1433.3	1439.1	1450.8	1444.9	1444.9	1436.2	1442.1
40°	1339.9	1334.1	1342.8	1342.8	1351.6	1351.6	1363.2	1357.4	1366.1	1366.1	1366.1
42.5°	1258.2	1258.2	1252.4	1261.0	1264.0	1261.0	1281.5	1278.6	1281.5	1275.7	1278.6
45°	1170.5	1170.5	1164.7	1161.8	1176.4	1173.5	1196.9	1188.0	1199.7	1193.9	1196.9
47.5°	1050.8	1065.5	1056.7	1065.5	1083.0	1086.0	1100.5	1094.7	1106.3	1097.6	1109.3
50°	937.1	937.1	945.8	957.5	975.0	977.9	995.4	1007.1	1013.0	1015.8	1018.8
52.5°	817.4	814.4	823.2	837.8	852.4	864.1	881.6	899.1	910.8	928.3	919.5
55°	677.2	683.0	691.9	709.4	732.7	747.2	761.9	785.2	805.7	814.4	831.9
57.5°	557.5	551.7	557.5	580.9	607.2	618.9	639.3	662.7	691.9	709.4	715.2
60°	432.0	435.0	440.8	461.3	481.6	499.2	508.0	545.8	572.2	589.7	601.3
62.5°	318.2	324.1	329.9	347.4	367.8	382.4	397.0	429.1	452.5	470.0	481.6
65°	221.9	224.7	233.6	242.3	262.7	277.3	288.9	315.3	338.6	353.3	362.0
67.5°	137.2	140.1	145.9	157.7	172.2	183.9	195.6	213.1	233.6	248.1	251.1
70°	70.0	73.0	75.9	84.7	96.4	102.2	110.9	125.5	140.1	151.7	157.7
72.5°	23.3	23.3	26.3	32.2	38.0	43.8	46.7	61.3	73.0	78.8	81.7
75°	5.8	5.8	5.8	5.8	5.8	8.8	8.8	17.5	23.3	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°	2055.1	2055.1	2055.1	2055.1	2055.1	2055.1	2055.1	2055.1	2055.1	2055.1
2.5°	2055.1	2049.3	2046.3	2049.3	2049.3	2046.3	2055.1	2066.8	2081.3	2043.4
5°	2052.1	2046.3	2052.1	2034.6	2043.4	2037.6	2049.3	2046.3	2058.0	2046.3
7.5°	2043.4	2031.8	2034.6	2025.9	2037.6	2022.9	2031.8	2049.3	2037.6	2020.1
10°	2014.2	2008.4	2028.8	1999.6	1993.8	2005.4	2028.8	2011.3	2005.4	2011.3
12.5°	1984.9	1984.9	1993.8	1970.4	1973.3	1979.1	1990.8	1979.1	1984.9	1999.6
15°	1952.9	1947.1	1961.6	1944.1	1941.2	1935.4	1947.1	1947.1	1952.9	1944.1
17.5°	1914.9	1906.2	1906.2	1900.4	1897.4	1912.1	1917.9	1920.8	1923.7	1912.1
20°	1868.2	1865.4	1874.1	1865.4	1868.2	1871.2	1871.2	1865.4	1891.6	1859.5
22.5°	1818.6	1827.4	1815.7	1809.9	1815.7	1821.5	1821.5	1824.4	1818.6	1812.7
25°	1769.0	1774.8	1777.7	1760.2	1769.0	1760.2	1780.7	1783.5	1771.9	1777.7
27.5°	1725.2	1716.5	1713.5	1701.8	1707.7	1704.8	1707.7	1707.7	1725.2	1701.8
30°	1658.0	1649.3	1652.2	1643.5	1646.3	1643.5	1646.3	1646.3	1658.0	1655.2
32.5°	1593.8	1585.1	1588.0	1579.3	1579.3	1582.1	1576.3	1576.3	1585.1	1579.3
35°	1532.5	1512.1	1515.0	1512.1	1515.0	1503.3	1503.3	1500.4	1506.3	1491.6
37.5°	1444.9	1436.2	1433.3	1430.4	1433.3	1427.4	1433.3	1424.6	1433.3	1421.6
40°	1366.1	1360.3	1363.2	1345.7	1345.7	1348.6	1342.8	1339.9	1342.8	1354.4
42.5°	1287.4	1275.7	1269.9	1264.0	1266.9	1258.2	1255.2	1249.4	1255.2	1243.5
45°	1193.9	1193.9	1191.0	1176.4	1179.3	1179.3	1167.7	1156.0	1158.9	1158.9
47.5°	1109.3	1103.5	1100.5	1086.0	1083.0	1080.1	1068.3	1059.6	1059.6	1050.8
50°	1015.8	1010.0	1001.3	986.6	980.8	963.3	954.6	942.9	931.3	931.3
52.5°	928.3	907.8	896.1	872.8	864.1	855.3	831.9	823.2	814.4	805.7
55°	823.2	805.7	782.4	756.1	744.4	729.7	706.4	688.9	677.2	680.2
57.5°	721.0	691.9	668.5	633.5	618.9	610.0	586.7	563.4	551.7	551.7
60°	595.5	572.2	543.0	510.8	499.2	484.6	455.3	440.8	432.0	423.3
62.5°	475.8	458.3	432.0	391.1	382.4	367.8	347.4	329.9	321.1	321.1
65°	356.1	338.6	315.3	286.1	274.4	262.7	245.2	227.7	218.9	216.0
67.5°	251.1	230.6	210.2	186.9	178.1	172.2	154.7	143.0	137.2	134.2
70°	151.7	140.1	125.5	108.0	99.2	93.4	81.7	73.0	70.0	67.2
72.5°	78.8	70.0	58.4	46.7	40.9	35.0	29.2	23.3	20.5	20.5
75°	29.2	23.3	14.6	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)