

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: P840193

Luminaire Tested: **LD4C45D010 EU4459035 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: P840193  
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 EU4459035 4LBCSSQMW  
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, 90CRI LEDS  
AND 4LBCSSQ TRIM WITH MW FINISH  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

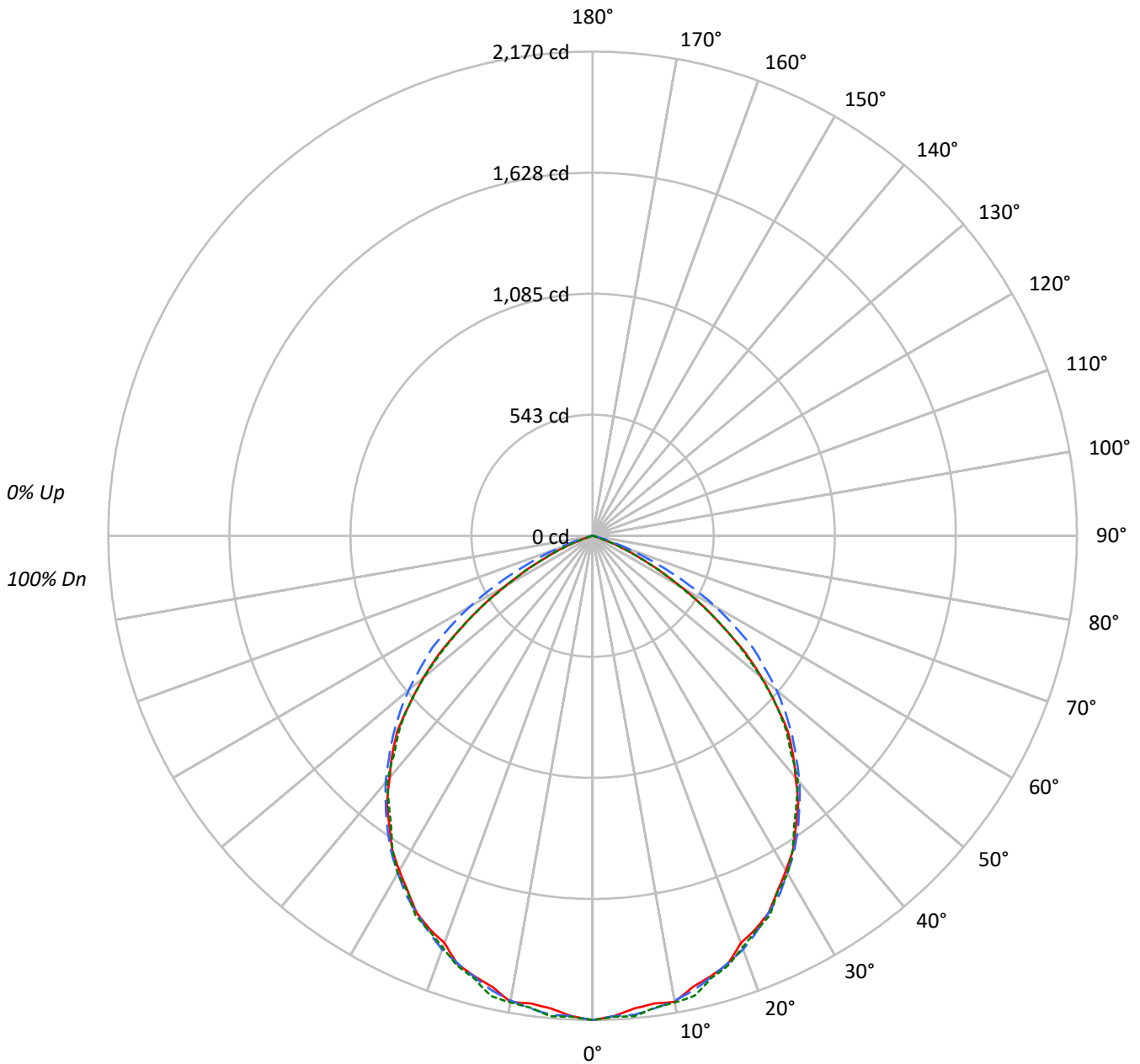
Lumens per Lamp: N/A  
Luminaire Lumens: 4636.0 lumens  
Efficiency: N/A  
Efficacy: 93.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 49.6  
Input Voltage (V):  
Input Current (A<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°	209410	209410	209410
5°	206026	208708	209299
10°	207810	207203	208104
15°	204171	204470	205080
20°	199417	202580	201635
25°	198555	198555	199864
30°	193017	194398	194744
35°	186994	188819	185545
40°	178230	181706	180157
45°	168673	172467	166995
50°	148549	161503	147618
55°	120313	147784	120835
60°	88036	122541	86261
65°	53494	87261	52101
70°	20876	46972	20002
75°	2311	12675	2311
80°	1723	1723	1723
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	204.9	4.4
10°-20°	579.7	12.5
20°-30°	860.1	18.6
30°-40°	996.6	21.5
40°-50°	955.5	20.6
50°-60°	702.6	15.2
60°-70°	303.4	6.5
70°-80°	32.8	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°	1644.6	35.5
0°-40°	2641.3	57.0
0°-60°	4299.4	92.7
0°-90°	4636.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4636.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2170	2170	2170	2170	2170	
5°	2127	2149	2155	2158	2161	203
15°	2044	2056	2047	2050	2053	576
25°	1865	1862	1865	1868	1877	854
35°	1588	1597	1603	1600	1575	993
45°	1236	1239	1264	1245	1224	940
55°	715	789	878	786	718	644
65°	234	293	382	290	228	241
75°	6	9	34	6	6	19
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°	2170.3	2170.3	2170.3	2170.3	2170.3	2170.3	2170.3	2170.3	2170.3	2170.3	2170.3
2.5°	2154.8	2179.4	2182.6	2167.1	2160.9	2151.8	2173.3	2157.9	2164.1	2157.9	2154.8
5°	2127.1	2154.8	2157.9	2157.9	2151.8	2148.6	2157.9	2154.8	2151.8	2145.6	2154.8
7.5°	2114.8	2130.1	2145.6	2127.1	2136.3	2133.3	2154.8	2145.6	2142.5	2142.5	2136.3
10°	2121.0	2117.8	2130.1	2111.6	2117.8	2111.6	2130.1	2130.1	2124.0	2117.8	2114.8
12.5°	2071.5	2096.2	2096.2	2093.2	2087.0	2077.7	2096.2	2108.6	2090.0	2090.0	2087.0
15°	2043.9	2050.0	2053.0	2053.0	2050.0	2056.2	2065.4	2053.0	2056.2	2040.7	2046.9
17.5°	2013.0	2000.7	2009.9	2003.7	2006.9	2013.0	2025.4	2025.4	2006.9	2003.7	2009.9
20°	1942.1	1979.1	1982.2	1963.7	1966.8	1966.8	1988.4	1969.9	1982.2	1966.8	1972.9
22.5°	1908.1	1932.8	1935.9	1911.3	1926.6	1908.1	1929.8	1902.0	1932.8	1911.3	1920.5
25°	1865.0	1862.0	1871.2	1858.8	1862.0	1862.0	1877.3	1865.0	1874.3	1862.0	1865.0
27.5°	1794.2	1818.8	1815.7	1803.4	1809.5	1806.5	1837.3	1803.4	1821.9	1806.5	1812.7
30°	1732.4	1754.1	1747.9	1735.6	1735.6	1726.3	1760.2	1750.9	1747.9	1747.9	1744.8
32.5°	1670.8	1673.9	1667.8	1670.8	1673.9	1661.6	1689.3	1677.0	1673.9	1677.0	1680.1
35°	1587.5	1587.5	1593.7	1584.5	1596.8	1596.8	1621.5	1606.0	1603.0	1593.7	1603.0
37.5°	1513.6	1504.4	1507.4	1507.4	1513.6	1519.7	1532.1	1525.9	1525.9	1516.7	1522.9
40°	1415.0	1408.8	1418.0	1418.0	1427.3	1427.3	1439.6	1433.5	1442.6	1442.6	1442.6
42.5°	1328.7	1328.7	1322.5	1331.7	1334.9	1331.7	1353.3	1350.2	1353.3	1347.2	1350.2
45°	1236.1	1236.1	1230.0	1226.9	1242.3	1239.3	1263.9	1254.6	1266.9	1260.8	1263.9
47.5°	1109.7	1125.2	1115.9	1125.2	1143.7	1146.8	1162.2	1156.0	1168.3	1159.1	1171.5
50°	989.6	989.6	998.8	1011.1	1029.6	1032.7	1051.2	1063.6	1069.7	1072.7	1075.9
52.5°	863.2	860.1	869.4	884.7	900.2	912.5	931.0	949.5	961.8	980.3	971.0
55°	715.2	721.3	730.6	749.1	773.8	789.1	804.6	829.2	850.9	860.1	878.5
57.5°	588.8	582.6	588.8	613.4	641.2	653.5	675.2	699.8	730.6	749.1	755.3
60°	456.2	459.3	465.5	487.1	508.6	527.1	536.4	576.4	604.2	622.7	635.0
62.5°	336.1	342.2	348.4	366.9	388.4	403.9	419.2	453.2	477.8	496.3	508.6
65°	234.3	237.3	246.6	255.8	277.5	292.8	305.1	332.9	357.6	373.0	382.2
67.5°	144.9	147.9	154.1	166.5	181.9	194.2	206.5	225.0	246.6	262.0	265.1
70°	74.0	77.1	80.1	89.4	101.8	107.9	117.1	132.6	147.9	160.2	166.5
72.5°	24.7	24.7	27.8	34.0	40.1	46.3	49.3	64.8	77.1	83.3	86.3
75°	6.2	6.2	6.2	6.2	6.2	9.3	9.3	18.5	24.7	30.8	34.0
77.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	6.2	6.2
80°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
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°	2170.3	2170.3	2170.3	2170.3	2170.3	2170.3	2170.3	2170.3	2170.3	2170.3
2.5°	2170.3	2164.1	2160.9	2164.1	2164.1	2160.9	2170.3	2182.6	2197.9	2157.9
5°	2167.1	2160.9	2167.1	2148.6	2157.9	2151.8	2164.1	2160.9	2173.3	2160.9
7.5°	2157.9	2145.6	2148.6	2139.4	2151.8	2136.3	2145.6	2164.1	2151.8	2133.3
10°	2127.1	2121.0	2142.5	2111.6	2105.5	2117.8	2142.5	2124.0	2117.8	2124.0
12.5°	2096.2	2096.2	2105.5	2080.8	2083.9	2090.0	2102.3	2090.0	2096.2	2111.6
15°	2062.3	2056.2	2071.5	2053.0	2050.0	2043.9	2056.2	2056.2	2062.3	2053.0
17.5°	2022.2	2013.0	2013.0	2006.9	2003.7	2019.2	2025.4	2028.4	2031.5	2019.2
20°	1972.9	1969.9	1979.1	1969.9	1972.9	1976.1	1976.1	1969.9	1997.6	1963.7
22.5°	1920.5	1929.8	1917.4	1911.3	1917.4	1923.6	1923.6	1926.6	1920.5	1914.3
25°	1868.1	1874.3	1877.3	1858.8	1868.1	1858.8	1880.5	1883.5	1871.2	1877.3
27.5°	1821.9	1812.7	1809.5	1797.2	1803.4	1800.3	1803.4	1803.4	1821.9	1797.2
30°	1750.9	1741.7	1744.8	1735.6	1738.6	1735.6	1738.6	1738.6	1750.9	1747.9
32.5°	1683.1	1673.9	1677.0	1667.8	1667.8	1670.8	1664.6	1664.6	1673.9	1667.8
35°	1618.4	1596.8	1599.9	1596.8	1599.9	1587.5	1587.5	1584.5	1590.7	1575.2
37.5°	1525.9	1516.7	1513.6	1510.6	1513.6	1507.4	1513.6	1504.4	1513.6	1501.3
40°	1442.6	1436.5	1439.6	1421.1	1421.1	1424.2	1418.0	1415.0	1418.0	1430.3
42.5°	1359.5	1347.2	1341.0	1334.9	1337.9	1328.7	1325.5	1319.4	1325.5	1313.2
45°	1260.8	1260.8	1257.8	1242.3	1245.4	1245.4	1233.1	1220.8	1223.8	1223.8
47.5°	1171.5	1165.3	1162.2	1146.8	1143.7	1140.7	1128.2	1119.0	1119.0	1109.7
50°	1072.7	1066.6	1057.4	1041.9	1035.8	1017.3	1008.1	995.8	983.4	983.4
52.5°	980.3	958.7	946.3	921.7	912.5	903.2	878.5	869.4	860.1	850.9
55°	869.4	850.9	826.2	798.4	786.1	770.6	746.0	727.5	715.2	718.3
57.5°	761.4	730.6	706.0	669.0	653.5	644.2	619.6	594.9	582.6	582.6
60°	628.9	604.2	573.4	539.5	527.1	511.8	480.8	465.5	456.2	447.0
62.5°	502.5	484.0	456.2	413.0	403.9	388.4	366.9	348.4	339.1	339.1
65°	376.1	357.6	332.9	302.1	289.8	277.5	259.0	240.5	231.2	228.2
67.5°	265.1	243.5	222.0	197.3	188.0	181.9	163.4	151.1	144.9	141.8
70°	160.2	147.9	132.6	114.1	104.8	98.6	86.3	77.1	74.0	70.9
72.5°	83.3	74.0	61.6	49.3	43.1	37.0	30.8	24.7	21.6	21.6
75°	30.8	24.7	15.5	9.3	6.2	6.2	6.2	6.2	6.2	6.2
77.5°	6.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
80°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
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)