

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: P840195

Luminaire Tested: **LD4C45D010 EU4459040 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: P840195  
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 EU4459040 4LBCSSQMW  
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 4000K, 90CRI LEDS  
AND 4LBCSSQ TRIM WITH MW FINISH  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

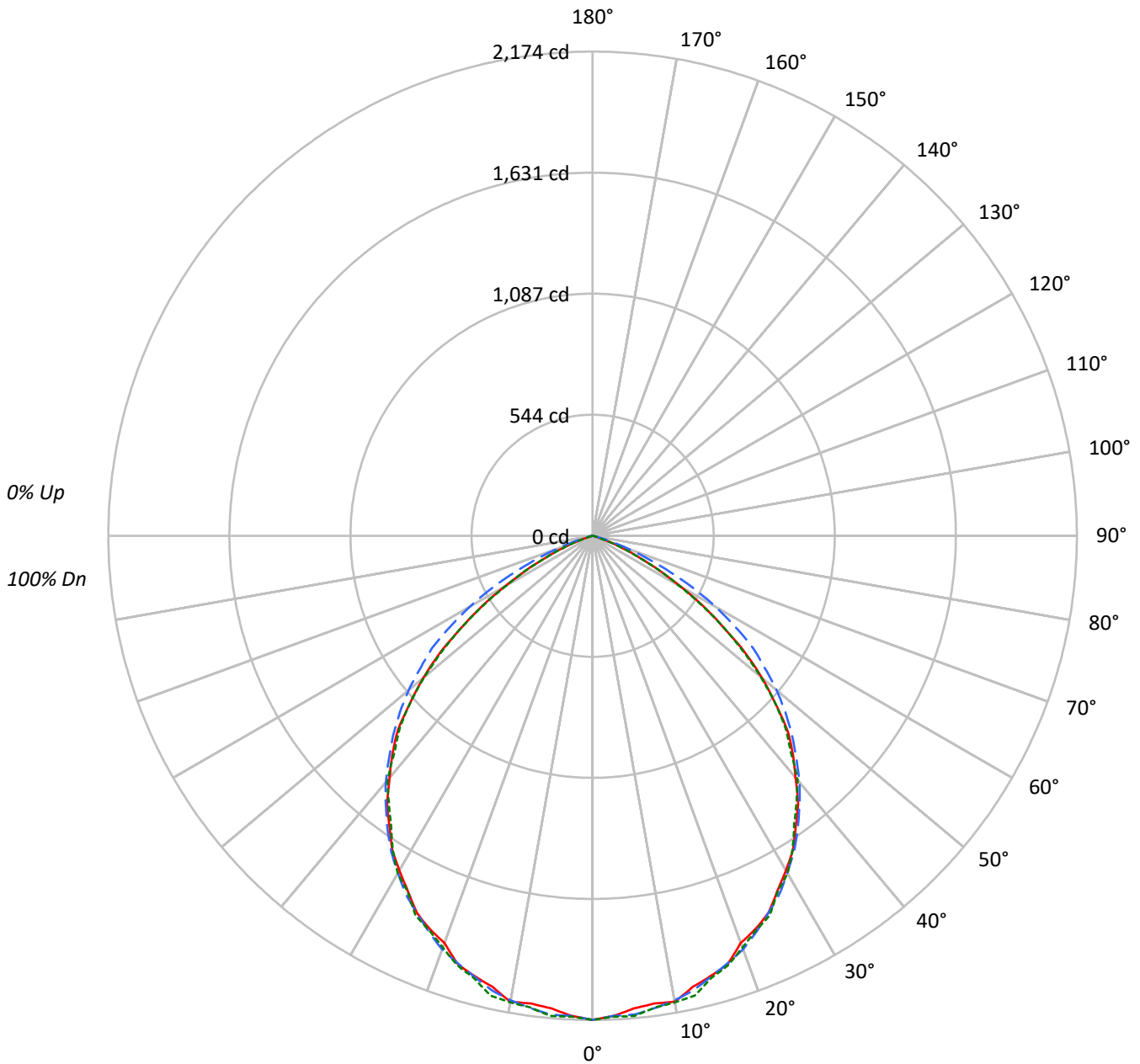
Lumens per Lamp: N/A  
Luminaire Lumens: 4643.0 lumens  
Efficiency: N/A  
Efficacy: 93.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 49.6  
Input Voltage (V):  
Input Current (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°	209719	209719	209719
5°	206335	209018	209619
10°	208124	207516	208418
15°	204470	204780	205389
20°	199715	202888	201943
25°	198853	198853	200173
30°	193306	194688	195033
35°	187276	189102	185827
40°	178494	181983	180434
45°	168932	172726	167240
50°	148774	161744	147843
55°	120481	148020	121020
60°	88172	122734	86396
65°	53585	87398	52169
70°	20905	47057	20030
75°	2311	12675	2311
80°	1723	1723	1723
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	205.2	4.4
10°-20°	580.6	12.5
20°-30°	861.4	18.6
30°-40°	998.1	21.5
40°-50°	957.0	20.6
50°-60°	703.6	15.2
60°-70°	303.9	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°	1647.1	35.5
0°-40°	2645.3	57.0
0°-60°	4305.9	92.7
0°-90°	4643.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4643.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2174	2174	2174	2174	2174	
5°	2130	2152	2158	2161	2164	203
15°	2047	2059	2050	2053	2056	577
25°	1868	1865	1868	1871	1880	855
35°	1590	1599	1605	1602	1578	994
45°	1238	1241	1266	1247	1226	941
55°	716	790	880	787	719	645
65°	235	293	383	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°	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5
2.5°	2158.0	2182.7	2185.9	2170.4	2164.2	2155.0	2176.6	2161.2	2167.4	2161.2	2158.0
5°	2130.3	2158.0	2161.2	2161.2	2155.0	2151.9	2161.2	2158.0	2155.0	2148.8	2158.0
7.5°	2118.0	2133.4	2148.8	2130.3	2139.5	2136.5	2158.0	2148.8	2145.7	2145.7	2139.5
10°	2124.2	2121.0	2133.4	2114.8	2121.0	2114.8	2133.4	2133.4	2127.2	2121.0	2118.0
12.5°	2074.7	2099.3	2099.3	2096.3	2090.1	2080.8	2099.3	2111.8	2093.2	2093.2	2090.1
15°	2046.9	2053.1	2056.1	2056.1	2053.1	2059.3	2068.5	2056.1	2059.3	2043.8	2050.0
17.5°	2016.1	2003.7	2012.9	2006.8	2009.9	2016.1	2028.4	2028.4	2009.9	2006.8	2012.9
20°	1945.0	1982.1	1985.2	1966.7	1969.7	1969.7	1991.4	1972.9	1985.2	1969.7	1975.9
22.5°	1911.0	1935.7	1938.9	1914.2	1929.5	1911.0	1932.7	1904.9	1935.7	1914.2	1923.4
25°	1867.8	1864.8	1874.0	1861.6	1864.8	1864.8	1880.2	1867.8	1877.1	1864.8	1867.8
27.5°	1796.9	1821.6	1818.4	1806.1	1812.3	1809.2	1840.1	1806.1	1824.6	1809.2	1815.4
30°	1735.0	1756.7	1750.5	1738.2	1738.2	1728.9	1762.9	1753.6	1750.5	1750.5	1747.4
32.5°	1673.3	1676.5	1670.3	1673.3	1676.5	1664.1	1691.8	1679.5	1676.5	1679.5	1682.6
35°	1589.9	1589.9	1596.1	1586.9	1599.3	1599.3	1623.9	1608.5	1605.4	1596.1	1605.4
37.5°	1515.9	1506.7	1509.7	1509.7	1515.9	1522.0	1534.4	1528.2	1528.2	1519.0	1525.2
40°	1417.1	1410.9	1420.1	1420.1	1429.5	1429.5	1441.8	1435.6	1444.8	1444.8	1444.8
42.5°	1330.7	1330.7	1324.5	1333.7	1336.9	1333.7	1355.4	1352.2	1355.4	1349.2	1352.2
45°	1238.0	1238.0	1231.8	1228.8	1244.2	1241.1	1265.8	1256.5	1268.9	1262.7	1265.8
47.5°	1111.4	1126.9	1117.6	1126.9	1145.4	1148.6	1163.9	1157.7	1170.1	1160.9	1173.2
50°	991.1	991.1	1000.3	1012.6	1031.2	1034.3	1052.8	1065.2	1071.3	1074.4	1077.5
52.5°	864.5	861.4	870.7	886.0	901.5	913.9	932.4	950.9	963.3	981.8	972.5
55°	716.2	722.4	731.7	750.2	774.9	790.3	805.8	830.5	852.2	861.4	879.9
57.5°	589.6	583.5	589.6	614.3	642.2	654.5	676.2	700.9	731.7	750.2	756.4
60°	456.9	460.0	466.2	487.9	509.4	527.9	537.2	577.3	605.1	623.7	636.0
62.5°	336.6	342.7	348.9	367.4	389.0	404.5	419.8	453.9	478.5	497.1	509.4
65°	234.7	237.7	247.0	256.2	277.9	293.2	305.6	333.4	358.1	373.6	382.8
67.5°	145.1	148.1	154.3	166.8	182.1	194.5	206.8	225.4	247.0	262.4	265.5
70°	74.1	77.2	80.2	89.6	101.9	108.1	117.3	132.8	148.1	160.5	166.8
72.5°	24.7	24.7	27.8	34.0	40.2	46.4	49.4	64.9	77.2	83.4	86.4
75°	6.2	6.2	6.2	6.2	6.2	9.3	9.3	18.5	24.7	30.9	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°	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5	2173.5
2.5°	2173.5	2167.4	2164.2	2167.4	2167.4	2164.2	2173.5	2185.9	2201.2	2161.2
5°	2170.4	2164.2	2170.4	2151.9	2161.2	2155.0	2167.4	2164.2	2176.6	2164.2
7.5°	2161.2	2148.8	2151.9	2142.7	2155.0	2139.5	2148.8	2167.4	2155.0	2136.5
10°	2130.3	2124.2	2145.7	2114.8	2108.7	2121.0	2145.7	2127.2	2121.0	2127.2
12.5°	2099.3	2099.3	2108.7	2084.0	2087.0	2093.2	2105.5	2093.2	2099.3	2114.8
15°	2065.5	2059.3	2074.7	2056.1	2053.1	2046.9	2059.3	2059.3	2065.5	2056.1
17.5°	2025.3	2016.1	2016.1	2009.9	2006.8	2022.2	2028.4	2031.4	2034.6	2022.2
20°	1975.9	1972.9	1982.1	1972.9	1975.9	1979.0	1979.0	1972.9	2000.6	1966.7
22.5°	1923.4	1932.7	1920.3	1914.2	1920.3	1926.5	1926.5	1929.5	1923.4	1917.2
25°	1871.0	1877.1	1880.2	1861.6	1871.0	1861.6	1883.3	1886.3	1874.0	1880.2
27.5°	1824.6	1815.4	1812.3	1799.9	1806.1	1803.1	1806.1	1806.1	1824.6	1799.9
30°	1753.6	1744.4	1747.4	1738.2	1741.2	1738.2	1741.2	1741.2	1753.6	1750.5
32.5°	1685.7	1676.5	1679.5	1670.3	1670.3	1673.3	1667.2	1667.2	1676.5	1670.3
35°	1620.8	1599.3	1602.3	1599.3	1602.3	1589.9	1589.9	1586.9	1593.1	1577.6
37.5°	1528.2	1519.0	1515.9	1512.8	1515.9	1509.7	1515.9	1506.7	1515.9	1503.5
40°	1444.8	1438.7	1441.8	1423.3	1423.3	1426.3	1420.1	1417.1	1420.1	1432.5
42.5°	1361.6	1349.2	1343.0	1336.9	1339.9	1330.7	1327.6	1321.4	1327.6	1315.2
45°	1262.7	1262.7	1259.7	1244.2	1247.3	1247.3	1235.0	1222.6	1225.6	1225.6
47.5°	1173.2	1167.1	1163.9	1148.6	1145.4	1142.4	1129.9	1120.7	1120.7	1111.4
50°	1074.4	1068.2	1059.0	1043.5	1037.3	1018.8	1009.6	997.3	984.9	984.9
52.5°	981.8	960.1	947.8	923.1	913.9	904.6	879.9	870.7	861.4	852.2
55°	870.7	852.2	827.5	799.6	787.3	771.8	747.1	728.6	716.2	719.4
57.5°	762.6	731.7	707.0	670.0	654.5	645.2	620.5	595.8	583.5	583.5
60°	629.8	605.1	574.3	540.3	527.9	512.6	481.6	466.2	456.9	447.7
62.5°	503.2	484.7	456.9	413.7	404.5	389.0	367.4	348.9	339.6	339.6
65°	376.6	358.1	333.4	302.6	290.2	277.9	259.4	240.8	231.5	228.5
67.5°	265.5	243.9	222.3	197.6	188.3	182.1	163.6	151.3	145.1	142.0
70°	160.5	148.1	132.8	114.2	104.9	98.8	86.4	77.2	74.1	71.0
72.5°	83.4	74.1	61.7	49.4	43.2	37.0	30.9	24.7	21.7	21.7
75°	30.9	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)