

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: **LD4C45D010 EX4C459035 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: LD4C45D010 EX4C459035 4LBCSSQMMMS  
Description: 4 INCH 4500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, 90CRI LEDS  
AND 4LBCSSQ TRIM WITH MMS FINISH  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

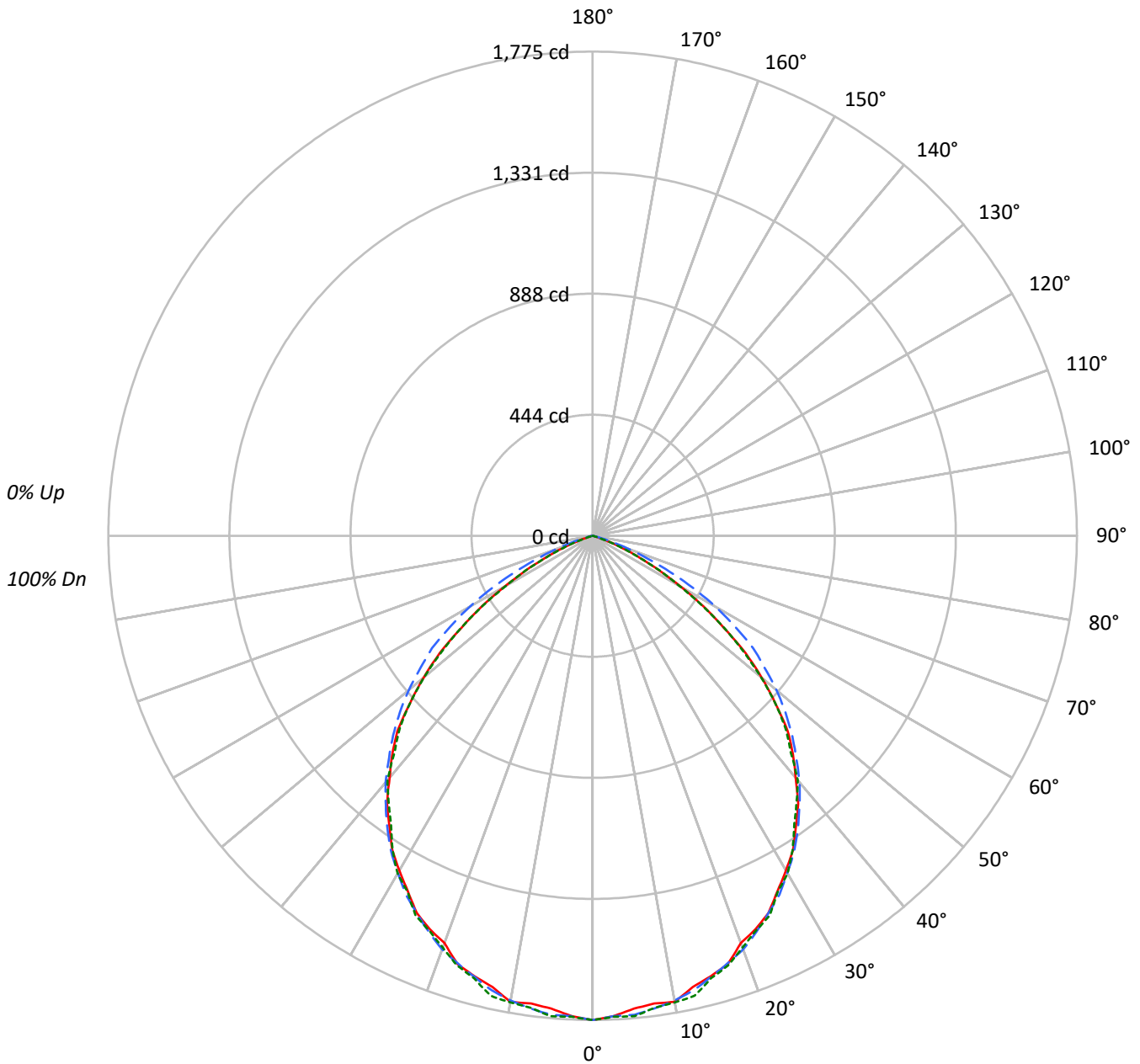
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3792.0 lumens  
Efficiency: N/A  
Efficacy: 76.5 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

TEST NUMBER: P#  
CATALOG NUMBER: LD4C45D010 EX4C459035 4LBCSSQMMMS

### Luminous Intensity Polar Plot





TEST NUMBER: P#

CATALOG NUMBER: LD4C45D010 EX4C459035 4LBCSSQMMS

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	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°	171287	171287	171287
5°	168522	170711	171196
10°	169971	169481	170216
15°	167001	167240	167750
20°	163109	165697	164927
25°	162410	162410	163486
30°	157876	159001	159291
35°	152952	154448	151762
40°	145783	148630	147357
45°	137971	141068	136592
50°	121499	132097	120749
55°	98411	120885	98831
60°	72000	100233	70553
65°	43767	71370	42603
70°	17068	38424	16363
75°	1864	10364	1864
80°	1445	1445	1445
85°	0	0	0



TEST NUMBER: P#

CATALOG NUMBER: LD4C45D010 EX4C459035 4LBCSSQMMS

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	167.6	4.4
10°-20°	474.1	12.5
20°-30°	703.5	18.6
30°-40°	815.2	21.5
40°-50°	781.6	20.6
50°-60°	574.7	15.2
60°-70°	248.2	6.5
70°-80°	26.8	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°	1345.2	35.5
0°-40°	2160.4	57.0
0°-60°	3516.6	92.7
0°-90°	3792.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3792.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1775	1775	1775	1775	1775	
5°	1740	1758	1762	1765	1768	166
15°	1672	1682	1674	1677	1679	471
25°	1526	1523	1526	1528	1536	698
35°	1298	1306	1311	1309	1288	812
45°	1011	1014	1034	1019	1001	769
55°	585	646	719	643	588	526
65°	192	240	313	237	187	197
75°	5	8	28	5	5	16
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



TEST NUMBER: P#

CATALOG NUMBER: LD4C45D010 EX4C459035 4LBCSSQMMS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1775.2	1775.2	1775.2	1775.2	1775.2	1775.2	1775.2	1775.2	1775.2	1775.2	1775.2
2.5°	1762.5	1782.7	1785.2	1772.6	1767.5	1760.0	1777.6	1765.1	1770.1	1765.1	1762.5
5°	1739.9	1762.5	1765.1	1765.1	1760.0	1757.5	1765.1	1762.5	1760.0	1755.0	1762.5
7.5°	1729.8	1742.3	1755.0	1739.9	1747.4	1744.9	1762.5	1755.0	1752.4	1752.4	1747.4
10°	1734.8	1732.3	1742.3	1727.2	1732.3	1727.2	1742.3	1742.3	1737.3	1732.3	1729.8
12.5°	1694.4	1714.6	1714.6	1712.1	1707.0	1699.4	1714.6	1724.7	1709.5	1709.5	1707.0
15°	1671.8	1676.8	1679.3	1679.3	1676.8	1681.8	1689.4	1679.3	1681.8	1669.2	1674.2
17.5°	1646.6	1636.5	1644.0	1638.9	1641.5	1646.6	1656.6	1656.6	1641.5	1638.9	1644.0
20°	1588.5	1618.8	1621.4	1606.2	1608.7	1608.7	1626.4	1611.3	1621.4	1608.7	1613.7
22.5°	1560.8	1580.9	1583.5	1563.3	1575.9	1560.8	1578.5	1555.7	1580.9	1563.3	1570.8
25°	1525.5	1523.0	1530.5	1520.4	1523.0	1523.0	1535.6	1525.5	1533.1	1523.0	1525.5
27.5°	1467.5	1487.7	1485.1	1475.1	1480.1	1477.6	1502.8	1475.1	1490.2	1477.6	1482.7
30°	1417.0	1434.7	1429.7	1419.6	1419.6	1412.0	1439.8	1432.2	1429.7	1429.7	1427.1
32.5°	1366.6	1369.2	1364.2	1366.6	1369.2	1359.1	1381.8	1371.7	1369.2	1371.7	1374.2
35°	1298.5	1298.5	1303.6	1296.1	1306.1	1306.1	1326.3	1313.6	1311.2	1303.6	1311.2
37.5°	1238.0	1230.5	1233.0	1233.0	1238.0	1243.1	1253.2	1248.1	1248.1	1240.6	1245.6
40°	1157.4	1152.3	1159.8	1159.8	1167.5	1167.5	1177.5	1172.5	1180.0	1180.0	1180.0
42.5°	1086.8	1086.8	1081.8	1089.3	1091.8	1089.3	1107.0	1104.4	1107.0	1101.9	1104.4
45°	1011.1	1011.1	1006.0	1003.6	1016.1	1013.7	1033.8	1026.2	1036.3	1031.2	1033.8
47.5°	907.7	920.3	912.7	920.3	935.5	938.0	950.6	945.5	955.6	948.1	958.2
50°	809.4	809.4	817.0	827.0	842.2	844.7	859.9	869.9	875.0	877.4	880.0
52.5°	706.0	703.5	711.1	723.6	736.3	746.4	761.5	776.6	786.7	801.8	794.2
55°	585.0	590.0	597.6	612.7	632.9	645.5	658.1	678.3	696.0	703.5	718.6
57.5°	481.6	476.5	481.6	501.7	524.5	534.6	552.2	572.4	597.6	612.7	617.8
60°	373.1	375.7	380.7	398.4	416.0	431.2	438.8	471.5	494.2	509.3	519.4
62.5°	274.9	279.9	285.0	300.1	317.7	330.3	342.9	370.7	390.8	406.0	416.0
65°	191.7	194.1	201.7	209.3	226.9	239.5	249.6	272.3	292.5	305.1	312.6
67.5°	118.5	121.0	126.0	136.2	148.8	158.8	168.9	184.0	201.7	214.3	216.9
70°	60.5	63.1	65.5	73.1	83.2	88.3	95.8	108.4	121.0	131.1	136.2
72.5°	20.2	20.2	22.7	27.8	32.8	37.9	40.3	53.0	63.1	68.1	70.6
75°	5.0	5.0	5.0	5.0	5.0	7.6	7.6	15.1	20.2	25.2	27.8
77.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	5.0	5.0
80°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
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



TEST NUMBER: P#

CATALOG NUMBER: LD4C45D010 EX4C459035 4LBCSSQMMS

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1775.2	1775.2	1775.2	1775.2	1775.2	1775.2	1775.2	1775.2	1775.2	1775.2
2.5°	1775.2	1770.1	1767.5	1770.1	1770.1	1767.5	1775.2	1785.2	1797.8	1765.1
5°	1772.6	1767.5	1772.6	1757.5	1765.1	1760.0	1770.1	1767.5	1777.6	1767.5
7.5°	1765.1	1755.0	1757.5	1749.9	1760.0	1747.4	1755.0	1770.1	1760.0	1744.9
10°	1739.9	1734.8	1752.4	1727.2	1722.2	1732.3	1752.4	1737.3	1732.3	1737.3
12.5°	1714.6	1714.6	1722.2	1702.0	1704.5	1709.5	1719.6	1709.5	1714.6	1727.2
15°	1686.9	1681.8	1694.4	1679.3	1676.8	1671.8	1681.8	1681.8	1686.9	1679.3
17.5°	1654.1	1646.6	1646.6	1641.5	1638.9	1651.6	1656.6	1659.1	1661.7	1651.6
20°	1613.7	1611.3	1618.8	1611.3	1613.7	1616.3	1616.3	1611.3	1633.9	1606.2
22.5°	1570.8	1578.5	1568.4	1563.3	1568.4	1573.4	1573.4	1575.9	1570.8	1565.8
25°	1528.0	1533.1	1535.6	1520.4	1528.0	1520.4	1538.1	1540.6	1530.5	1535.6
27.5°	1490.2	1482.7	1480.1	1470.0	1475.1	1472.6	1475.1	1475.1	1490.2	1470.0
30°	1432.2	1424.6	1427.1	1419.6	1422.1	1419.6	1422.1	1422.1	1432.2	1429.7
32.5°	1376.7	1369.2	1371.7	1364.2	1364.2	1366.6	1361.6	1361.6	1369.2	1364.2
35°	1323.7	1306.1	1308.6	1306.1	1308.6	1298.5	1298.5	1296.1	1301.1	1288.4
37.5°	1248.1	1240.6	1238.0	1235.6	1238.0	1233.0	1238.0	1230.5	1238.0	1227.9
40°	1180.0	1175.0	1177.5	1162.4	1162.4	1164.9	1159.8	1157.4	1159.8	1169.9
42.5°	1112.0	1101.9	1096.9	1091.8	1094.3	1086.8	1084.2	1079.2	1084.2	1074.1
45°	1031.2	1031.2	1028.8	1016.1	1018.7	1018.7	1008.6	998.5	1001.0	1001.0
47.5°	958.2	953.2	950.6	938.0	935.5	933.0	922.8	915.3	915.3	907.7
50°	877.4	872.4	864.9	852.2	847.2	832.1	824.6	814.5	804.4	804.4
52.5°	801.8	784.1	774.1	753.9	746.4	738.8	718.6	711.1	703.5	696.0
55°	711.1	696.0	675.8	653.1	643.0	630.3	610.2	595.0	585.0	587.5
57.5°	622.8	597.6	577.5	547.2	534.6	526.9	506.8	486.6	476.5	476.5
60°	514.4	494.2	469.0	441.2	431.2	418.6	393.3	380.7	373.1	365.6
62.5°	411.0	395.9	373.1	337.9	330.3	317.7	300.1	285.0	277.4	277.4
65°	307.6	292.5	272.3	247.1	237.0	226.9	211.8	196.7	189.1	186.6
67.5°	216.9	199.2	181.6	161.4	153.8	148.8	133.6	123.6	118.5	115.9
70°	131.1	121.0	108.4	93.3	85.7	80.7	70.6	63.1	60.5	58.0
72.5°	68.1	60.5	50.4	40.3	35.3	30.2	25.2	20.2	17.7	17.7
75°	25.2	20.2	12.7	7.6	5.0	5.0	5.0	5.0	5.0	5.0
77.5°	5.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
80°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
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)