

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: P840194

Luminaire Tested: **LD4C45D010 EU4459040 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: P840194
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 4LBCSSQMMS
Description: 4 INCH 4500 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

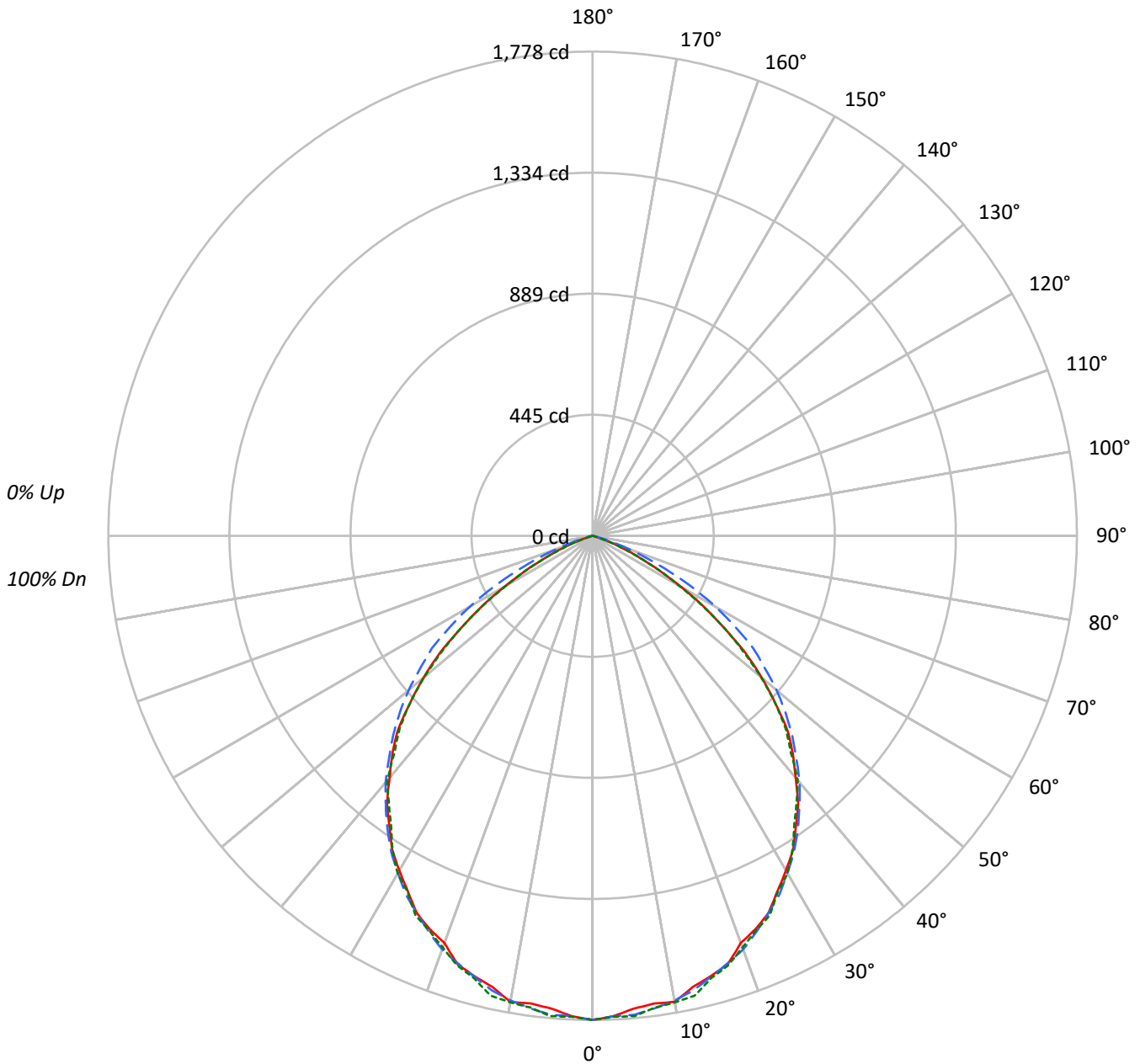
Lumens per Lamp: N/A
Luminaire Lumens: 3798.0 lumens
Efficiency: N/A
Efficacy: 76.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 49.6
Input Voltage (V):
Input Current (A_{in}): 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					
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								
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°	171557	171557	171557
5°	168784	170982	171467
10°	170246	169746	170481
15°	167260	167510	168009
20°	163366	165964	165194
25°	162666	162666	163741
30°	158132	159258	159547
35°	153199	154683	152010
40°	146010	148869	147597
45°	138189	141300	136811
50°	121694	132307	120944
55°	98562	121070	98999
60°	72116	100406	70668
65°	43836	71485	42672
70°	17096	38480	16391
75°	1864	10364	1864
80°	1445	1445	1445
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.8	4.4
10°-20°	474.9	12.5
20°-30°	704.6	18.6
30°-40°	816.5	21.5
40°-50°	782.8	20.6
50°-60°	575.6	15.2
60°-70°	248.6	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°	1347.4	35.5
0°-40°	2163.8	57.0
0°-60°	3522.2	92.7
0°-90°	3798.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3798.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1778	1778	1778	1778	1778	
5°	1743	1760	1765	1768	1770	166
15°	1674	1684	1677	1680	1682	472
25°	1528	1525	1528	1530	1538	700
35°	1301	1308	1313	1311	1290	813
45°	1013	1015	1036	1020	1003	770
55°	586	646	720	644	588	527
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	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1778.0	1778.0	1778.0	1778.0	1778.0	1778.0	1778.0	1778.0	1778.0	1778.0	1778.0
2.5°	1765.3	1785.5	1788.1	1775.4	1770.3	1762.8	1780.4	1767.9	1772.9	1767.9	1765.3
5°	1742.6	1765.3	1767.9	1767.9	1762.8	1760.2	1767.9	1765.3	1762.8	1757.8	1765.3
7.5°	1732.5	1745.1	1757.8	1742.6	1750.1	1747.7	1765.3	1757.8	1755.2	1755.2	1750.1
10°	1737.6	1735.0	1745.1	1729.9	1735.0	1729.9	1745.1	1745.1	1740.0	1735.0	1732.5
12.5°	1697.1	1717.3	1717.3	1714.8	1709.7	1702.1	1717.3	1727.5	1712.2	1712.2	1709.7
15°	1674.4	1679.5	1681.9	1681.9	1679.5	1684.5	1692.0	1681.9	1684.5	1671.8	1676.9
17.5°	1649.2	1639.1	1646.6	1641.5	1644.1	1649.2	1659.3	1659.3	1644.1	1641.5	1646.6
20°	1591.0	1621.3	1623.9	1608.8	1611.2	1611.2	1629.0	1613.8	1623.9	1611.2	1616.3
22.5°	1563.2	1583.4	1586.0	1565.8	1578.4	1563.2	1580.9	1558.2	1583.4	1565.8	1573.3
25°	1527.9	1525.4	1532.9	1522.8	1525.4	1525.4	1538.0	1527.9	1535.5	1525.4	1527.9
27.5°	1469.9	1490.1	1487.5	1477.4	1482.4	1480.0	1505.2	1477.4	1492.5	1480.0	1485.0
30°	1419.3	1437.0	1432.0	1421.9	1421.9	1414.2	1442.1	1434.4	1432.0	1432.0	1429.4
32.5°	1368.8	1371.4	1366.3	1368.8	1371.4	1361.3	1383.9	1373.8	1371.4	1373.8	1376.4
35°	1300.6	1300.6	1305.6	1298.1	1308.2	1308.2	1328.4	1315.7	1313.2	1305.6	1313.2
37.5°	1240.0	1232.5	1234.9	1234.9	1240.0	1245.0	1255.1	1250.1	1250.1	1242.6	1247.6
40°	1159.2	1154.2	1161.7	1161.7	1169.3	1169.3	1179.4	1174.4	1181.9	1181.9	1181.9
42.5°	1088.5	1088.5	1083.5	1091.0	1093.6	1091.0	1108.7	1106.1	1108.7	1103.7	1106.1
45°	1012.7	1012.7	1007.6	1005.2	1017.7	1015.3	1035.5	1027.8	1037.9	1032.9	1035.5
47.5°	909.1	921.8	914.2	921.8	936.9	939.5	952.1	947.0	957.1	949.6	959.7
50°	810.7	810.7	818.2	828.3	843.5	846.1	861.2	871.3	876.4	878.8	881.4
52.5°	707.2	704.6	712.2	724.8	737.5	747.6	762.7	777.9	787.9	803.1	795.5
55°	585.9	590.9	598.6	613.7	633.9	646.5	659.1	679.3	697.1	704.6	719.7
57.5°	482.3	477.3	482.3	502.5	525.3	535.4	553.1	573.3	598.6	613.7	618.8
60°	373.7	376.3	381.4	399.1	416.7	431.8	439.5	472.2	495.0	510.2	520.3
62.5°	275.3	280.4	285.4	300.6	318.2	330.9	343.4	371.3	391.5	406.6	416.7
65°	192.0	194.4	202.1	209.6	227.3	239.9	250.0	272.7	292.9	305.6	313.1
67.5°	118.7	121.2	126.2	136.4	149.0	159.1	169.2	184.3	202.1	214.6	217.2
70°	60.6	63.2	65.6	73.3	83.4	88.4	95.9	108.6	121.2	131.3	136.4
72.5°	20.2	20.2	22.8	27.8	32.9	37.9	40.4	53.1	63.2	68.2	70.7
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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1778.0	1778.0	1778.0	1778.0	1778.0	1778.0	1778.0	1778.0	1778.0	1778.0
2.5°	1778.0	1772.9	1770.3	1772.9	1772.9	1770.3	1778.0	1788.1	1800.6	1767.9
5°	1775.4	1770.3	1775.4	1760.2	1767.9	1762.8	1772.9	1770.3	1780.4	1770.3
7.5°	1767.9	1757.8	1760.2	1752.7	1762.8	1750.1	1757.8	1772.9	1762.8	1747.7
10°	1742.6	1737.6	1755.2	1729.9	1724.9	1735.0	1755.2	1740.0	1735.0	1740.0
12.5°	1717.3	1717.3	1724.9	1704.7	1707.2	1712.2	1722.3	1712.2	1717.3	1729.9
15°	1689.6	1684.5	1697.1	1681.9	1679.5	1674.4	1684.5	1684.5	1689.6	1681.9
17.5°	1656.7	1649.2	1649.2	1644.1	1641.5	1654.2	1659.3	1661.7	1664.3	1654.2
20°	1616.3	1613.8	1621.3	1613.8	1616.3	1618.9	1618.9	1613.8	1636.5	1608.8
22.5°	1573.3	1580.9	1570.9	1565.8	1570.9	1575.9	1575.9	1578.4	1573.3	1568.3
25°	1530.5	1535.5	1538.0	1522.8	1530.5	1522.8	1540.6	1543.0	1532.9	1538.0
27.5°	1492.5	1485.0	1482.4	1472.3	1477.4	1474.9	1477.4	1477.4	1492.5	1472.3
30°	1434.4	1426.9	1429.4	1421.9	1424.3	1421.9	1424.3	1424.3	1434.4	1432.0
32.5°	1378.9	1371.4	1373.8	1366.3	1366.3	1368.8	1363.7	1363.7	1371.4	1366.3
35°	1325.8	1308.2	1310.7	1308.2	1310.7	1300.6	1300.6	1298.1	1303.2	1290.5
37.5°	1250.1	1242.6	1240.0	1237.5	1240.0	1234.9	1240.0	1232.5	1240.0	1229.9
40°	1181.9	1176.8	1179.4	1164.3	1164.3	1166.7	1161.7	1159.2	1161.7	1171.8
42.5°	1113.8	1103.7	1098.6	1093.6	1096.0	1088.5	1085.9	1080.9	1085.9	1075.8
45°	1032.9	1032.9	1030.4	1017.7	1020.3	1020.3	1010.2	1000.1	1002.6	1002.6
47.5°	959.7	954.7	952.1	939.5	936.9	934.5	924.3	916.8	916.8	909.1
50°	878.8	873.8	866.3	853.6	848.5	833.4	825.9	815.8	805.7	805.7
52.5°	803.1	785.4	775.3	755.1	747.6	739.9	719.7	712.2	704.6	697.1
55°	712.2	697.1	676.9	654.1	644.0	631.3	611.1	596.0	585.9	588.5
57.5°	623.8	598.6	578.4	548.1	535.4	527.8	507.6	487.4	477.3	477.3
60°	515.2	495.0	469.8	441.9	431.8	419.3	393.9	381.4	373.7	366.2
62.5°	411.6	396.5	373.7	338.4	330.9	318.2	300.6	285.4	277.8	277.8
65°	308.1	292.9	272.7	247.5	237.4	227.3	212.2	197.0	189.4	186.9
67.5°	217.2	199.5	181.9	161.7	154.0	149.0	133.8	123.8	118.7	116.1
70°	131.3	121.2	108.6	93.5	85.8	80.8	70.7	63.2	60.6	58.1
72.5°	68.2	60.6	50.5	40.4	35.3	30.3	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)