

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: P840186

Luminaire Tested: **LD4C40D010 EU4409050 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: P840186
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: LD4C40D010 EU4409050 4LBCSSQMMS
Description: 4 INCH 4000 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

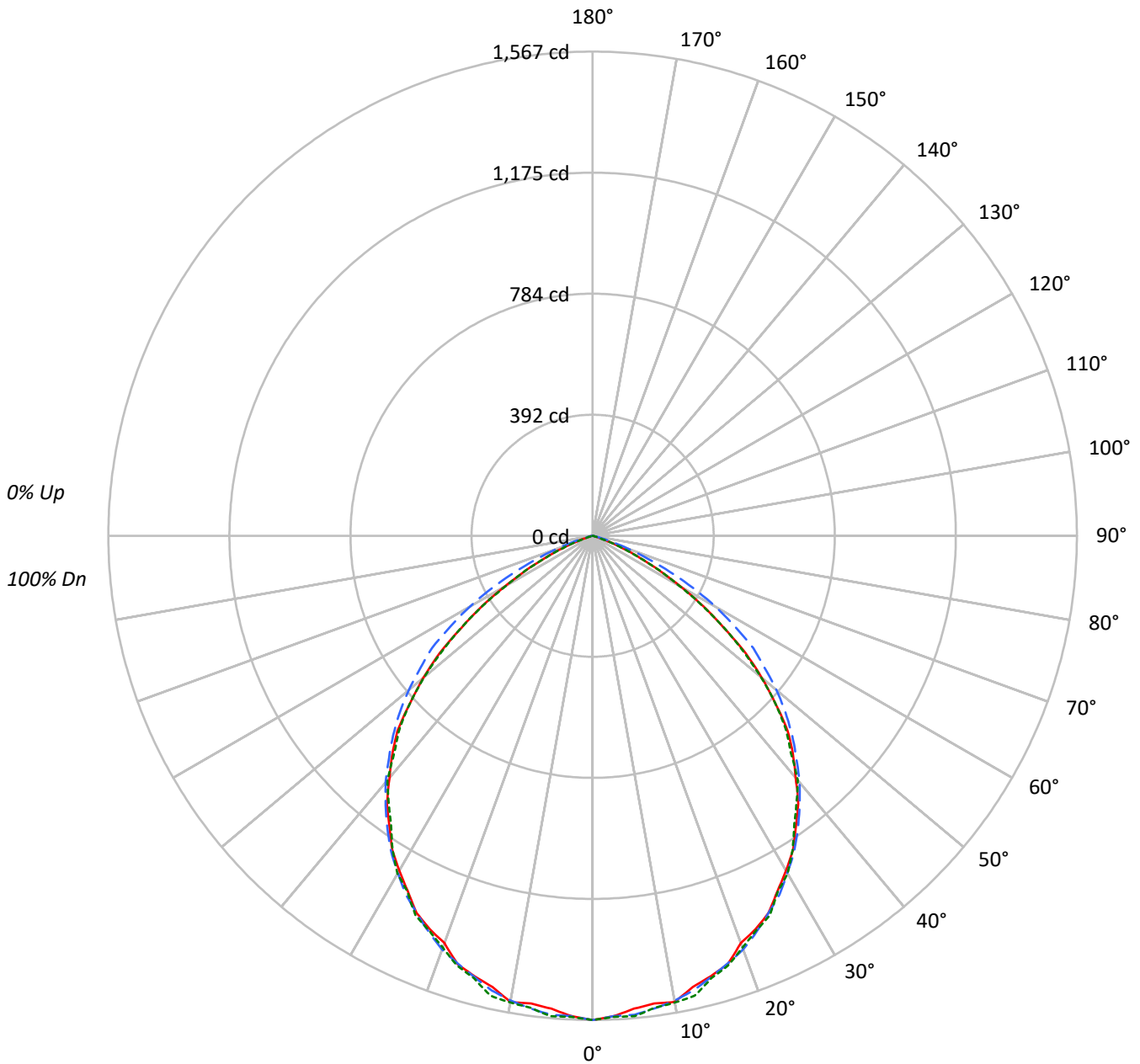
Lumens per Lamp: N/A
Luminaire Lumens: 3348.0 lumens
Efficiency: N/A
Efficacy: 71.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 47
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			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°	151227	151227	151227
5°	148783	150720	151156
10°	150072	149631	150288
15°	147442	147661	148101
20°	144011	146300	145623
25°	143396	143396	144344
30°	139392	140384	140640
35°	135048	136367	133999
40°	128716	131222	130101
45°	121814	124557	120600
50°	107284	116636	106608
55°	86887	106738	87257
60°	63567	88500	62293
65°	38630	63014	37626
70°	15065	33938	14444
75°	1678	9134	1678
80°	1278	1278	1278
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.9	4.4
10°-20°	418.6	12.5
20°-30°	621.2	18.6
30°-40°	719.7	21.5
40°-50°	690.1	20.6
50°-60°	507.4	15.2
60°-70°	219.1	6.5
70°-80°	23.7	0.7
80°-90°	0.3	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°	1187.7	35.5
0°-40°	1907.5	57.0
0°-60°	3104.9	92.7
0°-90°	3348.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3348.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1567	1567	1567	1567	1567	
5°	1536	1552	1556	1558	1561	147
15°	1476	1485	1478	1480	1483	416
25°	1347	1345	1347	1349	1356	617
35°	1146	1153	1158	1155	1138	717
45°	893	895	913	899	884	679
55°	516	570	634	568	519	465
65°	169	212	276	209	165	174
75°	4	7	24	4	4	14
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°	1567.3	1567.3	1567.3	1567.3	1567.3	1567.3	1567.3	1567.3	1567.3	1567.3	1567.3
2.5°	1556.1	1573.9	1576.2	1565.0	1560.6	1553.9	1569.5	1558.4	1562.9	1558.4	1556.1
5°	1536.1	1556.1	1558.4	1558.4	1553.9	1551.7	1558.4	1556.1	1553.9	1549.5	1556.1
7.5°	1527.2	1538.3	1549.5	1536.1	1542.8	1540.6	1556.1	1549.5	1547.2	1547.2	1542.8
10°	1531.7	1529.4	1538.3	1525.0	1529.4	1525.0	1538.3	1538.3	1533.9	1529.4	1527.2
12.5°	1496.0	1513.8	1513.8	1511.6	1507.2	1500.5	1513.8	1522.8	1509.4	1509.4	1507.2
15°	1476.0	1480.5	1482.6	1482.6	1480.5	1484.9	1491.6	1482.6	1484.9	1473.7	1478.2
17.5°	1453.8	1444.9	1451.5	1447.0	1449.3	1453.8	1462.7	1462.7	1449.3	1447.0	1451.5
20°	1402.5	1429.2	1431.5	1418.2	1420.3	1420.3	1436.0	1422.6	1431.5	1420.3	1424.8
22.5°	1378.0	1395.8	1398.1	1380.3	1391.4	1378.0	1393.6	1373.6	1395.8	1380.3	1386.9
25°	1346.9	1344.7	1351.3	1342.4	1344.7	1344.7	1355.8	1346.9	1353.6	1344.7	1346.9
27.5°	1295.7	1313.5	1311.2	1302.3	1306.8	1304.6	1326.9	1302.3	1315.7	1304.6	1309.1
30°	1251.1	1266.7	1262.3	1253.4	1253.4	1246.7	1271.2	1264.5	1262.3	1262.3	1260.0
32.5°	1206.6	1208.9	1204.4	1206.6	1208.9	1200.0	1220.0	1211.1	1208.9	1211.1	1213.3
35°	1146.5	1146.5	1150.9	1144.3	1153.2	1153.2	1171.0	1159.8	1157.7	1150.9	1157.7
37.5°	1093.1	1086.4	1088.6	1088.6	1093.1	1097.5	1106.4	1102.0	1102.0	1095.3	1099.8
40°	1021.9	1017.4	1024.0	1024.0	1030.8	1030.8	1039.7	1035.2	1041.8	1041.8	1041.8
42.5°	959.5	959.5	955.1	961.7	964.0	961.7	977.3	975.1	977.3	972.9	975.1
45°	892.7	892.7	888.2	886.1	897.1	895.0	912.8	906.0	915.0	910.5	912.8
47.5°	801.4	812.6	805.9	812.6	825.9	828.2	839.3	834.8	843.7	837.1	846.0
50°	714.7	714.7	721.3	730.2	743.6	745.8	759.2	768.1	772.5	774.7	777.0
52.5°	623.4	621.1	627.8	638.9	650.1	659.0	672.3	685.7	694.6	707.9	701.2
55°	516.5	520.9	527.6	541.0	558.8	569.9	581.1	598.9	614.5	621.1	634.5
57.5°	425.2	420.7	425.2	443.0	463.1	472.0	487.6	505.4	527.6	541.0	545.4
60°	329.4	331.7	336.2	351.8	367.3	380.7	387.4	416.3	436.4	449.7	458.6
62.5°	242.7	247.2	251.6	265.0	280.5	291.7	302.7	327.3	345.1	358.4	367.3
65°	169.2	171.4	178.1	184.8	200.4	211.5	220.4	240.4	258.2	269.4	276.0
67.5°	104.6	106.8	111.3	120.3	131.3	140.2	149.1	162.5	178.1	189.2	191.5
70°	53.4	55.7	57.9	64.6	73.5	77.9	84.6	95.7	106.8	115.7	120.3
72.5°	17.8	17.8	20.1	24.5	29.0	33.4	35.6	46.8	55.7	60.1	62.3
75°	4.5	4.5	4.5	4.5	4.5	6.7	6.7	13.4	17.8	22.3	24.5
77.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	4.5	4.5
80°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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°	1567.3	1567.3	1567.3	1567.3	1567.3	1567.3	1567.3	1567.3	1567.3	1567.3
2.5°	1567.3	1562.9	1560.6	1562.9	1562.9	1560.6	1567.3	1576.2	1587.3	1558.4
5°	1565.0	1560.6	1565.0	1551.7	1558.4	1553.9	1562.9	1560.6	1569.5	1560.6
7.5°	1558.4	1549.5	1551.7	1545.0	1553.9	1542.8	1549.5	1562.9	1553.9	1540.6
10°	1536.1	1531.7	1547.2	1525.0	1520.5	1529.4	1547.2	1533.9	1529.4	1533.9
12.5°	1513.8	1513.8	1520.5	1502.7	1504.9	1509.4	1518.3	1509.4	1513.8	1525.0
15°	1489.4	1484.9	1496.0	1482.6	1480.5	1476.0	1484.9	1484.9	1489.4	1482.6
17.5°	1460.4	1453.8	1453.8	1449.3	1447.0	1458.2	1462.7	1464.8	1467.1	1458.2
20°	1424.8	1422.6	1429.2	1422.6	1424.8	1427.1	1427.1	1422.6	1442.6	1418.2
22.5°	1386.9	1393.6	1384.7	1380.3	1384.7	1389.2	1389.2	1391.4	1386.9	1382.5
25°	1349.1	1353.6	1355.8	1342.4	1349.1	1342.4	1358.0	1360.2	1351.3	1355.8
27.5°	1315.7	1309.1	1306.8	1297.9	1302.3	1300.2	1302.3	1302.3	1315.7	1297.9
30°	1264.5	1257.8	1260.0	1253.4	1255.6	1253.4	1255.6	1255.6	1264.5	1262.3
32.5°	1215.5	1208.9	1211.1	1204.4	1204.4	1206.6	1202.2	1202.2	1208.9	1204.4
35°	1168.7	1153.2	1155.4	1153.2	1155.4	1146.5	1146.5	1144.3	1148.7	1137.6
37.5°	1102.0	1095.3	1093.1	1090.9	1093.1	1088.6	1093.1	1086.4	1093.1	1084.2
40°	1041.8	1037.4	1039.7	1026.3	1026.3	1028.5	1024.0	1021.9	1024.0	1032.9
42.5°	981.8	972.9	968.4	964.0	966.2	959.5	957.3	952.8	957.3	948.4
45°	910.5	910.5	908.3	897.1	899.4	899.4	890.5	881.6	883.8	883.8
47.5°	846.0	841.6	839.3	828.2	825.9	823.8	814.8	808.1	808.1	801.4
50°	774.7	770.3	763.6	752.5	748.0	734.6	728.0	719.1	710.2	710.2
52.5°	707.9	692.3	683.4	665.6	659.0	652.3	634.5	627.8	621.1	614.5
55°	627.8	614.5	596.7	576.6	567.7	556.5	538.7	525.4	516.5	518.7
57.5°	549.9	527.6	509.8	483.1	472.0	465.2	447.4	429.6	420.7	420.7
60°	454.2	436.4	414.1	389.6	380.7	369.6	347.3	336.2	329.4	322.8
62.5°	362.9	349.5	329.4	298.3	291.7	280.5	265.0	251.6	244.9	244.9
65°	271.6	258.2	240.4	218.2	209.3	200.4	187.0	173.7	166.9	164.8
67.5°	191.5	175.9	160.3	142.5	135.8	131.3	118.0	109.1	104.6	102.4
70°	115.7	106.8	95.7	82.4	75.7	71.2	62.3	55.7	53.4	51.2
72.5°	60.1	53.4	44.5	35.6	31.2	26.7	22.3	17.8	15.6	15.6
75°	22.3	17.8	11.2	6.7	4.5	4.5	4.5	4.5	4.5	4.5
77.5°	4.5	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
80°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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)