

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P209254

Luminaire Tested: **LDSQ4B40D010 EU4B30508030 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209254
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35089)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQ4B40D010 EU4B30508030 4LBCSSQ1MMS
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE SHALLOW CAST METALLIC SILVER TRIM
MEDIUM DISTRIBUTION WITH MATTE METALLIC SILVER TRIM
WATTAGE D010TR-43.02 W DE010-42.54 W D5LT-42.539 W DMX-41.87 W DL2-41.57 W DL3-44.71 W DLE-39.33 W
Light Source: HIGH LUMEN LED 3000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4010.4 lumens
Efficiency: N/A
Efficacy: 93.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

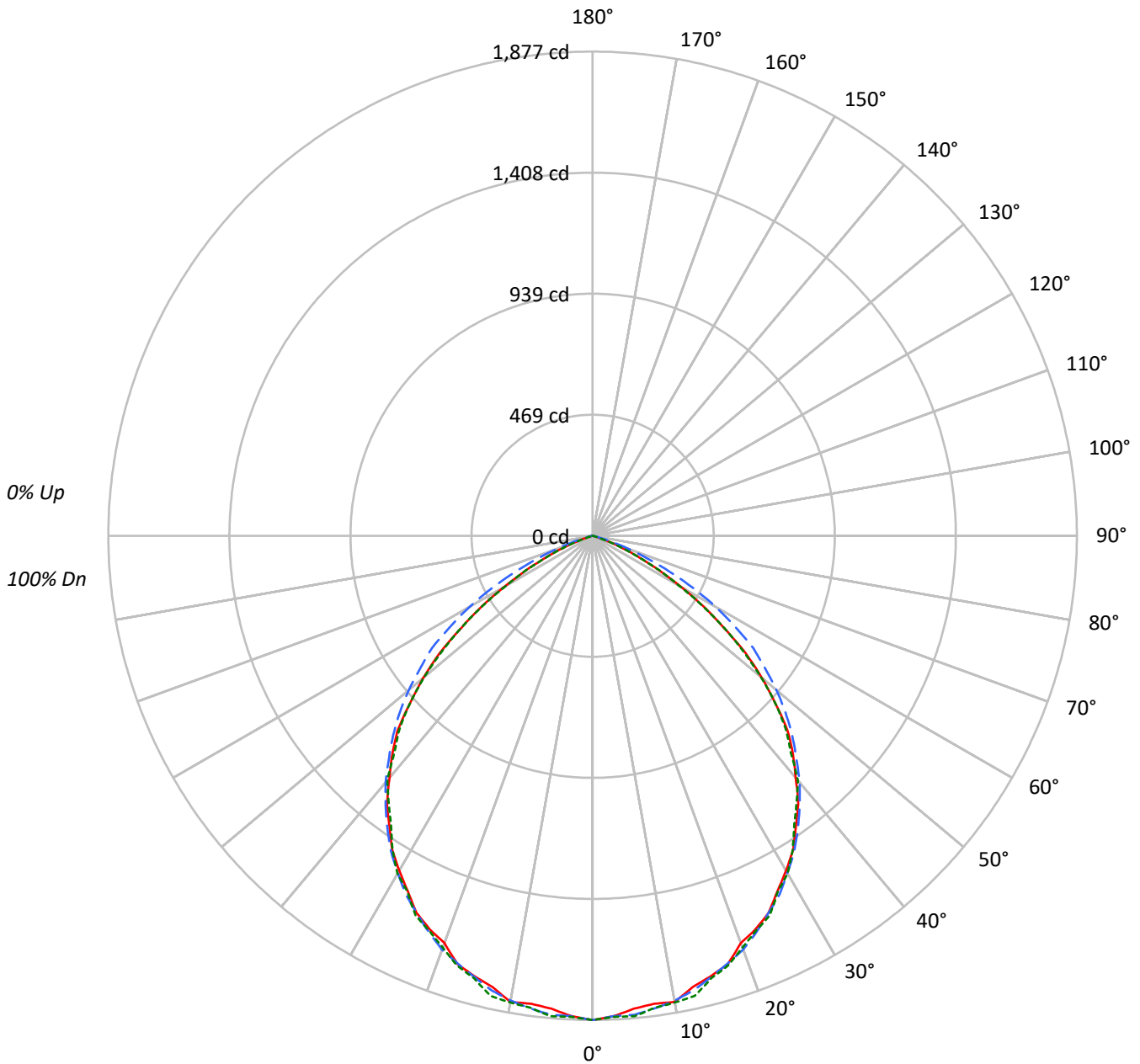
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	Luminaire represents a point source (luminous area is zero).		
5°	No luminance values can be calculated.		
10°			
15°			
20°			
25°			
30°			
35°			
40°			
45°			
50°			
55°			
60°			
65°			
70°			
75°			
80°			
85°			



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.2	4.4
10°-20°	501.5	12.5
20°-30°	744.1	18.6
30°-40°	862.1	21.5
40°-50°	826.6	20.6
50°-60°	607.8	15.2
60°-70°	262.5	6.5
70°-80°	28.3	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°	1422.7	35.5
0°-40°	2284.9	57.0
0°-60°	3719.2	92.7
0°-90°	4010.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4010.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1877	1877	1877	1877	1877	
5°	1840	1859	1864	1867	1869	176
15°	1768	1779	1771	1773	1776	498
25°	1613	1611	1613	1616	1624	739
35°	1373	1381	1387	1384	1363	859
45°	1069	1072	1093	1077	1059	813
55°	619	683	760	680	621	557
65°	203	253	331	251	197	208
75°	5	8	29	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°	1877.4	1877.4	1877.4	1877.4	1877.4	1877.4	1877.4	1877.4	1877.4	1877.4	1877.4
2.5°	1864.0	1885.4	1888.0	1874.7	1869.4	1861.4	1880.0	1866.7	1872.0	1866.7	1864.0
5°	1840.0	1864.0	1866.7	1866.7	1861.4	1858.7	1866.7	1864.0	1861.4	1856.0	1864.0
7.5°	1829.4	1842.7	1856.0	1840.0	1848.0	1845.4	1864.0	1856.0	1853.4	1853.4	1848.0
10°	1834.7	1832.0	1842.7	1826.7	1832.0	1826.7	1842.7	1842.7	1837.4	1832.0	1829.4
12.5°	1792.0	1813.4	1813.4	1810.7	1805.4	1797.4	1813.4	1824.0	1808.0	1808.0	1805.4
15°	1768.0	1773.4	1776.0	1776.0	1773.4	1778.7	1786.7	1776.0	1778.7	1765.4	1770.7
17.5°	1741.4	1730.7	1738.7	1733.4	1736.0	1741.4	1752.0	1752.0	1736.0	1733.4	1738.7
20°	1680.0	1712.0	1714.7	1698.7	1701.4	1701.4	1720.0	1704.0	1714.7	1701.4	1706.7
22.5°	1650.7	1672.0	1674.7	1653.4	1666.7	1650.7	1669.4	1645.4	1672.0	1653.4	1661.4
25°	1613.4	1610.7	1618.7	1608.0	1610.7	1610.7	1624.0	1613.4	1621.4	1610.7	1613.4
27.5°	1552.0	1573.4	1570.7	1560.0	1565.4	1562.7	1589.4	1560.0	1576.0	1562.7	1568.0
30°	1498.7	1517.4	1512.0	1501.4	1501.4	1493.4	1522.7	1514.7	1512.0	1512.0	1509.4
32.5°	1445.4	1448.0	1442.7	1445.4	1448.0	1437.4	1461.4	1450.7	1448.0	1450.7	1453.4
35°	1373.4	1373.4	1378.7	1370.7	1381.4	1381.4	1402.7	1389.4	1386.7	1378.7	1386.7
37.5°	1309.4	1301.4	1304.0	1304.0	1309.4	1314.7	1325.4	1320.0	1320.0	1312.0	1317.4
40°	1224.0	1218.7	1226.7	1226.7	1234.7	1234.7	1245.4	1240.0	1248.0	1248.0	1248.0
42.5°	1149.4	1149.4	1144.0	1152.0	1154.7	1152.0	1170.7	1168.0	1170.7	1165.4	1168.0
45°	1069.4	1069.4	1064.0	1061.4	1074.7	1072.0	1093.4	1085.4	1096.0	1090.7	1093.4
47.5°	960.0	973.4	965.4	973.4	989.4	992.0	1005.4	1000.0	1010.7	1002.7	1013.4
50°	856.0	856.0	864.0	874.7	890.7	893.4	909.4	920.0	925.4	928.0	930.7
52.5°	746.7	744.0	752.0	765.4	778.7	789.4	805.4	821.4	832.0	848.0	840.0
55°	618.7	624.0	632.0	648.0	669.3	682.7	696.0	717.3	736.0	744.0	760.0
57.5°	509.3	504.0	509.3	530.7	554.7	565.3	584.0	605.3	632.0	648.0	653.3
60°	394.7	397.3	402.7	421.3	440.0	456.0	464.0	498.7	522.7	538.7	549.3
62.5°	290.7	296.0	301.3	317.3	336.0	349.3	362.7	392.0	413.3	429.3	440.0
65°	202.7	205.3	213.3	221.3	240.0	253.3	264.0	288.0	309.3	322.7	330.7
67.5°	125.3	128.0	133.3	144.0	157.3	168.0	178.7	194.7	213.3	226.7	229.3
70°	64.0	66.7	69.3	77.3	88.0	93.3	101.3	114.7	128.0	138.7	144.0
72.5°	21.3	21.3	24.0	29.3	34.7	40.0	42.7	56.0	66.7	72.0	74.7
75°	5.3	5.3	5.3	5.3	5.3	8.0	8.0	16.0	21.3	26.7	29.3
77.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	5.3	5.3
80°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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°	1877.4	1877.4	1877.4	1877.4	1877.4	1877.4	1877.4	1877.4	1877.4	1877.4
2.5°	1877.4	1872.0	1869.4	1872.0	1872.0	1869.4	1877.4	1888.0	1901.4	1866.7
5°	1874.7	1869.4	1874.7	1858.7	1866.7	1861.4	1872.0	1869.4	1880.0	1869.4
7.5°	1866.7	1856.0	1858.7	1850.7	1861.4	1848.0	1856.0	1872.0	1861.4	1845.4
10°	1840.0	1834.7	1853.4	1826.7	1821.4	1832.0	1853.4	1837.4	1832.0	1837.4
12.5°	1813.4	1813.4	1821.4	1800.0	1802.7	1808.0	1818.7	1808.0	1813.4	1826.7
15°	1784.0	1778.7	1792.0	1776.0	1773.4	1768.0	1778.7	1778.7	1784.0	1776.0
17.5°	1749.4	1741.4	1741.4	1736.0	1733.4	1746.7	1752.0	1754.7	1757.4	1746.7
20°	1706.7	1704.0	1712.0	1704.0	1706.7	1709.4	1709.4	1704.0	1728.0	1698.7
22.5°	1661.4	1669.4	1658.7	1653.4	1658.7	1664.0	1664.0	1666.7	1661.4	1656.0
25°	1616.0	1621.4	1624.0	1608.0	1616.0	1608.0	1626.7	1629.4	1618.7	1624.0
27.5°	1576.0	1568.0	1565.4	1554.7	1560.0	1557.4	1560.0	1560.0	1576.0	1554.7
30°	1514.7	1506.7	1509.4	1501.4	1504.0	1501.4	1504.0	1504.0	1514.7	1512.0
32.5°	1456.0	1448.0	1450.7	1442.7	1442.7	1445.4	1440.0	1440.0	1448.0	1442.7
35°	1400.0	1381.4	1384.0	1381.4	1384.0	1373.4	1373.4	1370.7	1376.0	1362.7
37.5°	1320.0	1312.0	1309.4	1306.7	1309.4	1304.0	1309.4	1301.4	1309.4	1298.7
40°	1248.0	1242.7	1245.4	1229.4	1229.4	1232.0	1226.7	1224.0	1226.7	1237.4
42.5°	1176.0	1165.4	1160.0	1154.7	1157.4	1149.4	1146.7	1141.4	1146.7	1136.0
45°	1090.7	1090.7	1088.0	1074.7	1077.4	1077.4	1066.7	1056.0	1058.7	1058.7
47.5°	1013.4	1008.0	1005.4	992.0	989.4	986.7	976.0	968.0	968.0	960.0
50°	928.0	922.7	914.7	901.4	896.0	880.0	872.0	861.4	850.7	850.7
52.5°	848.0	829.4	818.7	797.4	789.4	781.4	760.0	752.0	744.0	736.0
55°	752.0	736.0	714.7	690.7	680.0	666.7	645.3	629.3	618.7	621.3
57.5°	658.7	632.0	610.7	578.7	565.3	557.3	536.0	514.7	504.0	504.0
60°	544.0	522.7	496.0	466.7	456.0	442.7	416.0	402.7	394.7	386.7
62.5°	434.7	418.7	394.7	357.3	349.3	336.0	317.3	301.3	293.3	293.3
65°	325.3	309.3	288.0	261.3	250.7	240.0	224.0	208.0	200.0	197.3
67.5°	229.3	210.7	192.0	170.7	162.7	157.3	141.3	130.7	125.3	122.7
70°	138.7	128.0	114.7	98.7	90.7	85.3	74.7	66.7	64.0	61.3
72.5°	72.0	64.0	53.3	42.7	37.3	32.0	26.7	21.3	18.7	18.7
75°	26.7	21.3	13.3	8.0	5.3	5.3	5.3	5.3	5.3	5.3
77.5°	5.3	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
80°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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 E9808895 / USPTCWHP6082093





— 0°-180° - - 45°-225° - - - - 90°-270°









(END OF REPORT)