

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: P209262

Luminaire Tested: **LDSQ4B40D010 EU4B30509050 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209262
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 EU4B30509050 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 5000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3495.1 lumens
Efficiency: N/A
Efficacy: 81.2 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

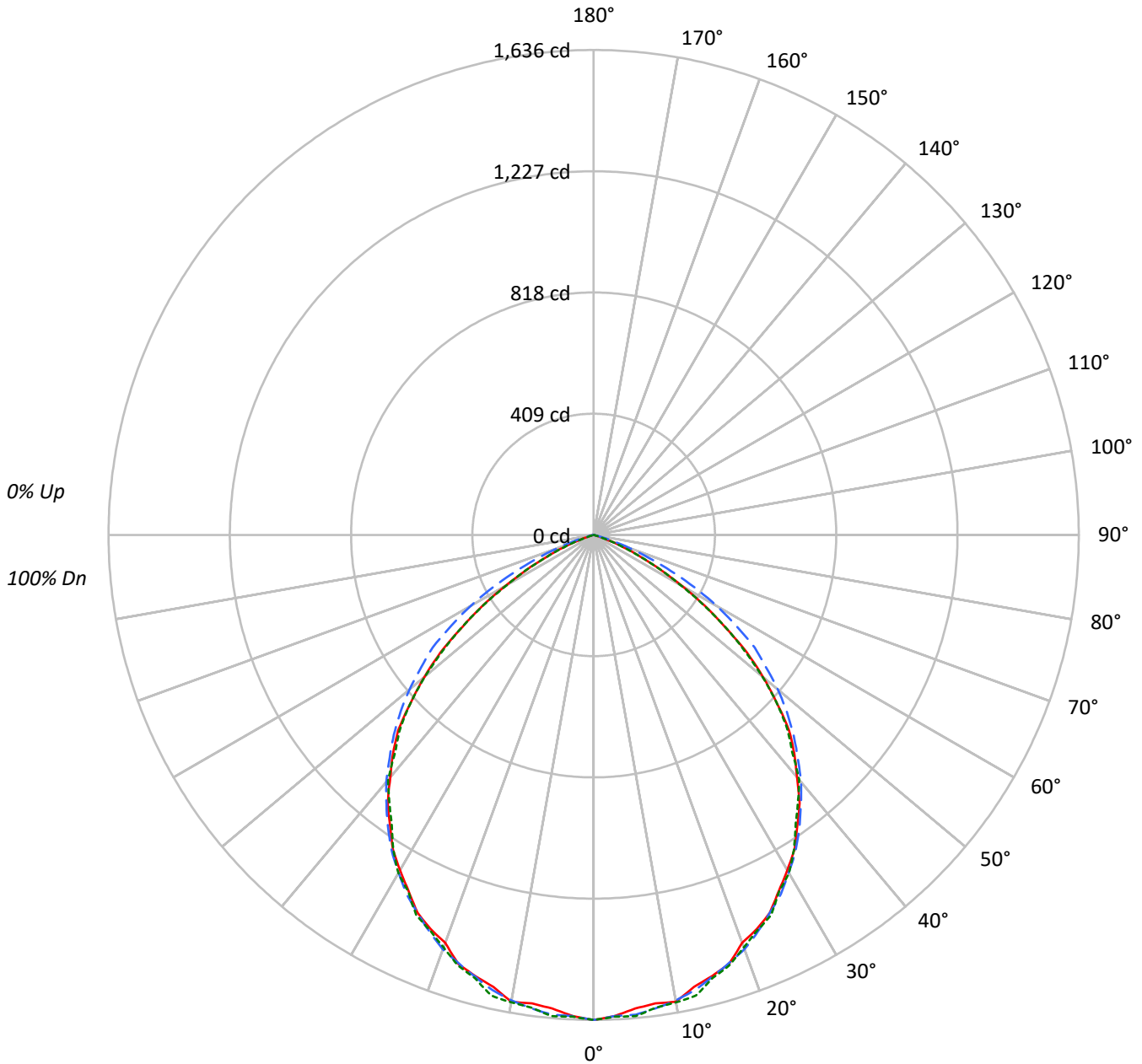
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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°	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°	154.4	4.4
10°-20°	437.0	12.5
20°-30°	648.4	18.6
30°-40°	751.4	21.5
40°-50°	720.4	20.6
50°-60°	529.7	15.2
60°-70°	228.8	6.5
70°-80°	24.7	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°	1239.9	35.5
0°-40°	1991.3	57.0
0°-60°	3241.3	92.7
0°-90°	3495.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3495.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1636	1636	1636	1636	1636	
5°	1604	1620	1624	1627	1629	153
15°	1541	1550	1543	1546	1548	434
25°	1406	1404	1406	1408	1415	644
35°	1197	1204	1208	1206	1188	748
45°	932	934	953	939	923	708
55°	539	595	662	593	542	485
65°	177	221	288	218	172	182
75°	5	7	26	5	5	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°	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1
2.5°	1624.5	1643.1	1645.4	1633.8	1629.2	1622.2	1638.5	1626.8	1631.5	1626.8	1624.5
5°	1603.6	1624.5	1626.8	1626.8	1622.2	1619.9	1626.8	1624.5	1622.2	1617.5	1624.5
7.5°	1594.3	1605.9	1617.5	1603.6	1610.6	1608.3	1624.5	1617.5	1615.2	1615.2	1610.6
10°	1599.0	1596.6	1605.9	1592.0	1596.6	1592.0	1605.9	1605.9	1601.3	1596.6	1594.3
12.5°	1561.8	1580.4	1580.4	1578.0	1573.4	1566.4	1580.4	1589.7	1575.7	1575.7	1573.4
15°	1540.9	1545.5	1547.8	1547.8	1545.5	1550.1	1557.1	1547.8	1550.1	1538.5	1543.2
17.5°	1517.6	1508.3	1515.3	1510.6	1513.0	1517.6	1526.9	1526.9	1513.0	1510.6	1515.3
20°	1464.2	1492.0	1494.4	1480.4	1482.8	1482.8	1499.0	1485.1	1494.4	1482.8	1487.4
22.5°	1438.6	1457.2	1459.5	1440.9	1452.5	1438.6	1454.9	1433.9	1457.2	1440.9	1447.9
25°	1406.1	1403.7	1410.7	1401.4	1403.7	1403.7	1415.4	1406.1	1413.0	1403.7	1406.1
27.5°	1352.6	1371.2	1368.9	1359.6	1364.2	1361.9	1385.1	1359.6	1373.5	1361.9	1366.5
30°	1306.1	1322.4	1317.7	1308.4	1308.4	1301.5	1327.0	1320.1	1317.7	1317.7	1315.4
32.5°	1259.6	1262.0	1257.3	1259.6	1262.0	1252.7	1273.6	1264.3	1262.0	1264.3	1266.6
35°	1196.9	1196.9	1201.5	1194.6	1203.9	1203.9	1222.5	1210.8	1208.5	1201.5	1208.5
37.5°	1141.1	1134.1	1136.5	1136.5	1141.1	1145.8	1155.1	1150.4	1150.4	1143.4	1148.1
40°	1066.7	1062.1	1069.1	1069.1	1076.0	1076.0	1085.3	1080.7	1087.7	1087.7	1087.7
42.5°	1001.7	1001.7	997.0	1004.0	1006.3	1004.0	1020.3	1017.9	1020.3	1015.6	1017.9
45°	931.9	931.9	927.3	925.0	936.6	934.3	952.9	945.9	955.2	950.5	952.9
47.5°	836.7	848.3	841.3	848.3	862.2	864.6	876.2	871.5	880.8	873.8	883.1
50°	746.0	746.0	753.0	762.3	776.2	778.6	792.5	801.8	806.4	808.8	811.1
52.5°	650.7	648.4	655.4	667.0	678.6	687.9	701.9	715.8	725.1	739.1	732.1
55°	539.2	543.8	550.8	564.7	583.3	595.0	606.6	625.2	641.4	648.4	662.4
57.5°	443.9	439.2	443.9	462.5	483.4	492.7	509.0	527.6	550.8	564.7	569.4
60°	344.0	346.3	350.9	367.2	383.5	397.4	404.4	434.6	455.5	469.5	478.8
62.5°	253.3	258.0	262.6	276.6	292.8	304.5	316.1	341.6	360.2	374.2	383.5
65°	176.6	179.0	185.9	192.9	209.2	220.8	230.1	251.0	269.6	281.2	288.2
67.5°	109.2	111.6	116.2	125.5	137.1	146.4	155.7	169.7	185.9	197.5	199.9
70°	55.8	58.1	60.4	67.4	76.7	81.3	88.3	99.9	111.6	120.9	125.5
72.5°	18.6	18.6	20.9	25.6	30.2	34.9	37.2	48.8	58.1	62.7	65.1
75°	4.6	4.6	4.6	4.6	4.6	7.0	7.0	13.9	18.6	23.2	25.6
77.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	4.6	4.6
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°	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1	1636.1
2.5°	1636.1	1631.5	1629.2	1631.5	1631.5	1629.2	1636.1	1645.4	1657.1	1626.8
5°	1633.8	1629.2	1633.8	1619.9	1626.8	1622.2	1631.5	1629.2	1638.5	1629.2
7.5°	1626.8	1617.5	1619.9	1612.9	1622.2	1610.6	1617.5	1631.5	1622.2	1608.3
10°	1603.6	1599.0	1615.2	1592.0	1587.3	1596.6	1615.2	1601.3	1596.6	1601.3
12.5°	1580.4	1580.4	1587.3	1568.7	1571.1	1575.7	1585.0	1575.7	1580.4	1592.0
15°	1554.8	1550.1	1561.8	1547.8	1545.5	1540.9	1550.1	1550.1	1554.8	1547.8
17.5°	1524.6	1517.6	1517.6	1513.0	1510.6	1522.3	1526.9	1529.2	1531.6	1522.3
20°	1487.4	1485.1	1492.0	1485.1	1487.4	1489.7	1489.7	1485.1	1506.0	1480.4
22.5°	1447.9	1454.9	1445.6	1440.9	1445.6	1450.2	1450.2	1452.5	1447.9	1443.2
25°	1408.4	1413.0	1415.4	1401.4	1408.4	1401.4	1417.7	1420.0	1410.7	1415.4
27.5°	1373.5	1366.5	1364.2	1354.9	1359.6	1357.3	1359.6	1359.6	1373.5	1354.9
30°	1320.1	1313.1	1315.4	1308.4	1310.8	1308.4	1310.8	1310.8	1320.1	1317.7
32.5°	1268.9	1262.0	1264.3	1257.3	1257.3	1259.6	1255.0	1255.0	1262.0	1257.3
35°	1220.1	1203.9	1206.2	1203.9	1206.2	1196.9	1196.9	1194.6	1199.2	1187.6
37.5°	1150.4	1143.4	1141.1	1138.8	1141.1	1136.5	1141.1	1134.1	1141.1	1131.8
40°	1087.7	1083.0	1085.3	1071.4	1071.4	1073.7	1069.1	1066.7	1069.1	1078.4
42.5°	1024.9	1015.6	1011.0	1006.3	1008.6	1001.7	999.3	994.7	999.3	990.1
45°	950.5	950.5	948.2	936.6	938.9	938.9	929.6	920.3	922.7	922.7
47.5°	883.1	878.5	876.2	864.6	862.2	859.9	850.6	843.6	843.6	836.7
50°	808.8	804.1	797.2	785.5	780.9	766.9	760.0	750.7	741.4	741.4
52.5°	739.1	722.8	713.5	694.9	687.9	681.0	662.4	655.4	648.4	641.4
55°	655.4	641.4	622.8	601.9	592.6	581.0	562.4	548.5	539.2	541.5
57.5°	574.0	550.8	532.2	504.3	492.7	485.7	467.1	448.5	439.2	439.2
60°	474.1	455.5	432.3	406.7	397.4	385.8	362.6	350.9	344.0	337.0
62.5°	378.8	364.9	344.0	311.4	304.5	292.8	276.6	262.6	255.6	255.6
65°	283.5	269.6	251.0	227.8	218.5	209.2	195.2	181.3	174.3	172.0
67.5°	199.9	183.6	167.3	148.7	141.8	137.1	123.2	113.9	109.2	106.9
70°	120.9	111.6	99.9	86.0	79.0	74.4	65.1	58.1	55.8	53.5
72.5°	62.7	55.8	46.5	37.2	32.5	27.9	23.2	18.6	16.3	16.3
75°	23.2	18.6	11.6	7.0	4.6	4.6	4.6	4.6	4.6	4.6
77.5°	4.6	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 E9808895 / USPTCWHP6082093





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









(END OF REPORT)