

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: P209113

Luminaire Tested: **LDSQ4B15D010 EU4B10208027 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209113
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35088)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQ4B15D010 EU4B10208027 4LBSQ1LI
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE LOW
IRIDESCENT TRIM.
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM
WATTAGE D010TR-14.39 W DE010-14.29 W D5LT-14.34 W DMX-14.46 W DL2-15.8 W
DL3-15.28 W DLE-15.432 W
Light Source: HIGH LUMEN LED 2700 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1356.3 lumens
Efficiency: N/A
Efficacy: 94.3 lumens/watt
Spacing Criteria (0/90/45): 0.91 / 0.9 / 0.94
Luminous Opening: Circular (Dia: 1.12' x H: 0')
CIE Type: Direct

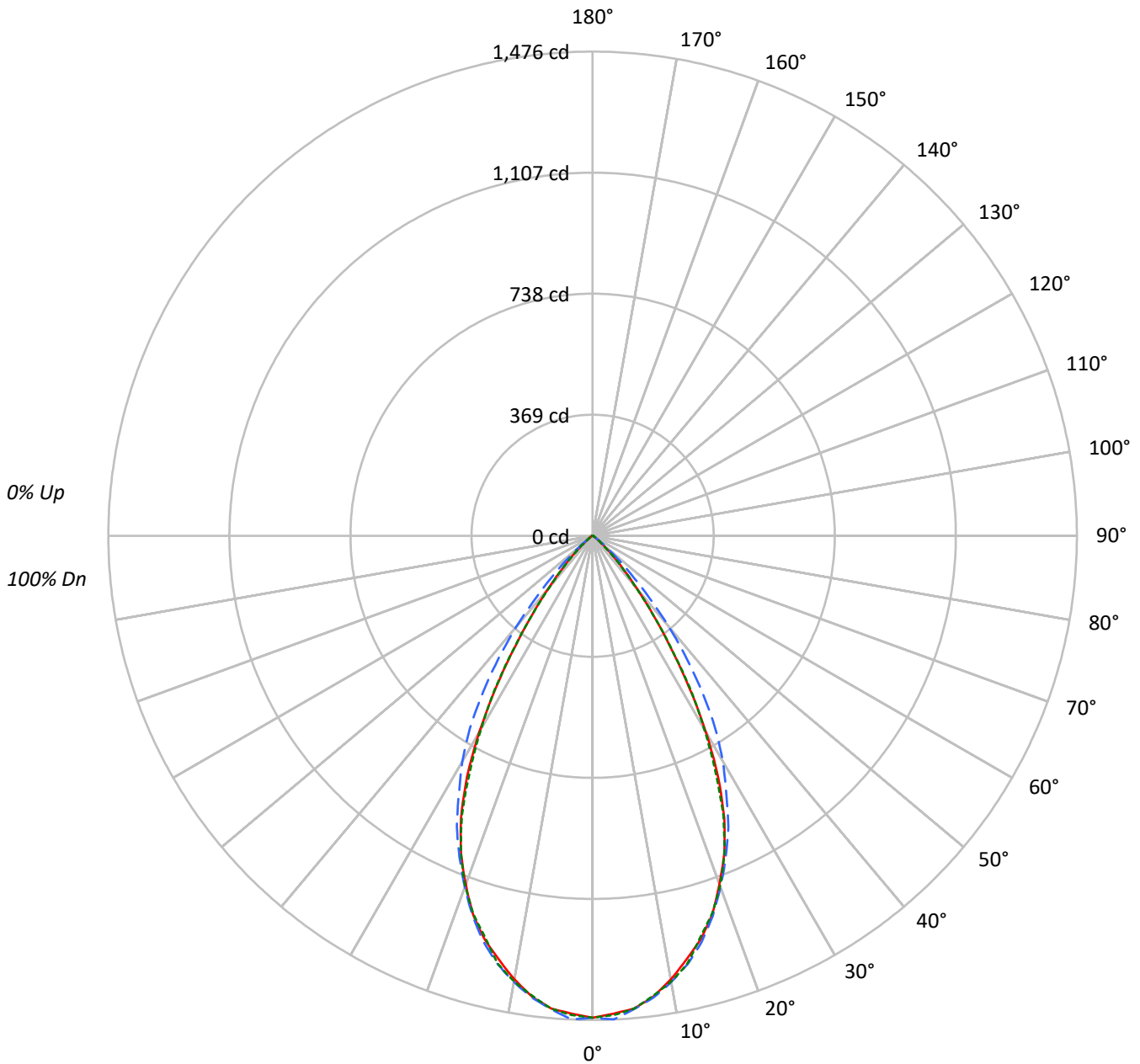
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93			
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87			
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80			
4	97	89	84	79	95	88	83	79	86	81	78	84	80	77	82	79	76	75			
5	92	83	77	73	90	82	77	73	81	76	72	79	75	71	77	74	71	69			
6	87	78	72	68	86	77	71	67	76	71	67	74	70	66	73	69	66	65			
7	83	73	67	63	81	73	67	63	71	66	62	70	65	62	69	65	62	60			
8	79	69	63	59	77	68	62	58	67	62	58	66	61	58	65	61	58	56			
9	75	65	59	55	74	64	59	55	63	58	55	63	58	54	62	57	54	53			
10	71	61	55	51	70	61	55	51	60	55	51	59	54	51	58	54	51	50			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15909	15909	15909
5°	15727	15746	15727
10°	15097	15189	15170
15°	14273	14378	14199
20°	13025	13122	13090
25°	11342	11698	11263
30°	8625	9921	8496
35°	5429	7712	5478
40°	2929	5093	2877
45°	1386	2516	1372
50°	519	943	519
55°	247	300	228
60°	162	141	162
65°	95	95	95
70°	60	89	60
75°	38	38	38
80°	56	56	56
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.2	10.0
10°-20°	357.0	26.3
20°-30°	436.1	32.2
30°-40°	305.0	22.5
40°-50°	100.0	7.4
50°-60°	15.9	1.2
60°-70°	4.3	0.3
70°-80°	1.4	0.1
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°	929.3	68.5
0°-40°	1234.3	91.0
0°-60°	1350.2	99.5
0°-90°	1356.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1356.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1469	1469	1469	1469	1469	
5°	1447	1447	1449	1440	1447	136
15°	1273	1278	1282	1274	1267	355
25°	949	964	979	961	943	426
35°	411	485	583	477	414	262
45°	90	112	164	110	90	76
55°	13	14	16	14	12	13
65°	4	5	4	5	4	4
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1469.2	1469.2	1469.2	1469.2	1469.2	1469.2	1469.2	1469.2	1469.2	1469.2	1469.2
2.5°	1458.0	1468.2	1465.4	1472.0	1472.0	1464.5	1466.4	1469.2	1472.9	1475.7	1453.3
5°	1446.8	1456.1	1447.7	1457.0	1451.4	1443.0	1457.0	1449.6	1454.2	1448.6	1452.4
7.5°	1416.9	1431.8	1415.0	1426.2	1422.5	1417.8	1423.4	1421.6	1424.4	1419.7	1409.4
10°	1373.0	1385.2	1374.0	1389.8	1382.4	1377.7	1382.4	1387.0	1386.1	1381.4	1387.0
12.5°	1322.6	1336.6	1331.0	1340.4	1332.0	1332.0	1343.2	1340.4	1341.3	1337.6	1344.1
15°	1273.2	1283.4	1275.0	1287.2	1283.4	1273.2	1277.8	1277.8	1285.3	1282.5	1275.0
17.5°	1211.5	1219.9	1210.6	1213.4	1209.7	1207.8	1227.4	1214.3	1221.8	1216.2	1217.1
20°	1130.3	1134.1	1131.3	1138.7	1134.1	1139.7	1137.8	1135.9	1135.9	1138.7	1132.2
22.5°	1048.2	1048.2	1051.0	1052.9	1056.6	1051.0	1062.2	1052.9	1053.8	1060.3	1058.5
25°	949.3	946.5	953.0	962.3	966.1	961.4	976.3	968.9	974.5	979.1	968.9
27.5°	828.9	828.9	835.4	851.3	854.1	859.7	880.2	880.2	887.7	881.1	888.6
30°	689.8	700.0	708.4	729.0	735.5	747.6	769.1	779.4	796.2	793.4	789.7
32.5°	547.0	561.0	561.9	583.4	601.1	621.6	650.6	674.8	687.0	695.4	686.0
35°	410.7	419.1	426.6	441.5	471.4	498.4	524.6	556.3	577.8	583.4	575.0
37.5°	300.6	302.4	309.9	323.9	346.3	372.4	404.2	438.7	461.1	469.5	460.2
40°	207.2	209.1	212.8	224.9	243.6	262.3	287.5	323.0	343.5	360.3	348.2
42.5°	139.1	140.9	144.7	154.0	164.3	182.0	201.6	224.0	243.6	251.1	244.5
45°	90.5	90.5	92.4	98.9	104.5	118.5	132.5	146.5	159.6	164.3	159.6
47.5°	53.2	54.1	56.0	60.7	67.2	72.8	83.1	92.4	96.1	99.9	98.0
50°	30.8	30.8	33.6	36.4	41.1	44.8	48.5	52.3	54.1	56.0	54.1
52.5°	16.8	17.7	18.7	19.6	21.5	25.2	28.0	28.0	28.9	29.9	28.9
55°	13.1	13.1	13.1	13.1	14.0	14.0	14.0	14.9	14.9	15.9	14.9
57.5°	9.3	9.3	9.3	10.3	10.3	10.3	9.3	9.3	9.3	9.3	9.3
60°	7.5	7.5	7.5	7.5	7.5	7.5	7.5	6.5	6.5	6.5	6.5
62.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
65°	3.7	3.7	4.7	4.7	4.7	4.7	4.7	3.7	3.7	3.7	3.7
67.5°	2.8	2.8	2.8	2.8	3.7	3.7	2.8	2.8	2.8	2.8	2.8
70°	1.9	1.9	1.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
72.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
75°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
77.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
80°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	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°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1469.2	1469.2	1469.2	1469.2	1469.2	1469.2	1469.2	1469.2
2.5°	1469.2	1453.3	1455.2	1463.6	1458.9	1463.6	1462.6	1462.6
5°	1453.3	1448.6	1441.2	1438.4	1444.0	1456.1	1454.2	1446.8
7.5°	1423.4	1411.3	1419.7	1423.4	1418.8	1426.2	1430.0	1414.1
10°	1388.0	1383.3	1381.4	1383.3	1381.4	1388.9	1379.6	1379.6
12.5°	1337.6	1330.1	1330.1	1341.3	1334.8	1329.2	1336.6	1335.7
15°	1287.2	1272.2	1272.2	1276.0	1278.8	1275.0	1276.0	1266.6
17.5°	1212.5	1207.8	1201.3	1211.5	1214.3	1210.6	1213.4	1208.7
20°	1142.5	1142.5	1130.3	1135.0	1138.7	1141.5	1143.4	1135.9
22.5°	1052.9	1054.7	1046.3	1055.7	1058.5	1049.1	1051.0	1049.1
25°	970.7	969.8	963.3	959.5	961.4	957.7	956.7	942.7
27.5°	880.2	870.9	856.9	860.6	844.7	831.7	831.7	810.2
30°	782.2	766.3	747.6	729.0	715.0	700.0	691.6	679.5
32.5°	667.4	645.9	622.6	597.4	581.5	559.1	547.0	553.5
35°	553.5	521.8	490.0	464.8	440.6	427.5	412.6	414.4
37.5°	443.4	398.6	370.6	343.5	323.0	306.2	299.6	297.8
40°	323.9	288.4	260.4	240.8	226.8	213.7	206.3	203.5
42.5°	224.0	198.8	176.4	160.5	151.2	142.8	139.1	138.1
45°	145.6	130.7	115.7	104.5	97.1	91.5	90.5	89.6
47.5°	91.5	84.0	74.7	66.3	59.7	56.0	53.2	53.2
50°	52.3	49.5	44.8	40.1	36.4	34.5	31.7	30.8
52.5°	28.0	28.0	26.1	22.4	19.6	17.7	17.7	16.8
55°	14.9	14.9	14.0	14.0	13.1	13.1	13.1	12.1
57.5°	9.3	9.3	10.3	10.3	9.3	9.3	9.3	9.3
60°	6.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
62.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
65°	3.7	4.7	4.7	4.7	4.7	3.7	3.7	3.7
67.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
70°	2.8	2.8	2.8	2.8	2.8	1.9	1.9	1.9
72.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
75°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
77.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
80°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
82.5°	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
87.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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









(END OF REPORT)