

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: P209121

Luminaire Tested: **LDSQ4B15D010 EU4B10209040 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209121
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 EU4B10209040 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 4000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1230.2 lumens
Efficiency: N/A
Efficacy: 85.5 lumens/watt
Spacing Criteria (0/90/45): 0.91 / 0.9 / 0.94
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

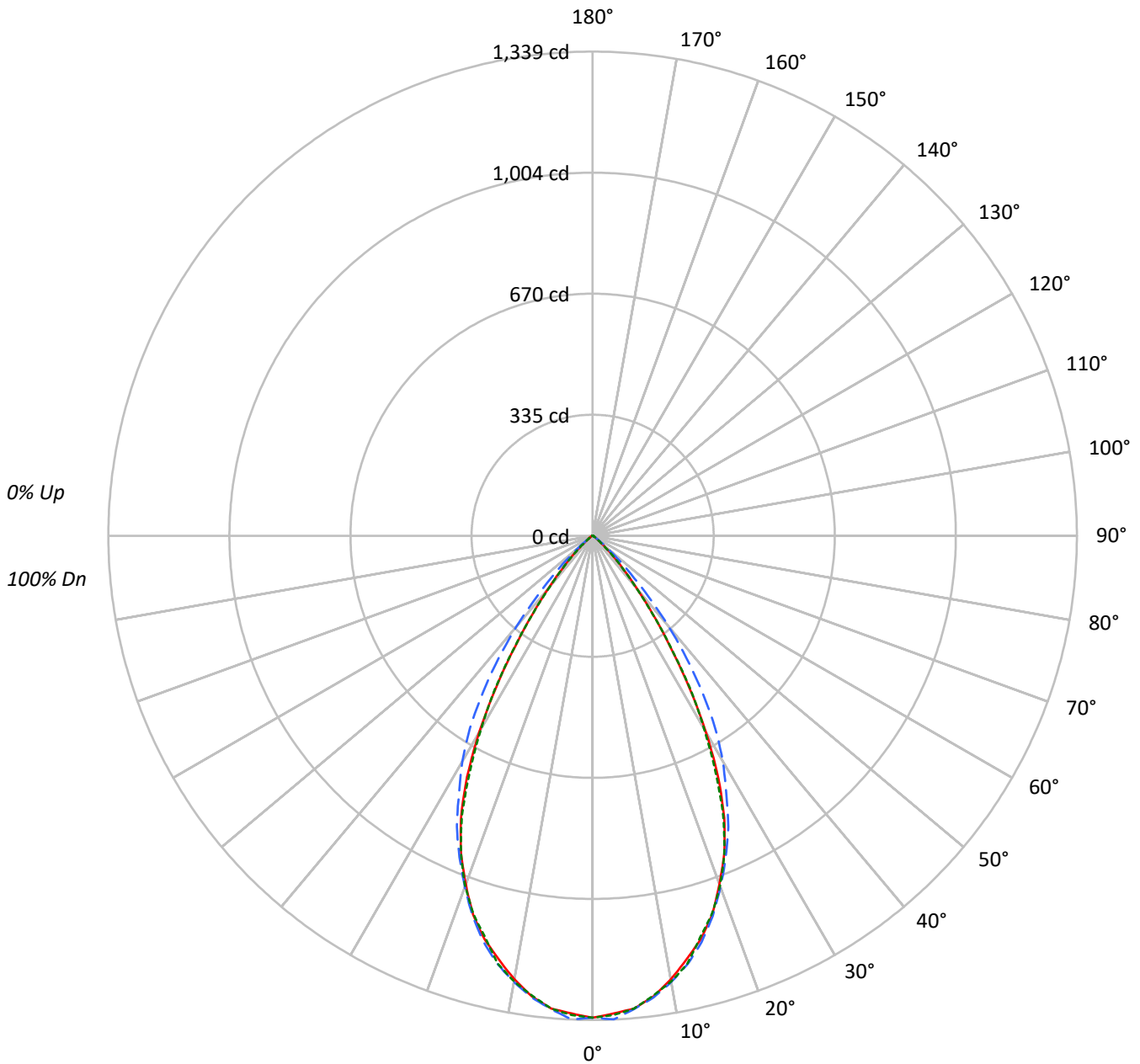
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	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	72	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°	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°	123.6	10.0
10°-20°	323.8	26.3
20°-30°	395.6	32.2
30°-40°	276.7	22.5
40°-50°	90.7	7.4
50°-60°	14.4	1.2
60°-70°	3.9	0.3
70°-80°	1.3	0.1
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°	842.9	68.5
0°-40°	1119.6	91.0
0°-60°	1224.7	99.6
0°-90°	1230.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1230.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1333	1333	1333	1333	1333	
5°	1312	1313	1314	1306	1312	123
15°	1155	1159	1163	1156	1149	322
25°	861	874	888	872	855	387
35°	372	440	529	433	376	238
45°	82	101	149	100	81	69
55°	12	13	14	13	11	12
65°	3	4	3	4	3	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°	1332.6	1332.6	1332.6	1332.6	1332.6	1332.6	1332.6	1332.6	1332.6	1332.6	1332.6
2.5°	1322.5	1331.8	1329.2	1335.2	1335.2	1328.4	1330.1	1332.6	1336.0	1338.6	1318.2
5°	1312.3	1320.8	1313.2	1321.6	1316.5	1308.9	1321.6	1314.9	1319.1	1314.0	1317.4
7.5°	1285.2	1298.8	1283.5	1293.7	1290.3	1286.1	1291.1	1289.5	1292.0	1287.8	1278.4
10°	1245.4	1256.4	1246.3	1260.7	1253.9	1249.7	1253.9	1258.1	1257.3	1253.0	1258.1
12.5°	1199.7	1212.4	1207.3	1215.8	1208.2	1208.2	1218.3	1215.8	1216.6	1213.3	1219.2
15°	1154.8	1164.1	1156.5	1167.5	1164.1	1154.8	1159.1	1159.1	1165.8	1163.3	1156.5
17.5°	1099.0	1106.6	1098.1	1100.7	1097.3	1095.6	1113.4	1101.5	1108.3	1103.2	1104.0
20°	1025.3	1028.7	1026.1	1032.9	1028.7	1033.8	1032.1	1030.4	1030.4	1032.9	1027.0
22.5°	950.8	950.8	953.3	955.0	958.4	953.3	963.5	955.0	955.9	961.8	960.1
25°	861.0	858.5	864.4	872.9	876.3	872.1	885.6	878.8	883.9	888.1	878.8
27.5°	751.8	751.8	757.8	772.1	774.7	779.8	798.4	798.4	805.2	799.2	806.0
30°	625.7	635.0	642.6	661.2	667.2	678.2	697.6	707.0	722.2	719.7	716.3
32.5°	496.1	508.8	509.7	529.2	545.2	563.9	590.1	612.1	623.1	630.8	622.3
35°	372.5	380.1	386.9	400.5	427.6	452.1	475.8	504.6	524.1	529.2	521.5
37.5°	272.6	274.3	281.1	293.8	314.1	337.8	366.6	397.9	418.2	425.9	417.4
40°	188.0	189.7	193.0	204.0	221.0	237.9	260.8	292.9	311.6	326.8	315.8
42.5°	126.2	127.8	131.2	139.7	149.0	165.1	182.9	203.2	221.0	227.8	221.8
45°	82.1	82.1	83.8	89.7	94.8	107.5	120.2	132.9	144.8	149.0	144.8
47.5°	48.3	49.1	50.8	55.0	61.0	66.0	75.4	83.8	87.2	90.6	88.9
50°	27.9	27.9	30.5	33.0	37.3	40.6	44.0	47.4	49.1	50.8	49.1
52.5°	15.2	16.1	16.9	17.8	19.5	22.9	25.4	25.4	26.2	27.1	26.2
55°	11.9	11.9	11.9	11.9	12.7	12.7	12.7	13.5	13.5	14.4	13.5
57.5°	8.5	8.5	8.5	9.3	9.3	9.3	8.5	8.5	8.5	8.5	8.5
60°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	5.9	5.9	5.9	5.9
62.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
65°	3.4	3.4	4.2	4.2	4.2	4.2	4.2	3.4	3.4	3.4	3.4
67.5°	2.5	2.5	2.5	2.5	3.4	3.4	2.5	2.5	2.5	2.5	2.5
70°	1.7	1.7	1.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
72.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
75°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
77.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	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°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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°	1332.6	1332.6	1332.6	1332.6	1332.6	1332.6	1332.6	1332.6
2.5°	1332.6	1318.2	1319.9	1327.6	1323.3	1327.6	1326.7	1326.7
5°	1318.2	1314.0	1307.2	1304.7	1309.8	1320.8	1319.1	1312.3
7.5°	1291.1	1280.1	1287.8	1291.1	1286.9	1293.7	1297.1	1282.7
10°	1259.0	1254.7	1253.0	1254.7	1253.0	1259.8	1251.4	1251.4
12.5°	1213.3	1206.5	1206.5	1216.6	1210.7	1205.6	1212.4	1211.6
15°	1167.5	1154.0	1154.0	1157.4	1159.9	1156.5	1157.4	1148.9
17.5°	1099.8	1095.6	1089.6	1099.0	1101.5	1098.1	1100.7	1096.4
20°	1036.3	1036.3	1025.3	1029.5	1032.9	1035.5	1037.2	1030.4
22.5°	955.0	956.7	949.1	957.6	960.1	951.6	953.3	951.6
25°	880.5	879.7	873.7	870.4	872.1	868.7	867.8	855.1
27.5°	798.4	789.9	777.2	780.6	766.2	754.4	754.4	734.9
30°	709.5	695.1	678.2	661.2	648.5	635.0	627.4	616.4
32.5°	605.4	585.9	564.7	541.9	527.5	507.1	496.1	502.1
35°	502.1	473.3	444.5	421.6	399.6	387.8	374.2	375.9
37.5°	402.2	361.5	336.1	311.6	292.9	277.7	271.8	270.1
40°	293.8	261.6	236.2	218.4	205.7	193.9	187.1	184.6
42.5°	203.2	180.3	160.0	145.6	137.2	129.5	126.2	125.3
45°	132.1	118.5	105.0	94.8	88.1	83.0	82.1	81.3
47.5°	83.0	76.2	67.7	60.1	54.2	50.8	48.3	48.3
50°	47.4	44.9	40.6	36.4	33.0	31.3	28.8	27.9
52.5°	25.4	25.4	23.7	20.3	17.8	16.1	16.1	15.2
55°	13.5	13.5	12.7	12.7	11.9	11.9	11.9	11.0
57.5°	8.5	8.5	9.3	9.3	8.5	8.5	8.5	8.5
60°	5.9	6.8	6.8	6.8	6.8	6.8	6.8	6.8
62.5°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
65°	3.4	4.2	4.2	4.2	4.2	3.4	3.4	3.4
67.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
70°	2.5	2.5	2.5	2.5	2.5	1.7	1.7	1.7
72.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
75°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
77.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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)