

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: P209122

Luminaire Tested: **LDSQ4B15D010 EU4B10209050 4LBSQ1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209122  
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 EU4B10209050 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 5000 K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1234.8 lumens  
Efficiency: N/A  
Efficacy: 85.8 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

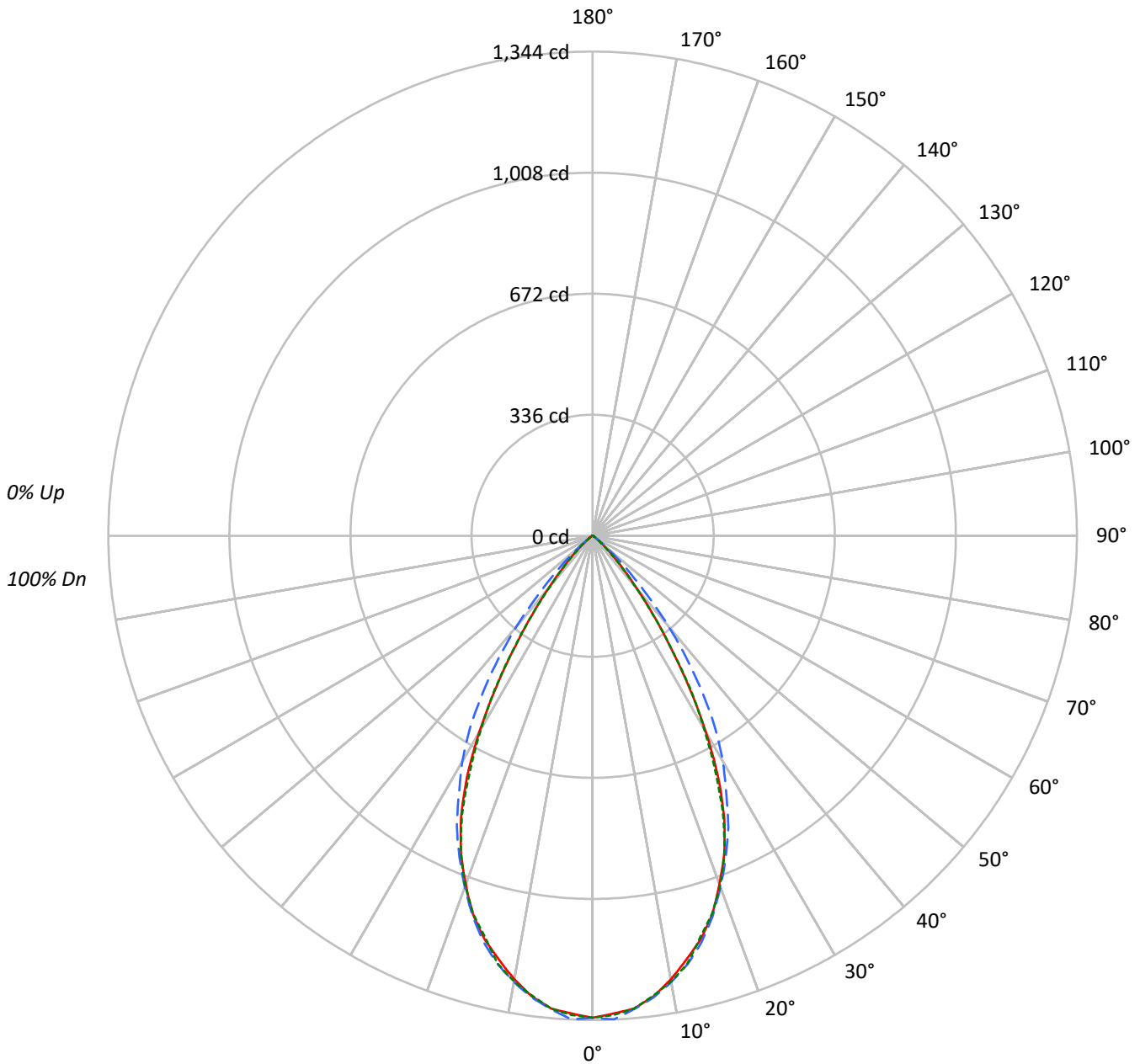
Input Watts (W): 14.39  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	124.0	10.0
10°-20°	325.0	26.3
20°-30°	397.1	32.2
30°-40°	277.7	22.5
40°-50°	91.0	7.4
50°-60°	14.5	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°	846.1	68.5
0°-40°	1123.8	91.0
0°-60°	1229.3	99.6
0°-90°	1234.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1234.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1338	1338	1338	1338	1338	
5°	1317	1318	1319	1311	1317	124
15°	1159	1164	1168	1160	1153	323
25°	864	877	892	875	858	388
35°	374	442	531	435	377	239
45°	82	102	150	100	82	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°	1337.7	1337.7	1337.7	1337.7	1337.7	1337.7	1337.7	1337.7	1337.7	1337.7	1337.7
2.5°	1327.5	1336.8	1334.3	1340.2	1340.2	1333.4	1335.1	1337.7	1341.1	1343.6	1323.2
5°	1317.3	1325.8	1318.1	1326.6	1321.5	1313.9	1326.6	1319.8	1324.1	1319.0	1322.4
7.5°	1290.1	1303.7	1288.4	1298.6	1295.2	1290.9	1296.0	1294.3	1296.9	1292.6	1283.3
10°	1250.1	1261.2	1251.0	1265.4	1258.6	1254.4	1258.6	1262.9	1262.0	1257.8	1262.9
12.5°	1204.2	1217.0	1211.9	1220.4	1212.7	1212.7	1222.9	1220.4	1221.2	1217.8	1223.8
15°	1159.2	1168.5	1160.9	1171.9	1168.5	1159.2	1163.4	1163.4	1170.2	1167.7	1160.9
17.5°	1103.1	1110.8	1102.3	1104.8	1101.4	1099.7	1117.5	1105.7	1112.5	1107.4	1108.2
20°	1029.2	1032.6	1030.0	1036.8	1032.6	1037.7	1036.0	1034.3	1034.3	1036.8	1030.9
22.5°	954.4	954.4	956.9	958.6	962.0	956.9	967.1	958.6	959.5	965.4	963.7
25°	864.3	861.7	867.7	876.2	879.6	875.3	888.9	882.1	887.2	891.5	882.1
27.5°	754.7	754.7	760.6	775.1	777.6	782.7	801.4	801.4	808.2	802.3	809.1
30°	628.0	637.4	645.0	663.7	669.7	680.7	700.3	709.6	724.9	722.4	719.0
32.5°	498.0	510.8	511.6	531.2	547.3	566.0	592.3	614.4	625.5	633.1	624.6
35°	373.9	381.6	388.4	402.0	429.2	453.8	477.6	506.5	526.1	531.2	523.5
37.5°	273.7	275.4	282.1	294.9	315.3	339.1	368.0	399.4	419.8	427.5	419.0
40°	188.7	190.4	193.8	204.8	221.8	238.8	261.8	294.0	312.7	328.0	317.0
42.5°	126.6	128.3	131.7	140.2	149.6	165.7	183.6	204.0	221.8	228.6	222.7
45°	82.4	82.4	84.1	90.1	95.2	107.9	120.7	133.4	145.3	149.6	145.3
47.5°	48.4	49.3	51.0	55.2	61.2	66.3	75.6	84.1	87.5	90.9	89.2
50°	28.0	28.0	30.6	33.1	37.4	40.8	44.2	47.6	49.3	51.0	49.3
52.5°	15.3	16.1	17.0	17.8	19.5	22.9	25.5	25.5	26.3	27.2	26.3
55°	11.9	11.9	11.9	11.9	12.7	12.7	12.7	13.6	13.6	14.4	13.6
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°	1337.7	1337.7	1337.7	1337.7	1337.7	1337.7	1337.7	1337.7
2.5°	1337.7	1323.2	1324.9	1332.6	1328.3	1332.6	1331.7	1331.7
5°	1323.2	1319.0	1312.2	1309.6	1314.7	1325.8	1324.1	1317.3
7.5°	1296.0	1285.0	1292.6	1296.0	1291.8	1298.6	1302.0	1287.5
10°	1263.7	1259.5	1257.8	1259.5	1257.8	1264.6	1256.1	1256.1
12.5°	1217.8	1211.0	1211.0	1221.2	1215.3	1210.2	1217.0	1216.1
15°	1171.9	1158.3	1158.3	1161.7	1164.3	1160.9	1161.7	1153.2
17.5°	1104.0	1099.7	1093.8	1103.1	1105.7	1102.3	1104.8	1100.6
20°	1040.2	1040.2	1029.2	1033.4	1036.8	1039.4	1041.1	1034.3
22.5°	958.6	960.3	952.7	961.2	963.7	955.2	956.9	955.2
25°	883.8	883.0	877.0	873.6	875.3	871.9	871.1	858.3
27.5°	801.4	792.9	780.2	783.6	769.1	757.2	757.2	737.7
30°	712.2	697.7	680.7	663.7	651.0	637.4	629.7	618.7
32.5°	607.6	588.1	566.8	543.9	529.5	509.1	498.0	504.0
35°	504.0	475.1	446.2	423.2	401.1	389.2	375.6	377.3
37.5°	403.7	362.9	337.4	312.7	294.0	278.7	272.8	271.1
40°	294.9	262.6	237.1	219.3	206.5	194.6	187.8	185.3
42.5°	204.0	181.0	160.6	146.2	137.7	130.0	126.6	125.8
45°	132.6	119.0	105.4	95.2	88.4	83.3	82.4	81.6
47.5°	83.3	76.5	68.0	60.3	54.4	51.0	48.4	48.4
50°	47.6	45.0	40.8	36.5	33.1	31.4	28.9	28.0
52.5°	25.5	25.5	23.8	20.4	17.8	16.1	16.1	15.3
55°	13.6	13.6	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)