

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: P209118

Luminaire Tested: **LDSQ4B15D010 EU4B10209027 4LBSQ1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209118  
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 EU4B10209027 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: 1164.5 lumens  
Efficiency: N/A  
Efficacy: 80.9 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

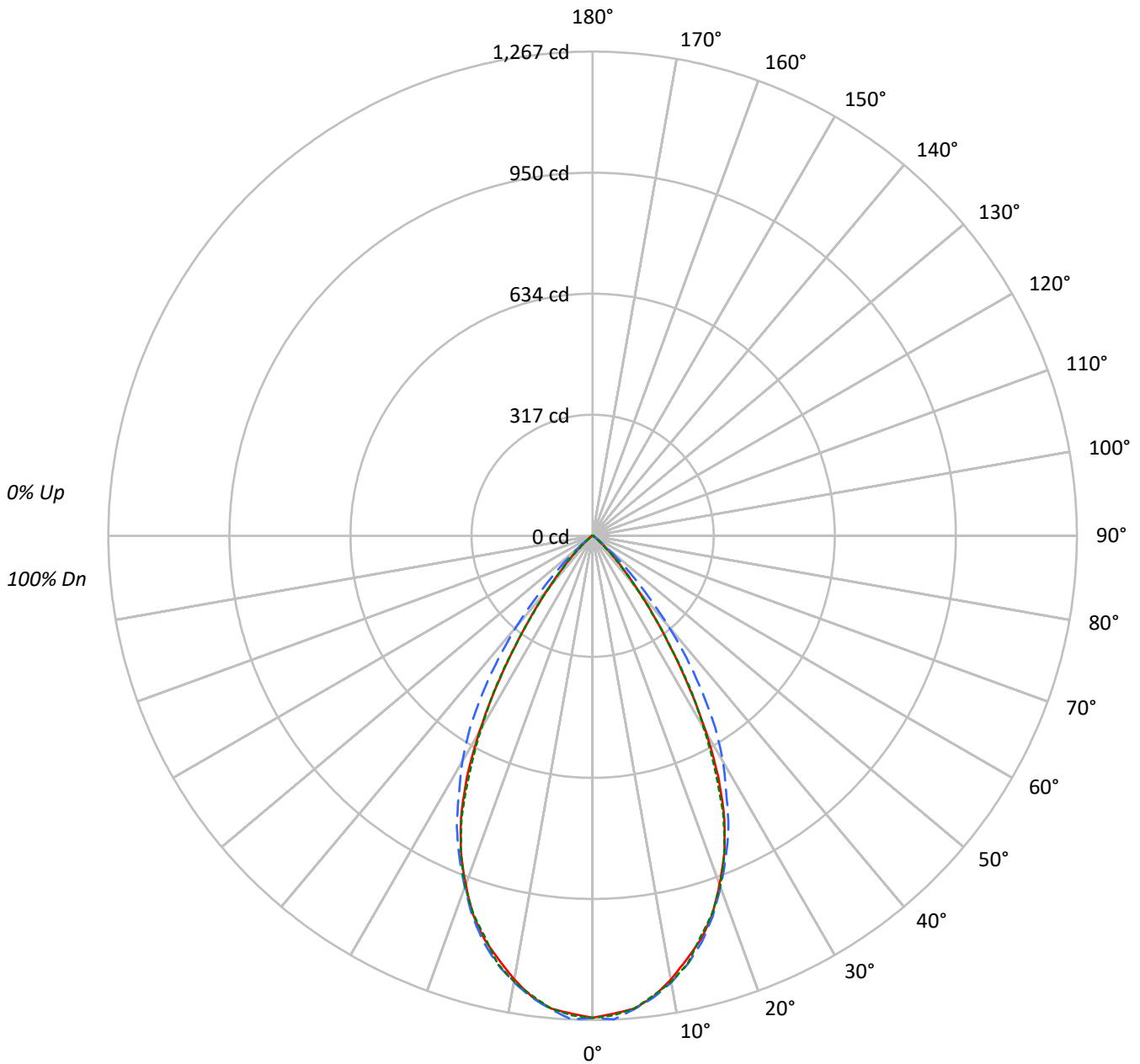
Input Watts (W): 14.39  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
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	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°	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°	117.0	10.0
10°-20°	306.5	26.3
20°-30°	374.4	32.2
30°-40°	261.9	22.5
40°-50°	85.8	7.4
50°-60°	13.6	1.2
60°-70°	3.7	0.3
70°-80°	1.2	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°	797.9	68.5
0°-40°	1059.8	91.0
0°-60°	1159.2	99.5
0°-90°	1164.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1164.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1261	1261	1261	1261	1261	
5°	1242	1243	1244	1236	1242	117
15°	1093	1098	1101	1094	1088	305
25°	815	828	841	826	809	366
35°	353	416	501	410	356	225
45°	78	96	141	95	77	65
55°	11	12	14	12	10	11
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	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1261.4	1261.4	1261.4	1261.4	1261.4	1261.4	1261.4	1261.4	1261.4	1261.4	1261.4
2.5°	1251.8	1260.6	1258.2	1263.8	1263.8	1257.4	1259.0	1261.4	1264.6	1267.0	1247.8
5°	1242.2	1250.2	1243.0	1251.0	1246.2	1239.0	1251.0	1244.6	1248.6	1243.8	1247.0
7.5°	1216.6	1229.4	1215.0	1224.6	1221.4	1217.4	1222.2	1220.6	1223.0	1219.0	1210.1
10°	1178.9	1189.3	1179.7	1193.3	1186.9	1182.9	1186.9	1190.9	1190.1	1186.1	1190.9
12.5°	1135.6	1147.6	1142.8	1150.8	1143.6	1143.6	1153.2	1150.8	1151.6	1148.4	1154.0
15°	1093.1	1102.0	1094.7	1105.2	1102.0	1093.1	1097.1	1097.1	1103.6	1101.2	1094.7
17.5°	1040.2	1047.5	1039.4	1041.8	1038.6	1037.0	1053.9	1042.6	1049.1	1044.3	1045.1
20°	970.5	973.7	971.3	977.7	973.7	978.5	976.9	975.3	975.3	977.7	972.1
22.5°	900.0	900.0	902.4	904.0	907.2	902.4	912.0	904.0	904.8	910.4	908.8
25°	815.0	812.6	818.3	826.3	829.5	825.5	838.3	831.9	836.7	840.7	831.9
27.5°	711.7	711.7	717.3	730.9	733.3	738.1	755.7	755.7	762.2	756.5	763.0
30°	592.3	601.1	608.3	625.9	631.5	641.9	660.4	669.2	683.6	681.2	678.0
32.5°	469.6	481.7	482.5	500.9	516.1	533.7	558.6	579.4	589.8	597.1	589.0
35°	352.6	359.8	366.2	379.1	404.7	428.0	450.4	477.6	496.1	500.9	493.7
37.5°	258.1	259.7	266.1	278.1	297.3	319.8	347.0	376.7	395.9	403.1	395.1
40°	177.9	179.5	182.7	193.1	209.2	225.2	246.8	277.3	294.9	309.3	298.9
42.5°	119.4	121.0	124.2	132.2	141.1	156.3	173.1	192.3	209.2	215.6	210.0
45°	77.7	77.7	79.3	85.0	89.8	101.8	113.8	125.8	137.0	141.1	137.0
47.5°	45.7	46.5	48.1	52.1	57.7	62.5	71.3	79.3	82.5	85.8	84.1
50°	26.4	26.4	28.9	31.3	35.3	38.5	41.7	44.9	46.5	48.1	46.5
52.5°	14.4	15.2	16.0	16.8	18.4	21.6	24.0	24.0	24.8	25.6	24.8
55°	11.2	11.2	11.2	11.2	12.0	12.0	12.0	12.8	12.8	13.6	12.8
57.5°	8.0	8.0	8.0	8.8	8.8	8.8	8.0	8.0	8.0	8.0	8.0
60°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	5.6	5.6	5.6	5.6
62.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
65°	3.2	3.2	4.0	4.0	4.0	4.0	4.0	3.2	3.2	3.2	3.2
67.5°	2.4	2.4	2.4	2.4	3.2	3.2	2.4	2.4	2.4	2.4	2.4
70°	1.6	1.6	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
72.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
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°	1261.4	1261.4	1261.4	1261.4	1261.4	1261.4	1261.4	1261.4
2.5°	1261.4	1247.8	1249.4	1256.6	1252.6	1256.6	1255.8	1255.8
5°	1247.8	1243.8	1237.4	1235.0	1239.8	1250.2	1248.6	1242.2
7.5°	1222.2	1211.7	1219.0	1222.2	1218.2	1224.6	1227.8	1214.2
10°	1191.7	1187.7	1186.1	1187.7	1186.1	1192.5	1184.5	1184.5
12.5°	1148.4	1142.0	1142.0	1151.6	1146.0	1141.2	1147.6	1146.8
15°	1105.2	1092.3	1092.3	1095.5	1097.9	1094.7	1095.5	1087.5
17.5°	1041.0	1037.0	1031.4	1040.2	1042.6	1039.4	1041.8	1037.8
20°	980.9	980.9	970.5	974.5	977.7	980.1	981.7	975.3
22.5°	904.0	905.6	898.4	906.4	908.8	900.8	902.4	900.8
25°	833.5	832.7	827.1	823.9	825.5	822.3	821.5	809.4
27.5°	755.7	747.7	735.7	738.9	725.3	714.1	714.1	695.6
30°	671.6	658.0	641.9	625.9	613.9	601.1	593.9	583.4
32.5°	573.0	554.6	534.5	512.9	499.3	480.1	469.6	475.2
35°	475.2	448.0	420.7	399.1	378.3	367.1	354.2	355.8
37.5°	380.7	342.2	318.2	294.9	277.3	262.9	257.3	255.7
40°	278.1	247.6	223.6	206.8	194.7	183.5	177.1	174.7
42.5°	192.3	170.7	151.5	137.8	129.8	122.6	119.4	118.6
45°	125.0	112.2	99.4	89.8	83.3	78.5	77.7	76.9
47.5°	78.5	72.1	64.1	56.9	51.3	48.1	45.7	45.7
50°	44.9	42.5	38.5	34.5	31.3	29.7	27.2	26.4
52.5°	24.0	24.0	22.4	19.2	16.8	15.2	15.2	14.4
55°	12.8	12.8	12.0	12.0	11.2	11.2	11.2	10.4
57.5°	8.0	8.0	8.8	8.8	8.0	8.0	8.0	8.0
60°	5.6	6.4	6.4	6.4	6.4	6.4	6.4	6.4
62.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
65°	3.2	4.0	4.0	4.0	4.0	3.2	3.2	3.2
67.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
70°	2.4	2.4	2.4	2.4	2.4	1.6	1.6	1.6
72.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
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)