

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: P209103

Luminaire Tested: **LDSQ4B10D010 EU4B10208040 4LBSQ1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209103  
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: LDSQ4B10D010 EU4B10208040 4LBSQ1LI  
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE LOW  
IRIDESCENT TRIM.  
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM  
WATTAGE D010TR-10.05 W DE010-10.58 W D5LT-10.2 W DMX-10.6 W DL2-11.8 W  
DL3-11.1 W DLE-11.39 W  
Light Source: HIGH LUMEN LED 4000 K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1054.3 lumens  
Efficiency: N/A  
Efficacy: 104.9 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

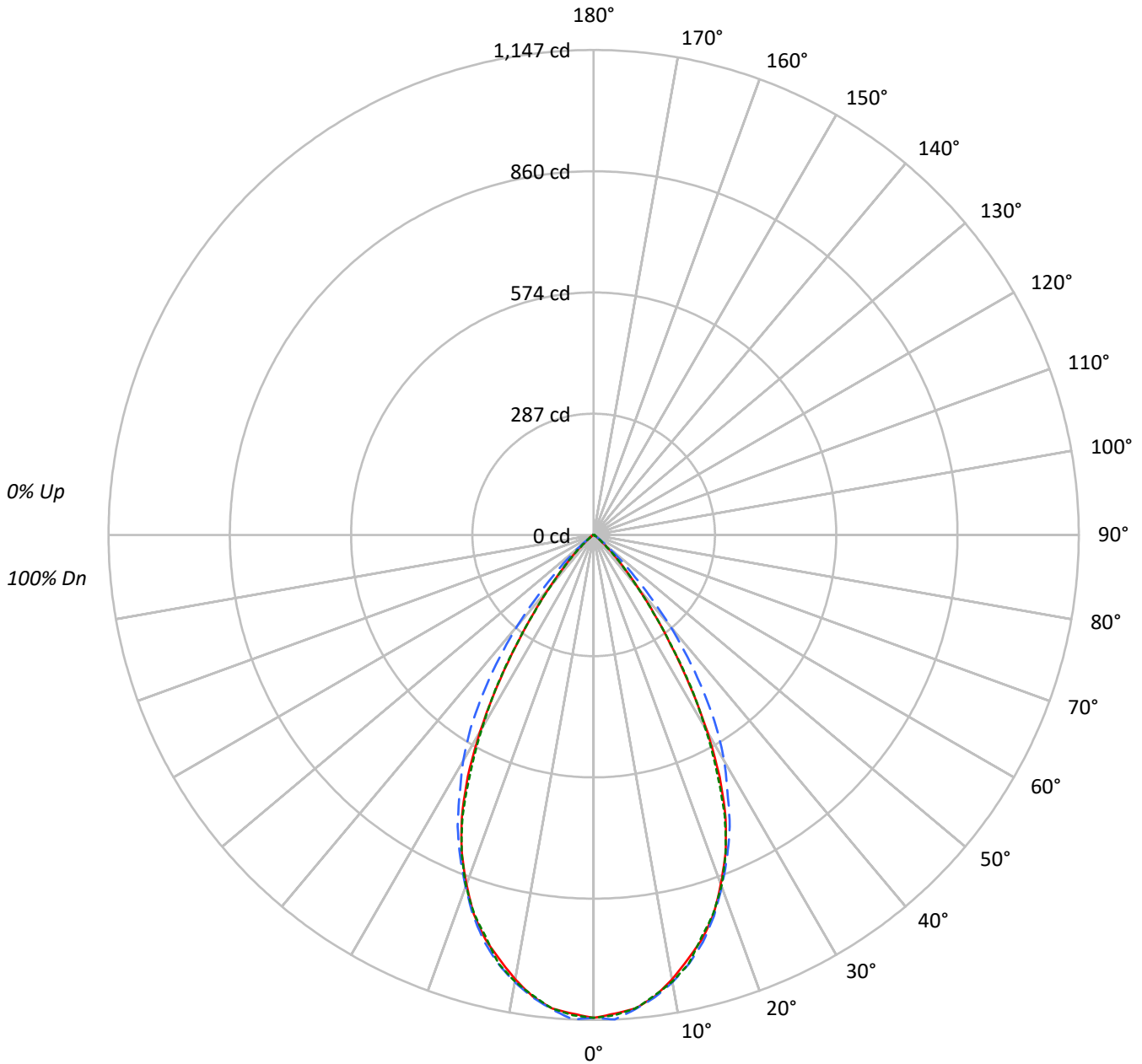
Input Watts (W): 10.05  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	64																			
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°	12366	12366	12366
5°	12224	12241	12224
10°	11736	11807	11792
15°	11095	11176	11038
20°	10126	10201	10175
25°	8817	9094	8756
30°	6705	7711	6605
35°	4220	5995	4258
40°	2277	3959	2236
45°	1078	1956	1067
50°	403	733	403
55°	193	232	177
60°	126	110	126
65°	74	74	74
70°	47	70	47
75°	29	29	29
80°	44	44	44
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.9	10.0
10°-20°	277.5	26.3
20°-30°	339.0	32.2
30°-40°	237.1	22.5
40°-50°	77.7	7.4
50°-60°	12.4	1.2
60°-70°	3.4	0.3
70°-80°	1.1	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°	722.4	68.5
0°-40°	959.5	91.0
0°-60°	1049.5	99.5
0°-90°	1054.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1054.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1142	1142	1142	1142	1142	
5°	1125	1125	1126	1119	1125	105
15°	990	994	997	990	985	276
25°	738	749	761	747	733	331
35°	319	377	454	371	322	204
45°	70	87	128	86	70	59
55°	10	11	12	11	9	10
65°	3	4	3	4	3	3
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°	1142.0	1142.0	1142.0	1142.0	1142.0	1142.0	1142.0	1142.0	1142.0	1142.0	1142.0
2.5°	1133.3	1141.3	1139.1	1144.2	1144.2	1138.4	1139.9	1142.0	1144.9	1147.1	1129.7
5°	1124.6	1131.9	1125.3	1132.6	1128.2	1121.7	1132.6	1126.8	1130.4	1126.1	1129.0
7.5°	1101.4	1113.0	1099.9	1108.7	1105.8	1102.1	1106.5	1105.0	1107.2	1103.6	1095.6
10°	1067.3	1076.7	1068.0	1080.4	1074.6	1070.9	1074.6	1078.2	1077.5	1073.8	1078.2
12.5°	1028.1	1039.0	1034.6	1041.9	1035.4	1035.4	1044.1	1041.9	1042.6	1039.7	1044.8
15°	989.7	997.6	991.1	1000.5	997.6	989.7	993.3	993.3	999.1	996.9	991.1
17.5°	941.8	948.3	941.1	943.2	940.3	938.9	954.1	944.0	949.8	945.4	946.1
20°	878.7	881.6	879.4	885.2	881.6	885.9	884.5	883.0	883.0	885.2	880.1
22.5°	814.8	814.8	817.0	818.4	821.3	817.0	825.7	818.4	819.2	824.2	822.8
25°	737.9	735.7	740.8	748.1	751.0	747.3	758.9	753.1	757.5	761.1	753.1
27.5°	644.3	644.3	649.4	661.7	663.9	668.2	684.2	684.2	690.0	684.9	690.7
30°	536.2	544.2	550.7	566.7	571.7	581.2	597.9	605.8	618.9	616.7	613.8
32.5°	425.2	436.1	436.8	453.5	467.3	483.2	505.7	524.6	534.0	540.5	533.3
35°	319.2	325.8	331.6	343.2	366.4	387.4	407.8	432.4	449.1	453.5	446.9
37.5°	233.6	235.1	240.9	251.8	269.2	289.5	314.2	341.0	358.4	365.0	357.7
40°	161.1	162.5	165.4	174.9	189.4	203.9	223.5	251.0	267.0	280.1	270.6
42.5°	108.1	109.6	112.5	119.7	127.7	141.5	156.7	174.1	189.4	195.2	190.1
45°	70.4	70.4	71.8	76.9	81.3	92.1	103.0	113.9	124.1	127.7	124.1
47.5°	41.4	42.1	43.5	47.2	52.2	56.6	64.6	71.8	74.7	77.6	76.2
50°	23.9	23.9	26.1	28.3	31.9	34.8	37.7	40.6	42.1	43.5	42.1
52.5°	13.1	13.8	14.5	15.2	16.7	19.6	21.8	21.8	22.5	23.2	22.5
55°	10.2	10.2	10.2	10.2	10.9	10.9	10.9	11.6	11.6	12.3	11.6
57.5°	7.3	7.3	7.3	8.0	8.0	8.0	7.3	7.3	7.3	7.3	7.3
60°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.1	5.1	5.1	5.1
62.5°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
65°	2.9	2.9	3.6	3.6	3.6	3.6	3.6	2.9	2.9	2.9	2.9
67.5°	2.2	2.2	2.2	2.2	2.9	2.9	2.2	2.2	2.2	2.2	2.2
70°	1.5	1.5	1.5	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
72.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
75°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
77.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	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°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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°	1142.0	1142.0	1142.0	1142.0	1142.0	1142.0	1142.0	1142.0
2.5°	1142.0	1129.7	1131.1	1137.7	1134.1	1137.7	1137.0	1137.0
5°	1129.7	1126.1	1120.3	1118.1	1122.4	1131.9	1130.4	1124.6
7.5°	1106.5	1097.0	1103.6	1106.5	1102.9	1108.7	1111.6	1099.2
10°	1078.9	1075.3	1073.8	1075.3	1073.8	1079.6	1072.4	1072.4
12.5°	1039.7	1033.9	1033.9	1042.6	1037.6	1033.2	1039.0	1038.3
15°	1000.5	988.9	988.9	991.8	994.0	991.1	991.8	984.6
17.5°	942.5	938.9	933.8	941.8	944.0	941.1	943.2	939.6
20°	888.1	888.1	878.7	882.3	885.2	887.4	888.8	883.0
22.5°	818.4	819.9	813.4	820.6	822.8	815.5	817.0	815.5
25°	754.6	753.9	748.8	745.9	747.3	744.4	743.7	732.8
27.5°	684.2	676.9	666.1	669.0	656.6	646.5	646.5	629.8
30°	608.0	595.7	581.2	566.7	555.8	544.2	537.6	528.2
32.5°	518.8	502.1	483.9	464.4	452.0	434.6	425.2	430.3
35°	430.3	405.6	380.9	361.3	342.5	332.3	320.7	322.1
37.5°	344.6	309.8	288.0	267.0	251.0	238.0	232.9	231.5
40°	251.8	224.2	202.4	187.2	176.3	166.2	160.3	158.2
42.5°	174.1	154.5	137.1	124.8	117.5	111.0	108.1	107.4
45°	113.2	101.6	90.0	81.3	75.5	71.1	70.4	69.7
47.5°	71.1	65.3	58.0	51.5	46.4	43.5	41.4	41.4
50°	40.6	38.5	34.8	31.2	28.3	26.8	24.7	23.9
52.5°	21.8	21.8	20.3	17.4	15.2	13.8	13.8	13.1
55°	11.6	11.6	10.9	10.9	10.2	10.2	10.2	9.4
57.5°	7.3	7.3	8.0	8.0	7.3	7.3	7.3	7.3
60°	5.1	5.8	5.8	5.8	5.8	5.8	5.8	5.8
62.5°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
65°	2.9	3.6	3.6	3.6	3.6	2.9	2.9	2.9
67.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
70°	2.2	2.2	2.2	2.2	2.2	1.5	1.5	1.5
72.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
75°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
77.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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)