

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: P209123

Luminaire Tested: **LDSQ4B15D010 EU4B10209727 4LBSQ1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209123  
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 EU4B10209727 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: 1012.3 lumens  
Efficiency: N/A  
Efficacy: 70.3 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

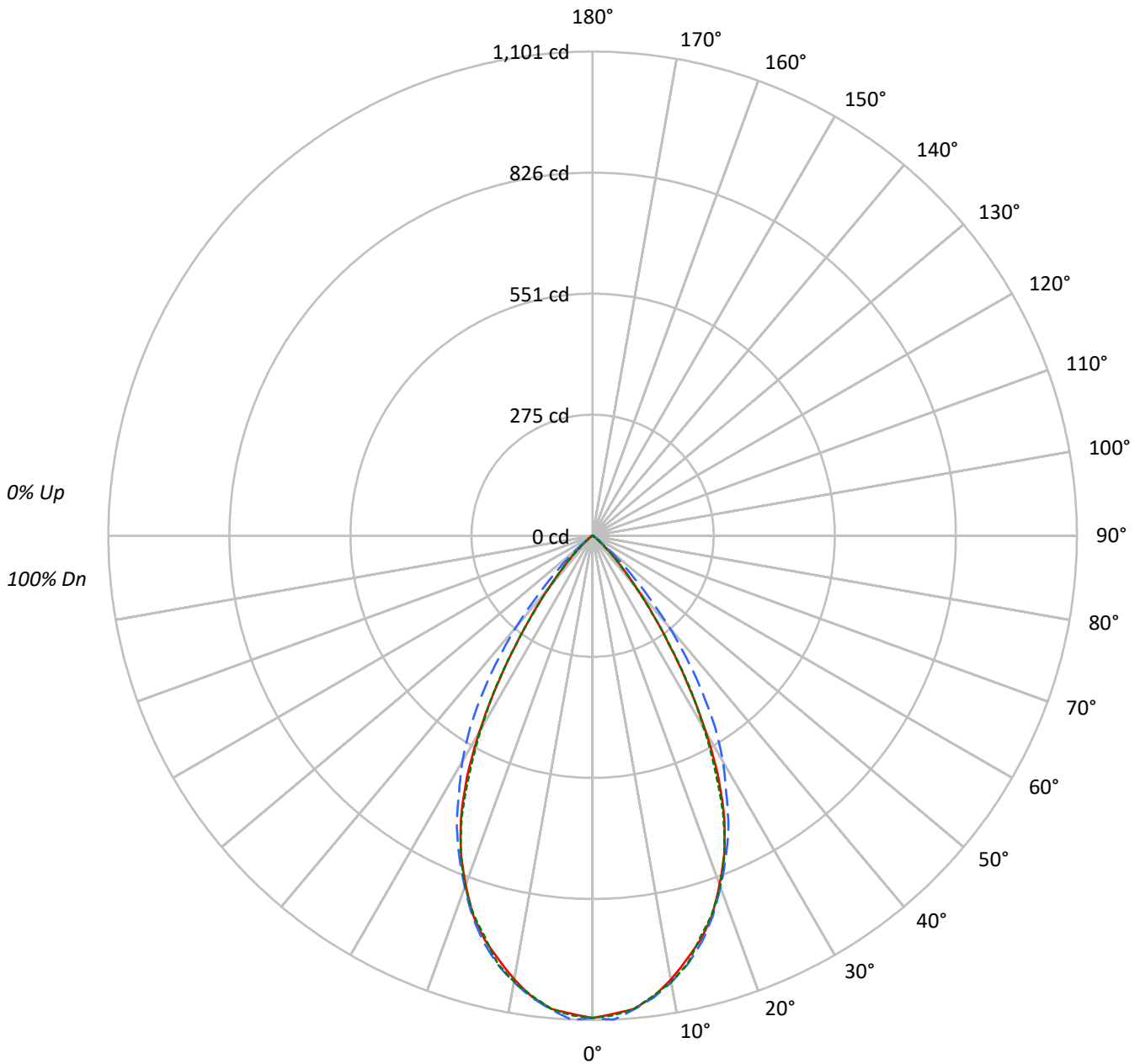
Input Watts (W): 14.39  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	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°	101.7	10.0
10°-20°	266.4	26.3
20°-30°	325.5	32.2
30°-40°	227.6	22.5
40°-50°	74.6	7.4
50°-60°	11.9	1.2
60°-70°	3.2	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°	693.5	68.5
0°-40°	921.2	91.0
0°-60°	1007.6	99.5
0°-90°	1012.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1012.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1096	1096	1096	1096	1096	
5°	1080	1080	1081	1074	1080	101
15°	950	954	957	951	945	265
25°	708	719	731	718	704	318
35°	306	362	435	356	309	196
45°	68	83	123	82	67	57
55°	10	10	12	10	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°	1096.4	1096.4	1096.4	1096.4	1096.4	1096.4	1096.4	1096.4	1096.4	1096.4	1096.4
2.5°	1088.1	1095.7	1093.6	1098.5	1098.5	1092.9	1094.3	1096.4	1099.2	1101.3	1084.6
5°	1079.7	1086.7	1080.4	1087.4	1083.2	1076.9	1087.4	1081.8	1085.3	1081.1	1083.9
7.5°	1057.4	1068.6	1056.0	1064.4	1061.6	1058.1	1062.3	1060.9	1063.0	1059.5	1051.8
10°	1024.7	1033.7	1025.4	1037.2	1031.6	1028.2	1031.6	1035.1	1034.4	1030.9	1035.1
12.5°	987.1	997.5	993.3	1000.3	994.0	994.0	1002.4	1000.3	1001.0	998.2	1003.1
15°	950.1	957.8	951.5	960.6	957.8	950.1	953.6	953.6	959.2	957.1	951.5
17.5°	904.2	910.4	903.5	905.6	902.8	901.4	916.0	906.3	911.8	907.7	908.3
20°	843.6	846.4	844.3	849.8	846.4	850.5	849.1	847.7	847.7	849.8	845.0
22.5°	782.3	782.3	784.4	785.8	788.5	784.4	792.7	785.8	786.4	791.3	789.9
25°	708.4	706.3	711.2	718.2	721.0	717.5	728.6	723.1	727.2	730.7	723.1
27.5°	618.6	618.6	623.4	635.3	637.4	641.6	656.9	656.9	662.5	657.6	663.2
30°	514.8	522.4	528.7	544.0	548.9	558.0	574.0	581.7	594.2	592.1	589.3
32.5°	408.2	418.6	419.3	435.4	448.6	463.9	485.5	503.6	512.7	519.0	512.0
35°	306.5	312.8	318.3	329.5	351.8	372.0	391.5	415.2	431.2	435.4	429.1
37.5°	224.3	225.7	231.3	241.7	258.4	277.9	301.6	327.4	344.1	350.4	343.4
40°	154.6	156.0	158.8	167.9	181.8	195.7	214.5	241.0	256.3	268.9	259.8
42.5°	103.8	105.2	108.0	114.9	122.6	135.8	150.5	167.2	181.8	187.4	182.5
45°	67.6	67.6	69.0	73.8	78.0	88.5	98.9	109.4	119.1	122.6	119.1
47.5°	39.7	40.4	41.8	45.3	50.2	54.3	62.0	69.0	71.7	74.5	73.1
50°	23.0	23.0	25.1	27.2	30.6	33.4	36.2	39.0	40.4	41.8	40.4
52.5°	12.5	13.2	13.9	14.6	16.0	18.8	20.9	20.9	21.6	22.3	21.6
55°	9.8	9.8	9.8	9.8	10.4	10.4	10.4	11.1	11.1	11.8	11.1
57.5°	7.0	7.0	7.0	7.7	7.7	7.7	7.0	7.0	7.0	7.0	7.0
60°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	4.9	4.9	4.9	4.9
62.5°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
65°	2.8	2.8	3.5	3.5	3.5	3.5	3.5	2.8	2.8	2.8	2.8
67.5°	2.1	2.1	2.1	2.1	2.8	2.8	2.1	2.1	2.1	2.1	2.1
70°	1.4	1.4	1.4	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
72.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
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°	1096.4	1096.4	1096.4	1096.4	1096.4	1096.4	1096.4	1096.4
2.5°	1096.4	1084.6	1086.0	1092.2	1088.8	1092.2	1091.6	1091.6
5°	1084.6	1081.1	1075.5	1073.4	1077.6	1086.7	1085.3	1079.7
7.5°	1062.3	1053.2	1059.5	1062.3	1058.8	1064.4	1067.2	1055.3
10°	1035.8	1032.3	1030.9	1032.3	1030.9	1036.5	1029.6	1029.6
12.5°	998.2	992.6	992.6	1001.0	996.1	991.9	997.5	996.8
15°	960.6	949.4	949.4	952.2	954.3	951.5	952.2	945.3
17.5°	904.9	901.4	896.5	904.2	906.3	903.5	905.6	902.1
20°	852.6	852.6	843.6	847.1	849.8	851.9	853.3	847.7
22.5°	785.8	787.1	780.9	787.8	789.9	783.0	784.4	783.0
25°	724.5	723.8	718.9	716.1	717.5	714.7	714.0	703.6
27.5°	656.9	649.9	639.5	642.3	630.4	620.7	620.7	604.6
30°	583.7	571.9	558.0	544.0	533.6	522.4	516.2	507.1
32.5°	498.1	482.0	464.6	445.8	434.0	417.3	408.2	413.1
35°	413.1	389.4	365.7	346.9	328.8	319.0	307.9	309.3
37.5°	330.9	297.4	276.5	256.3	241.0	228.5	223.6	222.2
40°	241.7	215.2	194.3	179.7	169.3	159.5	153.9	151.9
42.5°	167.2	148.4	131.7	119.8	112.8	106.6	103.8	103.1
45°	108.7	97.5	86.4	78.0	72.4	68.3	67.6	66.9
47.5°	68.3	62.7	55.7	49.5	44.6	41.8	39.7	39.7
50°	39.0	36.9	33.4	30.0	27.2	25.8	23.7	23.0
52.5°	20.9	20.9	19.5	16.7	14.6	13.2	13.2	12.5
55°	11.1	11.1	10.4	10.4	9.8	9.8	9.8	9.1
57.5°	7.0	7.0	7.7	7.7	7.0	7.0	7.0	7.0
60°	4.9	5.6	5.6	5.6	5.6	5.6	5.6	5.6
62.5°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
65°	2.8	3.5	3.5	3.5	3.5	2.8	2.8	2.8
67.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
70°	2.1	2.1	2.1	2.1	2.1	1.4	1.4	1.4
72.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
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)