

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: P209124

Luminaire Tested: **LDSQ4B15D010 EU4B10209730 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209124
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 EU4B10209730 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 3000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1057.8 lumens
Efficiency: N/A
Efficacy: 73.5 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

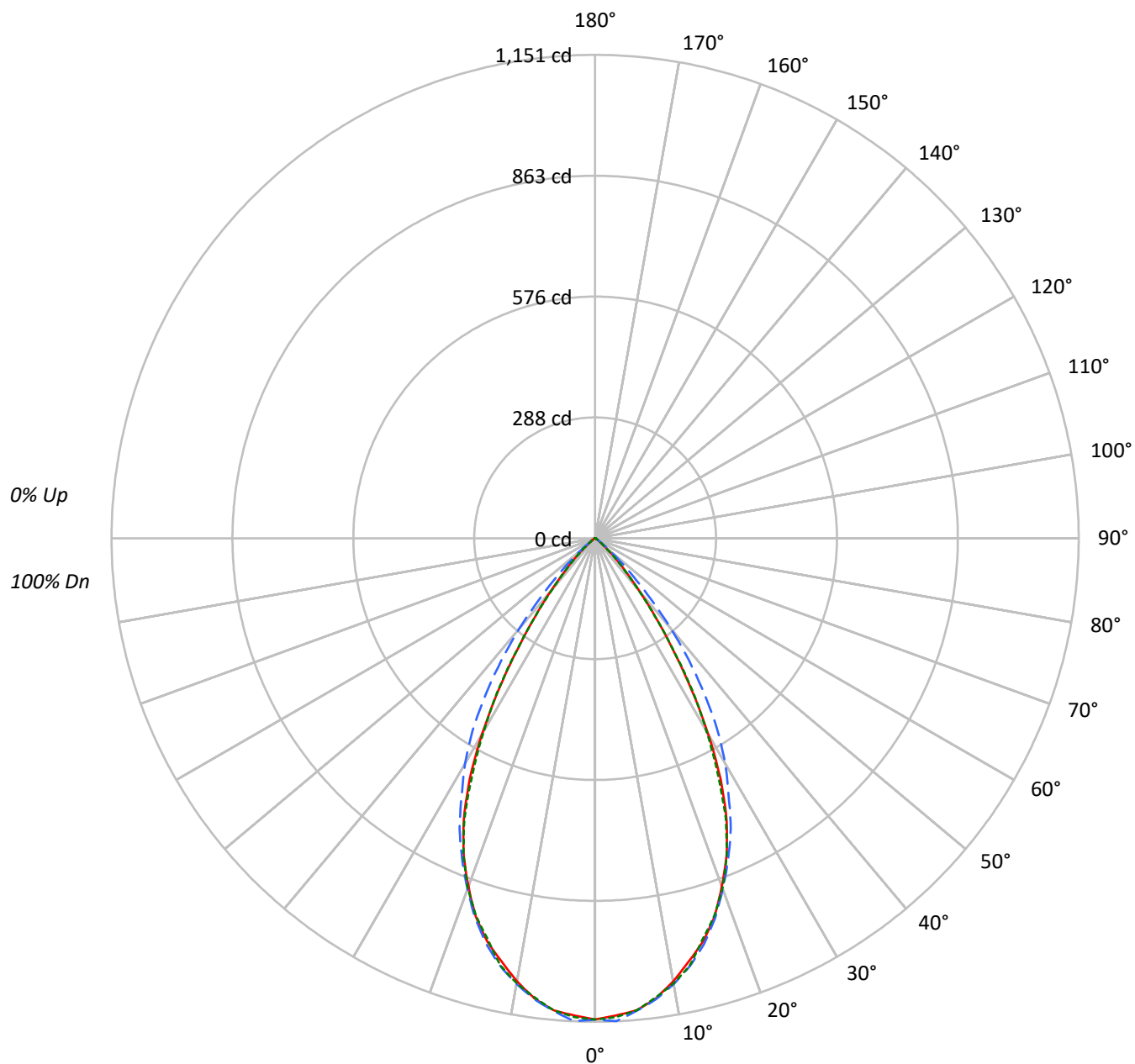
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	106.2	10.0
10°-20°	278.4	26.3
20°-30°	340.1	32.2
30°-40°	237.9	22.5
40°-50°	78.0	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°	724.8	68.5
0°-40°	962.7	91.0
0°-60°	1053.0	99.5
0°-90°	1057.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1057.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1146	1146	1146	1146	1146	
5°	1128	1129	1130	1123	1128	106
15°	993	997	1000	994	988	277
25°	740	752	764	750	735	333
35°	320	378	455	372	323	204
45°	71	87	128	86	70	59
55°	10	11	12	11	10	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	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1145.8	1145.8	1145.8	1145.8	1145.8	1145.8	1145.8	1145.8	1145.8	1145.8	1145.8
2.5°	1137.1	1145.1	1142.9	1148.0	1148.0	1142.2	1143.7	1145.8	1148.8	1150.9	1133.5
5°	1128.4	1135.7	1129.1	1136.4	1132.0	1125.5	1136.4	1130.6	1134.2	1129.8	1132.7
7.5°	1105.1	1116.7	1103.6	1112.4	1109.4	1105.8	1110.2	1108.7	1110.9	1107.3	1099.3
10°	1070.9	1080.3	1071.6	1084.0	1078.1	1074.5	1078.1	1081.8	1081.1	1077.4	1081.8
12.5°	1031.6	1042.5	1038.1	1045.4	1038.8	1038.8	1047.6	1045.4	1046.1	1043.2	1048.3
15°	993.0	1001.0	994.4	1003.9	1001.0	993.0	996.6	996.6	1002.4	1000.3	994.4
17.5°	944.9	951.5	944.2	946.4	943.5	942.0	957.3	947.1	952.9	948.6	949.3
20°	881.6	884.5	882.3	888.1	884.5	888.9	887.4	886.0	886.0	888.1	883.0
22.5°	817.5	817.5	819.7	821.2	824.1	819.7	828.4	821.2	821.9	827.0	825.5
25°	740.4	738.2	743.3	750.6	753.5	749.8	761.5	755.6	760.0	763.7	755.6
27.5°	646.5	646.5	651.5	663.9	666.1	670.5	686.5	686.5	692.3	687.2	693.0
30°	538.0	546.0	552.5	568.6	573.7	583.1	599.9	607.9	621.0	618.8	615.9
32.5°	426.6	437.5	438.2	455.0	468.8	484.8	507.4	526.3	535.8	542.3	535.1
35°	320.3	326.9	332.7	344.3	367.6	388.7	409.1	433.9	450.6	455.0	448.4
37.5°	234.4	235.9	241.7	252.6	270.1	290.5	315.2	342.2	359.6	366.2	358.9
40°	161.6	163.1	166.0	175.4	190.0	204.6	224.2	251.9	267.9	281.0	271.5
42.5°	108.5	109.9	112.8	120.1	128.1	142.0	157.2	174.7	190.0	195.8	190.7
45°	70.6	70.6	72.1	77.2	81.5	92.5	103.4	114.3	124.5	128.1	124.5
47.5°	41.5	42.2	43.7	47.3	52.4	56.8	64.8	72.1	75.0	77.9	76.4
50°	24.0	24.0	26.2	28.4	32.0	34.9	37.9	40.8	42.2	43.7	42.2
52.5°	13.1	13.8	14.6	15.3	16.7	19.7	21.8	21.8	22.6	23.3	22.6
55°	10.2	10.2	10.2	10.2	10.9	10.9	10.9	11.6	11.6	12.4	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°	1145.8	1145.8	1145.8	1145.8	1145.8	1145.8	1145.8	1145.8
2.5°	1145.8	1133.5	1134.9	1141.5	1137.8	1141.5	1140.8	1140.8
5°	1133.5	1129.8	1124.0	1121.8	1126.2	1135.7	1134.2	1128.4
7.5°	1110.2	1100.7	1107.3	1110.2	1106.5	1112.4	1115.3	1102.9
10°	1082.5	1078.9	1077.4	1078.9	1077.4	1083.2	1076.0	1076.0
12.5°	1043.2	1037.4	1037.4	1046.1	1041.0	1036.6	1042.5	1041.7
15°	1003.9	992.2	992.2	995.2	997.3	994.4	995.2	987.9
17.5°	945.7	942.0	936.9	944.9	947.1	944.2	946.4	942.7
20°	891.1	891.1	881.6	885.2	888.1	890.3	891.8	886.0
22.5°	821.2	822.6	816.1	823.4	825.5	818.3	819.7	818.3
25°	757.1	756.4	751.3	748.4	749.8	746.9	746.2	735.3
27.5°	686.5	679.2	668.3	671.2	658.8	648.6	648.6	631.9
30°	610.1	597.7	583.1	568.6	557.6	546.0	539.4	530.0
32.5°	520.5	503.8	485.6	465.9	453.5	436.1	426.6	431.7
35°	431.7	406.9	382.2	362.5	343.6	333.4	321.8	323.2
37.5°	345.8	310.8	289.0	267.9	251.9	238.8	233.7	232.2
40°	252.6	224.9	203.1	187.8	176.9	166.7	160.9	158.7
42.5°	174.7	155.1	137.6	125.2	117.9	111.4	108.5	107.7
45°	113.6	101.9	90.3	81.5	75.7	71.3	70.6	69.9
47.5°	71.3	65.5	58.2	51.7	46.6	43.7	41.5	41.5
50°	40.8	38.6	34.9	31.3	28.4	26.9	24.8	24.0
52.5°	21.8	21.8	20.4	17.5	15.3	13.8	13.8	13.1
55°	11.6	11.6	10.9	10.9	10.2	10.2	10.2	9.5
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)