

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: P209119

Luminaire Tested: **LDSQ4B15D010 EU4B10209030 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209119
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 EU4B10209030 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: 1210.9 lumens
Efficiency: N/A
Efficacy: 84.2 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

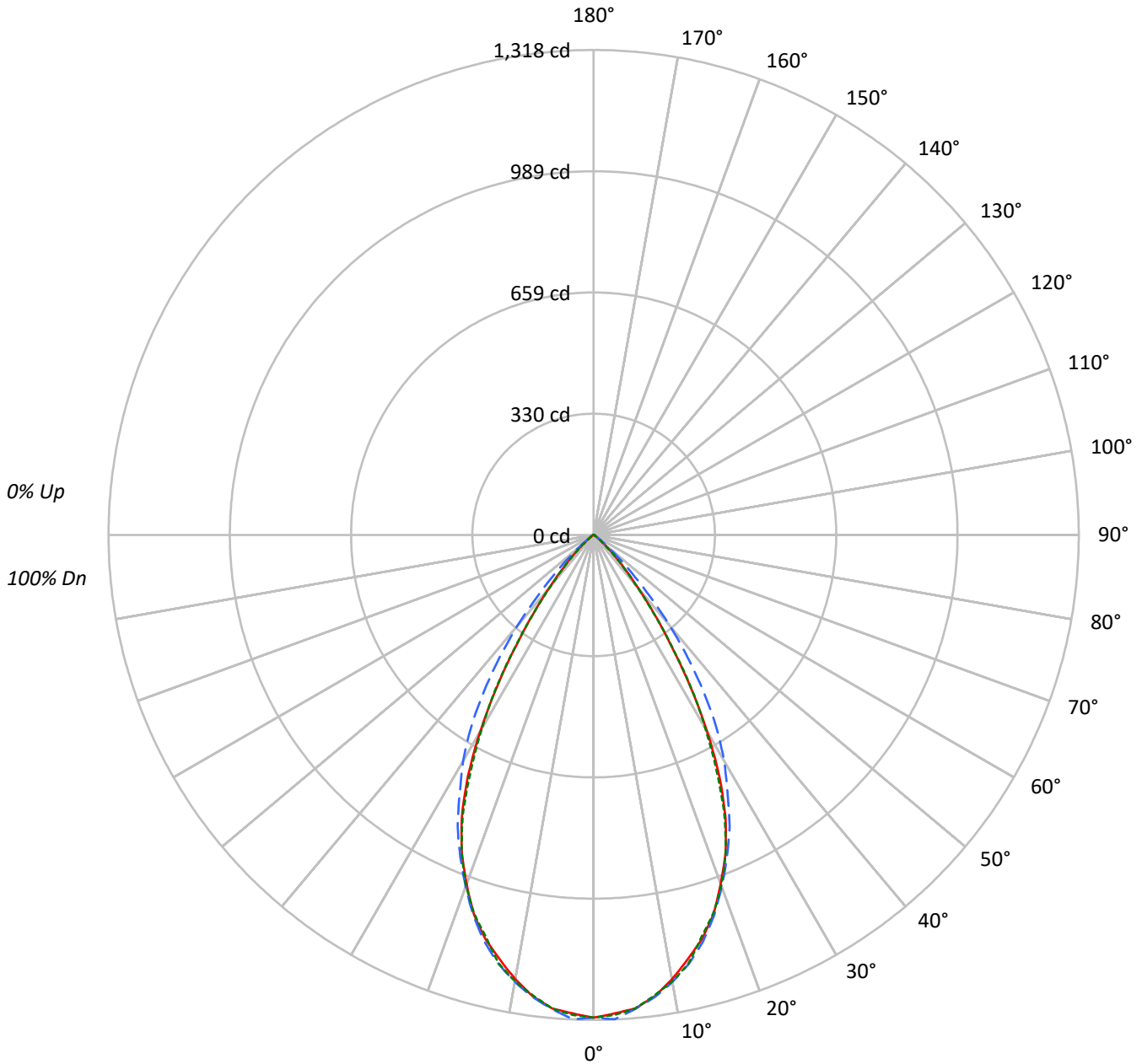
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	121.6	10.0
10°-20°	318.7	26.3
20°-30°	389.4	32.2
30°-40°	272.3	22.5
40°-50°	89.2	7.4
50°-60°	14.2	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°	829.7	68.5
0°-40°	1102.0	91.0
0°-60°	1205.4	99.5
0°-90°	1210.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1210.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1312	1312	1312	1312	1312	
5°	1292	1292	1293	1285	1292	121
15°	1137	1141	1145	1138	1131	317
25°	848	860	874	858	842	381
35°	367	433	521	426	370	234
45°	81	100	147	98	80	68
55°	12	12	14	12	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°	1311.7	1311.7	1311.7	1311.7	1311.7	1311.7	1311.7	1311.7	1311.7	1311.7	1311.7
2.5°	1301.7	1310.9	1308.4	1314.2	1314.2	1307.5	1309.2	1311.7	1315.0	1317.5	1297.5
5°	1291.7	1300.0	1292.5	1300.9	1295.9	1288.4	1300.9	1294.2	1298.4	1293.4	1296.7
7.5°	1265.0	1278.4	1263.4	1273.4	1270.0	1265.9	1270.9	1269.2	1271.7	1267.5	1258.4
10°	1225.9	1236.7	1226.7	1240.9	1234.2	1230.0	1234.2	1238.4	1237.5	1233.4	1238.4
12.5°	1180.9	1193.4	1188.4	1196.7	1189.2	1189.2	1199.2	1196.7	1197.5	1194.2	1200.0
15°	1136.7	1145.9	1138.4	1149.2	1145.9	1136.7	1140.9	1140.9	1147.5	1145.0	1138.4
17.5°	1081.7	1089.2	1080.9	1083.4	1080.0	1078.4	1095.9	1084.2	1090.9	1085.9	1086.7
20°	1009.2	1012.5	1010.0	1016.7	1012.5	1017.5	1015.9	1014.2	1014.2	1016.7	1010.9
22.5°	935.9	935.9	938.4	940.0	943.4	938.4	948.4	940.0	940.9	946.7	945.0
25°	847.5	845.0	850.9	859.2	862.5	858.4	871.7	865.0	870.0	874.2	865.0
27.5°	740.0	740.0	745.8	760.0	762.5	767.5	785.8	785.8	792.5	786.7	793.3
30°	615.8	625.0	632.5	650.8	656.7	667.5	686.7	695.8	710.8	708.3	705.0
32.5°	488.3	500.8	501.7	520.8	536.7	555.0	580.8	602.5	613.3	620.8	612.5
35°	366.7	374.2	380.8	394.2	420.8	445.0	468.3	496.7	515.8	520.8	513.3
37.5°	268.3	270.0	276.7	289.2	309.2	332.5	360.8	391.7	411.7	419.2	410.8
40°	185.0	186.7	190.0	200.8	217.5	234.2	256.7	288.3	306.7	321.7	310.8
42.5°	124.2	125.8	129.2	137.5	146.7	162.5	180.0	200.0	217.5	224.2	218.3
45°	80.8	80.8	82.5	88.3	93.3	105.8	118.3	130.8	142.5	146.7	142.5
47.5°	47.5	48.3	50.0	54.2	60.0	65.0	74.2	82.5	85.8	89.2	87.5
50°	27.5	27.5	30.0	32.5	36.7	40.0	43.3	46.7	48.3	50.0	48.3
52.5°	15.0	15.8	16.7	17.5	19.2	22.5	25.0	25.0	25.8	26.7	25.8
55°	11.7	11.7	11.7	11.7	12.5	12.5	12.5	13.3	13.3	14.2	13.3
57.5°	8.3	8.3	8.3	9.2	9.2	9.2	8.3	8.3	8.3	8.3	8.3
60°	6.7	6.7	6.7	6.7	6.7	6.7	6.7	5.8	5.8	5.8	5.8
62.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
65°	3.3	3.3	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
67.5°	2.5	2.5	2.5	2.5	3.3	3.3	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°	1311.7	1311.7	1311.7	1311.7	1311.7	1311.7	1311.7	1311.7
2.5°	1311.7	1297.5	1299.2	1306.7	1302.5	1306.7	1305.9	1305.9
5°	1297.5	1293.4	1286.7	1284.2	1289.2	1300.0	1298.4	1291.7
7.5°	1270.9	1260.0	1267.5	1270.9	1266.7	1273.4	1276.7	1262.5
10°	1239.2	1235.0	1233.4	1235.0	1233.4	1240.0	1231.7	1231.7
12.5°	1194.2	1187.5	1187.5	1197.5	1191.7	1186.7	1193.4	1192.5
15°	1149.2	1135.9	1135.9	1139.2	1141.7	1138.4	1139.2	1130.9
17.5°	1082.5	1078.4	1072.5	1081.7	1084.2	1080.9	1083.4	1079.2
20°	1020.0	1020.0	1009.2	1013.4	1016.7	1019.2	1020.9	1014.2
22.5°	940.0	941.7	934.2	942.5	945.0	936.7	938.4	936.7
25°	866.7	865.9	860.0	856.7	858.4	855.0	854.2	841.7
27.5°	785.8	777.5	765.0	768.3	754.2	742.5	742.5	723.3
30°	698.3	684.2	667.5	650.8	638.3	625.0	617.5	606.7
32.5°	595.8	576.7	555.8	533.3	519.2	499.2	488.3	494.2
35°	494.2	465.8	437.5	415.0	393.3	381.7	368.3	370.0
37.5°	395.8	355.8	330.8	306.7	288.3	273.3	267.5	265.8
40°	289.2	257.5	232.5	215.0	202.5	190.8	184.2	181.7
42.5°	200.0	177.5	157.5	143.3	135.0	127.5	124.2	123.3
45°	130.0	116.7	103.3	93.3	86.7	81.7	80.8	80.0
47.5°	81.7	75.0	66.7	59.2	53.3	50.0	47.5	47.5
50°	46.7	44.2	40.0	35.8	32.5	30.8	28.3	27.5
52.5°	25.0	25.0	23.3	20.0	17.5	15.8	15.8	15.0
55°	13.3	13.3	12.5	12.5	11.7	11.7	11.7	10.8
57.5°	8.3	8.3	9.2	9.2	8.3	8.3	8.3	8.3
60°	5.8	6.7	6.7	6.7	6.7	6.7	6.7	6.7
62.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
65°	3.3	4.2	4.2	4.2	4.2	3.3	3.3	3.3
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)