

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: P274359

Luminaire Tested: **LDSQ4B15DE010W2N2050 EU4B1020W2N902050 4LBSQOLI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P274359
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: LDSQ4B15DE010W2N2050 EU4B1020W2N902050 4LBSQ0LI
Description: PORTFOLIO 4" W2N SQ DOWNLIGHT WITH SPECULAR FINISH
Light Source: W2N 2000K-5000K CCT TUNING RANGE
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1192.9 lumens
Efficiency: N/A
Efficacy: 54.2 lumens/watt
Spacing Criteria (0/90/45): 0.91 / 0.9 / 0.94
Luminous Opening: Rectangular (W 0.38' x L: 0.38' x H: 0')
CIE Type: Direct

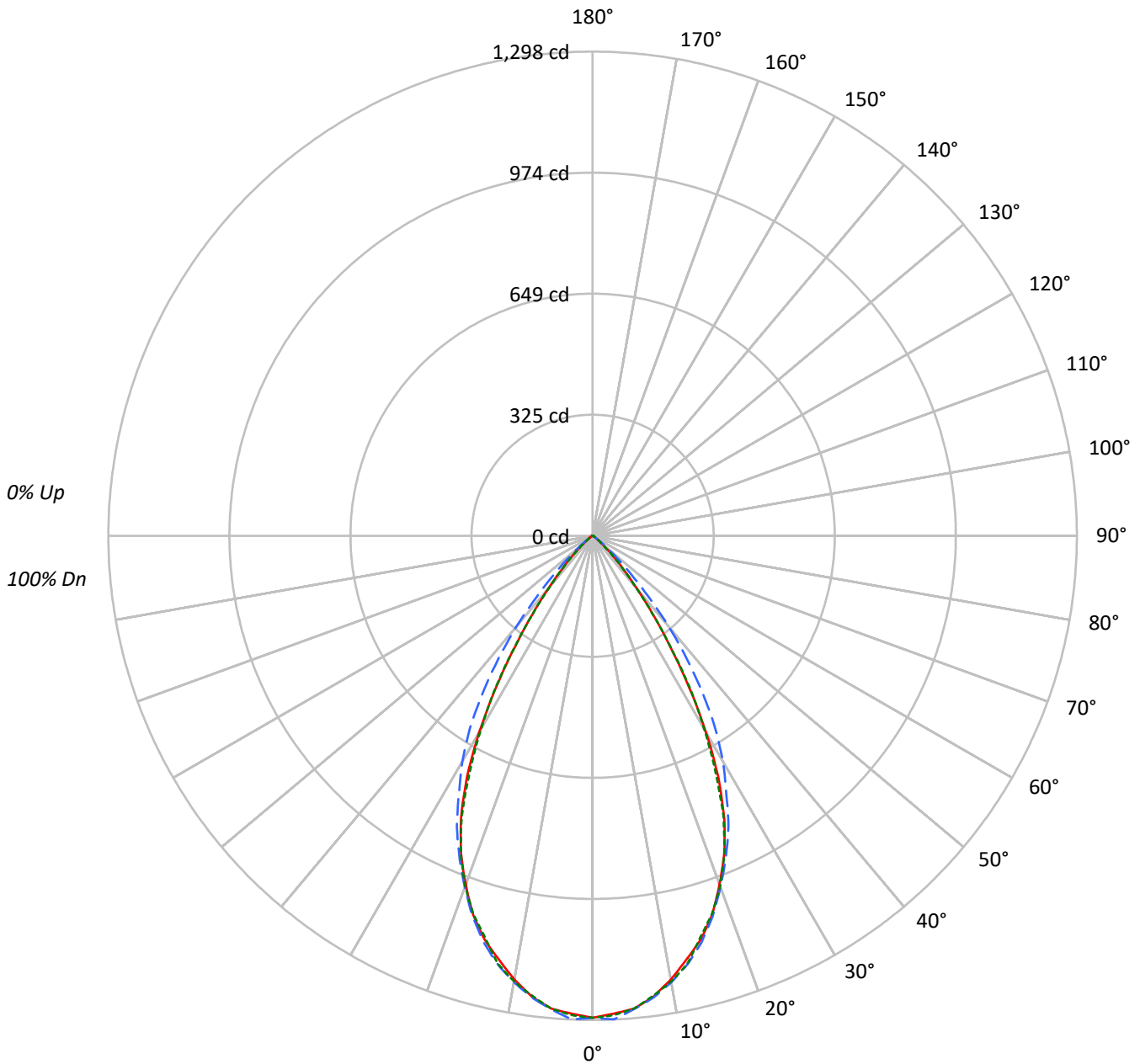
Input Watts (W): 22
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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°	98909	98909	98909
5°	97774	97896	97774
10°	93860	94435	94311
15°	88737	89387	88277
20°	80983	81578	81382
25°	70513	72734	70031
30°	53623	61675	52819
35°	33751	47945	34060
40°	18205	31665	17886
45°	8617	15642	8530
50°	3227	5871	3227
55°	1535	1868	1428
60°	1010	873	1010
65°	598	598	598
70°	358	559	358
75°	237	237	237
80°	353	353	353
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.8	10.0
10°-20°	314.0	26.3
20°-30°	383.6	32.2
30°-40°	268.3	22.5
40°-50°	87.9	7.4
50°-60°	14.0	1.2
60°-70°	3.8	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°	817.3	68.5
0°-40°	1085.6	91.0
0°-60°	1187.5	99.5
0°-90°	1192.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1192.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1292	1292	1292	1292	1292	
5°	1272	1273	1274	1266	1272	119
15°	1120	1124	1128	1121	1114	312
25°	835	848	861	846	829	375
35°	361	426	513	420	364	230
45°	80	98	144	97	79	67
55°	12	12	14	12	11	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°	1292.2	1292.2	1292.2	1292.2	1292.2	1292.2	1292.2	1292.2	1292.2	1292.2	1292.2
2.5°	1282.3	1291.3	1288.9	1294.6	1294.6	1288.1	1289.7	1292.2	1295.4	1297.9	1278.2
5°	1272.5	1280.7	1273.3	1281.5	1276.6	1269.2	1281.5	1274.9	1279.0	1274.1	1277.4
7.5°	1246.2	1259.3	1244.5	1254.4	1251.1	1247.0	1251.9	1250.3	1252.8	1248.7	1239.6
10°	1207.6	1218.3	1208.4	1222.4	1215.8	1211.7	1215.8	1219.9	1219.1	1215.0	1219.9
12.5°	1163.3	1175.6	1170.7	1178.9	1171.5	1171.5	1181.3	1178.9	1179.7	1176.4	1182.2
15°	1119.8	1128.8	1121.4	1132.1	1128.8	1119.8	1123.9	1123.9	1130.4	1128.0	1121.4
17.5°	1065.6	1073.0	1064.8	1067.2	1063.9	1062.3	1079.5	1068.0	1074.6	1069.7	1070.5
20°	994.2	997.4	995.0	1001.5	997.4	1002.4	1000.7	999.1	999.1	1001.5	995.8
22.5°	921.9	921.9	924.4	926.0	929.3	924.4	934.2	926.0	926.8	932.6	930.9
25°	834.9	832.4	838.2	846.4	849.7	845.6	858.7	852.1	857.1	861.2	852.1
27.5°	729.0	729.0	734.7	748.7	751.2	756.1	774.1	774.1	780.7	775.0	781.5
30°	606.7	615.7	623.1	641.2	646.9	657.6	676.5	685.5	700.3	697.8	694.5
32.5°	481.1	493.4	494.2	513.1	528.7	546.7	572.2	593.5	604.2	611.6	603.4
35°	361.2	368.6	375.2	388.3	414.6	438.4	461.4	489.3	508.2	513.1	505.7
37.5°	264.3	266.0	272.6	284.9	304.6	327.6	355.5	385.8	405.5	412.9	404.7
40°	182.2	183.9	187.2	197.8	214.3	230.7	252.9	284.0	302.1	316.9	306.2
42.5°	122.3	124.0	127.2	135.5	144.5	160.1	177.3	197.0	214.3	220.8	215.1
45°	79.6	79.6	81.3	87.0	91.9	104.3	116.6	128.9	140.4	144.5	140.4
47.5°	46.8	47.6	49.3	53.4	59.1	64.0	73.1	81.3	84.6	87.8	86.2
50°	27.1	27.1	29.6	32.0	36.1	39.4	42.7	46.0	47.6	49.3	47.6
52.5°	14.8	15.6	16.4	17.2	18.9	22.2	24.6	24.6	25.4	26.3	25.4
55°	11.5	11.5	11.5	11.5	12.3	12.3	12.3	13.1	13.1	14.0	13.1
57.5°	8.2	8.2	8.2	9.0	9.0	9.0	8.2	8.2	8.2	8.2	8.2
60°	6.6	6.6	6.6	6.6	6.6	6.6	6.6	5.7	5.7	5.7	5.7
62.5°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
65°	3.3	3.3	4.1	4.1	4.1	4.1	4.1	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°	1.6	1.6	1.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
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°	1292.2	1292.2	1292.2	1292.2	1292.2	1292.2	1292.2	1292.2
2.5°	1292.2	1278.2	1279.8	1287.2	1283.1	1287.2	1286.4	1286.4
5°	1278.2	1274.1	1267.5	1265.1	1270.0	1280.7	1279.0	1272.5
7.5°	1251.9	1241.3	1248.7	1251.9	1247.8	1254.4	1257.7	1243.7
10°	1220.7	1216.6	1215.0	1216.6	1215.0	1221.6	1213.4	1213.4
12.5°	1176.4	1169.8	1169.8	1179.7	1173.9	1169.0	1175.6	1174.8
15°	1132.1	1118.9	1118.9	1122.2	1124.7	1121.4	1122.2	1114.0
17.5°	1066.4	1062.3	1056.6	1065.6	1068.0	1064.8	1067.2	1063.1
20°	1004.8	1004.8	994.2	998.3	1001.5	1004.0	1005.7	999.1
22.5°	926.0	927.7	920.3	928.5	930.9	922.7	924.4	922.7
25°	853.8	853.0	847.2	843.9	845.6	842.3	841.5	829.2
27.5°	774.1	765.9	753.6	756.9	743.0	731.5	731.5	712.6
30°	687.9	674.0	657.6	641.2	628.8	615.7	608.3	597.6
32.5°	587.0	568.1	547.6	525.4	511.4	491.7	481.1	486.8
35°	486.8	458.9	431.0	408.8	387.5	376.0	362.9	364.5
37.5°	389.9	350.5	325.9	302.1	284.0	269.3	263.5	261.9
40°	284.9	253.7	229.0	211.8	199.5	188.0	181.4	179.0
42.5°	197.0	174.9	155.2	141.2	133.0	125.6	122.3	121.5
45°	128.1	114.9	101.8	91.9	85.4	80.5	79.6	78.8
47.5°	80.5	73.9	65.7	58.3	52.5	49.3	46.8	46.8
50°	46.0	43.5	39.4	35.3	32.0	30.4	27.9	27.1
52.5°	24.6	24.6	23.0	19.7	17.2	15.6	15.6	14.8
55°	13.1	13.1	12.3	12.3	11.5	11.5	11.5	10.7
57.5°	8.2	8.2	9.0	9.0	8.2	8.2	8.2	8.2
60°	5.7	6.6	6.6	6.6	6.6	6.6	6.6	6.6
62.5°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
65°	3.3	4.1	4.1	4.1	4.1	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	1.6	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)