

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: P274356

Luminaire Tested: **LDSQ4B15DE010W2N2765 EU4B1020W2N902765 4LBSQOLI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P274356
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: LDSQ4B15DE010W2N2765 EU4B1020W2N902765 4LBSQ0LI
Description: PORTFOLIO 4" W2N SQ DOWNLIGHT WITH SPECULAR FINISH
Light Source: W2N 2700K-6500K CCT TUNING RANGE
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1207.2 lumens
Efficiency: N/A
Efficacy: 54.9 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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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°	100088	100088	100088
5°	98941	99072	98941
10°	94987	95562	95438
15°	89799	90457	89339
20°	81953	82555	82352
25°	71357	73604	70867
30°	54259	62417	53455
35°	34153	48515	34471
40°	18425	32044	18096
45°	8725	15826	8638
50°	3263	5930	3263
55°	1548	1882	1441
60°	1010	888	1010
65°	598	598	598
70°	380	559	380
75°	237	237	237
80°	353	353	353
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.2	10.0
10°-20°	317.7	26.3
20°-30°	388.1	32.2
30°-40°	271.5	22.5
40°-50°	89.0	7.4
50°-60°	14.1	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°	827.1	68.5
0°-40°	1098.6	91.0
0°-60°	1201.7	99.5
0°-90°	1207.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1207.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1308	1308	1308	1308	1308	
5°	1288	1288	1289	1281	1288	121
15°	1133	1138	1142	1134	1127	316
25°	845	858	872	856	839	380
35°	366	432	519	425	369	233
45°	81	99	146	98	80	68
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	0



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1307.6	1307.6	1307.6	1307.6	1307.6	1307.6	1307.6	1307.6	1307.6	1307.6	1307.6
2.5°	1297.7	1306.8	1304.3	1310.1	1310.1	1303.5	1305.1	1307.6	1311.0	1313.4	1293.5
5°	1287.7	1296.0	1288.5	1296.8	1291.8	1284.4	1296.8	1290.2	1294.3	1289.4	1292.7
7.5°	1261.1	1274.4	1259.4	1269.4	1266.1	1261.9	1266.9	1265.3	1267.8	1263.6	1254.5
10°	1222.1	1232.9	1222.9	1237.0	1230.4	1226.2	1230.4	1234.5	1233.7	1229.5	1234.5
12.5°	1177.2	1189.7	1184.7	1193.0	1185.5	1185.5	1195.5	1193.0	1193.8	1190.5	1196.3
15°	1133.2	1142.3	1134.8	1145.6	1142.3	1133.2	1137.3	1137.3	1144.0	1141.5	1134.8
17.5°	1078.3	1085.8	1077.5	1080.0	1076.7	1075.0	1092.5	1080.8	1087.5	1082.5	1083.3
20°	1006.1	1009.4	1006.9	1013.5	1009.4	1014.4	1012.7	1011.0	1011.0	1013.5	1007.7
22.5°	933.0	933.0	935.4	937.1	940.4	935.4	945.4	937.1	937.9	943.8	942.1
25°	844.9	842.4	848.2	856.5	859.8	855.7	869.0	862.3	867.3	871.5	862.3
27.5°	737.7	737.7	743.5	757.7	760.2	765.1	783.4	783.4	790.1	784.2	790.9
30°	613.9	623.1	630.6	648.8	654.6	665.4	684.6	693.7	708.6	706.2	702.8
32.5°	486.8	499.3	500.1	519.2	535.0	553.3	579.0	600.6	611.4	618.9	610.6
35°	365.5	373.0	379.7	393.0	419.5	443.6	466.9	495.1	514.2	519.2	511.8
37.5°	267.5	269.2	275.8	288.3	308.2	331.5	359.7	390.5	410.4	417.9	409.6
40°	184.4	186.1	189.4	200.2	216.8	233.4	255.9	287.4	305.7	320.7	309.9
42.5°	123.8	125.4	128.8	137.1	146.2	162.0	179.4	199.4	216.8	223.5	217.7
45°	80.6	80.6	82.2	88.1	93.0	105.5	118.0	130.4	142.1	146.2	142.1
47.5°	47.4	48.2	49.8	54.0	59.8	64.8	73.9	82.2	85.6	88.9	87.2
50°	27.4	27.4	29.9	32.4	36.6	39.9	43.2	46.5	48.2	49.8	48.2
52.5°	15.0	15.8	16.6	17.4	19.1	22.4	24.9	24.9	25.8	26.6	25.8
55°	11.6	11.6	11.6	11.6	12.5	12.5	12.5	13.3	13.3	14.1	13.3
57.5°	8.3	8.3	8.3	9.1	9.1	9.1	8.3	8.3	8.3	8.3	8.3
60°	6.6	6.6	6.6	6.6	6.6	6.6	6.6	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°	1307.6	1307.6	1307.6	1307.6	1307.6	1307.6	1307.6	1307.6
2.5°	1307.6	1293.5	1295.2	1302.6	1298.5	1302.6	1301.8	1301.8
5°	1293.5	1289.4	1282.7	1280.2	1285.2	1296.0	1294.3	1287.7
7.5°	1266.9	1256.1	1263.6	1266.9	1262.8	1269.4	1272.7	1258.6
10°	1235.4	1231.2	1229.5	1231.2	1229.5	1236.2	1227.9	1227.9
12.5°	1190.5	1183.8	1183.8	1193.8	1188.0	1183.0	1189.7	1188.8
15°	1145.6	1132.3	1132.3	1135.7	1138.2	1134.8	1135.7	1127.4
17.5°	1079.2	1075.0	1069.2	1078.3	1080.8	1077.5	1080.0	1075.8
20°	1016.9	1016.9	1006.1	1010.2	1013.5	1016.0	1017.7	1011.0
22.5°	937.1	938.8	931.3	939.6	942.1	933.8	935.4	933.8
25°	864.0	863.2	857.4	854.0	855.7	852.4	851.5	839.1
27.5°	783.4	775.1	762.6	766.0	751.8	740.2	740.2	721.1
30°	696.2	682.1	665.4	648.8	636.4	623.1	615.6	604.8
32.5°	594.0	574.9	554.1	531.7	517.6	497.6	486.8	492.6
35°	492.6	464.4	436.2	413.7	392.1	380.5	367.2	368.9
37.5°	394.6	354.7	329.8	305.7	287.4	272.5	266.7	265.0
40°	288.3	256.7	231.8	214.3	201.9	190.2	183.6	181.1
42.5°	199.4	177.0	157.0	142.9	134.6	127.1	123.8	123.0
45°	129.6	116.3	103.0	93.0	86.4	81.4	80.6	79.8
47.5°	81.4	74.8	66.5	59.0	53.2	49.8	47.4	47.4
50°	46.5	44.0	39.9	35.7	32.4	30.7	28.2	27.4
52.5°	24.9	24.9	23.3	19.9	17.4	15.8	15.8	15.0
55°	13.3	13.3	12.5	12.5	11.6	11.6	11.6	10.8
57.5°	8.3	8.3	9.1	9.1	8.3	8.3	8.3	8.3
60°	5.8	6.6	6.6	6.6	6.6	6.6	6.6	6.6
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)