

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: P274355

Luminaire Tested: **LDSQ4B10DE010W2N2765 EU4B1020W2N902765 4LBSQOLI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P274355
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: LDSQ4B10DE010W2N2765 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: 931.3 lumens
Efficiency: N/A
Efficacy: 66.5 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

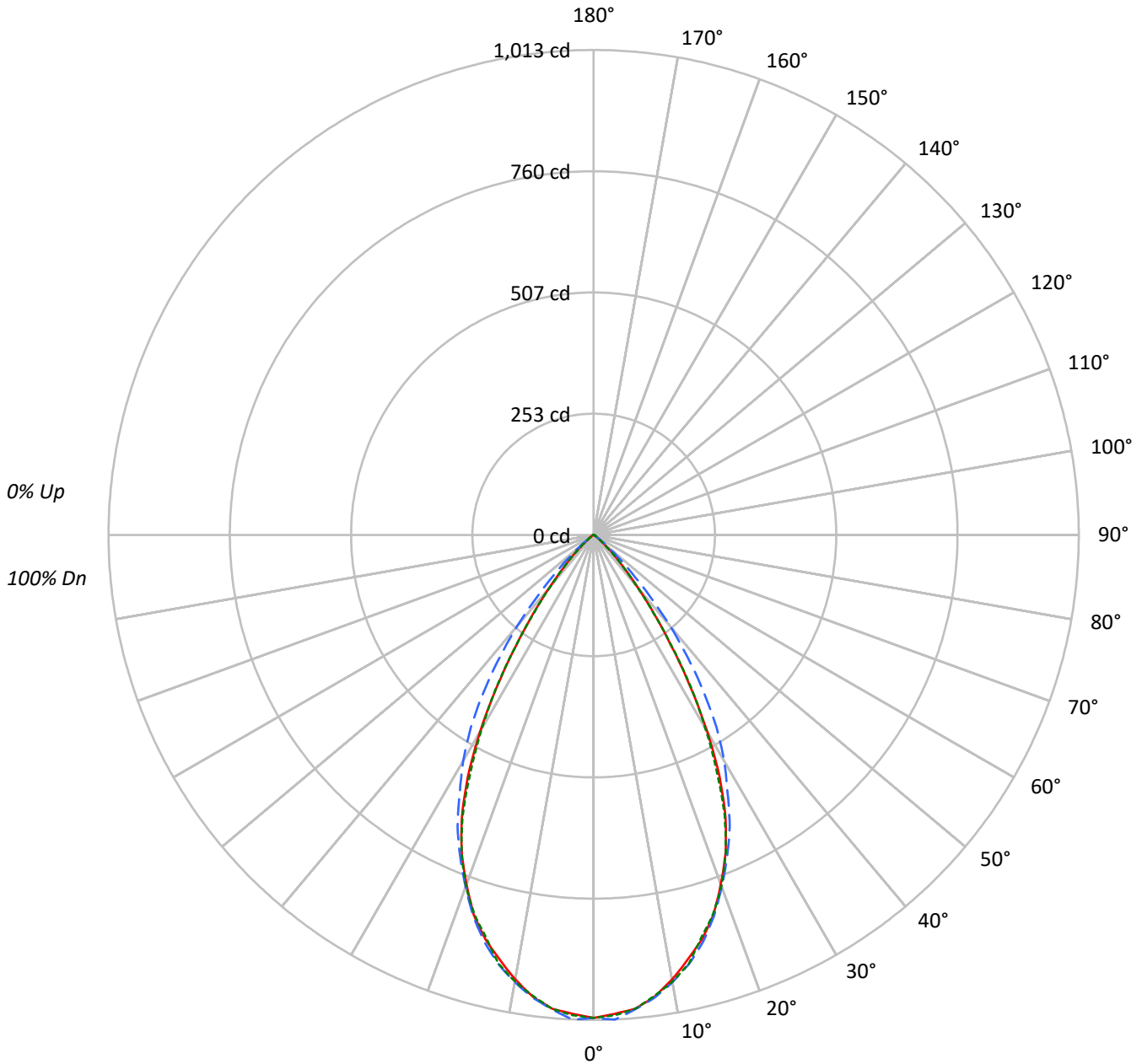
Input Watts (W): 14
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	72	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°	77225	77225	77225
5°	76336	76436	76336
10°	73286	73729	73628
15°	69283	69790	68926
20°	63226	63698	63536
25°	55057	56788	54677
30°	41868	48152	41240
35°	26351	37433	26594
40°	14219	24720	13959
45°	6733	12210	6657
50°	2525	4585	2525
55°	1201	1455	1108
60°	781	689	781
65°	471	471	471
70°	291	425	291
75°	177	177	177
80°	264	264	264
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.5	10.0
10°-20°	245.1	26.3
20°-30°	299.5	32.2
30°-40°	209.5	22.5
40°-50°	68.6	7.4
50°-60°	10.9	1.2
60°-70°	3.0	0.3
70°-80°	1.0	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°	638.2	68.5
0°-40°	847.6	91.0
0°-60°	927.2	99.6
0°-90°	931.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	931.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1009	1009	1009	1009	1009	
5°	994	994	995	989	994	93
15°	874	878	881	875	870	244
25°	652	662	672	660	647	293
35°	282	333	401	328	285	180
45°	62	77	113	76	62	52
55°	9	10	11	10	8	9
65°	3	3	3	3	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°	1008.9	1008.9	1008.9	1008.9	1008.9	1008.9	1008.9	1008.9	1008.9	1008.9	1008.9
2.5°	1001.2	1008.2	1006.3	1010.8	1010.8	1005.7	1006.9	1008.9	1011.4	1013.4	998.0
5°	993.5	999.9	994.1	1000.5	996.7	990.9	1000.5	995.4	998.6	994.8	997.3
7.5°	973.0	983.2	971.7	979.4	976.8	973.6	977.5	976.2	978.1	974.9	967.9
10°	942.9	951.2	943.5	954.4	949.3	946.1	949.3	952.5	951.8	948.6	952.5
12.5°	908.2	917.9	914.0	920.4	914.7	914.7	922.3	920.4	921.1	918.5	923.0
15°	874.3	881.3	875.6	883.9	881.3	874.3	877.5	877.5	882.6	880.7	875.6
17.5°	832.0	837.7	831.3	833.2	830.7	829.4	842.9	833.9	839.0	835.2	835.8
20°	776.2	778.8	776.8	782.0	778.8	782.6	781.3	780.0	780.0	782.0	777.5
22.5°	719.8	719.8	721.7	723.0	725.6	721.7	729.4	723.0	723.6	728.1	726.8
25°	651.9	649.9	654.4	660.8	663.4	660.2	670.4	665.3	669.2	672.4	665.3
27.5°	569.2	569.2	573.7	584.6	586.5	590.3	604.4	604.4	609.6	605.1	610.2
30°	473.7	480.7	486.5	500.6	505.1	513.4	528.2	535.2	546.7	544.8	542.3
32.5°	375.6	385.2	385.9	400.6	412.8	426.9	446.7	463.4	471.7	477.5	471.1
35°	282.0	287.8	292.9	303.2	323.7	342.3	360.2	382.0	396.8	400.6	394.8
37.5°	206.4	207.7	212.8	222.4	237.8	255.7	277.5	301.3	316.6	322.4	316.0
40°	142.3	143.6	146.1	154.5	167.3	180.1	197.4	221.8	235.9	247.4	239.1
42.5°	95.5	96.8	99.3	105.8	112.8	125.0	138.4	153.8	167.3	172.4	167.9
45°	62.2	62.2	63.5	67.9	71.8	81.4	91.0	100.6	109.6	112.8	109.6
47.5°	36.5	37.2	38.5	41.7	46.1	50.0	57.0	63.5	66.0	68.6	67.3
50°	21.2	21.2	23.1	25.0	28.2	30.8	33.3	35.9	37.2	38.5	37.2
52.5°	11.5	12.2	12.8	13.5	14.7	17.3	19.2	19.2	19.9	20.5	19.9
55°	9.0	9.0	9.0	9.0	9.6	9.6	9.6	10.3	10.3	10.9	10.3
57.5°	6.4	6.4	6.4	7.1	7.1	7.1	6.4	6.4	6.4	6.4	6.4
60°	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.5	4.5	4.5	4.5
62.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
65°	2.6	2.6	3.2	3.2	3.2	3.2	3.2	2.6	2.6	2.6	2.6
67.5°	1.9	1.9	1.9	1.9	2.6	2.6	1.9	1.9	1.9	1.9	1.9
70°	1.3	1.3	1.3	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
72.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
75°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
77.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
80°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	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°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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°	1008.9	1008.9	1008.9	1008.9	1008.9	1008.9	1008.9	1008.9
2.5°	1008.9	998.0	999.3	1005.0	1001.8	1005.0	1004.4	1004.4
5°	998.0	994.8	989.6	987.7	991.6	999.9	998.6	993.5
7.5°	977.5	969.1	974.9	977.5	974.3	979.4	982.0	971.1
10°	953.1	949.9	948.6	949.9	948.6	953.7	947.3	947.3
12.5°	918.5	913.4	913.4	921.1	916.6	912.7	917.9	917.2
15°	883.9	873.6	873.6	876.2	878.1	875.6	876.2	869.8
17.5°	832.6	829.4	824.9	832.0	833.9	831.3	833.2	830.0
20°	784.5	784.5	776.2	779.4	782.0	783.9	785.2	780.0
22.5°	723.0	724.3	718.5	724.9	726.8	720.4	721.7	720.4
25°	666.6	666.0	661.5	658.9	660.2	657.6	657.0	647.4
27.5°	604.4	598.0	588.4	591.0	580.1	571.1	571.1	556.4
30°	537.1	526.2	513.4	500.6	491.0	480.7	475.0	466.6
32.5°	458.3	443.5	427.5	410.2	399.3	383.9	375.6	380.1
35°	380.1	358.3	336.5	319.2	302.5	293.6	283.3	284.6
37.5°	304.5	273.7	254.5	235.9	221.8	210.2	205.7	204.5
40°	222.4	198.1	178.8	165.4	155.8	146.8	141.7	139.7
42.5°	153.8	136.5	121.1	110.2	103.8	98.1	95.5	94.9
45°	100.0	89.7	79.5	71.8	66.7	62.8	62.2	61.5
47.5°	62.8	57.7	51.3	45.5	41.0	38.5	36.5	36.5
50°	35.9	34.0	30.8	27.6	25.0	23.7	21.8	21.2
52.5°	19.2	19.2	17.9	15.4	13.5	12.2	12.2	11.5
55°	10.3	10.3	9.6	9.6	9.0	9.0	9.0	8.3
57.5°	6.4	6.4	7.1	7.1	6.4	6.4	6.4	6.4
60°	4.5	5.1	5.1	5.1	5.1	5.1	5.1	5.1
62.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
65°	2.6	3.2	3.2	3.2	3.2	2.6	2.6	2.6
67.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
70°	1.9	1.9	1.9	1.9	1.9	1.3	1.3	1.3
72.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
75°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
77.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
80°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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)