

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: P274358

Luminaire Tested: **LDSQ4B10DE010W2N2050 EU4B1020W2N902050 4LBSQOLI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P274358
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: LDSQ4B10DE010W2N2050 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: 827.9 lumens
Efficiency: N/A
Efficacy: 59.1 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

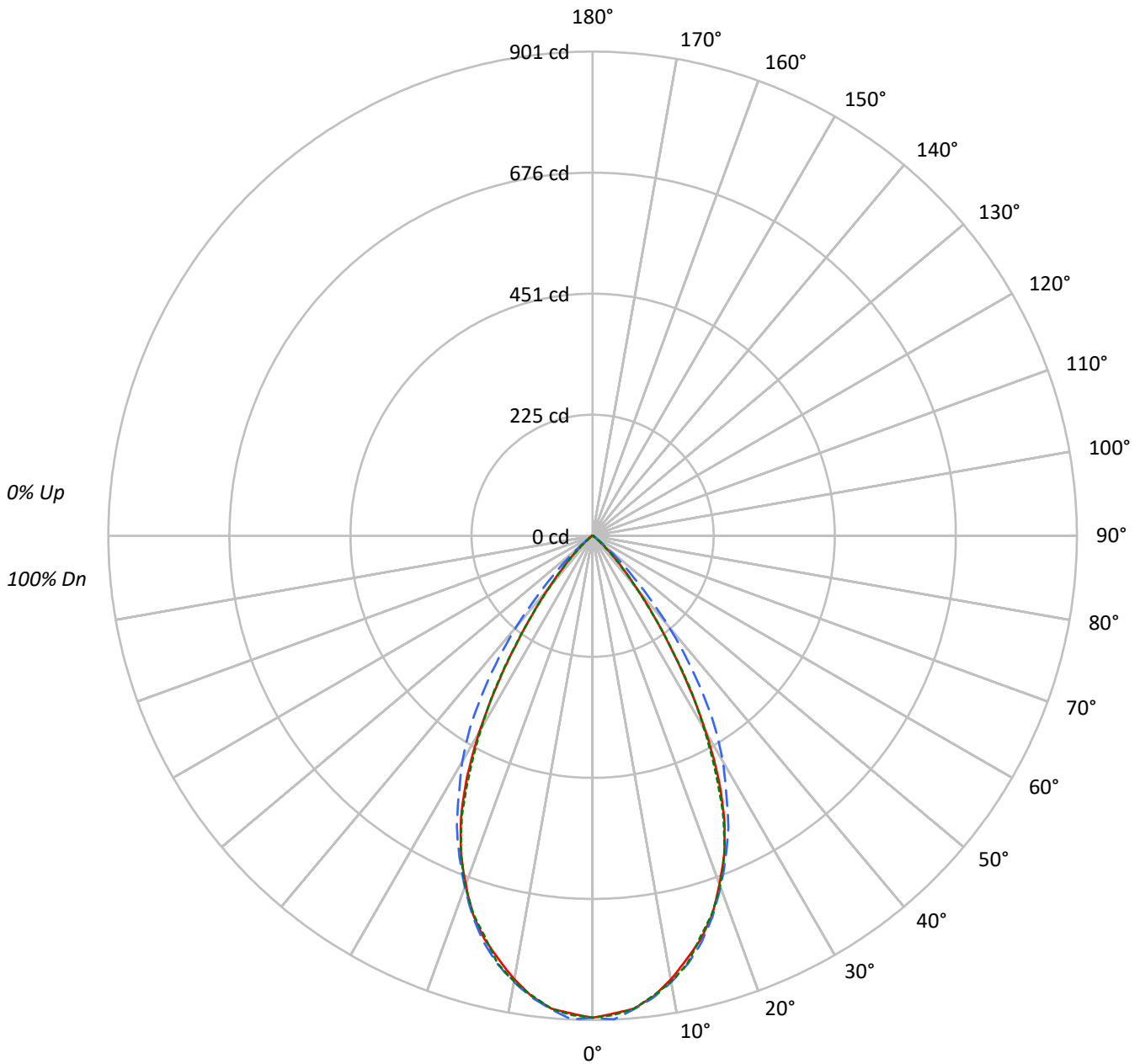
Input Watts (W): 14
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	68644	68644	68644
5°	67854	67938	67854
10°	65141	65537	65452
15°	61580	62032	61263
20°	56204	56620	56481
25°	48934	50480	48596
30°	37210	42805	36662
35°	23426	33275	23641
40°	12640	21972	12410
45°	5986	10857	5921
50°	2239	4073	2239
55°	1068	1294	988
60°	704	612	704
65°	417	417	417
70°	246	380	246
75°	177	177	177
80°	264	264	264
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.1	10.0
10°-20°	217.9	26.3
20°-30°	266.2	32.2
30°-40°	186.2	22.5
40°-50°	61.0	7.4
50°-60°	9.7	1.2
60°-70°	2.6	0.3
70°-80°	0.9	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°	567.2	68.5
0°-40°	753.4	91.0
0°-60°	824.2	99.5
0°-90°	827.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	827.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	897	897	897	897	897	
5°	883	883	884	879	883	83
15°	777	780	783	778	773	217
25°	579	588	598	587	575	260
35°	251	296	356	291	253	160
45°	55	68	100	67	55	46
55°	8	8	10	8	7	8
65°	2	3	2	3	2	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°	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8
2.5°	889.9	896.2	894.5	898.5	898.5	893.9	895.1	896.8	899.1	900.8	887.1
5°	883.1	888.8	883.7	889.4	885.9	880.8	889.4	884.8	887.7	884.2	886.5
7.5°	864.9	874.0	863.7	870.6	868.3	865.4	868.9	867.7	869.4	866.6	860.3
10°	838.1	845.5	838.7	848.3	843.8	840.9	843.8	846.6	846.1	843.2	846.6
12.5°	807.3	815.9	812.5	818.2	813.0	813.0	819.9	818.2	818.7	816.4	820.4
15°	777.1	783.4	778.3	785.7	783.4	777.1	780.0	780.0	784.5	782.8	778.3
17.5°	739.5	744.7	739.0	740.7	738.4	737.2	749.2	741.2	745.8	742.4	742.9
20°	690.0	692.2	690.5	695.1	692.2	695.7	694.5	693.4	693.4	695.1	691.1
22.5°	639.8	639.8	641.5	642.7	644.9	641.5	648.4	642.7	643.2	647.2	646.1
25°	579.4	577.7	581.7	587.4	589.7	586.8	596.0	591.4	594.8	597.7	591.4
27.5°	505.9	505.9	509.9	519.6	521.3	524.7	537.3	537.3	541.8	537.8	542.4
30°	421.0	427.3	432.4	445.0	449.0	456.4	469.5	475.7	486.0	484.3	482.0
32.5°	333.9	342.4	343.0	356.1	366.9	379.4	397.1	411.9	419.3	424.5	418.8
35°	250.7	255.8	260.4	269.5	287.7	304.2	320.2	339.6	352.7	356.1	351.0
37.5°	183.5	184.6	189.2	197.7	211.4	227.3	246.7	267.8	281.5	286.6	280.9
40°	126.5	127.6	129.9	137.3	148.7	160.1	175.5	197.1	209.7	219.9	212.5
42.5°	84.9	86.0	88.3	94.0	100.3	111.1	123.1	136.7	148.7	153.3	149.3
45°	55.3	55.3	56.4	60.4	63.8	72.4	80.9	89.4	97.4	100.3	97.4
47.5°	32.5	33.0	34.2	37.0	41.0	44.4	50.7	56.4	58.7	61.0	59.8
50°	18.8	18.8	20.5	22.2	25.1	27.3	29.6	31.9	33.0	34.2	33.0
52.5°	10.3	10.8	11.4	12.0	13.1	15.4	17.1	17.1	17.7	18.2	17.7
55°	8.0	8.0	8.0	8.0	8.5	8.5	8.5	9.1	9.1	9.7	9.1
57.5°	5.7	5.7	5.7	6.3	6.3	6.3	5.7	5.7	5.7	5.7	5.7
60°	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.0	4.0	4.0	4.0
62.5°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
65°	2.3	2.3	2.8	2.8	2.8	2.8	2.8	2.3	2.3	2.3	2.3
67.5°	1.7	1.7	1.7	1.7	2.3	2.3	1.7	1.7	1.7	1.7	1.7
70°	1.1	1.1	1.1	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
72.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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°	896.8	896.8	896.8	896.8	896.8	896.8	896.8	896.8
2.5°	896.8	887.1	888.2	893.4	890.5	893.4	892.8	892.8
5°	887.1	884.2	879.7	878.0	881.4	888.8	887.7	883.1
7.5°	868.9	861.5	866.6	868.9	866.0	870.6	872.8	863.2
10°	847.2	844.4	843.2	844.4	843.2	847.8	842.1	842.1
12.5°	816.4	811.9	811.9	818.7	814.7	811.3	815.9	815.3
15°	785.7	776.6	776.6	778.8	780.5	778.3	778.8	773.1
17.5°	740.1	737.2	733.3	739.5	741.2	739.0	740.7	737.8
20°	697.4	697.4	690.0	692.8	695.1	696.8	697.9	693.4
22.5°	642.7	643.8	638.7	644.4	646.1	640.4	641.5	640.4
25°	592.5	592.0	588.0	585.7	586.8	584.6	584.0	575.4
27.5°	537.3	531.6	523.0	525.3	515.6	507.6	507.6	494.5
30°	477.4	467.8	456.4	445.0	436.4	427.3	422.2	414.8
32.5°	407.4	394.3	380.0	364.6	354.9	341.3	333.9	337.9
35°	337.9	318.5	299.1	283.7	268.9	260.9	251.8	253.0
37.5°	270.6	243.3	226.2	209.7	197.1	186.9	182.9	181.7
40°	197.7	176.1	159.0	147.0	138.4	130.5	125.9	124.2
42.5°	136.7	121.4	107.7	98.0	92.3	87.2	84.9	84.3
45°	88.9	79.8	70.6	63.8	59.3	55.8	55.3	54.7
47.5°	55.8	51.3	45.6	40.5	36.5	34.2	32.5	32.5
50°	31.9	30.2	27.3	24.5	22.2	21.1	19.4	18.8
52.5°	17.1	17.1	16.0	13.7	12.0	10.8	10.8	10.3
55°	9.1	9.1	8.5	8.5	8.0	8.0	8.0	7.4
57.5°	5.7	5.7	6.3	6.3	5.7	5.7	5.7	5.7
60°	4.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6
62.5°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
65°	2.3	2.8	2.8	2.8	2.8	2.3	2.3	2.3
67.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
70°	1.7	1.7	1.7	1.7	1.7	1.1	1.1	1.1
72.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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)