

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: P209112

Luminaire Tested: **LDSQ4B10D010 EU4B10209730 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209112
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: LDSQ4B10D010 EU4B10209730 4LBSQ1LI
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE LOW
IRIDESCENT TRIM.
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM
WATTAGE D010TR-10.05 W DE010-10.58 W D5LT-10.2 W DMX-10.6 W DL2-11.8 W
DL3-11.1 W DLE-11.39 W
Light Source: HIGH LUMEN LED 3000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 759.5 lumens
Efficiency: N/A
Efficacy: 75.6 lumens/watt
Spacing Criteria (0/90/45): 0.91 / 0.9 / 0.94
Luminous Opening: Circular (Dia: 1.12' x H: 0')
CIE Type: Direct

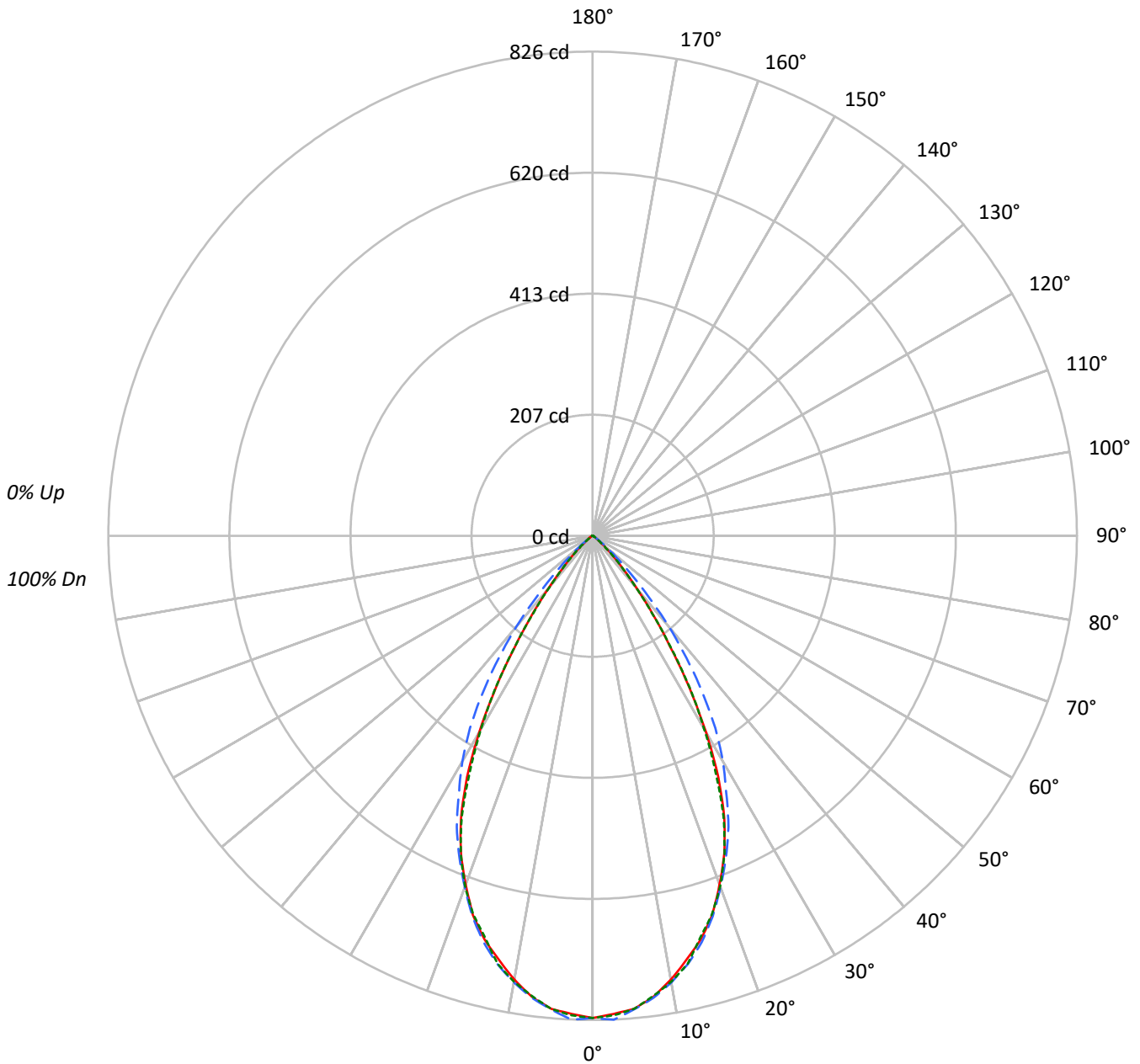
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	8909	8909	8909
5°	8806	8818	8806
10°	8455	8506	8494
15°	7992	8052	7952
20°	7294	7349	7330
25°	6352	6551	6307
30°	4830	5555	4758
35°	3040	4319	3068
40°	1640	2853	1610
45°	776	1409	769
50°	290	529	290
55°	138	168	128
60°	91	80	91
65°	54	54	54
70°	32	51	32
75°	21	21	21
80°	31	31	31
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.3	10.0
10°-20°	199.9	26.3
20°-30°	244.2	32.2
30°-40°	170.8	22.5
40°-50°	56.0	7.4
50°-60°	8.9	1.2
60°-70°	2.4	0.3
70°-80°	0.8	0.1
80°-90°	0.2	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°	520.4	68.5
0°-40°	691.2	91.0
0°-60°	756.1	99.5
0°-90°	759.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	759.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	823	823	823	823	823	
5°	810	810	811	806	810	76
15°	713	716	718	713	709	199
25°	532	540	548	538	528	239
35°	230	272	327	267	232	147
45°	51	62	92	62	50	43
55°	7	8	9	8	7	7
65°	2	3	2	3	2	2
75°	0	0	0	0	0	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°	822.7	822.7	822.7	822.7	822.7	822.7	822.7	822.7	822.7	822.7	822.7
2.5°	816.4	822.2	820.6	824.3	824.3	820.1	821.1	822.7	824.8	826.4	813.8
5°	810.1	815.4	810.7	815.9	812.8	808.1	815.9	811.7	814.3	811.2	813.3
7.5°	793.4	801.8	792.4	798.6	796.6	793.9	797.1	796.0	797.6	795.0	789.2
10°	768.9	775.7	769.4	778.3	774.1	771.5	774.1	776.7	776.2	773.6	776.7
12.5°	740.6	748.5	745.3	750.6	745.9	745.9	752.1	750.6	751.1	749.0	752.7
15°	712.9	718.7	714.0	720.8	718.7	712.9	715.5	715.5	719.7	718.2	714.0
17.5°	678.4	683.1	677.9	679.5	677.4	676.3	687.3	680.0	684.2	681.0	681.6
20°	633.0	635.1	633.5	637.7	635.1	638.2	637.1	636.1	636.1	637.7	634.0
22.5°	587.0	587.0	588.5	589.6	591.7	588.5	594.8	589.6	590.1	593.8	592.7
25°	531.6	530.0	533.7	538.9	541.0	538.4	546.7	542.5	545.7	548.3	542.5
27.5°	464.1	464.1	467.8	476.7	478.2	481.4	492.9	492.9	497.1	493.4	497.6
30°	386.3	392.0	396.7	408.2	411.9	418.7	430.7	436.4	445.8	444.3	442.2
32.5°	306.3	314.1	314.7	326.7	336.6	348.1	364.3	377.9	384.7	389.4	384.2
35°	230.0	234.7	238.9	247.2	264.0	279.1	293.7	311.5	323.5	326.7	322.0
37.5°	168.3	169.3	173.5	181.4	193.9	208.5	226.3	245.7	258.2	262.9	257.7
40°	116.0	117.1	119.2	126.0	136.4	146.9	161.0	180.8	192.3	201.8	195.0
42.5°	77.9	78.9	81.0	86.2	92.0	101.9	112.9	125.4	136.4	140.6	136.9
45°	50.7	50.7	51.7	55.4	58.5	66.4	74.2	82.1	89.4	92.0	89.4
47.5°	29.8	30.3	31.4	34.0	37.6	40.8	46.5	51.7	53.8	55.9	54.9
50°	17.2	17.2	18.8	20.4	23.0	25.1	27.2	29.3	30.3	31.4	30.3
52.5°	9.4	9.9	10.5	11.0	12.0	14.1	15.7	15.7	16.2	16.7	16.2
55°	7.3	7.3	7.3	7.3	7.8	7.8	7.8	8.4	8.4	8.9	8.4
57.5°	5.2	5.2	5.2	5.7	5.7	5.7	5.2	5.2	5.2	5.2	5.2
60°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.7	3.7	3.7	3.7
62.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
65°	2.1	2.1	2.6	2.6	2.6	2.6	2.6	2.1	2.1	2.1	2.1
67.5°	1.6	1.6	1.6	1.6	2.1	2.1	1.6	1.6	1.6	1.6	1.6
70°	1.0	1.0	1.0	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
72.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
75°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	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°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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°	822.7	822.7	822.7	822.7	822.7	822.7	822.7	822.7
2.5°	822.7	813.8	814.9	819.6	816.9	819.6	819.0	819.0
5°	813.8	811.2	807.0	805.4	808.6	815.4	814.3	810.1
7.5°	797.1	790.3	795.0	797.1	794.5	798.6	800.7	791.9
10°	777.2	774.6	773.6	774.6	773.6	777.7	772.5	772.5
12.5°	749.0	744.8	744.8	751.1	747.4	744.3	748.5	747.9
15°	720.8	712.4	712.4	714.5	716.1	714.0	714.5	709.3
17.5°	679.0	676.3	672.7	678.4	680.0	677.9	679.5	676.9
20°	639.8	639.8	633.0	635.6	637.7	639.2	640.3	636.1
22.5°	589.6	590.6	585.9	591.1	592.7	587.5	588.5	587.5
25°	543.6	543.1	539.4	537.3	538.4	536.3	535.7	527.9
27.5°	492.9	487.7	479.8	481.9	473.0	465.7	465.7	453.7
30°	438.0	429.1	418.7	408.2	400.4	392.0	387.3	380.5
32.5°	373.7	361.7	348.6	334.5	325.6	313.1	306.3	309.9
35°	309.9	292.2	274.4	260.3	246.7	239.4	231.0	232.1
37.5°	248.3	223.2	207.5	192.3	180.8	171.4	167.8	166.7
40°	181.4	161.5	145.8	134.9	127.0	119.7	115.5	113.9
42.5°	125.4	111.3	98.8	89.9	84.7	80.0	77.9	77.4
45°	81.5	73.2	64.8	58.5	54.4	51.2	50.7	50.2
47.5°	51.2	47.0	41.8	37.1	33.5	31.4	29.8	29.8
50°	29.3	27.7	25.1	22.5	20.4	19.3	17.8	17.2
52.5°	15.7	15.7	14.6	12.5	11.0	9.9	9.9	9.4
55°	8.4	8.4	7.8	7.8	7.3	7.3	7.3	6.8
57.5°	5.2	5.2	5.7	5.7	5.2	5.2	5.2	5.2
60°	3.7	4.2	4.2	4.2	4.2	4.2	4.2	4.2
62.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
65°	2.1	2.6	2.6	2.6	2.6	2.1	2.1	2.1
67.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
70°	1.6	1.6	1.6	1.6	1.6	1.0	1.0	1.0
72.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
75°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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)