

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: P209111

Luminaire Tested: **LDSQ4B10D010 EU4B10209727 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209111
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 EU4B10209727 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 2700 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 726.7 lumens
Efficiency: N/A
Efficacy: 72.3 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

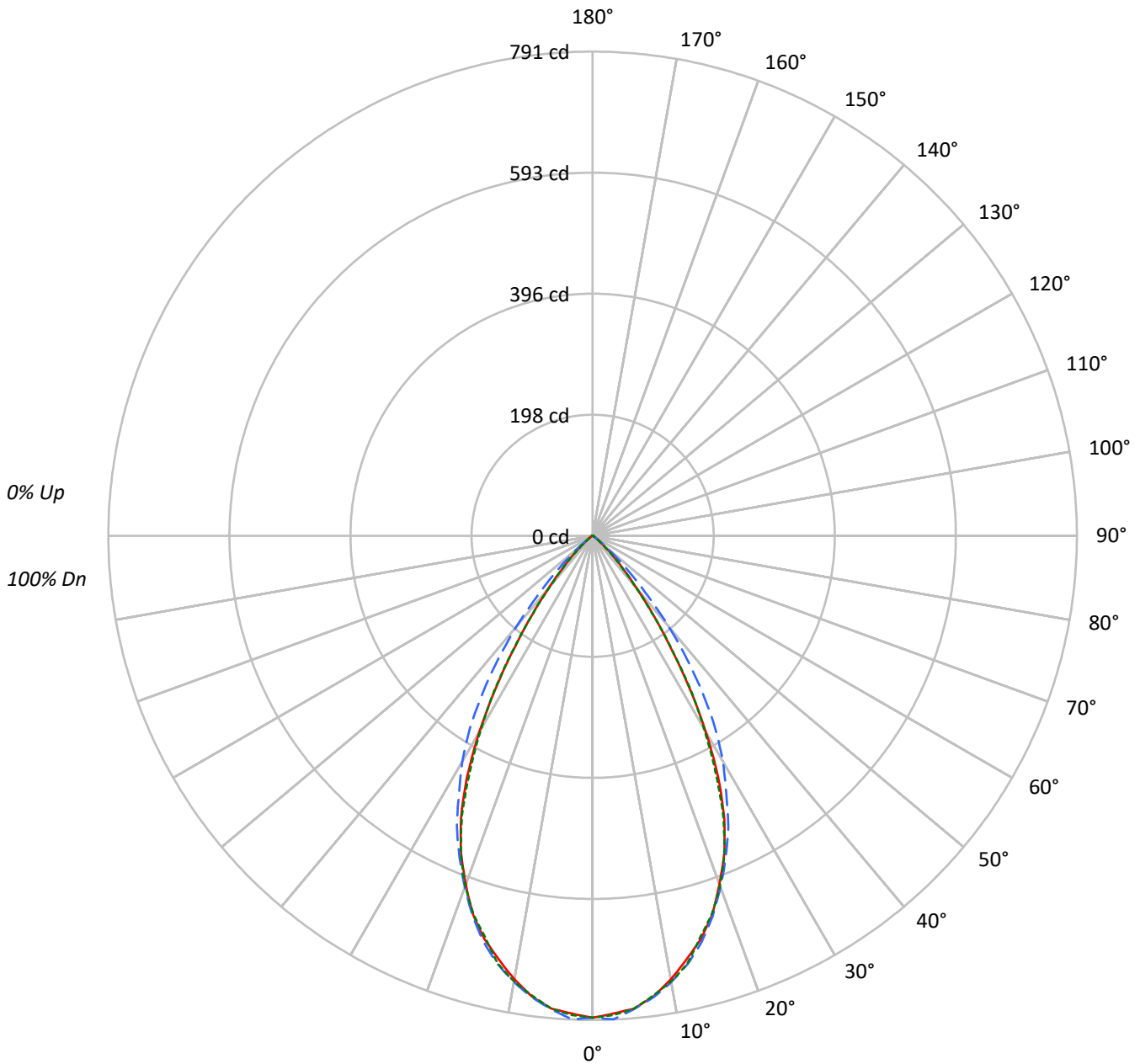
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				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°	8524	8524	8524
5°	8426	8437	8426
10°	8090	8139	8128
15°	7648	7704	7609
20°	6980	7032	7014
25°	6077	6268	6035
30°	4621	5315	4553
35°	2910	4132	2936
40°	1569	2730	1541
45°	743	1348	735
50°	278	505	278
55°	132	160	123
60°	87	76	87
65°	51	51	51
70°	32	47	32
75°	21	21	21
80°	31	31	31
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.0	10.0
10°-20°	191.3	26.3
20°-30°	233.7	32.2
30°-40°	163.4	22.5
40°-50°	53.5	7.4
50°-60°	8.5	1.2
60°-70°	2.3	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°	497.9	68.5
0°-40°	661.4	91.0
0°-60°	723.4	99.5
0°-90°	726.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	726.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	787	787	787	787	787	
5°	775	775	776	771	775	73
15°	682	685	687	683	679	190
25°	509	516	525	515	505	228
35°	220	260	313	256	222	140
45°	48	60	88	59	48	41
55°	7	8	8	8	6	7
65°	2	2	2	2	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°	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2
2.5°	781.2	786.7	785.2	788.7	788.7	784.7	785.7	787.2	789.2	790.7	778.7
5°	775.2	780.2	775.7	780.7	777.7	773.2	780.7	776.7	779.2	776.2	778.2
7.5°	759.2	767.2	758.2	764.2	762.2	759.7	762.7	761.7	763.2	760.7	755.2
10°	735.7	742.2	736.2	744.7	740.7	738.2	740.7	743.2	742.7	740.2	743.2
12.5°	708.7	716.2	713.2	718.2	713.7	713.7	719.7	718.2	718.7	716.7	720.2
15°	682.2	687.7	683.2	689.7	687.7	682.2	684.7	684.7	688.7	687.2	683.2
17.5°	649.2	653.7	648.7	650.2	648.2	647.2	657.7	650.7	654.7	651.7	652.2
20°	605.7	607.7	606.2	610.2	607.7	610.7	609.7	608.7	608.7	610.2	606.7
22.5°	561.6	561.6	563.2	564.2	566.2	563.2	569.2	564.2	564.7	568.2	567.2
25°	508.6	507.1	510.6	515.6	517.6	515.1	523.1	519.1	522.1	524.6	519.1
27.5°	444.1	444.1	447.6	456.1	457.6	460.6	471.6	471.6	475.6	472.1	476.1
30°	369.6	375.1	379.6	390.6	394.1	400.6	412.1	417.6	426.6	425.1	423.1
32.5°	293.1	300.6	301.1	312.6	322.1	333.1	348.6	361.6	368.1	372.6	367.6
35°	220.1	224.6	228.6	236.6	252.6	267.1	281.1	298.1	309.6	312.6	308.1
37.5°	161.0	162.0	166.0	173.5	185.5	199.6	216.6	235.1	247.1	251.6	246.6
40°	111.0	112.0	114.0	120.5	130.5	140.5	154.0	173.0	184.0	193.1	186.5
42.5°	74.5	75.5	77.5	82.5	88.0	97.5	108.0	120.0	130.5	134.5	131.0
45°	48.5	48.5	49.5	53.0	56.0	63.5	71.0	78.5	85.5	88.0	85.5
47.5°	28.5	29.0	30.0	32.5	36.0	39.0	44.5	49.5	51.5	53.5	52.5
50°	16.5	16.5	18.0	19.5	22.0	24.0	26.0	28.0	29.0	30.0	29.0
52.5°	9.0	9.5	10.0	10.5	11.5	13.5	15.0	15.0	15.5	16.0	15.5
55°	7.0	7.0	7.0	7.0	7.5	7.5	7.5	8.0	8.0	8.5	8.0
57.5°	5.0	5.0	5.0	5.5	5.5	5.5	5.0	5.0	5.0	5.0	5.0
60°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5
62.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
65°	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.0	2.0	2.0	2.0
67.5°	1.5	1.5	1.5	1.5	2.0	2.0	1.5	1.5	1.5	1.5	1.5
70°	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
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°	787.2	787.2	787.2	787.2	787.2	787.2	787.2	787.2
2.5°	787.2	778.7	779.7	784.2	781.7	784.2	783.7	783.7
5°	778.7	776.2	772.2	770.7	773.7	780.2	779.2	775.2
7.5°	762.7	756.2	760.7	762.7	760.2	764.2	766.2	757.7
10°	743.7	741.2	740.2	741.2	740.2	744.2	739.2	739.2
12.5°	716.7	712.7	712.7	718.7	715.2	712.2	716.2	715.7
15°	689.7	681.7	681.7	683.7	685.2	683.2	683.7	678.7
17.5°	649.7	647.2	643.7	649.2	650.7	648.7	650.2	647.7
20°	612.2	612.2	605.7	608.2	610.2	611.7	612.7	608.7
22.5°	564.2	565.2	560.6	565.7	567.2	562.1	563.2	562.1
25°	520.1	519.6	516.1	514.1	515.1	513.1	512.6	505.1
27.5°	471.6	466.6	459.1	461.1	452.6	445.6	445.6	434.1
30°	419.1	410.6	400.6	390.6	383.1	375.1	370.6	364.1
32.5°	357.6	346.1	333.6	320.1	311.6	299.6	293.1	296.6
35°	296.6	279.6	262.6	249.1	236.1	229.1	221.1	222.1
37.5°	237.6	213.6	198.6	184.0	173.0	164.0	160.5	159.5
40°	173.5	154.5	139.5	129.0	121.5	114.5	110.5	109.0
42.5°	120.0	106.5	94.5	86.0	81.0	76.5	74.5	74.0
45°	78.0	70.0	62.0	56.0	52.0	49.0	48.5	48.0
47.5°	49.0	45.0	40.0	35.5	32.0	30.0	28.5	28.5
50°	28.0	26.5	24.0	21.5	19.5	18.5	17.0	16.5
52.5°	15.0	15.0	14.0	12.0	10.5	9.5	9.5	9.0
55°	8.0	8.0	7.5	7.5	7.0	7.0	7.0	6.5
57.5°	5.0	5.0	5.5	5.5	5.0	5.0	5.0	5.0
60°	3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0
62.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
65°	2.0	2.5	2.5	2.5	2.5	2.0	2.0	2.0
67.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
70°	1.5	1.5	1.5	1.5	1.5	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)