

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: P209211

Luminaire Tested: **LDSQ4B10D010 EU4B10209040 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209211
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35089)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQ4B10D010 EU4B10209040 4LBCSSQ1MMS
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE SHALLOW CAST METALLIC SILVER TRIM
MEDIUM DISTRIBUTION WITH MATTE METALLIC SILVER 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 4000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 913.9 lumens
Efficiency: N/A
Efficacy: 90.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

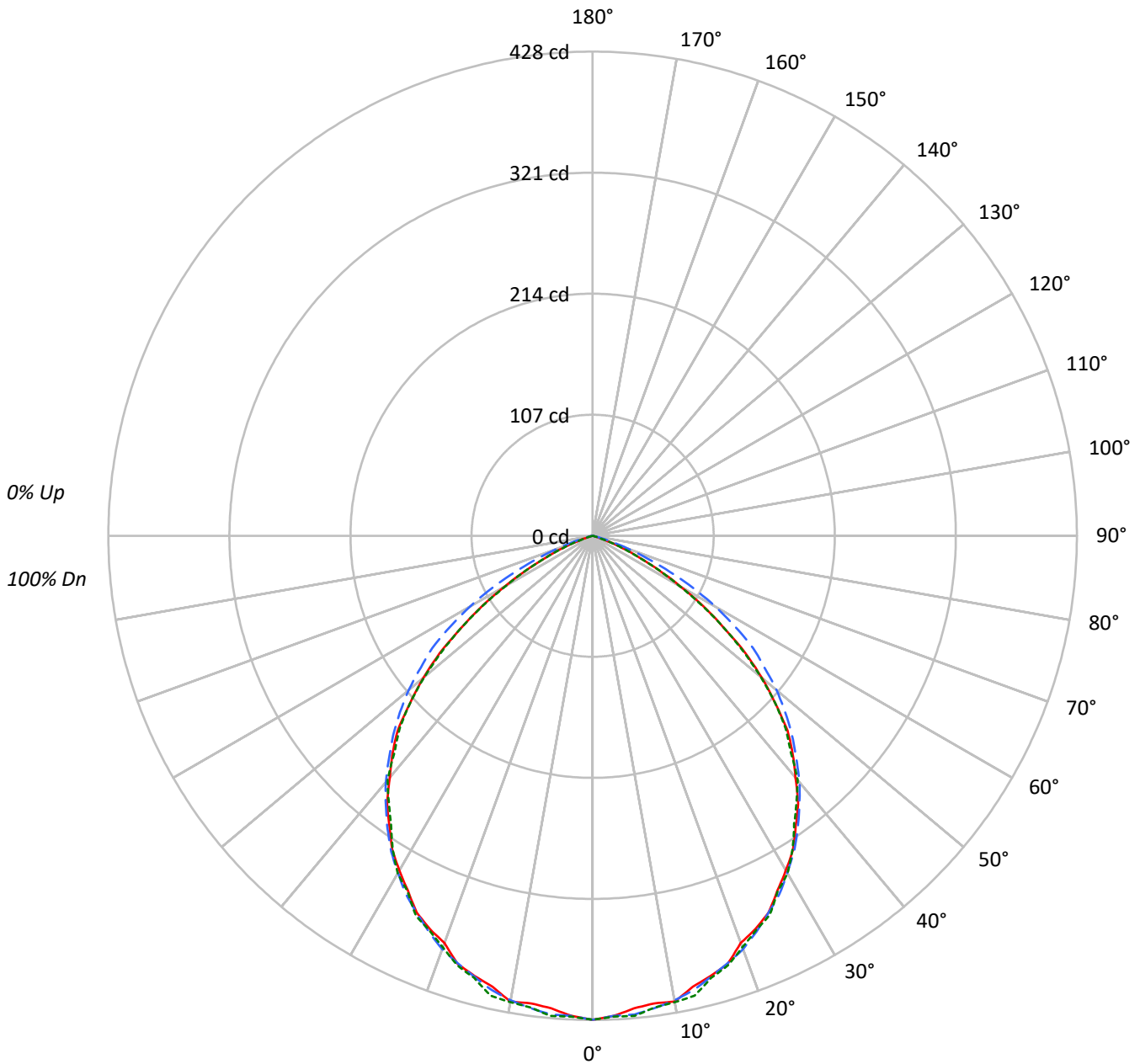
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	108	104	101	109	105	102	100	101	99	96	97	95	94	94	92	91	89			
2	103	96	91	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77			
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67			
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52			
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46			
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41			
8	65	53	45	40	64	52	45	39	51	44	39	50	44	39	49	43	39	37			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	33			
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	31			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	Luminaire represents a point source (luminous area is zero).		
5°	No luminance values can be calculated.		
10°			
15°			
20°			
25°			
30°			
35°			
40°			
45°			
50°			
55°			
60°			
65°			
70°			
75°			
80°			
85°			



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.4	4.4
10°-20°	114.3	12.5
20°-30°	169.6	18.6
30°-40°	196.5	21.5
40°-50°	188.4	20.6
50°-60°	138.5	15.2
60°-70°	59.8	6.5
70°-80°	6.5	0.7
80°-90°	0.1	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°	324.2	35.5
0°-40°	520.7	57.0
0°-60°	847.6	92.7
0°-90°	913.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	913.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	428	428	428	428	428	
5°	419	424	425	425	426	40
15°	403	405	404	404	405	114
25°	368	367	368	368	370	168
35°	313	315	316	315	310	196
45°	244	244	249	246	241	185
55°	141	156	173	155	142	127
65°	46	58	75	57	45	47
75°	1	2	7	1	1	4
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°	22.5°	25°	30°	35°	40°	45°
0°	427.8	427.8	427.8	427.8	427.8	427.8	427.8	427.8	427.8	427.8	427.8
2.5°	424.8	429.7	430.3	427.2	426.0	424.2	428.4	425.4	426.6	425.4	424.8
5°	419.3	424.8	425.4	425.4	424.2	423.6	425.4	424.8	424.2	423.0	424.8
7.5°	416.9	419.9	423.0	419.3	421.1	420.5	424.8	423.0	422.4	422.4	421.1
10°	418.1	417.5	419.9	416.3	417.5	416.3	419.9	419.9	418.7	417.5	416.9
12.5°	408.4	413.2	413.2	412.6	411.4	409.6	413.2	415.7	412.0	412.0	411.4
15°	402.9	404.1	404.7	404.7	404.1	405.3	407.2	404.7	405.3	402.3	403.5
17.5°	396.8	394.4	396.2	395.0	395.6	396.8	399.3	399.3	395.6	395.0	396.2
20°	382.9	390.1	390.8	387.1	387.7	387.7	392.0	388.3	390.8	387.7	388.9
22.5°	376.2	381.0	381.6	376.8	379.8	376.2	380.4	375.0	381.0	376.8	378.6
25°	367.7	367.1	368.9	366.4	367.1	367.1	370.1	367.7	369.5	367.1	367.7
27.5°	353.7	358.5	357.9	355.5	356.7	356.1	362.2	355.5	359.2	356.1	357.3
30°	341.5	345.8	344.6	342.1	342.1	340.3	347.0	345.2	344.6	344.6	344.0
32.5°	329.4	330.0	328.8	329.4	330.0	327.6	333.0	330.6	330.0	330.6	331.2
35°	313.0	313.0	314.2	312.4	314.8	314.8	319.7	316.6	316.0	314.2	316.0
37.5°	298.4	296.6	297.2	297.2	298.4	299.6	302.0	300.8	300.8	299.0	300.2
40°	278.9	277.7	279.5	279.5	281.4	281.4	283.8	282.6	284.4	284.4	284.4
42.5°	261.9	261.9	260.7	262.5	263.1	262.5	266.8	266.2	266.8	265.6	266.2
45°	243.7	243.7	242.5	241.9	244.9	244.3	249.2	247.3	249.8	248.6	249.2
47.5°	218.8	221.8	220.0	221.8	225.5	226.1	229.1	227.9	230.3	228.5	230.9
50°	195.1	195.1	196.9	199.3	203.0	203.6	207.2	209.7	210.9	211.5	212.1
52.5°	170.2	169.6	171.4	174.4	177.5	179.9	183.5	187.2	189.6	193.3	191.4
55°	141.0	142.2	144.0	147.7	152.5	155.6	158.6	163.5	167.7	169.6	173.2
57.5°	116.1	114.9	116.1	120.9	126.4	128.8	133.1	138.0	144.0	147.7	148.9
60°	89.9	90.5	91.8	96.0	100.3	103.9	105.7	113.6	119.1	122.8	125.2
62.5°	66.2	67.5	68.7	72.3	76.6	79.6	82.6	89.3	94.2	97.8	100.3
65°	46.2	46.8	48.6	50.4	54.7	57.7	60.2	65.6	70.5	73.5	75.4
67.5°	28.6	29.2	30.4	32.8	35.9	38.3	40.7	44.4	48.6	51.7	52.3
70°	14.6	15.2	15.8	17.6	20.1	21.3	23.1	26.1	29.2	31.6	32.8
72.5°	4.9	4.9	5.5	6.7	7.9	9.1	9.7	12.8	15.2	16.4	17.0
75°	1.2	1.2	1.2	1.2	1.2	1.8	1.8	3.6	4.9	6.1	6.7
77.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.2	1.2
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	0.0	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°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	427.8	427.8	427.8	427.8	427.8	427.8	427.8	427.8	427.8	427.8
2.5°	427.8	426.6	426.0	426.6	426.6	426.0	427.8	430.3	433.3	425.4
5°	427.2	426.0	427.2	423.6	425.4	424.2	426.6	426.0	428.4	426.0
7.5°	425.4	423.0	423.6	421.8	424.2	421.1	423.0	426.6	424.2	420.5
10°	419.3	418.1	422.4	416.3	415.1	417.5	422.4	418.7	417.5	418.7
12.5°	413.2	413.2	415.1	410.2	410.8	412.0	414.5	412.0	413.2	416.3
15°	406.6	405.3	408.4	404.7	404.1	402.9	405.3	405.3	406.6	404.7
17.5°	398.7	396.8	396.8	395.6	395.0	398.0	399.3	399.9	400.5	398.0
20°	388.9	388.3	390.1	388.3	388.9	389.5	389.5	388.3	393.8	387.1
22.5°	378.6	380.4	378.0	376.8	378.0	379.2	379.2	379.8	378.6	377.4
25°	368.3	369.5	370.1	366.4	368.3	366.4	370.7	371.3	368.9	370.1
27.5°	359.2	357.3	356.7	354.3	355.5	354.9	355.5	355.5	359.2	354.3
30°	345.2	343.4	344.0	342.1	342.7	342.1	342.7	342.7	345.2	344.6
32.5°	331.8	330.0	330.6	328.8	328.8	329.4	328.2	328.2	330.0	328.8
35°	319.0	314.8	315.4	314.8	315.4	313.0	313.0	312.4	313.6	310.5
37.5°	300.8	299.0	298.4	297.8	298.4	297.2	298.4	296.6	298.4	296.0
40°	284.4	283.2	283.8	280.2	280.2	280.8	279.5	278.9	279.5	282.0
42.5°	268.0	265.6	264.4	263.1	263.7	261.9	261.3	260.1	261.3	258.9
45°	248.6	248.6	247.9	244.9	245.5	245.5	243.1	240.7	241.3	241.3
47.5°	230.9	229.7	229.1	226.1	225.5	224.9	222.4	220.6	220.6	218.8
50°	211.5	210.3	208.4	205.4	204.2	200.5	198.7	196.3	193.9	193.9
52.5°	193.3	189.0	186.6	181.7	179.9	178.1	173.2	171.4	169.6	167.7
55°	171.4	167.7	162.9	157.4	155.0	151.9	147.1	143.4	141.0	141.6
57.5°	150.1	144.0	139.2	131.9	128.8	127.0	122.1	117.3	114.9	114.9
60°	124.0	119.1	113.0	106.3	103.9	100.9	94.8	91.8	89.9	88.1
62.5°	99.1	95.4	89.9	81.4	79.6	76.6	72.3	68.7	66.8	66.8
65°	74.1	70.5	65.6	59.6	57.1	54.7	51.0	47.4	45.6	45.0
67.5°	52.3	48.0	43.8	38.9	37.1	35.9	32.2	29.8	28.6	28.0
70°	31.6	29.2	26.1	22.5	20.7	19.4	17.0	15.2	14.6	14.0
72.5°	16.4	14.6	12.2	9.7	8.5	7.3	6.1	4.9	4.3	4.3
75°	6.1	4.9	3.0	1.8	1.2	1.2	1.2	1.2	1.2	1.2
77.5°	1.2	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
82.5°	0.0	0.0	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	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	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)