

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: P209223

Luminaire Tested: **LDSQ4B15D010 EU4B10209040 4LBCSSQ1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209223  
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: LDSQ4B15D010 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-14.39 W DE010-14.29 W D5LT-14.34 W DMX-14.46 W DL2-15.8 W DL3-15.28 W DLE-15.432 W  
Light Source: HIGH LUMEN LED 4000 K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1273.5 lumens  
Efficiency: N/A  
Efficacy: 88.5 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

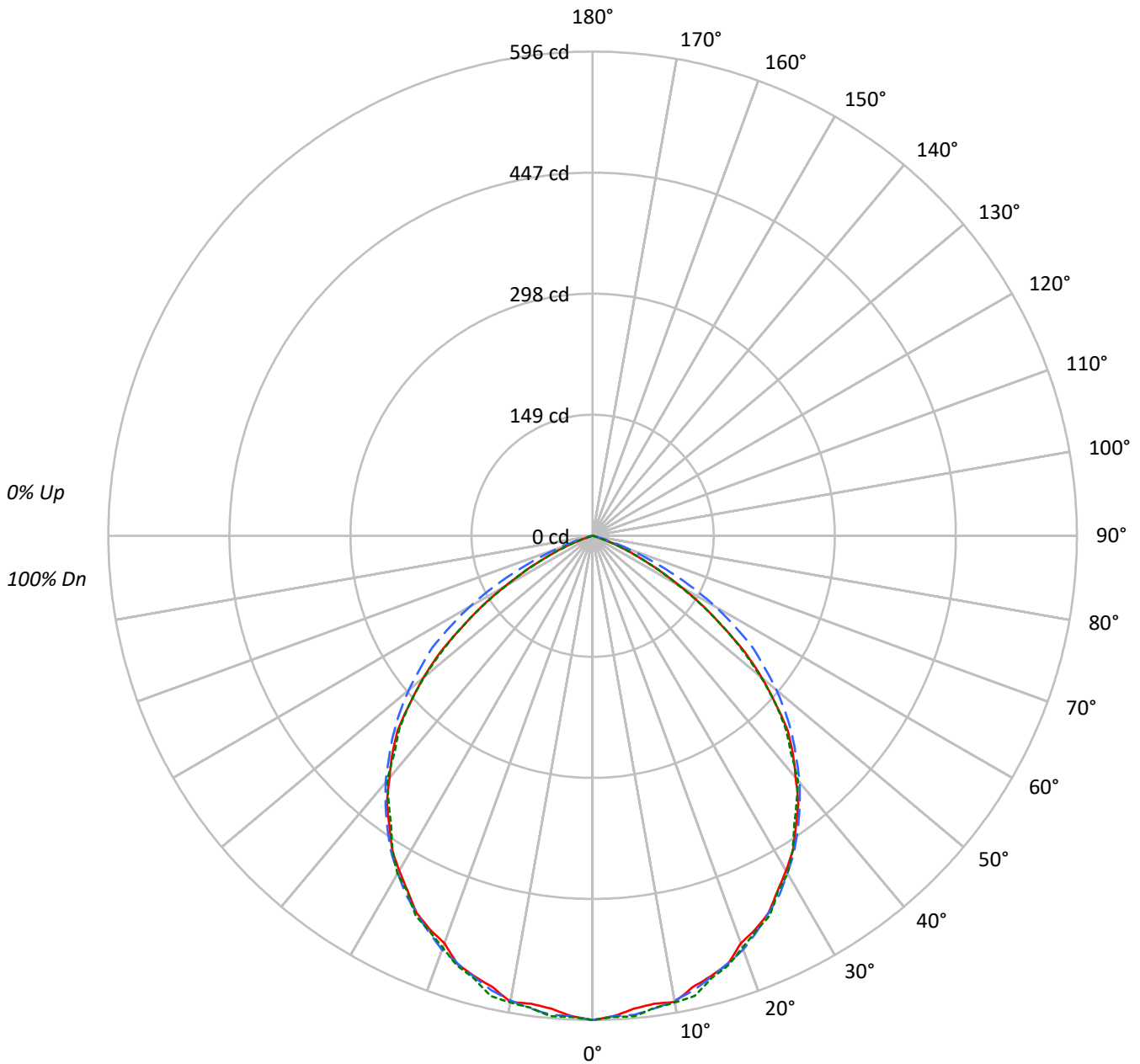
Input Watts (W): 14.39  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	34																			
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°	56.3	4.4
10°-20°	159.2	12.5
20°-30°	236.3	18.6
30°-40°	273.8	21.5
40°-50°	262.5	20.6
50°-60°	193.0	15.2
60°-70°	83.4	6.5
70°-80°	9.0	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°	451.8	35.5
0°-40°	725.5	57.0
0°-60°	1181.0	92.7
0°-90°	1273.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1273.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	596	596	596	596	596	
5°	584	590	592	593	594	56
15°	561	565	562	563	564	158
25°	512	512	512	513	516	235
35°	436	439	440	440	433	273
45°	340	340	347	342	336	258
55°	196	217	241	216	197	177
65°	64	80	105	80	63	66
75°	2	2	9	2	2	5
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°	596.1	596.1	596.1	596.1	596.1	596.1	596.1	596.1	596.1	596.1	596.1
2.5°	591.9	598.7	599.5	595.3	593.6	591.1	597.0	592.8	594.5	592.8	591.9
5°	584.3	591.9	592.8	592.8	591.1	590.2	592.8	591.9	591.1	589.4	591.9
7.5°	580.9	585.1	589.4	584.3	586.8	586.0	591.9	589.4	588.5	588.5	586.8
10°	582.6	581.8	585.1	580.1	581.8	580.1	585.1	585.1	583.4	581.8	580.9
12.5°	569.1	575.8	575.8	575.0	573.3	570.7	575.8	579.2	574.1	574.1	573.3
15°	561.4	563.1	564.0	564.0	563.1	564.8	567.4	564.0	564.8	560.6	562.3
17.5°	553.0	549.6	552.1	550.4	551.3	553.0	556.3	556.3	551.3	550.4	552.1
20°	533.5	543.6	544.5	539.4	540.3	540.3	546.2	541.1	544.5	540.3	542.0
22.5°	524.2	530.9	531.8	525.0	529.3	524.2	530.1	522.5	530.9	525.0	527.6
25°	512.3	511.5	514.0	510.6	511.5	511.5	515.7	512.3	514.9	511.5	512.3
27.5°	492.8	499.6	498.8	495.4	497.1	496.2	504.7	495.4	500.5	496.2	497.9
30°	475.9	481.8	480.1	476.7	476.7	474.2	483.5	481.0	480.1	480.1	479.3
32.5°	459.0	459.8	458.1	459.0	459.8	456.4	464.0	460.7	459.8	460.7	461.5
35°	436.1	436.1	437.8	435.3	438.6	438.6	445.4	441.2	440.3	437.8	440.3
37.5°	415.8	413.2	414.1	414.1	415.8	417.5	420.9	419.2	419.2	416.6	418.3
40°	388.7	387.0	389.5	389.5	392.1	392.1	395.5	393.8	396.3	396.3	396.3
42.5°	365.0	365.0	363.3	365.8	366.7	365.8	371.7	370.9	371.7	370.1	370.9
45°	339.6	339.6	337.9	337.0	341.3	340.4	347.2	344.6	348.0	346.3	347.2
47.5°	304.8	309.1	306.5	309.1	314.2	315.0	319.2	317.6	320.9	318.4	321.8
50°	271.8	271.8	274.4	277.8	282.8	283.7	288.8	292.1	293.8	294.7	295.5
52.5°	237.1	236.3	238.8	243.0	247.3	250.7	255.7	260.8	264.2	269.3	266.7
55°	196.5	198.2	200.7	205.8	212.5	216.8	221.0	227.8	233.7	236.3	241.3
57.5°	161.7	160.0	161.7	168.5	176.1	179.5	185.4	192.2	200.7	205.8	207.5
60°	125.3	126.2	127.9	133.8	139.7	144.8	147.3	158.4	166.0	171.1	174.4
62.5°	92.3	94.0	95.7	100.8	106.7	110.9	115.2	124.5	131.3	136.3	139.7
65°	64.4	65.2	67.7	70.3	76.2	80.4	83.8	91.5	98.2	102.5	105.0
67.5°	39.8	40.6	42.3	45.7	50.0	53.3	56.7	61.8	67.7	72.0	72.8
70°	20.3	21.2	22.0	24.6	27.9	29.6	32.2	36.4	40.6	44.0	45.7
72.5°	6.8	6.8	7.6	9.3	11.0	12.7	13.5	17.8	21.2	22.9	23.7
75°	1.7	1.7	1.7	1.7	1.7	2.5	2.5	5.1	6.8	8.5	9.3
77.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.7	1.7
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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°	596.1	596.1	596.1	596.1	596.1	596.1	596.1	596.1	596.1	596.1
2.5°	596.1	594.5	593.6	594.5	594.5	593.6	596.1	599.5	603.8	592.8
5°	595.3	593.6	595.3	590.2	592.8	591.1	594.5	593.6	597.0	593.6
7.5°	592.8	589.4	590.2	587.7	591.1	586.8	589.4	594.5	591.1	586.0
10°	584.3	582.6	588.5	580.1	578.4	581.8	588.5	583.4	581.8	583.4
12.5°	575.8	575.8	578.4	571.6	572.4	574.1	577.5	574.1	575.8	580.1
15°	566.5	564.8	569.1	564.0	563.1	561.4	564.8	564.8	566.5	564.0
17.5°	555.5	553.0	553.0	551.3	550.4	554.7	556.3	557.2	558.0	554.7
20°	542.0	541.1	543.6	541.1	542.0	542.8	542.8	541.1	548.7	539.4
22.5°	527.6	530.1	526.7	525.0	526.7	528.4	528.4	529.3	527.6	525.9
25°	513.2	514.9	515.7	510.6	513.2	510.6	516.5	517.4	514.0	515.7
27.5°	500.5	497.9	497.1	493.7	495.4	494.5	495.4	495.4	500.5	493.7
30°	481.0	478.4	479.3	476.7	477.6	476.7	477.6	477.6	481.0	480.1
32.5°	462.4	459.8	460.7	458.1	458.1	459.0	457.3	457.3	459.8	458.1
35°	444.6	438.6	439.5	438.6	439.5	436.1	436.1	435.3	436.9	432.7
37.5°	419.2	416.6	415.8	414.9	415.8	414.1	415.8	413.2	415.8	412.4
40°	396.3	394.6	395.5	390.4	390.4	391.2	389.5	388.7	389.5	392.9
42.5°	373.4	370.1	368.4	366.7	367.5	365.0	364.1	362.4	364.1	360.7
45°	346.3	346.3	345.5	341.3	342.1	342.1	338.7	335.3	336.2	336.2
47.5°	321.8	320.1	319.2	315.0	314.2	313.3	309.9	307.4	307.4	304.8
50°	294.7	293.0	290.5	286.2	284.5	279.4	276.9	273.5	270.1	270.1
52.5°	269.3	263.4	260.0	253.2	250.7	248.1	241.3	238.8	236.3	233.7
55°	238.8	233.7	226.9	219.3	215.9	211.7	204.9	199.8	196.5	197.3
57.5°	209.2	200.7	193.9	183.8	179.5	177.0	170.2	163.4	160.0	160.0
60°	172.7	166.0	157.5	148.2	144.8	140.6	132.1	127.9	125.3	122.8
62.5°	138.0	132.9	125.3	113.5	110.9	106.7	100.8	95.7	93.1	93.1
65°	103.3	98.2	91.5	83.0	79.6	76.2	71.1	66.1	63.5	62.7
67.5°	72.8	66.9	61.0	54.2	51.7	50.0	44.9	41.5	39.8	39.0
70°	44.0	40.6	36.4	31.3	28.8	27.1	23.7	21.2	20.3	19.5
72.5°	22.9	20.3	16.9	13.5	11.9	10.2	8.5	6.8	5.9	5.9
75°	8.5	6.8	4.2	2.5	1.7	1.7	1.7	1.7	1.7	1.7
77.5°	1.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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)