

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: P209216

Luminaire Tested: **LDSQ4B15D010 EU4B10208030 4LBCSSQ1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209216  
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 EU4B10208030 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 3000 K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1467.2 lumens  
Efficiency: N/A  
Efficacy: 102.0 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

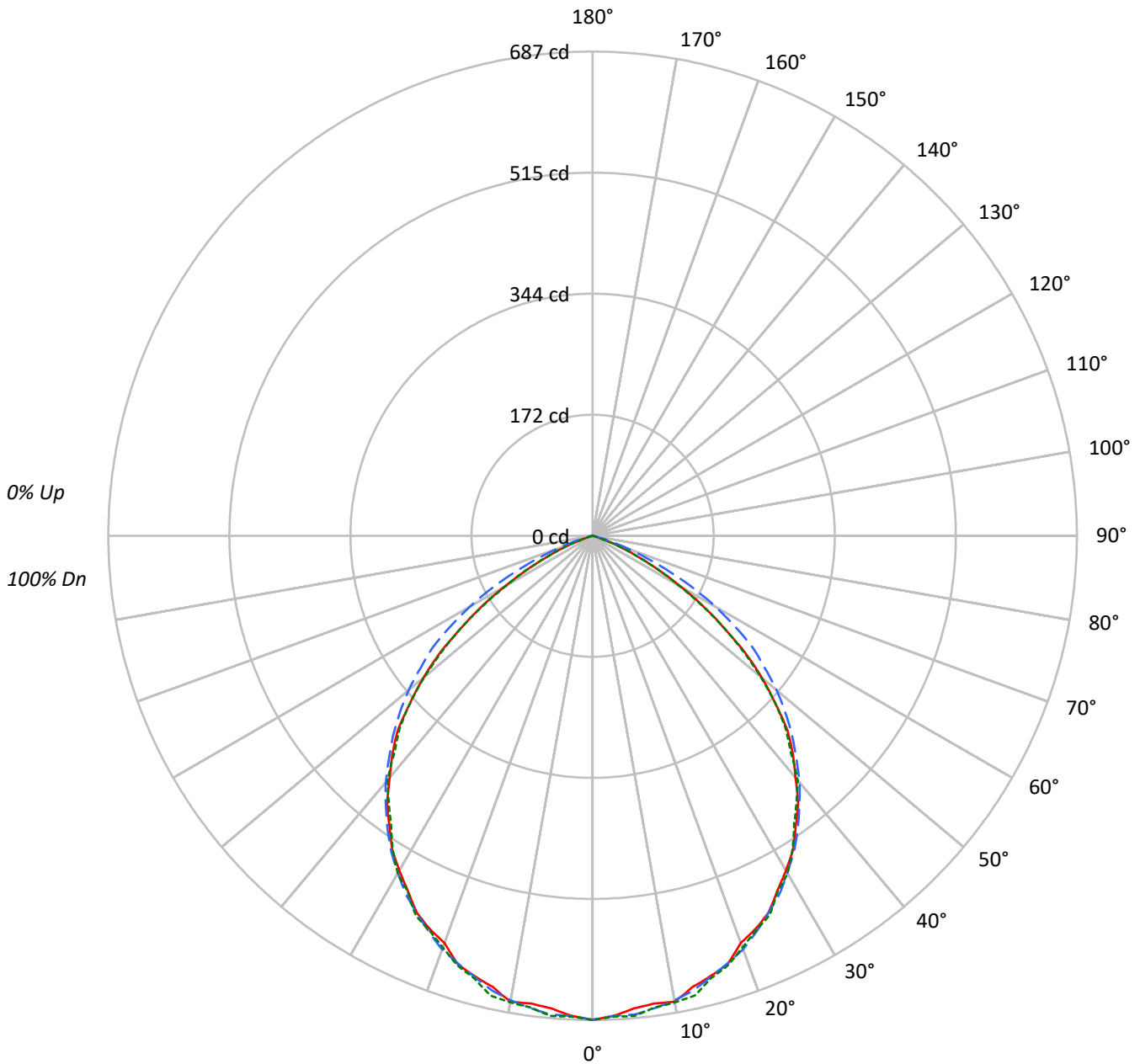
Input Watts (W): 14.39  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	64.8	4.4
10°-20°	183.5	12.5
20°-30°	272.2	18.6
30°-40°	315.4	21.5
40°-50°	302.4	20.6
50°-60°	222.3	15.2
60°-70°	96.0	6.5
70°-80°	10.4	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°	520.5	35.5
0°-40°	835.9	57.0
0°-60°	1360.7	92.7
0°-90°	1467.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1467.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	687	687	687	687	687	
5°	673	680	682	683	684	64
15°	647	651	648	649	650	182
25°	590	589	590	591	594	270
35°	502	505	507	506	498	314
45°	391	392	400	394	387	297
55°	226	250	278	249	227	204
65°	74	93	121	92	72	76
75°	2	3	11	2	2	6
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°	686.8	686.8	686.8	686.8	686.8	686.8	686.8	686.8	686.8	686.8	686.8
2.5°	681.9	689.8	690.7	685.8	683.9	681.0	687.8	682.9	684.9	682.9	681.9
5°	673.2	681.9	682.9	682.9	681.0	680.0	682.9	681.9	681.0	679.0	681.9
7.5°	669.3	674.1	679.0	673.2	676.1	675.1	681.9	679.0	678.0	678.0	676.1
10°	671.2	670.2	674.1	668.3	670.2	668.3	674.1	674.1	672.2	670.2	669.3
12.5°	655.6	663.4	663.4	662.4	660.5	657.6	663.4	667.3	661.5	661.5	660.5
15°	646.8	648.8	649.8	649.8	648.8	650.7	653.7	649.8	650.7	645.8	647.8
17.5°	637.1	633.2	636.1	634.1	635.1	637.1	641.0	641.0	635.1	634.1	636.1
20°	614.6	626.3	627.3	621.5	622.4	622.4	629.3	623.4	627.3	622.4	624.4
22.5°	603.9	611.7	612.7	604.9	609.8	603.9	610.7	601.9	611.7	604.9	607.8
25°	590.2	589.3	592.2	588.3	589.3	589.3	594.1	590.2	593.2	589.3	590.2
27.5°	567.8	575.6	574.6	570.7	572.7	571.7	581.5	570.7	576.6	571.7	573.7
30°	548.3	555.1	553.2	549.3	549.3	546.3	557.1	554.1	553.2	553.2	552.2
32.5°	528.8	529.8	527.8	528.8	529.8	525.9	534.6	530.7	529.8	530.7	531.7
35°	502.4	502.4	504.4	501.5	505.4	505.4	513.2	508.3	507.3	504.4	507.3
37.5°	479.0	476.1	477.1	477.1	479.0	481.0	484.9	482.9	482.9	480.0	481.9
40°	447.8	445.9	448.8	448.8	451.7	451.7	455.6	453.7	456.6	456.6	456.6
42.5°	420.5	420.5	418.5	421.5	422.4	421.5	428.3	427.3	428.3	426.3	427.3
45°	391.2	391.2	389.3	388.3	393.2	392.2	400.0	397.1	401.0	399.0	400.0
47.5°	351.2	356.1	353.2	356.1	361.9	362.9	367.8	365.9	369.8	366.8	370.7
50°	313.2	313.2	316.1	320.0	325.9	326.8	332.7	336.6	338.5	339.5	340.5
52.5°	273.2	272.2	275.1	280.0	284.9	288.8	294.6	300.5	304.4	310.2	307.3
55°	226.3	228.3	231.2	237.1	244.9	249.8	254.6	262.4	269.3	272.2	278.0
57.5°	186.3	184.4	186.3	194.1	202.9	206.8	213.7	221.5	231.2	237.1	239.0
60°	144.4	145.4	147.3	154.1	161.0	166.8	169.8	182.4	191.2	197.1	201.0
62.5°	106.3	108.3	110.2	116.1	122.9	127.8	132.7	143.4	151.2	157.1	161.0
65°	74.1	75.1	78.0	81.0	87.8	92.7	96.6	105.4	113.2	118.0	121.0
67.5°	45.9	46.8	48.8	52.7	57.6	61.5	65.4	71.2	78.0	82.9	83.9
70°	23.4	24.4	25.4	28.3	32.2	34.1	37.1	42.0	46.8	50.7	52.7
72.5°	7.8	7.8	8.8	10.7	12.7	14.6	15.6	20.5	24.4	26.3	27.3
75°	2.0	2.0	2.0	2.0	2.0	2.9	2.9	5.9	7.8	9.8	10.7
77.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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°	686.8	686.8	686.8	686.8	686.8	686.8	686.8	686.8	686.8	686.8
2.5°	686.8	684.9	683.9	684.9	684.9	683.9	686.8	690.7	695.6	682.9
5°	685.8	683.9	685.8	680.0	682.9	681.0	684.9	683.9	687.8	683.9
7.5°	682.9	679.0	680.0	677.1	681.0	676.1	679.0	684.9	681.0	675.1
10°	673.2	671.2	678.0	668.3	666.3	670.2	678.0	672.2	670.2	672.2
12.5°	663.4	663.4	666.3	658.5	659.5	661.5	665.4	661.5	663.4	668.3
15°	652.7	650.7	655.6	649.8	648.8	646.8	650.7	650.7	652.7	649.8
17.5°	640.0	637.1	637.1	635.1	634.1	639.0	641.0	641.9	642.9	639.0
20°	624.4	623.4	626.3	623.4	624.4	625.4	625.4	623.4	632.2	621.5
22.5°	607.8	610.7	606.8	604.9	606.8	608.8	608.8	609.8	607.8	605.8
25°	591.2	593.2	594.1	588.3	591.2	588.3	595.1	596.1	592.2	594.1
27.5°	576.6	573.7	572.7	568.8	570.7	569.8	570.7	570.7	576.6	568.8
30°	554.1	551.2	552.2	549.3	550.2	549.3	550.2	550.2	554.1	553.2
32.5°	532.7	529.8	530.7	527.8	527.8	528.8	526.8	526.8	529.8	527.8
35°	512.2	505.4	506.3	505.4	506.3	502.4	502.4	501.5	503.4	498.5
37.5°	482.9	480.0	479.0	478.0	479.0	477.1	479.0	476.1	479.0	475.1
40°	456.6	454.6	455.6	449.8	449.8	450.7	448.8	447.8	448.8	452.7
42.5°	430.2	426.3	424.4	422.4	423.4	420.5	419.5	417.6	419.5	415.6
45°	399.0	399.0	398.0	393.2	394.1	394.1	390.2	386.3	387.3	387.3
47.5°	370.7	368.8	367.8	362.9	361.9	361.0	357.1	354.1	354.1	351.2
50°	339.5	337.6	334.6	329.8	327.8	321.9	319.0	315.1	311.2	311.2
52.5°	310.2	303.4	299.5	291.7	288.8	285.9	278.0	275.1	272.2	269.3
55°	275.1	269.3	261.5	252.7	248.8	243.9	236.1	230.2	226.3	227.3
57.5°	241.0	231.2	223.4	211.7	206.8	203.9	196.1	188.3	184.4	184.4
60°	199.0	191.2	181.5	170.7	166.8	162.0	152.2	147.3	144.4	141.5
62.5°	159.0	153.2	144.4	130.7	127.8	122.9	116.1	110.2	107.3	107.3
65°	119.0	113.2	105.4	95.6	91.7	87.8	82.0	76.1	73.2	72.2
67.5°	83.9	77.1	70.2	62.4	59.5	57.6	51.7	47.8	45.9	44.9
70°	50.7	46.8	42.0	36.1	33.2	31.2	27.3	24.4	23.4	22.4
72.5°	26.3	23.4	19.5	15.6	13.7	11.7	9.8	7.8	6.8	6.8
75°	9.8	7.8	4.9	2.9	2.0	2.0	2.0	2.0	2.0	2.0
77.5°	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)