

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: P209219

Luminaire Tested: **LDSQ4B15D010 EU4B10209024 4LBCSSQ1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209219  
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 EU4B10209024 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 2400 K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1060.6 lumens  
Efficiency: N/A  
Efficacy: 73.7 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

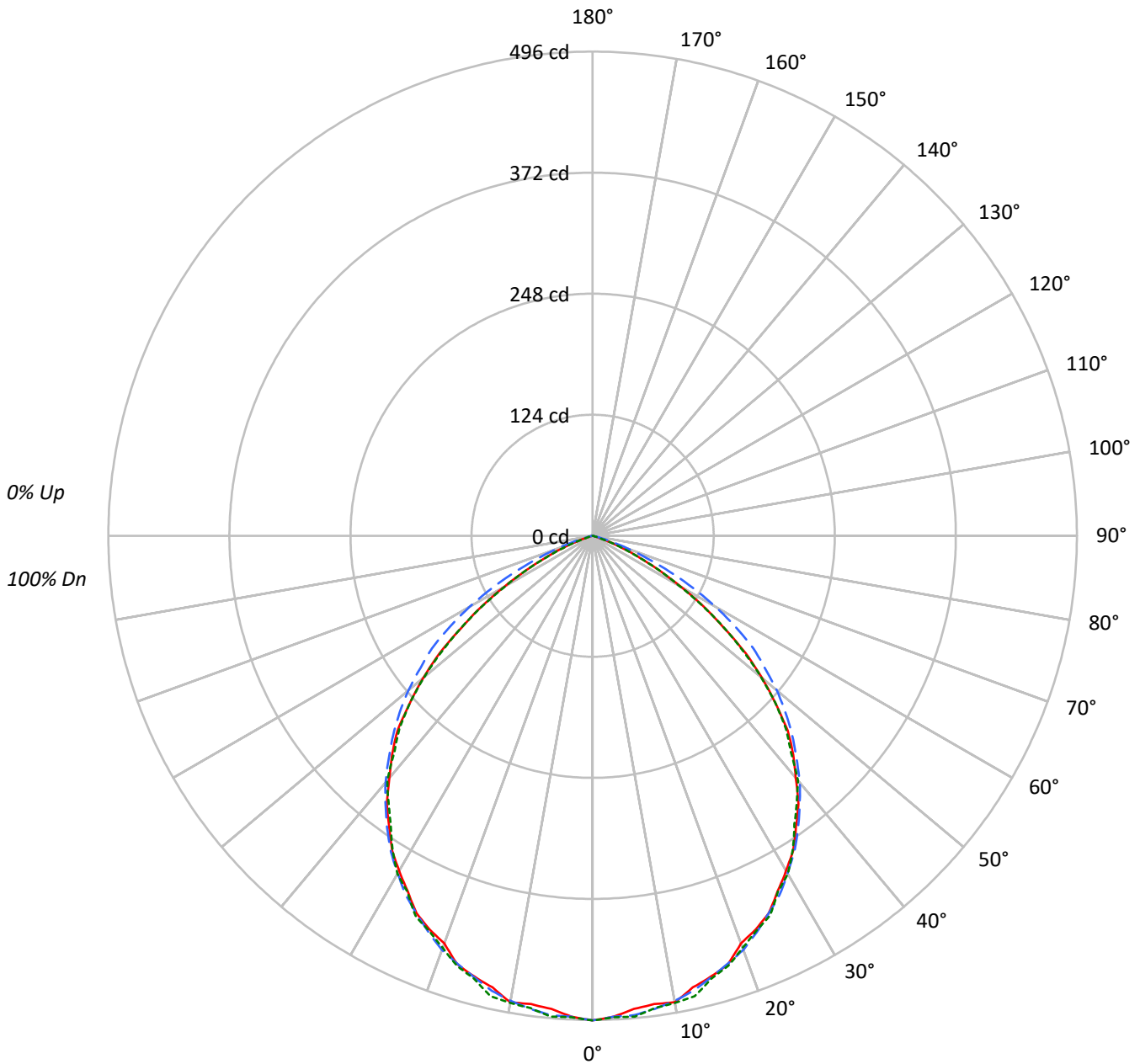
Input Watts (W): 14.39  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	46.9	4.4
10°-20°	132.6	12.5
20°-30°	196.8	18.6
30°-40°	228.0	21.5
40°-50°	218.6	20.6
50°-60°	160.7	15.2
60°-70°	69.4	6.5
70°-80°	7.5	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°	376.2	35.5
0°-40°	604.2	57.0
0°-60°	983.6	92.7
0°-90°	1060.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1060.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	496	496	496	496	496	
5°	487	492	493	494	494	46
15°	468	470	468	469	470	132
25°	427	426	427	427	430	195
35°	363	365	367	366	360	227
45°	283	284	289	285	280	215
55°	164	180	201	180	164	147
65°	54	67	87	66	52	55
75°	1	2	8	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°	496.5	496.5	496.5	496.5	496.5	496.5	496.5	496.5	496.5	496.5	496.5
2.5°	493.0	498.6	499.3	495.8	494.4	492.2	497.2	493.7	495.1	493.7	493.0
5°	486.6	493.0	493.7	493.7	492.2	491.5	493.7	493.0	492.2	490.8	493.0
7.5°	483.8	487.3	490.8	486.6	488.7	488.0	493.0	490.8	490.1	490.1	488.7
10°	485.2	484.5	487.3	483.1	484.5	483.1	487.3	487.3	485.9	484.5	483.8
12.5°	473.9	479.6	479.6	478.8	477.4	475.3	479.6	482.4	478.1	478.1	477.4
15°	467.6	469.0	469.7	469.7	469.0	470.4	472.5	469.7	470.4	466.9	468.3
17.5°	460.5	457.7	459.8	458.4	459.1	460.5	463.3	463.3	459.1	458.4	459.8
20°	444.3	452.8	453.5	449.2	449.9	449.9	454.9	450.6	453.5	449.9	451.3
22.5°	436.5	442.2	442.9	437.2	440.8	436.5	441.5	435.1	442.2	437.2	439.4
25°	426.7	426.0	428.1	425.2	426.0	426.0	429.5	426.7	428.8	426.0	426.7
27.5°	410.4	416.1	415.4	412.6	414.0	413.3	420.3	412.6	416.8	413.3	414.7
30°	396.3	401.3	399.9	397.0	397.0	394.9	402.7	400.6	399.9	399.9	399.2
32.5°	382.2	382.9	381.5	382.2	382.9	380.1	386.5	383.6	382.9	383.6	384.3
35°	363.2	363.2	364.6	362.5	365.3	365.3	370.9	367.4	366.7	364.6	366.7
37.5°	346.3	344.1	344.9	344.9	346.3	347.7	350.5	349.1	349.1	347.0	348.4
40°	323.7	322.3	324.4	324.4	326.5	326.5	329.3	327.9	330.0	330.0	330.0
42.5°	304.0	304.0	302.5	304.7	305.4	304.7	309.6	308.9	309.6	308.2	308.9
45°	282.8	282.8	281.4	280.7	284.2	283.5	289.1	287.0	289.8	288.4	289.1
47.5°	253.9	257.4	255.3	257.4	261.6	262.3	265.9	264.5	267.3	265.2	268.0
50°	226.4	226.4	228.5	231.3	235.5	236.2	240.5	243.3	244.7	245.4	246.1
52.5°	197.5	196.8	198.9	202.4	205.9	208.7	213.0	217.2	220.0	224.3	222.1
55°	163.6	165.0	167.1	171.4	177.0	180.5	184.1	189.7	194.6	196.8	201.0
57.5°	134.7	133.3	134.7	140.3	146.7	149.5	154.4	160.1	167.1	171.4	172.8
60°	104.4	105.1	106.5	111.4	116.4	120.6	122.7	131.9	138.2	142.5	145.3
62.5°	76.9	78.3	79.7	83.9	88.9	92.4	95.9	103.7	109.3	113.5	116.4
65°	53.6	54.3	56.4	58.5	63.5	67.0	69.8	76.2	81.8	85.3	87.4
67.5°	33.1	33.9	35.3	38.1	41.6	44.4	47.2	51.5	56.4	59.9	60.6
70°	16.9	17.6	18.3	20.5	23.3	24.7	26.8	30.3	33.9	36.7	38.1
72.5°	5.6	5.6	6.3	7.8	9.2	10.6	11.3	14.8	17.6	19.0	19.7
75°	1.4	1.4	1.4	1.4	1.4	2.1	2.1	4.2	5.6	7.1	7.8
77.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.4	1.4
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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°	496.5	496.5	496.5	496.5	496.5	496.5	496.5	496.5	496.5	496.5
2.5°	496.5	495.1	494.4	495.1	495.1	494.4	496.5	499.3	502.8	493.7
5°	495.8	494.4	495.8	491.5	493.7	492.2	495.1	494.4	497.2	494.4
7.5°	493.7	490.8	491.5	489.4	492.2	488.7	490.8	495.1	492.2	488.0
10°	486.6	485.2	490.1	483.1	481.7	484.5	490.1	485.9	484.5	485.9
12.5°	479.6	479.6	481.7	476.0	476.7	478.1	481.0	478.1	479.6	483.1
15°	471.8	470.4	473.9	469.7	469.0	467.6	470.4	470.4	471.8	469.7
17.5°	462.6	460.5	460.5	459.1	458.4	461.9	463.3	464.0	464.7	461.9
20°	451.3	450.6	452.8	450.6	451.3	452.0	452.0	450.6	457.0	449.2
22.5°	439.4	441.5	438.6	437.2	438.6	440.1	440.1	440.8	439.4	437.9
25°	427.4	428.8	429.5	425.2	427.4	425.2	430.2	430.9	428.1	429.5
27.5°	416.8	414.7	414.0	411.1	412.6	411.9	412.6	412.6	416.8	411.1
30°	400.6	398.5	399.2	397.0	397.7	397.0	397.7	397.7	400.6	399.9
32.5°	385.1	382.9	383.6	381.5	381.5	382.2	380.8	380.8	382.9	381.5
35°	370.2	365.3	366.0	365.3	366.0	363.2	363.2	362.5	363.9	360.4
37.5°	349.1	347.0	346.3	345.6	346.3	344.9	346.3	344.1	346.3	343.4
40°	330.0	328.6	329.3	325.1	325.1	325.8	324.4	323.7	324.4	327.2
42.5°	311.0	308.2	306.8	305.4	306.1	304.0	303.2	301.8	303.2	300.4
45°	288.4	288.4	287.7	284.2	284.9	284.9	282.1	279.3	280.0	280.0
47.5°	268.0	266.6	265.9	262.3	261.6	260.9	258.1	256.0	256.0	253.9
50°	245.4	244.0	241.9	238.4	237.0	232.7	230.6	227.8	225.0	225.0
52.5°	224.3	219.3	216.5	210.9	208.7	206.6	201.0	198.9	196.8	194.6
55°	198.9	194.6	189.0	182.7	179.8	176.3	170.7	166.4	163.6	164.3
57.5°	174.2	167.1	161.5	153.0	149.5	147.4	141.7	136.1	133.3	133.3
60°	143.9	138.2	131.2	123.4	120.6	117.1	110.0	106.5	104.4	102.3
62.5°	115.0	110.7	104.4	94.5	92.4	88.9	83.9	79.7	77.6	77.6
65°	86.0	81.8	76.2	69.1	66.3	63.5	59.2	55.0	52.9	52.2
67.5°	60.6	55.7	50.8	45.1	43.0	41.6	37.4	34.6	33.1	32.4
70°	36.7	33.9	30.3	26.1	24.0	22.6	19.7	17.6	16.9	16.2
72.5°	19.0	16.9	14.1	11.3	9.9	8.5	7.1	5.6	4.9	4.9
75°	7.1	5.6	3.5	2.1	1.4	1.4	1.4	1.4	1.4	1.4
77.5°	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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)