

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: P209225

Luminaire Tested: **LDSQ4B15D010 EU4B10209727 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209225
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 EU4B10209727 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 2700 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1047.8 lumens
Efficiency: N/A
Efficacy: 72.8 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

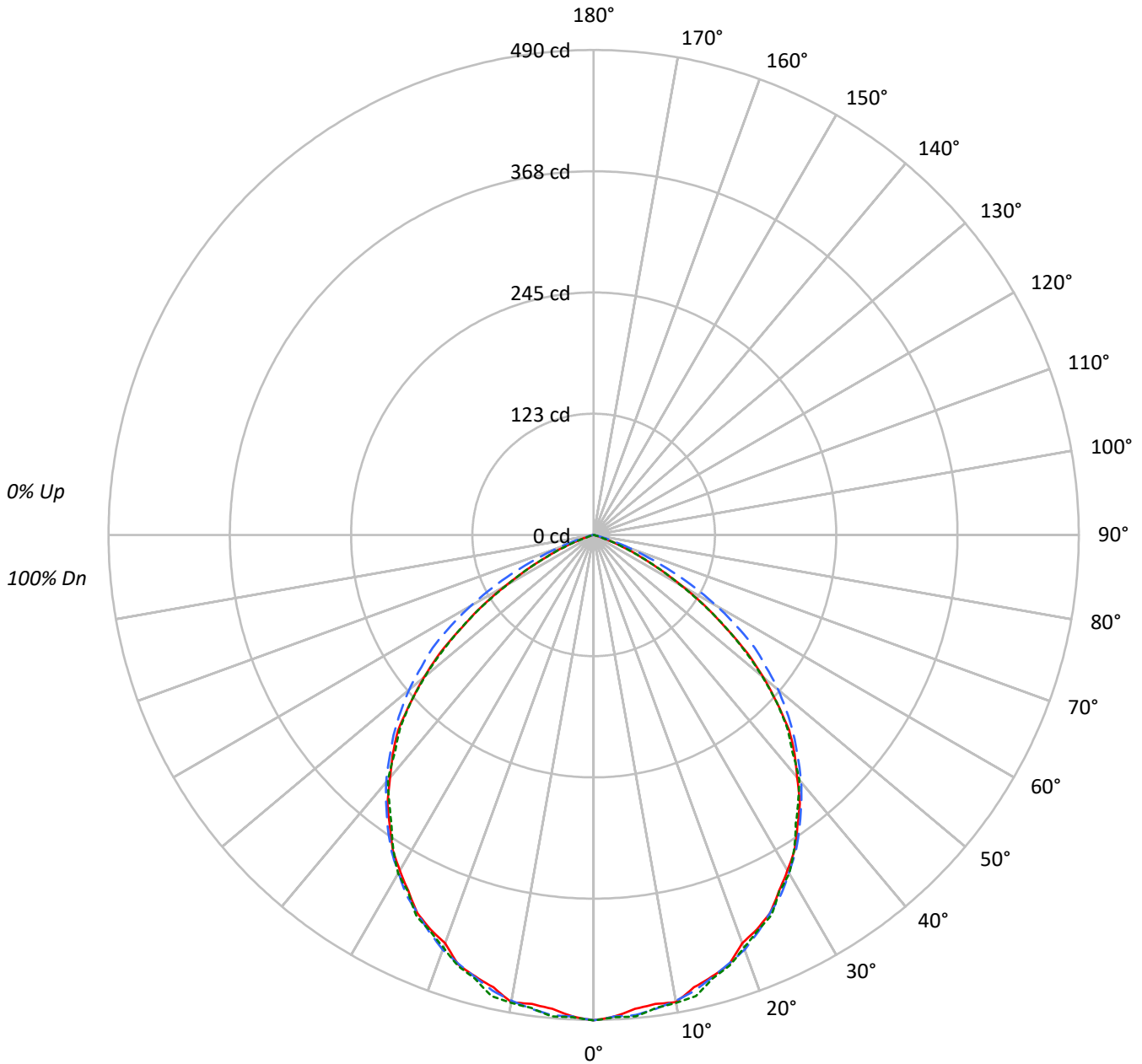
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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°	46.3	4.4
10°-20°	131.0	12.5
20°-30°	194.4	18.6
30°-40°	225.2	21.5
40°-50°	216.0	20.6
50°-60°	158.8	15.2
60°-70°	68.6	6.5
70°-80°	7.4	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°	371.7	35.5
0°-40°	596.9	57.0
0°-60°	971.7	92.7
0°-90°	1047.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1047.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	490	490	490	490	490	
5°	481	486	487	488	488	46
15°	462	465	463	463	464	130
25°	422	421	422	422	424	193
35°	359	361	362	362	356	224
45°	279	280	286	282	277	212
55°	162	178	199	178	162	145
65°	53	66	86	66	52	54
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°	490.5	490.5	490.5	490.5	490.5	490.5	490.5	490.5	490.5	490.5	490.5
2.5°	487.0	492.6	493.3	489.8	488.4	486.3	491.2	487.7	489.1	487.7	487.0
5°	480.7	487.0	487.7	487.7	486.3	485.6	487.7	487.0	486.3	484.9	487.0
7.5°	477.9	481.4	484.9	480.7	482.8	482.1	487.0	484.9	484.2	484.2	482.8
10°	479.3	478.6	481.4	477.2	478.6	477.2	481.4	481.4	480.0	478.6	477.9
12.5°	468.2	473.8	473.8	473.1	471.7	469.6	473.8	476.5	472.4	472.4	471.7
15°	461.9	463.3	464.0	464.0	463.3	464.7	466.8	464.0	464.7	461.2	462.6
17.5°	455.0	452.2	454.3	452.9	453.6	455.0	457.7	457.7	453.6	452.9	454.3
20°	438.9	447.3	448.0	443.8	444.5	444.5	449.4	445.2	448.0	444.5	445.9
22.5°	431.3	436.8	437.5	432.0	435.4	431.3	436.1	429.9	436.8	432.0	434.0
25°	421.5	420.8	422.9	420.1	420.8	420.8	424.3	421.5	423.6	420.8	421.5
27.5°	405.5	411.1	410.4	407.6	409.0	408.3	415.2	407.6	411.8	408.3	409.7
30°	391.5	396.4	395.0	392.2	392.2	390.2	397.8	395.7	395.0	395.0	394.3
32.5°	377.6	378.3	376.9	377.6	378.3	375.5	381.8	379.0	378.3	379.0	379.7
35°	358.8	358.8	360.2	358.1	360.9	360.9	366.5	363.0	362.3	360.2	362.3
37.5°	342.1	340.0	340.7	340.7	342.1	343.5	346.3	344.9	344.9	342.8	344.2
40°	319.8	318.4	320.5	320.5	322.6	322.6	325.4	324.0	326.1	326.1	326.1
42.5°	300.3	300.3	298.9	301.0	301.7	301.0	305.9	305.2	305.9	304.5	305.2
45°	279.4	279.4	278.0	277.3	280.8	280.1	285.7	283.6	286.3	285.0	285.7
47.5°	250.8	254.3	252.2	254.3	258.5	259.2	262.7	261.3	264.1	262.0	264.7
50°	223.6	223.6	225.7	228.5	232.7	233.4	237.6	240.4	241.8	242.5	243.2
52.5°	195.1	194.4	196.5	200.0	203.4	206.2	210.4	214.6	217.4	221.6	219.5
55°	161.6	163.0	165.1	169.3	174.9	178.4	181.8	187.4	192.3	194.4	198.6
57.5°	133.1	131.7	133.1	138.6	144.9	147.7	152.6	158.2	165.1	169.3	170.7
60°	103.1	103.8	105.2	110.1	115.0	119.1	121.2	130.3	136.6	140.7	143.5
62.5°	75.9	77.3	78.7	82.9	87.8	91.3	94.8	102.4	108.0	112.2	115.0
65°	52.9	53.6	55.7	57.8	62.7	66.2	69.0	75.2	80.8	84.3	86.4
67.5°	32.7	33.4	34.8	37.6	41.1	43.9	46.7	50.9	55.7	59.2	59.9
70°	16.7	17.4	18.1	20.2	23.0	24.4	26.5	30.0	33.4	36.2	37.6
72.5°	5.6	5.6	6.3	7.7	9.1	10.5	11.1	14.6	17.4	18.8	19.5
75°	1.4	1.4	1.4	1.4	1.4	2.1	2.1	4.2	5.6	7.0	7.7
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°	490.5	490.5	490.5	490.5	490.5	490.5	490.5	490.5	490.5	490.5
2.5°	490.5	489.1	488.4	489.1	489.1	488.4	490.5	493.3	496.8	487.7
5°	489.8	488.4	489.8	485.6	487.7	486.3	489.1	488.4	491.2	488.4
7.5°	487.7	484.9	485.6	483.5	486.3	482.8	484.9	489.1	486.3	482.1
10°	480.7	479.3	484.2	477.2	475.9	478.6	484.2	480.0	478.6	480.0
12.5°	473.8	473.8	475.9	470.3	471.0	472.4	475.2	472.4	473.8	477.2
15°	466.1	464.7	468.2	464.0	463.3	461.9	464.7	464.7	466.1	464.0
17.5°	457.0	455.0	455.0	453.6	452.9	456.3	457.7	458.4	459.1	456.3
20°	445.9	445.2	447.3	445.2	445.9	446.6	446.6	445.2	451.5	443.8
22.5°	434.0	436.1	433.4	432.0	433.4	434.7	434.7	435.4	434.0	432.7
25°	422.2	423.6	424.3	420.1	422.2	420.1	425.0	425.7	422.9	424.3
27.5°	411.8	409.7	409.0	406.2	407.6	406.9	407.6	407.6	411.8	406.2
30°	395.7	393.6	394.3	392.2	392.9	392.2	392.9	392.9	395.7	395.0
32.5°	380.4	378.3	379.0	376.9	376.9	377.6	376.2	376.2	378.3	376.9
35°	365.8	360.9	361.6	360.9	361.6	358.8	358.8	358.1	359.5	356.0
37.5°	344.9	342.8	342.1	341.4	342.1	340.7	342.1	340.0	342.1	339.3
40°	326.1	324.7	325.4	321.2	321.2	321.9	320.5	319.8	320.5	323.3
42.5°	307.2	304.5	303.1	301.7	302.4	300.3	299.6	298.2	299.6	296.8
45°	285.0	285.0	284.3	280.8	281.5	281.5	278.7	275.9	276.6	276.6
47.5°	264.7	263.4	262.7	259.2	258.5	257.8	255.0	252.9	252.9	250.8
50°	242.5	241.1	239.0	235.5	234.1	229.9	227.8	225.0	222.2	222.2
52.5°	221.6	216.7	213.9	208.3	206.2	204.1	198.6	196.5	194.4	192.3
55°	196.5	192.3	186.7	180.4	177.7	174.2	168.6	164.4	161.6	162.3
57.5°	172.1	165.1	159.5	151.2	147.7	145.6	140.0	134.5	131.7	131.7
60°	142.1	136.6	129.6	121.9	119.1	115.7	108.7	105.2	103.1	101.0
62.5°	113.6	109.4	103.1	93.4	91.3	87.8	82.9	78.7	76.6	76.6
65°	85.0	80.8	75.2	68.3	65.5	62.7	58.5	54.3	52.3	51.6
67.5°	59.9	55.0	50.2	44.6	42.5	41.1	36.9	34.1	32.7	32.0
70°	36.2	33.4	30.0	25.8	23.7	22.3	19.5	17.4	16.7	16.0
72.5°	18.8	16.7	13.9	11.1	9.8	8.4	7.0	5.6	4.9	4.9
75°	7.0	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)