

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: P209215

Luminaire Tested: **LDSQ4B15D010 EU4B10208027 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209215
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 EU4B10208027 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: 1403.9 lumens
Efficiency: N/A
Efficacy: 97.6 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

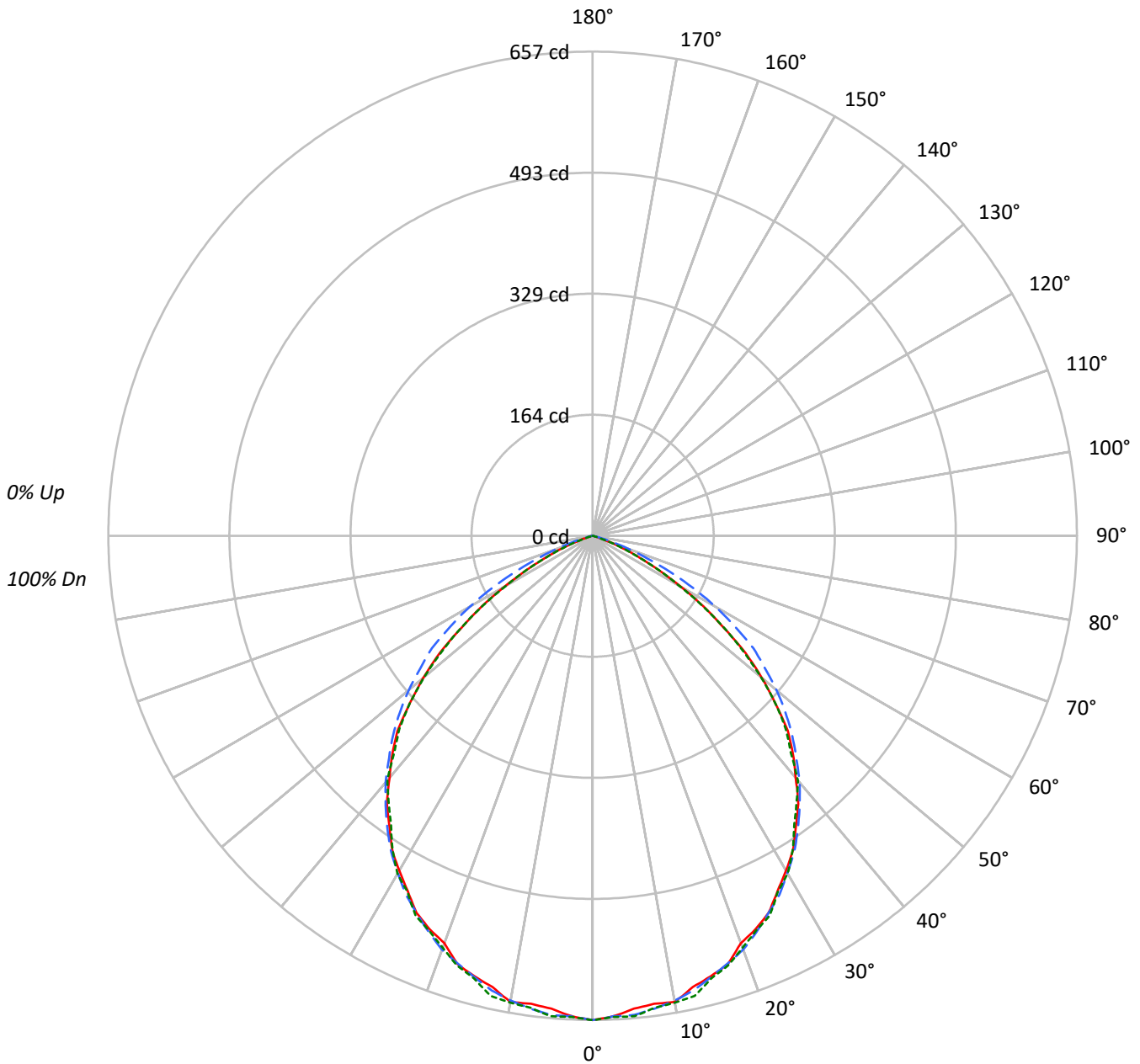
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	62.0	4.4
10°-20°	175.5	12.5
20°-30°	260.5	18.6
30°-40°	301.8	21.5
40°-50°	289.4	20.6
50°-60°	212.8	15.2
60°-70°	91.9	6.5
70°-80°	9.9	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°	498.1	35.5
0°-40°	799.9	57.0
0°-60°	1302.0	92.7
0°-90°	1403.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1403.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	657	657	657	657	657	
5°	644	651	653	654	654	61
15°	619	623	620	621	622	174
25°	565	564	565	566	568	259
35°	481	484	485	484	477	301
45°	374	375	383	377	371	285
55°	217	239	266	238	218	195
65°	71	89	116	88	69	73
75°	2	3	10	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°	657.2	657.2	657.2	657.2	657.2	657.2	657.2	657.2	657.2	657.2	657.2
2.5°	652.6	660.0	661.0	656.3	654.4	651.6	658.2	653.5	655.4	653.5	652.6
5°	644.2	652.6	653.5	653.5	651.6	650.7	653.5	652.6	651.6	649.8	652.6
7.5°	640.4	645.1	649.8	644.2	647.0	646.0	652.6	649.8	648.8	648.8	647.0
10°	642.3	641.4	645.1	639.5	641.4	639.5	645.1	645.1	643.2	641.4	640.4
12.5°	627.3	634.8	634.8	633.9	632.0	629.2	634.8	638.6	633.0	633.0	632.0
15°	618.9	620.8	621.7	621.7	620.8	622.7	625.5	621.7	622.7	618.0	619.9
17.5°	609.6	605.9	608.7	606.8	607.7	609.6	613.3	613.3	607.7	606.8	608.7
20°	588.1	599.3	600.3	594.7	595.6	595.6	602.1	596.5	600.3	595.6	597.5
22.5°	577.9	585.3	586.3	578.8	583.5	577.9	584.4	576.0	585.3	578.8	581.6
25°	564.8	563.9	566.7	562.9	563.9	563.9	568.5	564.8	567.6	563.9	564.8
27.5°	543.3	550.8	549.9	546.1	548.0	547.1	556.4	546.1	551.7	547.1	548.9
30°	524.7	531.2	529.3	525.6	525.6	522.8	533.1	530.3	529.3	529.3	528.4
32.5°	506.0	506.9	505.1	506.0	506.9	503.2	511.6	507.9	506.9	507.9	508.8
35°	480.8	480.8	482.6	479.8	483.6	483.6	491.1	486.4	485.4	482.6	485.4
37.5°	458.4	455.6	456.5	456.5	458.4	460.2	464.0	462.1	462.1	459.3	461.2
40°	428.5	426.6	429.4	429.4	432.2	432.2	436.0	434.1	436.9	436.9	436.9
42.5°	402.4	402.4	400.5	403.3	404.2	403.3	409.8	408.9	409.8	408.0	408.9
45°	374.4	374.4	372.5	371.6	376.2	375.3	382.8	380.0	383.7	381.8	382.8
47.5°	336.1	340.7	337.9	340.7	346.3	347.3	352.0	350.1	353.8	351.0	354.8
50°	299.7	299.7	302.5	306.2	311.8	312.7	318.3	322.1	323.9	324.9	325.8
52.5°	261.4	260.5	263.3	267.9	272.6	276.3	281.9	287.5	291.3	296.9	294.1
55°	216.6	218.5	221.3	226.9	234.3	239.0	243.7	251.1	257.7	260.5	266.1
57.5°	178.3	176.4	178.3	185.8	194.2	197.9	204.4	211.9	221.3	226.9	228.7
60°	138.2	139.1	141.0	147.5	154.0	159.6	162.4	174.6	183.0	188.6	192.3
62.5°	101.8	103.6	105.5	111.1	117.6	122.3	127.0	137.2	144.7	150.3	154.0
65°	71.0	71.9	74.7	77.5	84.0	88.7	92.4	100.8	108.3	113.0	115.8
67.5°	43.9	44.8	46.7	50.4	55.1	58.8	62.5	68.1	74.7	79.4	80.3
70°	22.4	23.3	24.3	27.1	30.8	32.7	35.5	40.1	44.8	48.5	50.4
72.5°	7.5	7.5	8.4	10.3	12.1	14.0	14.9	19.6	23.3	25.2	26.1
75°	1.9	1.9	1.9	1.9	1.9	2.8	2.8	5.6	7.5	9.3	10.3
77.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.9	1.9
80°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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°	657.2	657.2	657.2	657.2	657.2	657.2	657.2	657.2	657.2	657.2
2.5°	657.2	655.4	654.4	655.4	655.4	654.4	657.2	661.0	665.6	653.5
5°	656.3	654.4	656.3	650.7	653.5	651.6	655.4	654.4	658.2	654.4
7.5°	653.5	649.8	650.7	647.9	651.6	647.0	649.8	655.4	651.6	646.0
10°	644.2	642.3	648.8	639.5	637.6	641.4	648.8	643.2	641.4	643.2
12.5°	634.8	634.8	637.6	630.2	631.1	633.0	636.7	633.0	634.8	639.5
15°	624.5	622.7	627.3	621.7	620.8	618.9	622.7	622.7	624.5	621.7
17.5°	612.4	609.6	609.6	607.7	606.8	611.5	613.3	614.3	615.2	611.5
20°	597.5	596.5	599.3	596.5	597.5	598.4	598.4	596.5	604.9	594.7
22.5°	581.6	584.4	580.7	578.8	580.7	582.5	582.5	583.5	581.6	579.7
25°	565.7	567.6	568.5	562.9	565.7	562.9	569.5	570.4	566.7	568.5
27.5°	551.7	548.9	548.0	544.3	546.1	545.2	546.1	546.1	551.7	544.3
30°	530.3	527.5	528.4	525.6	526.5	525.6	526.5	526.5	530.3	529.3
32.5°	509.7	506.9	507.9	505.1	505.1	506.0	504.1	504.1	506.9	505.1
35°	490.1	483.6	484.5	483.6	484.5	480.8	480.8	479.8	481.7	477.0
37.5°	462.1	459.3	458.4	457.4	458.4	456.5	458.4	455.6	458.4	454.6
40°	436.9	435.0	436.0	430.4	430.4	431.3	429.4	428.5	429.4	433.2
42.5°	411.7	408.0	406.1	404.2	405.2	402.4	401.4	399.6	401.4	397.7
45°	381.8	381.8	380.9	376.2	377.2	377.2	373.4	369.7	370.6	370.6
47.5°	354.8	352.9	352.0	347.3	346.3	345.4	341.7	338.9	338.9	336.1
50°	324.9	323.0	320.2	315.5	313.7	308.1	305.3	301.5	297.8	297.8
52.5°	296.9	290.3	286.6	279.1	276.3	273.5	266.1	263.3	260.5	257.7
55°	263.3	257.7	250.2	241.8	238.1	233.4	225.9	220.3	216.6	217.5
57.5°	230.6	221.3	213.8	202.6	197.9	195.1	187.6	180.2	176.4	176.4
60°	190.4	183.0	173.6	163.4	159.6	155.0	145.6	141.0	138.2	135.4
62.5°	152.2	146.6	138.2	125.1	122.3	117.6	111.1	105.5	102.7	102.7
65°	113.9	108.3	100.8	91.5	87.8	84.0	78.4	72.8	70.0	69.1
67.5°	80.3	73.8	67.2	59.7	56.9	55.1	49.5	45.7	43.9	42.9
70°	48.5	44.8	40.1	34.5	31.7	29.9	26.1	23.3	22.4	21.5
72.5°	25.2	22.4	18.7	14.9	13.1	11.2	9.3	7.5	6.5	6.5
75°	9.3	7.5	4.7	2.8	1.9	1.9	1.9	1.9	1.9	1.9
77.5°	1.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
80°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
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)