

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: P209222

Luminaire Tested: **LDSQ4B15D010 EU4B10209035 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209222
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 EU4B10209035 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 3500 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1271.1 lumens
Efficiency: N/A
Efficacy: 88.3 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

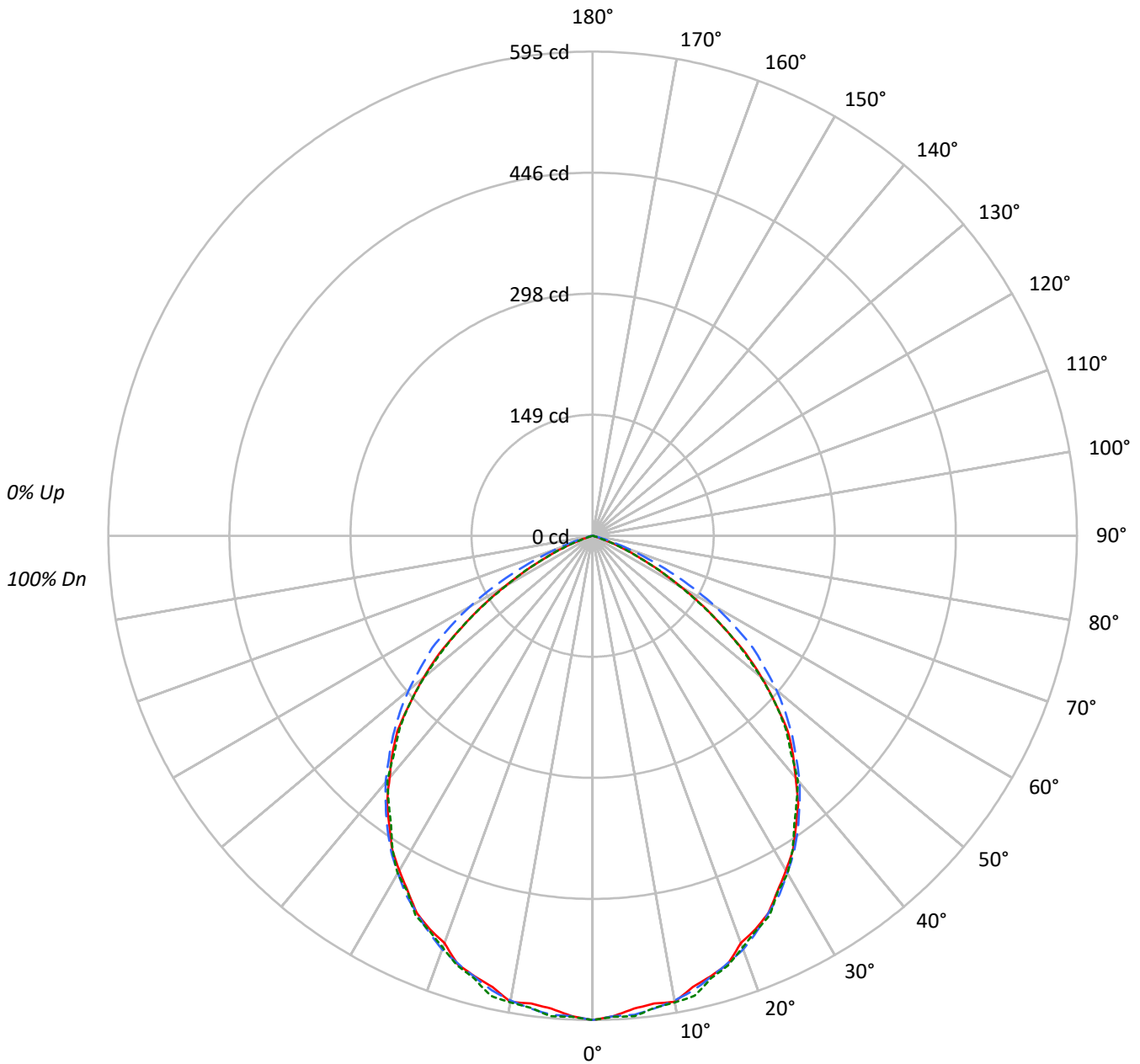
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	56.2	4.4
10°-20°	158.9	12.5
20°-30°	235.8	18.6
30°-40°	273.3	21.5
40°-50°	262.0	20.6
50°-60°	192.6	15.2
60°-70°	83.2	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°	450.9	35.5
0°-40°	724.2	57.0
0°-60°	1178.8	92.7
0°-90°	1271.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1271.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	595	595	595	595	595	
5°	583	589	591	592	592	56
15°	560	564	561	562	563	158
25°	511	510	511	512	515	234
35°	435	438	440	439	432	272
45°	339	340	346	342	336	258
55°	196	216	241	216	197	176
65°	64	80	105	79	62	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°	595.0	595.0	595.0	595.0	595.0	595.0	595.0	595.0	595.0	595.0	595.0
2.5°	590.8	597.6	598.4	594.2	592.5	590.0	595.9	591.6	593.3	591.6	590.8
5°	583.2	590.8	591.6	591.6	590.0	589.1	591.6	590.8	590.0	588.3	590.8
7.5°	579.8	584.0	588.3	583.2	585.7	584.9	590.8	588.3	587.4	587.4	585.7
10°	581.5	580.7	584.0	579.0	580.7	579.0	584.0	584.0	582.3	580.7	579.8
12.5°	568.0	574.7	574.7	573.9	572.2	569.7	574.7	578.1	573.0	573.0	572.2
15°	560.4	562.1	562.9	562.9	562.1	563.8	566.3	562.9	563.8	559.5	561.2
17.5°	551.9	548.5	551.1	549.4	550.2	551.9	555.3	555.3	550.2	549.4	551.1
20°	532.5	542.6	543.5	538.4	539.2	539.2	545.2	540.1	543.5	539.2	540.9
22.5°	523.2	529.9	530.8	524.0	528.3	523.2	529.1	521.5	529.9	524.0	526.6
25°	511.3	510.5	513.0	509.7	510.5	510.5	514.7	511.3	513.9	510.5	511.3
27.5°	491.9	498.7	497.8	494.4	496.1	495.3	503.7	494.4	499.5	495.3	497.0
30°	475.0	480.9	479.2	475.8	475.8	473.3	482.6	480.1	479.2	479.2	478.4
32.5°	458.1	458.9	457.3	458.1	458.9	455.6	463.2	459.8	458.9	459.8	460.6
35°	435.3	435.3	437.0	434.4	437.8	437.8	444.6	440.4	439.5	437.0	439.5
37.5°	415.0	412.5	413.3	413.3	415.0	416.7	420.1	418.4	418.4	415.8	417.5
40°	387.9	386.3	388.8	388.8	391.3	391.3	394.7	393.0	395.6	395.6	395.6
42.5°	364.3	364.3	362.6	365.1	366.0	365.1	371.0	370.2	371.0	369.4	370.2
45°	338.9	338.9	337.2	336.4	340.6	339.8	346.5	344.0	347.4	345.7	346.5
47.5°	304.3	308.5	306.0	308.5	313.6	314.4	318.6	317.0	320.3	317.8	321.2
50°	271.3	271.3	273.8	277.2	282.3	283.1	288.2	291.6	293.3	294.1	295.0
52.5°	236.7	235.8	238.3	242.6	246.8	250.2	255.3	260.3	263.7	268.8	266.2
55°	196.1	197.8	200.3	205.4	212.1	216.4	220.6	227.4	233.3	235.8	240.9
57.5°	161.4	159.7	161.4	168.2	175.8	179.2	185.1	191.9	200.3	205.4	207.1
60°	125.1	125.9	127.6	133.5	139.5	144.5	147.1	158.1	165.7	170.7	174.1
62.5°	92.1	93.8	95.5	100.6	106.5	110.7	114.9	124.2	131.0	136.1	139.5
65°	64.2	65.1	67.6	70.2	76.1	80.3	83.7	91.3	98.0	102.3	104.8
67.5°	39.7	40.6	42.3	45.6	49.9	53.2	56.6	61.7	67.6	71.8	72.7
70°	20.3	21.1	22.0	24.5	27.9	29.6	32.1	36.3	40.6	44.0	45.6
72.5°	6.8	6.8	7.6	9.3	11.0	12.7	13.5	17.7	21.1	22.8	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°	595.0	595.0	595.0	595.0	595.0	595.0	595.0	595.0	595.0	595.0
2.5°	595.0	593.3	592.5	593.3	593.3	592.5	595.0	598.4	602.6	591.6
5°	594.2	592.5	594.2	589.1	591.6	590.0	593.3	592.5	595.9	592.5
7.5°	591.6	588.3	589.1	586.6	590.0	585.7	588.3	593.3	590.0	584.9
10°	583.2	581.5	587.4	579.0	577.3	580.7	587.4	582.3	580.7	582.3
12.5°	574.7	574.7	577.3	570.5	571.4	573.0	576.4	573.0	574.7	579.0
15°	565.4	563.8	568.0	562.9	562.1	560.4	563.8	563.8	565.4	562.9
17.5°	554.5	551.9	551.9	550.2	549.4	553.6	555.3	556.1	557.0	553.6
20°	540.9	540.1	542.6	540.1	540.9	541.8	541.8	540.1	547.7	538.4
22.5°	526.6	529.1	525.7	524.0	525.7	527.4	527.4	528.3	526.6	524.9
25°	512.2	513.9	514.7	509.7	512.2	509.7	515.6	516.4	513.0	514.7
27.5°	499.5	497.0	496.1	492.8	494.4	493.6	494.4	494.4	499.5	492.8
30°	480.1	477.5	478.4	475.8	476.7	475.8	476.7	476.7	480.1	479.2
32.5°	461.5	458.9	459.8	457.3	457.3	458.1	456.4	456.4	458.9	457.3
35°	443.7	437.8	438.7	437.8	438.7	435.3	435.3	434.4	436.1	431.9
37.5°	418.4	415.8	415.0	414.1	415.0	413.3	415.0	412.5	415.0	411.6
40°	395.6	393.9	394.7	389.6	389.6	390.5	388.8	387.9	388.8	392.2
42.5°	372.7	369.4	367.7	366.0	366.8	364.3	363.4	361.7	363.4	360.1
45°	345.7	345.7	344.8	340.6	341.5	341.5	338.1	334.7	335.5	335.5
47.5°	321.2	319.5	318.6	314.4	313.6	312.7	309.3	306.8	306.8	304.3
50°	294.1	292.4	289.9	285.7	284.0	278.9	276.4	273.0	269.6	269.6
52.5°	268.8	262.9	259.5	252.7	250.2	247.6	240.9	238.3	235.8	233.3
55°	238.3	233.3	226.5	218.9	215.5	211.3	204.5	199.5	196.1	196.9
57.5°	208.8	200.3	193.6	183.4	179.2	176.6	169.9	163.1	159.7	159.7
60°	172.4	165.7	157.2	147.9	144.5	140.3	131.9	127.6	125.1	122.6
62.5°	137.8	132.7	125.1	113.3	110.7	106.5	100.6	95.5	93.0	93.0
65°	103.1	98.0	91.3	82.8	79.4	76.1	71.0	65.9	63.4	62.5
67.5°	72.7	66.8	60.9	54.1	51.6	49.9	44.8	41.4	39.7	38.9
70°	44.0	40.6	36.3	31.3	28.7	27.0	23.7	21.1	20.3	19.4
72.5°	22.8	20.3	16.9	13.5	11.8	10.1	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)