

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: P209214

Luminaire Tested: **LDSQ4B10D010 EU4B10209730 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209214
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: LDSQ4B10D010 EU4B10209730 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-10.05 W DE010-10.58 W D5LT-10.2 W DMX-10.6 W DL2-11.8 W DL3-11.1 W DLE-11.39 W
Light Source: HIGH LUMEN LED 3000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 786.2 lumens
Efficiency: N/A
Efficacy: 78.2 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

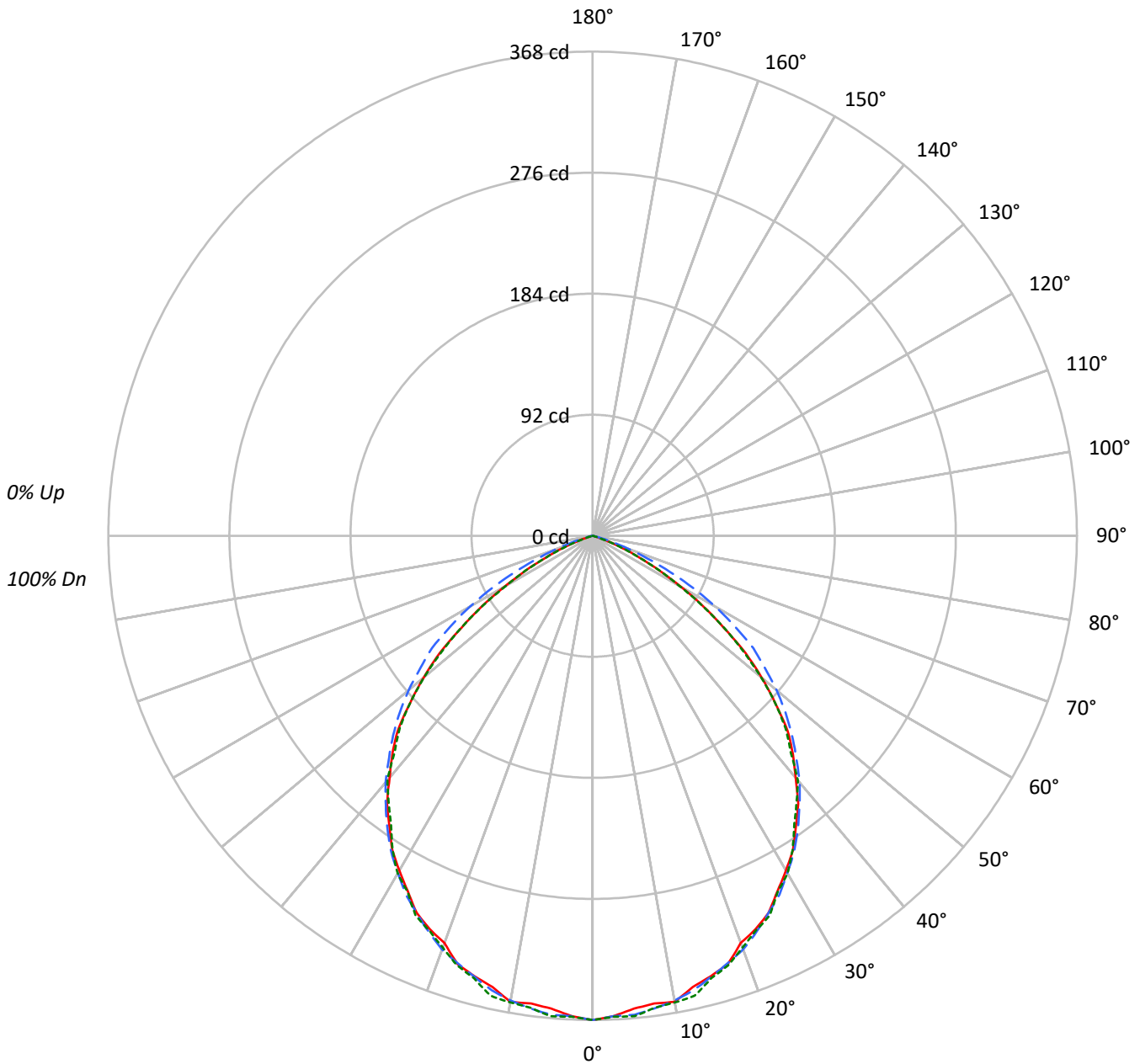
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	34.7	4.4
10°-20°	98.3	12.5
20°-30°	145.9	18.6
30°-40°	169.0	21.5
40°-50°	162.0	20.6
50°-60°	119.1	15.2
60°-70°	51.5	6.5
70°-80°	5.5	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°	278.9	35.5
0°-40°	447.9	57.0
0°-60°	729.1	92.7
0°-90°	786.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	786.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	368	368	368	368	368	
5°	361	364	365	366	366	34
15°	347	349	347	348	348	98
25°	316	316	316	317	318	145
35°	269	271	272	271	267	168
45°	210	210	214	211	208	159
55°	121	134	149	133	122	109
65°	40	50	65	49	39	41
75°	1	2	6	1	1	3
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°	368.0	368.0	368.0	368.0	368.0	368.0	368.0	368.0	368.0	368.0	368.0
2.5°	365.4	369.6	370.1	367.5	366.5	364.9	368.6	365.9	367.0	365.9	365.4
5°	360.7	365.4	365.9	365.9	364.9	364.4	365.9	365.4	364.9	363.8	365.4
7.5°	358.6	361.2	363.8	360.7	362.3	361.8	365.4	363.8	363.3	363.3	362.3
10°	359.7	359.1	361.2	358.1	359.1	358.1	361.2	361.2	360.2	359.1	358.6
12.5°	351.3	355.5	355.5	355.0	353.9	352.3	355.5	357.6	354.4	354.4	353.9
15°	346.6	347.6	348.2	348.2	347.6	348.7	350.3	348.2	348.7	346.1	347.1
17.5°	341.4	339.3	340.8	339.8	340.3	341.4	343.5	343.5	340.3	339.8	340.8
20°	329.3	335.6	336.1	333.0	333.5	333.5	337.2	334.0	336.1	333.5	334.6
22.5°	323.6	327.8	328.3	324.1	326.7	323.6	327.3	322.5	327.8	324.1	325.7
25°	316.3	315.8	317.3	315.2	315.8	315.8	318.4	316.3	317.8	315.8	316.3
27.5°	304.3	308.4	307.9	305.8	306.9	306.3	311.6	305.8	309.0	306.3	307.4
30°	293.8	297.5	296.4	294.3	294.3	292.7	298.5	296.9	296.4	296.4	295.9
32.5°	283.3	283.9	282.8	283.3	283.9	281.8	286.5	284.4	283.9	284.4	284.9
35°	269.2	269.2	270.3	268.7	270.8	270.8	275.0	272.4	271.8	270.3	271.8
37.5°	256.7	255.1	255.6	255.6	256.7	257.7	259.8	258.8	258.8	257.2	258.2
40°	239.9	238.9	240.5	240.5	242.0	242.0	244.1	243.1	244.7	244.7	244.7
42.5°	225.3	225.3	224.3	225.8	226.4	225.8	229.5	229.0	229.5	228.4	229.0
45°	209.6	209.6	208.6	208.1	210.7	210.2	214.3	212.8	214.9	213.8	214.3
47.5°	188.2	190.8	189.2	190.8	193.9	194.5	197.1	196.0	198.1	196.6	198.7
50°	167.8	167.8	169.4	171.5	174.6	175.1	178.3	180.4	181.4	181.9	182.4
52.5°	146.4	145.9	147.4	150.0	152.6	154.7	157.9	161.0	163.1	166.2	164.7
55°	121.3	122.3	123.9	127.0	131.2	133.8	136.4	140.6	144.3	145.9	149.0
57.5°	99.8	98.8	99.8	104.0	108.7	110.8	114.5	118.7	123.9	127.0	128.1
60°	77.4	77.9	78.9	82.6	86.3	89.4	91.0	97.8	102.5	105.6	107.7
62.5°	57.0	58.0	59.1	62.2	65.9	68.5	71.1	76.8	81.0	84.2	86.3
65°	39.7	40.3	41.8	43.4	47.0	49.7	51.8	56.5	60.6	63.3	64.8
67.5°	24.6	25.1	26.1	28.2	30.8	32.9	35.0	38.2	41.8	44.4	45.0
70°	12.5	13.1	13.6	15.2	17.3	18.3	19.9	22.5	25.1	27.2	28.2
72.5°	4.2	4.2	4.7	5.8	6.8	7.8	8.4	11.0	13.1	14.1	14.6
75°	1.0	1.0	1.0	1.0	1.0	1.6	1.6	3.1	4.2	5.2	5.8
77.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0
80°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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°	368.0	368.0	368.0	368.0	368.0	368.0	368.0	368.0	368.0	368.0
2.5°	368.0	367.0	366.5	367.0	367.0	366.5	368.0	370.1	372.7	365.9
5°	367.5	366.5	367.5	364.4	365.9	364.9	367.0	366.5	368.6	366.5
7.5°	365.9	363.8	364.4	362.8	364.9	362.3	363.8	367.0	364.9	361.8
10°	360.7	359.7	363.3	358.1	357.0	359.1	363.3	360.2	359.1	360.2
12.5°	355.5	355.5	357.0	352.9	353.4	354.4	356.5	354.4	355.5	358.1
15°	349.7	348.7	351.3	348.2	347.6	346.6	348.7	348.7	349.7	348.2
17.5°	342.9	341.4	341.4	340.3	339.8	342.4	343.5	344.0	344.5	342.4
20°	334.6	334.0	335.6	334.0	334.6	335.1	335.1	334.0	338.8	333.0
22.5°	325.7	327.3	325.2	324.1	325.2	326.2	326.2	326.7	325.7	324.6
25°	316.8	317.8	318.4	315.2	316.8	315.2	318.9	319.4	317.3	318.4
27.5°	309.0	307.4	306.9	304.8	305.8	305.3	305.8	305.8	309.0	304.8
30°	296.9	295.4	295.9	294.3	294.8	294.3	294.8	294.8	296.9	296.4
32.5°	285.4	283.9	284.4	282.8	282.8	283.3	282.3	282.3	283.9	282.8
35°	274.5	270.8	271.3	270.8	271.3	269.2	269.2	268.7	269.7	267.1
37.5°	258.8	257.2	256.7	256.2	256.7	255.6	256.7	255.1	256.7	254.6
40°	244.7	243.6	244.1	241.0	241.0	241.5	240.5	239.9	240.5	242.6
42.5°	230.5	228.4	227.4	226.4	226.9	225.3	224.8	223.7	224.8	222.7
45°	213.8	213.8	213.3	210.7	211.2	211.2	209.1	207.0	207.5	207.5
47.5°	198.7	197.6	197.1	194.5	193.9	193.4	191.3	189.8	189.8	188.2
50°	181.9	180.9	179.3	176.7	175.6	172.5	170.9	168.9	166.8	166.8
52.5°	166.2	162.6	160.5	156.3	154.7	153.2	149.0	147.4	145.9	144.3
55°	147.4	144.3	140.1	135.4	133.3	130.7	126.5	123.4	121.3	121.8
57.5°	129.1	123.9	119.7	113.4	110.8	109.3	105.1	100.9	98.8	98.8
60°	106.6	102.5	97.2	91.5	89.4	86.8	81.6	78.9	77.4	75.8
62.5°	85.2	82.1	77.4	70.1	68.5	65.9	62.2	59.1	57.5	57.5
65°	63.8	60.6	56.5	51.2	49.1	47.0	43.9	40.8	39.2	38.7
67.5°	45.0	41.3	37.6	33.5	31.9	30.8	27.7	25.6	24.6	24.0
70°	27.2	25.1	22.5	19.3	17.8	16.7	14.6	13.1	12.5	12.0
72.5°	14.1	12.5	10.5	8.4	7.3	6.3	5.2	4.2	3.7	3.7
75°	5.2	4.2	2.6	1.6	1.0	1.0	1.0	1.0	1.0	1.0
77.5°	1.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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)