

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: P209208

Luminaire Tested: **LDSQ4B10D010 EU4B10209027 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209208
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 EU4B10209027 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 2700 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 865.0 lumens
Efficiency: N/A
Efficacy: 86.1 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

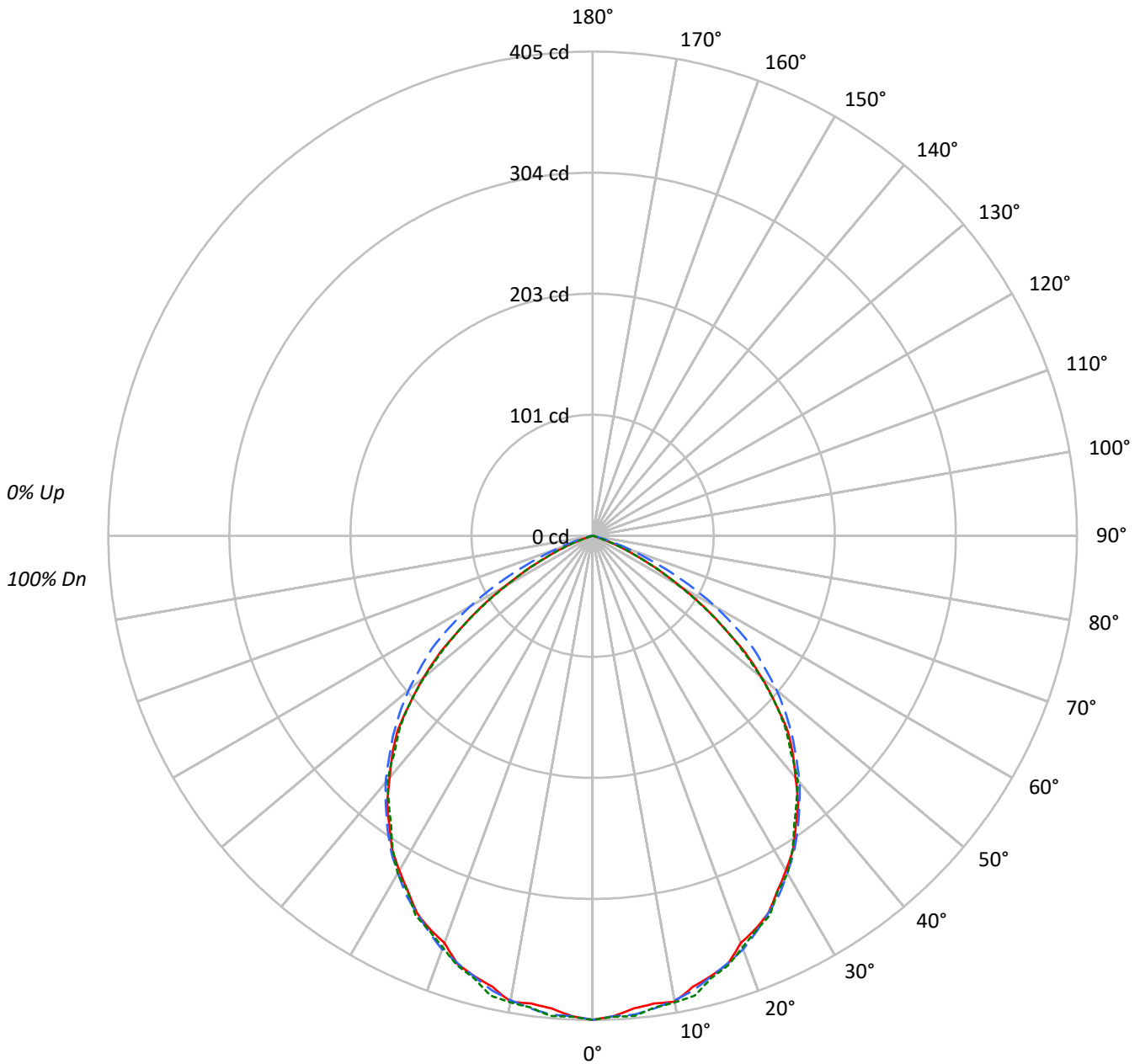
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	38.2	4.4
10°-20°	108.2	12.5
20°-30°	160.5	18.6
30°-40°	186.0	21.5
40°-50°	178.3	20.6
50°-60°	131.1	15.2
60°-70°	56.6	6.5
70°-80°	6.1	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°	306.9	35.5
0°-40°	492.8	57.0
0°-60°	802.2	92.7
0°-90°	865.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	865.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	405	405	405	405	405	
5°	397	401	402	403	403	38
15°	381	384	382	382	383	107
25°	348	347	348	349	350	159
35°	296	298	299	298	294	185
45°	231	231	236	232	228	175
55°	133	147	164	147	134	120
65°	44	55	71	54	43	45
75°	1	2	6	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°	404.9	404.9	404.9	404.9	404.9	404.9	404.9	404.9	404.9	404.9	404.9
2.5°	402.1	406.7	407.2	404.4	403.2	401.5	405.5	402.6	403.8	402.6	402.1
5°	396.9	402.1	402.6	402.6	401.5	400.9	402.6	402.1	401.5	400.3	402.1
7.5°	394.6	397.5	400.3	396.9	398.6	398.0	402.1	400.3	399.8	399.8	398.6
10°	395.7	395.2	397.5	394.0	395.2	394.0	397.5	397.5	396.3	395.2	394.6
12.5°	386.5	391.1	391.1	390.6	389.4	387.7	391.1	393.4	390.0	390.0	389.4
15°	381.4	382.5	383.1	383.1	382.5	383.7	385.4	383.1	383.7	380.8	381.9
17.5°	375.6	373.3	375.0	373.9	374.5	375.6	377.9	377.9	374.5	373.9	375.0
20°	362.4	369.3	369.9	366.4	367.0	367.0	371.0	367.6	369.9	367.0	368.1
22.5°	356.0	360.7	361.2	356.6	359.5	356.0	360.1	354.9	360.7	356.6	358.3
25°	348.0	347.4	349.1	346.8	347.4	347.4	350.3	348.0	349.7	347.4	348.0
27.5°	334.8	339.4	338.8	336.5	337.6	337.1	342.8	336.5	339.9	337.1	338.2
30°	323.3	327.3	326.1	323.8	323.8	322.1	328.4	326.7	326.1	326.1	325.6
32.5°	311.8	312.3	311.2	311.8	312.3	310.0	315.2	312.9	312.3	312.9	313.5
35°	296.2	296.2	297.4	295.7	298.0	298.0	302.6	299.7	299.1	297.4	299.1
37.5°	282.4	280.7	281.3	281.3	282.4	283.6	285.9	284.7	284.7	283.0	284.1
40°	264.0	262.9	264.6	264.6	266.3	266.3	268.6	267.5	269.2	269.2	269.2
42.5°	247.9	247.9	246.8	248.5	249.1	248.5	252.5	251.9	252.5	251.4	251.9
45°	230.7	230.7	229.5	228.9	231.8	231.2	235.8	234.1	236.4	235.3	235.8
47.5°	207.1	209.9	208.2	209.9	213.4	214.0	216.9	215.7	218.0	216.3	218.6
50°	184.6	184.6	186.4	188.7	192.1	192.7	196.1	198.4	199.6	200.2	200.7
52.5°	161.1	160.5	162.2	165.1	168.0	170.3	173.7	177.2	179.5	182.9	181.2
55°	133.4	134.6	136.3	139.8	144.4	147.3	150.1	154.7	158.8	160.5	163.9
57.5°	109.9	108.7	109.9	114.5	119.6	121.9	126.0	130.6	136.3	139.8	140.9
60°	85.1	85.7	86.9	90.9	94.9	98.4	100.1	107.6	112.7	116.2	118.5
62.5°	62.7	63.8	65.0	68.4	72.5	75.4	78.2	84.6	89.2	92.6	94.9
65°	43.7	44.3	46.0	47.7	51.8	54.6	56.9	62.1	66.7	69.6	71.3
67.5°	27.0	27.6	28.8	31.1	33.9	36.2	38.5	42.0	46.0	48.9	49.5
70°	13.8	14.4	15.0	16.7	19.0	20.1	21.9	24.7	27.6	29.9	31.1
72.5°	4.6	4.6	5.2	6.3	7.5	8.6	9.2	12.1	14.4	15.5	16.1
75°	1.2	1.2	1.2	1.2	1.2	1.7	1.7	3.5	4.6	5.8	6.3
77.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.2	1.2
80°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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°	404.9	404.9	404.9	404.9	404.9	404.9	404.9	404.9	404.9	404.9
2.5°	404.9	403.8	403.2	403.8	403.8	403.2	404.9	407.2	410.1	402.6
5°	404.4	403.2	404.4	400.9	402.6	401.5	403.8	403.2	405.5	403.2
7.5°	402.6	400.3	400.9	399.2	401.5	398.6	400.3	403.8	401.5	398.0
10°	396.9	395.7	399.8	394.0	392.9	395.2	399.8	396.3	395.2	396.3
12.5°	391.1	391.1	392.9	388.3	388.8	390.0	392.3	390.0	391.1	394.0
15°	384.8	383.7	386.5	383.1	382.5	381.4	383.7	383.7	384.8	383.1
17.5°	377.3	375.6	375.6	374.5	373.9	376.8	377.9	378.5	379.1	376.8
20°	368.1	367.6	369.3	367.6	368.1	368.7	368.7	367.6	372.7	366.4
22.5°	358.3	360.1	357.8	356.6	357.8	358.9	358.9	359.5	358.3	357.2
25°	348.6	349.7	350.3	346.8	348.6	346.8	350.9	351.4	349.1	350.3
27.5°	339.9	338.2	337.6	335.3	336.5	335.9	336.5	336.5	339.9	335.3
30°	326.7	325.0	325.6	323.8	324.4	323.8	324.4	324.4	326.7	326.1
32.5°	314.1	312.3	312.9	311.2	311.2	311.8	310.6	310.6	312.3	311.2
35°	302.0	298.0	298.5	298.0	298.5	296.2	296.2	295.7	296.8	293.9
37.5°	284.7	283.0	282.4	281.8	282.4	281.3	282.4	280.7	282.4	280.1
40°	269.2	268.0	268.6	265.2	265.2	265.7	264.6	264.0	264.6	266.9
42.5°	253.7	251.4	250.2	249.1	249.6	247.9	247.3	246.2	247.3	245.0
45°	235.3	235.3	234.7	231.8	232.4	232.4	230.1	227.8	228.4	228.4
47.5°	218.6	217.4	216.9	214.0	213.4	212.8	210.5	208.8	208.8	207.1
50°	200.2	199.0	197.3	194.4	193.3	189.8	188.1	185.8	183.5	183.5
52.5°	182.9	178.9	176.6	172.0	170.3	168.5	163.9	162.2	160.5	158.8
55°	162.2	158.8	154.2	149.0	146.7	143.8	139.2	135.7	133.4	134.0
57.5°	142.1	136.3	131.7	124.8	121.9	120.2	115.6	111.0	108.7	108.7
60°	117.3	112.7	107.0	100.7	98.4	95.5	89.7	86.9	85.1	83.4
62.5°	93.8	90.3	85.1	77.1	75.4	72.5	68.4	65.0	63.3	63.3
65°	70.2	66.7	62.1	56.4	54.1	51.8	48.3	44.9	43.1	42.6
67.5°	49.5	45.4	41.4	36.8	35.1	33.9	30.5	28.2	27.0	26.5
70°	29.9	27.6	24.7	21.3	19.6	18.4	16.1	14.4	13.8	13.2
72.5°	15.5	13.8	11.5	9.2	8.1	6.9	5.8	4.6	4.0	4.0
75°	5.8	4.6	2.9	1.7	1.2	1.2	1.2	1.2	1.2	1.2
77.5°	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
80°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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)