

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: P209203

Luminaire Tested: **LDSQ4B10D010 EU4B10208030 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209203
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 EU4B10208030 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: 1053.5 lumens
Efficiency: N/A
Efficacy: 104.8 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

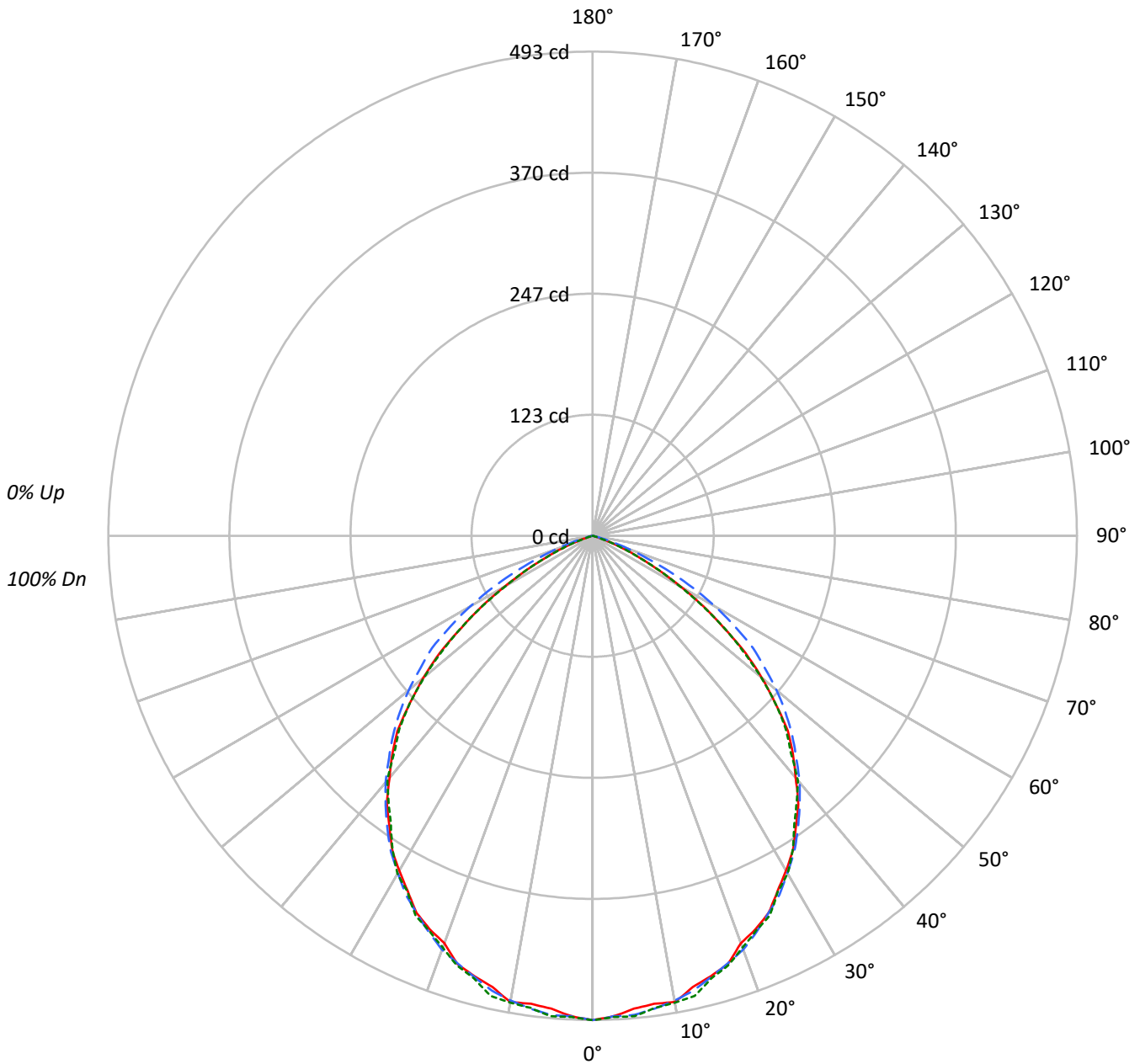
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	46.6	4.4
10°-20°	131.7	12.5
20°-30°	195.4	18.6
30°-40°	226.5	21.5
40°-50°	217.1	20.6
50°-60°	159.6	15.2
60°-70°	69.0	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°	373.7	35.5
0°-40°	600.2	57.0
0°-60°	977.0	92.7
0°-90°	1053.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1053.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	493	493	493	493	493	
5°	483	488	490	490	491	46
15°	464	467	465	466	466	131
25°	424	423	424	424	427	194
35°	361	363	364	364	358	226
45°	281	282	287	283	278	214
55°	162	179	200	179	163	146
65°	53	66	87	66	52	55
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°	493.2	493.2	493.2	493.2	493.2	493.2	493.2	493.2	493.2	493.2	493.2
2.5°	489.7	495.3	496.0	492.5	491.1	489.0	493.9	490.4	491.8	490.4	489.7
5°	483.4	489.7	490.4	490.4	489.0	488.3	490.4	489.7	489.0	487.6	489.7
7.5°	480.6	484.1	487.6	483.4	485.5	484.8	489.7	487.6	486.9	486.9	485.5
10°	482.0	481.3	484.1	479.9	481.3	479.9	484.1	484.1	482.7	481.3	480.6
12.5°	470.7	476.4	476.4	475.7	474.3	472.1	476.4	479.2	475.0	475.0	474.3
15°	464.4	465.8	466.5	466.5	465.8	467.2	469.3	466.5	467.2	463.7	465.1
17.5°	457.4	454.6	456.7	455.3	456.0	457.4	460.2	460.2	456.0	455.3	456.7
20°	441.3	449.7	450.4	446.2	446.9	446.9	451.8	447.6	450.4	446.9	448.3
22.5°	433.6	439.2	439.9	434.3	437.8	433.6	438.5	432.2	439.2	434.3	436.4
25°	423.8	423.1	425.2	422.4	423.1	423.1	426.6	423.8	425.9	423.1	423.8
27.5°	407.7	413.3	412.6	409.8	411.2	410.5	417.5	409.8	414.0	410.5	411.9
30°	393.7	398.6	397.2	394.4	394.4	392.3	400.0	397.9	397.2	397.2	396.5
32.5°	379.7	380.4	379.0	379.7	380.4	377.6	383.9	381.1	380.4	381.1	381.8
35°	360.8	360.8	362.2	360.1	362.9	362.9	368.5	365.0	364.3	362.2	364.3
37.5°	344.0	341.9	342.6	342.6	344.0	345.4	348.2	346.8	346.8	344.7	346.1
40°	321.5	320.1	322.2	322.2	324.3	324.3	327.1	325.7	327.8	327.8	327.8
42.5°	301.9	301.9	300.5	302.6	303.3	302.6	307.5	306.8	307.5	306.1	306.8
45°	280.9	280.9	279.5	278.8	282.3	281.6	287.2	285.1	287.9	286.5	287.2
47.5°	252.2	255.7	253.6	255.7	259.9	260.6	264.1	262.7	265.5	263.4	266.2
50°	224.9	224.9	227.0	229.8	234.0	234.7	238.9	241.7	243.1	243.8	244.5
52.5°	196.1	195.4	197.5	201.0	204.6	207.4	211.6	215.8	218.6	222.8	220.7
55°	162.5	163.9	166.0	170.2	175.8	179.3	182.8	188.4	193.3	195.4	199.6
57.5°	133.8	132.4	133.8	139.4	145.7	148.5	153.4	159.0	166.0	170.2	171.6
60°	103.7	104.4	105.8	110.7	115.6	119.8	121.9	131.0	137.3	141.5	144.3
62.5°	76.4	77.8	79.2	83.4	88.3	91.8	95.3	103.0	108.6	112.8	115.6
65°	53.2	53.9	56.0	58.1	63.0	66.5	69.4	75.7	81.3	84.8	86.9
67.5°	32.9	33.6	35.0	37.8	41.3	44.1	46.9	51.1	56.0	59.5	60.2
70°	16.8	17.5	18.2	20.3	23.1	24.5	26.6	30.1	33.6	36.4	37.8
72.5°	5.6	5.6	6.3	7.7	9.1	10.5	11.2	14.7	17.5	18.9	19.6
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°	493.2	493.2	493.2	493.2	493.2	493.2	493.2	493.2	493.2	493.2
2.5°	493.2	491.8	491.1	491.8	491.8	491.1	493.2	496.0	499.5	490.4
5°	492.5	491.1	492.5	488.3	490.4	489.0	491.8	491.1	493.9	491.1
7.5°	490.4	487.6	488.3	486.2	489.0	485.5	487.6	491.8	489.0	484.8
10°	483.4	482.0	486.9	479.9	478.5	481.3	486.9	482.7	481.3	482.7
12.5°	476.4	476.4	478.5	472.8	473.5	475.0	477.8	475.0	476.4	479.9
15°	468.6	467.2	470.7	466.5	465.8	464.4	467.2	467.2	468.6	466.5
17.5°	459.5	457.4	457.4	456.0	455.3	458.8	460.2	460.9	461.6	458.8
20°	448.3	447.6	449.7	447.6	448.3	449.0	449.0	447.6	453.9	446.2
22.5°	436.4	438.5	435.7	434.3	435.7	437.1	437.1	437.8	436.4	435.0
25°	424.5	425.9	426.6	422.4	424.5	422.4	427.3	428.0	425.2	426.6
27.5°	414.0	411.9	411.2	408.4	409.8	409.1	409.8	409.8	414.0	408.4
30°	397.9	395.8	396.5	394.4	395.1	394.4	395.1	395.1	397.9	397.2
32.5°	382.5	380.4	381.1	379.0	379.0	379.7	378.3	378.3	380.4	379.0
35°	367.8	362.9	363.6	362.9	363.6	360.8	360.8	360.1	361.5	358.0
37.5°	346.8	344.7	344.0	343.3	344.0	342.6	344.0	341.9	344.0	341.2
40°	327.8	326.4	327.1	322.9	322.9	323.6	322.2	321.5	322.2	325.0
42.5°	308.9	306.1	304.7	303.3	304.0	301.9	301.2	299.8	301.2	298.4
45°	286.5	286.5	285.8	282.3	283.0	283.0	280.2	277.4	278.1	278.1
47.5°	266.2	264.8	264.1	260.6	259.9	259.2	256.4	254.3	254.3	252.2
50°	243.8	242.4	240.3	236.8	235.4	231.2	229.1	226.3	223.5	223.5
52.5°	222.8	217.9	215.1	209.5	207.4	205.3	199.6	197.5	195.4	193.3
55°	197.5	193.3	187.7	181.4	178.6	175.1	169.5	165.3	162.5	163.2
57.5°	173.0	166.0	160.4	152.0	148.5	146.4	140.8	135.2	132.4	132.4
60°	142.9	137.3	130.3	122.6	119.8	116.3	109.3	105.8	103.7	101.6
62.5°	114.2	110.0	103.7	93.9	91.8	88.3	83.4	79.2	77.1	77.1
65°	85.5	81.3	75.7	68.7	65.8	63.0	58.8	54.6	52.5	51.8
67.5°	60.2	55.3	50.4	44.8	42.7	41.3	37.1	34.3	32.9	32.2
70°	36.4	33.6	30.1	25.9	23.8	22.4	19.6	17.5	16.8	16.1
72.5°	18.9	16.8	14.0	11.2	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)