

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: P209212

Luminaire Tested: **LDSQ4B10D010 EU4B10209050 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209212
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 EU4B10209050 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 5000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 917.8 lumens
Efficiency: N/A
Efficacy: 91.3 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

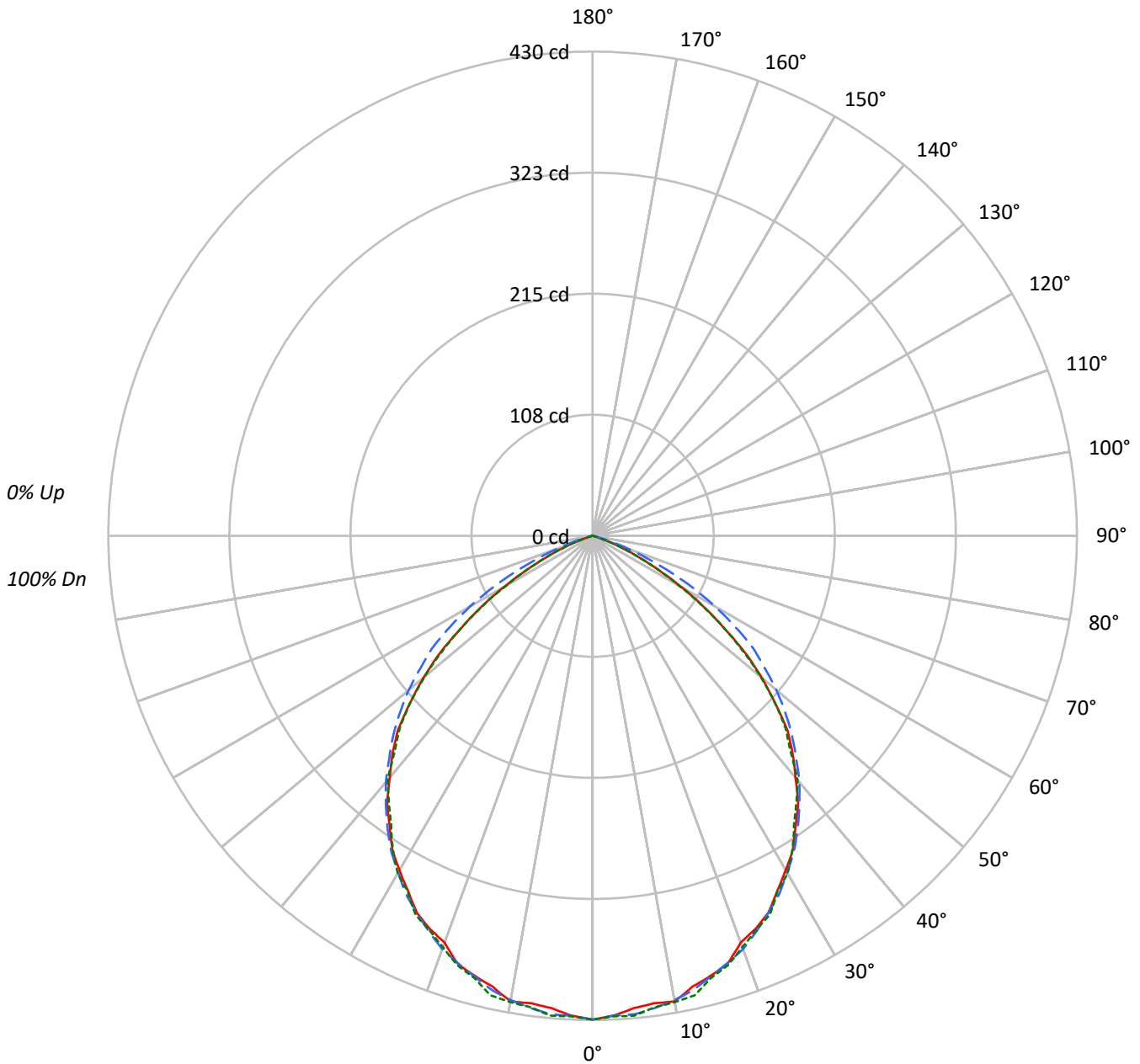
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				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°	40.6	4.4
10°-20°	114.8	12.5
20°-30°	170.3	18.6
30°-40°	197.3	21.5
40°-50°	189.2	20.6
50°-60°	139.1	15.2
60°-70°	60.1	6.5
70°-80°	6.5	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°	325.6	35.5
0°-40°	522.9	57.0
0°-60°	851.2	92.7
0°-90°	917.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	917.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	430	430	430	430	430	
5°	421	425	427	427	428	40
15°	405	407	405	406	406	114
25°	369	369	369	370	372	169
35°	314	316	317	317	312	197
45°	245	245	250	247	242	186
55°	142	156	174	156	142	127
65°	46	58	76	57	45	48
75°	1	2	7	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°	429.7	429.7	429.7	429.7	429.7	429.7	429.7	429.7	429.7	429.7	429.7
2.5°	426.6	431.5	432.1	429.1	427.8	426.0	430.3	427.2	428.5	427.2	426.6
5°	421.1	426.6	427.2	427.2	426.0	425.4	427.2	426.6	426.0	424.8	426.6
7.5°	418.7	421.7	424.8	421.1	423.0	422.3	426.6	424.8	424.2	424.2	423.0
10°	419.9	419.3	421.7	418.1	419.3	418.1	421.7	421.7	420.5	419.3	418.7
12.5°	410.1	415.0	415.0	414.4	413.2	411.4	415.0	417.5	413.8	413.8	413.2
15°	404.6	405.9	406.5	406.5	405.9	407.1	408.9	406.5	407.1	404.0	405.3
17.5°	398.5	396.1	397.9	396.7	397.3	398.5	401.0	401.0	397.3	396.7	397.9
20°	384.5	391.8	392.4	388.8	389.4	389.4	393.7	390.0	392.4	389.4	390.6
22.5°	377.8	382.7	383.3	378.4	381.5	377.8	382.1	376.6	382.7	378.4	380.2
25°	369.3	368.6	370.5	368.0	368.6	368.6	371.7	369.3	371.1	368.6	369.3
27.5°	355.2	360.1	359.5	357.0	358.3	357.7	363.8	357.0	360.7	357.7	358.9
30°	343.0	347.3	346.1	343.6	343.6	341.8	348.5	346.7	346.1	346.1	345.4
32.5°	330.8	331.4	330.2	330.8	331.4	329.0	334.5	332.0	331.4	332.0	332.6
35°	314.3	314.3	315.5	313.7	316.2	316.2	321.0	318.0	317.4	315.5	317.4
37.5°	299.7	297.8	298.5	298.5	299.7	300.9	303.3	302.1	302.1	300.3	301.5
40°	280.1	278.9	280.8	280.8	282.6	282.6	285.0	283.8	285.6	285.6	285.6
42.5°	263.1	263.1	261.8	263.7	264.3	263.7	267.9	267.3	267.9	266.7	267.3
45°	244.7	244.7	243.5	242.9	246.0	245.4	250.2	248.4	250.8	249.6	250.2
47.5°	219.7	222.8	220.9	222.8	226.4	227.0	230.1	228.9	231.3	229.5	231.9
50°	195.9	195.9	197.7	200.2	203.9	204.5	208.1	210.6	211.8	212.4	213.0
52.5°	170.9	170.3	172.1	175.2	178.2	180.7	184.3	188.0	190.4	194.1	192.3
55°	141.6	142.8	144.6	148.3	153.2	156.2	159.3	164.2	168.5	170.3	173.9
57.5°	116.6	115.4	116.6	121.5	126.9	129.4	133.7	138.5	144.6	148.3	149.5
60°	90.3	90.9	92.2	96.4	100.7	104.4	106.2	114.1	119.6	123.3	125.7
62.5°	66.5	67.7	69.0	72.6	76.9	80.0	83.0	89.7	94.6	98.3	100.7
65°	46.4	47.0	48.8	50.7	54.9	58.0	60.4	65.9	70.8	73.9	75.7
67.5°	28.7	29.3	30.5	33.0	36.0	38.5	40.9	44.6	48.8	51.9	52.5
70°	14.6	15.3	15.9	17.7	20.1	21.4	23.2	26.2	29.3	31.7	33.0
72.5°	4.9	4.9	5.5	6.7	7.9	9.2	9.8	12.8	15.3	16.5	17.1
75°	1.2	1.2	1.2	1.2	1.2	1.8	1.8	3.7	4.9	6.1	6.7
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



TEST NUMBER: P209212

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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	429.7	429.7	429.7	429.7	429.7	429.7	429.7	429.7	429.7	429.7
2.5°	429.7	428.5	427.8	428.5	428.5	427.8	429.7	432.1	435.2	427.2
5°	429.1	427.8	429.1	425.4	427.2	426.0	428.5	427.8	430.3	427.8
7.5°	427.2	424.8	425.4	423.6	426.0	423.0	424.8	428.5	426.0	422.3
10°	421.1	419.9	424.2	418.1	416.9	419.3	424.2	420.5	419.3	420.5
12.5°	415.0	415.0	416.9	412.0	412.6	413.8	416.2	413.8	415.0	418.1
15°	408.3	407.1	410.1	406.5	405.9	404.6	407.1	407.1	408.3	406.5
17.5°	400.4	398.5	398.5	397.3	396.7	399.8	401.0	401.6	402.2	399.8
20°	390.6	390.0	391.8	390.0	390.6	391.2	391.2	390.0	395.5	388.8
22.5°	380.2	382.1	379.6	378.4	379.6	380.8	380.8	381.5	380.2	379.0
25°	369.9	371.1	371.7	368.0	369.9	368.0	372.3	372.9	370.5	371.7
27.5°	360.7	358.9	358.3	355.8	357.0	356.4	357.0	357.0	360.7	355.8
30°	346.7	344.8	345.4	343.6	344.2	343.6	344.2	344.2	346.7	346.1
32.5°	333.2	331.4	332.0	330.2	330.2	330.8	329.6	329.6	331.4	330.2
35°	320.4	316.2	316.8	316.2	316.8	314.3	314.3	313.7	314.9	311.9
37.5°	302.1	300.3	299.7	299.1	299.7	298.5	299.7	297.8	299.7	297.2
40°	285.6	284.4	285.0	281.4	281.4	282.0	280.8	280.1	280.8	283.2
42.5°	269.2	266.7	265.5	264.3	264.9	263.1	262.4	261.2	262.4	260.0
45°	249.6	249.6	249.0	246.0	246.6	246.6	244.1	241.7	242.3	242.3
47.5°	231.9	230.7	230.1	227.0	226.4	225.8	223.4	221.6	221.6	219.7
50°	212.4	211.2	209.3	206.3	205.1	201.4	199.6	197.1	194.7	194.7
52.5°	194.1	189.8	187.4	182.5	180.7	178.8	173.9	172.1	170.3	168.5
55°	172.1	168.5	163.6	158.1	155.6	152.6	147.7	144.0	141.6	142.2
57.5°	150.8	144.6	139.8	132.4	129.4	127.6	122.7	117.8	115.4	115.4
60°	124.5	119.6	113.5	106.8	104.4	101.3	95.2	92.2	90.3	88.5
62.5°	99.5	95.8	90.3	81.8	80.0	76.9	72.6	69.0	67.1	67.1
65°	74.5	70.8	65.9	59.8	57.4	54.9	51.3	47.6	45.8	45.2
67.5°	52.5	48.2	43.9	39.1	37.2	36.0	32.3	29.9	28.7	28.1
70°	31.7	29.3	26.2	22.6	20.8	19.5	17.1	15.3	14.6	14.0
72.5°	16.5	14.6	12.2	9.8	8.5	7.3	6.1	4.9	4.3	4.3
75°	6.1	4.9	3.1	1.8	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)