

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: P209210

Luminaire Tested: **LDSQ4B10D010 EU4B10209035 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209210
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 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-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 3500 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 913.1 lumens
Efficiency: N/A
Efficacy: 90.9 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

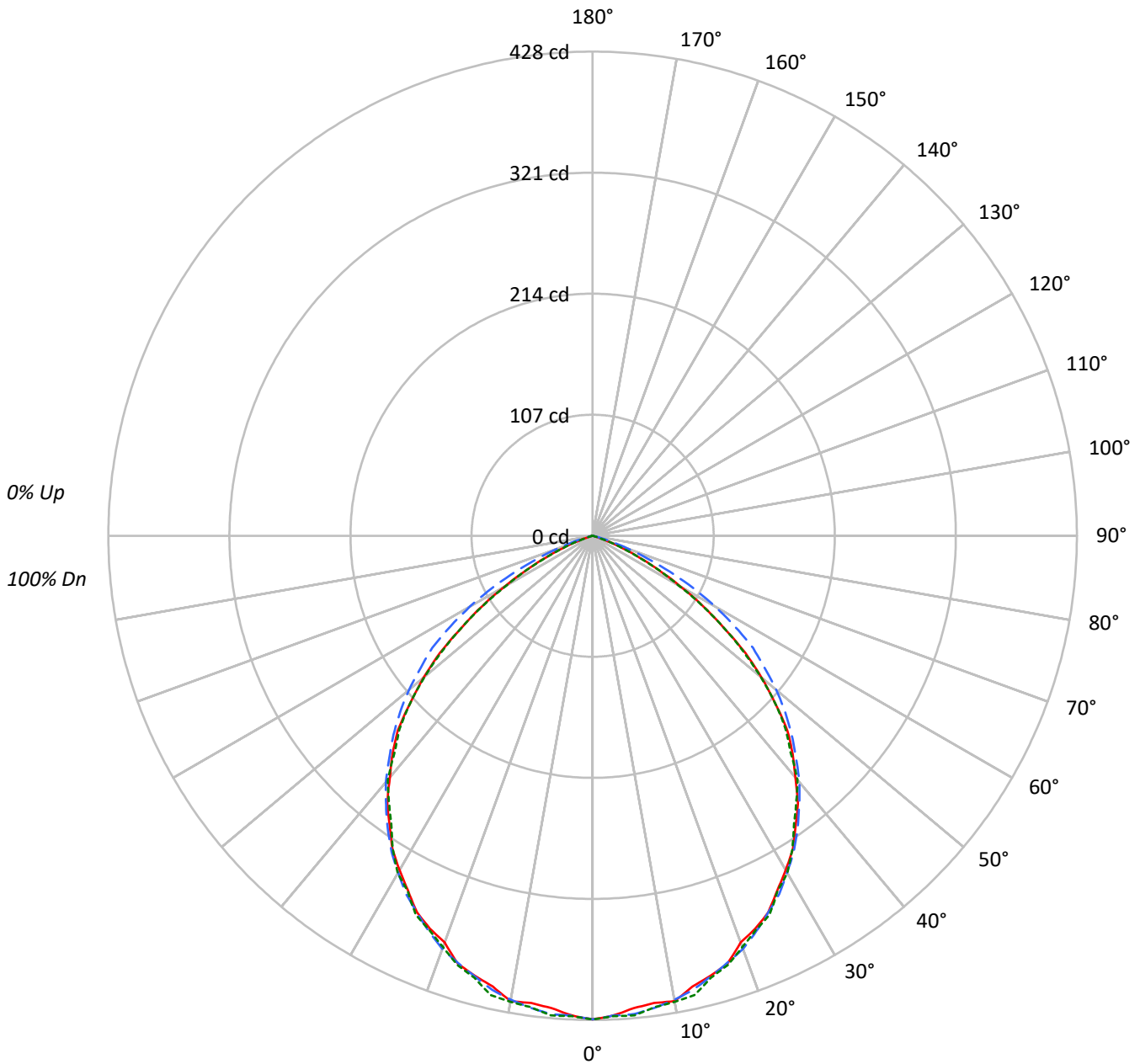
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	40.3	4.4
10°-20°	114.2	12.5
20°-30°	169.4	18.6
30°-40°	196.3	21.5
40°-50°	188.2	20.6
50°-60°	138.4	15.2
60°-70°	59.8	6.5
70°-80°	6.4	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°	323.9	35.5
0°-40°	520.2	57.0
0°-60°	846.8	92.7
0°-90°	913.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	913.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	428	428	428	428	428	
5°	419	423	424	425	426	40
15°	403	405	403	404	404	113
25°	367	367	367	368	370	168
35°	313	314	316	315	310	196
45°	244	244	249	245	241	185
55°	141	155	173	155	142	127
65°	46	58	75	57	45	47
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°	427.5	427.5	427.5	427.5	427.5	427.5	427.5	427.5	427.5	427.5	427.5
2.5°	424.4	429.3	429.9	426.9	425.6	423.8	428.1	425.0	426.2	425.0	424.4
5°	419.0	424.4	425.0	425.0	423.8	423.2	425.0	424.4	423.8	422.6	424.4
7.5°	416.5	419.6	422.6	419.0	420.8	420.2	424.4	422.6	422.0	422.0	420.8
10°	417.7	417.1	419.6	415.9	417.1	415.9	419.6	419.6	418.4	417.1	416.5
12.5°	408.0	412.9	412.9	412.3	411.1	409.2	412.9	415.3	411.7	411.7	411.1
15°	402.6	403.8	404.4	404.4	403.8	405.0	406.8	404.4	405.0	402.0	403.2
17.5°	396.5	394.1	395.9	394.7	395.3	396.5	398.9	398.9	395.3	394.7	395.9
20°	382.5	389.8	390.4	386.8	387.4	387.4	391.6	388.0	390.4	387.4	388.6
22.5°	375.8	380.7	381.3	376.5	379.5	375.8	380.1	374.6	380.7	376.5	378.3
25°	367.3	366.7	368.6	366.1	366.7	366.7	369.8	367.3	369.2	366.7	367.3
27.5°	353.4	358.2	357.6	355.2	356.4	355.8	361.9	355.2	358.8	355.8	357.0
30°	341.2	345.5	344.3	341.8	341.8	340.0	346.7	344.9	344.3	344.3	343.7
32.5°	329.1	329.7	328.5	329.1	329.7	327.3	332.7	330.3	329.7	330.3	330.9
35°	312.7	312.7	313.9	312.1	314.5	314.5	319.4	316.3	315.7	313.9	315.7
37.5°	298.1	296.3	296.9	296.9	298.1	299.3	301.8	300.6	300.6	298.7	299.9
40°	278.7	277.5	279.3	279.3	281.1	281.1	283.6	282.3	284.2	284.2	284.2
42.5°	261.7	261.7	260.5	262.3	262.9	262.3	266.6	265.9	266.6	265.3	265.9
45°	243.5	243.5	242.3	241.7	244.7	244.1	248.9	247.1	249.6	248.3	248.9
47.5°	218.6	221.6	219.8	221.6	225.3	225.9	228.9	227.7	230.1	228.3	230.7
50°	194.9	194.9	196.7	199.2	202.8	203.4	207.1	209.5	210.7	211.3	211.9
52.5°	170.0	169.4	171.2	174.3	177.3	179.7	183.4	187.0	189.4	193.1	191.3
55°	140.9	142.1	143.9	147.5	152.4	155.4	158.5	163.3	167.6	169.4	173.0
57.5°	116.0	114.8	116.0	120.8	126.3	128.7	133.0	137.8	143.9	147.5	148.8
60°	89.9	90.5	91.7	95.9	100.2	103.8	105.7	113.5	119.0	122.7	125.1
62.5°	66.2	67.4	68.6	72.3	76.5	79.5	82.6	89.3	94.1	97.8	100.2
65°	46.1	46.8	48.6	50.4	54.6	57.7	60.1	65.6	70.4	73.5	75.3
67.5°	28.5	29.1	30.4	32.8	35.8	38.3	40.7	44.3	48.6	51.6	52.2
70°	14.6	15.2	15.8	17.6	20.0	21.3	23.1	26.1	29.1	31.6	32.8
72.5°	4.9	4.9	5.5	6.7	7.9	9.1	9.7	12.8	15.2	16.4	17.0
75°	1.2	1.2	1.2	1.2	1.2	1.8	1.8	3.6	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	427.5	427.5	427.5	427.5	427.5	427.5	427.5	427.5	427.5	427.5
2.5°	427.5	426.2	425.6	426.2	426.2	425.6	427.5	429.9	432.9	425.0
5°	426.9	425.6	426.9	423.2	425.0	423.8	426.2	425.6	428.1	425.6
7.5°	425.0	422.6	423.2	421.4	423.8	420.8	422.6	426.2	423.8	420.2
10°	419.0	417.7	422.0	415.9	414.7	417.1	422.0	418.4	417.1	418.4
12.5°	412.9	412.9	414.7	409.8	410.5	411.7	414.1	411.7	412.9	415.9
15°	406.2	405.0	408.0	404.4	403.8	402.6	405.0	405.0	406.2	404.4
17.5°	398.3	396.5	396.5	395.3	394.7	397.7	398.9	399.5	400.1	397.7
20°	388.6	388.0	389.8	388.0	388.6	389.2	389.2	388.0	393.5	386.8
22.5°	378.3	380.1	377.7	376.5	377.7	378.9	378.9	379.5	378.3	377.1
25°	368.0	369.2	369.8	366.1	368.0	366.1	370.4	371.0	368.6	369.8
27.5°	358.8	357.0	356.4	354.0	355.2	354.6	355.2	355.2	358.8	354.0
30°	344.9	343.1	343.7	341.8	342.5	341.8	342.5	342.5	344.9	344.3
32.5°	331.5	329.7	330.3	328.5	328.5	329.1	327.9	327.9	329.7	328.5
35°	318.8	314.5	315.1	314.5	315.1	312.7	312.7	312.1	313.3	310.3
37.5°	300.6	298.7	298.1	297.5	298.1	296.9	298.1	296.3	298.1	295.7
40°	284.2	282.9	283.6	279.9	279.9	280.5	279.3	278.7	279.3	281.7
42.5°	267.8	265.3	264.1	262.9	263.5	261.7	261.1	259.9	261.1	258.7
45°	248.3	248.3	247.7	244.7	245.3	245.3	242.9	240.4	241.1	241.1
47.5°	230.7	229.5	228.9	225.9	225.3	224.7	222.2	220.4	220.4	218.6
50°	211.3	210.1	208.3	205.2	204.0	200.4	198.5	196.1	193.7	193.7
52.5°	193.1	188.8	186.4	181.5	179.7	177.9	173.0	171.2	169.4	167.6
55°	171.2	167.6	162.7	157.3	154.8	151.8	146.9	143.3	140.9	141.5
57.5°	150.0	143.9	139.0	131.8	128.7	126.9	122.0	117.2	114.8	114.8
60°	123.9	119.0	112.9	106.3	103.8	100.8	94.7	91.7	89.9	88.0
62.5°	99.0	95.3	89.9	81.4	79.5	76.5	72.3	68.6	66.8	66.8
65°	74.1	70.4	65.6	59.5	57.1	54.6	51.0	47.4	45.5	44.9
67.5°	52.2	48.0	43.7	38.9	37.0	35.8	32.2	29.8	28.5	27.9
70°	31.6	29.1	26.1	22.5	20.6	19.4	17.0	15.2	14.6	14.0
72.5°	16.4	14.6	12.1	9.7	8.5	7.3	6.1	4.9	4.3	4.3
75°	6.1	4.9	3.0	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)