

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: P209217

Luminaire Tested: **LDSQ4B15D010 EU4B10208040 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209217
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: LDSQ4B15D010 EU4B10208040 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-14.39 W DE010-14.29 W D5LT-14.34 W DMX-14.46 W DL2-15.8 W DL3-15.28 W DLE-15.432 W
Light Source: HIGH LUMEN LED 4000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1520.0 lumens
Efficiency: N/A
Efficacy: 105.6 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

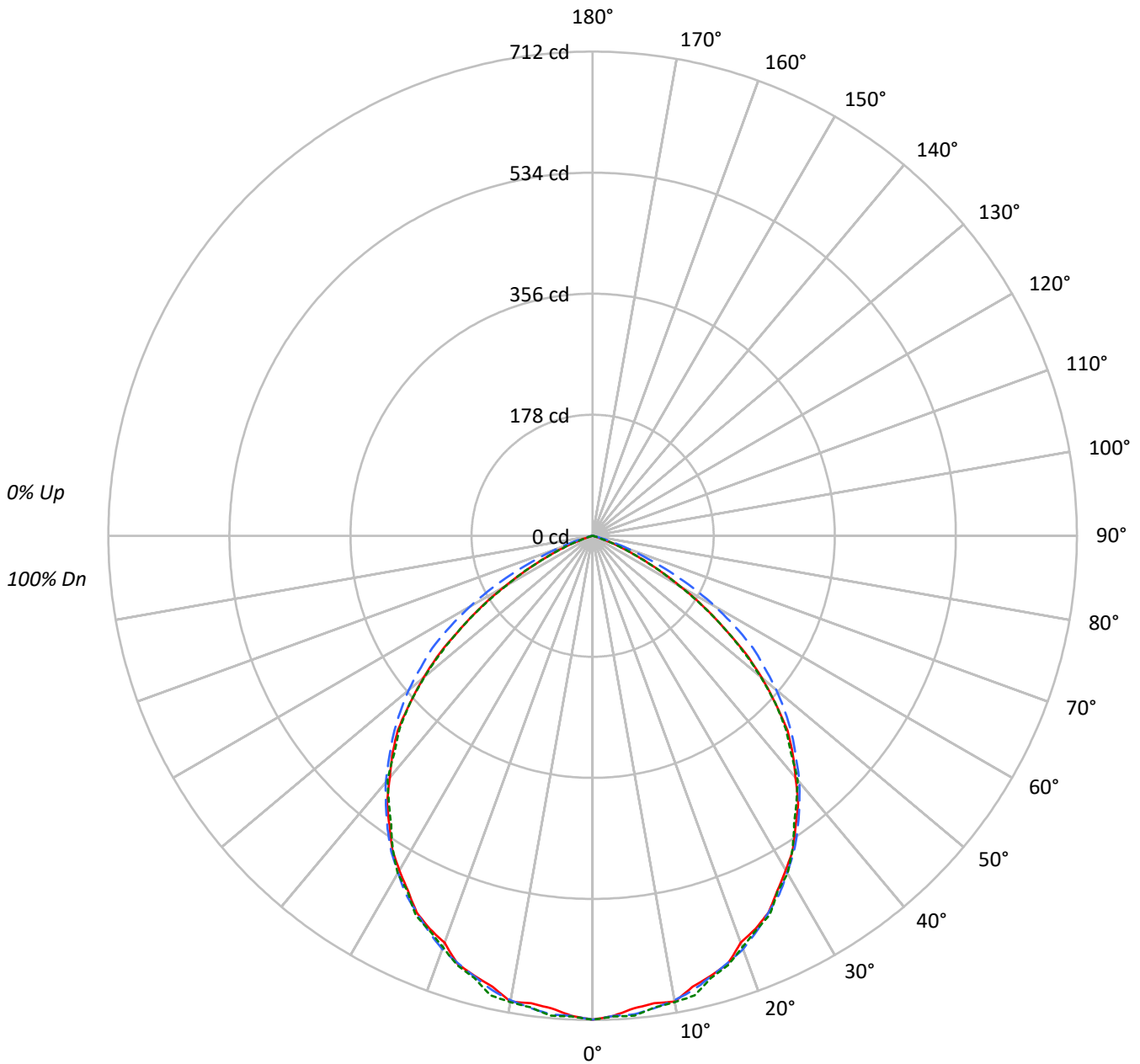
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	67.2	4.4
10°-20°	190.1	12.5
20°-30°	282.0	18.6
30°-40°	326.8	21.5
40°-50°	313.3	20.6
50°-60°	230.3	15.2
60°-70°	99.5	6.5
70°-80°	10.7	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°	539.2	35.5
0°-40°	866.0	57.0
0°-60°	1409.6	92.7
0°-90°	1520.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1520.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	712	712	712	712	712	
5°	697	704	706	708	708	67
15°	670	674	671	672	673	189
25°	612	610	612	612	616	280
35°	520	524	526	525	516	325
45°	405	406	414	408	401	308
55°	234	259	288	258	236	211
65°	77	96	125	95	75	79
75°	2	3	11	2	2	6
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°	711.6	711.6	711.6	711.6	711.6	711.6	711.6	711.6	711.6	711.6	711.6
2.5°	706.5	714.6	715.6	710.5	708.5	705.5	712.6	707.5	709.5	707.5	706.5
5°	697.4	706.5	707.5	707.5	705.5	704.5	707.5	706.5	705.5	703.5	706.5
7.5°	693.4	698.4	703.5	697.4	700.4	699.4	706.5	703.5	702.5	702.5	700.4
10°	695.4	694.4	698.4	692.4	694.4	692.4	698.4	698.4	696.4	694.4	693.4
12.5°	679.2	687.3	687.3	686.3	684.3	681.2	687.3	691.3	685.3	685.3	684.3
15°	670.1	672.1	673.1	673.1	672.1	674.2	677.2	673.1	674.2	669.1	671.1
17.5°	660.0	656.0	659.0	657.0	658.0	660.0	664.1	664.1	658.0	657.0	659.0
20°	636.8	648.9	649.9	643.8	644.8	644.8	651.9	645.9	649.9	644.8	646.9
22.5°	625.6	633.7	634.7	626.7	631.7	625.6	632.7	623.6	633.7	626.7	629.7
25°	611.5	610.5	613.5	609.5	610.5	610.5	615.5	611.5	614.5	610.5	611.5
27.5°	588.2	596.3	595.3	591.3	593.3	592.3	602.4	591.3	597.3	592.3	594.3
30°	568.0	575.1	573.1	569.0	569.0	566.0	577.1	574.1	573.1	573.1	572.1
32.5°	547.8	548.8	546.8	547.8	548.8	544.8	553.9	549.8	548.8	549.8	550.8
35°	520.5	520.5	522.5	519.5	523.6	523.6	531.6	526.6	525.6	522.5	525.6
37.5°	496.3	493.2	494.2	494.2	496.3	498.3	502.3	500.3	500.3	497.3	499.3
40°	463.9	461.9	464.9	464.9	468.0	468.0	472.0	470.0	473.0	473.0	473.0
42.5°	435.6	435.6	433.6	436.6	437.6	436.6	443.7	442.7	443.7	441.7	442.7
45°	405.3	405.3	403.3	402.3	407.3	406.3	414.4	411.4	415.4	413.4	414.4
47.5°	363.9	368.9	365.9	368.9	375.0	376.0	381.0	379.0	383.1	380.0	384.1
50°	324.4	324.4	327.5	331.5	337.6	338.6	344.7	348.7	350.7	351.7	352.7
52.5°	283.0	282.0	285.0	290.1	295.1	299.2	305.2	311.3	315.3	321.4	318.4
55°	234.5	236.5	239.5	245.6	253.7	258.7	263.8	271.9	279.0	282.0	288.1
57.5°	193.0	191.0	193.0	201.1	210.2	214.3	221.4	229.4	239.5	245.6	247.6
60°	149.6	150.6	152.6	159.7	166.8	172.8	175.9	189.0	198.1	204.2	208.2
62.5°	110.2	112.2	114.2	120.3	127.4	132.4	137.5	148.6	156.7	162.7	166.8
65°	76.8	77.8	80.9	83.9	91.0	96.0	100.1	109.2	117.2	122.3	125.3
67.5°	47.5	48.5	50.5	54.6	59.6	63.7	67.7	73.8	80.9	85.9	86.9
70°	24.3	25.3	26.3	29.3	33.4	35.4	38.4	43.5	48.5	52.6	54.6
72.5°	8.1	8.1	9.1	11.1	13.1	15.2	16.2	21.2	25.3	27.3	28.3
75°	2.0	2.0	2.0	2.0	2.0	3.0	3.0	6.1	8.1	10.1	11.1
77.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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°	711.6	711.6	711.6	711.6	711.6	711.6	711.6	711.6	711.6	711.6
2.5°	711.6	709.5	708.5	709.5	709.5	708.5	711.6	715.6	720.7	707.5
5°	710.5	708.5	710.5	704.5	707.5	705.5	709.5	708.5	712.6	708.5
7.5°	707.5	703.5	704.5	701.4	705.5	700.4	703.5	709.5	705.5	699.4
10°	697.4	695.4	702.5	692.4	690.3	694.4	702.5	696.4	694.4	696.4
12.5°	687.3	687.3	690.3	682.2	683.3	685.3	689.3	685.3	687.3	692.4
15°	676.2	674.2	679.2	673.1	672.1	670.1	674.2	674.2	676.2	673.1
17.5°	663.0	660.0	660.0	658.0	657.0	662.0	664.1	665.1	666.1	662.0
20°	646.9	645.9	648.9	645.9	646.9	647.9	647.9	645.9	655.0	643.8
22.5°	629.7	632.7	628.7	626.7	628.7	630.7	630.7	631.7	629.7	627.7
25°	612.5	614.5	615.5	609.5	612.5	609.5	616.5	617.6	613.5	615.5
27.5°	597.3	594.3	593.3	589.3	591.3	590.3	591.3	591.3	597.3	589.3
30°	574.1	571.1	572.1	569.0	570.1	569.0	570.1	570.1	574.1	573.1
32.5°	551.9	548.8	549.8	546.8	546.8	547.8	545.8	545.8	548.8	546.8
35°	530.6	523.6	524.6	523.6	524.6	520.5	520.5	519.5	521.5	516.5
37.5°	500.3	497.3	496.3	495.3	496.3	494.2	496.3	493.2	496.3	492.2
40°	473.0	471.0	472.0	465.9	465.9	467.0	464.9	463.9	464.9	469.0
42.5°	445.7	441.7	439.7	437.6	438.7	435.6	434.6	432.6	434.6	430.6
45°	413.4	413.4	412.4	407.3	408.3	408.3	404.3	400.2	401.3	401.3
47.5°	384.1	382.1	381.0	376.0	375.0	374.0	369.9	366.9	366.9	363.9
50°	351.7	349.7	346.7	341.6	339.6	333.5	330.5	326.5	322.4	322.4
52.5°	321.4	314.3	310.3	302.2	299.2	296.1	288.1	285.0	282.0	279.0
55°	285.0	279.0	270.9	261.8	257.7	252.7	244.6	238.5	234.5	235.5
57.5°	249.7	239.5	231.5	219.3	214.3	211.2	203.2	195.1	191.0	191.0
60°	206.2	198.1	188.0	176.9	172.8	167.8	157.7	152.6	149.6	146.6
62.5°	164.7	158.7	149.6	135.4	132.4	127.4	120.3	114.2	111.2	111.2
65°	123.3	117.2	109.2	99.1	95.0	91.0	84.9	78.8	75.8	74.8
67.5°	86.9	79.8	72.8	64.7	61.7	59.6	53.6	49.5	47.5	46.5
70°	52.6	48.5	43.5	37.4	34.4	32.3	28.3	25.3	24.3	23.2
72.5°	27.3	24.3	20.2	16.2	14.2	12.1	10.1	8.1	7.1	7.1
75°	10.1	8.1	5.1	3.0	2.0	2.0	2.0	2.0	2.0	2.0
77.5°	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)