

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: P209218

Luminaire Tested: **LDSQ4B15D010 EU4B10208050 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209218
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 EU4B10208050 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 5000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1519.2 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

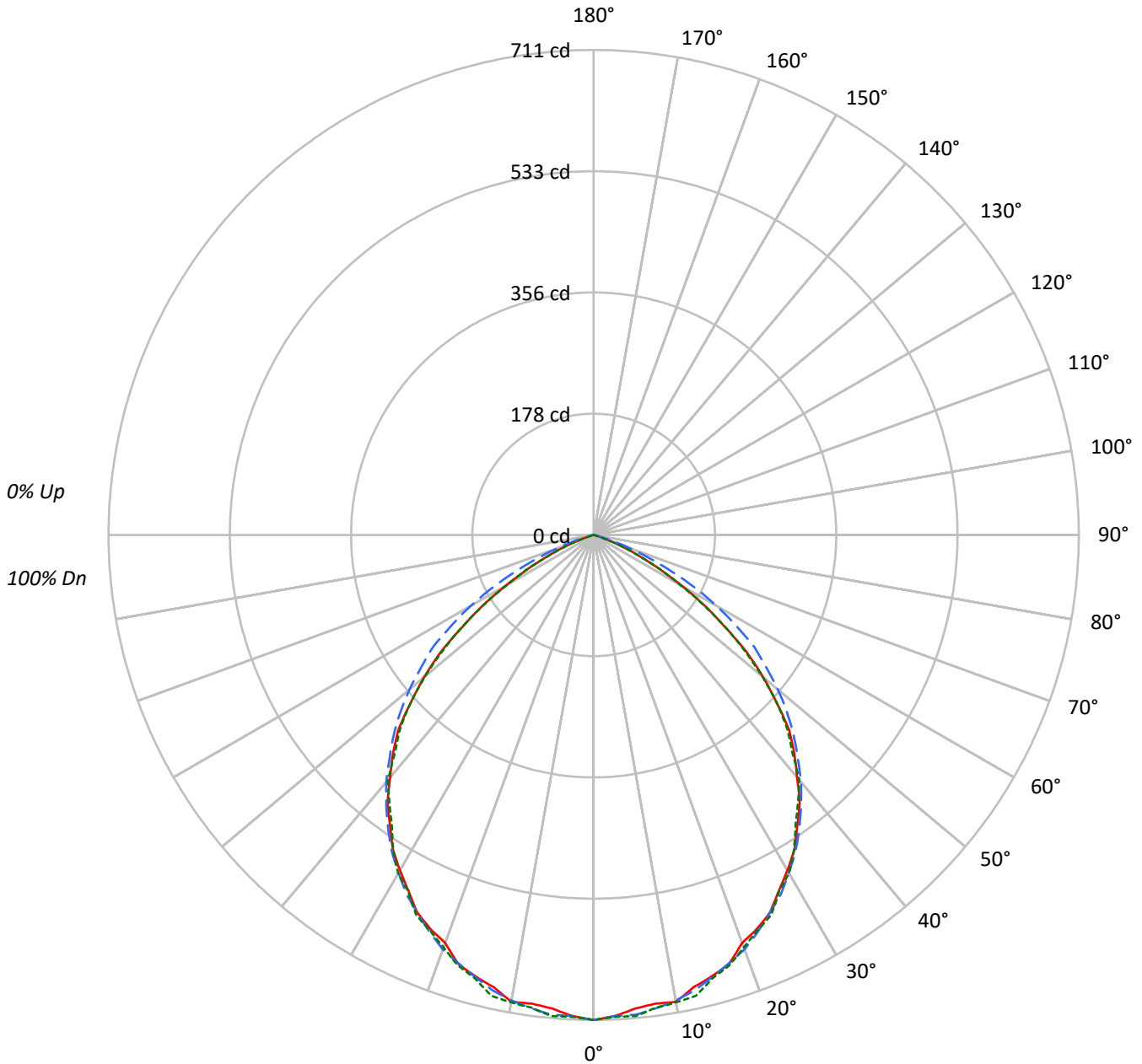
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	111	108	104	101	109	105	102	100	101	99	96	97	95	94	94	92	91	89					89			
2	103	96	91	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77					77			
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67					67			
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59					59			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52					52			
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46					46			
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41					41			
8	65	53	45	40	64	52	45	39	51	44	39	50	44	39	49	43	39	37					37			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	33					33			
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	31					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°	67.1	4.4
10°-20°	190.0	12.5
20°-30°	281.9	18.6
30°-40°	326.6	21.5
40°-50°	313.1	20.6
50°-60°	230.2	15.2
60°-70°	99.4	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°	539.0	35.5
0°-40°	865.5	57.0
0°-60°	1408.9	92.7
0°-90°	1519.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1519.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	711	711	711	711	711	
5°	697	704	706	707	708	66
15°	670	674	671	672	673	189
25°	611	610	611	612	615	280
35°	520	523	525	524	516	325
45°	405	406	414	408	401	308
55°	234	259	288	258	235	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°	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2
2.5°	706.1	714.2	715.2	710.2	708.1	705.1	712.2	707.1	709.2	707.1	706.1
5°	697.0	706.1	707.1	707.1	705.1	704.1	707.1	706.1	705.1	703.1	706.1
7.5°	693.0	698.0	703.1	697.0	700.1	699.1	706.1	703.1	702.1	702.1	700.1
10°	695.0	694.0	698.0	692.0	694.0	692.0	698.0	698.0	696.0	694.0	693.0
12.5°	678.9	686.9	686.9	685.9	683.9	680.9	686.9	691.0	684.9	684.9	683.9
15°	669.8	671.8	672.8	672.8	671.8	673.8	676.8	672.8	673.8	668.8	670.8
17.5°	659.7	655.6	658.7	656.6	657.6	659.7	663.7	663.7	657.6	656.6	658.7
20°	636.4	648.5	649.6	643.5	644.5	644.5	651.6	645.5	649.6	644.5	646.5
22.5°	625.3	633.4	634.4	626.3	631.4	625.3	632.4	623.3	633.4	626.3	629.4
25°	611.2	610.2	613.2	609.2	610.2	610.2	615.2	611.2	614.2	610.2	611.2
27.5°	587.9	596.0	595.0	591.0	593.0	592.0	602.1	591.0	597.0	592.0	594.0
30°	567.7	574.8	572.8	568.7	568.7	565.7	576.8	573.8	572.8	572.8	571.8
32.5°	547.5	548.5	546.5	547.5	548.5	544.5	553.6	549.5	548.5	549.5	550.6
35°	520.3	520.3	522.3	519.2	523.3	523.3	531.4	526.3	525.3	522.3	525.3
37.5°	496.0	493.0	494.0	494.0	496.0	498.0	502.1	500.0	500.0	497.0	499.0
40°	463.7	461.7	464.7	464.7	467.7	467.7	471.8	469.7	472.8	472.8	472.8
42.5°	435.4	435.4	433.4	436.4	437.4	436.4	443.5	442.5	443.5	441.5	442.5
45°	405.1	405.1	403.1	402.1	407.1	406.1	414.2	411.2	415.2	413.2	414.2
47.5°	363.7	368.7	365.7	368.7	374.8	375.8	380.8	378.8	382.9	379.8	383.9
50°	324.3	324.3	327.3	331.3	337.4	338.4	344.5	348.5	350.5	351.5	352.6
52.5°	282.9	281.8	284.9	289.9	295.0	299.0	305.1	311.1	315.2	321.2	318.2
55°	234.4	236.4	239.4	245.5	253.6	258.6	263.7	271.7	278.8	281.8	287.9
57.5°	192.9	190.9	192.9	201.0	210.1	214.2	221.2	229.3	239.4	245.5	247.5
60°	149.5	150.5	152.5	159.6	166.7	172.7	175.8	188.9	198.0	204.1	208.1
62.5°	110.1	112.1	114.2	120.2	127.3	132.3	137.4	148.5	156.6	162.6	166.7
65°	76.8	77.8	80.8	83.8	90.9	96.0	100.0	109.1	117.2	122.2	125.3
67.5°	47.5	48.5	50.5	54.6	59.6	63.6	67.7	73.7	80.8	85.9	86.9
70°	24.2	25.3	26.3	29.3	33.3	35.4	38.4	43.4	48.5	52.5	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°	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2	711.2
2.5°	711.2	709.2	708.1	709.2	709.2	708.1	711.2	715.2	720.3	707.1
5°	710.2	708.1	710.2	704.1	707.1	705.1	709.2	708.1	712.2	708.1
7.5°	707.1	703.1	704.1	701.1	705.1	700.1	703.1	709.2	705.1	699.1
10°	697.0	695.0	702.1	692.0	690.0	694.0	702.1	696.0	694.0	696.0
12.5°	686.9	686.9	690.0	681.9	682.9	684.9	689.0	684.9	686.9	692.0
15°	675.8	673.8	678.9	672.8	671.8	669.8	673.8	673.8	675.8	672.8
17.5°	662.7	659.7	659.7	657.6	656.6	661.7	663.7	664.7	665.7	661.7
20°	646.5	645.5	648.5	645.5	646.5	647.5	647.5	645.5	654.6	643.5
22.5°	629.4	632.4	628.3	626.3	628.3	630.4	630.4	631.4	629.4	627.3
25°	612.2	614.2	615.2	609.2	612.2	609.2	616.2	617.2	613.2	615.2
27.5°	597.0	594.0	593.0	588.9	591.0	590.0	591.0	591.0	597.0	588.9
30°	573.8	570.8	571.8	568.7	569.8	568.7	569.8	569.8	573.8	572.8
32.5°	551.6	548.5	549.5	546.5	546.5	547.5	545.5	545.5	548.5	546.5
35°	530.4	523.3	524.3	523.3	524.3	520.3	520.3	519.2	521.3	516.2
37.5°	500.0	497.0	496.0	495.0	496.0	494.0	496.0	493.0	496.0	492.0
40°	472.8	470.8	471.8	465.7	465.7	466.7	464.7	463.7	464.7	468.7
42.5°	445.5	441.5	439.4	437.4	438.4	435.4	434.4	432.4	434.4	430.3
45°	413.2	413.2	412.2	407.1	408.1	408.1	404.1	400.0	401.0	401.0
47.5°	383.9	381.9	380.8	375.8	374.8	373.8	369.7	366.7	366.7	363.7
50°	351.5	349.5	346.5	341.4	339.4	333.4	330.3	326.3	322.3	322.3
52.5°	321.2	314.2	310.1	302.0	299.0	296.0	287.9	284.9	281.8	278.8
55°	284.9	278.8	270.7	261.6	257.6	252.5	244.5	238.4	234.4	235.4
57.5°	249.5	239.4	231.3	219.2	214.2	211.1	203.1	195.0	190.9	190.9
60°	206.1	198.0	187.9	176.8	172.7	167.7	157.6	152.5	149.5	146.5
62.5°	164.7	158.6	149.5	135.4	132.3	127.3	120.2	114.2	111.1	111.1
65°	123.2	117.2	109.1	99.0	95.0	90.9	84.9	78.8	75.8	74.8
67.5°	86.9	79.8	72.7	64.7	61.6	59.6	53.5	49.5	47.5	46.5
70°	52.5	48.5	43.4	37.4	34.3	32.3	28.3	25.3	24.2	23.2
72.5°	27.3	24.2	20.2	16.2	14.1	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)