

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: P209226

Luminaire Tested: **LDSQ4B15D010 EU4B10209730 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209226
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 EU4B10209730 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 3000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1095.0 lumens
Efficiency: N/A
Efficacy: 76.1 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

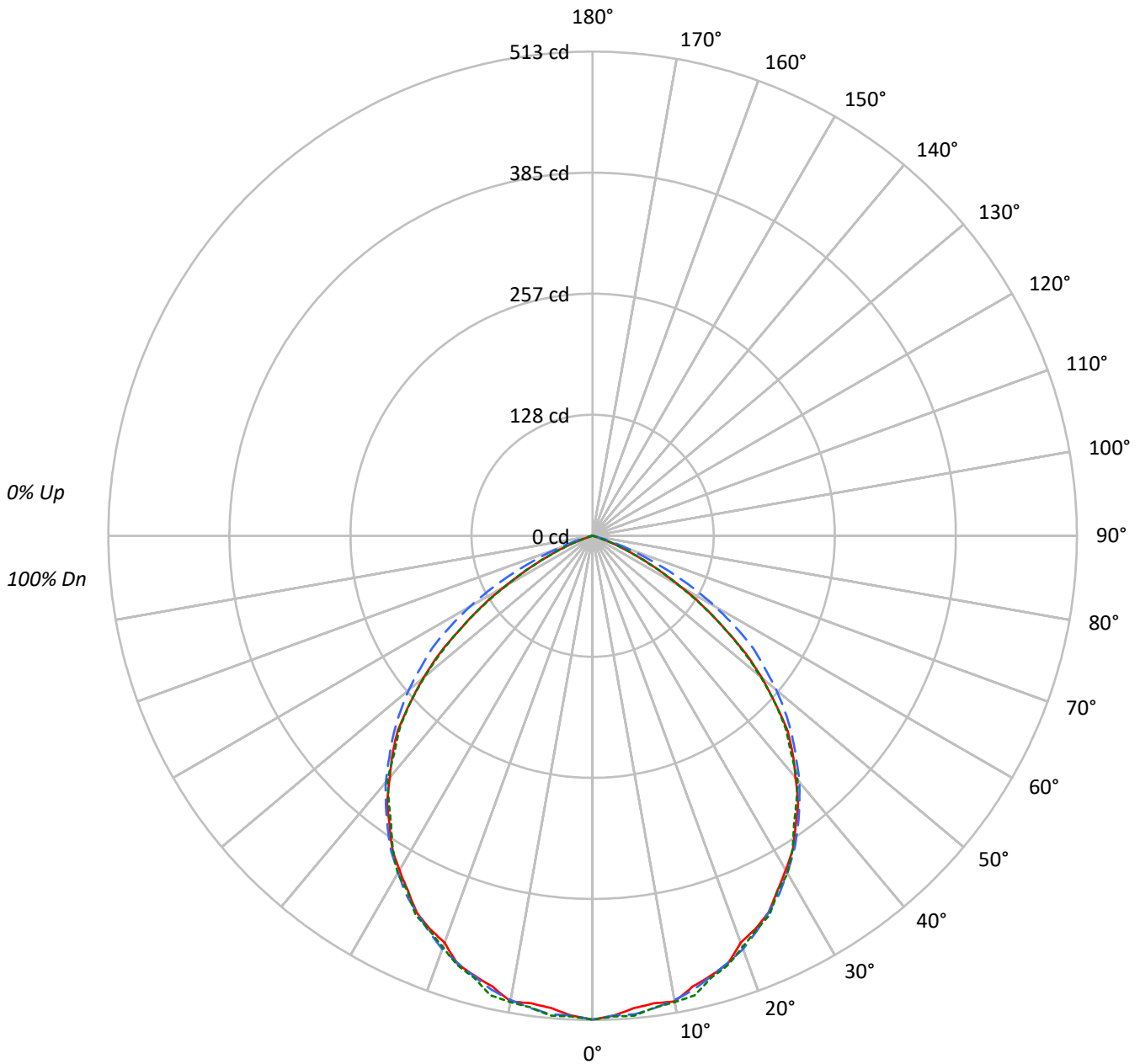
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	48.4	4.4
10°-20°	136.9	12.5
20°-30°	203.2	18.6
30°-40°	235.4	21.5
40°-50°	225.7	20.6
50°-60°	165.9	15.2
60°-70°	71.7	6.5
70°-80°	7.7	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°	388.5	35.5
0°-40°	623.8	57.0
0°-60°	1015.5	92.7
0°-90°	1095.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1095.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	513	513	513	513	513	
5°	502	508	509	510	510	48
15°	483	486	484	484	485	136
25°	440	440	440	441	443	202
35°	375	377	379	378	372	234
45°	292	293	298	294	289	222
55°	169	186	208	186	170	152
65°	55	69	90	68	54	57
75°	2	2	8	2	2	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°	512.6	512.6	512.6	512.6	512.6	512.6	512.6	512.6	512.6	512.6	512.6
2.5°	508.9	514.8	515.5	511.9	510.4	508.2	513.3	509.7	511.1	509.7	508.9
5°	502.4	508.9	509.7	509.7	508.2	507.5	509.7	508.9	508.2	506.8	508.9
7.5°	499.5	503.1	506.8	502.4	504.6	503.9	508.9	506.8	506.0	506.0	504.6
10°	500.9	500.2	503.1	498.8	500.2	498.8	503.1	503.1	501.7	500.2	499.5
12.5°	489.3	495.1	495.1	494.4	492.9	490.7	495.1	498.0	493.7	493.7	492.9
15°	482.7	484.2	484.9	484.9	484.2	485.6	487.8	484.9	485.6	482.0	483.5
17.5°	475.5	472.5	474.7	473.3	474.0	475.5	478.4	478.4	474.0	473.3	474.7
20°	458.7	467.4	468.2	463.8	464.5	464.5	469.6	465.3	468.2	464.5	466.0
22.5°	450.7	456.5	457.3	451.4	455.1	450.7	455.8	449.2	456.5	451.4	453.6
25°	440.5	439.8	442.0	439.1	439.8	439.8	443.4	440.5	442.7	439.8	440.5
27.5°	423.8	429.6	428.9	425.9	427.4	426.7	434.0	425.9	430.3	426.7	428.1
30°	409.2	414.3	412.8	409.9	409.9	407.7	415.8	413.6	412.8	412.8	412.1
32.5°	394.6	395.4	393.9	394.6	395.4	392.5	399.0	396.1	395.4	396.1	396.8
35°	375.0	375.0	376.4	374.2	377.2	377.2	383.0	379.3	378.6	376.4	378.6
37.5°	357.5	355.3	356.0	356.0	357.5	359.0	361.9	360.4	360.4	358.2	359.7
40°	334.2	332.7	334.9	334.9	337.1	337.1	340.0	338.6	340.8	340.8	340.8
42.5°	313.8	313.8	312.4	314.5	315.3	314.5	319.6	318.9	319.6	318.2	318.9
45°	292.0	292.0	290.5	289.8	293.4	292.7	298.5	296.3	299.3	297.8	298.5
47.5°	262.1	265.8	263.6	265.8	270.1	270.9	274.5	273.0	276.0	273.8	276.7
50°	233.7	233.7	235.9	238.8	243.2	243.9	248.3	251.2	252.7	253.4	254.1
52.5°	203.9	203.1	205.3	209.0	212.6	215.5	219.9	224.3	227.2	231.5	229.4
55°	168.9	170.4	172.6	176.9	182.8	186.4	190.0	195.9	201.0	203.1	207.5
57.5°	139.1	137.6	139.1	144.9	151.4	154.4	159.5	165.3	172.6	176.9	178.4
60°	107.8	108.5	109.9	115.0	120.1	124.5	126.7	136.2	142.7	147.1	150.0
62.5°	79.4	80.8	82.3	86.6	91.7	95.4	99.0	107.0	112.9	117.2	120.1
65°	55.3	56.1	58.2	60.4	65.5	69.2	72.1	78.6	84.5	88.1	90.3
67.5°	34.2	34.9	36.4	39.3	43.0	45.9	48.8	53.2	58.2	61.9	62.6
70°	17.5	18.2	18.9	21.1	24.0	25.5	27.7	31.3	34.9	37.9	39.3
72.5°	5.8	5.8	6.6	8.0	9.5	10.9	11.6	15.3	18.2	19.7	20.4
75°	1.5	1.5	1.5	1.5	1.5	2.2	2.2	4.4	5.8	7.3	8.0
77.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.5	1.5
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°	512.6	512.6	512.6	512.6	512.6	512.6	512.6	512.6	512.6	512.6
2.5°	512.6	511.1	510.4	511.1	511.1	510.4	512.6	515.5	519.1	509.7
5°	511.9	510.4	511.9	507.5	509.7	508.2	511.1	510.4	513.3	510.4
7.5°	509.7	506.8	507.5	505.3	508.2	504.6	506.8	511.1	508.2	503.9
10°	502.4	500.9	506.0	498.8	497.3	500.2	506.0	501.7	500.2	501.7
12.5°	495.1	495.1	497.3	491.5	492.2	493.7	496.6	493.7	495.1	498.8
15°	487.1	485.6	489.3	484.9	484.2	482.7	485.6	485.6	487.1	484.9
17.5°	477.6	475.5	475.5	474.0	473.3	476.9	478.4	479.1	479.8	476.9
20°	466.0	465.3	467.4	465.3	466.0	466.7	466.7	465.3	471.8	463.8
22.5°	453.6	455.8	452.9	451.4	452.9	454.3	454.3	455.1	453.6	452.2
25°	441.2	442.7	443.4	439.1	441.2	439.1	444.1	444.9	442.0	443.4
27.5°	430.3	428.1	427.4	424.5	425.9	425.2	425.9	425.9	430.3	424.5
30°	413.6	411.4	412.1	409.9	410.7	409.9	410.7	410.7	413.6	412.8
32.5°	397.5	395.4	396.1	393.9	393.9	394.6	393.2	393.2	395.4	393.9
35°	382.3	377.2	377.9	377.2	377.9	375.0	375.0	374.2	375.7	372.1
37.5°	360.4	358.2	357.5	356.8	357.5	356.0	357.5	355.3	357.5	354.6
40°	340.8	339.3	340.0	335.7	335.7	336.4	334.9	334.2	334.9	337.8
42.5°	321.1	318.2	316.7	315.3	316.0	313.8	313.1	311.6	313.1	310.2
45°	297.8	297.8	297.1	293.4	294.2	294.2	291.2	288.3	289.1	289.1
47.5°	276.7	275.2	274.5	270.9	270.1	269.4	266.5	264.3	264.3	262.1
50°	253.4	251.9	249.7	246.1	244.6	240.3	238.1	235.2	232.3	232.3
52.5°	231.5	226.4	223.5	217.7	215.5	213.3	207.5	205.3	203.1	201.0
55°	205.3	201.0	195.1	188.6	185.7	182.0	176.2	171.8	168.9	169.6
57.5°	179.8	172.6	166.7	158.0	154.4	152.2	146.4	140.5	137.6	137.6
60°	148.5	142.7	135.4	127.4	124.5	120.9	113.6	109.9	107.8	105.6
62.5°	118.7	114.3	107.8	97.6	95.4	91.7	86.6	82.3	80.1	80.1
65°	88.8	84.5	78.6	71.4	68.4	65.5	61.2	56.8	54.6	53.9
67.5°	62.6	57.5	52.4	46.6	44.4	43.0	38.6	35.7	34.2	33.5
70°	37.9	34.9	31.3	26.9	24.8	23.3	20.4	18.2	17.5	16.7
72.5°	19.7	17.5	14.6	11.6	10.2	8.7	7.3	5.8	5.1	5.1
75°	7.3	5.8	3.6	2.2	1.5	1.5	1.5	1.5	1.5	1.5
77.5°	1.5	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)