

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: P209147

Luminaire Tested: **LDSQ4B30D010 EU4B30509040 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209147
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35088)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQ4B30D010 EU4B30509040 4LBSQ1LI
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE LOW
IRIDESCENT TRIM.
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM
WATTAGE D010TR-27.4 W DE010-27.95 W D5LT-27.65 W DMX-27.73 W DL2-29.56 W
DL3-29.67 W DLE-29.73 W
Light Source: HIGH LUMEN LED 4000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2400.2 lumens
Efficiency: N/A
Efficacy: 85.7 lumens/watt
Spacing Criteria (0/90/45): 0.91 / 0.9 / 0.94
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

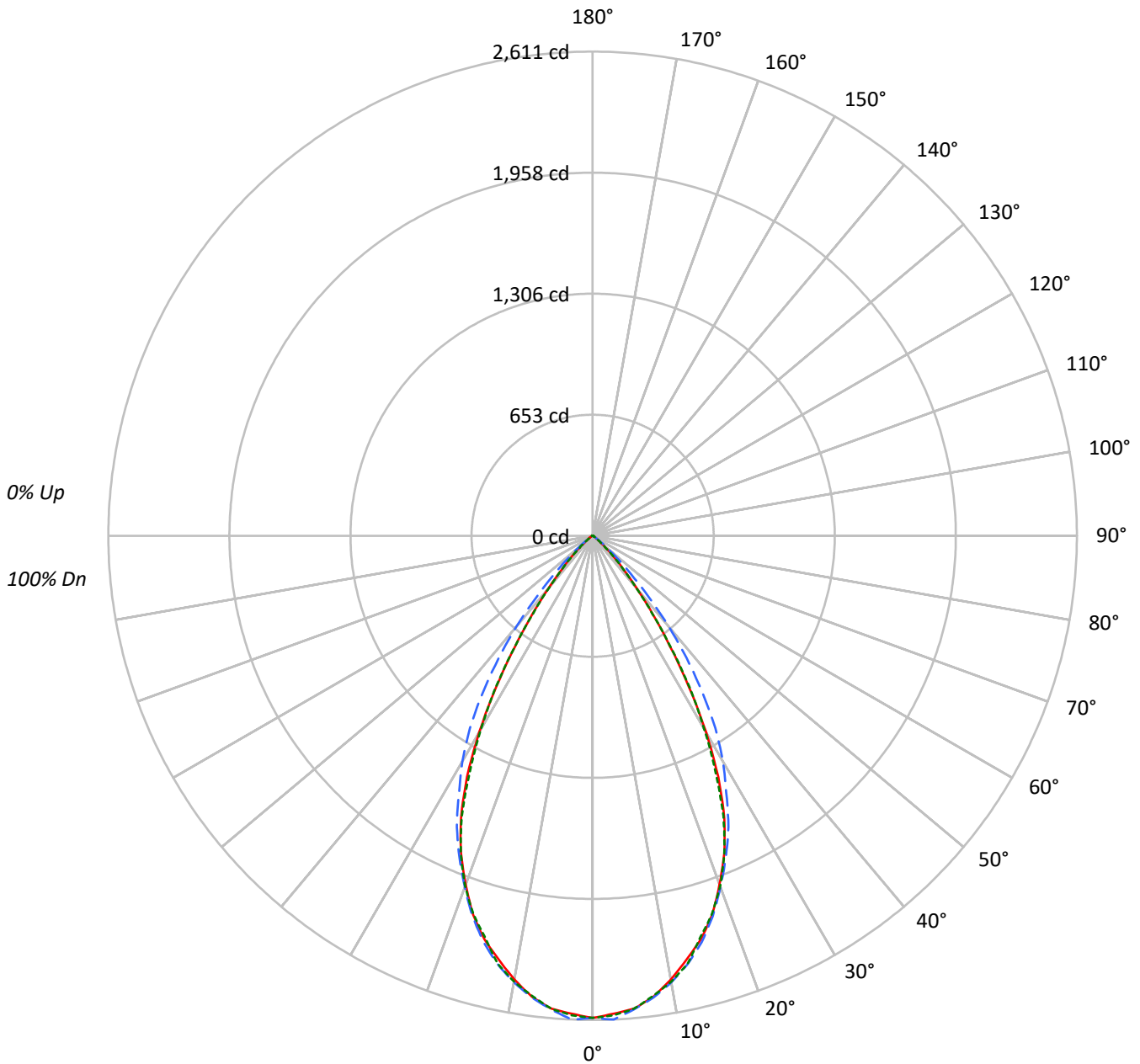
Input Watts (W): 28
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93																			
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87																			
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80																			
4	97	89	84	79	95	88	83	79	86	81	78	84	80	77	82	79	76	75																			
5	92	83	77	73	90	82	77	73	81	76	72	79	75	71	77	74	71	69																			
6	87	78	72	68	86	77	71	67	76	71	67	74	70	66	73	69	66	64																			
7	83	73	67	63	81	73	67	63	71	66	62	70	65	62	69	65	62	60																			
8	79	69	63	59	77	68	62	58	67	62	58	66	61	58	65	61	58	56																			
9	75	65	59	55	74	64	59	55	63	58	55	63	58	54	62	57	54	53																			
10	71	61	55	51	70	61	55	51	60	55	51	59	54	51	58	54	51	50																			

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°	241.0	10.0
10°-20°	631.7	26.3
20°-30°	771.7	32.2
30°-40°	539.8	22.5
40°-50°	176.9	7.4
50°-60°	28.1	1.2
60°-70°	7.7	0.3
70°-80°	2.6	0.1
80°-90°	0.7	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°	1644.5	68.5
0°-40°	2184.2	91.0
0°-60°	2389.2	99.5
0°-90°	2400.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2400.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2600	2600	2600	2600	2600	
5°	2560	2561	2564	2548	2560	240
15°	2253	2262	2270	2255	2241	628
25°	1680	1705	1733	1701	1668	755
35°	727	858	1032	845	733	464
45°	160	197	291	195	159	134
55°	23	25	28	25	22	23
65°	7	8	7	8	7	7
75°	2	2	2	2	2	2
85°	0	0	0	0	0	1
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2599.8	2599.8	2599.8	2599.8	2599.8	2599.8	2599.8	2599.8	2599.8	2599.8	2599.8
2.5°	2580.0	2598.2	2593.2	2604.8	2604.8	2591.6	2594.9	2599.8	2606.4	2611.4	2571.7
5°	2560.2	2576.7	2561.8	2578.3	2568.4	2553.6	2578.3	2565.1	2573.4	2563.5	2570.1
7.5°	2507.3	2533.7	2504.0	2523.8	2517.2	2509.0	2518.9	2515.6	2520.5	2512.3	2494.1
10°	2429.7	2451.2	2431.3	2459.4	2446.2	2437.9	2446.2	2454.5	2452.8	2444.6	2454.5
12.5°	2340.5	2365.3	2355.4	2371.9	2357.0	2357.0	2376.8	2371.9	2373.5	2366.9	2378.5
15°	2253.0	2271.1	2256.3	2277.7	2271.1	2253.0	2261.2	2261.2	2274.4	2269.5	2256.3
17.5°	2143.9	2158.8	2142.3	2147.2	2140.6	2137.3	2172.0	2148.9	2162.1	2152.2	2153.9
20°	2000.2	2006.8	2001.9	2015.1	2006.8	2016.8	2013.5	2010.2	2010.2	2015.1	2003.5
22.5°	1854.9	1854.9	1859.8	1863.1	1869.8	1859.8	1879.7	1863.1	1864.8	1876.4	1873.1
25°	1679.8	1674.9	1686.4	1702.9	1709.5	1701.3	1727.7	1714.5	1724.4	1732.7	1714.5
27.5°	1466.7	1466.7	1478.3	1506.4	1511.3	1521.2	1557.6	1557.6	1570.8	1559.2	1572.4
30°	1220.6	1238.8	1253.7	1290.0	1301.6	1323.0	1361.0	1379.2	1408.9	1404.0	1397.4
32.5°	967.9	992.7	994.3	1032.3	1063.7	1100.1	1151.3	1194.2	1215.7	1230.5	1214.0
35°	726.8	741.6	754.8	781.3	834.1	882.0	928.3	984.4	1022.4	1032.3	1017.5
37.5°	531.9	535.2	548.4	573.1	612.8	659.0	715.2	776.3	816.0	830.8	814.3
40°	366.7	370.0	376.6	398.1	431.1	464.1	508.7	571.5	607.8	637.6	616.1
42.5°	246.1	249.4	256.0	272.5	290.7	322.1	356.8	396.4	431.1	444.3	432.8
45°	160.2	160.2	163.5	175.1	185.0	209.8	234.5	259.3	282.4	290.7	282.4
47.5°	94.1	95.8	99.1	107.4	118.9	128.8	147.0	163.5	170.1	176.7	173.4
50°	54.5	54.5	59.5	64.4	72.7	79.3	85.9	92.5	95.8	99.1	95.8
52.5°	29.7	31.4	33.0	34.7	38.0	44.6	49.6	49.6	51.2	52.9	51.2
55°	23.1	23.1	23.1	23.1	24.8	24.8	24.8	26.4	26.4	28.1	26.4
57.5°	16.5	16.5	16.5	18.2	18.2	18.2	16.5	16.5	16.5	16.5	16.5
60°	13.2	13.2	13.2	13.2	13.2	13.2	13.2	11.6	11.6	11.6	11.6
62.5°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
65°	6.6	6.6	8.3	8.3	8.3	8.3	8.3	6.6	6.6	6.6	6.6
67.5°	5.0	5.0	5.0	5.0	6.6	6.6	5.0	5.0	5.0	5.0	5.0
70°	3.3	3.3	3.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
72.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
75°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
77.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
80°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	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°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2599.8	2599.8	2599.8	2599.8	2599.8	2599.8	2599.8	2599.8
2.5°	2599.8	2571.7	2575.0	2589.9	2581.6	2589.9	2588.3	2588.3
5°	2571.7	2563.5	2550.3	2545.3	2555.2	2576.7	2573.4	2560.2
7.5°	2518.9	2497.4	2512.3	2518.9	2510.6	2523.8	2530.4	2502.4
10°	2456.1	2447.9	2444.6	2447.9	2444.6	2457.8	2441.3	2441.3
12.5°	2366.9	2353.7	2353.7	2373.5	2362.0	2352.1	2365.3	2363.6
15°	2277.7	2251.3	2251.3	2257.9	2262.9	2256.3	2257.9	2241.4
17.5°	2145.6	2137.3	2125.8	2143.9	2148.9	2142.3	2147.2	2139.0
20°	2021.7	2021.7	2000.2	2008.5	2015.1	2020.1	2023.4	2010.2
22.5°	1863.1	1866.5	1851.6	1868.1	1873.1	1856.5	1859.8	1856.5
25°	1717.8	1716.1	1704.6	1698.0	1701.3	1694.7	1693.0	1668.2
27.5°	1557.6	1541.1	1516.3	1522.9	1494.8	1471.7	1471.7	1433.7
30°	1384.1	1356.1	1323.0	1290.0	1265.2	1238.8	1223.9	1202.5
32.5°	1181.0	1143.0	1101.7	1057.1	1029.0	989.4	967.9	979.5
35°	979.5	923.3	867.2	822.6	779.6	756.5	730.1	733.4
37.5°	784.6	705.3	655.7	607.8	571.5	541.8	530.2	526.9
40°	573.1	510.4	460.8	426.1	401.4	378.2	365.0	360.1
42.5°	396.4	351.8	312.2	284.1	267.6	252.7	246.1	244.5
45°	257.7	231.2	204.8	185.0	171.8	161.9	160.2	158.6
47.5°	161.9	148.7	132.1	117.3	105.7	99.1	94.1	94.1
50°	92.5	87.5	79.3	71.0	64.4	61.1	56.2	54.5
52.5°	49.6	49.6	46.2	39.6	34.7	31.4	31.4	29.7
55°	26.4	26.4	24.8	24.8	23.1	23.1	23.1	21.5
57.5°	16.5	16.5	18.2	18.2	16.5	16.5	16.5	16.5
60°	11.6	13.2	13.2	13.2	13.2	13.2	13.2	13.2
62.5°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
65°	6.6	8.3	8.3	8.3	8.3	6.6	6.6	6.6
67.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
70°	5.0	5.0	5.0	5.0	5.0	3.3	3.3	3.3
72.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
75°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
77.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
80°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
82.5°	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
87.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
90°	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)