

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: P209148

Luminaire Tested: **LDSQ4B30D010 EU4B30509050 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209148
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 EU4B30509050 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 5000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2410.7 lumens
Efficiency: N/A
Efficacy: 86.1 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

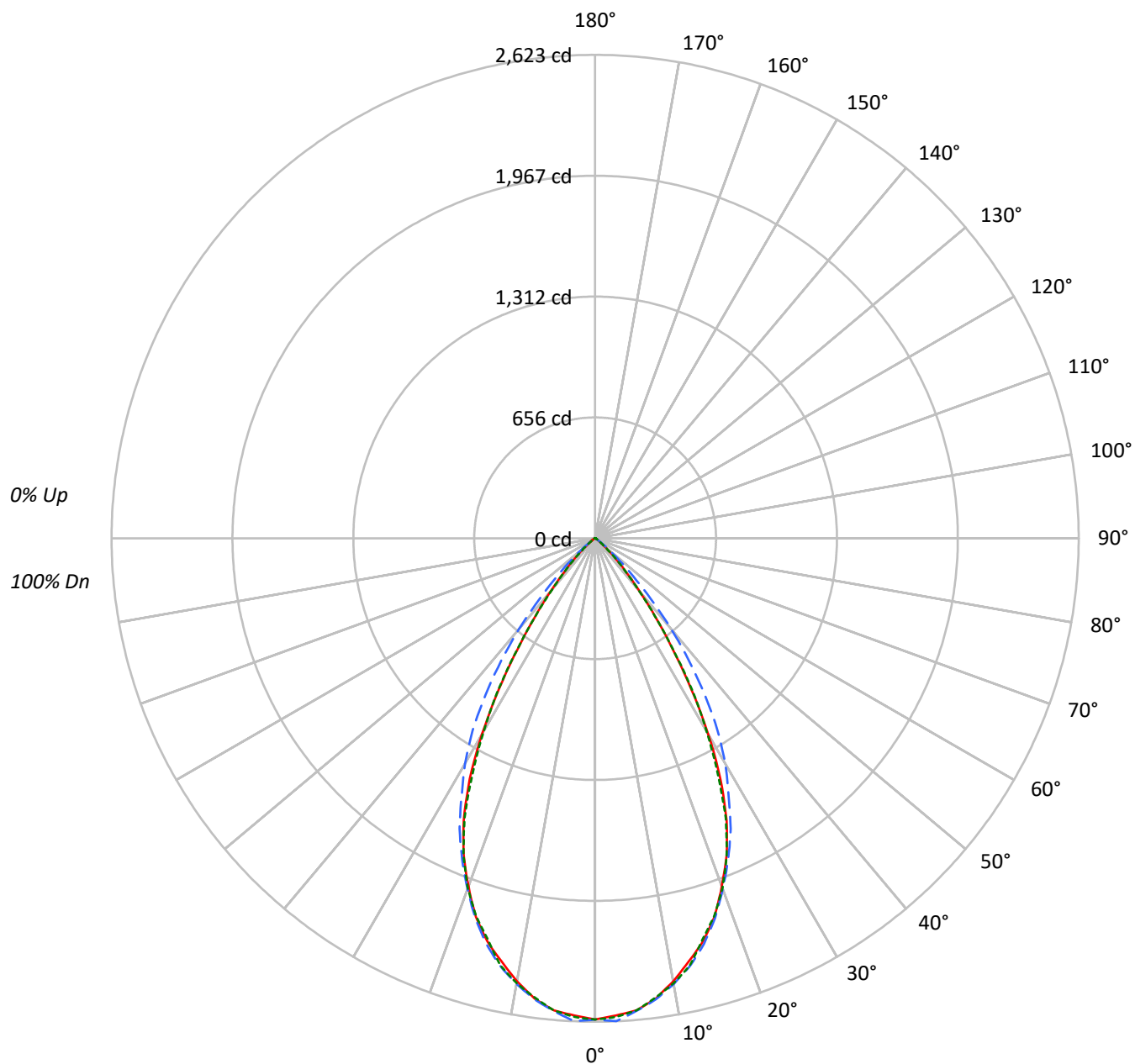
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	242.1	10.0
10°-20°	634.5	26.3
20°-30°	775.1	32.2
30°-40°	542.1	22.5
40°-50°	177.7	7.4
50°-60°	28.2	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°	1651.7	68.5
0°-40°	2193.8	91.0
0°-60°	2399.7	99.5
0°-90°	2410.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2410.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2611	2611	2611	2611	2611	
5°	2571	2572	2575	2559	2571	241
15°	2263	2272	2279	2264	2251	631
25°	1687	1713	1740	1709	1676	758
35°	730	862	1037	849	737	466
45°	161	198	292	196	159	135
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°	2611.2	2611.2	2611.2	2611.2	2611.2	2611.2	2611.2	2611.2	2611.2	2611.2	2611.2
2.5°	2591.3	2609.5	2604.5	2616.1	2616.1	2602.9	2606.2	2611.2	2617.8	2622.8	2583.0
5°	2571.4	2587.9	2573.0	2589.6	2579.6	2564.7	2589.6	2576.3	2584.6	2574.7	2581.3
7.5°	2518.3	2544.8	2514.9	2534.9	2528.2	2519.9	2529.9	2526.6	2531.5	2523.2	2505.0
10°	2440.3	2461.9	2442.0	2470.2	2456.9	2448.6	2456.9	2465.2	2463.5	2455.2	2465.2
12.5°	2350.7	2375.6	2365.6	2382.2	2367.3	2367.3	2387.2	2382.2	2383.9	2377.3	2388.9
15°	2262.8	2281.0	2266.1	2287.7	2281.0	2262.8	2271.1	2271.1	2284.4	2279.4	2266.1
17.5°	2153.3	2168.2	2151.6	2156.6	2150.0	2146.7	2181.5	2158.3	2171.5	2161.6	2163.3
20°	2009.0	2015.6	2010.6	2023.9	2015.6	2025.6	2022.2	2018.9	2018.9	2023.9	2012.3
22.5°	1863.0	1863.0	1868.0	1871.3	1877.9	1868.0	1887.9	1871.3	1872.9	1884.6	1881.2
25°	1687.1	1682.2	1693.8	1710.4	1717.0	1708.7	1735.2	1722.0	1731.9	1740.2	1722.0
27.5°	1473.1	1473.1	1484.7	1513.0	1517.9	1527.9	1564.4	1564.4	1577.6	1566.0	1579.3
30°	1226.0	1244.2	1259.1	1295.6	1307.2	1328.8	1367.0	1385.2	1415.1	1410.1	1403.5
32.5°	972.1	997.0	998.7	1036.8	1068.4	1104.9	1156.3	1199.4	1221.0	1235.9	1219.3
35°	729.9	744.9	758.1	784.7	837.8	885.9	932.3	988.7	1026.9	1036.8	1021.9
37.5°	534.2	537.5	550.8	575.7	615.5	661.9	718.3	779.7	819.5	834.4	817.9
40°	368.3	371.6	378.2	399.8	433.0	466.2	511.0	574.0	610.5	640.3	618.8
42.5°	247.2	250.5	257.1	273.7	292.0	323.5	358.3	398.1	433.0	446.3	434.6
45°	160.9	160.9	164.2	175.8	185.8	210.7	235.6	260.5	283.7	292.0	283.7
47.5°	94.6	96.2	99.5	107.8	119.4	129.4	147.6	164.2	170.9	177.5	174.2
50°	54.7	54.7	59.7	64.7	73.0	79.6	86.3	92.9	96.2	99.5	96.2
52.5°	29.9	31.5	33.2	34.8	38.2	44.8	49.8	49.8	51.4	53.1	51.4
55°	23.2	23.2	23.2	23.2	24.9	24.9	24.9	26.5	26.5	28.2	26.5
57.5°	16.6	16.6	16.6	18.2	18.2	18.2	16.6	16.6	16.6	16.6	16.6
60°	13.3	13.3	13.3	13.3	13.3	13.3	13.3	11.6	11.6	11.6	11.6
62.5°	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
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°	2611.2	2611.2	2611.2	2611.2	2611.2	2611.2	2611.2	2611.2
2.5°	2611.2	2583.0	2586.3	2601.2	2592.9	2601.2	2599.6	2599.6
5°	2583.0	2574.7	2561.4	2556.4	2566.4	2587.9	2584.6	2571.4
7.5°	2529.9	2508.3	2523.2	2529.9	2521.6	2534.9	2541.5	2513.3
10°	2466.8	2458.5	2455.2	2458.5	2455.2	2468.5	2451.9	2451.9
12.5°	2377.3	2364.0	2364.0	2383.9	2372.3	2362.3	2375.6	2373.9
15°	2287.7	2261.1	2261.1	2267.8	2272.7	2266.1	2267.8	2251.2
17.5°	2155.0	2146.7	2135.1	2153.3	2158.3	2151.6	2156.6	2148.3
20°	2030.5	2030.5	2009.0	2017.3	2023.9	2028.9	2032.2	2018.9
22.5°	1871.3	1874.6	1859.7	1876.3	1881.2	1864.6	1868.0	1864.6
25°	1725.3	1723.6	1712.0	1705.4	1708.7	1702.1	1700.4	1675.5
27.5°	1564.4	1547.8	1522.9	1529.5	1501.3	1478.1	1478.1	1440.0
30°	1390.2	1362.0	1328.8	1295.6	1270.7	1244.2	1229.3	1207.7
32.5°	1186.1	1148.0	1106.5	1061.7	1033.5	993.7	972.1	983.7
35°	983.7	927.3	870.9	826.2	783.0	759.8	733.3	736.6
37.5°	788.0	708.4	658.6	610.5	574.0	544.1	532.5	529.2
40°	575.7	512.6	462.8	428.0	403.1	379.9	366.6	361.6
42.5°	398.1	353.4	313.5	285.3	268.7	253.8	247.2	245.5
45°	258.8	232.3	205.7	185.8	172.5	162.6	160.9	159.3
47.5°	162.6	149.3	132.7	117.8	106.2	99.5	94.6	94.6
50°	92.9	87.9	79.6	71.3	64.7	61.4	56.4	54.7
52.5°	49.8	49.8	46.5	39.8	34.8	31.5	31.5	29.9
55°	26.5	26.5	24.9	24.9	23.2	23.2	23.2	21.6
57.5°	16.6	16.6	18.2	18.2	16.6	16.6	16.6	16.6
60°	11.6	13.3	13.3	13.3	13.3	13.3	13.3	13.3
62.5°	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
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)