

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: P209162

Luminaire Tested: **LDSQ4B40D010 EU4B30509730 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209162
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: LDSQ4B40D010 EU4B30509730 4LBSQ1LI
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE LOW
IRIDESCENT TRIM.
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM
WATTAGE D010TR-43.02 W DE010-42.54 W D5LT-42.539 W DMX-41.87 W DL2-41.57
W DL3-44.71 W DLE-39.33 W
Light Source: HIGH LUMEN LED 3000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2892.3 lumens
Efficiency: N/A
Efficacy: 67.2 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

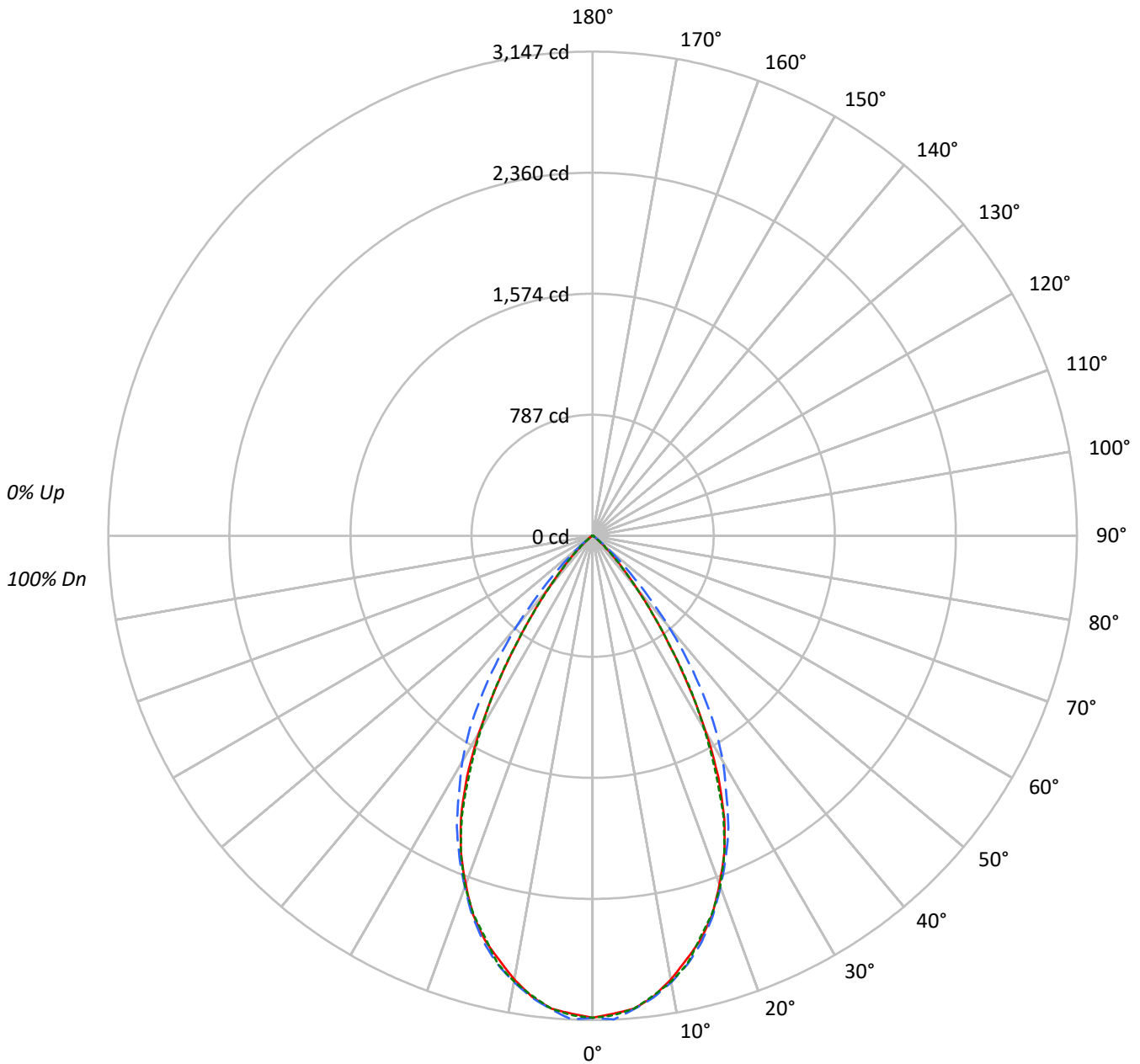
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	290.5	10.0
10°-20°	761.2	26.3
20°-30°	929.9	32.2
30°-40°	650.4	22.5
40°-50°	213.2	7.4
50°-60°	33.9	1.2
60°-70°	9.2	0.3
70°-80°	3.1	0.1
80°-90°	0.8	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°	1981.7	68.5
0°-40°	2632.1	91.0
0°-60°	2879.1	99.5
0°-90°	2892.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2892.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3133	3133	3133	3133	3133	
5°	3085	3086	3089	3070	3085	289
15°	2715	2726	2735	2717	2701	757
25°	2024	2055	2088	2050	2010	909
35°	876	1034	1244	1018	884	559
45°	193	238	350	235	191	162
55°	28	30	34	30	26	28
65°	8	10	8	10	8	9
75°	2	2	2	2	2	3
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°	3132.9	3132.9	3132.9	3132.9	3132.9	3132.9	3132.9	3132.9	3132.9	3132.9	3132.9
2.5°	3109.0	3130.9	3124.9	3138.8	3138.8	3122.9	3126.9	3132.9	3140.8	3146.8	3099.0
5°	3085.1	3105.0	3087.1	3107.0	3095.0	3077.1	3107.0	3091.1	3101.0	3089.1	3097.0
7.5°	3021.4	3053.2	3017.4	3041.3	3033.3	3023.4	3035.3	3031.3	3037.3	3027.4	3005.5
10°	2927.8	2953.7	2929.8	2963.7	2947.7	2937.8	2947.7	2957.7	2955.7	2945.8	2957.7
12.5°	2820.4	2850.2	2838.3	2858.2	2840.3	2840.3	2864.2	2858.2	2860.2	2852.2	2866.1
15°	2714.9	2736.8	2718.9	2744.7	2736.8	2714.9	2724.8	2724.8	2740.7	2734.8	2718.9
17.5°	2583.5	2601.4	2581.5	2587.5	2579.5	2575.5	2617.3	2589.5	2605.4	2593.5	2595.5
20°	2410.3	2418.3	2412.3	2428.3	2418.3	2430.3	2426.3	2422.3	2422.3	2428.3	2414.3
22.5°	2235.2	2235.2	2241.2	2245.1	2253.1	2241.2	2265.0	2245.1	2247.1	2261.1	2257.1
25°	2024.2	2018.2	2032.2	2052.1	2060.0	2050.1	2081.9	2066.0	2078.0	2087.9	2066.0
27.5°	1767.5	1767.5	1781.4	1815.2	1821.2	1833.1	1876.9	1876.9	1892.8	1878.9	1894.8
30°	1470.9	1492.8	1510.7	1554.5	1568.4	1594.3	1640.1	1662.0	1697.8	1691.8	1683.9
32.5°	1166.4	1196.2	1198.2	1244.0	1281.8	1325.6	1387.3	1439.0	1464.9	1482.8	1462.9
35°	875.8	893.7	909.6	941.4	1005.1	1062.9	1118.6	1186.3	1232.0	1244.0	1226.1
37.5°	640.9	644.9	660.8	690.7	738.4	794.2	861.8	935.5	983.2	1001.2	981.3
40°	441.9	445.8	453.8	479.7	519.5	559.3	613.0	688.7	732.5	768.3	742.4
42.5°	296.6	300.5	308.5	328.4	350.3	388.1	429.9	477.7	519.5	535.4	521.5
45°	193.1	193.1	197.0	211.0	222.9	252.8	282.6	312.5	340.4	350.3	340.4
47.5°	113.5	115.4	119.4	129.4	143.3	155.2	177.1	197.0	205.0	213.0	209.0
50°	65.7	65.7	71.7	77.6	87.6	95.5	103.5	111.5	115.4	119.4	115.4
52.5°	35.8	37.8	39.8	41.8	45.8	53.7	59.7	59.7	61.7	63.7	61.7
55°	27.9	27.9	27.9	27.9	29.9	29.9	29.9	31.8	31.8	33.8	31.8
57.5°	19.9	19.9	19.9	21.9	21.9	21.9	19.9	19.9	19.9	19.9	19.9
60°	15.9	15.9	15.9	15.9	15.9	15.9	15.9	13.9	13.9	13.9	13.9
62.5°	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
65°	8.0	8.0	10.0	10.0	10.0	10.0	10.0	8.0	8.0	8.0	8.0
67.5°	6.0	6.0	6.0	6.0	8.0	8.0	6.0	6.0	6.0	6.0	6.0
70°	4.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
72.5°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
75°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
77.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
80°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	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°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	3132.9	3132.9	3132.9	3132.9	3132.9	3132.9	3132.9	3132.9
2.5°	3132.9	3099.0	3103.0	3120.9	3111.0	3120.9	3118.9	3118.9
5°	3099.0	3089.1	3073.1	3067.2	3079.1	3105.0	3101.0	3085.1
7.5°	3035.3	3009.5	3027.4	3035.3	3025.4	3041.3	3049.3	3015.4
10°	2959.7	2949.7	2945.8	2949.7	2945.8	2961.7	2941.8	2941.8
12.5°	2852.2	2836.3	2836.3	2860.2	2846.2	2834.3	2850.2	2848.2
15°	2744.7	2712.9	2712.9	2720.8	2726.8	2718.9	2720.8	2700.9
17.5°	2585.5	2575.5	2561.6	2583.5	2589.5	2581.5	2587.5	2577.5
20°	2436.2	2436.2	2410.3	2420.3	2428.3	2434.2	2438.2	2422.3
22.5°	2245.1	2249.1	2231.2	2251.1	2257.1	2237.2	2241.2	2237.2
25°	2070.0	2068.0	2054.1	2046.1	2050.1	2042.1	2040.1	2010.3
27.5°	1876.9	1857.0	1827.2	1835.1	1801.3	1773.4	1773.4	1727.6
30°	1667.9	1634.1	1594.3	1554.5	1524.6	1492.8	1474.9	1449.0
32.5°	1423.1	1377.3	1327.6	1273.8	1240.0	1192.2	1166.4	1180.3
35°	1180.3	1112.6	1044.9	991.2	939.5	911.6	879.7	883.7
37.5°	945.4	849.9	790.2	732.5	688.7	652.8	638.9	634.9
40°	690.7	615.0	555.3	513.5	483.7	455.8	439.9	433.9
42.5°	477.7	424.0	376.2	342.3	322.4	304.5	296.6	294.6
45°	310.5	278.7	246.8	222.9	207.0	195.1	193.1	191.1
47.5°	195.1	179.1	159.2	141.3	127.4	119.4	113.5	113.5
50°	111.5	105.5	95.5	85.6	77.6	73.6	67.7	65.7
52.5°	59.7	59.7	55.7	47.8	41.8	37.8	37.8	35.8
55°	31.8	31.8	29.9	29.9	27.9	27.9	27.9	25.9
57.5°	19.9	19.9	21.9	21.9	19.9	19.9	19.9	19.9
60°	13.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9
62.5°	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
65°	8.0	10.0	10.0	10.0	10.0	8.0	8.0	8.0
67.5°	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
70°	6.0	6.0	6.0	6.0	6.0	4.0	4.0	4.0
72.5°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
75°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
77.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
80°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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)