

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: P209140

Luminaire Tested: **LDSQ4B30D010 EU4B30508035 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209140
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 EU4B30508035 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 3500 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2834.7 lumens
Efficiency: N/A
Efficacy: 101.2 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

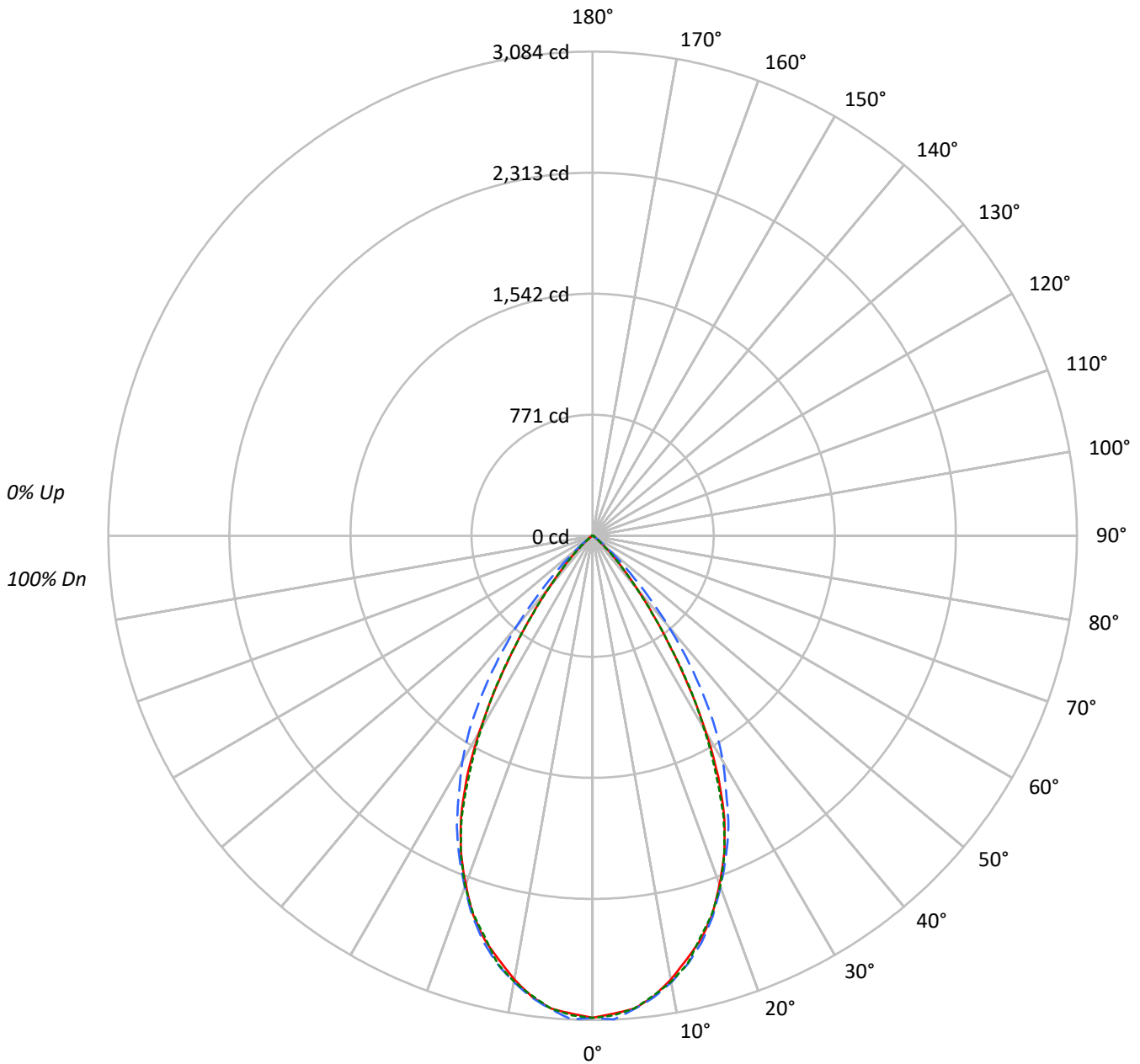
Input Watts (W): 28
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	284.7	10.0
10°-20°	746.1	26.3
20°-30°	911.4	32.2
30°-40°	637.4	22.5
40°-50°	208.9	7.4
50°-60°	33.2	1.2
60°-70°	9.1	0.3
70°-80°	3.0	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°	1942.1	68.5
0°-40°	2579.6	91.0
0°-60°	2821.7	99.5
0°-90°	2834.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2834.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3070	3070	3070	3070	3070	
5°	3024	3025	3028	3009	3024	284
15°	2661	2671	2680	2663	2647	742
25°	1984	2014	2046	2009	1970	891
35°	858	1013	1219	998	866	548
45°	189	233	343	230	187	159
55°	27	29	33	29	25	27
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°	3070.4	3070.4	3070.4	3070.4	3070.4	3070.4	3070.4	3070.4	3070.4	3070.4	3070.4
2.5°	3047.0	3068.4	3062.6	3076.2	3076.2	3060.6	3064.5	3070.4	3078.2	3084.0	3037.2
5°	3023.6	3043.1	3025.5	3045.0	3033.3	3015.8	3045.0	3029.4	3039.2	3027.5	3035.3
7.5°	2961.1	2992.3	2957.2	2980.6	2972.8	2963.1	2974.8	2970.9	2976.7	2967.0	2945.5
10°	2869.4	2894.8	2871.4	2904.6	2889.0	2879.2	2889.0	2898.7	2896.8	2887.0	2898.7
12.5°	2764.1	2793.4	2781.7	2801.2	2783.6	2783.6	2807.0	2801.2	2803.1	2795.3	2809.0
15°	2660.7	2682.2	2664.6	2690.0	2682.2	2660.7	2670.5	2670.5	2686.1	2680.2	2664.6
17.5°	2532.0	2549.5	2530.0	2535.9	2528.1	2524.2	2565.1	2537.8	2553.4	2541.7	2543.7
20°	2362.3	2370.1	2364.2	2379.8	2370.1	2381.8	2377.9	2374.0	2374.0	2379.8	2366.2
22.5°	2190.6	2190.6	2196.5	2200.4	2208.2	2196.5	2219.9	2200.4	2202.3	2216.0	2212.1
25°	1983.8	1978.0	1991.6	2011.2	2019.0	2009.2	2040.4	2024.8	2036.5	2046.3	2024.8
27.5°	1732.2	1732.2	1745.9	1779.0	1784.9	1796.6	1839.5	1839.5	1855.1	1841.4	1857.0
30°	1441.6	1463.0	1480.6	1523.5	1537.1	1562.5	1607.4	1628.8	1663.9	1658.1	1650.3
32.5°	1143.1	1172.4	1174.3	1219.2	1256.2	1299.2	1359.6	1410.3	1435.7	1453.3	1433.7
35°	858.3	875.9	891.5	922.7	985.1	1041.7	1096.3	1162.6	1207.5	1219.2	1201.6
37.5°	628.1	632.0	647.6	676.9	723.7	778.3	844.6	916.8	963.6	981.2	961.7
40°	433.1	437.0	444.8	470.1	509.1	548.1	600.8	674.9	717.9	753.0	727.6
42.5°	290.7	294.6	302.4	321.9	343.3	380.4	421.3	468.2	509.1	524.7	511.1
45°	189.2	189.2	193.1	206.8	218.5	247.7	277.0	306.3	333.6	343.3	333.6
47.5°	111.2	113.1	117.0	126.8	140.4	152.2	173.6	193.1	200.9	208.7	204.8
50°	64.4	64.4	70.2	76.1	85.8	93.6	101.4	109.2	113.1	117.0	113.1
52.5°	35.1	37.1	39.0	41.0	44.9	52.7	58.5	58.5	60.5	62.4	60.5
55°	27.3	27.3	27.3	27.3	29.3	29.3	29.3	31.2	31.2	33.2	31.2
57.5°	19.5	19.5	19.5	21.5	21.5	21.5	19.5	19.5	19.5	19.5	19.5
60°	15.6	15.6	15.6	15.6	15.6	15.6	15.6	13.7	13.7	13.7	13.7
62.5°	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
65°	7.8	7.8	9.8	9.8	9.8	9.8	9.8	7.8	7.8	7.8	7.8
67.5°	5.9	5.9	5.9	5.9	7.8	7.8	5.9	5.9	5.9	5.9	5.9
70°	3.9	3.9	3.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
72.5°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
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°	3070.4	3070.4	3070.4	3070.4	3070.4	3070.4	3070.4	3070.4
2.5°	3070.4	3037.2	3041.1	3058.7	3048.9	3058.7	3056.7	3056.7
5°	3037.2	3027.5	3011.8	3006.0	3017.7	3043.1	3039.2	3023.6
7.5°	2974.8	2949.4	2967.0	2974.8	2965.0	2980.6	2988.4	2955.3
10°	2900.7	2890.9	2887.0	2890.9	2887.0	2902.6	2883.1	2883.1
12.5°	2795.3	2779.7	2779.7	2803.1	2789.5	2777.8	2793.4	2791.4
15°	2690.0	2658.8	2658.8	2666.6	2672.4	2664.6	2666.6	2647.1
17.5°	2533.9	2524.2	2510.5	2532.0	2537.8	2530.0	2535.9	2526.1
20°	2387.6	2387.6	2362.3	2372.0	2379.8	2385.7	2389.6	2374.0
22.5°	2200.4	2204.3	2186.7	2206.2	2212.1	2192.6	2196.5	2192.6
25°	2028.7	2026.8	2013.1	2005.3	2009.2	2001.4	1999.4	1970.2
27.5°	1839.5	1820.0	1790.7	1798.5	1765.4	1738.1	1738.1	1693.2
30°	1634.7	1601.5	1562.5	1523.5	1494.2	1463.0	1445.5	1420.1
32.5°	1394.7	1349.9	1301.1	1248.4	1215.3	1168.5	1143.1	1156.8
35°	1156.8	1090.4	1024.1	971.4	920.7	893.4	862.2	866.1
37.5°	926.6	832.9	774.4	717.9	674.9	639.8	626.2	622.3
40°	676.9	602.8	544.2	503.3	474.0	446.7	431.1	425.2
42.5°	468.2	415.5	368.7	335.5	316.0	298.5	290.7	288.7
45°	304.3	273.1	241.9	218.5	202.9	191.2	189.2	187.3
47.5°	191.2	175.6	156.1	138.5	124.8	117.0	111.2	111.2
50°	109.2	103.4	93.6	83.9	76.1	72.2	66.3	64.4
52.5°	58.5	58.5	54.6	46.8	41.0	37.1	37.1	35.1
55°	31.2	31.2	29.3	29.3	27.3	27.3	27.3	25.4
57.5°	19.5	19.5	21.5	21.5	19.5	19.5	19.5	19.5
60°	13.7	15.6	15.6	15.6	15.6	15.6	15.6	15.6
62.5°	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
65°	7.8	9.8	9.8	9.8	9.8	7.8	7.8	7.8
67.5°	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
70°	5.9	5.9	5.9	5.9	5.9	3.9	3.9	3.9
72.5°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
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)