

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: P209138

Luminaire Tested: **LDSQ4B30D010 EU4B30508027 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209138
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 EU4B30508027 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 2700 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2646.0 lumens
Efficiency: N/A
Efficacy: 94.5 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

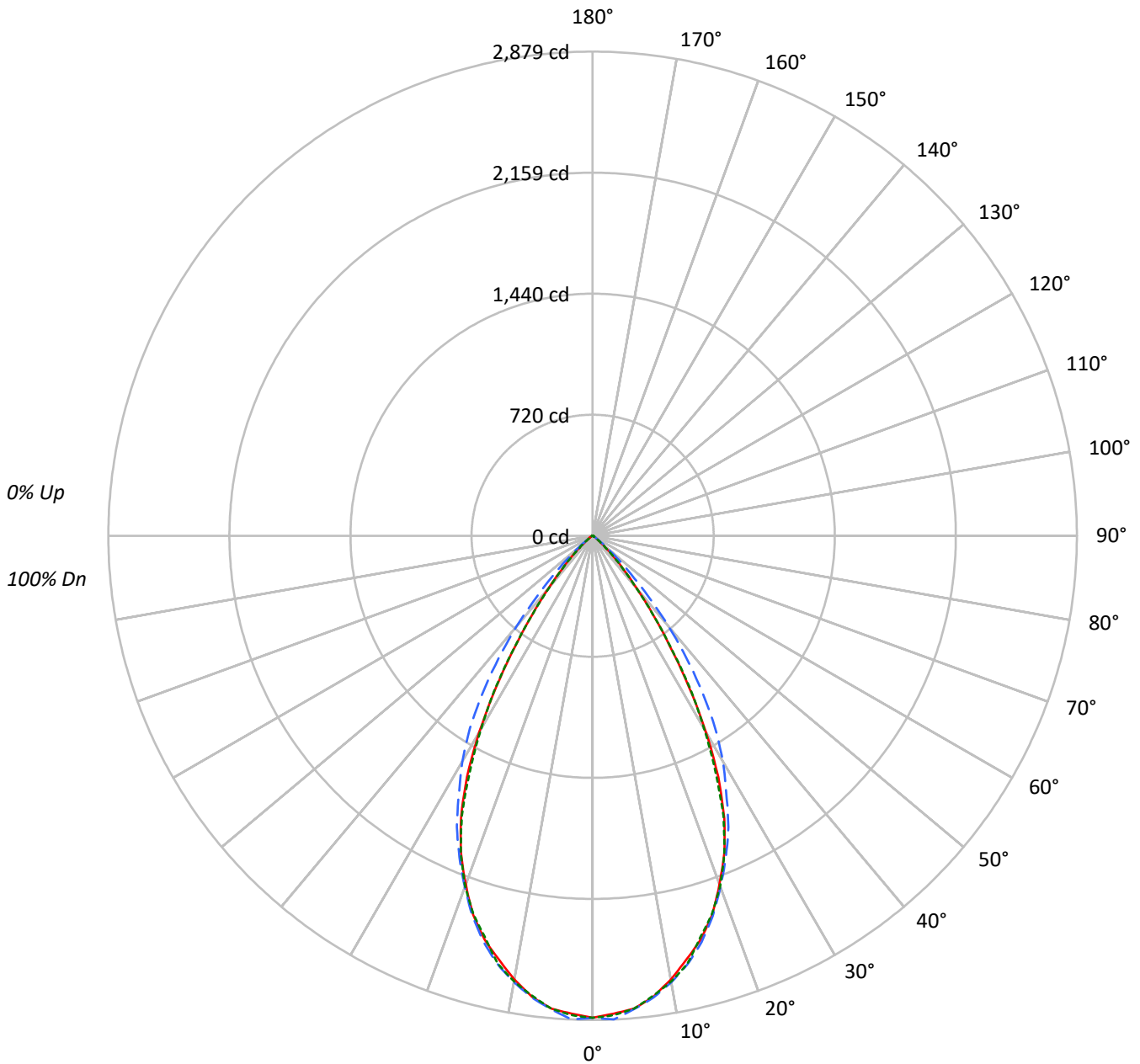
Input Watts (W): 28
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	265.7	10.0
10°-20°	696.4	26.3
20°-30°	850.8	32.2
30°-40°	595.0	22.5
40°-50°	195.0	7.4
50°-60°	31.0	1.2
60°-70°	8.5	0.3
70°-80°	2.8	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°	1812.9	68.5
0°-40°	2408.0	91.0
0°-60°	2634.0	99.5
0°-90°	2646.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2646.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2866	2866	2866	2866	2866	
5°	2822	2823	2826	2809	2822	265
15°	2484	2494	2502	2486	2471	693
25°	1852	1880	1910	1876	1839	832
35°	801	946	1138	931	808	511
45°	177	218	320	215	175	148
55°	26	27	31	27	24	25
65°	7	9	7	9	7	8
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°	2866.1	2866.1	2866.1	2866.1	2866.1	2866.1	2866.1	2866.1	2866.1	2866.1	2866.1
2.5°	2844.2	2864.3	2858.8	2871.5	2871.5	2857.0	2860.6	2866.1	2873.4	2878.8	2835.1
5°	2822.4	2840.6	2824.2	2842.4	2831.5	2815.1	2842.4	2827.8	2837.0	2826.0	2833.3
7.5°	2764.1	2793.3	2760.5	2782.3	2775.0	2765.9	2776.9	2773.2	2778.7	2769.6	2749.5
10°	2678.5	2702.2	2680.4	2711.3	2696.7	2687.6	2696.7	2705.8	2704.0	2694.9	2705.8
12.5°	2580.2	2607.5	2596.6	2614.8	2598.4	2598.4	2620.3	2614.8	2616.6	2609.3	2622.1
15°	2483.7	2503.7	2487.3	2511.0	2503.7	2483.7	2492.8	2492.8	2507.4	2501.9	2487.3
17.5°	2363.5	2379.9	2361.7	2367.2	2359.9	2356.2	2394.5	2369.0	2383.5	2372.6	2374.4
20°	2205.1	2212.4	2206.9	2221.5	2212.4	2223.3	2219.7	2216.0	2216.0	2221.5	2208.7
22.5°	2044.9	2044.9	2050.3	2054.0	2061.3	2050.3	2072.2	2054.0	2055.8	2068.5	2064.9
25°	1851.8	1846.4	1859.1	1877.3	1884.6	1875.5	1904.7	1890.1	1901.0	1910.1	1890.1
27.5°	1617.0	1617.0	1629.7	1660.7	1666.1	1677.0	1717.1	1717.1	1731.7	1718.9	1733.5
30°	1345.6	1365.7	1382.1	1422.1	1434.9	1458.5	1500.4	1520.4	1553.2	1547.8	1540.5
32.5°	1067.0	1094.4	1096.2	1138.1	1172.7	1212.7	1269.2	1316.5	1340.2	1356.6	1338.4
35°	801.2	817.6	832.1	861.3	919.6	972.4	1023.3	1085.3	1127.1	1138.1	1121.7
37.5°	586.3	590.0	604.5	631.8	675.6	726.5	788.4	855.8	899.5	915.9	897.7
40°	404.2	407.9	415.2	438.8	475.3	511.7	560.8	630.0	670.1	702.9	679.2
42.5°	271.3	275.0	282.2	300.4	320.5	355.1	393.3	437.0	475.3	489.8	477.1
45°	176.6	176.6	180.3	193.0	203.9	231.3	258.6	285.9	311.4	320.5	311.4
47.5°	103.8	105.6	109.3	118.4	131.1	142.0	162.1	180.3	187.6	194.8	191.2
50°	60.1	60.1	65.6	71.0	80.1	87.4	94.7	102.0	105.6	109.3	105.6
52.5°	32.8	34.6	36.4	38.2	41.9	49.2	54.6	54.6	56.4	58.3	56.4
55°	25.5	25.5	25.5	25.5	27.3	27.3	27.3	29.1	29.1	31.0	29.1
57.5°	18.2	18.2	18.2	20.0	20.0	20.0	18.2	18.2	18.2	18.2	18.2
60°	14.6	14.6	14.6	14.6	14.6	14.6	14.6	12.7	12.7	12.7	12.7
62.5°	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9
65°	7.3	7.3	9.1	9.1	9.1	9.1	9.1	7.3	7.3	7.3	7.3
67.5°	5.5	5.5	5.5	5.5	7.3	7.3	5.5	5.5	5.5	5.5	5.5
70°	3.6	3.6	3.6	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
72.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
75°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
77.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
80°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	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°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
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°	2866.1	2866.1	2866.1	2866.1	2866.1	2866.1	2866.1	2866.1
2.5°	2866.1	2835.1	2838.8	2855.2	2846.1	2855.2	2853.3	2853.3
5°	2835.1	2826.0	2811.5	2806.0	2816.9	2840.6	2837.0	2822.4
7.5°	2776.9	2753.2	2769.6	2776.9	2767.8	2782.3	2789.6	2758.7
10°	2707.7	2698.6	2694.9	2698.6	2694.9	2709.5	2691.3	2691.3
12.5°	2609.3	2594.8	2594.8	2616.6	2603.9	2593.0	2607.5	2605.7
15°	2511.0	2481.9	2481.9	2489.2	2494.6	2487.3	2489.2	2471.0
17.5°	2365.3	2356.2	2343.5	2363.5	2369.0	2361.7	2367.2	2358.1
20°	2228.8	2228.8	2205.1	2214.2	2221.5	2227.0	2230.6	2216.0
22.5°	2054.0	2057.6	2041.2	2059.4	2064.9	2046.7	2050.3	2046.7
25°	1893.7	1891.9	1879.2	1871.9	1875.5	1868.2	1866.4	1839.1
27.5°	1717.1	1698.9	1671.6	1678.9	1647.9	1622.4	1622.4	1580.5
30°	1525.9	1495.0	1458.5	1422.1	1394.8	1365.7	1349.3	1325.6
32.5°	1301.9	1260.1	1214.5	1165.4	1134.4	1090.7	1067.0	1079.8
35°	1079.8	1017.9	956.0	906.8	859.5	834.0	804.8	808.5
37.5°	864.9	777.5	722.9	670.1	630.0	597.3	584.5	580.9
40°	631.8	562.7	508.0	469.8	442.5	417.0	402.4	397.0
42.5°	437.0	387.9	344.1	313.2	295.0	278.6	271.3	269.5
45°	284.1	254.9	225.8	203.9	189.4	178.4	176.6	174.8
47.5°	178.4	163.9	145.7	129.3	116.5	109.3	103.8	103.8
50°	102.0	96.5	87.4	78.3	71.0	67.4	61.9	60.1
52.5°	54.6	54.6	51.0	43.7	38.2	34.6	34.6	32.8
55°	29.1	29.1	27.3	27.3	25.5	25.5	25.5	23.7
57.5°	18.2	18.2	20.0	20.0	18.2	18.2	18.2	18.2
60°	12.7	14.6	14.6	14.6	14.6	14.6	14.6	14.6
62.5°	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9
65°	7.3	9.1	9.1	9.1	9.1	7.3	7.3	7.3
67.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
70°	5.5	5.5	5.5	5.5	5.5	3.6	3.6	3.6
72.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
75°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
77.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
80°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
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°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
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)