

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: P209142

Luminaire Tested: **LDSQ4B30D010 EU4B30508050 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209142
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 EU4B30508050 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: 2863.6 lumens
Efficiency: N/A
Efficacy: 102.3 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

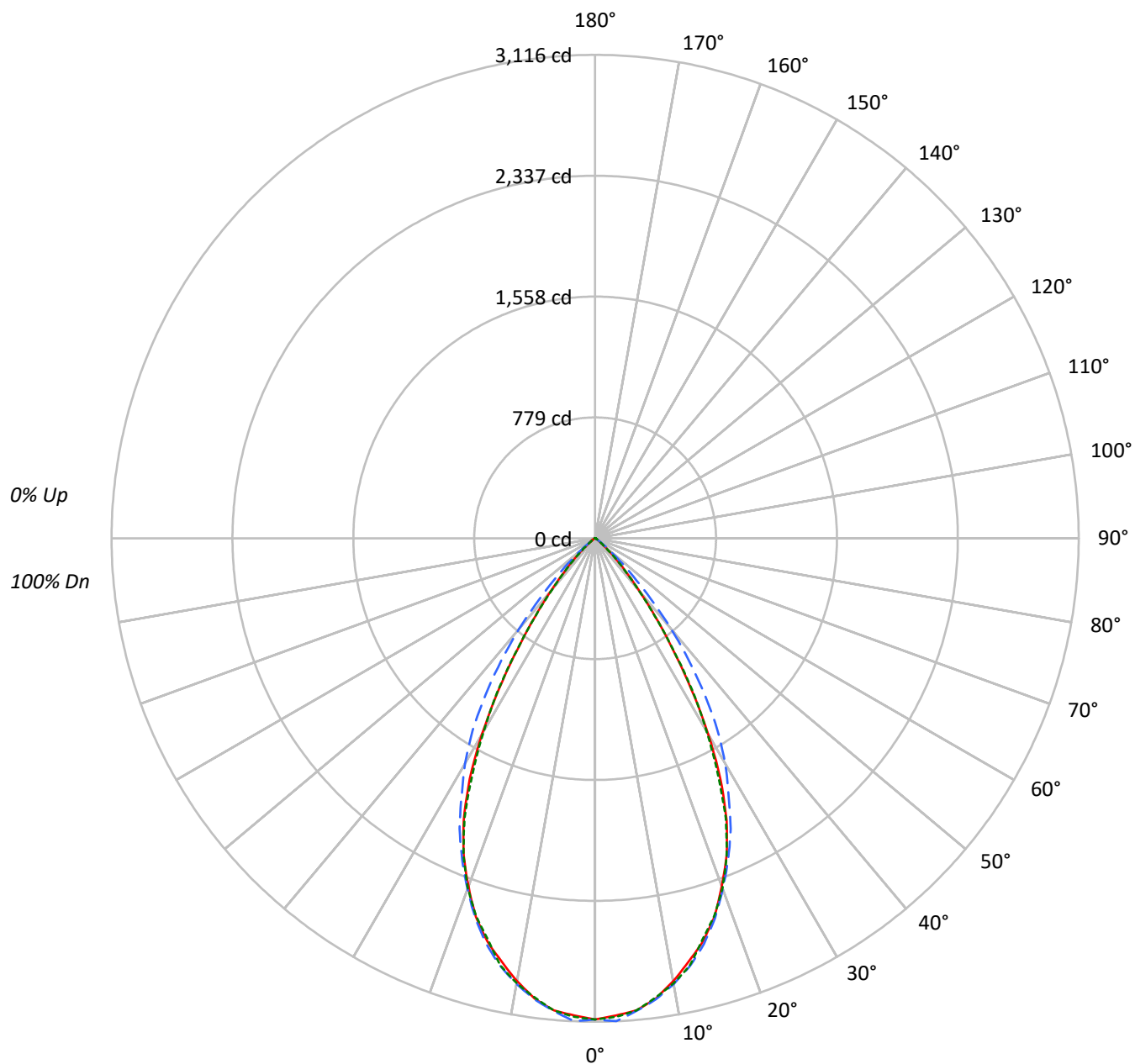
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	287.6	10.0
10°-20°	753.7	26.3
20°-30°	920.7	32.2
30°-40°	644.0	22.5
40°-50°	211.0	7.4
50°-60°	33.6	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°	1962.0	68.5
0°-40°	2606.0	91.0
0°-60°	2850.6	99.5
0°-90°	2863.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2863.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3102	3102	3102	3102	3102	
5°	3054	3056	3058	3040	3054	286
15°	2688	2699	2708	2690	2674	750
25°	2004	2035	2067	2030	1990	900
35°	867	1024	1232	1008	875	553
45°	191	236	347	233	189	160
55°	28	30	34	30	26	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°	3101.8	3101.8	3101.8	3101.8	3101.8	3101.8	3101.8	3101.8	3101.8	3101.8	3101.8
2.5°	3078.2	3099.8	3093.9	3107.7	3107.7	3091.9	3095.9	3101.8	3109.7	3115.6	3068.3
5°	3054.5	3074.2	3056.5	3076.2	3064.4	3046.6	3076.2	3060.4	3070.3	3058.4	3066.3
7.5°	2991.4	3023.0	2987.5	3011.1	3003.3	2993.4	3005.2	3001.3	3007.2	2997.4	2975.7
10°	2898.8	2924.4	2900.8	2934.3	2918.5	2908.7	2918.5	2928.4	2926.4	2916.6	2928.4
12.5°	2792.4	2822.0	2810.1	2829.8	2812.1	2812.1	2835.8	2829.8	2831.8	2823.9	2837.7
15°	2688.0	2709.6	2691.9	2717.5	2709.6	2688.0	2697.8	2697.8	2713.6	2707.7	2691.9
17.5°	2557.9	2575.6	2555.9	2561.8	2554.0	2550.0	2591.4	2563.8	2579.6	2567.8	2569.7
20°	2386.5	2394.3	2388.4	2404.2	2394.3	2406.2	2402.2	2398.3	2398.3	2404.2	2390.4
22.5°	2213.0	2213.0	2218.9	2222.9	2230.8	2218.9	2242.6	2222.9	2224.9	2238.7	2234.7
25°	2004.1	1998.2	2012.0	2031.7	2039.6	2029.8	2061.3	2045.5	2057.4	2067.2	2045.5
27.5°	1749.9	1749.9	1763.7	1797.2	1803.1	1815.0	1858.3	1858.3	1874.1	1860.3	1876.1
30°	1456.3	1478.0	1495.7	1539.1	1552.9	1578.5	1623.8	1645.5	1681.0	1675.0	1667.2
32.5°	1154.8	1184.4	1186.3	1231.7	1269.1	1312.5	1373.5	1424.8	1450.4	1468.1	1448.4
35°	867.1	884.8	900.6	932.1	995.2	1052.3	1107.5	1174.5	1219.8	1231.7	1213.9
37.5°	634.5	638.5	654.3	683.8	731.1	786.3	853.3	926.2	973.5	991.2	971.5
40°	437.5	441.4	449.3	474.9	514.3	553.8	607.0	681.8	725.2	760.7	735.1
42.5°	293.6	297.6	305.5	325.2	346.8	384.3	425.7	473.0	514.3	530.1	516.3
45°	191.2	191.2	195.1	208.9	220.7	250.3	279.8	309.4	337.0	346.8	337.0
47.5°	112.3	114.3	118.2	128.1	141.9	153.7	175.4	195.1	203.0	210.9	206.9
50°	65.0	65.0	70.9	76.9	86.7	94.6	102.5	110.4	114.3	118.2	114.3
52.5°	35.5	37.4	39.4	41.4	45.3	53.2	59.1	59.1	61.1	63.1	61.1
55°	27.6	27.6	27.6	27.6	29.6	29.6	29.6	31.5	31.5	33.5	31.5
57.5°	19.7	19.7	19.7	21.7	21.7	21.7	19.7	19.7	19.7	19.7	19.7
60°	15.8	15.8	15.8	15.8	15.8	15.8	15.8	13.8	13.8	13.8	13.8
62.5°	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
65°	7.9	7.9	9.9	9.9	9.9	9.9	9.9	7.9	7.9	7.9	7.9
67.5°	5.9	5.9	5.9	5.9	7.9	7.9	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°	3101.8	3101.8	3101.8	3101.8	3101.8	3101.8	3101.8	3101.8
2.5°	3101.8	3068.3	3072.2	3090.0	3080.1	3090.0	3088.0	3088.0
5°	3068.3	3058.4	3042.7	3036.8	3048.6	3074.2	3070.3	3054.5
7.5°	3005.2	2979.6	2997.4	3005.2	2995.4	3011.1	3019.0	2985.5
10°	2930.4	2920.5	2916.6	2920.5	2916.6	2932.3	2912.6	2912.6
12.5°	2823.9	2808.2	2808.2	2831.8	2818.0	2806.2	2822.0	2820.0
15°	2717.5	2686.0	2686.0	2693.9	2699.8	2691.9	2693.9	2674.2
17.5°	2559.9	2550.0	2536.2	2557.9	2563.8	2555.9	2561.8	2552.0
20°	2412.1	2412.1	2386.5	2396.3	2404.2	2410.1	2414.0	2398.3
22.5°	2222.9	2226.8	2209.1	2228.8	2234.7	2215.0	2218.9	2215.0
25°	2049.5	2047.5	2033.7	2025.8	2029.8	2021.9	2019.9	1990.4
27.5°	1858.3	1838.6	1809.1	1816.9	1783.4	1755.8	1755.8	1710.5
30°	1651.4	1617.9	1578.5	1539.1	1509.5	1478.0	1460.2	1434.6
32.5°	1409.0	1363.7	1314.4	1261.2	1227.7	1180.4	1154.8	1168.6
35°	1168.6	1101.6	1034.6	981.4	930.1	902.6	871.0	875.0
37.5°	936.1	841.5	782.3	725.2	681.8	646.4	632.6	628.6
40°	683.8	608.9	549.8	508.4	478.9	451.3	435.5	429.6
42.5°	473.0	419.7	372.5	339.0	319.2	301.5	293.6	291.7
45°	307.4	275.9	244.4	220.7	204.9	193.1	191.2	189.2
47.5°	193.1	177.4	157.7	139.9	126.1	118.2	112.3	112.3
50°	110.4	104.4	94.6	84.7	76.9	72.9	67.0	65.0
52.5°	59.1	59.1	55.2	47.3	41.4	37.4	37.4	35.5
55°	31.5	31.5	29.6	29.6	27.6	27.6	27.6	25.6
57.5°	19.7	19.7	21.7	21.7	19.7	19.7	19.7	19.7
60°	13.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
62.5°	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
65°	7.9	9.9	9.9	9.9	9.9	7.9	7.9	7.9
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)