

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: P209141

Luminaire Tested: **LDSQ4B30D010 EU4B30508040 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209141
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 EU4B30508040 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 4000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2865.2 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

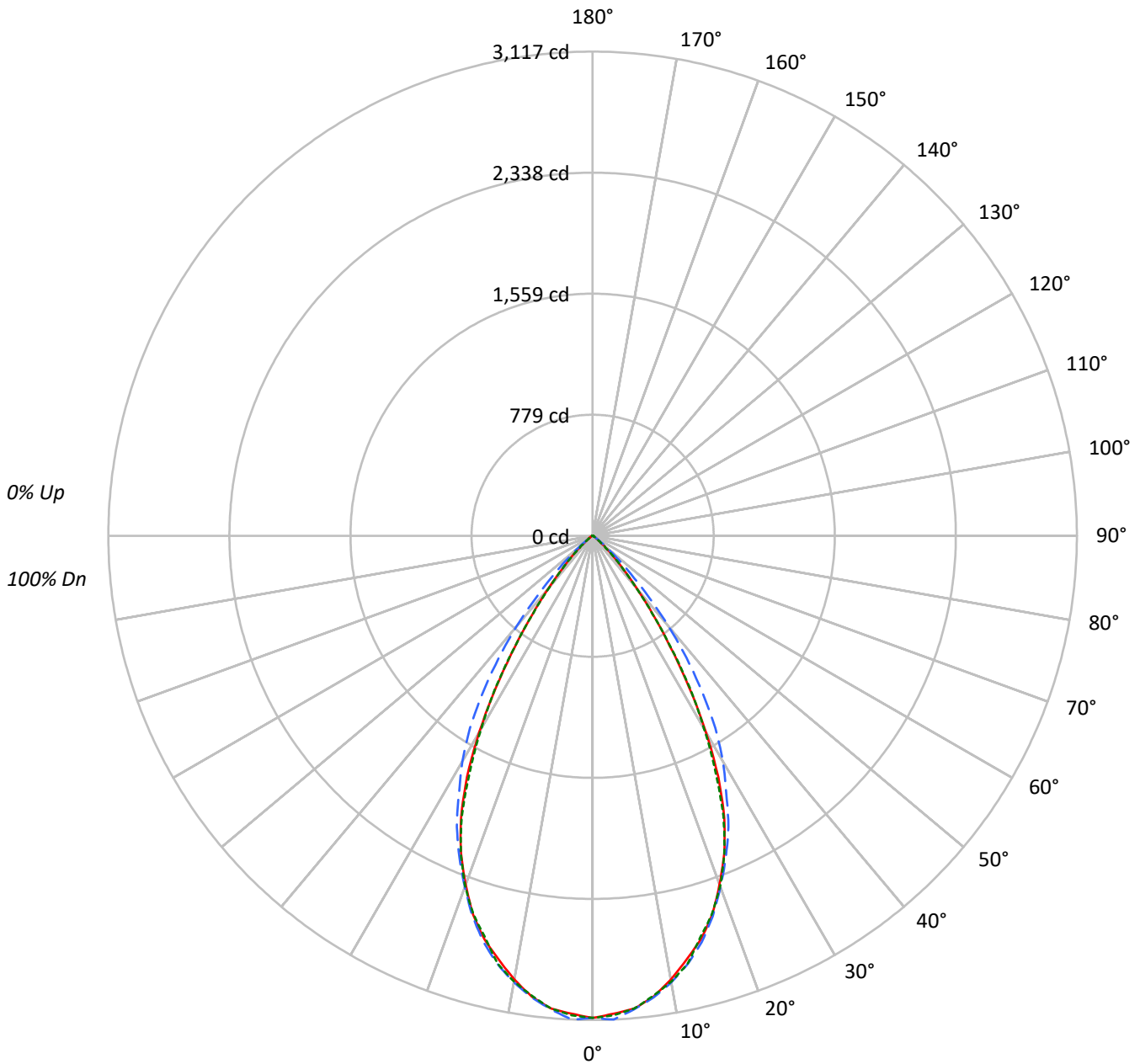
Input Watts (W): 28
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	287.7	10.0
10°-20°	754.1	26.3
20°-30°	921.2	32.2
30°-40°	644.3	22.5
40°-50°	211.2	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°	1963.1	68.5
0°-40°	2607.4	91.0
0°-60°	2852.2	99.5
0°-90°	2865.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2865.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3104	3104	3104	3104	3104	
5°	3056	3057	3060	3041	3056	287
15°	2690	2700	2709	2691	2676	750
25°	2005	2036	2068	2031	1992	901
35°	868	1024	1232	1009	876	554
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°	3103.5	3103.5	3103.5	3103.5	3103.5	3103.5	3103.5	3103.5	3103.5	3103.5	3103.5
2.5°	3079.9	3101.6	3095.7	3109.5	3109.5	3093.7	3097.6	3103.5	3111.4	3117.3	3070.0
5°	3056.2	3075.9	3058.2	3077.9	3066.1	3048.3	3077.9	3062.1	3072.0	3060.2	3068.1
7.5°	2993.1	3024.7	2989.2	3012.8	3005.0	2995.1	3006.9	3003.0	3008.9	2999.0	2977.4
10°	2900.5	2926.1	2902.4	2935.9	2920.2	2910.3	2920.2	2930.0	2928.1	2918.2	2930.0
12.5°	2794.0	2823.6	2811.7	2831.4	2813.7	2813.7	2837.4	2831.4	2833.4	2825.5	2839.3
15°	2689.5	2711.2	2693.4	2719.1	2711.2	2689.5	2699.3	2699.3	2715.1	2709.2	2693.4
17.5°	2559.3	2577.1	2557.4	2563.3	2555.4	2551.5	2592.9	2565.3	2581.0	2569.2	2571.2
20°	2387.8	2395.7	2389.8	2405.5	2395.7	2407.5	2403.6	2399.6	2399.6	2405.5	2391.7
22.5°	2214.3	2214.3	2220.2	2224.1	2232.0	2220.2	2243.9	2224.1	2226.1	2239.9	2236.0
25°	2005.3	1999.4	2013.2	2032.9	2040.8	2030.9	2062.5	2046.7	2058.5	2068.4	2046.7
27.5°	1750.9	1750.9	1764.7	1798.2	1804.2	1816.0	1859.4	1859.4	1875.1	1861.3	1877.1
30°	1457.1	1478.8	1496.6	1539.9	1553.7	1579.4	1624.7	1646.4	1681.9	1676.0	1668.1
32.5°	1155.4	1185.0	1187.0	1232.3	1269.8	1313.2	1374.3	1425.6	1451.2	1469.0	1449.2
35°	867.6	885.3	901.1	932.6	995.7	1052.9	1108.1	1175.2	1220.5	1232.3	1214.6
37.5°	634.9	638.8	654.6	684.2	731.5	786.7	853.8	926.7	974.0	991.8	972.1
40°	437.7	441.7	449.6	475.2	514.6	554.1	607.3	682.2	725.6	761.1	735.5
42.5°	293.8	297.7	305.6	325.3	347.0	384.5	425.9	473.2	514.6	530.4	516.6
45°	191.3	191.3	195.2	209.0	220.8	250.4	280.0	309.6	337.2	347.0	337.2
47.5°	112.4	114.4	118.3	128.2	142.0	153.8	175.5	195.2	203.1	211.0	207.0
50°	65.1	65.1	71.0	76.9	86.8	94.6	102.5	110.4	114.4	118.3	114.4
52.5°	35.5	37.5	39.4	41.4	45.4	53.2	59.2	59.2	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°	3103.5	3103.5	3103.5	3103.5	3103.5	3103.5	3103.5	3103.5
2.5°	3103.5	3070.0	3074.0	3091.7	3081.9	3091.7	3089.7	3089.7
5°	3070.0	3060.2	3044.4	3038.5	3050.3	3075.9	3072.0	3056.2
7.5°	3006.9	2981.3	2999.0	3006.9	2997.1	3012.8	3020.7	2987.2
10°	2932.0	2922.1	2918.2	2922.1	2918.2	2934.0	2914.3	2914.3
12.5°	2825.5	2809.8	2809.8	2833.4	2819.6	2807.8	2823.6	2821.6
15°	2719.1	2687.5	2687.5	2695.4	2701.3	2693.4	2695.4	2675.7
17.5°	2561.3	2551.5	2537.7	2559.3	2565.3	2557.4	2563.3	2553.4
20°	2413.4	2413.4	2387.8	2397.7	2405.5	2411.5	2415.4	2399.6
22.5°	2224.1	2228.1	2210.3	2230.1	2236.0	2216.3	2220.2	2216.3
25°	2050.6	2048.7	2034.9	2027.0	2030.9	2023.0	2021.1	1991.5
27.5°	1859.4	1839.6	1810.1	1818.0	1784.4	1756.8	1756.8	1711.5
30°	1652.3	1618.8	1579.4	1539.9	1510.4	1478.8	1461.1	1435.4
32.5°	1409.8	1364.5	1315.2	1261.9	1228.4	1181.1	1155.4	1169.3
35°	1169.3	1102.2	1035.2	981.9	930.7	903.1	871.5	875.5
37.5°	936.6	841.9	782.8	725.6	682.2	646.7	632.9	629.0
40°	684.2	609.3	550.1	508.7	479.1	451.5	435.8	429.8
42.5°	473.2	420.0	372.7	339.1	319.4	301.7	293.8	291.8
45°	307.6	276.0	244.5	220.8	205.1	193.2	191.3	189.3
47.5°	193.2	177.5	157.7	140.0	126.2	118.3	112.4	112.4
50°	110.4	104.5	94.6	84.8	76.9	73.0	67.0	65.1
52.5°	59.2	59.2	55.2	47.3	41.4	37.5	37.5	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)