

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: P209159

Luminaire Tested: **LDSQ4B40D010 EU4B30509040 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209159
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 EU4B30509040 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 4000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3361.9 lumens
Efficiency: N/A
Efficacy: 78.1 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

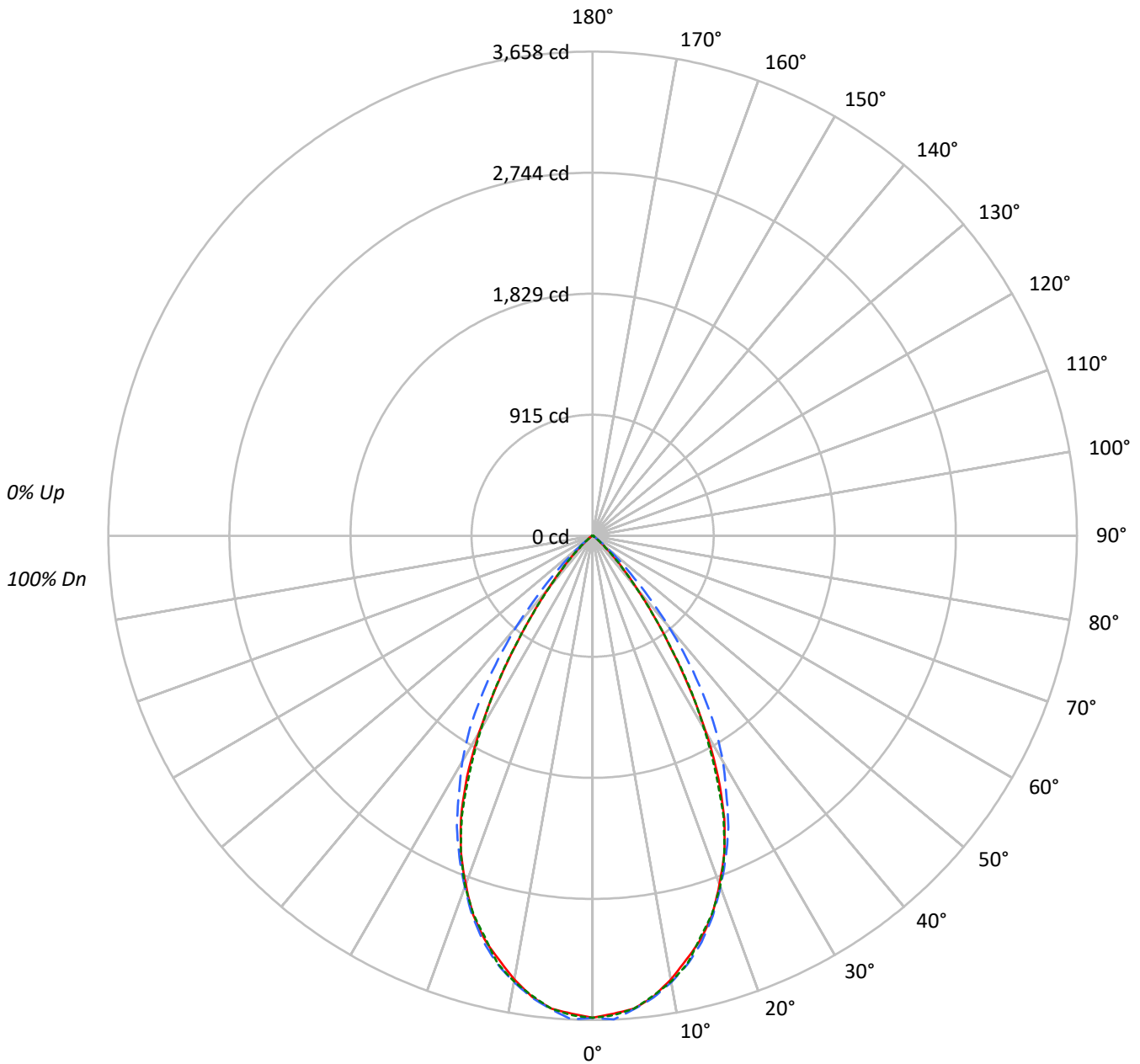
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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°	337.6	10.0
10°-20°	884.9	26.3
20°-30°	1080.9	32.2
30°-40°	756.0	22.5
40°-50°	247.8	7.4
50°-60°	39.4	1.2
60°-70°	10.7	0.3
70°-80°	3.5	0.1
80°-90°	1.0	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°	2303.4	68.5
0°-40°	3059.5	91.0
0°-60°	3346.6	99.5
0°-90°	3361.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3361.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3642	3642	3642	3642	3642	
5°	3586	3587	3591	3569	3586	336
15°	3156	3168	3179	3158	3140	880
25°	2353	2389	2427	2383	2337	1057
35°	1018	1202	1446	1183	1027	650
45°	224	276	407	273	222	188
55°	32	35	39	35	30	32
65°	9	12	9	12	9	10
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°	3641.5	3641.5	3641.5	3641.5	3641.5	3641.5	3641.5	3641.5	3641.5	3641.5	3641.5
2.5°	3613.8	3639.2	3632.3	3648.5	3648.5	3630.0	3634.6	3641.5	3650.8	3657.7	3602.2
5°	3586.0	3609.2	3588.3	3611.5	3597.6	3576.8	3611.5	3593.0	3604.5	3590.6	3599.9
7.5°	3512.0	3549.0	3507.4	3535.1	3525.9	3514.3	3528.2	3523.6	3530.5	3518.9	3493.5
10°	3403.2	3433.3	3405.6	3444.9	3426.4	3414.8	3426.4	3438.0	3435.6	3424.1	3438.0
12.5°	3278.3	3313.0	3299.1	3322.3	3301.5	3301.5	3329.2	3322.3	3324.6	3315.3	3331.5
15°	3155.7	3181.1	3160.3	3190.4	3181.1	3155.7	3167.3	3167.3	3185.8	3178.8	3160.3
17.5°	3003.0	3023.8	3000.7	3007.6	2998.4	2993.7	3042.3	3009.9	3028.5	3014.6	3016.9
20°	2801.7	2811.0	2804.0	2822.5	2811.0	2824.9	2820.2	2815.6	2815.6	2822.5	2806.3
22.5°	2598.1	2598.1	2605.1	2609.7	2619.0	2605.1	2632.8	2609.7	2612.0	2628.2	2623.6
25°	2352.9	2346.0	2362.1	2385.3	2394.5	2383.0	2420.0	2401.5	2415.4	2426.9	2401.5
27.5°	2054.4	2054.4	2070.6	2110.0	2116.9	2130.8	2181.7	2181.7	2200.2	2184.0	2202.5
30°	1709.7	1735.2	1756.0	1806.9	1823.1	1853.2	1906.4	1931.8	1973.5	1966.5	1957.3
32.5°	1355.7	1390.5	1392.8	1446.0	1489.9	1540.8	1612.6	1672.7	1702.8	1723.6	1700.5
35°	1018.0	1038.8	1057.3	1094.3	1168.3	1235.4	1300.2	1378.9	1432.1	1446.0	1425.2
37.5°	745.0	749.6	768.1	802.8	858.3	923.1	1001.8	1087.4	1142.9	1163.7	1140.6
40°	513.6	518.2	527.5	557.6	603.8	650.1	712.6	800.5	851.4	893.0	863.0
42.5°	344.7	349.3	358.6	381.7	407.2	451.1	499.7	555.3	603.8	622.3	606.2
45°	224.4	224.4	229.0	245.2	259.1	293.8	328.5	363.2	395.6	407.2	395.6
47.5°	131.9	134.2	138.8	150.4	166.6	180.5	205.9	229.0	238.3	247.6	242.9
50°	76.3	76.3	83.3	90.2	101.8	111.1	120.3	129.6	134.2	138.8	134.2
52.5°	41.6	44.0	46.3	48.6	53.2	62.5	69.4	69.4	71.7	74.0	71.7
55°	32.4	32.4	32.4	32.4	34.7	34.7	34.7	37.0	37.0	39.3	37.0
57.5°	23.1	23.1	23.1	25.4	25.4	25.4	23.1	23.1	23.1	23.1	23.1
60°	18.5	18.5	18.5	18.5	18.5	18.5	18.5	16.2	16.2	16.2	16.2
62.5°	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9
65°	9.3	9.3	11.6	11.6	11.6	11.6	11.6	9.3	9.3	9.3	9.3
67.5°	6.9	6.9	6.9	6.9	9.3	9.3	6.9	6.9	6.9	6.9	6.9
70°	4.6	4.6	4.6	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
72.5°	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
75°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
77.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
80°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	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°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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°	3641.5	3641.5	3641.5	3641.5	3641.5	3641.5	3641.5	3641.5
2.5°	3641.5	3602.2	3606.8	3627.7	3616.1	3627.7	3625.4	3625.4
5°	3602.2	3590.6	3572.1	3565.2	3579.1	3609.2	3604.5	3586.0
7.5°	3528.2	3498.1	3518.9	3528.2	3516.6	3535.1	3544.4	3505.0
10°	3440.3	3428.7	3424.1	3428.7	3424.1	3442.6	3419.4	3419.4
12.5°	3315.3	3296.8	3296.8	3324.6	3308.4	3294.5	3313.0	3310.7
15°	3190.4	3153.4	3153.4	3162.6	3169.6	3160.3	3162.6	3139.5
17.5°	3005.3	2993.7	2977.6	3003.0	3009.9	3000.7	3007.6	2996.1
20°	2831.8	2831.8	2801.7	2813.3	2822.5	2829.5	2834.1	2815.6
22.5°	2609.7	2614.3	2593.5	2616.6	2623.6	2600.4	2605.1	2600.4
25°	2406.1	2403.8	2387.6	2378.3	2383.0	2373.7	2371.4	2336.7
27.5°	2181.7	2158.6	2123.8	2133.1	2093.8	2061.4	2061.4	2008.2
30°	1938.8	1899.4	1853.2	1806.9	1772.2	1735.2	1714.3	1684.3
32.5°	1654.2	1601.0	1543.1	1480.7	1441.3	1385.8	1355.7	1371.9
35°	1371.9	1293.3	1214.6	1152.2	1092.0	1059.6	1022.6	1027.2
37.5°	1098.9	987.9	918.5	851.4	800.5	758.8	742.7	738.0
40°	802.8	714.9	645.5	596.9	562.2	529.8	511.3	504.4
42.5°	555.3	492.8	437.3	397.9	374.8	354.0	344.7	342.4
45°	360.9	323.9	286.9	259.1	240.6	226.7	224.4	222.1
47.5°	226.7	208.2	185.1	164.3	148.1	138.8	131.9	131.9
50°	129.6	122.6	111.1	99.5	90.2	85.6	78.7	76.3
52.5°	69.4	69.4	64.8	55.5	48.6	44.0	44.0	41.6
55°	37.0	37.0	34.7	34.7	32.4	32.4	32.4	30.1
57.5°	23.1	23.1	25.4	25.4	23.1	23.1	23.1	23.1
60°	16.2	18.5	18.5	18.5	18.5	18.5	18.5	18.5
62.5°	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9
65°	9.3	11.6	11.6	11.6	11.6	9.3	9.3	9.3
67.5°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
70°	6.9	6.9	6.9	6.9	6.9	4.6	4.6	4.6
72.5°	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
75°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
77.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
80°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
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)