

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: P209155

Luminaire Tested: **LDSQ4B40D010 EU4B30509024 4LBSQ1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209155  
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 EU4B30509024 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 2400 K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2799.7 lumens  
Efficiency: N/A  
Efficacy: 65.1 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

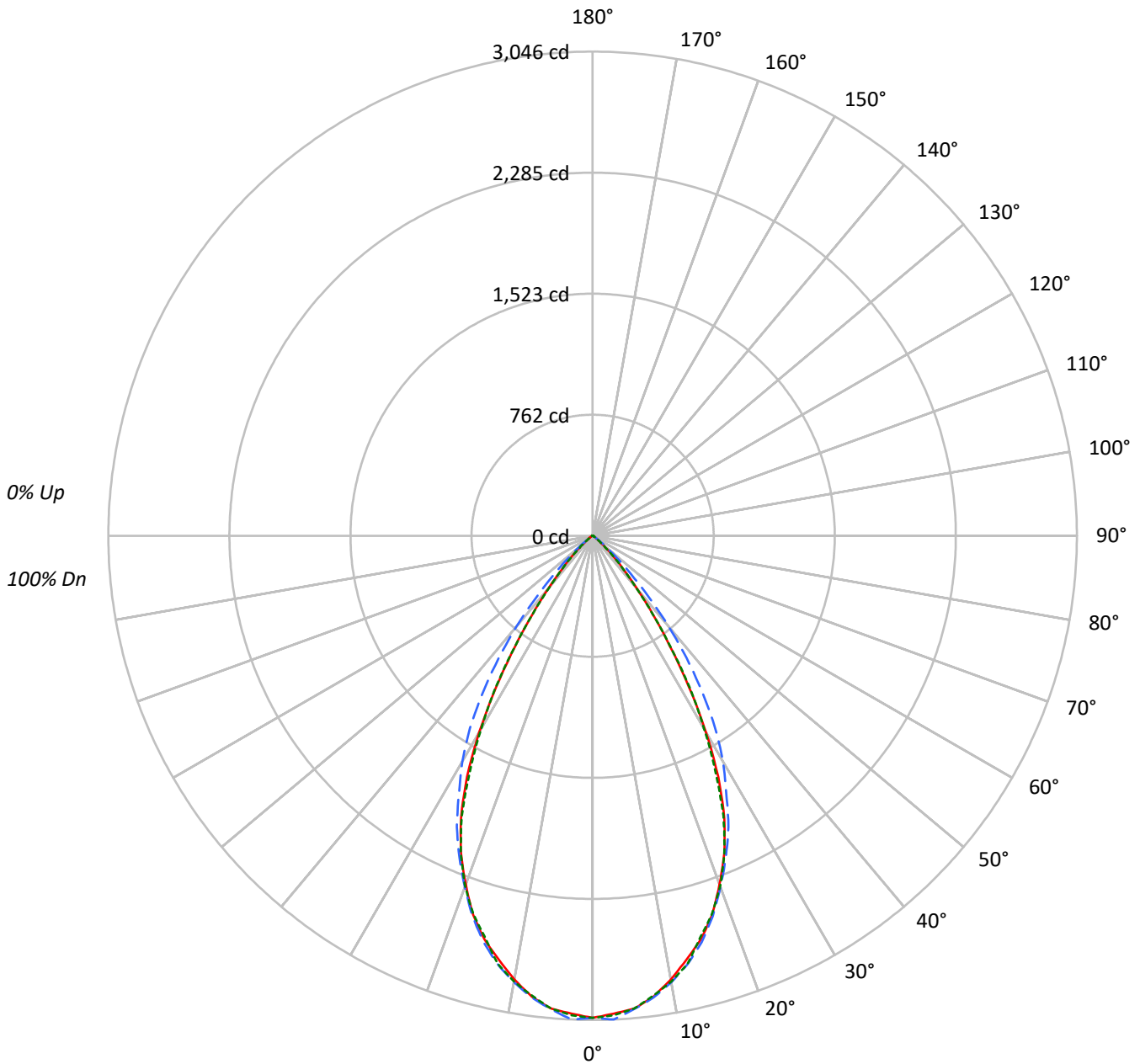
Input Watts (W): 43.02  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	281.2	10.0
10°-20°	736.9	26.3
20°-30°	900.2	32.2
30°-40°	629.6	22.5
40°-50°	206.3	7.4
50°-60°	32.8	1.2
60°-70°	9.0	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°	1918.2	68.5
0°-40°	2547.8	91.0
0°-60°	2787.0	99.5
0°-90°	2799.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2799.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3033	3033	3033	3033	3033	
5°	2986	2987	2990	2972	2986	280
15°	2628	2639	2647	2630	2614	733
25°	1959	1989	2021	1984	1946	880
35°	848	1001	1204	986	855	541
45°	187	230	339	227	185	157
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°	3032.6	3032.6	3032.6	3032.6	3032.6	3032.6	3032.6	3032.6	3032.6	3032.6	3032.6
2.5°	3009.5	3030.7	3024.9	3038.4	3038.4	3022.9	3026.8	3032.6	3040.3	3046.1	2999.8
5°	2986.3	3005.6	2988.3	3007.5	2996.0	2978.6	3007.5	2992.1	3001.8	2990.2	2997.9
7.5°	2924.7	2955.5	2920.8	2944.0	2936.2	2926.6	2938.2	2934.3	2940.1	2930.5	2909.3
10°	2834.1	2859.2	2836.1	2868.8	2853.4	2843.8	2853.4	2863.0	2861.1	2851.5	2863.0
12.5°	2730.1	2759.0	2747.4	2766.7	2749.4	2749.4	2772.5	2766.7	2768.6	2760.9	2774.4
15°	2628.0	2649.2	2631.8	2656.9	2649.2	2628.0	2637.6	2637.6	2653.0	2647.2	2631.8
17.5°	2500.8	2518.2	2498.9	2504.7	2497.0	2493.1	2533.6	2506.6	2522.0	2510.5	2512.4
20°	2333.2	2340.9	2335.1	2350.5	2340.9	2352.5	2348.6	2344.8	2344.8	2350.5	2337.1
22.5°	2163.7	2163.7	2169.4	2173.3	2181.0	2169.4	2192.6	2173.3	2175.2	2188.7	2184.8
25°	1959.4	1953.6	1967.1	1986.4	1994.1	1984.5	2015.3	1999.9	2011.4	2021.1	1999.9
27.5°	1710.9	1710.9	1724.4	1757.1	1762.9	1774.5	1816.9	1816.9	1832.3	1818.8	1834.2
30°	1423.8	1445.0	1462.3	1504.7	1518.2	1543.3	1587.6	1608.8	1643.5	1637.7	1630.0
32.5°	1129.0	1157.9	1159.9	1204.2	1240.8	1283.2	1342.9	1393.0	1418.0	1435.4	1416.1
35°	847.7	865.1	880.5	911.3	973.0	1028.8	1082.8	1148.3	1192.6	1204.2	1186.8
37.5°	620.4	624.2	639.7	668.6	714.8	768.7	834.2	905.5	951.8	969.1	949.8
40°	427.7	431.6	439.3	464.3	502.9	541.4	593.4	666.6	709.0	743.7	718.6
42.5°	287.1	290.9	298.6	317.9	339.1	375.7	416.2	462.4	502.9	518.3	504.8
45°	186.9	186.9	190.7	204.2	215.8	244.7	273.6	302.5	329.5	339.1	329.5
47.5°	109.8	111.7	115.6	125.2	138.7	150.3	171.5	190.7	198.4	206.2	202.3
50°	63.6	63.6	69.4	75.1	84.8	92.5	100.2	107.9	111.7	115.6	111.7
52.5°	34.7	36.6	38.5	40.5	44.3	52.0	57.8	57.8	59.7	61.7	59.7
55°	27.0	27.0	27.0	27.0	28.9	28.9	28.9	30.8	30.8	32.8	30.8
57.5°	19.3	19.3	19.3	21.2	21.2	21.2	19.3	19.3	19.3	19.3	19.3
60°	15.4	15.4	15.4	15.4	15.4	15.4	15.4	13.5	13.5	13.5	13.5
62.5°	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
65°	7.7	7.7	9.6	9.6	9.6	9.6	9.6	7.7	7.7	7.7	7.7
67.5°	5.8	5.8	5.8	5.8	7.7	7.7	5.8	5.8	5.8	5.8	5.8
70°	3.9	3.9	3.9	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
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°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
77.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
80°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	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°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
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°	3032.6	3032.6	3032.6	3032.6	3032.6	3032.6	3032.6	3032.6
2.5°	3032.6	2999.8	3003.7	3021.0	3011.4	3021.0	3019.1	3019.1
5°	2999.8	2990.2	2974.8	2969.0	2980.6	3005.6	3001.8	2986.3
7.5°	2938.2	2913.1	2930.5	2938.2	2928.5	2944.0	2951.7	2918.9
10°	2865.0	2855.3	2851.5	2855.3	2851.5	2866.9	2847.6	2847.6
12.5°	2760.9	2745.5	2745.5	2768.6	2755.1	2743.6	2759.0	2757.1
15°	2656.9	2626.1	2626.1	2633.8	2639.5	2631.8	2633.8	2614.5
17.5°	2502.7	2493.1	2479.6	2500.8	2506.6	2498.9	2504.7	2495.0
20°	2358.2	2358.2	2333.2	2342.8	2350.5	2356.3	2360.2	2344.8
22.5°	2173.3	2177.1	2159.8	2179.1	2184.8	2165.6	2169.4	2165.6
25°	2003.7	2001.8	1988.3	1980.6	1984.5	1976.8	1974.8	1945.9
27.5°	1816.9	1797.6	1768.7	1776.4	1743.6	1716.7	1716.7	1672.4
30°	1614.6	1581.8	1543.3	1504.7	1475.8	1445.0	1427.7	1402.6
32.5°	1377.6	1333.3	1285.1	1233.1	1200.3	1154.1	1129.0	1142.5
35°	1142.5	1077.0	1011.5	959.5	909.4	882.4	851.6	855.4
37.5°	915.2	822.7	764.9	709.0	666.6	631.9	618.5	614.6
40°	668.6	595.3	537.5	497.1	468.2	441.2	425.8	420.0
42.5°	462.4	410.4	364.1	331.4	312.1	294.8	287.1	285.1
45°	300.6	269.7	238.9	215.8	200.4	188.8	186.9	185.0
47.5°	188.8	173.4	154.1	136.8	123.3	115.6	109.8	109.8
50°	107.9	102.1	92.5	82.8	75.1	71.3	65.5	63.6
52.5°	57.8	57.8	53.9	46.2	40.5	36.6	36.6	34.7
55°	30.8	30.8	28.9	28.9	27.0	27.0	27.0	25.0
57.5°	19.3	19.3	21.2	21.2	19.3	19.3	19.3	19.3
60°	13.5	15.4	15.4	15.4	15.4	15.4	15.4	15.4
62.5°	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
65°	7.7	9.6	9.6	9.6	9.6	7.7	7.7	7.7
67.5°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
70°	5.8	5.8	5.8	5.8	5.8	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°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
77.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
80°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
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°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
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)