

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: P209161

Luminaire Tested: **LDSQ4B40D010 EU4B30509727 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209161
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 EU4B30509727 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 2700 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2766.9 lumens
Efficiency: N/A
Efficacy: 64.3 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

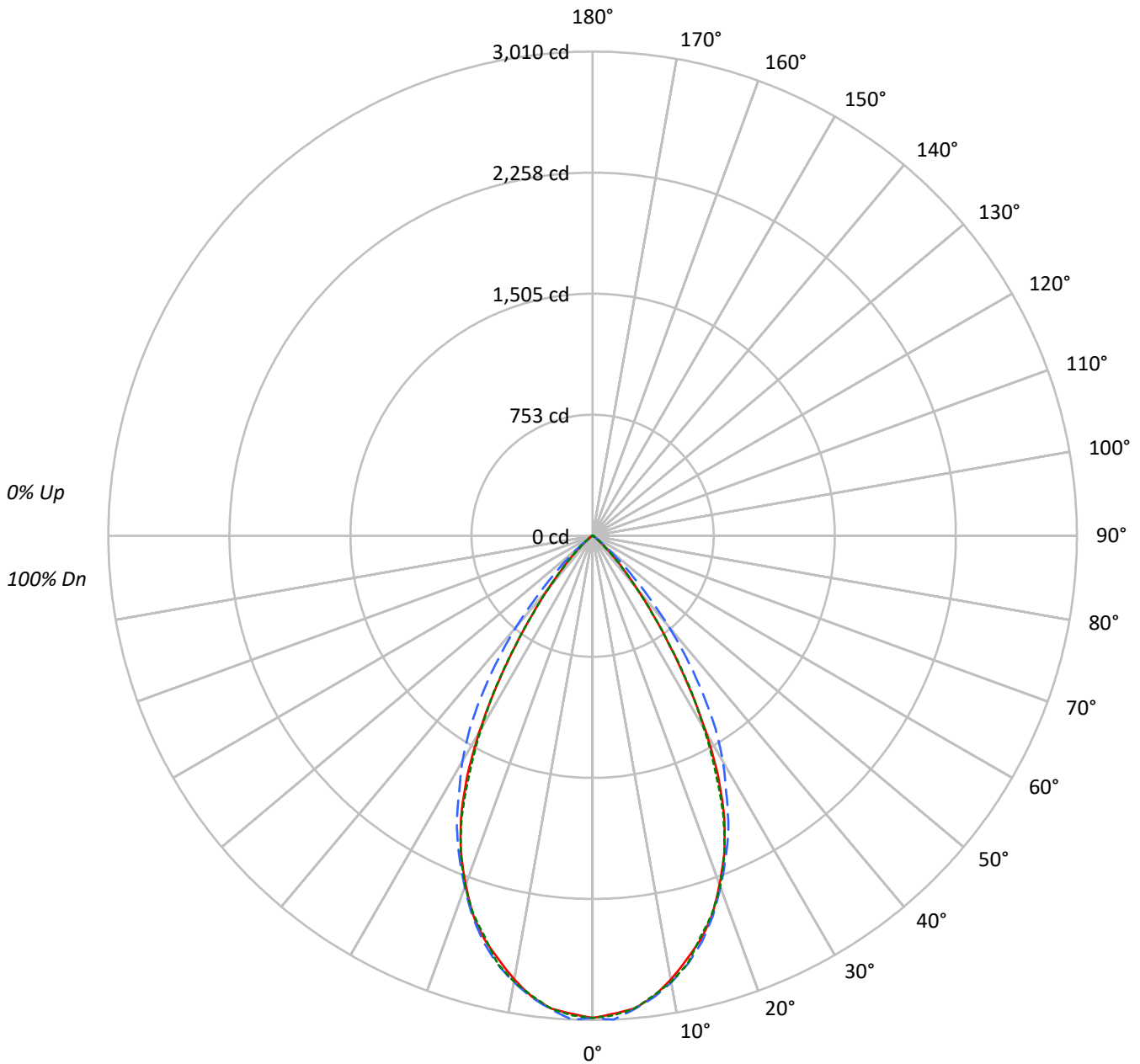
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	277.9	10.0
10°-20°	728.3	26.3
20°-30°	889.7	32.2
30°-40°	622.2	22.5
40°-50°	203.9	7.4
50°-60°	32.4	1.2
60°-70°	8.8	0.3
70°-80°	2.9	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°	1895.8	68.5
0°-40°	2518.0	91.0
0°-60°	2754.4	99.5
0°-90°	2766.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2766.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2997	2997	2997	2997	2997	
5°	2951	2952	2955	2937	2951	277
15°	2597	2608	2616	2599	2584	724
25°	1936	1966	1997	1961	1923	870
35°	838	989	1190	974	845	535
45°	185	228	335	225	183	155
55°	27	29	32	29	25	26
65°	8	10	8	10	8	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°	2997.1	2997.1	2997.1	2997.1	2997.1	2997.1	2997.1	2997.1	2997.1	2997.1	2997.1
2.5°	2974.3	2995.2	2989.5	3002.8	3002.8	2987.6	2991.4	2997.1	3004.7	3010.5	2964.8
5°	2951.4	2970.5	2953.3	2972.4	2960.9	2943.8	2972.4	2957.1	2966.7	2955.2	2962.8
7.5°	2890.5	2921.0	2886.7	2909.5	2901.9	2892.4	2903.8	2900.0	2905.7	2896.2	2875.3
10°	2801.0	2825.7	2802.9	2835.3	2820.0	2810.5	2820.0	2829.6	2827.7	2818.1	2829.6
12.5°	2698.2	2726.7	2715.3	2734.3	2717.2	2717.2	2740.1	2734.3	2736.3	2728.6	2742.0
15°	2597.3	2618.2	2601.1	2625.8	2618.2	2597.3	2606.8	2606.8	2622.0	2616.3	2601.1
17.5°	2471.6	2488.7	2469.7	2475.4	2467.8	2464.0	2503.9	2477.3	2492.5	2481.1	2483.0
20°	2305.9	2313.5	2307.8	2323.1	2313.5	2325.0	2321.2	2317.3	2317.3	2323.1	2309.7
22.5°	2138.4	2138.4	2144.1	2147.9	2155.5	2144.1	2166.9	2147.9	2149.8	2163.1	2159.3
25°	1936.5	1930.8	1944.1	1963.2	1970.8	1961.3	1991.7	1976.5	1987.9	1997.4	1976.5
27.5°	1690.9	1690.9	1704.2	1736.6	1742.3	1753.7	1795.6	1795.6	1810.8	1797.5	1812.7
30°	1407.2	1428.1	1445.2	1487.1	1500.5	1525.2	1569.0	1590.0	1624.2	1618.5	1610.9
32.5°	1115.8	1144.4	1146.3	1190.1	1226.3	1268.2	1327.2	1376.7	1401.4	1418.6	1399.5
35°	837.8	855.0	870.2	900.7	961.6	1016.8	1070.1	1134.9	1178.7	1190.1	1173.0
37.5°	613.1	616.9	632.2	660.7	706.4	759.8	824.5	894.9	940.6	957.8	938.7
40°	422.7	426.5	434.1	458.9	497.0	535.1	586.5	658.8	700.7	735.0	710.2
42.5°	283.7	287.5	295.1	314.2	335.1	371.3	411.3	457.0	497.0	512.2	498.9
45°	184.7	184.7	188.5	201.8	213.3	241.8	270.4	299.0	325.6	335.1	325.6
47.5°	108.5	110.4	114.2	123.8	137.1	148.5	169.5	188.5	196.1	203.7	199.9
50°	62.8	62.8	68.5	74.3	83.8	91.4	99.0	106.6	110.4	114.2	110.4
52.5°	34.3	36.2	38.1	40.0	43.8	51.4	57.1	57.1	59.0	60.9	59.0
55°	26.7	26.7	26.7	26.7	28.6	28.6	28.6	30.5	30.5	32.4	30.5
57.5°	19.0	19.0	19.0	20.9	20.9	20.9	19.0	19.0	19.0	19.0	19.0
60°	15.2	15.2	15.2	15.2	15.2	15.2	15.2	13.3	13.3	13.3	13.3
62.5°	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
65°	7.6	7.6	9.5	9.5	9.5	9.5	9.5	7.6	7.6	7.6	7.6
67.5°	5.7	5.7	5.7	5.7	7.6	7.6	5.7	5.7	5.7	5.7	5.7
70°	3.8	3.8	3.8	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
72.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
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°	2997.1	2997.1	2997.1	2997.1	2997.1	2997.1	2997.1	2997.1
2.5°	2997.1	2964.8	2968.6	2985.7	2976.2	2985.7	2983.8	2983.8
5°	2964.8	2955.2	2940.0	2934.3	2945.7	2970.5	2966.7	2951.4
7.5°	2903.8	2879.1	2896.2	2903.8	2894.3	2909.5	2917.1	2884.8
10°	2831.5	2821.9	2818.1	2821.9	2818.1	2833.4	2814.3	2814.3
12.5°	2728.6	2713.4	2713.4	2736.3	2722.9	2711.5	2726.7	2724.8
15°	2625.8	2595.3	2595.3	2603.0	2608.7	2601.1	2603.0	2583.9
17.5°	2473.5	2464.0	2450.6	2471.6	2477.3	2469.7	2475.4	2465.9
20°	2330.7	2330.7	2305.9	2315.4	2323.1	2328.8	2332.6	2317.3
22.5°	2147.9	2151.7	2134.5	2153.6	2159.3	2140.3	2144.1	2140.3
25°	1980.3	1978.4	1965.1	1957.5	1961.3	1953.7	1951.7	1923.2
27.5°	1795.6	1776.6	1748.0	1755.6	1723.2	1696.6	1696.6	1652.8
30°	1595.7	1563.3	1525.2	1487.1	1458.6	1428.1	1411.0	1386.2
32.5°	1361.5	1317.7	1270.1	1218.7	1186.3	1140.6	1115.8	1129.2
35°	1129.2	1064.4	999.7	948.3	898.8	872.1	841.6	845.4
37.5°	904.5	813.1	755.9	700.7	658.8	624.6	611.2	607.4
40°	660.7	588.4	531.3	491.3	462.7	436.0	420.8	415.1
42.5°	457.0	405.6	359.9	327.5	308.5	291.3	283.7	281.8
45°	297.0	266.6	236.1	213.3	198.0	186.6	184.7	182.8
47.5°	186.6	171.4	152.3	135.2	121.9	114.2	108.5	108.5
50°	106.6	100.9	91.4	81.9	74.3	70.5	64.7	62.8
52.5°	57.1	57.1	53.3	45.7	40.0	36.2	36.2	34.3
55°	30.5	30.5	28.6	28.6	26.7	26.7	26.7	24.8
57.5°	19.0	19.0	20.9	20.9	19.0	19.0	19.0	19.0
60°	13.3	15.2	15.2	15.2	15.2	15.2	15.2	15.2
62.5°	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
65°	7.6	9.5	9.5	9.5	9.5	7.6	7.6	7.6
67.5°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
70°	5.7	5.7	5.7	5.7	5.7	3.8	3.8	3.8
72.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
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)