

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: P209158

Luminaire Tested: **LDSQ4B40D010 EU4B30509035 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209158
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 EU4B30509035 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 3500 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3356.2 lumens
Efficiency: N/A
Efficacy: 78.0 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

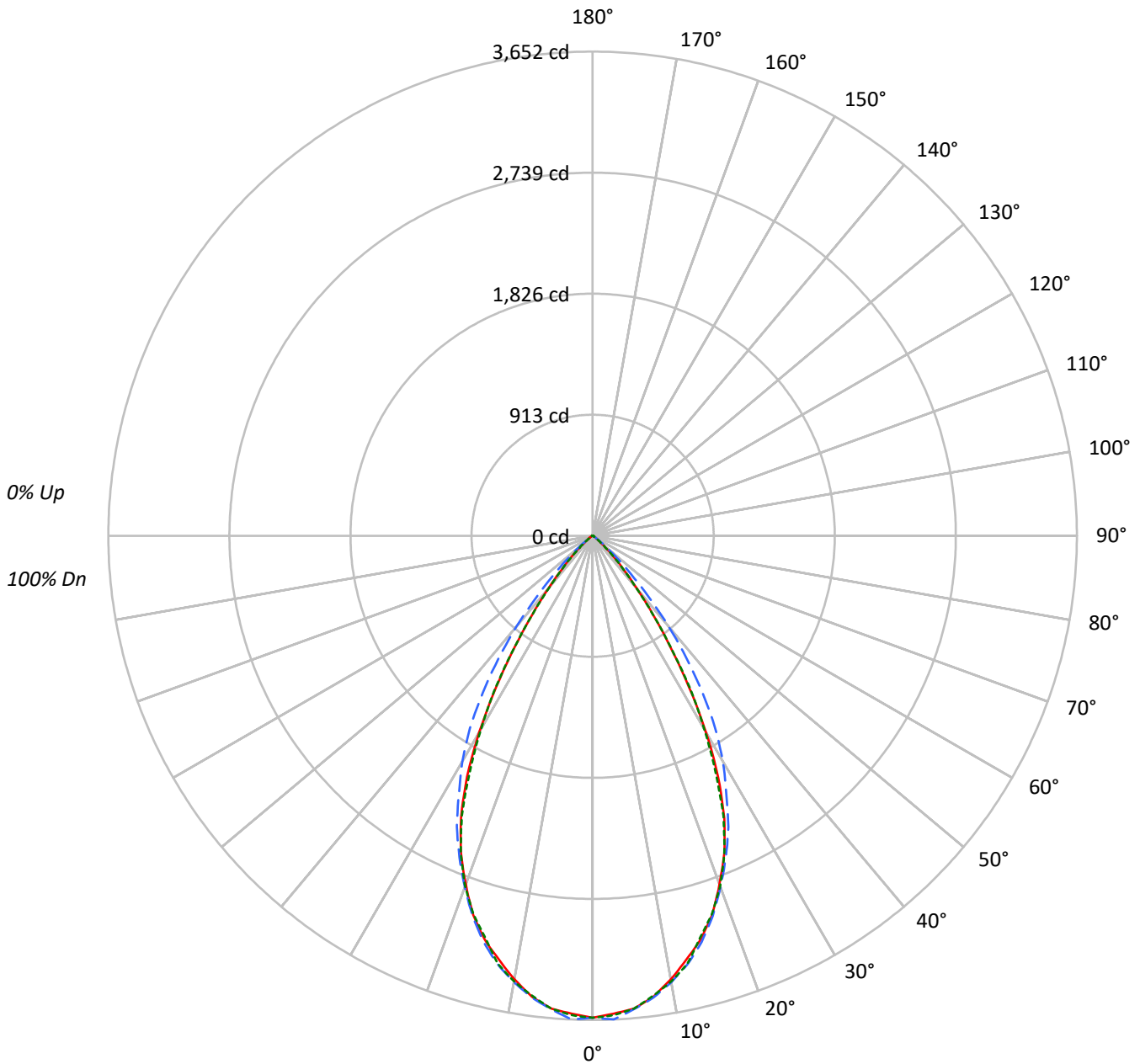
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	337.1	10.0
10°-20°	883.4	26.3
20°-30°	1079.1	32.2
30°-40°	754.8	22.5
40°-50°	247.4	7.4
50°-60°	39.3	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°	2299.6	68.5
0°-40°	3054.3	91.0
0°-60°	3341.0	99.5
0°-90°	3356.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3356.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3635	3635	3635	3635	3635	
5°	3580	3581	3585	3563	3580	336
15°	3150	3163	3174	3153	3134	879
25°	2349	2385	2423	2379	2333	1055
35°	1016	1200	1444	1181	1026	649
45°	224	276	406	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°	3635.4	3635.4	3635.4	3635.4	3635.4	3635.4	3635.4	3635.4	3635.4	3635.4	3635.4
2.5°	3607.7	3633.1	3626.2	3642.4	3642.4	3623.9	3628.5	3635.4	3644.7	3651.6	3596.2
5°	3580.0	3603.1	3582.3	3605.4	3591.5	3570.8	3605.4	3586.9	3598.5	3584.6	3593.9
7.5°	3506.1	3543.0	3501.5	3529.2	3519.9	3508.4	3522.3	3517.6	3524.6	3513.0	3487.6
10°	3397.5	3427.6	3399.8	3439.1	3420.6	3409.1	3420.6	3432.2	3429.9	3418.3	3432.2
12.5°	3272.8	3307.5	3293.6	3316.7	3295.9	3295.9	3323.6	3316.7	3319.0	3309.8	3325.9
15°	3150.4	3175.8	3155.0	3185.0	3175.8	3150.4	3161.9	3161.9	3180.4	3173.5	3155.0
17.5°	2998.0	3018.7	2995.7	3002.6	2993.3	2988.7	3037.2	3004.9	3023.4	3009.5	3011.8
20°	2797.0	2806.3	2799.3	2817.8	2806.3	2820.1	2815.5	2810.9	2810.9	2817.8	2801.6
22.5°	2593.8	2593.8	2600.7	2605.3	2614.6	2600.7	2628.4	2605.3	2607.6	2623.8	2619.2
25°	2348.9	2342.0	2358.2	2381.3	2390.5	2379.0	2415.9	2397.4	2411.3	2422.9	2397.4
27.5°	2051.0	2051.0	2067.2	2106.4	2113.4	2127.2	2178.0	2178.0	2196.5	2180.3	2198.8
30°	1706.9	1732.3	1753.0	1803.9	1820.0	1850.1	1903.2	1928.6	1970.2	1963.2	1954.0
32.5°	1353.5	1388.1	1390.4	1443.5	1487.4	1538.2	1609.8	1669.9	1699.9	1720.7	1697.6
35°	1016.3	1037.0	1055.5	1092.5	1166.4	1233.4	1298.0	1376.6	1429.7	1443.5	1422.8
37.5°	743.7	748.3	766.8	801.5	856.9	921.6	1000.1	1085.5	1141.0	1161.8	1138.7
40°	512.7	517.4	526.6	556.6	602.8	649.0	711.4	799.1	850.0	891.5	861.5
42.5°	344.1	348.8	358.0	381.1	406.5	450.4	498.9	554.3	602.8	621.3	605.1
45°	224.0	224.0	228.7	244.8	258.7	293.3	328.0	362.6	395.0	406.5	395.0
47.5°	131.7	134.0	138.6	150.1	166.3	180.2	205.6	228.7	237.9	247.1	242.5
50°	76.2	76.2	83.1	90.1	101.6	110.9	120.1	129.3	134.0	138.6	134.0
52.5°	41.6	43.9	46.2	48.5	53.1	62.4	69.3	69.3	71.6	73.9	71.6
55°	32.3	32.3	32.3	32.3	34.6	34.6	34.6	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°	9.2	9.2	11.5	11.5	11.5	11.5	11.5	9.2	9.2	9.2	9.2
67.5°	6.9	6.9	6.9	6.9	9.2	9.2	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°	3635.4	3635.4	3635.4	3635.4	3635.4	3635.4	3635.4	3635.4
2.5°	3635.4	3596.2	3600.8	3621.6	3610.0	3621.6	3619.3	3619.3
5°	3596.2	3584.6	3566.1	3559.2	3573.1	3603.1	3598.5	3580.0
7.5°	3522.3	3492.2	3513.0	3522.3	3510.7	3529.2	3538.4	3499.2
10°	3434.5	3422.9	3418.3	3422.9	3418.3	3436.8	3413.7	3413.7
12.5°	3309.8	3291.3	3291.3	3319.0	3302.8	3289.0	3307.5	3305.1
15°	3185.0	3148.1	3148.1	3157.3	3164.3	3155.0	3157.3	3134.2
17.5°	3000.3	2988.7	2972.6	2998.0	3004.9	2995.7	3002.6	2991.0
20°	2827.0	2827.0	2797.0	2808.6	2817.8	2824.7	2829.4	2810.9
22.5°	2605.3	2609.9	2589.1	2612.2	2619.2	2596.1	2600.7	2596.1
25°	2402.1	2399.8	2383.6	2374.3	2379.0	2369.7	2367.4	2332.8
27.5°	2178.0	2154.9	2120.3	2129.5	2090.3	2057.9	2057.9	2004.8
30°	1935.5	1896.2	1850.1	1803.9	1769.2	1732.3	1711.5	1681.4
32.5°	1651.4	1598.3	1540.6	1478.2	1438.9	1383.5	1353.5	1369.6
35°	1369.6	1291.1	1212.6	1150.2	1090.2	1057.8	1020.9	1025.5
37.5°	1097.1	986.2	916.9	850.0	799.1	757.6	741.4	736.8
40°	801.5	713.7	644.4	595.9	561.3	528.9	510.4	503.5
42.5°	554.3	492.0	436.5	397.3	374.2	353.4	344.1	341.8
45°	360.3	323.4	286.4	258.7	240.2	226.3	224.0	221.7
47.5°	226.3	207.9	184.8	164.0	147.8	138.6	131.7	131.7
50°	129.3	122.4	110.9	99.3	90.1	85.5	78.5	76.2
52.5°	69.3	69.3	64.7	55.4	48.5	43.9	43.9	41.6
55°	37.0	37.0	34.6	34.6	32.3	32.3	32.3	30.0
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°	9.2	11.5	11.5	11.5	11.5	9.2	9.2	9.2
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)