

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: P209160

Luminaire Tested: **LDSQ4B40D010 EU4B30509050 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209160
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 EU4B30509050 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 5000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3376.5 lumens
Efficiency: N/A
Efficacy: 78.5 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

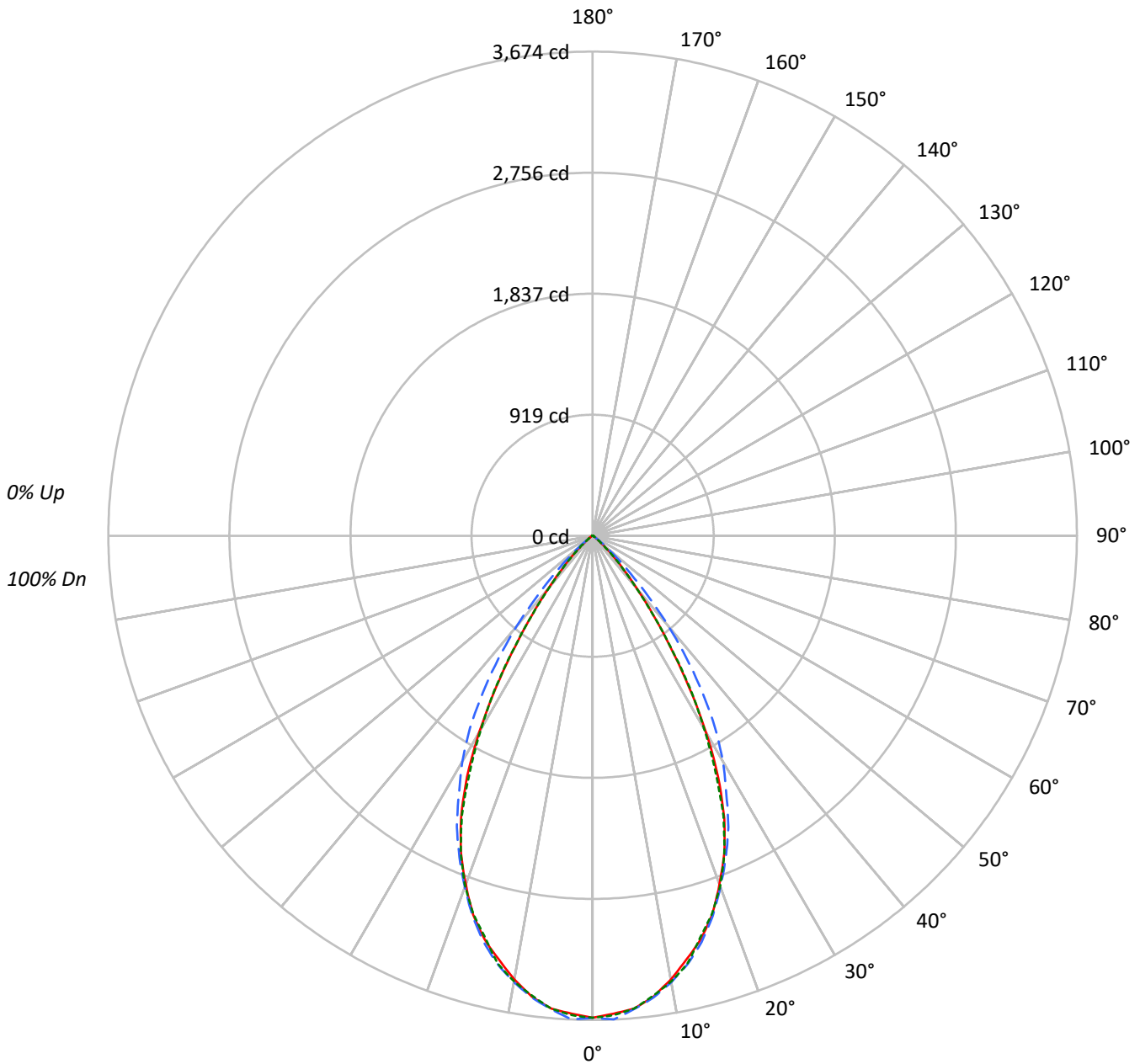
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	339.1	10.0
10°-20°	888.7	26.3
20°-30°	1085.7	32.2
30°-40°	759.3	22.5
40°-50°	248.8	7.4
50°-60°	39.6	1.2
60°-70°	10.8	0.3
70°-80°	3.6	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°	2313.5	68.5
0°-40°	3072.8	91.0
0°-60°	3361.2	99.5
0°-90°	3376.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3376.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3657	3657	3657	3657	3657	
5°	3602	3603	3606	3584	3602	338
15°	3170	3182	3193	3172	3153	884
25°	2363	2399	2438	2393	2347	1062
35°	1022	1207	1452	1189	1032	652
45°	225	278	409	274	223	189
55°	32	35	40	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°	3657.4	3657.4	3657.4	3657.4	3657.4	3657.4	3657.4	3657.4	3657.4	3657.4	3657.4
2.5°	3629.6	3655.1	3648.1	3664.4	3664.4	3645.8	3650.5	3657.4	3666.7	3673.7	3617.9
5°	3601.7	3624.9	3604.0	3627.2	3613.3	3592.4	3627.2	3608.6	3620.3	3606.3	3615.6
7.5°	3527.3	3564.5	3522.7	3550.6	3541.3	3529.6	3543.6	3538.9	3545.9	3534.3	3508.7
10°	3418.1	3448.3	3420.4	3459.9	3441.3	3429.7	3441.3	3453.0	3450.6	3439.0	3453.0
12.5°	3292.6	3327.5	3313.5	3336.8	3315.9	3315.9	3343.7	3336.8	3339.1	3329.8	3346.1
15°	3169.5	3195.0	3174.1	3204.3	3195.0	3169.5	3181.1	3181.1	3199.7	3192.7	3174.1
17.5°	3016.1	3037.0	3013.8	3020.8	3011.5	3006.8	3055.6	3023.1	3041.7	3027.7	3030.1
20°	2814.0	2823.2	2816.3	2834.9	2823.2	2837.2	2832.5	2827.9	2827.9	2834.9	2818.6
22.5°	2609.5	2609.5	2616.4	2621.1	2630.4	2616.4	2644.3	2621.1	2623.4	2639.7	2635.0
25°	2363.2	2356.2	2372.5	2395.7	2405.0	2393.4	2430.5	2412.0	2425.9	2437.5	2412.0
27.5°	2063.4	2063.4	2079.7	2119.2	2126.1	2140.1	2191.2	2191.2	2209.8	2193.5	2212.1
30°	1717.2	1742.7	1763.7	1814.8	1831.0	1861.3	1914.7	1940.3	1982.1	1975.1	1965.8
32.5°	1361.7	1396.5	1398.8	1452.3	1496.4	1547.6	1619.6	1680.0	1710.2	1731.1	1707.9
35°	1022.4	1043.3	1061.9	1099.1	1173.4	1240.8	1305.9	1384.9	1438.3	1452.3	1431.4
37.5°	748.2	752.9	771.5	806.3	862.1	927.1	1006.1	1092.1	1147.9	1168.8	1145.6
40°	515.9	520.5	529.8	560.0	606.5	652.9	715.7	804.0	855.1	896.9	866.7
42.5°	346.2	350.9	360.2	383.4	409.0	453.1	501.9	557.7	606.5	625.1	608.8
45°	225.4	225.4	230.0	246.3	260.2	295.1	330.0	364.8	397.3	409.0	397.3
47.5°	132.4	134.8	139.4	151.0	167.3	181.2	206.8	230.0	239.3	248.6	244.0
50°	76.7	76.7	83.7	90.6	102.2	111.5	120.8	130.1	134.8	139.4	134.8
52.5°	41.8	44.1	46.5	48.8	53.4	62.7	69.7	69.7	72.0	74.4	72.0
55°	32.5	32.5	32.5	32.5	34.9	34.9	34.9	37.2	37.2	39.5	37.2
57.5°	23.2	23.2	23.2	25.6	25.6	25.6	23.2	23.2	23.2	23.2	23.2
60°	18.6	18.6	18.6	18.6	18.6	18.6	18.6	16.3	16.3	16.3	16.3
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°	7.0	7.0	7.0	7.0	9.3	9.3	7.0	7.0	7.0	7.0	7.0
70°	4.6	4.6	4.6	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
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°	3657.4	3657.4	3657.4	3657.4	3657.4	3657.4	3657.4	3657.4
2.5°	3657.4	3617.9	3622.6	3643.5	3631.9	3643.5	3641.2	3641.2
5°	3617.9	3606.3	3587.7	3580.8	3594.7	3624.9	3620.3	3601.7
7.5°	3543.6	3513.4	3534.3	3543.6	3532.0	3550.6	3559.8	3520.3
10°	3455.3	3443.7	3439.0	3443.7	3439.0	3457.6	3434.4	3434.4
12.5°	3329.8	3311.2	3311.2	3339.1	3322.8	3308.9	3327.5	3325.2
15°	3204.3	3167.1	3167.1	3176.4	3183.4	3174.1	3176.4	3153.2
17.5°	3018.4	3006.8	2990.6	3016.1	3023.1	3013.8	3020.8	3009.1
20°	2844.2	2844.2	2814.0	2825.6	2834.9	2841.8	2846.5	2827.9
22.5°	2621.1	2625.7	2604.8	2628.1	2635.0	2611.8	2616.4	2611.8
25°	2416.6	2414.3	2398.0	2388.7	2393.4	2384.1	2381.8	2346.9
27.5°	2191.2	2168.0	2133.1	2142.4	2102.9	2070.4	2070.4	2016.9
30°	1947.2	1907.7	1861.3	1814.8	1779.9	1742.7	1721.8	1691.6
32.5°	1661.4	1608.0	1549.9	1487.1	1447.6	1391.9	1361.7	1377.9
35°	1377.9	1298.9	1219.9	1157.2	1096.8	1064.2	1027.1	1031.7
37.5°	1103.7	992.2	922.5	855.1	804.0	762.2	745.9	741.2
40°	806.3	718.0	648.3	599.5	564.6	532.1	513.5	506.6
42.5°	557.7	494.9	439.2	399.7	376.4	355.5	346.2	343.9
45°	362.5	325.3	288.1	260.2	241.7	227.7	225.4	223.1
47.5°	227.7	209.1	185.9	165.0	148.7	139.4	132.4	132.4
50°	130.1	123.2	111.5	99.9	90.6	86.0	79.0	76.7
52.5°	69.7	69.7	65.1	55.8	48.8	44.1	44.1	41.8
55°	37.2	37.2	34.9	34.9	32.5	32.5	32.5	30.2
57.5°	23.2	23.2	25.6	25.6	23.2	23.2	23.2	23.2
60°	16.3	18.6	18.6	18.6	18.6	18.6	18.6	18.6
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°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
70°	7.0	7.0	7.0	7.0	7.0	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)