

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: P209145

Luminaire Tested: **LDSQ4B30D010 EU4B30509030 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209145
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: LDSQ4B30D010 EU4B30509030 4LBSQ1LI
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE LOW
IRIDESCENT TRIM.
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM
WATTAGE D010TR-27.4 W DE010-27.95 W D5LT-27.65 W DMX-27.73 W DL2-29.56 W
DL3-29.67 W DLE-29.73 W
Light Source: HIGH LUMEN LED 3000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2362.3 lumens
Efficiency: N/A
Efficacy: 84.4 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

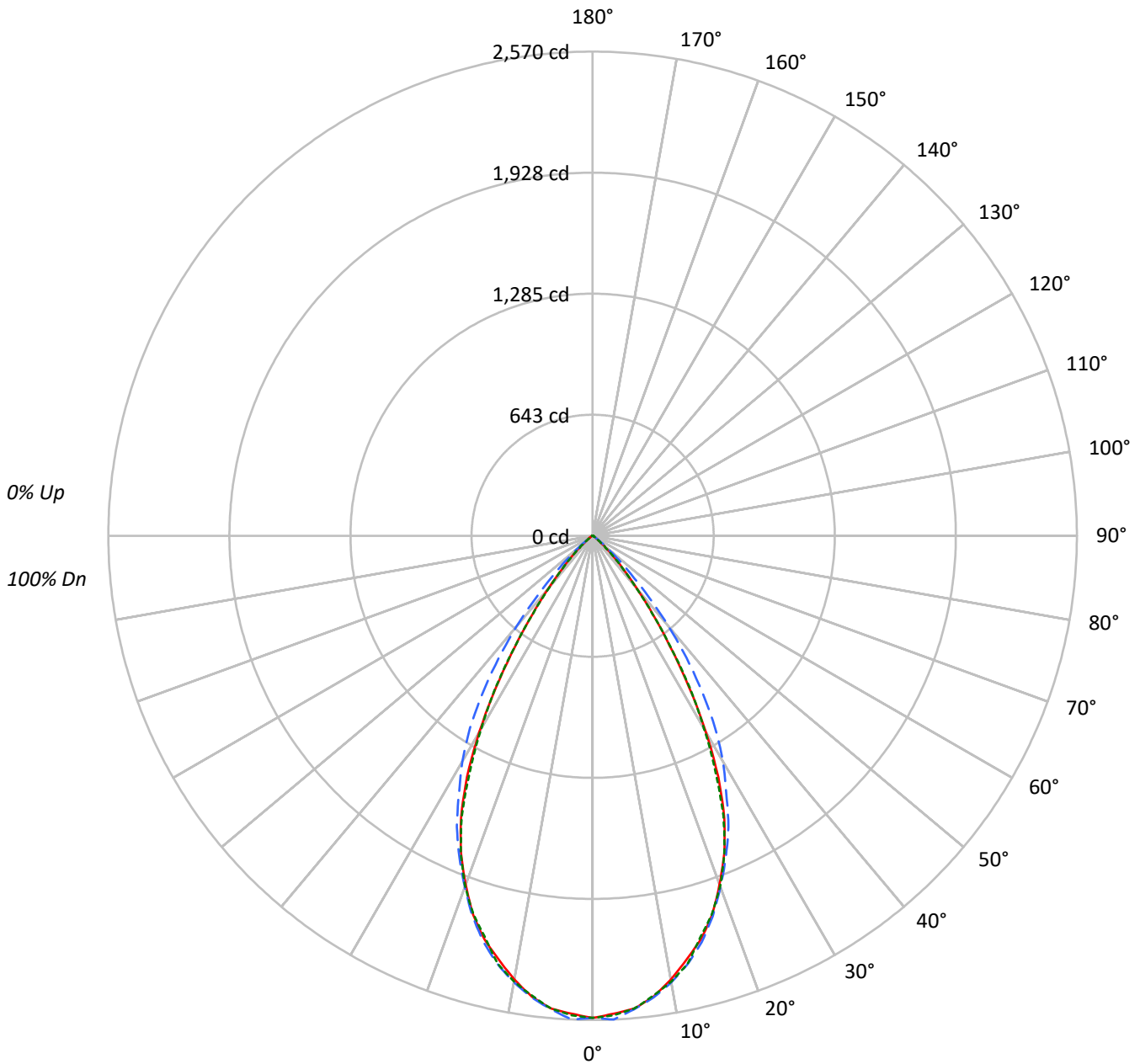
Input Watts (W): 28
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					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	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°	237.2	10.0
10°-20°	621.8	26.3
20°-30°	759.5	32.2
30°-40°	531.2	22.5
40°-50°	174.1	7.4
50°-60°	27.7	1.2
60°-70°	7.6	0.3
70°-80°	2.5	0.1
80°-90°	0.7	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°	1618.5	68.5
0°-40°	2149.8	91.0
0°-60°	2351.6	99.5
0°-90°	2362.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2362.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2559	2559	2559	2559	2559	
5°	2520	2521	2523	2508	2520	236
15°	2217	2226	2234	2219	2206	619
25°	1653	1678	1705	1674	1642	743
35°	715	845	1016	832	722	456
45°	158	194	286	192	156	132
55°	23	24	28	24	21	23
65°	6	8	6	8	6	7
75°	2	2	2	2	2	2
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°	2558.8	2558.8	2558.8	2558.8	2558.8	2558.8	2558.8	2558.8	2558.8	2558.8	2558.8
2.5°	2539.3	2557.2	2552.3	2563.7	2563.7	2550.7	2553.9	2558.8	2565.3	2570.2	2531.2
5°	2519.8	2536.0	2521.4	2537.7	2527.9	2513.3	2537.7	2524.6	2532.8	2523.0	2529.5
7.5°	2467.8	2493.8	2464.5	2484.0	2477.5	2469.4	2479.1	2475.9	2480.8	2472.6	2454.7
10°	2391.3	2412.5	2393.0	2420.6	2407.6	2399.5	2407.6	2415.7	2414.1	2406.0	2415.7
12.5°	2303.6	2327.9	2318.2	2334.4	2319.8	2319.8	2339.3	2334.4	2336.1	2329.6	2340.9
15°	2217.4	2235.3	2220.7	2241.8	2235.3	2217.4	2225.5	2225.5	2238.5	2233.7	2220.7
17.5°	2110.1	2124.7	2108.5	2113.4	2106.9	2103.6	2137.7	2115.0	2128.0	2118.2	2119.9
20°	1968.7	1975.2	1970.3	1983.3	1975.2	1984.9	1981.7	1978.4	1978.4	1983.3	1971.9
22.5°	1825.6	1825.6	1830.5	1833.7	1840.2	1830.5	1850.0	1833.7	1835.4	1846.7	1843.5
25°	1653.3	1648.4	1659.8	1676.1	1682.6	1674.4	1700.4	1687.4	1697.2	1705.3	1687.4
27.5°	1443.6	1443.6	1455.0	1482.6	1487.5	1497.2	1533.0	1533.0	1546.0	1534.6	1547.6
30°	1201.4	1219.2	1233.9	1269.6	1281.0	1302.2	1339.5	1357.4	1386.7	1381.8	1375.3
32.5°	952.6	977.0	978.6	1016.0	1046.9	1082.7	1133.1	1175.4	1196.5	1211.1	1194.9
35°	715.3	729.9	742.9	768.9	821.0	868.1	913.6	968.9	1006.3	1016.0	1001.4
37.5°	523.5	526.7	539.7	564.1	603.1	648.6	703.9	764.1	803.1	817.7	801.4
40°	360.9	364.1	370.7	391.8	424.3	456.8	500.7	562.5	598.2	627.5	606.4
42.5°	242.2	245.5	252.0	268.2	286.1	317.0	351.1	390.2	424.3	437.3	425.9
45°	157.7	157.7	160.9	172.3	182.1	206.5	230.8	255.2	278.0	286.1	278.0
47.5°	92.7	94.3	97.5	105.7	117.0	126.8	144.7	160.9	167.4	173.9	170.7
50°	53.6	53.6	58.5	63.4	71.5	78.0	84.5	91.0	94.3	97.5	94.3
52.5°	29.3	30.9	32.5	34.1	37.4	43.9	48.8	48.8	50.4	52.0	50.4
55°	22.8	22.8	22.8	22.8	24.4	24.4	24.4	26.0	26.0	27.6	26.0
57.5°	16.3	16.3	16.3	17.9	17.9	17.9	16.3	16.3	16.3	16.3	16.3
60°	13.0	13.0	13.0	13.0	13.0	13.0	13.0	11.4	11.4	11.4	11.4
62.5°	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
65°	6.5	6.5	8.1	8.1	8.1	8.1	8.1	6.5	6.5	6.5	6.5
67.5°	4.9	4.9	4.9	4.9	6.5	6.5	4.9	4.9	4.9	4.9	4.9
70°	3.3	3.3	3.3	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
72.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
75°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
77.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
80°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	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°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
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°	2558.8	2558.8	2558.8	2558.8	2558.8	2558.8	2558.8	2558.8
2.5°	2558.8	2531.2	2534.4	2549.0	2540.9	2549.0	2547.4	2547.4
5°	2531.2	2523.0	2510.0	2505.1	2514.9	2536.0	2532.8	2519.8
7.5°	2479.1	2458.0	2472.6	2479.1	2471.0	2484.0	2490.5	2462.9
10°	2417.4	2409.2	2406.0	2409.2	2406.0	2419.0	2402.7	2402.7
12.5°	2329.6	2316.6	2316.6	2336.1	2324.7	2314.9	2327.9	2326.3
15°	2241.8	2215.8	2215.8	2222.3	2227.2	2220.7	2222.3	2206.0
17.5°	2111.7	2103.6	2092.2	2110.1	2115.0	2108.5	2113.4	2105.2
20°	1989.8	1989.8	1968.7	1976.8	1983.3	1988.2	1991.4	1978.4
22.5°	1833.7	1837.0	1822.4	1838.6	1843.5	1827.2	1830.5	1827.2
25°	1690.7	1689.1	1677.7	1671.2	1674.4	1667.9	1666.3	1641.9
27.5°	1533.0	1516.7	1492.4	1498.9	1471.2	1448.5	1448.5	1411.1
30°	1362.3	1334.7	1302.2	1269.6	1245.3	1219.2	1204.6	1183.5
32.5°	1162.3	1125.0	1084.3	1040.4	1012.8	973.8	952.6	964.0
35°	964.0	908.7	853.5	809.6	767.3	744.6	718.5	721.8
37.5°	772.2	694.2	645.4	598.2	562.5	533.2	521.8	518.6
40°	564.1	502.3	453.6	419.4	395.0	372.3	359.3	354.4
42.5°	390.2	346.3	307.2	279.6	263.4	248.7	242.2	240.6
45°	253.6	227.6	201.6	182.1	169.1	159.3	157.7	156.1
47.5°	159.3	146.3	130.1	115.4	104.0	97.5	92.7	92.7
50°	91.0	86.2	78.0	69.9	63.4	60.1	55.3	53.6
52.5°	48.8	48.8	45.5	39.0	34.1	30.9	30.9	29.3
55°	26.0	26.0	24.4	24.4	22.8	22.8	22.8	21.1
57.5°	16.3	16.3	17.9	17.9	16.3	16.3	16.3	16.3
60°	11.4	13.0	13.0	13.0	13.0	13.0	13.0	13.0
62.5°	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
65°	6.5	8.1	8.1	8.1	8.1	6.5	6.5	6.5
67.5°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
70°	4.9	4.9	4.9	4.9	4.9	3.3	3.3	3.3
72.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
75°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
77.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
80°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
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°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
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)