

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: P209144

Luminaire Tested: **LDSQ4B30D010 EU4B30509027 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209144
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 EU4B30509027 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 2700 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2272.1 lumens
Efficiency: N/A
Efficacy: 81.1 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

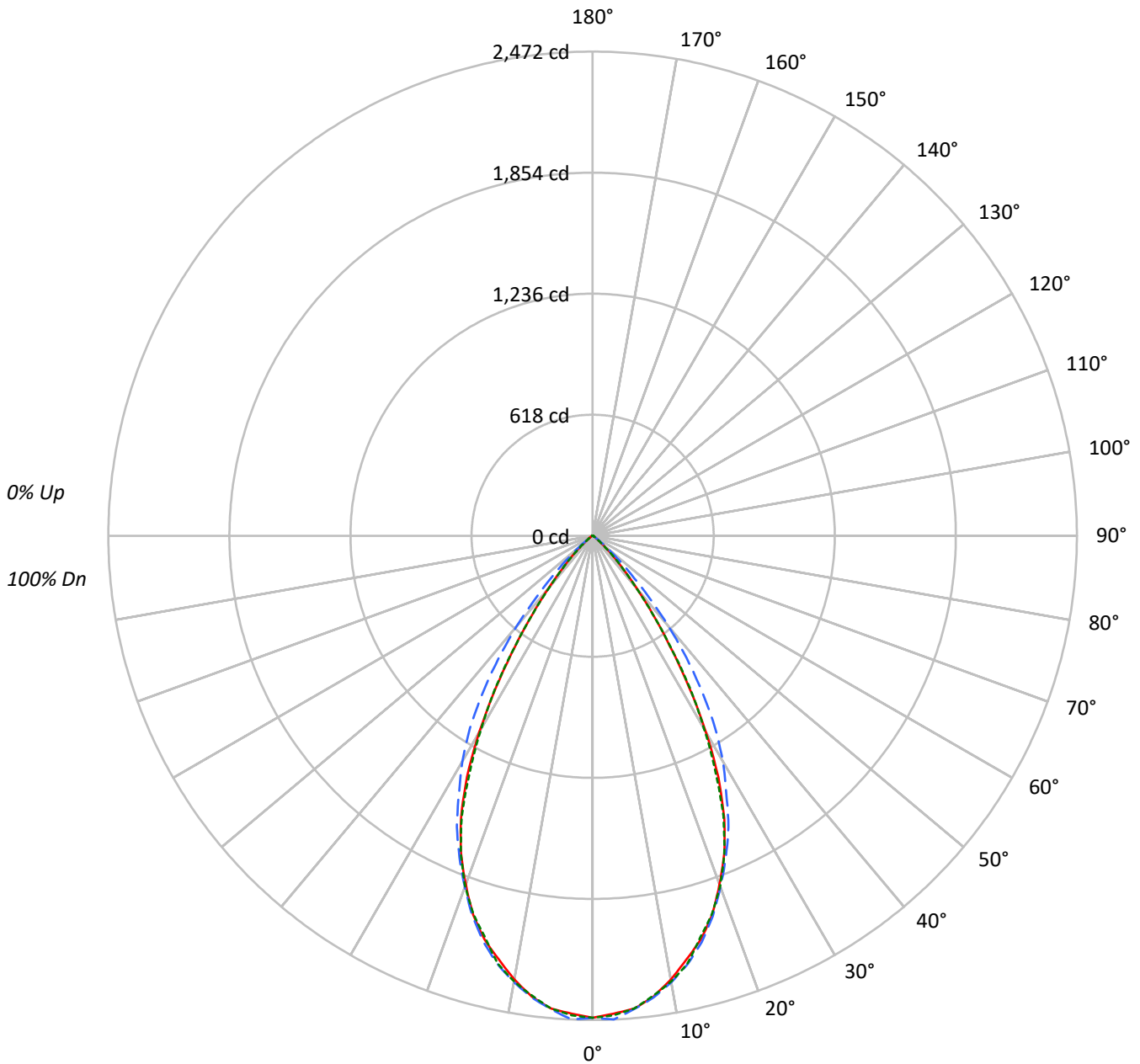
Input Watts (W): 28
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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°	228.2	10.0
10°-20°	598.0	26.3
20°-30°	730.5	32.2
30°-40°	510.9	22.5
40°-50°	167.4	7.4
50°-60°	26.6	1.2
60°-70°	7.3	0.3
70°-80°	2.4	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°	1556.7	68.5
0°-40°	2067.6	91.0
0°-60°	2261.7	99.5
0°-90°	2272.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2272.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2461	2461	2461	2461	2461	
5°	2424	2424	2427	2412	2424	227
15°	2133	2141	2148	2134	2122	595
25°	1590	1614	1640	1610	1579	714
35°	688	812	977	800	694	439
45°	152	187	275	184	150	127
55°	22	24	27	24	20	22
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°	2461.0	2461.0	2461.0	2461.0	2461.0	2461.0	2461.0	2461.0	2461.0	2461.0	2461.0
2.5°	2442.2	2459.4	2454.8	2465.7	2465.7	2453.2	2456.3	2461.0	2467.3	2472.0	2434.4
5°	2423.5	2439.1	2425.0	2440.7	2431.3	2417.2	2440.7	2428.2	2436.0	2426.6	2432.9
7.5°	2373.5	2398.5	2370.3	2389.1	2382.8	2375.0	2384.4	2381.3	2386.0	2378.1	2360.9
10°	2300.0	2320.3	2301.5	2328.1	2315.6	2307.8	2315.6	2323.4	2321.9	2314.0	2323.4
12.5°	2215.5	2239.0	2229.6	2245.2	2231.2	2231.2	2249.9	2245.2	2246.8	2240.6	2251.5
15°	2132.7	2149.9	2135.8	2156.1	2149.9	2132.7	2140.5	2140.5	2153.0	2148.3	2135.8
17.5°	2029.5	2043.5	2027.9	2032.6	2026.3	2023.2	2056.1	2034.2	2046.7	2037.3	2038.9
20°	1893.4	1899.7	1895.0	1907.5	1899.7	1909.1	1906.0	1902.8	1902.8	1907.5	1896.6
22.5°	1755.9	1755.9	1760.5	1763.7	1769.9	1760.5	1779.3	1763.7	1765.2	1776.2	1773.1
25°	1590.1	1585.4	1596.4	1612.0	1618.3	1610.4	1635.5	1623.0	1632.3	1640.2	1623.0
27.5°	1388.4	1388.4	1399.4	1425.9	1430.6	1440.0	1474.4	1474.4	1486.9	1476.0	1488.5
30°	1155.5	1172.7	1186.7	1221.1	1232.1	1252.4	1288.4	1305.6	1333.7	1329.0	1322.8
32.5°	916.2	939.7	941.3	977.2	1006.9	1041.3	1089.8	1130.4	1150.8	1164.8	1149.2
35°	688.0	702.0	714.5	739.6	789.6	834.9	878.7	931.9	967.8	977.2	963.1
37.5°	503.5	506.6	519.1	542.5	580.1	623.9	677.0	734.9	772.4	786.5	770.8
40°	347.1	350.2	356.5	376.8	408.1	439.4	481.6	541.0	575.4	603.5	583.2
42.5°	233.0	236.1	242.3	258.0	275.2	304.9	337.7	375.2	408.1	420.6	409.6
45°	151.7	151.7	154.8	165.7	175.1	198.6	222.0	245.5	267.4	275.2	267.4
47.5°	89.1	90.7	93.8	101.6	112.6	122.0	139.2	154.8	161.0	167.3	164.2
50°	51.6	51.6	56.3	61.0	68.8	75.0	81.3	87.6	90.7	93.8	90.7
52.5°	28.1	29.7	31.3	32.8	36.0	42.2	46.9	46.9	48.5	50.0	48.5
55°	21.9	21.9	21.9	21.9	23.5	23.5	23.5	25.0	25.0	26.6	25.0
57.5°	15.6	15.6	15.6	17.2	17.2	17.2	15.6	15.6	15.6	15.6	15.6
60°	12.5	12.5	12.5	12.5	12.5	12.5	12.5	10.9	10.9	10.9	10.9
62.5°	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
65°	6.3	6.3	7.8	7.8	7.8	7.8	7.8	6.3	6.3	6.3	6.3
67.5°	4.7	4.7	4.7	4.7	6.3	6.3	4.7	4.7	4.7	4.7	4.7
70°	3.1	3.1	3.1	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
72.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
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°	2461.0	2461.0	2461.0	2461.0	2461.0	2461.0	2461.0	2461.0
2.5°	2461.0	2434.4	2437.6	2451.6	2443.8	2451.6	2450.1	2450.1
5°	2434.4	2426.6	2414.1	2409.4	2418.8	2439.1	2436.0	2423.5
7.5°	2384.4	2364.1	2378.1	2384.4	2376.6	2389.1	2395.3	2368.8
10°	2325.0	2317.2	2314.0	2317.2	2314.0	2326.5	2310.9	2310.9
12.5°	2240.6	2228.0	2228.0	2246.8	2235.9	2226.5	2239.0	2237.4
15°	2156.1	2131.1	2131.1	2137.4	2142.0	2135.8	2137.4	2121.7
17.5°	2031.0	2023.2	2012.3	2029.5	2034.2	2027.9	2032.6	2024.8
20°	1913.8	1913.8	1893.4	1901.3	1907.5	1912.2	1915.3	1902.8
22.5°	1763.7	1766.8	1752.7	1768.4	1773.1	1757.4	1760.5	1757.4
25°	1626.1	1624.5	1613.6	1607.3	1610.4	1604.2	1602.6	1579.2
27.5°	1474.4	1458.8	1435.3	1441.6	1415.0	1393.1	1393.1	1357.2
30°	1310.2	1283.7	1252.4	1221.1	1197.7	1172.7	1158.6	1138.3
32.5°	1117.9	1082.0	1042.9	1000.7	974.1	936.6	916.2	927.2
35°	927.2	874.0	820.9	778.6	738.0	716.1	691.1	694.2
37.5°	742.7	667.6	620.7	575.4	541.0	512.8	501.9	498.8
40°	542.5	483.1	436.2	403.4	379.9	358.1	345.5	340.9
42.5°	375.2	333.0	295.5	268.9	253.3	239.2	233.0	231.4
45°	243.9	218.9	193.9	175.1	162.6	153.2	151.7	150.1
47.5°	153.2	140.7	125.1	111.0	100.1	93.8	89.1	89.1
50°	87.6	82.9	75.0	67.2	61.0	57.9	53.2	51.6
52.5°	46.9	46.9	43.8	37.5	32.8	29.7	29.7	28.1
55°	25.0	25.0	23.5	23.5	21.9	21.9	21.9	20.3
57.5°	15.6	15.6	17.2	17.2	15.6	15.6	15.6	15.6
60°	10.9	12.5	12.5	12.5	12.5	12.5	12.5	12.5
62.5°	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
65°	6.3	7.8	7.8	7.8	7.8	6.3	6.3	6.3
67.5°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
70°	4.7	4.7	4.7	4.7	4.7	3.1	3.1	3.1
72.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
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)