

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: P209150

Luminaire Tested: **LDSQ4B30D010 EU4B30509730 4LBSQ1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209150  
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 EU4B30509730 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: 2064.9 lumens  
Efficiency: N/A  
Efficacy: 73.7 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

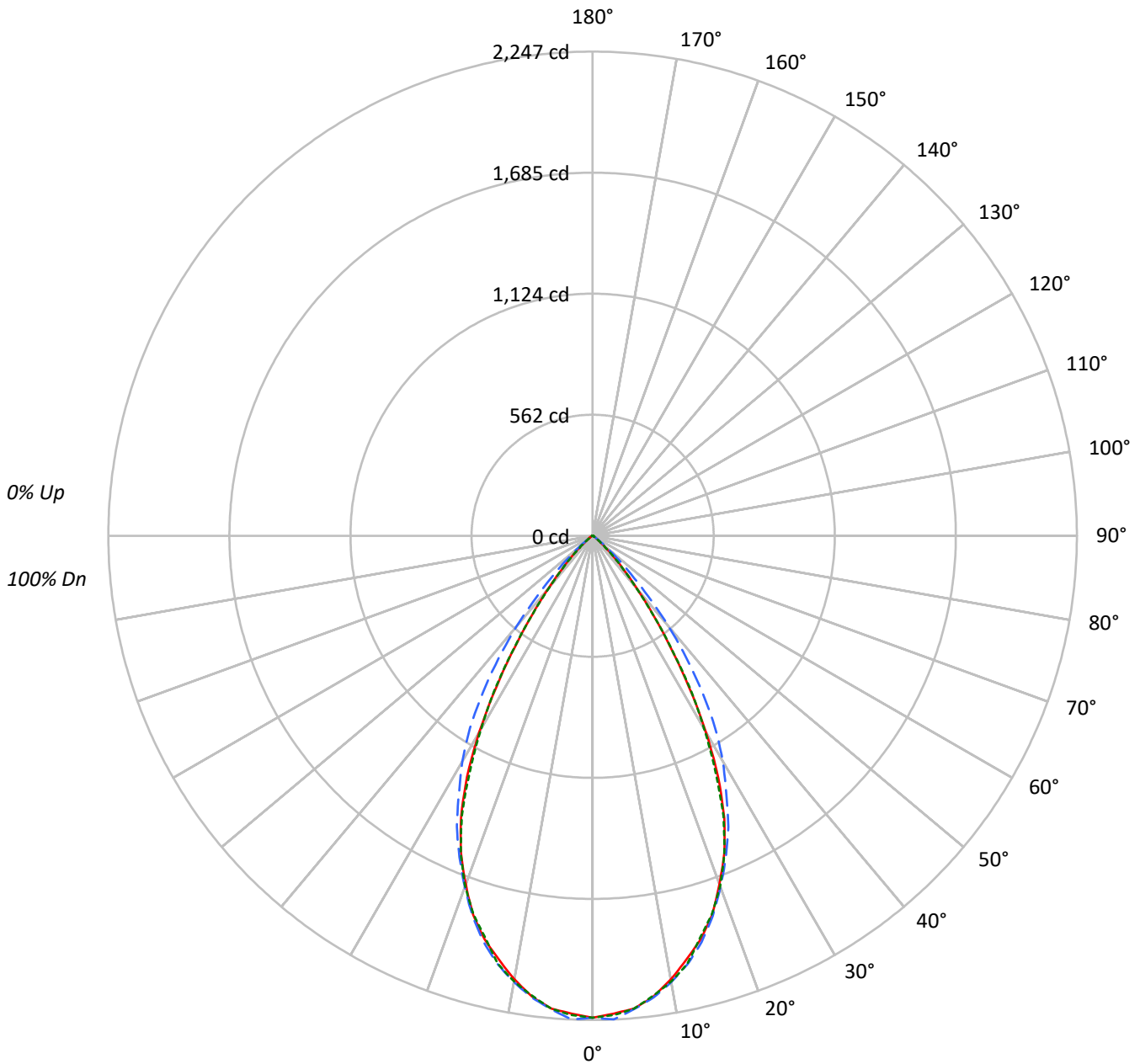
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	207.4	10.0
10°-20°	543.5	26.3
20°-30°	663.9	32.2
30°-40°	464.4	22.5
40°-50°	152.2	7.4
50°-60°	24.2	1.2
60°-70°	6.6	0.3
70°-80°	2.2	0.1
80°-90°	0.6	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°	1414.8	68.5
0°-40°	1879.1	91.0
0°-60°	2055.5	99.5
0°-90°	2064.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2064.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2237	2237	2237	2237	2237	
5°	2202	2203	2205	2192	2202	207
15°	1938	1946	1952	1940	1928	541
25°	1445	1467	1491	1464	1435	649
35°	625	738	888	727	631	399
45°	138	170	250	168	136	116
55°	20	21	24	21	18	20
65°	6	7	6	7	6	6
75°	1	1	1	1	1	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°	2236.6	2236.6	2236.6	2236.6	2236.6	2236.6	2236.6	2236.6	2236.6	2236.6	2236.6
2.5°	2219.6	2235.2	2231.0	2240.9	2240.9	2229.5	2232.4	2236.6	2242.3	2246.6	2212.5
5°	2202.5	2216.8	2204.0	2218.2	2209.6	2196.9	2218.2	2206.8	2213.9	2205.4	2211.1
7.5°	2157.1	2179.8	2154.2	2171.3	2165.6	2158.5	2167.0	2164.2	2168.4	2161.3	2145.7
10°	2090.3	2108.8	2091.7	2115.9	2104.5	2097.4	2104.5	2111.6	2110.2	2103.1	2111.6
12.5°	2013.6	2034.9	2026.3	2040.5	2027.8	2027.8	2044.8	2040.5	2042.0	2036.3	2046.2
15°	1938.2	1953.9	1941.1	1959.6	1953.9	1938.2	1945.3	1945.3	1956.7	1952.4	1941.1
17.5°	1844.5	1857.2	1843.0	1847.3	1841.6	1838.8	1868.6	1848.7	1860.1	1851.6	1853.0
20°	1720.8	1726.5	1722.2	1733.6	1726.5	1735.0	1732.2	1729.4	1729.4	1733.6	1723.7
22.5°	1595.8	1595.8	1600.0	1602.9	1608.6	1600.0	1617.1	1602.9	1604.3	1614.3	1611.4
25°	1445.2	1440.9	1450.8	1465.0	1470.7	1463.6	1486.4	1475.0	1483.5	1490.6	1475.0
27.5°	1261.8	1261.8	1271.8	1295.9	1300.2	1308.7	1340.0	1340.0	1351.4	1341.4	1352.8
30°	1050.1	1065.7	1078.5	1109.8	1119.7	1138.2	1170.9	1186.5	1212.1	1207.8	1202.2
32.5°	832.7	854.0	855.4	888.1	915.1	946.4	990.4	1027.4	1045.9	1058.6	1044.4
35°	625.2	638.0	649.4	672.1	717.6	758.8	798.6	846.9	879.6	888.1	875.3
37.5°	457.6	460.4	471.8	493.1	527.2	567.0	615.3	667.9	702.0	714.8	700.6
40°	315.5	318.3	324.0	342.5	370.9	399.3	437.7	491.7	522.9	548.5	530.0
42.5°	211.7	214.6	220.3	234.5	250.1	277.1	306.9	341.0	370.9	382.2	372.3
45°	137.8	137.8	140.7	150.6	159.2	180.5	201.8	223.1	243.0	250.1	243.0
47.5°	81.0	82.4	85.3	92.4	102.3	110.8	126.5	140.7	146.4	152.0	149.2
50°	46.9	46.9	51.2	55.4	62.5	68.2	73.9	79.6	82.4	85.3	82.4
52.5°	25.6	27.0	28.4	29.8	32.7	38.4	42.6	42.6	44.1	45.5	44.1
55°	19.9	19.9	19.9	19.9	21.3	21.3	21.3	22.7	22.7	24.2	22.7
57.5°	14.2	14.2	14.2	15.6	15.6	15.6	14.2	14.2	14.2	14.2	14.2
60°	11.4	11.4	11.4	11.4	11.4	11.4	11.4	9.9	9.9	9.9	9.9
62.5°	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
65°	5.7	5.7	7.1	7.1	7.1	7.1	7.1	5.7	5.7	5.7	5.7
67.5°	4.3	4.3	4.3	4.3	5.7	5.7	4.3	4.3	4.3	4.3	4.3
70°	2.8	2.8	2.8	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
72.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
75°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
77.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	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°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
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°	2236.6	2236.6	2236.6	2236.6	2236.6	2236.6	2236.6	2236.6
2.5°	2236.6	2212.5	2215.3	2228.1	2221.0	2228.1	2226.7	2226.7
5°	2212.5	2205.4	2194.0	2189.8	2198.3	2216.8	2213.9	2202.5
7.5°	2167.0	2148.5	2161.3	2167.0	2159.9	2171.3	2177.0	2152.8
10°	2113.0	2105.9	2103.1	2105.9	2103.1	2114.4	2100.2	2100.2
12.5°	2036.3	2024.9	2024.9	2042.0	2032.0	2023.5	2034.9	2033.4
15°	1959.6	1936.8	1936.8	1942.5	1946.8	1941.1	1942.5	1928.3
17.5°	1845.9	1838.8	1828.8	1844.5	1848.7	1843.0	1847.3	1840.2
20°	1739.3	1739.3	1720.8	1727.9	1733.6	1737.9	1740.7	1729.4
22.5°	1602.9	1605.7	1592.9	1607.1	1611.4	1597.2	1600.0	1597.2
25°	1477.8	1476.4	1466.5	1460.8	1463.6	1457.9	1456.5	1435.2
27.5°	1340.0	1325.8	1304.5	1310.2	1286.0	1266.1	1266.1	1233.4
30°	1190.8	1166.6	1138.2	1109.8	1088.5	1065.7	1053.0	1034.5
32.5°	1016.0	983.3	947.8	909.4	885.3	851.2	832.7	842.7
35°	842.7	794.3	746.0	707.7	670.7	650.8	628.1	630.9
37.5°	675.0	606.8	564.1	522.9	491.7	466.1	456.1	453.3
40°	493.1	439.1	396.5	366.6	345.3	325.4	314.0	309.8
42.5°	341.0	302.7	268.6	244.4	230.2	217.4	211.7	210.3
45°	221.7	198.9	176.2	159.2	147.8	139.3	137.8	136.4
47.5°	139.3	127.9	113.7	100.9	90.9	85.3	81.0	81.0
50°	79.6	75.3	68.2	61.1	55.4	52.6	48.3	46.9
52.5°	42.6	42.6	39.8	34.1	29.8	27.0	27.0	25.6
55°	22.7	22.7	21.3	21.3	19.9	19.9	19.9	18.5
57.5°	14.2	14.2	15.6	15.6	14.2	14.2	14.2	14.2
60°	9.9	11.4	11.4	11.4	11.4	11.4	11.4	11.4
62.5°	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
65°	5.7	7.1	7.1	7.1	7.1	5.7	5.7	5.7
67.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
70°	4.3	4.3	4.3	4.3	4.3	2.8	2.8	2.8
72.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
75°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
77.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
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°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
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)