

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: P209128

Luminaire Tested: **LDSQ4B20D010 EU4B10208040 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209128
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: LDSQ4B20D010 EU4B10208040 4LBSQ1LI
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE LOW
IRIDESCENT TRIM.
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM
WATTAGE D010TR-21.86 W DE010-20.46 W D5LT-21.24 W DMX-20.89 W DL2-22.5 W
DL3-21.8 6 W DLE-22.46 W
Light Source: HIGH LUMEN LED 4000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1988.3 lumens
Efficiency: N/A
Efficacy: 95.6 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

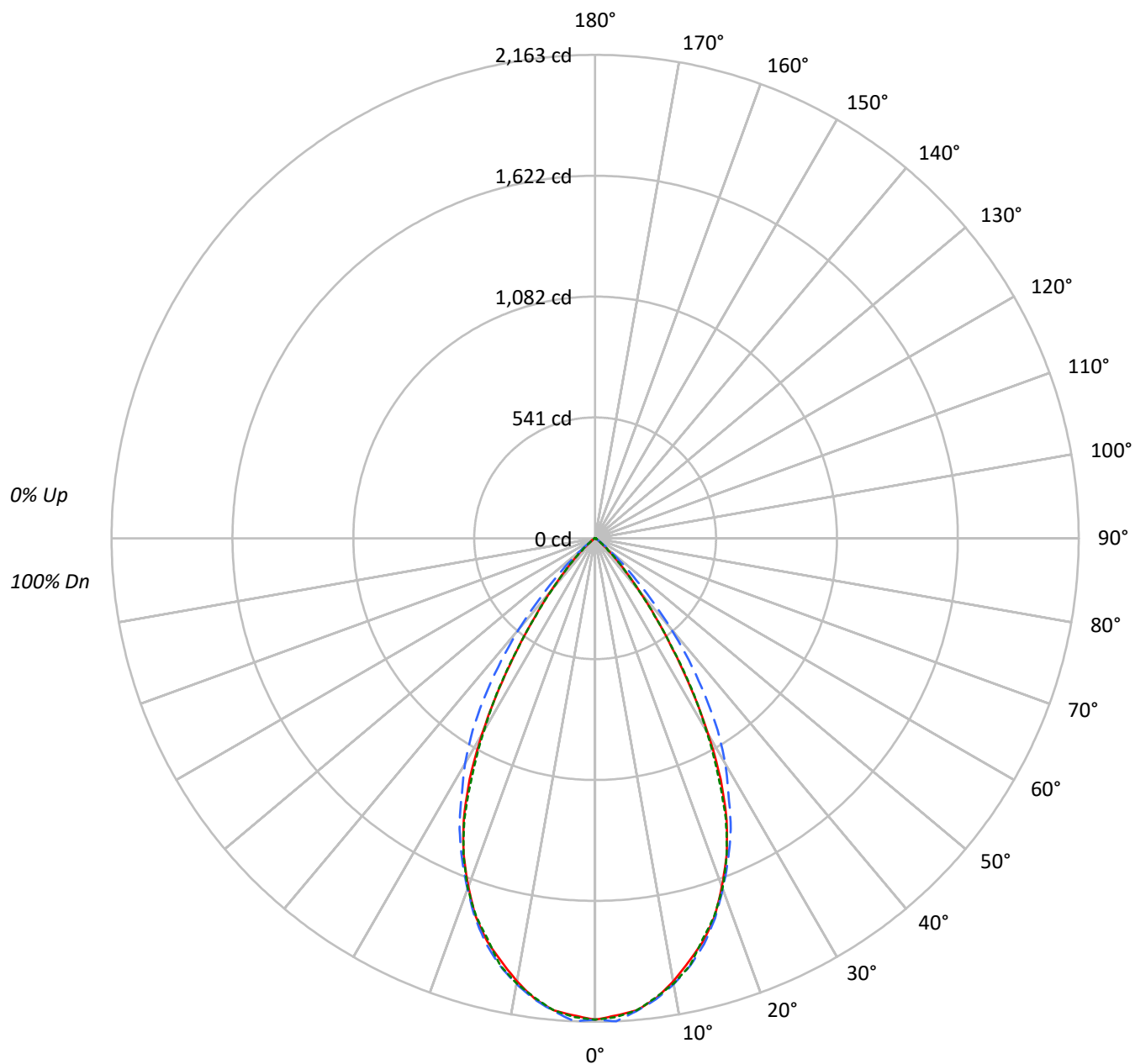
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	199.7	10.0
10°-20°	523.3	26.3
20°-30°	639.3	32.2
30°-40°	447.1	22.5
40°-50°	146.5	7.4
50°-60°	23.3	1.2
60°-70°	6.3	0.3
70°-80°	2.1	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°	1362.3	68.5
0°-40°	1809.4	91.0
0°-60°	1979.2	99.5
0°-90°	1988.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1988.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2154	2154	2154	2154	2154	
5°	2121	2121	2124	2111	2121	199
15°	1866	1874	1880	1868	1857	521
25°	1392	1413	1435	1409	1382	625
35°	602	711	855	700	608	384
45°	133	164	241	161	131	111
55°	19	20	23	20	18	19
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°	2153.6	2153.6	2153.6	2153.6	2153.6	2153.6	2153.6	2153.6	2153.6	2153.6	2153.6
2.5°	2137.2	2152.3	2148.2	2157.7	2157.7	2146.8	2149.5	2153.6	2159.1	2163.2	2130.4
5°	2120.8	2134.5	2122.2	2135.8	2127.6	2115.3	2135.8	2124.9	2131.7	2123.5	2129.0
7.5°	2077.0	2098.9	2074.3	2090.7	2085.2	2078.4	2086.6	2083.9	2088.0	2081.1	2066.1
10°	2012.7	2030.5	2014.1	2037.3	2026.4	2019.5	2026.4	2033.2	2031.9	2025.0	2033.2
12.5°	1938.8	1959.3	1951.1	1964.8	1952.5	1952.5	1968.9	1964.8	1966.2	1960.7	1970.3
15°	1866.3	1881.4	1869.0	1886.8	1881.4	1866.3	1873.1	1873.1	1884.1	1880.0	1869.0
17.5°	1776.0	1788.3	1774.6	1778.7	1773.3	1770.5	1799.3	1780.1	1791.0	1782.8	1784.2
20°	1657.0	1662.4	1658.3	1669.3	1662.4	1670.6	1667.9	1665.2	1665.2	1669.3	1659.7
22.5°	1536.6	1536.6	1540.7	1543.4	1548.9	1540.7	1557.1	1543.4	1544.8	1554.3	1551.6
25°	1391.5	1387.4	1397.0	1410.7	1416.1	1409.3	1431.2	1420.2	1428.5	1435.3	1420.2
27.5°	1215.0	1215.0	1224.6	1247.8	1252.0	1260.2	1290.3	1290.3	1301.2	1291.6	1302.6
30°	1011.1	1026.2	1038.5	1068.6	1078.2	1096.0	1127.4	1142.5	1167.1	1163.0	1157.5
32.5°	801.8	822.3	823.7	855.2	881.2	911.3	953.7	989.2	1007.0	1019.4	1005.7
35°	602.0	614.3	625.3	647.2	691.0	730.6	769.0	815.5	847.0	855.2	842.8
37.5°	440.6	443.3	454.3	474.8	507.6	545.9	592.5	643.1	675.9	688.2	674.6
40°	303.8	306.5	312.0	329.7	357.1	384.5	421.4	473.4	503.5	528.1	510.4
42.5°	203.9	206.6	212.1	225.8	240.8	266.8	295.5	328.4	357.1	368.1	358.5
45°	132.7	132.7	135.5	145.0	153.2	173.8	194.3	214.8	234.0	240.8	234.0
47.5°	78.0	79.4	82.1	88.9	98.5	106.7	121.8	135.5	140.9	146.4	143.7
50°	45.2	45.2	49.3	53.4	60.2	65.7	71.1	76.6	79.4	82.1	79.4
52.5°	24.6	26.0	27.4	28.7	31.5	36.9	41.0	41.0	42.4	43.8	42.4
55°	19.2	19.2	19.2	19.2	20.5	20.5	20.5	21.9	21.9	23.3	21.9
57.5°	13.7	13.7	13.7	15.1	15.1	15.1	13.7	13.7	13.7	13.7	13.7
60°	10.9	10.9	10.9	10.9	10.9	10.9	10.9	9.6	9.6	9.6	9.6
62.5°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
65°	5.5	5.5	6.8	6.8	6.8	6.8	6.8	5.5	5.5	5.5	5.5
67.5°	4.1	4.1	4.1	4.1	5.5	5.5	4.1	4.1	4.1	4.1	4.1
70°	2.7	2.7	2.7	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
72.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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°	2153.6	2153.6	2153.6	2153.6	2153.6	2153.6	2153.6	2153.6
2.5°	2153.6	2130.4	2133.1	2145.4	2138.6	2145.4	2144.1	2144.1
5°	2130.4	2123.5	2112.6	2108.5	2116.7	2134.5	2131.7	2120.8
7.5°	2086.6	2068.8	2081.1	2086.6	2079.7	2090.7	2096.2	2072.9
10°	2034.6	2027.8	2025.0	2027.8	2025.0	2036.0	2022.3	2022.3
12.5°	1960.7	1949.8	1949.8	1966.2	1956.6	1948.4	1959.3	1958.0
15°	1886.8	1864.9	1864.9	1870.4	1874.5	1869.0	1870.4	1856.7
17.5°	1777.4	1770.5	1760.9	1776.0	1780.1	1774.6	1778.7	1771.9
20°	1674.7	1674.7	1657.0	1663.8	1669.3	1673.4	1676.1	1665.2
22.5°	1543.4	1546.1	1533.8	1547.5	1551.6	1537.9	1540.7	1537.9
25°	1423.0	1421.6	1412.0	1406.6	1409.3	1403.8	1402.5	1381.9
27.5°	1290.3	1276.6	1256.1	1261.5	1238.3	1219.1	1219.1	1187.6
30°	1146.6	1123.3	1096.0	1068.6	1048.1	1026.2	1013.9	996.1
32.5°	978.3	946.8	912.6	875.7	852.4	819.6	801.8	811.4
35°	811.4	764.9	718.3	681.4	645.8	626.7	604.8	607.5
37.5°	649.9	584.2	543.2	503.5	473.4	448.8	439.2	436.5
40°	474.8	422.8	381.7	353.0	332.5	313.3	302.4	298.3
42.5°	328.4	291.4	258.6	235.3	221.7	209.3	203.9	202.5
45°	213.4	191.6	169.7	153.2	142.3	134.1	132.7	131.4
47.5°	134.1	123.1	109.5	97.1	87.6	82.1	78.0	78.0
50°	76.6	72.5	65.7	58.8	53.4	50.6	46.5	45.2
52.5°	41.0	41.0	38.3	32.8	28.7	26.0	26.0	24.6
55°	21.9	21.9	20.5	20.5	19.2	19.2	19.2	17.8
57.5°	13.7	13.7	15.1	15.1	13.7	13.7	13.7	13.7
60°	9.6	10.9	10.9	10.9	10.9	10.9	10.9	10.9
62.5°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
65°	5.5	6.8	6.8	6.8	6.8	5.5	5.5	5.5
67.5°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
70°	4.1	4.1	4.1	4.1	4.1	2.7	2.7	2.7
72.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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)