

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: P209129

Luminaire Tested: **LDSQ4B20D010 EU4B10208050 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209129
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 EU4B10208050 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 5000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1987.5 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

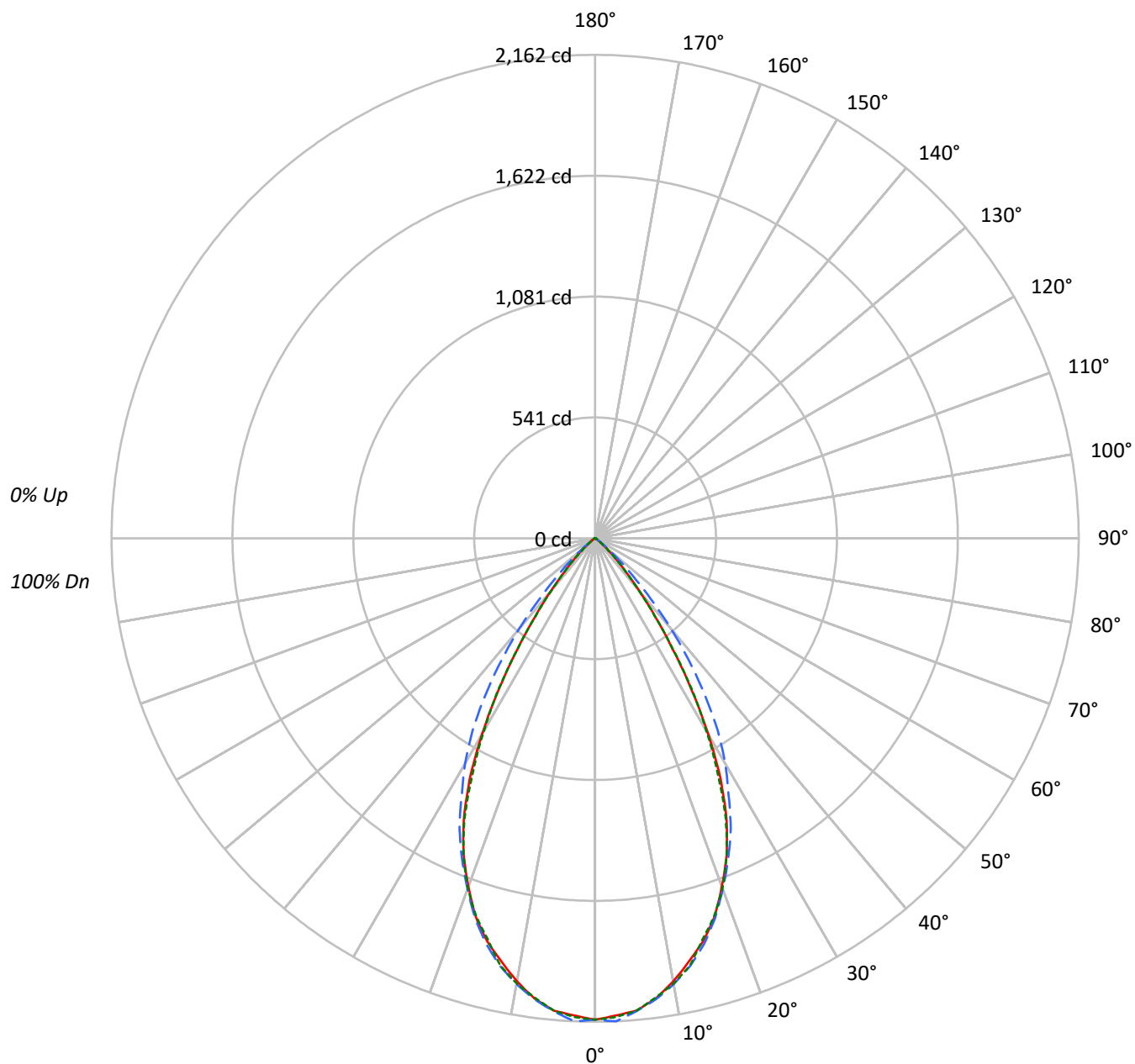
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	199.6	10.0
10°-20°	523.1	26.3
20°-30°	639.0	32.2
30°-40°	447.0	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°	1361.7	68.5
0°-40°	1808.7	91.0
0°-60°	1978.5	99.5
0°-90°	1987.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1987.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2153	2153	2153	2153	2153	
5°	2120	2121	2123	2110	2120	199
15°	1866	1873	1879	1867	1856	520
25°	1391	1412	1435	1409	1381	625
35°	602	711	855	700	607	384
45°	133	163	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°	2152.8	2152.8	2152.8	2152.8	2152.8	2152.8	2152.8	2152.8	2152.8	2152.8	2152.8
2.5°	2136.4	2151.5	2147.3	2156.9	2156.9	2146.0	2148.7	2152.8	2158.3	2162.4	2129.6
5°	2120.0	2133.7	2121.4	2135.0	2126.8	2114.5	2135.0	2124.1	2130.9	2122.7	2128.2
7.5°	2076.2	2098.1	2073.5	2089.9	2084.4	2077.6	2085.8	2083.1	2087.2	2080.3	2065.3
10°	2011.9	2029.7	2013.3	2036.6	2025.6	2018.8	2025.6	2032.5	2031.1	2024.3	2032.5
12.5°	1938.1	1958.6	1950.4	1964.1	1951.8	1951.8	1968.2	1964.1	1965.4	1960.0	1969.5
15°	1865.6	1880.6	1868.3	1886.1	1880.6	1865.6	1872.4	1872.4	1883.4	1879.3	1868.3
17.5°	1775.3	1787.6	1774.0	1778.1	1772.6	1769.9	1798.6	1779.4	1790.4	1782.2	1783.5
20°	1656.3	1661.8	1657.7	1668.6	1661.8	1670.0	1667.3	1664.5	1664.5	1668.6	1659.1
22.5°	1536.0	1536.0	1540.1	1542.8	1548.3	1540.1	1556.5	1542.8	1544.2	1553.7	1551.0
25°	1391.0	1386.9	1396.5	1410.1	1415.6	1408.8	1430.7	1419.7	1427.9	1434.8	1419.7
27.5°	1214.6	1214.6	1224.1	1247.4	1251.5	1259.7	1289.8	1289.8	1300.7	1291.1	1302.1
30°	1010.8	1025.8	1038.1	1068.2	1077.8	1095.6	1127.0	1142.1	1166.7	1162.6	1157.1
32.5°	801.5	822.0	823.4	854.8	880.8	910.9	953.3	988.9	1006.7	1019.0	1005.3
35°	601.8	614.1	625.1	646.9	690.7	730.4	768.7	815.2	846.6	854.8	842.5
37.5°	440.4	443.1	454.1	474.6	507.4	545.7	592.2	642.8	675.7	688.0	674.3
40°	303.6	306.4	311.8	329.6	357.0	384.3	421.3	473.2	503.3	527.9	510.2
42.5°	203.8	206.5	212.0	225.7	240.7	266.7	295.4	328.3	357.0	367.9	358.3
45°	132.7	132.7	135.4	145.0	153.2	173.7	194.2	214.7	233.9	240.7	233.9
47.5°	78.0	79.3	82.1	88.9	98.5	106.7	121.7	135.4	140.9	146.3	143.6
50°	45.1	45.1	49.2	53.3	60.2	65.7	71.1	76.6	79.3	82.1	79.3
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°	19.1	19.1	19.1	19.1	20.5	20.5	20.5	21.9	21.9	23.3	21.9
57.5°	13.7	13.7	13.7	15.0	15.0	15.0	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°	2152.8	2152.8	2152.8	2152.8	2152.8	2152.8	2152.8	2152.8
2.5°	2152.8	2129.6	2132.3	2144.6	2137.8	2144.6	2143.2	2143.2
5°	2129.6	2122.7	2111.8	2107.7	2115.9	2133.7	2130.9	2120.0
7.5°	2085.8	2068.0	2080.3	2085.8	2079.0	2089.9	2095.4	2072.1
10°	2033.8	2027.0	2024.3	2027.0	2024.3	2035.2	2021.5	2021.5
12.5°	1960.0	1949.0	1949.0	1965.4	1955.9	1947.7	1958.6	1957.2
15°	1886.1	1864.2	1864.2	1869.7	1873.8	1868.3	1869.7	1856.0
17.5°	1776.7	1769.9	1760.3	1775.3	1779.4	1774.0	1778.1	1771.2
20°	1674.1	1674.1	1656.3	1663.2	1668.6	1672.7	1675.5	1664.5
22.5°	1542.8	1545.5	1533.2	1546.9	1551.0	1537.3	1540.1	1537.3
25°	1422.4	1421.1	1411.5	1406.0	1408.8	1403.3	1401.9	1381.4
27.5°	1289.8	1276.1	1255.6	1261.1	1237.8	1218.7	1218.7	1187.2
30°	1146.2	1122.9	1095.6	1068.2	1047.7	1025.8	1013.5	995.7
32.5°	977.9	946.5	912.3	875.4	852.1	819.3	801.5	811.1
35°	811.1	764.6	718.1	681.1	645.6	626.4	604.5	607.3
37.5°	649.7	584.0	543.0	503.3	473.2	448.6	439.0	436.3
40°	474.6	422.6	381.6	352.9	332.4	313.2	302.3	298.2
42.5°	328.3	291.3	258.5	235.3	221.6	209.3	203.8	202.4
45°	213.4	191.5	169.6	153.2	142.2	134.0	132.7	131.3
47.5°	134.0	123.1	109.4	97.1	87.5	82.1	78.0	78.0
50°	76.6	72.5	65.7	58.8	53.3	50.6	46.5	45.1
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	19.1	19.1	19.1	17.8
57.5°	13.7	13.7	15.0	15.0	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)