

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: P209125

Luminaire Tested: **LDSQ4B20D010 EU4B10208027 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209125
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 EU4B10208027 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 2700 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1836.6 lumens
Efficiency: N/A
Efficacy: 88.3 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

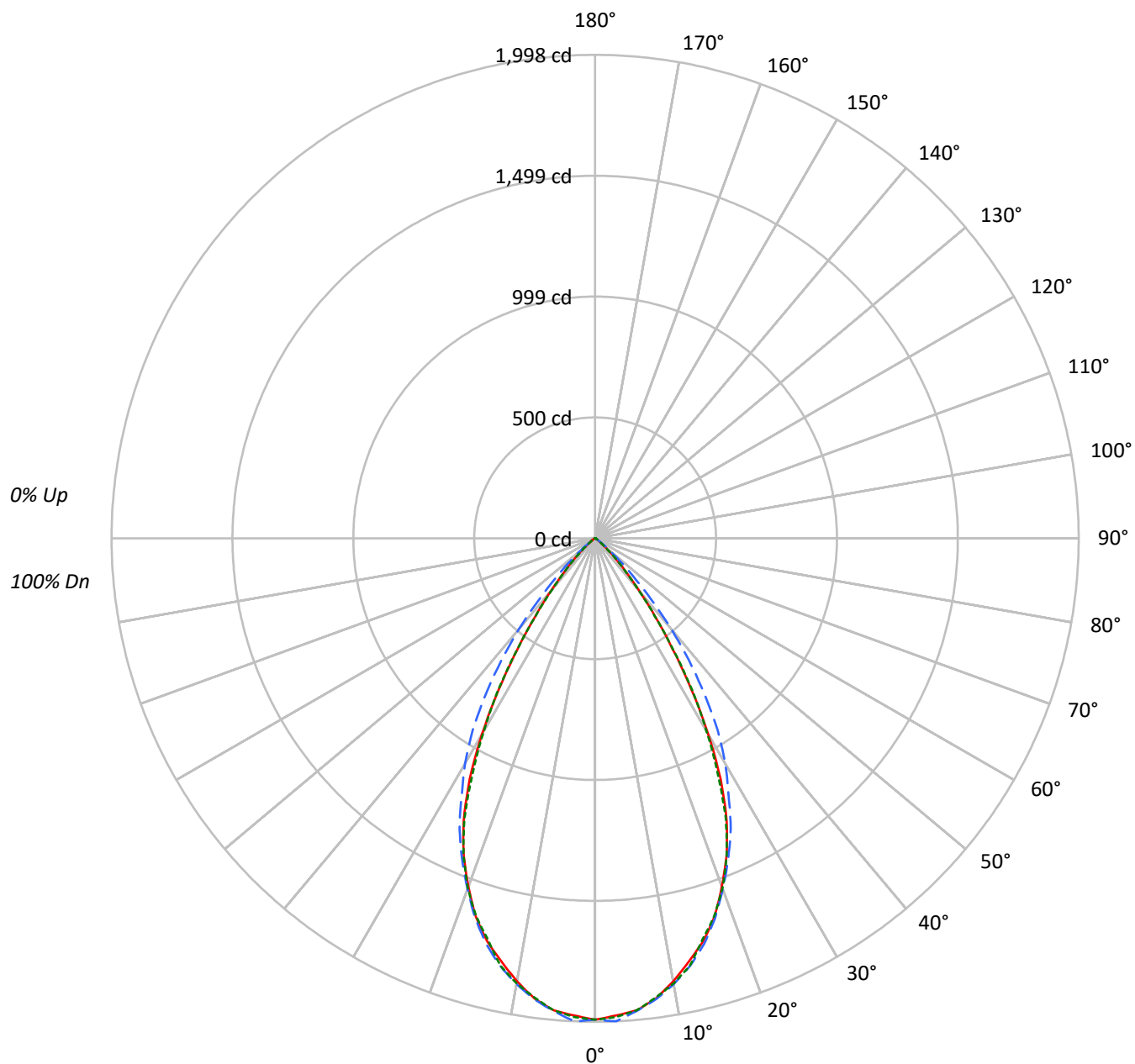
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	184.4	10.0
10°-20°	483.4	26.3
20°-30°	590.5	32.2
30°-40°	413.0	22.5
40°-50°	135.3	7.4
50°-60°	21.5	1.2
60°-70°	5.9	0.3
70°-80°	2.0	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°	1258.3	68.5
0°-40°	1671.4	91.0
0°-60°	1828.2	99.5
0°-90°	1836.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1836.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1989	1989	1989	1989	1989	
5°	1959	1960	1962	1950	1959	184
15°	1724	1731	1737	1725	1715	481
25°	1285	1305	1326	1302	1276	577
35°	556	657	790	646	561	355
45°	123	151	222	149	121	103
55°	18	19	22	19	16	17
65°	5	6	5	6	5	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°	1989.4	1989.4	1989.4	1989.4	1989.4	1989.4	1989.4	1989.4	1989.4	1989.4	1989.4
2.5°	1974.2	1988.1	1984.3	1993.1	1993.1	1983.0	1985.6	1989.4	1994.4	1998.2	1967.9
5°	1959.0	1971.7	1960.3	1972.9	1965.3	1954.0	1972.9	1962.8	1969.1	1961.5	1966.6
7.5°	1918.6	1938.8	1916.0	1931.2	1926.2	1919.8	1927.4	1924.9	1928.7	1922.4	1908.5
10°	1859.2	1875.6	1860.4	1881.9	1871.8	1865.5	1871.8	1878.1	1876.9	1870.5	1878.1
12.5°	1790.9	1809.9	1802.3	1814.9	1803.6	1803.6	1818.7	1814.9	1816.2	1811.1	1820.0
15°	1723.9	1737.8	1726.5	1742.9	1737.8	1723.9	1730.3	1730.3	1740.4	1736.6	1726.5
17.5°	1640.5	1651.9	1639.3	1643.0	1638.0	1635.5	1662.0	1644.3	1654.4	1646.8	1648.1
20°	1530.6	1535.6	1531.8	1541.9	1535.6	1543.2	1540.7	1538.1	1538.1	1541.9	1533.1
22.5°	1419.3	1419.3	1423.1	1425.7	1430.7	1423.1	1438.3	1425.7	1426.9	1435.8	1433.2
25°	1285.4	1281.6	1290.4	1303.1	1308.1	1301.8	1322.0	1311.9	1319.5	1325.8	1311.9
27.5°	1122.3	1122.3	1131.2	1152.7	1156.5	1164.0	1191.8	1191.8	1202.0	1193.1	1203.2
30°	934.0	947.9	959.3	987.1	995.9	1012.4	1041.4	1055.3	1078.1	1074.3	1069.2
32.5°	740.6	759.6	760.9	789.9	813.9	841.7	880.9	913.8	930.2	941.6	929.0
35°	556.1	567.5	577.6	597.8	638.3	674.9	710.3	753.3	782.3	789.9	778.6
37.5°	407.0	409.5	419.6	438.6	468.9	504.3	547.3	594.0	624.4	635.7	623.1
40°	280.6	283.1	288.2	304.6	329.9	355.2	389.3	437.3	465.1	487.9	471.4
42.5°	188.3	190.8	195.9	208.5	222.4	246.5	273.0	303.3	329.9	340.0	331.1
45°	122.6	122.6	125.1	134.0	141.6	160.5	179.5	198.4	216.1	222.4	216.1
47.5°	72.0	73.3	75.8	82.2	91.0	98.6	112.5	125.1	130.2	135.2	132.7
50°	41.7	41.7	45.5	49.3	55.6	60.7	65.7	70.8	73.3	75.8	73.3
52.5°	22.7	24.0	25.3	26.5	29.1	34.1	37.9	37.9	39.2	40.4	39.2
55°	17.7	17.7	17.7	17.7	19.0	19.0	19.0	20.2	20.2	21.5	20.2
57.5°	12.6	12.6	12.6	13.9	13.9	13.9	12.6	12.6	12.6	12.6	12.6
60°	10.1	10.1	10.1	10.1	10.1	10.1	10.1	8.8	8.8	8.8	8.8
62.5°	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
65°	5.1	5.1	6.3	6.3	6.3	6.3	6.3	5.1	5.1	5.1	5.1
67.5°	3.8	3.8	3.8	3.8	5.1	5.1	3.8	3.8	3.8	3.8	3.8
70°	2.5	2.5	2.5	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
72.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
75°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
77.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
80°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	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°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
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°	1989.4	1989.4	1989.4	1989.4	1989.4	1989.4	1989.4	1989.4
2.5°	1989.4	1967.9	1970.4	1981.8	1975.5	1981.8	1980.5	1980.5
5°	1967.9	1961.5	1951.4	1947.6	1955.2	1971.7	1969.1	1959.0
7.5°	1927.4	1911.0	1922.4	1927.4	1921.1	1931.2	1936.3	1914.8
10°	1879.4	1873.1	1870.5	1873.1	1870.5	1880.7	1868.0	1868.0
12.5°	1811.1	1801.0	1801.0	1816.2	1807.4	1799.8	1809.9	1808.6
15°	1742.9	1722.7	1722.7	1727.7	1731.5	1726.5	1727.7	1715.1
17.5°	1641.8	1635.5	1626.6	1640.5	1644.3	1639.3	1643.0	1636.7
20°	1547.0	1547.0	1530.6	1536.9	1541.9	1545.7	1548.3	1538.1
22.5°	1425.7	1428.2	1416.8	1429.5	1433.2	1420.6	1423.1	1420.6
25°	1314.4	1313.2	1304.3	1299.3	1301.8	1296.7	1295.5	1276.5
27.5°	1191.8	1179.2	1160.2	1165.3	1143.8	1126.1	1126.1	1097.1
30°	1059.1	1037.6	1012.4	987.1	968.1	947.9	936.5	920.1
32.5°	903.7	874.6	843.0	808.9	787.4	757.1	740.6	749.5
35°	749.5	706.5	663.5	629.4	596.6	578.9	558.6	561.2
37.5°	600.3	539.7	501.8	465.1	437.3	414.6	405.7	403.2
40°	438.6	390.5	352.6	326.1	307.1	289.4	279.3	275.5
42.5°	303.3	269.2	238.9	217.4	204.7	193.4	188.3	187.1
45°	197.2	176.9	156.7	141.6	131.4	123.9	122.6	121.3
47.5°	123.9	113.7	101.1	89.7	80.9	75.8	72.0	72.0
50°	70.8	67.0	60.7	54.3	49.3	46.8	43.0	41.7
52.5°	37.9	37.9	35.4	30.3	26.5	24.0	24.0	22.7
55°	20.2	20.2	19.0	19.0	17.7	17.7	17.7	16.4
57.5°	12.6	12.6	13.9	13.9	12.6	12.6	12.6	12.6
60°	8.8	10.1	10.1	10.1	10.1	10.1	10.1	10.1
62.5°	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6
65°	5.1	6.3	6.3	6.3	6.3	5.1	5.1	5.1
67.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
70°	3.8	3.8	3.8	3.8	3.8	2.5	2.5	2.5
72.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
75°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
77.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
80°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
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°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
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)