

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: P209256

Luminaire Tested: **LDSQ4B40D010 EU4B30508050 4LBCSSQ1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209256  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35089)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQ4B40D010 EU4B30508050 4LBCSSQ1MMS  
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE SHALLOW CAST METALLIC SILVER TRIM  
MEDIUM DISTRIBUTION WITH MATTE METALLIC SILVER TRIM  
WATTAGE D010TR-43.02 W DE010-42.54 W D5LT-42.539 W DMX-41.87 W DL2-41.57 W DL3-44.71 W DLE-39.33 W  
Light Source: HIGH LUMEN LED 5000 K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4151.8 lumens  
Efficiency: N/A  
Efficacy: 96.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Direct

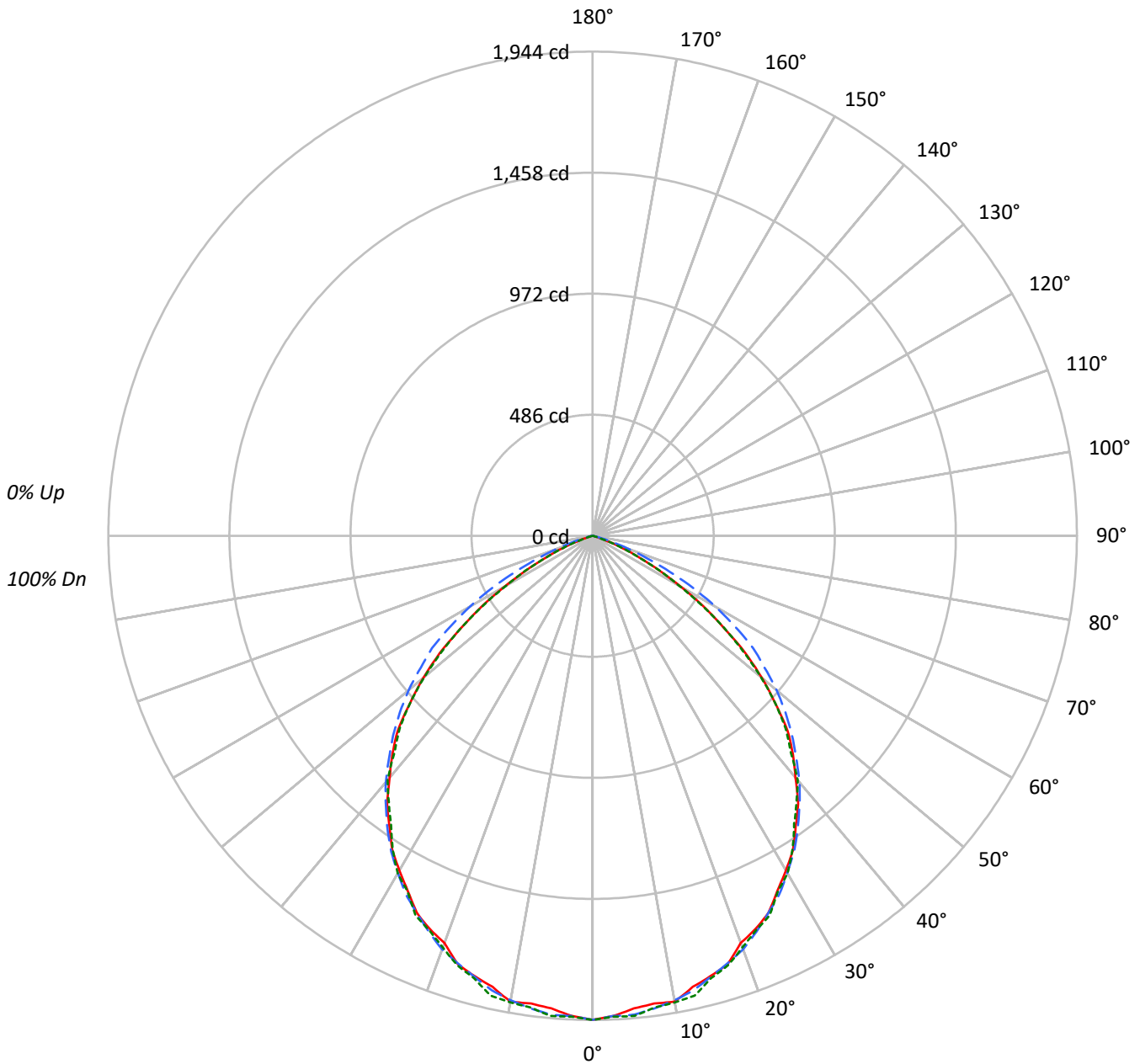
Input Watts (W): 43.02  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	111	108	104	101	109	105	102	100	101	99	96	97	95	94	94	92	91	89																			
2	103	96	91	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77																			
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67																			
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52																			
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46																			
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41																			
8	65	53	45	40	64	52	45	39	51	44	39	50	44	39	49	43	39	37																			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	33																			
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	31																			

**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°	183.5	4.4
10°-20°	519.1	12.5
20°-30°	770.3	18.6
30°-40°	892.5	21.5
40°-50°	855.7	20.6
50°-60°	629.2	15.2
60°-70°	271.8	6.5
70°-80°	29.3	0.7
80°-90°	0.4	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°	1472.9	35.5
0°-40°	2365.4	57.0
0°-60°	3850.4	92.7
0°-90°	4151.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4151.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1944	1944	1944	1944	1944	
5°	1905	1924	1930	1932	1935	182
15°	1830	1841	1833	1836	1839	516
25°	1670	1668	1670	1673	1681	765
35°	1422	1430	1436	1433	1411	889
45°	1107	1110	1132	1115	1096	842
55°	640	707	787	704	643	576
65°	210	262	342	260	204	216
75°	6	8	30	6	6	17
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1943.6	1943.6	1943.6	1943.6	1943.6	1943.6	1943.6	1943.6	1943.6	1943.6	1943.6
2.5°	1929.8	1951.8	1954.6	1940.8	1935.3	1927.0	1946.3	1932.5	1938.0	1932.5	1929.8
5°	1904.9	1929.8	1932.5	1932.5	1927.0	1924.2	1932.5	1929.8	1927.0	1921.5	1929.8
7.5°	1893.9	1907.7	1921.5	1904.9	1913.2	1910.4	1929.8	1921.5	1918.7	1918.7	1913.2
10°	1899.4	1896.6	1907.7	1891.1	1896.6	1891.1	1907.7	1907.7	1902.2	1896.6	1893.9
12.5°	1855.2	1877.3	1877.3	1874.5	1869.0	1860.7	1877.3	1888.4	1871.8	1871.8	1869.0
15°	1830.4	1835.9	1838.7	1838.7	1835.9	1841.4	1849.7	1838.7	1841.4	1827.6	1833.1
17.5°	1802.8	1791.7	1800.0	1794.5	1797.2	1802.8	1813.8	1813.8	1797.2	1794.5	1800.0
20°	1739.3	1772.4	1775.2	1758.6	1761.4	1761.4	1780.7	1764.1	1775.2	1761.4	1766.9
22.5°	1708.9	1731.0	1733.7	1711.7	1725.5	1708.9	1728.2	1703.4	1731.0	1711.7	1719.9
25°	1670.3	1667.5	1675.8	1664.7	1667.5	1667.5	1681.3	1670.3	1678.5	1667.5	1670.3
27.5°	1606.8	1628.8	1626.1	1615.0	1620.6	1617.8	1645.4	1615.0	1631.6	1617.8	1623.3
30°	1551.5	1570.9	1565.3	1554.3	1554.3	1546.0	1576.4	1568.1	1565.3	1565.3	1562.6
32.5°	1496.3	1499.1	1493.6	1496.3	1499.1	1488.0	1512.9	1501.8	1499.1	1501.8	1504.6
35°	1421.8	1421.8	1427.3	1419.0	1430.1	1430.1	1452.2	1438.3	1435.6	1427.3	1435.6
37.5°	1355.5	1347.2	1350.0	1350.0	1355.5	1361.0	1372.1	1366.6	1366.6	1358.3	1363.8
40°	1267.2	1261.7	1269.9	1269.9	1278.2	1278.2	1289.3	1283.7	1292.0	1292.0	1292.0
42.5°	1189.9	1189.9	1184.4	1192.6	1195.4	1192.6	1212.0	1209.2	1212.0	1206.4	1209.2
45°	1107.1	1107.1	1101.5	1098.8	1112.6	1109.8	1131.9	1123.6	1134.7	1129.1	1131.9
47.5°	993.9	1007.7	999.4	1007.7	1024.2	1027.0	1040.8	1035.3	1046.3	1038.0	1049.1
50°	886.2	886.2	894.5	905.5	922.1	924.9	941.4	952.5	958.0	960.7	963.5
52.5°	773.0	770.2	778.5	792.3	806.1	817.2	833.7	850.3	861.4	877.9	869.6
55°	640.5	646.0	654.3	670.9	692.9	706.8	720.6	742.6	762.0	770.2	786.8
57.5°	527.3	521.8	527.3	549.4	574.2	585.3	604.6	626.7	654.3	670.9	676.4
60°	408.6	411.4	416.9	436.2	455.5	472.1	480.4	516.3	541.1	557.7	568.7
62.5°	300.9	306.4	312.0	328.5	347.9	361.7	375.5	405.8	427.9	444.5	455.5
65°	209.8	212.6	220.9	229.1	248.5	262.3	273.3	298.2	320.2	334.1	342.3
67.5°	129.8	132.5	138.0	149.1	162.9	173.9	185.0	201.5	220.9	234.7	237.4
70°	66.3	69.0	71.8	80.1	91.1	96.6	104.9	118.7	132.5	143.6	149.1
72.5°	22.1	22.1	24.8	30.4	35.9	41.4	44.2	58.0	69.0	74.5	77.3
75°	5.5	5.5	5.5	5.5	5.5	8.3	8.3	16.6	22.1	27.6	30.4
77.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	5.5	5.5
80°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
82.5°	0.0	0.0	0.0	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	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1943.6	1943.6	1943.6	1943.6	1943.6	1943.6	1943.6	1943.6	1943.6	1943.6
2.5°	1943.6	1938.0	1935.3	1938.0	1938.0	1935.3	1943.6	1954.6	1968.4	1932.5
5°	1940.8	1935.3	1940.8	1924.2	1932.5	1927.0	1938.0	1935.3	1946.3	1935.3
7.5°	1932.5	1921.5	1924.2	1916.0	1927.0	1913.2	1921.5	1938.0	1927.0	1910.4
10°	1904.9	1899.4	1918.7	1891.1	1885.6	1896.6	1918.7	1902.2	1896.6	1902.2
12.5°	1877.3	1877.3	1885.6	1863.5	1866.3	1871.8	1882.8	1871.8	1877.3	1891.1
15°	1846.9	1841.4	1855.2	1838.7	1835.9	1830.4	1841.4	1841.4	1846.9	1838.7
17.5°	1811.0	1802.8	1802.8	1797.2	1794.5	1808.3	1813.8	1816.6	1819.3	1808.3
20°	1766.9	1764.1	1772.4	1764.1	1766.9	1769.6	1769.6	1764.1	1789.0	1758.6
22.5°	1719.9	1728.2	1717.2	1711.7	1717.2	1722.7	1722.7	1725.5	1719.9	1714.4
25°	1673.0	1678.5	1681.3	1664.7	1673.0	1664.7	1684.1	1686.8	1675.8	1681.3
27.5°	1631.6	1623.3	1620.6	1609.5	1615.0	1612.3	1615.0	1615.0	1631.6	1609.5
30°	1568.1	1559.8	1562.6	1554.3	1557.1	1554.3	1557.1	1557.1	1568.1	1565.3
32.5°	1507.4	1499.1	1501.8	1493.6	1493.6	1496.3	1490.8	1490.8	1499.1	1493.6
35°	1449.4	1430.1	1432.8	1430.1	1432.8	1421.8	1421.8	1419.0	1424.5	1410.7
37.5°	1366.6	1358.3	1355.5	1352.8	1355.5	1350.0	1355.5	1347.2	1355.5	1344.5
40°	1292.0	1286.5	1289.3	1272.7	1272.7	1275.5	1269.9	1267.2	1269.9	1281.0
42.5°	1217.5	1206.4	1200.9	1195.4	1198.2	1189.9	1187.1	1181.6	1187.1	1176.1
45°	1129.1	1129.1	1126.4	1112.6	1115.3	1115.3	1104.3	1093.3	1096.0	1096.0
47.5°	1049.1	1043.6	1040.8	1027.0	1024.2	1021.5	1010.4	1002.2	1002.2	993.9
50°	960.7	955.2	946.9	933.1	927.6	911.0	902.8	891.7	880.7	880.7
52.5°	877.9	858.6	847.5	825.5	817.2	808.9	786.8	778.5	770.2	762.0
55°	778.5	762.0	739.9	715.0	704.0	690.2	668.1	651.5	640.5	643.3
57.5°	681.9	654.3	632.2	599.1	585.3	577.0	554.9	532.8	521.8	521.8
60°	563.2	541.1	513.5	483.1	472.1	458.3	430.7	416.9	408.6	400.3
62.5°	450.0	433.4	408.6	369.9	361.7	347.9	328.5	312.0	303.7	303.7
65°	336.8	320.2	298.2	270.6	259.5	248.5	231.9	215.3	207.1	204.3
67.5°	237.4	218.1	198.8	176.7	168.4	162.9	146.3	135.3	129.8	127.0
70°	143.6	132.5	118.7	102.1	93.9	88.3	77.3	69.0	66.3	63.5
72.5°	74.5	66.3	55.2	44.2	38.7	33.1	27.6	22.1	19.3	19.3
75°	27.6	22.1	13.8	8.3	5.5	5.5	5.5	5.5	5.5	5.5
77.5°	5.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
80°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
82.5°	0.0	0.0	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	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093







— 0°-180°    - - 45°-225°    - - - - 90°-270°









(END OF REPORT)