

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: P136755

Luminaire Tested: **LDSQ6A15D010TE ESQ6A15840 6LSQ1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P136755  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23378)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQ6A15D010TE ESQ6A15840 6LSQ1LI  
Description: PORTFOLIO LED SQUARE 6 INCH 60 DEGREE CUTOFF RECESSED DOWNLIGHT  
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 4000K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1663.0 lumens  
Efficiency: N/A  
Efficacy: 73.6 lumens/watt  
Spacing Criteria (0/90/45): 0.92 / 0.93 / 0.95  
Luminous Opening: Rectangular (W 0.46' x L: 0.46' x H: 0')  
CIE Type: Direct

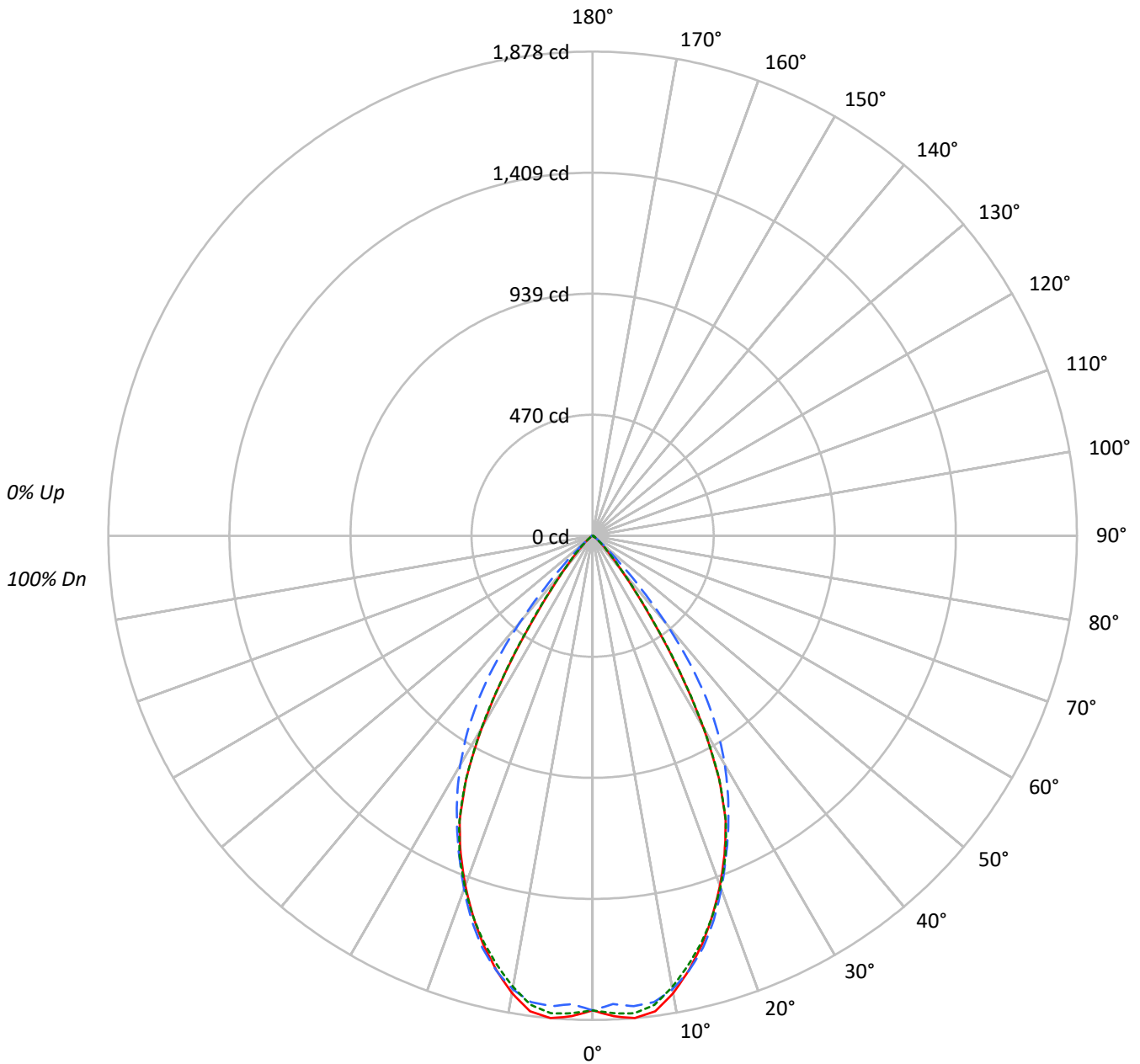
Input Watts (W): 22.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P136755

CATALOG NUMBER: LDSQ6A15D010TE ESQ6A15840 6LSQ1LI

### Luminous Intensity Polar Plot





TEST NUMBER: P136755

CATALOG NUMBER: LDSQ6A15D010TE ESQ6A15840 6LSQ1LI

**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	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	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	94			
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	92	91	89	87			
3	103	96	91	87	101	95	90	87	92	88	85	90	87	84	88	85	83	81			
4	97	90	84	80	96	89	84	80	87	82	79	85	81	78	83	80	77	75			
5	92	84	78	74	91	83	78	74	81	77	73	80	76	72	78	75	72	70			
6	88	79	73	69	86	78	73	69	77	72	68	75	71	68	74	70	67	66			
7	84	74	68	64	82	74	68	64	72	67	64	71	67	63	70	66	63	62			
8	79	70	64	60	78	69	64	60	68	63	60	67	63	59	66	62	59	58			
9	76	66	60	56	75	66	60	56	65	59	56	64	59	56	63	59	56	54			
10	72	62	57	53	71	62	56	53	61	56	53	60	56	52	60	55	52	51			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	94322	94322	94322
5°	96591	94209	95634
10°	93691	92926	92442
15°	87003	87740	86552
20°	78695	79491	78990
25°	68930	70326	69105
30°	50759	60717	50984
35°	26372	47915	26954
40°	11104	29391	11572
45°	5094	10913	5261
50°	2336	3260	2399
55°	1170	1313	1170
60°	707	789	707
65°	473	558	473
70°	345	345	345
75°	158	297	158
80°	236	236	236
85°	0	0	0



TEST NUMBER: P136755

CATALOG NUMBER: LDSQ6A15D010TE ESQ6A15840 6LSQ1LI

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.2	10.5
10°-20°	458.0	27.5
20°-30°	560.0	33.7
30°-40°	359.8	21.6
40°-50°	89.8	5.4
50°-60°	15.0	0.9
60°-70°	4.5	0.3
70°-80°	1.4	0.1
80°-90°	0.3	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°	1192.1	71.7
0°-40°	1552.0	93.3
0°-60°	1656.8	99.6
0°-90°	1663.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1663.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1841	1841	1841	1841	1841	
5°	1878	1838	1832	1833	1859	177
15°	1640	1649	1654	1635	1632	458
25°	1219	1252	1244	1256	1222	544
35°	422	556	766	566	431	279
45°	70	88	151	93	73	61
55°	13	15	15	15	13	13
65°	4	5	5	5	4	4
75°	1	2	2	2	1	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P136755

CATALOG NUMBER: LDSQ6A15D010TE ESQ6A15840 6LSQ1LI

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1840.8	1840.8	1840.8	1840.8	1840.8	1840.8	1840.8	1840.8	1840.8	1840.8	1840.8
2.5°	1865.5	1819.2	1855.5	1852.4	1821.5	1827.7	1833.1	1832.3	1831.6	1817.7	1850.1
5°	1877.9	1830.8	1867.8	1863.2	1834.6	1840.8	1843.9	1845.4	1841.6	1831.6	1862.4
7.5°	1860.1	1816.1	1851.6	1846.2	1823.8	1829.2	1831.6	1835.4	1830.0	1824.6	1853.9
10°	1800.7	1763.6	1796.8	1792.9	1778.3	1784.4	1786.0	1792.2	1786.0	1786.0	1812.2
12.5°	1725.0	1696.4	1726.5	1723.4	1718.0	1725.0	1722.7	1733.5	1724.2	1727.3	1751.2
15°	1640.1	1621.5	1646.2	1645.5	1646.2	1651.6	1644.7	1652.4	1643.9	1654.0	1674.8
17.5°	1544.3	1535.8	1555.1	1555.9	1562.1	1563.6	1552.8	1562.8	1550.5	1562.1	1579.8
20°	1443.2	1444.7	1460.1	1457.8	1467.1	1462.5	1447.0	1457.1	1444.7	1457.8	1471.7
22.5°	1336.6	1349.7	1358.2	1356.7	1369.0	1362.9	1343.5	1348.2	1335.8	1350.5	1359.0
25°	1219.2	1233.9	1240.1	1240.1	1253.2	1250.9	1233.9	1241.6	1230.0	1243.9	1248.6
27.5°	1059.4	1077.9	1082.6	1091.8	1114.2	1118.9	1111.9	1127.3	1122.7	1137.4	1135.8
30°	857.9	876.4	883.3	901.9	938.2	959.8	971.4	1001.5	1009.2	1026.2	1017.7
32.5°	632.4	647.8	657.9	685.7	733.5	777.6	816.9	861.7	885.7	904.2	888.8
35°	421.6	433.2	444.0	478.7	528.9	583.7	640.9	705.0	745.9	766.0	745.1
37.5°	264.8	272.6	279.5	305.0	345.2	396.1	457.1	530.5	586.8	610.8	584.5
40°	166.0	170.6	174.5	190.0	214.7	245.5	297.3	359.1	417.0	439.4	414.6
42.5°	106.6	108.9	111.2	119.7	132.8	152.1	180.7	219.3	259.4	274.9	258.7
45°	70.3	71.0	71.8	76.4	83.4	92.7	107.3	125.1	144.4	150.6	143.6
47.5°	46.3	46.3	47.1	50.2	54.1	59.5	64.9	69.5	75.7	78.8	74.9
50°	29.3	30.1	30.9	33.2	35.5	37.8	39.4	39.4	40.9	40.9	40.2
52.5°	17.8	17.8	18.5	19.3	22.4	24.7	24.7	23.2	23.2	23.2	22.4
55°	13.1	13.1	13.1	13.9	14.7	14.7	14.7	14.7	14.7	14.7	13.9
57.5°	10.0	10.0	10.0	10.8	10.8	10.8	10.8	10.0	10.0	10.0	10.0
60°	6.9	6.9	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	6.9
62.5°	5.4	5.4	5.4	6.2	6.2	6.2	6.2	6.2	6.2	5.4	5.4
65°	3.9	3.9	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
67.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.9	3.1	3.1	3.1	3.1
70°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
72.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
75°	0.8	0.8	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
77.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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



TEST NUMBER: P136755

CATALOG NUMBER: LDSQ6A15D010TE ESQ6A15840 6LSQ1LI

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1840.8	1840.8	1840.8	1840.8	1840.8	1840.8	1840.8	1840.8
2.5°	1857.8	1860.1	1826.1	1833.1	1857.8	1833.1	1833.9	1853.9
5°	1864.8	1864.0	1829.2	1837.7	1852.4	1834.6	1835.4	1859.3
7.5°	1849.3	1842.4	1807.6	1817.7	1821.5	1809.2	1809.2	1835.4
10°	1801.4	1789.9	1757.4	1767.5	1760.5	1752.8	1750.5	1776.7
12.5°	1738.9	1725.8	1698.0	1707.2	1690.2	1690.2	1683.3	1707.2
15°	1660.9	1649.3	1630.0	1640.8	1615.3	1620.8	1609.9	1631.6
17.5°	1567.5	1559.8	1548.9	1562.1	1532.0	1541.2	1526.5	1545.1
20°	1460.1	1456.3	1454.7	1467.9	1437.0	1452.4	1435.4	1448.6
22.5°	1349.0	1349.0	1357.4	1375.2	1341.2	1358.2	1338.1	1345.9
25°	1239.3	1240.1	1250.1	1262.5	1229.3	1243.9	1221.5	1222.3
27.5°	1122.7	1115.8	1126.6	1124.3	1082.6	1091.1	1067.1	1062.5
30°	994.5	973.7	966.0	944.3	897.2	895.7	871.0	861.7
32.5°	854.0	814.6	790.7	746.7	686.4	672.5	650.2	639.3
35°	698.0	638.6	595.3	537.4	478.0	457.9	440.1	430.9
37.5°	526.6	458.7	409.2	353.6	311.2	295.0	280.3	274.1
40°	359.1	301.1	258.7	221.6	195.4	185.3	176.8	173.0
42.5°	221.6	184.5	159.8	137.4	122.8	117.4	113.5	111.2
45°	126.6	109.6	98.8	86.5	79.5	76.4	74.1	72.6
47.5°	70.3	65.6	61.8	56.4	51.7	49.4	48.6	47.9
50°	39.4	40.2	40.2	37.1	34.7	32.4	30.9	30.1
52.5°	23.2	24.7	25.5	23.2	20.1	18.5	18.5	17.8
55°	14.7	14.7	14.7	14.7	13.9	13.1	13.1	13.1
57.5°	10.0	10.0	10.8	10.8	10.8	10.0	10.0	9.3
60°	7.7	7.7	7.7	7.7	7.7	7.7	6.9	6.9
62.5°	6.2	6.2	6.2	6.2	6.2	5.4	5.4	5.4
65°	4.6	4.6	4.6	4.6	4.6	3.9	3.9	3.9
67.5°	3.1	3.9	3.1	3.1	3.1	3.1	3.1	3.1
70°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
72.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
75°	1.5	1.5	1.5	1.5	1.5	0.8	0.8	0.8
77.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.8
85°	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
90°	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)