

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: P136903

Luminaire Tested: **LDSQ6A20D010TE ESQ6A20840 6LSQ1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P136903  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23674)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQ6A20D010TE ESQ6A20840 6LSQ1H  
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: 2420.0 lumens  
Efficiency: N/A  
Efficacy: 73.8 lumens/watt  
Spacing Criteria (0/90/45): 1.03 / 1.02 / 1.05  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct

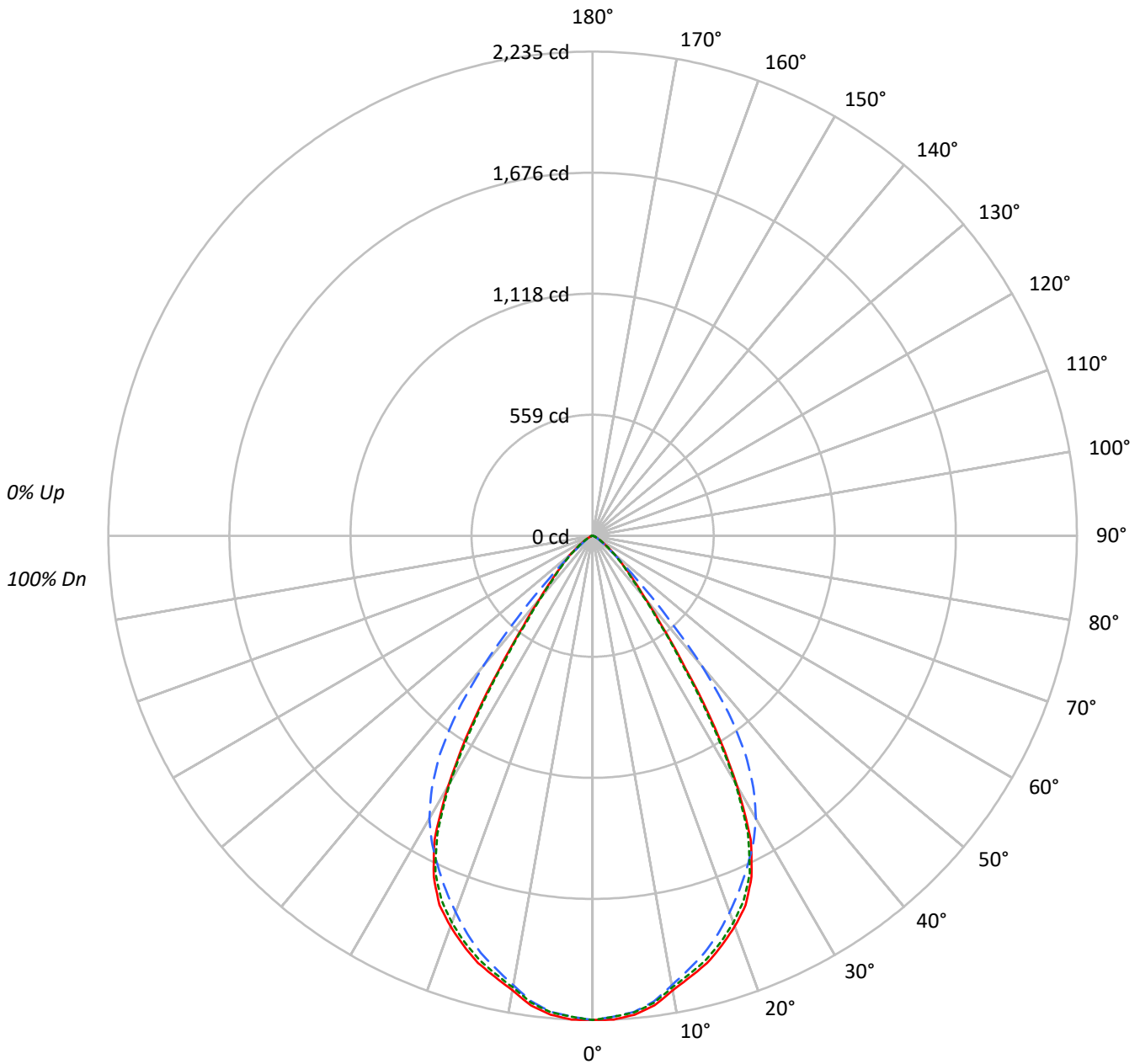
Input Watts (W): 32.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	113	110	108	105	111	108	106	104	104	102	100	100	99	97	97	96	95	93																			
2	107	102	98	94	105	100	96	93	97	94	91	94	91	89	91	89	87	85																			
3	101	94	89	85	99	93	88	84	90	86	83	88	84	81	86	83	80	79																			
4	96	88	82	77	94	86	81	77	84	80	76	82	78	75	80	77	74	72																			
5	90	81	75	71	89	80	75	70	79	74	70	77	73	69	75	72	68	67																			
6	85	76	70	65	84	75	69	65	74	68	64	72	67	64	71	67	63	62																			
7	81	71	65	60	79	70	64	60	69	64	60	68	63	59	67	62	59	57																			
8	77	66	60	56	75	66	60	56	65	59	55	64	59	55	63	58	55	53																			
9	73	62	56	52	71	62	56	52	61	55	52	60	55	51	59	55	51	50																			
10	69	59	53	49	68	58	52	48	57	52	48	57	52	48	56	51	48	47																			

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

	0°	45°	90°
0°	96238	96238	96238
5°	95910	95326	95443
10°	93141	92083	92555
15°	91012	88855	90290
20°	87890	84687	87028
25°	82448	80148	81555
30°	66381	74928	65447
35°	39395	64529	37560
40°	21291	43941	20234
45°	13250	18486	12756
50°	8815	7201	8279
55°	5240	3828	5044
60°	3238	2549	3005
65°	1915	1640	1915
70°	1347	1347	1020
75°	898	898	898
80°	669	669	669
85°	0	1334	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	207.7	8.6
10°-20°	564.6	23.3
20°-30°	772.3	31.9
30°-40°	584.9	24.2
40°-50°	203.0	8.4
50°-60°	60.8	2.5
60°-70°	19.3	0.8
70°-80°	6.0	0.2
80°-90°	1.5	0.1
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°	1544.6	63.8
0°-40°	2129.5	88.0
0°-60°	2393.3	98.9
0°-90°	2420.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2420.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2235	2235	2235	2235	2235	
5°	2219	2211	2206	2208	2208	209
15°	2042	2016	1993	2011	2026	573
25°	1736	1710	1687	1701	1717	778
35°	750	915	1228	903	715	487
45°	218	232	304	228	210	177
55°	70	67	51	66	67	66
65°	19	19	16	19	19	20
75°	5	5	5	5	5	5
85°	0	0	3	1	0	0
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°	2235.2	2235.2	2235.2	2235.2	2235.2	2235.2	2235.2	2235.2	2235.2	2235.2	2235.2
2.5°	2235.2	2224.5	2213.7	2221.8	2232.5	2219.1	2221.8	2221.8	2213.7	2221.8	2216.4
5°	2219.1	2211.0	2200.3	2208.3	2216.4	2205.6	2205.6	2205.6	2200.3	2205.6	2203.0
7.5°	2186.8	2176.1	2165.3	2173.4	2181.5	2170.7	2168.0	2170.7	2162.7	2168.0	2165.3
10°	2130.4	2122.4	2111.6	2119.7	2125.0	2111.6	2108.9	2111.6	2100.9	2106.2	2106.2
12.5°	2084.8	2079.4	2065.9	2071.3	2074.0	2060.6	2055.2	2055.2	2044.5	2049.8	2047.1
15°	2041.8	2033.7	2020.3	2023.0	2025.6	2006.8	2001.5	1998.8	1988.0	1993.4	1990.7
17.5°	1982.7	1977.3	1961.2	1963.9	1961.2	1945.1	1934.3	1931.6	1920.9	1926.2	1920.9
20°	1918.2	1910.1	1894.0	1891.3	1885.9	1867.1	1859.1	1856.4	1843.0	1848.3	1845.6
22.5°	1845.6	1834.9	1818.8	1816.1	1810.7	1789.2	1781.2	1775.8	1765.1	1770.4	1765.1
25°	1735.5	1727.4	1714.0	1714.0	1716.7	1703.3	1700.6	1697.9	1684.5	1687.1	1684.5
27.5°	1579.7	1574.3	1568.9	1571.6	1585.1	1585.1	1598.5	1603.9	1598.5	1603.9	1598.5
30°	1335.2	1337.9	1354.0	1370.1	1402.4	1426.5	1458.8	1483.0	1493.7	1507.1	1496.4
32.5°	1050.4	1042.4	1074.6	1112.2	1163.3	1217.0	1281.5	1332.5	1367.4	1380.9	1364.8
35°	749.5	746.9	776.4	816.7	875.8	953.7	1050.4	1139.1	1200.9	1227.7	1200.9
37.5°	523.9	526.6	542.7	569.5	615.2	682.4	784.5	894.6	988.6	1028.9	983.3
40°	378.8	376.1	386.9	403.0	429.8	472.8	542.7	634.0	728.1	781.8	722.7
42.5°	284.8	282.1	287.5	295.5	309.0	330.4	368.1	416.4	475.5	513.1	467.5
45°	217.6	217.6	217.6	223.0	228.4	236.4	249.8	266.0	287.5	303.6	282.1
47.5°	169.3	169.3	169.3	171.9	174.6	174.6	174.6	171.9	174.6	177.3	171.9
50°	131.6	131.6	131.6	131.6	131.6	129.0	123.6	112.8	110.1	107.5	107.5
52.5°	94.0	94.0	94.0	96.7	99.4	94.0	86.0	77.9	72.5	72.5	72.5
55°	69.8	69.8	69.8	69.8	69.8	64.5	59.1	53.7	51.0	51.0	51.0
57.5°	51.0	51.0	51.0	51.0	48.4	45.7	43.0	40.3	37.6	37.6	37.6
60°	37.6	37.6	37.6	37.6	34.9	32.2	32.2	29.6	29.6	29.6	29.6
62.5°	26.9	26.9	26.9	26.9	26.9	24.2	24.2	21.5	21.5	21.5	21.5
65°	18.8	18.8	18.8	18.8	18.8	18.8	16.1	16.1	16.1	16.1	16.1
67.5°	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
70°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
72.5°	5.4	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
75°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
77.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
80°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
82.5°	0.0	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.7	2.7	2.7
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.7	2.7
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°	2235.2	2235.2	2235.2	2235.2	2235.2	2235.2	2235.2	2235.2
2.5°	2216.4	2229.8	2229.8	2219.1	2211.0	2224.5	2227.1	2221.8
5°	2203.0	2213.7	2213.7	2203.0	2194.9	2211.0	2211.0	2208.3
7.5°	2165.3	2178.8	2176.1	2168.0	2160.0	2173.4	2178.8	2173.4
10°	2106.2	2119.7	2119.7	2111.6	2103.6	2119.7	2122.4	2117.0
12.5°	2049.8	2063.3	2068.6	2060.6	2057.9	2071.3	2076.7	2071.3
15°	1993.4	2009.5	2012.2	2009.5	2009.5	2025.6	2031.0	2025.6
17.5°	1926.2	1942.4	1947.7	1945.1	1947.7	1963.9	1971.9	1966.5
20°	1848.3	1861.8	1867.1	1867.1	1869.8	1891.3	1902.1	1899.4
22.5°	1765.1	1781.2	1789.2	1791.9	1794.6	1816.1	1826.8	1821.5
25°	1687.1	1700.6	1700.6	1700.6	1697.9	1714.0	1722.1	1716.7
27.5°	1593.1	1595.8	1587.7	1568.9	1555.5	1560.9	1566.2	1552.8
30°	1474.9	1458.8	1429.2	1388.9	1354.0	1340.6	1337.9	1316.4
32.5°	1324.5	1278.8	1217.0	1147.2	1085.4	1053.1	1039.7	1015.5
35°	1131.0	1045.1	948.3	857.0	787.2	752.2	738.8	714.6
37.5°	883.9	776.4	674.3	596.4	550.7	521.2	513.1	499.7
40°	615.2	529.2	462.1	413.7	384.2	370.7	368.1	360.0
42.5°	405.7	357.3	322.4	298.2	284.8	276.7	276.7	271.3
45°	260.6	244.5	233.7	223.0	214.9	212.2	212.2	209.5
47.5°	169.3	171.9	171.9	169.3	163.9	161.2	163.9	161.2
50°	112.8	120.9	126.3	129.0	126.3	123.6	126.3	123.6
52.5°	77.9	86.0	94.0	96.7	94.0	91.3	91.3	91.3
55°	53.7	59.1	64.5	67.2	67.2	67.2	67.2	67.2
57.5°	40.3	43.0	45.7	48.4	51.0	48.4	51.0	48.4
60°	29.6	32.2	34.9	34.9	37.6	37.6	37.6	34.9
62.5°	21.5	24.2	24.2	26.9	26.9	26.9	26.9	26.9
65°	16.1	16.1	18.8	18.8	18.8	18.8	18.8	18.8
67.5°	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
70°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	8.1
72.5°	8.1	8.1	8.1	8.1	8.1	8.1	8.1	5.4
75°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
77.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
80°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
82.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
85°	2.7	2.7	0.0	2.7	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



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









(END OF REPORT)