

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: P136902

Luminaire Tested: **LDSQ6A20D010TE ESQ6A20835 6LSQ1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P136902  
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 ESQ6A20835 6LSQ1H  
Description: PORTFOLIO LED SQUARE 6 INCH 60 DEGREE CUTOFF RECESSED DOWNLIGHT  
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 3500K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2371.0 lumens  
Efficiency: N/A  
Efficacy: 72.3 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

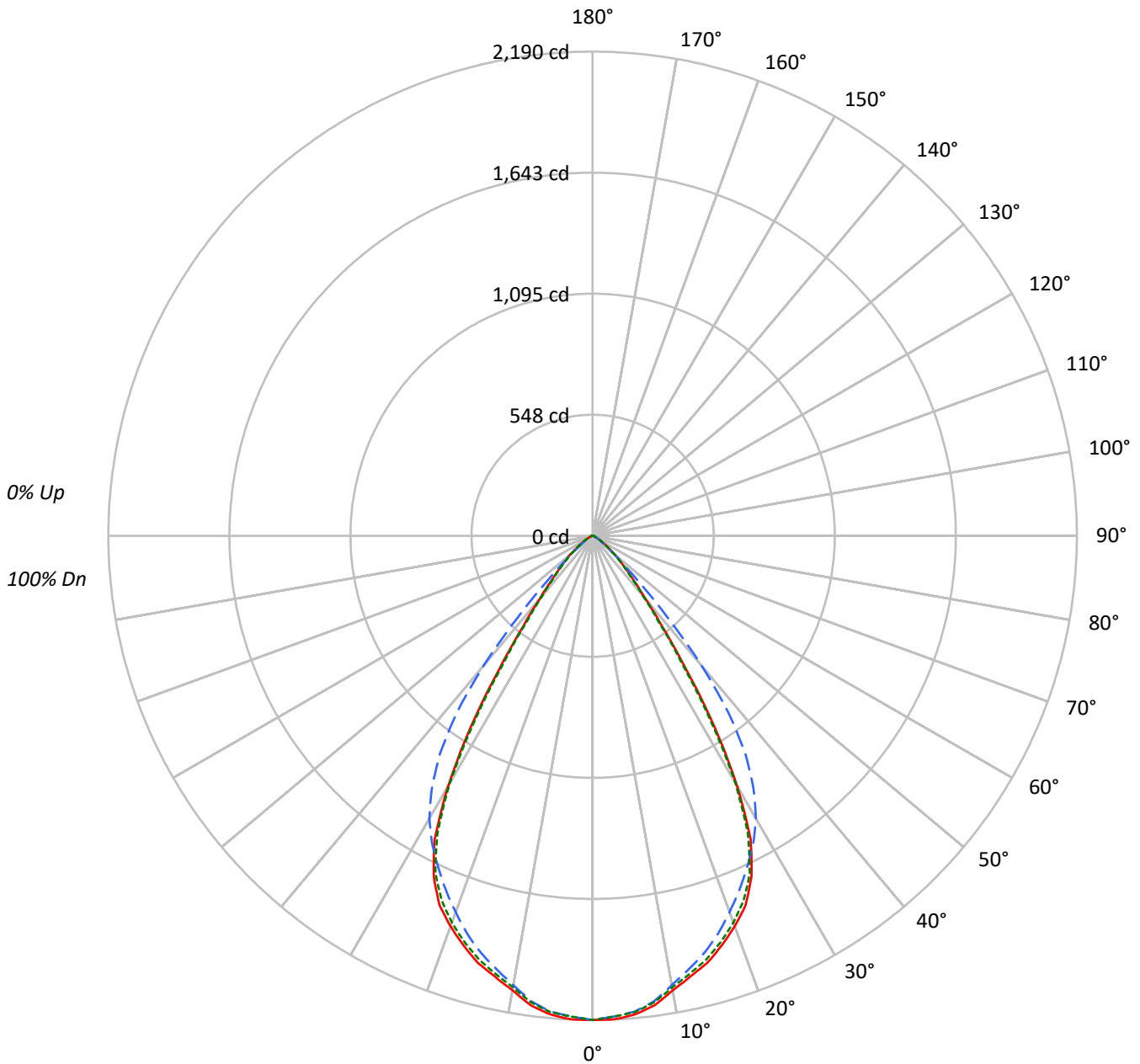
Input Watts (W): 32.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	94288	94288	94288
5°	93965	93399	93511
10°	91256	90220	90679
15°	89167	87054	88463
20°	86107	82973	85264
25°	80780	78529	79901
30°	65039	73411	64119
35°	38601	63226	36798
40°	20858	43053	19824
45°	12982	18109	12501
50°	8641	7053	8112
55°	5134	3753	4939
60°	3169	2497	2945
65°	1875	1610	1875
70°	1322	1322	995
75°	882	882	882
80°	645	645	645
85°	0	1284	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	203.5	8.6
10°-20°	553.2	23.3
20°-30°	756.6	31.9
30°-40°	573.0	24.2
40°-50°	198.9	8.4
50°-60°	59.6	2.5
60°-70°	18.9	0.8
70°-80°	5.8	0.2
80°-90°	1.4	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°	1513.3	63.8
0°-40°	2086.3	88.0
0°-60°	2344.8	98.9
0°-90°	2371.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2371.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2190	2190	2190	2190	2190	
5°	2174	2166	2161	2164	2164	205
15°	2000	1975	1953	1970	1985	562
25°	1700	1675	1653	1666	1682	762
35°	734	896	1203	884	700	478
45°	213	228	297	224	205	173
55°	68	66	50	64	66	65
65°	18	18	16	18	18	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°	2189.9	2189.9	2189.9	2189.9	2189.9	2189.9	2189.9	2189.9	2189.9	2189.9	2189.9
2.5°	2189.9	2179.4	2168.9	2176.8	2187.3	2174.1	2176.8	2176.8	2168.9	2176.8	2171.5
5°	2174.1	2166.2	2155.7	2163.6	2171.5	2161.0	2161.0	2161.0	2155.7	2161.0	2158.4
7.5°	2142.6	2132.0	2121.5	2129.4	2137.3	2126.8	2124.1	2126.8	2118.9	2124.1	2121.5
10°	2087.3	2079.4	2068.9	2076.8	2082.0	2068.9	2066.2	2068.9	2058.3	2063.6	2063.6
12.5°	2042.5	2037.3	2024.1	2029.4	2032.0	2018.8	2013.6	2013.6	2003.1	2008.3	2005.7
15°	2000.4	1992.5	1979.4	1982.0	1984.6	1966.2	1960.9	1958.3	1947.8	1953.0	1950.4
17.5°	1942.5	1937.3	1921.5	1924.1	1921.5	1905.7	1895.1	1892.5	1882.0	1887.2	1882.0
20°	1879.3	1871.4	1855.7	1853.0	1847.8	1829.3	1821.4	1818.8	1805.6	1810.9	1808.3
22.5°	1808.3	1797.7	1782.0	1779.3	1774.1	1753.0	1745.1	1739.8	1729.3	1734.6	1729.3
25°	1700.4	1692.5	1679.3	1679.3	1681.9	1668.8	1666.1	1663.5	1650.4	1653.0	1650.4
27.5°	1547.7	1542.4	1537.2	1539.8	1553.0	1553.0	1566.1	1571.4	1566.1	1571.4	1566.1
30°	1308.2	1310.8	1326.6	1342.4	1374.0	1397.7	1429.3	1452.9	1463.5	1476.6	1466.1
32.5°	1029.2	1021.3	1052.9	1089.7	1139.7	1192.4	1255.5	1305.5	1339.8	1352.9	1337.1
35°	734.4	731.7	760.7	800.2	858.1	934.4	1029.2	1116.0	1176.6	1202.9	1176.6
37.5°	513.3	515.9	531.7	558.0	602.8	668.6	768.6	876.5	968.6	1008.1	963.4
40°	371.1	368.5	379.0	394.8	421.1	463.3	531.7	621.2	713.3	766.0	708.0
42.5°	279.0	276.4	281.6	289.5	302.7	323.8	360.6	408.0	465.9	502.7	458.0
45°	213.2	213.2	213.2	218.5	223.7	231.6	244.8	260.6	281.6	297.4	276.4
47.5°	165.8	165.8	165.8	168.5	171.1	171.1	171.1	168.5	171.1	173.7	168.5
50°	129.0	129.0	129.0	129.0	129.0	126.3	121.1	110.5	107.9	105.3	105.3
52.5°	92.1	92.1	92.1	94.8	97.4	92.1	84.2	76.3	71.1	71.1	71.1
55°	68.4	68.4	68.4	68.4	68.4	63.2	57.9	52.6	50.0	50.0	50.0
57.5°	50.0	50.0	50.0	50.0	47.4	44.7	42.1	39.5	36.8	36.8	36.8
60°	36.8	36.8	36.8	36.8	34.2	31.6	31.6	29.0	29.0	29.0	29.0
62.5°	26.3	26.3	26.3	26.3	26.3	23.7	23.7	21.1	21.1	21.1	21.1
65°	18.4	18.4	18.4	18.4	18.4	18.4	15.8	15.8	15.8	15.8	15.8
67.5°	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
70°	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
72.5°	5.3	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9
75°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
77.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
80°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
82.5°	0.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.6	2.6	2.6
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.6	2.6
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°	2189.9	2189.9	2189.9	2189.9	2189.9	2189.9	2189.9	2189.9
2.5°	2171.5	2184.7	2184.7	2174.1	2166.2	2179.4	2182.0	2176.8
5°	2158.4	2168.9	2168.9	2158.4	2150.5	2166.2	2166.2	2163.6
7.5°	2121.5	2134.7	2132.0	2124.1	2116.2	2129.4	2134.7	2129.4
10°	2063.6	2076.8	2076.8	2068.9	2061.0	2076.8	2079.4	2074.1
12.5°	2008.3	2021.5	2026.7	2018.8	2016.2	2029.4	2034.6	2029.4
15°	1953.0	1968.8	1971.5	1968.8	1968.8	1984.6	1989.9	1984.6
17.5°	1887.2	1903.0	1908.3	1905.7	1908.3	1924.1	1932.0	1926.7
20°	1810.9	1824.1	1829.3	1829.3	1832.0	1853.0	1863.6	1860.9
22.5°	1729.3	1745.1	1753.0	1755.6	1758.3	1779.3	1789.9	1784.6
25°	1653.0	1666.1	1666.1	1666.1	1663.5	1679.3	1687.2	1681.9
27.5°	1560.9	1563.5	1555.6	1537.2	1524.0	1529.3	1534.5	1521.4
30°	1445.0	1429.3	1400.3	1360.8	1326.6	1313.4	1310.8	1289.7
32.5°	1297.6	1252.9	1192.4	1123.9	1063.4	1031.8	1018.6	994.9
35°	1108.1	1023.9	929.1	839.7	771.2	737.0	723.8	700.1
37.5°	866.0	760.7	660.7	584.3	539.6	510.6	502.7	489.6
40°	602.8	518.5	452.7	405.3	376.4	363.2	360.6	352.7
42.5°	397.5	350.1	315.9	292.2	279.0	271.1	271.1	265.8
45°	255.3	239.5	229.0	218.5	210.6	207.9	207.9	205.3
47.5°	165.8	168.5	168.5	165.8	160.6	157.9	160.6	157.9
50°	110.5	118.4	123.7	126.3	123.7	121.1	123.7	121.1
52.5°	76.3	84.2	92.1	94.8	92.1	89.5	89.5	89.5
55°	52.6	57.9	63.2	65.8	65.8	65.8	65.8	65.8
57.5°	39.5	42.1	44.7	47.4	50.0	47.4	50.0	47.4
60°	29.0	31.6	34.2	34.2	36.8	36.8	36.8	34.2
62.5°	21.1	23.7	23.7	26.3	26.3	26.3	26.3	26.3
65°	15.8	15.8	18.4	18.4	18.4	18.4	18.4	18.4
67.5°	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
70°	10.5	10.5	10.5	10.5	10.5	10.5	10.5	7.9
72.5°	7.9	7.9	7.9	7.9	7.9	7.9	7.9	5.3
75°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
77.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
80°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
82.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
85°	2.6	2.6	0.0	2.6	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)