

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: P136789

Luminaire Tested: **LDSQ6A20D010TE ESQ6A20930 6LSQ1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P136789  
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: LDSQ6A20D010TE ESQ6A20930 6LSQ1LI  
Description: PORTFOLIO LED SQUARE 6 INCH 60 DEGREE CUTOFF RECESSED DOWNLIGHT  
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 3000K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2281.9 lumens  
Efficiency: N/A  
Efficacy: 69.6 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

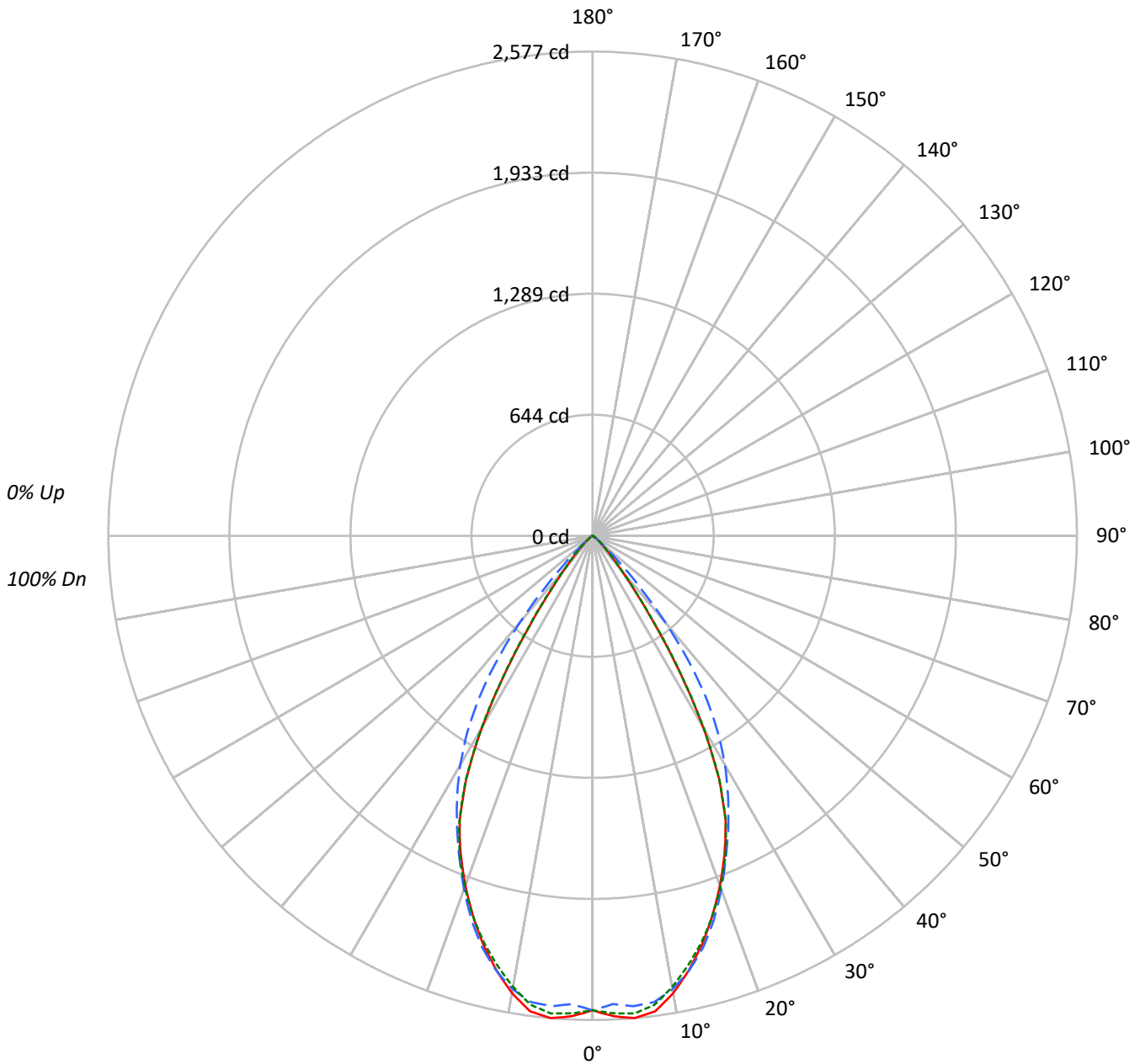
Input Watts (W): 32.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				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	93	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°	129427	129427	129427
5°	132539	129268	131233
10°	128562	127511	126850
15°	119383	120391	118763
20°	107982	109078	108386
25°	94592	96503	94824
30°	69645	83319	69965
35°	36193	65749	36981
40°	15237	40327	15873
45°	6986	14971	7217
50°	3213	4472	3292
55°	1608	1796	1608
60°	974	1086	974
65°	643	776	643
70°	464	464	464
75°	198	416	198
80°	295	295	295
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	239.1	10.5
10°-20°	628.4	27.5
20°-30°	768.4	33.7
30°-40°	493.8	21.6
40°-50°	123.2	5.4
50°-60°	20.6	0.9
60°-70°	6.2	0.3
70°-80°	1.8	0.1
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°	1635.8	71.7
0°-40°	2129.6	93.3
0°-60°	2273.4	99.6
0°-90°	2281.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2281.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2526	2526	2526	2526	2526	
5°	2577	2522	2513	2516	2551	243
15°	2250	2263	2270	2244	2239	628
25°	1673	1718	1707	1724	1677	746
35°	579	763	1051	777	591	383
45°	96	121	207	127	100	83
55°	18	20	20	20	18	18
65°	5	6	6	6	5	6
75°	1	2	2	2	1	2
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2525.9	2525.9	2525.9	2525.9	2525.9	2525.9	2525.9	2525.9	2525.9	2525.9	2525.9
2.5°	2559.8	2496.3	2546.1	2541.9	2499.4	2507.9	2515.3	2514.3	2513.2	2494.2	2538.6
5°	2576.8	2512.2	2563.1	2556.7	2517.4	2525.9	2530.2	2532.3	2527.0	2513.2	2555.6
7.5°	2552.5	2492.1	2540.8	2533.4	2502.7	2510.1	2513.2	2518.5	2511.2	2503.7	2544.0
10°	2470.9	2420.0	2465.5	2460.3	2440.2	2448.6	2450.7	2459.2	2450.7	2450.7	2486.7
12.5°	2367.1	2327.8	2369.2	2364.9	2357.5	2367.1	2363.8	2378.7	2365.9	2370.2	2403.0
15°	2250.5	2225.1	2258.9	2257.9	2258.9	2266.4	2256.8	2267.4	2255.8	2269.5	2298.2
17.5°	2119.1	2107.4	2133.9	2135.0	2143.5	2145.6	2130.7	2144.5	2127.5	2143.5	2167.8
20°	1980.3	1982.4	2003.6	2000.4	2013.1	2006.7	1985.6	1999.4	1982.4	2000.4	2019.5
22.5°	1834.0	1852.1	1863.7	1861.6	1878.6	1870.1	1843.6	1850.0	1833.0	1853.1	1864.8
25°	1673.1	1693.2	1701.6	1701.6	1719.6	1716.5	1693.2	1703.8	1687.8	1706.9	1713.3
27.5°	1453.7	1479.2	1485.4	1498.2	1529.0	1535.3	1525.7	1546.9	1540.6	1560.7	1558.5
30°	1177.1	1202.6	1212.2	1237.5	1287.4	1317.0	1332.9	1374.2	1384.8	1408.2	1396.5
32.5°	867.8	889.0	902.7	940.9	1006.5	1066.9	1121.0	1182.5	1215.3	1240.7	1219.5
35°	578.6	594.4	609.3	656.9	725.8	801.0	879.4	967.4	1023.5	1051.1	1022.5
37.5°	363.5	374.1	383.6	418.5	473.6	543.5	627.2	727.9	805.3	838.1	802.0
40°	227.8	234.2	239.4	260.6	294.6	336.9	407.9	492.7	572.2	602.9	569.0
42.5°	146.2	149.4	152.6	164.2	182.3	208.7	247.9	300.9	356.0	377.2	355.0
45°	96.4	97.5	98.6	104.9	114.4	127.1	147.2	171.7	198.1	206.6	197.0
47.5°	63.6	63.6	64.6	68.9	74.1	81.6	89.0	95.3	103.8	108.1	102.8
50°	40.3	41.3	42.4	45.5	48.8	51.9	54.0	54.0	56.1	56.1	55.1
52.5°	24.3	24.3	25.4	26.5	30.7	33.9	33.9	31.8	31.8	31.8	30.7
55°	18.0	18.0	18.0	19.1	20.1	20.1	20.1	20.1	20.1	20.1	19.1
57.5°	13.7	13.7	13.7	14.8	14.8	14.8	14.8	13.7	13.7	13.7	13.7
60°	9.5	9.5	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	9.5
62.5°	7.4	7.4	7.4	8.5	8.5	8.5	8.5	8.5	8.5	7.4	7.4
65°	5.3	5.3	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
67.5°	4.2	4.2	4.2	4.2	4.2	4.2	5.3	4.2	4.2	4.2	4.2
70°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
72.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
75°	1.0	1.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
77.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2525.9	2525.9	2525.9	2525.9	2525.9	2525.9	2525.9	2525.9
2.5°	2549.2	2552.5	2505.8	2515.3	2549.2	2515.3	2516.4	2544.0
5°	2558.8	2557.7	2510.1	2521.7	2541.9	2517.4	2518.5	2551.4
7.5°	2537.6	2528.0	2480.4	2494.2	2499.4	2482.5	2482.5	2518.5
10°	2471.9	2456.0	2411.5	2425.3	2415.7	2405.1	2402.0	2438.0
12.5°	2386.0	2368.1	2329.9	2342.6	2319.4	2319.4	2309.8	2342.6
15°	2279.1	2263.1	2236.7	2251.5	2216.6	2224.0	2209.1	2238.8
17.5°	2150.8	2140.2	2125.5	2143.5	2102.2	2114.9	2094.7	2120.1
20°	2003.6	1998.3	1996.2	2014.2	1971.8	1993.0	1969.7	1987.7
22.5°	1851.0	1851.0	1862.7	1887.1	1840.4	1863.7	1836.2	1846.8
25°	1700.5	1701.6	1715.4	1732.3	1686.8	1706.9	1676.2	1677.2
27.5°	1540.6	1531.1	1545.9	1542.7	1485.4	1497.1	1464.3	1458.0
30°	1364.7	1336.1	1325.5	1295.8	1231.1	1229.0	1195.2	1182.5
32.5°	1171.9	1117.8	1085.0	1024.6	941.9	922.8	892.1	877.3
35°	957.9	876.3	816.9	737.4	655.8	628.3	603.9	591.2
37.5°	722.6	629.4	561.6	485.2	427.0	404.8	384.7	376.2
40°	492.7	413.2	355.0	304.1	268.0	254.3	242.7	237.3
42.5°	304.1	253.3	219.3	188.6	168.4	161.1	155.7	152.6
45°	173.8	150.5	135.6	118.7	109.2	104.9	101.7	99.6
47.5°	96.4	90.1	84.7	77.4	71.0	67.8	66.8	65.6
50°	54.0	55.1	55.1	50.9	47.7	44.5	42.4	41.3
52.5°	31.8	33.9	34.9	31.8	27.6	25.4	25.4	24.3
55°	20.1	20.1	20.1	20.1	19.1	18.0	18.0	18.0
57.5°	13.7	13.7	14.8	14.8	14.8	13.7	13.7	12.7
60°	10.6	10.6	10.6	10.6	10.6	10.6	9.5	9.5
62.5°	8.5	8.5	8.5	8.5	8.5	7.4	7.4	7.4
65°	6.4	6.4	6.4	6.4	6.4	5.3	5.3	5.3
67.5°	4.2	5.3	4.2	4.2	4.2	4.2	4.2	4.2
70°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
72.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
75°	2.1	2.1	2.1	2.1	2.1	1.0	1.0	1.0
77.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0
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



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









(END OF REPORT)