

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: P136790

Luminaire Tested: **LDSQ6A20D010TE ESQ6A20935 6LSQ1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P136790  
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 ESQ6A20935 6LSQ1LI  
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: 2341.0 lumens  
Efficiency: N/A  
Efficacy: 71.4 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

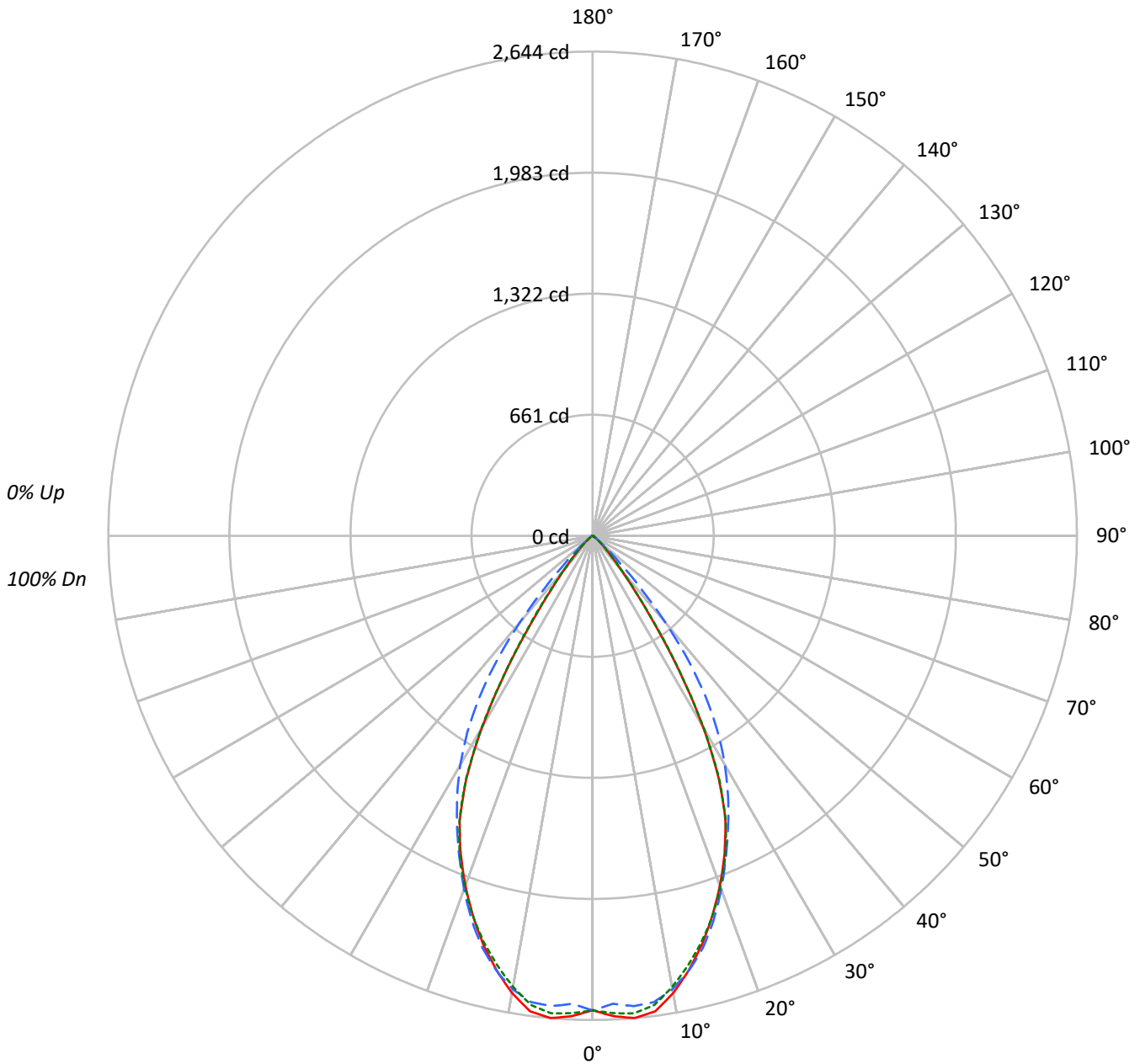
Input Watts (W): 32.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20									20									20									20									
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	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°	132778	132778	132778
5°	135970	132611	134628
10°	131886	130809	130128
15°	122471	123505	121834
20°	110774	111903	111189
25°	97034	99002	97277
30°	71450	85472	71769
35°	37125	67450	37938
40°	15632	41371	16287
45°	7167	15362	7406
50°	3292	4592	3380
55°	1644	1849	1644
60°	1004	1117	1004
65°	655	788	655
70°	479	479	479
75°	218	436	218
80°	325	325	325
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	245.2	10.5
10°-20°	644.7	27.5
20°-30°	788.2	33.7
30°-40°	506.5	21.6
40°-50°	126.4	5.4
50°-60°	21.2	0.9
60°-70°	6.4	0.3
70°-80°	2.0	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°	1678.1	71.7
0°-40°	2184.7	93.3
0°-60°	2332.2	99.6
0°-90°	2341.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2341.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2591	2591	2591	2591	2591	
5°	2644	2587	2578	2581	2617	249
15°	2309	2321	2328	2302	2297	644
25°	1716	1762	1751	1768	1721	765
35°	594	783	1078	797	606	393
45°	99	124	212	130	102	85
55°	18	21	21	21	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°	2591.3	2591.3	2591.3	2591.3	2591.3	2591.3	2591.3	2591.3	2591.3	2591.3	2591.3
2.5°	2626.0	2560.9	2611.9	2607.6	2564.1	2572.7	2580.4	2579.3	2578.2	2558.6	2604.3
5°	2643.5	2577.2	2629.3	2622.8	2582.6	2591.3	2595.6	2597.8	2592.4	2578.2	2621.7
7.5°	2618.5	2556.5	2606.5	2598.8	2567.3	2575.0	2578.2	2583.6	2576.1	2568.4	2609.7
10°	2534.8	2482.6	2529.3	2523.9	2503.2	2511.9	2514.1	2522.8	2514.1	2514.1	2551.1
12.5°	2428.2	2388.0	2430.4	2426.1	2418.4	2428.2	2425.0	2440.2	2427.2	2431.5	2465.2
15°	2308.7	2282.6	2317.4	2316.2	2317.4	2325.0	2315.1	2326.0	2314.1	2328.2	2357.6
17.5°	2173.9	2161.9	2189.1	2190.2	2198.9	2201.1	2185.9	2200.0	2182.6	2198.9	2223.9
20°	2031.5	2033.7	2055.4	2052.2	2065.2	2058.6	2036.9	2051.1	2033.7	2052.2	2071.7
22.5°	1881.5	1900.0	1912.0	1909.7	1927.2	1918.4	1891.3	1897.8	1880.4	1901.1	1913.1
25°	1716.3	1737.0	1745.6	1745.6	1764.1	1760.8	1737.0	1747.8	1731.5	1751.1	1757.6
27.5°	1491.2	1517.3	1523.9	1537.0	1568.4	1575.0	1565.2	1586.9	1580.4	1601.1	1598.9
30°	1207.6	1233.6	1243.5	1269.5	1320.7	1351.1	1367.3	1409.7	1420.6	1444.6	1432.6
32.5°	890.2	912.0	926.1	965.2	1032.5	1094.5	1150.0	1213.0	1246.7	1272.8	1251.1
35°	593.5	609.8	625.0	673.9	744.5	821.7	902.2	992.3	1050.0	1078.3	1048.9
37.5°	372.9	383.6	393.5	429.4	485.9	557.6	643.5	746.7	826.1	859.8	822.8
40°	233.7	240.2	245.6	267.4	302.1	345.7	418.5	505.4	586.9	618.5	583.7
42.5°	150.0	153.2	156.6	168.4	187.0	214.1	254.4	308.7	365.2	387.0	364.1
45°	98.9	100.0	101.1	107.6	117.4	130.5	151.1	176.1	203.3	212.0	202.2
47.5°	65.2	65.2	66.3	70.6	76.1	83.7	91.3	97.8	106.5	110.8	105.5
50°	41.3	42.4	43.5	46.7	50.0	53.3	55.4	55.4	57.6	57.6	56.5
52.5°	25.0	25.0	26.1	27.2	31.5	34.8	34.8	32.6	32.6	32.6	31.5
55°	18.4	18.4	18.4	19.5	20.7	20.7	20.7	20.7	20.7	20.7	19.5
57.5°	14.1	14.1	14.1	15.2	15.2	15.2	15.2	14.1	14.1	14.1	14.1
60°	9.8	9.8	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	9.8
62.5°	7.7	7.7	7.7	8.7	8.7	8.7	8.7	8.7	8.7	7.7	7.7
65°	5.4	5.4	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
67.5°	4.3	4.3	4.3	4.3	4.3	4.3	5.4	4.3	4.3	4.3	4.3
70°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
72.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
75°	1.1	1.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
77.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	0.0	0.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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°	2591.3	2591.3	2591.3	2591.3	2591.3	2591.3	2591.3	2591.3
2.5°	2615.2	2618.5	2570.6	2580.4	2615.2	2580.4	2581.5	2609.7
5°	2624.9	2623.9	2575.0	2586.9	2607.6	2582.6	2583.6	2617.4
7.5°	2603.3	2593.4	2544.5	2558.6	2564.1	2546.7	2546.7	2583.6
10°	2535.9	2519.5	2473.9	2488.0	2478.2	2467.4	2464.1	2501.0
12.5°	2447.8	2429.3	2390.2	2403.2	2379.3	2379.3	2369.5	2403.2
15°	2338.0	2321.7	2294.5	2309.7	2273.8	2281.5	2266.3	2296.7
17.5°	2206.5	2195.7	2180.4	2198.9	2156.5	2169.6	2148.9	2175.0
20°	2055.4	2050.0	2047.8	2066.3	2022.8	2044.5	2020.7	2039.1
22.5°	1898.9	1898.9	1910.8	1935.8	1888.0	1912.0	1883.6	1894.5
25°	1744.5	1745.6	1759.7	1777.2	1730.4	1751.1	1719.5	1720.6
27.5°	1580.4	1570.6	1585.8	1582.6	1523.9	1535.9	1502.1	1495.7
30°	1400.0	1370.6	1359.8	1329.3	1263.0	1260.8	1226.1	1213.0
32.5°	1202.2	1146.7	1113.0	1051.1	966.3	946.7	915.2	900.0
35°	982.6	898.9	838.0	756.5	672.8	644.6	619.6	606.5
37.5°	741.3	645.7	576.1	497.8	438.0	415.2	394.5	385.9
40°	505.4	423.9	364.1	311.9	275.0	260.8	248.9	243.5
42.5°	311.9	259.8	225.0	193.4	172.8	165.2	159.8	156.6
45°	178.2	154.3	139.1	121.7	111.9	107.6	104.4	102.2
47.5°	98.9	92.4	86.9	79.4	72.8	69.5	68.5	67.4
50°	55.4	56.5	56.5	52.2	49.0	45.6	43.5	42.4
52.5°	32.6	34.8	35.9	32.6	28.3	26.1	26.1	25.0
55°	20.7	20.7	20.7	20.7	19.5	18.4	18.4	18.4
57.5°	14.1	14.1	15.2	15.2	15.2	14.1	14.1	13.0
60°	10.9	10.9	10.9	10.9	10.9	10.9	9.8	9.8
62.5°	8.7	8.7	8.7	8.7	8.7	7.7	7.7	7.7
65°	6.5	6.5	6.5	6.5	6.5	5.4	5.4	5.4
67.5°	4.3	5.4	4.3	4.3	4.3	4.3	4.3	4.3
70°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
72.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
75°	2.2	2.2	2.2	2.2	2.2	1.1	1.1	1.1
77.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	1.1	1.1	1.1	1.1	1.1	1.1	0.0	1.1
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)