

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: P136871

Luminaire Tested: **LDSQ6A15D010TE ESQ6A15840 6LSQ1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P136871
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: LDSQ6A15D010TE ESQ6A15840 6LSQ1H
Description: PORTFOLIO LED SQUARE 6 INCH 60 DEGREE CUTOFF RECESSED DOWNLIGHT
MEDIUM DISTRIBUTION WITH SEMI-SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 4000K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1561.0 lumens
Efficiency: N/A
Efficacy: 69.1 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

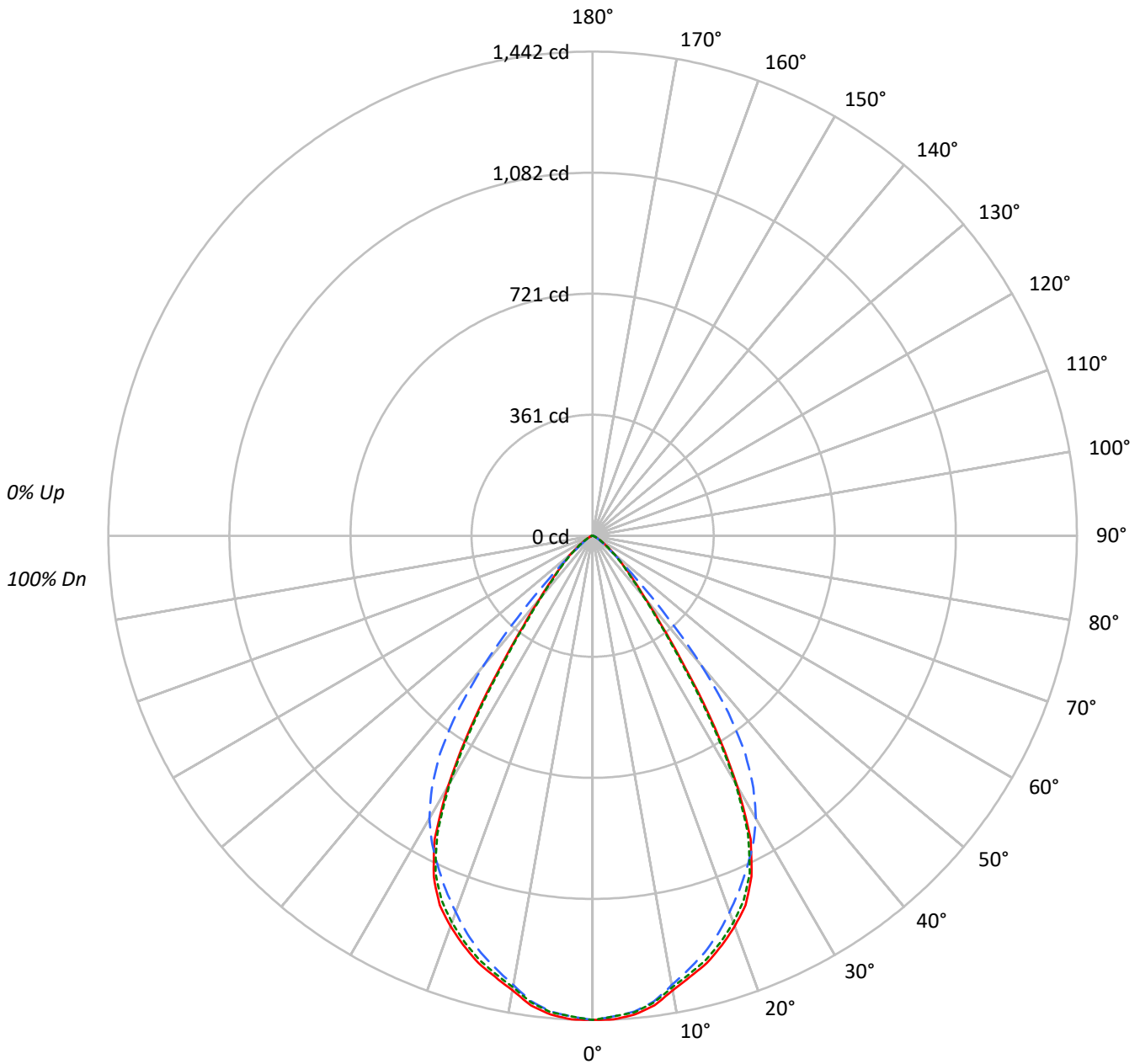
Input Watts (W): 22.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	62078	62078	62078
5°	61865	61489	61567
10°	60080	59398	59699
15°	58705	57314	58241
20°	56692	54630	56137
25°	53184	51702	52604
30°	42821	48334	42214
35°	25413	41623	24231
40°	13731	28344	13051
45°	8549	11922	8232
50°	5687	4642	5339
55°	3385	2470	3250
60°	2093	1645	1938
65°	1233	1060	1233
70°	869	869	655
75°	582	582	582
80°	422	422	422
85°	0	840	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.0	8.6
10°-20°	364.2	23.3
20°-30°	498.1	31.9
30°-40°	377.3	24.2
40°-50°	131.0	8.4
50°-60°	39.2	2.5
60°-70°	12.4	0.8
70°-80°	3.8	0.2
80°-90°	0.9	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°	996.3	63.8
0°-40°	1373.6	88.0
0°-60°	1543.8	98.9
0°-90°	1561.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1561.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1442	1442	1442	1442	1442	
5°	1431	1426	1423	1424	1424	135
15°	1317	1301	1286	1297	1307	370
25°	1120	1103	1088	1097	1107	502
35°	484	590	792	582	461	314
45°	140	150	196	147	135	114
55°	45	43	33	42	43	43
65°	12	12	10	12	12	13
75°	4	4	4	4	4	3
85°	0	0	2	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°	1441.8	1441.8	1441.8	1441.8	1441.8	1441.8	1441.8	1441.8	1441.8	1441.8	1441.8
2.5°	1441.8	1434.9	1427.9	1433.1	1440.1	1431.4	1433.1	1433.1	1427.9	1433.1	1429.7
5°	1431.4	1426.2	1419.3	1424.5	1429.7	1422.7	1422.7	1422.7	1419.3	1422.7	1421.0
7.5°	1410.6	1403.7	1396.7	1401.9	1407.1	1400.2	1398.5	1400.2	1395.0	1398.5	1396.7
10°	1374.2	1369.0	1362.1	1367.3	1370.7	1362.1	1360.3	1362.1	1355.1	1358.6	1358.6
12.5°	1344.8	1341.3	1332.6	1336.1	1337.8	1329.2	1325.7	1325.7	1318.8	1322.2	1320.5
15°	1317.0	1311.8	1303.2	1304.9	1306.6	1294.5	1291.0	1289.3	1282.4	1285.8	1284.1
17.5°	1278.9	1275.4	1265.0	1266.8	1265.0	1254.6	1247.7	1246.0	1239.0	1242.5	1239.0
20°	1237.3	1232.1	1221.7	1220.0	1216.5	1204.4	1199.2	1197.5	1188.8	1192.3	1190.5
22.5°	1190.5	1183.6	1173.2	1171.5	1168.0	1154.1	1148.9	1145.5	1138.5	1142.0	1138.5
25°	1119.5	1114.3	1105.6	1105.6	1107.3	1098.7	1096.9	1095.2	1086.5	1088.3	1086.5
27.5°	1019.0	1015.5	1012.0	1013.8	1022.4	1022.4	1031.1	1034.6	1031.1	1034.6	1031.1
30°	861.3	863.0	873.4	883.8	904.6	920.2	941.0	956.6	963.5	972.2	965.2
32.5°	677.6	672.4	693.2	717.4	750.4	785.0	826.6	859.5	882.1	890.7	880.3
35°	483.5	481.8	500.8	526.8	564.9	615.2	677.6	734.8	774.6	791.9	774.6
37.5°	337.9	339.7	350.1	367.4	396.8	440.2	506.0	577.1	637.7	663.7	634.3
40°	244.3	242.6	249.5	259.9	277.3	305.0	350.1	409.0	469.6	504.3	466.2
42.5°	183.7	182.0	185.4	190.6	199.3	213.1	237.4	268.6	306.7	331.0	301.5
45°	140.4	140.4	140.4	143.8	147.3	152.5	161.2	171.6	185.4	195.8	182.0
47.5°	109.2	109.2	109.2	110.9	112.6	112.6	112.6	110.9	112.6	114.4	110.9
50°	84.9	84.9	84.9	84.9	84.9	83.2	79.7	72.8	71.0	69.3	69.3
52.5°	60.7	60.7	60.7	62.4	64.1	60.7	55.5	50.3	46.8	46.8	46.8
55°	45.1	45.1	45.1	45.1	45.1	41.6	38.1	34.7	32.9	32.9	32.9
57.5°	32.9	32.9	32.9	32.9	31.2	29.5	27.7	26.0	24.3	24.3	24.3
60°	24.3	24.3	24.3	24.3	22.5	20.8	20.8	19.1	19.1	19.1	19.1
62.5°	17.3	17.3	17.3	17.3	17.3	15.6	15.6	13.9	13.9	13.9	13.9
65°	12.1	12.1	12.1	12.1	12.1	12.1	10.4	10.4	10.4	10.4	10.4
67.5°	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
70°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
72.5°	3.5	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
75°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
77.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
80°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
82.5°	0.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7	1.7
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7	1.7
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°	1441.8	1441.8	1441.8	1441.8	1441.8	1441.8	1441.8	1441.8
2.5°	1429.7	1438.3	1438.3	1431.4	1426.2	1434.9	1436.6	1433.1
5°	1421.0	1427.9	1427.9	1421.0	1415.8	1426.2	1426.2	1424.5
7.5°	1396.7	1405.4	1403.7	1398.5	1393.3	1401.9	1405.4	1401.9
10°	1358.6	1367.3	1367.3	1362.1	1356.9	1367.3	1369.0	1365.5
12.5°	1322.2	1330.9	1334.4	1329.2	1327.4	1336.1	1339.6	1336.1
15°	1285.8	1296.2	1298.0	1296.2	1296.2	1306.6	1310.1	1306.6
17.5°	1242.5	1252.9	1256.4	1254.6	1256.4	1266.8	1272.0	1268.5
20°	1192.3	1200.9	1204.4	1204.4	1206.1	1220.0	1226.9	1225.2
22.5°	1138.5	1148.9	1154.1	1155.9	1157.6	1171.5	1178.4	1174.9
25°	1088.3	1096.9	1096.9	1096.9	1095.2	1105.6	1110.8	1107.3
27.5°	1027.6	1029.4	1024.2	1012.0	1003.4	1006.8	1010.3	1001.6
30°	951.4	941.0	921.9	895.9	873.4	864.7	863.0	849.1
32.5°	854.3	824.9	785.0	740.0	700.1	679.3	670.6	655.0
35°	729.6	674.1	611.7	552.8	507.7	485.2	476.6	461.0
37.5°	570.1	500.8	435.0	384.7	355.2	336.2	331.0	322.3
40°	396.8	341.4	298.1	266.9	247.8	239.1	237.4	232.2
42.5°	261.7	230.5	208.0	192.4	183.7	178.5	178.5	175.0
45°	168.1	157.7	150.8	143.8	138.6	136.9	136.9	135.2
47.5°	109.2	110.9	110.9	109.2	105.7	104.0	105.7	104.0
50°	72.8	78.0	81.4	83.2	81.4	79.7	81.4	79.7
52.5°	50.3	55.5	60.7	62.4	60.7	58.9	58.9	58.9
55°	34.7	38.1	41.6	43.3	43.3	43.3	43.3	43.3
57.5°	26.0	27.7	29.5	31.2	32.9	31.2	32.9	31.2
60°	19.1	20.8	22.5	22.5	24.3	24.3	24.3	22.5
62.5°	13.9	15.6	15.6	17.3	17.3	17.3	17.3	17.3
65°	10.4	10.4	12.1	12.1	12.1	12.1	12.1	12.1
67.5°	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
70°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	5.2
72.5°	5.2	5.2	5.2	5.2	5.2	5.2	5.2	3.5
75°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
77.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
80°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
82.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
85°	1.7	1.7	0.0	1.7	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)