

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: P209243

Luminaire Tested: **LDSQ4B30D010 EU4B30508040 4LBCSSQ1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209243  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35089)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQ4B30D010 EU4B30508040 4LBCSSQ1MMS  
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE SHALLOW CAST METALLIC SILVER TRIM  
MEDIUM DISTRIBUTION WITH MATTE METALLIC SILVER TRIM  
WATTAGE D010TR-27.4 W DE010-27.95 W D5LT-27.65 W DMX-27.73 W DL2-29.56 W  
DL3-29.67 W DLE-29.73 W  
Light Source: HIGH LUMEN LED 4000 K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2965.8 lumens  
Efficiency: N/A  
Efficacy: 105.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Direct

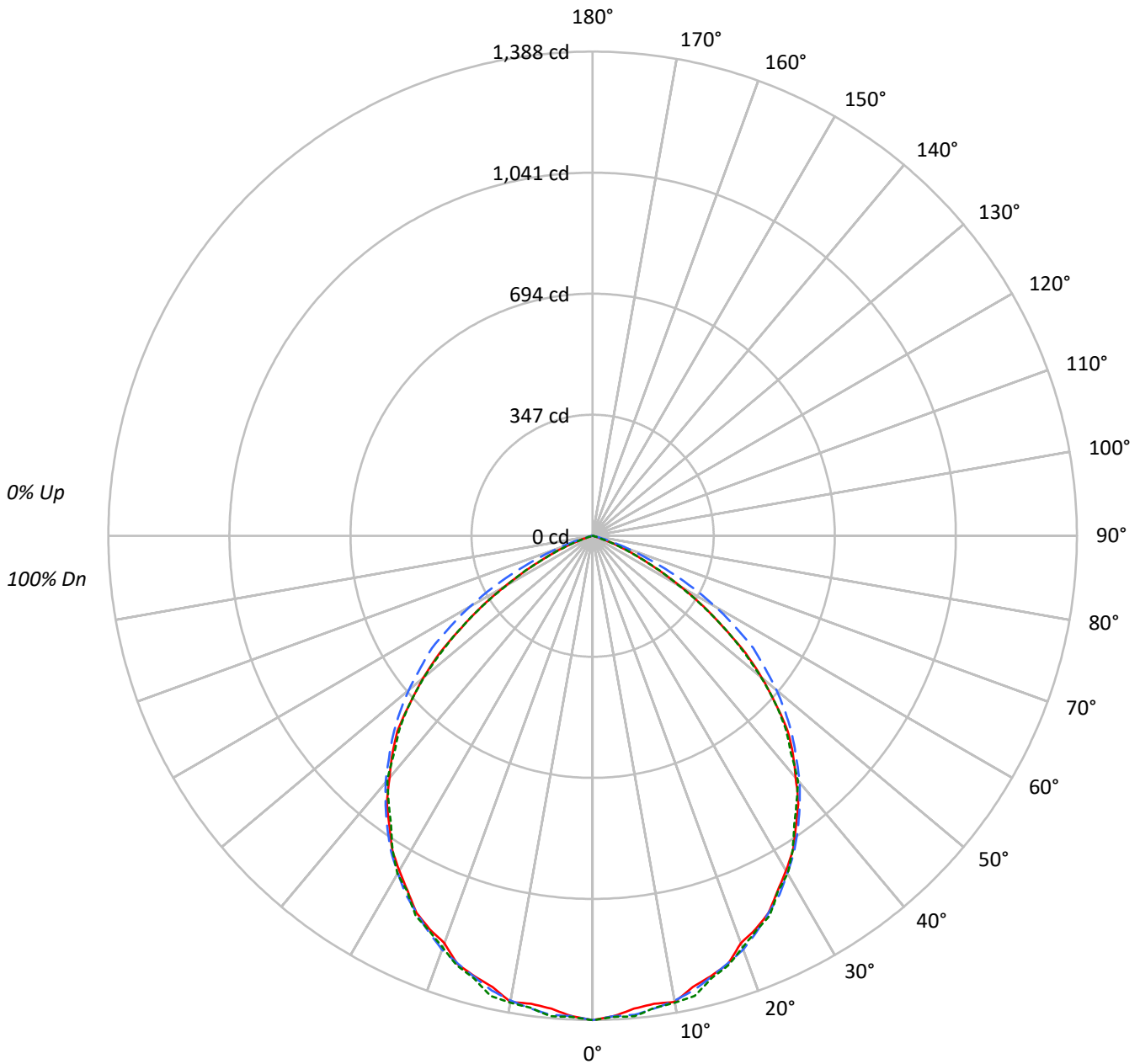
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	111	108	104	101	109	105	102	100	101	99	96	97	95	94	94	92	91	89																			
2	103	96	91	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77																			
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67																			
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52																			
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46																			
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41																			
8	65	53	45	40	64	52	45	39	51	44	39	50	44	39	49	43	39	37																			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	33																			
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	31																			

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

	0°	45°	90°
0°	Luminaire represents a point source (luminous area is zero).		
5°	No luminance values can be calculated.		
10°			
15°			
20°			
25°			
30°			
35°			
40°			
45°			
50°			
55°			
60°			
65°			
70°			
75°			
80°			
85°			



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.1	4.4
10°-20°	370.8	12.5
20°-30°	550.2	18.6
30°-40°	637.6	21.5
40°-50°	611.3	20.6
50°-60°	449.4	15.2
60°-70°	194.1	6.5
70°-80°	20.9	0.7
80°-90°	0.3	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°	1052.1	35.5
0°-40°	1689.7	57.0
0°-60°	2750.4	92.7
0°-90°	2965.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2965.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1388	1388	1388	1388	1388	
5°	1361	1375	1378	1380	1382	130
15°	1308	1315	1310	1311	1313	369
25°	1193	1191	1193	1195	1201	546
35°	1016	1022	1026	1024	1008	635
45°	791	793	809	797	783	601
55°	458	505	562	503	460	412
65°	150	187	244	185	146	154
75°	4	6	22	4	4	12
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1388.4	1388.4	1388.4	1388.4	1388.4	1388.4	1388.4	1388.4	1388.4	1388.4	1388.4
2.5°	1378.5	1394.3	1396.2	1386.4	1382.4	1376.5	1390.3	1380.5	1384.4	1380.5	1378.5
5°	1360.7	1378.5	1380.5	1380.5	1376.5	1374.6	1380.5	1378.5	1376.5	1372.6	1378.5
7.5°	1352.9	1362.7	1372.6	1360.7	1366.7	1364.7	1378.5	1372.6	1370.6	1370.6	1366.7
10°	1356.8	1354.8	1362.7	1350.9	1354.8	1350.9	1362.7	1362.7	1358.8	1354.8	1352.9
12.5°	1325.2	1341.0	1341.0	1339.1	1335.1	1329.2	1341.0	1348.9	1337.1	1337.1	1335.1
15°	1307.5	1311.4	1313.4	1313.4	1311.4	1315.4	1321.3	1313.4	1315.4	1305.5	1309.5
17.5°	1287.8	1279.9	1285.8	1281.9	1283.8	1287.8	1295.7	1295.7	1283.8	1281.9	1285.8
20°	1242.4	1266.1	1268.1	1256.2	1258.2	1258.2	1272.0	1260.2	1268.1	1258.2	1262.1
22.5°	1220.7	1236.5	1238.5	1222.7	1232.6	1220.7	1234.5	1216.8	1236.5	1222.7	1228.6
25°	1193.1	1191.1	1197.1	1189.2	1191.1	1191.1	1201.0	1193.1	1199.0	1191.1	1193.1
27.5°	1147.8	1163.5	1161.6	1153.7	1157.6	1155.6	1175.4	1153.7	1165.5	1155.6	1159.6
30°	1108.3	1122.1	1118.2	1110.3	1110.3	1104.4	1126.1	1120.2	1118.2	1118.2	1116.2
32.5°	1068.9	1070.8	1066.9	1068.9	1070.8	1063.0	1080.7	1072.8	1070.8	1072.8	1074.8
35°	1015.6	1015.6	1019.6	1013.7	1021.5	1021.5	1037.3	1027.5	1025.5	1019.6	1025.5
37.5°	968.3	962.4	964.4	964.4	968.3	972.2	980.1	976.2	976.2	970.3	974.2
40°	905.2	901.2	907.2	907.2	913.1	913.1	921.0	917.0	922.9	922.9	922.9
42.5°	850.0	850.0	846.0	851.9	853.9	851.9	865.8	863.8	865.8	861.8	863.8
45°	790.8	790.8	786.9	784.9	794.8	792.8	808.6	802.6	810.5	806.6	808.6
47.5°	710.0	719.8	713.9	719.8	731.6	733.6	743.5	739.5	747.4	741.5	749.4
50°	633.0	633.0	639.0	646.8	658.7	660.7	672.5	680.4	684.3	686.3	688.3
52.5°	552.2	550.2	556.1	566.0	575.9	583.7	595.6	607.4	615.3	627.1	621.2
55°	457.5	461.5	467.4	479.2	495.0	504.9	514.7	530.5	544.3	550.2	562.0
57.5°	376.7	372.7	376.7	392.4	410.2	418.1	431.9	447.7	467.4	479.2	483.2
60°	291.9	293.8	297.8	311.6	325.4	337.2	343.1	368.8	386.5	398.4	406.3
62.5°	215.0	218.9	222.8	234.7	248.5	258.3	268.2	289.9	305.7	317.5	325.4
65°	149.9	151.9	157.8	163.7	177.5	187.3	195.2	213.0	228.8	238.6	244.5
67.5°	92.7	94.7	98.6	106.5	116.4	124.2	132.1	144.0	157.8	167.6	169.6
70°	47.3	49.3	51.3	57.2	65.1	69.0	74.9	84.8	94.7	102.5	106.5
72.5°	15.8	15.8	17.7	21.7	25.6	29.6	31.6	41.4	49.3	53.2	55.2
75°	3.9	3.9	3.9	3.9	3.9	5.9	5.9	11.8	15.8	19.7	21.7
77.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.9	3.9
80°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1388.4	1388.4	1388.4	1388.4	1388.4	1388.4	1388.4	1388.4	1388.4	1388.4
2.5°	1388.4	1384.4	1382.4	1384.4	1384.4	1382.4	1388.4	1396.2	1406.1	1380.5
5°	1386.4	1382.4	1386.4	1374.6	1380.5	1376.5	1384.4	1382.4	1390.3	1382.4
7.5°	1380.5	1372.6	1374.6	1368.6	1376.5	1366.7	1372.6	1384.4	1376.5	1364.7
10°	1360.7	1356.8	1370.6	1350.9	1346.9	1354.8	1370.6	1358.8	1354.8	1358.8
12.5°	1341.0	1341.0	1346.9	1331.2	1333.1	1337.1	1345.0	1337.1	1341.0	1350.9
15°	1319.3	1315.4	1325.2	1313.4	1311.4	1307.5	1315.4	1315.4	1319.3	1313.4
17.5°	1293.7	1287.8	1287.8	1283.8	1281.9	1291.7	1295.7	1297.6	1299.6	1291.7
20°	1262.1	1260.2	1266.1	1260.2	1262.1	1264.1	1264.1	1260.2	1277.9	1256.2
22.5°	1228.6	1234.5	1226.6	1222.7	1226.6	1230.6	1230.6	1232.6	1228.6	1224.7
25°	1195.1	1199.0	1201.0	1189.2	1195.1	1189.2	1203.0	1205.0	1197.1	1201.0
27.5°	1165.5	1159.6	1157.6	1149.7	1153.7	1151.7	1153.7	1153.7	1165.5	1149.7
30°	1120.2	1114.2	1116.2	1110.3	1112.3	1110.3	1112.3	1112.3	1120.2	1118.2
32.5°	1076.8	1070.8	1072.8	1066.9	1066.9	1068.9	1064.9	1064.9	1070.8	1066.9
35°	1035.4	1021.5	1023.5	1021.5	1023.5	1015.6	1015.6	1013.7	1017.6	1007.7
37.5°	976.2	970.3	968.3	966.3	968.3	964.4	968.3	962.4	968.3	960.4
40°	922.9	919.0	921.0	909.1	909.1	911.1	907.2	905.2	907.2	915.1
42.5°	869.7	861.8	857.9	853.9	855.9	850.0	848.0	844.1	848.0	840.1
45°	806.6	806.6	804.6	794.8	796.7	796.7	788.8	781.0	782.9	782.9
47.5°	749.4	745.5	743.5	733.6	731.6	729.7	721.8	715.9	715.9	710.0
50°	686.3	682.3	676.4	666.6	662.6	650.8	644.9	637.0	629.1	629.1
52.5°	627.1	613.3	605.4	589.7	583.7	577.8	562.0	556.1	550.2	544.3
55°	556.1	544.3	528.5	510.8	502.9	493.0	477.2	465.4	457.5	459.5
57.5°	487.1	467.4	451.6	427.9	418.1	412.2	396.4	380.6	372.7	372.7
60°	402.3	386.5	366.8	345.1	337.2	327.4	307.6	297.8	291.9	286.0
62.5°	321.5	309.6	291.9	264.3	258.3	248.5	234.7	222.8	216.9	216.9
65°	240.6	228.8	213.0	193.3	185.4	177.5	165.7	153.8	147.9	145.9
67.5°	169.6	155.8	142.0	126.2	120.3	116.4	104.5	96.6	92.7	90.7
70°	102.5	94.7	84.8	73.0	67.1	63.1	55.2	49.3	47.3	45.4
72.5°	53.2	47.3	39.4	31.6	27.6	23.7	19.7	15.8	13.8	13.8
75°	19.7	15.8	9.9	5.9	3.9	3.9	3.9	3.9	3.9	3.9
77.5°	3.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
80°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	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
90°	0.0	0.0	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)