

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: P209248

Luminaire Tested: **LDSQ4B30D010 EU4B30509035 4LBCSSQ1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209248  
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 EU4B30509035 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 3500 K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2480.2 lumens  
Efficiency: N/A  
Efficacy: 88.6 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

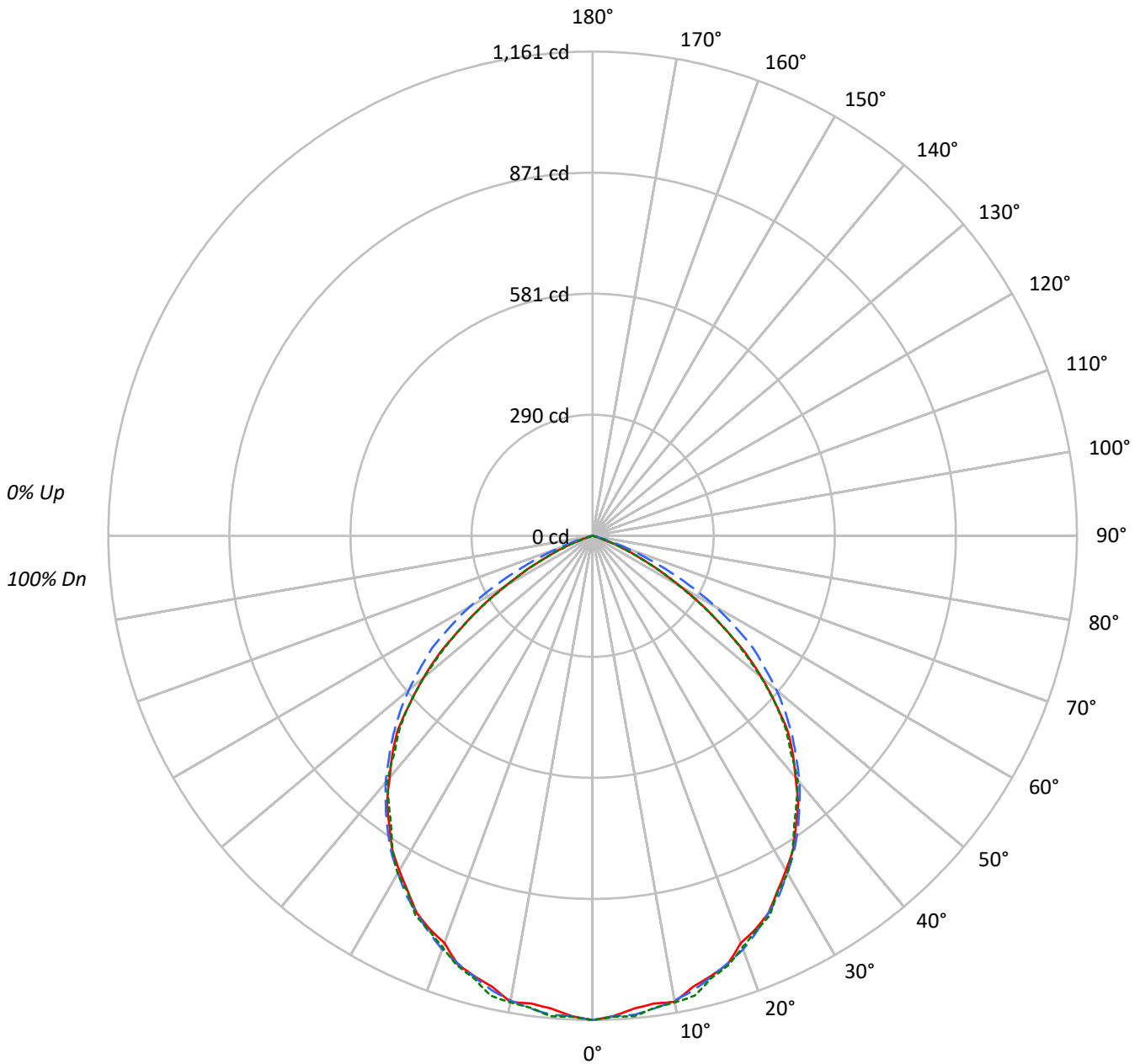
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	34																			
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°	109.6	4.4
10°-20°	310.1	12.5
20°-30°	460.2	18.6
30°-40°	533.2	21.5
40°-50°	511.2	20.6
50°-60°	375.9	15.2
60°-70°	162.3	6.5
70°-80°	17.5	0.7
80°-90°	0.2	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°	879.9	35.5
0°-40°	1413.1	57.0
0°-60°	2300.2	92.7
0°-90°	2480.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2480.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1161	1161	1161	1161	1161	
5°	1138	1150	1153	1154	1156	109
15°	1093	1100	1095	1097	1098	308
25°	998	996	998	999	1004	457
35°	849	854	858	856	843	531
45°	661	663	676	666	655	503
55°	383	422	470	421	384	344
65°	125	157	204	155	122	129
75°	3	5	18	3	3	10
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°	1161.1	1161.1	1161.1	1161.1	1161.1	1161.1	1161.1	1161.1	1161.1	1161.1	1161.1
2.5°	1152.8	1166.0	1167.7	1159.4	1156.1	1151.2	1162.7	1154.5	1157.8	1154.5	1152.8
5°	1138.0	1152.8	1154.5	1154.5	1151.2	1149.5	1154.5	1152.8	1151.2	1147.9	1152.8
7.5°	1131.4	1139.6	1147.9	1138.0	1142.9	1141.3	1152.8	1147.9	1146.2	1146.2	1142.9
10°	1134.7	1133.0	1139.6	1129.7	1133.0	1129.7	1139.6	1139.6	1136.3	1133.0	1131.4
12.5°	1108.3	1121.5	1121.5	1119.8	1116.5	1111.6	1121.5	1128.1	1118.2	1118.2	1116.5
15°	1093.4	1096.7	1098.4	1098.4	1096.7	1100.0	1105.0	1098.4	1100.0	1091.8	1095.1
17.5°	1077.0	1070.4	1075.3	1072.0	1073.7	1077.0	1083.5	1083.5	1073.7	1072.0	1075.3
20°	1039.0	1058.8	1060.5	1050.6	1052.2	1052.2	1063.8	1053.9	1060.5	1052.2	1055.5
22.5°	1020.9	1034.1	1035.7	1022.5	1030.8	1020.9	1032.4	1017.6	1034.1	1022.5	1027.5
25°	997.8	996.1	1001.1	994.5	996.1	996.1	1004.4	997.8	1002.7	996.1	997.8
27.5°	959.9	973.1	971.4	964.8	968.1	966.5	982.9	964.8	974.7	966.5	969.8
30°	926.9	938.4	935.1	928.5	928.5	923.6	941.7	936.8	935.1	935.1	933.5
32.5°	893.9	895.5	892.2	893.9	895.5	888.9	903.8	897.2	895.5	897.2	898.8
35°	849.4	849.4	852.7	847.7	854.3	854.3	867.5	859.3	857.6	852.7	857.6
37.5°	809.8	804.8	806.5	806.5	809.8	813.1	819.7	816.4	816.4	811.4	814.7
40°	757.0	753.7	758.6	758.6	763.6	763.6	770.2	766.9	771.8	771.8	771.8
42.5°	710.8	710.8	707.5	712.5	714.1	712.5	724.0	722.4	724.0	720.7	722.4
45°	661.3	661.3	658.0	656.4	664.6	663.0	676.2	671.2	677.8	674.5	676.2
47.5°	593.7	602.0	597.0	602.0	611.9	613.5	621.8	618.5	625.1	620.1	626.7
50°	529.4	529.4	534.4	541.0	550.8	552.5	562.4	569.0	572.3	573.9	575.6
52.5°	461.8	460.1	465.1	473.3	481.6	488.2	498.1	508.0	514.6	524.5	519.5
55°	382.6	385.9	390.9	400.8	414.0	422.2	430.5	443.6	455.2	460.1	470.0
57.5°	315.0	311.7	315.0	328.2	343.0	349.6	361.2	374.4	390.9	400.8	404.1
60°	244.1	245.7	249.0	260.6	272.1	282.0	287.0	308.4	323.3	333.1	339.7
62.5°	179.8	183.1	186.4	196.3	207.8	216.1	224.3	242.4	255.6	265.5	272.1
65°	125.3	127.0	131.9	136.9	148.4	156.7	163.3	178.1	191.3	199.6	204.5
67.5°	77.5	79.2	82.5	89.1	97.3	103.9	110.5	120.4	131.9	140.2	141.8
70°	39.6	41.2	42.9	47.8	54.4	57.7	62.7	70.9	79.2	85.8	89.1
72.5°	13.2	13.2	14.8	18.1	21.4	24.7	26.4	34.6	41.2	44.5	46.2
75°	3.3	3.3	3.3	3.3	3.3	4.9	4.9	9.9	13.2	16.5	18.1
77.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	3.3	3.3
80°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
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°	1161.1	1161.1	1161.1	1161.1	1161.1	1161.1	1161.1	1161.1	1161.1	1161.1
2.5°	1161.1	1157.8	1156.1	1157.8	1157.8	1156.1	1161.1	1167.7	1175.9	1154.5
5°	1159.4	1156.1	1159.4	1149.5	1154.5	1151.2	1157.8	1156.1	1162.7	1156.1
7.5°	1154.5	1147.9	1149.5	1144.6	1151.2	1142.9	1147.9	1157.8	1151.2	1141.3
10°	1138.0	1134.7	1146.2	1129.7	1126.4	1133.0	1146.2	1136.3	1133.0	1136.3
12.5°	1121.5	1121.5	1126.4	1113.2	1114.9	1118.2	1124.8	1118.2	1121.5	1129.7
15°	1103.3	1100.0	1108.3	1098.4	1096.7	1093.4	1100.0	1100.0	1103.3	1098.4
17.5°	1081.9	1077.0	1077.0	1073.7	1072.0	1080.3	1083.5	1085.2	1086.8	1080.3
20°	1055.5	1053.9	1058.8	1053.9	1055.5	1057.2	1057.2	1053.9	1068.7	1050.6
22.5°	1027.5	1032.4	1025.8	1022.5	1025.8	1029.1	1029.1	1030.8	1027.5	1024.2
25°	999.4	1002.7	1004.4	994.5	999.4	994.5	1006.0	1007.7	1001.1	1004.4
27.5°	974.7	969.8	968.1	961.5	964.8	963.2	964.8	964.8	974.7	961.5
30°	936.8	931.8	933.5	928.5	930.2	928.5	930.2	930.2	936.8	935.1
32.5°	900.5	895.5	897.2	892.2	892.2	893.9	890.6	890.6	895.5	892.2
35°	865.9	854.3	856.0	854.3	856.0	849.4	849.4	847.7	851.0	842.8
37.5°	816.4	811.4	809.8	808.1	809.8	806.5	809.8	804.8	809.8	803.2
40°	771.8	768.5	770.2	760.3	760.3	761.9	758.6	757.0	758.6	765.2
42.5°	727.3	720.7	717.4	714.1	715.8	710.8	709.2	705.9	709.2	702.6
45°	674.5	674.5	672.9	664.6	666.3	666.3	659.7	653.1	654.7	654.7
47.5°	626.7	623.4	621.8	613.5	611.9	610.2	603.6	598.7	598.7	593.7
50°	573.9	570.6	565.7	557.4	554.1	544.2	539.3	532.7	526.1	526.1
52.5°	524.5	512.9	506.3	493.1	488.2	483.2	470.0	465.1	460.1	455.2
55°	465.1	455.2	442.0	427.2	420.6	412.3	399.1	389.2	382.6	384.3
57.5°	407.4	390.9	377.7	357.9	349.6	344.7	331.5	318.3	311.7	311.7
60°	336.4	323.3	306.8	288.6	282.0	273.8	257.3	249.0	244.1	239.1
62.5°	268.8	258.9	244.1	221.0	216.1	207.8	196.3	186.4	181.4	181.4
65°	201.2	191.3	178.1	161.6	155.0	148.4	138.5	128.6	123.7	122.0
67.5°	141.8	130.3	118.7	105.6	100.6	97.3	87.4	80.8	77.5	75.9
70°	85.8	79.2	70.9	61.0	56.1	52.8	46.2	41.2	39.6	37.9
72.5°	44.5	39.6	33.0	26.4	23.1	19.8	16.5	13.2	11.5	11.5
75°	16.5	13.2	8.2	4.9	3.3	3.3	3.3	3.3	3.3	3.3
77.5°	3.3	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
80°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
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)