

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: P209250

Luminaire Tested: **LDSQ4B30D010 EU4B30509050 4LBCSSQ1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209250  
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 EU4B30509050 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 5000 K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2495.3 lumens  
Efficiency: N/A  
Efficacy: 89.1 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

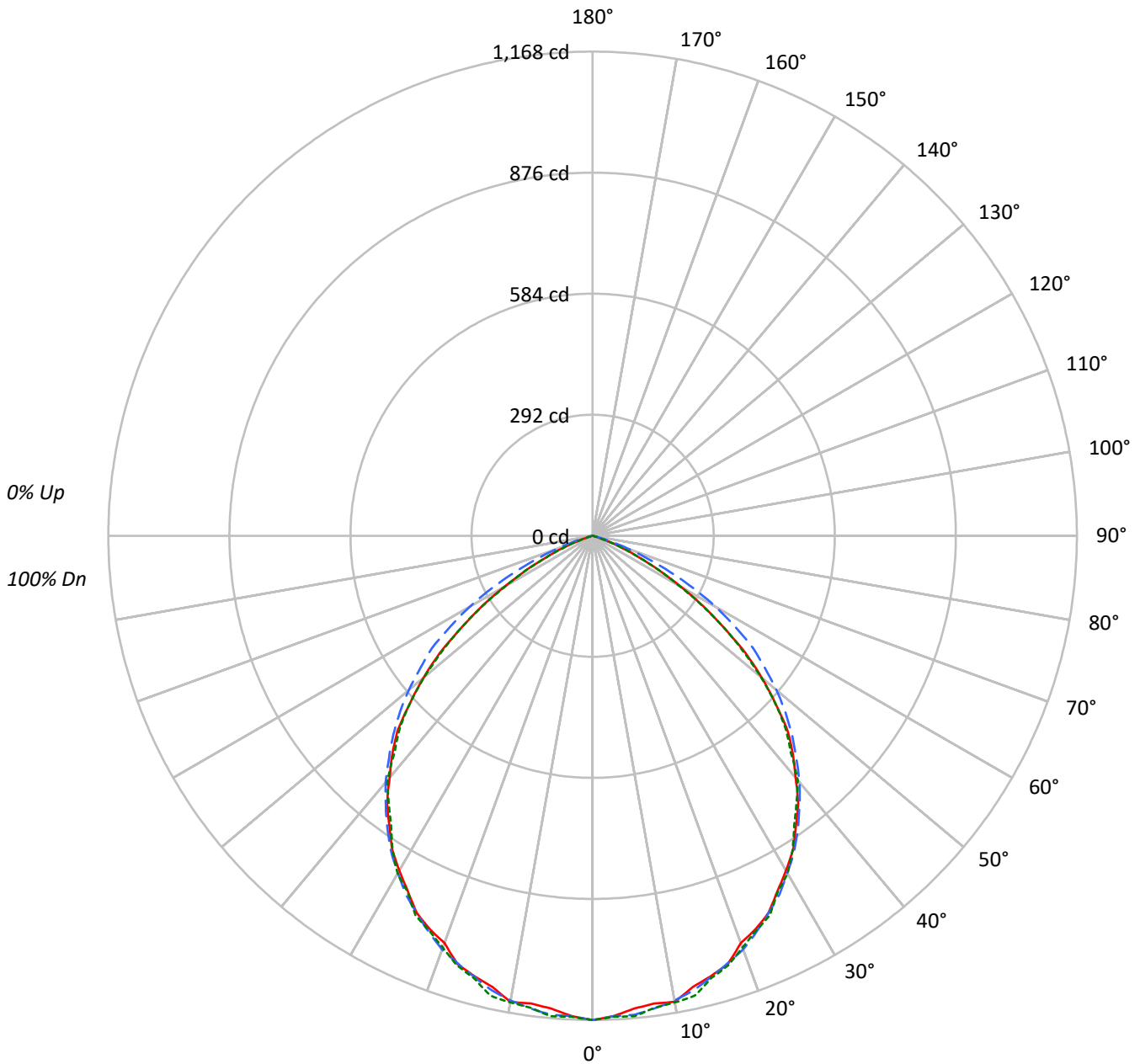
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	110.3	4.4
10°-20°	312.0	12.5
20°-30°	462.9	18.6
30°-40°	536.4	21.5
40°-50°	514.3	20.6
50°-60°	378.1	15.2
60°-70°	163.3	6.5
70°-80°	17.6	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°	885.2	35.5
0°-40°	1421.6	57.0
0°-60°	2314.1	92.7
0°-90°	2495.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2495.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1168	1168	1168	1168	1168	
5°	1145	1156	1160	1162	1163	109
15°	1100	1107	1102	1103	1105	310
25°	1004	1002	1004	1006	1010	460
35°	854	860	863	861	848	534
45°	665	667	680	670	659	506
55°	385	425	473	423	387	346
65°	126	158	206	156	123	130
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°	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1
2.5°	1159.8	1173.1	1174.7	1166.4	1163.1	1158.1	1169.8	1161.5	1164.8	1161.5	1159.8
5°	1144.9	1159.8	1161.5	1161.5	1158.1	1156.5	1161.5	1159.8	1158.1	1154.8	1159.8
7.5°	1138.2	1146.5	1154.8	1144.9	1149.8	1148.2	1159.8	1154.8	1153.2	1153.2	1149.8
10°	1141.5	1139.9	1146.5	1136.6	1139.9	1136.6	1146.5	1146.5	1143.2	1139.9	1138.2
12.5°	1115.0	1128.3	1128.3	1126.6	1123.3	1118.3	1128.3	1134.9	1125.0	1125.0	1123.3
15°	1100.1	1103.4	1105.0	1105.0	1103.4	1106.7	1111.7	1105.0	1106.7	1098.4	1101.7
17.5°	1083.5	1076.8	1081.8	1078.5	1080.2	1083.5	1090.1	1090.1	1080.2	1078.5	1081.8
20°	1045.3	1065.2	1066.9	1056.9	1058.6	1058.6	1070.2	1060.2	1066.9	1058.6	1061.9
22.5°	1027.1	1040.3	1042.0	1028.7	1037.0	1027.1	1038.7	1023.7	1040.3	1028.7	1033.7
25°	1003.8	1002.2	1007.1	1000.5	1002.2	1002.2	1010.5	1003.8	1008.8	1002.2	1003.8
27.5°	965.7	978.9	977.3	970.6	974.0	972.3	988.9	970.6	980.6	972.3	975.6
30°	932.5	944.1	940.8	934.1	934.1	929.2	947.4	942.4	940.8	940.8	939.1
32.5°	899.3	901.0	897.6	899.3	901.0	894.3	909.3	902.6	901.0	902.6	904.3
35°	854.5	854.5	857.8	852.8	859.5	859.5	872.8	864.5	862.8	857.8	862.8
37.5°	814.7	809.7	811.4	811.4	814.7	818.0	824.6	821.3	821.3	816.3	819.7
40°	761.6	758.3	763.2	763.2	768.2	768.2	774.9	771.5	776.5	776.5	776.5
42.5°	715.1	715.1	711.8	716.8	718.4	716.8	728.4	726.7	728.4	725.1	726.7
45°	665.3	665.3	662.0	660.4	668.7	667.0	680.3	675.3	681.9	678.6	680.3
47.5°	597.3	605.6	600.6	605.6	615.6	617.2	625.5	622.2	628.8	623.9	630.5
50°	532.6	532.6	537.6	544.2	554.2	555.8	565.8	572.4	575.8	577.4	579.1
52.5°	464.6	462.9	467.9	476.2	484.5	491.1	501.1	511.0	517.7	527.6	522.7
55°	384.9	388.3	393.2	403.2	416.5	424.8	433.1	446.3	457.9	462.9	472.9
57.5°	316.9	313.6	316.9	330.2	345.1	351.8	363.4	376.6	393.2	403.2	406.5
60°	245.6	247.2	250.5	262.2	273.8	283.7	288.7	310.3	325.2	335.2	341.8
62.5°	180.9	184.2	187.5	197.4	209.1	217.4	225.7	243.9	257.2	267.1	273.8
65°	126.1	127.8	132.7	137.7	149.3	157.6	164.3	179.2	192.5	200.8	205.7
67.5°	78.0	79.6	83.0	89.6	97.9	104.5	111.2	121.1	132.7	141.0	142.7
70°	39.8	41.5	43.1	48.1	54.8	58.1	63.1	71.3	79.6	86.3	89.6
72.5°	13.3	13.3	14.9	18.3	21.6	24.9	26.5	34.8	41.5	44.8	46.5
75°	3.3	3.3	3.3	3.3	3.3	5.0	5.0	10.0	13.3	16.6	18.3
77.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	3.3	3.3
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	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°	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1	1168.1
2.5°	1168.1	1164.8	1163.1	1164.8	1164.8	1163.1	1168.1	1174.7	1183.0	1161.5
5°	1166.4	1163.1	1166.4	1156.5	1161.5	1158.1	1164.8	1163.1	1169.8	1163.1
7.5°	1161.5	1154.8	1156.5	1151.5	1158.1	1149.8	1154.8	1164.8	1158.1	1148.2
10°	1144.9	1141.5	1153.2	1136.6	1133.3	1139.9	1153.2	1143.2	1139.9	1143.2
12.5°	1128.3	1128.3	1133.3	1120.0	1121.6	1125.0	1131.6	1125.0	1128.3	1136.6
15°	1110.0	1106.7	1115.0	1105.0	1103.4	1100.1	1106.7	1106.7	1110.0	1105.0
17.5°	1088.5	1083.5	1083.5	1080.2	1078.5	1086.8	1090.1	1091.8	1093.4	1086.8
20°	1061.9	1060.2	1065.2	1060.2	1061.9	1063.6	1063.6	1060.2	1075.2	1056.9
22.5°	1033.7	1038.7	1032.0	1028.7	1032.0	1035.4	1035.4	1037.0	1033.7	1030.4
25°	1005.5	1008.8	1010.5	1000.5	1005.5	1000.5	1012.1	1013.8	1007.1	1010.5
27.5°	980.6	975.6	974.0	967.3	970.6	969.0	970.6	970.6	980.6	967.3
30°	942.4	937.5	939.1	934.1	935.8	934.1	935.8	935.8	942.4	940.8
32.5°	905.9	901.0	902.6	897.6	897.6	899.3	896.0	896.0	901.0	897.6
35°	871.1	859.5	861.1	859.5	861.1	854.5	854.5	852.8	856.2	847.9
37.5°	821.3	816.3	814.7	813.0	814.7	811.4	814.7	809.7	814.7	808.0
40°	776.5	773.2	774.9	764.9	764.9	766.6	763.2	761.6	763.2	769.9
42.5°	731.7	725.1	721.8	718.4	720.1	715.1	713.5	710.1	713.5	706.8
45°	678.6	678.6	677.0	668.7	670.3	670.3	663.7	657.1	658.7	658.7
47.5°	630.5	627.2	625.5	617.2	615.6	613.9	607.3	602.3	602.3	597.3
50°	577.4	574.1	569.1	560.8	557.5	547.5	542.6	535.9	529.3	529.3
52.5°	527.6	516.0	509.4	496.1	491.1	486.2	472.9	467.9	462.9	457.9
55°	467.9	457.9	444.7	429.7	423.1	414.8	401.5	391.6	384.9	386.6
57.5°	409.8	393.2	380.0	360.1	351.8	346.8	333.5	320.2	313.6	313.6
60°	338.5	325.2	308.6	290.4	283.7	275.4	258.8	250.5	245.6	240.6
62.5°	270.5	260.5	245.6	222.3	217.4	209.1	197.4	187.5	182.5	182.5
65°	202.4	192.5	179.2	162.6	156.0	149.3	139.4	129.4	124.4	122.8
67.5°	142.7	131.1	119.5	106.2	101.2	97.9	87.9	81.3	78.0	76.3
70°	86.3	79.6	71.3	61.4	56.4	53.1	46.5	41.5	39.8	38.2
72.5°	44.8	39.8	33.2	26.5	23.2	19.9	16.6	13.3	11.6	11.6
75°	16.6	13.3	8.3	5.0	3.3	3.3	3.3	3.3	3.3	3.3
77.5°	3.3	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
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)