

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: P209518

Luminaire Tested: **LDA4A09930D2WD010TED2W LAR15SP 4LAL1H DIF-20**

Test Date: 10/29/16

**Test Information**

Test Method: LM-41-14  
Report Number: P209518  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29018)  
Test Lab: INNOVATION CENTER-P2  
Test Date: 10/29/16  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDA4A09930D2WD010TED2W LAR15SP 4LAL1H DIF-20  
Description: 4" ROUND, 900lm D2W, FLOOD OPTIC WITH DIFFUSED LENS, LENSED ACCENT  
SELF FLANGED, HAZE TRIM  
Light Source: (1) High Lumen 3000K 90 CRI LED  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 477.5 lumens  
Efficiency: N/A  
Efficacy: 34.9 lumens/watt  
Spacing Criteria (0/90/45): 0.51 / 0.52 / 0.56  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

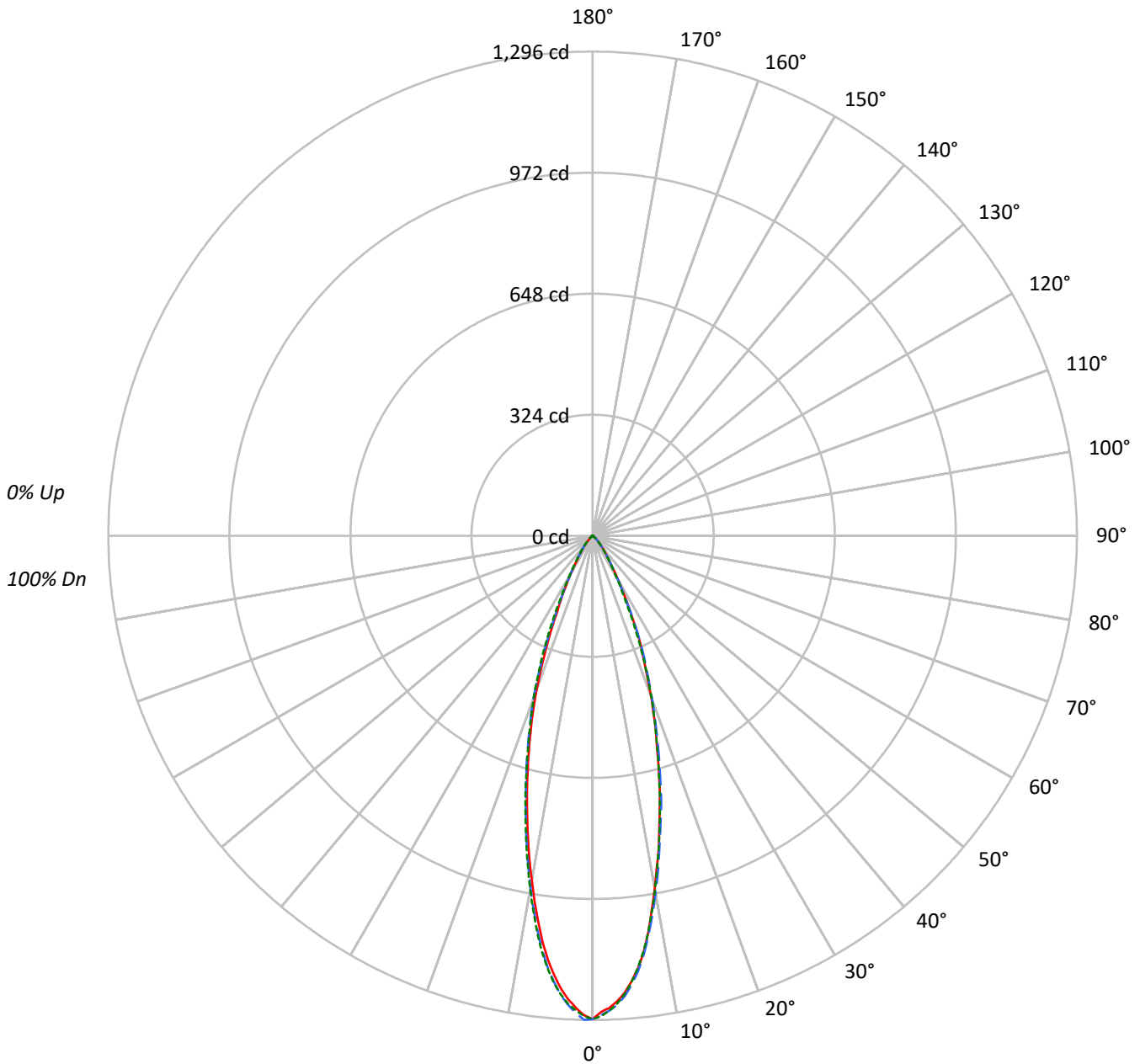
Input Watts (W): 13.7  
Input Voltage (V): 120.0  
Input Current (A<sub>in</sub>): 0.116  
Voltage Rise (V): NR  
Power Factor: 0.9975  
Total Harmonic Distortion (THDi): 15.1%  
Frequency (hertz): 60  
Stabilization Time: 0.5 HR  
Operation Time: 24 HR  
Ambient Temperature (°C): 24.4  
Test Distance: 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	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95																			
2	110	106	102	99	108	104	101	98	101	98	96	98	96	94	95	94	92	91																			
3	105	100	96	93	104	99	95	92	96	93	90	94	91	89	92	90	88	86																			
4	101	95	90	87	100	94	90	86	92	88	85	90	87	85	88	86	84	82																			
5	97	91	86	82	96	90	85	82	88	84	81	86	83	80	85	82	80	78																			
6	94	86	82	78	93	86	81	78	84	80	77	83	79	77	82	79	76	75																			
7	90	83	78	74	89	82	77	74	81	77	74	80	76	73	79	76	73	72																			
8	87	79	74	71	86	79	74	71	78	74	71	77	73	70	76	73	70	69																			
9	84	76	71	68	83	76	71	68	75	71	68	74	70	67	73	70	67	66																			
10	81	73	68	65	80	73	68	65	72	68	65	71	68	65	71	67	65	64																			

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

	0°	90°	180°
0°	159609	159609	159609
5°	148209	148456	146228
10°	119988	120489	117358
15°	88366	88238	86068
20°	60118	60380	57361
25°	37427	35113	30622
30°	19370	17661	16094
35°	10239	9637	8583
40°	5958	5475	4669
45°	3314	2965	2442
50°	1343	959	959
55°	215	430	645
60°	247	247	493
65°	584	292	292
70°	721	361	0
75°	953	0	0
80°	710	0	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.8	22.4
10°-20°	190.8	39.9
20°-30°	120.1	25.2
30°-40°	42.6	8.9
40°-50°	13.4	2.8
50°-60°	2.1	0.4
60°-70°	1.2	0.2
70°-80°	0.6	0.1
80°-90°	0.0	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°	417.7	87.5
0°-40°	460.3	96.4
0°-60°	475.8	99.6
0°-90°	477.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	477.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1294	1294	1294	1294	1294	
5°	1197	1206	1199	1197	1181	107
15°	692	706	691	690	674	190
25°	275	277	258	245	225	125
35°	68	68	64	60	57	46
45°	19	18	17	15	14	15
55°	1	1	2	2	3	2
65°	2	1	1	1	1	2
75°	2	1	0	0	0	2
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1294	1294	1294	1294	1294	1294	1294	1294	1294
1°	1275	1272	1283	1291	1286	1294	1296	1299	1284
2°	1265	1263	1272	1279	1272	1279	1280	1282	1265
3°	1248	1249	1257	1261	1254	1259	1257	1260	1243
4°	1227	1228	1235	1238	1230	1234	1231	1233	1215
5°	1197	1199	1206	1208	1199	1201	1197	1199	1181
6°	1164	1165	1170	1171	1162	1164	1159	1160	1142
7°	1122	1123	1128	1128	1119	1120	1114	1115	1097
8°	1071	1075	1078	1078	1070	1071	1064	1065	1045
9°	1013	1022	1025	1024	1016	1018	1011	1012	992
10°	958	967	970	969	962	964	957	957	937
11°	901	912	915	912	906	908	902	903	884
12°	853	858	859	863	851	853	848	849	831
13°	793	805	805	809	796	799	794	795	778
14°	743	752	758	756	744	746	741	742	726
15°	692	700	706	703	691	694	690	690	674
16°	640	649	654	652	640	644	641	640	625
17°	589	599	604	602	591	596	594	592	577
18°	548	552	555	553	545	550	548	546	530
19°	498	506	509	507	501	506	505	502	484
20°	458	462	465	464	460	463	460	454	437
21°	411	420	424	424	417	419	413	406	389
22°	375	382	387	386	377	376	367	359	344
23°	341	348	352	347	336	332	323	315	301
24°	311	315	315	307	295	291	283	275	263
25°	275	279	277	269	258	253	245	238	225
26°	240	245	242	234	222	217	210	204	202
27°	211	211	208	200	192	188	182	176	175
28°	181	182	180	173	166	162	157	152	151
29°	155	158	156	150	143	140	136	132	130
30°	136	136	135	130	124	122	118	114	113
32.5°	95	96	95	91	89	86	83	80	79
35°	68	69	68	66	64	62	60	58	57
37.5°	51	51	50	48	47	45	43	42	41
40°	37	37	36	35	34	33	31	30	29
42.5°	27	28	26	25	25	23	22	21	20
45°	19	19	18	17	17	16	15	14	14
47.5°	13	12	11	11	10	10	9	9	9
50°	7	7	6	6	5	5	5	5	5
52.5°	3	3	2	2	2	3	3	3	3
55°	1	1	1	1	2	2	2	3	3
57.5°	1	1	1	1	1	2	2	2	2
60°	1	1	1	1	1	2	2	2	2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	2	2	1	1	1	1	1	1	1
70°	2	2	1	1	1	1	0	1	0
72.5°	2	1	1	1	0	0	0	0	0
75°	2	2	1	1	0	0	0	0	0
77.5°	2	1	1	0	0	0	0	0	0
80°	1	1	0	0	0	0	0	0	0
82.5°	0	0	0	0	0	0	0	0	0
85°	0	0	0	0	0	0	0	0	0
87.5°	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0



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— 0°-180°    - - 45°-225°    - - - - 90°-270°







62.5°	2	2	1	1	1	1	1	1	1
65°	2	2	1	1	1	1	1	1	1



(END OF REPORT)