

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: P209520

Luminaire Tested: **LDA4A13930D2WD010TED2W LAR15SP 4LAL1H DIF-20**

Test Date: 10/27/16

**Test Information**

Test Method: LM-41-14  
Report Number: P209520  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29020)  
Test Lab: INNOVATION CENTER-P2  
Test Date: 10/27/16  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDA4A13930D2WD010TED2W LAR15SP 4LAL1H DIF-20  
Description: 4" ROUND, 1300lm 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: 698.2 lumens  
Efficiency: N/A  
Efficacy: 31.7 lumens/watt  
Spacing Criteria (0/90/45): 0.52 / 0.53 / 0.56  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

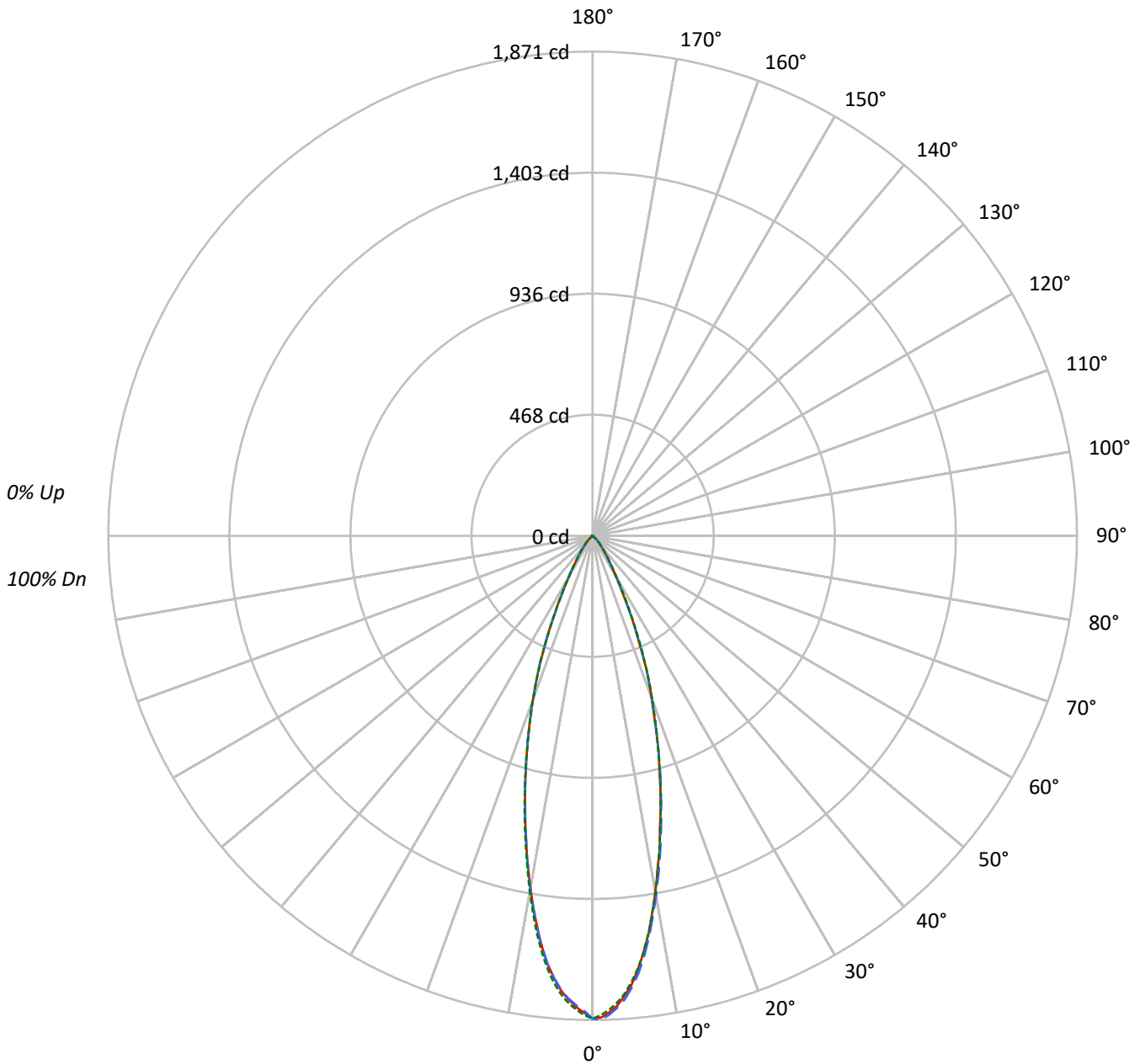
Input Watts (W): 22  
Input Voltage (V): 120.0  
Input Current (A<sub>in</sub>): 0.187  
Voltage Rise (V): NR  
Power Factor: 0.9907  
Total Harmonic Distortion (THDi): 12.7%  
Frequency (hertz): 60  
Stabilization Time: 0.5 HR  
Operation Time: 24 HR  
Ambient Temperature (°C): 24.5  
Test Distance: 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	84	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	81	78	92	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	75	73	72																			
8	87	79	74	71	86	79	74	71	78	73	70	77	73	70	76	72	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	67	65	71	67	65	64																			

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

	0°	90°	180°
0°	230163	230163	230163
5°	215317	214327	212470
10°	174847	175097	173219
15°	128974	129101	128591
20°	87289	88602	88470
25°	51172	51853	51989
30°	24925	26207	26491
35°	13552	14305	14004
40°	7568	8051	7890
45°	4012	4186	4186
50°	1343	1535	1727
55°	430	430	860
60°	493	493	493
65°	584	292	292
70°	721	361	361
75°	953	0	0
80°	710	0	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	154.6	22.1
10°-20°	278.5	39.9
20°-30°	177.9	25.5
30°-40°	62.6	9.0
40°-50°	19.3	2.8
50°-60°	3.1	0.4
60°-70°	1.5	0.2
70°-80°	0.7	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°	610.9	87.5
0°-40°	673.5	96.5
0°-60°	695.9	99.7
0°-90°	698.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	698.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1866	1866	1866	1866	1866	
5°	1739	1751	1731	1715	1716	155
15°	1010	1020	1011	1006	1007	277
25°	376	378	381	384	382	173
35°	90	91	95	95	93	59
45°	23	24	24	24	24	19
55°	2	2	2	3	4	3
65°	2	2	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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CATALOG NUMBER: LDA4A13930D2WD010TED2W LAR15SP 4LAL1H DIF-20

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1866	1866	1866	1866	1866	1866	1866	1866	1866
1°	1862	1871	1871	1856	1852	1859	1837	1847	1843
2°	1843	1853	1852	1838	1832	1839	1816	1826	1822
3°	1818	1828	1827	1813	1807	1811	1790	1798	1794
4°	1781	1794	1794	1781	1774	1782	1757	1764	1760
5°	1739	1751	1751	1738	1731	1733	1715	1720	1716
6°	1683	1698	1699	1688	1679	1680	1663	1668	1663
7°	1619	1644	1636	1627	1619	1618	1604	1607	1603
8°	1553	1574	1565	1548	1550	1557	1535	1538	1532
9°	1473	1488	1489	1473	1475	1482	1462	1463	1458
10°	1396	1420	1411	1396	1398	1404	1386	1387	1383
11°	1313	1341	1332	1318	1318	1324	1308	1309	1307
12°	1243	1261	1253	1241	1239	1245	1229	1231	1230
13°	1157	1182	1173	1163	1162	1166	1151	1152	1153
14°	1085	1105	1096	1088	1087	1090	1078	1078	1079
15°	1010	1029	1020	1013	1011	1017	1006	1006	1007
16°	935	955	945	939	938	945	936	935	936
17°	871	881	872	867	867	875	867	866	867
18°	797	810	802	797	800	809	802	801	801
19°	724	741	733	730	735	752	738	737	737
20°	665	677	669	669	675	691	678	677	674
21°	609	616	610	610	614	629	617	617	615
22°	553	558	552	551	555	569	558	557	557
23°	480	497	491	492	495	509	498	495	494
24°	421	437	432	433	436	449	439	436	436
25°	376	382	378	378	381	393	384	387	382
26°	324	330	327	329	331	342	334	337	332
27°	277	285	283	284	287	296	290	293	289
28°	237	245	243	245	247	256	250	254	251
29°	206	210	209	211	213	221	217	218	215
30°	175	181	180	182	184	191	187	189	186
32.5°	123	127	127	130	130	135	132	133	131
35°	90	91	91	93	95	97	95	96	93
37.5°	64	67	67	68	69	71	69	69	67
40°	47	48	49	49	50	51	50	50	49
42.5°	34	35	35	35	36	36	35	35	34
45°	23	23	24	23	24	25	24	24	24
47.5°	14	14	14	14	15	15	15	15	15
50°	7	7	7	7	8	9	9	9	9
52.5°	3	3	3	3	3	4	5	5	5
55°	2	2	2	2	2	3	3	4	4
57.5°	2	2	2	2	2	3	3	3	3
60°	2	2	2	2	2	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	2	1	1	1	1	1	1
70°	2	2	1	1	1	1	1	1	1
72.5°	2	2	1	1	1	1	0	0	0
75°	2	2	1	1	0	0	0	0	0
77.5°	2	2	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



Report Generated By E9808895 / USPTCWHP6082093







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







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



(END OF REPORT)