

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: P209528

Luminaire Tested: **LDSQA4A18930D2WD010TED2W LAR15SP 4LAL1H DIF-20**

Test Date: 11/01/16

Test Information

Test Method: LM-41-14
Report Number: P209528
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29028)
Test Lab: INNOVATION CENTER-P2
Test Date: 11/01/16
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQA4A18930D2WD010TED2W LAR15SP 4LAL1H DIF-20
Description: 4" SQUARE, 1800lm 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: 897.6 lumens
Efficiency: N/A
Efficacy: 27.4 lumens/watt
Spacing Criteria (0/90/45): 0.54 / 0.54 / 0.57
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

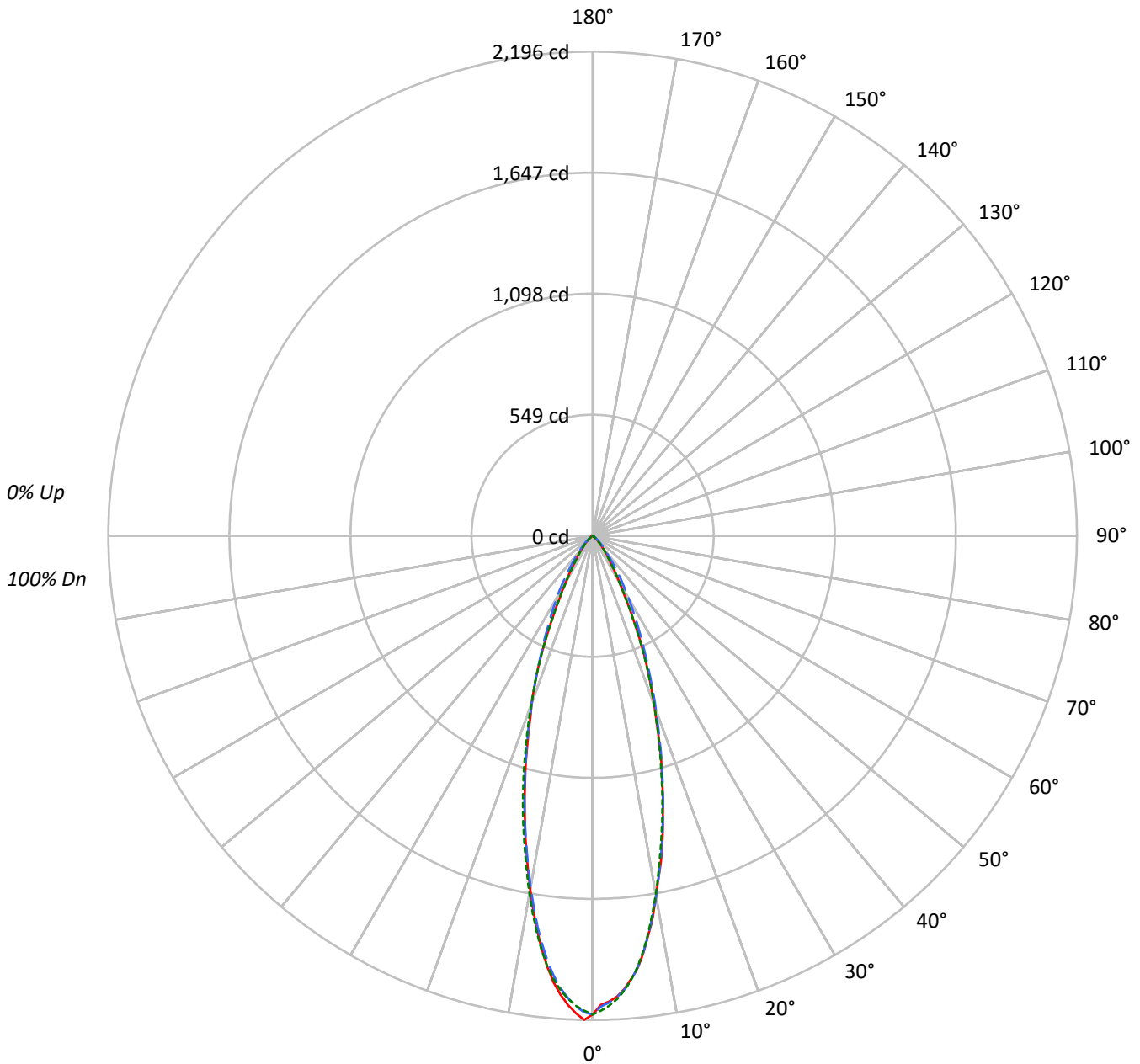
Input Watts (W): 32.8
Input Voltage (V): 120.0
Input Current (A_{in}): 0.277
Voltage Rise (V): NR
Power Factor: 0.9943
Total Harmonic Distortion (THDi): 12.3%
Frequency (hertz): 60
Stabilization Time: 0.5 HR
Operation Time: 24 HR
Ambient Temperature (°C): 24.2
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				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	109	107	112	110	108	106	105	104	102	102	101	99	98	97	97	95			
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	93	91	90			
3	105	99	95	91	103	98	94	90	95	92	89	93	90	88	91	88	86	85			
4	100	94	89	85	99	93	88	85	91	87	84	89	85	83	87	84	82	80			
5	96	89	84	80	95	88	83	80	86	82	79	85	81	78	83	80	78	76			
6	92	85	79	76	91	84	79	75	82	78	75	81	77	74	80	77	74	73			
7	89	81	75	72	87	80	75	72	79	74	71	78	74	71	77	73	71	69			
8	85	77	72	68	84	77	72	68	75	71	68	75	71	68	74	70	67	66			
9	82	74	69	65	81	73	68	65	72	68	65	72	68	65	71	67	64	63			
10	79	71	66	62	78	70	66	62	70	65	62	69	65	62	68	64	62	61			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	210413	210413	210413
5°	196144	196436	197603
10°	162901	162114	160146
15°	123561	122357	119248
20°	84124	83814	83505
25°	51414	50987	50880
30°	26623	26847	27071
35°	14901	14783	15256
40°	8852	8852	9232
45°	4658	4795	5343
50°	1658	1959	2411
55°	844	1013	1689
60°	775	775	1550
65°	688	688	917
70°	566	566	566
75°	374	374	374
80°	0	0	558
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.0	20.2
10°-20°	334.2	37.2
20°-30°	232.7	25.9
30°-40°	99.1	11.0
40°-50°	36.3	4.0
50°-60°	9.1	1.0
60°-70°	3.7	0.4
70°-80°	1.4	0.2
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°	747.8	83.3
0°-40°	846.9	94.4
0°-60°	892.3	99.4
0°-90°	897.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	897.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2172	2172	2172	2172	2172	
5°	2017	2020	2020	2006	2032	181
15°	1232	1235	1220	1192	1189	336
25°	481	533	477	515	476	221
35°	126	180	125	184	129	84
45°	34	53	35	55	39	28
55°	5	10	6	14	10	5
65°	3	3	3	5	4	3
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	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°	2172	2172	2172	2172	2172	2172	2172	2172	2172
1°	2128	2142	2136	2165	2155	2169	2162	2184	2196
2°	2114	2128	2119	2148	2133	2145	2136	2156	2167
3°	2094	2106	2097	2123	2105	2114	2101	2121	2131
4°	2060	2075	2064	2088	2067	2074	2059	2078	2086
5°	2017	2031	2020	2043	2020	2024	2006	2024	2032
6°	1967	1979	1965	1987	1963	1964	1943	1961	1966
7°	1901	1913	1899	1919	1894	1894	1870	1888	1891
8°	1824	1838	1824	1842	1817	1814	1790	1806	1807
9°	1749	1757	1742	1760	1734	1731	1705	1719	1718
10°	1656	1674	1659	1674	1648	1644	1618	1631	1628
11°	1571	1587	1573	1587	1561	1556	1530	1541	1537
12°	1498	1504	1489	1500	1474	1470	1444	1454	1449
13°	1409	1418	1403	1414	1389	1384	1359	1367	1361
14°	1317	1332	1319	1328	1304	1300	1275	1281	1274
15°	1232	1246	1235	1243	1220	1216	1192	1197	1189
16°	1140	1160	1151	1157	1135	1133	1109	1112	1104
17°	1063	1075	1069	1073	1050	1052	1029	1031	1022
18°	974	990	988	991	969	972	951	952	942
19°	887	910	911	912	889	894	877	876	865
20°	816	833	838	836	813	820	805	804	810
21°	745	760	768	764	741	750	738	736	742
22°	676	692	703	697	673	684	676	673	677
23°	611	628	643	634	609	622	618	615	608
24°	548	569	585	575	541	566	564	557	539
25°	481	515	533	518	477	511	515	501	476
26°	418	461	484	462	417	456	470	446	417
27°	362	406	439	408	364	404	427	395	364
28°	312	357	397	360	317	356	389	348	317
29°	277	313	359	316	275	314	354	307	277
30°	238	274	324	278	240	276	321	270	242
32.5°	172	197	247	199	171	199	248	195	174
35°	126	145	180	146	125	145	184	145	129
37.5°	95	108	131	109	94	109	136	110	97
40°	70	81	96	83	70	83	100	84	73
42.5°	50	61	72	62	51	63	73	63	54
45°	34	44	53	45	35	46	55	47	39
47.5°	21	30	39	31	23	33	41	34	26
50°	11	18	27	19	13	22	28	23	16
52.5°	5	9	17	10	7	13	18	15	11
55°	5	5	10	7	6	8	14	11	10
57.5°	4	4	6	6	5	7	11	10	9
60°	4	4	5	5	4	6	9	9	8



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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	2	2	3	3	4	2
70°	2	2	2	2	2	2	2	2	2
72.5°	2	2	2	2	1	2	2	2	1
75°	1	2	1	1	1	1	1	1	1
77.5°	1	1	1	1	1	1	1	1	1
80°	0	1	1	1	0	1	1	1	1
82.5°	0	0	0	0	0	0	1	1	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°	3	3	4	4	4	5	7	7	5
65°	3	3	3	3	3	4	5	5	4



(END OF REPORT)