

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: P209521

Luminaire Tested: **LDA4A18930D2WD010TED2W LAR15SP 4LA1H DIF-20**

Test Date: 10/29/16

Test Information

Test Method: LM-41-14
Report Number: P209521
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29021)
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: LDA4A18930D2WD010TED2W LAR15SP 4LA1H DIF-20
Description: 4" ROUND, 1800lm D2W, FLOOD OPTIC WITH DIFFUSED LENS, ACCENT SELF
FLANGED, HAZE TRIM
Light Source: (1) High Lumen 3000K 90 CRI LED
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 928.6 lumens
Efficiency: N/A
Efficacy: 28.3 lumens/watt
Spacing Criteria (0/90/45): 0.53 / 0.54 / 0.56
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

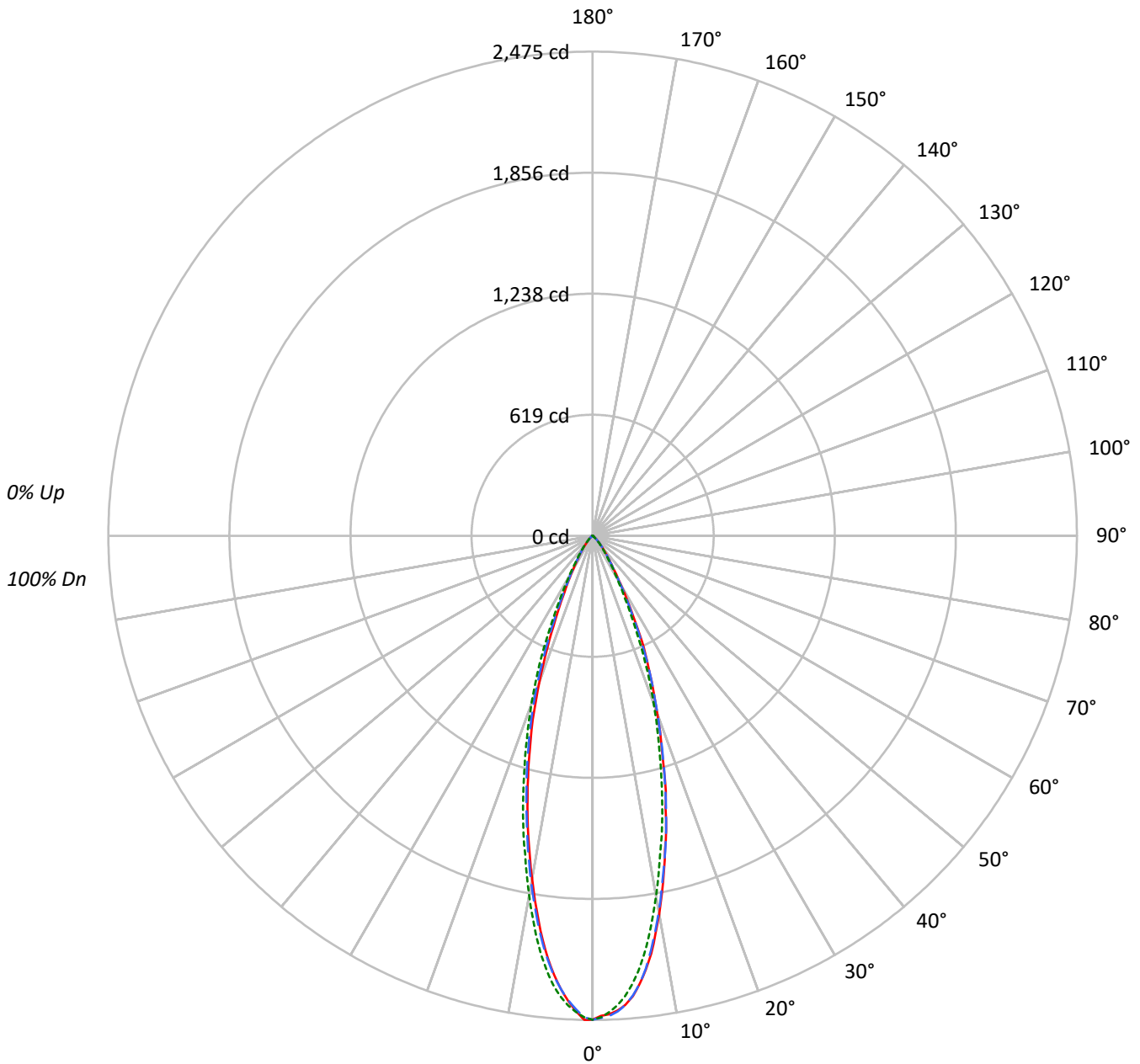
Input Watts (W): 32.8
Input Voltage (V): 120.0
Input Current (A_{in}): 0.277
Voltage Rise (V): NR
Power Factor: 0.9944
Total Harmonic Distortion (THDi): 12.3%
Frequency (hertz): 60
Stabilization Time: 0.5 HR
Operation Time: 24 HR
Ambient Temperature (°C): 24.2
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	106	100	96	93	104	99	95	92	96	93	90	94	91	89	92	90	88	86																			
4	101	95	91	87	100	94	90	87	92	88	86	90	87	85	88	86	84	82																			
5	98	91	86	82	96	90	85	82	88	84	81	86	83	81	85	82	80	79																			
6	94	87	82	78	93	86	81	78	84	80	77	83	80	77	82	79	76	75																			
7	90	83	78	74	89	82	78	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	68	73	70	67	66																			
10	81	73	69	65	80	73	68	65	72	68	65	71	68	65	71	67	65	64																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	305157	305157	305157
5°	292455	285398	279207
10°	245612	233964	223193
15°	184011	175072	162941
20°	126405	119973	104222
25°	81250	68865	54711
30°	40449	34610	27916
35°	21231	18069	15359
40°	11754	10144	8695
45°	6454	5233	4361
50°	2495	1727	1535
55°	645	645	1075
60°	740	740	740
65°	876	584	584
70°	1082	361	361
75°	1430	477	0
80°	710	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	205.9	22.2
10°-20°	374.8	40.4
20°-30°	234.5	25.3
30°-40°	81.3	8.8
40°-50°	24.9	2.7
50°-60°	4.0	0.4
60°-70°	2.0	0.2
70°-80°	1.1	0.1
80°-90°	0.1	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°	815.3	87.8
0°-40°	896.6	96.6
0°-60°	925.5	99.7
0°-90°	928.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	928.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2474	2474	2474	2474	2474	
5°	2362	2359	2305	2259	2255	212
15°	1441	1450	1371	1304	1276	396
25°	597	575	506	440	402	268
35°	141	135	120	109	102	94
45°	37	35	30	26	25	30
55°	3	2	3	4	5	4
65°	3	2	2	2	2	3
75°	3	2	1	1	0	3
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°	2474	2474	2474	2474	2474	2474	2474	2474	2474
1°	2454	2439	2466	2435	2462	2476	2462	2474	2475
2°	2447	2432	2455	2419	2437	2444	2423	2431	2432
3°	2430	2415	2435	2394	2404	2404	2378	2382	2382
4°	2404	2388	2404	2359	2361	2354	2324	2325	2323
5°	2362	2348	2359	2311	2305	2294	2259	2257	2255
6°	2303	2292	2301	2250	2238	2222	2184	2179	2174
7°	2234	2224	2228	2175	2157	2138	2099	2091	2086
8°	2157	2140	2141	2089	2067	2045	2005	1994	1987
9°	2057	2046	2046	1993	1968	1946	1905	1893	1885
10°	1961	1950	1949	1895	1868	1845	1804	1791	1782
11°	1858	1847	1846	1793	1765	1741	1701	1688	1680
12°	1753	1745	1743	1689	1661	1638	1600	1586	1578
13°	1647	1645	1652	1589	1571	1536	1499	1487	1478
14°	1553	1543	1550	1489	1470	1436	1400	1387	1376
15°	1441	1443	1450	1403	1371	1338	1304	1289	1276
16°	1355	1342	1348	1304	1273	1241	1210	1191	1176
17°	1248	1243	1249	1207	1177	1148	1120	1099	1081
18°	1143	1146	1151	1112	1085	1059	1032	1008	989
19°	1058	1052	1057	1021	999	971	942	911	891
20°	963	962	968	938	914	882	850	814	794
21°	883	877	884	857	828	795	757	721	701
22°	806	799	808	776	747	707	668	633	615
23°	733	728	731	698	663	622	584	551	536
24°	666	656	653	617	581	542	508	478	464
25°	597	582	575	540	506	471	440	413	402
26°	521	520	502	469	438	407	380	357	347
27°	448	451	434	405	378	352	329	308	300
28°	383	389	374	349	326	303	284	267	261
29°	336	334	323	301	281	262	246	232	227
30°	284	282	278	260	243	227	212	200	196
32.5°	194	194	191	179	168	159	151	143	140
35°	141	138	135	127	120	115	109	103	102
37.5°	101	100	98	92	87	84	79	76	75
40°	73	73	71	67	63	61	56	54	54
42.5°	53	53	51	48	45	43	40	38	37
45°	37	37	35	32	30	28	26	25	25
47.5°	24	24	22	20	18	17	15	15	15
50°	13	13	12	10	9	8	8	8	8
52.5°	6	6	5	4	4	5	5	6	6
55°	3	3	2	3	3	4	4	5	5
57.5°	3	3	2	2	3	4	4	4	4
60°	3	3	2	2	3	3	3	3	3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	3	3	2	2	1	1	1	1	1
70°	3	3	2	2	1	1	1	1	1
72.5°	3	3	2	1	1	1	1	1	1
75°	3	2	2	1	1	0	1	0	0
77.5°	2	2	1	1	0	0	0	0	0
80°	1	1	1	0	0	0	0	0	0
82.5°	1	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°	3	3	2	2	2	2	2	2	2
65°	3	3	2	2	2	2	2	1	2



(END OF REPORT)