

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: P35089

Luminaire Tested: **LDSQ4B15D010 EU4B10208035 4LBCSSQ1MMS**

Test Date: 11/03/16

Test Information

Test Method: LM-41-14
Report Number: P35089
Test Lab: INNOVATION CENTER-P3
Test Date: 11/03/16
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQ4B15D010 EU4B10208035 4LBCSSQ1MMS
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE SHALLOW CAST METALLIC SILVER TRIM.
Light Source: (1) CITIZEN 3500K LED, 80 CRI
CLU038-1205C4-353M2K1
Ballast/Driver: (1) EATON ELECTRONIC DRIVER
XEL-045REU-CX350-ZNT02

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1503.9 lumens
Efficiency: N/A
Efficacy: 107.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29
Luminous Opening: Rectangular (W 0.38' x L: 0.38' x H: 0')
CIE Type: Direct

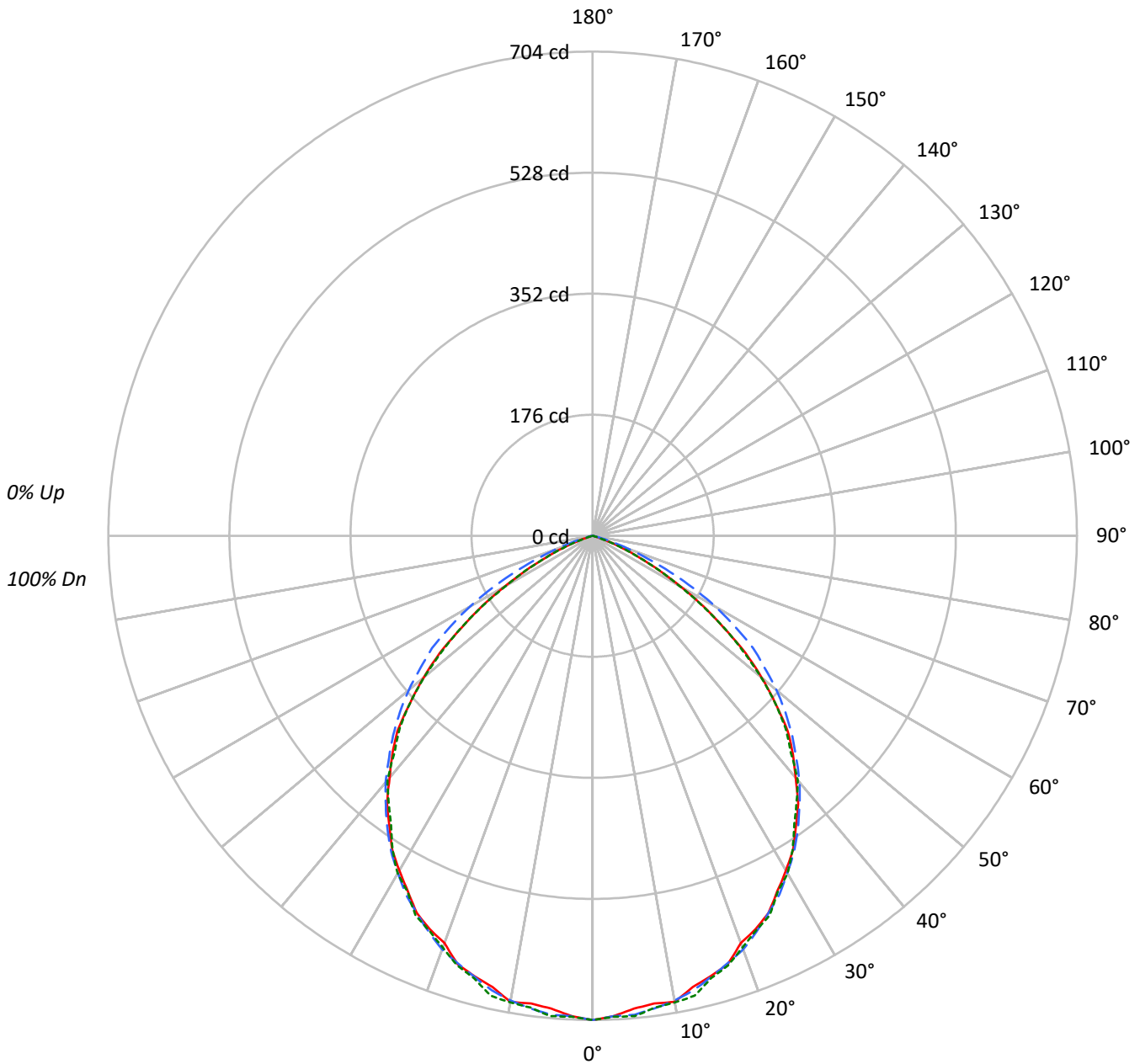
Input Watts (W): 14
Input Voltage (V): 120.0
Input Current (A_{in}): 0.117
Voltage Rise (V): NR
Power Factor: 0.9986
Total Harmonic Distortion (THDi): 7.94%
Frequency (hertz): 60
Stabilization Time: 0.5 HR
Operation Time: 5 HR
Ambient Temperature (°C): 24.0
Test Distance: 25 FT



TEST NUMBER: P35089

CATALOG NUMBER: LDSQ4B15D010 EU4B10208035 4LBCSSQ1MMS

Luminous Intensity Polar Plot





TEST NUMBER: P35089

CATALOG NUMBER: LDSQ4B15D010 EU4B10208035 4LBCSSQ1MMS

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°	53887	53887	53887
5°	53017	53708	53862
10°	53474	53319	53552
15°	52538	52618	52776
20°	51317	52132	51887
25°	51096	51096	51434
30°	49672	50026	50114
35°	48123	48590	47749
40°	45863	46763	46363
45°	43408	44382	42975
50°	38225	41559	37987
55°	30960	38033	31094
60°	22657	31536	22198
65°	13765	22459	13403
70°	5371	12085	5147
75°	591	3253	591
80°	441	441	441
85°	0	0	0



TEST NUMBER: P35089

CATALOG NUMBER: LDSQ4B15D010 EU4B10208035 4LBCSSQ1MMS

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.5	4.4
10°-20°	188.0	12.5
20°-30°	279.0	18.6
30°-40°	323.3	21.5
40°-50°	310.0	20.6
50°-60°	227.9	15.2
60°-70°	98.4	6.5
70°-80°	10.6	0.7
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°	533.5	35.5
0°-40°	856.8	57.0
0°-60°	1394.7	92.7
0°-90°	1503.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1503.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	704	704	704	704	704	
5°	690	697	699	700	701	66
15°	663	667	664	665	666	187
25°	605	604	605	606	609	277
35°	515	518	520	519	511	322
45°	401	402	410	404	397	305
55°	232	256	285	255	233	209
65°	76	95	124	94	74	78
75°	2	3	11	2	2	6
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



TEST NUMBER: P35089

CATALOG NUMBER: LDSQ4B15D010 EU4B10208035 4LBCSSQ1MMS

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	704	704	704	704	704	704	704	704	704	704	704
2.5°	699	707	708	703	701	698	705	700	702	700	699
5°	690	699	700	700	698	697	700	699	698	696	699
7.5°	686	691	696	690	693	692	699	696	695	695	693
10°	688	687	691	685	687	685	691	691	689	687	686
12.5°	672	680	680	679	677	674	680	684	678	678	677
15°	663	665	666	666	665	667	670	666	667	662	664
17.5°	653	649	652	650	651	653	657	657	651	650	652
20°	630	642	643	637	638	638	645	639	643	638	640
22.5°	619	627	628	620	625	619	626	617	627	620	623
25°	605	604	607	603	604	604	609	605	608	604	605
27.5°	582	590	589	585	587	586	596	585	591	586	588
30°	562	569	567	563	563	560	571	568	567	567	566
32.5°	542	543	541	542	543	539	548	544	543	544	545
35°	515	515	517	514	518	518	526	521	520	517	520
37.5°	491	488	489	489	491	493	497	495	495	492	494
40°	459	457	460	460	463	463	467	465	468	468	468
42.5°	431	431	429	432	433	432	439	438	439	437	438
45°	401	401	399	398	403	402	410	407	411	409	410
47.5°	360	365	362	365	371	372	377	375	379	376	380
50°	321	321	324	328	334	335	341	345	347	348	349
52.5°	280	279	282	287	292	296	302	308	312	318	315
55°	232	234	237	243	251	256	261	269	276	279	285
57.5°	191	189	191	199	208	212	219	227	237	243	245
60°	148	149	151	158	165	171	174	187	196	202	206
62.5°	109	111	113	119	126	131	136	147	155	161	165
65°	76	77	80	83	90	95	99	108	116	121	124
67.5°	47	48	50	54	59	63	67	73	80	85	86
70°	24	25	26	29	33	35	38	43	48	52	54
72.5°	8	8	9	11	13	15	16	21	25	27	28
75°	2	2	2	2	2	3	3	6	8	10	11
77.5°	1	1	1	1	1	1	1	1	1	2	2
80°	1	1	1	1	1	1	1	1	1	1	1
82.5°	0	0	0	0	0	0	0	0	0	0	0
85°	0	0	0	0	0	0	0	0	0	0	0
87.5°	0	0	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P35089

CATALOG NUMBER: LDSQ4B15D010 EU4B10208035 4LBCSSQ1MMS

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	704	704	704	704	704	704	704	704	704	704
2.5°	704	702	701	702	702	701	704	708	713	700
5°	703	701	703	697	700	698	702	701	705	701
7.5°	700	696	697	694	698	693	696	702	698	692
10°	690	688	695	685	683	687	695	689	687	689
12.5°	680	680	683	675	676	678	682	678	680	685
15°	669	667	672	666	665	663	667	667	669	666
17.5°	656	653	653	651	650	655	657	658	659	655
20°	640	639	642	639	640	641	641	639	648	637
22.5°	623	626	622	620	622	624	624	625	623	621
25°	606	608	609	603	606	603	610	611	607	609
27.5°	591	588	587	583	585	584	585	585	591	583
30°	568	565	566	563	564	563	564	564	568	567
32.5°	546	543	544	541	541	542	540	540	543	541
35°	525	518	519	518	519	515	515	514	516	511
37.5°	495	492	491	490	491	489	491	488	491	487
40°	468	466	467	461	461	462	460	459	460	464
42.5°	441	437	435	433	434	431	430	428	430	426
45°	409	409	408	403	404	404	400	396	397	397
47.5°	380	378	377	372	371	370	366	363	363	360
50°	348	346	343	338	336	330	327	323	319	319
52.5°	318	311	307	299	296	293	285	282	279	276
55°	282	276	268	259	255	250	242	236	232	233
57.5°	247	237	229	217	212	209	201	193	189	189
60°	204	196	186	175	171	166	156	151	148	145
62.5°	163	157	148	134	131	126	119	113	110	110
65°	122	116	108	98	94	90	84	78	75	74
67.5°	86	79	72	64	61	59	53	49	47	46
70°	52	48	43	37	34	32	28	25	24	23
72.5°	27	24	20	16	14	12	10	8	7	7
75°	10	8	5	3	2	2	2	2	2	2
77.5°	2	1	1	1	1	1	1	1	1	1
80°	1	1	1	1	1	1	1	1	1	1
82.5°	0	0	0	0	0	0	0	0	0	0
85°	0	0	0	0	0	0	0	0	0	0
87.5°	0	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0



Report Generated By E9808895 / USPTCWHP6082093





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









(END OF REPORT)