

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: P209107

Luminaire Tested: **LDSQ4B10D010 EU4B10209030 4LBSQ1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209107  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35088)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQ4B10D010 EU4B10209030 4LBSQ1LI  
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE LOW  
IRIDESCENT TRIM.  
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM  
WATTAGE D010TR-10.05 W DE010-10.58 W D5LT-10.2 W DMX-10.6 W DL2-11.8 W  
DL3-11.1 W DLE-11.39 W  
Light Source: HIGH LUMEN LED 3000 K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 869.2 lumens  
Efficiency: N/A  
Efficacy: 86.5 lumens/watt  
Spacing Criteria (0/90/45): 0.91 / 0.9 / 0.94  
Luminous Opening: Circular (Dia: 1.12' x H: 0')  
CIE Type: Direct

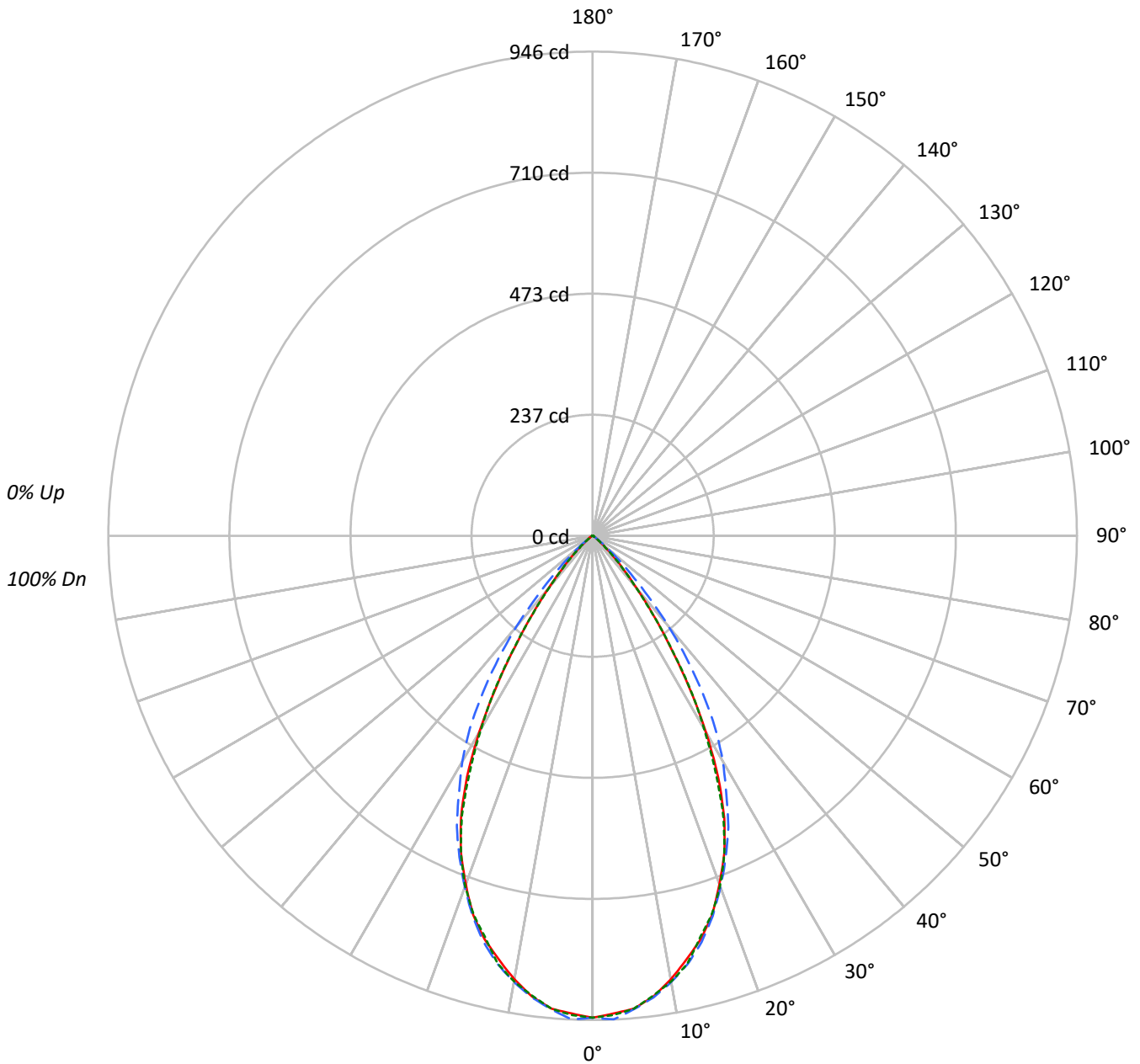
Input Watts (W): 10.05  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93																			
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87																			
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80																			
4	97	89	84	79	95	88	83	79	86	81	78	84	80	77	82	79	76	75																			
5	92	83	77	73	90	82	77	73	81	76	72	79	75	71	77	74	71	69																			
6	87	78	72	68	86	77	71	67	76	71	67	74	70	66	73	69	66	64																			
7	83	73	67	63	81	73	67	63	71	66	62	70	65	62	69	65	62	60																			
8	79	69	63	59	77	68	62	58	67	62	58	66	61	58	65	61	58	56																			
9	75	65	59	55	74	64	59	55	63	58	55	63	58	54	62	57	54	53																			
10	71	61	55	51	70	61	55	51	60	55	51	59	54	51	58	54	51	50																			

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

	0°	45°	90°
0°	10195	10195	10195
5°	10079	10092	10079
10°	9675	9735	9721
15°	9147	9214	9100
20°	8348	8410	8389
25°	7268	7497	7218
30°	5527	6357	5445
35°	3479	4943	3511
40°	1877	3264	1843
45°	888	1613	879
50°	332	605	332
55°	159	193	147
60°	104	91	104
65°	61	61	61
70°	38	57	38
75°	25	25	25
80°	37	37	37
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.3	10.0
10°-20°	228.8	26.3
20°-30°	279.5	32.2
30°-40°	195.5	22.5
40°-50°	64.1	7.4
50°-60°	10.2	1.2
60°-70°	2.8	0.3
70°-80°	0.9	0.1
80°-90°	0.3	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°	595.5	68.5
0°-40°	791.0	91.0
0°-60°	865.3	99.5
0°-90°	869.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	869.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	942	942	942	942	942	
5°	927	928	928	923	927	87
15°	816	819	822	816	812	228
25°	608	618	628	616	604	273
35°	263	311	374	306	266	168
45°	58	72	105	71	57	49
55°	8	9	10	9	8	8
65°	2	3	2	3	2	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°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	941.5	941.5	941.5	941.5	941.5	941.5	941.5	941.5	941.5	941.5	941.5
2.5°	934.3	940.9	939.1	943.3	943.3	938.5	939.7	941.5	943.9	945.7	931.3
5°	927.2	933.1	927.8	933.7	930.2	924.8	933.7	929.0	931.9	928.4	930.7
7.5°	908.0	917.6	906.8	914.0	911.6	908.6	912.2	911.0	912.8	909.8	903.2
10°	879.9	887.7	880.5	890.7	885.9	882.9	885.9	888.9	888.3	885.3	888.9
12.5°	847.6	856.6	853.0	859.0	853.6	853.6	860.8	859.0	859.6	857.2	861.4
15°	815.9	822.5	817.1	824.9	822.5	815.9	818.9	818.9	823.7	821.9	817.1
17.5°	776.4	781.8	775.8	777.6	775.2	774.0	786.6	778.2	783.0	779.4	780.0
20°	724.4	726.8	725.0	729.8	726.8	730.4	729.2	728.0	728.0	729.8	725.6
22.5°	671.7	671.7	673.5	674.7	677.1	673.5	680.7	674.7	675.3	679.5	678.3
25°	608.3	606.5	610.7	616.7	619.1	616.1	625.7	620.9	624.5	627.5	620.9
27.5°	531.2	531.2	535.4	545.5	547.3	550.9	564.1	564.1	568.9	564.7	569.5
30°	442.0	448.6	454.0	467.2	471.4	479.1	492.9	499.5	510.2	508.4	506.1
32.5°	350.5	359.5	360.1	373.9	385.2	398.4	416.9	432.5	440.3	445.6	439.7
35°	263.2	268.6	273.4	282.9	302.1	319.4	336.2	356.5	370.3	373.9	368.5
37.5°	192.6	193.8	198.6	207.6	221.9	238.7	259.0	281.1	295.5	300.9	294.9
40°	132.8	134.0	136.4	144.2	156.1	168.1	184.2	207.0	220.1	230.9	223.1
42.5°	89.1	90.3	92.7	98.7	105.3	116.6	129.2	143.6	156.1	160.9	156.7
45°	58.0	58.0	59.2	63.4	67.0	76.0	84.9	93.9	102.3	105.3	102.3
47.5°	34.1	34.7	35.9	38.9	43.1	46.7	53.2	59.2	61.6	64.0	62.8
50°	19.7	19.7	21.5	23.3	26.3	28.7	31.1	33.5	34.7	35.9	34.7
52.5°	10.8	11.4	12.0	12.6	13.8	16.2	17.9	17.9	18.5	19.1	18.5
55°	8.4	8.4	8.4	8.4	9.0	9.0	9.0	9.6	9.6	10.2	9.6
57.5°	6.0	6.0	6.0	6.6	6.6	6.6	6.0	6.0	6.0	6.0	6.0
60°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.2	4.2	4.2	4.2
62.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
65°	2.4	2.4	3.0	3.0	3.0	3.0	3.0	2.4	2.4	2.4	2.4
67.5°	1.8	1.8	1.8	1.8	2.4	2.4	1.8	1.8	1.8	1.8	1.8
70°	1.2	1.2	1.2	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
72.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
75°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
77.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
80°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	941.5	941.5	941.5	941.5	941.5	941.5	941.5	941.5
2.5°	941.5	931.3	932.5	937.9	934.9	937.9	937.3	937.3
5°	931.3	928.4	923.6	921.8	925.4	933.1	931.9	927.2
7.5°	912.2	904.4	909.8	912.2	909.2	914.0	916.4	906.2
10°	889.5	886.5	885.3	886.5	885.3	890.1	884.1	884.1
12.5°	857.2	852.4	852.4	859.6	855.4	851.8	856.6	856.0
15°	824.9	815.3	815.3	817.7	819.5	817.1	817.7	811.7
17.5°	777.0	774.0	769.8	776.4	778.2	775.8	777.6	774.6
20°	732.2	732.2	724.4	727.4	729.8	731.6	732.8	728.0
22.5°	674.7	675.9	670.5	676.5	678.3	672.3	673.5	672.3
25°	622.1	621.5	617.3	614.9	616.1	613.7	613.1	604.1
27.5°	564.1	558.1	549.1	551.5	541.3	533.0	533.0	519.2
30°	501.3	491.1	479.1	467.2	458.2	448.6	443.2	435.5
32.5°	427.7	413.9	399.0	382.8	372.7	358.3	350.5	354.7
35°	354.7	334.4	314.0	297.9	282.3	274.0	264.4	265.6
37.5°	284.1	255.4	237.5	220.1	207.0	196.2	192.0	190.8
40°	207.6	184.8	166.9	154.3	145.4	137.0	132.2	130.4
42.5°	143.6	127.4	113.1	102.9	96.9	91.5	89.1	88.5
45°	93.3	83.7	74.2	67.0	62.2	58.6	58.0	57.4
47.5°	58.6	53.8	47.9	42.5	38.3	35.9	34.1	34.1
50°	33.5	31.7	28.7	25.7	23.3	22.1	20.3	19.7
52.5°	17.9	17.9	16.7	14.4	12.6	11.4	11.4	10.8
55°	9.6	9.6	9.0	9.0	8.4	8.4	8.4	7.8
57.5°	6.0	6.0	6.6	6.6	6.0	6.0	6.0	6.0
60°	4.2	4.8	4.8	4.8	4.8	4.8	4.8	4.8
62.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
65°	2.4	3.0	3.0	3.0	3.0	2.4	2.4	2.4
67.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
70°	1.8	1.8	1.8	1.8	1.8	1.2	1.2	1.2
72.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
75°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
77.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
80°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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









(END OF REPORT)