

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: P209109

Luminaire Tested: **LDSQ4B10D010 EU4B10209040 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209109
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 EU4B10209040 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 4000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 882.9 lumens
Efficiency: N/A
Efficacy: 87.8 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

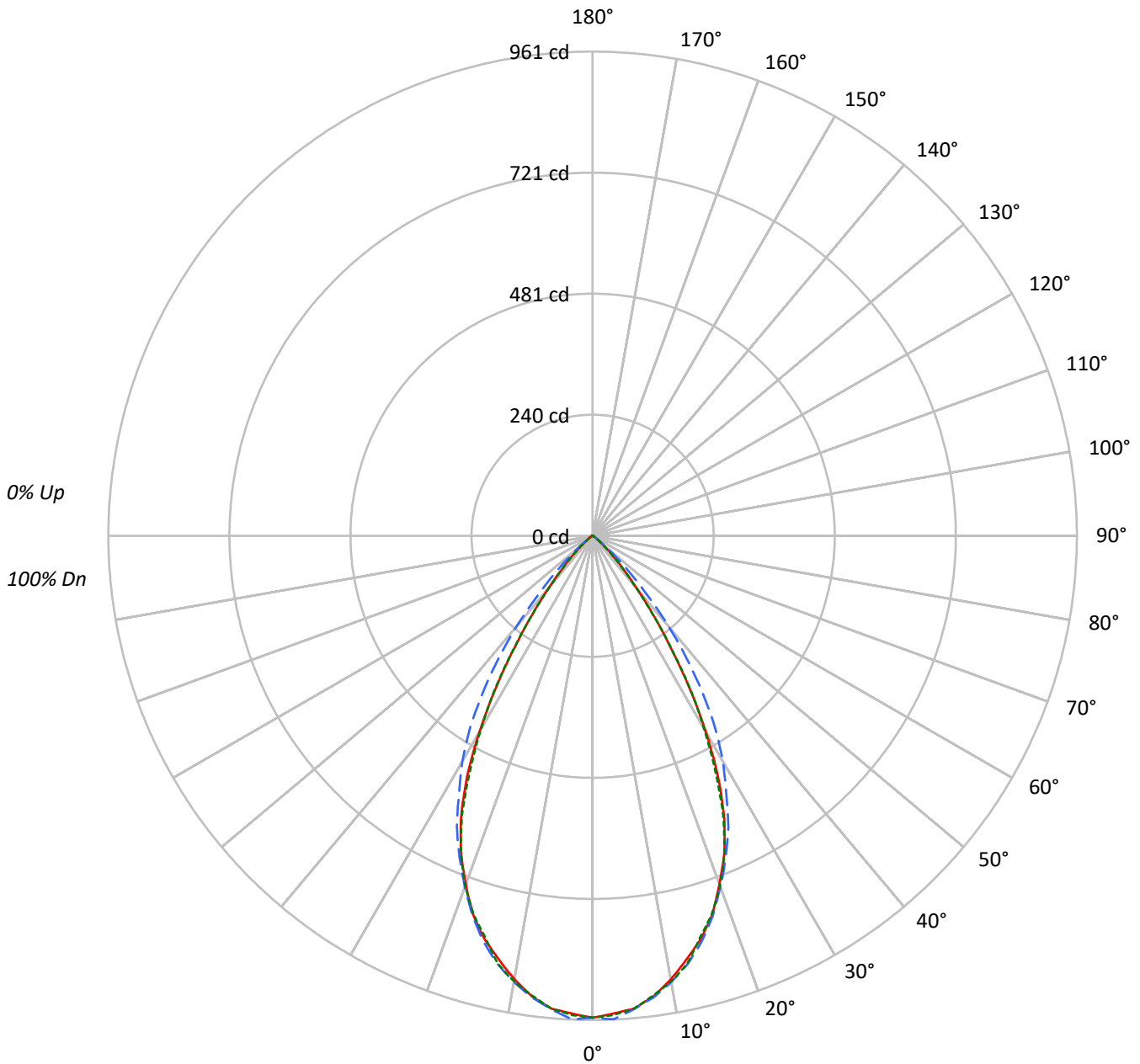
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	72	67	76	71	67	74	70	66	73	69	66	65																			
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°	10357	10357	10357
5°	10237	10250	10237
10°	9828	9888	9874
15°	9291	9359	9243
20°	8479	8542	8522
25°	7383	7616	7333
30°	5614	6458	5530
35°	3534	5021	3567
40°	1907	3315	1873
45°	902	1637	893
50°	339	615	339
55°	160	194	149
60°	106	93	106
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°	88.7	10.0
10°-20°	232.4	26.3
20°-30°	283.9	32.2
30°-40°	198.6	22.5
40°-50°	65.1	7.4
50°-60°	10.3	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°	604.9	68.5
0°-40°	803.5	91.0
0°-60°	878.9	99.5
0°-90°	882.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	882.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	956	956	956	956	956	
5°	942	942	943	937	942	88
15°	829	832	835	829	824	231
25°	618	627	637	626	614	278
35°	267	316	380	311	270	171
45°	59	73	107	72	58	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°	956.4	956.4	956.4	956.4	956.4	956.4	956.4	956.4	956.4	956.4	956.4
2.5°	949.1	955.8	953.9	958.2	958.2	953.3	954.5	956.4	958.8	960.6	946.0
5°	941.8	947.9	942.4	948.5	944.8	939.4	948.5	943.6	946.6	943.0	945.4
7.5°	922.3	932.1	921.1	928.4	926.0	923.0	926.6	925.4	927.2	924.2	917.5
10°	893.8	901.7	894.4	904.7	899.9	896.8	899.9	902.9	902.3	899.3	902.9
12.5°	861.0	870.1	866.4	872.5	867.1	867.1	874.3	872.5	873.1	870.7	875.0
15°	828.8	835.5	830.0	837.9	835.5	828.8	831.8	831.8	836.7	834.8	830.0
17.5°	788.7	794.1	788.1	789.9	787.5	786.2	799.0	790.5	795.4	791.7	792.3
20°	735.8	738.2	736.4	741.3	738.2	741.9	740.7	739.5	739.5	741.3	737.0
22.5°	682.3	682.3	684.2	685.4	687.8	684.2	691.5	685.4	686.0	690.2	689.0
25°	617.9	616.1	620.4	626.4	628.9	625.8	635.6	630.7	634.3	637.4	630.7
27.5°	539.6	539.6	543.8	554.1	556.0	559.6	573.0	573.0	577.8	573.6	578.4
30°	449.0	455.7	461.2	474.5	478.8	486.7	500.7	507.3	518.3	516.5	514.0
32.5°	356.1	365.2	365.8	379.8	391.3	404.7	423.5	439.3	447.2	452.7	446.6
35°	267.3	272.8	277.7	287.4	306.8	324.5	341.5	362.1	376.1	379.8	374.3
37.5°	195.6	196.9	201.7	210.8	225.4	242.4	263.1	285.6	300.2	305.6	299.5
40°	134.9	136.1	138.5	146.4	158.6	170.7	187.1	210.2	223.6	234.5	226.6
42.5°	90.5	91.7	94.2	100.3	106.9	118.5	131.2	145.8	158.6	163.4	159.2
45°	58.9	58.9	60.2	64.4	68.1	77.2	86.3	95.4	103.9	106.9	103.9
47.5°	34.6	35.2	36.5	39.5	43.7	47.4	54.1	60.2	62.6	65.0	63.8
50°	20.1	20.1	21.9	23.7	26.7	29.2	31.6	34.0	35.2	36.5	35.2
52.5°	10.9	11.5	12.2	12.8	14.0	16.4	18.2	18.2	18.8	19.4	18.8
55°	8.5	8.5	8.5	8.5	9.1	9.1	9.1	9.7	9.7	10.3	9.7
57.5°	6.1	6.1	6.1	6.7	6.7	6.7	6.1	6.1	6.1	6.1	6.1
60°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.3	4.3	4.3	4.3
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°	956.4	956.4	956.4	956.4	956.4	956.4	956.4	956.4
2.5°	956.4	946.0	947.3	952.7	949.7	952.7	952.1	952.1
5°	946.0	943.0	938.1	936.3	940.0	947.9	946.6	941.8
7.5°	926.6	918.7	924.2	926.6	923.6	928.4	930.8	920.5
10°	903.5	900.5	899.3	900.5	899.3	904.1	898.0	898.0
12.5°	870.7	865.8	865.8	873.1	868.9	865.2	870.1	869.5
15°	837.9	828.2	828.2	830.6	832.4	830.0	830.6	824.5
17.5°	789.3	786.2	782.0	788.7	790.5	788.1	789.9	786.8
20°	743.7	743.7	735.8	738.8	741.3	743.1	744.3	739.5
22.5°	685.4	686.6	681.1	687.2	689.0	682.9	684.2	682.9
25°	631.9	631.3	627.0	624.6	625.8	623.4	622.8	613.7
27.5°	573.0	566.9	557.8	560.2	549.9	541.4	541.4	527.4
30°	509.2	498.8	486.7	474.5	465.4	455.7	450.2	442.3
32.5°	434.4	420.5	405.3	388.9	378.5	364.0	356.1	360.3
35°	360.3	339.7	319.0	302.6	286.8	278.3	268.6	269.8
37.5°	288.6	259.4	241.2	223.6	210.2	199.3	195.0	193.8
40°	210.8	187.7	169.5	156.8	147.6	139.1	134.3	132.5
42.5°	145.8	129.4	114.8	104.5	98.4	93.0	90.5	89.9
45°	94.8	85.1	75.3	68.1	63.2	59.5	58.9	58.3
47.5°	59.5	54.7	48.6	43.1	38.9	36.5	34.6	34.6
50°	34.0	32.2	29.2	26.1	23.7	22.5	20.7	20.1
52.5°	18.2	18.2	17.0	14.6	12.8	11.5	11.5	10.9
55°	9.7	9.7	9.1	9.1	8.5	8.5	8.5	7.9
57.5°	6.1	6.1	6.7	6.7	6.1	6.1	6.1	6.1
60°	4.3	4.9	4.9	4.9	4.9	4.9	4.9	4.9
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)