

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: P209105

Luminaire Tested: **LDSQ4B10D010 EU4B10209024 4LBSQ1LI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209105  
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 EU4B10209024 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 2400 K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 735.1 lumens  
Efficiency: N/A  
Efficacy: 73.1 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

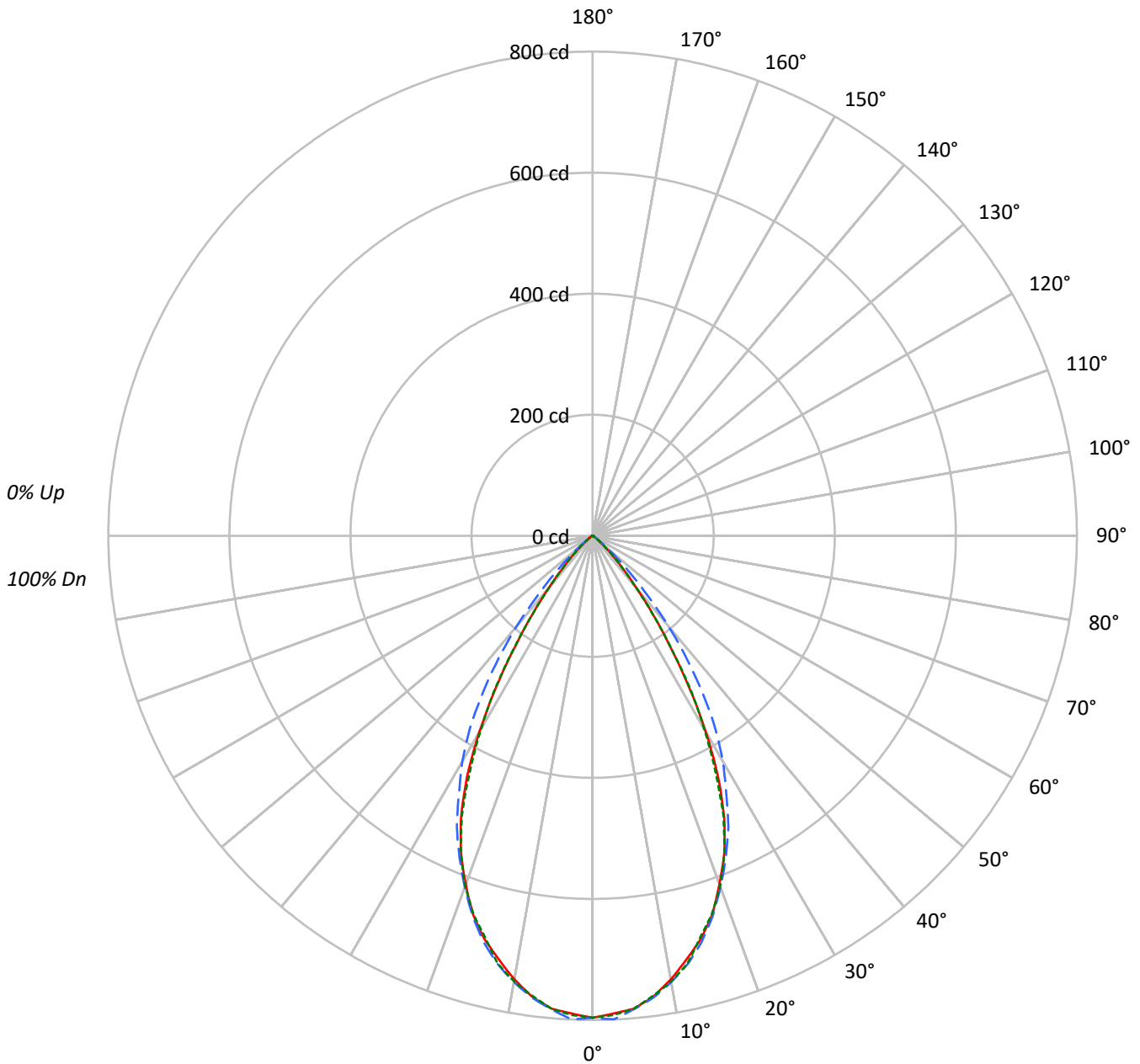
Input Watts (W): 10.05  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	8623	8623	8623
5°	8523	8535	8523
10°	8183	8232	8222
15°	7735	7793	7696
20°	7059	7112	7095
25°	6147	6341	6105
30°	4675	5377	4605
35°	2943	4180	2969
40°	1587	2761	1559
45°	752	1363	744
50°	281	512	281
55°	134	162	125
60°	87	76	87
65°	51	51	51
70°	32	47	32
75°	21	21	21
80°	31	31	31
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.8	10.0
10°-20°	193.5	26.3
20°-30°	236.4	32.2
30°-40°	165.3	22.5
40°-50°	54.2	7.4
50°-60°	8.6	1.2
60°-70°	2.3	0.3
70°-80°	0.8	0.1
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°	503.7	68.5
0°-40°	669.0	91.0
0°-60°	731.8	99.6
0°-90°	735.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	735.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	796	796	796	796	796	
5°	784	784	785	780	784	74
15°	690	693	695	691	686	192
25°	514	522	531	521	511	231
35°	223	263	316	259	225	142
45°	49	60	89	60	49	41
55°	7	8	9	8	7	7
65°	2	2	2	2	2	2
75°	0	0	0	0	0	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	796.3	796.3	796.3	796.3	796.3	796.3	796.3	796.3	796.3	796.3	796.3
2.5°	790.2	795.8	794.3	797.8	797.8	793.8	794.8	796.3	798.3	799.8	787.7
5°	784.1	789.2	784.7	789.7	786.7	782.1	789.7	785.7	788.2	785.2	787.2
7.5°	768.0	776.1	766.9	773.0	771.0	768.5	771.5	770.5	772.0	769.5	763.9
10°	744.2	750.8	744.7	753.3	749.2	746.7	749.2	751.8	751.3	748.7	751.8
12.5°	716.9	724.4	721.4	726.5	721.9	721.9	728.0	726.5	727.0	725.0	728.5
15°	690.0	695.6	691.1	697.6	695.6	690.0	692.6	692.6	696.6	695.1	691.1
17.5°	656.7	661.2	656.2	657.7	655.6	654.6	665.3	658.2	662.2	659.2	659.7
20°	612.6	614.7	613.2	617.2	614.7	617.7	616.7	615.7	615.7	617.2	613.7
22.5°	568.1	568.1	569.6	570.7	572.7	569.6	575.7	570.7	571.2	574.7	573.7
25°	514.5	513.0	516.5	521.6	523.6	521.1	529.2	525.1	528.2	530.7	525.1
27.5°	449.2	449.2	452.8	461.4	462.9	465.9	477.1	477.1	481.1	477.6	481.6
30°	373.9	379.4	384.0	395.1	398.6	405.2	416.9	422.4	431.5	430.0	428.0
32.5°	296.5	304.0	304.6	316.2	325.8	336.9	352.6	365.8	372.3	376.9	371.8
35°	222.6	227.1	231.2	239.3	255.5	270.2	284.3	301.5	313.2	316.2	311.6
37.5°	162.9	163.9	168.0	175.5	187.7	201.9	219.1	237.8	249.9	254.5	249.4
40°	112.3	113.3	115.3	121.9	132.0	142.2	155.8	175.0	186.2	195.3	188.7
42.5°	75.4	76.4	78.4	83.5	89.0	98.7	109.3	121.4	132.0	136.1	132.5
45°	49.1	49.1	50.1	53.6	56.7	64.2	71.8	79.4	86.5	89.0	86.5
47.5°	28.8	29.3	30.4	32.9	36.4	39.5	45.0	50.1	52.1	54.1	53.1
50°	16.7	16.7	18.2	19.7	22.3	24.3	26.3	28.3	29.3	30.4	29.3
52.5°	9.1	9.6	10.1	10.6	11.6	13.7	15.2	15.2	15.7	16.2	15.7
55°	7.1	7.1	7.1	7.1	7.6	7.6	7.6	8.1	8.1	8.6	8.1
57.5°	5.1	5.1	5.1	5.6	5.6	5.6	5.1	5.1	5.1	5.1	5.1
60°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5
62.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
65°	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.0	2.0	2.0	2.0
67.5°	1.5	1.5	1.5	1.5	2.0	2.0	1.5	1.5	1.5	1.5	1.5
70°	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
72.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
75°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	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°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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°	796.3	796.3	796.3	796.3	796.3	796.3	796.3	796.3
2.5°	796.3	787.7	788.7	793.3	790.7	793.3	792.7	792.7
5°	787.7	785.2	781.1	779.6	782.6	789.2	788.2	784.1
7.5°	771.5	764.9	769.5	771.5	769.0	773.0	775.0	766.4
10°	752.3	749.7	748.7	749.7	748.7	752.8	747.7	747.7
12.5°	725.0	720.9	720.9	727.0	723.4	720.4	724.4	723.9
15°	697.6	689.5	689.5	691.6	693.1	691.1	691.6	686.5
17.5°	657.2	654.6	651.1	656.7	658.2	656.2	657.7	655.1
20°	619.2	619.2	612.6	615.2	617.2	618.7	619.7	615.7
22.5°	570.7	571.7	567.1	572.2	573.7	568.6	569.6	568.6
25°	526.1	525.6	522.1	520.1	521.1	519.1	518.5	511.0
27.5°	477.1	472.0	464.4	466.4	457.8	450.8	450.8	439.1
30°	423.9	415.3	405.2	395.1	387.5	379.4	374.9	368.3
32.5°	361.7	350.1	337.4	323.8	315.2	303.0	296.5	300.0
35°	300.0	282.8	265.6	251.9	238.8	231.7	223.6	224.6
37.5°	240.3	216.0	200.8	186.2	175.0	165.9	162.4	161.4
40°	175.5	156.3	141.1	130.5	122.9	115.9	111.8	110.3
42.5°	121.4	107.8	95.6	87.0	82.0	77.4	75.4	74.9
45°	78.9	70.8	62.7	56.7	52.6	49.6	49.1	48.6
47.5°	49.6	45.5	40.5	35.9	32.4	30.4	28.8	28.8
50°	28.3	26.8	24.3	21.8	19.7	18.7	17.2	16.7
52.5°	15.2	15.2	14.2	12.1	10.6	9.6	9.6	9.1
55°	8.1	8.1	7.6	7.6	7.1	7.1	7.1	6.6
57.5°	5.1	5.1	5.6	5.6	5.1	5.1	5.1	5.1
60°	3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0
62.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
65°	2.0	2.5	2.5	2.5	2.5	2.0	2.0	2.0
67.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
70°	1.5	1.5	1.5	1.5	1.5	1.0	1.0	1.0
72.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
75°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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)