

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: P209207

Luminaire Tested: **LDSQ4B10D010 EU4B10209024 4LBCSSQ1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209207  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35089)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQ4B10D010 EU4B10209024 4LBCSSQ1MMS  
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE SHALLOW CAST METALLIC SILVER TRIM  
MEDIUM DISTRIBUTION WITH MATTE METALLIC SILVER 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: 760.9 lumens  
Efficiency: N/A  
Efficacy: 75.7 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29  
Luminous Opening: Point Source (0' x 0' x 0')  
CIE Type: Direct

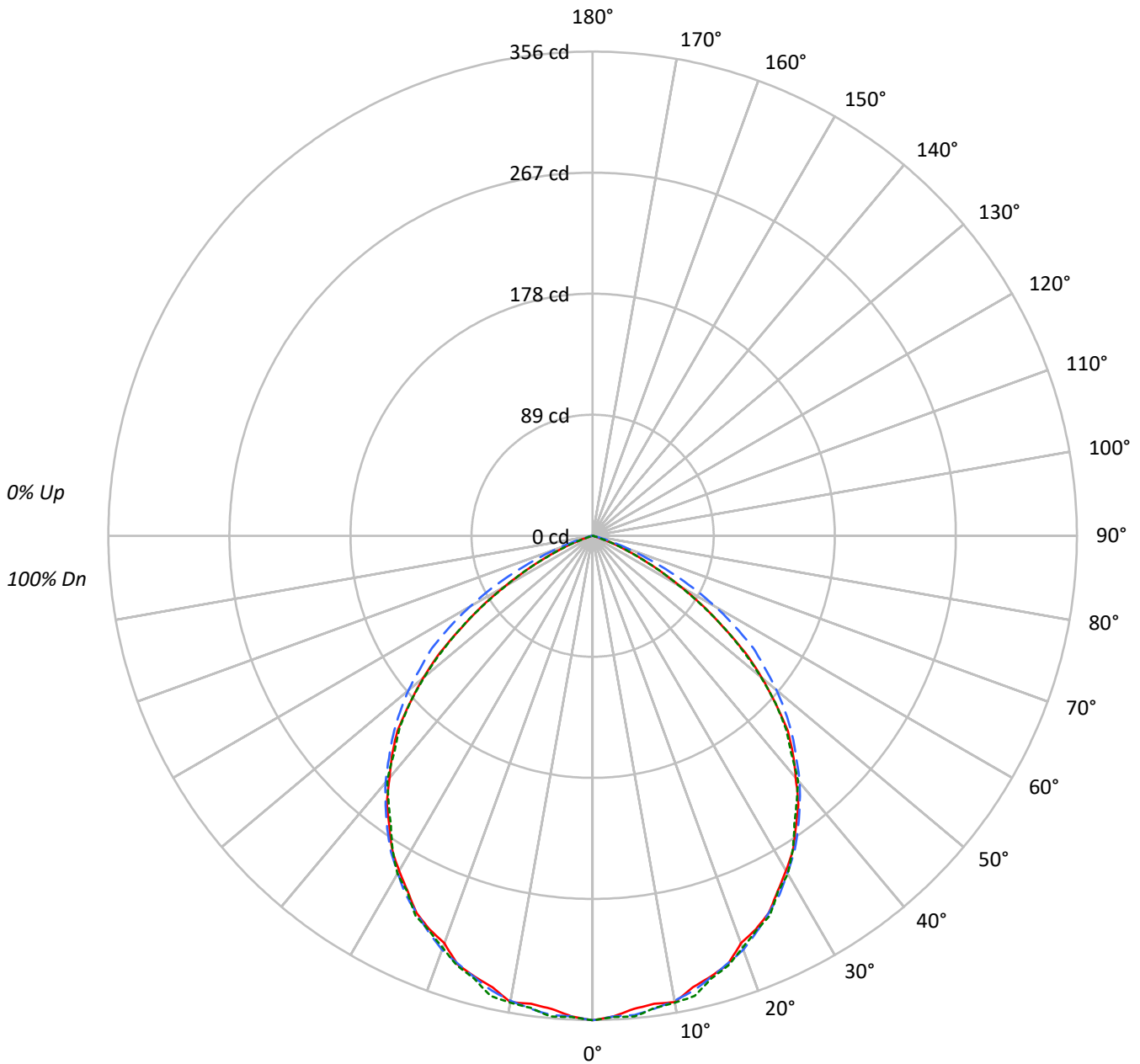
Input Watts (W): 10.05  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	Luminaire represents a point source (luminous area is zero).		
5°	No luminance values can be calculated.		
10°			
15°			
20°			
25°			
30°			
35°			
40°			
45°			
50°			
55°			
60°			
65°			
70°			
75°			
80°			
85°			



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.6	4.4
10°-20°	95.1	12.5
20°-30°	141.2	18.6
30°-40°	163.6	21.5
40°-50°	156.8	20.6
50°-60°	115.3	15.2
60°-70°	49.8	6.5
70°-80°	5.4	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°	269.9	35.5
0°-40°	433.5	57.0
0°-60°	705.7	92.7
0°-90°	760.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	760.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	356	356	356	356	356	
5°	349	353	354	354	355	33
15°	336	338	336	336	337	95
25°	306	306	306	307	308	140
35°	261	262	263	263	259	163
45°	203	203	208	204	201	154
55°	117	130	144	129	118	106
65°	38	48	63	48	37	40
75°	1	2	6	1	1	3
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°	22.5°	25°	30°	35°	40°	45°
0°	356.2	356.2	356.2	356.2	356.2	356.2	356.2	356.2	356.2	356.2	356.2
2.5°	353.7	357.7	358.2	355.7	354.7	353.2	356.7	354.2	355.2	354.2	353.7
5°	349.1	353.7	354.2	354.2	353.2	352.7	354.2	353.7	353.2	352.2	353.7
7.5°	347.1	349.6	352.2	349.1	350.6	350.1	353.7	352.2	351.7	351.7	350.6
10°	348.1	347.6	349.6	346.6	347.6	346.6	349.6	349.6	348.6	347.6	347.1
12.5°	340.0	344.1	344.1	343.6	342.6	341.0	344.1	346.1	343.1	343.1	342.6
15°	335.5	336.5	337.0	337.0	336.5	337.5	339.0	337.0	337.5	335.0	336.0
17.5°	330.4	328.4	329.9	328.9	329.4	330.4	332.4	332.4	329.4	328.9	329.9
20°	318.8	324.8	325.4	322.3	322.8	322.8	326.4	323.3	325.4	322.8	323.8
22.5°	313.2	317.3	317.8	313.7	316.2	313.2	316.7	312.2	317.3	313.7	315.2
25°	306.1	305.6	307.1	305.1	305.6	305.6	308.1	306.1	307.6	305.6	306.1
27.5°	294.5	298.5	298.0	296.0	297.0	296.5	301.6	296.0	299.0	296.5	297.5
30°	284.4	287.9	286.9	284.9	284.9	283.4	288.9	287.4	286.9	286.9	286.4
32.5°	274.2	274.8	273.7	274.2	274.8	272.7	277.3	275.3	274.8	275.3	275.8
35°	260.6	260.6	261.6	260.1	262.1	262.1	266.1	263.6	263.1	261.6	263.1
37.5°	248.4	246.9	247.4	247.4	248.4	249.5	251.5	250.5	250.5	248.9	250.0
40°	232.2	231.2	232.8	232.8	234.3	234.3	236.3	235.3	236.8	236.8	236.8
42.5°	218.1	218.1	217.1	218.6	219.1	218.6	222.1	221.6	222.1	221.1	221.6
45°	202.9	202.9	201.9	201.4	203.9	203.4	207.5	205.9	208.0	206.9	207.5
47.5°	182.2	184.7	183.2	184.7	187.7	188.2	190.8	189.7	191.8	190.3	192.3
50°	162.4	162.4	163.9	166.0	169.0	169.5	172.5	174.6	175.6	176.1	176.6
52.5°	141.7	141.2	142.7	145.2	147.7	149.8	152.8	155.8	157.9	160.9	159.4
55°	117.4	118.4	119.9	123.0	127.0	129.5	132.1	136.1	139.7	141.2	144.2
57.5°	96.6	95.6	96.6	100.7	105.2	107.3	110.8	114.9	119.9	123.0	124.0
60°	74.9	75.4	76.4	79.9	83.5	86.5	88.0	94.6	99.2	102.2	104.2
62.5°	55.2	56.2	57.2	60.2	63.8	66.3	68.8	74.4	78.4	81.5	83.5
65°	38.5	39.0	40.5	42.0	45.5	48.1	50.1	54.6	58.7	61.2	62.7
67.5°	23.8	24.3	25.3	27.3	29.9	31.9	33.9	36.9	40.5	43.0	43.5
70°	12.1	12.6	13.2	14.7	16.7	17.7	19.2	21.8	24.3	26.3	27.3
72.5°	4.0	4.0	4.6	5.6	6.6	7.6	8.1	10.6	12.6	13.7	14.2
75°	1.0	1.0	1.0	1.0	1.0	1.5	1.5	3.0	4.0	5.1	5.6
77.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0
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	0.0	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°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	356.2	356.2	356.2	356.2	356.2	356.2	356.2	356.2	356.2	356.2
2.5°	356.2	355.2	354.7	355.2	355.2	354.7	356.2	358.2	360.8	354.2
5°	355.7	354.7	355.7	352.7	354.2	353.2	355.2	354.7	356.7	354.7
7.5°	354.2	352.2	352.7	351.2	353.2	350.6	352.2	355.2	353.2	350.1
10°	349.1	348.1	351.7	346.6	345.6	347.6	351.7	348.6	347.6	348.6
12.5°	344.1	344.1	345.6	341.5	342.0	343.1	345.1	343.1	344.1	346.6
15°	338.5	337.5	340.0	337.0	336.5	335.5	337.5	337.5	338.5	337.0
17.5°	331.9	330.4	330.4	329.4	328.9	331.4	332.4	332.9	333.4	331.4
20°	323.8	323.3	324.8	323.3	323.8	324.3	324.3	323.3	327.9	322.3
22.5°	315.2	316.7	314.7	313.7	314.7	315.7	315.7	316.2	315.2	314.2
25°	306.6	307.6	308.1	305.1	306.6	305.1	308.7	309.2	307.1	308.1
27.5°	299.0	297.5	297.0	295.0	296.0	295.5	296.0	296.0	299.0	295.0
30°	287.4	285.9	286.4	284.9	285.4	284.9	285.4	285.4	287.4	286.9
32.5°	276.3	274.8	275.3	273.7	273.7	274.2	273.2	273.2	274.8	273.7
35°	265.6	262.1	262.6	262.1	262.6	260.6	260.6	260.1	261.1	258.6
37.5°	250.5	248.9	248.4	247.9	248.4	247.4	248.4	246.9	248.4	246.4
40°	236.8	235.8	236.3	233.3	233.3	233.8	232.8	232.2	232.8	234.8
42.5°	223.1	221.1	220.1	219.1	219.6	218.1	217.6	216.6	217.6	215.6
45°	206.9	206.9	206.4	203.9	204.4	204.4	202.4	200.4	200.9	200.9
47.5°	192.3	191.3	190.8	188.2	187.7	187.2	185.2	183.7	183.7	182.2
50°	176.1	175.1	173.6	171.0	170.0	167.0	165.5	163.4	161.4	161.4
52.5°	160.9	157.4	155.3	151.3	149.8	148.3	144.2	142.7	141.2	139.7
55°	142.7	139.7	135.6	131.1	129.0	126.5	122.4	119.4	117.4	117.9
57.5°	125.0	119.9	115.9	109.8	107.3	105.8	101.7	97.7	95.6	95.6
60°	103.2	99.2	94.1	88.5	86.5	84.0	78.9	76.4	74.9	73.4
62.5°	82.5	79.4	74.9	67.8	66.3	63.8	60.2	57.2	55.7	55.7
65°	61.7	58.7	54.6	49.6	47.6	45.5	42.5	39.5	37.9	37.4
67.5°	43.5	40.0	36.4	32.4	30.9	29.9	26.8	24.8	23.8	23.3
70°	26.3	24.3	21.8	18.7	17.2	16.2	14.2	12.6	12.1	11.6
72.5°	13.7	12.1	10.1	8.1	7.1	6.1	5.1	4.0	3.5	3.5
75°	5.1	4.0	2.5	1.5	1.0	1.0	1.0	1.0	1.0	1.0
77.5°	1.0	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
82.5°	0.0	0.0	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	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	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)