

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: P209202

Luminaire Tested: **LDSQ4B10D010 EU4B10208027 4LBCSSQ1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209202  
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 EU4B10208027 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 2700 K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1007.8 lumens  
Efficiency: N/A  
Efficacy: 100.3 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

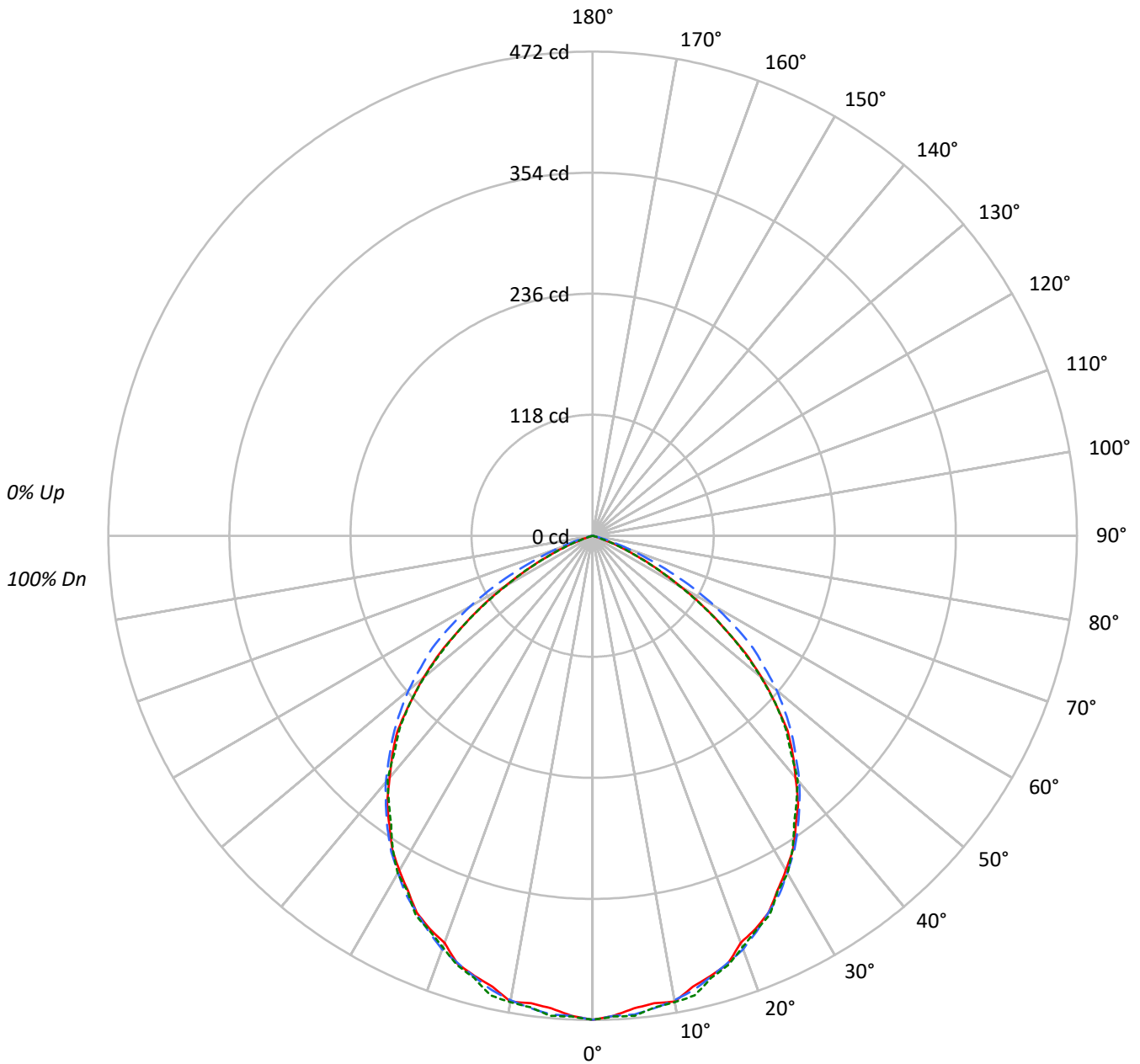
Input Watts (W): 10.05  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	44.5	4.4
10°-20°	126.0	12.5
20°-30°	187.0	18.6
30°-40°	216.6	21.5
40°-50°	207.7	20.6
50°-60°	152.7	15.2
60°-70°	66.0	6.5
70°-80°	7.1	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°	357.5	35.5
0°-40°	574.1	57.0
0°-60°	934.6	92.7
0°-90°	1007.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1007.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	472	472	472	472	472	
5°	462	467	468	469	470	44
15°	444	447	445	446	446	125
25°	405	405	405	406	408	186
35°	345	347	348	348	342	216
45°	269	269	275	271	266	204
55°	156	172	191	171	156	140
65°	51	64	83	63	50	52
75°	1	2	7	1	1	4
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°	471.8	471.8	471.8	471.8	471.8	471.8	471.8	471.8	471.8	471.8	471.8
2.5°	468.4	473.8	474.4	471.1	469.7	467.7	472.4	469.1	470.4	469.1	468.4
5°	462.4	468.4	469.1	469.1	467.7	467.1	469.1	468.4	467.7	466.4	468.4
7.5°	459.7	463.0	466.4	462.4	464.4	463.7	468.4	466.4	465.7	465.7	464.4
10°	461.0	460.4	463.0	459.0	460.4	459.0	463.0	463.0	461.7	460.4	459.7
12.5°	450.3	455.7	455.7	455.0	453.7	451.7	455.7	458.4	454.3	454.3	453.7
15°	444.3	445.6	446.3	446.3	445.6	447.0	449.0	446.3	447.0	443.6	445.0
17.5°	437.6	434.9	436.9	435.6	436.2	437.6	440.3	440.3	436.2	435.6	436.9
20°	422.2	430.2	430.9	426.9	427.5	427.5	432.2	428.2	430.9	427.5	428.9
22.5°	414.8	420.2	420.8	415.5	418.8	414.8	419.5	413.5	420.2	415.5	417.5
25°	405.4	404.7	406.8	404.1	404.7	404.7	408.1	405.4	407.4	404.7	405.4
27.5°	390.0	395.4	394.7	392.0	393.4	392.7	399.4	392.0	396.0	392.7	394.0
30°	376.6	381.3	379.9	377.3	377.3	375.3	382.6	380.6	379.9	379.9	379.3
32.5°	363.2	363.9	362.5	363.2	363.9	361.2	367.2	364.5	363.9	364.5	365.2
35°	345.1	345.1	346.4	344.4	347.1	347.1	352.5	349.1	348.5	346.4	348.5
37.5°	329.0	327.0	327.7	327.7	329.0	330.4	333.0	331.7	331.7	329.7	331.0
40°	307.6	306.2	308.2	308.2	310.3	310.3	312.9	311.6	313.6	313.6	313.6
42.5°	288.8	288.8	287.5	289.5	290.2	289.5	294.2	293.5	294.2	292.8	293.5
45°	268.7	268.7	267.4	266.7	270.1	269.4	274.7	272.7	275.4	274.1	274.7
47.5°	241.2	244.6	242.6	244.6	248.6	249.3	252.6	251.3	254.0	252.0	254.6
50°	215.1	215.1	217.1	219.8	223.8	224.5	228.5	231.2	232.5	233.2	233.9
52.5°	187.6	187.0	189.0	192.3	195.7	198.4	202.4	206.4	209.1	213.1	211.1
55°	155.5	156.8	158.8	162.8	168.2	171.5	174.9	180.3	184.9	187.0	191.0
57.5°	128.0	126.6	128.0	133.4	139.4	142.1	146.8	152.1	158.8	162.8	164.2
60°	99.2	99.8	101.2	105.9	110.6	114.6	116.6	125.3	131.3	135.4	138.0
62.5°	73.0	74.4	75.7	79.7	84.4	87.8	91.1	98.5	103.9	107.9	110.6
65°	50.9	51.6	53.6	55.6	60.3	63.7	66.3	72.4	77.7	81.1	83.1
67.5°	31.5	32.2	33.5	36.2	39.5	42.2	44.9	48.9	53.6	57.0	57.6
70°	16.1	16.8	17.4	19.4	22.1	23.5	25.5	28.8	32.2	34.8	36.2
72.5°	5.4	5.4	6.0	7.4	8.7	10.1	10.7	14.1	16.8	18.1	18.8
75°	1.3	1.3	1.3	1.3	1.3	2.0	2.0	4.0	5.4	6.7	7.4
77.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.3	1.3
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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°	471.8	471.8	471.8	471.8	471.8	471.8	471.8	471.8	471.8	471.8
2.5°	471.8	470.4	469.7	470.4	470.4	469.7	471.8	474.4	477.8	469.1
5°	471.1	469.7	471.1	467.1	469.1	467.7	470.4	469.7	472.4	469.7
7.5°	469.1	466.4	467.1	465.1	467.7	464.4	466.4	470.4	467.7	463.7
10°	462.4	461.0	465.7	459.0	457.7	460.4	465.7	461.7	460.4	461.7
12.5°	455.7	455.7	457.7	452.3	453.0	454.3	457.0	454.3	455.7	459.0
15°	448.3	447.0	450.3	446.3	445.6	444.3	447.0	447.0	448.3	446.3
17.5°	439.6	437.6	437.6	436.2	435.6	438.9	440.3	440.9	441.6	438.9
20°	428.9	428.2	430.2	428.2	428.9	429.5	429.5	428.2	434.2	426.9
22.5°	417.5	419.5	416.8	415.5	416.8	418.1	418.1	418.8	417.5	416.1
25°	406.1	407.4	408.1	404.1	406.1	404.1	408.8	409.4	406.8	408.1
27.5°	396.0	394.0	393.4	390.7	392.0	391.3	392.0	392.0	396.0	390.7
30°	380.6	378.6	379.3	377.3	377.9	377.3	377.9	377.9	380.6	379.9
32.5°	365.9	363.9	364.5	362.5	362.5	363.2	361.9	361.9	363.9	362.5
35°	351.8	347.1	347.8	347.1	347.8	345.1	345.1	344.4	345.8	342.4
37.5°	331.7	329.7	329.0	328.4	329.0	327.7	329.0	327.0	329.0	326.3
40°	313.6	312.3	312.9	308.9	308.9	309.6	308.2	307.6	308.2	310.9
42.5°	295.5	292.8	291.5	290.2	290.8	288.8	288.1	286.8	288.1	285.5
45°	274.1	274.1	273.4	270.1	270.7	270.7	268.0	265.4	266.0	266.0
47.5°	254.6	253.3	252.6	249.3	248.6	247.9	245.3	243.2	243.2	241.2
50°	233.2	231.9	229.8	226.5	225.2	221.1	219.1	216.4	213.8	213.8
52.5°	213.1	208.4	205.7	200.4	198.4	196.3	191.0	189.0	187.0	184.9
55°	189.0	184.9	179.6	173.6	170.9	167.5	162.2	158.1	155.5	156.1
57.5°	165.5	158.8	153.5	145.4	142.1	140.1	134.7	129.3	126.6	126.6
60°	136.7	131.3	124.6	117.3	114.6	111.2	104.5	101.2	99.2	97.2
62.5°	109.2	105.2	99.2	89.8	87.8	84.4	79.7	75.7	73.7	73.7
65°	81.8	77.7	72.4	65.7	63.0	60.3	56.3	52.3	50.3	49.6
67.5°	57.6	52.9	48.2	42.9	40.9	39.5	35.5	32.8	31.5	30.8
70°	34.8	32.2	28.8	24.8	22.8	21.4	18.8	16.8	16.1	15.4
72.5°	18.1	16.1	13.4	10.7	9.4	8.0	6.7	5.4	4.7	4.7
75°	6.7	5.4	3.4	2.0	1.3	1.3	1.3	1.3	1.3	1.3
77.5°	1.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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)