

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: P209209

Luminaire Tested: **LDSQ4B10D010 EU4B10209030 4LBCSSQ1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209209  
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 EU4B10209030 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 3000 K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 899.7 lumens  
Efficiency: N/A  
Efficacy: 89.5 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

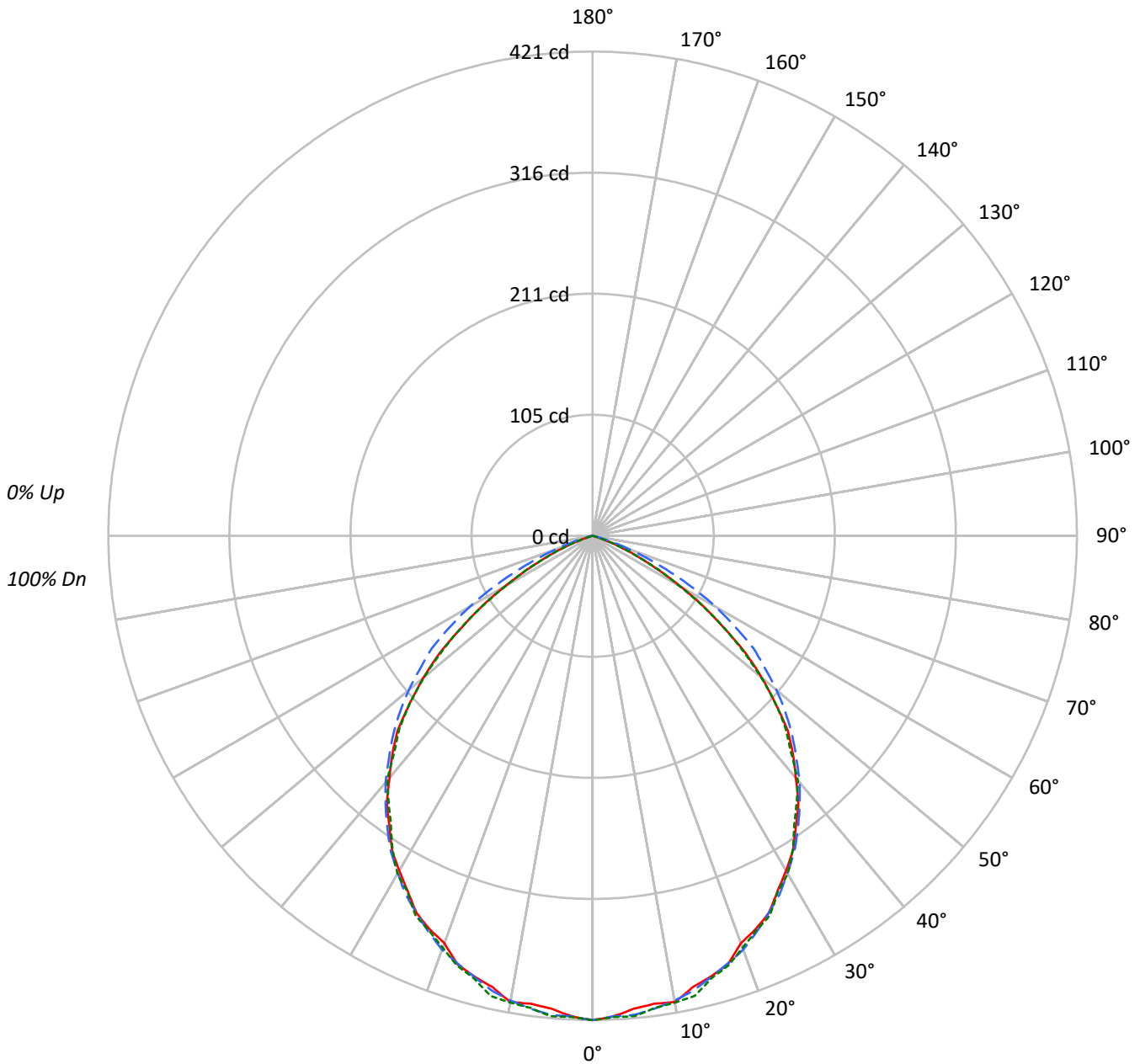
Input Watts (W): 10.05  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	39.8	4.4
10°-20°	112.5	12.5
20°-30°	166.9	18.6
30°-40°	193.4	21.5
40°-50°	185.4	20.6
50°-60°	136.4	15.2
60°-70°	58.9	6.5
70°-80°	6.4	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°	319.2	35.5
0°-40°	512.6	57.0
0°-60°	834.4	92.7
0°-90°	899.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	899.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	421	421	421	421	421	
5°	413	417	418	419	419	39
15°	397	399	397	398	398	112
25°	362	361	362	363	364	166
35°	308	310	311	310	306	193
45°	240	240	245	242	238	182
55°	139	153	170	153	139	125
65°	46	57	74	56	44	47
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°	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2
2.5°	418.2	423.0	423.6	420.6	419.4	417.6	421.8	418.8	420.0	418.8	418.2
5°	412.8	418.2	418.8	418.8	417.6	417.0	418.8	418.2	417.6	416.4	418.2
7.5°	410.4	413.4	416.4	412.8	414.6	414.0	418.2	416.4	415.8	415.8	414.6
10°	411.6	411.0	413.4	409.8	411.0	409.8	413.4	413.4	412.2	411.0	410.4
12.5°	402.0	406.8	406.8	406.2	405.0	403.2	406.8	409.2	405.6	405.6	405.0
15°	396.7	397.9	398.4	398.4	397.9	399.0	400.8	398.4	399.0	396.1	397.3
17.5°	390.7	388.3	390.1	388.9	389.5	390.7	393.1	393.1	389.5	388.9	390.1
20°	376.9	384.1	384.7	381.1	381.7	381.7	385.9	382.3	384.7	381.7	382.9
22.5°	370.3	375.1	375.7	370.9	373.9	370.3	374.5	369.1	375.1	370.9	372.7
25°	362.0	361.4	363.2	360.8	361.4	361.4	364.3	362.0	363.7	361.4	362.0
27.5°	348.2	353.0	352.4	350.0	351.2	350.6	356.6	350.0	353.6	350.6	351.8
30°	336.2	340.4	339.2	336.8	336.8	335.0	341.6	339.8	339.2	339.2	338.6
32.5°	324.3	324.9	323.7	324.3	324.9	322.5	327.9	325.5	324.9	325.5	326.1
35°	308.1	308.1	309.3	307.5	309.9	309.9	314.7	311.7	311.1	309.3	311.1
37.5°	293.8	292.0	292.6	292.6	293.8	294.9	297.3	296.1	296.1	294.3	295.5
40°	274.6	273.4	275.2	275.2	277.0	277.0	279.4	278.2	280.0	280.0	280.0
42.5°	257.9	257.9	256.7	258.5	259.1	258.5	262.6	262.0	262.6	261.4	262.0
45°	239.9	239.9	238.7	238.1	241.1	240.5	245.3	243.5	245.9	244.7	245.3
47.5°	215.4	218.4	216.6	218.4	222.0	222.6	225.5	224.4	226.7	225.0	227.3
50°	192.0	192.0	193.8	196.2	199.8	200.4	204.0	206.4	207.6	208.2	208.8
52.5°	167.5	166.9	168.7	171.7	174.7	177.1	180.7	184.3	186.7	190.3	188.5
55°	138.8	140.0	141.8	145.4	150.2	153.2	156.1	160.9	165.1	166.9	170.5
57.5°	114.3	113.1	114.3	119.1	124.4	126.8	131.0	135.8	141.8	145.4	146.6
60°	88.5	89.1	90.3	94.5	98.7	102.3	104.1	111.9	117.3	120.9	123.2
62.5°	65.2	66.4	67.6	71.2	75.4	78.4	81.4	87.9	92.7	96.3	98.7
65°	45.5	46.1	47.9	49.7	53.8	56.8	59.2	64.6	69.4	72.4	74.2
67.5°	28.1	28.7	29.9	32.3	35.3	37.7	40.1	43.7	47.9	50.9	51.5
70°	14.4	15.0	15.6	17.3	19.7	20.9	22.7	25.7	28.7	31.1	32.3
72.5°	4.8	4.8	5.4	6.6	7.8	9.0	9.6	12.6	15.0	16.2	16.8
75°	1.2	1.2	1.2	1.2	1.2	1.8	1.8	3.6	4.8	6.0	6.6
77.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.2	1.2
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	0.0	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°	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2
2.5°	421.2	420.0	419.4	420.0	420.0	419.4	421.2	423.6	426.6	418.8
5°	420.6	419.4	420.6	417.0	418.8	417.6	420.0	419.4	421.8	419.4
7.5°	418.8	416.4	417.0	415.2	417.6	414.6	416.4	420.0	417.6	414.0
10°	412.8	411.6	415.8	409.8	408.6	411.0	415.8	412.2	411.0	412.2
12.5°	406.8	406.8	408.6	403.8	404.4	405.6	408.0	405.6	406.8	409.8
15°	400.2	399.0	402.0	398.4	397.9	396.7	399.0	399.0	400.2	398.4
17.5°	392.5	390.7	390.7	389.5	388.9	391.9	393.1	393.7	394.3	391.9
20°	382.9	382.3	384.1	382.3	382.9	383.5	383.5	382.3	387.7	381.1
22.5°	372.7	374.5	372.1	370.9	372.1	373.3	373.3	373.9	372.7	371.5
25°	362.6	363.7	364.3	360.8	362.6	360.8	364.9	365.5	363.2	364.3
27.5°	353.6	351.8	351.2	348.8	350.0	349.4	350.0	350.0	353.6	348.8
30°	339.8	338.0	338.6	336.8	337.4	336.8	337.4	337.4	339.8	339.2
32.5°	326.7	324.9	325.5	323.7	323.7	324.3	323.1	323.1	324.9	323.7
35°	314.1	309.9	310.5	309.9	310.5	308.1	308.1	307.5	308.7	305.7
37.5°	296.1	294.3	293.8	293.2	293.8	292.6	293.8	292.0	293.8	291.4
40°	280.0	278.8	279.4	275.8	275.8	276.4	275.2	274.6	275.2	277.6
42.5°	263.8	261.4	260.2	259.1	259.6	257.9	257.3	256.1	257.3	254.9
45°	244.7	244.7	244.1	241.1	241.7	241.7	239.3	236.9	237.5	237.5
47.5°	227.3	226.1	225.5	222.6	222.0	221.4	219.0	217.2	217.2	215.4
50°	208.2	207.0	205.2	202.2	201.0	197.4	195.6	193.2	190.8	190.8
52.5°	190.3	186.1	183.7	178.9	177.1	175.3	170.5	168.7	166.9	165.1
55°	168.7	165.1	160.3	155.0	152.6	149.6	144.8	141.2	138.8	139.4
57.5°	147.8	141.8	137.0	129.8	126.8	125.0	120.3	115.5	113.1	113.1
60°	122.0	117.3	111.3	104.7	102.3	99.3	93.3	90.3	88.5	86.7
62.5°	97.5	93.9	88.5	80.2	78.4	75.4	71.2	67.6	65.8	65.8
65°	73.0	69.4	64.6	58.6	56.2	53.8	50.3	46.7	44.9	44.3
67.5°	51.5	47.3	43.1	38.3	36.5	35.3	31.7	29.3	28.1	27.5
70°	31.1	28.7	25.7	22.1	20.3	19.1	16.8	15.0	14.4	13.8
72.5°	16.2	14.4	12.0	9.6	8.4	7.2	6.0	4.8	4.2	4.2
75°	6.0	4.8	3.0	1.8	1.2	1.2	1.2	1.2	1.2	1.2
77.5°	1.2	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
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)