

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: P209206

Luminaire Tested: **LDSQ4B10D010 EU4B10208050 4LBCSSQ1MMS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P209206  
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 EU4B10208050 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 5000 K  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1091.3 lumens  
Efficiency: N/A  
Efficacy: 108.6 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

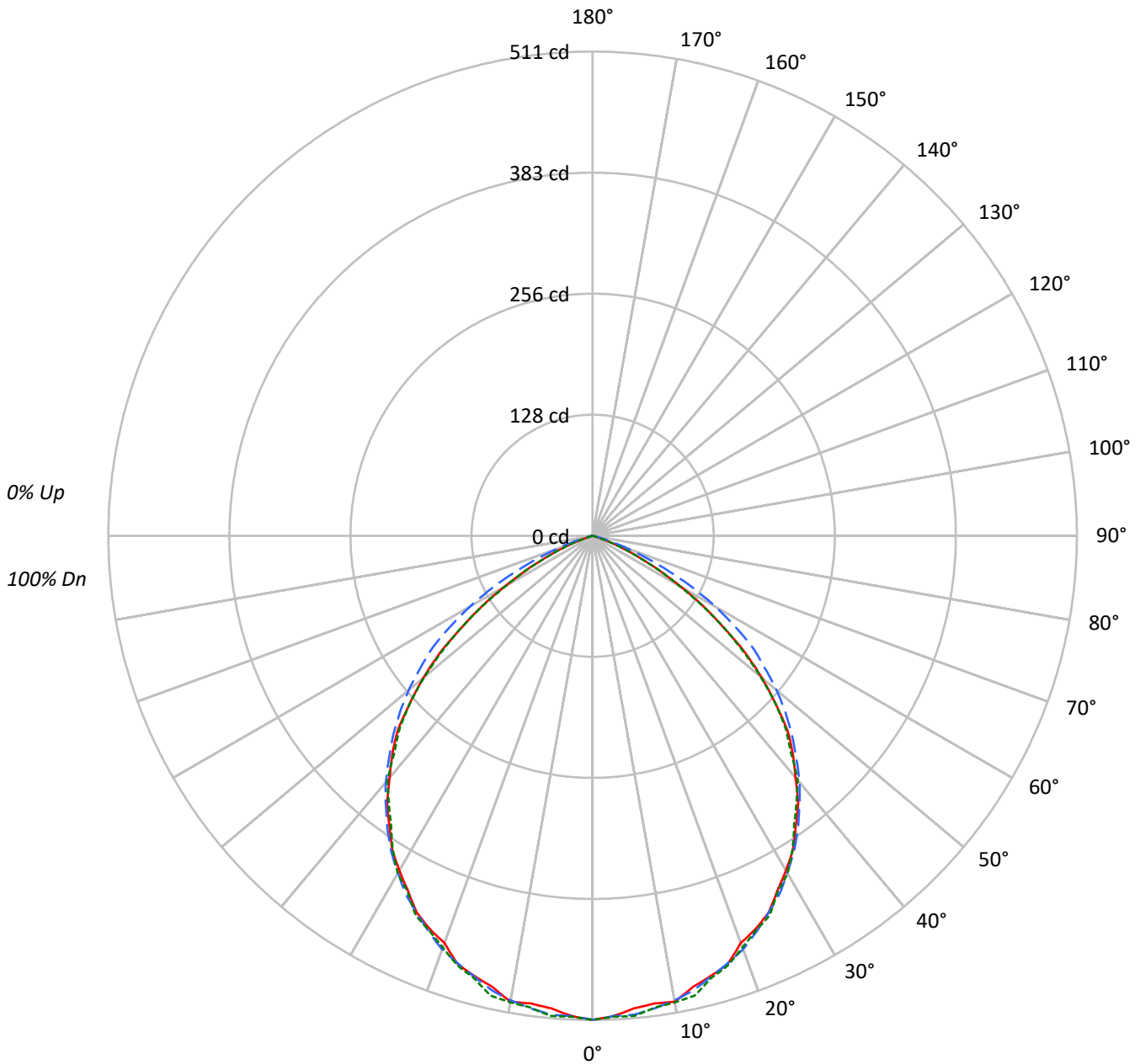
Input Watts (W): 10.05  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	48.2	4.4
10°-20°	136.5	12.5
20°-30°	202.5	18.6
30°-40°	234.6	21.5
40°-50°	224.9	20.6
50°-60°	165.4	15.2
60°-70°	71.4	6.5
70°-80°	7.7	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°	387.2	35.5
0°-40°	621.8	57.0
0°-60°	1012.1	92.7
0°-90°	1091.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1091.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	511	511	511	511	511	
5°	501	506	507	508	509	48
15°	481	484	482	483	483	136
25°	439	438	439	440	442	201
35°	374	376	377	377	371	234
45°	291	292	298	293	288	221
55°	168	186	207	185	169	152
65°	55	69	90	68	54	57
75°	2	2	8	2	2	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°	510.9	510.9	510.9	510.9	510.9	510.9	510.9	510.9	510.9	510.9	510.9
2.5°	507.3	513.1	513.8	510.2	508.7	506.5	511.6	508.0	509.4	508.0	507.3
5°	500.7	507.3	508.0	508.0	506.5	505.8	508.0	507.3	506.5	505.1	507.3
7.5°	497.8	501.4	505.1	500.7	502.9	502.2	507.3	505.1	504.4	504.4	502.9
10°	499.3	498.5	501.4	497.1	498.5	497.1	501.4	501.4	500.0	498.5	497.8
12.5°	487.7	493.5	493.5	492.7	491.3	489.1	493.5	496.4	492.0	492.0	491.3
15°	481.1	482.6	483.3	483.3	482.6	484.0	486.2	483.3	484.0	480.4	481.9
17.5°	473.9	471.0	473.1	471.7	472.4	473.9	476.8	476.8	472.4	471.7	473.1
20°	457.2	465.9	466.6	462.3	463.0	463.0	468.1	463.7	466.6	463.0	464.4
22.5°	449.2	455.0	455.7	449.9	453.6	449.2	454.3	447.7	455.0	449.9	452.1
25°	439.0	438.3	440.5	437.6	438.3	438.3	441.9	439.0	441.2	438.3	439.0
27.5°	422.3	428.2	427.4	424.5	426.0	425.3	432.5	424.5	428.9	425.3	426.7
30°	407.8	412.9	411.5	408.6	408.6	406.4	414.4	412.2	411.5	411.5	410.7
32.5°	393.3	394.0	392.6	393.3	394.0	391.1	397.7	394.8	394.0	394.8	395.5
35°	373.7	373.7	375.2	373.0	375.9	375.9	381.7	378.1	377.4	375.2	377.4
37.5°	356.3	354.1	354.9	354.9	356.3	357.8	360.7	359.2	359.2	357.0	358.5
40°	333.1	331.6	333.8	333.8	336.0	336.0	338.9	337.4	339.6	339.6	339.6
42.5°	312.8	312.8	311.3	313.5	314.2	313.5	318.6	317.9	318.6	317.1	317.9
45°	291.0	291.0	289.5	288.8	292.5	291.7	297.5	295.4	298.3	296.8	297.5
47.5°	261.2	264.9	262.7	264.9	269.2	270.0	273.6	272.1	275.0	272.9	275.8
50°	232.9	232.9	235.1	238.0	242.4	243.1	247.5	250.4	251.8	252.5	253.3
52.5°	203.2	202.5	204.6	208.3	211.9	214.8	219.2	223.5	226.4	230.8	228.6
55°	168.4	169.8	172.0	176.3	182.1	185.8	189.4	195.2	200.3	202.5	206.8
57.5°	138.6	137.2	138.6	144.4	150.9	153.8	158.9	164.7	172.0	176.3	177.8
60°	107.4	108.1	109.6	114.7	119.7	124.1	126.3	135.7	142.2	146.6	149.5
62.5°	79.1	80.6	82.0	86.4	91.4	95.1	98.7	106.7	112.5	116.8	119.7
65°	55.2	55.9	58.1	60.2	65.3	68.9	71.8	78.4	84.2	87.8	90.0
67.5°	34.1	34.8	36.3	39.2	42.8	45.7	48.6	53.0	58.1	61.7	62.4
70°	17.4	18.1	18.9	21.0	23.9	25.4	27.6	31.2	34.8	37.7	39.2
72.5°	5.8	5.8	6.5	8.0	9.4	10.9	11.6	15.2	18.1	19.6	20.3
75°	1.5	1.5	1.5	1.5	1.5	2.2	2.2	4.4	5.8	7.3	8.0
77.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.5	1.5
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°	510.9	510.9	510.9	510.9	510.9	510.9	510.9	510.9	510.9	510.9
2.5°	510.9	509.4	508.7	509.4	509.4	508.7	510.9	513.8	517.4	508.0
5°	510.2	508.7	510.2	505.8	508.0	506.5	509.4	508.7	511.6	508.7
7.5°	508.0	505.1	505.8	503.6	506.5	502.9	505.1	509.4	506.5	502.2
10°	500.7	499.3	504.4	497.1	495.6	498.5	504.4	500.0	498.5	500.0
12.5°	493.5	493.5	495.6	489.8	490.6	492.0	494.9	492.0	493.5	497.1
15°	485.5	484.0	487.7	483.3	482.6	481.1	484.0	484.0	485.5	483.3
17.5°	476.0	473.9	473.9	472.4	471.7	475.3	476.8	477.5	478.2	475.3
20°	464.4	463.7	465.9	463.7	464.4	465.2	465.2	463.7	470.2	462.3
22.5°	452.1	454.3	451.4	449.9	451.4	452.8	452.8	453.6	452.1	450.7
25°	439.8	441.2	441.9	437.6	439.8	437.6	442.7	443.4	440.5	441.9
27.5°	428.9	426.7	426.0	423.1	424.5	423.8	424.5	424.5	428.9	423.1
30°	412.2	410.0	410.7	408.6	409.3	408.6	409.3	409.3	412.2	411.5
32.5°	396.2	394.0	394.8	392.6	392.6	393.3	391.9	391.9	394.0	392.6
35°	381.0	375.9	376.6	375.9	376.6	373.7	373.7	373.0	374.5	370.8
37.5°	359.2	357.0	356.3	355.6	356.3	354.9	356.3	354.1	356.3	353.4
40°	339.6	338.2	338.9	334.5	334.5	335.3	333.8	333.1	333.8	336.7
42.5°	320.0	317.1	315.7	314.2	314.9	312.8	312.0	310.6	312.0	309.1
45°	296.8	296.8	296.1	292.5	293.2	293.2	290.3	287.4	288.1	288.1
47.5°	275.8	274.3	273.6	270.0	269.2	268.5	265.6	263.4	263.4	261.2
50°	252.5	251.1	248.9	245.3	243.8	239.5	237.3	234.4	231.5	231.5
52.5°	230.8	225.7	222.8	217.0	214.8	212.6	206.8	204.6	202.5	200.3
55°	204.6	200.3	194.5	188.0	185.0	181.4	175.6	171.3	168.4	169.1
57.5°	179.2	172.0	166.2	157.5	153.8	151.7	145.9	140.1	137.2	137.2
60°	148.0	142.2	135.0	127.0	124.1	120.5	113.2	109.6	107.4	105.2
62.5°	118.3	113.9	107.4	97.2	95.1	91.4	86.4	82.0	79.8	79.8
65°	88.5	84.2	78.4	71.1	68.2	65.3	61.0	56.6	54.4	53.7
67.5°	62.4	57.3	52.2	46.4	44.3	42.8	38.5	35.6	34.1	33.4
70°	37.7	34.8	31.2	26.9	24.7	23.2	20.3	18.1	17.4	16.7
72.5°	19.6	17.4	14.5	11.6	10.2	8.7	7.3	5.8	5.1	5.1
75°	7.3	5.8	3.6	2.2	1.5	1.5	1.5	1.5	1.5	1.5
77.5°	1.5	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)