

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: P209213

Luminaire Tested: **LDSQ4B10D010 EU4B10209727 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209213
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 EU4B10209727 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: 752.2 lumens
Efficiency: N/A
Efficacy: 74.8 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

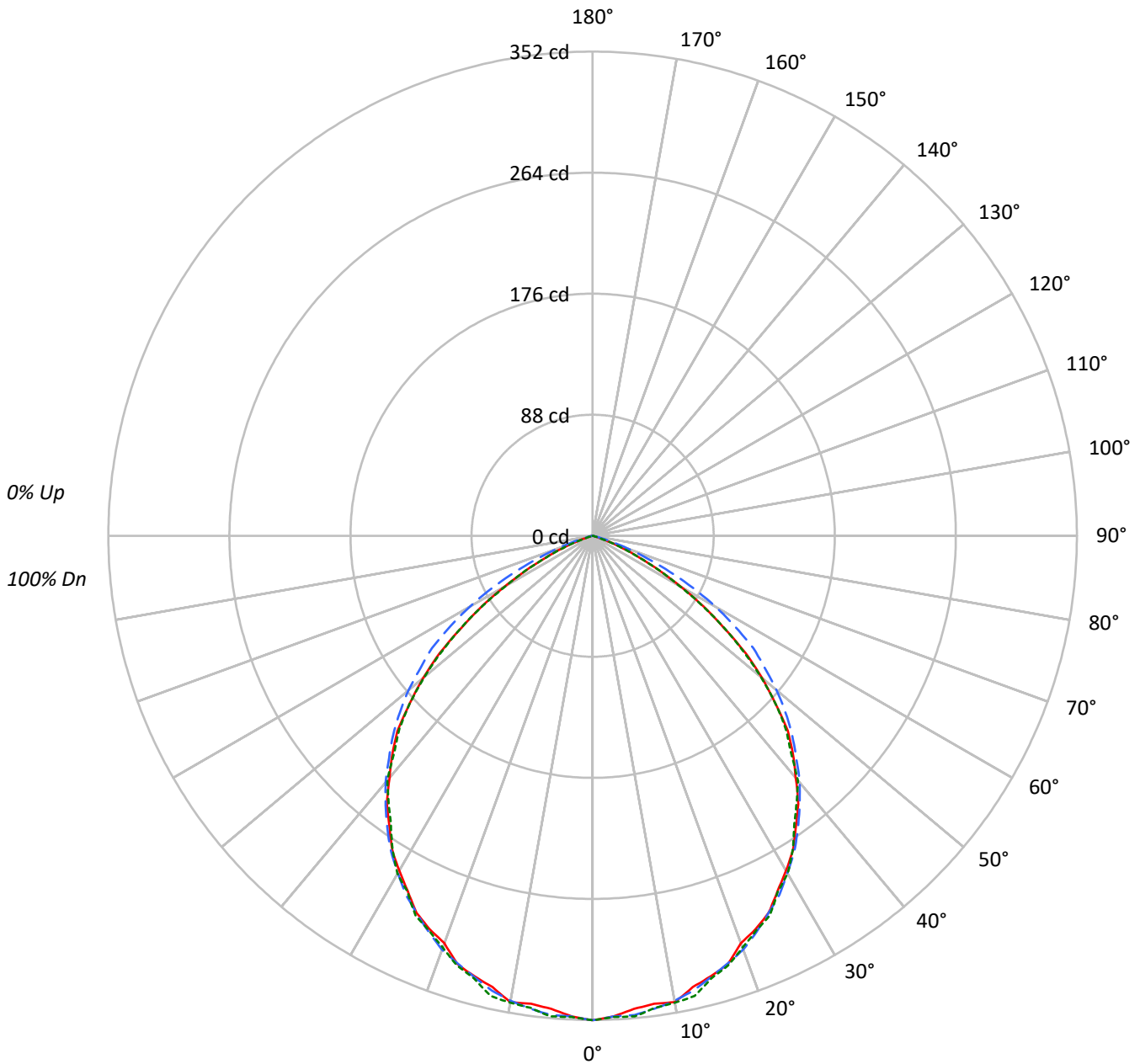
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	111	108	104	101	109	105	102	100	101	99	96	97	95	94	94	92	91	89					89			
2	103	96	91	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77					77			
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67					67			
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59					59			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52					52			
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46					46			
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41					41			
8	65	53	45	40	64	52	45	39	51	44	39	50	44	39	49	43	39	37					37			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	33					33			
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	31					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°	33.2	4.4
10°-20°	94.1	12.5
20°-30°	139.6	18.6
30°-40°	161.7	21.5
40°-50°	155.1	20.6
50°-60°	114.0	15.2
60°-70°	49.2	6.5
70°-80°	5.3	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°	266.9	35.5
0°-40°	428.6	57.0
0°-60°	697.6	92.7
0°-90°	752.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	752.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	352	352	352	352	352	
5°	345	349	350	350	351	33
15°	332	334	332	333	333	93
25°	303	302	303	303	305	139
35°	258	259	260	260	256	161
45°	201	201	205	202	199	152
55°	116	128	143	128	117	104
65°	38	48	62	47	37	39
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°	352.2	352.2	352.2	352.2	352.2	352.2	352.2	352.2	352.2	352.2	352.2
2.5°	349.7	353.7	354.2	351.7	350.7	349.2	352.7	350.2	351.2	350.2	349.7
5°	345.2	349.7	350.2	350.2	349.2	348.7	350.2	349.7	349.2	348.2	349.7
7.5°	343.2	345.7	348.2	345.2	346.7	346.2	349.7	348.2	347.7	347.7	346.7
10°	344.2	343.7	345.7	342.7	343.7	342.7	345.7	345.7	344.7	343.7	343.2
12.5°	336.1	340.1	340.1	339.6	338.6	337.1	340.1	342.2	339.1	339.1	338.6
15°	331.6	332.6	333.1	333.1	332.6	333.6	335.1	333.1	333.6	331.1	332.1
17.5°	326.6	324.6	326.1	325.1	325.6	326.6	328.6	328.6	325.6	325.1	326.1
20°	315.1	321.1	321.6	318.6	319.1	319.1	322.6	319.6	321.6	319.1	320.1
22.5°	309.6	313.6	314.1	310.1	312.6	309.6	313.1	308.6	313.6	310.1	311.6
25°	302.6	302.1	303.6	301.6	302.1	302.1	304.6	302.6	304.1	302.1	302.6
27.5°	291.1	295.1	294.6	292.6	293.6	293.1	298.1	292.6	295.6	293.1	294.1
30°	281.1	284.6	283.6	281.6	281.6	280.1	285.6	284.1	283.6	283.6	283.1
32.5°	271.1	271.6	270.6	271.1	271.6	269.6	274.1	272.1	271.6	272.1	272.6
35°	257.6	257.6	258.6	257.1	259.1	259.1	263.1	260.6	260.1	258.6	260.1
37.5°	245.6	244.1	244.6	244.6	245.6	246.6	248.6	247.6	247.6	246.1	247.1
40°	229.6	228.6	230.1	230.1	231.6	231.6	233.6	232.6	234.1	234.1	234.1
42.5°	215.6	215.6	214.6	216.1	216.6	216.1	219.6	219.1	219.6	218.6	219.1
45°	200.6	200.6	199.6	199.1	201.6	201.1	205.1	203.6	205.6	204.6	205.1
47.5°	180.1	182.6	181.1	182.6	185.6	186.1	188.6	187.6	189.6	188.1	190.1
50°	160.6	160.6	162.1	164.1	167.1	167.6	170.6	172.6	173.6	174.1	174.6
52.5°	140.1	139.6	141.1	143.6	146.1	148.1	151.1	154.1	156.1	159.1	157.6
55°	116.1	117.1	118.6	121.6	125.6	128.1	130.6	134.6	138.1	139.6	142.6
57.5°	95.5	94.5	95.5	99.5	104.0	106.0	109.5	113.5	118.6	121.6	122.6
60°	74.0	74.5	75.5	79.0	82.5	85.5	87.0	93.5	98.0	101.0	103.0
62.5°	54.5	55.5	56.5	59.5	63.0	65.5	68.0	73.5	77.5	80.5	82.5
65°	38.0	38.5	40.0	41.5	45.0	47.5	49.5	54.0	58.0	60.5	62.0
67.5°	23.5	24.0	25.0	27.0	29.5	31.5	33.5	36.5	40.0	42.5	43.0
70°	12.0	12.5	13.0	14.5	16.5	17.5	19.0	21.5	24.0	26.0	27.0
72.5°	4.0	4.0	4.5	5.5	6.5	7.5	8.0	10.5	12.5	13.5	14.0
75°	1.0	1.0	1.0	1.0	1.0	1.5	1.5	3.0	4.0	5.0	5.5
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°	352.2	352.2	352.2	352.2	352.2	352.2	352.2	352.2	352.2	352.2
2.5°	352.2	351.2	350.7	351.2	351.2	350.7	352.2	354.2	356.7	350.2
5°	351.7	350.7	351.7	348.7	350.2	349.2	351.2	350.7	352.7	350.7
7.5°	350.2	348.2	348.7	347.2	349.2	346.7	348.2	351.2	349.2	346.2
10°	345.2	344.2	347.7	342.7	341.7	343.7	347.7	344.7	343.7	344.7
12.5°	340.1	340.1	341.7	337.6	338.1	339.1	341.1	339.1	340.1	342.7
15°	334.6	333.6	336.1	333.1	332.6	331.6	333.6	333.6	334.6	333.1
17.5°	328.1	326.6	326.6	325.6	325.1	327.6	328.6	329.1	329.6	327.6
20°	320.1	319.6	321.1	319.6	320.1	320.6	320.6	319.6	324.1	318.6
22.5°	311.6	313.1	311.1	310.1	311.1	312.1	312.1	312.6	311.6	310.6
25°	303.1	304.1	304.6	301.6	303.1	301.6	305.1	305.6	303.6	304.6
27.5°	295.6	294.1	293.6	291.6	292.6	292.1	292.6	292.6	295.6	291.6
30°	284.1	282.6	283.1	281.6	282.1	281.6	282.1	282.1	284.1	283.6
32.5°	273.1	271.6	272.1	270.6	270.6	271.1	270.1	270.1	271.6	270.6
35°	262.6	259.1	259.6	259.1	259.6	257.6	257.6	257.1	258.1	255.6
37.5°	247.6	246.1	245.6	245.1	245.6	244.6	245.6	244.1	245.6	243.6
40°	234.1	233.1	233.6	230.6	230.6	231.1	230.1	229.6	230.1	232.1
42.5°	220.6	218.6	217.6	216.6	217.1	215.6	215.1	214.1	215.1	213.1
45°	204.6	204.6	204.1	201.6	202.1	202.1	200.1	198.1	198.6	198.6
47.5°	190.1	189.1	188.6	186.1	185.6	185.1	183.1	181.6	181.6	180.1
50°	174.1	173.1	171.6	169.1	168.1	165.1	163.6	161.6	159.6	159.6
52.5°	159.1	155.6	153.6	149.6	148.1	146.6	142.6	141.1	139.6	138.1
55°	141.1	138.1	134.1	129.6	127.6	125.1	121.1	118.1	116.1	116.6
57.5°	123.6	118.6	114.6	108.5	106.0	104.5	100.5	96.5	94.5	94.5
60°	102.0	98.0	93.0	87.5	85.5	83.0	78.0	75.5	74.0	72.5
62.5°	81.5	78.5	74.0	67.0	65.5	63.0	59.5	56.5	55.0	55.0
65°	61.0	58.0	54.0	49.0	47.0	45.0	42.0	39.0	37.5	37.0
67.5°	43.0	39.5	36.0	32.0	30.5	29.5	26.5	24.5	23.5	23.0
70°	26.0	24.0	21.5	18.5	17.0	16.0	14.0	12.5	12.0	11.5
72.5°	13.5	12.0	10.0	8.0	7.0	6.0	5.0	4.0	3.5	3.5
75°	5.0	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)