

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: P209232

Luminaire Tested: **LDSQ4B20D010 EU4B10209024 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209232
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: LDSQ4B20D010 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-21.86 W DE010-20.46 W D5LT-21.24 W DMX-20.89 W DL2-22.5 W DL3-21.8 6 W DLE-22.46 W
Light Source: HIGH LUMEN LED 2400 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1435.6 lumens
Efficiency: N/A
Efficacy: 69.0 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

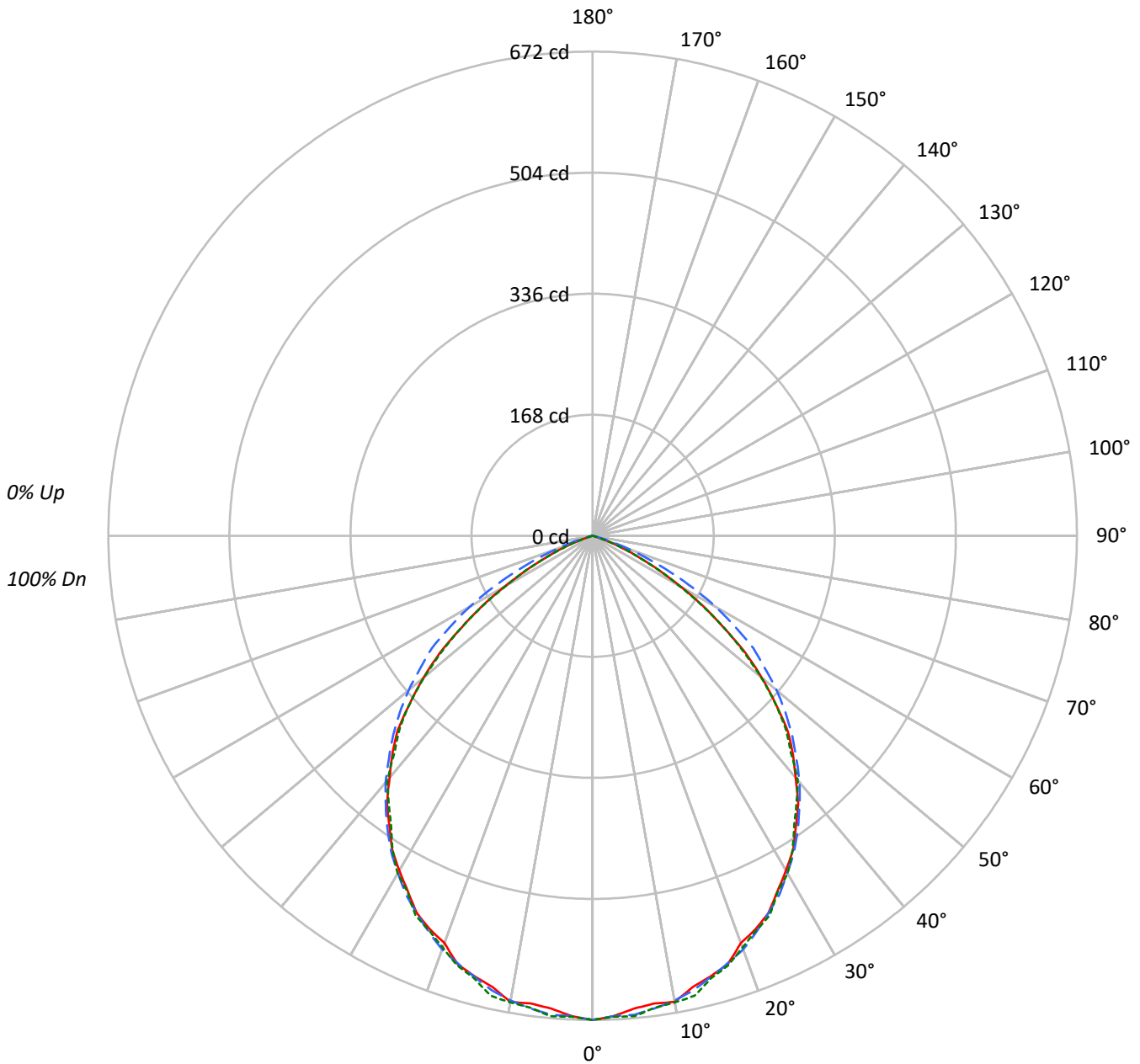
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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°	63.4	4.4
10°-20°	179.5	12.5
20°-30°	266.3	18.6
30°-40°	308.6	21.5
40°-50°	295.9	20.6
50°-60°	217.6	15.2
60°-70°	94.0	6.5
70°-80°	10.1	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°	509.3	35.5
0°-40°	817.9	57.0
0°-60°	1331.3	92.7
0°-90°	1435.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1435.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	672	672	672	672	672	
5°	659	665	667	668	669	63
15°	633	637	634	635	636	178
25°	578	577	578	578	581	264
35°	492	494	496	495	488	307
45°	383	384	391	386	379	291
55°	222	244	272	243	222	199
65°	72	91	118	90	71	75
75°	2	3	10	2	2	6
85°	0	0	0	0	0	0
90°	0	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°	672.0	672.0	672.0	672.0	672.0	672.0	672.0	672.0	672.0	672.0	672.0
2.5°	667.2	674.9	675.8	671.1	669.2	666.3	673.0	668.2	670.1	668.2	667.2
5°	658.7	667.2	668.2	668.2	666.3	665.3	668.2	667.2	666.3	664.4	667.2
7.5°	654.8	659.6	664.4	658.7	661.5	660.6	667.2	664.4	663.4	663.4	661.5
10°	656.7	655.8	659.6	653.9	655.8	653.9	659.6	659.6	657.7	655.8	654.8
12.5°	641.5	649.1	649.1	648.2	646.2	643.4	649.1	652.9	647.2	647.2	646.2
15°	632.9	634.8	635.7	635.7	634.8	636.7	639.6	635.7	636.7	631.9	633.8
17.5°	623.3	619.5	622.4	620.5	621.4	623.3	627.2	627.2	621.4	620.5	622.4
20°	601.4	612.8	613.8	608.1	609.0	609.0	615.7	610.0	613.8	609.0	610.9
22.5°	590.9	598.5	599.5	591.8	596.6	590.9	597.6	589.0	598.5	591.8	594.7
25°	577.5	576.6	579.4	575.6	576.6	576.6	581.3	577.5	580.4	576.6	577.5
27.5°	555.6	563.2	562.2	558.4	560.3	559.4	568.9	558.4	564.2	559.4	561.3
30°	536.5	543.1	541.2	537.4	537.4	534.6	545.1	542.2	541.2	541.2	540.3
32.5°	517.4	518.3	516.4	517.4	518.3	514.5	523.1	519.3	518.3	519.3	520.2
35°	491.6	491.6	493.5	490.6	494.5	494.5	502.1	497.3	496.4	493.5	496.4
37.5°	468.7	465.8	466.8	466.8	468.7	470.6	474.4	472.5	472.5	469.6	471.6
40°	438.1	436.2	439.1	439.1	442.0	442.0	445.8	443.9	446.7	446.7	446.7
42.5°	411.4	411.4	409.5	412.4	413.3	412.4	419.1	418.1	419.1	417.1	418.1
45°	382.8	382.8	380.9	379.9	384.7	383.7	391.4	388.5	392.3	390.4	391.4
47.5°	343.6	348.4	345.6	348.4	354.1	355.1	359.9	358.0	361.8	358.9	362.7
50°	306.4	306.4	309.3	313.1	318.8	319.8	325.5	329.3	331.2	332.2	333.1
52.5°	267.3	266.3	269.2	274.0	278.7	282.6	288.3	294.0	297.8	303.6	300.7
55°	221.5	223.4	226.2	232.0	239.6	244.4	249.1	256.8	263.5	266.3	272.1
57.5°	182.3	180.4	182.3	190.0	198.6	202.4	209.1	216.7	226.2	232.0	233.9
60°	141.3	142.2	144.1	150.8	157.5	163.2	166.1	178.5	187.1	192.8	196.6
62.5°	104.0	106.0	107.9	113.6	120.3	125.0	129.8	140.3	148.0	153.7	157.5
65°	72.5	73.5	76.4	79.2	85.9	90.7	94.5	103.1	110.7	115.5	118.4
67.5°	44.9	45.8	47.7	51.5	56.3	60.1	64.0	69.7	76.4	81.1	82.1
70°	22.9	23.9	24.8	27.7	31.5	33.4	36.3	41.0	45.8	49.6	51.5
72.5°	7.6	7.6	8.6	10.5	12.4	14.3	15.3	20.0	23.9	25.8	26.7
75°	1.9	1.9	1.9	1.9	1.9	2.9	2.9	5.7	7.6	9.5	10.5
77.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.9	1.9
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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°	672.0	672.0	672.0	672.0	672.0	672.0	672.0	672.0	672.0	672.0
2.5°	672.0	670.1	669.2	670.1	670.1	669.2	672.0	675.8	680.6	668.2
5°	671.1	669.2	671.1	665.3	668.2	666.3	670.1	669.2	673.0	669.2
7.5°	668.2	664.4	665.3	662.5	666.3	661.5	664.4	670.1	666.3	660.6
10°	658.7	656.7	663.4	653.9	652.0	655.8	663.4	657.7	655.8	657.7
12.5°	649.1	649.1	652.0	644.3	645.3	647.2	651.0	647.2	649.1	653.9
15°	638.6	636.7	641.5	635.7	634.8	632.9	636.7	636.7	638.6	635.7
17.5°	626.2	623.3	623.3	621.4	620.5	625.2	627.2	628.1	629.1	625.2
20°	610.9	610.0	612.8	610.0	610.9	611.9	611.9	610.0	618.6	608.1
22.5°	594.7	597.6	593.7	591.8	593.7	595.7	595.7	596.6	594.7	592.8
25°	578.5	580.4	581.3	575.6	578.5	575.6	582.3	583.2	579.4	581.3
27.5°	564.2	561.3	560.3	556.5	558.4	557.5	558.4	558.4	564.2	556.5
30°	542.2	539.3	540.3	537.4	538.4	537.4	538.4	538.4	542.2	541.2
32.5°	521.2	518.3	519.3	516.4	516.4	517.4	515.5	515.5	518.3	516.4
35°	501.1	494.5	495.4	494.5	495.4	491.6	491.6	490.6	492.6	487.8
37.5°	472.5	469.6	468.7	467.7	468.7	466.8	468.7	465.8	468.7	464.9
40°	446.7	444.8	445.8	440.1	440.1	441.0	439.1	438.1	439.1	442.9
42.5°	421.0	417.1	415.2	413.3	414.3	411.4	410.5	408.6	410.5	406.6
45°	390.4	390.4	389.5	384.7	385.6	385.6	381.8	378.0	379.0	379.0
47.5°	362.7	360.8	359.9	355.1	354.1	353.2	349.4	346.5	346.5	343.6
50°	332.2	330.3	327.4	322.6	320.7	315.0	312.1	308.3	304.5	304.5
52.5°	303.6	296.9	293.1	285.4	282.6	279.7	272.1	269.2	266.3	263.5
55°	269.2	263.5	255.8	247.2	243.4	238.6	231.0	225.3	221.5	222.4
57.5°	235.8	226.2	218.6	207.1	202.4	199.5	191.9	184.2	180.4	180.4
60°	194.7	187.1	177.5	167.0	163.2	158.5	148.9	144.1	141.3	138.4
62.5°	155.6	149.9	141.3	127.9	125.0	120.3	113.6	107.9	105.0	105.0
65°	116.5	110.7	103.1	93.5	89.7	85.9	80.2	74.5	71.6	70.6
67.5°	82.1	75.4	68.7	61.1	58.2	56.3	50.6	46.8	44.9	43.9
70°	49.6	45.8	41.0	35.3	32.5	30.5	26.7	23.9	22.9	22.0
72.5°	25.8	22.9	19.1	15.3	13.4	11.5	9.5	7.6	6.7	6.7
75°	9.5	7.6	4.8	2.9	1.9	1.9	1.9	1.9	1.9	1.9
77.5°	1.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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)