

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: P209154

Luminaire Tested: **LDSQ4B40D010 EU4B30508050 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209154
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35088)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQ4B40D010 EU4B30508050 4LBSQ1LI
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE LOW
IRIDESCENT TRIM.
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM
WATTAGE D010TR-43.02 W DE010-42.54 W D5LT-42.539 W DMX-41.87 W DL2-41.57
W DL3-44.71 W DLE-39.33 W
Light Source: HIGH LUMEN LED 5000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4011.1 lumens
Efficiency: N/A
Efficacy: 93.2 lumens/watt
Spacing Criteria (0/90/45): 0.91 / 0.9 / 0.94
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

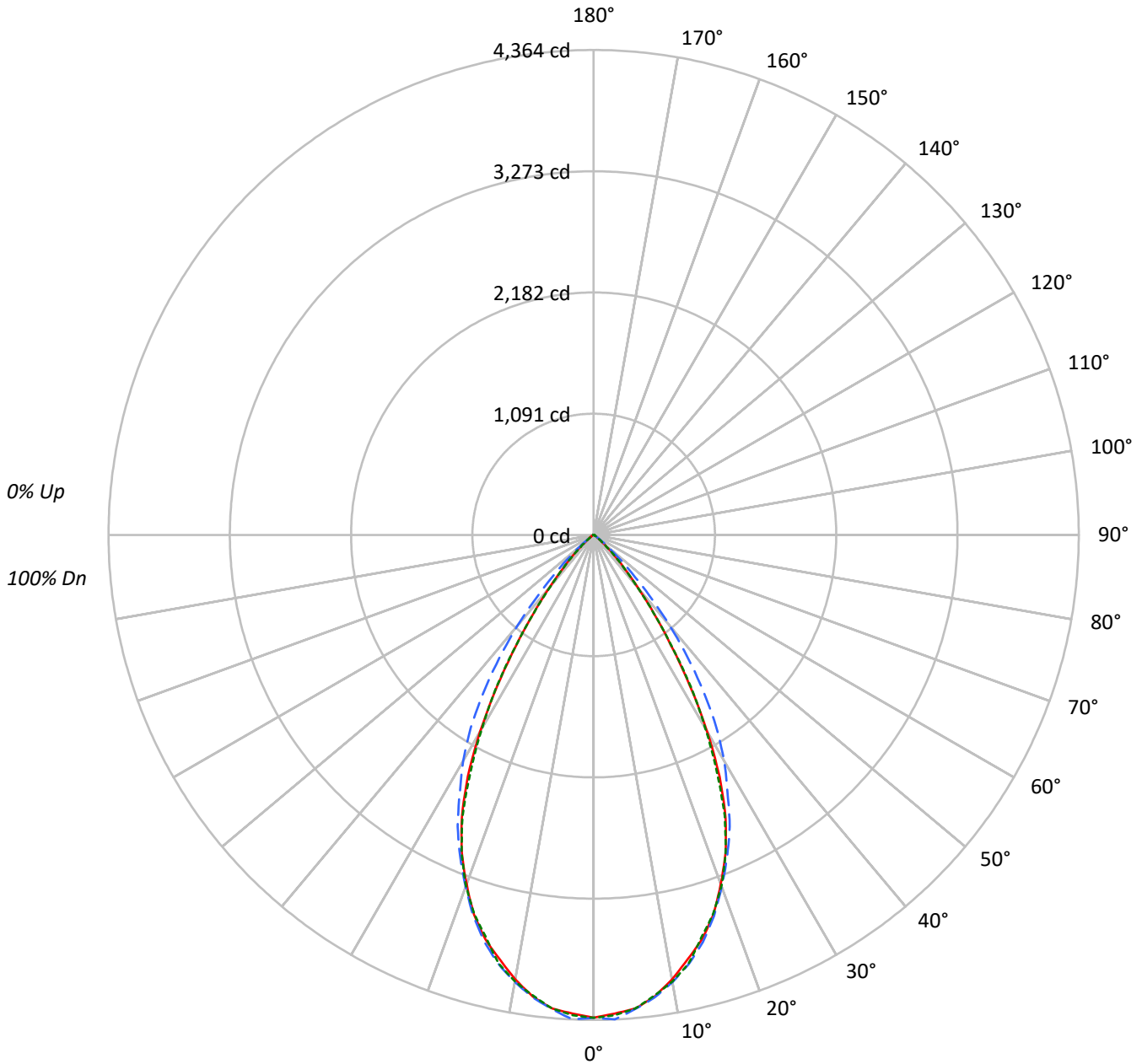
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93																			
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87																			
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80																			
4	97	89	84	79	95	88	83	79	86	81	78	84	80	77	82	79	76	75																			
5	92	83	77	73	90	82	77	73	81	76	72	79	75	71	77	74	71	69																			
6	87	78	72	68	86	77	71	67	76	71	67	74	70	66	73	69	66	64																			
7	83	73	67	63	81	73	67	63	71	66	62	70	65	62	69	65	62	60																			
8	79	69	63	59	77	68	62	58	67	62	58	66	61	58	65	61	58	56																			
9	75	65	59	55	74	64	59	55	63	58	55	63	58	54	62	57	54	53																			
10	71	61	55	51	70	61	55	51	60	55	51	59	54	51	58	54	51	50																			

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°	402.8	10.0
10°-20°	1055.7	26.3
20°-30°	1289.6	32.2
30°-40°	902.0	22.5
40°-50°	295.6	7.4
50°-60°	47.0	1.2
60°-70°	12.8	0.3
70°-80°	4.3	0.1
80°-90°	1.2	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°	2748.2	68.5
0°-40°	3650.2	91.0
0°-60°	3992.8	99.5
0°-90°	4011.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4011.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4345	4345	4345	4345	4345	
5°	4278	4280	4284	4258	4278	401
15°	3765	3780	3793	3768	3746	1050
25°	2807	2850	2896	2843	2788	1261
35°	1214	1434	1725	1412	1226	775
45°	268	330	486	326	265	225
55°	39	41	47	41	36	38
65°	11	14	11	14	11	12
75°	3	3	3	3	3	4
85°	0	0	0	0	0	1
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	4344.7	4344.7	4344.7	4344.7	4344.7	4344.7	4344.7	4344.7	4344.7	4344.7	4344.7
2.5°	4311.5	4341.9	4333.6	4352.9	4352.9	4330.9	4336.4	4344.7	4355.7	4364.0	4297.7
5°	4278.4	4306.0	4281.2	4308.8	4292.2	4267.4	4308.8	4286.7	4300.5	4283.9	4295.0
7.5°	4190.1	4234.3	4184.6	4217.7	4206.7	4192.8	4209.4	4203.9	4212.2	4198.4	4168.0
10°	4060.4	4096.2	4063.1	4110.0	4088.0	4074.2	4088.0	4101.8	4099.0	4085.2	4101.8
12.5°	3911.3	3952.7	3936.1	3963.7	3938.9	3938.9	3972.0	3963.7	3966.5	3955.5	3974.8
15°	3765.0	3795.4	3770.5	3806.4	3795.4	3765.0	3778.8	3778.8	3800.9	3792.6	3770.5
17.5°	3582.8	3607.7	3580.1	3588.4	3577.3	3571.8	3629.8	3591.1	3613.2	3596.6	3599.4
20°	3342.7	3353.7	3345.4	3367.5	3353.7	3370.3	3364.8	3359.2	3359.2	3367.5	3348.2
22.5°	3099.8	3099.8	3108.1	3113.6	3124.6	3108.1	3141.2	3113.6	3116.3	3135.7	3130.1
25°	2807.2	2798.9	2818.2	2845.8	2856.9	2843.1	2887.2	2865.2	2881.7	2895.5	2865.2
27.5°	2451.1	2451.1	2470.4	2517.4	2525.6	2542.2	2602.9	2602.9	2625.0	2605.7	2627.8
30°	2039.8	2070.2	2095.0	2155.8	2175.1	2211.0	2274.5	2304.8	2354.5	2346.2	2335.2
32.5°	1617.5	1658.9	1661.7	1725.2	1777.6	1838.3	1923.9	1995.7	2031.6	2056.4	2028.8
35°	1214.5	1239.4	1261.4	1305.6	1393.9	1474.0	1551.3	1645.1	1708.6	1725.2	1700.3
37.5°	888.8	894.3	916.4	957.8	1024.1	1101.3	1195.2	1297.3	1363.6	1388.4	1360.8
40°	612.8	618.3	629.3	665.2	720.4	775.6	850.2	955.1	1015.8	1065.5	1029.6
42.5°	411.3	416.8	427.8	455.4	485.8	538.3	596.2	662.5	720.4	742.5	723.2
45°	267.7	267.7	273.3	292.6	309.2	350.6	392.0	433.4	472.0	485.8	472.0
47.5°	157.3	160.1	165.6	179.4	198.7	215.3	245.7	273.3	284.3	295.3	289.8
50°	91.1	91.1	99.4	107.7	121.5	132.5	143.5	154.6	160.1	165.6	160.1
52.5°	49.7	52.4	55.2	58.0	63.5	74.5	82.8	82.8	85.6	88.3	85.6
55°	38.6	38.6	38.6	38.6	41.4	41.4	41.4	44.2	44.2	46.9	44.2
57.5°	27.6	27.6	27.6	30.4	30.4	30.4	27.6	27.6	27.6	27.6	27.6
60°	22.1	22.1	22.1	22.1	22.1	22.1	22.1	19.3	19.3	19.3	19.3
62.5°	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6
65°	11.0	11.0	13.8	13.8	13.8	13.8	13.8	11.0	11.0	11.0	11.0
67.5°	8.3	8.3	8.3	8.3	11.0	11.0	8.3	8.3	8.3	8.3	8.3
70°	5.5	5.5	5.5	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
72.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
75°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
77.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
80°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	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°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	4344.7	4344.7	4344.7	4344.7	4344.7	4344.7	4344.7	4344.7
2.5°	4344.7	4297.7	4303.3	4328.1	4314.3	4328.1	4325.3	4325.3
5°	4297.7	4283.9	4261.9	4253.6	4270.1	4306.0	4300.5	4278.4
7.5°	4209.4	4173.5	4198.4	4209.4	4195.6	4217.7	4228.7	4181.8
10°	4104.5	4090.7	4085.2	4090.7	4085.2	4107.3	4079.7	4079.7
12.5°	3955.5	3933.4	3933.4	3966.5	3947.2	3930.6	3952.7	3949.9
15°	3806.4	3762.2	3762.2	3773.3	3781.6	3770.5	3773.3	3745.7
17.5°	3585.6	3571.8	3552.5	3582.8	3591.1	3580.1	3588.4	3574.5
20°	3378.6	3378.6	3342.7	3356.5	3367.5	3375.8	3381.3	3359.2
22.5°	3113.6	3119.1	3094.3	3121.9	3130.1	3102.5	3108.1	3102.5
25°	2870.7	2867.9	2848.6	2837.6	2843.1	2832.0	2829.3	2787.9
27.5°	2602.9	2575.3	2533.9	2545.0	2498.0	2459.4	2459.4	2395.9
30°	2313.1	2266.2	2211.0	2155.8	2114.4	2070.2	2045.4	2009.5
32.5°	1973.6	1910.1	1841.1	1766.6	1719.6	1653.4	1617.5	1636.8
35°	1636.8	1543.0	1449.1	1374.6	1302.8	1264.2	1220.0	1225.6
37.5°	1311.1	1178.6	1095.8	1015.8	955.1	905.4	886.0	880.5
40°	957.8	852.9	770.1	712.1	670.7	632.1	610.0	601.7
42.5°	662.5	587.9	521.7	474.8	447.2	422.3	411.3	408.5
45°	430.6	386.4	342.3	309.2	287.1	270.5	267.7	265.0
47.5°	270.5	248.4	220.8	196.0	176.7	165.6	157.3	157.3
50°	154.6	146.3	132.5	118.7	107.7	102.1	93.8	91.1
52.5°	82.8	82.8	77.3	66.2	58.0	52.4	52.4	49.7
55°	44.2	44.2	41.4	41.4	38.6	38.6	38.6	35.9
57.5°	27.6	27.6	30.4	30.4	27.6	27.6	27.6	27.6
60°	19.3	22.1	22.1	22.1	22.1	22.1	22.1	22.1
62.5°	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6
65°	11.0	13.8	13.8	13.8	13.8	11.0	11.0	11.0
67.5°	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
70°	8.3	8.3	8.3	8.3	8.3	5.5	5.5	5.5
72.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
75°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
77.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
80°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
82.5°	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
87.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
90°	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)