

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: P209153

Luminaire Tested: **LDSQ4B40D010 EU4B30508040 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209153
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 EU4B30508040 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 4000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4013.3 lumens
Efficiency: N/A
Efficacy: 93.3 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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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°	403.0	10.0
10°-20°	1056.3	26.3
20°-30°	1290.4	32.2
30°-40°	902.5	22.5
40°-50°	295.8	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°	2749.7	68.5
0°-40°	3652.2	91.0
0°-60°	3995.0	99.5
0°-90°	4013.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4013.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4347	4347	4347	4347	4347	
5°	4281	4282	4286	4260	4281	402
15°	3767	3782	3795	3770	3748	1051
25°	2809	2852	2897	2845	2789	1262
35°	1215	1435	1726	1413	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°	4347.1	4347.1	4347.1	4347.1	4347.1	4347.1	4347.1	4347.1	4347.1	4347.1	4347.1
2.5°	4314.0	4344.3	4336.1	4355.4	4355.4	4333.3	4338.8	4347.1	4358.2	4366.4	4300.2
5°	4280.8	4308.4	4283.6	4311.2	4294.6	4269.8	4311.2	4289.1	4302.9	4286.3	4297.4
7.5°	4192.4	4236.6	4186.9	4220.1	4209.0	4195.2	4211.8	4206.3	4214.5	4200.7	4170.4
10°	4062.6	4098.5	4065.4	4112.4	4090.3	4076.5	4090.3	4104.1	4101.3	4087.5	4104.1
12.5°	3913.5	3954.9	3938.4	3966.0	3941.1	3941.1	3974.3	3966.0	3968.7	3957.7	3977.0
15°	3767.1	3797.5	3772.7	3808.6	3797.5	3767.1	3780.9	3780.9	3803.0	3794.7	3772.7
17.5°	3584.8	3609.7	3582.1	3590.4	3579.3	3573.8	3631.8	3593.1	3615.2	3598.7	3601.4
20°	3344.6	3355.6	3347.3	3369.4	3355.6	3372.2	3366.7	3361.1	3361.1	3369.4	3350.1
22.5°	3101.5	3101.5	3109.8	3115.3	3126.4	3109.8	3143.0	3115.3	3118.1	3137.4	3131.9
25°	2808.8	2800.5	2819.8	2847.4	2858.5	2844.7	2888.9	2866.8	2883.3	2897.2	2866.8
27.5°	2452.5	2452.5	2471.8	2518.8	2527.1	2543.6	2604.4	2604.4	2626.5	2607.2	2629.3
30°	2041.0	2071.4	2096.2	2157.0	2176.3	2212.2	2275.7	2306.1	2355.8	2347.5	2336.5
32.5°	1618.4	1659.9	1662.6	1726.1	1778.6	1839.4	1925.0	1996.8	2032.7	2057.6	2029.9
35°	1215.2	1240.1	1262.2	1306.3	1394.7	1474.8	1552.1	1646.0	1709.6	1726.1	1701.3
37.5°	889.3	894.8	916.9	958.4	1024.6	1102.0	1195.9	1298.1	1364.3	1389.2	1361.6
40°	613.1	618.6	629.7	665.6	720.8	776.1	850.6	955.6	1016.4	1066.1	1030.2
42.5°	411.5	417.0	428.1	455.7	486.1	538.6	596.6	662.8	720.8	742.9	723.6
45°	267.9	267.9	273.4	292.8	309.3	350.8	392.2	433.6	472.3	486.1	472.3
47.5°	157.4	160.2	165.7	179.5	198.9	215.4	245.8	273.4	284.5	295.5	290.0
50°	91.1	91.1	99.4	107.7	121.5	132.6	143.6	154.7	160.2	165.7	160.2
52.5°	49.7	52.5	55.2	58.0	63.5	74.6	82.9	82.9	85.6	88.4	85.6
55°	38.7	38.7	38.7	38.7	41.4	41.4	41.4	44.2	44.2	47.0	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°	4347.1	4347.1	4347.1	4347.1	4347.1	4347.1	4347.1	4347.1
2.5°	4347.1	4300.2	4305.7	4330.5	4316.7	4330.5	4327.8	4327.8
5°	4300.2	4286.3	4264.3	4256.0	4272.5	4308.4	4302.9	4280.8
7.5°	4211.8	4175.9	4200.7	4211.8	4198.0	4220.1	4231.1	4184.2
10°	4106.8	4093.0	4087.5	4093.0	4087.5	4109.6	4082.0	4082.0
12.5°	3957.7	3935.6	3935.6	3968.7	3949.4	3932.8	3954.9	3952.2
15°	3808.6	3764.4	3764.4	3775.4	3783.7	3772.7	3775.4	3747.8
17.5°	3587.6	3573.8	3554.5	3584.8	3593.1	3582.1	3590.4	3576.6
20°	3380.5	3380.5	3344.6	3358.4	3369.4	3377.7	3383.2	3361.1
22.5°	3115.3	3120.9	3096.0	3123.6	3131.9	3104.3	3109.8	3104.3
25°	2872.3	2869.5	2850.2	2839.2	2844.7	2833.6	2830.9	2789.4
27.5°	2604.4	2576.8	2535.4	2546.4	2499.4	2460.8	2460.8	2397.3
30°	2314.4	2267.5	2212.2	2157.0	2115.6	2071.4	2046.5	2010.6
32.5°	1974.7	1911.2	1842.1	1767.6	1720.6	1654.3	1618.4	1637.8
35°	1637.8	1543.9	1450.0	1375.4	1303.6	1264.9	1220.7	1226.2
37.5°	1311.9	1179.3	1096.4	1016.4	955.6	905.9	886.5	881.0
40°	958.4	853.4	770.5	712.6	671.1	632.5	610.4	602.1
42.5°	662.8	588.3	522.0	475.0	447.4	422.6	411.5	408.7
45°	430.8	386.7	342.5	309.3	287.2	270.7	267.9	265.1
47.5°	270.7	248.6	220.9	196.1	176.8	165.7	157.4	157.4
50°	154.7	146.4	132.6	118.8	107.7	102.2	93.9	91.1
52.5°	82.9	82.9	77.3	66.3	58.0	52.5	52.5	49.7
55°	44.2	44.2	41.4	41.4	38.7	38.7	38.7	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)