

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: P209152

Luminaire Tested: **LDSQ4B40D010 EU4B30508030 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209152
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 EU4B30508030 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 3000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3874.4 lumens
Efficiency: N/A
Efficacy: 90.1 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

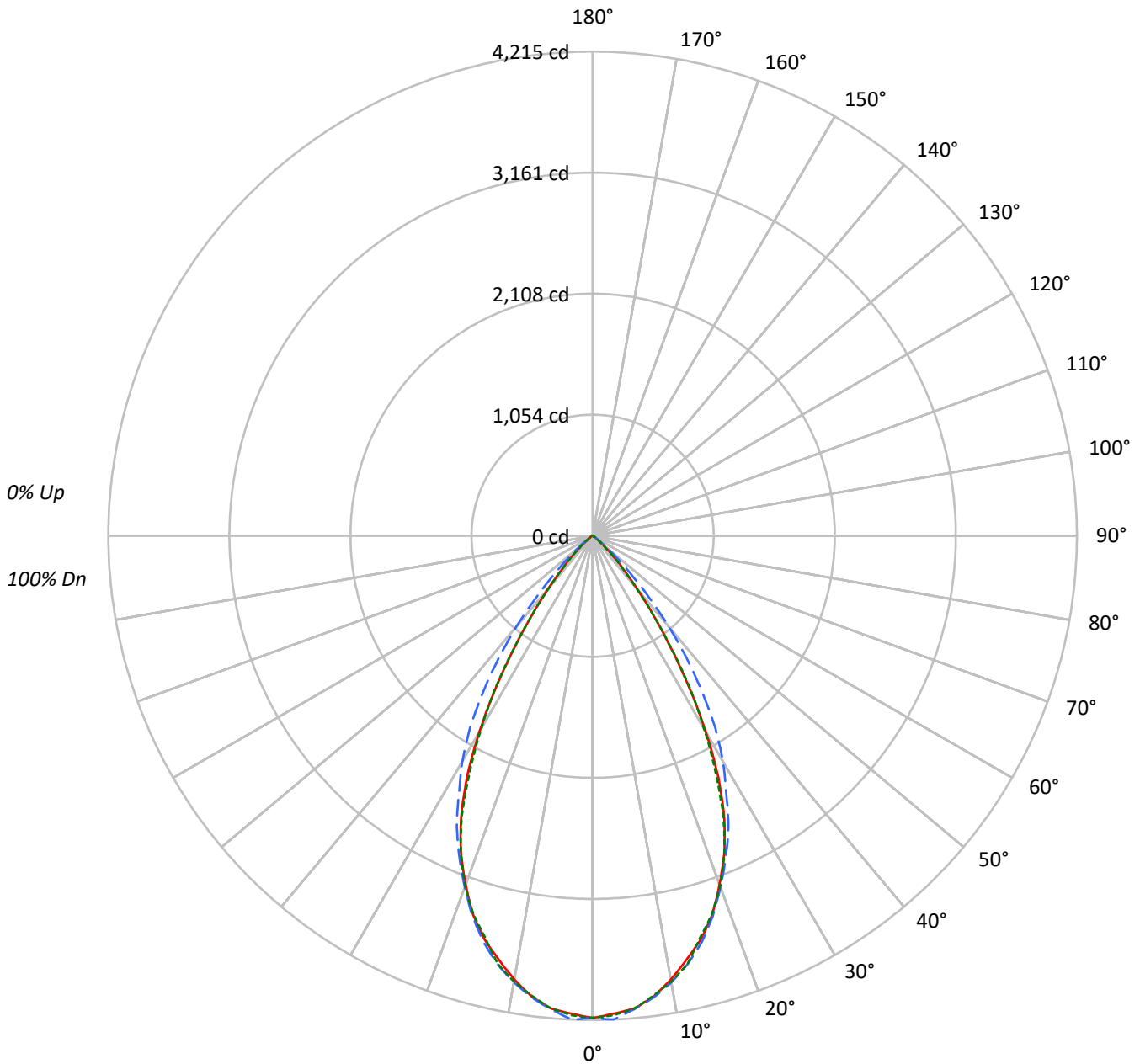
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	389.1	10.0
10°-20°	1019.7	26.3
20°-30°	1245.7	32.2
30°-40°	871.3	22.5
40°-50°	285.5	7.4
50°-60°	45.4	1.2
60°-70°	12.4	0.3
70°-80°	4.1	0.1
80°-90°	1.1	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°	2654.6	68.5
0°-40°	3525.9	91.0
0°-60°	3856.8	99.5
0°-90°	3874.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3874.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4197	4197	4197	4197	4197	
5°	4133	4134	4138	4113	4133	388
15°	3637	3651	3664	3639	3618	1014
25°	2712	2753	2797	2746	2693	1218
35°	1173	1385	1666	1364	1184	749
45°	259	319	469	315	256	217
55°	37	40	45	40	35	37
65°	11	13	11	13	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°	4196.7	4196.7	4196.7	4196.7	4196.7	4196.7	4196.7	4196.7	4196.7	4196.7	4196.7
2.5°	4164.7	4194.0	4186.0	4204.7	4204.7	4183.4	4188.7	4196.7	4207.4	4215.4	4151.4
5°	4132.7	4159.4	4135.4	4162.0	4146.0	4122.0	4162.0	4140.7	4154.0	4138.0	4148.7
7.5°	4047.4	4090.1	4042.1	4074.1	4063.4	4050.1	4066.1	4060.7	4068.7	4055.4	4026.1
10°	3922.1	3956.7	3924.7	3970.1	3948.7	3935.4	3948.7	3962.1	3959.4	3946.1	3962.1
12.5°	3778.1	3818.1	3802.1	3828.8	3804.8	3804.8	3836.8	3828.8	3831.4	3820.8	3839.4
15°	3636.8	3666.1	3642.1	3676.8	3666.1	3636.8	3650.1	3650.1	3671.4	3663.5	3642.1
17.5°	3460.8	3484.8	3458.1	3466.1	3455.5	3450.1	3506.1	3468.8	3490.1	3474.1	3476.8
20°	3228.8	3239.5	3231.5	3252.8	3239.5	3255.5	3250.2	3244.8	3244.8	3252.8	3234.2
22.5°	2994.2	2994.2	3002.2	3007.5	3018.2	3002.2	3034.2	3007.5	3010.2	3028.9	3023.5
25°	2711.6	2703.6	2722.3	2748.9	2759.6	2746.3	2788.9	2767.6	2783.6	2796.9	2767.6
27.5°	2367.6	2367.6	2386.3	2431.6	2439.6	2455.6	2514.3	2514.3	2535.6	2517.0	2538.3
30°	1970.4	1999.7	2023.7	2082.4	2101.0	2135.7	2197.0	2226.3	2274.3	2266.3	2255.7
32.5°	1562.4	1602.4	1605.1	1666.4	1717.1	1775.7	1858.4	1927.7	1962.4	1986.4	1959.7
35°	1173.2	1197.2	1218.5	1261.1	1346.5	1423.8	1498.4	1589.1	1650.4	1666.4	1642.4
37.5°	858.5	863.9	885.2	925.2	989.2	1063.8	1154.5	1253.1	1317.1	1341.1	1314.5
40°	591.9	597.2	607.9	642.6	695.9	749.2	821.2	922.5	981.2	1029.2	994.5
42.5°	397.3	402.6	413.3	439.9	469.3	519.9	575.9	639.9	695.9	717.2	698.6
45°	258.6	258.6	264.0	282.6	298.6	338.6	378.6	418.6	455.9	469.3	455.9
47.5°	152.0	154.6	160.0	173.3	192.0	208.0	237.3	264.0	274.6	285.3	280.0
50°	88.0	88.0	96.0	104.0	117.3	128.0	138.6	149.3	154.6	160.0	154.6
52.5°	48.0	50.7	53.3	56.0	61.3	72.0	80.0	80.0	82.7	85.3	82.7
55°	37.3	37.3	37.3	37.3	40.0	40.0	40.0	42.7	42.7	45.3	42.7
57.5°	26.7	26.7	26.7	29.3	29.3	29.3	26.7	26.7	26.7	26.7	26.7
60°	21.3	21.3	21.3	21.3	21.3	21.3	21.3	18.7	18.7	18.7	18.7
62.5°	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
65°	10.7	10.7	13.3	13.3	13.3	13.3	13.3	10.7	10.7	10.7	10.7
67.5°	8.0	8.0	8.0	8.0	10.7	10.7	8.0	8.0	8.0	8.0	8.0
70°	5.3	5.3	5.3	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
72.5°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
75°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
77.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
80°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	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°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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°	4196.7	4196.7	4196.7	4196.7	4196.7	4196.7	4196.7	4196.7
2.5°	4196.7	4151.4	4156.7	4180.7	4167.4	4180.7	4178.0	4178.0
5°	4151.4	4138.0	4116.7	4108.7	4124.7	4159.4	4154.0	4132.7
7.5°	4066.1	4031.4	4055.4	4066.1	4052.7	4074.1	4084.7	4039.4
10°	3964.7	3951.4	3946.1	3951.4	3946.1	3967.4	3940.7	3940.7
12.5°	3820.8	3799.4	3799.4	3831.4	3812.8	3796.8	3818.1	3815.4
15°	3676.8	3634.1	3634.1	3644.8	3652.8	3642.1	3644.8	3618.1
17.5°	3463.5	3450.1	3431.5	3460.8	3468.8	3458.1	3466.1	3452.8
20°	3263.5	3263.5	3228.8	3242.2	3252.8	3260.8	3266.2	3244.8
22.5°	3007.5	3012.9	2988.9	3015.5	3023.5	2996.9	3002.2	2996.9
25°	2772.9	2770.3	2751.6	2740.9	2746.3	2735.6	2732.9	2692.9
27.5°	2514.3	2487.6	2447.6	2458.3	2413.0	2375.6	2375.6	2314.3
30°	2234.3	2189.0	2135.7	2082.4	2042.4	1999.7	1975.7	1941.0
32.5°	1906.4	1845.1	1778.4	1706.4	1661.1	1597.1	1562.4	1581.1
35°	1581.1	1490.4	1399.8	1327.8	1258.5	1221.2	1178.5	1183.8
37.5°	1266.5	1138.5	1058.5	981.2	922.5	874.5	855.9	850.5
40°	925.2	823.9	743.9	687.9	647.9	610.6	589.2	581.2
42.5°	639.9	567.9	503.9	458.6	431.9	407.9	397.3	394.6
45°	415.9	373.3	330.6	298.6	277.3	261.3	258.6	256.0
47.5°	261.3	240.0	213.3	189.3	170.6	160.0	152.0	152.0
50°	149.3	141.3	128.0	114.6	104.0	98.7	90.7	88.0
52.5°	80.0	80.0	74.7	64.0	56.0	50.7	50.7	48.0
55°	42.7	42.7	40.0	40.0	37.3	37.3	37.3	34.7
57.5°	26.7	26.7	29.3	29.3	26.7	26.7	26.7	26.7
60°	18.7	21.3	21.3	21.3	21.3	21.3	21.3	21.3
62.5°	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
65°	10.7	13.3	13.3	13.3	13.3	10.7	10.7	10.7
67.5°	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
70°	8.0	8.0	8.0	8.0	8.0	5.3	5.3	5.3
72.5°	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
75°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
77.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
80°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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)