

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: P209139

Luminaire Tested: **LDSQ4B30D010 EU4B30508030 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209139
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: LDSQ4B30D010 EU4B30508030 4LBSQ1LI
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE LOW
IRIDESCENT TRIM.
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM
WATTAGE D010TR-27.4 W DE010-27.95 W D5LT-27.65 W DMX-27.73 W DL2-29.56 W
DL3-29.67 W DLE-29.73 W
Light Source: HIGH LUMEN LED 3000 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2766.0 lumens
Efficiency: N/A
Efficacy: 98.8 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

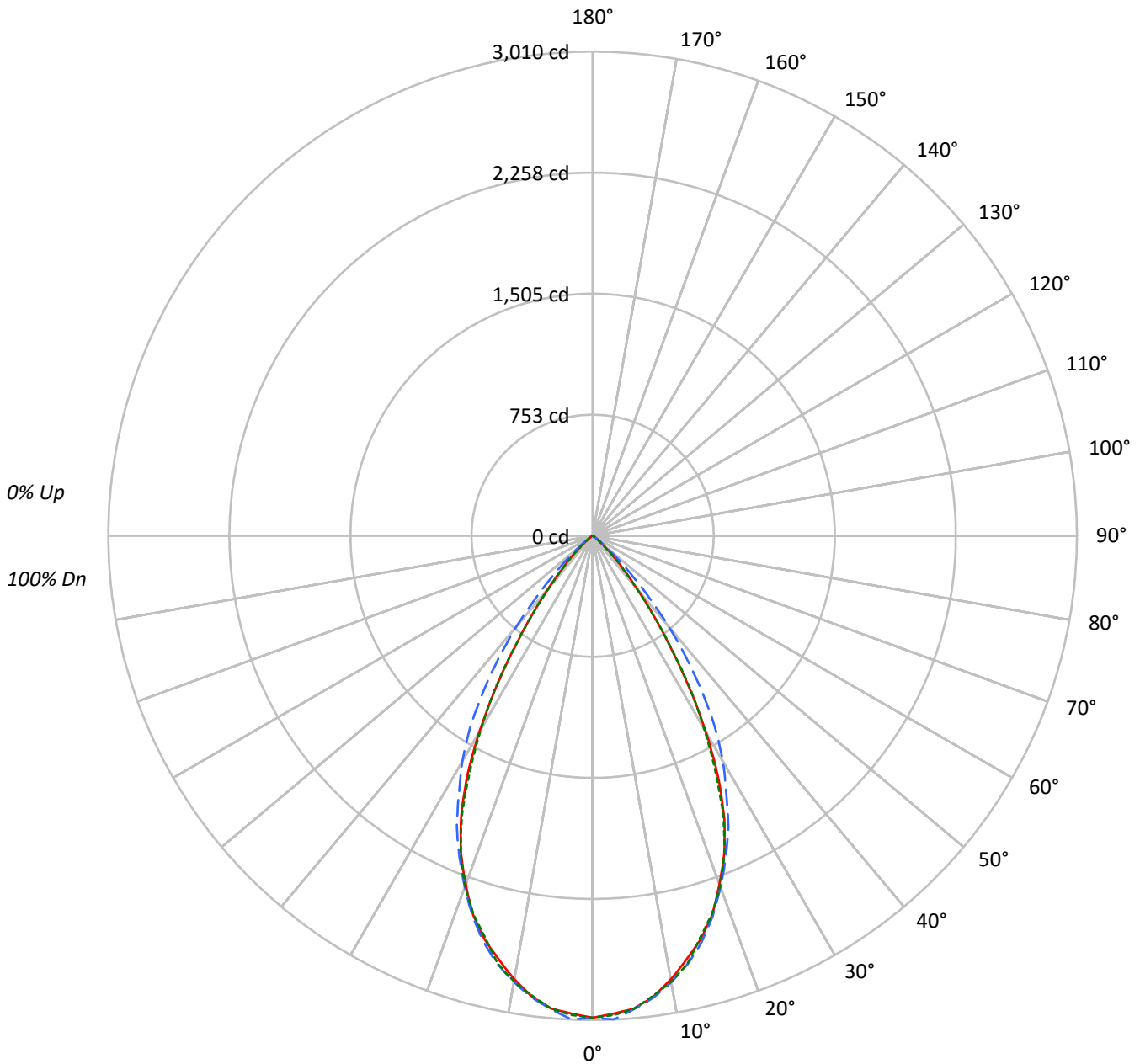
Input Watts (W): 28
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	277.8	10.0
10°-20°	728.0	26.3
20°-30°	889.4	32.2
30°-40°	622.0	22.5
40°-50°	203.9	7.4
50°-60°	32.4	1.2
60°-70°	8.8	0.3
70°-80°	2.9	0.1
80°-90°	0.8	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°	1895.2	68.5
0°-40°	2517.2	91.0
0°-60°	2753.5	99.5
0°-90°	2766.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2766.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2996	2996	2996	2996	2996	
5°	2950	2951	2954	2936	2950	277
15°	2596	2607	2616	2598	2583	724
25°	1936	1965	1997	1961	1923	870
35°	838	989	1190	974	845	534
45°	185	227	335	225	183	155
55°	27	29	32	29	25	26
65°	8	10	8	10	8	8
75°	2	2	2	2	2	3
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°	2996.2	2996.2	2996.2	2996.2	2996.2	2996.2	2996.2	2996.2	2996.2	2996.2	2996.2
2.5°	2973.3	2994.3	2988.6	3001.9	3001.9	2986.6	2990.5	2996.2	3003.8	3009.5	2963.8
5°	2950.5	2969.5	2952.4	2971.4	2960.0	2942.9	2971.4	2956.2	2965.7	2954.3	2961.9
7.5°	2889.6	2920.0	2885.8	2908.6	2901.0	2891.5	2902.9	2899.1	2904.8	2895.3	2874.3
10°	2800.1	2824.8	2802.0	2834.4	2819.1	2809.6	2819.1	2828.7	2826.7	2817.2	2828.7
12.5°	2697.3	2725.9	2714.4	2733.5	2716.3	2716.3	2739.2	2733.5	2735.4	2727.8	2741.1
15°	2596.4	2617.4	2600.2	2625.0	2617.4	2596.4	2605.9	2605.9	2621.2	2615.5	2600.2
17.5°	2470.8	2487.9	2468.9	2474.6	2467.0	2463.2	2503.1	2476.5	2491.7	2480.3	2482.2
20°	2305.2	2312.8	2307.1	2322.3	2312.8	2324.2	2320.4	2316.6	2316.6	2322.3	2309.0
22.5°	2137.7	2137.7	2143.4	2147.2	2154.8	2143.4	2166.2	2147.2	2149.1	2162.4	2158.6
25°	1935.9	1930.2	1943.5	1962.5	1970.2	1960.6	1991.1	1975.9	1987.3	1996.8	1975.9
27.5°	1690.3	1690.3	1703.7	1736.0	1741.7	1753.2	1795.0	1795.0	1810.3	1796.9	1812.2
30°	1406.7	1427.7	1444.8	1486.7	1500.0	1524.7	1568.5	1589.5	1623.7	1618.0	1610.4
32.5°	1115.5	1144.0	1145.9	1189.7	1225.9	1267.8	1326.8	1376.3	1401.0	1418.1	1399.1
35°	837.6	854.7	869.9	900.4	961.3	1016.5	1069.8	1134.5	1178.3	1189.7	1172.6
37.5°	612.9	616.7	632.0	660.5	706.2	759.5	824.2	894.7	940.3	957.5	938.4
40°	422.6	426.4	434.0	458.8	496.8	534.9	586.3	658.6	700.5	734.8	710.0
42.5°	283.6	287.4	295.0	314.1	335.0	371.2	411.2	456.8	496.8	512.1	498.7
45°	184.6	184.6	188.4	201.8	213.2	241.7	270.3	298.9	325.5	335.0	325.5
47.5°	108.5	110.4	114.2	123.7	137.1	148.5	169.4	188.4	196.1	203.7	199.9
50°	62.8	62.8	68.5	74.2	83.8	91.4	99.0	106.6	110.4	114.2	110.4
52.5°	34.3	36.2	38.1	40.0	43.8	51.4	57.1	57.1	59.0	60.9	59.0
55°	26.6	26.6	26.6	26.6	28.6	28.6	28.6	30.5	30.5	32.4	30.5
57.5°	19.0	19.0	19.0	20.9	20.9	20.9	19.0	19.0	19.0	19.0	19.0
60°	15.2	15.2	15.2	15.2	15.2	15.2	15.2	13.3	13.3	13.3	13.3
62.5°	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
65°	7.6	7.6	9.5	9.5	9.5	9.5	9.5	7.6	7.6	7.6	7.6
67.5°	5.7	5.7	5.7	5.7	7.6	7.6	5.7	5.7	5.7	5.7	5.7
70°	3.8	3.8	3.8	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
72.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
75°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
77.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
80°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	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°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
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°	2996.2	2996.2	2996.2	2996.2	2996.2	2996.2	2996.2	2996.2
2.5°	2996.2	2963.8	2967.6	2984.7	2975.2	2984.7	2982.8	2982.8
5°	2963.8	2954.3	2939.1	2933.3	2944.8	2969.5	2965.7	2950.5
7.5°	2902.9	2878.1	2895.3	2902.9	2893.4	2908.6	2916.2	2883.9
10°	2830.6	2821.0	2817.2	2821.0	2817.2	2832.5	2813.4	2813.4
12.5°	2727.8	2712.5	2712.5	2735.4	2722.1	2710.6	2725.9	2724.0
15°	2625.0	2594.5	2594.5	2602.1	2607.8	2600.2	2602.1	2583.1
17.5°	2472.7	2463.2	2449.8	2470.8	2476.5	2468.9	2474.6	2465.1
20°	2329.9	2329.9	2305.2	2314.7	2322.3	2328.0	2331.8	2316.6
22.5°	2147.2	2151.0	2133.9	2152.9	2158.6	2139.6	2143.4	2139.6
25°	1979.7	1977.8	1964.4	1956.8	1960.6	1953.0	1951.1	1922.6
27.5°	1795.0	1776.0	1747.4	1755.1	1722.7	1696.0	1696.0	1652.3
30°	1595.2	1562.8	1524.7	1486.7	1458.1	1427.7	1410.5	1385.8
32.5°	1361.0	1317.2	1269.7	1218.3	1185.9	1140.2	1115.5	1128.8
35°	1128.8	1064.1	999.4	948.0	898.5	871.8	841.4	845.2
37.5°	904.2	812.8	755.7	700.5	658.6	624.4	611.0	607.2
40°	660.5	588.2	531.1	491.1	462.6	435.9	420.7	415.0
42.5°	456.8	405.5	359.8	327.4	308.4	291.2	283.6	281.7
45°	297.0	266.5	236.0	213.2	198.0	186.5	184.6	182.7
47.5°	186.5	171.3	152.3	135.2	121.8	114.2	108.5	108.5
50°	106.6	100.9	91.4	81.9	74.2	70.4	64.7	62.8
52.5°	57.1	57.1	53.3	45.7	40.0	36.2	36.2	34.3
55°	30.5	30.5	28.6	28.6	26.6	26.6	26.6	24.7
57.5°	19.0	19.0	20.9	20.9	19.0	19.0	19.0	19.0
60°	13.3	15.2	15.2	15.2	15.2	15.2	15.2	15.2
62.5°	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
65°	7.6	9.5	9.5	9.5	9.5	7.6	7.6	7.6
67.5°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
70°	5.7	5.7	5.7	5.7	5.7	3.8	3.8	3.8
72.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
75°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
77.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
80°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
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°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
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)