

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: P209117

Luminaire Tested: **LDSQ4B15D010 EU4B10209024 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209117
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: LDSQ4B15D010 EU4B10209024 4LBSQ1LI
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE LOW
IRIDESCENT TRIM.
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM
WATTAGE D010TR-14.39 W DE010-14.29 W D5LT-14.34 W DMX-14.46 W DL2-15.8 W
DL3-15.28 W DLE-15.432 W
Light Source: HIGH LUMEN LED 2400 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1024.6 lumens
Efficiency: N/A
Efficacy: 71.2 lumens/watt
Spacing Criteria (0/90/45): 0.91 / 0.9 / 0.94
Luminous Opening: Circular (Dia: 1.12' x H: 0')
CIE Type: Direct

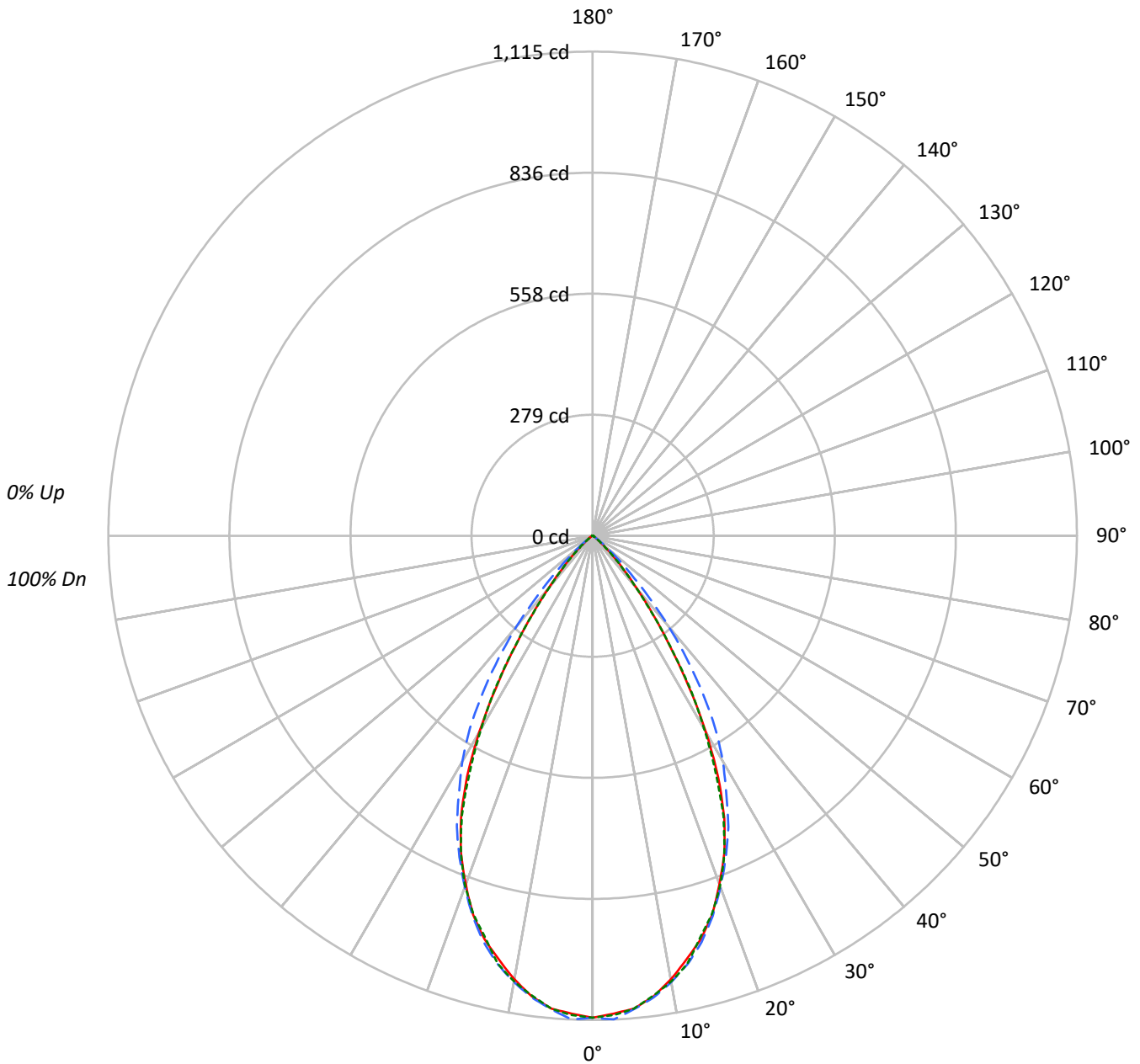
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	65																			
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°	12018	12018	12018
5°	11880	11895	11880
10°	11405	11475	11459
15°	10782	10861	10726
20°	9840	9913	9888
25°	8568	8838	8509
30°	6516	7494	6418
35°	4101	5826	4139
40°	2212	3848	2173
45°	1047	1900	1037
50°	393	713	393
55°	187	227	174
60°	121	106	121
65°	72	72	72
70°	44	66	44
75°	29	29	29
80°	44	44	44
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.9	10.0
10°-20°	269.7	26.3
20°-30°	329.4	32.2
30°-40°	230.4	22.5
40°-50°	75.5	7.4
50°-60°	12.0	1.2
60°-70°	3.2	0.3
70°-80°	1.1	0.1
80°-90°	0.3	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°	702.0	68.5
0°-40°	932.4	91.0
0°-60°	1020.0	99.5
0°-90°	1024.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1024.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1110	1110	1110	1110	1110	
5°	1093	1093	1094	1088	1093	103
15°	962	966	969	962	957	268
25°	717	728	740	726	712	322
35°	310	366	441	361	313	198
45°	68	84	124	83	68	57
55°	10	11	12	11	9	10
65°	3	4	3	4	3	3
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
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°	1109.8	1109.8	1109.8	1109.8	1109.8	1109.8	1109.8	1109.8	1109.8	1109.8	1109.8
2.5°	1101.4	1109.1	1107.0	1111.9	1111.9	1106.3	1107.7	1109.8	1112.7	1114.8	1097.8
5°	1092.9	1100.0	1093.6	1100.7	1096.4	1090.1	1100.7	1095.0	1098.5	1094.3	1097.1
7.5°	1070.3	1081.6	1068.9	1077.4	1074.6	1071.0	1075.3	1073.9	1076.0	1072.5	1064.7
10°	1037.2	1046.4	1037.9	1049.9	1044.3	1040.7	1044.3	1047.8	1047.1	1043.6	1047.8
12.5°	999.1	1009.7	1005.5	1012.5	1006.2	1006.2	1014.6	1012.5	1013.2	1010.4	1015.3
15°	961.8	969.5	963.2	972.3	969.5	961.8	965.3	965.3	970.9	968.8	963.2
17.5°	915.2	921.6	914.5	916.6	913.8	912.4	927.2	917.3	923.0	918.7	919.5
20°	853.9	856.7	854.6	860.2	856.7	860.9	859.5	858.1	858.1	860.2	855.3
22.5°	791.8	791.8	793.9	795.4	798.2	793.9	802.4	795.4	796.1	801.0	799.6
25°	717.1	715.0	719.9	727.0	729.8	726.3	737.5	731.9	736.1	739.7	731.9
27.5°	626.1	626.1	631.1	643.1	645.2	649.4	664.9	664.9	670.6	665.6	671.3
30°	521.1	528.8	535.2	550.7	555.6	564.8	581.0	588.8	601.5	599.3	596.5
32.5°	413.2	423.8	424.5	440.7	454.1	469.6	491.5	509.8	519.0	525.3	518.2
35°	310.2	316.6	322.2	333.5	356.1	376.5	396.3	420.2	436.5	440.7	434.3
37.5°	227.0	228.5	234.1	244.7	261.6	281.3	305.3	331.4	348.3	354.7	347.6
40°	156.5	157.9	160.8	169.9	184.0	198.1	217.2	244.0	259.5	272.2	263.0
42.5°	105.1	106.5	109.3	116.3	124.1	137.5	152.3	169.2	184.0	189.7	184.7
45°	68.4	68.4	69.8	74.7	79.0	89.5	100.1	110.7	120.6	124.1	120.6
47.5°	40.2	40.9	42.3	45.8	50.8	55.0	62.8	69.8	72.6	75.4	74.0
50°	23.3	23.3	25.4	27.5	31.0	33.8	36.7	39.5	40.9	42.3	40.9
52.5°	12.7	13.4	14.1	14.8	16.2	19.0	21.2	21.2	21.9	22.6	21.9
55°	9.9	9.9	9.9	9.9	10.6	10.6	10.6	11.3	11.3	12.0	11.3
57.5°	7.1	7.1	7.1	7.8	7.8	7.8	7.1	7.1	7.1	7.1	7.1
60°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	4.9	4.9	4.9	4.9
62.5°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
65°	2.8	2.8	3.5	3.5	3.5	3.5	3.5	2.8	2.8	2.8	2.8
67.5°	2.1	2.1	2.1	2.1	2.8	2.8	2.1	2.1	2.1	2.1	2.1
70°	1.4	1.4	1.4	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
72.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
75°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
77.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	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°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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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CATALOG NUMBER: LDSQ4B15D010 EU4B10209024 4LBSQ1LI

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1109.8	1109.8	1109.8	1109.8	1109.8	1109.8	1109.8	1109.8
2.5°	1109.8	1097.8	1099.3	1105.6	1102.1	1105.6	1104.9	1104.9
5°	1097.8	1094.3	1088.7	1086.6	1090.8	1100.0	1098.5	1092.9
7.5°	1075.3	1066.1	1072.5	1075.3	1071.8	1077.4	1080.2	1068.2
10°	1048.5	1045.0	1043.6	1045.0	1043.6	1049.2	1042.1	1042.1
12.5°	1010.4	1004.8	1004.8	1013.2	1008.3	1004.1	1009.7	1009.0
15°	972.3	961.1	961.1	963.9	966.0	963.2	963.9	956.8
17.5°	915.9	912.4	907.5	915.2	917.3	914.5	916.6	913.1
20°	863.0	863.0	853.9	857.4	860.2	862.3	863.7	858.1
22.5°	795.4	796.8	790.4	797.5	799.6	792.5	793.9	792.5
25°	733.3	732.6	727.7	724.8	726.3	723.4	722.7	712.2
27.5°	664.9	657.9	647.3	650.1	638.1	628.2	628.2	612.0
30°	590.9	578.9	564.8	550.7	540.1	528.8	522.5	513.3
32.5°	504.1	487.9	470.3	451.3	439.3	422.4	413.2	418.1
35°	418.1	394.2	370.2	351.1	332.8	322.9	311.7	313.1
37.5°	334.9	301.1	279.9	259.5	244.0	231.3	226.3	224.9
40°	244.7	217.9	196.7	181.9	171.3	161.5	155.8	153.7
42.5°	169.2	150.2	133.3	121.3	114.2	107.9	105.1	104.4
45°	110.0	98.7	87.4	79.0	73.3	69.1	68.4	67.7
47.5°	69.1	63.5	56.4	50.1	45.1	42.3	40.2	40.2
50°	39.5	37.4	33.8	30.3	27.5	26.1	24.0	23.3
52.5°	21.2	21.2	19.7	16.9	14.8	13.4	13.4	12.7
55°	11.3	11.3	10.6	10.6	9.9	9.9	9.9	9.2
57.5°	7.1	7.1	7.8	7.8	7.1	7.1	7.1	7.1
60°	4.9	5.6	5.6	5.6	5.6	5.6	5.6	5.6
62.5°	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
65°	2.8	3.5	3.5	3.5	3.5	2.8	2.8	2.8
67.5°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
70°	2.1	2.1	2.1	2.1	2.1	1.4	1.4	1.4
72.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
75°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
77.5°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
80°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
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)