

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: P209106

Luminaire Tested: **LDSQ4B10D010 EU4B10209027 4LBSQ1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209106
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: LDSQ4B10D010 EU4B10209027 4LBSQ1LI
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE LOW
IRIDESCENT TRIM.
MEDIUM DISTRIBUTION WITH SPECULAR CLEAR TRIM
WATTAGE D010TR-10.05 W DE010-10.58 W D5LT-10.2 W DMX-10.6 W DL2-11.8 W
DL3-11.1 W DLE-11.39 W
Light Source: HIGH LUMEN LED 2700 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 835.7 lumens
Efficiency: N/A
Efficacy: 83.2 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

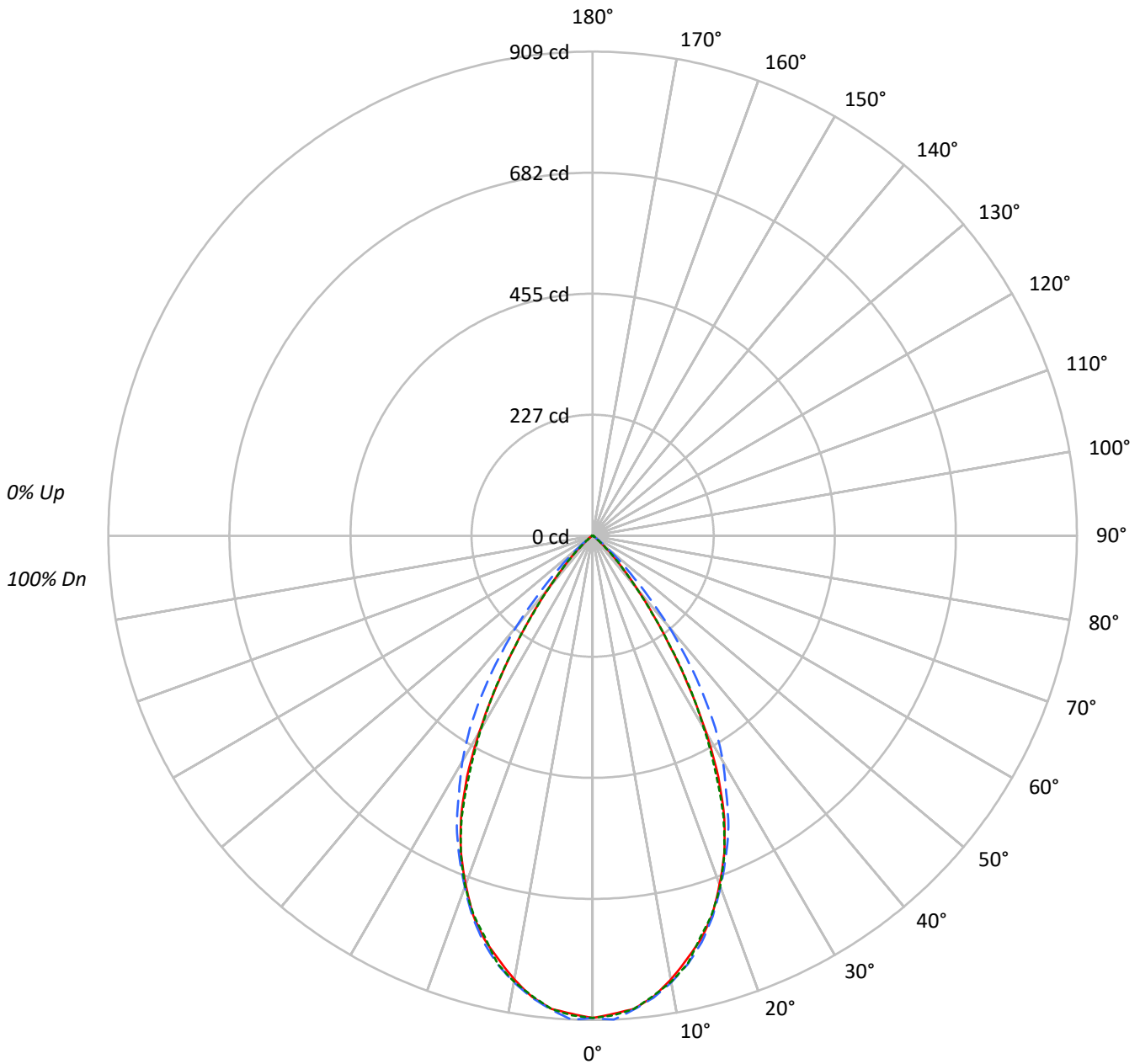
Input Watts (W): 10.05
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				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°	9802	9802	9802
5°	9690	9703	9690
10°	9302	9358	9346
15°	8794	8859	8749
20°	8025	8085	8065
25°	6988	7208	6941
30°	5314	6112	5235
35°	3345	4751	3375
40°	1805	3138	1773
45°	855	1550	845
50°	320	581	320
55°	153	185	142
60°	100	87	100
65°	59	59	59
70°	38	54	38
75°	25	25	25
80°	37	37	37
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.9	10.0
10°-20°	220.0	26.3
20°-30°	268.7	32.2
30°-40°	187.9	22.5
40°-50°	61.6	7.4
50°-60°	9.8	1.2
60°-70°	2.7	0.3
70°-80°	0.9	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°	572.6	68.5
0°-40°	760.5	91.0
0°-60°	831.9	99.5
0°-90°	835.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	835.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	905	905	905	905	905	
5°	891	892	893	887	891	84
15°	784	788	790	785	780	219
25°	585	594	603	592	581	263
35°	253	299	359	294	255	161
45°	56	69	101	68	55	47
55°	8	9	10	9	8	8
65°	2	3	2	3	2	3
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	905.2	905.2	905.2	905.2	905.2	905.2	905.2	905.2	905.2	905.2	905.2
2.5°	898.3	904.6	902.9	906.9	906.9	902.3	903.5	905.2	907.5	909.2	895.4
5°	891.4	897.2	892.0	897.7	894.3	889.1	897.7	893.1	896.0	892.6	894.9
7.5°	873.0	882.2	871.9	878.8	876.5	873.6	877.0	875.9	877.6	874.7	868.4
10°	846.0	853.4	846.5	856.3	851.7	848.8	851.7	854.6	854.0	851.1	854.6
12.5°	814.9	823.5	820.1	825.8	820.7	820.7	827.6	825.8	826.4	824.1	828.1
15°	784.4	790.8	785.6	793.1	790.8	784.4	787.3	787.3	791.9	790.2	785.6
17.5°	746.5	751.7	745.9	747.6	745.3	744.2	756.3	748.2	752.8	749.4	749.9
20°	696.4	698.7	697.0	701.6	698.7	702.2	701.0	699.9	699.9	701.6	697.6
22.5°	645.8	645.8	647.6	648.7	651.0	647.6	654.5	648.7	649.3	653.3	652.2
25°	584.9	583.2	587.2	592.9	595.2	592.4	601.6	597.0	600.4	603.3	597.0
27.5°	510.7	510.7	514.7	524.5	526.2	529.7	542.3	542.3	546.9	542.9	547.5
30°	425.0	431.3	436.5	449.2	453.2	460.7	473.9	480.2	490.6	488.8	486.5
32.5°	337.0	345.6	346.2	359.4	370.4	383.0	400.8	415.8	423.3	428.5	422.7
35°	253.0	258.2	262.8	272.0	290.4	307.1	323.2	342.8	356.0	359.4	354.3
37.5°	185.2	186.3	190.9	199.6	213.4	229.5	249.0	270.3	284.1	289.3	283.5
40°	127.7	128.8	131.1	138.6	150.1	161.6	177.1	199.0	211.6	222.0	214.5
42.5°	85.7	86.8	89.1	94.9	101.2	112.1	124.2	138.0	150.1	154.7	150.7
45°	55.8	55.8	56.9	61.0	64.4	73.0	81.7	90.3	98.3	101.2	98.3
47.5°	32.8	33.4	34.5	37.4	41.4	44.9	51.2	56.9	59.2	61.5	60.4
50°	19.0	19.0	20.7	22.4	25.3	27.6	29.9	32.2	33.4	34.5	33.4
52.5°	10.4	10.9	11.5	12.1	13.2	15.5	17.3	17.3	17.8	18.4	17.8
55°	8.1	8.1	8.1	8.1	8.6	8.6	8.6	9.2	9.2	9.8	9.2
57.5°	5.8	5.8	5.8	6.3	6.3	6.3	5.8	5.8	5.8	5.8	5.8
60°	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.0	4.0	4.0	4.0
62.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
65°	2.3	2.3	2.9	2.9	2.9	2.9	2.9	2.3	2.3	2.3	2.3
67.5°	1.7	1.7	1.7	1.7	2.3	2.3	1.7	1.7	1.7	1.7	1.7
70°	1.2	1.2	1.2	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
72.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
75°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
77.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
80°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	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°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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°	905.2	905.2	905.2	905.2	905.2	905.2	905.2	905.2
2.5°	905.2	895.4	896.6	901.8	898.9	901.8	901.2	901.2
5°	895.4	892.6	888.0	886.2	889.7	897.2	896.0	891.4
7.5°	877.0	869.6	874.7	877.0	874.2	878.8	881.1	871.3
10°	855.2	852.3	851.1	852.3	851.1	855.8	850.0	850.0
12.5°	824.1	819.5	819.5	826.4	822.4	818.9	823.5	823.0
15°	793.1	783.9	783.9	786.2	787.9	785.6	786.2	780.4
17.5°	747.1	744.2	740.2	746.5	748.2	745.9	747.6	744.8
20°	703.9	703.9	696.4	699.3	701.6	703.3	704.5	699.9
22.5°	648.7	649.9	644.7	650.4	652.2	646.4	647.6	646.4
25°	598.1	597.5	593.5	591.2	592.4	590.1	589.5	580.9
27.5°	542.3	536.6	527.9	530.2	520.5	512.4	512.4	499.2
30°	481.9	472.2	460.7	449.2	440.5	431.3	426.1	418.7
32.5°	411.2	398.0	383.6	368.1	358.3	344.5	337.0	341.0
35°	341.0	321.5	301.9	286.4	271.4	263.4	254.2	255.3
37.5°	273.2	245.6	228.3	211.6	199.0	188.6	184.6	183.5
40°	199.6	177.7	160.5	148.4	139.7	131.7	127.1	125.4
42.5°	138.0	122.5	108.7	98.9	93.2	88.0	85.7	85.1
45°	89.7	80.5	71.3	64.4	59.8	56.4	55.8	55.2
47.5°	56.4	51.8	46.0	40.8	36.8	34.5	32.8	32.8
50°	32.2	30.5	27.6	24.7	22.4	21.3	19.6	19.0
52.5°	17.3	17.3	16.1	13.8	12.1	10.9	10.9	10.4
55°	9.2	9.2	8.6	8.6	8.1	8.1	8.1	7.5
57.5°	5.8	5.8	6.3	6.3	5.8	5.8	5.8	5.8
60°	4.0	4.6	4.6	4.6	4.6	4.6	4.6	4.6
62.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
65°	2.3	2.9	2.9	2.9	2.9	2.3	2.3	2.3
67.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
70°	1.7	1.7	1.7	1.7	1.7	1.2	1.2	1.2
72.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
75°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
77.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
80°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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)