

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: P209220

Luminaire Tested: **LDSQ4B15D010 EU4B10209027 4LBCSSQ1MMS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209220
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35089)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQ4B15D010 EU4B10209027 4LBCSSQ1MMS
Description: PORTFOLIO LD4 SERIES 4" RECESSED FIXTURE WITH A SQUARE SHALLOW CAST METALLIC SILVER TRIM
MEDIUM DISTRIBUTION WITH MATTE METALLIC SILVER 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 2700 K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1205.4 lumens
Efficiency: N/A
Efficacy: 83.8 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

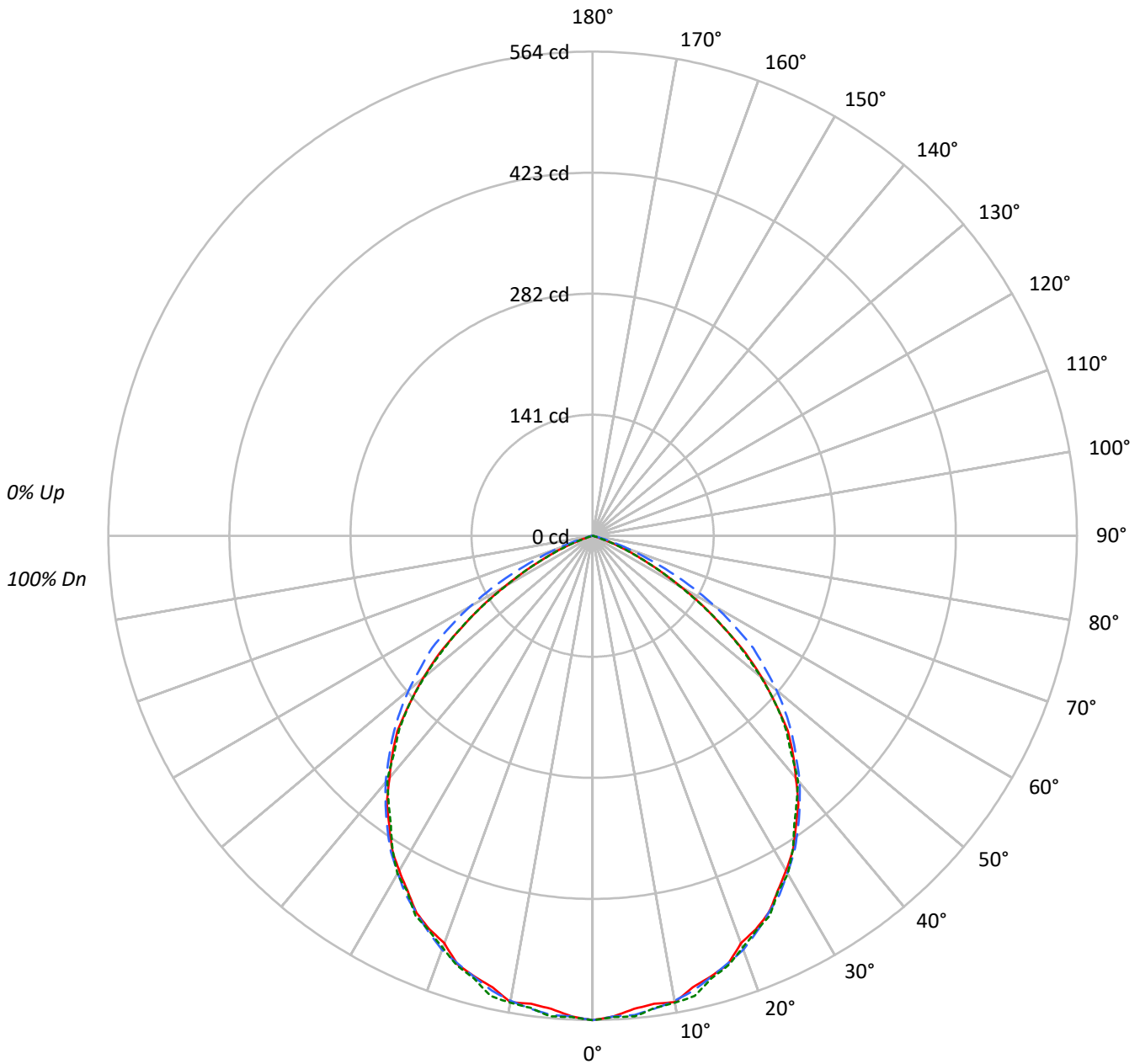
Input Watts (W): 14.39
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	108	104	101	109	105	102	100	101	99	96	97	95	94	94	92	91	89																			
2	103	96	91	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77																			
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67																			
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59																			
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52																			
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46																			
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41																			
8	65	53	45	40	64	52	45	39	51	44	39	50	44	39	49	43	39	37																			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34																			
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	31																			

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°	53.3	4.4
10°-20°	150.7	12.5
20°-30°	223.6	18.6
30°-40°	259.1	21.5
40°-50°	248.5	20.6
50°-60°	182.7	15.2
60°-70°	78.9	6.5
70°-80°	8.5	0.7
80°-90°	0.1	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°	427.6	35.5
0°-40°	686.8	57.0
0°-60°	1117.9	92.7
0°-90°	1205.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1205.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	564	564	564	564	564	
5°	553	559	560	561	562	53
15°	531	535	532	533	534	150
25°	485	484	485	486	488	222
35°	413	415	417	416	410	258
45°	321	322	329	324	318	244
55°	186	205	228	204	187	167
65°	61	76	99	75	59	63
75°	2	2	9	2	2	5
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°	22.5°	25°	30°	35°	40°	45°
0°	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3
2.5°	560.3	566.7	567.5	563.5	561.9	559.5	565.1	561.1	562.7	561.1	560.3
5°	553.1	560.3	561.1	561.1	559.5	558.7	561.1	560.3	559.5	557.9	560.3
7.5°	549.9	553.9	557.9	553.1	555.5	554.7	560.3	557.9	557.1	557.1	555.5
10°	551.5	550.7	553.9	549.1	550.7	549.1	553.9	553.9	552.3	550.7	549.9
12.5°	538.6	545.1	545.1	544.3	542.7	540.3	545.1	548.3	543.5	543.5	542.7
15°	531.4	533.0	533.8	533.8	533.0	534.6	537.0	533.8	534.6	530.6	532.2
17.5°	523.4	520.2	522.6	521.0	521.8	523.4	526.6	526.6	521.8	521.0	522.6
20°	505.0	514.6	515.4	510.6	511.4	511.4	517.0	512.2	515.4	511.4	513.0
22.5°	496.2	502.6	503.4	497.0	501.0	496.2	501.8	494.6	502.6	497.0	499.4
25°	484.9	484.1	486.5	483.3	484.1	484.1	488.1	484.9	487.3	484.1	484.9
27.5°	466.5	472.9	472.1	468.9	470.5	469.7	477.7	468.9	473.7	469.7	471.3
30°	450.5	456.1	454.5	451.3	451.3	448.9	457.7	455.3	454.5	454.5	453.7
32.5°	434.4	435.2	433.6	434.4	435.2	432.0	439.3	436.0	435.2	436.0	436.9
35°	412.8	412.8	414.4	412.0	415.2	415.2	421.6	417.6	416.8	414.4	416.8
37.5°	393.6	391.2	392.0	392.0	393.6	395.2	398.4	396.8	396.8	394.4	396.0
40°	367.9	366.3	368.7	368.7	371.1	371.1	374.3	372.7	375.1	375.1	375.1
42.5°	345.5	345.5	343.9	346.3	347.1	346.3	351.9	351.1	351.9	350.3	351.1
45°	321.4	321.4	319.8	319.0	323.0	322.2	328.6	326.2	329.4	327.8	328.6
47.5°	288.6	292.6	290.2	292.6	297.4	298.2	302.2	300.6	303.8	301.4	304.6
50°	257.3	257.3	259.7	262.9	267.7	268.5	273.3	276.5	278.1	278.9	279.7
52.5°	224.4	223.6	226.0	230.0	234.1	237.3	242.1	246.9	250.1	254.9	252.5
55°	186.0	187.6	190.0	194.8	201.2	205.2	209.2	215.6	221.2	223.6	228.4
57.5°	153.1	151.5	153.1	159.5	166.7	169.9	175.5	182.0	190.0	194.8	196.4
60°	118.6	119.4	121.0	126.6	132.3	137.1	139.5	149.9	157.1	161.9	165.1
62.5°	87.4	89.0	90.6	95.4	101.0	105.0	109.0	117.8	124.2	129.1	132.3
65°	60.9	61.7	64.1	66.5	72.1	76.1	79.4	86.6	93.0	97.0	99.4
67.5°	37.7	38.5	40.1	43.3	47.3	50.5	53.7	58.5	64.1	68.1	68.9
70°	19.2	20.0	20.8	23.2	26.5	28.1	30.5	34.5	38.5	41.7	43.3
72.5°	6.4	6.4	7.2	8.8	10.4	12.0	12.8	16.8	20.0	21.6	22.4
75°	1.6	1.6	1.6	1.6	1.6	2.4	2.4	4.8	6.4	8.0	8.8
77.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.6	1.6
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.0	0.0	0.0	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	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3	564.3
2.5°	564.3	562.7	561.9	562.7	562.7	561.9	564.3	567.5	571.5	561.1
5°	563.5	561.9	563.5	558.7	561.1	559.5	562.7	561.9	565.1	561.9
7.5°	561.1	557.9	558.7	556.3	559.5	555.5	557.9	562.7	559.5	554.7
10°	553.1	551.5	557.1	549.1	547.5	550.7	557.1	552.3	550.7	552.3
12.5°	545.1	545.1	547.5	541.1	541.9	543.5	546.7	543.5	545.1	549.1
15°	536.2	534.6	538.6	533.8	533.0	531.4	534.6	534.6	536.2	533.8
17.5°	525.8	523.4	523.4	521.8	521.0	525.0	526.6	527.4	528.2	525.0
20°	513.0	512.2	514.6	512.2	513.0	513.8	513.8	512.2	519.4	510.6
22.5°	499.4	501.8	498.6	497.0	498.6	500.2	500.2	501.0	499.4	497.8
25°	485.7	487.3	488.1	483.3	485.7	483.3	489.0	489.8	486.5	488.1
27.5°	473.7	471.3	470.5	467.3	468.9	468.1	468.9	468.9	473.7	467.3
30°	455.3	452.9	453.7	451.3	452.1	451.3	452.1	452.1	455.3	454.5
32.5°	437.7	435.2	436.0	433.6	433.6	434.4	432.8	432.8	435.2	433.6
35°	420.8	415.2	416.0	415.2	416.0	412.8	412.8	412.0	413.6	409.6
37.5°	396.8	394.4	393.6	392.8	393.6	392.0	393.6	391.2	393.6	390.4
40°	375.1	373.5	374.3	369.5	369.5	370.3	368.7	367.9	368.7	371.9
42.5°	353.5	350.3	348.7	347.1	347.9	345.5	344.7	343.1	344.7	341.5
45°	327.8	327.8	327.0	323.0	323.8	323.8	320.6	317.4	318.2	318.2
47.5°	304.6	303.0	302.2	298.2	297.4	296.6	293.4	291.0	291.0	288.6
50°	278.9	277.3	274.9	270.9	269.3	264.5	262.1	258.9	255.7	255.7
52.5°	254.9	249.3	246.1	239.7	237.3	234.9	228.4	226.0	223.6	221.2
55°	226.0	221.2	214.8	207.6	204.4	200.4	194.0	189.2	186.0	186.8
57.5°	198.0	190.0	183.6	173.9	169.9	167.5	161.1	154.7	151.5	151.5
60°	163.5	157.1	149.1	140.3	137.1	133.1	125.0	121.0	118.6	116.2
62.5°	130.7	125.8	118.6	107.4	105.0	101.0	95.4	90.6	88.2	88.2
65°	97.8	93.0	86.6	78.6	75.3	72.1	67.3	62.5	60.1	59.3
67.5°	68.9	63.3	57.7	51.3	48.9	47.3	42.5	39.3	37.7	36.9
70°	41.7	38.5	34.5	29.7	27.3	25.6	22.4	20.0	19.2	18.4
72.5°	21.6	19.2	16.0	12.8	11.2	9.6	8.0	6.4	5.6	5.6
75°	8.0	6.4	4.0	2.4	1.6	1.6	1.6	1.6	1.6	1.6
77.5°	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.0	0.0	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	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	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)