

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: P208770

Luminaire Tested: **LDSQA6A20935D010TE LARL20NF 6LSQA1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P208770
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29055)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQA6A20935D010TE LARL20NF 6LSQA1H
Description: PORTFOLIO 6" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,
SELF-FLANGED, 20° NARROW FLOOD
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1644.0 lumens
Efficiency: N/A
Efficacy: 57.1 lumens/watt
Spacing Criteria (0/90/45): 0.37 / 0.38 / 0.39
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
CIE Type: Direct

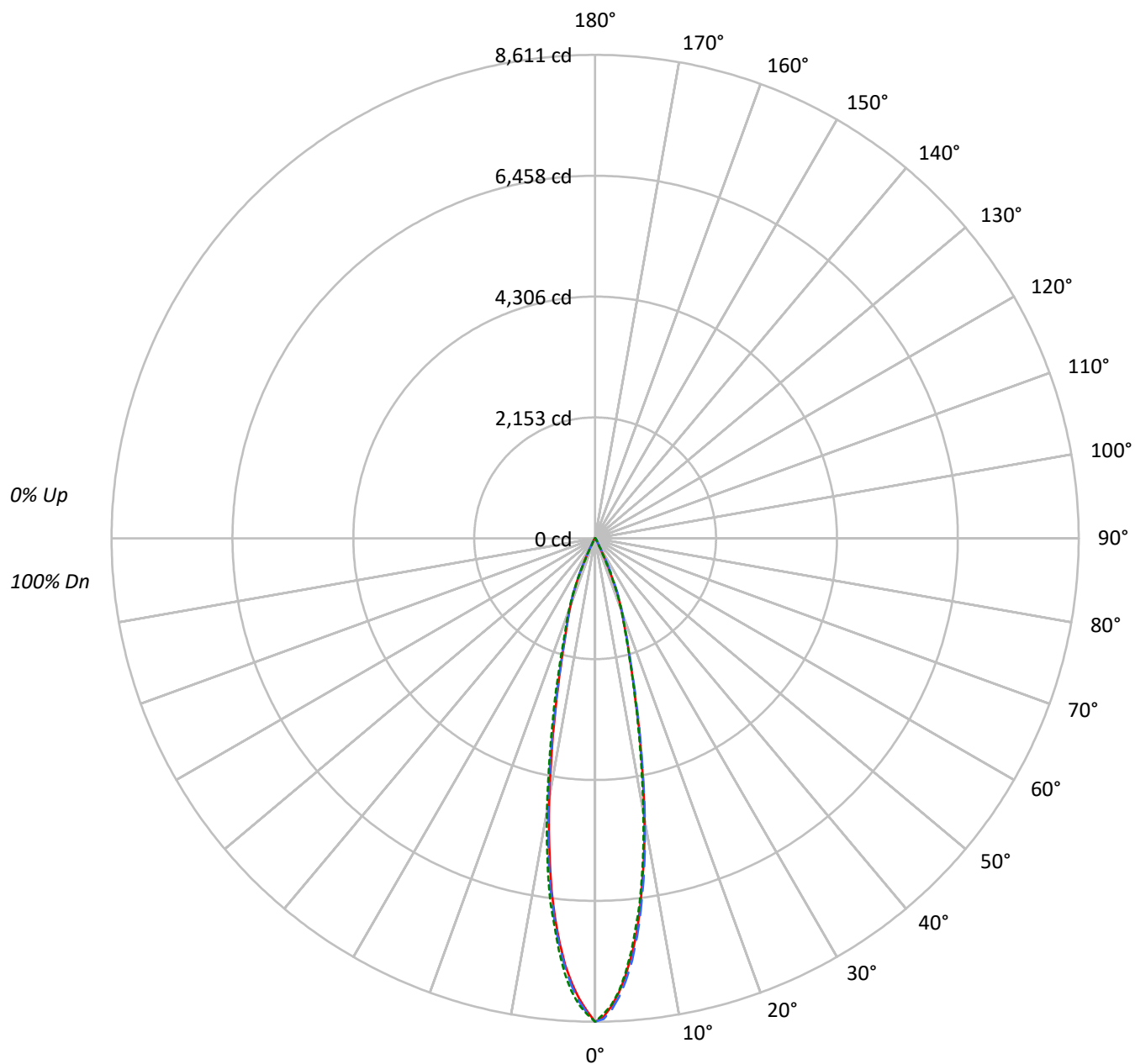
Input Watts (W): 28.81
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100
1	115	113	111	110	113	111	109	108	107	106	105	103	102	102	100	99	99	97	97	97
2	112	108	105	103	110	107	104	102	103	101	100	101	99	97	98	97	95	94	94	94
3	108	104	100	98	107	103	99	97	100	98	95	98	96	94	96	94	93	91	91	91
4	105	100	96	93	104	99	96	93	97	94	92	95	93	91	94	92	90	89	89	89
5	102	97	93	90	101	96	92	89	94	91	89	93	90	88	91	89	87	86	86	86
6	99	94	90	87	98	93	89	86	92	88	86	90	88	85	89	87	85	84	84	84
7	97	91	87	84	96	90	86	84	89	86	83	88	85	83	87	85	83	82	82	82
8	94	88	84	82	93	88	84	81	87	83	81	86	83	81	85	82	80	80	80	80
9	92	86	82	79	91	85	82	79	85	81	79	84	81	79	83	80	78	78	78	78
10	90	84	80	77	89	83	80	77	83	79	77	82	79	77	81	79	77	76	76	76

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	370770	370770	370770
5°	322215	318921	313164
10°	221362	215976	205155
15°	115279	114258	105236
20°	64101	62726	59340
25°	21207	19644	23045
30°	4693	4345	3878
35°	1756	1724	1540
40°	691	658	624
45°	213	213	213
50°	40	40	80
55°	45	0	45
60°	0	0	0
65°	0	0	0
70°	0	0	0
75°	0	0	0
80°	0	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	629.0	38.3
10°-20°	729.0	44.3
20°-30°	253.3	15.4
30°-40°	27.0	1.6
40°-50°	5.2	0.3
50°-60°	0.5	0.0
60°-70°	0.0	0.0
70°-80°	0.0	0.0
80°-90°	0.0	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°	1611.3	98.0
0°-40°	1638.3	99.7
0°-60°	1644.0	100.0
0°-90°	1644.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1644.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	8611	8611	8611	8611	8611	
5°	7455	7546	7379	7288	7246	634
15°	2586	2642	2563	2414	2361	744
25°	446	580	414	507	485	242
35°	33	47	33	42	29	25
45°	4	9	4	9	4	4
55°	1	1	0	1	1	0
65°	0	0	0	0	0	0
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	8611.4	8611.4	8611.4	8611.4	8611.4	8611.4	8611.4	8611.4	8611.4
1°	8532.2	8531.0	8561.5	8569.7	8477.0	8603.7	8453.0	8607.3	8421.3
2°	8340.4	8350.9	8403.1	8396.1	8315.1	8426.6	8249.4	8370.9	8203.7
3°	8096.9	8115.7	8176.1	8171.4	8077.0	8172.6	7984.9	8093.4	7936.2
4°	7799.0	7843.0	7893.4	7906.9	7763.2	7849.4	7667.0	7768.5	7618.9
5°	7455.2	7513.3	7545.6	7527.4	7379.0	7458.2	7288.1	7432.4	7245.8
6°	7066.9	7112.1	7136.1	7103.9	6939.6	7029.4	6870.4	6993.0	6810.6
7°	6604.7	6655.7	6675.1	6643.4	6529.6	6566.0	6407.0	6509.7	6339.0
8°	6091.5	6168.3	6171.2	6142.5	6024.6	5984.7	5893.8	5968.9	5807.0
9°	5587.6	5645.1	5643.9	5622.8	5492.6	5434.5	5346.0	5399.3	5255.6
10°	5063.2	5114.8	5097.2	5077.9	4940.0	4875.5	4790.5	4818.6	4692.5
11°	4507.7	4573.4	4545.3	4526.5	4389.3	4325.9	4240.9	4248.5	4137.6
12°	3946.4	4039.7	4006.2	3993.9	3867.2	3805.6	3728.8	3720.6	3615.6
13°	3475.4	3532.9	3500.0	3493.6	3382.1	3328.8	3205.0	3237.8	3142.2
14°	2972.7	3073.0	3043.7	3040.8	2949.2	2899.4	2785.0	2810.8	2727.5
15°	2586.2	2665.9	2642.5	2641.3	2563.3	2515.8	2414.3	2435.4	2360.9
16°	2234.2	2309.3	2292.3	2295.2	2226.0	2184.4	2096.4	2114.0	2054.1
17°	1989.0	2016.0	2000.2	2000.2	1942.7	1916.9	1841.2	1858.2	1811.3
18°	1745.0	1755.0	1765.0	1766.7	1716.3	1698.7	1635.3	1650.6	1611.9
19°	1545.0	1569.1	1574.9	1576.1	1531.5	1521.5	1467.0	1478.7	1447.1
20°	1399.0	1413.0	1414.8	1411.9	1369.0	1360.8	1312.1	1322.7	1295.1
21°	1230.0	1254.7	1249.4	1244.7	1200.1	1193.7	1152.6	1154.4	1127.4
22°	1041.7	1085.7	1079.9	1071.7	1011.2	1002.4	991.9	987.8	962.0
23°	811.2	913.9	908.6	896.9	808.9	835.3	828.8	821.2	797.1
24°	622.3	743.2	740.2	722.1	605.3	671.0	664.0	657.5	638.8
25°	446.4	579.5	580.1	552.0	413.5	531.4	506.8	502.1	485.1
26°	319.1	431.1	434.1	393.6	254.0	383.6	366.0	359.6	346.1
27°	194.2	300.3	306.2	258.1	158.4	257.5	246.4	239.3	200.6
28°	133.7	195.9	203.0	159.5	123.8	171.9	158.4	150.2	116.7
29°	114.4	127.9	133.2	112.6	104.4	114.4	107.9	104.4	94.4
30°	94.4	97.4	99.7	93.3	87.4	90.3	87.4	84.5	78.0
32.5°	59.8	65.1	66.9	62.2	56.9	58.7	58.7	54.6	49.3
35°	33.4	41.6	46.9	41.1	32.8	39.3	42.2	36.4	29.3
37.5°	20.5	25.8	32.8	25.8	19.9	25.2	30.5	22.9	18.8
40°	12.3	15.8	23.5	15.8	11.7	15.3	21.1	14.1	11.1
42.5°	7.0	9.4	15.3	9.4	6.5	8.8	14.1	8.2	6.5
45°	3.5	5.3	9.4	5.3	3.5	5.3	8.8	4.7	3.5
47.5°	1.8	2.9	5.3	2.9	1.8	2.9	4.7	2.9	1.8
50°	0.6	1.2	2.9	1.2	0.6	1.2	2.9	1.2	1.2
52.5°	0.6	0.6	1.8	0.6	0.6	0.6	1.2	0.6	0.6
55°	0.6	0.6	0.6	0.6	0.0	0.6	0.6	0.6	0.6
57.5°	0.6	0.0	0.6	0.0	0.0	0.0	0.6	0.6	0.6
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	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
87.5°	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



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— 0°-180° - - 45°-225° - - - 90°-270°







62.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



(END OF REPORT)