

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: P208771

Luminaire Tested: **LDSQA6A20940D010TE LARL20NF 6LSQA1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P208771
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: LDSQA6A20940D010TE LARL20NF 6LSQA1H
Description: PORTFOLIO 6" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,
SELF-FLANGED, 20° NARROW FLOOD
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1775.1 lumens
Efficiency: N/A
Efficacy: 61.6 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

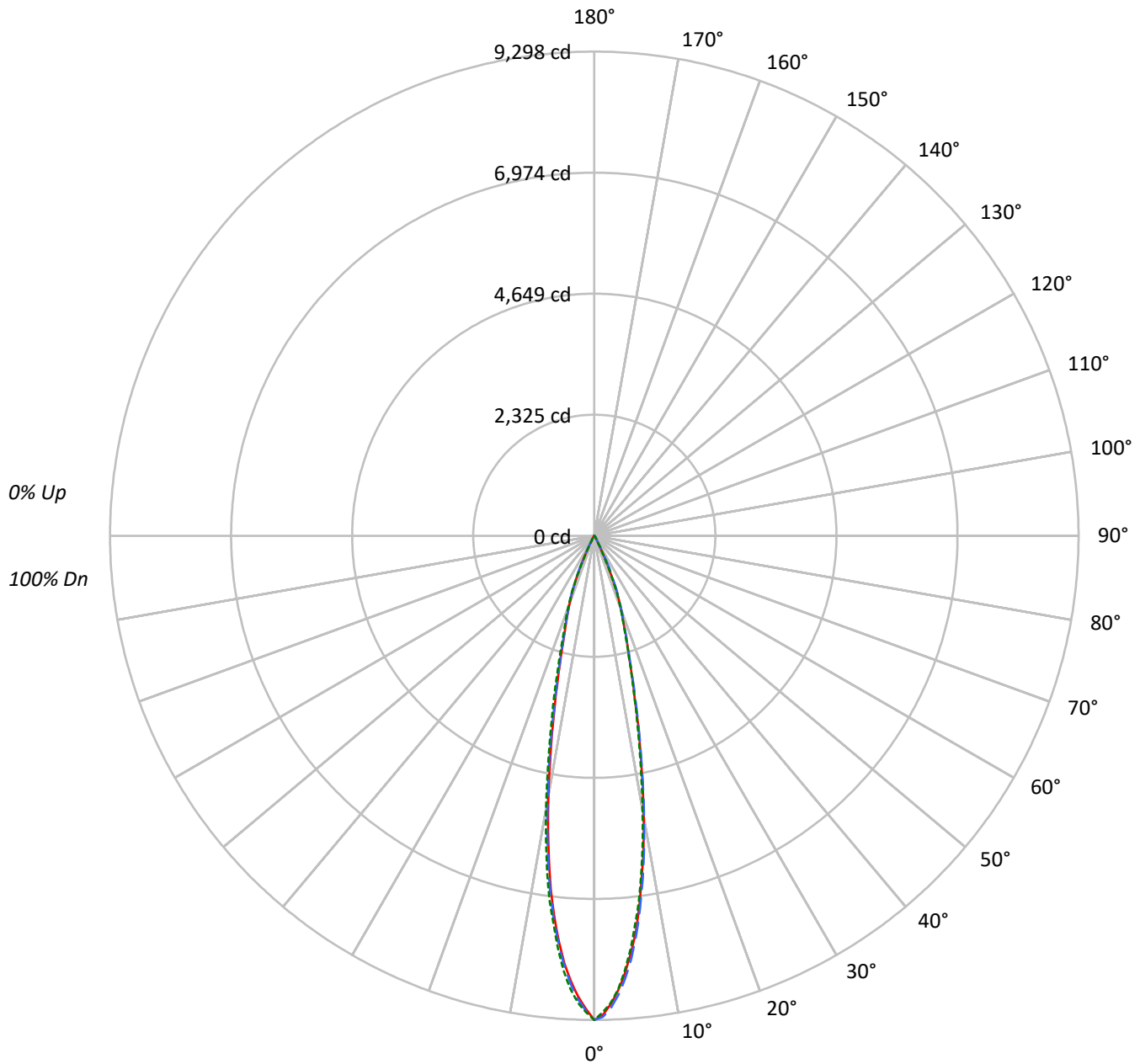
Input Watts (W): 28.81
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	400327	400327	400327
5°	347905	344348	338133
10°	239012	233197	221515
15°	124470	123369	113629
20°	69209	67729	64073
25°	22898	21212	24884
30°	5071	4693	4186
35°	1897	1866	1666
40°	748	714	674
45°	231	231	231
50°	40	40	87
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°	679.1	38.3
10°-20°	787.1	44.3
20°-30°	273.5	15.4
30°-40°	29.1	1.6
40°-50°	5.6	0.3
50°-60°	0.6	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°	1739.8	98.0
0°-40°	1768.9	99.7
0°-60°	1775.1	100.0
0°-90°	1775.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1775.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	9298	9298	9298	9298	9298	
5°	8050	8147	7967	7869	7824	684
15°	2792	2853	2768	2607	2549	803
25°	482	626	446	547	524	261
35°	36	51	36	46	32	27
45°	4	10	4	10	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°	9297.9	9297.9	9297.9	9297.9	9297.9	9297.9	9297.9	9297.9	9297.9
1°	9212.4	9211.2	9244.1	9253.0	9152.9	9289.7	9126.9	9293.5	9092.7
2°	9005.3	9016.7	9073.1	9065.5	8978.1	9098.4	8907.2	9038.3	8857.8
3°	8742.5	8762.8	8828.0	8822.9	8721.0	8824.2	8621.5	8738.7	8569.0
4°	8420.8	8468.3	8522.7	8537.3	8382.1	8475.2	8278.3	8387.8	8226.3
5°	8049.6	8112.3	8147.2	8127.5	7967.3	8052.8	7869.1	8024.9	7823.5
6°	7630.4	7679.1	7705.1	7670.3	7492.9	7589.8	7418.2	7550.6	7353.6
7°	7131.3	7186.4	7207.3	7173.1	7050.2	7089.5	6917.9	7028.7	6844.4
8°	6577.1	6660.1	6663.3	6632.2	6504.9	6461.9	6363.7	6444.8	6270.0
9°	6033.1	6095.2	6093.9	6071.1	5930.5	5867.8	5772.2	5829.8	5674.7
10°	5466.9	5522.7	5503.7	5482.8	5333.9	5264.3	5172.4	5202.8	5066.7
11°	4867.2	4938.1	4907.7	4887.4	4739.2	4670.8	4579.0	4587.2	4467.5
12°	4261.1	4361.8	4325.7	4312.4	4175.6	4109.1	4026.1	4017.2	3903.9
13°	3752.5	3814.6	3779.1	3772.1	3651.8	3594.2	3460.5	3496.0	3392.8
14°	3209.7	3318.0	3286.4	3283.2	3184.4	3130.6	3007.1	3034.9	2945.0
15°	2792.4	2878.5	2853.2	2851.9	2767.7	2716.4	2606.8	2629.6	2549.2
16°	2412.4	2493.4	2475.1	2478.2	2403.5	2358.5	2263.5	2282.5	2217.9
17°	2147.6	2176.8	2159.7	2159.7	2097.6	2069.7	1988.0	2006.4	1955.7
18°	1884.2	1894.9	1905.7	1907.6	1853.1	1834.1	1765.7	1782.2	1740.4
19°	1668.2	1694.2	1700.5	1701.8	1653.6	1642.9	1584.0	1596.6	1562.4
20°	1510.5	1525.7	1527.6	1524.4	1478.2	1469.3	1416.8	1428.2	1398.4
21°	1328.1	1354.7	1349.0	1343.9	1295.8	1288.8	1244.5	1246.4	1217.3
22°	1124.8	1172.3	1166.0	1157.1	1091.9	1082.4	1071.0	1066.5	1038.7
23°	875.9	986.7	981.0	968.4	873.4	901.9	894.9	886.7	860.7
24°	672.0	802.4	799.3	779.6	653.6	724.5	716.9	710.0	689.7
25°	482.0	625.7	626.4	596.0	446.5	573.8	547.2	542.1	523.8
26°	344.5	465.5	468.7	425.0	274.2	414.2	395.2	388.2	373.7
27°	209.6	324.3	330.6	278.7	171.0	278.0	266.0	258.4	216.6
28°	144.4	211.5	219.1	172.3	133.6	185.6	171.0	162.1	126.0
29°	123.5	138.1	143.8	121.6	112.7	123.5	116.5	112.7	102.0
30°	102.0	105.1	107.7	100.7	94.4	97.5	94.4	91.2	84.2
32.5°	64.6	70.3	72.2	67.1	61.4	63.3	63.3	58.9	53.2
35°	36.1	45.0	50.7	44.3	35.5	42.4	45.6	39.3	31.7
37.5°	22.2	27.9	35.5	27.9	21.5	27.2	32.9	24.7	20.3
40°	13.3	17.1	25.3	17.1	12.7	16.5	22.8	15.2	12.0
42.5°	7.6	10.1	16.5	10.1	7.0	9.5	15.2	8.9	7.0
45°	3.8	5.7	10.1	5.7	3.8	5.7	9.5	5.1	3.8
47.5°	1.9	3.2	5.7	3.2	1.9	3.2	5.1	3.2	1.9
50°	0.6	1.3	3.2	1.3	0.6	1.3	3.2	1.3	1.3
52.5°	0.6	0.6	1.9	0.6	0.6	0.6	1.3	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



Report Generated By E9808895 / USPTCWHP6082093





— 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)