

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: P208755

Luminaire Tested: **LDSQA6A10940D010TE LARL20NF 6LSQA1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P208755
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: LDSQA6A10940D010TE 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: 979.4 lumens
Efficiency: N/A
Efficacy: 71.3 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

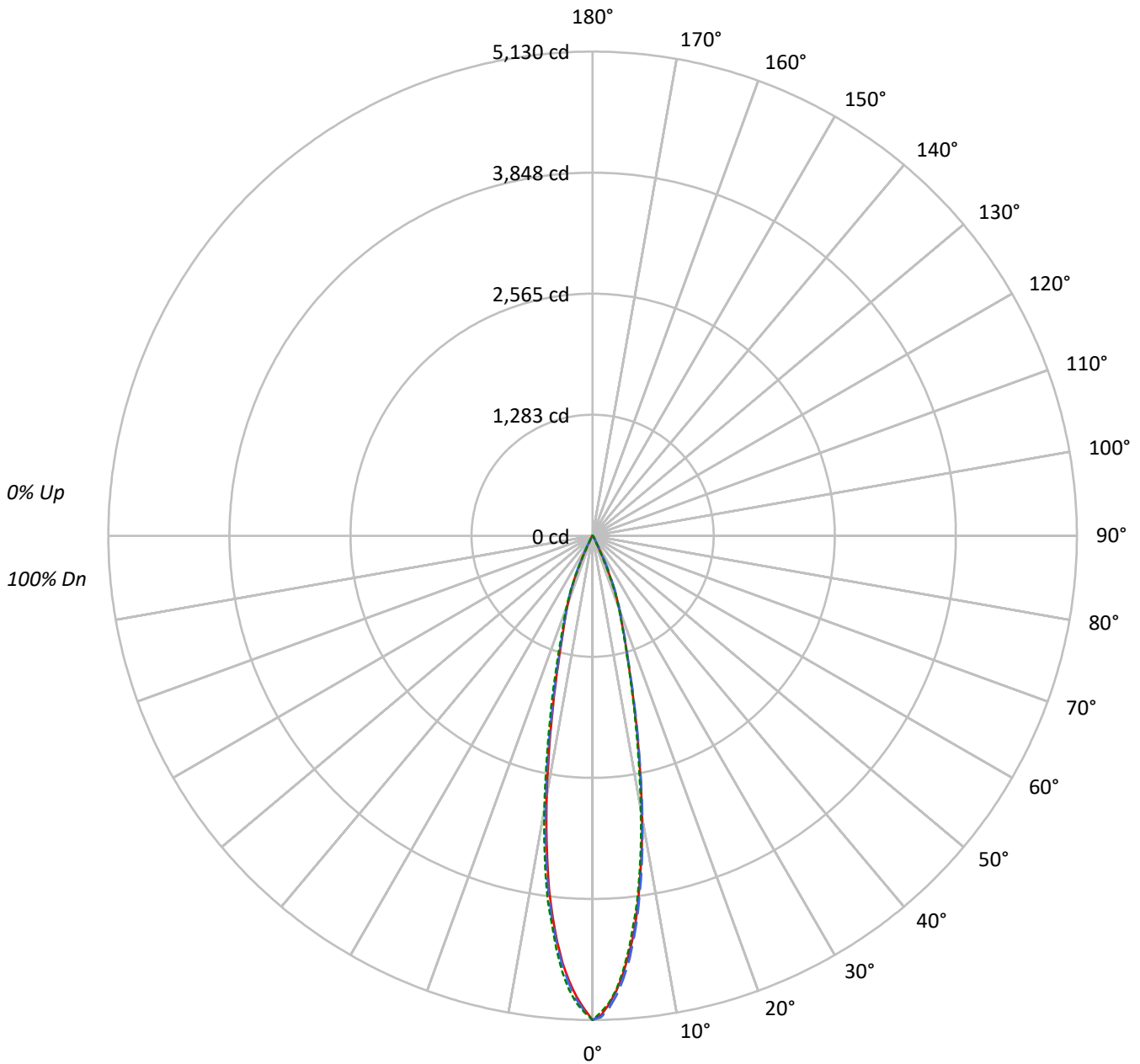
Input Watts (W): 13.73
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P208755

CATALOG NUMBER: LDSQA6A10940D010TE LARL20NF 6LSQA1H

Luminous Intensity Polar Plot





TEST NUMBER: P208755

CATALOG NUMBER: LDSQA6A10940D010TE LARL20NF 6LSQA1H

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	220897	220897	220897
5°	191971	190009	186581
10°	131885	128676	122228
15°	68680	68074	62698
20°	38190	37374	35354
25°	12632	11706	13729
30°	2799	2590	2312
35°	1046	1030	920
40°	410	393	371
45°	128	128	128
50°	20	20	47
55°	23	0	23
60°	0	0	0
65°	0	0	0
70°	0	0	0
75°	0	0	0
80°	0	0	0
85°	0	0	0



TEST NUMBER: P208755

CATALOG NUMBER: LDSQA6A10940D010TE LARL20NF 6LSQA1H

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	374.7	38.3
10°-20°	434.3	44.3
20°-30°	150.9	15.4
30°-40°	16.1	1.6
40°-50°	3.1	0.3
50°-60°	0.3	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°	960.0	98.0
0°-40°	976.1	99.7
0°-60°	979.4	100.0
0°-90°	979.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	979.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	5130	5130	5130	5130	5130	
5°	4442	4496	4396	4342	4317	378
15°	1541	1574	1527	1438	1407	443
25°	266	346	246	302	289	144
35°	20	28	20	25	18	15
45°	2	6	2	5	2	2
55°	0	0	0	0	0	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	0



TEST NUMBER: P208755

CATALOG NUMBER: LDSQA6A10940D010TE LARL20NF 6LSQA1H

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	5130.5	5130.5	5130.5	5130.5	5130.5	5130.5	5130.5	5130.5	5130.5
1°	5083.3	5082.6	5100.8	5105.7	5050.5	5126.0	5036.2	5128.1	5017.3
2°	4969.1	4975.4	5006.5	5002.3	4954.0	5020.4	4914.9	4987.2	4887.6
3°	4824.0	4835.2	4871.2	4868.4	4812.1	4869.1	4757.3	4821.9	4728.3
4°	4646.5	4672.7	4702.8	4710.8	4625.2	4676.6	4567.9	4628.3	4539.2
5°	4441.7	4476.3	4495.5	4484.7	4396.3	4443.5	4342.1	4428.1	4317.0
6°	4210.4	4237.3	4251.6	4232.4	4134.5	4188.0	4093.3	4166.3	4057.7
7°	3935.0	3965.4	3976.9	3958.1	3890.3	3911.9	3817.2	3878.4	3776.7
8°	3629.2	3675.0	3676.7	3659.6	3589.4	3565.6	3511.4	3556.2	3459.7
9°	3329.0	3363.3	3362.6	3350.0	3272.4	3237.8	3185.0	3216.8	3131.2
10°	3016.6	3047.3	3036.9	3025.3	2943.2	2904.8	2854.1	2870.9	2795.7
11°	2685.6	2724.8	2708.0	2696.8	2615.1	2577.3	2526.6	2531.2	2465.1
12°	2351.2	2406.8	2386.9	2379.5	2304.0	2267.3	2221.6	2216.7	2154.1
13°	2070.6	2104.8	2085.3	2081.4	2015.0	1983.2	1909.5	1929.1	1872.1
14°	1771.1	1830.9	1813.4	1811.6	1757.1	1727.4	1659.3	1674.6	1625.0
15°	1540.8	1588.3	1574.3	1573.6	1527.2	1498.9	1438.4	1451.0	1406.6
16°	1331.1	1375.8	1365.7	1367.5	1326.2	1301.4	1249.0	1259.5	1223.8
17°	1185.0	1201.1	1191.7	1191.7	1157.4	1142.1	1097.0	1107.1	1079.2
18°	1039.7	1045.6	1051.5	1052.6	1022.5	1012.1	974.3	983.4	960.3
19°	920.5	934.8	938.3	939.0	912.5	906.5	874.0	881.0	862.1
20°	833.5	841.9	842.9	841.2	815.7	810.8	781.8	788.0	771.6
21°	732.8	747.5	744.4	741.6	715.0	711.2	686.7	687.7	671.7
22°	620.7	646.9	643.4	638.5	602.5	597.2	590.9	588.5	573.1
23°	483.3	544.5	541.3	534.3	481.9	497.6	493.8	489.3	474.9
24°	370.8	442.8	441.0	430.2	360.6	399.8	395.6	391.8	380.6
25°	265.9	345.3	345.6	328.8	246.4	316.6	301.9	299.1	289.0
26°	190.1	256.9	258.6	234.5	151.3	228.6	218.1	214.2	206.2
27°	115.7	178.9	182.4	153.8	94.4	153.4	146.8	142.6	119.5
28°	79.7	116.7	120.9	95.1	73.7	102.4	94.4	89.5	69.5
29°	68.1	76.2	79.3	67.1	62.2	68.1	64.3	62.2	56.3
30°	56.3	58.0	59.4	55.6	52.1	53.8	52.1	50.3	46.5
32.5°	35.6	38.8	39.8	37.0	33.9	34.9	34.9	32.5	29.4
35°	19.9	24.8	28.0	24.5	19.6	23.4	25.2	21.7	17.5
37.5°	12.2	15.4	19.6	15.4	11.9	15.0	18.2	13.6	11.2
40°	7.3	9.4	14.0	9.4	7.0	9.1	12.6	8.4	6.6
42.5°	4.2	5.6	9.1	5.6	3.8	5.2	8.4	4.9	3.8
45°	2.1	3.1	5.6	3.1	2.1	3.1	5.2	2.8	2.1
47.5°	1.0	1.7	3.1	1.7	1.0	1.7	2.8	1.7	1.0
50°	0.3	0.7	1.7	0.7	0.3	0.7	1.7	0.7	0.7
52.5°	0.3	0.3	1.0	0.3	0.3	0.3	0.7	0.3	0.3
55°	0.3	0.3	0.3	0.3	0.0	0.3	0.3	0.3	0.3
57.5°	0.3	0.0	0.3	0.0	0.0	0.0	0.3	0.3	0.3
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0



TEST NUMBER: P208755

CATALOG NUMBER: LDSQA6A10940D010TE LARL20NF 6LSQA1H

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)