

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: P208749

Luminaire Tested: **LDSQA6A10830D010TE LARL20NF 6LSQA1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P208749
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: LDSQA6A10830D010TE LARL20NF 6LSQA1H
Description: PORTFOLIO 6" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,
SELF-FLANGED, 20° NARROW FLOOD
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1092.0 lumens
Efficiency: N/A
Efficacy: 79.5 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

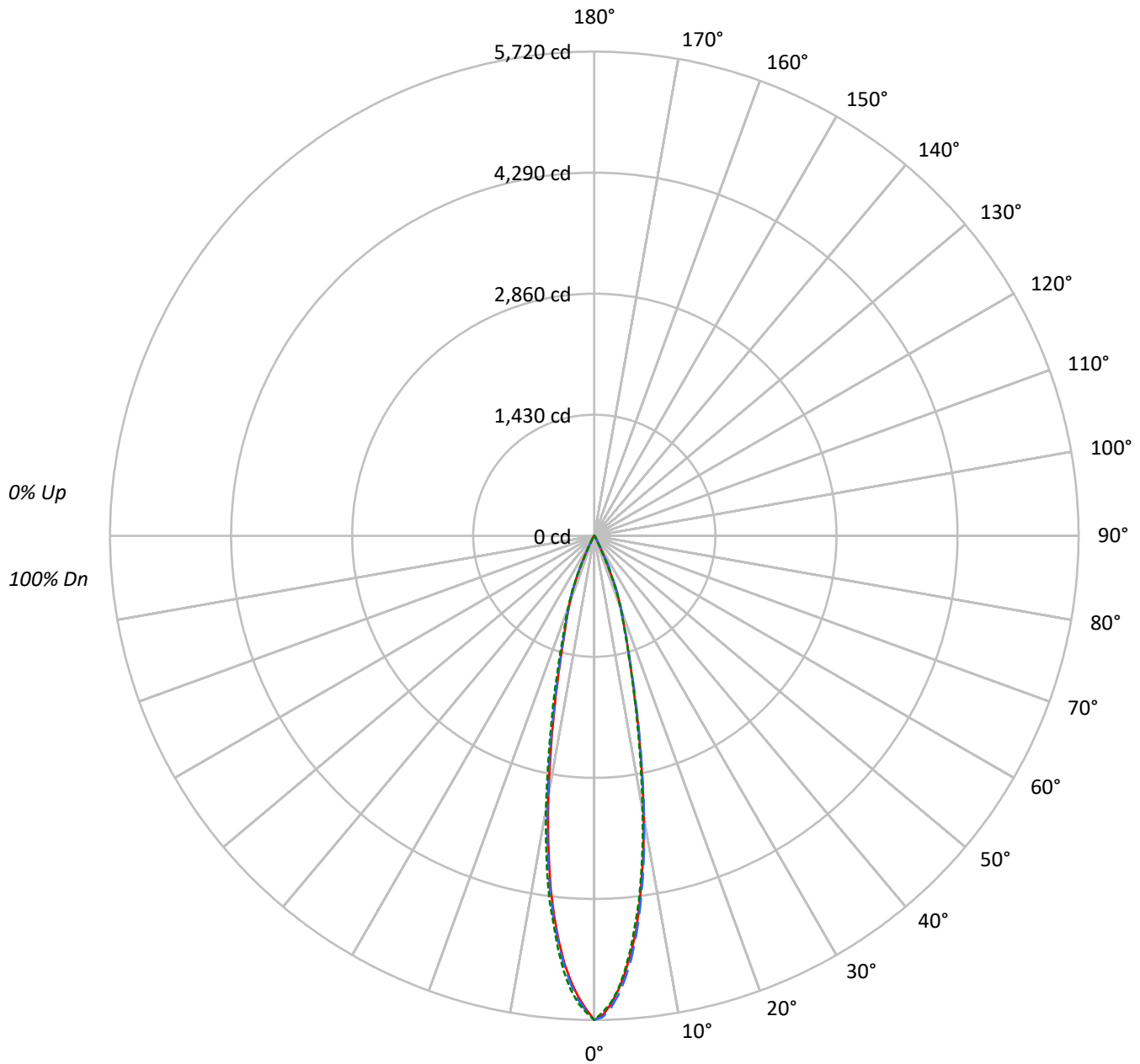
Input Watts (W): 13.73
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P208749

CATALOG NUMBER: LDSQA6A10830D010TE LARL20NF 6LSQA1H

Luminous Intensity Polar Plot





TEST NUMBER: P208749

CATALOG NUMBER: LDSQA6A10830D010TE LARL20NF 6LSQA1H

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°	246283	246283	246283
5°	214030	211843	208018
10°	147039	143462	136275
15°	76570	75897	69902
20°	42579	41668	39418
25°	14086	13050	15307
30°	3117	2889	2575
35°	1167	1146	1025
40°	461	438	416
45°	140	140	140
50°	27	27	54
55°	30	0	30
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: P208749

CATALOG NUMBER: LDSQA6A10830D010TE LARL20NF 6LSQA1H

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	417.8	38.3
10°-20°	484.2	44.3
20°-30°	168.3	15.4
30°-40°	17.9	1.6
40°-50°	3.4	0.3
50°-60°	0.4	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°	1070.3	98.0
0°-40°	1088.2	99.7
0°-60°	1092.0	100.0
0°-90°	1092.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1092.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	5720	5720	5720	5720	5720	
5°	4952	5012	4902	4841	4813	421
15°	1718	1755	1703	1604	1568	494
25°	296	385	275	337	322	161
35°	22	31	22	28	20	17
45°	2	6	2	6	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	



TEST NUMBER: P208749

CATALOG NUMBER: LDSQA6A10830D010TE LARL20NF 6LSQA1H

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	5720.1	5720.1	5720.1	5720.1	5720.1	5720.1	5720.1	5720.1	5720.1
1°	5667.5	5666.7	5686.9	5692.4	5630.8	5715.0	5614.9	5717.3	5593.8
2°	5540.0	5547.1	5581.7	5577.1	5523.3	5597.3	5479.7	5560.3	5449.3
3°	5378.4	5390.8	5431.0	5427.8	5365.1	5428.6	5303.9	5376.0	5271.6
4°	5180.4	5209.6	5243.2	5252.1	5156.7	5213.9	5092.8	5160.2	5060.8
5°	4952.1	4990.7	5012.1	5000.0	4901.5	4954.1	4841.1	4936.9	4813.0
6°	4694.2	4724.2	4740.2	4718.7	4609.6	4669.2	4563.7	4645.1	4523.9
7°	4387.2	4421.1	4433.9	4412.9	4337.3	4361.4	4255.9	4324.0	4210.7
8°	4046.2	4097.3	4099.2	4080.1	4001.8	3975.3	3914.9	3964.8	3857.3
9°	3711.5	3749.7	3749.0	3734.9	3648.4	3609.9	3551.0	3586.5	3491.0
10°	3363.2	3397.5	3385.8	3373.0	3281.4	3238.5	3182.1	3200.8	3117.0
11°	2994.3	3037.9	3019.2	3006.7	2915.5	2873.5	2817.0	2822.0	2748.4
12°	2621.4	2683.3	2661.1	2652.9	2568.8	2527.9	2476.8	2471.4	2401.6
13°	2308.5	2346.7	2324.9	2320.6	2246.6	2211.1	2128.9	2150.7	2087.2
14°	1974.6	2041.2	2021.8	2019.8	1959.0	1925.9	1849.9	1867.1	1811.7
15°	1717.8	1770.8	1755.3	1754.5	1702.7	1671.1	1603.7	1617.7	1568.2
16°	1484.1	1533.9	1522.6	1524.6	1478.6	1451.0	1392.5	1404.2	1364.5
17°	1321.2	1339.1	1328.6	1328.6	1290.4	1273.3	1223.0	1234.3	1203.2
18°	1159.1	1165.8	1172.4	1173.5	1140.0	1128.3	1086.3	1096.4	1070.7
19°	1026.3	1042.2	1046.1	1046.9	1017.3	1010.7	974.4	982.2	961.2
20°	929.3	938.6	939.8	937.8	909.4	903.9	871.6	878.6	860.3
21°	817.0	833.4	829.9	826.8	797.2	792.9	765.6	766.8	748.9
22°	692.0	721.2	717.3	711.8	671.7	665.9	658.9	656.1	639.0
23°	538.8	607.0	603.5	595.7	537.3	554.8	550.5	545.5	529.5
24°	413.4	493.7	491.7	479.6	402.1	445.7	441.1	436.8	424.3
25°	296.5	384.9	385.3	366.6	274.7	353.0	336.6	333.5	322.2
26°	212.0	286.4	288.3	261.4	168.7	254.8	243.1	238.8	229.9
27°	129.0	199.5	203.4	171.4	105.2	171.0	163.6	159.0	133.3
28°	88.8	130.1	134.8	106.0	82.2	114.2	105.2	99.7	77.5
29°	76.0	84.9	88.4	74.8	69.4	76.0	71.7	69.4	62.7
30°	62.7	64.7	66.2	62.0	58.1	60.0	58.1	56.1	51.8
32.5°	39.7	43.2	44.4	41.3	37.8	39.0	39.0	36.2	32.7
35°	22.2	27.7	31.2	27.3	21.8	26.1	28.1	24.2	19.5
37.5°	13.6	17.1	21.8	17.1	13.2	16.8	20.3	15.2	12.5
40°	8.2	10.5	15.6	10.5	7.8	10.1	14.0	9.4	7.4
42.5°	4.7	6.2	10.1	6.2	4.3	5.8	9.4	5.5	4.3
45°	2.3	3.5	6.2	3.5	2.3	3.5	5.8	3.1	2.3
47.5°	1.2	1.9	3.5	1.9	1.2	1.9	3.1	1.9	1.2
50°	0.4	0.8	1.9	0.8	0.4	0.8	1.9	0.8	0.8
52.5°	0.4	0.4	1.2	0.4	0.4	0.4	0.8	0.4	0.4
55°	0.4	0.4	0.4	0.4	0.0	0.4	0.4	0.4	0.4
57.5°	0.4	0.0	0.4	0.0	0.0	0.0	0.4	0.4	0.4
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0



TEST NUMBER: P208749

CATALOG NUMBER: LDSQA6A10830D010TE 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)