

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: P208751

Luminaire Tested: **LDSQA6A10840D010TE LARL20NF 6LSQA1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P208751
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: LDSQA6A10840D010TE LARL20NF 6LSQA1H
Description: PORTFOLIO 6" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,
SELF-FLANGED, 20° NARROW FLOOD
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1165.8 lumens
Efficiency: N/A
Efficacy: 84.9 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

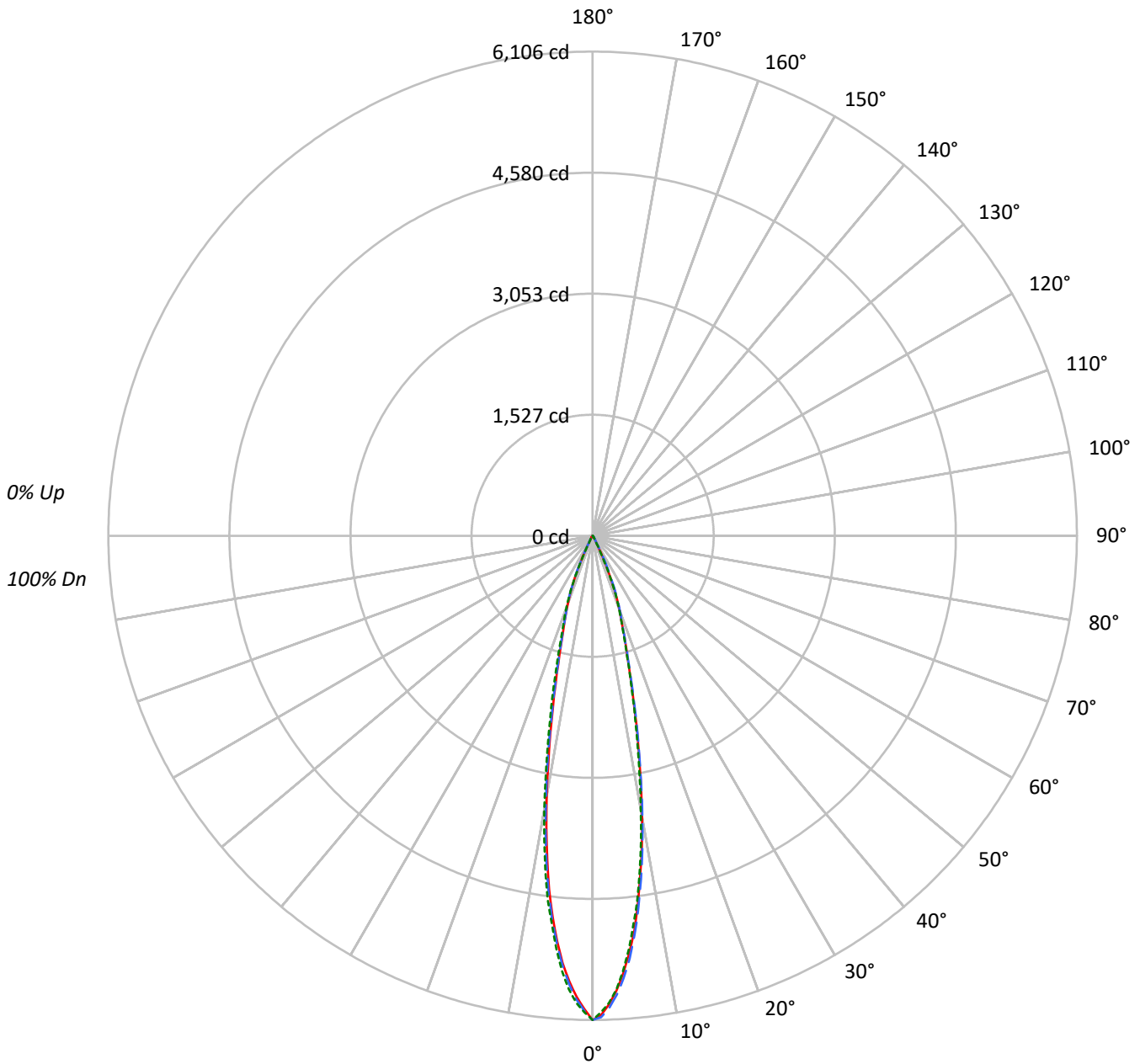
Input Watts (W): 13.73
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P208751

CATALOG NUMBER: LDSQA6A10840D010TE LARL20NF 6LSQA1H

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					0
RW	70	50	30	10	70	50	30	10	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	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	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	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	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	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	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	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	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	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	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	76	76	76		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	262915	262915	262915
5°	228488	226149	222069
10°	156972	153151	145478
15°	81745	81023	74627
20°	45452	44481	42080
25°	15036	13929	16342
30°	3331	3082	2749
35°	1246	1225	1093
40°	489	467	444
45°	152	152	152
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: P208751

CATALOG NUMBER: LDSQA6A10840D010TE LARL20NF 6LSQA1H

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	446.0	38.3
10°-20°	517.0	44.3
20°-30°	179.6	15.4
30°-40°	19.1	1.6
40°-50°	3.7	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°	1142.6	98.0
0°-40°	1161.7	99.7
0°-60°	1165.8	100.0
0°-90°	1165.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1165.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	6106	6106	6106	6106	6106	
5°	5287	5351	5232	5168	5138	449
15°	1834	1874	1818	1712	1674	528
25°	316	411	293	359	344	171
35°	24	33	23	30	21	18
45°	2	7	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	0



TEST NUMBER: P208751

CATALOG NUMBER: LDSQA6A10840D010TE LARL20NF 6LSQA1H

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	6106.4	6106.4	6106.4	6106.4	6106.4	6106.4	6106.4	6106.4	6106.4
1°	6050.3	6049.4	6071.1	6076.9	6011.2	6101.0	5994.1	6103.5	5971.6
2°	5914.2	5921.7	5958.8	5953.8	5896.4	5975.4	5849.8	5935.9	5817.3
3°	5741.6	5754.9	5797.8	5794.5	5727.5	5795.3	5662.2	5739.1	5627.7
4°	5530.3	5561.5	5597.3	5606.9	5505.0	5566.1	5436.7	5508.7	5402.6
5°	5286.6	5327.8	5350.6	5337.8	5232.5	5288.7	5168.1	5270.4	5138.1
6°	5011.2	5043.3	5060.3	5037.4	4921.0	4984.6	4871.9	4958.8	4829.5
7°	4683.5	4719.7	4733.4	4710.9	4630.2	4656.0	4543.3	4616.1	4495.1
8°	4319.5	4374.0	4376.1	4355.7	4272.1	4243.8	4179.4	4232.6	4117.8
9°	3962.2	4003.0	4002.2	3987.2	3894.9	3853.7	3790.9	3828.7	3726.8
10°	3590.4	3627.0	3614.5	3600.8	3503.0	3457.3	3397.0	3416.9	3327.5
11°	3196.5	3243.1	3223.1	3209.8	3112.5	3067.6	3007.2	3012.7	2934.0
12°	2798.4	2864.6	2840.9	2832.1	2742.3	2698.6	2644.1	2638.3	2563.9
13°	2464.4	2505.2	2481.9	2477.3	2398.3	2360.5	2272.7	2296.0	2228.2
14°	2108.0	2179.1	2158.3	2156.2	2091.3	2056.0	1974.9	1993.2	1934.1
15°	1833.9	1890.4	1873.8	1873.0	1817.7	1784.0	1712.0	1727.0	1674.2
16°	1584.3	1637.6	1625.5	1627.6	1578.5	1549.0	1486.6	1499.0	1456.6
17°	1410.5	1429.6	1418.4	1418.4	1377.6	1359.3	1305.6	1317.7	1284.4
18°	1237.4	1244.5	1251.6	1252.8	1217.0	1204.6	1159.6	1170.5	1143.0
19°	1095.6	1112.6	1116.8	1117.6	1086.0	1078.9	1040.3	1048.6	1026.1
20°	992.0	1002.0	1003.2	1001.2	970.8	965.0	930.5	937.9	918.4
21°	872.2	889.7	886.0	882.6	851.0	846.4	817.3	818.6	799.4
22°	738.7	769.9	765.7	759.9	717.1	710.8	703.4	700.4	682.1
23°	575.2	648.0	644.3	636.0	573.6	592.3	587.7	582.3	565.3
24°	441.3	527.0	524.9	512.0	429.2	475.8	470.8	466.3	453.0
25°	316.5	410.9	411.4	391.4	293.2	376.8	359.4	356.0	344.0
26°	226.3	305.7	307.8	279.1	180.1	272.0	259.5	255.0	245.4
27°	137.7	213.0	217.1	183.0	112.3	182.6	174.7	169.7	142.3
28°	94.8	138.9	143.9	113.1	87.8	121.9	112.3	106.5	82.8
29°	81.1	90.7	94.4	79.9	74.0	81.1	76.5	74.0	67.0
30°	67.0	69.0	70.7	66.1	62.0	64.1	62.0	59.9	55.3
32.5°	42.4	46.2	47.4	44.1	40.3	41.6	41.6	38.7	34.9
35°	23.7	29.5	33.3	29.1	23.3	27.9	29.9	25.8	20.8
37.5°	14.6	18.3	23.3	18.3	14.1	17.9	21.6	16.2	13.3
40°	8.7	11.2	16.6	11.2	8.3	10.8	15.0	10.0	7.9
42.5°	5.0	6.7	10.8	6.7	4.6	6.2	10.0	5.8	4.6
45°	2.5	3.7	6.7	3.7	2.5	3.7	6.2	3.3	2.5
47.5°	1.2	2.1	3.7	2.1	1.2	2.1	3.3	2.1	1.2
50°	0.4	0.8	2.1	0.8	0.4	0.8	2.1	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



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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)