

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: P208769

Luminaire Tested: **LDSQA6A20930D010TE LARL20NF 6LSQA1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P208769
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: LDSQA6A20930D010TE LARL20NF 6LSQA1H
Description: PORTFOLIO 6" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,
SELF-FLANGED, 20° NARROW FLOOD
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1628.4 lumens
Efficiency: N/A
Efficacy: 56.5 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

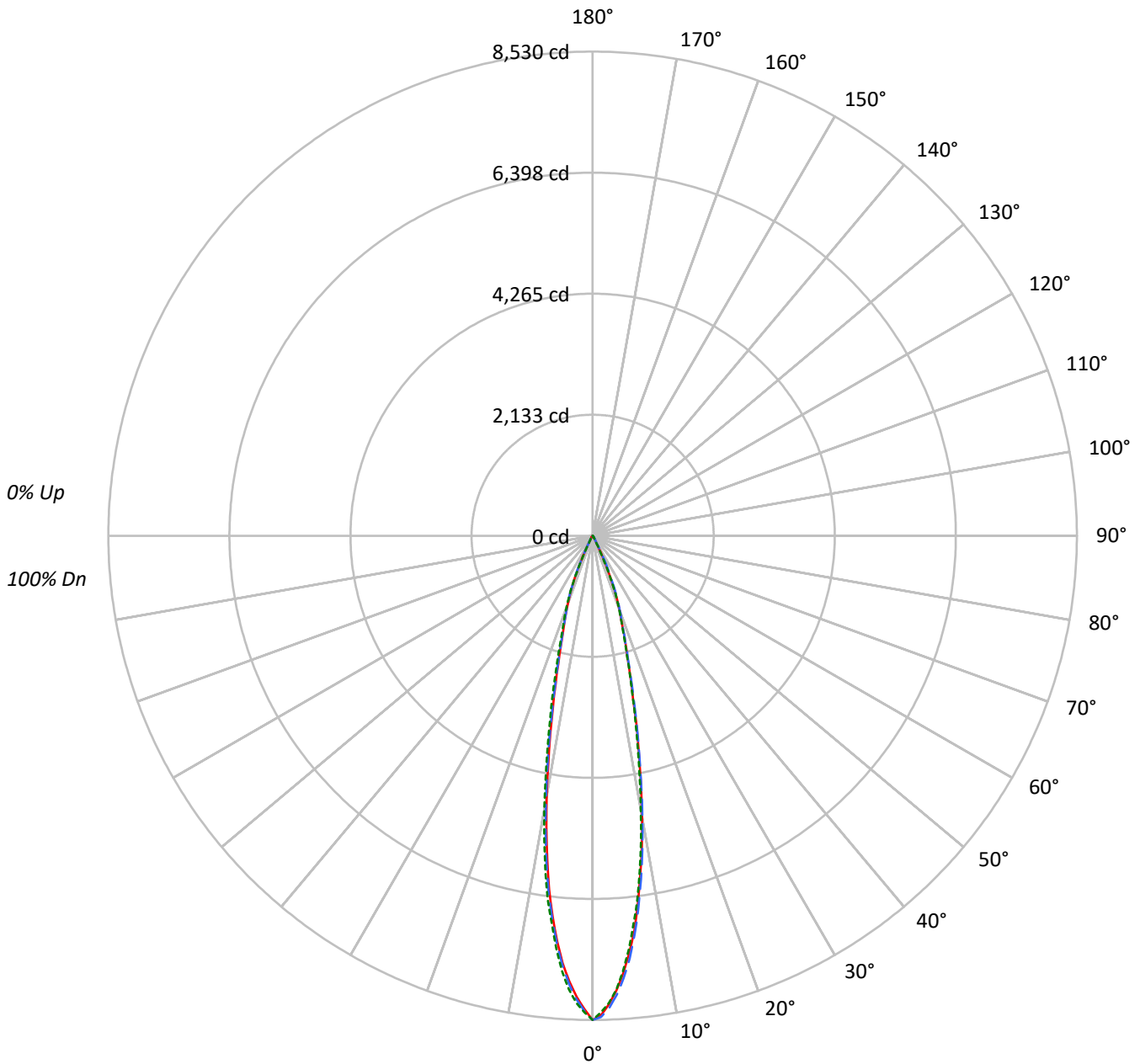
Input Watts (W): 28.81
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P208769

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	367243	367243	367243
5°	319155	315887	310191
10°	219259	213926	203206
15°	114182	113170	104237
20°	63491	62130	58776
25°	21003	19459	22827
30°	4648	4305	3843
35°	1740	1708	1524
40°	686	652	618
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°	623.0	38.3
10°-20°	722.1	44.3
20°-30°	250.9	15.4
30°-40°	26.7	1.6
40°-50°	5.1	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°	1596.0	98.0
0°-40°	1622.7	99.7
0°-60°	1628.4	100.0
0°-90°	1628.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1628.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	8530	8530	8530	8530	8530	
5°	7384	7474	7309	7219	7177	628
15°	2562	2617	2539	2391	2338	737
25°	442	575	410	502	480	239
35°	33	46	32	42	29	25
45°	4	9	4	9	4	3
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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CATALOG NUMBER: LDSQA6A20930D010TE LARL20NF 6LSQA1H

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	8529.5	8529.5	8529.5	8529.5	8529.5	8529.5	8529.5	8529.5	8529.5
1°	8451.1	8449.9	8480.1	8488.3	8396.5	8522.0	8372.6	8525.4	8341.3
2°	8261.1	8271.5	8323.3	8316.3	8236.1	8346.5	8171.0	8291.3	8125.7
3°	8020.0	8038.6	8098.4	8093.8	8000.2	8094.9	7909.0	8016.5	7860.8
4°	7724.8	7768.4	7818.4	7831.7	7689.4	7774.8	7594.1	7694.6	7546.5
5°	7384.4	7441.9	7473.9	7455.8	7308.8	7387.3	7218.8	7361.7	7177.0
6°	6999.8	7044.5	7068.3	7036.4	6873.7	6962.6	6805.1	6926.6	6745.9
7°	6541.9	6592.5	6611.7	6580.3	6467.6	6503.6	6346.1	6447.8	6278.8
8°	6033.6	6109.7	6112.6	6084.1	5967.3	5927.8	5837.8	5912.2	5751.8
9°	5534.5	5591.4	5590.3	5569.4	5440.4	5382.9	5295.1	5348.0	5205.7
10°	5015.1	5066.2	5048.8	5029.6	4893.1	4829.2	4744.9	4772.8	4647.9
11°	4464.9	4530.0	4502.1	4483.5	4347.5	4284.8	4200.6	4208.1	4098.3
12°	3908.9	4001.3	3968.2	3956.0	3830.5	3769.5	3693.4	3685.2	3581.2
13°	3442.4	3499.3	3466.8	3460.4	3350.0	3297.1	3174.5	3207.1	3112.4
14°	2944.5	3043.8	3014.8	3011.9	2921.2	2871.8	2758.5	2784.1	2701.6
15°	2561.6	2640.6	2617.4	2616.2	2538.9	2491.9	2391.4	2412.3	2338.5
16°	2213.0	2287.4	2270.5	2273.4	2204.9	2163.6	2076.5	2093.9	2034.6
17°	1970.1	1996.9	1981.2	1981.2	1924.2	1898.7	1823.7	1840.6	1794.1
18°	1728.4	1738.3	1748.2	1749.9	1700.0	1682.5	1619.8	1634.9	1596.6
19°	1530.3	1554.1	1560.0	1561.1	1517.0	1507.1	1453.1	1464.7	1433.3
20°	1385.7	1399.6	1401.3	1398.4	1356.0	1347.9	1299.7	1310.1	1282.8
21°	1218.3	1242.7	1237.5	1232.9	1188.7	1182.3	1141.6	1143.4	1116.7
22°	1031.8	1075.4	1069.6	1061.5	1001.6	992.9	982.5	978.4	952.8
23°	803.5	905.2	900.0	888.3	801.2	827.3	820.9	813.4	789.6
24°	616.4	736.1	733.2	715.2	599.6	664.7	657.7	651.3	632.7
25°	442.1	574.0	574.6	546.7	409.6	526.4	502.0	497.3	480.5
26°	316.1	427.0	429.9	389.8	251.6	380.0	362.5	356.1	342.8
27°	192.3	297.5	303.3	255.6	156.9	255.1	244.0	237.0	198.7
28°	132.5	194.1	201.0	158.0	122.6	170.2	156.9	148.7	115.6
29°	113.3	126.7	131.9	111.6	103.4	113.3	106.9	103.4	93.5
30°	93.5	96.4	98.8	92.4	86.6	89.5	86.6	83.7	77.3
32.5°	59.3	64.5	66.2	61.6	56.4	58.1	58.1	54.0	48.8
35°	33.1	41.3	46.5	40.7	32.5	38.9	41.8	36.0	29.0
37.5°	20.3	25.6	32.5	25.6	19.8	25.0	30.2	22.7	18.6
40°	12.2	15.7	23.2	15.7	11.6	15.1	20.9	13.9	11.0
42.5°	7.0	9.3	15.1	9.3	6.4	8.7	13.9	8.1	6.4
45°	3.5	5.2	9.3	5.2	3.5	5.2	8.7	4.6	3.5
47.5°	1.7	2.9	5.2	2.9	1.7	2.9	4.6	2.9	1.7
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	1.7	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)