

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: P209067

Luminaire Tested: **LDSQA6A75940D010TE LARH30NF 6LSQA1H 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209067
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26687)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQA6A75940D010TE LARH30NF 6LSQA1H 30°
Description: PORTFOLIO 6" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,
SELF-FLANGED, 30° NARROW FLOOD, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6066.1 lumens
Efficiency: N/A
Efficacy: 76.4 lumens/watt
Spacing Criteria (0/90/45): 2.58 / 0.47 / 1.37
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
CIE Type: Direct

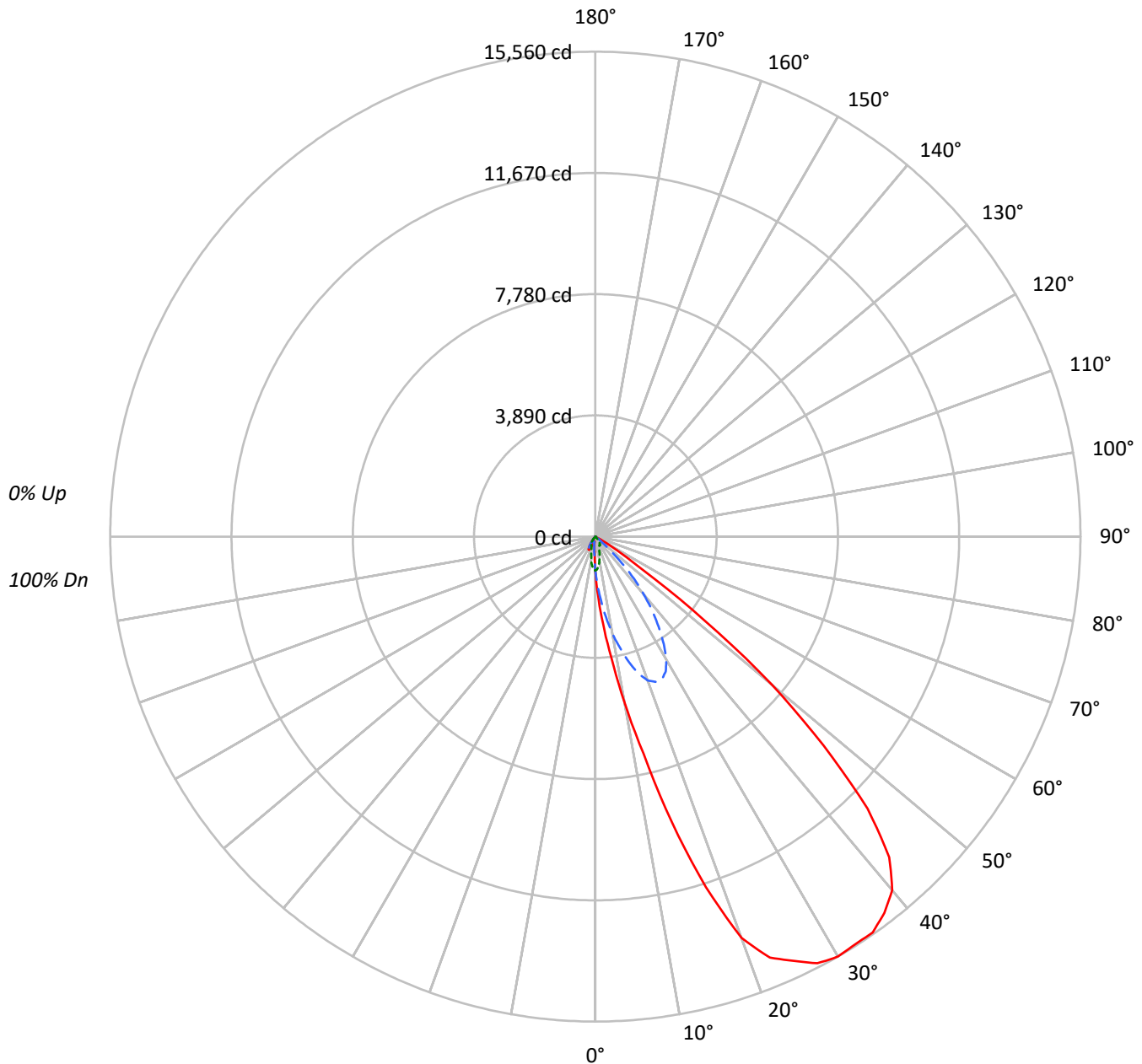
Input Watts (W): 79.45
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	30	10
RCR																					
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102
1	112	109	106	103		110	107	104	102		103	100	98		99	97	95		95	94	93
2	105	99	94	90		103	97	93	89		94	90	87		91	88	85		88	85	83
3	98	90	84	79		96	89	83	78		86	81	77		83	79	76		81	77	74
4	91	82	75	70		89	81	74	69		78	73	68		76	71	67		74	70	67
5	85	74	67	62		83	73	67	61		71	65	61		70	64	60		68	63	60
6	79	68	60	55		77	67	60	55		65	59	54		64	58	54		62	57	54
7	74	62	55	49		72	61	54	49		60	53	49		59	53	49		57	52	48
8	69	57	49	44		67	56	49	44		55	49	44		54	48	44		53	47	43
9	64	52	45	40		63	52	45	40		51	44	40		50	44	40		49	43	39
10	60	48	41	36		59	48	41	36		47	40	36		46	40	36		45	40	36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	47112	47112	47112
5°	120852	42857	13346
10°	235576	32939	6414
15°	422883	22372	8603
20°	627851	16980	14204
25°	713650	13991	22271
30°	773607	15298	20950
35°	814857	9913	12988
40°	832477	4401	6323
45°	751893	1681	2350
50°	494949	663	663
55°	135545	578	0
60°	27073	663	0
65°	1915	897	0
70°	277	1108	0
75°	0	1647	0
80°	0	2455	273
85°	0	4891	543



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.0	2.2
10°-20°	712.1	11.7
20°-30°	1613.9	26.6
30°-40°	1937.3	31.9
40°-50°	1365.4	22.5
50°-60°	281.7	4.6
60°-70°	10.0	0.2
70°-80°	5.9	0.1
80°-90°	5.8	0.1
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°	2460.1	40.6
0°-40°	4397.4	72.5
0°-60°	6044.4	99.6
0°-90°	6066.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6066.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1094	1094	1094	1094	1094	
5°	2796	2037	992	412	309	344
15°	9487	4174	502	179	193	2815
25°	15022	5049	294	412	469	6933
35°	15503	3535	189	247	247	9638
45°	12348	1212	28	38	39	9082
55°	1806	24	8	6	0	2379
65°	19	6	9	6	0	56
75°	0	6	10	7	0	0
85°	0	7	10	7	1	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2
2.5°	1865.2	1809.0	1831.0	1765.9	1751.6	1739.5	1751.6	1681.0	1641.3	1590.6	1549.8
5°	2796.2	2728.9	2744.3	2630.7	2578.9	2543.6	2537.0	2391.4	2282.2	2161.9	2037.3
7.5°	3892.6	3828.6	3819.8	3643.3	3536.3	3475.6	3450.3	3241.8	3053.2	2839.2	2605.4
10°	5388.3	5242.7	5197.5	4941.6	4737.5	4608.4	4449.6	4116.5	3785.6	3462.4	3164.6
12.5°	7128.9	7049.4	6936.9	6485.8	6128.4	5945.3	5708.2	5187.5	4686.8	4152.9	3654.3
15°	9487.1	9204.8	9012.8	8360.9	7785.2	7502.8	7156.4	6360.1	5603.4	4927.2	4173.9
17.5°	11791.4	11643.6	11343.5	10497.5	9610.7	9165.1	8648.8	7566.8	6497.9	5536.1	4616.2
20°	13702.9	13563.9	13222.0	12424.5	11440.6	10783.2	10133.5	8648.8	7252.4	6021.4	4911.8
22.5°	14618.4	14530.2	14251.1	13568.3	12730.0	12104.6	11406.4	9569.9	7810.5	6339.1	5046.3
25°	15022.1	14981.3	14801.5	14263.2	13473.5	12942.9	12283.3	10221.8	8158.0	6486.9	5048.6
27.5°	15431.4	15439.1	15042.0	14616.2	13867.3	13357.7	12722.3	10510.7	8220.9	6404.2	4883.1
30°	15560.4	15478.8	15303.4	14692.3	13980.9	13439.3	12757.6	10377.3	7962.8	6064.4	4553.3
32.5°	15507.5	15475.5	15282.4	14636.1	13787.8	13191.1	12416.8	9847.8	7453.2	5579.1	4085.6
35°	15503.0	15443.5	15001.2	14446.3	13401.8	12665.0	11644.7	8991.9	6731.8	4939.4	3535.2
37.5°	15222.9	15075.1	14743.1	13995.2	12618.6	11684.4	10540.5	7946.2	5849.4	4221.3	2989.2
40°	14811.4	14612.9	14176.1	13044.4	11261.9	10185.4	9069.1	6758.2	4915.1	3513.1	2409.0
42.5°	13952.2	13652.2	13034.5	11478.1	9454.0	8483.4	7554.6	5554.8	4008.4	2862.4	1838.7
45°	12348.4	11938.1	11103.1	9394.5	7637.4	6845.4	6098.6	4469.5	3208.7	2123.3	1212.2
47.5°	9925.0	9544.5	8784.5	7478.5	5989.4	5319.9	4724.3	3324.5	2175.2	1229.9	579.1
50°	7389.2	7062.7	6469.3	5197.5	4020.5	3494.4	2984.8	1888.4	1019.2	584.6	240.5
52.5°	4408.8	4246.7	3720.5	2882.2	1985.4	1710.8	1373.3	799.7	514.0	211.8	65.1
55°	1805.7	1666.7	1469.2	1179.1	863.7	732.4	626.5	394.9	159.9	44.1	24.3
57.5°	816.2	785.4	696.0	547.1	397.1	333.1	225.0	75.0	35.3	22.1	14.3
60°	314.4	283.5	242.7	131.3	56.3	47.4	38.6	25.4	17.6	12.1	8.8
62.5°	45.2	43.0	38.6	30.9	24.3	22.1	18.8	13.2	9.9	7.7	6.6
65°	18.8	18.8	16.5	13.2	11.0	9.9	8.8	6.6	5.5	5.5	5.5
67.5°	7.7	7.7	6.6	5.5	4.4	4.4	4.4	3.3	4.4	4.4	5.5
70°	2.2	2.2	2.2	2.2	2.2	2.2	3.3	3.3	4.4	4.4	5.5
72.5°	0.0	0.0	1.1	1.1	2.2	2.2	2.2	3.3	4.4	5.5	5.5
75°	0.0	0.0	1.1	1.1	2.2	2.2	2.2	3.3	4.4	5.5	5.5
77.5°	0.0	0.0	1.1	1.1	2.2	2.2	3.3	3.3	4.4	5.5	5.5
80°	0.0	0.0	1.1	1.1	2.2	2.2	3.3	3.3	4.4	5.5	6.6
82.5°	0.0	0.0	1.1	1.1	2.2	2.2	3.3	3.3	4.4	5.5	6.6
85°	0.0	0.0	1.1	1.1	2.2	2.2	3.3	3.3	4.4	5.5	6.6
87.5°	0.0	0.0	1.1	1.1	2.2	2.2	3.3	3.3	4.4	5.5	6.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2
2.5°	1514.5	1443.9	1424.0	1362.2	1310.4	1285.0	1253.0	1181.3	1127.3	1055.6	1012.6
5°	1950.2	1816.7	1710.8	1581.7	1496.8	1441.7	1355.6	1224.4	1118.5	991.6	901.2
7.5°	2421.1	2177.4	1986.6	1773.7	1651.2	1555.3	1408.6	1219.9	1064.4	895.7	755.6
10°	2875.6	2511.6	2211.6	1906.0	1745.0	1611.5	1409.7	1172.5	966.3	753.4	605.6
12.5°	3276.0	2806.1	2383.6	1991.0	1791.3	1624.8	1372.2	1087.6	838.3	619.9	489.7
15°	3610.2	3034.4	2505.0	2023.0	1794.6	1596.1	1293.9	966.3	696.0	501.9	410.3
17.5°	3863.9	3154.7	2542.5	1984.3	1730.6	1514.5	1173.6	812.9	564.7	425.8	345.2
20°	3995.2	3177.8	2488.4	1879.6	1612.6	1390.9	1015.9	659.6	478.7	370.6	289.0
22.5°	4011.7	3112.7	2359.4	1729.5	1463.7	1240.9	841.6	550.4	426.9	327.6	254.8
25°	3913.5	2971.6	2175.2	1559.7	1300.5	1068.8	685.0	493.1	388.3	294.5	293.4
27.5°	3704.0	2728.9	1954.6	1362.2	1103.0	869.2	581.3	445.6	346.4	312.2	332.0
30°	3408.4	2417.8	1683.2	1113.0	861.5	668.4	489.7	367.3	304.4	307.7	324.3
32.5°	3008.0	2031.8	1364.4	815.1	616.6	503.0	367.3	250.4	252.6	253.7	268.0
35°	2505.0	1629.2	1019.2	548.2	433.5	354.1	207.4	184.2	187.5	188.6	198.5
37.5°	2007.5	1251.9	677.3	365.1	272.4	186.4	129.1	123.5	125.7	124.6	135.7
40°	1537.6	872.5	405.9	180.9	104.8	87.1	79.4	76.1	77.2	78.3	84.9
42.5°	1088.7	473.2	200.8	68.4	55.2	50.7	47.4	45.2	46.3	46.3	50.7
45°	552.6	223.9	68.4	37.5	34.2	30.9	28.7	27.6	27.6	27.6	29.8
47.5°	239.4	73.9	32.0	23.2	21.0	19.9	17.6	16.5	16.5	16.5	17.6
50°	75.0	29.8	19.9	15.4	13.2	12.1	11.0	11.0	11.0	9.9	11.0
52.5°	27.6	18.8	13.2	9.9	8.8	8.8	8.8	7.7	8.8	7.7	8.8
55°	16.5	12.1	8.8	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
57.5°	11.0	8.8	7.7	7.7	6.6	6.6	7.7	7.7	7.7	7.7	7.7
60°	7.7	7.7	6.6	6.6	6.6	6.6	7.7	7.7	7.7	7.7	7.7
62.5°	6.6	6.6	6.6	6.6	6.6	6.6	7.7	7.7	7.7	7.7	8.8
65°	5.5	6.6	6.6	6.6	6.6	6.6	7.7	7.7	8.8	8.8	8.8
67.5°	5.5	6.6	6.6	7.7	7.7	7.7	7.7	8.8	8.8	8.8	8.8
70°	6.6	6.6	7.7	7.7	7.7	7.7	8.8	8.8	8.8	8.8	9.9
72.5°	6.6	6.6	7.7	7.7	7.7	7.7	8.8	8.8	9.9	9.9	9.9
75°	6.6	7.7	7.7	7.7	7.7	8.8	8.8	8.8	9.9	9.9	9.9
77.5°	6.6	7.7	7.7	8.8	8.8	8.8	8.8	9.9	9.9	9.9	9.9
80°	6.6	7.7	7.7	8.8	8.8	8.8	9.9	9.9	9.9	9.9	11.0
82.5°	6.6	7.7	7.7	8.8	8.8	8.8	9.9	9.9	9.9	9.9	11.0
85°	7.7	7.7	8.8	8.8	8.8	8.8	9.9	9.9	9.9	9.9	11.0
87.5°	7.7	7.7	8.8	8.8	8.8	8.8	9.9	9.9	11.0	9.9	11.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2
2.5°	955.2	891.2	847.1	830.6	798.6	747.9	718.1	690.5	638.7	627.6	598.9
5°	797.5	694.9	622.1	594.5	558.1	515.1	473.2	445.6	412.5	399.3	379.4
7.5°	628.7	526.1	463.3	441.2	415.8	380.5	343.0	315.5	281.3	263.6	247.1
10°	494.2	418.0	365.1	343.0	316.6	279.1	240.5	204.1	174.3	155.5	152.2
12.5°	401.5	338.6	282.4	259.2	228.3	190.8	163.2	162.1	159.9	158.8	161.0
15°	328.7	268.0	208.5	183.1	174.3	173.2	176.5	179.8	178.7	182.0	184.2
17.5°	270.2	205.2	191.9	193.0	194.1	197.4	203.0	211.8	212.9	218.4	222.8
20°	220.6	217.3	222.8	227.2	230.5	237.2	249.3	260.3	263.6	271.3	280.2
22.5°	250.4	260.3	272.4	278.0	282.4	294.5	307.7	325.4	332.0	341.9	354.1
25°	302.2	318.8	337.5	344.1	350.8	370.6	386.1	407.0	412.5	424.7	436.8
27.5°	345.2	362.9	382.8	391.6	397.1	416.9	430.2	443.4	443.4	450.0	458.9
30°	338.6	353.0	369.5	376.1	378.3	392.7	405.9	410.3	408.1	411.4	418.0
32.5°	281.3	292.3	305.5	311.1	313.3	323.2	334.2	334.2	333.1	333.1	337.5
35°	208.5	216.2	222.8	228.3	231.6	238.3	248.2	247.1	247.1	244.9	248.2
37.5°	140.1	144.5	152.2	154.4	155.5	159.9	167.7	167.7	165.5	166.6	168.8
40°	84.9	90.4	94.9	96.0	98.2	101.5	107.0	107.0	107.0	107.0	108.1
42.5°	50.7	54.0	57.4	57.4	58.5	62.9	65.1	65.1	65.1	65.1	66.2
45°	29.8	30.9	33.1	34.2	34.2	36.4	37.5	37.5	37.5	37.5	38.6
47.5°	17.6	18.8	18.8	19.9	19.9	21.0	22.1	22.1	21.0	21.0	21.0
50°	11.0	11.0	11.0	11.0	12.1	12.1	12.1	12.1	12.1	12.1	11.0
52.5°	8.8	8.8	8.8	8.8	7.7	7.7	7.7	7.7	6.6	6.6	5.5
55°	7.7	7.7	7.7	7.7	7.7	6.6	6.6	6.6	5.5	4.4	3.3
57.5°	7.7	7.7	7.7	7.7	7.7	6.6	6.6	5.5	4.4	4.4	3.3
60°	7.7	7.7	7.7	7.7	7.7	6.6	6.6	5.5	4.4	4.4	3.3
62.5°	8.8	8.8	7.7	7.7	7.7	6.6	6.6	5.5	5.5	4.4	3.3
65°	8.8	8.8	7.7	7.7	7.7	7.7	6.6	6.6	5.5	4.4	3.3
67.5°	8.8	8.8	8.8	8.8	7.7	7.7	7.7	6.6	5.5	4.4	3.3
70°	9.9	9.9	8.8	8.8	8.8	7.7	7.7	6.6	5.5	5.5	4.4
72.5°	9.9	9.9	8.8	8.8	8.8	8.8	7.7	6.6	6.6	5.5	4.4
75°	9.9	9.9	9.9	9.9	8.8	8.8	7.7	7.7	6.6	5.5	4.4
77.5°	9.9	9.9	9.9	9.9	8.8	8.8	8.8	7.7	6.6	5.5	4.4
80°	9.9	9.9	9.9	9.9	9.9	8.8	8.8	7.7	6.6	5.5	4.4
82.5°	11.0	11.0	9.9	9.9	9.9	8.8	8.8	7.7	6.6	5.5	5.5
85°	11.0	11.0	9.9	9.9	9.9	8.8	8.8	7.7	6.6	6.6	5.5
87.5°	11.0	11.0	9.9	9.9	9.9	8.8	8.8	7.7	6.6	6.6	5.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P209067

CATALOG NUMBER: LDSQA6A75940D010TE LARH30NF 6LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2	1094.2
2.5°	581.3	548.2	537.2	544.9	536.1	529.5	520.6	516.2
5°	364.0	339.7	332.0	334.2	326.5	319.9	311.1	308.8
7.5°	223.9	200.8	191.9	191.9	183.1	175.4	169.9	166.6
10°	150.0	145.6	146.7	147.8	146.7	147.8	144.5	146.7
12.5°	161.0	158.8	161.0	162.1	162.1	164.4	159.9	163.2
15°	187.5	185.3	188.6	190.8	190.8	194.1	189.7	193.0
17.5°	229.4	228.3	233.8	236.0	237.2	242.7	237.2	241.6
20°	290.1	289.0	296.7	300.0	298.9	310.0	302.2	310.0
22.5°	368.4	366.2	377.2	380.5	381.6	396.0	389.4	394.9
25°	446.7	448.9	454.4	460.0	461.1	473.2	463.3	468.8
27.5°	463.3	460.0	463.3	469.9	471.0	476.5	467.7	472.1
30°	419.2	413.6	414.7	422.5	424.7	426.9	419.2	421.4
32.5°	340.8	332.0	332.0	339.7	341.9	345.2	332.0	337.5
35°	251.5	243.8	243.8	249.3	250.4	252.6	242.7	247.1
37.5°	172.1	165.5	167.7	169.9	171.0	173.2	172.1	171.0
40°	110.3	105.9	109.2	109.2	110.3	111.4	111.4	112.5
42.5°	67.3	64.0	66.2	66.2	67.3	67.3	67.3	68.4
45°	38.6	37.5	37.5	38.6	38.6	38.6	37.5	38.6
47.5°	21.0	19.9	21.0	21.0	21.0	21.0	21.0	21.0
50°	11.0	9.9	9.9	9.9	9.9	9.9	9.9	9.9
52.5°	5.5	4.4	4.4	4.4	3.3	4.4	3.3	3.3
55°	3.3	2.2	2.2	2.2	1.1	1.1	0.0	0.0
57.5°	2.2	1.1	1.1	1.1	0.0	0.0	0.0	0.0
60°	2.2	1.1	1.1	1.1	0.0	0.0	0.0	0.0
62.5°	2.2	1.1	1.1	1.1	0.0	0.0	0.0	0.0
65°	2.2	1.1	1.1	1.1	0.0	0.0	0.0	0.0
67.5°	3.3	2.2	1.1	1.1	1.1	0.0	0.0	0.0
70°	3.3	2.2	2.2	1.1	1.1	0.0	0.0	0.0
72.5°	3.3	2.2	2.2	2.2	1.1	1.1	0.0	0.0
75°	3.3	2.2	2.2	2.2	1.1	1.1	0.0	0.0
77.5°	3.3	3.3	2.2	2.2	1.1	1.1	1.1	0.0
80°	4.4	3.3	2.2	2.2	2.2	1.1	1.1	1.1
82.5°	4.4	3.3	2.2	2.2	2.2	1.1	1.1	1.1
85°	4.4	3.3	3.3	2.2	2.2	1.1	1.1	1.1
87.5°	4.4	3.3	3.3	2.2	2.2	1.1	1.1	1.1
90°	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°













(END OF REPORT)