

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: P209094

Luminaire Tested: **LDSQA6A75835D010TE LARH40FL 6LSQA1H 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209094
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26688)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQA6A75835D010TE LARH40FL 6LSQA1H 30°
Description: PORTFOLIO 6" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,
SELF-FLANGED, 40° FLOOD, 30° Tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7296.2 lumens
Efficiency: N/A
Efficacy: 91.8 lumens/watt
Spacing Criteria (0/90/45): 2.63 / 0.54 / 1.37
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
CIE Type: Direct

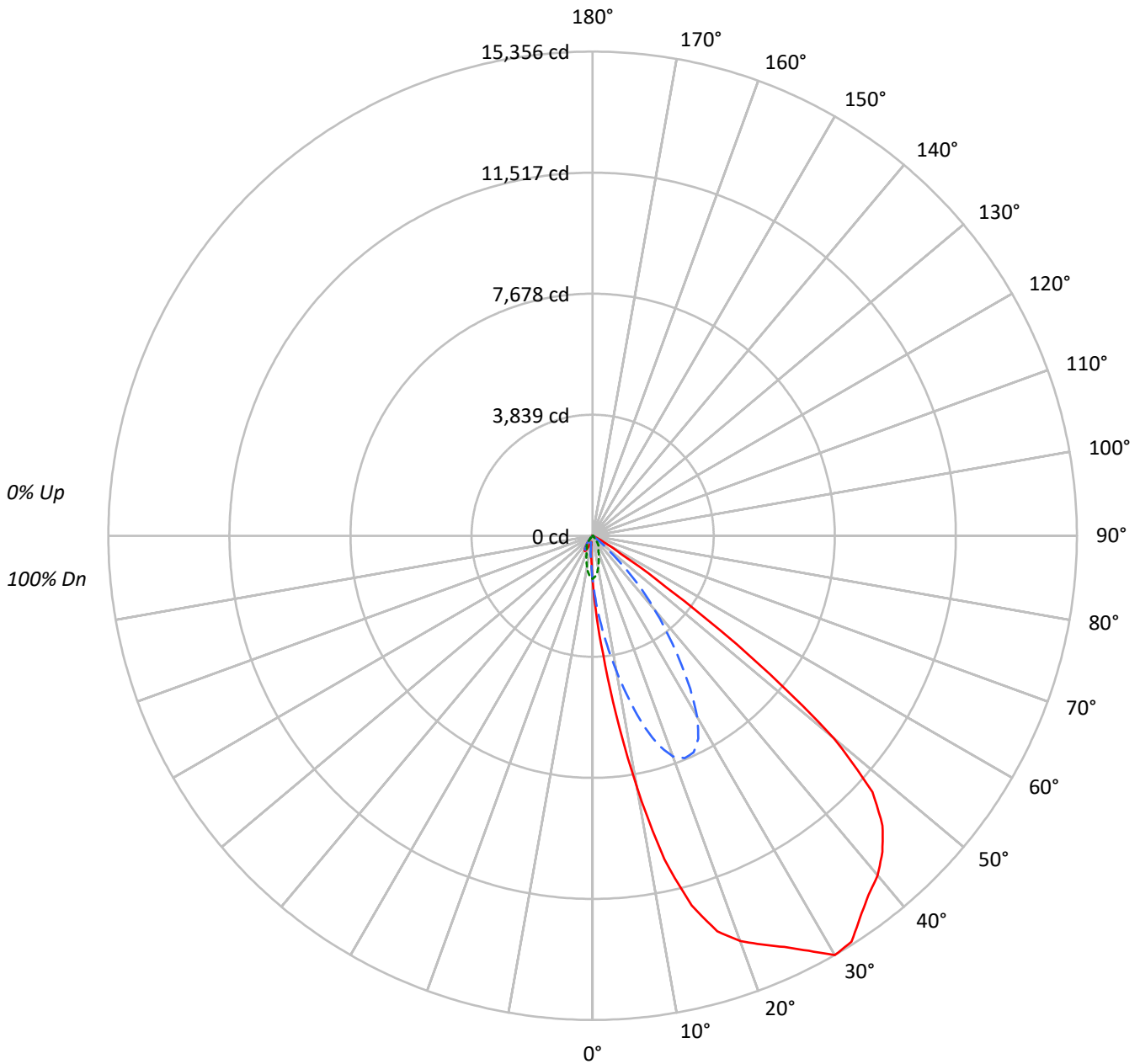
Input Watts (W): 79.45
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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																			
1	112	109	106	103	110	107	104	102	103	100	98	99	97	95	95	94	93	91																			
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	85	83	81																			
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73																			
4	91	82	75	70	89	80	74	69	78	73	68	76	71	67	74	70	67	65																			
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58																			
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52																			
7	74	62	55	49	72	61	54	49	60	53	49	59	53	49	57	52	48	46																			
8	69	57	49	44	67	56	49	44	55	49	44	54	48	44	53	47	44	42																			
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	43	39	38																			
10	60	48	41	36	59	48	41	36	47	41	36	46	40	36	45	40	36	34																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	58874	58874	58874
5°	161600	54250	22137
10°	354127	44398	8438
15°	540925	33792	9896
20°	626715	25141	15377
25°	683659	20675	24808
30°	763435	18753	25335
35°	776755	12862	17371
40°	790402	6098	8790
45°	791684	2533	3842
50°	669298	1099	1186
55°	215520	758	188
60°	42797	870	0
65°	4371	1029	0
70°	478	1435	0
75°	0	1896	0
80°	0	3124	322
85°	0	6225	642



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	185.6	2.5
10°-20°	960.0	13.2
20°-30°	1838.2	25.2
30°-40°	2165.7	29.7
40°-50°	1701.0	23.3
50°-60°	414.5	5.7
60°-70°	17.8	0.2
70°-80°	6.7	0.1
80°-90°	6.7	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°	2983.8	40.9
0°-40°	5149.5	70.6
0°-60°	7265.1	99.6
0°-90°	7296.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7296.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1367	1367	1367	1367	1367	
5°	3739	2706	1255	657	512	494
15°	12135	6233	758	217	222	3388
25°	14391	7579	435	455	522	6707
35°	14778	4791	245	315	330	9266
45°	13002	1481	42	58	63	9769
55°	2871	54	10	6	2	3417
65°	43	6	10	6	0	114
75°	0	6	11	8	0	0
85°	0	8	13	8	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°	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4
2.5°	2343.8	2338.8	2304.7	2336.2	2240.4	2236.6	2193.7	2174.8	2119.3	2066.3	1990.6
5°	3739.0	3657.0	3590.1	3592.7	3408.5	3374.4	3278.6	3181.4	3032.6	2893.8	2705.8
7.5°	5699.3	5602.2	5460.9	5401.6	5049.6	4946.2	4748.2	4489.6	4165.4	3842.4	3494.3
10°	8099.9	8115.0	7932.1	7763.1	7230.7	7021.3	6700.9	6191.3	5576.9	4970.2	4353.3
12.5°	10515.6	10505.5	10287.3	10031.2	9375.2	9080.0	8653.7	8017.9	7204.2	6263.2	5298.2
15°	12135.3	12207.2	12115.1	11910.8	11350.7	11012.6	10532.0	9669.1	8677.6	7534.7	6232.9
17.5°	13152.0	13220.2	13187.4	13027.2	12532.7	12171.9	11770.7	11064.3	9917.6	8480.8	6969.6
20°	13678.1	13785.3	13770.2	13596.1	13222.7	12923.7	12480.9	11826.2	10833.5	9138.1	7446.4
22.5°	14028.8	14110.8	14133.5	13936.7	13550.7	13266.8	12942.6	12279.1	11345.6	9539.2	7635.7
25°	14390.8	14535.9	14393.3	14151.1	13796.7	13524.2	13178.5	12542.8	11590.4	9703.2	7578.9
27.5°	14834.8	14904.2	14581.3	14360.5	13967.0	13671.8	13304.7	12695.4	11633.2	9572.0	7254.7
30°	15355.8	15068.2	14842.4	14404.7	13958.1	13670.5	13297.1	12599.5	11407.4	9136.8	6626.5
32.5°	15270.0	15006.4	14750.3	14287.4	13845.9	13560.8	13144.5	12280.4	10873.8	8408.9	5759.9
35°	14778.1	14834.8	14558.6	14175.1	13675.6	13381.6	12927.5	11826.2	9968.1	7404.8	4791.0
37.5°	14363.1	14487.9	14307.5	13953.1	13446.0	13048.6	12435.5	11097.1	8786.1	6130.7	3872.7
40°	14062.8	14103.2	14006.1	13608.7	12999.4	12425.4	11716.5	9787.7	7350.6	4812.5	3056.5
42.5°	13597.3	13704.6	13533.0	13099.1	12175.7	11526.0	10499.2	8275.2	5709.4	3675.9	2300.9
45°	13001.9	13104.1	12892.2	12170.6	10886.5	9934.0	8681.4	6452.4	4223.4	2709.6	1481.0
47.5°	12030.6	12093.7	11683.7	10685.9	8818.9	7922.0	6637.8	4498.4	2721.0	1515.0	720.3
50°	9992.1	9961.8	9116.6	7889.2	5898.6	4957.6	3950.9	2438.4	1222.4	717.8	450.3
52.5°	6439.8	6370.4	5534.1	4417.7	2987.2	2279.5	1713.1	1052.1	637.0	401.1	177.9
55°	2871.1	2844.6	2328.7	1808.9	1222.4	1052.1	803.6	515.9	339.3	140.0	54.2
57.5°	1064.7	1040.7	917.1	769.5	590.4	490.7	389.8	247.2	87.0	46.7	29.0
60°	497.0	495.8	436.5	359.5	249.8	189.2	109.7	58.0	36.6	25.2	16.4
62.5°	158.9	155.2	108.5	79.5	56.8	49.2	39.1	29.0	18.9	13.9	10.1
65°	42.9	42.9	39.1	32.8	26.5	22.7	18.9	13.9	8.8	7.6	6.3
67.5°	16.4	16.4	15.1	13.9	10.1	8.8	7.6	6.3	5.0	6.3	6.3
70°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	5.0	5.0	6.3
72.5°	0.0	0.0	1.3	1.3	2.5	2.5	3.8	3.8	5.0	6.3	6.3
75°	0.0	0.0	1.3	1.3	2.5	2.5	3.8	3.8	5.0	6.3	6.3
77.5°	0.0	0.0	1.3	1.3	2.5	2.5	3.8	3.8	5.0	6.3	6.3
80°	0.0	0.0	1.3	1.3	2.5	2.5	3.8	3.8	5.0	6.3	6.3
82.5°	0.0	0.0	1.3	2.5	2.5	2.5	3.8	5.0	5.0	6.3	7.6
85°	0.0	0.0	1.3	2.5	2.5	3.8	3.8	5.0	5.0	6.3	7.6
87.5°	0.0	0.0	1.3	2.5	2.5	3.8	3.8	5.0	5.0	6.3	7.6
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°	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4
2.5°	1935.1	1851.8	1737.0	1670.2	1653.8	1618.5	1556.6	1464.6	1388.9	1315.7	1272.8
5°	2546.9	2350.1	2129.4	1974.2	1911.1	1826.6	1676.5	1521.3	1378.8	1255.2	1158.0
7.5°	3195.3	2871.1	2514.1	2226.5	2123.0	1989.3	1744.6	1513.8	1318.2	1146.7	1016.7
10°	3839.9	3317.7	2833.3	2417.0	2247.9	2066.3	1743.3	1444.4	1214.8	1015.5	871.7
12.5°	4484.5	3733.9	3067.9	2531.8	2312.3	2082.7	1691.6	1338.4	1083.6	880.5	743.0
15°	5079.9	4065.7	3226.8	2570.9	2306.0	2034.7	1586.9	1209.7	946.1	758.1	630.7
17.5°	5524.0	4239.8	3263.4	2511.6	2206.3	1906.1	1426.7	1058.4	814.9	649.7	519.7
20°	5742.2	4267.5	3176.4	2342.5	2034.7	1723.2	1251.4	913.3	702.6	548.7	439.0
22.5°	5742.2	4136.3	2987.2	2130.6	1820.3	1512.5	1082.3	793.5	614.3	478.1	386.0
25°	5524.0	3875.2	2733.6	1885.9	1584.4	1304.4	936.0	703.9	546.2	435.2	358.3
27.5°	5100.1	3514.4	2408.1	1613.4	1352.3	1118.9	820.0	621.9	494.5	392.3	393.6
30°	4517.3	3071.7	2034.7	1325.8	1113.9	919.6	690.0	521.0	396.1	377.2	388.5
32.5°	3843.7	2541.9	1612.2	1028.1	862.8	724.1	524.8	368.3	315.4	317.9	330.5
35°	3152.4	2000.7	1213.5	761.9	642.1	524.8	344.4	242.2	239.7	244.7	253.6
37.5°	2488.9	1497.4	878.0	557.6	431.4	322.9	185.4	166.5	166.5	171.6	176.6
40°	1864.4	1062.2	604.2	330.5	209.4	147.6	117.3	108.5	107.2	108.5	114.8
42.5°	1280.4	672.4	359.5	132.5	100.9	85.8	74.4	68.1	66.9	68.1	71.9
45°	719.0	413.8	140.0	70.6	60.6	54.2	46.7	42.9	41.6	41.6	44.2
47.5°	450.3	164.0	63.1	44.2	37.8	35.3	30.3	27.8	26.5	26.5	27.8
50°	172.8	64.3	39.1	29.0	25.2	22.7	20.2	17.7	16.4	16.4	17.7
52.5°	59.3	37.8	25.2	18.9	16.4	15.1	12.6	11.4	11.4	11.4	11.4
55°	32.8	22.7	15.1	11.4	10.1	10.1	10.1	10.1	10.1	10.1	10.1
57.5°	20.2	13.9	10.1	8.8	8.8	8.8	8.8	8.8	8.8	10.1	10.1
60°	11.4	8.8	7.6	7.6	7.6	7.6	8.8	8.8	8.8	10.1	10.1
62.5°	7.6	7.6	7.6	7.6	7.6	7.6	8.8	8.8	10.1	10.1	10.1
65°	6.3	6.3	6.3	7.6	7.6	7.6	8.8	8.8	10.1	10.1	10.1
67.5°	6.3	6.3	7.6	7.6	7.6	8.8	8.8	10.1	10.1	10.1	10.1
70°	6.3	7.6	7.6	8.8	8.8	8.8	10.1	10.1	10.1	11.4	11.4
72.5°	6.3	7.6	7.6	8.8	8.8	8.8	10.1	10.1	11.4	11.4	11.4
75°	7.6	7.6	7.6	8.8	8.8	8.8	10.1	11.4	11.4	11.4	11.4
77.5°	7.6	7.6	8.8	8.8	8.8	10.1	10.1	11.4	11.4	11.4	11.4
80°	7.6	7.6	8.8	8.8	10.1	10.1	11.4	11.4	11.4	12.6	12.6
82.5°	7.6	7.6	8.8	10.1	10.1	10.1	11.4	11.4	12.6	12.6	12.6
85°	7.6	8.8	8.8	10.1	10.1	10.1	11.4	11.4	12.6	12.6	12.6
87.5°	7.6	8.8	8.8	10.1	10.1	10.1	11.4	11.4	12.6	12.6	12.6
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4
2.5°	1216.1	1163.1	1110.1	1071.0	1052.1	1033.1	991.5	937.3	914.6	881.8	862.8
5°	1059.6	970.1	899.4	852.8	825.0	788.4	740.5	687.5	657.2	623.2	600.5
7.5°	898.2	793.5	725.3	682.5	654.7	609.3	548.7	485.7	449.1	411.2	384.7
10°	756.9	657.2	580.3	531.1	495.8	442.8	382.2	338.1	306.5	273.7	247.2
12.5°	632.0	524.8	442.8	401.1	377.2	326.7	276.3	227.1	208.1	201.8	201.8
15°	512.2	415.0	345.6	310.3	285.1	230.8	220.8	218.2	217.0	215.7	218.2
17.5°	417.5	335.6	262.4	244.7	242.2	240.9	242.2	242.2	243.5	247.2	253.6
20°	350.7	275.0	270.0	271.2	271.2	276.3	282.6	287.6	292.7	299.0	310.3
22.5°	311.6	310.3	319.2	320.4	326.7	334.3	345.6	353.2	365.8	372.1	388.5
25°	359.5	368.3	384.7	389.8	399.9	412.5	430.2	440.3	455.4	463.0	481.9
27.5°	407.5	421.3	441.5	447.8	456.7	476.8	489.4	498.3	505.8	510.9	522.2
30°	403.7	416.3	436.5	437.7	450.3	464.2	471.8	479.4	484.4	483.1	489.4
32.5°	341.9	353.2	372.1	372.1	386.0	397.4	401.1	407.5	407.5	407.5	410.0
35°	262.4	270.0	282.6	286.4	297.7	305.3	307.8	315.4	315.4	312.8	312.8
37.5°	181.7	191.7	200.6	203.1	210.7	215.7	222.0	223.3	220.8	222.0	222.0
40°	118.6	124.9	131.2	132.5	138.8	142.5	148.9	148.9	150.1	148.9	151.4
42.5°	73.2	78.2	82.0	84.5	87.0	89.6	93.3	94.6	95.9	94.6	97.1
45°	45.4	47.9	50.5	51.7	53.0	54.2	58.0	58.0	58.0	58.0	59.3
47.5°	27.8	29.0	30.3	30.3	31.5	32.8	34.1	34.1	34.1	34.1	35.3
50°	16.4	17.7	17.7	17.7	18.9	18.9	20.2	20.2	20.2	18.9	20.2
52.5°	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	10.1	11.4
55°	10.1	10.1	8.8	8.8	8.8	8.8	8.8	7.6	6.3	6.3	5.0
57.5°	8.8	8.8	8.8	8.8	8.8	7.6	7.6	6.3	6.3	5.0	3.8
60°	8.8	8.8	8.8	8.8	8.8	7.6	7.6	6.3	5.0	5.0	3.8
62.5°	10.1	8.8	8.8	8.8	8.8	7.6	7.6	6.3	5.0	5.0	3.8
65°	10.1	10.1	8.8	8.8	8.8	7.6	7.6	6.3	6.3	5.0	3.8
67.5°	10.1	10.1	10.1	8.8	10.1	8.8	7.6	7.6	6.3	5.0	5.0
70°	11.4	10.1	10.1	10.1	10.1	8.8	8.8	7.6	6.3	5.0	5.0
72.5°	11.4	11.4	10.1	10.1	10.1	8.8	8.8	7.6	6.3	6.3	5.0
75°	11.4	11.4	10.1	10.1	10.1	8.8	8.8	7.6	7.6	6.3	5.0
77.5°	11.4	11.4	11.4	10.1	10.1	10.1	8.8	8.8	7.6	6.3	5.0
80°	11.4	11.4	11.4	11.4	11.4	10.1	10.1	8.8	7.6	6.3	5.0
82.5°	12.6	11.4	11.4	11.4	11.4	10.1	10.1	8.8	7.6	6.3	6.3
85°	12.6	12.6	11.4	11.4	11.4	10.1	10.1	8.8	7.6	7.6	6.3
87.5°	12.6	11.4	11.4	11.4	11.4	10.1	10.1	8.8	7.6	6.3	6.3
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: P209094

CATALOG NUMBER: LDSQA6A75835D010TE LARH40FL 6LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4	1367.4
2.5°	843.9	833.8	833.8	816.2	813.6	799.8	811.1	803.6
5°	575.2	558.8	553.8	536.1	529.8	513.4	518.5	512.2
7.5°	362.0	345.6	340.6	328.0	320.4	307.8	309.1	305.3
10°	220.8	205.6	201.8	198.1	194.3	193.0	194.3	193.0
12.5°	200.6	199.3	196.8	198.1	195.5	196.8	198.1	196.8
15°	218.2	220.8	218.2	219.5	218.2	220.8	222.0	222.0
17.5°	256.1	261.1	258.6	262.4	261.1	267.4	267.4	267.4
20°	314.1	322.9	320.4	325.5	325.5	333.0	333.0	335.6
22.5°	394.8	406.2	404.9	416.3	413.8	422.6	422.6	425.1
25°	492.0	503.3	504.6	512.2	510.9	519.7	519.7	522.2
27.5°	532.3	538.6	537.4	541.2	542.4	547.5	551.3	548.7
30°	499.5	504.6	503.3	505.8	505.8	509.6	513.4	509.6
32.5°	420.1	423.9	423.9	428.9	425.1	426.4	432.7	428.9
35°	321.7	324.2	321.7	324.2	325.5	325.5	331.8	330.5
37.5°	229.6	230.8	230.8	234.6	230.8	230.8	237.2	238.4
40°	153.9	155.2	153.9	158.9	156.4	156.4	160.2	156.4
42.5°	98.4	99.7	98.4	102.2	99.7	102.2	103.4	104.7
45°	60.6	60.6	59.3	61.8	60.6	61.8	63.1	63.1
47.5°	35.3	35.3	34.1	36.6	35.3	35.3	35.3	36.6
50°	18.9	18.9	18.9	20.2	18.9	18.9	18.9	17.7
52.5°	10.1	10.1	8.8	10.1	8.8	8.8	8.8	8.8
55°	5.0	3.8	3.8	3.8	2.5	2.5	2.5	2.5
57.5°	3.8	2.5	2.5	1.3	1.3	1.3	0.0	0.0
60°	2.5	2.5	1.3	1.3	0.0	0.0	0.0	0.0
62.5°	2.5	2.5	1.3	1.3	0.0	0.0	0.0	0.0
65°	2.5	2.5	1.3	1.3	0.0	0.0	0.0	0.0
67.5°	3.8	2.5	2.5	1.3	1.3	0.0	0.0	0.0
70°	3.8	2.5	2.5	1.3	1.3	0.0	0.0	0.0
72.5°	3.8	2.5	2.5	2.5	1.3	1.3	0.0	0.0
75°	3.8	3.8	2.5	2.5	1.3	1.3	0.0	0.0
77.5°	5.0	3.8	2.5	2.5	1.3	1.3	0.0	0.0
80°	5.0	3.8	2.5	2.5	2.5	1.3	1.3	1.3
82.5°	5.0	3.8	3.8	2.5	2.5	1.3	1.3	1.3
85°	5.0	3.8	3.8	2.5	2.5	1.3	1.3	1.3
87.5°	5.0	3.8	3.8	2.5	2.5	1.3	1.3	1.3
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)