

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: P209095

Luminaire Tested: **LDSQA6A75840D010TE LARH40FL 6LSQA1H 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209095
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: LDSQA6A75840D010TE 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 / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7488.1 lumens
Efficiency: N/A
Efficacy: 94.2 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

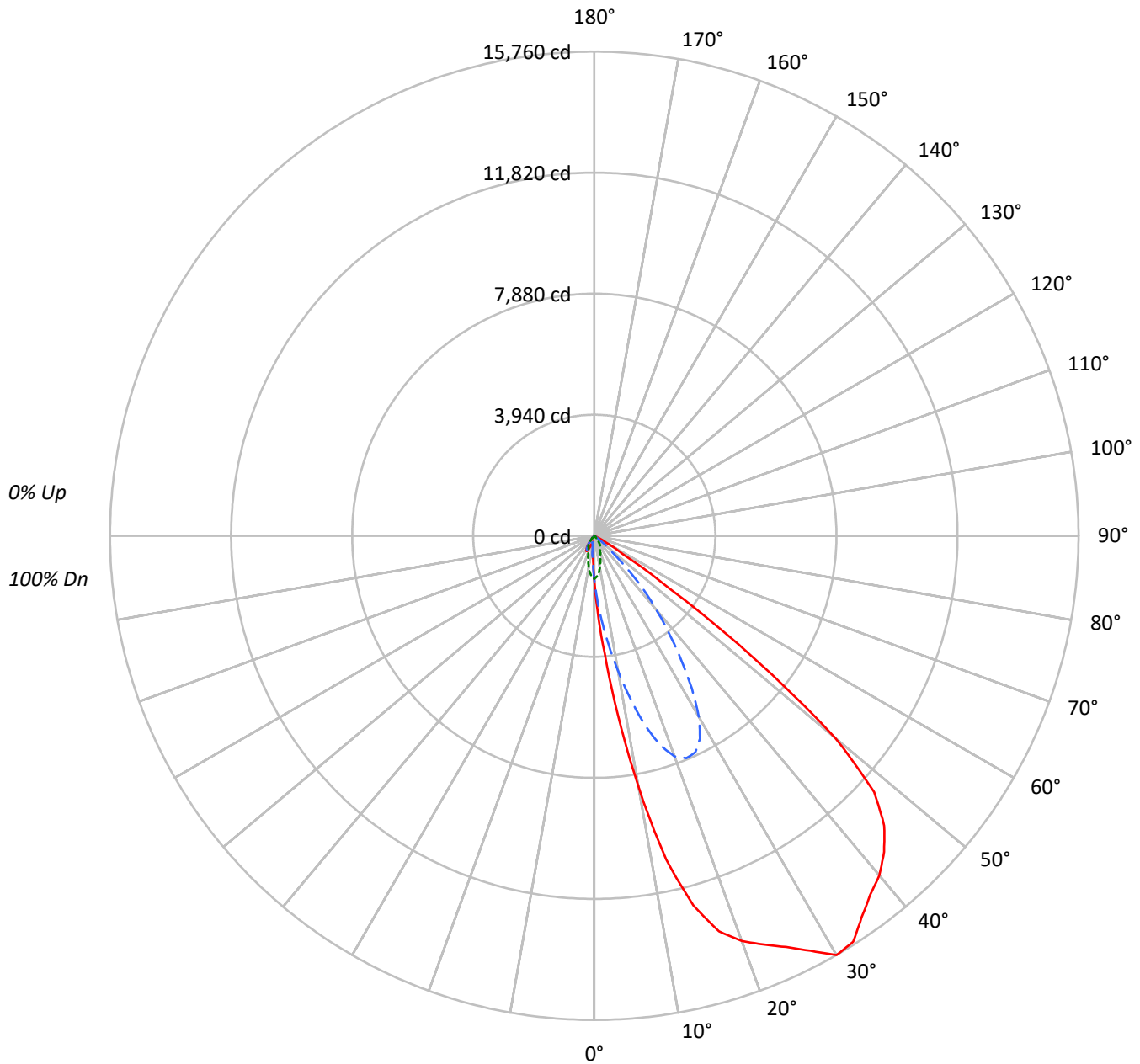
Input Watts (W): 79.45
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					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		
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°	60424	60424	60424
5°	165849	55676	22716
10°	363434	45565	8661
15°	555149	34683	10159
20°	643192	25805	15780
25°	701635	21216	25464
30°	783510	19245	26002
35°	797176	13203	17829
40°	811187	6256	9021
45°	812503	2600	3940
50°	686894	1125	1212
55°	221187	781	195
60°	43925	896	0
65°	4483	1060	0
70°	491	1473	0
75°	0	1946	0
80°	0	3199	322
85°	0	6373	642



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	190.5	2.5
10°-20°	985.3	13.2
20°-30°	1886.5	25.2
30°-40°	2222.6	29.7
40°-50°	1745.8	23.3
50°-60°	425.4	5.7
60°-70°	18.3	0.2
70°-80°	6.9	0.1
80°-90°	6.9	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°	3062.3	40.9
0°-40°	5284.9	70.6
0°-60°	7456.1	99.6
0°-90°	7488.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7488.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1403	1403	1403	1403	1403	
5°	3837	2777	1288	674	526	507
15°	12454	6397	778	223	228	3477
25°	14769	7778	447	467	536	6884
35°	15167	4917	251	324	339	9510
45°	13344	1520	43	60	65	10026
55°	2947	56	10	6	3	3507
65°	44	6	10	6	0	117
75°	0	6	12	8	0	1
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°	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4
2.5°	2405.4	2400.2	2365.3	2397.7	2299.3	2295.4	2251.4	2231.9	2175.0	2120.6	2042.9
5°	3837.3	3753.1	3684.5	3687.1	3498.1	3463.1	3364.8	3265.1	3112.3	2969.9	2777.0
7.5°	5849.2	5749.5	5604.5	5543.6	5182.4	5076.3	4873.0	4607.6	4274.9	3943.5	3586.1
10°	8312.8	8328.4	8140.6	7967.2	7420.8	7205.9	6877.1	6354.1	5723.6	5100.9	4467.8
12.5°	10792.1	10781.7	10557.7	10294.9	9621.7	9318.8	8881.2	8228.7	7393.6	6427.9	5437.5
15°	12454.4	12528.2	12433.7	12223.9	11649.1	11302.1	10808.9	9923.4	8905.8	7732.8	6396.8
17.5°	13497.8	13567.7	13534.1	13369.7	12862.2	12491.9	12080.2	11355.2	10178.4	8703.8	7152.8
20°	14037.7	14147.7	14132.2	13953.6	13570.3	13263.5	12809.1	12137.2	11118.3	9378.3	7642.2
22.5°	14397.6	14481.8	14505.1	14303.1	13906.9	13615.7	13282.9	12602.0	11643.9	9790.0	7836.4
25°	14769.2	14918.1	14771.8	14523.2	14159.4	13879.8	13525.0	12872.5	11895.1	9958.3	7778.2
27.5°	15224.9	15296.1	14964.7	14738.1	14334.2	14031.2	13654.5	13029.2	11939.1	9823.7	7445.4
30°	15759.6	15464.4	15232.6	14783.4	14325.1	14029.9	13646.7	12930.8	11707.4	9377.0	6800.7
32.5°	15671.5	15400.9	15138.1	14663.0	14209.9	13917.3	13490.1	12603.2	11159.7	8630.0	5911.3
35°	15166.6	15224.9	14941.4	14547.8	14035.1	13733.5	13267.4	12137.2	10230.2	7599.5	4917.0
37.5°	14740.7	14868.9	14683.7	14319.9	13799.5	13391.7	12762.5	11388.9	9017.1	6291.9	3974.5
40°	14432.6	14474.0	14374.3	13966.5	13341.2	12752.1	12024.5	10045.1	7543.8	4939.0	3136.9
42.5°	13954.8	14064.9	13888.8	13443.5	12495.8	11829.1	10775.2	8492.8	5859.5	3772.6	2361.4
45°	13343.8	13448.6	13231.1	12490.6	11172.7	10195.2	8909.7	6622.0	4334.4	2780.9	1519.9
47.5°	12346.9	12411.6	11990.9	10966.8	9050.8	8130.3	6812.4	4616.7	2792.5	1554.9	739.2
50°	10254.8	10223.7	9356.3	8096.6	6053.7	5087.9	4054.8	2502.5	1254.5	736.6	462.2
52.5°	6609.1	6537.9	5679.6	4533.8	3065.7	2339.4	1758.1	1079.7	653.8	411.7	182.5
55°	2946.6	2919.4	2389.9	1856.5	1254.5	1079.7	824.7	529.5	348.3	143.7	55.7
57.5°	1092.7	1068.1	941.2	789.7	605.9	503.6	400.0	253.7	89.3	47.9	29.8
60°	510.1	508.8	447.9	369.0	256.3	194.2	112.6	59.6	37.5	25.9	16.8
62.5°	163.1	159.2	111.3	81.6	58.3	50.5	40.1	29.8	19.4	14.2	10.4
65°	44.0	44.0	40.1	33.7	27.2	23.3	19.4	14.2	9.1	7.8	6.5
67.5°	16.8	16.8	15.5	14.2	10.4	9.1	7.8	6.5	5.2	6.5	6.5
70°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	5.2	5.2	6.5
72.5°	0.0	0.0	1.3	1.3	2.6	2.6	3.9	3.9	5.2	6.5	6.5
75°	0.0	0.0	1.3	1.3	2.6	2.6	3.9	3.9	5.2	6.5	6.5
77.5°	0.0	0.0	1.3	1.3	2.6	2.6	3.9	3.9	5.2	6.5	6.5
80°	0.0	0.0	1.3	1.3	2.6	2.6	3.9	3.9	5.2	6.5	6.5
82.5°	0.0	0.0	1.3	2.6	2.6	2.6	3.9	5.2	5.2	6.5	7.8
85°	0.0	0.0	1.3	2.6	2.6	3.9	3.9	5.2	5.2	6.5	7.8
87.5°	0.0	0.0	1.3	2.6	2.6	3.9	3.9	5.2	5.2	6.5	7.8
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°	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4
2.5°	1986.0	1900.5	1782.7	1714.1	1697.3	1661.0	1597.6	1503.1	1425.4	1350.3	1306.3
5°	2613.9	2411.9	2185.3	2026.1	1961.4	1874.6	1720.6	1561.3	1415.0	1288.2	1188.5
7.5°	3279.3	2946.6	2580.2	2285.0	2178.9	2041.6	1790.5	1553.6	1352.9	1176.8	1043.5
10°	3940.9	3404.9	2907.7	2480.5	2307.0	2120.6	1789.2	1482.4	1246.7	1042.2	894.6
12.5°	4602.4	3832.1	3148.5	2598.3	2373.1	2137.4	1736.1	1373.6	1112.1	903.7	762.5
15°	5213.5	4172.6	3311.7	2638.5	2366.6	2088.2	1628.6	1241.6	971.0	778.1	647.3
17.5°	5669.2	4351.3	3349.2	2577.6	2264.3	1956.2	1464.2	1086.2	836.3	666.7	533.4
20°	5893.2	4379.7	3259.9	2404.1	2088.2	1768.5	1284.3	937.3	721.1	563.2	450.5
22.5°	5893.2	4245.1	3065.7	2186.6	1868.2	1552.3	1110.8	814.3	630.5	490.7	396.2
25°	5669.2	3977.1	2805.5	1935.5	1626.1	1338.7	960.6	722.4	560.6	446.6	367.7
27.5°	5234.2	3606.8	2471.5	1655.8	1387.8	1148.3	841.5	638.3	507.5	402.6	403.9
30°	4636.1	3152.4	2088.2	1360.7	1143.2	943.8	708.2	534.7	406.5	387.1	398.7
32.5°	3944.7	2608.7	1654.5	1055.1	885.5	743.1	538.6	378.0	323.7	326.2	339.2
35°	3235.3	2053.3	1245.4	782.0	659.0	538.6	353.4	248.6	246.0	251.2	260.2
37.5°	2554.3	1536.7	901.1	572.2	442.8	331.4	190.3	170.9	170.9	176.1	181.2
40°	1913.5	1090.1	620.1	339.2	214.9	151.5	120.4	111.3	110.0	111.3	117.8
42.5°	1314.1	690.0	369.0	135.9	103.6	88.0	76.4	69.9	68.6	69.9	73.8
45°	737.9	424.6	143.7	72.5	62.1	55.7	47.9	44.0	42.7	42.7	45.3
47.5°	462.2	168.3	64.7	45.3	38.8	36.2	31.1	28.5	27.2	27.2	28.5
50°	177.4	66.0	40.1	29.8	25.9	23.3	20.7	18.1	16.8	16.8	18.1
52.5°	60.8	38.8	25.9	19.4	16.8	15.5	12.9	11.7	11.7	11.7	11.7
55°	33.7	23.3	15.5	11.7	10.4	10.4	10.4	10.4	10.4	10.4	10.4
57.5°	20.7	14.2	10.4	9.1	9.1	9.1	9.1	9.1	9.1	10.4	10.4
60°	11.7	9.1	7.8	7.8	7.8	7.8	9.1	9.1	9.1	10.4	10.4
62.5°	7.8	7.8	7.8	7.8	7.8	7.8	9.1	9.1	10.4	10.4	10.4
65°	6.5	6.5	6.5	7.8	7.8	7.8	9.1	9.1	10.4	10.4	10.4
67.5°	6.5	6.5	7.8	7.8	7.8	9.1	9.1	10.4	10.4	10.4	10.4
70°	6.5	7.8	7.8	9.1	9.1	9.1	10.4	10.4	10.4	11.7	11.7
72.5°	6.5	7.8	7.8	9.1	9.1	9.1	10.4	10.4	11.7	11.7	11.7
75°	7.8	7.8	7.8	9.1	9.1	9.1	10.4	11.7	11.7	11.7	11.7
77.5°	7.8	7.8	9.1	9.1	9.1	10.4	10.4	11.7	11.7	11.7	11.7
80°	7.8	7.8	9.1	9.1	10.4	10.4	11.7	11.7	11.7	12.9	12.9
82.5°	7.8	7.8	9.1	10.4	10.4	10.4	11.7	11.7	12.9	12.9	12.9
85°	7.8	9.1	9.1	10.4	10.4	10.4	11.7	11.7	12.9	12.9	12.9
87.5°	7.8	9.1	9.1	10.4	10.4	10.4	11.7	11.7	12.9	12.9	12.9
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°	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4
2.5°	1248.0	1193.7	1139.3	1099.1	1079.7	1060.3	1017.6	961.9	938.6	904.9	885.5
5°	1087.5	995.6	923.1	875.2	846.7	809.1	759.9	705.6	674.5	639.5	616.2
7.5°	921.8	814.3	744.4	700.4	671.9	625.3	563.2	498.4	460.9	422.1	394.9
10°	776.8	674.5	595.5	545.0	508.8	454.4	392.3	347.0	314.6	280.9	253.7
12.5°	648.6	538.6	454.4	411.7	387.1	335.3	283.5	233.0	213.6	207.1	207.1
15°	525.6	425.9	354.7	318.5	292.6	236.9	226.6	224.0	222.7	221.4	224.0
17.5°	428.5	344.4	269.3	251.2	248.6	247.3	248.6	248.6	249.9	253.7	260.2
20°	359.9	282.2	277.1	278.3	278.3	283.5	290.0	295.2	300.4	306.8	318.5
22.5°	319.8	318.5	327.5	328.8	335.3	343.1	354.7	362.5	375.4	381.9	398.7
25°	369.0	378.0	394.9	400.0	410.4	423.3	441.5	451.8	467.4	475.1	494.5
27.5°	418.2	432.4	453.1	459.6	468.7	489.4	502.3	511.4	519.1	524.3	536.0
30°	414.3	427.2	447.9	449.2	462.2	476.4	484.2	492.0	497.1	495.8	502.3
32.5°	350.8	362.5	381.9	381.9	396.2	407.8	411.7	418.2	418.2	418.2	420.8
35°	269.3	277.1	290.0	293.9	305.5	313.3	315.9	323.7	323.7	321.1	321.1
37.5°	186.4	196.8	205.8	208.4	216.2	221.4	227.9	229.1	226.6	227.9	227.9
40°	121.7	128.2	134.6	135.9	142.4	146.3	152.8	152.8	154.1	152.8	155.4
42.5°	75.1	80.3	84.2	86.7	89.3	91.9	95.8	97.1	98.4	97.1	99.7
45°	46.6	49.2	51.8	53.1	54.4	55.7	59.6	59.6	59.6	59.6	60.8
47.5°	28.5	29.8	31.1	31.1	32.4	33.7	35.0	35.0	35.0	35.0	36.2
50°	16.8	18.1	18.1	18.1	19.4	19.4	20.7	20.7	20.7	19.4	20.7
52.5°	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	10.4	11.7
55°	10.4	10.4	9.1	9.1	9.1	9.1	9.1	7.8	6.5	6.5	5.2
57.5°	9.1	9.1	9.1	9.1	9.1	7.8	7.8	6.5	6.5	5.2	3.9
60°	9.1	9.1	9.1	9.1	9.1	7.8	7.8	6.5	5.2	5.2	3.9
62.5°	10.4	9.1	9.1	9.1	9.1	7.8	7.8	6.5	5.2	5.2	3.9
65°	10.4	10.4	9.1	9.1	9.1	7.8	7.8	6.5	6.5	5.2	3.9
67.5°	10.4	10.4	10.4	9.1	10.4	9.1	7.8	7.8	6.5	5.2	5.2
70°	11.7	10.4	10.4	10.4	10.4	9.1	9.1	7.8	6.5	5.2	5.2
72.5°	11.7	11.7	10.4	10.4	10.4	9.1	9.1	7.8	6.5	6.5	5.2
75°	11.7	11.7	10.4	10.4	10.4	9.1	9.1	7.8	7.8	6.5	5.2
77.5°	11.7	11.7	11.7	10.4	10.4	10.4	9.1	9.1	7.8	6.5	5.2
80°	11.7	11.7	11.7	11.7	11.7	10.4	10.4	9.1	7.8	6.5	5.2
82.5°	12.9	11.7	11.7	11.7	11.7	10.4	10.4	9.1	7.8	6.5	6.5
85°	12.9	12.9	11.7	11.7	11.7	10.4	10.4	9.1	7.8	7.8	6.5
87.5°	12.9	11.7	11.7	11.7	11.7	10.4	10.4	9.1	7.8	6.5	6.5
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: P209095

CATALOG NUMBER: LDSQA6A75840D010TE LARH40FL 6LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4	1403.4
2.5°	866.1	855.8	855.8	837.6	835.0	820.8	832.4	824.7
5°	590.4	573.5	568.3	550.2	543.7	526.9	532.1	525.6
7.5°	371.6	354.7	349.6	336.6	328.8	315.9	317.2	313.3
10°	226.6	211.0	207.1	203.3	199.4	198.1	199.4	198.1
12.5°	205.8	204.6	202.0	203.3	200.7	202.0	203.3	202.0
15°	224.0	226.6	224.0	225.3	224.0	226.6	227.9	227.9
17.5°	262.8	268.0	265.4	269.3	268.0	274.5	274.5	274.5
20°	322.4	331.4	328.8	334.0	334.0	341.8	341.8	344.4
22.5°	405.2	416.9	415.6	427.2	424.6	433.7	433.7	436.3
25°	504.9	516.6	517.9	525.6	524.3	533.4	533.4	536.0
27.5°	546.3	552.8	551.5	555.4	556.7	561.9	565.8	563.2
30°	512.7	517.9	516.6	519.1	519.1	523.0	526.9	523.0
32.5°	431.1	435.0	435.0	440.2	436.3	437.6	444.1	440.2
35°	330.1	332.7	330.1	332.7	334.0	334.0	340.5	339.2
37.5°	235.6	236.9	236.9	240.8	236.9	236.9	243.4	244.7
40°	157.9	159.2	157.9	163.1	160.5	160.5	164.4	160.5
42.5°	101.0	102.3	101.0	104.9	102.3	104.9	106.2	107.5
45°	62.1	62.1	60.8	63.4	62.1	63.4	64.7	64.7
47.5°	36.2	36.2	35.0	37.5	36.2	36.2	36.2	37.5
50°	19.4	19.4	19.4	20.7	19.4	19.4	19.4	18.1
52.5°	10.4	10.4	9.1	10.4	9.1	9.1	9.1	9.1
55°	5.2	3.9	3.9	3.9	2.6	2.6	2.6	2.6
57.5°	3.9	2.6	2.6	1.3	1.3	1.3	0.0	0.0
60°	2.6	2.6	1.3	1.3	0.0	0.0	0.0	0.0
62.5°	2.6	2.6	1.3	1.3	0.0	0.0	0.0	0.0
65°	2.6	2.6	1.3	1.3	0.0	0.0	0.0	0.0
67.5°	3.9	2.6	2.6	1.3	1.3	0.0	0.0	0.0
70°	3.9	2.6	2.6	1.3	1.3	0.0	0.0	0.0
72.5°	3.9	2.6	2.6	2.6	1.3	1.3	0.0	0.0
75°	3.9	3.9	2.6	2.6	1.3	1.3	0.0	0.0
77.5°	5.2	3.9	2.6	2.6	1.3	1.3	0.0	0.0
80°	5.2	3.9	2.6	2.6	2.6	1.3	1.3	1.3
82.5°	5.2	3.9	3.9	2.6	2.6	1.3	1.3	1.3
85°	5.2	3.9	3.9	2.6	2.6	1.3	1.3	1.3
87.5°	5.2	3.9	3.9	2.6	2.6	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)