

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: P209080

Luminaire Tested: **LDSQA6A55927D010TE LARH40FL 6LSQA1H 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P209080
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: LDSQA6A55927D010TE LARH40FL 6LSQA1H 30°
Description: PORTFOLIO 6" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,
SELF-FLANGED, 40° FLOOD, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4020.0 lumens
Efficiency: N/A
Efficacy: 66.1 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

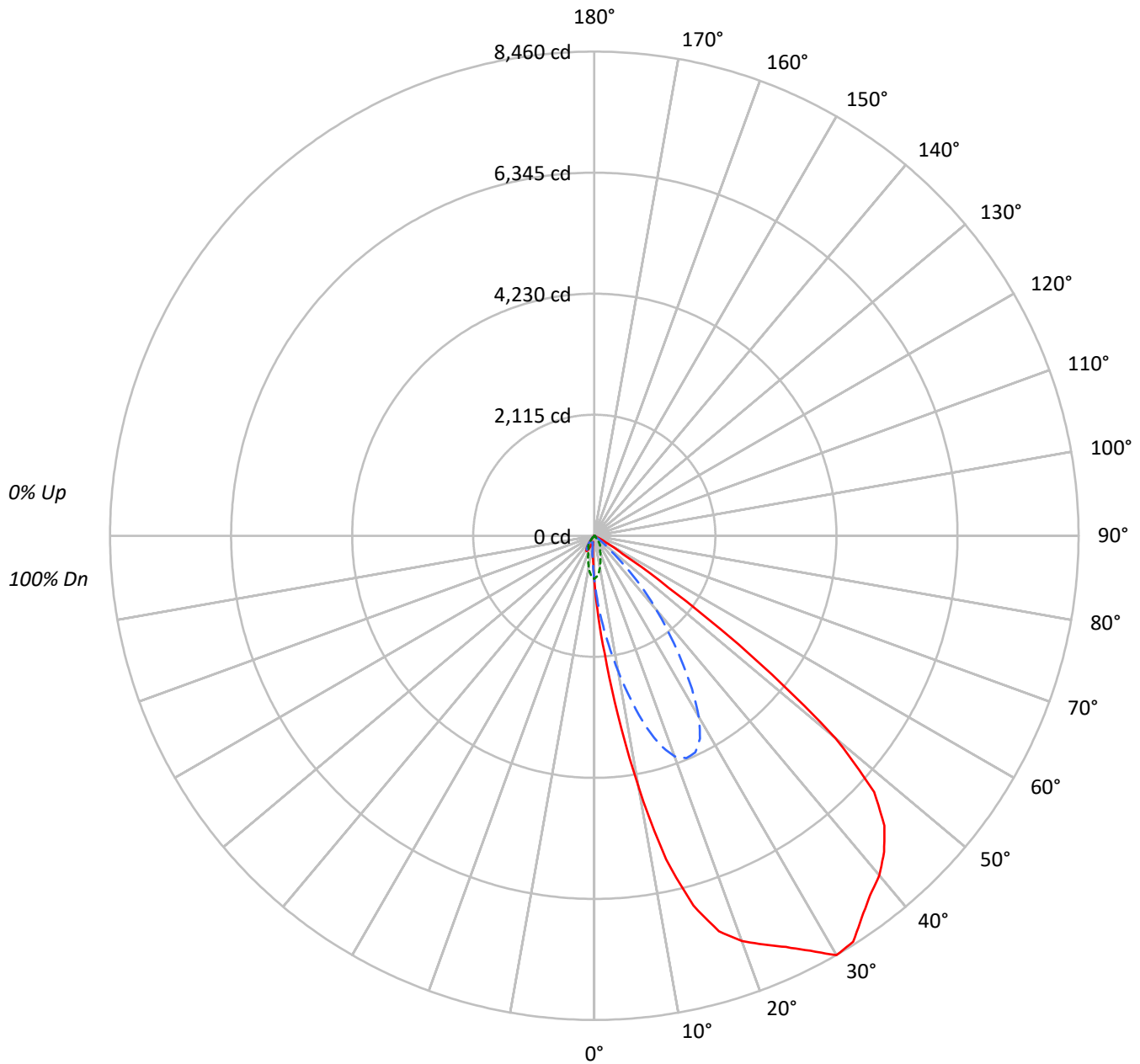
Input Watts (W): 60.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P209080

CATALOG NUMBER: LDSQA6A55927D010TE LARH40FL 6LSQA1H 30°

Luminous Intensity Polar Plot





TEST NUMBER: P209080

CATALOG NUMBER: LDSQA6A55927D010TE LARH40FL 6LSQA1H 30°

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
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	88	83	78		86	81	77		83	79	76		81	77	74
4	91	82	75	70	89	80	74	69		78	73	68		76	71	67		74	70	67
5	85	74	67	62	83	73	66	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	44
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	41	36		46	40	36		45	40	36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	32438	32438	32438
5°	89033	29887	12197
10°	195109	24461	4647
15°	298030	18619	5451
20°	345296	13851	8472
25°	376671	11392	13668
30°	420626	10331	13960
35°	427964	7085	9571
40°	435483	3361	4845
45°	436191	1394	2119
50°	368760	603	650
55°	118746	420	105
60°	23577	482	0
65°	2404	571	0
70°	264	793	0
75°	0	1048	0
80°	0	1736	174
85°	0	3458	346



TEST NUMBER: P209080

CATALOG NUMBER: LDSQA6A55927D010TE LARH40FL 6LSQA1H 30°

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.3	2.5
10°-20°	528.9	13.2
20°-30°	1012.8	25.2
30°-40°	1193.2	29.7
40°-50°	937.2	23.3
50°-60°	228.4	5.7
60°-70°	9.8	0.2
70°-80°	3.7	0.1
80°-90°	3.7	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°	1644.0	40.9
0°-40°	2837.2	70.6
0°-60°	4002.8	99.6
0°-90°	4020.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4020.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	753	753	753	753	753	
5°	2060	1491	692	362	282	272
15°	6686	3434	418	120	122	1867
25°	7929	4176	240	251	288	3696
35°	8142	2640	135	174	182	5106
45°	7164	816	23	32	35	5382
55°	1582	30	6	4	1	1883
65°	24	4	6	4	0	63
75°	0	4	6	4	0	0
85°	0	4	7	4	1	0
90°	0	0	0	0	0	



TEST NUMBER: P209080

CATALOG NUMBER: LDSQA6A55927D010TE LARH40FL 6LSQA1H 30°

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	753.4	753.4	753.4	753.4	753.4	753.4	753.4	753.4	753.4	753.4	753.4
2.5°	1291.4	1288.6	1269.8	1287.2	1234.4	1232.3	1208.6	1198.2	1167.6	1138.4	1096.7
5°	2060.0	2014.9	1978.0	1979.4	1878.0	1859.2	1806.4	1752.8	1670.8	1594.4	1490.8
7.5°	3140.1	3086.6	3008.8	2976.1	2782.2	2725.2	2616.1	2473.6	2295.0	2117.0	1925.2
10°	4462.7	4471.1	4370.3	4277.2	3983.9	3868.5	3692.0	3411.2	3072.7	2738.4	2398.5
12.5°	5793.7	5788.2	5667.9	5526.8	5165.4	5002.8	4767.9	4417.6	3969.3	3450.8	2919.1
15°	6686.1	6725.7	6675.0	6562.4	6253.8	6067.6	5802.7	5327.4	4781.1	4151.4	3434.1
17.5°	7246.3	7283.8	7265.8	7177.5	6905.1	6706.3	6485.3	6096.0	5464.3	4672.6	3840.0
20°	7536.1	7595.2	7586.9	7491.0	7285.2	7120.5	6876.6	6515.8	5968.9	5034.7	4102.7
22.5°	7729.4	7774.5	7787.0	7678.6	7465.9	7309.6	7130.9	6765.4	6251.0	5255.8	4207.0
25°	7928.8	8008.8	7930.2	7796.8	7601.5	7451.3	7260.9	6910.6	6385.9	5346.1	4175.7
27.5°	8173.5	8211.7	8033.8	7912.1	7695.3	7532.7	7330.4	6994.7	6409.5	5273.8	3997.1
30°	8460.5	8302.1	8177.6	7936.5	7690.4	7532.0	7326.2	6941.9	6285.1	5034.1	3651.0
32.5°	8413.3	8268.0	8126.9	7871.8	7628.6	7471.5	7242.1	6766.0	5991.1	4633.0	3173.5
35°	8142.2	8173.5	8021.3	7810.0	7534.7	7372.8	7122.6	6515.8	5492.1	4079.8	2639.7
37.5°	7913.5	7982.3	7883.0	7687.7	7408.3	7189.3	6851.5	6114.1	4840.8	3377.8	2133.7
40°	7748.1	7770.4	7716.8	7497.9	7162.2	6846.0	6455.4	5392.7	4049.9	2651.5	1684.0
42.5°	7491.7	7550.7	7456.2	7217.1	6708.4	6350.4	5784.7	4559.4	3145.7	2025.3	1267.7
45°	7163.6	7219.9	7103.1	6705.6	5998.0	5473.3	4783.1	3555.0	2326.9	1492.9	816.0
47.5°	6628.4	6663.2	6437.3	5887.5	4858.9	4364.7	3657.2	2478.5	1499.2	834.7	396.9
50°	5505.3	5488.6	5022.9	4346.7	3249.9	2731.4	2176.8	1343.5	673.5	395.5	248.1
52.5°	3548.1	3509.9	3049.1	2434.0	1645.8	1255.9	943.8	579.6	351.0	221.0	98.0
55°	1581.9	1567.3	1283.0	996.7	673.5	579.6	442.7	284.3	187.0	77.1	29.9
57.5°	586.6	573.4	505.3	424.0	325.3	270.4	214.8	136.2	48.0	25.7	16.0
60°	273.8	273.1	240.5	198.1	137.6	104.3	60.5	32.0	20.2	13.9	9.0
62.5°	87.6	85.5	59.8	43.8	31.3	27.1	21.5	16.0	10.4	7.6	5.6
65°	23.6	23.6	21.5	18.1	14.6	12.5	10.4	7.6	4.9	4.2	3.5
67.5°	9.0	9.0	8.3	7.6	5.6	4.9	4.2	3.5	2.8	3.5	3.5
70°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.8	2.8	3.5
72.5°	0.0	0.0	0.7	0.7	1.4	1.4	2.1	2.1	2.8	3.5	3.5
75°	0.0	0.0	0.7	0.7	1.4	1.4	2.1	2.1	2.8	3.5	3.5
77.5°	0.0	0.0	0.7	0.7	1.4	1.4	2.1	2.1	2.8	3.5	3.5
80°	0.0	0.0	0.7	0.7	1.4	1.4	2.1	2.1	2.8	3.5	3.5
82.5°	0.0	0.0	0.7	1.4	1.4	1.4	2.1	2.8	2.8	3.5	4.2
85°	0.0	0.0	0.7	1.4	1.4	2.1	2.1	2.8	2.8	3.5	4.2
87.5°	0.0	0.0	0.7	1.4	1.4	2.1	2.1	2.8	2.8	3.5	4.2
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: P209080

CATALOG NUMBER: LDSQA6A55927D010TE LARH40FL 6LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	753.4	753.4	753.4	753.4	753.4	753.4	753.4	753.4	753.4	753.4	753.4
2.5°	1066.2	1020.3	957.0	920.2	911.2	891.7	857.7	806.9	765.2	724.9	701.3
5°	1403.3	1294.8	1173.2	1087.7	1053.0	1006.4	923.7	838.2	759.7	691.5	638.0
7.5°	1760.5	1581.9	1385.2	1226.7	1169.7	1096.1	961.2	834.0	726.3	631.8	560.2
10°	2115.7	1827.9	1561.0	1331.7	1238.5	1138.4	960.5	795.8	669.3	559.5	480.3
12.5°	2470.8	2057.3	1690.3	1394.9	1274.0	1147.5	932.0	737.4	597.0	485.1	409.4
15°	2798.9	2240.1	1777.9	1416.5	1270.5	1121.1	874.3	666.5	521.3	417.7	347.5
17.5°	3043.5	2336.0	1798.0	1383.8	1215.6	1050.2	786.1	583.1	449.0	357.9	286.3
20°	3163.7	2351.3	1750.1	1290.7	1121.1	949.4	689.5	503.2	387.1	302.3	241.9
22.5°	3163.7	2279.0	1645.8	1173.9	1002.9	833.3	596.3	437.2	338.5	263.4	212.7
25°	3043.5	2135.1	1506.1	1039.1	872.9	718.7	515.7	387.8	300.9	239.8	197.4
27.5°	2810.0	1936.3	1326.8	888.9	745.1	616.5	451.8	342.6	272.4	216.2	216.8
30°	2488.9	1692.4	1121.1	730.5	613.7	506.7	380.2	287.0	218.2	207.8	214.1
32.5°	2117.7	1400.5	888.2	566.4	475.4	398.9	289.1	202.9	173.8	175.1	182.1
35°	1736.9	1102.3	668.6	419.8	353.8	289.1	189.7	133.4	132.1	134.8	139.7
37.5°	1371.3	825.0	483.7	307.2	237.7	177.9	102.2	91.7	91.7	94.5	97.3
40°	1027.2	585.2	332.9	182.1	115.4	81.3	64.6	59.8	59.1	59.8	63.2
42.5°	705.4	370.4	198.1	73.0	55.6	47.3	41.0	37.5	36.8	37.5	39.6
45°	396.2	228.0	77.1	38.9	33.4	29.9	25.7	23.6	22.9	22.9	24.3
47.5°	248.1	90.4	34.8	24.3	20.9	19.5	16.7	15.3	14.6	14.6	15.3
50°	95.2	35.4	21.5	16.0	13.9	12.5	11.1	9.7	9.0	9.0	9.7
52.5°	32.7	20.9	13.9	10.4	9.0	8.3	7.0	6.3	6.3	6.3	6.3
55°	18.1	12.5	8.3	6.3	5.6	5.6	5.6	5.6	5.6	5.6	5.6
57.5°	11.1	7.6	5.6	4.9	4.9	4.9	4.9	4.9	4.9	5.6	5.6
60°	6.3	4.9	4.2	4.2	4.2	4.2	4.9	4.9	4.9	5.6	5.6
62.5°	4.2	4.2	4.2	4.2	4.2	4.2	4.9	4.9	5.6	5.6	5.6
65°	3.5	3.5	3.5	4.2	4.2	4.2	4.9	4.9	5.6	5.6	5.6
67.5°	3.5	3.5	4.2	4.2	4.2	4.9	4.9	5.6	5.6	5.6	5.6
70°	3.5	4.2	4.2	4.9	4.9	4.9	5.6	5.6	5.6	6.3	6.3
72.5°	3.5	4.2	4.2	4.9	4.9	4.9	5.6	5.6	6.3	6.3	6.3
75°	4.2	4.2	4.2	4.9	4.9	4.9	5.6	6.3	6.3	6.3	6.3
77.5°	4.2	4.2	4.9	4.9	4.9	5.6	5.6	6.3	6.3	6.3	6.3
80°	4.2	4.2	4.9	4.9	5.6	5.6	6.3	6.3	6.3	7.0	7.0
82.5°	4.2	4.2	4.9	5.6	5.6	5.6	6.3	6.3	7.0	7.0	7.0
85°	4.2	4.9	4.9	5.6	5.6	5.6	6.3	6.3	7.0	7.0	7.0
87.5°	4.2	4.9	4.9	5.6	5.6	5.6	6.3	6.3	7.0	7.0	7.0
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: P209080

CATALOG NUMBER: LDSQA6A55927D010TE LARH40FL 6LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	753.4	753.4	753.4	753.4	753.4	753.4	753.4	753.4	753.4	753.4	753.4
2.5°	670.0	640.8	611.6	590.1	579.6	569.2	546.3	516.4	503.9	485.8	475.4
5°	583.8	534.5	495.6	469.8	454.5	434.4	408.0	378.8	362.1	343.3	330.8
7.5°	494.9	437.2	399.6	376.0	360.7	335.7	302.3	267.6	247.4	226.6	212.0
10°	417.0	362.1	319.7	292.6	273.1	244.0	210.6	186.3	168.9	150.8	136.2
12.5°	348.2	289.1	244.0	221.0	207.8	180.0	152.2	125.1	114.7	111.2	111.2
15°	282.2	228.7	190.4	171.0	157.1	127.2	121.6	120.2	119.5	118.8	120.2
17.5°	230.1	184.9	144.6	134.8	133.4	132.7	133.4	133.4	134.1	136.2	139.7
20°	193.2	151.5	148.7	149.4	149.4	152.2	155.7	158.5	161.2	164.7	171.0
22.5°	171.7	171.0	175.8	176.5	180.0	184.2	190.4	194.6	201.6	205.0	214.1
25°	198.1	202.9	212.0	214.8	220.3	227.3	237.0	242.6	250.9	255.1	265.5
27.5°	224.5	232.1	243.3	246.7	251.6	262.7	269.7	274.5	278.7	281.5	287.7
30°	222.4	229.4	240.5	241.2	248.1	255.8	259.9	264.1	266.9	266.2	269.7
32.5°	188.4	194.6	205.0	205.0	212.7	218.9	221.0	224.5	224.5	224.5	225.9
35°	144.6	148.7	155.7	157.8	164.0	168.2	169.6	173.8	173.8	172.4	172.4
37.5°	100.1	105.6	110.5	111.9	116.1	118.8	122.3	123.0	121.6	122.3	122.3
40°	65.3	68.8	72.3	73.0	76.5	78.5	82.0	82.0	82.7	82.0	83.4
42.5°	40.3	43.1	45.2	46.6	48.0	49.3	51.4	52.1	52.8	52.1	53.5
45°	25.0	26.4	27.8	28.5	29.2	29.9	32.0	32.0	32.0	32.0	32.7
47.5°	15.3	16.0	16.7	16.7	17.4	18.1	18.8	18.8	18.8	18.8	19.5
50°	9.0	9.7	9.7	9.7	10.4	10.4	11.1	11.1	11.1	10.4	11.1
52.5°	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.6	6.3
55°	5.6	5.6	4.9	4.9	4.9	4.9	4.9	4.2	3.5	3.5	2.8
57.5°	4.9	4.9	4.9	4.9	4.9	4.2	4.2	3.5	3.5	2.8	2.1
60°	4.9	4.9	4.9	4.9	4.9	4.2	4.2	3.5	2.8	2.8	2.1
62.5°	5.6	4.9	4.9	4.9	4.9	4.2	4.2	3.5	2.8	2.8	2.1
65°	5.6	5.6	4.9	4.9	4.9	4.2	4.2	3.5	3.5	2.8	2.1
67.5°	5.6	5.6	5.6	4.9	5.6	4.9	4.2	4.2	3.5	2.8	2.8
70°	6.3	5.6	5.6	5.6	5.6	4.9	4.9	4.2	3.5	2.8	2.8
72.5°	6.3	6.3	5.6	5.6	5.6	4.9	4.9	4.2	3.5	3.5	2.8
75°	6.3	6.3	5.6	5.6	5.6	4.9	4.9	4.2	4.2	3.5	2.8
77.5°	6.3	6.3	6.3	5.6	5.6	5.6	4.9	4.9	4.2	3.5	2.8
80°	6.3	6.3	6.3	6.3	6.3	5.6	5.6	4.9	4.2	3.5	2.8
82.5°	7.0	6.3	6.3	6.3	6.3	5.6	5.6	4.9	4.2	3.5	3.5
85°	7.0	7.0	6.3	6.3	6.3	5.6	5.6	4.9	4.2	4.2	3.5
87.5°	7.0	6.3	6.3	6.3	6.3	5.6	5.6	4.9	4.2	3.5	3.5
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: P209080

CATALOG NUMBER: LDSQA6A55927D010TE LARH40FL 6LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	753.4	753.4	753.4	753.4	753.4	753.4	753.4	753.4
2.5°	465.0	459.4	459.4	449.7	448.3	440.6	446.9	442.7
5°	316.9	307.9	305.1	295.4	291.9	282.9	285.7	282.2
7.5°	199.5	190.4	187.7	180.7	176.5	169.6	170.3	168.2
10°	121.6	113.3	111.2	109.1	107.0	106.3	107.0	106.3
12.5°	110.5	109.8	108.4	109.1	107.7	108.4	109.1	108.4
15°	120.2	121.6	120.2	120.9	120.2	121.6	122.3	122.3
17.5°	141.1	143.9	142.5	144.6	143.9	147.3	147.3	147.3
20°	173.1	177.9	176.5	179.3	179.3	183.5	183.5	184.9
22.5°	217.5	223.8	223.1	229.4	228.0	232.8	232.8	234.2
25°	271.1	277.3	278.0	282.2	281.5	286.3	286.3	287.7
27.5°	293.3	296.8	296.1	298.2	298.9	301.6	303.7	302.3
30°	275.2	278.0	277.3	278.7	278.7	280.8	282.9	280.8
32.5°	231.4	233.5	233.5	236.3	234.2	234.9	238.4	236.3
35°	177.2	178.6	177.2	178.6	179.3	179.3	182.8	182.1
37.5°	126.5	127.2	127.2	129.3	127.2	127.2	130.7	131.4
40°	84.8	85.5	84.8	87.6	86.2	86.2	88.3	86.2
42.5°	54.2	54.9	54.2	56.3	54.9	56.3	57.0	57.7
45°	33.4	33.4	32.7	34.1	33.4	34.1	34.8	34.8
47.5°	19.5	19.5	18.8	20.2	19.5	19.5	19.5	20.2
50°	10.4	10.4	10.4	11.1	10.4	10.4	10.4	9.7
52.5°	5.6	5.6	4.9	5.6	4.9	4.9	4.9	4.9
55°	2.8	2.1	2.1	2.1	1.4	1.4	1.4	1.4
57.5°	2.1	1.4	1.4	0.7	0.7	0.7	0.0	0.0
60°	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0
62.5°	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0
65°	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0
67.5°	2.1	1.4	1.4	0.7	0.7	0.0	0.0	0.0
70°	2.1	1.4	1.4	0.7	0.7	0.0	0.0	0.0
72.5°	2.1	1.4	1.4	1.4	0.7	0.7	0.0	0.0
75°	2.1	2.1	1.4	1.4	0.7	0.7	0.0	0.0
77.5°	2.8	2.1	1.4	1.4	0.7	0.7	0.0	0.0
80°	2.8	2.1	1.4	1.4	1.4	0.7	0.7	0.7
82.5°	2.8	2.1	2.1	1.4	1.4	0.7	0.7	0.7
85°	2.8	2.1	2.1	1.4	1.4	0.7	0.7	0.7
87.5°	2.8	2.1	2.1	1.4	1.4	0.7	0.7	0.7
90°	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°













(END OF REPORT)