

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: P179903

Luminaire Tested: **LDA6A65840D010TE LARH40FL 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179903
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: LDA6A65840D010TE LARH40FL 6LA1LI 30°
Description: PORTFOLIO 6" 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: 7082.3 lumens
Efficiency: N/A
Efficacy: 90.8 lumens/watt
Spacing Criteria (0/90/45): 2.63 / 0.54 / 1.37
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

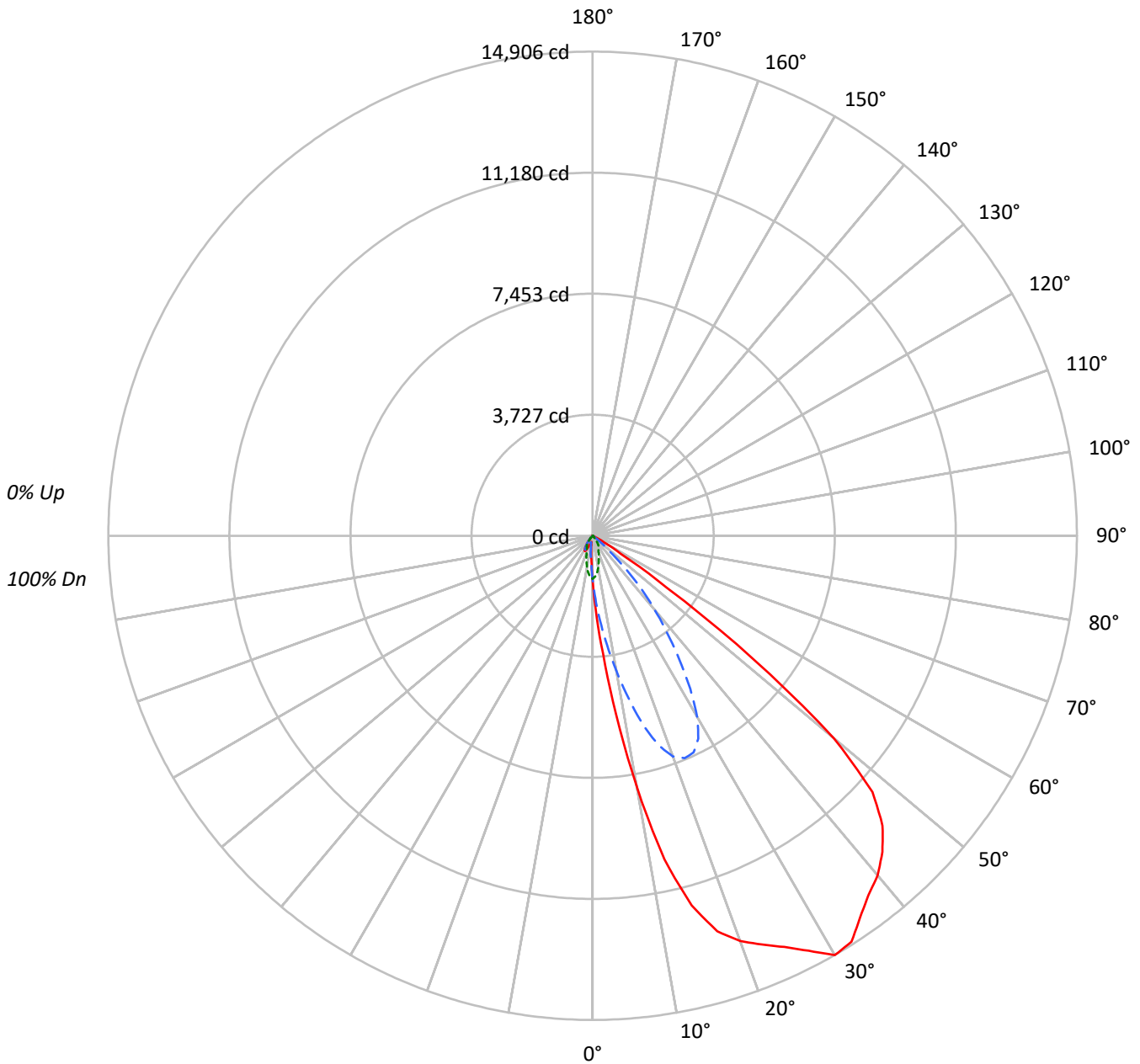
Input Watts (W): 78
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	72768	72768	72768
5°	199724	67048	27355
10°	437673	54870	10426
15°	668540	41765	12230
20°	774571	31077	19001
25°	844948	25556	30661
30°	943550	23174	31315
35°	960011	15901	21469
40°	976880	7536	10863
45°	978466	3132	4745
50°	827197	1356	1458
55°	266370	937	229
60°	52901	1074	0
65°	5396	1271	0
70°	593	1763	0
75°	0	2330	0
80°	0	3852	379
85°	0	7674	755



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.2	2.5
10°-20°	931.9	13.2
20°-30°	1784.3	25.2
30°-40°	2102.2	29.7
40°-50°	1651.2	23.3
50°-60°	402.4	5.7
60°-70°	17.3	0.2
70°-80°	6.5	0.1
80°-90°	6.5	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°	2896.4	40.9
0°-40°	4998.5	70.6
0°-60°	7052.1	99.6
0°-90°	7082.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7082.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1327	1327	1327	1327	1327	
5°	3629	2626	1218	638	497	480
15°	11780	6050	736	211	216	3288
25°	13969	7357	422	442	507	6511
35°	14345	4651	238	306	321	8995
45°	12621	1438	40	56	61	9483
55°	2787	53	10	6	2	3317
65°	42	6	10	6	0	110
75°	0	6	11	7	0	0
85°	0	7	12	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°	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4
2.5°	2275.1	2270.2	2237.2	2267.8	2174.7	2171.0	2129.4	2111.0	2057.2	2005.7	1932.3
5°	3629.4	3549.8	3484.9	3487.4	3308.6	3275.5	3182.5	3088.2	2943.7	2809.0	2626.5
7.5°	5532.3	5438.0	5300.8	5243.3	4901.7	4801.2	4609.0	4358.0	4043.3	3729.8	3391.9
10°	7862.5	7877.2	7699.6	7535.5	7018.8	6815.5	6504.5	6009.8	5413.5	4824.5	4225.7
12.5°	10207.4	10197.6	9985.8	9737.2	9100.5	8813.9	8400.0	7782.9	6993.1	6079.6	5142.9
15°	11779.6	11849.4	11760.1	11561.7	11018.0	10689.8	10223.3	9385.8	8423.3	7313.9	6050.2
17.5°	12766.6	12832.7	12800.9	12645.4	12165.4	11815.2	11425.8	10740.1	9627.0	8232.3	6765.3
20°	13277.2	13381.3	13366.6	13197.6	12835.2	12545.0	12115.2	11479.6	10516.0	8870.2	7228.2
22.5°	13617.6	13697.2	13719.2	13528.2	13153.5	12878.0	12563.3	11919.2	11013.1	9259.6	7411.9
25°	13969.0	14109.9	13971.5	13736.4	13392.3	13127.8	12792.3	12175.2	11250.7	9418.8	7356.8
27.5°	14400.1	14467.4	14153.9	13939.7	13557.6	13271.1	12914.8	12323.3	11292.3	9291.5	7042.1
30°	14905.8	14626.6	14407.4	13982.5	13549.0	13269.9	12907.4	12230.3	11073.1	8869.0	6432.3
32.5°	14822.5	14566.6	14318.0	13868.6	13440.1	13163.3	12759.2	11920.5	10555.2	8162.5	5591.0
35°	14345.0	14400.1	14131.9	13759.7	13274.8	12989.4	12548.6	11479.6	9676.0	7187.8	4650.6
37.5°	13942.1	14063.3	13888.2	13544.1	13051.9	12666.2	12071.1	10771.9	8528.6	5951.0	3759.2
40°	13650.7	13689.9	13595.6	13209.9	12618.4	12061.3	11373.1	9500.9	7135.1	4671.5	2967.0
42.5°	13198.8	13302.9	13136.4	12715.2	11818.8	11188.2	10191.5	8032.7	5542.1	3568.2	2233.5
45°	12620.9	12720.1	12514.3	11813.9	10567.4	9642.9	8427.0	6263.3	4099.6	2630.2	1437.6
47.5°	11678.0	11739.2	11341.3	10372.7	8560.4	7689.8	6443.3	4366.6	2641.2	1470.6	699.2
50°	9699.2	9669.8	8849.4	7658.0	5725.7	4812.3	3835.1	2366.9	1186.5	696.7	437.1
52.5°	6251.0	6183.7	5371.9	4288.2	2899.6	2212.7	1662.9	1021.2	618.4	389.4	172.7
55°	2787.0	2761.2	2260.4	1755.9	1186.5	1021.2	780.0	500.8	329.4	135.9	52.7
57.5°	1033.5	1010.2	890.2	746.9	573.1	476.3	378.4	240.0	84.5	45.3	28.2
60°	482.5	481.2	423.7	349.0	242.5	183.7	106.5	56.3	35.5	24.5	15.9
62.5°	154.3	150.6	105.3	77.1	55.1	47.8	38.0	28.2	18.4	13.5	9.8
65°	41.6	41.6	38.0	31.8	25.7	22.0	18.4	13.5	8.6	7.3	6.1
67.5°	15.9	15.9	14.7	13.5	9.8	8.6	7.3	6.1	4.9	6.1	6.1
70°	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	4.9	4.9	6.1
72.5°	0.0	0.0	1.2	1.2	2.4	2.4	3.7	3.7	4.9	6.1	6.1
75°	0.0	0.0	1.2	1.2	2.4	2.4	3.7	3.7	4.9	6.1	6.1
77.5°	0.0	0.0	1.2	1.2	2.4	2.4	3.7	3.7	4.9	6.1	6.1
80°	0.0	0.0	1.2	1.2	2.4	2.4	3.7	3.7	4.9	6.1	6.1
82.5°	0.0	0.0	1.2	2.4	2.4	2.4	3.7	4.9	4.9	6.1	7.3
85°	0.0	0.0	1.2	2.4	2.4	3.7	3.7	4.9	4.9	6.1	7.3
87.5°	0.0	0.0	1.2	2.4	2.4	3.7	3.7	4.9	4.9	6.1	7.3
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°	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4
2.5°	1878.4	1797.6	1686.1	1621.2	1605.3	1571.0	1511.0	1421.6	1348.2	1277.1	1235.5
5°	2472.3	2281.2	2066.9	1916.3	1855.1	1773.1	1627.4	1476.7	1338.4	1218.4	1124.1
7.5°	3101.6	2787.0	2440.4	2161.2	2060.8	1931.0	1693.5	1469.4	1279.6	1113.1	986.9
10°	3727.4	3220.4	2750.2	2346.1	2182.1	2005.7	1692.3	1402.0	1179.2	985.7	846.1
12.5°	4353.1	3624.5	2978.0	2457.6	2244.5	2021.6	1642.0	1299.2	1051.8	854.7	721.2
15°	4931.0	3946.5	3132.3	2495.5	2238.4	1975.1	1540.4	1174.3	918.4	735.9	612.2
17.5°	5362.1	4115.5	3167.8	2438.0	2141.6	1850.2	1384.9	1027.4	791.0	630.6	504.5
20°	5573.9	4142.5	3083.3	2273.9	1975.1	1672.7	1214.7	886.5	682.0	532.7	426.1
22.5°	5573.9	4015.1	2899.6	2068.2	1766.9	1468.2	1050.6	770.2	596.3	464.1	374.7
25°	5362.1	3761.7	2653.5	1830.6	1538.0	1266.1	908.6	683.3	530.2	422.5	347.8
27.5°	4950.6	3411.4	2337.6	1566.1	1312.7	1086.1	795.9	603.7	480.0	380.8	382.0
30°	4384.9	2981.6	1975.1	1286.9	1081.2	892.7	669.8	505.7	384.5	366.1	377.1
32.5°	3731.0	2467.4	1564.9	998.0	837.6	702.9	509.4	357.6	306.1	308.6	320.8
35°	3060.0	1942.0	1178.0	739.6	623.3	509.4	334.3	235.1	232.7	237.6	246.1
37.5°	2415.9	1453.5	852.2	541.2	418.8	313.5	180.0	161.6	161.6	166.5	171.4
40°	1809.8	1031.0	586.5	320.8	203.3	143.3	113.9	105.3	104.1	105.3	111.4
42.5°	1242.9	652.7	349.0	128.6	98.0	83.3	72.2	66.1	64.9	66.1	69.8
45°	698.0	401.6	135.9	68.6	58.8	52.7	45.3	41.6	40.4	40.4	42.9
47.5°	437.1	159.2	61.2	42.9	36.7	34.3	29.4	26.9	25.7	25.7	26.9
50°	167.8	62.4	38.0	28.2	24.5	22.0	19.6	17.1	15.9	15.9	17.1
52.5°	57.6	36.7	24.5	18.4	15.9	14.7	12.2	11.0	11.0	11.0	11.0
55°	31.8	22.0	14.7	11.0	9.8	9.8	9.8	9.8	9.8	9.8	9.8
57.5°	19.6	13.5	9.8	8.6	8.6	8.6	8.6	8.6	8.6	9.8	9.8
60°	11.0	8.6	7.3	7.3	7.3	7.3	8.6	8.6	8.6	9.8	9.8
62.5°	7.3	7.3	7.3	7.3	7.3	7.3	8.6	8.6	9.8	9.8	9.8
65°	6.1	6.1	6.1	7.3	7.3	7.3	8.6	8.6	9.8	9.8	9.8
67.5°	6.1	6.1	7.3	7.3	7.3	8.6	8.6	9.8	9.8	9.8	9.8
70°	6.1	7.3	7.3	8.6	8.6	8.6	9.8	9.8	9.8	11.0	11.0
72.5°	6.1	7.3	7.3	8.6	8.6	8.6	9.8	9.8	11.0	11.0	11.0
75°	7.3	7.3	7.3	8.6	8.6	8.6	9.8	11.0	11.0	11.0	11.0
77.5°	7.3	7.3	8.6	8.6	8.6	9.8	9.8	11.0	11.0	11.0	11.0
80°	7.3	7.3	8.6	8.6	9.8	9.8	11.0	11.0	11.0	12.2	12.2
82.5°	7.3	7.3	8.6	9.8	9.8	9.8	11.0	11.0	12.2	12.2	12.2
85°	7.3	8.6	8.6	9.8	9.8	9.8	11.0	11.0	12.2	12.2	12.2
87.5°	7.3	8.6	8.6	9.8	9.8	9.8	11.0	11.0	12.2	12.2	12.2
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°	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4
2.5°	1180.4	1129.0	1077.6	1039.6	1021.2	1002.9	962.5	909.8	887.8	855.9	837.6
5°	1028.6	941.6	873.1	827.8	800.8	765.3	718.8	667.4	638.0	604.9	582.9
7.5°	871.8	770.2	704.1	662.5	635.5	591.4	532.7	471.4	435.9	399.2	373.5
10°	734.7	638.0	563.3	515.5	481.2	429.8	371.0	328.2	297.6	265.7	240.0
12.5°	613.5	509.4	429.8	389.4	366.1	317.1	268.2	220.4	202.0	195.9	195.9
15°	497.1	402.9	335.5	301.2	276.7	224.1	214.3	211.8	210.6	209.4	211.8
17.5°	405.3	325.7	254.7	237.6	235.1	233.9	235.1	235.1	236.3	240.0	246.1
20°	340.4	266.9	262.0	263.3	263.3	268.2	274.3	279.2	284.1	290.2	301.2
22.5°	302.5	301.2	309.8	311.0	317.1	324.5	335.5	342.9	355.1	361.2	377.1
25°	349.0	357.6	373.5	378.4	388.2	400.4	417.6	427.3	442.0	449.4	467.8
27.5°	395.5	409.0	428.6	434.7	443.3	462.9	475.1	483.7	491.0	495.9	506.9
30°	391.8	404.1	423.7	424.9	437.1	450.6	458.0	465.3	470.2	469.0	475.1
32.5°	331.8	342.9	361.2	361.2	374.7	385.7	389.4	395.5	395.5	395.5	398.0
35°	254.7	262.0	274.3	278.0	289.0	296.3	298.8	306.1	306.1	303.7	303.7
37.5°	176.3	186.1	194.7	197.1	204.5	209.4	215.5	216.7	214.3	215.5	215.5
40°	115.1	121.2	127.3	128.6	134.7	138.4	144.5	144.5	145.7	144.5	146.9
42.5°	71.0	75.9	79.6	82.0	84.5	86.9	90.6	91.8	93.1	91.8	94.3
45°	44.1	46.5	49.0	50.2	51.4	52.7	56.3	56.3	56.3	56.3	57.6
47.5°	26.9	28.2	29.4	29.4	30.6	31.8	33.1	33.1	33.1	33.1	34.3
50°	15.9	17.1	17.1	17.1	18.4	18.4	19.6	19.6	19.6	18.4	19.6
52.5°	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	9.8	11.0
55°	9.8	9.8	8.6	8.6	8.6	8.6	8.6	7.3	6.1	6.1	4.9
57.5°	8.6	8.6	8.6	8.6	8.6	7.3	7.3	6.1	6.1	4.9	3.7
60°	8.6	8.6	8.6	8.6	8.6	7.3	7.3	6.1	4.9	4.9	3.7
62.5°	9.8	8.6	8.6	8.6	8.6	7.3	7.3	6.1	4.9	4.9	3.7
65°	9.8	9.8	8.6	8.6	8.6	7.3	7.3	6.1	6.1	4.9	3.7
67.5°	9.8	9.8	9.8	8.6	9.8	8.6	7.3	7.3	6.1	4.9	4.9
70°	11.0	9.8	9.8	9.8	9.8	8.6	8.6	7.3	6.1	4.9	4.9
72.5°	11.0	11.0	9.8	9.8	9.8	8.6	8.6	7.3	6.1	6.1	4.9
75°	11.0	11.0	9.8	9.8	9.8	8.6	8.6	7.3	7.3	6.1	4.9
77.5°	11.0	11.0	11.0	9.8	9.8	9.8	8.6	8.6	7.3	6.1	4.9
80°	11.0	11.0	11.0	11.0	11.0	9.8	9.8	8.6	7.3	6.1	4.9
82.5°	12.2	11.0	11.0	11.0	11.0	9.8	9.8	8.6	7.3	6.1	6.1
85°	12.2	12.2	11.0	11.0	11.0	9.8	9.8	8.6	7.3	7.3	6.1
87.5°	12.2	11.0	11.0	11.0	11.0	9.8	9.8	8.6	7.3	6.1	6.1
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: P179903

CATALOG NUMBER: LDA6A65840D010TE LARH40FL 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4	1327.4
2.5°	819.2	809.4	809.4	792.2	789.8	776.3	787.4	780.0
5°	558.4	542.5	537.6	520.4	514.3	498.4	503.3	497.1
7.5°	351.4	335.5	330.6	318.4	311.0	298.8	300.0	296.3
10°	214.3	199.6	195.9	192.2	188.6	187.3	188.6	187.3
12.5°	194.7	193.5	191.0	192.2	189.8	191.0	192.2	191.0
15°	211.8	214.3	211.8	213.1	211.8	214.3	215.5	215.5
17.5°	248.6	253.5	251.0	254.7	253.5	259.6	259.6	259.6
20°	304.9	313.5	311.0	315.9	315.9	323.3	323.3	325.7
22.5°	383.3	394.3	393.1	404.1	401.6	410.2	410.2	412.7
25°	477.6	488.6	489.8	497.1	495.9	504.5	504.5	506.9
27.5°	516.7	522.9	521.6	525.3	526.5	531.4	535.1	532.7
30°	484.9	489.8	488.6	491.0	491.0	494.7	498.4	494.7
32.5°	407.8	411.4	411.4	416.3	412.7	413.9	420.0	416.3
35°	312.2	314.7	312.2	314.7	315.9	315.9	322.0	320.8
37.5°	222.9	224.1	224.1	227.8	224.1	224.1	230.2	231.4
40°	149.4	150.6	149.4	154.3	151.8	151.8	155.5	151.8
42.5°	95.5	96.7	95.5	99.2	96.7	99.2	100.4	101.6
45°	58.8	58.8	57.6	60.0	58.8	60.0	61.2	61.2
47.5°	34.3	34.3	33.1	35.5	34.3	34.3	34.3	35.5
50°	18.4	18.4	18.4	19.6	18.4	18.4	18.4	17.1
52.5°	9.8	9.8	8.6	9.8	8.6	8.6	8.6	8.6
55°	4.9	3.7	3.7	3.7	2.4	2.4	2.4	2.4
57.5°	3.7	2.4	2.4	1.2	1.2	1.2	0.0	0.0
60°	2.4	2.4	1.2	1.2	0.0	0.0	0.0	0.0
62.5°	2.4	2.4	1.2	1.2	0.0	0.0	0.0	0.0
65°	2.4	2.4	1.2	1.2	0.0	0.0	0.0	0.0
67.5°	3.7	2.4	2.4	1.2	1.2	0.0	0.0	0.0
70°	3.7	2.4	2.4	1.2	1.2	0.0	0.0	0.0
72.5°	3.7	2.4	2.4	2.4	1.2	1.2	0.0	0.0
75°	3.7	3.7	2.4	2.4	1.2	1.2	0.0	0.0
77.5°	4.9	3.7	2.4	2.4	1.2	1.2	0.0	0.0
80°	4.9	3.7	2.4	2.4	2.4	1.2	1.2	1.2
82.5°	4.9	3.7	3.7	2.4	2.4	1.2	1.2	1.2
85°	4.9	3.7	3.7	2.4	2.4	1.2	1.2	1.2
87.5°	4.9	3.7	3.7	2.4	2.4	1.2	1.2	1.2
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)