

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: P179657

Luminaire Tested: **LDA6A45930D010TE LARH40FL 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179657
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26672)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A45930D010TE LARH40FL 6LA1LI 30°
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, Self-flanged, 40° Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4132.7 lumens
Efficiency: N/A
Efficacy: 78.0 lumens/watt
Spacing Criteria (0/90/45): 2.54 / 0.51 / 1.33
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

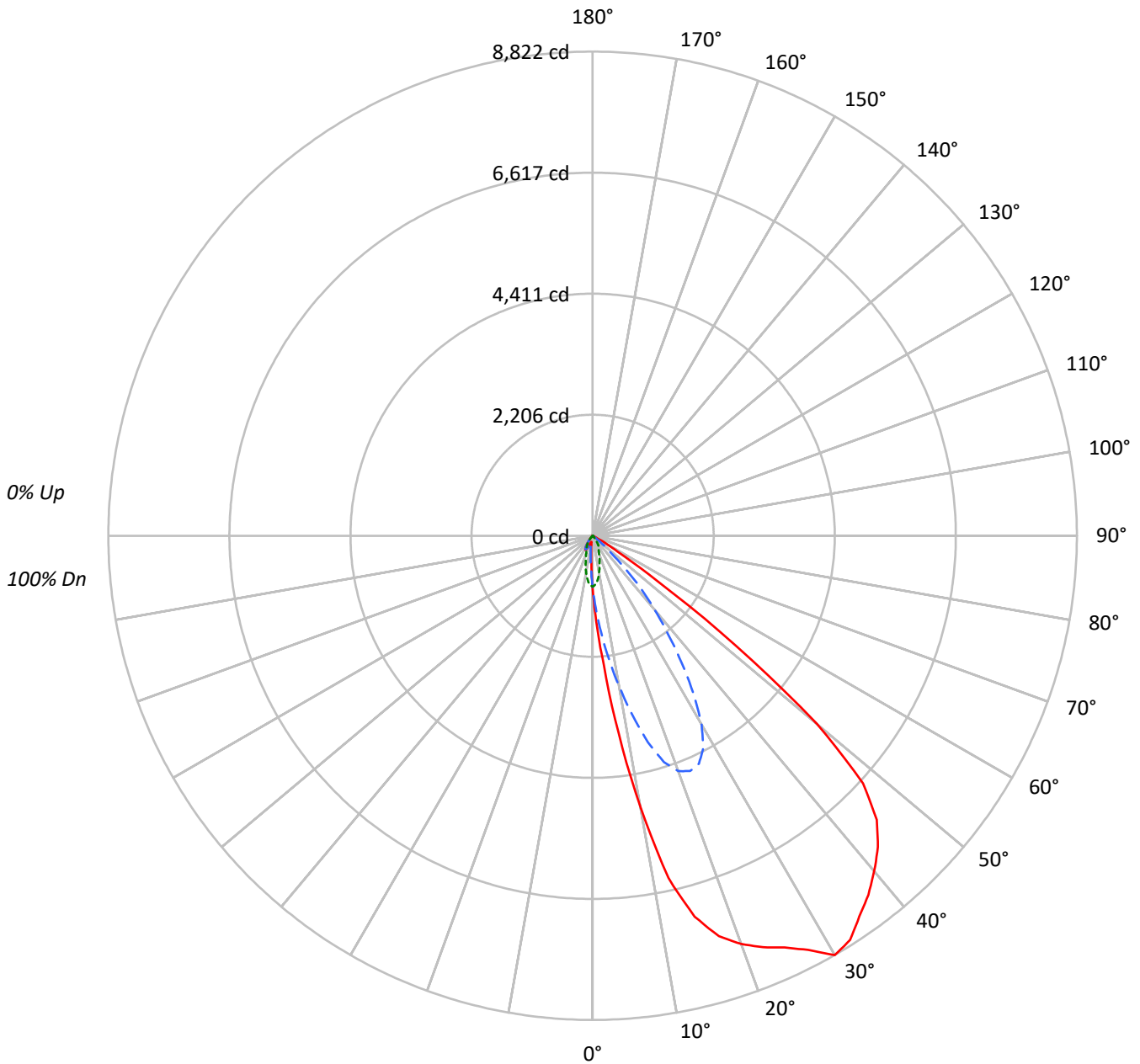
Input Watts (W): 53
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	112	109	106	103	110	107	104	102	103	101	99	99	97	96	95	94	93	91					91			
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	84	82					82			
3	98	90	84	79	96	89	83	79	86	81	77	84	80	76	81	78	75	73					73			
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65					65			
5	85	75	68	62	83	74	67	62	72	66	62	70	65	61	69	64	60	59					59			
6	80	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53					53			
7	74	63	55	50	73	62	55	50	61	54	50	59	54	49	58	53	49	47					47			
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	54	48	45	43					43			
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	44	40	39					39			
10	61	49	42	37	60	49	42	37	48	41	37	47	41	37	46	41	37	35					35			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	50857	50857	50857
5°	130046	46885	17109
10°	279498	37825	6296
15°	407721	27668	7202
20°	461684	19893	11108
25°	500497	15999	17227
30°	558447	13135	16585
35°	566825	8493	11056
40°	570998	4079	5589
45°	567431	1706	2334
50°	454313	768	768
55°	135489	545	76
60°	27662	625	0
65°	2633	739	0
70°	256	1042	0
75°	0	1377	0
80°	0	2305	253
85°	0	4592	503



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.8	2.9
10°-20°	579.6	14.0
20°-30°	1065.3	25.8
30°-40°	1222.2	29.6
40°-50°	924.7	22.4
50°-60°	204.9	5.0
60°-70°	8.7	0.2
70°-80°	3.8	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°	1764.7	42.7
0°-40°	2986.8	72.3
0°-60°	4116.4	99.6
0°-90°	4132.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4132.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	928	928	928	928	928	
5°	2363	1765	852	417	311	312
15°	7184	3896	488	126	127	2002
25°	8274	4582	264	256	285	3860
35°	8470	2828	127	159	165	5305
45°	7319	800	22	28	30	5462
55°	1418	30	6	4	1	1755
65°	20	4	6	3	0	54
75°	0	3	6	4	0	0
85°	0	4	7	4	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°	927.7	927.7	927.7	927.7	927.7	927.7	927.7	927.7	927.7	927.7	927.7
2.5°	1571.4	1555.9	1560.0	1579.5	1499.0	1496.5	1459.1	1454.2	1416.8	1348.4	1314.2
5°	2363.2	2353.4	2336.3	2342.9	2250.9	2189.1	2123.9	2076.7	1980.7	1851.3	1765.1
7.5°	3626.2	3520.4	3469.1	3370.6	3253.5	3133.8	3013.4	2873.4	2671.6	2446.2	2263.9
10°	5021.0	4974.6	4869.6	4807.0	4547.4	4371.6	4184.4	3898.0	3528.5	3120.0	2779.9
12.5°	6388.1	6333.6	6174.9	6041.5	5695.6	5538.5	5295.2	4933.9	4465.2	3883.3	3345.4
15°	7184.0	7196.2	7016.4	7009.8	6712.0	6507.7	6297.0	5869.7	5274.9	4606.8	3896.3
17.5°	7650.3	7680.4	7502.2	7552.6	7255.6	7044.0	6887.0	6574.5	5942.2	5140.6	4322.0
20°	7913.9	7962.0	7772.4	7811.4	7557.5	7414.3	7254.8	6945.6	6387.3	5502.7	4563.6
22.5°	8114.9	8133.7	7922.9	7975.0	7697.5	7554.3	7441.1	7151.4	6600.5	5694.0	4639.3
25°	8274.4	8321.6	8080.8	8084.8	7809.0	7665.7	7540.4	7276.8	6691.7	5744.4	4581.5
27.5°	8503.9	8542.2	8188.2	8157.3	7890.3	7732.5	7596.6	7337.0	6687.6	5632.1	4363.5
30°	8822.1	8608.9	8246.8	8167.0	7866.7	7706.4	7560.8	7223.9	6537.9	5329.4	3967.1
32.5°	8731.0	8558.5	8201.2	8074.3	7776.4	7604.7	7437.9	7027.7	6190.4	4860.7	3426.8
35°	8469.8	8414.4	8039.3	7999.4	7638.9	7459.0	7291.4	6730.7	5657.4	4247.9	2827.9
37.5°	8249.2	8154.8	7913.1	7850.5	7472.1	7273.5	7006.6	6287.2	4952.6	3466.7	2258.2
40°	7979.0	7915.6	7682.0	7615.3	7177.5	6874.8	6548.4	5483.2	4101.4	2698.5	1743.9
42.5°	7691.8	7634.8	7414.3	7274.3	6690.8	6290.5	5783.5	4509.9	3157.4	2033.6	1306.9
45°	7319.1	7238.5	6962.6	6702.2	5865.7	5292.8	4722.3	3441.4	2311.1	1447.7	799.9
47.5°	6678.6	6550.9	6216.4	5693.2	4665.4	4115.3	3521.2	2333.9	1427.4	745.4	402.8
50°	5327.0	5104.0	4658.9	4036.3	2988.2	2460.9	1995.4	1186.5	612.8	384.1	236.8
52.5°	3282.8	3078.5	2699.3	2098.7	1377.7	1061.2	835.7	552.6	337.7	217.3	87.9
55°	1417.6	1289.8	1108.4	845.5	600.6	494.0	397.1	275.9	174.1	66.7	30.1
57.5°	535.5	497.2	450.8	370.3	276.7	231.1	194.5	122.1	42.3	25.2	17.1
60°	252.3	228.7	201.8	160.3	105.8	76.5	48.0	30.9	20.3	13.8	9.8
62.5°	69.2	52.1	43.1	35.0	26.9	23.6	20.3	15.5	11.4	7.3	5.7
65°	20.3	17.9	17.1	14.6	12.2	10.6	9.0	7.3	5.7	4.1	4.1
67.5°	7.3	7.3	6.5	5.7	4.9	4.1	4.1	3.3	3.3	3.3	3.3
70°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4	2.4	3.3	3.3
72.5°	0.0	0.0	0.8	0.8	1.6	1.6	1.6	2.4	2.4	3.3	3.3
75°	0.0	0.0	0.8	0.8	1.6	1.6	1.6	2.4	2.4	3.3	3.3
77.5°	0.0	0.0	0.8	0.8	1.6	1.6	1.6	2.4	3.3	3.3	4.1
80°	0.0	0.0	0.8	0.8	1.6	1.6	1.6	2.4	3.3	3.3	4.1
82.5°	0.0	0.0	0.8	0.8	1.6	1.6	1.6	2.4	3.3	3.3	4.1
85°	0.0	0.0	0.8	0.8	1.6	1.6	1.6	2.4	3.3	3.3	4.1
87.5°	0.0	0.0	0.8	0.8	1.6	1.6	1.6	2.4	3.3	3.3	4.1
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°	927.7	927.7	927.7	927.7	927.7	927.7	927.7	927.7	927.7	927.7	927.7
2.5°	1285.8	1238.6	1171.8	1137.7	1107.5	1099.4	1037.6	997.7	950.5	901.7	850.4
5°	1684.5	1564.1	1436.3	1328.9	1274.4	1242.6	1122.2	1031.9	944.8	852.0	773.1
7.5°	2080.0	1864.4	1678.0	1504.7	1409.5	1337.8	1165.3	1029.4	897.6	777.2	670.5
10°	2462.5	2151.6	1854.6	1620.2	1489.2	1382.6	1159.6	983.0	817.8	679.5	568.0
12.5°	2849.8	2396.6	2001.9	1682.1	1525.8	1389.1	1120.6	905.7	730.8	584.3	468.7
15°	3195.7	2587.0	2093.8	1696.7	1507.9	1346.8	1044.1	807.3	633.1	487.5	386.5
17.5°	3435.8	2689.5	2099.5	1643.0	1433.1	1259.7	937.5	703.9	534.6	406.1	317.4
20°	3544.8	2686.3	2022.2	1531.5	1311.8	1131.1	811.3	598.1	445.9	341.0	265.3
22.5°	3512.2	2583.7	1885.5	1373.6	1163.7	983.0	694.1	504.5	383.3	293.0	232.7
25°	3349.5	2404.7	1725.2	1215.8	1004.2	835.7	588.4	431.3	332.8	264.5	211.6
27.5°	3083.4	2160.6	1509.5	1031.1	837.4	706.4	495.6	372.7	293.0	233.6	220.5
30°	2694.4	1864.4	1256.5	831.7	676.2	559.1	402.0	300.3	234.4	207.5	208.3
32.5°	2265.5	1538.0	987.9	635.6	509.4	431.3	297.0	210.0	171.7	170.1	170.9
35°	1838.3	1197.9	734.8	464.7	373.5	310.9	191.2	131.8	127.8	126.9	128.6
37.5°	1459.1	891.1	529.8	324.7	247.4	189.6	103.3	89.5	86.3	87.9	88.7
40°	1089.6	625.0	358.1	192.1	120.4	87.1	62.7	57.8	56.2	57.0	57.0
42.5°	749.5	390.6	213.2	79.7	57.8	48.0	39.9	37.4	35.8	35.0	35.8
45°	403.6	243.3	83.0	40.7	34.2	30.9	25.2	23.6	22.8	22.0	22.0
47.5°	258.0	90.3	37.4	25.2	22.0	20.3	17.1	15.5	14.6	13.8	13.8
50°	96.8	35.0	22.8	16.3	13.8	13.0	10.6	9.8	9.0	9.0	9.0
52.5°	33.4	21.2	14.6	10.6	9.0	8.1	7.3	6.5	6.5	6.5	6.5
55°	18.7	13.0	9.0	6.5	6.5	5.7	5.7	5.7	5.7	5.7	5.7
57.5°	11.4	7.3	5.7	4.9	4.9	4.9	4.9	5.7	5.7	5.7	5.7
60°	6.5	4.9	4.9	4.9	4.9	4.9	4.9	4.9	5.7	5.7	5.7
62.5°	4.1	4.1	4.1	4.1	4.1	4.9	4.9	5.7	5.7	5.7	5.7
65°	4.1	4.1	4.1	4.1	4.1	4.9	4.9	5.7	5.7	5.7	5.7
67.5°	3.3	4.1	4.1	4.9	4.9	4.9	4.9	5.7	5.7	6.5	5.7
70°	4.1	4.1	4.1	4.9	4.9	4.9	5.7	5.7	6.5	6.5	6.5
72.5°	4.1	4.1	4.1	4.9	4.9	4.9	5.7	5.7	6.5	6.5	6.5
75°	4.1	4.1	4.9	4.9	4.9	5.7	5.7	6.5	6.5	6.5	6.5
77.5°	4.1	4.1	4.9	4.9	4.9	5.7	5.7	6.5	6.5	7.3	6.5
80°	4.1	4.1	4.9	5.7	5.7	5.7	5.7	6.5	6.5	7.3	7.3
82.5°	4.1	4.9	4.9	5.7	5.7	5.7	6.5	6.5	7.3	7.3	7.3
85°	4.1	4.9	4.9	5.7	5.7	5.7	6.5	6.5	7.3	7.3	7.3
87.5°	4.1	4.9	4.9	5.7	5.7	5.7	6.5	6.5	7.3	7.3	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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	927.7	927.7	927.7	927.7	927.7	927.7	927.7	927.7	927.7	927.7	927.7
2.5°	822.7	775.5	737.3	738.1	706.4	681.9	651.0	633.9	620.1	597.3	576.2
5°	715.3	642.9	588.4	577.8	541.2	503.7	465.5	437.0	416.7	394.7	374.3
7.5°	598.9	515.9	453.3	438.6	407.7	372.7	337.7	309.2	284.8	261.2	236.8
10°	485.8	410.1	353.2	338.5	307.6	271.0	237.6	212.4	193.7	175.0	156.2
12.5°	393.1	326.3	272.6	253.9	228.7	200.2	173.3	148.9	128.6	120.4	118.0
15°	318.2	254.7	212.4	196.9	175.8	146.5	131.0	126.9	126.1	126.1	126.1
17.5°	257.2	207.5	169.3	153.0	142.4	140.8	140.8	140.8	141.6	143.2	146.5
20°	215.6	171.7	157.1	158.7	158.7	160.3	163.6	166.0	169.3	173.3	178.2
22.5°	191.2	182.3	180.7	185.5	186.4	191.2	197.7	202.6	208.3	214.8	218.9
25°	209.1	212.4	214.8	222.2	224.6	232.7	242.5	249.8	256.3	263.7	268.5
27.5°	227.9	233.6	238.4	245.8	247.4	258.0	266.1	271.0	275.9	279.1	282.4
30°	214.8	220.5	225.4	231.9	231.9	243.3	247.4	251.5	255.5	257.2	260.4
32.5°	176.6	182.3	187.2	192.1	192.9	201.0	205.9	207.5	210.8	211.6	214.0
35°	132.6	135.1	140.0	144.0	144.9	150.5	154.6	156.2	158.7	158.7	160.3
37.5°	91.1	92.8	96.8	99.3	100.9	105.0	107.4	109.0	110.7	111.5	112.3
40°	59.4	60.2	62.7	65.1	66.7	69.2	70.8	72.4	73.2	74.9	74.9
42.5°	36.6	37.4	39.1	40.7	40.7	43.1	43.9	45.6	46.4	47.2	47.2
45°	22.8	23.6	23.6	24.4	25.2	26.0	27.7	27.7	28.5	28.5	28.5
47.5°	13.8	14.6	13.8	14.6	14.6	15.5	16.3	16.3	16.3	16.3	16.3
50°	9.0	9.0	9.0	9.0	9.0	9.0	9.8	9.8	9.8	9.8	9.0
52.5°	6.5	6.5	5.7	6.5	5.7	5.7	5.7	5.7	5.7	5.7	4.9
55°	5.7	5.7	5.7	5.7	4.9	4.9	4.9	4.1	4.1	3.3	3.3
57.5°	5.7	5.7	4.9	4.9	4.9	4.1	4.1	4.1	3.3	3.3	2.4
60°	5.7	5.7	4.9	4.9	4.9	4.1	4.1	3.3	3.3	2.4	2.4
62.5°	5.7	5.7	4.9	4.9	4.9	4.9	4.1	4.1	3.3	3.3	2.4
65°	5.7	5.7	5.7	4.9	4.9	4.9	4.1	4.1	3.3	3.3	2.4
67.5°	5.7	5.7	5.7	5.7	4.9	4.9	4.9	4.1	3.3	3.3	2.4
70°	5.7	5.7	5.7	5.7	5.7	4.9	4.9	4.1	4.1	3.3	2.4
72.5°	6.5	6.5	5.7	5.7	5.7	4.9	4.9	4.1	4.1	3.3	3.3
75°	6.5	6.5	5.7	5.7	5.7	4.9	4.9	4.1	4.1	3.3	3.3
77.5°	6.5	6.5	6.5	6.5	5.7	5.7	4.9	4.9	4.1	4.1	3.3
80°	6.5	6.5	6.5	6.5	5.7	5.7	5.7	4.9	4.1	4.1	3.3
82.5°	6.5	6.5	6.5	6.5	6.5	5.7	5.7	4.9	4.1	4.1	3.3
85°	6.5	6.5	6.5	6.5	6.5	5.7	5.7	4.9	4.1	4.1	3.3
87.5°	6.5	6.5	6.5	6.5	6.5	5.7	5.7	4.9	4.1	4.1	3.3
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: P179657

CATALOG NUMBER: LDA6A45930D010TE LARH40FL 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	927.7	927.7	927.7	927.7	927.7	927.7	927.7	927.7
2.5°	556.6	546.0	545.2	536.3	518.4	527.3	515.9	507.8
5°	356.4	345.0	333.6	335.3	322.3	324.7	315.7	310.9
7.5°	226.2	214.0	210.8	210.8	196.1	196.1	190.4	187.2
10°	142.4	132.6	129.4	123.7	117.2	116.4	113.9	113.1
12.5°	115.6	115.6	113.1	113.9	113.9	113.9	113.1	113.1
15°	126.1	126.9	124.5	125.3	126.9	126.1	126.9	126.9
17.5°	145.7	149.7	146.5	148.1	151.4	150.5	151.4	152.2
20°	178.2	184.7	180.7	183.9	188.0	187.2	189.6	190.4
22.5°	222.2	230.3	226.2	229.5	236.0	234.4	237.6	239.2
25°	271.0	279.1	274.2	278.3	282.4	284.0	284.0	284.8
27.5°	282.4	287.3	284.0	288.1	289.7	291.3	289.7	290.5
30°	258.8	262.8	259.6	263.7	263.7	265.3	263.7	262.0
32.5°	213.2	216.5	212.4	217.3	216.5	217.3	218.1	218.9
35°	161.1	162.8	160.3	161.1	161.9	162.8	165.2	165.2
37.5°	112.3	114.7	112.3	113.1	113.1	114.7	116.4	116.4
40°	74.9	77.3	74.9	76.5	75.7	76.5	78.1	78.1
42.5°	47.2	48.8	47.2	48.0	48.0	48.0	48.8	49.6
45°	28.5	29.3	28.5	29.3	29.3	29.3	30.1	30.1
47.5°	16.3	17.1	16.3	16.3	17.1	16.3	17.1	17.1
50°	9.0	9.0	9.0	9.0	9.0	8.1	8.1	9.0
52.5°	4.9	4.9	4.1	4.1	4.1	4.1	4.1	4.1
55°	2.4	2.4	1.6	1.6	1.6	0.8	1.6	0.8
57.5°	1.6	1.6	0.8	0.8	0.8	0.8	0.0	0.0
60°	1.6	1.6	0.8	0.8	0.8	0.0	0.0	0.0
62.5°	1.6	1.6	0.8	0.8	0.8	0.0	0.0	0.0
65°	1.6	1.6	0.8	0.8	0.8	0.0	0.0	0.0
67.5°	2.4	1.6	0.8	0.8	0.8	0.0	0.0	0.0
70°	2.4	1.6	1.6	0.8	0.8	0.0	0.0	0.0
72.5°	2.4	1.6	1.6	1.6	0.8	0.8	0.0	0.0
75°	2.4	1.6	1.6	1.6	0.8	0.8	0.0	0.0
77.5°	2.4	2.4	1.6	1.6	0.8	0.8	0.8	0.0
80°	2.4	2.4	1.6	1.6	1.6	0.8	0.8	0.8
82.5°	2.4	2.4	1.6	1.6	1.6	0.8	0.8	0.8
85°	2.4	2.4	1.6	1.6	1.6	0.8	0.8	0.8
87.5°	2.4	2.4	1.6	1.6	1.6	0.8	0.8	0.8
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)