

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: P179885

Luminaire Tested: **LDA6A65830D010TE LARH30NF 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179885
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26687)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A65830D010TE LARH30NF 6LA1LI 30°
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, Self-flanged, 30°
Narrow Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6324.0 lumens
Efficiency: N/A
Efficacy: 81.1 lumens/watt
Spacing Criteria (0/90/45): 2.58 / 0.47 / 1.37
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

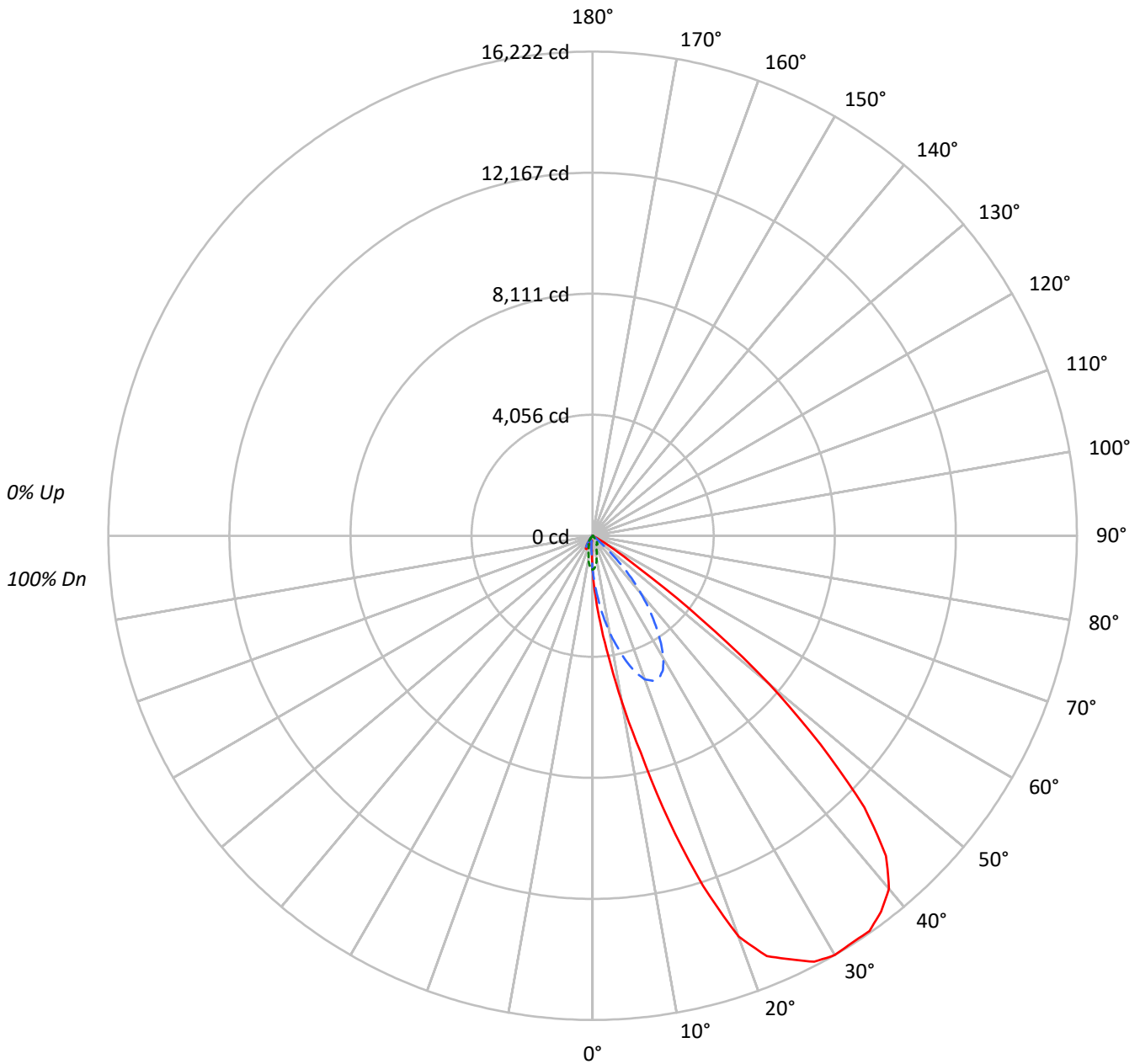
Input Watts (W): 78
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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	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	89	83	78	86	81	77	83	79	76	81	77	74	73								
4	91	82	75	70	89	81	74	69	78	73	68	76	71	67	74	70	67	65								
5	85	74	67	62	83	73	67	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	43	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	40	36	46	40	36	45	40	36	34								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	62533	62533	62533
5°	160417	56890	17720
10°	312697	43720	8511
15°	561331	29694	11419
20°	833399	22542	18849
25°	947293	18570	29560
30°	1026873	20307	27808
35°	1081631	13157	17239
40°	1105020	5840	8394
45°	998049	2225	3117
50°	656985	878	878
55°	179912	765	0
60°	35929	877	0
65°	2529	1193	0
70°	369	1475	0
75°	0	2182	0
80°	0	3252	347
85°	0	6479	692



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.7	2.2
10°-20°	742.4	11.7
20°-30°	1682.6	26.6
30°-40°	2019.7	31.9
40°-50°	1423.4	22.5
50°-60°	293.7	4.6
60°-70°	10.4	0.2
70°-80°	6.2	0.1
80°-90°	6.0	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°	2564.7	40.6
0°-40°	4584.4	72.5
0°-60°	6301.4	99.6
0°-90°	6324.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6324.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1141	1141	1141	1141	1141	
5°	2915	2124	1034	430	322	359
15°	9891	4351	523	186	201	2935
25°	15661	5263	307	430	489	7227
35°	16162	3686	197	258	258	10047
45°	12874	1264	29	39	40	9468
55°	1882	25	8	6	0	2481
65°	20	6	9	6	0	58
75°	0	6	10	7	0	0
85°	0	7	10	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°	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7
2.5°	1944.5	1885.9	1908.9	1841.0	1826.1	1813.4	1826.1	1752.5	1711.1	1658.2	1615.7
5°	2915.1	2844.9	2861.0	2742.6	2688.5	2651.7	2644.8	2493.1	2379.2	2253.9	2123.9
7.5°	4058.1	3991.4	3982.2	3798.2	3686.7	3623.4	3597.0	3379.7	3183.0	2959.9	2716.1
10°	5617.4	5465.6	5418.5	5151.7	4939.0	4804.4	4638.8	4291.6	3946.6	3609.6	3299.2
12.5°	7432.0	7349.2	7231.9	6761.6	6389.0	6198.1	5950.9	5408.1	4886.1	4329.5	3809.7
15°	9890.6	9596.2	9396.1	8716.5	8116.2	7821.9	7460.8	6630.5	5841.7	5136.8	4351.4
17.5°	12292.8	12138.7	11825.9	10943.9	10019.4	9554.8	9016.6	7888.5	6774.3	5771.5	4812.5
20°	14285.6	14140.7	13784.3	12952.9	11927.1	11241.8	10564.4	9016.6	7560.8	6277.5	5120.7
22.5°	15240.1	15148.1	14857.1	14145.3	13271.4	12619.4	11891.5	9976.8	8142.7	6608.7	5260.9
25°	15661.0	15618.4	15431.0	14869.8	14046.4	13493.3	12805.7	10656.4	8504.9	6762.8	5263.2
27.5°	16087.6	16095.6	15681.7	15237.8	14457.0	13925.7	13263.3	10957.7	8570.5	6676.5	5090.8
30°	16222.1	16137.0	15954.2	15317.1	14575.4	14010.8	13300.1	10818.6	8301.4	6322.3	4746.9
32.5°	16166.9	16133.6	15932.3	15258.5	14374.2	13752.1	12944.8	10266.6	7770.1	5816.4	4259.4
35°	16162.3	16100.2	15639.1	15060.7	13971.7	13203.5	12139.9	9374.3	7018.0	5149.4	3685.5
37.5°	15870.2	15716.1	15370.0	14590.4	13155.2	12181.3	10988.8	8284.1	6098.1	4400.8	3116.3
40°	15441.3	15234.3	14779.0	13599.1	11740.8	10618.5	9454.8	7045.6	5124.1	3662.5	2511.5
42.5°	14545.5	14232.7	13588.8	11966.2	9856.1	8844.1	7875.9	5791.1	4178.9	2984.1	1916.9
45°	12873.5	12445.7	11575.2	9794.0	7962.1	7136.5	6358.0	4659.5	3345.2	2213.6	1263.8
47.5°	10347.1	9950.4	9158.1	7796.6	6244.1	5546.1	4925.2	3465.9	2267.7	1282.2	603.7
50°	7703.4	7363.0	6744.4	5418.5	4191.5	3643.0	3111.7	1968.7	1062.5	609.5	250.7
52.5°	4596.3	4427.2	3878.7	3004.8	2069.9	1783.5	1431.7	833.7	535.9	220.8	67.8
55°	1882.4	1737.6	1531.7	1229.3	900.4	763.6	653.2	411.7	166.7	46.0	25.3
57.5°	851.0	818.8	725.6	570.4	414.0	347.3	234.6	78.2	36.8	23.0	14.9
60°	327.7	295.5	253.0	136.8	58.6	49.4	40.2	26.4	18.4	12.6	9.2
62.5°	47.1	44.8	40.2	32.2	25.3	23.0	19.5	13.8	10.3	8.0	6.9
65°	19.5	19.5	17.2	13.8	11.5	10.3	9.2	6.9	5.7	5.7	5.7
67.5°	8.0	8.0	6.9	5.7	4.6	4.6	4.6	3.4	4.6	4.6	5.7
70°	2.3	2.3	2.3	2.3	2.3	2.3	3.4	3.4	4.6	4.6	5.7
72.5°	0.0	0.0	1.1	1.1	2.3	2.3	2.3	3.4	4.6	5.7	5.7
75°	0.0	0.0	1.1	1.1	2.3	2.3	2.3	3.4	4.6	5.7	5.7
77.5°	0.0	0.0	1.1	1.1	2.3	2.3	3.4	3.4	4.6	5.7	5.7
80°	0.0	0.0	1.1	1.1	2.3	2.3	3.4	3.4	4.6	5.7	6.9
82.5°	0.0	0.0	1.1	1.1	2.3	2.3	3.4	3.4	4.6	5.7	6.9
85°	0.0	0.0	1.1	1.1	2.3	2.3	3.4	3.4	4.6	5.7	6.9
87.5°	0.0	0.0	1.1	1.1	2.3	2.3	3.4	3.4	4.6	5.7	6.9
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7
2.5°	1578.9	1505.3	1484.6	1420.2	1366.1	1339.7	1306.3	1231.6	1175.2	1100.5	1055.6
5°	2033.1	1893.9	1783.5	1649.0	1560.5	1503.0	1413.3	1276.4	1166.0	1033.8	939.5
7.5°	2524.1	2270.0	2071.0	1849.1	1721.5	1621.4	1468.5	1271.8	1109.7	933.7	787.7
10°	2997.9	2618.4	2305.6	1987.1	1819.2	1680.1	1469.6	1222.4	1007.3	785.4	631.3
12.5°	3415.3	2925.4	2485.0	2075.6	1867.5	1693.9	1430.5	1133.8	873.9	646.3	510.6
15°	3763.7	3163.5	2611.5	2109.0	1870.9	1664.0	1348.9	1007.3	725.6	523.2	427.8
17.5°	4028.2	3288.8	2650.6	2068.7	1804.2	1578.9	1223.5	847.5	588.8	443.9	359.9
20°	4165.1	3313.0	2594.3	1959.5	1681.2	1450.1	1059.1	687.7	499.1	386.4	301.3
22.5°	4182.3	3245.1	2459.7	1803.1	1526.0	1293.7	877.4	573.8	445.0	341.5	265.6
25°	4080.0	3097.9	2267.7	1626.0	1355.8	1114.3	714.1	514.0	404.8	307.0	305.9
27.5°	3861.5	2844.9	2037.7	1420.2	1149.9	906.1	606.0	464.6	361.1	325.4	346.1
30°	3553.3	2520.7	1754.8	1160.3	898.1	696.9	510.6	382.9	317.4	320.8	338.1
32.5°	3135.9	2118.2	1422.5	849.8	642.8	524.4	382.9	261.0	263.3	264.5	279.4
35°	2611.5	1698.5	1062.5	571.5	451.9	369.1	216.2	192.0	195.5	196.6	207.0
37.5°	2092.9	1305.2	706.1	380.6	284.0	194.3	134.5	128.8	131.1	129.9	141.4
40°	1603.0	909.6	423.2	188.6	109.2	90.8	82.8	79.3	80.5	81.6	88.5
42.5°	1135.0	493.3	209.3	71.3	57.5	52.9	49.4	47.1	48.3	48.3	52.9
45°	576.1	233.4	71.3	39.1	35.6	32.2	29.9	28.7	28.7	28.7	31.0
47.5°	249.5	77.0	33.3	24.1	21.8	20.7	18.4	17.2	17.2	17.2	18.4
50°	78.2	31.0	20.7	16.1	13.8	12.6	11.5	11.5	11.5	10.3	11.5
52.5°	28.7	19.5	13.8	10.3	9.2	9.2	9.2	8.0	9.2	8.0	9.2
55°	17.2	12.6	9.2	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
57.5°	11.5	9.2	8.0	8.0	6.9	6.9	8.0	8.0	8.0	8.0	8.0
60°	8.0	8.0	6.9	6.9	6.9	6.9	8.0	8.0	8.0	8.0	8.0
62.5°	6.9	6.9	6.9	6.9	6.9	6.9	8.0	8.0	8.0	8.0	9.2
65°	5.7	6.9	6.9	6.9	6.9	6.9	8.0	8.0	9.2	9.2	9.2
67.5°	5.7	6.9	6.9	8.0	8.0	8.0	8.0	9.2	9.2	9.2	9.2
70°	6.9	6.9	8.0	8.0	8.0	8.0	9.2	9.2	9.2	9.2	10.3
72.5°	6.9	6.9	8.0	8.0	8.0	8.0	9.2	9.2	10.3	10.3	10.3
75°	6.9	8.0	8.0	8.0	8.0	9.2	9.2	9.2	10.3	10.3	10.3
77.5°	6.9	8.0	8.0	9.2	9.2	9.2	9.2	10.3	10.3	10.3	10.3
80°	6.9	8.0	8.0	9.2	9.2	9.2	10.3	10.3	10.3	10.3	11.5
82.5°	6.9	8.0	8.0	9.2	9.2	9.2	10.3	10.3	10.3	10.3	11.5
85°	8.0	8.0	9.2	9.2	9.2	9.2	10.3	10.3	10.3	10.3	11.5
87.5°	8.0	8.0	9.2	9.2	9.2	9.2	10.3	10.3	11.5	10.3	11.5
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°	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7
2.5°	995.8	929.1	883.1	865.9	832.6	779.7	748.6	719.9	665.8	654.3	624.4
5°	831.4	724.5	648.6	619.8	581.9	537.0	493.3	464.6	430.1	416.3	395.6
7.5°	655.5	548.5	483.0	460.0	433.5	396.7	357.6	328.9	293.2	274.8	257.6
10°	515.2	435.8	380.6	357.6	330.0	290.9	250.7	212.7	181.7	162.1	158.7
12.5°	418.6	353.0	294.4	270.2	238.0	198.9	170.2	169.0	166.7	165.6	167.9
15°	342.7	279.4	217.3	190.9	181.7	180.5	184.0	187.4	186.3	189.7	192.0
17.5°	281.7	213.9	200.1	201.2	202.4	205.8	211.6	220.8	221.9	227.7	232.3
20°	230.0	226.5	232.3	236.9	240.3	247.2	259.9	271.4	274.8	282.9	292.1
22.5°	261.0	271.4	284.0	289.8	294.4	307.0	320.8	339.2	346.1	356.5	369.1
25°	315.1	332.3	351.9	358.8	365.7	386.4	402.5	424.3	430.1	442.7	455.4
27.5°	359.9	378.3	399.0	408.2	414.0	434.7	448.5	462.3	462.3	469.2	478.4
30°	353.0	368.0	385.2	392.1	394.4	409.4	423.2	427.8	425.5	428.9	435.8
32.5°	293.2	304.7	318.5	324.3	326.6	336.9	348.4	348.4	347.3	347.3	351.9
35°	217.3	225.4	232.3	238.0	241.5	248.4	258.7	257.6	257.6	255.3	258.7
37.5°	146.0	150.6	158.7	161.0	162.1	166.7	174.8	174.8	172.5	173.6	175.9
40°	88.5	94.3	98.9	100.0	102.3	105.8	111.5	111.5	111.5	111.5	112.7
42.5°	52.9	56.3	59.8	59.8	60.9	65.5	67.8	67.8	67.8	67.8	69.0
45°	31.0	32.2	34.5	35.6	35.6	37.9	39.1	39.1	39.1	39.1	40.2
47.5°	18.4	19.5	19.5	20.7	20.7	21.8	23.0	23.0	21.8	21.8	21.8
50°	11.5	11.5	11.5	11.5	12.6	12.6	12.6	12.6	12.6	12.6	11.5
52.5°	9.2	9.2	9.2	9.2	8.0	8.0	8.0	8.0	6.9	6.9	5.7
55°	8.0	8.0	8.0	8.0	8.0	6.9	6.9	6.9	5.7	4.6	3.4
57.5°	8.0	8.0	8.0	8.0	8.0	6.9	6.9	5.7	4.6	4.6	3.4
60°	8.0	8.0	8.0	8.0	8.0	6.9	6.9	5.7	4.6	4.6	3.4
62.5°	9.2	9.2	8.0	8.0	8.0	6.9	6.9	5.7	5.7	4.6	3.4
65°	9.2	9.2	8.0	8.0	8.0	8.0	6.9	6.9	5.7	4.6	3.4
67.5°	9.2	9.2	9.2	9.2	8.0	8.0	8.0	6.9	5.7	4.6	3.4
70°	10.3	10.3	9.2	9.2	9.2	8.0	8.0	6.9	5.7	5.7	4.6
72.5°	10.3	10.3	9.2	9.2	9.2	9.2	8.0	6.9	6.9	5.7	4.6
75°	10.3	10.3	10.3	10.3	9.2	9.2	8.0	8.0	6.9	5.7	4.6
77.5°	10.3	10.3	10.3	10.3	9.2	9.2	9.2	8.0	6.9	5.7	4.6
80°	10.3	10.3	10.3	10.3	10.3	9.2	9.2	8.0	6.9	5.7	4.6
82.5°	11.5	11.5	10.3	10.3	10.3	9.2	9.2	8.0	6.9	5.7	5.7
85°	11.5	11.5	10.3	10.3	10.3	9.2	9.2	8.0	6.9	6.9	5.7
87.5°	11.5	11.5	10.3	10.3	10.3	9.2	9.2	8.0	6.9	6.9	5.7
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: P179885

CATALOG NUMBER: LDA6A65830D010TE LARH30NF 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7	1140.7
2.5°	606.0	571.5	560.0	568.1	558.9	552.0	542.8	538.2
5°	379.5	354.2	346.1	348.4	340.4	333.5	324.3	322.0
7.5°	233.4	209.3	200.1	200.1	190.9	182.8	177.1	173.6
10°	156.4	151.8	152.9	154.1	152.9	154.1	150.6	152.9
12.5°	167.9	165.6	167.9	169.0	169.0	171.3	166.7	170.2
15°	195.5	193.2	196.6	198.9	198.9	202.4	197.8	201.2
17.5°	239.2	238.0	243.8	246.1	247.2	253.0	247.2	251.8
20°	302.4	301.3	309.3	312.8	311.6	323.1	315.1	323.1
22.5°	384.1	381.8	393.3	396.7	397.9	412.8	405.9	411.7
25°	465.7	468.0	473.8	479.5	480.7	493.3	483.0	488.7
27.5°	483.0	479.5	483.0	489.9	491.0	496.8	487.6	492.2
30°	437.0	431.2	432.4	440.4	442.7	445.0	437.0	439.3
32.5°	355.3	346.1	346.1	354.2	356.5	359.9	346.1	351.9
35°	262.2	254.1	254.1	259.9	261.0	263.3	253.0	257.6
37.5°	179.4	172.5	174.8	177.1	178.2	180.5	179.4	178.2
40°	115.0	110.4	113.8	113.8	115.0	116.1	116.1	117.3
42.5°	70.1	66.7	69.0	69.0	70.1	70.1	70.1	71.3
45°	40.2	39.1	39.1	40.2	40.2	40.2	39.1	40.2
47.5°	21.8	20.7	21.8	21.8	21.8	21.8	21.8	21.8
50°	11.5	10.3	10.3	10.3	10.3	10.3	10.3	10.3
52.5°	5.7	4.6	4.6	4.6	3.4	4.6	3.4	3.4
55°	3.4	2.3	2.3	2.3	1.1	1.1	0.0	0.0
57.5°	2.3	1.1	1.1	1.1	0.0	0.0	0.0	0.0
60°	2.3	1.1	1.1	1.1	0.0	0.0	0.0	0.0
62.5°	2.3	1.1	1.1	1.1	0.0	0.0	0.0	0.0
65°	2.3	1.1	1.1	1.1	0.0	0.0	0.0	0.0
67.5°	3.4	2.3	1.1	1.1	1.1	0.0	0.0	0.0
70°	3.4	2.3	2.3	1.1	1.1	0.0	0.0	0.0
72.5°	3.4	2.3	2.3	2.3	1.1	1.1	0.0	0.0
75°	3.4	2.3	2.3	2.3	1.1	1.1	0.0	0.0
77.5°	3.4	3.4	2.3	2.3	1.1	1.1	1.1	0.0
80°	4.6	3.4	2.3	2.3	2.3	1.1	1.1	1.1
82.5°	4.6	3.4	2.3	2.3	2.3	1.1	1.1	1.1
85°	4.6	3.4	3.4	2.3	2.3	1.1	1.1	1.1
87.5°	4.6	3.4	3.4	2.3	2.3	1.1	1.1	1.1
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)