

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: P179861

Luminaire Tested: **LDA6A55830D010TE LARH20SP 6LA1LI 30°**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179861
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26686)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A55830D010TE LARH20SP 6LA1LI 30°
Description: PORTFOLIO 6" Adjustable Reflector, Angle-cut Trim, Self-flanged, 20° Spot, 30° Tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4851.4 lumens
Efficiency: N/A
Efficacy: 79.5 lumens/watt
Spacing Criteria (0/90/45): 2.35 / 0.6 / 1.31
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

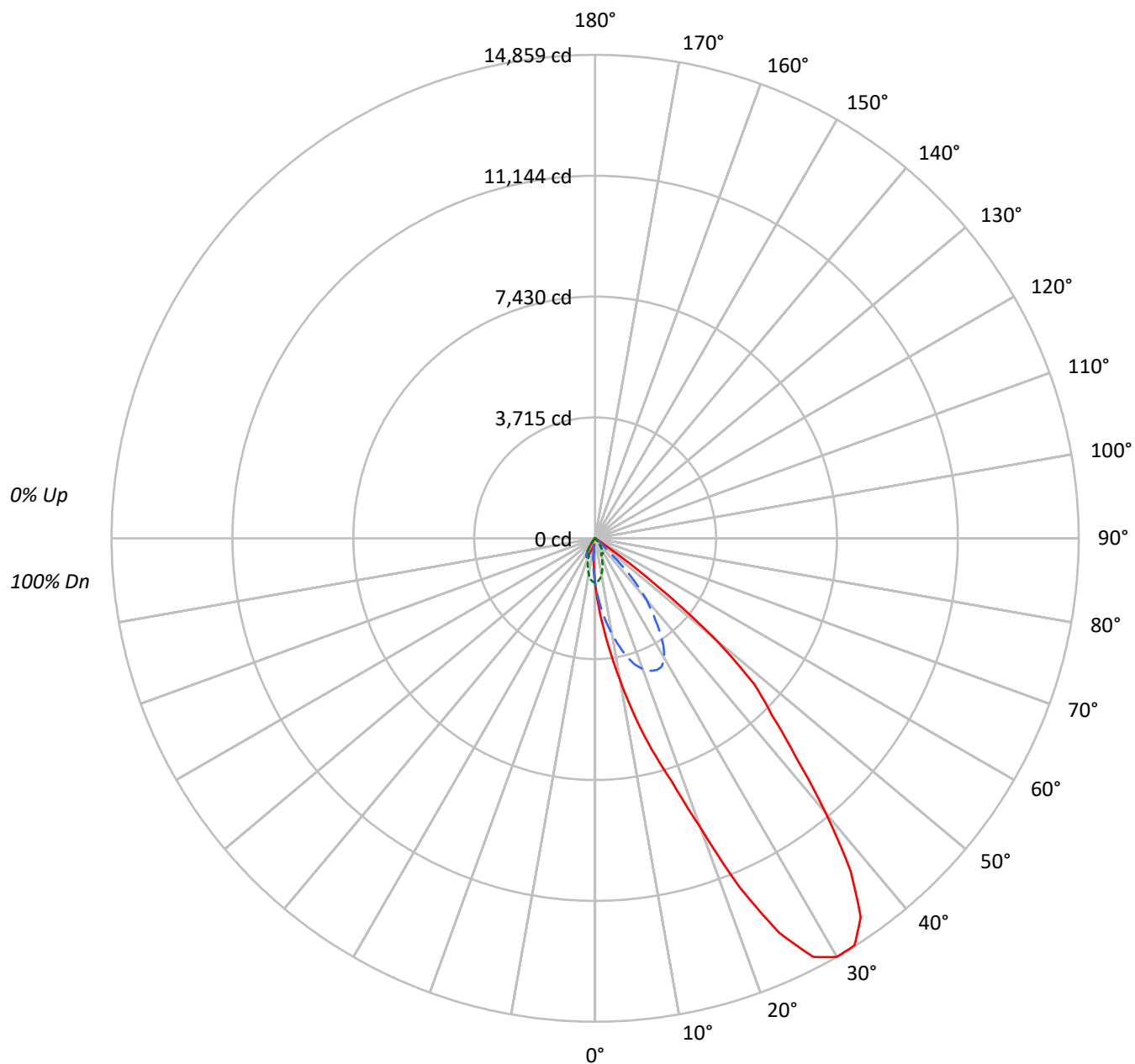
Input Watts (W): 61
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				10				0
RW	70	50	30	10	70	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	104	110	107	104	102	103	101	99	99	97	96	96	94	93	91			
2	105	100	95	91	103	98	94	90	95	91	88	92	89	86	89	86	84	82			
3	99	91	85	80	96	89	84	80	87	82	78	84	80	77	82	79	76	74			
4	92	83	76	71	90	82	76	71	79	74	70	77	73	69	75	71	68	66			
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	69	65	61	60			
6	80	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	55	54			
7	75	64	56	51	73	63	56	51	62	55	51	60	55	50	59	54	50	49			
8	70	59	51	46	69	58	51	46	57	50	46	56	50	46	54	49	46	44			
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40			
10	61	50	43	38	60	49	43	38	48	42	38	48	42	38	47	41	38	36			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	75082	75082	75082
5°	145487	71549	24130
10°	247173	62613	10838
15°	380882	49944	17231
20°	551374	32500	29968
25°	808958	31363	38536
30°	940607	29713	29530
35°	952054	15740	15606
40°	788234	5933	6555
45°	595318	2016	2388
50°	407304	742	742
55°	56657	640	96
60°	1480	636	0
65°	376	869	0
70°	160	1074	0
75°	0	1419	0
80°	0	2431	316
85°	0	4843	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.7	3.0
10°-20°	607.4	12.5
20°-30°	1385.5	28.6
30°-40°	1603.4	33.0
40°-50°	967.0	19.9
50°-60°	131.4	2.7
60°-70°	4.2	0.1
70°-80°	4.6	0.1
80°-90°	4.3	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°	2136.6	44.0
0°-40°	3740.0	77.1
0°-60°	4838.3	99.7
0°-90°	4851.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4851.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1370	1370	1370	1370	1370	
5°	2644	2165	1300	711	438	308
15°	6711	3772	880	271	304	1987
25°	13374	4470	518	624	637	6052
35°	14226	3408	235	240	233	8573
45°	7679	928	26	32	31	6004
55°	593	7	7	5	1	1162
65°	3	4	7	4	0	4
75°	0	5	7	5	0	0
85°	0	5	8	5	0	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°	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6
2.5°	1980.7	1962.3	1970.1	1949.8	1898.7	1888.1	1887.2	1873.7	1830.3	1796.6	1756.1
5°	2643.8	2642.8	2647.6	2604.3	2514.6	2486.7	2473.2	2440.4	2335.3	2254.4	2164.8
7.5°	3471.7	3465.9	3460.1	3381.1	3240.4	3186.4	3151.7	3033.2	2888.6	2745.0	2585.0
10°	4440.3	4437.5	4415.3	4276.5	4051.0	3951.7	3884.2	3696.3	3464.0	3259.7	2987.9
12.5°	5565.1	5539.1	5499.6	5296.2	4986.8	4878.9	4730.5	4432.6	4076.0	3762.8	3383.0
15°	6711.1	6673.5	6603.2	6342.0	5958.4	5774.3	5590.2	5197.9	4714.1	4259.1	3772.4
17.5°	7832.0	7790.6	7625.8	7182.4	6807.5	6582.9	6378.6	5839.8	5271.2	4686.1	4069.3
20°	9451.3	9300.9	9013.7	8314.9	7618.1	7213.3	6974.2	6404.6	5701.0	5019.6	4280.3
22.5°	11614.1	11280.6	10668.6	9533.2	8537.6	7953.5	7562.2	6804.6	6010.4	5237.4	4410.5
25°	13374.0	13222.7	12526.8	10911.5	9357.8	8669.6	8125.1	7122.7	6236.0	5383.0	4470.2
27.5°	14508.5	14470.9	13675.7	12052.6	10027.6	9124.5	8516.4	7332.8	6344.9	5413.8	4441.3
30°	14859.3	14918.1	14154.7	12440.1	10221.4	9216.1	8551.1	7335.7	6261.0	5274.1	4256.3
32.5°	14833.3	14836.2	13900.3	12105.6	9906.2	8950.1	8261.9	7091.8	5951.6	4924.2	3904.5
35°	14226.1	14076.7	13018.4	11078.2	9172.7	8329.4	7689.4	6619.6	5441.8	4397.9	3408.1
37.5°	12893.1	12697.4	11463.7	9762.6	8304.3	7524.6	7008.0	5999.8	4834.5	3836.0	2895.3
40°	11014.6	10737.0	9719.2	8539.5	7354.0	6768.0	6334.3	5306.8	4184.9	3284.7	2414.4
42.5°	9134.2	8998.3	8325.5	7366.5	6555.0	6003.7	5550.7	4581.1	3560.4	2741.1	1806.2
45°	7678.8	7562.2	7110.1	6477.9	5681.8	5178.6	4742.0	3824.5	2766.2	1839.0	928.2
47.5°	6618.6	6524.1	6091.4	5427.3	4554.1	4003.7	3553.6	2507.9	1567.2	794.2	232.3
50°	4775.8	4679.4	4255.3	3486.2	2697.7	2237.0	1913.2	1120.0	444.3	161.0	24.1
52.5°	2341.1	2262.1	1973.9	1477.5	991.8	713.2	521.4	210.1	51.1	17.3	11.6
55°	592.8	544.6	454.0	285.3	139.8	83.9	54.0	19.3	12.5	9.6	6.7
57.5°	33.7	32.8	29.9	22.2	16.4	14.5	12.5	9.6	6.7	5.8	4.8
60°	13.5	12.5	11.6	9.6	7.7	6.7	6.7	4.8	3.9	3.9	3.9
62.5°	5.8	5.8	5.8	4.8	3.9	3.9	3.9	2.9	3.9	3.9	3.9
65°	2.9	2.9	2.9	1.9	1.9	1.9	2.9	2.9	2.9	3.9	3.9
67.5°	1.9	1.0	1.0	1.0	1.9	1.9	1.9	2.9	2.9	3.9	3.9
70°	1.0	1.0	1.0	1.0	1.9	1.9	1.9	2.9	2.9	3.9	4.8
72.5°	0.0	1.0	1.0	1.0	1.9	1.9	1.9	2.9	2.9	3.9	4.8
75°	0.0	1.0	1.0	1.0	1.9	1.9	1.9	2.9	3.9	3.9	4.8
77.5°	0.0	1.0	1.0	1.0	1.9	1.9	1.9	2.9	3.9	3.9	4.8
80°	0.0	1.0	1.0	1.0	1.9	1.9	1.9	2.9	3.9	3.9	4.8
82.5°	0.0	0.0	1.0	1.0	1.9	1.9	1.9	2.9	3.9	3.9	4.8
85°	0.0	0.0	1.0	1.0	1.9	1.9	1.9	2.9	3.9	3.9	4.8
87.5°	0.0	0.0	1.0	1.0	1.9	1.9	1.9	2.9	2.9	3.9	4.8
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°	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6
2.5°	1704.0	1669.3	1618.3	1584.5	1551.8	1520.9	1469.8	1440.9	1388.9	1340.7	1299.2
5°	2056.8	1970.1	1865.0	1775.4	1717.5	1660.7	1557.5	1481.4	1386.0	1300.2	1221.2
7.5°	2413.4	2260.2	2087.6	1940.2	1850.5	1762.8	1608.6	1485.3	1350.3	1227.9	1111.3
10°	2737.3	2506.9	2263.1	2052.0	1930.5	1816.8	1613.4	1449.6	1276.1	1124.8	978.3
12.5°	3038.0	2722.8	2404.7	2129.1	1978.7	1841.9	1593.2	1392.7	1186.5	1007.2	836.6
15°	3305.9	2901.1	2507.9	2173.4	1997.0	1835.1	1546.0	1312.7	1080.4	880.0	664.1
17.5°	3509.3	3012.0	2553.2	2166.7	1964.3	1784.0	1465.0	1212.5	967.7	724.8	480.9
20°	3632.7	3059.2	2543.5	2114.6	1893.9	1703.1	1368.6	1103.6	831.8	557.1	424.1
22.5°	3684.7	3055.3	2498.2	2036.6	1807.2	1614.4	1276.1	997.6	689.1	504.1	442.4
25°	3693.4	3015.8	2434.6	1950.8	1721.4	1529.6	1182.6	877.1	598.5	518.5	495.4
27.5°	3626.9	2923.3	2315.1	1827.4	1600.9	1402.4	1042.9	696.8	561.9	516.6	532.0
30°	3430.3	2712.2	2104.0	1610.6	1391.8	1193.2	745.0	546.5	466.5	469.4	473.2
32.5°	3084.2	2361.4	1764.8	1293.5	1054.4	786.5	463.6	365.3	354.7	354.7	352.8
35°	2622.6	1932.5	1385.0	818.3	524.3	377.8	240.0	241.0	236.1	235.2	234.2
37.5°	2145.5	1524.8	877.1	338.3	227.5	158.1	141.7	143.6	141.7	144.6	142.6
40°	1691.5	941.7	320.0	107.9	80.0	77.1	79.0	81.0	81.0	82.9	82.9
42.5°	983.1	312.3	83.9	43.4	43.4	41.4	42.4	44.3	45.3	46.3	45.3
45°	292.0	64.6	27.0	24.1	24.1	23.1	23.1	24.1	25.1	26.0	26.0
47.5°	46.3	18.3	15.4	13.5	13.5	13.5	13.5	13.5	14.5	14.5	15.4
50°	14.5	11.6	9.6	8.7	8.7	7.7	7.7	8.7	8.7	8.7	9.6
52.5°	8.7	6.7	6.7	5.8	6.7	6.7	5.8	6.7	6.7	6.7	7.7
55°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	6.7	6.7	6.7
57.5°	4.8	4.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
60°	4.8	4.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	6.7
62.5°	4.8	4.8	5.8	5.8	5.8	5.8	5.8	5.8	6.7	6.7	6.7
65°	4.8	4.8	5.8	5.8	5.8	5.8	5.8	6.7	6.7	6.7	6.7
67.5°	4.8	5.8	5.8	5.8	5.8	6.7	6.7	6.7	6.7	6.7	6.7
70°	4.8	5.8	5.8	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
72.5°	4.8	5.8	5.8	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
75°	5.8	5.8	5.8	6.7	6.7	6.7	6.7	6.7	6.7	6.7	7.7
77.5°	5.8	5.8	6.7	6.7	6.7	6.7	6.7	6.7	7.7	7.7	7.7
80°	5.8	5.8	6.7	6.7	6.7	6.7	6.7	7.7	7.7	7.7	7.7
82.5°	5.8	5.8	6.7	6.7	6.7	6.7	6.7	7.7	7.7	7.7	7.7
85°	5.8	5.8	6.7	6.7	6.7	6.7	6.7	7.7	7.7	7.7	7.7
87.5°	5.8	5.8	6.7	6.7	6.7	6.7	6.7	7.7	7.7	7.7	7.7
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°	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6
2.5°	1263.6	1219.2	1198.0	1168.2	1147.0	1099.7	1080.4	1047.7	1020.7	976.4	979.2
5°	1153.7	1069.8	1013.0	968.6	937.8	862.6	812.5	759.5	711.3	651.5	629.4
7.5°	1001.4	898.3	811.5	758.5	719.0	618.8	507.9	421.2	355.7	308.4	290.1
10°	849.1	715.2	577.3	495.4	438.5	342.2	293.0	269.9	248.7	222.6	205.3
12.5°	671.8	480.9	355.7	322.9	299.7	267.9	236.1	211.1	215.9	216.9	223.6
15°	458.8	346.0	306.5	284.3	259.3	241.0	251.6	258.3	270.8	271.8	280.5
17.5°	373.0	324.8	293.0	292.0	294.0	304.6	321.0	329.6	346.0	349.9	362.4
20°	373.0	345.0	372.0	372.0	376.9	391.3	412.5	425.0	443.4	450.1	465.5
22.5°	425.0	444.3	478.1	481.9	483.8	499.3	526.2	538.8	560.0	563.8	580.2
25°	518.5	535.9	566.7	569.6	570.6	582.2	602.4	609.1	623.6	615.9	625.5
27.5°	548.4	556.1	575.4	577.3	572.5	577.3	585.0	585.0	589.9	574.4	577.3
30°	481.9	483.8	493.5	494.4	483.8	485.8	486.7	485.8	484.8	468.4	468.4
32.5°	357.6	357.6	370.1	367.2	355.7	358.5	358.5	358.5	357.6	344.1	342.2
35°	237.1	238.1	248.7	246.7	238.1	240.0	240.0	242.9	240.0	232.3	230.4
37.5°	144.6	145.5	150.4	151.3	148.4	149.4	150.4	149.4	151.3	147.5	145.5
40°	83.9	85.8	89.6	90.6	89.6	89.6	90.6	91.6	95.4	90.6	88.7
42.5°	49.2	50.1	52.0	52.0	52.0	52.0	53.0	54.0	54.9	54.0	53.0
45°	28.0	28.9	29.9	29.9	30.8	29.9	30.8	30.8	31.8	30.8	30.8
47.5°	16.4	16.4	17.3	17.3	18.3	17.3	18.3	18.3	18.3	17.3	17.3
50°	9.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	9.6	9.6
52.5°	7.7	7.7	7.7	7.7	7.7	6.7	6.7	6.7	6.7	5.8	5.8
55°	6.7	6.7	6.7	6.7	6.7	6.7	5.8	4.8	4.8	3.9	3.9
57.5°	5.8	6.7	6.7	6.7	6.7	5.8	5.8	4.8	3.9	2.9	2.9
60°	6.7	6.7	6.7	6.7	5.8	5.8	5.8	4.8	3.9	2.9	2.9
62.5°	6.7	6.7	6.7	6.7	6.7	5.8	5.8	4.8	3.9	2.9	2.9
65°	6.7	6.7	6.7	6.7	6.7	5.8	5.8	4.8	3.9	2.9	2.9
67.5°	6.7	6.7	6.7	6.7	6.7	5.8	5.8	4.8	3.9	3.9	2.9
70°	6.7	7.7	7.7	6.7	6.7	6.7	5.8	4.8	4.8	3.9	2.9
72.5°	6.7	7.7	7.7	6.7	6.7	6.7	5.8	4.8	4.8	3.9	2.9
75°	7.7	7.7	7.7	7.7	6.7	6.7	5.8	5.8	4.8	3.9	2.9
77.5°	7.7	7.7	7.7	7.7	6.7	6.7	5.8	5.8	4.8	3.9	2.9
80°	7.7	7.7	7.7	7.7	7.7	6.7	6.7	5.8	4.8	3.9	3.9
82.5°	7.7	7.7	7.7	7.7	7.7	6.7	6.7	5.8	4.8	3.9	3.9
85°	7.7	7.7	7.7	7.7	7.7	6.7	6.7	5.8	4.8	3.9	2.9
87.5°	7.7	7.7	7.7	7.7	6.7	6.7	5.8	5.8	4.8	3.9	2.9
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: P179861

CATALOG NUMBER: LDA6A55830D010TE LARH20SP 6LA1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6	1369.6
2.5°	943.6	921.4	911.8	927.2	919.5	896.4	901.2	886.7
5°	562.9	529.1	507.9	517.6	486.7	458.8	458.8	438.5
7.5°	271.8	261.2	255.4	257.3	250.6	241.9	237.1	237.1
10°	190.8	187.0	187.9	187.9	193.7	192.8	195.7	194.7
12.5°	226.5	228.4	229.4	233.2	238.1	238.1	241.0	239.0
15°	290.1	288.2	294.0	294.9	302.6	303.6	307.5	303.6
17.5°	369.1	373.0	378.8	377.8	393.2	394.2	394.2	393.2
20°	475.2	478.1	483.8	485.8	504.1	506.0	512.8	513.7
22.5°	590.8	590.8	593.7	597.6	614.9	615.9	618.8	618.8
25°	630.3	624.6	625.5	630.3	640.0	636.1	639.0	637.1
27.5°	579.3	570.6	568.7	575.4	582.2	571.5	575.4	575.4
30°	470.3	462.6	460.7	467.5	472.3	460.7	464.6	466.5
32.5°	344.1	339.3	338.3	343.1	347.0	337.3	341.2	344.1
35°	232.3	230.4	228.4	229.4	235.2	227.5	231.3	233.2
37.5°	147.5	143.6	144.6	146.5	150.4	145.5	149.4	149.4
40°	90.6	88.7	88.7	90.6	92.5	88.7	90.6	91.6
42.5°	53.0	53.0	53.0	54.0	54.9	53.0	53.0	54.0
45°	30.8	29.9	29.9	30.8	31.8	29.9	30.8	30.8
47.5°	17.3	16.4	16.4	17.3	17.3	16.4	17.3	17.3
50°	9.6	8.7	8.7	9.6	9.6	8.7	8.7	8.7
52.5°	4.8	4.8	4.8	4.8	4.8	4.8	3.9	3.9
55°	2.9	2.9	1.9	1.9	1.9	1.9	1.9	1.0
57.5°	1.9	1.9	1.0	1.0	1.0	1.0	0.0	0.0
60°	1.9	1.9	1.0	1.0	1.0	0.0	0.0	0.0
62.5°	1.9	1.9	1.0	1.0	1.0	0.0	0.0	0.0
65°	1.9	1.9	1.0	1.0	1.0	0.0	0.0	0.0
67.5°	1.9	1.9	1.0	1.0	1.0	0.0	0.0	0.0
70°	2.9	1.9	1.9	1.0	1.0	1.0	0.0	0.0
72.5°	2.9	1.9	1.9	1.9	1.0	1.0	0.0	0.0
75°	2.9	1.9	1.9	1.9	1.0	1.0	0.0	0.0
77.5°	2.9	1.9	1.9	1.9	1.0	1.0	1.0	0.0
80°	2.9	1.9	1.9	1.9	1.0	1.0	1.0	1.0
82.5°	2.9	1.9	1.9	1.9	1.0	1.0	1.0	1.0
85°	2.9	1.9	1.9	1.9	1.0	1.0	1.0	0.0
87.5°	2.9	1.9	1.9	1.9	1.0	1.0	1.0	0.0
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)