

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: P179839

Luminaire Tested: **LDA6A65840D010TE LARH30NF 6LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P179839
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26684)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A65840D010TE LARH30NF 6LLWW1
Description: PORTFOLIO 6" Lensed Wall Wash, Self-flanged, 30° Narrow Flood
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5047.3 lumens
Efficiency: N/A
Efficacy: 64.7 lumens/watt
Spacing Criteria (0/90/45): 2.21 / 1.07 / 1.54
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

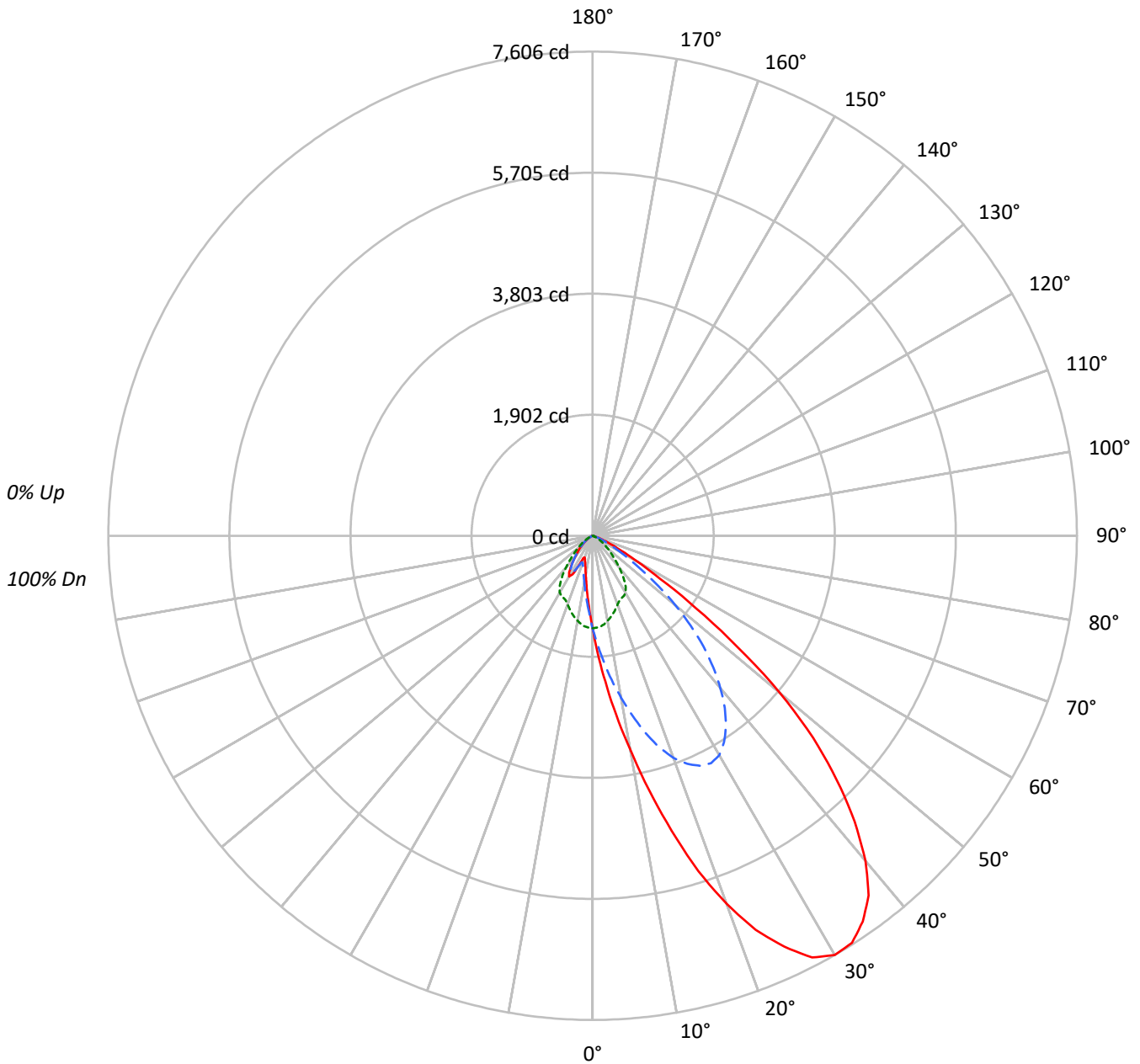
Input Watts (W): 78
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90																			
2	104	97	92	88	101	96	91	87	92	88	85	89	86	83	86	84	81	79																			
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	72	70																			
4	89	79	72	66	87	78	71	66	76	70	65	73	68	64	71	67	63	61																			
5	83	72	64	58	81	71	63	58	69	62	57	67	61	57	65	60	56	54																			
6	77	65	57	51	75	64	57	51	62	56	51	61	55	50	59	54	50	48																			
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45	43																			
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	41	37	47	41	36	46	40	36	35																			
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	79621	79621	79621
5°	126491	78643	51084
10°	189787	75466	34290
15°	271965	71516	25369
20°	359003	66873	21148
25°	430894	65187	30891
30°	481479	65352	46665
35°	495017	58518	39833
40°	477015	46537	29620
45°	420408	34562	22785
50°	327844	25586	15769
55°	189613	18723	10179
60°	88622	13025	4561
65°	41457	7147	1907
70°	19234	3142	1378
75°	8049	2076	1546
80°	3473	2305	1926
85°	755	3837	3082



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.2	3.0
10°-20°	551.3	10.9
20°-30°	1091.5	21.6
30°-40°	1411.2	28.0
40°-50°	1159.6	23.0
50°-60°	536.1	10.6
60°-70°	122.4	2.4
70°-80°	20.0	0.4
80°-90°	5.1	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°	1792.9	35.5
0°-40°	3204.1	63.5
0°-60°	4899.8	97.1
0°-90°	5047.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5047.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1452	1452	1452	1452	1452	
5°	2299	1977	1429	1034	928	254
15°	4792	3205	1260	565	447	1400
25°	7124	3987	1078	529	511	3280
35°	7397	3649	874	580	595	4580
45°	5423	2464	446	296	294	4127
55°	1984	959	196	126	106	1865
65°	320	196	55	21	15	366
75°	38	22	10	9	7	51
85°	1	4	6	6	5	3
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°	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4
2.5°	1844.3	1816.1	1833.3	1841.8	1797.8	1807.6	1812.4	1778.2	1768.4	1750.0	1696.1
5°	2298.6	2265.6	2279.0	2279.0	2214.1	2217.8	2215.4	2150.4	2114.9	2068.4	1976.6
7.5°	2833.8	2800.7	2803.2	2790.9	2699.1	2693.0	2653.8	2574.2	2504.4	2418.6	2281.5
10°	3409.4	3389.8	3377.5	3346.9	3225.7	3204.9	3147.3	3021.2	2906.0	2775.0	2581.5
12.5°	4085.4	4046.2	4010.7	3961.7	3803.7	3764.5	3683.7	3501.2	3332.2	3148.5	2892.6
15°	4792.0	4761.4	4703.8	4626.6	4424.6	4362.1	4256.8	4011.9	3801.2	3533.1	3204.9
17.5°	5523.1	5466.7	5382.2	5273.2	5029.5	4941.4	4810.3	4496.8	4217.6	3883.3	3486.5
20°	6153.8	6109.7	5993.3	5852.5	5573.3	5455.7	5301.4	4916.9	4575.2	4178.4	3711.8
22.5°	6701.2	6642.4	6499.1	6328.9	6016.6	5870.9	5697.0	5267.1	4850.8	4390.3	3877.2
25°	7123.7	7079.6	6909.4	6711.0	6368.1	6199.1	6006.8	5519.4	5057.7	4551.9	3987.4
27.5°	7467.8	7393.1	7203.3	6979.2	6609.3	6412.2	6208.9	5674.9	5175.3	4634.0	4029.0
30°	7606.2	7529.0	7328.2	7079.6	6687.7	6470.9	6261.5	5692.1	5166.7	4605.8	3978.8
32.5°	7580.4	7493.5	7279.2	7015.9	6615.4	6384.0	6172.1	5580.6	5044.2	4478.5	3842.9
35°	7396.8	7324.5	7102.8	6827.3	6428.1	6184.4	5962.7	5377.3	4839.7	4281.3	3649.4
37.5°	7120.0	7017.1	6810.2	6533.4	6110.9	5884.3	5665.1	5087.1	4561.7	4008.2	3408.1
40°	6665.7	6542.0	6335.0	6093.8	5692.1	5466.7	5267.1	4727.1	4210.3	3693.5	3120.4
42.5°	6093.8	5997.0	5804.7	5556.1	5187.5	4972.0	4793.2	4274.0	3815.9	3337.1	2803.2
45°	5422.7	5329.6	5165.5	4941.4	4608.3	4420.9	4256.8	3795.1	3382.4	2945.2	2464.0
47.5°	4696.4	4604.6	4461.3	4264.2	3966.6	3804.9	3661.6	3283.2	2893.8	2511.7	2089.2
50°	3844.1	3718.0	3639.6	3474.3	3225.7	3088.5	2978.3	2639.1	2351.3	2043.9	1692.4
52.5°	2869.3	2828.9	2716.2	2599.9	2424.8	2323.1	2250.9	2032.9	1794.1	1571.2	1303.0
55°	1983.9	1947.2	1878.6	1807.6	1690.0	1638.6	1584.7	1452.4	1293.2	1141.4	958.9
57.5°	1254.0	1281.0	1236.9	1196.5	1125.4	1107.1	1065.4	988.3	890.3	794.8	680.9
60°	808.3	823.0	794.8	771.5	732.3	717.6	698.0	651.5	592.7	537.6	460.5
62.5°	511.9	519.2	503.3	489.9	467.8	461.7	448.2	421.3	385.8	352.7	303.7
65°	319.6	325.8	314.7	306.2	292.7	293.9	281.7	265.7	244.9	224.1	195.9
67.5°	197.2	200.8	193.5	188.6	180.0	180.0	172.7	162.9	149.4	137.2	118.8
70°	120.0	121.2	116.3	113.9	107.8	106.5	102.9	95.5	86.9	78.4	67.4
72.5°	69.8	71.0	67.4	64.9	61.2	61.2	58.8	55.1	51.4	44.1	38.0
75°	38.0	39.2	36.7	35.5	33.1	34.3	31.8	30.6	26.9	24.5	22.0
77.5°	19.6	20.8	19.6	18.4	18.4	18.4	17.1	15.9	15.9	13.5	13.5
80°	11.0	11.0	11.0	11.0	11.0	9.8	9.8	9.8	9.8	9.8	8.6
82.5°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	4.9
85°	1.2	1.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.7	3.7
87.5°	0.0	0.0	1.2	1.2	1.2	1.2	1.2	2.4	2.4	2.4	3.7
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4
2.5°	1680.2	1679.0	1622.6	1598.1	1578.5	1547.9	1525.9	1502.6	1481.8	1443.8	1412.0
5°	1930.0	1895.7	1802.7	1743.9	1707.1	1658.1	1604.3	1550.4	1497.7	1429.1	1372.8
7.5°	2192.1	2118.6	1979.0	1881.0	1824.7	1756.1	1665.5	1581.0	1495.3	1401.0	1320.1
10°	2441.9	2321.9	2144.3	1994.9	1917.8	1829.6	1704.7	1587.1	1474.5	1355.7	1255.2
12.5°	2696.6	2525.2	2293.7	2100.2	2002.3	1893.3	1732.8	1587.1	1447.5	1310.4	1191.6
15°	2948.9	2722.3	2434.6	2194.5	2075.7	1945.9	1752.4	1578.5	1414.4	1260.1	1127.9
17.5°	3164.4	2884.0	2537.4	2259.4	2119.8	1972.9	1751.2	1552.8	1370.4	1203.8	1063.0
20°	3332.2	3000.3	2609.7	2292.5	2135.8	1975.3	1731.6	1514.9	1320.1	1146.3	1001.7
22.5°	3446.1	3076.3	2646.4	2298.6	2130.9	1961.9	1701.0	1476.9	1274.8	1100.9	956.4
25°	3517.1	3114.2	2657.4	2290.1	2113.7	1938.6	1672.8	1443.8	1245.4	1077.7	943.0
27.5°	3530.6	3103.2	2635.4	2254.5	2073.3	1896.9	1632.4	1412.0	1219.7	1064.2	943.0
30°	3464.5	3032.2	2560.7	2174.9	1997.4	1824.7	1565.1	1354.4	1174.4	1032.4	922.1
32.5°	3338.3	2901.1	2437.0	2057.4	1884.7	1723.1	1473.2	1272.4	1098.5	967.5	868.3
35°	3155.9	2726.0	2276.6	1909.2	1741.4	1590.8	1344.6	1160.9	995.6	874.4	782.5
37.5°	2934.2	2515.4	2089.2	1740.2	1581.0	1440.2	1205.0	1032.4	879.3	765.4	683.3
40°	2664.8	2287.6	1878.6	1554.1	1402.2	1274.8	1058.1	891.5	747.0	650.3	575.6
42.5°	2383.1	2032.9	1654.5	1345.9	1211.2	1089.9	897.7	748.2	619.7	540.1	481.3
45°	2092.9	1750.0	1419.3	1145.0	1043.4	907.4	729.9	608.6	504.5	445.8	399.2
47.5°	1765.9	1475.7	1170.7	929.5	823.0	731.1	582.9	485.0	417.6	366.2	330.6
50°	1414.4	1183.0	927.0	721.3	633.1	563.3	454.3	387.0	335.5	300.0	273.1
52.5°	1087.5	905.0	698.0	529.0	473.9	421.3	353.9	307.4	270.6	243.7	224.1
55°	808.3	660.1	502.1	391.9	352.7	318.4	278.0	241.3	214.3	195.9	180.0
57.5°	569.5	460.5	352.7	284.1	263.3	241.3	210.6	186.1	167.8	153.1	140.8
60°	380.9	313.5	248.6	208.2	193.5	178.8	159.2	142.1	128.6	118.8	106.5
62.5°	255.9	210.6	173.9	149.4	139.6	129.8	116.3	104.1	94.3	84.5	74.7
65°	164.1	139.6	117.6	101.6	94.3	89.4	79.6	71.0	63.7	55.1	47.8
67.5°	100.4	86.9	73.5	63.7	60.0	56.3	50.2	44.1	39.2	33.1	28.2
70°	58.8	51.4	44.1	38.0	36.7	34.3	29.4	25.7	23.3	19.6	17.1
72.5°	34.3	30.6	25.7	23.3	22.0	19.6	18.4	15.9	13.5	12.2	11.0
75°	19.6	17.1	14.7	13.5	13.5	12.2	11.0	11.0	9.8	9.8	8.6
77.5°	12.2	11.0	9.8	9.8	9.8	8.6	8.6	8.6	8.6	7.3	7.3
80°	8.6	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
82.5°	4.9	4.9	4.9	4.9	4.9	6.1	6.1	6.1	6.1	6.1	7.3
85°	3.7	4.9	4.9	4.9	4.9	4.9	6.1	6.1	6.1	6.1	6.1
87.5°	3.7	4.9	4.9	4.9	4.9	4.9	6.1	6.1	6.1	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4
2.5°	1393.6	1374.0	1314.0	1334.8	1296.9	1266.3	1263.8	1245.4	1213.6	1196.5	1187.9
5°	1329.9	1285.9	1212.4	1217.3	1173.2	1125.4	1099.7	1075.2	1033.6	1007.9	990.7
7.5°	1251.6	1191.6	1104.6	1098.5	1052.0	994.4	957.7	923.4	878.1	845.0	824.2
10°	1169.5	1096.0	994.4	987.1	938.1	875.6	834.0	794.8	748.2	715.2	693.1
12.5°	1093.6	1009.1	907.4	889.1	841.3	777.6	732.3	690.7	645.4	617.2	591.5
15°	1021.3	929.5	821.7	804.6	758.0	694.4	644.2	607.4	564.6	537.6	514.3
17.5°	949.1	854.8	748.2	728.7	684.6	623.3	579.2	540.1	500.9	475.2	454.3
20°	886.6	792.3	688.2	668.6	628.2	569.5	529.0	492.3	456.8	432.3	415.1
22.5°	846.2	754.4	660.1	642.9	605.0	552.3	514.3	482.5	451.9	428.6	415.1
25°	843.8	764.2	679.7	669.9	638.0	593.9	567.0	547.4	529.0	510.7	505.8
27.5°	858.5	793.6	722.5	720.1	694.4	665.0	652.7	646.6	636.8	630.7	639.3
30°	849.9	794.8	734.8	734.8	715.2	694.4	688.2	685.8	679.7	680.9	690.7
32.5°	804.6	754.4	696.8	698.0	685.8	662.5	658.9	657.6	650.3	649.1	656.4
35°	722.5	676.0	628.2	629.5	619.7	597.6	592.7	590.3	580.5	575.6	580.5
37.5°	628.2	590.3	545.0	545.0	535.2	518.0	513.1	508.2	502.1	497.2	497.2
40°	531.5	500.9	464.1	462.9	455.6	438.4	433.5	429.8	423.7	415.1	417.6
42.5°	449.4	421.3	391.9	389.4	384.5	369.8	364.9	360.0	353.9	346.6	346.6
45°	373.5	355.1	329.4	328.2	323.3	311.1	307.4	301.3	296.4	289.0	289.0
47.5°	311.1	296.4	275.5	274.3	270.6	259.6	255.9	251.0	246.2	241.3	241.3
50°	260.8	246.2	229.0	227.8	225.3	216.8	211.9	208.2	204.5	200.8	198.4
52.5°	214.3	202.1	188.6	187.4	184.9	176.3	172.7	170.2	166.5	160.4	160.4
55°	172.7	162.9	150.6	149.4	147.0	139.6	135.9	131.0	126.1	120.0	118.8
57.5°	134.7	126.1	116.3	115.1	111.4	105.3	99.2	94.3	89.4	84.5	82.1
60°	101.6	91.8	83.3	80.8	78.4	69.8	64.9	60.0	55.1	51.4	49.0
62.5°	68.6	62.5	52.7	51.4	49.0	44.1	38.0	35.5	33.1	30.6	29.4
65°	42.9	38.0	33.1	31.8	29.4	25.7	23.3	22.0	20.8	19.6	18.4
67.5°	25.7	23.3	19.6	19.6	18.4	17.1	14.7	14.7	13.5	13.5	12.2
70°	15.9	14.7	13.5	12.2	12.2	12.2	11.0	11.0	11.0	11.0	11.0
72.5°	11.0	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
75°	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
77.5°	8.6	8.6	7.3	8.6	8.6	8.6	8.6	7.3	8.6	7.3	7.3
80°	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
82.5°	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.1	6.1	6.1	6.1
85°	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	4.9
87.5°	6.1	6.1	6.1	6.1	6.1	4.9	4.9	4.9	4.9	3.7	3.7
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: P179839

CATALOG NUMBER: LDA6A65840D010TE LARH30NF 6LLWW1

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4	1452.4
2.5°	1190.3	1156.0	1169.5	1149.9	1143.8	1138.9	1131.6	1154.8
5°	983.4	946.6	955.2	935.6	927.0	918.5	909.9	928.3
7.5°	811.9	776.4	780.1	762.9	754.4	744.6	736.0	750.7
10°	678.4	645.4	646.6	630.7	622.1	612.3	605.0	616.0
12.5°	576.8	546.2	546.2	533.9	526.6	515.6	509.4	518.0
15°	499.6	472.7	472.7	460.5	454.3	444.5	438.4	447.0
17.5°	440.9	416.4	416.4	407.8	401.7	393.1	388.2	395.6
20°	401.7	380.9	382.1	373.5	368.6	358.8	356.4	362.5
22.5°	405.4	385.8	388.2	382.1	377.2	369.8	367.4	376.0
25°	507.0	492.3	500.9	500.9	503.3	492.3	497.2	510.7
27.5°	651.5	644.2	657.6	652.7	662.5	662.5	667.4	684.6
30°	704.2	698.0	712.7	711.5	721.3	718.9	721.3	737.2
32.5°	666.2	660.1	672.3	671.1	678.4	672.3	673.5	687.0
35°	585.4	579.2	587.8	586.6	591.5	584.1	587.8	595.2
37.5°	499.6	493.5	498.4	497.2	498.4	489.9	494.7	498.4
40°	420.0	412.7	420.0	415.1	416.4	407.8	409.0	413.9
42.5°	351.5	342.9	349.0	349.0	349.0	342.9	344.1	349.0
45°	292.7	286.6	290.2	289.0	290.2	285.3	289.0	293.9
47.5°	242.5	237.6	240.0	238.8	238.8	233.9	235.1	235.1
50°	199.6	194.7	195.9	194.7	191.0	184.9	183.7	184.9
52.5°	158.0	151.9	151.9	149.4	147.0	142.1	142.1	143.3
55°	116.3	111.4	111.4	110.2	107.8	104.1	104.1	106.5
57.5°	78.4	74.7	75.9	74.7	74.7	69.8	72.3	72.3
60°	47.8	45.3	45.3	44.1	41.6	40.4	39.2	41.6
62.5°	28.2	26.9	26.9	25.7	25.7	24.5	24.5	24.5
65°	18.4	17.1	17.1	15.9	15.9	14.7	13.5	14.7
67.5°	12.2	11.0	11.0	11.0	11.0	9.8	9.8	9.8
70°	11.0	9.8	9.8	9.8	9.8	8.6	8.6	8.6
72.5°	9.8	8.6	9.8	8.6	8.6	8.6	8.6	8.6
75°	8.6	8.6	8.6	7.3	7.3	7.3	7.3	7.3
77.5°	7.3	7.3	7.3	7.3	7.3	6.1	6.1	6.1
80°	7.3	6.1	6.1	6.1	6.1	6.1	6.1	6.1
82.5°	6.1	6.1	6.1	6.1	6.1	4.9	4.9	4.9
85°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
87.5°	3.7	3.7	3.7	3.7	3.7	2.4	2.4	2.4
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)