

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: P170858

Luminaire Tested: **LDA4A13930D010TE LAR25NF 4LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P170858
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26102)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A13930D010TE LAR25NF 4LLWW1
Description: PORTFOLIO 4" Lensed Wall Wash, Self-flanged, 25° Narrow Flood Optic,
at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1009.2 lumens
Efficiency: N/A
Efficacy: 45.3 lumens/watt
Spacing Criteria (0/90/45): 2.11 / 1.09 / 1.54
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

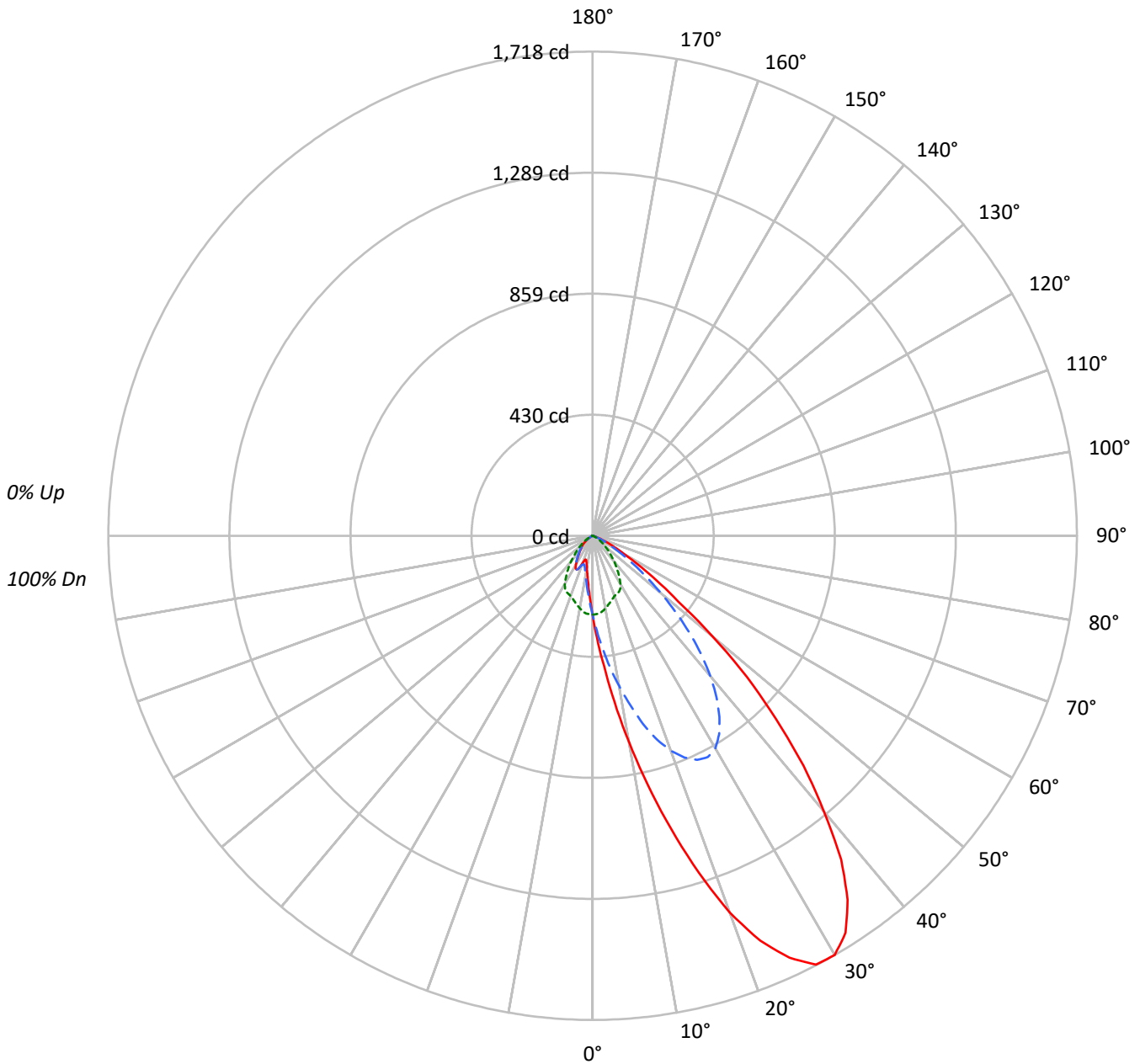
Input Watts (W): 22.27
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90					90			
2	104	98	93	88	102	96	91	87	93	89	85	90	86	84	87	84	82	80					80			
3	97	89	82	77	95	87	81	76	84	79	75	82	77	74	79	76	73	71					71			
4	90	80	73	67	88	79	72	67	77	71	66	74	69	65	72	68	65	63					63			
5	83	73	65	60	82	72	65	59	70	63	59	68	62	58	66	61	58	56					56			
6	78	66	58	53	76	65	58	53	64	57	52	62	56	52	61	55	52	50					50			
7	72	60	53	47	71	60	52	47	58	52	47	57	51	47	56	50	46	45					45			
8	67	55	48	43	66	55	47	42	53	47	42	52	46	42	51	46	42	40					40			
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36					36			
10	59	47	40	35	58	46	39	35	45	39	35	45	39	34	44	38	34	33					33			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	34512	34512	34512
5°	57414	34235	21544
10°	92959	32740	14554
15°	137453	31030	11327
20°	186733	29823	13362
25°	224805	29941	18142
30°	244619	28058	16935
35°	237445	23641	13552
40°	205682	19032	11110
45°	160395	14670	9507
50°	106366	10957	7311
55°	59310	8043	4387
60°	31280	5353	1776
65°	16870	2685	204
70°	8042	938	252
75°	2812	620	334
80°	923	923	0
85°	2830	1840	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.8	3.0
10°-20°	117.8	11.7
20°-30°	242.2	24.0
30°-40°	289.4	28.7
40°-50°	213.7	21.2
50°-60°	89.9	8.9
60°-70°	22.1	2.2
70°-80°	3.0	0.3
80°-90°	1.2	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°	389.9	38.6
0°-40°	679.2	67.3
0°-60°	982.8	97.4
0°-90°	1009.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1009.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	280	280	280	280	280	
5°	464	399	276	198	174	53
15°	1076	691	243	110	89	316
25°	1652	877	220	133	133	755
35°	1577	784	157	94	90	967
45°	920	483	84	55	54	706
55°	276	179	37	24	20	263
65°	58	39	9	2	1	63
75°	6	3	1	1	1	8
85°	2	2	1	1	0	2
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
0°	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8
2.5°	363.9	359.3	359.3	360.6	364.5	361.2	358.6	356.0	358.6	352.7	354.7
5°	463.7	463.0	463.0	457.8	462.4	463.0	457.8	453.2	454.5	445.9	445.9
7.5°	595.0	591.1	589.8	582.6	587.8	587.2	578.6	570.7	570.7	556.9	553.7
10°	742.2	736.9	734.3	725.1	729.7	727.0	714.6	702.7	699.5	679.8	672.5
12.5°	904.4	901.1	897.1	885.3	889.3	884.0	866.3	849.2	842.0	815.7	803.2
15°	1076.4	1081.7	1075.1	1061.3	1064.0	1054.8	1031.8	1008.1	997.0	961.5	943.1
17.5°	1253.8	1260.3	1253.1	1237.4	1236.7	1224.2	1192.7	1163.8	1147.4	1102.1	1077.8
20°	1422.6	1424.5	1415.3	1398.3	1394.3	1377.2	1339.2	1298.4	1282.7	1226.8	1196.0
22.5°	1555.2	1562.5	1551.3	1538.8	1526.3	1504.7	1460.0	1415.3	1393.0	1329.3	1291.9
25°	1651.8	1668.2	1655.1	1640.6	1626.8	1601.2	1551.3	1503.3	1475.8	1404.8	1362.1
27.5°	1715.5	1731.2	1716.8	1700.4	1685.9	1656.4	1601.9	1555.9	1522.4	1444.9	1398.9
30°	1717.5	1736.5	1721.4	1703.7	1689.9	1660.3	1604.5	1557.2	1519.8	1442.3	1394.3
32.5°	1670.2	1685.3	1670.2	1655.1	1639.3	1611.1	1555.2	1509.9	1470.5	1396.3	1348.4
35°	1576.9	1590.0	1574.9	1557.2	1546.0	1521.1	1467.9	1424.5	1385.1	1316.8	1274.8
37.5°	1448.2	1460.0	1446.2	1436.4	1419.9	1397.6	1349.0	1310.3	1272.8	1211.1	1173.6
40°	1277.4	1302.4	1289.2	1282.7	1267.6	1248.5	1205.8	1171.7	1137.5	1083.7	1052.8
42.5°	1106.7	1130.3	1118.5	1113.9	1100.7	1084.3	1048.9	1020.0	988.4	943.8	917.5
45°	919.5	944.4	933.3	931.3	920.1	907.7	869.6	854.5	826.9	784.8	772.4
47.5°	743.5	748.1	737.6	738.2	730.3	721.8	690.9	681.7	667.9	635.8	621.3
50°	554.3	557.6	549.1	551.7	546.4	541.2	520.2	515.6	507.0	485.4	476.8
52.5°	381.6	396.7	390.8	393.4	390.8	388.8	380.3	372.4	368.4	354.7	350.7
55°	275.8	277.2	272.6	275.2	273.2	272.6	267.3	262.7	260.7	252.2	250.9
57.5°	191.1	192.4	192.4	191.1	190.5	189.1	185.9	183.2	181.9	180.0	176.0
60°	126.8	132.0	130.0	131.4	130.7	130.7	128.1	126.1	125.4	121.5	121.5
62.5°	86.7	90.0	88.7	89.3	88.7	88.7	86.7	85.4	85.4	84.7	82.8
65°	57.8	59.8	58.5	59.1	59.1	59.1	57.8	56.5	56.5	55.8	54.5
67.5°	36.8	38.1	37.4	38.1	37.4	38.1	36.8	36.1	35.5	35.5	34.8
70°	22.3	23.0	22.3	23.0	22.3	22.3	21.7	21.7	21.0	20.4	20.4
72.5°	11.8	12.5	12.5	12.5	12.5	12.5	11.8	11.2	11.2	11.2	10.5
75°	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.3	5.3	5.3
77.5°	2.6	2.6	2.6	2.6	3.3	2.6	2.6	2.6	2.6	2.6	2.6
80°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
82.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
85°	2.0	2.0	2.0	2.0	2.0	2.0	2.6	2.6	2.6	2.6	2.0
87.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	3.3	3.3	2.6	2.6
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):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	47.5°	50°	52.5°
0°	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8
2.5°	349.4	346.1	344.8	342.2	338.9	336.9	335.0	335.6	331.0	327.7	323.1
5°	437.4	430.2	426.2	420.3	413.1	407.2	401.9	399.3	390.8	384.9	372.4
7.5°	541.2	528.7	520.8	510.3	497.8	487.3	476.8	469.6	456.5	445.3	426.2
10°	654.8	635.8	622.0	606.2	587.2	570.1	554.3	541.2	521.5	504.4	479.4
12.5°	778.9	752.0	732.3	709.3	682.4	658.7	630.5	615.4	588.5	564.8	532.6
15°	910.9	875.5	847.9	816.4	780.9	749.4	713.3	690.9	655.5	625.2	585.2
17.5°	1037.7	993.0	956.9	916.9	872.8	832.1	789.4	757.9	714.6	677.1	629.2
20°	1148.0	1094.8	1050.8	1002.2	950.3	900.4	853.8	811.8	761.2	717.2	662.7
22.5°	1238.0	1176.3	1125.7	1069.2	1009.5	953.0	899.8	851.8	794.0	745.4	685.7
25°	1303.0	1235.4	1178.9	1116.5	1050.8	986.5	930.0	877.4	814.4	762.5	698.8
27.5°	1337.2	1265.6	1205.8	1138.8	1069.2	1002.2	941.2	885.3	819.0	764.5	698.8
30°	1331.3	1258.4	1196.6	1127.7	1057.4	990.4	926.7	870.9	802.6	747.4	681.7
32.5°	1286.0	1214.4	1153.9	1087.0	1018.0	953.0	889.3	835.4	767.1	713.3	649.5
35°	1211.1	1143.4	1086.3	1022.6	957.6	896.5	838.7	784.2	718.5	667.3	607.5
37.5°	1113.9	1052.1	1000.3	941.2	881.4	826.2	769.1	722.4	664.0	616.1	557.6
40°	997.6	943.1	897.1	844.6	790.8	742.8	694.9	649.5	592.4	549.7	499.8
42.5°	869.6	822.9	783.5	737.6	690.9	650.2	608.8	569.4	522.1	483.4	436.8
45°	731.6	692.2	660.1	623.3	584.5	546.4	516.2	483.4	439.4	410.5	371.1
47.5°	589.1	558.9	534.6	506.4	475.5	451.9	423.0	396.7	364.5	337.6	305.4
50°	453.8	432.8	415.7	396.0	373.7	352.0	335.0	314.6	290.3	268.6	243.0
52.5°	335.6	321.8	311.3	298.2	283.1	271.9	256.1	241.0	222.6	206.2	186.5
55°	240.4	232.5	225.9	218.0	207.5	197.7	189.8	179.3	166.2	153.7	139.2
57.5°	172.7	164.2	163.5	155.0	151.1	143.8	136.6	128.7	119.5	111.0	100.5
60°	119.5	113.6	111.0	107.7	103.1	98.5	95.2	90.0	83.4	77.5	69.6
62.5°	80.8	76.8	75.5	74.2	70.3	68.3	64.4	61.1	56.5	51.9	46.6
65°	53.2	50.6	49.3	47.3	45.3	44.0	42.0	39.4	35.5	32.8	29.6
67.5°	33.5	31.5	30.2	29.6	27.6	26.9	25.0	23.6	21.0	19.7	17.7
70°	19.0	18.4	17.1	17.1	15.8	14.4	13.8	12.5	11.8	10.5	9.9
72.5°	9.9	9.9	9.2	8.5	7.9	7.9	7.2	6.6	5.9	5.3	5.3
75°	4.6	4.6	4.6	3.9	3.9	3.9	3.3	3.3	3.3	2.6	2.6
77.5°	2.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.3	1.3
80°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
82.5°	1.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
85°	2.0	1.3	1.3	1.3	1.3	2.0	2.0	2.0	2.0	2.0	2.0
87.5°	2.0	2.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
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):

	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77.5°	80°
0°	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8
2.5°	319.8	318.5	315.2	314.6	307.4	306.1	302.1	296.2	291.6	290.3	291.6
5°	367.8	361.9	352.0	350.1	338.2	334.3	325.8	316.6	308.7	304.1	302.1
7.5°	417.0	407.2	392.7	385.5	368.4	359.9	347.4	334.3	321.8	313.3	308.0
10°	464.3	448.6	422.3	416.4	395.4	381.6	364.5	346.8	331.0	319.2	310.7
12.5°	509.0	490.0	463.0	446.6	419.0	401.3	379.6	357.9	338.2	322.5	310.7
15°	555.0	530.0	496.5	473.5	442.0	418.4	392.1	367.1	344.1	324.4	310.0
17.5°	593.1	562.2	522.8	495.2	458.4	430.2	400.0	371.1	346.1	323.8	307.4
20°	621.3	585.2	540.5	508.3	467.6	436.1	403.3	371.7	344.1	319.8	302.1
22.5°	640.4	599.0	550.4	514.9	472.2	438.1	402.6	369.8	341.5	316.6	297.5
25°	649.5	604.9	554.3	516.2	471.6	436.1	399.3	365.8	336.9	311.3	292.9
27.5°	648.2	600.9	549.1	509.0	463.7	426.9	389.5	356.0	327.7	302.1	283.1
30°	629.2	582.6	530.0	489.3	444.6	407.9	370.4	337.6	310.0	283.7	266.0
32.5°	599.6	551.7	500.5	455.1	417.0	380.9	345.5	312.0	285.7	260.1	243.0
35°	559.6	513.6	464.3	425.6	384.2	349.4	315.2	283.7	258.8	233.8	218.0
37.5°	512.9	468.9	423.6	383.6	347.4	315.2	283.1	254.8	229.9	207.5	192.4
40°	459.1	418.4	377.0	342.8	307.4	277.8	248.3	220.7	200.3	180.0	166.8
42.5°	400.6	364.5	327.1	297.5	265.3	239.1	210.8	191.1	171.4	153.0	142.5
45°	339.6	308.0	276.5	249.6	223.3	200.3	176.0	157.6	142.5	127.4	118.2
47.5°	279.1	252.2	226.6	204.9	181.9	162.9	145.8	129.4	114.9	102.5	95.2
50°	218.0	200.3	180.0	162.2	143.8	128.1	112.3	100.5	89.3	80.1	75.5
52.5°	170.1	153.7	137.3	122.8	109.7	96.5	86.0	76.2	68.3	62.4	59.1
55°	126.8	113.6	101.1	90.0	79.5	70.9	63.7	57.8	52.5	47.9	46.6
57.5°	90.6	80.8	72.2	63.7	57.1	51.9	47.3	43.3	40.1	36.8	36.1
60°	63.0	55.8	50.6	45.3	41.4	37.4	34.8	32.2	29.6	27.6	26.9
62.5°	42.0	38.1	34.2	31.5	29.6	26.3	25.0	23.0	21.7	19.7	19.0
65°	26.9	24.3	22.3	20.4	19.0	17.7	16.4	15.1	13.8	12.5	12.5
67.5°	16.4	14.4	13.8	12.5	11.2	10.5	9.9	8.5	7.9	7.9	7.2
70°	9.2	7.9	7.2	6.6	5.9	5.9	5.3	4.6	4.6	3.9	3.9
72.5°	4.6	4.6	3.9	3.9	3.3	3.3	2.6	2.6	2.6	2.0	2.0
75°	2.6	2.6	2.0	2.0	2.0	2.0	2.0	2.0	1.3	1.3	1.3
77.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
80°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
82.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
85°	2.0	2.0	2.0	2.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3
87.5°	2.0	2.0	2.0	2.0	2.0	1.3	1.3	1.3	1.3	1.3	1.3
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):

	82.5°	85°	87.5°	90°	112.5°	135°	157.5°	180°
0°	279.8	279.8	279.8	279.8	279.8	279.8	279.8	279.8
2.5°	286.4	279.8	278.5	278.5	250.9	234.5	222.0	218.7
5°	292.9	283.7	279.1	276.5	227.2	198.3	179.3	174.0
7.5°	296.2	283.1	275.8	269.9	204.3	166.8	146.5	140.5
10°	294.9	279.1	269.3	261.4	183.2	142.5	121.5	116.2
12.5°	292.3	274.5	262.1	252.2	165.5	123.5	104.4	99.2
15°	289.6	269.3	254.8	243.0	151.1	110.3	93.3	88.7
17.5°	284.4	263.4	246.9	234.5	141.9	105.1	90.6	88.0
20°	278.5	256.8	239.7	227.2	139.2	110.3	101.8	101.8
22.5°	274.5	252.2	235.8	223.3	143.8	122.8	119.5	121.5
25°	269.3	248.3	231.8	220.0	148.4	132.7	130.7	133.3
27.5°	260.7	239.7	224.0	212.1	145.8	131.4	129.4	130.7
30°	243.7	223.3	209.5	197.0	135.3	121.5	118.2	118.9
32.5°	222.0	202.3	189.1	177.3	120.2	107.1	103.8	103.8
35°	198.3	180.0	167.5	157.0	105.7	93.9	90.6	90.0
37.5°	174.7	157.6	147.1	137.3	92.6	82.1	78.8	78.2
40°	151.1	136.0	126.1	118.2	81.4	72.9	69.6	69.0
42.5°	128.7	115.6	107.1	100.5	70.9	64.4	61.7	61.1
45°	106.4	95.9	89.3	84.1	61.7	55.2	54.5	54.5
47.5°	86.0	77.5	72.9	69.6	52.5	47.3	46.6	47.3
50°	69.0	63.0	59.8	57.1	44.7	40.1	38.1	38.1
52.5°	54.5	50.6	48.6	46.6	36.8	32.2	29.6	28.9
55°	43.3	40.1	38.7	37.4	28.9	23.6	21.0	20.4
57.5°	34.2	31.5	30.2	28.9	21.7	16.4	13.8	13.1
60°	25.6	23.6	22.3	21.7	15.1	9.9	7.9	7.2
62.5°	18.4	17.1	15.8	15.1	9.2	5.3	3.3	2.6
65°	11.2	11.2	9.9	9.2	4.6	2.0	1.3	0.7
67.5°	6.6	5.9	5.3	5.3	2.0	1.3	0.7	0.7
70°	3.3	3.3	2.6	2.6	1.3	0.7	0.7	0.7
72.5°	2.0	2.0	2.0	1.3	1.3	0.7	0.7	0.7
75°	1.3	1.3	1.3	1.3	1.3	0.7	0.7	0.7
77.5°	1.3	1.3	1.3	1.3	1.3	0.7	0.7	0.0
80°	1.3	1.3	1.3	1.3	1.3	0.7	0.7	0.0
82.5°	1.3	1.3	1.3	1.3	1.3	0.7	0.7	0.7
85°	1.3	1.3	1.3	1.3	1.3	0.7	0.7	0.0
87.5°	1.3	1.3	1.3	1.3	1.3	0.7	0.7	0.7
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)