

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: P170853

Luminaire Tested: **LDA4A13827D010TE LAR25NF 4LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P170853
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: LDA4A13827D010TE LAR25NF 4LLWW1
Description: PORTFOLIO 4" Lensed Wall Wash, Self-flanged, 25° Narrow Flood Optic,
at 30° tilt
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1090.1 lumens
Efficiency: N/A
Efficacy: 48.9 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

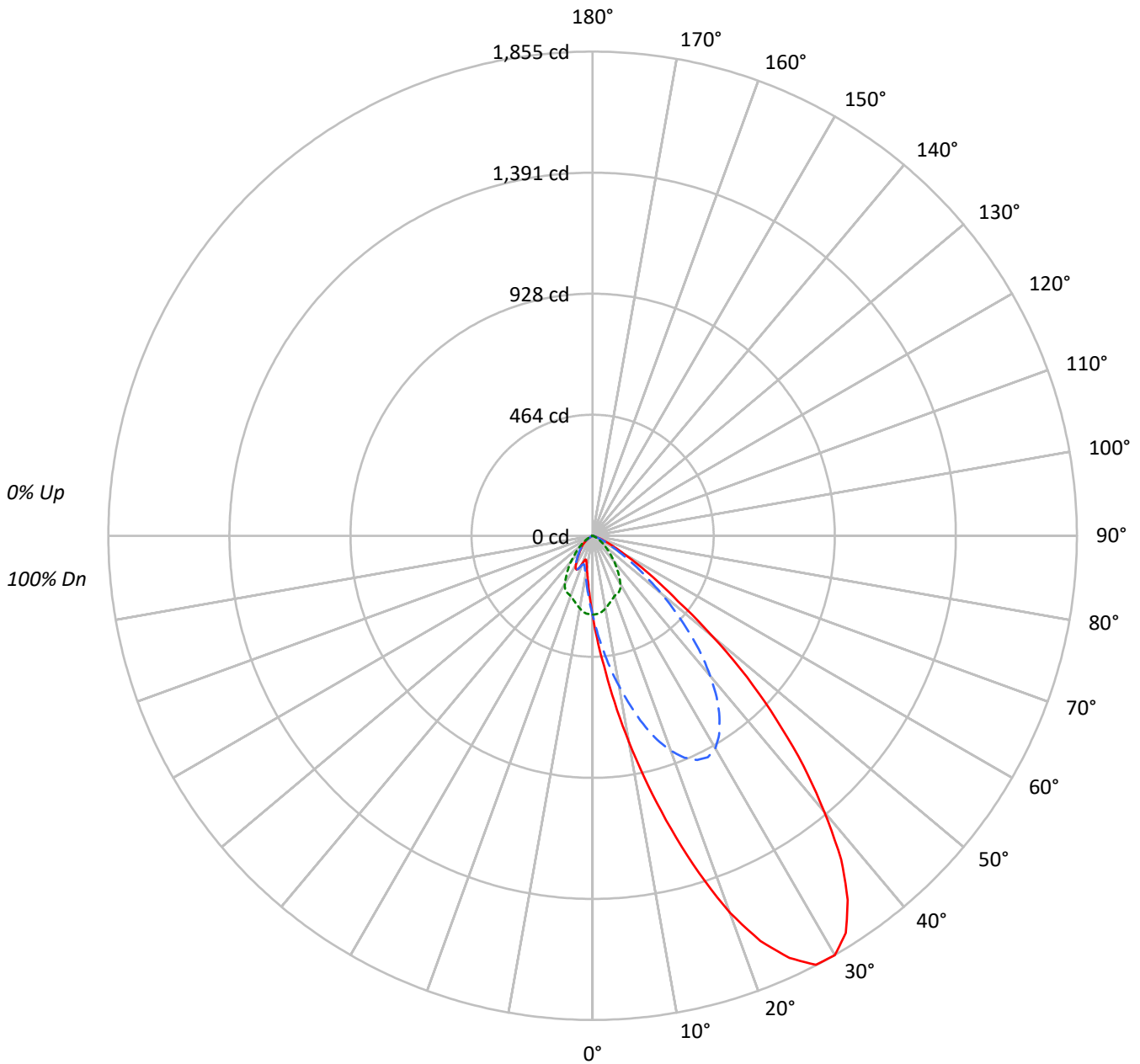
Input Watts (W): 22.27
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	37275	37275	37275
5°	62020	36984	23278
10°	100412	35370	15731
15°	148486	33520	12233
20°	201710	32225	14439
25°	242838	32350	19598
30°	264231	30309	18288
35°	256493	25538	14636
40°	222186	20562	11996
45°	173251	15839	10274
50°	114905	11840	7887
55°	64084	8688	4731
60°	33772	5773	1924
65°	18212	2889	204
70°	8691	1010	252
75°	3050	667	334
80°	994	994	0
85°	2972	1981	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.2	3.0
10°-20°	127.2	11.7
20°-30°	261.7	24.0
30°-40°	312.6	28.7
40°-50°	230.8	21.2
50°-60°	97.1	8.9
60°-70°	23.9	2.2
70°-80°	3.3	0.3
80°-90°	1.3	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°	421.2	38.6
0°-40°	733.7	67.3
0°-60°	1061.7	97.4
0°-90°	1090.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1090.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	302	302	302	302	302	
5°	501	431	299	214	188	57
15°	1163	746	262	119	96	341
25°	1784	948	238	143	144	816
35°	1703	847	170	102	97	1045
45°	993	522	91	60	59	763
55°	298	194	40	26	22	284
65°	62	43	10	2	1	68
75°	6	4	1	1	1	9
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°	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2
2.5°	393.0	388.1	388.1	389.5	393.7	390.2	387.4	384.5	387.4	381.0	383.1
5°	500.9	500.2	500.2	494.5	499.5	500.2	494.5	489.5	490.9	481.7	481.7
7.5°	642.8	638.5	637.1	629.3	635.0	634.3	625.0	616.5	616.5	601.6	598.1
10°	801.7	796.0	793.2	783.2	788.2	785.4	771.9	759.1	755.6	734.3	726.5
12.5°	976.9	973.4	969.1	956.3	960.6	954.9	935.8	917.3	909.5	881.1	867.7
15°	1162.8	1168.5	1161.4	1146.5	1149.3	1139.4	1114.6	1089.0	1076.9	1038.6	1018.8
17.5°	1354.3	1361.4	1353.6	1336.6	1335.9	1322.4	1288.4	1257.2	1239.4	1190.5	1164.2
20°	1536.7	1538.8	1528.9	1510.4	1506.2	1487.7	1446.6	1402.6	1385.6	1325.3	1291.9
22.5°	1680.0	1687.8	1675.7	1662.2	1648.8	1625.4	1577.1	1528.9	1504.7	1435.9	1395.5
25°	1784.3	1802.0	1787.8	1772.2	1757.3	1729.6	1675.7	1623.9	1594.1	1517.5	1471.4
27.5°	1853.1	1870.1	1854.5	1836.8	1821.2	1789.2	1730.4	1680.7	1644.5	1560.8	1511.1
30°	1855.2	1875.8	1859.5	1840.3	1825.4	1793.5	1733.2	1682.1	1641.7	1558.0	1506.2
32.5°	1804.1	1820.5	1804.1	1787.8	1770.8	1740.3	1680.0	1631.0	1588.5	1508.3	1456.5
35°	1703.4	1717.6	1701.3	1682.1	1670.1	1643.1	1585.6	1538.8	1496.2	1422.5	1377.0
37.5°	1564.3	1577.1	1562.2	1551.6	1533.8	1509.7	1457.2	1415.4	1374.9	1308.2	1267.8
40°	1379.9	1406.8	1392.7	1385.6	1369.2	1348.7	1302.6	1265.7	1228.8	1170.6	1137.3
42.5°	1195.4	1221.0	1208.2	1203.2	1189.0	1171.3	1133.0	1101.8	1067.7	1019.5	991.1
45°	993.2	1020.2	1008.1	1006.0	993.9	980.5	939.3	923.0	893.2	847.8	834.3
47.5°	803.1	808.1	796.7	797.4	788.9	779.7	746.3	736.4	721.5	686.8	671.1
50°	598.8	602.3	593.1	595.9	590.3	584.6	561.9	556.9	547.7	524.3	515.1
52.5°	412.2	428.5	422.1	425.0	422.1	420.0	410.8	402.3	398.0	383.1	378.8
55°	298.0	299.4	294.4	297.3	295.1	294.4	288.7	283.8	281.7	272.4	271.0
57.5°	206.5	207.9	207.9	206.5	205.7	204.3	200.8	197.9	196.5	194.4	190.1
60°	136.9	142.6	140.5	141.9	141.2	141.2	138.3	136.2	135.5	131.2	131.2
62.5°	93.6	97.2	95.8	96.5	95.8	95.8	93.6	92.2	92.2	91.5	89.4
65°	62.4	64.6	63.1	63.9	63.9	63.9	62.4	61.0	61.0	60.3	58.9
67.5°	39.7	41.1	40.4	41.1	40.4	41.1	39.7	39.0	38.3	38.3	37.6
70°	24.1	24.8	24.1	24.8	24.1	24.1	23.4	23.4	22.7	22.0	22.0
72.5°	12.8	13.5	13.5	13.5	13.5	13.5	12.8	12.1	12.1	12.1	11.4
75°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	5.7	5.7	5.7
77.5°	2.8	2.8	2.8	2.8	3.5	2.8	2.8	2.8	2.8	2.8	2.8
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
85°	2.1	2.1	2.1	2.1	2.1	2.1	2.8	2.8	2.8	2.8	2.1
87.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.5	3.5	2.8	2.8
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):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	47.5°	50°	52.5°
0°	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2
2.5°	377.4	373.9	372.5	369.6	366.1	363.9	361.8	362.5	357.6	354.0	349.1
5°	472.5	464.7	460.4	454.0	446.2	439.9	434.2	431.3	422.1	415.7	402.3
7.5°	584.6	571.1	562.6	551.2	537.8	526.4	515.1	507.3	493.1	481.0	460.4
10°	707.3	686.8	671.9	654.8	634.3	615.8	598.8	584.6	563.3	544.9	517.9
12.5°	841.4	812.3	791.0	766.2	737.1	711.6	681.1	664.8	635.7	610.1	575.4
15°	984.0	945.7	915.9	881.8	843.5	809.5	770.5	746.3	708.0	675.4	632.1
17.5°	1120.9	1072.7	1033.7	990.4	942.9	898.9	852.8	818.7	771.9	731.4	679.7
20°	1240.1	1182.7	1135.1	1082.6	1026.6	972.7	922.3	876.9	822.3	774.7	715.8
22.5°	1337.3	1270.6	1216.0	1155.0	1090.4	1029.4	972.0	920.2	857.7	805.2	740.7
25°	1407.6	1334.5	1273.5	1206.1	1135.1	1065.6	1004.6	947.8	879.7	823.7	754.9
27.5°	1444.4	1367.1	1302.6	1230.2	1155.0	1082.6	1016.6	956.3	884.7	825.8	754.9
30°	1438.1	1359.3	1292.6	1218.1	1142.2	1069.9	1001.0	940.7	867.0	807.4	736.4
32.5°	1389.1	1311.8	1246.5	1174.1	1099.7	1029.4	960.6	902.4	828.6	770.5	701.6
35°	1308.2	1235.2	1173.4	1104.6	1034.4	968.4	906.0	847.1	776.1	720.8	656.2
37.5°	1203.2	1136.5	1080.5	1016.6	952.1	892.5	830.8	780.4	717.3	665.5	602.3
40°	1077.7	1018.8	969.1	912.4	854.2	802.4	750.6	701.6	639.9	593.8	539.9
42.5°	939.3	888.9	846.4	796.7	746.3	702.4	657.7	615.1	564.0	522.2	471.8
45°	790.3	747.8	713.0	673.3	631.4	590.3	557.6	522.2	474.6	443.4	400.8
47.5°	636.4	603.7	577.5	547.0	513.6	488.1	456.9	428.5	393.7	364.7	329.9
50°	490.2	467.5	449.1	427.8	403.7	380.3	361.8	339.8	313.6	290.2	262.5
52.5°	362.5	347.6	336.3	322.1	305.8	293.7	276.7	260.4	240.5	222.8	201.5
55°	259.7	251.1	244.1	235.5	224.2	213.5	205.0	193.7	179.5	166.0	150.4
57.5°	186.6	177.4	176.7	167.4	163.2	155.4	147.6	139.1	129.1	119.9	108.5
60°	129.1	122.7	119.9	116.4	111.4	106.4	102.9	97.2	90.1	83.7	75.2
62.5°	87.3	83.0	81.6	80.2	75.9	73.8	69.5	66.0	61.0	56.0	50.4
65°	57.5	54.6	53.2	51.1	49.0	47.5	45.4	42.6	38.3	35.5	31.9
67.5°	36.2	34.1	32.6	31.9	29.8	29.1	27.0	25.5	22.7	21.3	19.2
70°	20.6	19.9	18.4	18.4	17.0	15.6	14.9	13.5	12.8	11.4	10.6
72.5°	10.6	10.6	9.9	9.2	8.5	8.5	7.8	7.1	6.4	5.7	5.7
75°	5.0	5.0	5.0	4.3	4.3	4.3	3.5	3.5	3.5	2.8	2.8
77.5°	2.8	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	1.4	1.4
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	1.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
85°	2.1	1.4	1.4	1.4	1.4	2.1	2.1	2.1	2.1	2.1	2.1
87.5°	2.1	2.1	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
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):

	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77.5°	80°
0°	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2
2.5°	345.5	344.1	340.5	339.8	332.0	330.6	326.3	320.0	315.0	313.6	315.0
5°	397.3	390.9	380.3	378.1	365.4	361.1	351.9	342.0	333.4	328.5	326.3
7.5°	450.5	439.9	424.3	416.4	398.0	388.8	375.3	361.1	347.6	338.4	332.7
10°	501.6	484.6	456.2	449.8	427.1	412.2	393.7	374.6	357.6	344.8	335.6
12.5°	549.8	529.3	500.2	482.4	452.6	433.5	410.1	386.7	365.4	348.3	335.6
15°	599.5	572.5	536.3	511.5	477.5	451.9	423.5	396.6	371.8	350.5	334.9
17.5°	640.6	607.3	564.7	534.9	495.2	464.7	432.1	400.8	373.9	349.8	332.0
20°	671.1	632.1	583.9	549.1	505.1	471.1	435.6	401.6	371.8	345.5	326.3
22.5°	691.7	647.0	594.5	556.2	510.1	473.2	434.9	399.4	368.9	342.0	321.4
25°	701.6	653.4	598.8	557.6	509.4	471.1	431.3	395.2	363.9	336.3	316.4
27.5°	700.2	649.1	593.1	549.8	500.9	461.1	420.7	384.5	354.0	326.3	305.8
30°	679.7	629.3	572.5	528.5	480.3	440.6	400.1	364.7	334.9	306.5	287.3
32.5°	647.7	595.9	540.6	491.7	450.5	411.5	373.2	337.0	308.6	280.9	262.5
35°	604.5	554.8	501.6	459.7	415.0	377.4	340.5	306.5	279.5	252.6	235.5
37.5°	554.1	506.5	457.6	414.3	375.3	340.5	305.8	275.3	248.3	224.2	207.9
40°	495.9	451.9	407.2	370.3	332.0	300.1	268.2	238.4	216.4	194.4	180.2
42.5°	432.8	393.7	353.3	321.4	286.6	258.2	227.7	206.5	185.2	165.3	154.0
45°	366.8	332.7	298.7	269.6	241.2	216.4	190.1	170.3	154.0	137.6	127.7
47.5°	301.5	272.4	244.8	221.3	196.5	175.9	157.5	139.8	124.2	110.7	102.9
50°	235.5	216.4	194.4	175.2	155.4	138.3	121.3	108.5	96.5	86.6	81.6
52.5°	183.7	166.0	148.3	132.7	118.5	104.3	92.9	82.3	73.8	67.4	63.9
55°	136.9	122.7	109.3	97.2	85.8	76.6	68.8	62.4	56.8	51.8	50.4
57.5°	97.9	87.3	78.0	68.8	61.7	56.0	51.1	46.8	43.3	39.7	39.0
60°	68.1	60.3	54.6	49.0	44.7	40.4	37.6	34.8	31.9	29.8	29.1
62.5°	45.4	41.1	36.9	34.1	31.9	28.4	27.0	24.8	23.4	21.3	20.6
65°	29.1	26.2	24.1	22.0	20.6	19.2	17.7	16.3	14.9	13.5	13.5
67.5°	17.7	15.6	14.9	13.5	12.1	11.4	10.6	9.2	8.5	8.5	7.8
70°	9.9	8.5	7.8	7.1	6.4	6.4	5.7	5.0	5.0	4.3	4.3
72.5°	5.0	5.0	4.3	4.3	3.5	3.5	2.8	2.8	2.8	2.1	2.1
75°	2.8	2.8	2.1	2.1	2.1	2.1	2.1	2.1	1.4	1.4	1.4
77.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
85°	2.1	2.1	2.1	2.1	1.4	1.4	1.4	1.4	1.4	1.4	1.4
87.5°	2.1	2.1	2.1	2.1	2.1	1.4	1.4	1.4	1.4	1.4	1.4
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°	302.2	302.2	302.2	302.2	302.2	302.2	302.2	302.2
2.5°	309.3	302.2	300.8	300.8	271.0	253.3	239.8	236.2
5°	316.4	306.5	301.5	298.7	245.5	214.3	193.7	188.0
7.5°	320.0	305.8	298.0	291.6	220.6	180.2	158.2	151.8
10°	318.5	301.5	290.9	282.4	197.9	154.0	131.2	125.6
12.5°	315.7	296.6	283.1	272.4	178.8	133.4	112.8	107.1
15°	312.9	290.9	275.3	262.5	163.2	119.2	100.7	95.8
17.5°	307.2	284.5	266.8	253.3	153.2	113.5	97.9	95.1
20°	300.8	277.4	259.0	245.5	150.4	119.2	110.0	110.0
22.5°	296.6	272.4	254.7	241.2	155.4	132.7	129.1	131.2
25°	290.9	268.2	250.4	237.7	160.3	143.3	141.2	144.0
27.5°	281.7	259.0	241.9	229.2	157.5	141.9	139.8	141.2
30°	263.2	241.2	226.3	212.8	146.1	131.2	127.7	128.4
32.5°	239.8	218.5	204.3	191.6	129.8	115.6	112.1	112.1
35°	214.3	194.4	180.9	169.6	114.2	101.5	97.9	97.2
37.5°	188.7	170.3	158.9	148.3	100.0	88.7	85.1	84.4
40°	163.2	146.9	136.2	127.7	88.0	78.7	75.2	74.5
42.5°	139.1	124.9	115.6	108.5	76.6	69.5	66.7	66.0
45°	114.9	103.6	96.5	90.8	66.7	59.6	58.9	58.9
47.5°	92.9	83.7	78.7	75.2	56.8	51.1	50.4	51.1
50°	74.5	68.1	64.6	61.7	48.2	43.3	41.1	41.1
52.5°	58.9	54.6	52.5	50.4	39.7	34.8	31.9	31.2
55°	46.8	43.3	41.9	40.4	31.2	25.5	22.7	22.0
57.5°	36.9	34.1	32.6	31.2	23.4	17.7	14.9	14.2
60°	27.7	25.5	24.1	23.4	16.3	10.6	8.5	7.8
62.5°	19.9	18.4	17.0	16.3	9.9	5.7	3.5	2.8
65°	12.1	12.1	10.6	9.9	5.0	2.1	1.4	0.7
67.5°	7.1	6.4	5.7	5.7	2.1	1.4	0.7	0.7
70°	3.5	3.5	2.8	2.8	1.4	0.7	0.7	0.7
72.5°	2.1	2.1	2.1	1.4	1.4	0.7	0.7	0.7
75°	1.4	1.4	1.4	1.4	1.4	0.7	0.7	0.7
77.5°	1.4	1.4	1.4	1.4	1.4	0.7	0.7	0.0
80°	1.4	1.4	1.4	1.4	1.4	0.7	0.7	0.0
82.5°	1.4	1.4	1.4	1.4	1.4	0.7	0.7	0.7
85°	1.4	1.4	1.4	1.4	1.4	0.7	0.7	0.0
87.5°	1.4	1.4	1.4	1.4	1.4	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)