

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P332760-840

Luminaire Tested: **S124DIW-S575D1050U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332760-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S575D1050U840-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 575 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1050 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6066.1 lumens
Efficiency: N/A
Efficacy: 134.2 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

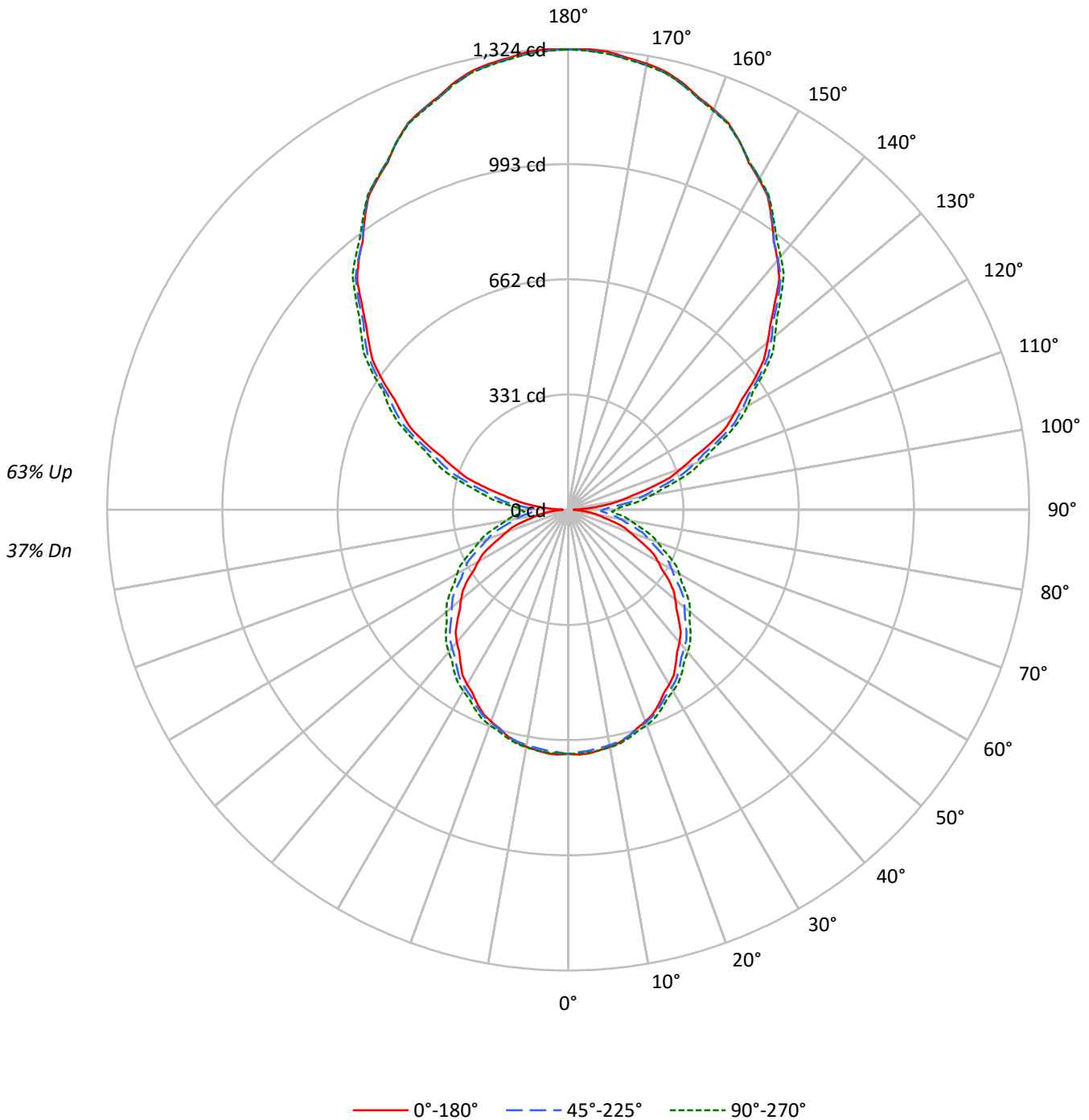
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	94	89	85	82	85	81	78	74	65	63	61	51	49	48	37	36	35	29
2	85	78	71	66	77	70	65	60	57	53	50	44	41	39	32	31	29	24
3	78	68	60	55	70	62	55	50	50	45	41	39	35	33	29	26	24	20
4	71	60	52	46	64	54	47	42	44	39	35	34	31	28	25	23	21	17
5	65	53	45	39	58	48	41	36	39	34	30	31	27	24	23	20	18	14
6	60	47	39	34	54	43	36	31	35	30	26	28	24	21	21	18	16	13
7	55	43	35	29	50	39	32	27	32	26	23	25	21	18	19	16	14	11
8	51	39	31	26	46	35	28	24	29	24	20	23	19	16	17	14	12	10
9	47	35	28	23	43	32	26	21	26	21	18	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	19	24	19	16	19	16	13	15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5666	5666	5666
5°	5683	5537	5552
10°	5649	5446	5442
15°	5598	5341	5312
20°	5521	5226	5185
25°	5435	5096	5047
30°	5342	4967	4904
35°	5237	4834	4779
40°	5153	4710	4648
45°	5027	4594	4537
50°	4920	4460	4418
55°	4811	4333	4278
60°	4641	4173	4153
65°	4454	4001	3997
70°	4226	3805	3816
75°	3910	3587	3652
80°	3559	3381	3492
85°	3112	3195	3398



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.5	1.1
10°-20°	190.4	3.1
20°-30°	287.9	4.7
30°-40°	348.3	5.7
40°-50°	368.3	6.1
50°-60°	346.6	5.7
60°-70°	287.5	4.7
70°-80°	202.0	3.3
80°-90°	118.1	1.9
90°-100°	155.0	2.6
100°-110°	308.7	5.1
110°-120°	472.4	7.8
120°-130°	597.4	9.8
130°-140°	657.8	10.8
140°-150°	640.0	10.6
150°-160°	536.9	8.9
160°-170°	357.2	5.9
170°-180°	125.1	2.1
0°-30°	544.7	9.0
0°-40°	893.1	14.7
0°-60°	1607.9	26.5
0°-90°	2215.5	36.5
90°-120°	936.1	15.4
90°-150°	2831.3	46.7
90°-180°	3851.0	63.5
0°-180°	6066.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	702	702	702	702	702	
5°	703	700	695	700	700	67
15°	674	674	672	678	678	190
25°	616	621	623	631	633	284
35°	539	548	556	567	570	337
45°	450	464	479	492	497	347
55°	352	369	392	407	412	314
65°	244	269	296	314	321	241
75°	135	164	197	218	226	144
85°	42	75	110	133	142	44
90°	16	58	100	128	138	12
95°	72	107	146	169	177	76
105°	245	263	295	317	327	261
115°	451	459	481	497	502	445
125°	653	653	671	683	686	582
135°	839	846	851	861	863	649
145°	1019	1022	1023	1026	1027	637
155°	1166	1166	1165	1169	1165	536
165°	1270	1267	1264	1270	1266	358
175°	1321	1316	1315	1321	1315	125
180°	1323	1323	1323	1323	1323	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8
2.5°	704.3	703.9	703.5	703.0	702.6	701.9	700.7	699.6	698.4	697.3	698.3
5°	702.6	702.1	701.5	700.9	700.4	699.5	698.3	697.1	695.9	694.7	696.1
7.5°	696.6	696.2	695.9	695.6	695.3	694.7	693.7	692.7	691.6	690.5	692.2
10°	691.6	691.4	691.2	691.1	690.8	690.3	689.4	688.5	687.7	686.8	688.4
12.5°	684.6	684.6	684.6	684.5	684.5	684.2	683.6	683.0	682.4	681.8	683.2
15°	673.5	673.7	673.8	674.0	674.2	674.0	673.5	673.0	672.4	671.9	673.5
17.5°	658.2	658.7	659.2	659.7	660.4	660.6	660.5	660.4	660.2	660.1	661.7
20°	647.5	648.0	648.5	649.1	649.6	649.9	650.2	650.4	650.5	650.7	652.4
22.5°	635.6	636.2	636.9	637.5	638.2	638.7	639.0	639.3	639.6	640.0	641.8
25°	616.1	617.1	618.2	619.2	620.3	621.1	621.6	622.1	622.7	623.2	625.1
27.5°	594.4	595.9	597.4	599.1	600.6	601.7	602.5	603.3	604.1	604.9	606.7
30°	580.0	581.4	582.7	584.1	585.5	586.8	588.0	589.3	590.5	591.8	593.7
32.5°	564.2	565.9	567.5	569.3	571.0	572.5	573.8	575.2	576.5	577.9	580.1
35°	539.1	541.2	543.3	545.3	547.4	549.4	551.1	552.9	554.6	556.3	558.9
37.5°	513.8	516.1	518.6	521.0	523.4	525.7	527.9	530.1	532.2	534.3	536.8
40°	497.5	499.7	502.0	504.2	506.5	508.9	511.3	513.7	516.2	518.7	521.3
42.5°	478.6	481.1	483.6	486.3	488.8	491.5	494.3	497.2	500.1	502.9	505.8
45°	449.5	452.8	456.2	459.5	462.7	466.1	469.4	472.7	476.1	479.4	482.3
47.5°	421.7	425.1	428.5	431.9	435.4	439.0	442.8	446.7	450.5	454.3	457.5
50°	401.5	405.4	409.2	413.1	417.0	420.8	424.6	428.5	432.3	436.2	439.6
52.5°	381.4	385.3	389.1	392.9	396.8	400.9	405.4	409.7	414.1	418.5	422.0
55°	352.0	355.7	359.4	363.0	366.7	371.1	376.4	381.6	386.9	392.1	395.7
57.5°	319.2	323.8	328.3	332.9	337.4	342.2	347.4	352.6	357.9	363.0	367.2
60°	297.8	302.4	306.9	311.4	316.0	321.1	326.9	332.6	338.4	344.2	348.2
62.5°	277.1	282.1	287.0	292.0	296.9	302.3	308.0	313.8	319.6	325.4	329.3
65°	243.6	249.2	254.8	260.3	266.0	271.8	277.6	283.6	289.5	295.5	299.8
67.5°	211.4	217.3	223.3	229.2	235.1	241.3	247.6	254.0	260.3	266.7	271.1
70°	189.3	195.3	201.3	207.2	213.2	219.4	226.0	232.7	239.3	246.0	250.6
72.5°	168.0	174.1	180.2	186.2	192.3	198.8	205.9	213.0	220.0	227.1	231.7
75°	135.1	141.6	148.0	154.5	161.0	167.9	175.2	182.6	190.0	197.2	202.2
77.5°	104.5	111.4	118.3	125.0	131.9	139.2	146.8	154.5	162.2	169.9	174.8
80°	85.6	92.6	99.7	106.6	113.6	120.9	128.7	136.3	144.0	151.7	156.9
82.5°	66.8	74.0	81.3	88.6	95.8	103.3	111.0	118.7	126.3	134.1	139.5
85°	41.6	49.0	56.4	63.6	71.0	78.6	86.4	94.3	102.2	110.0	115.2
87.5°	23.8	31.5	39.1	46.8	54.3	62.2	70.2	78.3	86.2	94.2	99.6
90°	15.7	25.1	34.6	44.1	53.6	63.0	72.3	81.7	91.0	100.3	106.7
92.5°	33.8	43.0	52.1	61.3	70.5	79.4	88.2	96.9	105.7	114.5	120.3
95°	71.6	79.4	87.3	95.0	102.8	111.1	119.9	128.7	137.3	146.1	151.5
97.5°	116.4	123.1	129.7	136.2	142.9	150.7	159.6	168.5	177.5	186.4	191.9
100°	151.9	157.3	162.8	168.2	173.7	180.9	189.7	198.5	207.4	216.2	221.5
102.5°	189.6	193.9	198.2	202.6	206.9	213.4	221.9	230.5	238.9	247.5	252.7
105°	245.4	249.1	252.9	256.6	260.3	265.9	273.3	280.6	288.0	295.4	300.4
107.5°	305.7	308.8	311.9	315.1	318.2	322.9	329.1	335.4	341.6	347.9	352.8
110°	346.0	348.8	351.7	354.7	357.5	361.9	367.8	373.7	379.6	385.5	389.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	387.9	390.1	392.3	394.7	396.9	400.7	406.2	411.6	417.0	422.4	426.2
115°	450.8	452.3	453.9	455.4	457.1	460.4	465.5	470.7	475.8	480.9	484.5
117.5°	510.8	511.9	513.0	514.1	515.2	518.3	523.1	528.1	532.9	537.8	540.7
120°	550.3	551.7	553.1	554.5	555.9	558.9	563.3	567.6	572.0	576.4	578.8
122.5°	592.0	592.5	592.9	593.4	593.8	596.3	600.8	605.2	609.8	614.2	616.9
125°	652.8	652.6	652.4	652.3	652.1	654.1	658.2	662.4	666.5	670.7	673.5
127.5°	708.5	709.0	709.5	710.0	710.5	712.3	715.3	718.2	721.2	724.2	726.9
130°	747.1	747.6	748.1	748.6	749.1	750.8	753.6	756.4	759.2	761.9	764.7
132.5°	787.2	787.6	787.9	788.2	788.5	789.7	791.7	793.9	795.9	797.9	800.5
135°	839.4	840.8	842.1	843.5	844.9	846.2	847.4	848.6	849.9	851.1	853.4
137.5°	897.2	897.6	898.1	898.5	899.0	899.7	900.7	901.6	902.6	903.5	905.4
140°	935.6	935.8	936.1	936.4	936.8	937.0	937.2	937.3	937.5	937.7	939.7
142.5°	970.2	970.6	971.0	971.4	971.9	971.9	971.6	971.4	971.1	970.8	972.7
145°	1018.8	1019.5	1020.2	1020.9	1021.7	1022.1	1022.4	1022.6	1022.8	1023.0	1023.9
147.5°	1067.0	1067.9	1068.8	1069.8	1070.7	1071.1	1070.9	1070.7	1070.5	1070.3	1070.3
150°	1096.4	1097.2	1097.9	1098.6	1099.4	1099.7	1099.7	1099.7	1099.7	1099.7	1099.7
152.5°	1123.7	1124.2	1124.7	1125.2	1125.7	1126.0	1126.2	1126.4	1126.6	1126.8	1127.3
155°	1166.3	1166.3	1166.3	1166.3	1166.3	1166.2	1165.9	1165.7	1165.5	1165.3	1166.2
157.5°	1202.2	1201.8	1201.4	1201.0	1200.6	1200.4	1200.3	1200.3	1200.2	1200.2	1200.9
160°	1223.6	1223.4	1223.0	1222.8	1222.6	1222.4	1222.1	1221.9	1221.7	1221.5	1222.1
162.5°	1243.1	1242.6	1242.0	1241.4	1240.8	1240.4	1240.2	1240.0	1239.7	1239.5	1240.7
165°	1269.6	1268.9	1268.2	1267.6	1266.9	1266.3	1265.9	1265.4	1265.0	1264.5	1265.9
167.5°	1289.8	1288.9	1288.0	1287.0	1286.1	1285.6	1285.7	1285.7	1285.7	1285.8	1287.1
170°	1301.3	1300.2	1299.0	1297.9	1296.8	1296.3	1296.6	1296.8	1297.0	1297.2	1298.6
172.5°	1309.5	1308.5	1307.6	1306.7	1305.7	1305.3	1305.3	1305.4	1305.4	1305.4	1307.0
175°	1320.7	1319.6	1318.5	1317.4	1316.2	1315.6	1315.2	1315.0	1314.8	1314.6	1316.2
177.5°	1324.4	1323.5	1322.6	1321.7	1320.8	1320.3	1320.3	1320.3	1320.3	1320.3	1321.6
180°	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8
2.5°	699.3	700.2	701.3	701.7	701.6	701.4	701.3	701.1
5°	697.5	698.8	700.2	700.8	700.7	700.5	700.3	700.1
7.5°	693.8	695.3	696.9	697.6	697.4	697.2	697.0	696.9
10°	689.9	691.6	693.1	693.8	693.7	693.5	693.3	693.1
12.5°	684.7	686.1	687.5	688.2	688.2	688.1	688.1	688.1
15°	675.0	676.6	678.1	678.8	678.7	678.5	678.3	678.1
17.5°	663.3	664.9	666.5	667.2	667.1	667.0	666.8	666.7
20°	654.2	655.9	657.6	658.5	658.5	658.5	658.5	658.5
22.5°	643.5	645.2	646.9	648.0	648.2	648.5	648.8	649.1
25°	627.0	628.9	630.9	631.9	632.1	632.3	632.4	632.6
27.5°	608.5	610.3	612.1	613.1	613.3	613.5	613.7	613.9
30°	595.6	597.5	599.5	600.6	600.9	601.3	601.6	602.0
32.5°	582.3	584.5	586.7	587.9	588.3	588.7	589.1	589.4
35°	561.3	563.7	566.1	567.6	568.2	568.7	569.2	569.8
37.5°	539.4	541.8	544.3	545.8	546.3	546.9	547.4	548.1
40°	523.9	526.5	529.2	530.8	531.5	532.2	532.9	533.6
42.5°	508.8	511.6	514.5	516.2	516.8	517.4	518.0	518.5
45°	485.3	488.3	491.2	493.1	494.0	494.9	495.7	496.7
47.5°	460.5	463.6	466.7	468.7	469.8	470.8	471.9	472.9
50°	443.1	446.7	450.1	452.4	453.4	454.4	455.6	456.6
52.5°	425.6	429.0	432.5	434.7	435.9	436.9	437.9	439.0
55°	399.1	402.6	406.1	408.4	409.4	410.5	411.5	412.5
57.5°	371.3	375.6	379.7	382.2	383.2	384.2	385.2	386.2
60°	352.2	356.3	360.2	362.9	364.4	365.8	367.2	368.6
62.5°	333.4	337.4	341.4	344.1	345.5	346.9	348.3	349.7
65°	304.2	308.6	313.0	315.8	317.2	318.6	320.0	321.4
67.5°	275.6	280.0	284.5	287.3	288.7	290.0	291.4	292.8
70°	255.4	260.1	264.8	267.8	269.0	270.2	271.5	272.7
72.5°	236.2	240.9	245.4	248.3	249.7	251.1	252.5	253.8
75°	207.0	211.9	216.8	220.0	221.6	223.2	224.8	226.3
77.5°	179.9	184.8	189.8	193.1	194.7	196.4	198.0	199.8
80°	162.2	167.3	172.6	175.9	177.3	178.7	180.2	181.6
82.5°	144.8	150.2	155.6	159.1	160.6	162.1	163.6	165.2
85°	120.5	125.7	131.0	134.5	136.2	137.9	139.7	141.5
87.5°	104.9	110.3	115.6	119.1	120.7	122.3	123.9	125.6
90°	113.2	119.6	126.0	130.2	132.0	133.9	135.7	137.5
92.5°	126.0	131.8	137.5	141.2	142.9	144.5	146.2	147.9
95°	156.9	162.3	167.7	171.2	172.8	174.3	175.9	177.4
97.5°	197.2	202.7	208.0	211.5	213.0	214.5	216.0	217.5
100°	226.6	231.8	236.9	240.1	241.4	242.6	243.8	245.0
102.5°	257.9	263.1	268.3	271.7	273.3	274.8	276.3	277.9
105°	305.5	310.5	315.6	319.1	321.1	323.3	325.4	327.4
107.5°	357.7	362.6	367.6	370.7	371.9	373.1	374.4	375.6
110°	392.6	396.2	399.7	402.5	404.7	406.7	408.8	410.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	430.0	433.7	437.6	440.2	441.7	443.3	444.8	446.4
115°	488.2	491.8	495.4	497.7	498.7	499.7	500.7	501.7
117.5°	543.5	546.3	549.3	551.2	552.1	553.0	554.0	554.9
120°	581.1	583.5	585.8	587.9	589.8	591.7	593.5	595.3
122.5°	619.7	622.4	625.1	626.6	627.0	627.5	627.9	628.4
125°	676.3	679.2	682.1	683.8	684.4	685.0	685.6	686.2
127.5°	729.6	732.3	735.0	736.7	737.5	738.4	739.2	740.0
130°	767.4	770.0	772.7	774.2	774.3	774.5	774.6	774.7
132.5°	803.0	805.6	808.1	809.7	810.4	811.1	811.8	812.4
135°	855.8	858.1	860.4	861.8	862.1	862.5	862.9	863.2
137.5°	907.5	909.4	911.4	912.8	913.8	914.8	915.8	916.9
140°	941.7	943.8	945.8	947.2	947.9	948.5	949.1	949.8
142.5°	974.6	976.6	978.6	979.9	980.6	981.3	981.9	982.6
145°	1024.7	1025.5	1026.3	1026.7	1026.7	1026.7	1026.8	1026.8
147.5°	1070.3	1070.2	1070.2	1070.3	1070.6	1071.0	1071.3	1071.6
150°	1099.7	1099.7	1099.7	1099.6	1099.4	1099.2	1098.9	1098.7
152.5°	1127.8	1128.4	1128.9	1128.9	1128.3	1127.7	1127.1	1126.6
155°	1167.1	1168.0	1168.9	1168.9	1168.0	1167.1	1166.2	1165.3
157.5°	1201.6	1202.2	1203.0	1203.0	1202.1	1201.3	1200.6	1199.8
160°	1222.8	1223.6	1224.3	1224.0	1222.8	1221.7	1220.6	1219.4
162.5°	1241.9	1243.1	1244.5	1244.5	1243.3	1242.2	1241.0	1239.9
165°	1267.2	1268.6	1269.9	1270.1	1269.2	1268.3	1267.4	1266.5
167.5°	1288.5	1289.8	1291.2	1291.2	1289.8	1288.4	1287.0	1285.6
170°	1299.9	1301.3	1302.6	1302.5	1301.0	1299.4	1297.8	1296.2
172.5°	1308.5	1310.0	1311.6	1311.5	1310.0	1308.4	1306.8	1305.1
175°	1317.8	1319.4	1321.0	1321.0	1319.4	1317.8	1316.2	1314.6
177.5°	1322.9	1324.1	1325.4	1325.3	1323.8	1322.4	1321.0	1319.5
180°	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8

(END OF REPORT)