

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: P331949-940

Luminaire Tested: **S123DIP-S560D1195U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331949-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D1195U940-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6363.5 lumens
Efficiency: N/A
Efficacy: 128.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

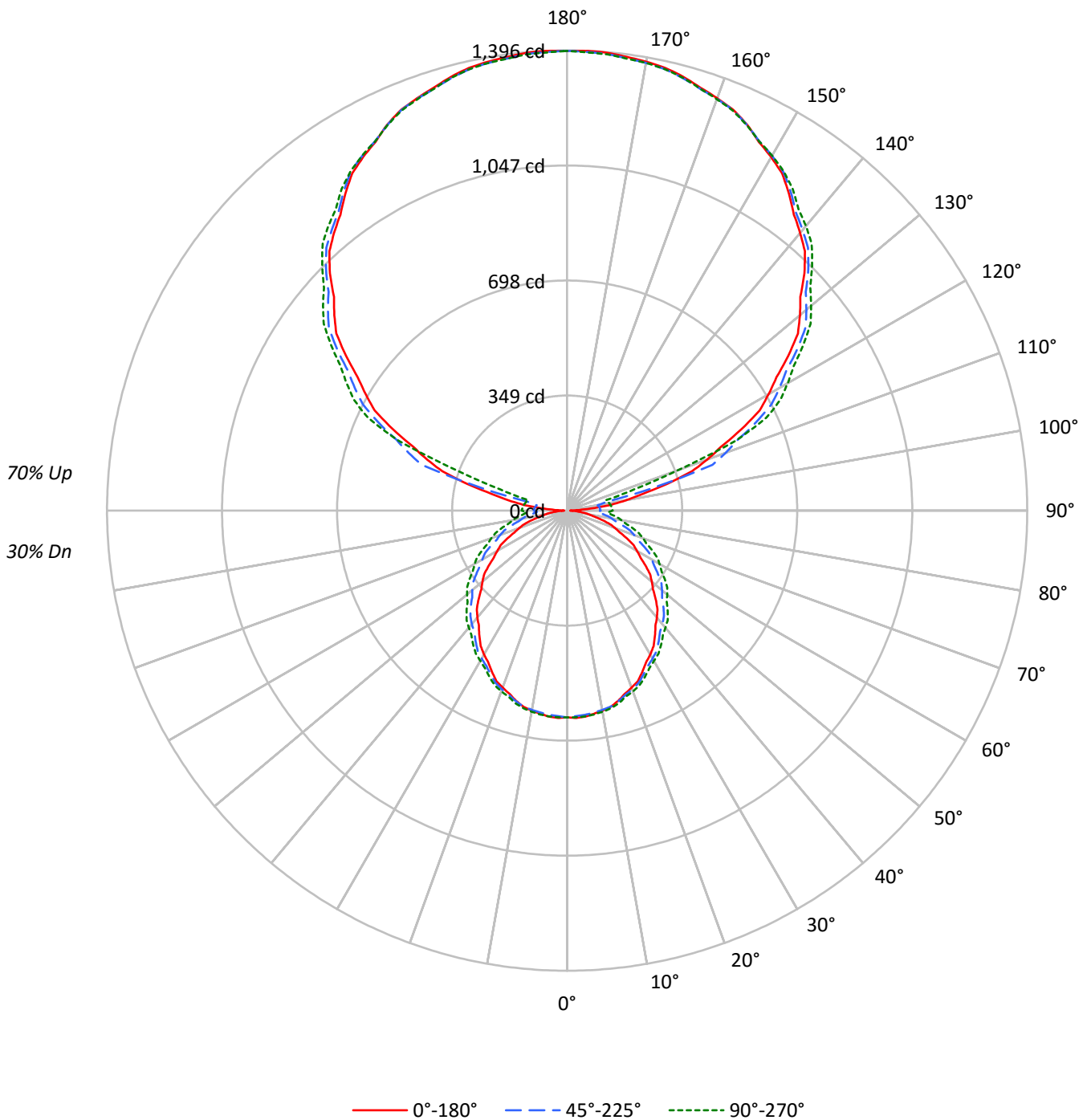
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	102	102	102	102	92	92	92	92	72	72	72	55	55	55	38	38	38
1	93	88	84	81	83	79	76	73	62	60	58	47	45	44	33	32	31
2	84	77	70	65	75	69	64	59	54	51	47	41	38	36	28	27	25
3	77	67	60	54	68	60	54	49	48	43	40	36	33	30	25	23	21
4	70	59	51	45	62	53	47	41	42	37	33	32	28	26	22	20	18
5	64	52	44	39	57	47	40	35	37	32	29	28	25	22	20	18	16
6	59	47	39	33	52	42	35	30	34	29	25	25	22	19	18	16	14
7	54	42	34	29	48	38	31	26	30	25	22	23	20	17	16	14	12
8	50	38	31	25	45	34	28	23	28	23	19	21	17	15	15	13	11
9	47	35	27	22	42	31	25	21	25	20	17	19	16	13	14	11	10
10	43	32	25	20	39	29	22	18	23	18	15	18	14	12	13	10	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6750	6750	6750
5°	6771	6579	6584
10°	6710	6428	6396
15°	6624	6256	6191
20°	6501	6059	5966
25°	6348	5833	5729
30°	6191	5629	5489
35°	6016	5414	5298
40°	5848	5218	5093
45°	5664	5030	4929
50°	5480	4845	4748
55°	5278	4654	4586
60°	5080	4461	4419
65°	4879	4255	4221
70°	4575	4025	4016
75°	4191	3760	3810
80°	3748	3499	3575
85°	3332	3319	3435



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.4	0.9
10°-20°	169.5	2.7
20°-30°	253.4	4.0
30°-40°	302.7	4.8
40°-50°	316.7	5.0
50°-60°	297.2	4.7
60°-70°	248.2	3.9
70°-80°	177.6	2.8
80°-90°	109.8	1.7
90°-100°	117.1	1.8
100°-110°	290.5	4.6
110°-120°	613.0	9.6
120°-130°	757.7	11.9
130°-140°	798.0	12.5
140°-150°	740.2	11.6
150°-160°	595.7	9.4
160°-170°	384.4	6.0
170°-180°	132.5	2.1
0°-30°	482.3	7.6
0°-40°	785.0	12.3
0°-60°	1398.8	22.0
0°-90°	1934.4	30.4
90°-120°	1020.6	16.0
90°-150°	3316.5	52.1
90°-180°	4429.0	69.6
0°-180°	6363.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	627	627	627	627	627	
5°	628	626	622	627	627	59
15°	598	600	599	605	605	168
25°	540	546	548	557	557	249
35°	464	475	484	494	497	290
45°	380	396	413	426	432	293
55°	290	312	337	354	361	259
65°	200	227	257	277	284	198
75°	109	141	175	197	206	116
85°	33	68	104	126	134	35
90°	10	54	102	128	138	9
95°	71	58	100	127	135	84
105°	314	337	278	124	122	333
115°	583	598	631	657	667	575
125°	818	828	851	866	874	731
135°	1018	1024	1035	1049	1051	783
145°	1173	1180	1182	1189	1192	734
155°	1292	1290	1291	1295	1290	595
165°	1362	1359	1358	1366	1359	385
175°	1394	1390	1390	1397	1389	133
180°	1394	1394	1394	1394	1394	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1
2.5°	629.8	629.5	629.1	628.7	628.3	627.7	626.7	625.7	624.7	623.8	624.7
5°	627.8	627.4	627.1	626.9	626.5	625.9	625.0	624.1	623.2	622.2	623.5
7.5°	621.6	621.6	621.7	621.8	621.9	621.4	620.5	619.6	618.8	617.9	619.4
10°	616.2	616.4	616.7	617.1	617.3	617.2	616.4	615.6	614.8	614.1	615.6
12.5°	609.6	610.0	610.5	610.8	611.3	611.3	610.7	610.2	609.7	609.1	610.6
15°	597.7	598.2	598.6	599.1	599.5	599.7	599.5	599.3	599.2	599.1	600.6
17.5°	582.6	583.5	584.5	585.4	586.3	586.7	586.7	586.6	586.6	586.5	587.8
20°	571.8	572.7	573.5	574.4	575.3	576.0	576.3	576.6	576.8	577.2	578.5
22.5°	560.3	561.2	562.0	563.0	563.9	564.5	565.0	565.4	565.9	566.2	568.0
25°	539.7	541.2	542.7	544.2	545.7	546.7	547.2	547.6	548.0	548.5	550.5
27.5°	518.9	520.6	522.4	524.1	525.8	527.1	528.1	529.1	530.0	531.0	532.7
30°	504.1	506.0	508.0	510.1	512.0	513.6	514.8	516.0	517.2	518.4	520.3
32.5°	487.7	489.9	492.1	494.4	496.6	498.5	500.1	501.6	503.2	504.8	506.8
35°	464.5	466.9	469.3	471.8	474.2	476.4	478.4	480.4	482.3	484.3	486.6
37.5°	439.9	442.6	445.3	448.1	450.8	453.4	455.8	458.3	460.7	463.2	465.7
40°	423.5	426.2	429.0	431.7	434.4	437.3	440.3	443.4	446.4	449.4	452.0
42.5°	405.5	408.8	412.1	415.4	418.8	422.0	425.3	428.4	431.6	434.7	437.6
45°	379.8	383.4	387.1	390.7	394.3	398.1	401.9	405.6	409.5	413.2	416.2
47.5°	352.8	357.0	361.1	365.2	369.3	373.6	378.0	382.3	386.6	391.0	394.2
50°	335.4	339.7	343.8	348.1	352.4	356.9	361.6	366.3	371.0	375.7	379.2
52.5°	316.8	321.3	325.8	330.3	334.7	339.7	344.8	350.0	355.2	360.4	364.0
55°	289.6	294.6	299.6	304.6	309.7	314.9	320.4	325.8	331.3	336.7	340.8
57.5°	263.1	268.3	273.6	278.7	284.0	289.6	295.6	301.6	307.6	313.5	317.6
60°	244.5	250.0	255.5	260.9	266.4	272.2	278.5	284.7	290.9	297.1	301.4
62.5°	227.0	232.6	238.3	243.8	249.4	255.5	262.1	268.7	275.3	281.9	286.1
65°	200.1	206.1	212.0	217.9	223.8	230.2	236.8	243.4	250.1	256.8	261.4
67.5°	172.8	179.1	185.4	191.6	198.0	204.5	211.3	218.1	224.9	231.7	236.7
70°	153.7	160.2	166.7	173.3	179.8	186.7	193.9	201.3	208.6	215.9	220.7
72.5°	136.2	142.8	149.3	155.8	162.3	169.3	176.8	184.4	191.9	199.5	204.5
75°	108.6	115.7	122.9	130.0	137.1	144.5	152.1	159.7	167.3	174.9	179.9
77.5°	84.5	91.8	99.0	106.1	113.3	120.7	128.4	136.1	143.7	151.4	156.7
80°	67.6	75.1	82.5	90.0	97.4	105.0	112.9	120.8	128.8	136.6	141.8
82.5°	52.9	60.5	67.9	75.5	83.1	90.9	98.9	106.9	114.9	123.0	128.1
85°	33.4	41.0	48.7	56.3	63.8	71.6	79.7	87.7	95.8	103.8	109.0
87.5°	18.4	26.4	34.4	42.4	50.5	58.7	67.0	75.3	83.6	92.0	97.4
90°	9.9	19.6	29.4	39.1	48.9	59.1	69.8	80.6	91.3	102.0	108.2
92.5°	27.6	33.7	39.8	45.8	51.9	59.8	69.7	79.5	89.4	99.3	105.8
95°	70.7	67.2	63.7	60.2	56.6	59.8	69.8	79.8	89.8	99.8	106.0
97.5°	133.7	134.8	135.9	137.1	138.1	133.9	124.5	115.0	105.6	96.0	102.5
100°	181.2	190.7	200.2	209.6	219.1	209.4	180.4	151.5	122.5	93.6	99.9
102.5°	235.4	243.1	250.7	258.4	266.2	253.8	221.4	189.0	156.7	124.3	122.9
105°	314.1	320.4	326.5	332.7	338.9	334.9	320.7	306.5	292.3	278.1	241.7
107.5°	396.6	401.8	406.9	412.1	417.1	424.5	433.9	443.4	452.8	462.3	436.5
110°	451.7	456.2	460.8	465.4	469.9	476.5	485.2	493.7	502.4	511.0	507.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	504.7	508.6	512.5	516.4	520.3	526.5	534.8	543.1	551.5	559.9	563.8
115°	582.6	585.8	589.0	592.2	595.3	600.7	608.2	615.8	623.3	630.9	636.8
117.5°	658.4	661.3	664.1	666.9	669.8	674.2	680.5	686.6	692.9	699.0	704.5
120°	705.2	707.9	710.8	713.6	716.5	720.8	726.4	732.1	737.8	743.5	748.9
122.5°	753.2	755.3	757.4	759.5	761.6	765.4	771.2	776.8	782.4	788.0	792.7
125°	818.4	820.3	822.1	823.9	825.8	829.4	834.7	840.0	845.3	850.7	854.3
127.5°	882.3	884.0	885.6	887.3	889.0	892.2	897.0	901.7	906.4	911.2	915.0
130°	922.0	923.7	925.4	927.1	928.8	931.6	935.6	939.5	943.4	947.4	951.2
132.5°	959.6	961.4	963.2	965.0	966.9	969.3	972.5	975.6	978.8	982.0	985.7
135°	1017.7	1018.9	1020.1	1021.4	1022.6	1024.5	1027.1	1029.7	1032.2	1034.8	1038.3
137.5°	1067.3	1068.9	1070.5	1072.2	1073.8	1075.3	1076.7	1078.3	1079.7	1081.1	1084.6
140°	1099.8	1101.3	1102.6	1104.0	1105.4	1106.7	1107.8	1108.9	1110.1	1111.3	1114.5
142.5°	1130.5	1131.8	1133.1	1134.3	1135.6	1136.6	1137.4	1138.2	1139.0	1139.7	1142.5
145°	1173.4	1174.9	1176.3	1177.8	1179.3	1180.3	1180.7	1181.2	1181.6	1182.1	1183.7
147.5°	1213.2	1214.2	1215.3	1216.3	1217.4	1218.2	1218.6	1219.1	1219.5	1219.9	1220.8
150°	1238.1	1238.7	1239.4	1240.1	1240.8	1241.4	1241.8	1242.2	1242.8	1243.2	1243.7
152.5°	1260.4	1260.7	1261.1	1261.3	1261.7	1261.9	1262.2	1262.6	1262.8	1263.1	1263.9
155°	1291.9	1291.5	1290.9	1290.5	1290.0	1289.9	1290.1	1290.4	1290.7	1290.8	1292.0
157.5°	1316.3	1316.3	1316.3	1316.2	1316.2	1316.0	1315.8	1315.5	1315.4	1315.1	1316.5
160°	1331.2	1331.1	1330.8	1330.6	1330.3	1330.1	1329.9	1329.6	1329.5	1329.2	1330.6
162.5°	1345.3	1344.8	1344.2	1343.5	1342.9	1342.6	1342.3	1342.1	1341.8	1341.6	1343.2
165°	1362.4	1361.6	1360.9	1360.3	1359.6	1359.1	1358.9	1358.6	1358.4	1358.2	1360.0
167.5°	1375.6	1374.7	1373.8	1372.9	1371.9	1371.5	1371.5	1371.5	1371.5	1371.5	1373.3
170°	1383.0	1382.2	1381.3	1380.3	1379.4	1378.9	1378.9	1378.9	1378.9	1378.9	1380.7
172.5°	1388.0	1387.0	1385.8	1384.7	1383.6	1383.1	1383.3	1383.5	1383.7	1383.8	1385.7
175°	1394.5	1393.3	1392.1	1391.0	1389.8	1389.4	1389.6	1389.8	1390.1	1390.3	1392.0
177.5°	1396.2	1395.2	1394.3	1393.4	1392.4	1392.0	1392.2	1392.4	1392.6	1392.8	1394.3
180°	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1
2.5°	625.7	626.7	627.7	628.1	627.9	627.9	627.8	627.6
5°	624.7	625.9	627.1	627.7	627.5	627.3	627.2	627.1
7.5°	620.9	622.4	624.0	624.6	624.5	624.3	624.1	623.9
10°	617.2	618.7	620.2	620.7	620.5	620.2	619.8	619.6
12.5°	612.0	613.3	614.7	615.3	615.0	614.7	614.4	614.1
15°	602.1	603.6	605.1	605.8	605.6	605.5	605.4	605.2
17.5°	589.2	590.6	591.9	592.5	592.3	592.1	591.9	591.7
20°	580.0	581.3	582.6	583.4	583.5	583.7	583.9	584.0
22.5°	569.7	571.5	573.2	574.0	573.9	573.8	573.7	573.6
25°	552.4	554.5	556.4	557.4	557.4	557.4	557.4	557.4
27.5°	534.4	536.1	537.8	538.8	538.9	539.0	539.1	539.2
30°	522.1	523.9	525.8	526.6	526.6	526.6	526.6	526.6
32.5°	508.6	510.6	512.6	513.7	514.1	514.4	514.8	515.1
35°	488.8	491.2	493.4	494.8	495.4	496.1	496.7	497.3
37.5°	468.2	470.8	473.4	475.0	475.5	475.9	476.4	476.9
40°	454.6	457.2	459.8	461.4	462.0	462.6	463.2	463.8
42.5°	440.3	443.2	446.0	447.8	448.7	449.5	450.4	451.2
45°	419.0	421.9	424.8	426.9	428.0	429.3	430.5	431.7
47.5°	397.5	400.7	403.9	406.1	407.0	408.0	408.9	409.8
50°	382.6	386.2	389.7	391.9	393.0	394.0	395.1	396.2
52.5°	367.7	371.2	374.9	377.3	378.6	379.9	381.2	382.5
55°	344.9	349.0	353.1	355.8	357.0	358.2	359.4	360.7
57.5°	321.8	325.9	330.0	332.8	334.2	335.6	337.1	338.5
60°	305.7	309.9	314.1	317.1	318.8	320.4	322.1	323.8
62.5°	290.3	294.6	298.8	301.8	303.3	304.8	306.4	307.9
65°	265.9	270.5	275.1	278.1	279.6	281.2	282.7	284.2
67.5°	241.7	246.6	251.6	254.8	256.0	257.3	258.6	259.8
70°	225.6	230.4	235.3	238.4	240.0	241.5	243.0	244.5
72.5°	209.4	214.4	219.4	222.7	224.2	225.7	227.2	228.7
75°	184.9	189.9	194.9	198.3	200.1	202.0	203.8	205.6
77.5°	161.9	167.2	172.5	175.8	177.3	178.6	180.0	181.5
80°	147.0	152.1	157.3	160.6	162.1	163.6	165.1	166.7
82.5°	133.3	138.4	143.6	147.0	148.5	150.0	151.5	153.0
85°	114.1	119.3	124.5	127.8	129.3	130.8	132.3	133.8
87.5°	102.7	108.1	113.3	116.8	118.5	120.1	121.7	123.3
90°	114.2	120.3	126.4	130.4	132.4	134.4	136.3	138.3
92.5°	112.4	118.9	125.4	129.5	131.2	132.9	134.5	136.2
95°	112.4	118.7	125.0	128.9	130.5	132.0	133.5	135.0
97.5°	108.8	115.1	121.5	125.6	127.3	129.1	130.8	132.6
100°	106.1	112.4	118.6	122.6	124.3	126.1	127.9	129.6
102.5°	121.5	120.0	118.6	118.9	120.8	122.7	124.7	126.6
105°	205.1	168.6	132.2	114.8	116.6	118.4	120.3	122.1
107.5°	410.6	384.9	359.0	331.4	302.1	272.7	243.3	213.9
110°	503.6	500.0	496.3	478.7	446.9	415.3	383.5	351.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	567.8	571.8	575.8	574.9	569.3	563.7	558.0	552.4
115°	642.7	648.7	654.6	658.7	660.8	663.0	665.1	667.3
117.5°	709.9	715.4	720.9	724.2	725.6	727.0	728.3	729.7
120°	754.2	759.6	764.8	768.0	769.1	770.2	771.2	772.3
122.5°	797.4	802.0	806.6	809.6	810.8	812.1	813.3	814.6
125°	857.9	861.6	865.2	867.8	869.3	870.8	872.4	874.0
127.5°	918.7	922.5	926.1	928.4	928.9	929.4	930.1	930.6
130°	955.0	958.9	962.6	964.7	965.2	965.6	966.2	966.6
132.5°	989.4	993.0	996.8	998.7	999.2	999.5	1000.0	1000.3
135°	1041.7	1045.2	1048.6	1050.3	1050.3	1050.4	1050.5	1050.6
137.5°	1088.2	1091.6	1095.1	1097.1	1097.3	1097.6	1098.0	1098.2
140°	1117.7	1120.9	1124.0	1125.8	1126.1	1126.4	1126.7	1126.9
142.5°	1145.3	1148.1	1150.8	1152.3	1152.4	1152.4	1152.6	1152.7
145°	1185.4	1187.1	1188.7	1189.9	1190.5	1191.1	1191.8	1192.3
147.5°	1221.6	1222.4	1223.2	1223.4	1222.9	1222.4	1221.9	1221.4
150°	1244.1	1244.6	1245.0	1245.1	1244.6	1244.3	1243.9	1243.5
152.5°	1264.7	1265.6	1266.4	1266.3	1265.3	1264.4	1263.3	1262.3
155°	1293.2	1294.3	1295.5	1295.3	1294.0	1292.6	1291.2	1289.9
157.5°	1317.9	1319.2	1320.6	1320.4	1318.7	1316.8	1315.0	1313.2
160°	1331.9	1333.3	1334.7	1334.6	1333.0	1331.4	1329.7	1328.1
162.5°	1344.8	1346.3	1347.9	1347.9	1346.5	1345.1	1343.6	1342.2
165°	1361.9	1363.7	1365.6	1365.7	1364.1	1362.4	1360.8	1359.2
167.5°	1375.1	1377.0	1378.9	1378.9	1377.0	1375.1	1373.3	1371.5
170°	1382.6	1384.5	1386.3	1386.3	1384.5	1382.6	1380.7	1378.9
172.5°	1387.6	1389.4	1391.2	1391.2	1389.1	1387.1	1385.1	1383.0
175°	1393.6	1395.2	1396.8	1396.6	1394.8	1392.9	1391.2	1389.3
177.5°	1395.7	1397.2	1398.6	1398.5	1396.7	1394.8	1392.9	1391.2
180°	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5

(END OF REPORT)