

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: P331950

Luminaire Tested: **S123DIP-S560D1195U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331950
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D1195U835-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6465.5 lumens
Efficiency: N/A
Efficacy: 130.9 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

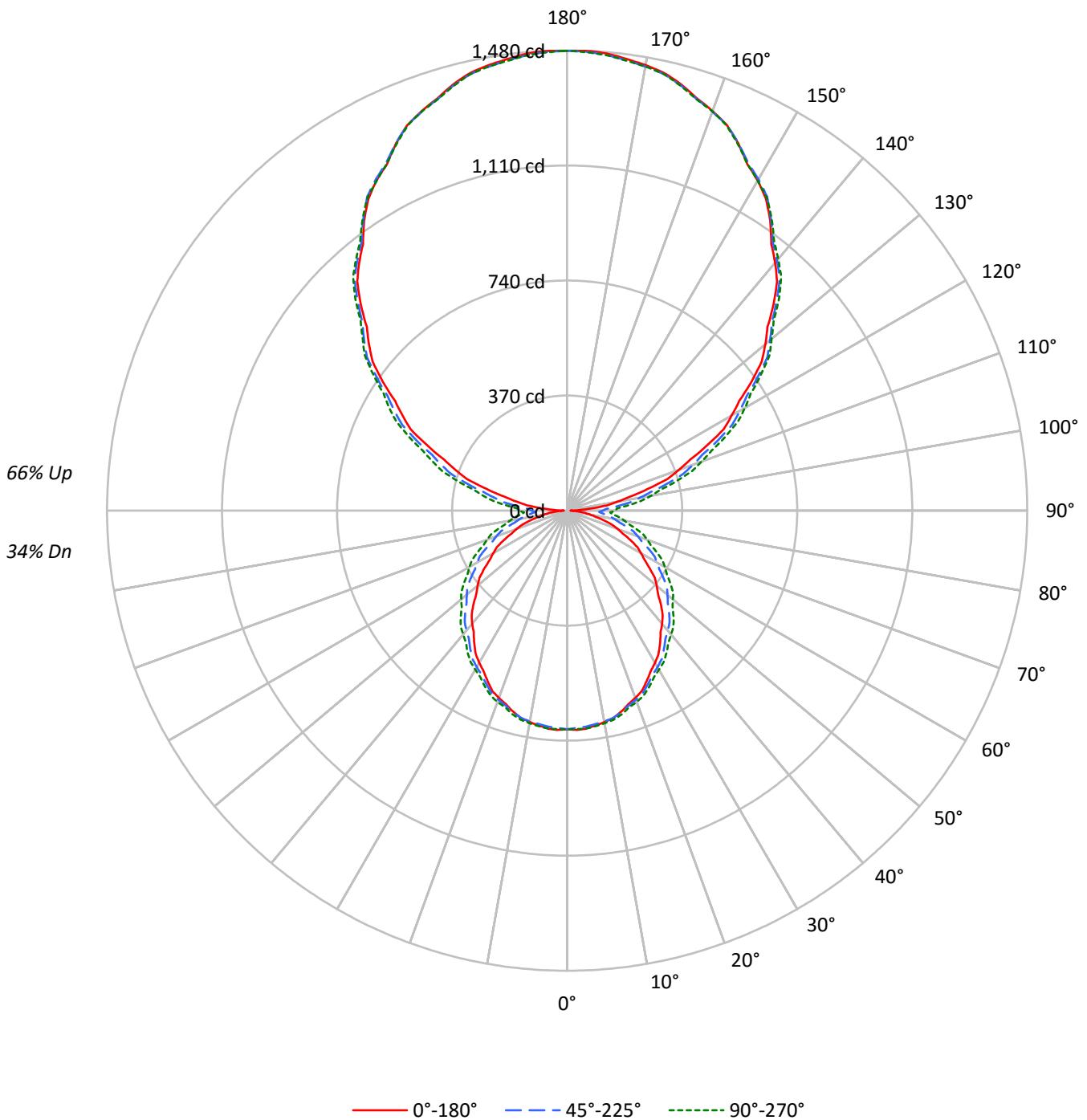
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	34
1	93	89	85	81	84	80	77	74	64	61	59	49	47	46	35	34	33	27
2	85	77	71	66	76	70	64	60	56	52	48	42	40	38	30	29	27	22
3	77	68	60	54	69	61	55	50	49	44	40	37	34	32	27	25	23	18
4	70	60	52	46	63	54	47	42	43	38	34	33	30	27	24	21	20	15
5	64	53	45	39	58	48	41	36	38	33	29	30	26	23	21	19	17	13
6	59	47	39	33	53	43	36	31	34	29	25	27	23	20	19	17	15	12
7	55	42	35	29	49	39	32	27	31	26	22	24	20	18	18	15	13	10
8	51	38	31	25	45	35	28	23	28	23	19	22	18	16	16	14	12	9
9	47	35	28	23	42	32	25	21	26	21	17	20	16	14	15	12	10	8
10	44	32	25	20	39	29	23	19	24	19	15	19	15	12	14	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7569	7569	7569
5°	7593	7378	7383
10°	7525	7209	7173
15°	7428	7016	6943
20°	7289	6795	6690
25°	7119	6541	6425
30°	6943	6313	6156
35°	6746	6072	5942
40°	6558	5852	5711
45°	6351	5641	5527
50°	6145	5433	5325
55°	5919	5219	5143
60°	5697	5003	4956
65°	5471	4772	4733
70°	5132	4514	4504
75°	4700	4216	4274
80°	4202	3924	4008
85°	3741	3722	3854



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.7	1.0
10°-20°	190.0	2.9
20°-30°	284.2	4.4
30°-40°	339.4	5.2
40°-50°	355.1	5.5
50°-60°	333.2	5.2
60°-70°	278.3	4.3
70°-80°	199.1	3.1
80°-90°	123.1	1.9
90°-100°	170.9	2.6
100°-110°	343.2	5.3
110°-120°	527.1	8.2
120°-130°	666.1	10.3
130°-140°	734.6	11.4
140°-150°	714.8	11.1
150°-160°	600.1	9.3
160°-170°	399.5	6.2
170°-180°	139.9	2.2
0°-30°	540.9	8.4
0°-40°	880.3	13.6
0°-60°	1568.7	24.3
0°-90°	2169.3	33.6
90°-120°	1041.1	16.1
90°-150°	3156.6	48.8
90°-180°	4296.0	66.4
0°-180°	6465.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	703	703	703	703	703	
5°	704	702	698	704	703	67
15°	670	672	672	679	679	189
25°	605	613	615	625	625	279
35°	521	533	543	554	558	326
45°	426	444	463	478	484	328
55°	325	350	378	398	404	291
65°	224	255	288	310	319	222
75°	122	158	196	220	231	130
85°	38	76	116	141	150	39
90°	11	61	114	144	155	11
95°	77	116	162	189	198	84
105°	268	290	332	352	362	286
115°	498	511	536	554	560	492
125°	725	729	748	759	760	647
135°	939	945	953	961	963	723
145°	1138	1140	1143	1148	1147	711
155°	1302	1303	1304	1308	1300	599
165°	1419	1415	1415	1421	1414	400
175°	1476	1471	1471	1477	1470	140
180°	1479	1479	1479	1479	1479	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	706.3	705.9	705.5	705.0	704.6	703.9	702.8	701.7	700.6	699.5	700.6
5°	704.0	703.6	703.3	703.0	702.6	701.9	700.9	699.9	698.9	697.8	699.2
7.5°	697.1	697.1	697.2	697.3	697.4	696.9	695.9	694.9	693.9	692.9	694.6
10°	691.0	691.3	691.6	692.0	692.3	692.1	691.2	690.4	689.5	688.7	690.4
12.5°	683.6	684.1	684.6	685.0	685.5	685.5	684.9	684.3	683.7	683.1	684.7
15°	670.3	670.8	671.3	671.8	672.3	672.5	672.3	672.1	672.0	671.8	673.5
17.5°	653.4	654.4	655.5	656.5	657.5	658.0	657.9	657.8	657.8	657.7	659.2
20°	641.2	642.2	643.2	644.2	645.2	645.9	646.3	646.6	646.9	647.3	648.8
22.5°	628.3	629.3	630.3	631.4	632.4	633.1	633.6	634.1	634.6	635.0	637.0
25°	605.2	606.9	608.6	610.3	612.0	613.1	613.6	614.1	614.6	615.1	617.3
27.5°	581.9	583.8	585.8	587.7	589.6	591.1	592.2	593.3	594.4	595.5	597.4
30°	565.3	567.5	569.7	572.0	574.2	576.0	577.3	578.7	580.0	581.4	583.5
32.5°	546.9	549.4	551.9	554.4	556.9	559.0	560.8	562.5	564.3	566.1	568.3
35°	520.9	523.6	526.3	529.1	531.8	534.3	536.5	538.7	540.9	543.1	545.7
37.5°	493.3	496.4	499.4	502.5	505.6	508.5	511.2	513.9	516.6	519.4	522.3
40°	474.9	478.0	481.1	484.1	487.2	490.4	493.8	497.2	500.6	504.0	506.9
42.5°	454.7	458.5	462.2	465.9	469.7	473.3	476.9	480.4	484.0	487.5	490.7
45°	425.9	430.0	434.1	438.2	442.2	446.4	450.7	454.9	459.2	463.4	466.7
47.5°	395.7	400.4	405.0	409.6	414.2	419.0	423.9	428.7	433.6	438.5	442.1
50°	376.1	380.9	385.6	390.4	395.2	400.2	405.5	410.8	416.0	421.3	425.2
52.5°	355.3	360.3	365.4	370.4	375.4	380.9	386.7	392.5	398.3	404.2	408.2
55°	324.8	330.4	336.0	341.6	347.3	353.1	359.3	365.4	371.5	377.6	382.2
57.5°	295.1	300.9	306.8	312.6	318.5	324.8	331.5	338.2	344.9	351.6	356.2
60°	274.2	280.4	286.5	292.6	298.7	305.3	312.3	319.3	326.2	333.2	338.0
62.5°	254.6	260.9	267.2	273.4	279.7	286.5	293.9	301.3	308.7	316.1	320.8
65°	224.4	231.1	237.7	244.4	251.0	258.1	265.6	273.0	280.5	288.0	293.1
67.5°	193.8	200.9	207.9	214.9	222.0	229.3	237.0	244.6	252.2	259.8	265.4
70°	172.4	179.7	187.0	194.3	201.6	209.4	217.5	225.7	233.9	242.1	247.5
72.5°	152.7	160.1	167.4	174.7	182.0	189.9	198.3	206.8	215.2	223.7	229.3
75°	121.8	129.8	137.8	145.8	153.8	162.1	170.6	179.1	187.6	196.1	201.7
77.5°	94.8	102.9	111.0	119.0	127.1	135.4	144.0	152.6	161.2	169.8	175.7
80°	75.8	84.2	92.5	100.9	109.2	117.8	126.6	135.5	144.4	153.2	159.0
82.5°	59.3	67.8	76.2	84.7	93.2	101.9	110.9	119.9	128.9	137.9	143.7
85°	37.5	46.0	54.6	63.1	71.6	80.3	89.4	98.4	107.4	116.4	122.2
87.5°	20.6	29.6	38.6	47.6	56.6	65.8	75.1	84.5	93.8	103.2	109.2
90°	11.1	22.0	33.0	43.9	54.8	66.3	78.3	90.4	102.4	114.4	121.3
92.5°	37.5	46.7	56.0	65.3	74.6	84.4	94.9	105.4	115.8	126.3	132.8
95°	77.0	85.4	93.9	102.3	110.8	120.2	130.6	141.0	151.4	161.8	168.1
97.5°	129.3	136.6	143.9	151.3	158.6	167.0	176.5	185.9	195.4	204.9	211.1
100°	164.9	171.9	178.9	185.9	192.9	201.0	210.1	219.2	228.3	237.4	243.2
102.5°	206.1	212.0	217.8	223.6	229.5	237.1	246.5	255.9	265.3	274.7	280.2
105°	267.6	272.2	276.8	281.4	286.0	293.1	302.7	312.4	322.0	331.7	336.4
107.5°	338.2	342.0	345.8	349.6	353.3	359.2	367.0	374.9	382.8	390.7	396.1
110°	382.2	385.8	389.4	392.9	396.5	402.0	409.3	416.6	424.0	431.3	436.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	428.7	431.5	434.3	437.2	440.0	444.7	451.4	458.0	464.7	471.3	476.8
115°	497.6	500.4	503.3	506.1	508.9	513.1	518.7	524.3	529.9	535.6	539.9
117.5°	567.7	569.4	571.2	573.0	574.8	578.2	583.3	588.4	593.4	598.5	602.5
120°	610.7	613.1	615.5	617.9	620.3	623.7	628.0	632.3	636.7	641.0	644.7
122.5°	656.3	657.9	659.4	661.0	662.6	665.7	670.4	675.1	679.7	684.4	687.5
125°	725.0	725.8	726.5	727.3	728.1	730.7	735.1	739.5	743.9	748.4	750.9
127.5°	789.1	790.6	792.1	793.6	795.1	797.6	801.1	804.6	808.1	811.6	813.5
130°	831.9	833.8	835.7	837.6	839.5	841.7	844.4	847.0	849.6	852.2	854.4
132.5°	874.0	876.1	878.1	880.1	882.2	884.2	886.4	888.6	890.7	892.9	894.7
135°	939.2	940.5	941.9	943.3	944.7	946.2	947.8	949.4	951.0	952.6	954.7
137.5°	999.4	1000.6	1001.7	1002.9	1004.1	1005.5	1007.2	1008.9	1010.7	1012.4	1014.0
140°	1040.6	1041.9	1043.2	1044.5	1045.8	1046.8	1047.6	1048.4	1049.2	1049.9	1052.2
142.5°	1078.8	1079.9	1081.1	1082.2	1083.4	1084.2	1084.8	1085.4	1085.9	1086.5	1088.5
145°	1138.2	1138.6	1138.9	1139.3	1139.6	1140.2	1141.0	1141.7	1142.5	1143.3	1144.4
147.5°	1189.5	1190.5	1191.4	1192.3	1193.3	1194.1	1194.8	1195.5	1196.2	1197.0	1197.4
150°	1225.8	1226.3	1226.8	1227.3	1227.9	1228.4	1228.9	1229.4	1229.9	1230.4	1230.4
152.5°	1255.5	1256.3	1257.0	1257.7	1258.4	1258.9	1259.2	1259.6	1259.9	1260.2	1260.6
155°	1302.5	1302.5	1302.5	1302.5	1302.5	1302.6	1302.9	1303.1	1303.4	1303.6	1304.7
157.5°	1342.4	1342.1	1341.8	1341.5	1341.2	1341.1	1341.4	1341.6	1341.8	1342.0	1343.1
160°	1367.5	1367.0	1366.5	1366.0	1365.5	1365.2	1365.2	1365.2	1365.2	1365.2	1366.5
162.5°	1389.8	1389.1	1388.4	1387.7	1387.0	1386.7	1386.9	1387.1	1387.3	1387.5	1388.8
165°	1418.7	1417.9	1417.1	1416.3	1415.6	1415.2	1415.2	1415.2	1415.2	1415.2	1416.7
167.5°	1441.7	1440.6	1439.6	1438.6	1437.5	1437.1	1437.3	1437.5	1437.7	1437.9	1439.5
170°	1454.7	1453.6	1452.6	1451.6	1450.5	1450.0	1450.0	1450.0	1450.0	1450.0	1451.8
172.5°	1464.9	1463.9	1462.8	1461.8	1460.8	1460.3	1460.3	1460.3	1460.3	1460.3	1461.9
175°	1475.6	1474.6	1473.5	1472.5	1471.5	1470.9	1470.9	1470.9	1470.9	1470.9	1472.5
177.5°	1480.0	1479.2	1478.4	1477.5	1476.7	1476.3	1476.3	1476.3	1476.3	1476.3	1477.5
180°	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	701.7	702.8	703.9	704.4	704.2	704.1	704.0	703.8
5°	700.6	701.9	703.3	703.9	703.7	703.5	703.4	703.2
7.5°	696.3	698.0	699.8	700.5	700.3	700.1	699.9	699.7
10°	692.1	693.8	695.5	696.1	695.8	695.5	695.1	694.8
12.5°	686.3	687.8	689.4	690.0	689.7	689.3	689.0	688.7
15°	675.2	676.9	678.6	679.4	679.2	679.0	678.9	678.7
17.5°	660.8	662.3	663.8	664.5	664.2	664.0	663.8	663.5
20°	650.4	651.9	653.4	654.3	654.4	654.6	654.8	654.9
22.5°	638.9	640.9	642.8	643.7	643.6	643.5	643.4	643.3
25°	619.5	621.8	624.0	625.1	625.1	625.1	625.1	625.1
27.5°	599.3	601.2	603.1	604.2	604.3	604.4	604.6	604.7
30°	585.5	587.5	589.6	590.6	590.6	590.6	590.6	590.6
32.5°	570.4	572.6	574.8	576.1	576.5	576.9	577.3	577.7
35°	548.2	550.8	553.3	554.9	555.6	556.3	557.0	557.7
37.5°	525.1	528.0	530.9	532.7	533.2	533.7	534.3	534.8
40°	509.8	512.7	515.6	517.4	518.1	518.8	519.4	520.1
42.5°	493.8	497.0	500.2	502.2	503.2	504.1	505.1	506.0
45°	469.9	473.1	476.4	478.7	480.0	481.4	482.8	484.1
47.5°	445.8	449.4	453.0	455.4	456.4	457.5	458.6	459.6
50°	429.1	433.1	437.0	439.5	440.7	441.9	443.1	444.3
52.5°	412.3	416.3	420.4	423.1	424.6	426.0	427.5	429.0
55°	386.8	391.4	396.0	399.0	400.4	401.7	403.1	404.5
57.5°	360.9	365.5	370.1	373.2	374.8	376.4	378.0	379.6
60°	342.8	347.5	352.3	355.6	357.5	359.3	361.2	363.1
62.5°	325.6	330.4	335.1	338.4	340.1	341.8	343.6	345.3
65°	298.2	303.3	308.5	311.9	313.6	315.3	317.0	318.7
67.5°	271.0	276.6	282.2	285.7	287.1	288.5	290.0	291.4
70°	253.0	258.4	263.9	267.4	269.1	270.8	272.5	274.2
72.5°	234.8	240.4	246.0	249.7	251.4	253.1	254.8	256.5
75°	207.3	213.0	218.6	222.4	224.4	226.5	228.5	230.6
77.5°	181.6	187.5	193.4	197.2	198.8	200.3	201.9	203.5
80°	164.8	170.6	176.4	180.1	181.8	183.5	185.2	186.9
82.5°	149.5	155.2	161.0	164.8	166.5	168.2	169.9	171.6
85°	128.0	133.8	139.6	143.3	145.0	146.7	148.4	150.1
87.5°	115.2	121.2	127.1	131.0	132.9	134.7	136.5	138.3
90°	128.1	134.9	141.7	146.2	148.5	150.7	152.9	155.1
92.5°	139.2	145.7	152.2	156.1	157.3	158.6	159.8	161.1
95°	174.4	180.7	187.1	191.1	192.8	194.5	196.2	197.9
97.5°	217.4	223.6	229.9	233.8	235.4	237.0	238.6	240.2
100°	248.9	254.6	260.3	264.2	266.5	268.7	270.9	273.1
102.5°	285.8	291.4	297.0	300.5	302.1	303.7	305.3	306.9
105°	341.2	346.0	350.7	354.1	356.2	358.2	360.3	362.3
107.5°	401.4	406.8	412.2	415.5	416.7	417.9	419.1	420.3
110°	442.2	447.7	453.1	456.3	457.1	458.0	458.8	459.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	482.4	487.9	493.4	496.9	498.3	499.7	501.1	502.5
115°	544.2	548.6	552.9	555.7	556.8	557.9	559.0	560.1
117.5°	606.5	610.5	614.5	616.8	617.4	618.0	618.6	619.2
120°	648.3	652.0	655.6	657.8	658.5	659.1	659.8	660.5
122.5°	690.6	693.7	696.8	698.6	699.1	699.6	700.0	700.5
125°	753.4	756.0	758.5	759.9	760.0	760.2	760.4	760.5
127.5°	815.5	817.4	819.3	820.3	820.2	820.2	820.2	820.1
130°	856.6	858.8	861.1	861.8	861.0	860.2	859.4	858.6
132.5°	896.6	898.4	900.3	901.1	900.9	900.6	900.4	900.2
135°	956.7	958.7	960.8	961.9	962.3	962.6	963.0	963.3
137.5°	1015.6	1017.2	1018.8	1019.6	1019.4	1019.3	1019.2	1019.0
140°	1054.5	1056.8	1059.1	1059.8	1058.8	1057.9	1056.9	1055.9
142.5°	1090.6	1092.6	1094.6	1095.3	1094.8	1094.3	1093.7	1093.2
145°	1145.5	1146.6	1147.7	1148.1	1147.7	1147.4	1147.0	1146.7
147.5°	1197.8	1198.2	1198.6	1198.3	1197.4	1196.5	1195.5	1194.6
150°	1230.4	1230.4	1230.4	1229.8	1228.6	1227.4	1226.2	1225.0
152.5°	1261.0	1261.4	1261.8	1261.4	1260.1	1258.8	1257.6	1256.3
155°	1305.7	1306.7	1307.8	1307.4	1305.6	1303.8	1302.0	1300.1
157.5°	1344.1	1345.2	1346.3	1346.1	1344.7	1343.2	1341.8	1340.3
160°	1367.8	1369.1	1370.4	1370.5	1369.5	1368.4	1367.4	1366.4
162.5°	1390.1	1391.4	1392.7	1392.5	1390.8	1389.2	1387.5	1385.9
165°	1418.3	1419.8	1421.4	1421.2	1419.4	1417.6	1415.8	1414.0
167.5°	1441.1	1442.7	1444.3	1444.3	1442.7	1441.1	1439.5	1437.9
170°	1453.6	1455.5	1457.3	1457.3	1455.5	1453.6	1451.8	1450.0
172.5°	1463.5	1465.1	1466.7	1466.6	1464.7	1462.9	1461.1	1459.3
175°	1474.0	1475.6	1477.1	1477.0	1475.2	1473.4	1471.6	1469.8
177.5°	1478.8	1480.0	1481.2	1481.1	1479.7	1478.2	1476.8	1475.4
180°	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1	1479.1

(END OF REPORT)