

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: P332219-935

Luminaire Tested: **S123DIW-S1165D755U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332219-935
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: S123DIW-S1165D755U935-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6431.5 lumens
Efficiency: N/A
Efficacy: 107.6 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: General Diffuse

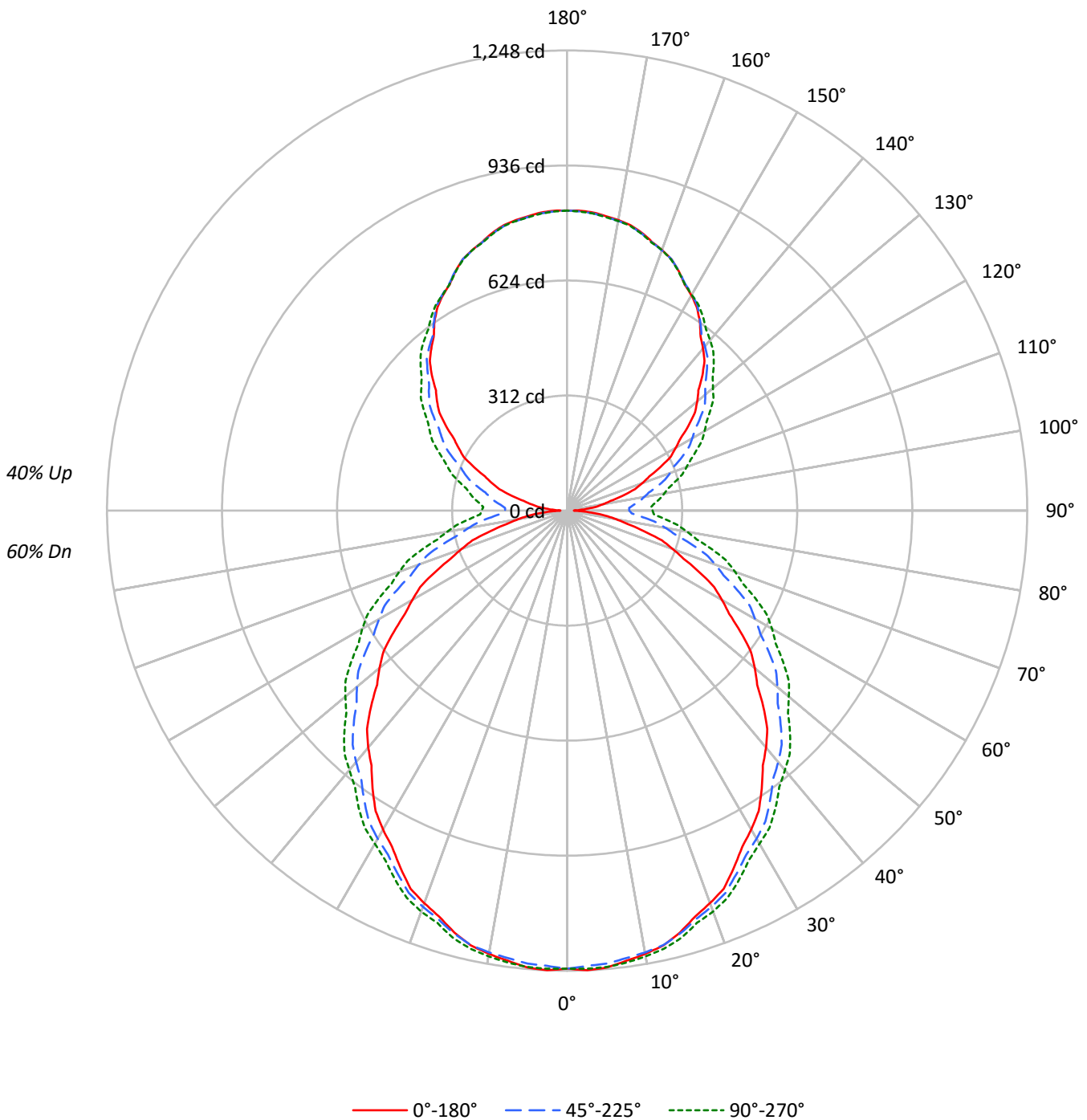
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65
1	99	94	89	85	92	87	84	80	76	73	70	65	63	61	55	54	52
2	89	81	74	69	83	76	70	65	66	61	57	57	53	50	48	45	43
3	81	71	63	57	75	66	59	54	58	52	48	50	45	42	42	39	36
4	74	63	54	48	69	59	51	45	51	45	40	44	39	35	37	34	31
5	68	56	47	41	63	52	44	39	46	39	35	39	34	31	34	30	27
6	63	50	41	35	58	47	39	33	41	35	30	36	30	27	30	26	23
7	58	45	37	31	54	42	35	29	37	31	26	32	27	23	28	24	21
8	54	41	33	27	50	38	31	26	34	28	23	30	25	21	25	21	18
9	50	37	29	24	47	35	28	23	31	25	21	27	22	19	23	20	17
10	47	34	27	22	44	32	25	21	29	23	19	25	20	17	22	18	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13373	13373	13373
5°	13415	13037	13044
10°	13294	12736	12672
15°	13123	12396	12267
20°	12878	12006	11821
25°	12576	11558	11352
30°	12267	11155	10876
35°	11919	10728	10496
40°	11588	10340	10090
45°	11221	9968	9765
50°	10858	9599	9408
55°	10459	9224	9085
60°	10067	8841	8755
65°	9669	8433	8362
70°	9064	7974	7959
75°	8304	7449	7549
80°	7429	6933	7081
85°	6613	6577	6812



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.8	1.8
10°-20°	335.7	5.2
20°-30°	502.2	7.8
30°-40°	599.7	9.3
40°-50°	627.4	9.8
50°-60°	588.8	9.2
60°-70°	491.8	7.6
70°-80°	351.8	5.5
80°-90°	212.2	3.3
90°-100°	184.6	2.9
100°-110°	255.4	4.0
110°-120°	334.4	5.2
120°-130°	391.8	6.1
130°-140°	415.4	6.5
140°-150°	395.6	6.2
150°-160°	330.1	5.1
160°-170°	219.7	3.4
170°-180°	76.9	1.2
0°-30°	955.7	14.9
0°-40°	1555.4	24.2
0°-60°	2771.6	43.1
0°-90°	3827.5	59.5
90°-120°	774.4	12.0
90°-150°	1977.3	30.7
90°-180°	2604.0	40.5
0°-180°	6431.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1242	1242	1242	1242	1242	
5°	1244	1241	1233	1243	1242	118
15°	1184	1188	1187	1200	1199	333
25°	1069	1082	1087	1103	1104	492
35°	920	942	960	979	985	575
45°	752	785	819	844	855	580
55°	574	619	667	702	715	514
65°	397	450	509	548	563	392
75°	215	279	346	390	407	230
85°	66	134	206	250	265	70
90°	18	91	168	215	232	14
95°	53	111	181	224	239	54
105°	155	190	252	289	304	165
115°	278	298	344	376	387	276
125°	402	406	441	466	474	358
135°	518	522	535	556	562	399
145°	627	627	629	639	642	391
155°	716	716	717	719	715	330
165°	780	778	778	782	778	220
175°	812	809	809	812	808	77
180°	814	814	814	814	814	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1247.8	1247.2	1246.4	1245.7	1244.9	1243.6	1241.7	1239.8	1237.9	1236.0	1237.9
5°	1243.8	1243.2	1242.6	1242.0	1241.4	1240.2	1238.4	1236.6	1234.8	1233.0	1235.4
7.5°	1231.6	1231.7	1231.8	1232.0	1232.1	1231.3	1229.5	1227.8	1226.1	1224.3	1227.3
10°	1220.8	1221.4	1222.0	1222.6	1223.2	1222.7	1221.2	1219.7	1218.2	1216.7	1219.7
12.5°	1207.8	1208.6	1209.4	1210.3	1211.2	1211.1	1210.0	1209.0	1208.0	1206.9	1209.7
15°	1184.2	1185.2	1186.0	1187.0	1187.8	1188.2	1187.8	1187.6	1187.2	1187.0	1190.0
17.5°	1154.4	1156.2	1158.0	1159.9	1161.7	1162.5	1162.4	1162.3	1162.2	1162.0	1164.8
20°	1132.8	1134.6	1136.4	1138.2	1140.1	1141.3	1141.9	1142.5	1143.1	1143.7	1146.3
22.5°	1110.1	1111.9	1113.7	1115.5	1117.3	1118.6	1119.5	1120.3	1121.1	1122.0	1125.4
25°	1069.2	1072.2	1075.2	1078.2	1081.2	1083.1	1084.1	1084.9	1085.9	1086.8	1090.7
27.5°	1028.0	1031.5	1034.9	1038.4	1041.7	1044.5	1046.4	1048.3	1050.2	1052.1	1055.5
30°	998.8	1002.7	1006.6	1010.6	1014.4	1017.6	1020.0	1022.4	1024.8	1027.3	1030.9
32.5°	966.3	970.7	975.1	979.5	983.9	987.7	990.8	993.9	997.0	1000.1	1004.0
35°	920.3	925.1	930.0	934.8	939.6	943.9	947.9	951.7	955.6	959.6	964.1
37.5°	871.6	877.0	882.4	887.9	893.3	898.4	903.2	908.0	912.8	917.7	922.7
40°	839.1	844.6	850.0	855.3	860.7	866.5	872.5	878.5	884.5	890.5	895.7
42.5°	803.4	810.0	816.7	823.2	829.8	836.3	842.6	848.8	855.1	861.3	866.9
45°	752.5	759.7	766.9	774.1	781.4	788.8	796.3	803.7	811.3	818.8	824.5
47.5°	699.1	707.3	715.5	723.8	731.9	740.3	748.9	757.5	766.1	774.7	781.1
50°	664.5	673.0	681.4	689.7	698.2	707.1	716.4	725.7	735.0	744.3	751.3
52.5°	627.8	636.6	645.5	654.4	663.3	673.0	683.2	693.4	703.8	714.0	721.3
55°	573.9	583.8	593.7	603.6	613.5	623.9	634.7	645.6	656.4	667.3	675.4
57.5°	521.3	531.7	542.0	552.3	562.7	573.9	585.7	597.5	609.3	621.2	629.4
60°	484.5	495.3	506.2	517.0	527.8	539.4	551.7	564.0	576.4	588.8	597.2
62.5°	449.9	461.0	472.0	483.1	494.1	506.2	519.3	532.3	545.4	558.4	566.8
65°	396.6	408.3	420.0	431.7	443.5	456.0	469.2	482.4	495.7	508.9	517.9
67.5°	342.4	354.9	367.3	379.8	392.2	405.2	418.6	432.1	445.6	459.1	468.9
70°	304.5	317.5	330.4	343.3	356.3	370.0	384.4	398.8	413.3	427.7	437.3
72.5°	269.8	282.8	295.8	308.7	321.6	335.5	350.4	365.3	380.3	395.2	405.1
75°	215.2	229.4	243.5	257.6	271.7	286.3	301.4	316.4	331.4	346.5	356.4
77.5°	167.6	181.8	196.0	210.3	224.5	239.3	254.4	269.6	284.7	299.9	310.4
80°	134.0	148.7	163.5	178.2	193.0	208.1	223.8	239.4	255.0	270.7	280.9
82.5°	104.8	119.8	134.7	149.7	164.6	180.1	196.0	211.9	227.7	243.6	253.8
85°	66.3	81.4	96.4	111.4	126.5	142.0	157.9	173.8	189.8	205.7	215.9
87.5°	36.2	51.4	66.6	81.9	97.2	112.6	128.4	144.0	159.8	175.5	185.8
90°	18.3	34.4	50.5	66.7	82.8	99.5	116.8	133.9	151.1	168.2	179.1
92.5°	31.9	46.2	60.5	74.7	89.0	104.2	120.4	136.6	152.7	168.8	179.3
95°	52.6	65.3	78.0	90.7	103.5	117.8	133.6	149.6	165.4	181.2	191.1
97.5°	80.2	91.5	102.9	114.3	125.5	138.6	153.5	168.4	183.3	198.3	207.8
100°	99.1	109.6	120.0	130.5	141.0	153.5	168.1	182.6	197.2	211.7	220.8
102.5°	121.1	130.2	139.4	148.5	157.7	169.5	184.1	198.6	213.2	227.6	236.6
105°	154.6	162.1	169.6	177.1	184.6	195.4	209.7	223.9	238.2	252.4	260.7
107.5°	192.3	198.6	205.0	211.3	217.6	227.1	239.9	252.7	265.4	278.3	286.8
110°	215.9	221.5	227.2	232.9	238.6	247.6	259.9	272.2	284.6	296.9	305.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	241.3	246.0	250.6	255.3	259.8	267.9	279.6	291.2	302.8	314.4	322.7
115°	278.4	282.4	286.5	290.5	294.5	301.8	312.4	322.9	333.5	344.0	351.4
117.5°	316.7	319.2	321.8	324.3	326.7	332.9	342.7	352.5	362.3	372.0	379.2
120°	339.7	342.0	344.4	346.7	349.0	354.8	364.0	373.2	382.5	391.8	398.5
122.5°	364.7	366.1	367.5	368.9	370.3	375.6	384.6	393.7	402.8	411.9	418.2
125°	401.6	402.0	402.4	402.9	403.3	407.7	416.1	424.6	433.0	441.4	447.2
127.5°	436.9	437.5	438.1	438.7	439.3	443.0	450.0	456.8	463.7	470.6	475.8
130°	460.4	461.2	462.0	462.9	463.7	466.9	472.5	478.1	483.7	489.3	494.4
132.5°	482.8	483.9	484.9	486.0	487.1	489.9	494.4	498.9	503.3	507.9	512.6
135°	518.4	519.0	519.5	520.1	520.6	522.5	525.6	528.8	532.0	535.2	540.0
137.5°	551.4	551.9	552.3	552.8	553.3	554.7	556.9	559.1	561.3	563.5	567.7
140°	573.3	574.0	574.7	575.5	576.2	577.0	578.1	579.1	580.1	581.2	585.6
142.5°	594.3	594.8	595.2	595.7	596.2	596.6	597.0	597.4	597.9	598.4	602.3
145°	627.0	627.0	627.0	627.0	626.9	627.2	627.6	628.0	628.4	628.9	631.1
147.5°	654.3	654.8	655.3	655.8	656.3	656.8	657.2	657.5	658.0	658.4	659.1
150°	674.2	674.5	674.8	675.1	675.4	675.6	675.9	676.2	676.5	676.7	676.7
152.5°	690.6	691.0	691.4	691.8	692.2	692.4	692.6	692.8	692.9	693.1	693.4
155°	716.4	716.4	716.4	716.4	716.4	716.4	716.6	716.8	716.9	717.0	717.6
157.5°	738.4	738.2	738.0	737.9	737.7	737.7	737.8	737.9	738.0	738.1	738.7
160°	752.2	751.9	751.7	751.3	751.1	750.9	750.9	750.9	750.9	750.9	751.7
162.5°	764.5	764.1	763.6	763.3	762.8	762.8	762.8	762.9	763.1	763.2	763.9
165°	780.3	779.9	779.5	779.0	778.6	778.3	778.3	778.3	778.3	778.3	779.2
167.5°	793.0	792.4	791.9	791.3	790.7	790.5	790.6	790.7	790.8	790.9	791.8
170°	800.1	799.5	799.0	798.4	797.8	797.5	797.5	797.5	797.5	797.5	798.6
172.5°	805.7	805.2	804.6	804.0	803.5	803.1	803.1	803.1	803.1	803.1	804.1
175°	811.6	811.1	810.5	809.9	809.3	809.1	809.1	809.1	809.1	809.1	809.9
177.5°	814.1	813.6	813.1	812.7	812.3	812.0	812.0	812.0	812.0	812.0	812.7
180°	813.6	813.6	813.6	813.6	813.6	813.6	813.6	813.6	813.6	813.6	813.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1239.8	1241.7	1243.6	1244.5	1244.2	1244.0	1243.7	1243.5
5°	1237.8	1240.2	1242.6	1243.6	1243.4	1243.0	1242.8	1242.4
7.5°	1230.3	1233.3	1236.3	1237.7	1237.3	1236.9	1236.6	1236.2
10°	1222.7	1225.7	1228.7	1229.9	1229.3	1228.7	1228.1	1227.5
12.5°	1212.5	1215.3	1218.1	1219.1	1218.5	1217.9	1217.3	1216.7
15°	1192.9	1195.9	1198.9	1200.3	1200.1	1199.7	1199.5	1199.1
17.5°	1167.4	1170.2	1172.9	1174.0	1173.6	1173.2	1172.8	1172.3
20°	1149.0	1151.8	1154.4	1156.0	1156.2	1156.6	1156.8	1157.2
22.5°	1128.9	1132.3	1135.7	1137.3	1137.1	1137.0	1136.8	1136.6
25°	1094.6	1098.5	1102.4	1104.4	1104.4	1104.4	1104.4	1104.4
27.5°	1058.9	1062.2	1065.6	1067.4	1067.6	1067.9	1068.2	1068.4
30°	1034.5	1038.1	1041.6	1043.4	1043.4	1043.4	1043.4	1043.4
32.5°	1007.9	1011.8	1015.5	1017.9	1018.6	1019.3	1020.0	1020.7
35°	968.6	973.1	977.6	980.5	981.7	982.9	984.1	985.2
37.5°	927.8	933.0	938.1	941.1	942.1	943.1	944.0	944.9
40°	900.8	905.9	911.0	914.1	915.3	916.5	917.7	918.9
42.5°	872.5	878.1	883.7	887.3	889.0	890.7	892.3	894.1
45°	830.3	835.9	841.7	845.8	848.2	850.6	853.0	855.3
47.5°	787.6	794.0	800.5	804.6	806.4	808.3	810.2	812.0
50°	758.2	765.2	772.1	776.5	778.7	780.8	782.9	785.0
52.5°	728.4	735.6	742.7	747.6	750.2	752.8	755.4	757.9
55°	683.5	691.6	699.7	705.0	707.4	709.8	712.2	714.6
57.5°	637.6	645.8	653.9	659.4	662.3	665.1	668.0	670.7
60°	605.5	614.0	622.4	628.3	631.6	634.9	638.2	641.5
62.5°	575.2	583.7	592.1	597.9	600.9	604.0	607.1	610.1
65°	526.9	536.0	545.0	551.0	554.0	557.0	560.0	563.0
67.5°	478.8	488.7	498.5	504.7	507.3	509.8	512.3	514.9
70°	446.9	456.6	466.1	472.5	475.5	478.5	481.5	484.5
72.5°	414.9	424.8	434.6	441.1	444.1	447.1	450.1	453.1
75°	366.4	376.3	386.2	393.0	396.6	400.2	403.8	407.3
77.5°	320.8	331.3	341.8	348.4	351.2	354.0	356.7	359.5
80°	291.1	301.4	311.6	318.2	321.2	324.3	327.3	330.2
82.5°	264.1	274.3	284.5	291.1	294.1	297.1	300.1	303.2
85°	226.2	236.4	246.6	253.2	256.2	259.2	262.3	265.3
87.5°	196.1	206.5	216.9	223.5	226.6	229.7	232.7	235.8
90°	189.9	200.6	211.5	218.5	221.8	225.1	228.3	231.7
92.5°	189.7	200.1	210.6	217.1	219.7	222.3	224.9	227.5
95°	201.0	210.9	220.8	227.3	230.3	233.3	236.3	239.4
97.5°	217.5	227.1	236.7	243.0	246.0	248.9	251.8	254.8
100°	230.0	239.1	248.3	254.5	257.8	261.1	264.4	267.7
102.5°	245.5	254.4	263.3	269.2	272.2	275.2	278.1	281.0
105°	269.1	277.6	286.0	291.7	294.7	297.7	300.7	303.7
107.5°	295.3	303.8	312.3	317.8	320.3	322.8	325.2	327.7
110°	313.7	322.0	330.5	335.7	337.8	339.9	342.1	344.1



TEST NUMBER: P332219-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	331.0	339.1	347.4	352.8	355.4	358.1	360.7	363.3
115°	358.7	366.1	373.4	378.2	380.5	382.7	385.0	387.3
117.5°	386.3	393.5	400.6	405.1	407.1	409.1	411.0	412.9
120°	405.3	412.1	418.8	423.1	424.9	426.8	428.6	430.4
122.5°	424.5	430.8	437.1	441.1	442.8	444.5	446.3	447.9
125°	453.0	458.7	464.4	468.1	469.6	471.1	472.7	474.2
127.5°	481.0	486.1	491.3	494.6	495.9	497.3	498.8	500.2
130°	499.6	504.7	509.9	512.8	513.7	514.4	515.2	516.1
132.5°	517.5	522.3	527.0	530.1	531.3	532.6	533.9	535.2
135°	544.8	549.7	554.6	557.6	558.8	560.0	561.2	562.5
137.5°	571.9	576.0	580.1	582.7	583.7	584.7	585.7	586.6
140°	590.0	594.3	598.7	601.2	601.7	602.2	602.7	603.1
142.5°	606.1	610.0	613.9	616.2	617.0	617.7	618.5	619.1
145°	633.4	635.7	637.9	639.4	640.0	640.6	641.3	641.9
147.5°	659.8	660.6	661.2	661.8	661.9	662.2	662.5	662.6
150°	676.7	676.7	676.7	676.7	676.4	676.1	675.9	675.6
152.5°	693.6	693.8	694.1	693.9	693.2	692.6	692.0	691.4
155°	718.2	718.8	719.3	719.1	718.1	717.1	716.1	715.1
157.5°	739.3	739.9	740.5	740.4	739.6	738.8	738.0	737.2
160°	752.3	753.0	753.7	753.8	753.3	752.7	752.1	751.6
162.5°	764.6	765.3	766.0	765.9	765.0	764.1	763.2	762.2
165°	780.1	780.9	781.8	781.7	780.8	779.7	778.8	777.7
167.5°	792.6	793.6	794.4	794.4	793.6	792.6	791.8	790.9
170°	799.5	800.6	801.5	801.5	800.6	799.5	798.6	797.5
172.5°	804.9	805.8	806.7	806.7	805.6	804.7	803.7	802.7
175°	810.8	811.6	812.4	812.4	811.4	810.4	809.4	808.4
177.5°	813.4	814.1	814.8	814.7	813.9	813.0	812.3	811.5
180°	813.6	813.6	813.6	813.6	813.6	813.6	813.6	813.6

(END OF REPORT)