

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: P332219-830

Luminaire Tested: **S123DIW-S1165D755U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332219-830
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-S1165D755U830-4F0-1E-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: 7040.7 lumens
Efficiency: N/A
Efficacy: 117.7 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

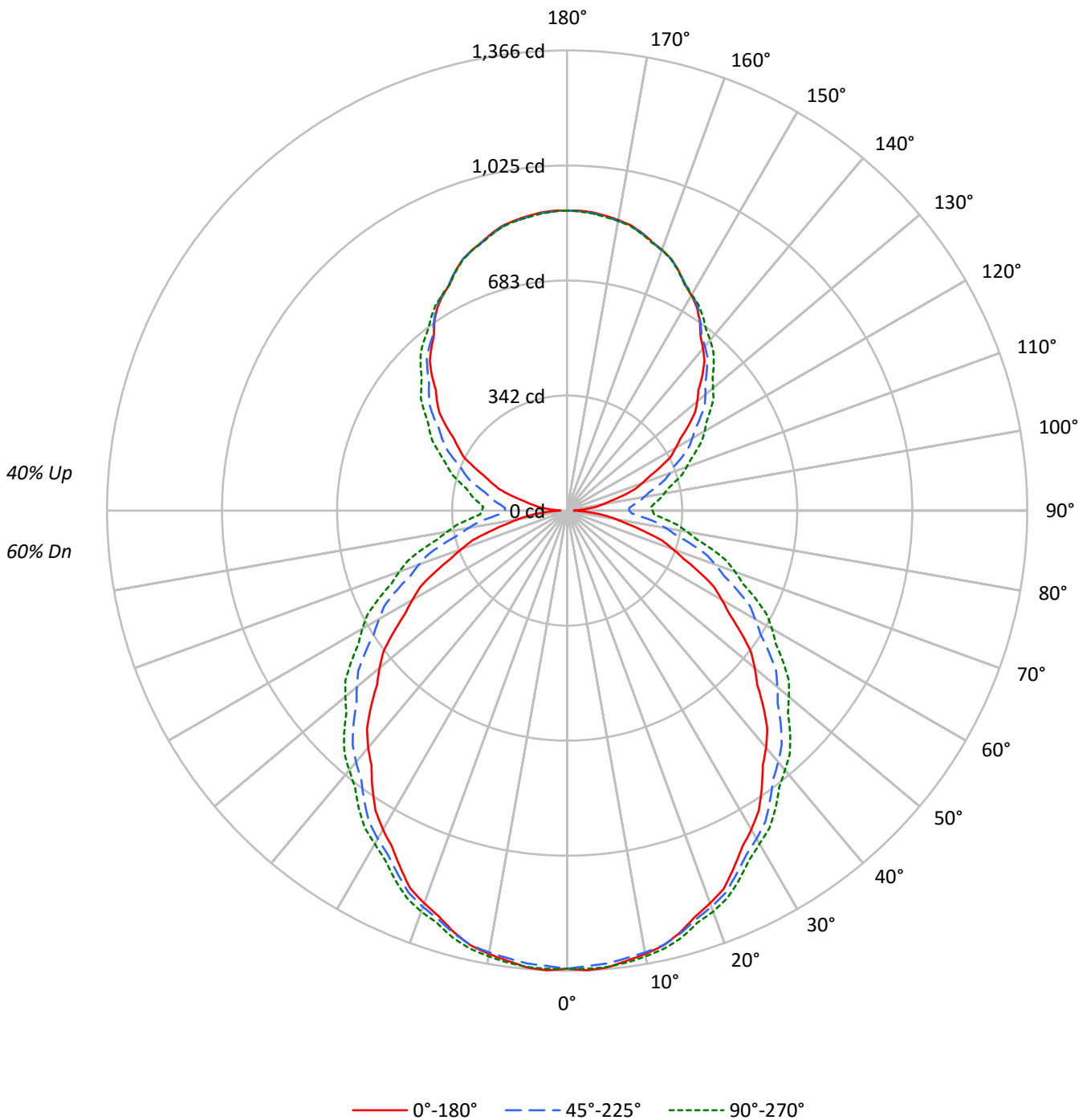
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	60
1	99	94	89	85	92	87	84	80	76	73	70	65	63	61	55	54	52	48
2	89	81	74	69	83	76	70	65	66	61	57	57	53	50	48	45	43	39
3	81	71	63	57	75	66	59	54	58	52	48	50	45	42	42	39	36	32
4	74	63	54	48	69	59	51	45	51	45	40	44	39	35	37	34	31	27
5	68	56	47	41	63	52	44	39	46	39	35	39	34	31	34	30	27	24
6	63	50	41	35	58	47	39	33	41	35	30	36	30	27	30	26	23	21
7	58	45	37	31	54	42	35	29	37	31	26	32	27	23	28	24	21	18
8	54	41	33	27	50	38	31	26	34	28	23	30	25	21	25	21	18	16
9	50	37	29	24	47	35	28	23	31	25	21	27	22	19	23	20	17	14
10	47	34	27	22	44	32	25	21	29	23	19	25	20	17	22	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14640	14640	14640
5°	14685	14271	14279
10°	14553	13942	13872
15°	14366	13569	13429
20°	14098	13143	12941
25°	13767	12652	12427
30°	13428	12211	11906
35°	13049	11744	11491
40°	12686	11320	11046
45°	12284	10913	10690
50°	11887	10508	10298
55°	11448	10097	9946
60°	11021	9677	9585
65°	10584	9230	9154
70°	9925	8729	8713
75°	9088	8154	8264
80°	8133	7589	7753
85°	7242	7201	7456



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.9	1.8
10°-20°	367.5	5.2
20°-30°	549.7	7.8
30°-40°	656.5	9.3
40°-50°	686.9	9.8
50°-60°	644.6	9.2
60°-70°	538.3	7.6
70°-80°	385.2	5.5
80°-90°	232.3	3.3
90°-100°	202.1	2.9
100°-110°	279.6	4.0
110°-120°	366.1	5.2
120°-130°	428.9	6.1
130°-140°	454.8	6.5
140°-150°	433.1	6.2
150°-160°	361.4	5.1
160°-170°	240.5	3.4
170°-180°	84.2	1.2
0°-30°	1046.2	14.9
0°-40°	1702.7	24.2
0°-60°	3034.1	43.1
0°-90°	4190.0	59.5
90°-120°	847.8	12.0
90°-150°	2164.6	30.7
90°-180°	2851.0	40.5
0°-180°	7040.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1360	1360	1360	1360	1360	
5°	1362	1358	1350	1361	1360	129
15°	1296	1300	1299	1313	1313	365
25°	1170	1185	1190	1208	1209	539
35°	1008	1031	1050	1072	1079	630
45°	824	859	896	924	936	635
55°	628	677	730	769	782	562
65°	434	492	557	600	616	429
75°	236	305	379	426	446	252
85°	73	147	225	274	290	76
90°	20	100	184	235	254	16
95°	58	121	198	245	262	59
105°	169	208	276	316	332	181
115°	305	326	376	411	424	302
125°	440	444	483	510	519	392
135°	568	571	586	609	616	437
145°	686	686	688	699	703	428
155°	784	784	785	787	783	361
165°	854	852	852	856	851	241
175°	888	886	886	889	885	84
180°	891	891	891	891	891	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1
2.5°	1366.0	1365.3	1364.4	1363.7	1362.8	1361.4	1359.3	1357.2	1355.1	1353.0	1355.1
5°	1361.6	1360.9	1360.3	1359.6	1359.0	1357.6	1355.7	1353.7	1351.7	1349.7	1352.4
7.5°	1348.2	1348.4	1348.5	1348.7	1348.8	1347.9	1346.0	1344.1	1342.2	1340.2	1343.5
10°	1336.4	1337.1	1337.8	1338.4	1339.1	1338.5	1336.9	1335.2	1333.6	1331.9	1335.2
12.5°	1322.2	1323.0	1324.0	1324.9	1325.9	1325.8	1324.6	1323.5	1322.4	1321.3	1324.3
15°	1296.4	1297.4	1298.4	1299.4	1300.3	1300.7	1300.3	1300.0	1299.7	1299.4	1302.7
17.5°	1263.8	1265.7	1267.7	1269.7	1271.7	1272.6	1272.5	1272.3	1272.2	1272.1	1275.1
20°	1240.1	1242.1	1244.1	1246.0	1248.0	1249.3	1250.0	1250.7	1251.3	1252.0	1254.9
22.5°	1215.2	1217.2	1219.2	1221.2	1223.1	1224.6	1225.5	1226.4	1227.3	1228.2	1232.0
25°	1170.4	1173.7	1177.0	1180.3	1183.6	1185.7	1186.8	1187.7	1188.7	1189.7	1194.0
27.5°	1125.4	1129.2	1132.9	1136.7	1140.4	1143.4	1145.5	1147.5	1149.7	1151.8	1155.5
30°	1093.4	1097.7	1101.9	1106.3	1110.5	1114.0	1116.6	1119.3	1121.9	1124.5	1128.5
32.5°	1057.8	1062.6	1067.4	1072.2	1077.0	1081.2	1084.6	1088.1	1091.5	1094.9	1099.1
35°	1007.5	1012.8	1018.0	1023.3	1028.6	1033.3	1037.6	1041.9	1046.1	1050.5	1055.4
37.5°	954.1	960.1	966.0	971.9	977.9	983.4	988.7	994.0	999.3	1004.6	1010.1
40°	918.6	924.5	930.5	936.3	942.3	948.6	955.2	961.7	968.3	974.9	980.5
42.5°	879.5	886.7	894.0	901.2	908.4	915.5	922.4	929.2	936.0	942.9	949.0
45°	823.8	831.7	839.5	847.4	855.4	863.5	871.7	879.9	888.2	896.4	902.6
47.5°	765.3	774.3	783.3	792.3	801.3	810.4	819.8	829.2	838.7	848.1	855.1
50°	727.5	736.7	745.9	755.1	764.3	774.0	784.3	794.5	804.6	814.8	822.5
52.5°	687.2	696.9	706.6	716.4	726.1	736.7	747.9	759.1	770.4	781.7	789.6
55°	628.2	639.0	649.9	660.8	671.7	683.0	694.8	706.7	718.6	730.5	739.3
57.5°	570.7	582.0	593.3	604.6	616.0	628.2	641.1	654.1	667.0	680.0	689.0
60°	530.4	542.2	554.1	566.0	577.8	590.5	604.0	617.5	631.0	644.5	653.7
62.5°	492.5	504.6	516.7	528.9	540.9	554.1	568.4	582.7	597.0	611.3	620.5
65°	434.1	447.0	459.8	472.6	485.5	499.2	513.6	528.1	542.6	557.0	566.9
67.5°	374.8	388.5	402.1	415.8	429.3	443.6	458.3	473.1	487.8	502.6	513.3
70°	333.4	347.5	361.7	375.8	390.0	405.0	420.8	436.6	452.4	468.2	478.7
72.5°	295.4	309.6	323.8	337.9	352.0	367.3	383.6	399.9	416.3	432.6	443.5
75°	235.5	251.1	266.6	282.0	297.5	313.4	329.9	346.4	362.8	379.3	390.1
77.5°	183.4	199.1	214.6	230.3	245.8	261.9	278.5	295.1	311.7	328.3	339.8
80°	146.7	162.8	179.0	195.1	211.2	227.8	245.0	262.1	279.2	296.3	307.6
82.5°	114.7	131.1	147.5	163.9	180.2	197.2	214.5	232.0	249.3	266.6	277.9
85°	72.6	89.1	105.6	122.0	138.5	155.4	172.9	190.3	207.7	225.2	236.4
87.5°	39.6	56.3	73.0	89.6	106.4	123.3	140.5	157.7	174.9	192.1	203.4
90°	20.0	37.6	55.3	73.0	90.7	109.0	127.8	146.6	165.4	184.2	196.0
92.5°	35.0	50.6	66.3	81.8	97.5	114.0	131.8	149.5	167.1	184.8	196.2
95°	57.6	71.5	85.4	99.3	113.3	128.9	146.3	163.7	181.1	198.4	209.2
97.5°	87.8	100.2	112.6	125.1	137.4	151.7	168.1	184.4	200.7	217.1	227.5
100°	108.5	120.0	131.4	142.9	154.4	168.1	184.0	199.9	215.8	231.8	241.8
102.5°	132.5	142.5	152.6	162.6	172.7	185.6	201.5	217.4	233.4	249.2	259.0
105°	169.3	177.5	185.7	193.9	202.1	214.0	229.5	245.2	260.7	276.3	285.4
107.5°	210.6	217.4	224.4	231.3	238.2	248.6	262.6	276.6	290.6	304.6	314.0
110°	236.3	242.5	248.7	255.0	261.2	271.1	284.6	298.0	311.5	325.0	334.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	264.2	269.3	274.4	279.5	284.5	293.3	306.0	318.8	331.5	344.2	353.3
115°	304.7	309.2	313.6	318.0	322.4	330.4	342.0	353.5	365.0	376.5	384.7
117.5°	346.7	349.4	352.2	355.0	357.7	364.4	375.1	385.9	396.6	407.3	415.1
120°	371.8	374.4	377.0	379.6	382.1	388.4	398.5	408.6	418.8	428.9	436.2
122.5°	399.3	400.8	402.3	403.9	405.4	411.1	421.0	431.0	440.9	450.9	457.8
125°	439.6	440.1	440.5	441.0	441.5	446.3	455.5	464.8	474.0	483.2	489.6
127.5°	478.2	478.9	479.6	480.2	480.9	484.9	492.6	500.1	507.7	515.2	520.8
130°	504.0	504.8	505.8	506.7	507.7	511.1	517.3	523.4	529.5	535.6	541.2
132.5°	528.5	529.7	530.8	532.1	533.2	536.3	541.2	546.1	551.0	556.0	561.2
135°	567.5	568.2	568.7	569.4	570.0	572.0	575.4	578.9	582.4	585.9	591.2
137.5°	603.6	604.2	604.6	605.1	605.7	607.2	609.6	612.1	614.4	616.9	621.5
140°	627.6	628.4	629.1	630.0	630.7	631.7	632.8	634.0	635.1	636.2	641.0
142.5°	650.5	651.1	651.6	652.1	652.6	653.1	653.6	654.0	654.5	655.1	659.3
145°	686.4	686.4	686.4	686.4	686.3	686.5	687.0	687.5	688.0	688.4	690.9
147.5°	716.2	716.8	717.4	717.9	718.5	719.0	719.4	719.8	720.3	720.8	721.5
150°	738.1	738.4	738.7	739.0	739.3	739.6	739.9	740.3	740.6	740.8	740.8
152.5°	756.0	756.4	756.9	757.3	757.7	758.0	758.2	758.4	758.6	758.7	759.0
155°	784.3	784.3	784.3	784.3	784.3	784.3	784.5	784.7	784.8	784.9	785.6
157.5°	808.3	808.1	807.9	807.8	807.6	807.6	807.7	807.8	807.9	808.0	808.7
160°	823.4	823.1	822.8	822.5	822.2	822.0	822.0	822.0	822.0	822.0	822.8
162.5°	836.9	836.4	835.9	835.6	835.1	835.0	835.1	835.2	835.4	835.5	836.2
165°	854.2	853.8	853.3	852.8	852.3	852.1	852.1	852.1	852.1	852.1	853.0
167.5°	868.1	867.4	866.9	866.2	865.5	865.3	865.4	865.5	865.7	865.8	866.8
170°	875.9	875.2	874.7	874.0	873.4	873.1	873.1	873.1	873.1	873.1	874.2
172.5°	882.0	881.5	880.8	880.1	879.6	879.2	879.2	879.2	879.2	879.2	880.2
175°	888.4	887.9	887.2	886.6	886.0	885.7	885.7	885.7	885.7	885.7	886.6
177.5°	891.2	890.6	890.1	889.7	889.2	888.9	888.9	888.9	888.9	888.9	889.7
180°	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1
2.5°	1357.2	1359.3	1361.4	1362.4	1362.1	1361.8	1361.5	1361.3
5°	1355.0	1357.6	1360.3	1361.4	1361.1	1360.7	1360.5	1360.1
7.5°	1346.8	1350.1	1353.4	1354.9	1354.4	1354.1	1353.7	1353.3
10°	1338.5	1341.8	1345.1	1346.4	1345.8	1345.1	1344.4	1343.8
12.5°	1327.4	1330.4	1333.4	1334.5	1333.9	1333.2	1332.6	1331.9
15°	1305.9	1309.2	1312.5	1314.0	1313.7	1313.3	1313.1	1312.7
17.5°	1278.0	1281.0	1283.9	1285.2	1284.8	1284.3	1283.8	1283.4
20°	1257.8	1260.8	1263.8	1265.5	1265.7	1266.1	1266.4	1266.8
22.5°	1235.8	1239.5	1243.2	1245.0	1244.8	1244.6	1244.4	1244.3
25°	1198.3	1202.6	1206.8	1209.0	1209.0	1209.0	1209.0	1209.0
27.5°	1159.1	1162.8	1166.5	1168.5	1168.8	1169.0	1169.3	1169.6
30°	1132.5	1136.4	1140.3	1142.3	1142.3	1142.3	1142.3	1142.3
32.5°	1103.3	1107.6	1111.7	1114.3	1115.0	1115.9	1116.6	1117.4
35°	1060.4	1065.3	1070.2	1073.4	1074.7	1076.0	1077.3	1078.6
37.5°	1015.7	1021.3	1026.9	1030.2	1031.3	1032.4	1033.4	1034.4
40°	986.1	991.6	997.3	1000.7	1002.0	1003.3	1004.7	1006.0
42.5°	955.2	961.3	967.4	971.4	973.2	975.1	976.9	978.7
45°	908.9	915.1	921.4	925.9	928.5	931.1	933.8	936.3
47.5°	862.1	869.2	876.3	880.8	882.8	884.9	886.9	888.9
50°	830.0	837.6	845.2	850.1	852.4	854.7	857.1	859.3
52.5°	797.4	805.2	813.0	818.4	821.2	824.1	826.9	829.7
55°	748.2	757.1	766.0	771.8	774.4	777.0	779.7	782.3
57.5°	698.0	706.9	715.9	721.9	725.0	728.1	731.2	734.2
60°	662.9	672.1	681.4	687.8	691.4	695.0	698.6	702.3
62.5°	629.7	638.9	648.2	654.5	657.8	661.2	664.6	667.9
65°	576.8	586.7	596.6	603.1	606.4	609.7	613.0	616.3
67.5°	524.1	535.0	545.7	552.5	555.3	558.1	560.8	563.6
70°	489.3	499.8	510.3	517.3	520.6	523.9	527.1	530.4
72.5°	454.2	465.1	475.8	482.9	486.2	489.5	492.8	496.1
75°	401.1	411.9	422.7	430.2	434.1	438.1	442.1	445.9
77.5°	351.2	362.7	374.2	381.4	384.5	387.5	390.5	393.5
80°	318.7	329.9	341.1	348.4	351.7	355.0	358.3	361.5
82.5°	289.1	300.3	311.4	318.7	322.0	325.3	328.6	331.9
85°	247.6	258.8	269.9	277.2	280.5	283.8	287.1	290.4
87.5°	214.7	226.0	237.4	244.7	248.1	251.5	254.8	258.2
90°	207.8	219.6	231.5	239.2	242.8	246.4	250.0	253.6
92.5°	207.6	219.0	230.5	237.6	240.5	243.4	246.2	249.0
95°	220.1	230.9	241.8	248.8	252.1	255.4	258.7	262.0
97.5°	238.1	248.6	259.1	266.0	269.3	272.5	275.7	278.9
100°	251.8	261.7	271.8	278.6	282.2	285.8	289.5	293.0
102.5°	268.7	278.5	288.2	294.7	297.9	301.2	304.4	307.6
105°	294.6	303.9	313.1	319.3	322.6	325.9	329.1	332.4
107.5°	323.3	332.5	341.9	347.9	350.6	353.4	356.0	358.7
110°	343.4	352.5	361.7	367.5	369.8	372.1	374.5	376.7



TEST NUMBER: P332219-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	362.3	371.3	380.3	386.3	389.1	392.0	394.8	397.7
115°	392.7	400.8	408.8	414.1	416.5	419.0	421.5	424.0
117.5°	422.9	430.7	438.6	443.5	445.6	447.8	449.9	452.0
120°	443.7	451.1	458.5	463.2	465.1	467.2	469.2	471.2
122.5°	464.7	471.6	478.5	482.9	484.7	486.6	488.5	490.3
125°	495.9	502.1	508.4	512.5	514.1	515.8	517.5	519.2
127.5°	526.5	532.2	537.8	541.4	542.9	544.4	546.0	547.5
130°	546.9	552.5	558.2	561.4	562.3	563.2	564.0	565.0
132.5°	566.5	571.7	576.9	580.3	581.6	583.1	584.5	585.9
135°	596.4	601.7	607.1	610.4	611.7	613.0	614.3	615.8
137.5°	626.0	630.6	635.1	637.9	638.9	640.1	641.1	642.2
140°	645.8	650.6	655.3	658.1	658.6	659.2	659.8	660.3
142.5°	663.5	667.8	672.0	674.6	675.4	676.2	677.0	677.8
145°	693.3	695.9	698.3	699.9	700.6	701.3	702.0	702.7
147.5°	722.3	723.1	723.9	724.4	724.6	724.9	725.2	725.4
150°	740.8	740.8	740.8	740.7	740.5	740.2	739.9	739.6
152.5°	759.3	759.5	759.8	759.6	758.8	758.2	757.5	756.9
155°	786.2	786.8	787.4	787.2	786.1	785.0	783.9	782.9
157.5°	809.4	810.0	810.7	810.5	809.6	808.8	807.9	807.0
160°	823.6	824.3	825.1	825.2	824.6	824.0	823.3	822.7
162.5°	837.0	837.8	838.6	838.5	837.4	836.5	835.5	834.4
165°	853.9	854.9	855.8	855.7	854.7	853.6	852.5	851.4
167.5°	867.7	868.7	869.7	869.7	868.7	867.7	866.8	865.8
170°	875.2	876.4	877.4	877.4	876.4	875.2	874.2	873.1
172.5°	881.2	882.1	883.1	883.1	881.9	880.9	879.8	878.7
175°	887.6	888.4	889.4	889.4	888.3	887.1	886.1	885.0
177.5°	890.4	891.2	891.9	891.8	891.0	890.0	889.2	888.3
180°	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6

(END OF REPORT)