

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: P332219-930

Luminaire Tested: **S123DIW-S1165D755U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332219-930
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-S1165D755U930-4F0-1E-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: 6090.2 lumens
Efficiency: N/A
Efficacy: 101.8 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: General Diffuse

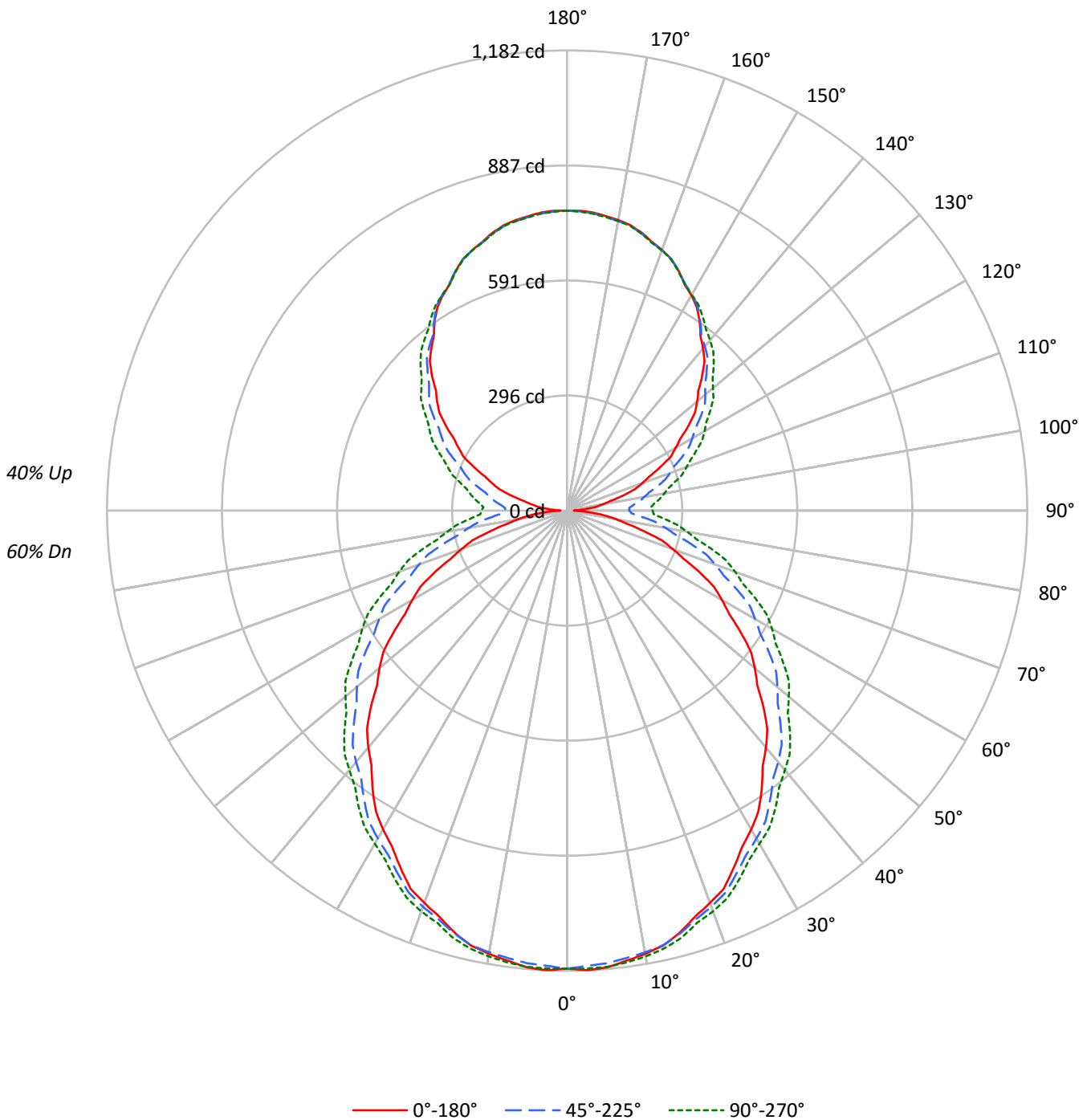
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	12664	12664	12664
5°	12703	12344	12352
10°	12589	12060	12000
15°	12427	11738	11616
20°	12195	11369	11194
25°	11908	10944	10750
30°	11616	10563	10299
35°	11287	10159	9939
40°	10973	9792	9555
45°	10626	9438	9247
50°	10281	9090	8908
55°	9903	8734	8603
60°	9533	8371	8291
65°	9155	7984	7918
70°	8585	7551	7537
75°	7860	7053	7148
80°	7035	6564	6706
85°	6264	6229	6450



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.5	1.8
10°-20°	317.9	5.2
20°-30°	475.5	7.8
30°-40°	567.9	9.3
40°-50°	594.1	9.8
50°-60°	557.5	9.2
60°-70°	465.7	7.6
70°-80°	333.2	5.5
80°-90°	201.0	3.3
90°-100°	174.9	2.9
100°-110°	241.8	4.0
110°-120°	316.7	5.2
120°-130°	371.0	6.1
130°-140°	393.4	6.5
140°-150°	374.6	6.2
150°-160°	312.6	5.1
160°-170°	208.1	3.4
170°-180°	72.9	1.2
0°-30°	905.0	14.9
0°-40°	1472.8	24.2
0°-60°	2624.5	43.1
0°-90°	3624.3	59.5
90°-120°	733.3	12.0
90°-150°	1872.3	30.7
90°-180°	2466.0	40.5
0°-180°	6090.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1176	1176	1176	1176	1176	
5°	1178	1175	1168	1177	1176	112
15°	1121	1125	1124	1136	1136	316
25°	1012	1025	1029	1045	1046	466
35°	872	892	909	927	933	545
45°	713	743	775	799	810	549
55°	543	586	632	665	677	486
65°	376	426	482	519	533	371
75°	204	264	328	369	386	218
85°	63	127	195	237	251	66
90°	17	86	159	204	219	14
95°	50	105	172	212	227	51
105°	146	180	239	274	288	156
115°	264	282	326	356	367	261
125°	380	384	418	442	449	339
135°	491	494	507	527	533	378
145°	594	594	596	605	608	370
155°	678	678	679	681	677	312
165°	739	737	737	740	736	208
175°	768	766	766	769	766	73
180°	770	770	770	770	770	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5
2.5°	1181.6	1181.0	1180.2	1179.6	1178.8	1177.6	1175.8	1173.9	1172.2	1170.4	1172.2
5°	1177.8	1177.2	1176.6	1176.1	1175.5	1174.4	1172.6	1170.9	1169.2	1167.5	1169.8
7.5°	1166.2	1166.4	1166.4	1166.6	1166.7	1166.0	1164.2	1162.6	1161.0	1159.3	1162.1
10°	1156.0	1156.6	1157.2	1157.7	1158.3	1157.8	1156.4	1155.0	1153.6	1152.1	1155.0
12.5°	1143.7	1144.4	1145.3	1146.1	1146.9	1146.8	1145.8	1144.8	1143.9	1142.9	1145.5
15°	1121.4	1122.3	1123.1	1124.0	1124.8	1125.1	1124.8	1124.5	1124.2	1124.0	1126.8
17.5°	1093.2	1094.9	1096.6	1098.3	1100.0	1100.8	1100.7	1100.6	1100.5	1100.3	1102.9
20°	1072.7	1074.4	1076.1	1077.8	1079.5	1080.7	1081.2	1081.8	1082.4	1083.0	1085.5
22.5°	1051.2	1052.9	1054.6	1056.3	1058.0	1059.2	1060.1	1060.9	1061.6	1062.4	1065.7
25°	1012.4	1015.3	1018.1	1021.0	1023.9	1025.6	1026.5	1027.4	1028.3	1029.1	1032.8
27.5°	973.5	976.7	980.0	983.3	986.4	989.0	990.8	992.6	994.5	996.3	999.5
30°	945.8	949.5	953.2	956.9	960.6	963.6	965.9	968.2	970.5	972.7	976.2
32.5°	915.0	919.2	923.3	927.5	931.6	935.2	938.2	941.2	944.1	947.1	950.7
35°	871.5	876.0	880.6	885.2	889.7	893.8	897.6	901.2	904.9	908.7	912.9
37.5°	825.3	830.5	835.6	840.7	845.9	850.7	855.2	859.8	864.4	868.9	873.8
40°	794.6	799.7	804.9	809.9	815.1	820.5	826.2	831.8	837.6	843.3	848.2
42.5°	760.8	767.0	773.3	779.5	785.8	791.9	797.9	803.7	809.7	815.6	820.9
45°	712.6	719.4	726.2	733.0	739.9	746.9	754.0	761.1	768.3	775.3	780.7
47.5°	662.0	669.8	677.5	685.3	693.1	701.0	709.1	717.3	725.5	733.6	739.6
50°	629.2	637.2	645.2	653.1	661.1	669.5	678.4	687.2	696.0	704.8	711.4
52.5°	594.4	602.8	611.2	619.7	628.1	637.2	646.9	656.6	666.4	676.1	683.0
55°	543.4	552.8	562.1	571.6	581.0	590.8	601.0	611.3	621.6	631.9	639.5
57.5°	493.7	503.4	513.2	523.0	532.9	543.4	554.6	565.8	577.0	588.2	596.0
60°	458.8	469.0	479.3	489.6	499.8	510.8	522.4	534.1	545.8	557.5	565.5
62.5°	426.0	436.5	446.9	457.5	467.9	479.3	491.7	504.0	516.4	528.8	536.7
65°	375.5	386.6	397.7	408.8	420.0	431.8	444.3	456.8	469.4	481.8	490.4
67.5°	324.2	336.1	347.8	359.6	371.4	383.7	396.4	409.2	421.9	434.7	444.0
70°	288.4	300.6	312.8	325.1	337.4	350.3	363.9	377.6	391.3	405.0	414.1
72.5°	255.5	267.8	280.1	292.3	304.5	317.7	331.8	345.9	360.1	374.2	383.6
75°	203.7	217.2	230.6	243.9	257.3	271.1	285.4	299.6	313.8	328.1	337.5
77.5°	158.7	172.2	185.6	199.2	212.6	226.6	240.9	255.3	269.6	284.0	293.9
80°	126.9	140.8	154.8	168.8	182.7	197.1	211.9	226.7	241.5	256.3	266.0
82.5°	99.2	113.4	127.6	141.8	155.9	170.6	185.6	200.6	215.6	230.6	240.4
85°	62.8	77.0	91.3	105.5	119.8	134.4	149.5	164.6	179.7	194.8	204.5
87.5°	34.2	48.7	63.1	77.5	92.0	106.6	121.6	136.4	151.3	166.2	175.9
90°	17.3	32.5	47.9	63.2	78.4	94.2	110.6	126.8	143.1	159.3	169.6
92.5°	30.2	43.8	57.3	70.8	84.3	98.7	114.0	129.3	144.6	159.9	169.7
95°	49.8	61.9	73.9	85.9	98.0	111.5	126.5	141.6	156.6	171.6	181.0
97.5°	76.0	86.7	97.4	108.2	118.9	131.3	145.4	159.5	173.6	187.8	196.8
100°	93.8	103.8	113.7	123.6	133.5	145.4	159.1	172.9	186.7	200.5	209.1
102.5°	114.6	123.3	132.0	140.6	149.4	160.5	174.3	188.1	201.9	215.6	224.0
105°	146.4	153.5	160.6	167.7	174.8	185.1	198.5	212.1	225.5	239.0	246.9
107.5°	182.1	188.1	194.1	200.1	206.0	215.1	227.1	239.3	251.4	263.5	271.6
110°	204.4	209.8	215.2	220.5	225.9	234.5	246.1	257.8	269.5	281.1	289.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	228.5	232.9	237.3	241.7	246.1	253.7	264.7	275.7	286.7	297.7	305.6
115°	263.6	267.4	271.3	275.1	278.9	285.8	295.8	305.7	315.8	325.7	332.7
117.5°	299.9	302.2	304.7	307.0	309.4	315.2	324.5	333.8	343.1	352.3	359.1
120°	321.6	323.8	326.1	328.3	330.5	336.0	344.7	353.4	362.2	371.0	377.3
122.5°	345.4	346.7	348.0	349.4	350.7	355.6	364.2	372.8	381.4	390.0	396.0
125°	380.3	380.7	381.1	381.5	381.9	386.0	394.0	402.0	410.0	418.0	423.5
127.5°	413.7	414.3	414.8	415.4	416.0	419.5	426.1	432.6	439.1	445.6	450.5
130°	435.9	436.7	437.5	438.3	439.1	442.1	447.4	452.7	458.0	463.3	468.1
132.5°	457.1	458.2	459.2	460.2	461.2	463.9	468.1	472.4	476.6	480.9	485.4
135°	490.9	491.5	492.0	492.5	493.0	494.8	497.7	500.8	503.8	506.8	511.4
137.5°	522.1	522.6	523.0	523.4	523.9	525.2	527.3	529.5	531.5	533.6	537.6
140°	542.9	543.6	544.2	544.9	545.6	546.4	547.4	548.4	549.3	550.3	554.5
142.5°	562.7	563.2	563.6	564.1	564.5	564.9	565.3	565.7	566.1	566.6	570.3
145°	593.7	593.7	593.7	593.7	593.6	593.9	594.3	594.7	595.1	595.5	597.6
147.5°	619.5	620.0	620.5	621.0	621.5	621.9	622.3	622.6	623.1	623.5	624.1
150°	638.5	638.7	639.0	639.3	639.5	639.8	640.0	640.3	640.6	640.8	640.8
152.5°	654.0	654.3	654.7	655.1	655.4	655.7	655.8	656.0	656.2	656.3	656.6
155°	678.4	678.4	678.4	678.4	678.4	678.4	678.6	678.7	678.8	679.0	679.6
157.5°	699.2	699.0	698.9	698.7	698.5	698.5	698.6	698.7	698.9	699.0	699.5
160°	712.2	712.0	711.8	711.4	711.2	711.0	711.0	711.0	711.0	711.0	711.8
162.5°	723.9	723.5	723.1	722.8	722.4	722.3	722.4	722.4	722.6	722.7	723.3
165°	738.9	738.5	738.1	737.7	737.3	737.0	737.0	737.0	737.0	737.0	737.8
167.5°	750.9	750.3	749.8	749.3	748.7	748.5	748.6	748.7	748.9	748.9	749.7
170°	757.7	757.1	756.6	756.0	755.5	755.2	755.2	755.2	755.2	755.2	756.2
172.5°	763.0	762.5	761.9	761.3	760.8	760.5	760.5	760.5	760.5	760.5	761.4
175°	768.5	768.0	767.4	767.0	766.4	766.1	766.1	766.1	766.1	766.1	767.0
177.5°	770.9	770.4	770.0	769.6	769.2	768.9	768.9	768.9	768.9	768.9	769.6
180°	770.4	770.4	770.4	770.4	770.4	770.4	770.4	770.4	770.4	770.4	770.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5	1176.5
2.5°	1173.9	1175.8	1177.6	1178.4	1178.2	1177.9	1177.7	1177.5
5°	1172.1	1174.4	1176.6	1177.6	1177.4	1177.0	1176.8	1176.5
7.5°	1165.0	1167.8	1170.7	1172.0	1171.6	1171.3	1170.9	1170.6
10°	1157.8	1160.7	1163.5	1164.7	1164.1	1163.5	1162.9	1162.4
12.5°	1148.2	1150.8	1153.4	1154.4	1153.8	1153.2	1152.7	1152.1
15°	1129.6	1132.5	1135.3	1136.6	1136.4	1136.0	1135.8	1135.5
17.5°	1105.5	1108.1	1110.6	1111.7	1111.3	1110.9	1110.5	1110.1
20°	1088.0	1090.6	1093.2	1094.6	1094.9	1095.2	1095.4	1095.8
22.5°	1068.9	1072.2	1075.4	1076.9	1076.8	1076.6	1076.4	1076.3
25°	1036.5	1040.2	1043.9	1045.8	1045.8	1045.8	1045.8	1045.8
27.5°	1002.7	1005.8	1009.0	1010.7	1011.0	1011.2	1011.5	1011.7
30°	979.6	983.0	986.3	988.1	988.1	988.1	988.1	988.1
32.5°	954.4	958.1	961.6	963.8	964.5	965.2	965.9	966.5
35°	917.2	921.5	925.7	928.5	929.6	930.7	931.9	932.9
37.5°	878.6	883.5	888.3	891.1	892.1	893.0	893.9	894.8
40°	853.0	857.8	862.7	865.6	866.7	867.9	869.0	870.2
42.5°	826.2	831.5	836.8	840.2	841.8	843.4	845.0	846.6
45°	786.2	791.6	797.0	800.9	803.2	805.4	807.7	809.9
47.5°	745.8	751.9	758.0	761.9	763.6	765.4	767.2	768.9
50°	718.0	724.6	731.1	735.3	737.4	739.3	741.4	743.3
52.5°	689.7	696.5	703.3	707.9	710.4	712.8	715.3	717.7
55°	647.2	654.8	662.6	667.6	669.8	672.1	674.4	676.7
57.5°	603.7	611.5	619.2	624.4	627.1	629.8	632.5	635.1
60°	573.4	581.4	589.4	594.9	598.1	601.2	604.3	607.5
62.5°	544.7	552.7	560.7	566.1	569.0	571.9	574.9	577.7
65°	499.0	507.5	516.1	521.7	524.6	527.4	530.3	533.1
67.5°	453.4	462.8	472.1	477.9	480.4	482.7	485.1	487.5
70°	423.2	432.4	441.4	447.4	450.3	453.1	455.9	458.8
72.5°	392.9	402.3	411.6	417.7	420.5	423.4	426.2	429.1
75°	346.9	356.3	365.7	372.1	375.5	379.0	382.4	385.7
77.5°	303.8	313.7	323.7	329.9	332.6	335.2	337.8	340.4
80°	275.7	285.4	295.1	301.3	304.2	307.0	309.9	312.7
82.5°	250.1	259.8	269.4	275.7	278.5	281.4	284.2	287.1
85°	214.2	223.9	233.5	239.8	242.6	245.5	248.3	251.2
87.5°	185.7	195.5	205.4	211.7	214.6	217.5	220.4	223.3
90°	179.8	190.0	200.2	206.9	210.0	213.1	216.2	219.4
92.5°	179.6	189.5	199.4	205.5	208.1	210.5	213.0	215.4
95°	190.4	199.7	209.1	215.2	218.1	220.9	223.8	226.7
97.5°	205.9	215.1	224.1	230.1	232.9	235.7	238.5	241.2
100°	217.8	226.4	235.1	241.0	244.1	247.2	250.4	253.5
102.5°	232.4	240.9	249.3	254.9	257.7	260.6	263.3	266.1
105°	254.9	262.9	270.8	276.2	279.1	281.9	284.7	287.6
107.5°	279.6	287.6	295.7	300.9	303.3	305.7	307.9	310.3
110°	297.0	304.9	312.9	317.9	319.8	321.9	323.9	325.9



TEST NUMBER: P332219-930

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	313.4	321.1	329.0	334.1	336.6	339.1	341.5	344.0
115°	339.7	346.7	353.6	358.2	360.3	362.4	364.6	366.7
117.5°	365.8	372.6	379.4	383.6	385.5	387.3	389.1	391.0
120°	383.8	390.2	396.6	400.6	402.4	404.1	405.9	407.6
122.5°	401.9	407.9	413.9	417.7	419.3	420.9	422.6	424.1
125°	428.9	434.3	439.8	443.3	444.7	446.1	447.6	449.1
127.5°	455.4	460.3	465.2	468.3	469.6	470.9	472.3	473.6
130°	473.0	477.9	482.8	485.6	486.4	487.1	487.9	488.7
132.5°	490.0	494.6	499.0	502.0	503.1	504.3	505.6	506.8
135°	515.9	520.5	525.1	528.0	529.1	530.3	531.4	532.6
137.5°	541.5	545.4	549.3	551.8	552.7	553.7	554.6	555.5
140°	558.6	562.8	566.9	569.2	569.7	570.2	570.7	571.1
142.5°	574.0	577.6	581.3	583.5	584.2	584.9	585.6	586.3
145°	599.7	601.9	604.1	605.4	606.0	606.6	607.2	607.8
147.5°	624.8	625.5	626.1	626.6	626.8	627.0	627.3	627.5
150°	640.8	640.8	640.8	640.7	640.5	640.3	640.0	639.8
152.5°	656.8	657.0	657.2	657.0	656.4	655.8	655.3	654.7
155°	680.0	680.6	681.1	680.9	680.0	679.1	678.1	677.2
157.5°	700.1	700.7	701.2	701.1	700.3	699.6	698.9	698.1
160°	712.4	713.1	713.7	713.8	713.3	712.7	712.2	711.7
162.5°	724.0	724.7	725.4	725.3	724.4	723.6	722.7	721.8
165°	738.7	739.5	740.3	740.2	739.3	738.3	737.4	736.5
167.5°	750.6	751.5	752.3	752.3	751.5	750.6	749.7	748.9
170°	757.1	758.1	759.0	759.0	758.1	757.1	756.2	755.2
172.5°	762.2	763.0	763.9	763.9	762.9	762.0	761.0	760.1
175°	767.8	768.5	769.3	769.3	768.3	767.4	766.5	765.5
177.5°	770.2	770.9	771.5	771.4	770.7	769.9	769.2	768.4
180°	770.4	770.4	770.4	770.4	770.4	770.4	770.4	770.4

(END OF REPORT)