

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: P332692-830

Luminaire Tested: **SA4XXDIP-C1195D810U830-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332692-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-C1195D810U830-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

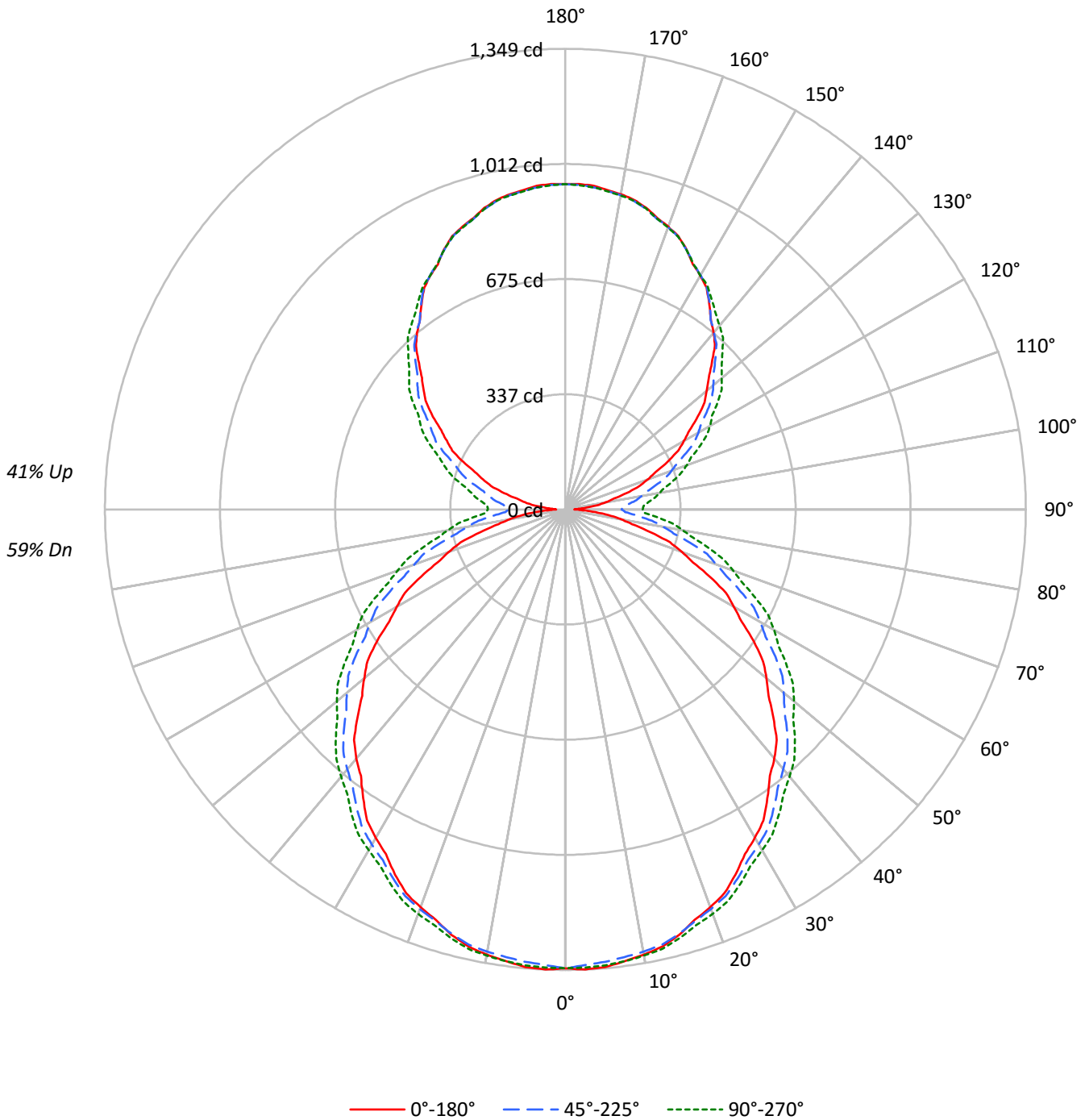
Lumens per Lamp: N/A  
Luminaire Lumens: 7227.8 lumens  
Efficiency: N/A  
Efficacy: 119.1 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

Input Watts (W): 60.7  
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	50	30	10	0	
RCR																						
0	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59				
1	99	94	89	85	92	87	83	80	76	73	70	65	63	61	55	53	52	47				
2	89	81	74	69	83	76	70	65	65	61	57	56	53	50	47	45	43	38				
3	81	71	63	57	75	66	59	53	57	52	47	49	45	41	42	38	36	32				
4	74	62	54	48	69	58	51	45	51	45	40	44	39	35	37	33	30	27				
5	68	56	47	41	63	52	44	38	45	39	34	39	34	30	33	29	26	23				
6	62	50	41	35	58	47	39	33	41	34	30	35	30	26	30	26	23	20				
7	58	45	36	31	54	42	35	29	37	31	26	32	27	23	27	23	20	18				
8	54	41	33	27	50	38	31	26	34	27	23	29	24	21	25	21	18	16				
9	50	37	29	24	46	35	28	23	31	25	21	27	22	19	23	19	16	14				
10	47	34	27	22	43	32	25	21	28	23	19	25	20	17	21	18	15	13				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	10851	10851	10851
5°	10884	10604	10635
10°	10818	10431	10423
15°	10721	10231	10174
20°	10574	10009	9931
25°	10410	9760	9665
30°	10231	9513	9392
35°	10029	9259	9152
40°	9868	9019	8902
45°	9628	8797	8688
50°	9425	8541	8461
55°	9216	8300	8195
60°	8889	7992	7953
65°	8532	7663	7655
70°	8098	7286	7308
75°	7493	6872	6995
80°	6823	6474	6686
85°	5963	6123	6505



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.3	1.8
10°-20°	364.7	5.0
20°-30°	551.4	7.6
30°-40°	667.1	9.2
40°-50°	705.3	9.8
50°-60°	663.8	9.2
60°-70°	550.7	7.6
70°-80°	386.8	5.4
80°-90°	221.5	3.1
90°-100°	192.7	2.7
100°-110°	282.3	3.9
110°-120°	380.5	5.3
120°-130°	453.0	6.3
130°-140°	483.6	6.7
140°-150°	463.0	6.4
150°-160°	386.7	5.4
160°-170°	257.3	3.6
170°-180°	90.1	1.2
0°-30°	1043.3	14.4
0°-40°	1710.5	23.7
0°-60°	3079.5	42.6
0°-90°	4238.6	58.6
90°-120°	855.4	11.8
90°-150°	2255.1	31.2
90°-180°	2989.0	41.4
0°-180°	7227.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1344	1344	1344	1344	1344	
5°	1346	1341	1330	1342	1341	128
15°	1290	1291	1287	1300	1299	363
25°	1180	1189	1194	1209	1212	543
35°	1032	1050	1066	1086	1091	646
45°	861	890	918	943	951	665
55°	674	707	751	780	790	601
65°	467	515	566	602	616	462
75°	259	315	378	418	434	275
85°	80	143	211	254	271	85
90°	26	95	165	211	227	19
95°	64	121	187	228	243	65
105°	185	218	275	313	329	197
115°	330	346	390	422	433	326
125°	474	475	509	535	544	423
135°	606	611	621	643	651	470
145°	735	736	737	745	749	460
155°	840	840	839	842	839	386
165°	914	912	911	915	912	258
175°	951	948	947	952	947	90
180°	953	953	953	953	953	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1348.9	1348.0	1347.3	1346.4	1345.7	1344.2	1342.0	1339.9	1337.8	1335.6	1337.5
5°	1345.5	1344.5	1343.5	1342.6	1341.5	1339.8	1337.5	1335.1	1332.8	1330.5	1333.1
7.5°	1334.1	1333.5	1332.8	1332.3	1331.7	1330.4	1328.5	1326.5	1324.6	1322.7	1325.7
10°	1324.5	1324.1	1323.8	1323.4	1323.1	1322.1	1320.4	1318.8	1317.1	1315.4	1318.4
12.5°	1311.2	1311.2	1311.1	1311.0	1311.0	1310.3	1309.2	1308.1	1306.9	1305.8	1308.5
15°	1289.9	1290.2	1290.5	1290.8	1291.2	1290.8	1289.9	1288.8	1287.8	1286.9	1289.9
17.5°	1260.7	1261.7	1262.6	1263.7	1264.6	1265.1	1264.9	1264.6	1264.4	1264.2	1267.3
20°	1240.2	1241.1	1242.2	1243.2	1244.2	1244.8	1245.2	1245.6	1245.9	1246.2	1249.5
22.5°	1217.3	1218.5	1219.8	1221.1	1222.4	1223.3	1223.9	1224.6	1225.1	1225.7	1229.1
25°	1180.0	1181.9	1184.0	1186.0	1188.0	1189.5	1190.5	1191.5	1192.5	1193.5	1197.2
27.5°	1138.4	1141.4	1144.3	1147.3	1150.2	1152.4	1154.0	1155.6	1157.1	1158.6	1162.0
30°	1110.7	1113.4	1116.1	1118.8	1121.4	1124.0	1126.2	1128.6	1131.0	1133.3	1137.0
32.5°	1080.6	1083.8	1087.0	1090.2	1093.4	1096.4	1099.0	1101.6	1104.2	1106.8	1111.1
35°	1032.5	1036.5	1040.5	1044.5	1048.5	1052.2	1055.6	1058.9	1062.2	1065.5	1070.3
37.5°	984.0	988.6	993.3	997.9	1002.5	1006.8	1011.0	1015.1	1019.3	1023.4	1028.2
40°	952.7	957.1	961.4	965.7	970.1	974.6	979.3	984.0	988.6	993.3	998.3
42.5°	916.6	921.4	926.3	931.2	936.1	941.3	946.8	952.3	957.7	963.3	968.8
45°	860.9	867.2	873.6	880.0	886.3	892.7	899.0	905.4	911.7	918.1	923.8
47.5°	807.6	814.2	820.8	827.3	833.9	840.8	848.2	855.5	862.9	870.2	876.1
50°	769.1	776.5	783.8	791.2	798.5	805.9	813.2	820.6	827.9	835.3	842.0
52.5°	730.6	737.9	745.3	752.6	760.0	767.9	776.3	784.8	793.1	801.6	808.3
55°	674.3	681.3	688.3	695.3	702.4	710.9	721.0	730.9	741.0	751.0	757.7
57.5°	611.3	620.1	628.8	637.4	646.1	655.4	665.4	675.4	685.4	695.3	703.3
60°	570.4	579.1	587.8	596.5	605.2	615.1	626.1	637.2	648.2	659.2	666.9
62.5°	530.7	540.2	549.7	559.2	568.6	578.9	590.0	601.1	612.1	623.1	630.7
65°	466.6	477.3	488.0	498.7	509.3	520.4	531.8	543.2	554.5	565.9	574.3
67.5°	404.8	416.2	427.6	438.9	450.3	462.1	474.3	486.4	498.6	510.9	519.3
70°	362.7	374.1	385.5	396.8	408.2	420.3	432.9	445.6	458.4	471.1	480.1
72.5°	321.8	333.4	345.1	356.7	368.3	380.9	394.5	407.9	421.4	435.0	443.7
75°	258.9	271.3	283.6	296.0	308.4	321.6	335.6	349.7	363.7	377.8	387.1
77.5°	200.2	213.3	226.4	239.5	252.6	266.6	281.3	296.0	310.7	325.4	334.9
80°	164.1	177.4	190.8	204.2	217.5	231.6	246.3	261.1	275.8	290.5	300.5
82.5°	127.9	141.9	155.8	169.7	183.6	197.9	212.6	227.3	242.0	256.7	267.0
85°	79.7	93.8	107.8	121.9	135.9	150.5	165.5	180.6	195.7	210.8	220.7
87.5°	45.0	59.0	73.0	87.0	101.0	115.5	130.4	145.3	160.2	175.1	185.0
90°	26.3	41.5	56.6	71.8	87.0	102.5	118.1	133.8	149.5	165.2	175.9
92.5°	38.6	52.8	66.8	81.0	95.1	109.8	125.1	140.3	155.6	171.0	181.0
95°	63.8	76.3	88.8	101.3	113.9	127.5	142.3	157.2	172.1	186.9	196.4
97.5°	95.0	105.7	116.3	127.1	137.7	150.5	165.4	180.3	195.3	210.2	219.5
100°	119.7	129.0	138.5	147.8	157.1	169.1	183.6	198.1	212.6	227.2	236.5
102.5°	146.8	154.8	162.6	170.5	178.4	189.4	203.5	217.6	231.8	245.9	255.1
105°	185.2	192.1	199.0	205.8	212.6	222.6	235.6	248.6	261.6	274.8	283.5
107.5°	228.4	234.1	239.8	245.4	251.1	259.9	271.6	283.5	295.3	307.1	315.8
110°	256.7	261.6	266.7	271.7	276.7	285.0	296.5	308.1	319.6	331.2	338.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	286.2	290.3	294.5	298.8	303.0	310.6	321.4	332.2	343.2	354.0	361.4
115°	330.3	333.3	336.3	339.3	342.3	349.0	359.4	369.8	380.1	390.5	397.8
117.5°	373.3	375.2	377.2	379.2	381.1	386.9	396.6	406.4	416.1	425.8	432.3
120°	401.1	402.7	404.4	406.0	407.6	413.1	422.3	431.5	440.7	449.9	455.8
122.5°	431.1	431.5	432.0	432.4	432.9	437.6	446.6	455.5	464.4	473.3	479.5
125°	473.9	473.6	473.3	473.0	472.6	476.5	484.7	492.9	501.1	509.3	515.4
127.5°	513.9	514.1	514.2	514.3	514.5	517.6	523.8	530.0	536.1	542.2	548.0
130°	540.9	541.1	541.3	541.4	541.6	544.3	549.7	555.1	560.4	565.7	571.5
132.5°	569.9	569.9	569.9	570.0	570.0	572.0	576.2	580.3	584.5	588.6	594.1
135°	606.5	607.5	608.5	609.4	610.4	612.1	614.4	616.8	619.2	621.4	626.5
137.5°	648.1	648.2	648.3	648.5	648.6	649.3	650.7	652.1	653.6	654.9	659.4
140°	675.8	675.8	675.7	675.7	675.7	675.9	676.3	676.6	676.9	677.2	681.5
142.5°	699.9	700.2	700.4	700.7	701.0	700.9	700.6	700.2	699.9	699.6	703.4
145°	734.7	735.0	735.4	735.7	735.9	736.2	736.4	736.5	736.7	736.9	738.7
147.5°	769.5	770.0	770.3	770.8	771.3	771.5	771.3	771.2	771.0	770.9	771.0
150°	790.7	791.0	791.4	791.6	792.0	792.1	792.1	792.1	792.1	792.1	792.1
152.5°	809.5	809.8	810.2	810.5	810.9	811.1	811.2	811.3	811.4	811.6	812.0
155°	840.0	840.0	840.0	840.0	840.0	839.9	839.8	839.6	839.4	839.3	839.9
157.5°	866.0	865.6	865.3	865.1	864.8	864.6	864.6	864.6	864.5	864.5	865.0
160°	881.3	881.1	881.0	880.8	880.6	880.4	880.3	880.1	880.0	879.9	880.3
162.5°	895.4	895.0	894.6	894.2	893.7	893.4	893.2	893.2	893.0	892.8	893.7
165°	914.5	914.0	913.5	912.9	912.5	912.1	911.7	911.4	911.1	910.8	911.7
167.5°	929.1	928.3	927.7	927.0	926.3	926.0	926.0	926.0	926.0	926.0	927.1
170°	937.3	936.5	935.7	934.8	934.1	933.7	933.9	934.1	934.2	934.3	935.3
172.5°	943.2	942.5	941.8	941.1	940.5	940.1	940.2	940.2	940.2	940.3	941.3
175°	951.3	950.5	949.6	948.9	948.0	947.5	947.3	947.2	947.1	946.9	948.0
177.5°	953.9	953.3	952.6	952.0	951.3	951.0	951.0	951.0	951.0	951.0	951.9
180°	952.7	952.7	952.7	952.7	952.7	952.7	952.7	952.7	952.7	952.7	952.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1339.4	1341.2	1343.1	1343.9	1343.6	1343.3	1343.1	1342.8
5°	1335.9	1338.5	1341.1	1342.4	1342.0	1341.7	1341.3	1341.0
7.5°	1328.7	1331.7	1334.7	1336.1	1335.7	1335.4	1335.0	1334.7
10°	1321.4	1324.5	1327.5	1328.8	1328.5	1328.1	1327.8	1327.5
12.5°	1311.3	1314.0	1316.7	1318.1	1318.1	1318.0	1317.9	1317.9
15°	1292.9	1295.9	1298.8	1300.2	1299.9	1299.6	1299.2	1298.8
17.5°	1270.5	1273.5	1276.6	1278.0	1277.7	1277.4	1277.1	1276.9
20°	1252.9	1256.2	1259.6	1261.2	1261.2	1261.2	1261.2	1261.2
22.5°	1232.4	1235.8	1239.1	1241.0	1241.6	1242.1	1242.6	1243.2
25°	1200.9	1204.6	1208.2	1210.2	1210.6	1210.9	1211.3	1211.5
27.5°	1165.5	1168.8	1172.2	1174.1	1174.6	1175.0	1175.4	1175.7
30°	1140.7	1144.3	1148.0	1150.2	1150.8	1151.5	1152.2	1152.9
32.5°	1115.2	1119.5	1123.7	1126.1	1126.8	1127.5	1128.1	1128.8
35°	1075.0	1079.6	1084.3	1087.1	1088.2	1089.2	1090.1	1091.2
37.5°	1032.9	1037.6	1042.5	1045.4	1046.4	1047.4	1048.6	1049.6
40°	1003.3	1008.4	1013.4	1016.6	1017.9	1019.3	1020.6	1021.9
42.5°	974.3	979.9	985.4	988.7	989.9	990.9	991.9	993.1
45°	929.4	935.2	940.8	944.5	946.2	947.8	949.5	951.2
47.5°	882.0	887.9	893.8	897.7	899.8	901.7	903.7	905.8
50°	848.7	855.4	862.0	866.4	868.5	870.4	872.4	874.4
52.5°	815.0	821.7	828.3	832.7	834.7	836.7	838.7	840.7
55°	764.4	771.1	777.8	782.1	784.1	786.2	788.2	790.1
57.5°	711.2	719.3	727.2	732.1	734.0	735.8	737.7	739.6
60°	674.6	682.3	689.9	695.1	697.9	700.5	703.2	705.9
62.5°	638.5	646.2	653.8	659.0	661.8	664.4	667.0	669.8
65°	582.6	591.0	599.4	604.8	607.6	610.2	612.9	615.6
67.5°	527.8	536.3	544.8	550.4	553.0	555.5	558.2	560.8
70°	489.2	498.1	507.2	512.9	515.2	517.6	519.9	522.3
72.5°	452.5	461.3	470.0	475.7	478.3	480.9	483.5	486.2
75°	396.5	405.9	415.2	421.4	424.4	427.4	430.5	433.5
77.5°	344.4	353.9	363.4	369.8	373.0	376.2	379.4	382.6
80°	310.6	320.6	330.6	337.0	339.6	342.3	345.0	347.7
82.5°	277.4	287.7	297.9	304.6	307.6	310.5	313.4	316.3
85°	230.7	240.8	250.8	257.5	260.9	264.2	267.6	270.9
87.5°	194.9	204.8	214.7	221.1	224.1	227.2	230.2	233.2
90°	186.5	197.3	207.9	214.8	217.8	220.7	223.8	226.8
92.5°	191.0	201.0	211.0	217.4	220.4	223.2	226.1	228.9
95°	205.9	215.5	225.0	231.3	234.3	237.3	240.3	243.4
97.5°	228.8	238.3	247.6	253.7	256.6	259.5	262.3	265.2
100°	245.8	255.2	264.6	270.4	272.8	275.1	277.4	279.7
102.5°	264.3	273.5	282.8	288.7	291.4	294.2	297.0	299.7
105°	292.4	301.2	310.1	316.1	319.3	322.4	325.6	328.8
107.5°	324.4	333.2	341.9	347.3	349.8	352.1	354.5	356.8
110°	345.9	353.3	360.6	365.9	369.1	372.2	375.4	378.5





TEST NUMBER: P332692-830

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	368.7	376.1	383.4	388.5	391.3	394.1	396.8	399.6
115°	404.9	412.1	419.3	424.0	426.2	428.4	430.6	432.7
117.5°	438.7	445.1	451.5	455.8	458.2	460.5	462.9	465.2
120°	461.7	467.5	473.4	477.9	480.8	483.8	486.8	489.8
122.5°	485.6	491.7	497.9	501.9	503.7	505.5	507.4	509.2
125°	521.4	527.4	533.4	537.2	538.9	540.6	542.3	544.0
127.5°	553.6	559.4	565.1	568.9	570.9	573.0	575.0	576.9
130°	577.1	582.8	588.5	592.0	593.4	594.7	596.1	597.5
132.5°	599.5	604.9	610.3	613.9	615.7	617.4	619.2	620.9
135°	631.5	636.5	641.6	644.8	646.3	647.9	649.4	650.9
137.5°	663.8	668.3	672.8	675.9	677.6	679.4	681.2	683.0
140°	685.6	689.8	694.0	696.8	698.3	699.8	701.3	702.9
142.5°	707.2	711.0	714.7	717.3	718.7	720.0	721.4	722.7
145°	740.6	742.4	744.2	745.6	746.4	747.2	748.1	748.9
147.5°	771.2	771.3	771.5	771.9	772.9	773.8	774.7	775.6
150°	792.1	792.1	792.1	792.0	791.9	791.7	791.5	791.4
152.5°	812.4	812.8	813.1	813.1	812.8	812.3	811.9	811.4
155°	840.6	841.2	841.9	841.9	841.2	840.6	839.9	839.3
157.5°	865.4	866.0	866.5	866.4	865.9	865.3	864.8	864.2
160°	880.8	881.3	881.7	881.7	880.8	880.0	879.2	878.4
162.5°	894.6	895.4	896.4	896.4	895.5	894.8	893.9	893.1
165°	912.8	913.7	914.7	914.8	914.2	913.5	912.9	912.3
167.5°	928.0	929.1	930.0	930.0	929.0	927.9	927.0	926.0
170°	936.3	937.3	938.3	938.2	937.1	935.9	934.7	933.6
172.5°	942.4	943.6	944.7	944.7	943.6	942.4	941.2	940.1
175°	949.1	950.3	951.5	951.5	950.3	949.1	948.0	946.9
177.5°	952.8	953.8	954.7	954.6	953.6	952.5	951.5	950.4
180°	952.7	952.7	952.7	952.7	952.7	952.7	952.7	952.7

(END OF REPORT)