

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: P332856-830

Luminaire Tested: **S124DIW-S1195D1340U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332856-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1195D1340U830-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8971.4 lumens
Efficiency: N/A
Efficacy: 117.7 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

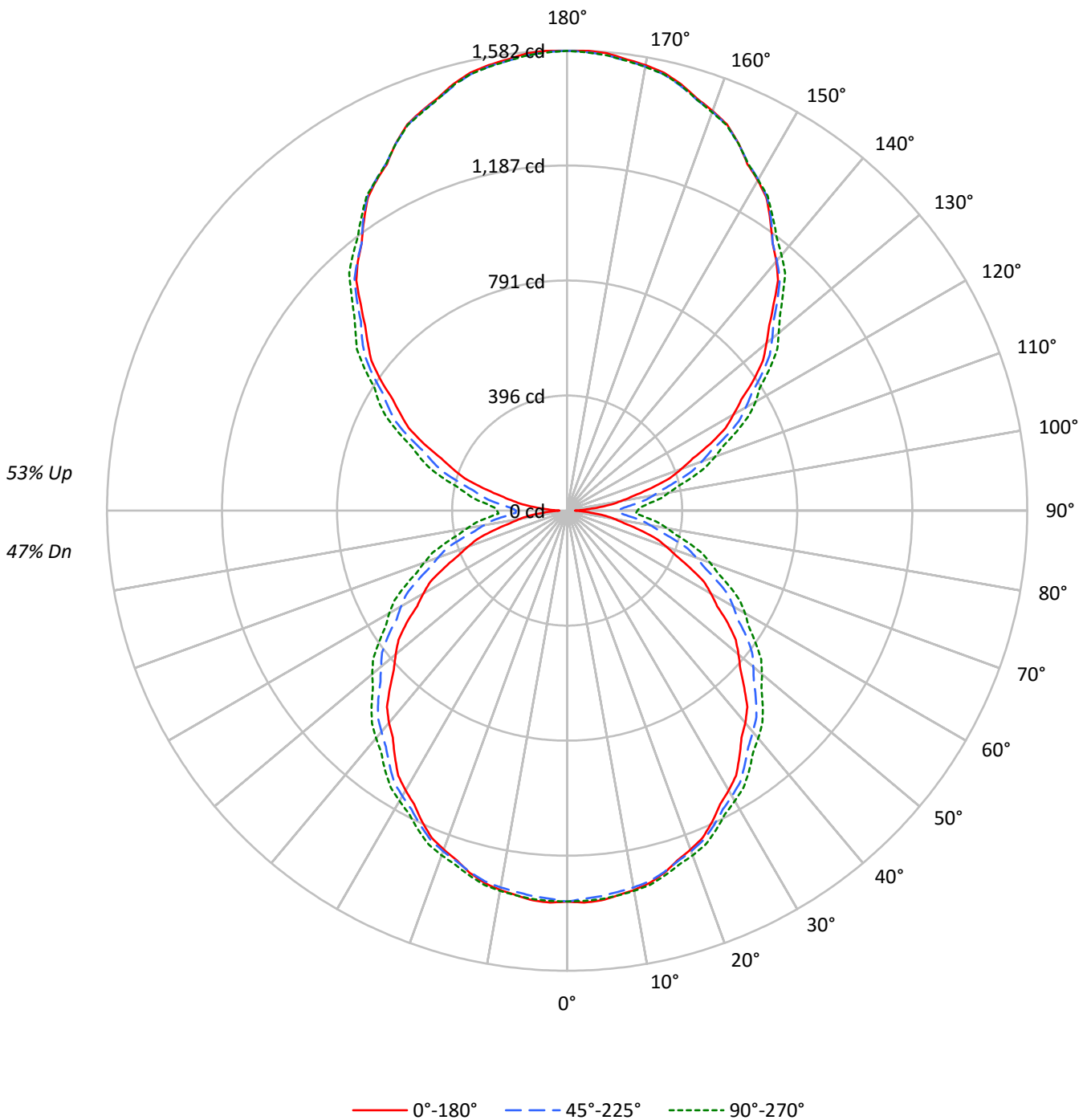
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	98	98	98	98	82	82	82	67	67	67	54	54	54	47
1	96	91	87	83	88	84	80	77	70	68	65	58	56	54	46	45	43	38
2	87	79	73	67	80	73	67	62	61	57	53	50	47	44	40	38	36	31
3	79	69	62	56	72	64	57	52	53	48	44	44	40	37	35	32	30	26
4	72	61	53	47	66	56	49	44	47	42	37	39	35	31	31	28	26	22
5	66	54	46	40	61	50	43	37	42	36	32	35	30	27	28	25	22	19
6	61	49	40	34	56	45	37	32	38	32	28	31	27	23	25	22	19	16
7	56	44	36	30	51	40	33	28	34	28	24	28	24	21	23	20	17	14
8	52	40	32	26	48	37	30	25	31	25	21	26	22	18	21	18	15	13
9	49	36	28	23	44	33	27	22	28	23	19	24	19	16	19	16	14	11
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	12	10

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	1.4
10°-20°	364.7	4.1
20°-30°	551.4	6.1
30°-40°	667.1	7.4
40°-50°	705.3	7.9
50°-60°	663.8	7.4
60°-70°	550.7	6.1
70°-80°	386.8	4.3
80°-90°	223.4	2.5
90°-100°	234.1	2.6
100°-110°	404.9	4.5
110°-120°	588.7	6.6
120°-130°	727.5	8.1
130°-140°	791.9	8.8
140°-150°	765.9	8.5
150°-160°	641.5	7.2
160°-170°	426.8	4.8
170°-180°	149.5	1.7
0°-30°	1043.3	11.6
0°-40°	1710.5	19.1
0°-60°	3079.5	34.3
0°-90°	4240.5	47.3
90°-120°	1227.7	13.7
90°-150°	3513.1	39.2
90°-180°	4731.0	52.7
0°-180°	8971.4	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°	28	101	176	225	241	21
95°	93	154	224	266	282	97
105°	298	331	390	430	447	317
115°	542	557	601	632	642	535
125°	782	783	817	842	850	697
135°	1004	1012	1022	1043	1049	777
145°	1218	1221	1222	1230	1233	762
155°	1394	1393	1392	1397	1392	641
165°	1517	1513	1511	1518	1513	427
175°	1578	1572	1571	1578	1571	150
180°	1580	1580	1580	1580	1580	



TEST NUMBER: P332856-830

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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°	45.2	59.6	73.8	88.0	102.3	116.9	132.1	147.1	162.2	177.3	187.3
90°	27.7	44.1	60.5	76.8	93.2	109.7	126.2	142.8	159.4	175.9	187.2
92.5°	49.0	64.5	79.9	95.4	110.8	126.6	142.5	158.3	174.3	190.2	200.6
95°	92.9	106.4	119.9	133.4	146.8	161.4	177.0	192.7	208.2	223.9	233.7
97.5°	145.9	157.3	168.8	180.2	191.7	205.3	221.1	237.0	252.7	268.5	278.2
100°	187.7	197.5	207.3	217.1	226.8	239.4	255.0	270.4	285.9	301.4	310.9
102.5°	232.7	240.7	248.8	256.8	264.9	276.4	291.4	306.4	321.5	336.5	346.0
105°	298.3	305.3	312.3	319.2	326.2	336.4	349.9	363.4	376.8	390.2	399.4
107.5°	370.1	376.0	381.8	387.6	393.4	402.3	414.2	426.0	437.9	449.8	458.7
110°	417.8	423.1	428.3	433.6	438.8	447.1	458.5	470.0	481.4	492.9	500.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	467.5	471.7	476.0	480.3	484.6	492.0	502.7	513.4	524.1	534.7	542.1
115°	542.0	545.0	548.0	551.0	554.0	560.6	570.8	580.9	591.1	601.2	608.3
117.5°	613.6	615.6	617.6	619.6	621.6	627.5	637.1	646.6	656.2	665.8	671.8
120°	660.3	662.3	664.5	666.6	668.6	674.1	683.0	691.9	700.8	709.6	715.0
122.5°	710.1	710.8	711.4	712.1	712.7	717.4	726.1	735.0	743.8	752.5	758.3
125°	782.2	781.9	781.6	781.2	780.9	784.8	792.9	801.0	809.1	817.1	822.9
127.5°	848.7	849.1	849.6	850.1	850.6	853.8	859.8	865.8	871.8	877.8	883.3
130°	894.4	894.8	895.3	895.9	896.4	899.3	904.6	909.9	915.3	920.7	926.1
132.5°	942.4	942.5	942.8	943.1	943.4	945.6	949.6	953.7	957.7	961.8	967.0
135°	1004.1	1005.8	1007.4	1009.0	1010.7	1012.7	1014.9	1017.3	1019.6	1022.0	1026.8
137.5°	1073.1	1073.5	1073.9	1074.3	1074.8	1075.8	1077.3	1078.9	1080.5	1082.0	1086.3
140°	1119.0	1119.3	1119.5	1119.6	1119.8	1120.1	1120.5	1120.8	1121.2	1121.4	1125.6
142.5°	1159.9	1160.4	1160.8	1161.3	1161.8	1161.8	1161.4	1160.9	1160.6	1160.2	1163.9
145°	1217.8	1218.5	1219.3	1220.0	1220.8	1221.3	1221.5	1221.8	1222.1	1222.4	1224.1
147.5°	1275.4	1276.4	1277.4	1278.4	1279.3	1279.7	1279.5	1279.3	1279.0	1278.8	1278.9
150°	1310.7	1311.5	1312.2	1313.0	1313.7	1314.0	1314.0	1314.0	1314.0	1314.0	1314.0
152.5°	1342.7	1343.3	1343.9	1344.4	1345.0	1345.5	1345.7	1345.9	1346.1	1346.3	1347.0
155°	1393.5	1393.5	1393.5	1393.5	1393.5	1393.4	1393.1	1392.8	1392.5	1392.3	1393.4
157.5°	1436.5	1436.1	1435.6	1435.0	1434.5	1434.3	1434.3	1434.2	1434.2	1434.1	1434.9
160°	1462.0	1461.7	1461.4	1461.1	1460.8	1460.6	1460.3	1460.1	1459.8	1459.5	1460.3
162.5°	1485.4	1484.7	1484.0	1483.3	1482.6	1482.1	1481.9	1481.6	1481.3	1481.0	1482.5
165°	1516.9	1516.2	1515.3	1514.5	1513.7	1513.1	1512.5	1511.9	1511.4	1510.8	1512.5
167.5°	1541.2	1540.0	1538.9	1537.8	1536.6	1536.1	1536.2	1536.2	1536.3	1536.3	1537.9
170°	1554.8	1553.5	1552.2	1550.8	1549.4	1548.9	1549.2	1549.4	1549.7	1549.9	1551.6
172.5°	1564.6	1563.5	1562.4	1561.2	1560.1	1559.5	1559.6	1559.6	1559.7	1559.7	1561.6
175°	1578.1	1576.7	1575.4	1574.0	1572.6	1571.8	1571.6	1571.3	1571.0	1570.7	1572.6
177.5°	1582.4	1581.4	1580.3	1579.2	1578.1	1577.6	1577.6	1577.6	1577.6	1577.6	1579.1
180°	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5



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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°	197.3	207.4	217.4	223.9	227.0	230.0	233.1	236.1
90°	198.6	209.9	221.2	228.5	231.7	234.9	238.2	241.4
92.5°	211.0	221.4	231.9	238.6	241.6	244.5	247.5	250.5
95°	243.6	253.4	263.3	269.7	272.7	275.7	278.7	281.7
97.5°	288.0	297.7	307.5	313.8	316.7	319.5	322.4	325.3
100°	320.6	330.2	339.7	345.6	348.0	350.3	352.7	355.1
102.5°	355.5	365.0	374.6	380.7	383.5	386.3	389.2	392.0
105°	408.6	417.8	427.0	433.3	436.8	440.3	443.7	447.2
107.5°	467.7	476.7	485.7	491.3	493.7	496.1	498.4	500.8
110°	507.2	514.3	521.4	526.8	530.3	533.8	537.2	540.7



TEST NUMBER: P332856-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	549.4	556.7	564.0	569.1	571.9	574.8	577.6	580.4
115°	615.4	622.5	629.6	634.1	636.2	638.3	640.4	642.4
117.5°	677.9	683.9	689.9	694.0	696.2	698.2	700.4	702.6
120°	720.3	725.7	730.9	735.3	738.5	741.7	744.9	748.1
122.5°	764.0	769.9	775.6	779.2	780.6	782.0	783.4	784.9
125°	828.8	834.5	840.4	844.0	845.5	847.0	848.4	849.9
127.5°	888.7	894.2	899.7	903.3	905.2	907.0	908.9	910.7
130°	931.6	937.1	942.5	945.7	946.7	947.6	948.5	949.4
132.5°	972.2	977.4	982.6	986.0	987.6	989.2	990.7	992.3
135°	1031.6	1036.4	1041.2	1044.2	1045.5	1046.6	1047.8	1049.0
137.5°	1090.4	1094.6	1098.8	1101.7	1103.6	1105.4	1107.3	1109.1
140°	1129.6	1133.7	1137.7	1140.5	1141.9	1143.3	1144.7	1146.1
142.5°	1167.6	1171.4	1175.2	1177.7	1179.1	1180.4	1181.8	1183.2
145°	1225.9	1227.6	1229.3	1230.4	1231.0	1231.5	1232.0	1232.6
147.5°	1278.9	1279.0	1279.0	1279.5	1280.3	1281.1	1281.9	1282.7
150°	1314.0	1314.0	1314.0	1313.9	1313.6	1313.3	1313.1	1312.9
152.5°	1347.6	1348.3	1349.0	1348.9	1348.2	1347.5	1346.8	1346.0
155°	1394.5	1395.5	1396.7	1396.7	1395.5	1394.5	1393.4	1392.3
157.5°	1435.7	1436.5	1437.4	1437.3	1436.3	1435.4	1434.5	1433.6
160°	1461.1	1462.0	1462.7	1462.4	1461.1	1459.8	1458.4	1457.1
162.5°	1483.9	1485.4	1486.9	1487.0	1485.5	1484.2	1482.9	1481.5
165°	1514.1	1515.7	1517.4	1517.7	1516.6	1515.4	1514.4	1513.3
167.5°	1539.5	1541.2	1542.8	1542.8	1541.1	1539.4	1537.8	1536.1
170°	1553.2	1554.8	1556.5	1556.3	1554.4	1552.6	1550.7	1548.8
172.5°	1563.4	1565.3	1567.2	1567.1	1565.2	1563.3	1561.4	1559.5
175°	1574.5	1576.4	1578.4	1578.4	1576.4	1574.5	1572.6	1570.7
177.5°	1580.6	1582.2	1583.7	1583.6	1581.9	1580.1	1578.4	1576.6
180°	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5

(END OF REPORT)