

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: P332850-830

Luminaire Tested: **S124DIW-S1195D1050U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332850-830
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-S1195D1050U830-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1050 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8010.6 lumens
Efficiency: N/A
Efficacy: 118.9 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

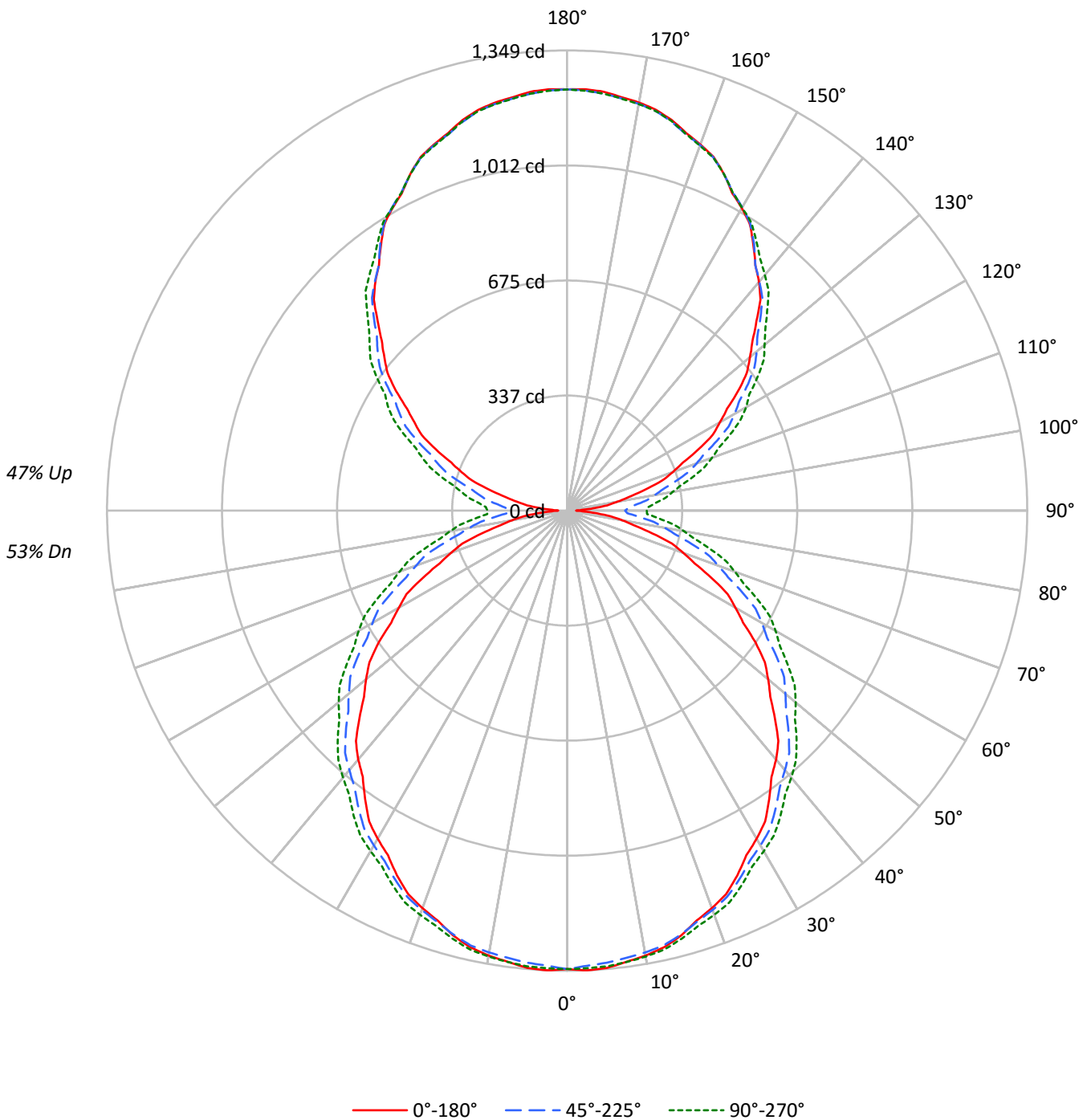
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	97	93	88	84	90	86	82	79	73	70	68	61	59	57	50	49	48	42
2	88	80	74	68	81	74	68	64	63	59	55	53	50	47	44	41	39	35
3	80	70	62	56	74	65	58	53	55	50	46	46	43	39	38	35	33	29
4	73	62	53	47	67	57	50	44	49	43	39	41	37	33	34	31	28	24
5	67	55	46	40	62	51	43	38	44	38	33	37	32	29	30	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	28	25	28	24	21	18
7	57	44	36	30	52	41	34	29	36	30	25	30	25	22	25	21	19	16
8	53	40	32	27	49	37	30	25	32	26	22	28	23	19	23	19	17	14
9	49	37	29	24	45	34	27	22	30	24	20	25	21	17	21	18	15	13
10	46	34	26	21	42	31	25	20	27	22	18	23	19	16	20	16	14	12

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	1.6
10°-20°	364.7	4.6
20°-30°	551.4	6.9
30°-40°	667.1	8.3
40°-50°	705.3	8.8
50°-60°	663.8	8.3
60°-70°	550.7	6.9
70°-80°	386.8	4.8
80°-90°	222.4	2.8
90°-100°	211.3	2.6
100°-110°	337.3	4.2
110°-120°	473.9	5.9
120°-130°	576.3	7.2
130°-140°	622.0	7.8
140°-150°	599.0	7.5
150°-160°	501.1	6.3
160°-170°	333.4	4.2
170°-180°	116.7	1.5
0°-30°	1043.3	13.0
0°-40°	1710.5	21.4
0°-60°	3079.5	38.4
0°-90°	4239.5	52.9
90°-120°	1022.6	12.8
90°-150°	2819.9	35.2
90°-180°	3771.0	47.1
0°-180°	8010.6	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°	27	98	170	217	233	20
95°	77	136	204	245	260	79
105°	236	269	327	366	382	251
115°	425	441	485	516	527	420
125°	612	613	648	673	681	546
135°	785	791	801	823	830	608
145°	952	954	955	963	966	595
155°	1088	1088	1088	1091	1088	501
165°	1185	1182	1180	1185	1182	334
175°	1233	1228	1227	1233	1227	117
180°	1235	1235	1235	1235	1235	



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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°	45.1	59.2	73.3	87.5	101.6	116.1	131.1	146.1	161.1	176.1	186.1
90°	27.0	42.7	58.3	74.1	89.8	105.7	121.8	137.9	153.9	170.0	181.0
92.5°	43.4	58.1	72.8	87.5	102.2	117.3	132.9	148.5	164.0	179.6	189.8
95°	76.8	89.8	102.7	115.6	128.7	142.7	157.9	173.1	188.3	203.5	213.2
97.5°	117.8	128.8	139.9	150.9	161.9	175.1	190.4	205.8	221.0	236.4	245.9
100°	150.2	159.8	169.3	178.9	188.4	200.7	215.7	230.5	245.5	260.5	269.9
102.5°	185.4	193.3	201.3	209.2	217.3	228.5	243.0	257.5	272.0	286.5	295.9
105°	236.0	242.9	249.9	256.7	263.6	273.7	286.9	300.1	313.4	326.6	335.5
107.5°	292.1	297.7	303.5	309.2	315.0	323.8	335.6	347.5	359.3	371.2	379.9
110°	329.0	334.1	339.2	344.4	349.5	357.8	369.3	380.8	392.3	403.8	411.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	367.6	371.8	376.0	380.2	384.5	392.0	402.7	413.6	424.3	435.2	442.5
115°	425.4	428.4	431.4	434.3	437.3	444.0	454.3	464.6	474.9	485.1	492.3
117.5°	481.2	483.1	485.1	487.1	489.1	494.9	504.5	514.3	524.0	533.6	539.8
120°	517.4	519.2	521.1	522.9	524.8	530.3	539.3	548.4	557.4	566.6	572.1
122.5°	556.4	556.9	557.4	558.0	558.6	563.3	572.1	581.0	589.8	598.7	604.6
125°	612.4	612.0	611.7	611.3	611.0	614.9	623.0	631.2	639.3	647.5	653.5
127.5°	664.2	664.5	664.8	665.1	665.3	668.5	674.7	680.7	686.8	692.9	698.5
130°	699.6	699.9	700.2	700.5	700.9	703.7	709.0	714.4	719.7	725.1	730.7
132.5°	737.1	737.2	737.4	737.4	737.6	739.7	743.9	747.9	752.1	756.2	761.5
135°	785.0	786.3	787.6	788.8	790.1	791.9	794.3	796.6	798.9	801.3	806.3
137.5°	838.9	839.1	839.4	839.6	839.9	840.7	842.3	843.8	845.2	846.7	851.0
140°	874.8	874.9	875.0	875.1	875.2	875.3	875.7	876.0	876.4	876.7	880.8
142.5°	906.4	906.8	907.1	907.5	907.9	907.9	907.5	907.1	906.7	906.3	910.1
145°	951.6	952.1	952.6	953.1	953.7	953.9	954.2	954.4	954.6	954.8	956.6
147.5°	996.6	997.3	998.0	998.7	999.4	999.7	999.5	999.3	999.1	998.9	999.0
150°	1024.2	1024.6	1025.2	1025.7	1026.1	1026.4	1026.4	1026.4	1026.4	1026.4	1026.4
152.5°	1048.9	1049.3	1049.8	1050.3	1050.7	1050.9	1051.1	1051.3	1051.5	1051.7	1052.2
155°	1088.5	1088.5	1088.5	1088.5	1088.5	1088.4	1088.2	1088.0	1087.8	1087.6	1088.4
157.5°	1122.1	1121.7	1121.3	1121.0	1120.6	1120.4	1120.3	1120.3	1120.2	1120.2	1120.9
160°	1142.0	1141.8	1141.5	1141.3	1141.1	1140.9	1140.7	1140.5	1140.3	1140.1	1140.7
162.5°	1160.3	1159.8	1159.2	1158.7	1158.1	1157.7	1157.5	1157.3	1157.1	1156.9	1158.0
165°	1185.0	1184.3	1183.6	1183.1	1182.4	1181.9	1181.5	1181.0	1180.6	1180.2	1181.5
167.5°	1203.8	1203.0	1202.1	1201.2	1200.3	1199.9	1200.0	1200.0	1200.0	1200.0	1201.3
170°	1214.6	1213.5	1212.4	1211.4	1210.3	1209.8	1210.1	1210.3	1210.5	1210.7	1212.0
172.5°	1222.2	1221.3	1220.4	1219.6	1218.6	1218.2	1218.2	1218.3	1218.3	1218.3	1219.8
175°	1232.7	1231.6	1230.6	1229.5	1228.4	1227.9	1227.6	1227.4	1227.2	1227.0	1228.4
177.5°	1236.1	1235.3	1234.4	1233.6	1232.8	1232.3	1232.3	1232.3	1232.3	1232.3	1233.5
180°	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6



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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°	196.0	205.9	215.9	222.3	225.5	228.5	231.5	234.5
90°	192.0	202.9	213.9	220.9	224.0	227.2	230.3	233.4
92.5°	200.0	210.2	220.4	227.0	229.9	232.8	235.7	238.7
95°	222.8	232.5	242.1	248.5	251.6	254.6	257.5	260.5
97.5°	255.4	264.9	274.5	280.7	283.6	286.4	289.4	292.2
100°	279.4	288.8	298.3	304.2	306.5	308.9	311.2	313.6
102.5°	305.3	314.6	324.0	330.1	332.8	335.5	338.4	341.1
105°	344.6	353.5	362.6	368.7	372.0	375.3	378.7	382.0
107.5°	388.8	397.6	406.4	412.0	414.3	416.8	419.1	421.5
110°	418.3	425.6	432.8	438.1	441.4	444.7	448.1	451.4



TEST NUMBER: P332850-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	449.9	457.1	464.5	469.6	472.4	475.2	478.0	480.8
115°	499.5	506.6	513.7	518.4	520.5	522.6	524.7	526.9
117.5°	546.0	552.3	558.6	562.8	565.1	567.3	569.5	571.7
120°	577.8	583.4	589.0	593.4	596.5	599.6	602.7	605.8
122.5°	610.7	616.6	622.5	626.4	628.0	629.6	631.3	632.9
125°	659.4	665.3	671.2	675.0	676.6	678.2	679.8	681.3
127.5°	704.1	709.7	715.3	719.1	721.0	722.9	724.8	726.8
130°	736.3	741.9	747.4	750.8	752.0	753.2	754.3	755.4
132.5°	766.9	772.1	777.5	781.0	782.6	784.3	786.0	787.7
135°	811.2	816.1	821.0	824.2	825.5	826.9	828.2	829.6
137.5°	855.4	859.7	864.0	867.0	868.8	870.7	872.5	874.3
140°	885.0	889.1	893.2	896.0	897.5	898.9	900.4	901.8
142.5°	913.9	917.7	921.4	924.0	925.4	926.7	928.1	929.4
145°	958.5	960.3	962.1	963.3	963.9	964.7	965.4	966.1
147.5°	999.2	999.3	999.4	999.8	1000.7	1001.5	1002.4	1003.2
150°	1026.4	1026.4	1026.4	1026.3	1026.1	1026.0	1025.7	1025.5
152.5°	1052.6	1053.2	1053.7	1053.7	1053.1	1052.5	1052.0	1051.5
155°	1089.3	1090.1	1091.0	1091.0	1090.1	1089.3	1088.4	1087.6
157.5°	1121.5	1122.1	1122.8	1122.8	1122.0	1121.2	1120.6	1119.8
160°	1141.3	1142.0	1142.6	1142.4	1141.3	1140.3	1139.3	1138.1
162.5°	1159.1	1160.3	1161.5	1161.5	1160.5	1159.4	1158.3	1157.3
165°	1182.7	1184.0	1185.2	1185.4	1184.6	1183.7	1182.9	1182.0
167.5°	1202.6	1203.8	1205.1	1205.1	1203.8	1202.5	1201.2	1199.9
170°	1213.2	1214.6	1215.8	1215.7	1214.3	1212.8	1211.3	1209.8
172.5°	1221.3	1222.7	1224.2	1224.1	1222.7	1221.2	1219.7	1218.1
175°	1229.9	1231.4	1232.9	1232.9	1231.4	1229.9	1228.4	1227.0
177.5°	1234.7	1235.9	1237.1	1237.0	1235.6	1234.3	1232.9	1231.5
180°	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6

(END OF REPORT)