

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: P333058-840

Luminaire Tested: **S124RDIW-S795D470U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333058-840
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: S124RDIW-S795D470U840-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4884.5 lumens
Efficiency: N/A
Efficacy: 129.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

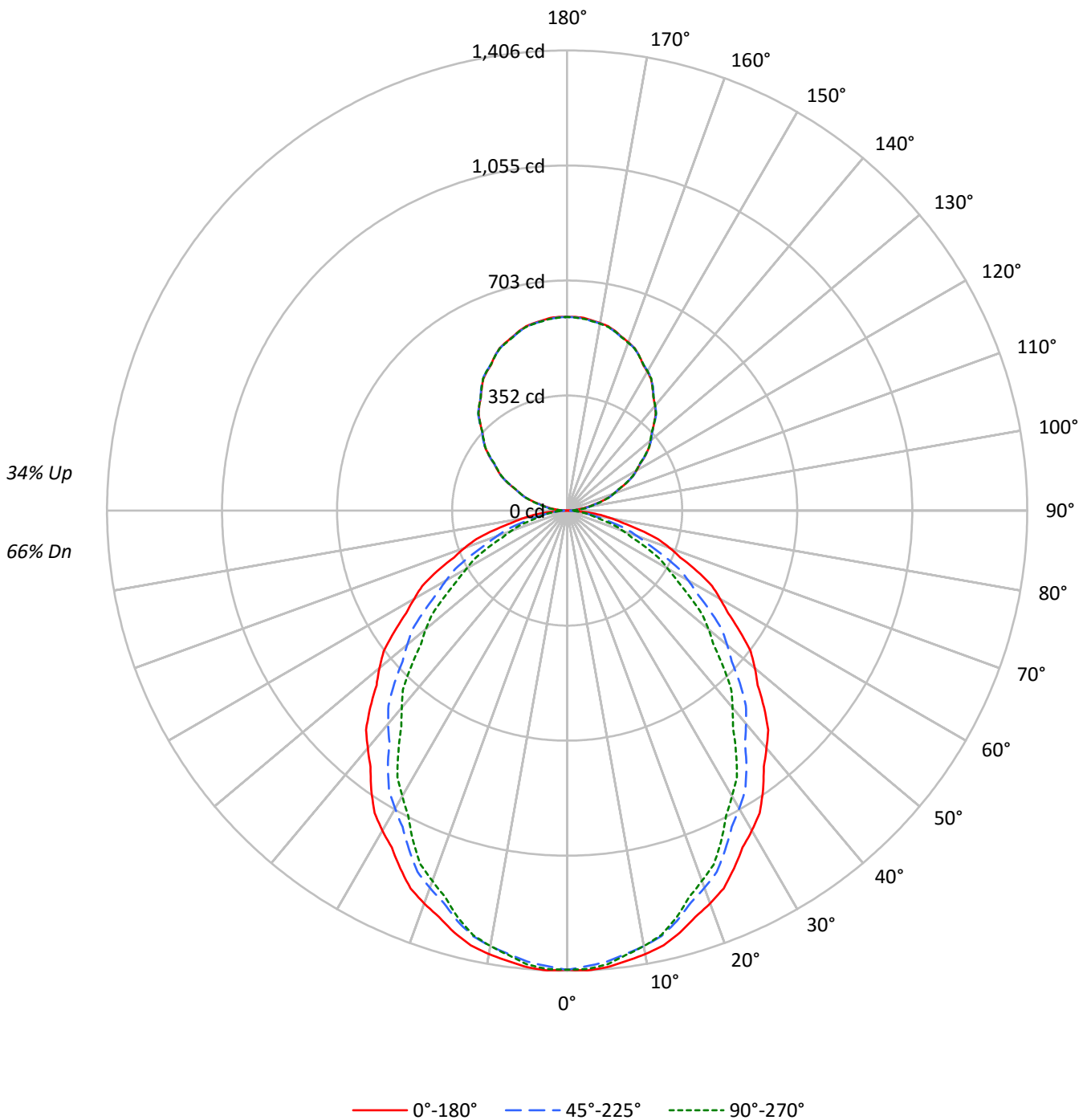
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	50	30	10	0		
RCR																										
0	111	111	111	111	105	105	105	105	92	92	92	81	81	81	71	71	71	66								
1	102	98	94	90	96	92	89	86	82	79	77	72	70	69	64	62	61	57								
2	93	86	79	74	87	81	75	71	72	68	64	64	61	58	56	54	52	48								
3	85	76	68	62	80	72	65	60	64	59	54	57	53	49	50	47	44	41								
4	78	67	59	53	73	64	56	51	57	51	47	51	46	43	45	42	39	35								
5	72	60	52	46	67	57	50	44	51	45	41	46	41	37	41	37	34	31								
6	66	54	46	40	62	51	44	39	46	40	36	42	37	33	37	33	30	27								
7	61	49	41	35	58	47	39	34	42	36	32	38	33	29	34	30	27	24								
8	57	45	37	31	54	43	35	30	39	33	28	35	30	26	31	27	24	22								
9	53	41	33	28	50	39	32	27	36	30	25	32	27	24	29	25	22	20								
10	50	38	30	26	47	36	29	25	33	27	23	30	25	22	27	23	20	18								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11326	11326	11326
5°	11351	11212	11281
10°	11280	11077	11077
15°	11150	10845	10764
20°	10972	10539	10345
25°	10745	10180	9922
30°	10523	9803	9392
35°	10279	9411	8861
40°	9985	8965	8286
45°	9712	8524	7702
50°	9403	8013	7082
55°	9071	7484	6410
60°	8707	6902	5724
65°	8373	6178	5049
70°	7886	5375	4286
75°	7271	4457	3484
80°	6341	3394	3199
85°	5372	3084	2881



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.8	2.7
10°-20°	367.5	7.5
20°-30°	530.6	10.9
30°-40°	601.5	12.3
40°-50°	580.8	11.9
50°-60°	483.0	9.9
60°-70°	333.5	6.8
70°-80°	169.1	3.5
80°-90°	45.1	0.9
90°-100°	39.0	0.8
100°-110°	115.6	2.4
110°-120°	196.2	4.0
120°-130°	258.7	5.3
130°-140°	290.6	5.9
140°-150°	285.5	5.8
150°-160°	240.2	4.9
160°-170°	159.8	3.3
170°-180°	56.0	1.1
0°-30°	1029.9	21.1
0°-40°	1631.4	33.4
0°-60°	2695.2	55.2
0°-90°	3242.9	66.4
90°-120°	350.9	7.2
90°-150°	1185.7	24.3
90°-180°	1642.0	33.6
0°-180°	4884.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1403	1403	1403	1403	1403	
5°	1401	1396	1384	1394	1392	133
15°	1334	1324	1298	1295	1288	376
25°	1206	1186	1143	1125	1114	556
35°	1043	1008	955	919	899	651
45°	851	810	747	696	675	656
55°	644	600	532	478	455	576
65°	438	391	323	279	264	433
75°	233	193	143	119	112	246
85°	58	38	33	31	31	65
90°	1	6	10	13	14	4
95°	28	32	35	36	36	31
105°	107	107	109	110	112	113
115°	200	199	199	198	198	197
125°	290	290	290	289	288	259
135°	375	377	378	377	375	290
145°	455	457	458	457	456	285
155°	522	522	521	523	521	240
165°	568	566	566	568	566	160
175°	591	589	588	591	588	56
180°	592	592	592	592	592	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9
2.5°	1406.3	1405.5	1404.7	1404.0	1403.2	1401.8	1399.7	1397.7	1395.5	1393.4	1395.5
5°	1400.7	1399.8	1398.8	1397.9	1396.8	1395.0	1392.1	1389.3	1386.3	1383.5	1385.9
7.5°	1388.1	1387.0	1386.0	1385.0	1384.0	1381.7	1378.0	1374.2	1370.5	1366.8	1368.3
10°	1376.0	1374.8	1373.6	1372.4	1371.2	1368.5	1364.2	1359.9	1355.6	1351.3	1352.2
12.5°	1360.5	1359.2	1357.8	1356.3	1355.0	1351.8	1346.8	1341.6	1336.6	1331.5	1332.1
15°	1334.1	1332.0	1329.8	1327.7	1325.5	1321.5	1315.5	1309.5	1303.5	1297.6	1297.1
17.5°	1302.1	1299.0	1295.9	1292.8	1289.7	1284.5	1277.4	1270.2	1263.0	1255.9	1254.6
20°	1277.2	1274.0	1271.0	1267.9	1264.8	1259.2	1251.0	1242.9	1234.8	1226.7	1224.8
22.5°	1249.7	1246.2	1242.7	1239.2	1235.8	1229.6	1220.9	1212.2	1203.6	1194.9	1192.0
25°	1206.3	1201.9	1197.7	1193.4	1189.1	1182.0	1172.3	1162.5	1152.7	1142.9	1138.8
27.5°	1160.7	1155.4	1149.9	1144.6	1139.1	1131.3	1120.7	1110.3	1099.8	1089.4	1084.4
30°	1128.9	1123.0	1117.0	1111.1	1105.1	1096.5	1085.3	1074.1	1062.8	1051.6	1045.6
32.5°	1095.4	1088.7	1082.0	1075.2	1068.5	1059.3	1047.7	1036.1	1024.5	1012.9	1006.0
35°	1043.0	1035.4	1027.7	1020.1	1012.5	1002.7	990.8	978.8	966.8	954.9	946.8
37.5°	986.9	979.1	971.2	963.3	955.4	944.9	931.7	918.5	905.2	892.0	882.9
40°	947.5	939.6	931.7	923.8	915.9	905.1	891.5	878.0	864.3	850.7	840.7
42.5°	909.6	901.3	893.1	884.8	876.6	865.4	851.2	837.0	822.8	808.6	798.4
45°	850.7	841.9	833.0	824.3	815.4	803.9	789.5	775.2	760.8	746.6	734.9
47.5°	789.9	780.8	771.7	762.5	753.5	741.4	726.6	711.7	696.8	681.9	669.7
50°	748.7	739.4	730.0	720.7	711.4	699.1	683.9	668.6	653.3	638.0	626.1
52.5°	706.6	697.5	688.3	679.2	670.1	657.7	642.1	626.4	610.8	595.1	583.0
55°	644.5	634.9	625.4	615.8	606.3	593.8	578.2	562.7	547.2	531.7	519.3
57.5°	583.1	573.1	563.2	553.3	543.3	530.7	515.4	500.2	484.9	469.6	457.1
60°	539.3	529.7	520.2	510.6	501.0	488.7	473.3	458.1	442.8	427.5	415.1
62.5°	499.7	489.8	479.9	469.9	460.0	447.2	431.5	415.9	400.2	384.6	373.0
65°	438.3	428.0	417.7	407.5	397.2	384.5	369.1	353.9	338.6	323.4	313.1
67.5°	374.5	364.7	354.8	345.0	335.1	323.2	308.9	294.8	280.5	266.4	257.5
70°	334.1	324.1	314.0	304.0	294.0	282.2	268.5	254.9	241.4	227.7	219.8
72.5°	291.1	282.1	273.0	263.9	254.8	243.9	231.1	218.1	205.3	192.5	185.7
75°	233.1	224.3	215.4	206.6	197.7	187.7	176.5	165.3	154.1	142.9	137.3
77.5°	174.2	166.7	159.3	151.8	144.2	135.9	126.9	117.9	108.8	99.7	96.4
80°	136.4	129.5	122.6	115.6	108.8	101.7	94.5	87.4	80.2	73.0	72.3
82.5°	103.8	97.5	91.1	84.7	78.4	73.1	69.1	64.9	60.8	56.8	56.1
85°	58.0	53.2	48.5	43.7	38.9	36.2	35.4	34.7	34.0	33.3	32.8
87.5°	20.0	18.8	17.5	16.2	14.8	14.1	14.1	14.1	14.0	14.0	13.9
90°	1.4	2.5	3.6	4.7	5.9	6.8	7.7	8.5	9.3	10.1	10.7
92.5°	9.8	11.1	12.3	13.6	14.9	15.9	16.5	17.0	17.6	18.1	18.5
95°	27.5	28.4	29.3	30.2	31.1	31.9	32.6	33.3	34.0	34.7	35.0
97.5°	48.0	48.7	49.4	50.2	50.9	51.7	52.5	53.3	54.1	55.0	55.3
100°	64.0	64.4	64.8	65.2	65.7	66.3	67.3	68.2	69.1	70.0	70.2
102.5°	80.9	81.1	81.2	81.4	81.6	82.1	82.9	83.7	84.5	85.4	85.6
105°	106.6	106.7	106.8	106.9	107.0	107.2	107.7	108.1	108.5	108.9	109.2
107.5°	133.6	133.7	133.9	134.0	134.1	134.2	134.3	134.3	134.4	134.4	134.7
110°	151.9	152.1	152.3	152.5	152.7	152.8	152.7	152.6	152.5	152.4	152.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	171.0	171.0	171.1	171.1	171.2	171.1	170.9	170.7	170.5	170.4	170.3
115°	199.5	199.5	199.5	199.5	199.5	199.4	199.2	199.0	198.8	198.6	198.5
117.5°	226.4	226.5	226.6	226.7	226.7	226.7	226.6	226.4	226.3	226.1	225.8
120°	244.4	244.8	245.2	245.6	246.0	246.0	245.7	245.4	245.1	244.8	244.3
122.5°	263.1	263.2	263.4	263.5	263.7	263.7	263.6	263.4	263.3	263.2	262.8
125°	290.5	290.5	290.5	290.5	290.5	290.5	290.4	290.3	290.2	290.1	289.9
127.5°	315.6	315.9	316.2	316.5	316.8	316.9	316.7	316.5	316.4	316.2	316.0
130°	333.2	333.5	333.8	334.1	334.4	334.5	334.5	334.5	334.5	334.5	334.3
132.5°	351.0	351.3	351.5	351.7	351.9	352.0	351.9	351.8	351.8	351.7	351.5
135°	374.8	375.4	376.0	376.6	377.2	377.5	377.5	377.5	377.5	377.5	377.3
137.5°	400.6	400.9	401.1	401.4	401.7	401.9	402.1	402.3	402.4	402.6	402.3
140°	417.8	418.0	418.2	418.4	418.6	418.7	418.7	418.7	418.7	418.7	418.6
142.5°	433.5	433.7	433.9	434.1	434.3	434.4	434.3	434.2	434.1	434.0	434.0
145°	455.3	455.8	456.2	456.6	457.0	457.2	457.3	457.4	457.5	457.6	457.5
147.5°	477.0	477.4	477.9	478.4	478.9	479.1	479.0	478.9	478.9	478.8	478.7
150°	490.1	490.5	490.9	491.3	491.7	491.9	491.9	491.9	491.9	491.9	491.9
152.5°	502.5	502.8	503.0	503.3	503.5	503.7	503.7	503.8	503.9	504.0	504.2
155°	521.7	521.7	521.7	521.7	521.7	521.6	521.5	521.4	521.3	521.2	521.6
157.5°	537.8	537.6	537.5	537.2	537.0	536.9	536.9	536.9	536.8	536.8	537.1
160°	547.3	547.2	547.1	547.0	546.9	546.8	546.7	546.6	546.5	546.4	546.7
162.5°	556.1	555.8	555.5	555.3	555.0	554.8	554.7	554.6	554.5	554.4	555.0
165°	567.8	567.5	567.2	566.9	566.6	566.4	566.2	566.0	565.8	565.6	566.2
167.5°	576.9	576.5	576.1	575.7	575.2	575.0	575.0	575.1	575.1	575.1	575.7
170°	582.1	581.6	581.1	580.6	580.1	579.9	580.0	580.1	580.2	580.3	580.9
172.5°	585.7	585.3	584.9	584.5	584.0	583.8	583.8	583.9	583.9	583.9	584.6
175°	590.8	590.3	589.8	589.3	588.8	588.4	588.3	588.2	588.1	588.0	588.8
177.5°	592.4	592.0	591.6	591.2	590.8	590.6	590.6	590.6	590.6	590.6	591.2
180°	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9	1402.9
2.5°	1397.7	1399.7	1401.8	1402.8	1402.6	1402.4	1402.2	1402.0
5°	1388.3	1390.7	1393.1	1394.0	1393.5	1393.1	1392.6	1392.1
7.5°	1369.8	1371.4	1372.9	1373.2	1372.5	1371.7	1371.0	1370.2
10°	1353.2	1354.1	1355.1	1355.1	1354.1	1353.2	1352.2	1351.3
12.5°	1332.7	1333.2	1333.8	1333.4	1332.1	1330.8	1329.4	1328.1
15°	1296.7	1296.2	1295.7	1294.6	1292.9	1291.2	1289.6	1287.9
17.5°	1253.2	1251.9	1250.5	1248.6	1246.1	1243.5	1241.0	1238.5
20°	1222.8	1220.9	1219.0	1216.6	1213.5	1210.3	1207.2	1204.2
22.5°	1189.2	1186.3	1183.5	1180.7	1178.2	1175.7	1173.2	1170.6
25°	1134.8	1130.7	1126.7	1123.5	1121.1	1118.7	1116.3	1113.9
27.5°	1079.3	1074.4	1069.3	1065.1	1061.7	1058.2	1054.8	1051.4
30°	1039.7	1033.7	1027.7	1022.8	1019.1	1015.2	1011.4	1007.5
32.5°	999.1	992.2	985.2	980.0	976.3	972.7	969.1	965.4
35°	938.7	930.6	922.5	916.3	912.0	907.7	903.3	899.1
37.5°	873.8	864.7	855.7	849.0	844.8	840.4	836.2	831.8
40°	830.7	820.6	810.6	803.4	799.2	794.9	790.6	786.3
42.5°	788.2	778.0	767.8	760.4	755.9	751.4	747.0	742.5
45°	723.2	711.4	699.7	691.8	687.4	683.2	678.8	674.6
47.5°	657.6	645.5	633.4	624.9	620.3	615.5	610.8	606.0
50°	614.2	602.3	590.3	582.1	577.5	573.0	568.5	563.9
52.5°	570.9	558.8	546.5	538.2	533.4	528.7	524.0	519.3
55°	506.9	494.4	482.1	473.6	469.1	464.5	460.0	455.4
57.5°	444.4	431.8	419.2	411.2	407.8	404.3	400.9	397.5
60°	402.7	390.3	377.9	369.7	366.0	362.1	358.3	354.5
62.5°	361.6	350.2	338.7	331.4	328.4	325.4	322.2	319.2
65°	302.8	292.6	282.3	275.7	272.9	269.9	267.1	264.3
67.5°	248.7	239.9	231.1	225.1	222.0	218.7	215.6	212.5
70°	212.0	204.1	196.2	191.1	188.7	186.3	183.9	181.6
72.5°	179.0	172.3	165.5	161.1	159.0	156.7	154.5	152.3
75°	131.9	126.4	120.9	117.4	116.0	114.6	113.1	111.7
77.5°	93.3	90.1	86.8	85.0	84.6	84.2	83.8	83.3
80°	71.6	70.9	70.2	69.7	69.5	69.2	69.0	68.8
82.5°	55.6	55.1	54.6	54.2	54.0	53.7	53.5	53.3
85°	32.3	31.9	31.4	31.1	31.1	31.1	31.1	31.1
87.5°	13.9	13.8	13.7	13.8	14.0	14.3	14.5	14.7
90°	11.3	11.9	12.5	12.9	13.1	13.3	13.5	13.7
92.5°	18.9	19.2	19.6	19.8	20.0	20.1	20.2	20.3
95°	35.3	35.6	36.0	36.2	36.2	36.2	36.2	36.2
97.5°	55.7	56.1	56.5	56.7	56.7	56.7	56.7	56.7
100°	70.4	70.6	70.8	70.9	70.9	70.9	70.9	70.9
102.5°	85.9	86.2	86.5	86.7	86.7	86.8	86.9	87.1
105°	109.6	109.9	110.2	110.5	110.8	111.1	111.4	111.7
107.5°	135.0	135.3	135.6	135.7	135.7	135.7	135.6	135.6
110°	152.0	151.8	151.6	151.6	151.9	152.2	152.5	152.8



TEST NUMBER: P333058-840

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	170.3	170.2	170.2	170.2	170.3	170.3	170.4	170.4
115°	198.4	198.3	198.2	198.1	198.0	197.9	197.8	197.7
117.5°	225.5	225.1	224.8	224.5	224.3	224.1	223.9	223.7
120°	243.8	243.3	242.8	242.7	242.9	243.1	243.3	243.5
122.5°	262.5	262.1	261.8	261.4	261.1	260.6	260.2	259.9
125°	289.7	289.5	289.3	289.1	288.9	288.7	288.5	288.3
127.5°	315.8	315.6	315.4	315.2	315.1	314.9	314.8	314.6
130°	334.1	333.9	333.7	333.4	333.0	332.5	332.1	331.7
132.5°	351.3	351.1	350.9	350.7	350.5	350.4	350.2	350.1
135°	377.1	376.9	376.7	376.5	376.2	375.9	375.6	375.3
137.5°	402.0	401.8	401.5	401.4	401.5	401.5	401.6	401.7
140°	418.5	418.4	418.3	418.2	418.1	418.0	417.9	417.8
142.5°	434.0	434.0	434.0	433.9	433.9	433.9	433.9	433.9
145°	457.4	457.3	457.2	457.0	456.7	456.4	456.1	455.8
147.5°	478.6	478.5	478.5	478.4	478.3	478.2	478.1	478.0
150°	491.9	491.9	491.9	491.9	491.8	491.7	491.6	491.5
152.5°	504.5	504.7	505.0	504.9	504.7	504.4	504.2	503.9
155°	522.0	522.4	522.8	522.8	522.4	522.0	521.6	521.2
157.5°	537.5	537.8	538.1	538.1	537.8	537.3	537.0	536.6
160°	547.0	547.3	547.6	547.5	547.0	546.5	545.9	545.4
162.5°	555.5	556.1	556.6	556.6	556.1	555.6	555.1	554.6
165°	566.8	567.4	568.0	568.2	567.7	567.3	566.9	566.5
167.5°	576.3	576.9	577.5	577.5	576.9	576.3	575.6	575.0
170°	581.5	582.1	582.7	582.6	581.9	581.2	580.5	579.8
172.5°	585.3	586.0	586.6	586.6	585.9	585.2	584.5	583.8
175°	589.5	590.2	590.9	590.9	590.2	589.5	588.8	588.0
177.5°	591.8	592.3	592.9	592.8	592.2	591.6	590.9	590.3
180°	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7

(END OF REPORT)