

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: P332655-840

Luminaire Tested: **S124DIP-S1020D1035U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332655-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S1020D1035U840-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8423.5 lumens
Efficiency: N/A
Efficacy: 139.2 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

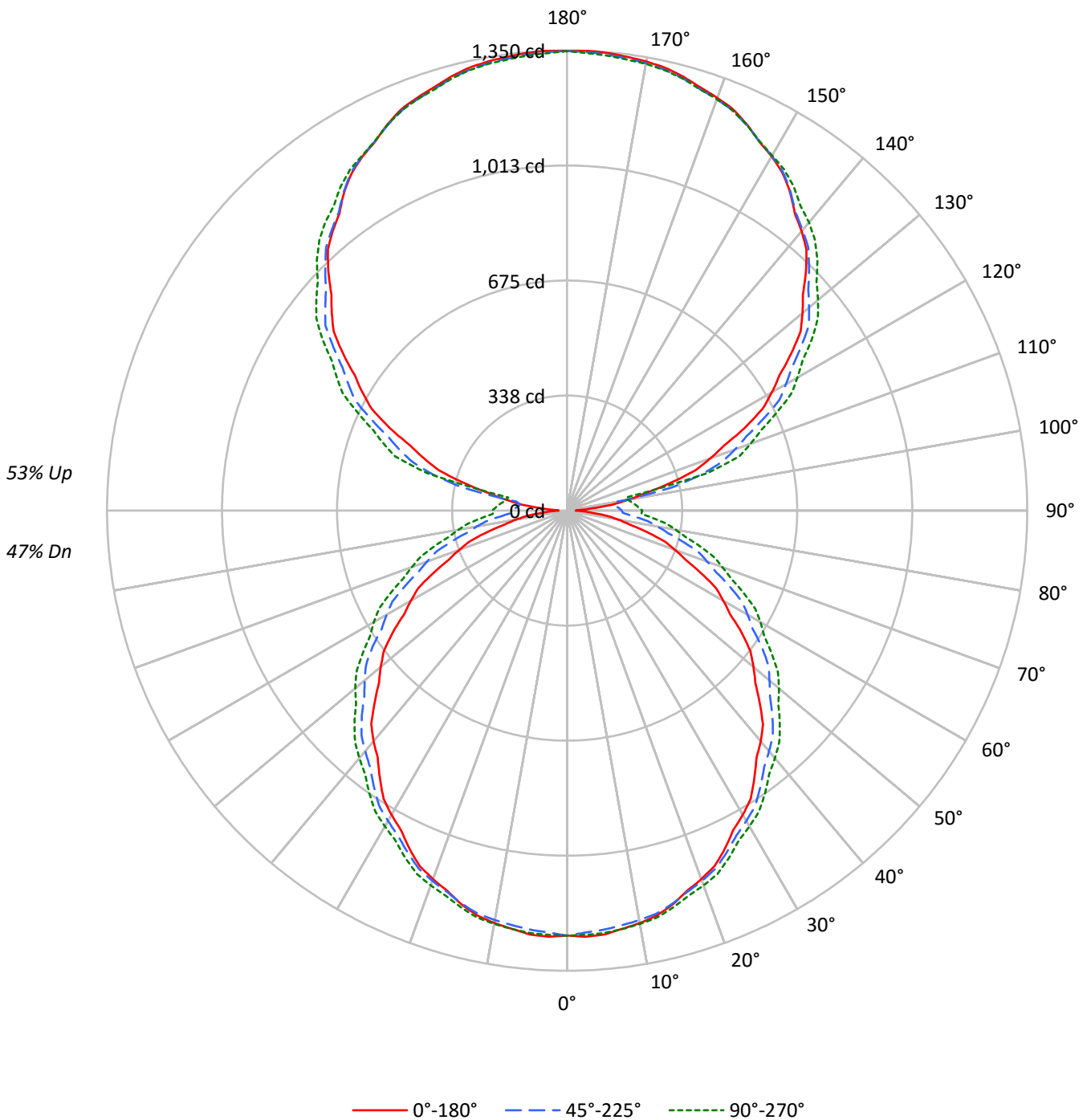
Input Watts (W): 60.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332655-840

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Luminous Intensity Polar Plot





TEST NUMBER: P332655-840

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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	81	81	81	67	67	67	53	53	53	47
1	96	91	87	83	88	84	80	77	70	67	65	57	55	54	45	44	43	37
2	87	79	73	67	80	73	67	62	61	57	53	50	47	44	39	37	35	31
3	79	69	62	56	72	64	57	52	53	48	44	44	40	37	35	32	30	25
4	72	61	53	47	66	56	49	43	47	42	37	39	34	31	31	28	25	21
5	66	54	46	40	60	50	43	37	42	36	32	34	30	27	28	24	22	18
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	20	23	19	17	14
8	52	40	32	26	48	37	30	25	31	25	21	26	21	18	21	17	15	13
9	48	36	28	23	44	33	27	22	28	23	19	24	19	16	19	16	14	11
10	45	33	26	21	41	31	24	20	26	21	17	22	18	15	18	15	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10066	10066	10066
5°	10097	9838	9866
10°	10035	9677	9669
15°	9945	9490	9439
20°	9810	9285	9213
25°	9657	9054	8967
30°	9492	8825	8712
35°	9305	8591	8490
40°	9154	8367	8259
45°	8931	8161	8059
50°	8744	7924	7849
55°	8549	7700	7603
60°	8247	7415	7378
65°	7914	7109	7102
70°	7513	6760	6779
75°	6949	6374	6488
80°	6328	6004	6203
85°	5536	5679	6037



TEST NUMBER: P332655-840

CATALOG NUMBER: S124DIP-S1020D1035U840-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.1	1.4
10°-20°	338.3	4.0
20°-30°	511.5	6.1
30°-40°	618.9	7.3
40°-50°	654.3	7.8
50°-60°	615.8	7.3
60°-70°	510.9	6.1
70°-80°	358.9	4.3
80°-90°	206.8	2.5
90°-100°	166.6	2.0
100°-110°	383.1	4.5
110°-120°	622.1	7.4
120°-130°	747.5	8.9
130°-140°	778.3	9.2
140°-150°	717.1	8.5
150°-160°	575.9	6.8
160°-170°	371.4	4.4
170°-180°	128.0	1.5
0°-30°	967.9	11.5
0°-40°	1586.8	18.8
0°-60°	2856.9	33.9
0°-90°	3933.4	46.7
90°-120°	1171.8	13.9
90°-150°	3414.7	40.5
90°-180°	4490.0	53.3
0°-180°	8423.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1247	1247	1247	1247	1247	
5°	1248	1244	1234	1245	1244	118
15°	1197	1198	1194	1206	1205	337
25°	1095	1103	1107	1122	1124	504
35°	958	974	989	1007	1012	600
45°	799	825	852	875	882	617
55°	626	656	697	724	733	557
65°	433	478	525	559	571	429
75°	240	292	350	388	402	255
85°	74	133	196	236	251	79
90°	25	92	160	205	220	17
95°	74	88	144	186	201	86
105°	316	351	407	447	426	332
115°	575	592	634	666	677	566
125°	802	806	838	866	876	716
135°	991	991	1004	1027	1038	763
145°	1140	1142	1142	1152	1159	713
155°	1249	1250	1247	1251	1248	576
165°	1318	1313	1312	1320	1312	372
175°	1348	1342	1343	1351	1340	128
180°	1348	1348	1348	1348	1348	



TEST NUMBER: P332655-840

CATALOG NUMBER: S124DIP-S1020D1035U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9
2.5°	1251.3	1250.6	1249.8	1249.1	1248.3	1247.0	1245.0	1243.0	1241.0	1239.0	1240.7
5°	1248.2	1247.3	1246.4	1245.5	1244.6	1242.9	1240.8	1238.6	1236.5	1234.3	1236.8
7.5°	1237.6	1237.1	1236.5	1236.0	1235.4	1234.3	1232.4	1230.6	1228.8	1227.0	1229.8
10°	1228.7	1228.4	1228.1	1227.8	1227.5	1226.5	1225.0	1223.5	1221.8	1220.3	1223.1
12.5°	1216.4	1216.4	1216.3	1216.2	1216.2	1215.6	1214.6	1213.5	1212.4	1211.3	1214.0
15°	1196.6	1196.9	1197.2	1197.5	1197.8	1197.5	1196.6	1195.7	1194.7	1193.8	1196.6
17.5°	1169.5	1170.4	1171.3	1172.3	1173.3	1173.6	1173.4	1173.3	1173.1	1172.9	1175.7
20°	1150.5	1151.4	1152.4	1153.3	1154.3	1154.9	1155.2	1155.5	1155.8	1156.1	1159.2
22.5°	1129.2	1130.4	1131.7	1132.9	1134.0	1134.9	1135.4	1136.0	1136.5	1137.1	1140.2
25°	1094.7	1096.5	1098.3	1100.2	1102.1	1103.5	1104.4	1105.4	1106.3	1107.2	1110.6
27.5°	1056.1	1058.8	1061.6	1064.3	1067.0	1069.1	1070.6	1072.0	1073.4	1074.8	1078.0
30°	1030.5	1032.9	1035.4	1037.8	1040.4	1042.7	1044.8	1047.0	1049.1	1051.4	1054.8
32.5°	1002.5	1005.5	1008.5	1011.5	1014.4	1017.1	1019.6	1022.0	1024.4	1026.8	1030.7
35°	957.9	961.6	965.2	969.0	972.7	976.1	979.3	982.3	985.4	988.6	992.9
37.5°	912.8	917.2	921.4	925.7	930.0	934.0	937.9	941.7	945.6	949.5	953.8
40°	883.8	887.9	891.9	896.0	900.0	904.1	908.5	912.8	917.2	921.5	926.1
42.5°	850.3	854.9	859.4	863.9	868.4	873.2	878.3	883.4	888.5	893.6	898.8
45°	798.6	804.6	810.4	816.4	822.2	828.1	834.0	839.9	845.8	851.7	857.0
47.5°	749.2	755.3	761.3	767.5	773.6	780.0	786.8	793.7	800.5	807.3	812.7
50°	713.5	720.3	727.1	734.0	740.7	747.6	754.5	761.2	768.1	774.9	781.1
52.5°	677.7	684.6	691.4	698.2	705.1	712.4	720.1	728.0	735.8	743.7	749.8
55°	625.5	632.1	638.5	645.1	651.6	659.4	668.8	678.1	687.4	696.7	703.0
57.5°	567.1	575.2	583.3	591.4	599.5	608.0	617.3	626.6	635.8	645.1	652.5
60°	529.2	537.2	545.3	553.4	561.5	570.6	580.9	591.1	601.3	611.6	618.6
62.5°	492.3	501.1	510.0	518.8	527.6	537.0	547.3	557.5	567.8	578.0	585.2
65°	432.8	442.7	452.7	462.6	472.5	482.8	493.3	503.9	514.4	525.0	532.7
67.5°	375.6	386.2	396.7	407.3	417.8	428.7	440.0	451.3	462.6	473.9	481.8
70°	336.5	347.1	357.6	368.1	378.7	389.9	401.6	413.4	425.3	437.1	445.5
72.5°	298.5	309.3	320.1	330.9	341.7	353.4	365.9	378.4	391.0	403.5	411.6
75°	240.1	251.7	263.1	274.6	286.1	298.3	311.3	324.4	337.4	350.4	359.1
77.5°	185.7	197.8	210.1	222.2	234.4	247.2	260.9	274.6	288.2	301.8	310.6
80°	152.2	164.6	177.0	189.5	201.9	214.9	228.5	242.2	255.8	269.4	278.8
82.5°	118.7	131.6	144.5	157.4	170.3	183.6	197.2	210.9	224.6	238.2	247.7
85°	74.0	87.1	100.1	113.1	126.1	139.7	153.6	167.5	181.5	195.5	204.8
87.5°	41.9	55.0	68.3	81.4	94.5	108.1	122.0	136.0	150.0	163.9	173.2
90°	25.3	40.2	55.1	70.0	84.8	99.9	115.0	130.2	145.3	160.4	170.8
92.5°	33.9	45.2	56.6	67.9	79.2	92.4	107.4	122.6	137.7	152.9	163.0
95°	73.6	76.2	78.9	81.5	84.1	91.9	104.8	117.8	130.7	143.6	153.4
97.5°	134.2	147.7	161.4	174.9	188.4	189.0	176.6	164.2	151.9	139.5	147.7
100°	180.7	192.8	204.9	217.0	229.1	225.7	206.9	188.1	169.3	150.5	155.0
102.5°	233.9	244.0	254.0	264.0	274.1	283.0	290.7	298.6	306.4	314.3	281.2
105°	316.0	323.6	331.1	338.7	346.2	356.3	368.9	381.5	394.0	406.7	416.5
107.5°	394.6	400.3	406.1	411.8	417.6	426.7	439.1	451.4	463.8	476.3	484.8
110°	446.7	451.7	456.7	461.7	466.8	475.3	487.6	499.8	512.0	524.1	531.8



TEST NUMBER: P332655-840

CATALOG NUMBER: S124DIP-S1020D1035U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	497.2	502.2	507.3	512.3	517.4	525.4	536.4	547.4	558.4	569.4	576.2
115°	574.9	578.5	581.9	585.3	588.8	595.4	605.1	614.8	624.5	634.2	641.5
117.5°	646.2	648.8	651.4	654.0	656.5	662.7	672.4	682.2	691.9	701.7	708.0
120°	693.5	695.3	697.2	699.0	700.8	706.1	714.9	723.7	732.5	741.2	747.9
122.5°	738.7	739.4	740.1	740.8	741.5	746.3	755.2	764.0	772.7	781.6	788.1
125°	802.0	802.5	803.1	803.8	804.4	808.3	815.6	822.9	830.2	837.5	844.0
127.5°	863.0	862.9	862.8	862.7	862.6	866.2	873.1	880.1	887.1	894.0	899.5
130°	901.4	901.3	901.2	901.2	901.1	903.8	909.5	915.1	920.8	926.3	932.2
132.5°	937.7	937.8	937.9	938.0	938.1	940.5	945.3	950.2	955.0	959.9	965.4
135°	990.8	990.5	990.3	990.1	989.9	991.3	994.3	997.4	1000.5	1003.5	1009.0
137.5°	1038.9	1038.7	1038.4	1038.2	1038.0	1038.9	1041.0	1043.1	1045.1	1047.1	1052.2
140°	1070.4	1070.6	1070.7	1070.8	1071.0	1071.4	1072.2	1072.9	1073.7	1074.4	1079.1
142.5°	1097.5	1098.2	1099.0	1099.7	1100.4	1100.9	1101.0	1101.1	1101.2	1101.3	1105.3
145°	1140.5	1140.9	1141.2	1141.7	1142.1	1142.2	1142.2	1142.2	1142.2	1142.2	1144.3
147.5°	1175.1	1176.0	1176.9	1177.9	1178.8	1179.2	1178.9	1178.7	1178.5	1178.3	1178.7
150°	1200.0	1200.6	1201.2	1201.8	1202.3	1202.5	1202.3	1202.1	1201.9	1201.6	1201.6
152.5°	1219.9	1220.5	1221.2	1221.8	1222.5	1222.6	1222.2	1221.8	1221.4	1221.0	1221.4
155°	1249.1	1249.3	1249.5	1249.7	1249.9	1249.7	1249.1	1248.4	1247.7	1247.1	1247.9
157.5°	1273.8	1273.7	1273.5	1273.4	1273.3	1272.8	1272.1	1271.3	1270.6	1269.8	1271.0
160°	1288.4	1287.7	1287.1	1286.4	1285.7	1285.3	1285.1	1284.8	1284.5	1284.3	1285.7
162.5°	1301.3	1300.4	1299.6	1298.7	1297.9	1297.4	1297.1	1296.9	1296.7	1296.5	1297.8
165°	1317.6	1316.5	1315.3	1314.2	1313.1	1312.5	1312.5	1312.5	1312.5	1312.5	1314.3
167.5°	1330.5	1329.4	1328.2	1327.1	1325.9	1325.2	1325.0	1324.9	1324.8	1324.6	1326.7
170°	1337.8	1336.5	1335.0	1333.7	1332.4	1331.8	1332.0	1332.3	1332.5	1332.7	1334.5
172.5°	1342.6	1341.3	1339.9	1338.6	1337.3	1336.7	1336.9	1337.2	1337.4	1337.6	1339.4
175°	1347.9	1346.6	1345.1	1343.8	1342.5	1341.9	1342.1	1342.4	1342.6	1342.8	1344.8
177.5°	1350.3	1349.0	1347.8	1346.6	1345.2	1344.8	1345.1	1345.5	1345.8	1346.3	1347.7
180°	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9



TEST NUMBER: P332655-840

CATALOG NUMBER: S124DIP-S1020D1035U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9	1246.9
2.5°	1242.5	1244.3	1246.0	1246.7	1246.5	1246.2	1246.0	1245.8
5°	1239.2	1241.7	1244.3	1245.3	1245.0	1244.7	1244.4	1244.1
7.5°	1232.6	1235.4	1238.2	1239.4	1239.1	1238.8	1238.5	1238.2
10°	1225.9	1228.7	1231.5	1232.7	1232.4	1232.1	1231.8	1231.5
12.5°	1216.5	1219.0	1221.5	1222.8	1222.7	1222.6	1222.6	1222.5
15°	1199.4	1202.1	1205.0	1206.2	1205.9	1205.6	1205.3	1205.0
17.5°	1178.5	1181.4	1184.3	1185.6	1185.3	1185.1	1184.8	1184.6
20°	1162.3	1165.4	1168.5	1170.0	1170.0	1170.0	1170.0	1170.0
22.5°	1143.3	1146.4	1149.5	1151.3	1151.9	1152.3	1152.8	1153.3
25°	1114.1	1117.4	1120.8	1122.8	1123.1	1123.4	1123.7	1124.0
27.5°	1081.2	1084.3	1087.5	1089.2	1089.6	1090.0	1090.4	1090.8
30°	1058.2	1061.6	1065.0	1067.0	1067.6	1068.2	1068.9	1069.5
32.5°	1034.6	1038.5	1042.5	1044.7	1045.3	1045.9	1046.5	1047.2
35°	997.2	1001.6	1005.9	1008.6	1009.5	1010.4	1011.4	1012.3
37.5°	958.3	962.7	967.0	969.8	970.8	971.8	972.7	973.7
40°	930.8	935.4	940.2	943.1	944.3	945.5	946.8	948.1
42.5°	903.9	909.1	914.2	917.3	918.3	919.3	920.3	921.2
45°	862.2	867.6	872.8	876.3	877.8	879.3	880.9	882.4
47.5°	818.2	823.6	829.2	832.8	834.7	836.6	838.4	840.3
50°	787.3	793.6	799.7	803.8	805.7	807.5	809.3	811.2
52.5°	756.1	762.2	768.5	772.4	774.4	776.2	778.1	779.9
55°	709.1	715.4	721.5	725.6	727.4	729.3	731.1	733.1
57.5°	659.8	667.2	674.6	679.1	680.9	682.7	684.4	686.1
60°	625.8	633.0	640.1	644.9	647.4	649.8	652.4	654.8
62.5°	592.3	599.5	606.6	611.4	613.9	616.3	618.8	621.4
65°	540.5	548.3	556.0	561.2	563.6	566.1	568.6	571.1
67.5°	489.7	497.6	505.4	510.6	513.0	515.4	517.9	520.3
70°	453.7	462.1	470.5	475.8	478.0	480.2	482.3	484.5
72.5°	419.8	427.9	436.1	441.3	443.7	446.2	448.6	451.0
75°	367.8	376.5	385.2	390.9	393.7	396.6	399.3	402.1
77.5°	319.5	328.3	337.1	343.1	346.0	349.0	351.9	355.0
80°	288.1	297.4	306.7	312.6	315.1	317.6	320.0	322.6
82.5°	257.3	266.9	276.4	282.6	285.3	288.0	290.7	293.5
85°	214.1	223.4	232.7	238.9	242.1	245.1	248.2	251.4
87.5°	182.4	191.7	201.0	207.0	209.8	212.7	215.5	218.2
90°	181.1	191.5	201.8	208.4	211.4	214.3	217.2	220.2
92.5°	173.1	183.2	193.3	199.7	202.2	204.8	207.3	209.8
95°	163.1	172.8	182.6	188.9	191.9	194.9	197.9	201.0
97.5°	155.9	164.2	172.5	178.0	181.0	183.9	186.7	189.7
100°	159.7	164.2	168.7	172.2	174.6	177.0	179.5	181.8
102.5°	248.3	215.4	182.4	167.1	169.7	172.1	174.6	177.0
105°	426.3	436.0	445.8	447.9	442.3	436.7	431.1	425.6
107.5°	493.4	502.1	510.7	516.5	519.6	522.7	525.8	528.9
110°	539.4	546.9	554.5	559.9	563.0	566.2	569.4	572.5



TEST NUMBER: P332655-840

CATALOG NUMBER: S124DIP-S1020D1035U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	583.0	589.8	596.6	601.7	605.0	608.3	611.7	615.0
115°	648.7	656.0	663.3	668.0	670.1	672.4	674.5	676.7
117.5°	714.4	720.7	727.1	731.4	733.9	736.3	738.6	741.0
120°	754.5	761.1	767.8	772.1	774.2	776.3	778.3	780.3
122.5°	794.6	801.0	807.5	811.6	813.4	815.2	817.0	818.8
125°	850.6	857.3	863.8	868.1	870.2	872.3	874.3	876.5
127.5°	904.9	910.4	915.8	919.6	921.5	923.4	925.3	927.3
130°	938.0	943.8	949.6	953.4	955.3	957.2	959.1	960.9
132.5°	971.0	976.5	982.1	985.7	987.3	989.1	990.8	992.4
135°	1014.4	1019.8	1025.2	1029.1	1031.4	1033.7	1036.0	1038.3
137.5°	1057.1	1062.2	1067.2	1070.5	1071.9	1073.3	1074.7	1076.1
140°	1083.8	1088.5	1093.3	1096.5	1098.2	1100.0	1101.8	1103.6
142.5°	1109.2	1113.3	1117.3	1120.0	1121.4	1122.8	1124.1	1125.4
145°	1146.4	1148.4	1150.5	1152.5	1154.1	1155.8	1157.5	1159.2
147.5°	1179.1	1179.5	1180.0	1180.8	1182.0	1183.3	1184.5	1185.7
150°	1201.6	1201.6	1201.6	1201.7	1202.0	1202.2	1202.4	1202.6
152.5°	1221.7	1222.1	1222.4	1222.5	1222.4	1222.3	1222.1	1222.0
155°	1248.8	1249.7	1250.6	1250.7	1250.1	1249.4	1248.7	1248.1
157.5°	1272.1	1273.3	1274.4	1274.4	1273.3	1272.1	1271.0	1269.8
160°	1287.1	1288.4	1289.7	1289.7	1288.4	1287.1	1285.7	1284.3
162.5°	1299.1	1300.5	1301.8	1301.7	1300.2	1298.7	1297.2	1295.7
165°	1316.2	1318.0	1319.7	1319.6	1317.6	1315.6	1313.5	1311.5
167.5°	1328.6	1330.6	1332.5	1332.4	1330.2	1328.0	1325.6	1323.4
170°	1336.4	1338.1	1339.9	1339.7	1337.5	1335.2	1332.9	1330.7
172.5°	1341.2	1342.9	1344.7	1344.4	1342.0	1339.6	1337.2	1334.7
175°	1346.9	1348.9	1350.9	1350.5	1347.9	1345.1	1342.5	1339.8
177.5°	1349.1	1350.5	1352.0	1351.6	1349.5	1347.4	1345.1	1343.0
180°	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9

(END OF REPORT)