

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: P332855-940

Luminaire Tested: **S124DIW-S1195D1340U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332855-940
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: S124DIW-S1195D1340U940-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9122.4 lumens
Efficiency: N/A
Efficacy: 119.7 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

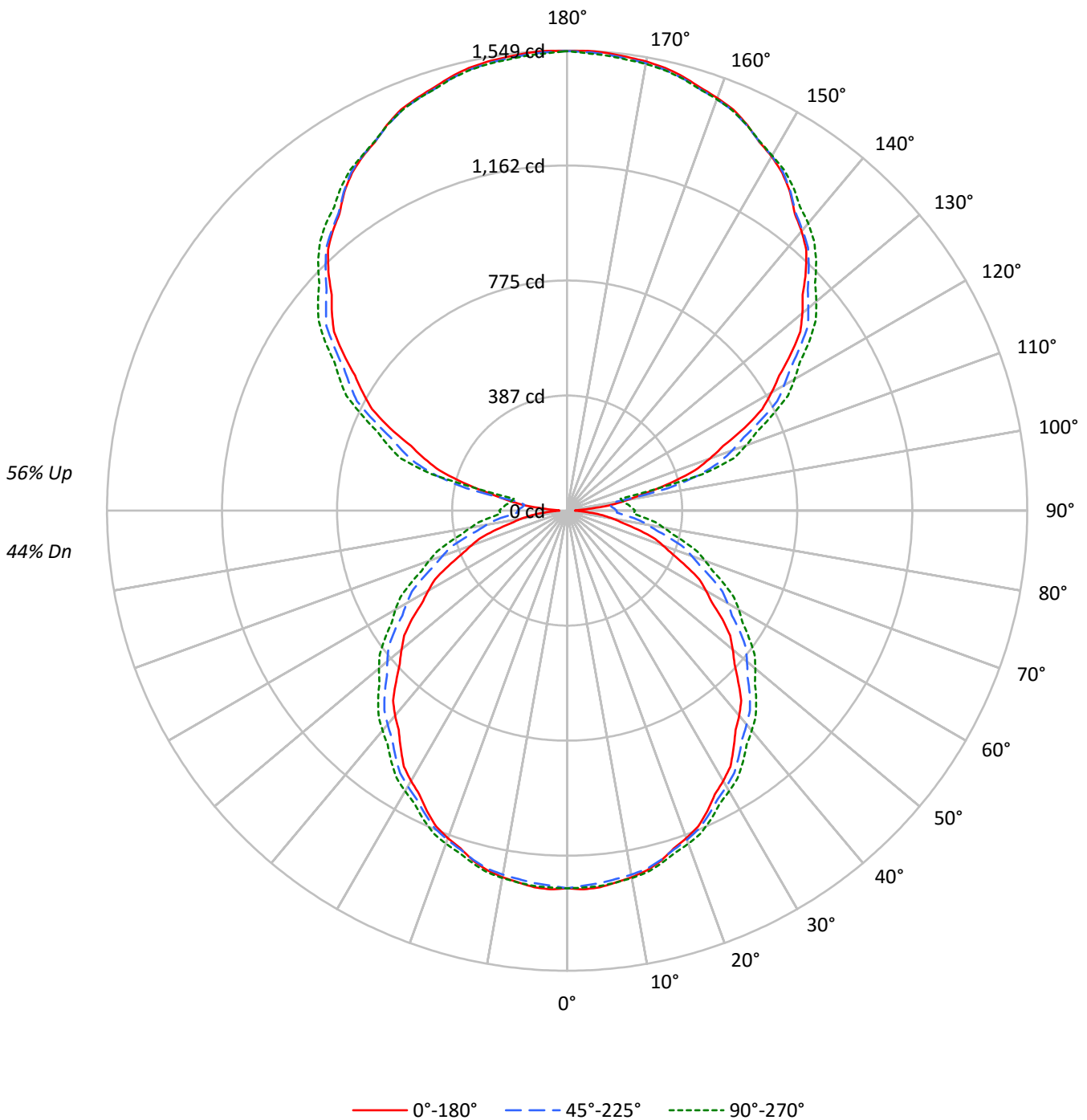
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: S124DIW-S1195D1340U940-4F0-1E-UDD-D

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	97	97	97	97	80	80	80		65	65	65		51	51	51	44
1	96	91	87	83	87	83	80	76	69	66	64		55	54	52		43	42	41	35
2	87	79	72	67	79	72	67	62	60	56	52		48	45	43		38	36	34	29
3	79	69	61	55	72	63	57	51	52	47	43		42	39	36		33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	37		37	33	30		29	26	24	20
5	66	54	46	40	60	50	42	37	41	36	31		33	29	26		26	23	21	17
6	61	48	40	34	55	44	37	32	37	31	27		30	26	23		24	21	18	15
7	56	43	35	30	51	40	33	28	33	28	24		27	23	20		22	18	16	13
8	52	39	31	26	47	36	29	24	30	25	21		25	21	18		20	17	14	12
9	48	36	28	23	44	33	26	22	28	22	19		23	19	16		18	15	13	11
10	45	33	25	21	41	30	24	19	26	20	17		21	17	14		17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10266	10266	10266
5°	10297	10032	10061
10°	10234	9869	9861
15°	10142	9679	9625
20°	10004	9469	9396
25°	9848	9234	9144
30°	9679	9000	8885
35°	9488	8760	8658
40°	9335	8533	8422
45°	9109	8323	8219
50°	8917	8080	8004
55°	8719	7852	7753
60°	8410	7562	7524
65°	8071	7250	7242
70°	7660	6893	6914
75°	7091	6501	6617
80°	6453	6124	6326
85°	5641	5792	6154



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.4	1.3
10°-20°	345.0	3.8
20°-30°	521.7	5.7
30°-40°	631.2	6.9
40°-50°	667.3	7.3
50°-60°	628.0	6.9
60°-70°	521.0	5.7
70°-80°	366.0	4.0
80°-90°	211.4	2.3
90°-100°	175.7	1.9
100°-110°	428.2	4.7
110°-120°	706.1	7.7
120°-130°	853.4	9.4
130°-140°	891.1	9.8
140°-150°	822.3	9.0
150°-160°	660.8	7.2
160°-170°	426.2	4.7
170°-180°	146.9	1.6
0°-30°	987.1	10.8
0°-40°	1618.2	17.7
0°-60°	2913.5	31.9
0°-90°	4011.8	44.0
90°-120°	1310.0	14.4
90°-150°	3876.8	42.5
90°-180°	5111.0	56.0
0°-180°	9122.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1272	1272	1272	1272	1272	
5°	1273	1268	1259	1269	1269	121
15°	1220	1221	1218	1229	1229	344
25°	1116	1125	1129	1144	1146	514
35°	977	994	1008	1027	1032	611
45°	814	842	869	892	900	629
55°	638	668	710	738	748	568
65°	441	487	535	570	582	437
75°	245	298	357	396	410	260
85°	75	136	199	240	256	80
90°	26	96	166	213	228	18
95°	82	93	149	193	209	96
105°	361	398	455	497	471	379
115°	658	676	719	752	763	648
125°	919	924	956	985	996	821
135°	1136	1136	1150	1174	1186	876
145°	1308	1310	1310	1320	1328	817
155°	1433	1434	1431	1435	1432	661
165°	1512	1506	1506	1514	1505	427
175°	1546	1540	1541	1550	1537	147
180°	1546	1546	1546	1546	1546	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6
2.5°	1276.1	1275.3	1274.6	1273.8	1273.1	1271.7	1269.6	1267.7	1265.6	1263.6	1265.3
5°	1272.9	1272.0	1271.0	1270.2	1269.2	1267.6	1265.3	1263.1	1261.0	1258.7	1261.2
7.5°	1262.1	1261.6	1261.0	1260.4	1259.9	1258.6	1256.9	1255.0	1253.1	1251.3	1254.2
10°	1253.0	1252.7	1252.4	1252.1	1251.8	1250.8	1249.2	1247.7	1246.1	1244.5	1247.3
12.5°	1240.5	1240.5	1240.4	1240.3	1240.3	1239.7	1238.6	1237.5	1236.4	1235.4	1238.0
15°	1220.3	1220.6	1220.9	1221.2	1221.6	1221.2	1220.3	1219.3	1218.3	1217.5	1220.3
17.5°	1192.7	1193.6	1194.5	1195.5	1196.4	1196.9	1196.7	1196.4	1196.2	1196.1	1199.0
20°	1173.3	1174.2	1175.2	1176.2	1177.1	1177.7	1178.0	1178.4	1178.7	1179.0	1182.1
22.5°	1151.6	1152.8	1154.1	1155.2	1156.5	1157.4	1157.9	1158.5	1159.0	1159.6	1162.8
25°	1116.3	1118.2	1120.2	1122.0	1123.9	1125.3	1126.3	1127.2	1128.2	1129.2	1132.7
27.5°	1077.0	1079.9	1082.6	1085.4	1088.2	1090.3	1091.7	1093.2	1094.7	1096.1	1099.3
30°	1050.8	1053.4	1055.9	1058.5	1061.0	1063.4	1065.5	1067.7	1070.0	1072.2	1075.7
32.5°	1022.3	1025.4	1028.4	1031.4	1034.5	1037.2	1039.7	1042.2	1044.6	1047.1	1051.1
35°	976.8	980.6	984.4	988.2	991.9	995.4	998.6	1001.7	1005.0	1008.1	1012.5
37.5°	930.9	935.3	939.7	944.1	948.4	952.5	956.4	960.4	964.3	968.2	972.8
40°	901.3	905.4	909.5	913.6	917.7	922.0	926.5	930.9	935.3	939.8	944.5
42.5°	867.2	871.7	876.4	881.0	885.6	890.6	895.7	900.9	906.1	911.3	916.6
45°	814.5	820.5	826.5	832.5	838.5	844.5	850.5	856.6	862.6	868.6	874.0
47.5°	764.0	770.3	776.5	782.7	788.9	795.5	802.5	809.4	816.4	823.3	828.8
50°	727.6	734.6	741.5	748.5	755.5	762.4	769.4	776.3	783.3	790.2	796.6
52.5°	691.2	698.1	705.1	712.0	719.0	726.5	734.4	742.4	750.4	758.4	764.7
55°	637.9	644.5	651.2	657.8	664.5	672.5	682.1	691.5	701.1	710.5	716.8
57.5°	578.4	586.7	594.9	603.1	611.3	620.1	629.5	639.0	648.5	657.8	665.4
60°	539.7	547.9	556.1	564.4	572.6	581.9	592.4	602.8	613.2	623.7	631.0
62.5°	502.0	511.0	520.0	529.1	538.0	547.7	558.2	568.6	579.1	589.5	596.7
65°	441.4	451.6	461.6	471.8	481.9	492.3	503.1	513.9	524.6	535.4	543.3
67.5°	383.0	393.8	404.6	415.3	426.1	437.2	448.7	460.2	471.7	483.3	491.3
70°	343.1	353.9	364.7	375.4	386.2	397.6	409.6	421.6	433.6	445.7	454.2
72.5°	304.4	315.4	326.5	337.4	348.5	360.3	373.2	385.9	398.7	411.5	419.8
75°	245.0	256.6	268.3	280.0	291.8	304.3	317.5	330.8	344.1	357.4	366.2
77.5°	189.4	201.8	214.2	226.6	239.0	252.2	266.1	280.0	293.9	307.8	316.8
80°	155.2	167.8	180.5	193.1	205.8	219.1	233.0	247.0	260.9	274.8	284.3
82.5°	121.0	134.2	147.4	160.5	173.7	187.3	201.2	215.1	229.0	242.9	252.6
85°	75.4	88.7	102.0	115.3	128.6	142.4	156.6	170.9	185.1	199.4	208.8
87.5°	42.8	56.4	69.8	83.3	96.8	110.6	124.9	139.2	153.5	167.7	177.2
90°	26.2	41.7	57.2	72.7	88.2	103.8	119.4	135.1	150.8	166.4	177.1
92.5°	36.2	47.8	59.3	70.9	82.4	96.0	111.6	127.3	143.0	158.6	169.2
95°	82.1	83.8	85.5	87.2	88.9	96.4	109.6	122.9	136.1	149.4	159.4
97.5°	151.9	166.3	180.7	195.2	209.6	208.9	193.1	177.3	161.4	145.6	154.0
100°	205.4	218.2	231.0	243.9	256.7	251.6	228.5	205.4	182.3	159.1	163.3
102.5°	266.4	277.1	287.7	298.3	308.8	317.9	325.3	332.8	340.3	347.7	308.9
105°	361.0	368.8	376.7	384.6	392.4	402.9	415.9	428.8	441.8	454.9	465.0
107.5°	451.1	457.1	463.1	469.0	474.9	484.4	497.1	510.0	522.8	535.7	544.6
110°	511.0	516.2	521.5	526.6	531.8	540.7	553.4	566.0	578.6	591.2	599.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	569.1	574.4	579.7	585.1	590.4	598.7	609.9	621.3	632.5	643.8	650.8
115°	658.5	662.2	665.8	669.4	673.1	679.8	689.6	699.5	709.4	719.3	726.7
117.5°	740.4	743.2	745.8	748.6	751.4	757.7	767.7	777.7	787.6	797.6	804.1
120°	794.8	796.7	798.7	800.7	802.6	808.2	817.1	826.0	834.9	843.8	850.6
122.5°	846.6	847.4	848.2	849.0	849.8	854.7	863.7	872.8	881.8	890.8	897.5
125°	919.4	920.2	920.9	921.6	922.3	926.3	933.7	941.1	948.5	955.9	962.7
127.5°	989.4	989.4	989.4	989.3	989.2	992.8	1000.1	1007.4	1014.6	1021.8	1027.3
130°	1033.7	1033.6	1033.5	1033.5	1033.4	1036.3	1042.1	1047.9	1053.8	1059.6	1065.6
132.5°	1075.3	1075.4	1075.6	1075.8	1075.8	1078.4	1083.5	1088.5	1093.5	1098.6	1104.3
135°	1136.3	1136.0	1135.8	1135.5	1135.3	1136.8	1140.1	1143.3	1146.5	1149.8	1155.3
137.5°	1191.6	1191.4	1191.1	1191.0	1190.8	1191.8	1193.9	1196.1	1198.4	1200.6	1205.8
140°	1227.7	1227.9	1228.1	1228.2	1228.5	1229.0	1229.8	1230.7	1231.5	1232.3	1237.2
142.5°	1258.9	1259.8	1260.7	1261.5	1262.4	1262.8	1263.0	1263.1	1263.2	1263.4	1267.5
145°	1308.4	1308.9	1309.3	1309.7	1310.2	1310.5	1310.5	1310.5	1310.5	1310.5	1312.6
147.5°	1347.9	1349.1	1350.1	1351.3	1352.5	1352.9	1352.6	1352.4	1352.1	1351.8	1352.3
150°	1376.6	1377.3	1378.0	1378.8	1379.5	1379.7	1379.5	1379.2	1378.9	1378.7	1378.7
152.5°	1399.5	1400.3	1401.1	1401.9	1402.6	1402.8	1402.3	1401.8	1401.3	1400.9	1401.3
155°	1433.1	1433.2	1433.5	1433.8	1434.0	1433.8	1433.1	1432.3	1431.5	1430.7	1431.7
157.5°	1461.5	1461.3	1461.2	1461.0	1460.9	1460.4	1459.5	1458.6	1457.8	1456.9	1458.2
160°	1478.1	1477.4	1476.6	1475.8	1475.1	1474.5	1474.3	1474.0	1473.7	1473.6	1475.1
162.5°	1492.9	1491.9	1491.0	1490.0	1489.1	1488.4	1488.2	1487.9	1487.6	1487.4	1488.9
165°	1511.7	1510.4	1509.1	1507.8	1506.5	1505.9	1505.9	1505.9	1505.9	1505.9	1508.0
167.5°	1526.5	1525.2	1523.8	1522.5	1521.2	1520.4	1520.3	1520.1	1519.9	1519.7	1522.1
170°	1534.8	1533.3	1531.7	1530.2	1528.7	1528.0	1528.2	1528.5	1528.7	1529.0	1531.1
172.5°	1540.3	1538.8	1537.3	1535.7	1534.2	1533.6	1533.8	1534.1	1534.3	1534.5	1536.6
175°	1546.4	1544.8	1543.3	1541.8	1540.2	1539.5	1539.8	1540.1	1540.3	1540.6	1542.9
177.5°	1549.2	1547.7	1546.2	1544.8	1543.4	1542.8	1543.3	1543.7	1544.1	1544.5	1546.1
180°	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6	1271.6
2.5°	1267.1	1268.9	1270.7	1271.4	1271.1	1270.9	1270.7	1270.4
5°	1263.8	1266.3	1268.8	1270.0	1269.6	1269.4	1269.0	1268.7
7.5°	1257.0	1259.9	1262.8	1264.0	1263.6	1263.4	1263.0	1262.8
10°	1250.2	1253.0	1255.9	1257.1	1256.9	1256.5	1256.2	1255.9
12.5°	1240.5	1243.1	1245.7	1247.1	1247.0	1246.9	1246.8	1246.8
15°	1223.2	1226.0	1228.8	1230.1	1229.8	1229.5	1229.1	1228.8
17.5°	1201.9	1204.8	1207.7	1209.1	1208.8	1208.5	1208.3	1208.0
20°	1185.4	1188.5	1191.7	1193.2	1193.2	1193.2	1193.2	1193.2
22.5°	1165.9	1169.1	1172.2	1174.1	1174.7	1175.1	1175.6	1176.2
25°	1136.1	1139.6	1143.1	1145.0	1145.3	1145.6	1145.9	1146.2
27.5°	1102.6	1105.8	1109.0	1110.8	1111.3	1111.6	1112.0	1112.3
30°	1079.1	1082.6	1086.1	1088.2	1088.8	1089.4	1090.0	1090.7
32.5°	1055.1	1059.1	1063.1	1065.4	1066.0	1066.7	1067.3	1067.9
35°	1017.0	1021.4	1025.8	1028.5	1029.5	1030.5	1031.4	1032.3
37.5°	977.2	981.7	986.2	989.0	990.0	991.0	992.0	993.0
40°	949.2	954.0	958.8	961.8	963.0	964.3	965.5	966.8
42.5°	921.8	927.0	932.3	935.4	936.5	937.5	938.4	939.5
45°	879.3	884.8	890.1	893.6	895.2	896.7	898.3	899.9
47.5°	834.5	840.0	845.6	849.3	851.2	853.1	855.0	856.9
50°	802.9	809.2	815.6	819.7	821.6	823.5	825.4	827.2
52.5°	771.1	777.4	783.6	787.8	789.7	791.6	793.4	795.4
55°	723.2	729.5	735.8	739.9	741.8	743.8	745.6	747.5
57.5°	672.9	680.5	688.0	692.6	694.4	696.2	697.9	699.7
60°	638.2	645.5	652.7	657.6	660.2	662.7	665.3	667.8
62.5°	604.0	611.4	618.6	623.5	626.1	628.6	631.1	633.6
65°	551.2	559.1	567.0	572.2	574.8	577.3	579.9	582.4
67.5°	499.4	507.4	515.4	520.7	523.2	525.6	528.1	530.6
70°	462.8	471.3	479.8	485.3	487.4	489.6	491.9	494.1
72.5°	428.1	436.4	444.7	450.0	452.5	455.0	457.4	459.9
75°	375.1	384.0	392.8	398.7	401.5	404.4	407.2	410.1
77.5°	325.8	334.8	343.8	349.8	352.8	355.9	358.9	361.9
80°	293.8	303.3	312.8	318.8	321.3	323.9	326.4	329.0
82.5°	262.4	272.2	281.9	288.2	291.0	293.7	296.5	299.3
85°	218.3	227.8	237.3	243.6	246.8	249.9	253.2	256.3
87.5°	186.6	196.2	205.6	211.8	214.7	217.6	220.5	223.4
90°	187.9	198.6	209.3	216.2	219.2	222.2	225.3	228.4
92.5°	179.6	190.0	200.5	207.1	209.7	212.3	215.0	217.6
95°	169.5	179.6	189.7	196.3	199.4	202.5	205.5	208.7
97.5°	162.5	170.9	179.3	185.0	188.1	191.0	194.0	197.0
100°	167.5	171.7	175.8	179.1	181.6	184.0	186.5	189.0
102.5°	270.0	231.2	192.3	174.2	176.6	179.2	181.7	184.2
105°	475.3	485.5	495.7	497.5	490.8	484.0	477.3	470.6
107.5°	553.5	562.4	571.3	577.4	580.6	583.9	587.1	590.4
110°	606.8	614.6	622.4	627.9	631.2	634.5	637.8	641.1



TEST NUMBER: P332855-940

CATALOG NUMBER: S124DIW-S1195D1340U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	657.6	664.6	671.5	676.7	680.2	683.8	687.2	690.7
115°	734.2	741.6	749.1	754.0	756.2	758.4	760.6	762.9
117.5°	810.7	817.1	823.6	828.0	830.5	832.9	835.4	837.8
120°	857.5	864.3	871.2	875.6	877.6	879.7	881.6	883.7
122.5°	904.1	910.8	917.4	921.6	923.4	925.1	926.8	928.6
125°	969.5	976.2	983.0	987.5	989.6	991.8	994.0	996.1
127.5°	1033.0	1038.5	1044.0	1047.8	1049.7	1051.6	1053.6	1055.5
130°	1071.6	1077.5	1083.4	1087.4	1089.2	1091.2	1093.1	1094.9
132.5°	1110.0	1115.6	1121.3	1125.1	1126.8	1128.5	1130.2	1131.8
135°	1160.9	1166.4	1172.1	1176.1	1178.5	1180.9	1183.3	1185.7
137.5°	1210.9	1216.1	1221.3	1224.6	1226.0	1227.4	1228.9	1230.3
140°	1242.1	1247.0	1251.9	1255.2	1257.0	1258.9	1260.7	1262.6
142.5°	1271.7	1275.9	1280.1	1282.8	1284.2	1285.6	1286.9	1288.3
145°	1314.7	1316.9	1319.0	1321.0	1322.8	1324.5	1326.3	1328.1
147.5°	1352.7	1353.2	1353.7	1354.5	1355.8	1357.1	1358.3	1359.6
150°	1378.7	1378.7	1378.7	1378.8	1379.0	1379.3	1379.6	1379.8
152.5°	1401.7	1402.1	1402.5	1402.7	1402.5	1402.3	1402.2	1402.0
155°	1432.8	1433.8	1434.9	1434.9	1434.2	1433.4	1432.6	1431.9
157.5°	1459.6	1460.9	1462.2	1462.2	1460.9	1459.6	1458.2	1456.9
160°	1476.6	1478.1	1479.7	1479.7	1478.1	1476.6	1475.1	1473.6
162.5°	1490.5	1492.0	1493.5	1493.4	1491.7	1490.0	1488.2	1486.5
165°	1510.0	1512.1	1514.1	1513.9	1511.7	1509.4	1507.1	1504.8
167.5°	1524.3	1526.5	1528.8	1528.7	1526.1	1523.5	1521.0	1518.4
170°	1533.1	1535.2	1537.2	1537.0	1534.5	1531.9	1529.3	1526.7
172.5°	1538.6	1540.8	1542.8	1542.5	1539.6	1536.9	1534.1	1531.3
175°	1545.2	1547.6	1549.9	1549.4	1546.4	1543.3	1540.2	1537.1
177.5°	1547.8	1549.4	1551.1	1550.7	1548.2	1545.8	1543.3	1540.8
180°	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4

(END OF REPORT)