

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: P332855-930

Luminaire Tested: **S124DIW-S1195D1340U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332855-930  
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-S1195D1340U930-4F0-1E-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: 8340.7 lumens  
Efficiency: N/A  
Efficacy: 109.5 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

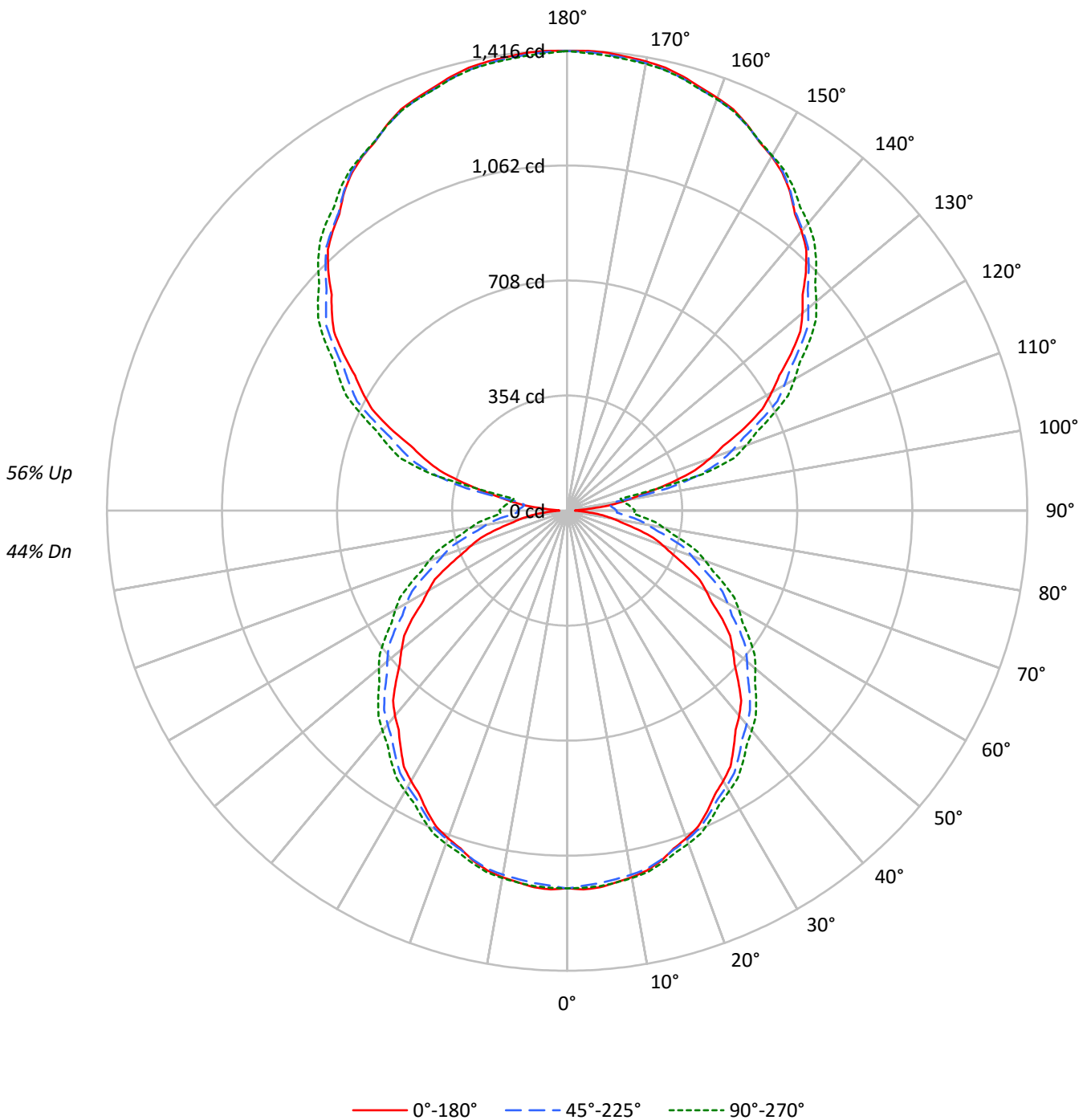
Input Watts (W): 76.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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CATALOG NUMBER: S124DIW-S1195D1340U930-4F0-1E-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°	9386	9386	9386
5°	9414	9173	9199
10°	9357	9022	9016
15°	9273	8849	8800
20°	9147	8658	8591
25°	9004	8442	8360
30°	8849	8228	8124
35°	8675	8010	7917
40°	8536	7801	7700
45°	8329	7610	7515
50°	8153	7388	7319
55°	7973	7179	7089
60°	7689	6913	6880
65°	7380	6628	6622
70°	7004	6302	6322
75°	6483	5945	6051
80°	5900	5600	5784
85°	5162	5295	5626



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.1	1.3
10°-20°	315.4	3.8
20°-30°	477.0	5.7
30°-40°	577.1	6.9
40°-50°	610.1	7.3
50°-60°	574.2	6.9
60°-70°	476.4	5.7
70°-80°	334.6	4.0
80°-90°	193.3	2.3
90°-100°	160.7	1.9
100°-110°	391.5	4.7
110°-120°	645.6	7.7
120°-130°	780.2	9.4
130°-140°	814.7	9.8
140°-150°	751.9	9.0
150°-160°	604.1	7.2
160°-170°	389.6	4.7
170°-180°	134.3	1.6
0°-30°	902.5	10.8
0°-40°	1479.6	17.7
0°-60°	2663.8	31.9
0°-90°	3668.0	44.0
90°-120°	1197.8	14.4
90°-150°	3544.6	42.5
90°-180°	4673.0	56.0
0°-180°	8340.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1163	1163	1163	1163	1163	
5°	1164	1160	1151	1161	1160	110
15°	1116	1117	1113	1124	1124	314
25°	1021	1028	1032	1046	1048	470
35°	893	908	922	939	944	559
45°	745	769	794	815	823	575
55°	583	611	650	675	684	520
65°	404	445	490	521	532	400
75°	224	272	327	362	375	238
85°	69	124	182	220	234	73
90°	24	88	152	194	209	16
95°	75	85	137	176	191	88
105°	330	364	416	454	430	346
115°	602	618	658	687	698	593
125°	841	845	874	901	911	751
135°	1039	1039	1051	1073	1084	801
145°	1196	1198	1198	1207	1214	747
155°	1310	1311	1308	1312	1309	604
165°	1382	1377	1377	1384	1376	390
175°	1414	1408	1409	1417	1405	135
180°	1414	1414	1414	1414	1414	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1166.8	1166.0	1165.4	1164.7	1164.0	1162.7	1160.8	1159.0	1157.2	1155.3	1156.9
5°	1163.8	1163.0	1162.1	1161.3	1160.4	1158.9	1156.9	1154.9	1152.9	1150.9	1153.2
7.5°	1154.0	1153.5	1152.9	1152.4	1151.9	1150.8	1149.2	1147.5	1145.7	1144.1	1146.7
10°	1145.7	1145.3	1145.1	1144.8	1144.5	1143.6	1142.2	1140.8	1139.3	1137.8	1140.4
12.5°	1134.2	1134.2	1134.1	1134.0	1134.0	1133.4	1132.5	1131.5	1130.5	1129.5	1131.9
15°	1115.7	1116.0	1116.3	1116.6	1116.9	1116.6	1115.7	1114.8	1113.9	1113.1	1115.7
17.5°	1090.5	1091.4	1092.2	1093.1	1093.9	1094.3	1094.1	1093.9	1093.7	1093.6	1096.3
20°	1072.8	1073.6	1074.5	1075.4	1076.2	1076.8	1077.1	1077.4	1077.7	1078.0	1080.8
22.5°	1053.0	1054.0	1055.2	1056.2	1057.4	1058.2	1058.7	1059.2	1059.7	1060.2	1063.2
25°	1020.7	1022.4	1024.2	1025.9	1027.6	1028.9	1029.8	1030.6	1031.5	1032.4	1035.6
27.5°	984.7	987.3	989.9	992.4	994.9	996.9	998.2	999.6	1000.9	1002.2	1005.1
30°	960.7	963.1	965.4	967.8	970.0	972.2	974.2	976.2	978.3	980.3	983.5
32.5°	934.7	937.5	940.3	943.1	945.8	948.4	950.6	952.9	955.1	957.4	961.1
35°	893.1	896.6	900.0	903.5	906.9	910.1	913.1	915.9	918.8	921.7	925.8
37.5°	851.2	855.2	859.2	863.2	867.2	870.9	874.5	878.1	881.7	885.3	889.4
40°	824.1	827.9	831.6	835.4	839.1	843.0	847.1	851.2	855.2	859.2	863.6
42.5°	792.9	797.0	801.3	805.5	809.8	814.2	819.0	823.7	828.4	833.2	838.0
45°	744.7	750.2	755.7	761.2	766.6	772.2	777.6	783.2	788.6	794.2	799.1
47.5°	698.5	704.3	710.0	715.6	721.3	727.3	733.7	740.0	746.4	752.8	757.8
50°	665.3	671.6	678.0	684.4	690.7	697.1	703.4	709.8	716.2	722.5	728.3
52.5°	631.9	638.3	644.7	651.0	657.4	664.2	671.5	678.8	686.1	693.4	699.2
55°	583.3	589.3	595.4	601.4	607.6	614.9	623.6	632.3	641.0	649.6	655.4
57.5°	528.8	536.4	543.9	551.4	558.9	567.0	575.6	584.2	592.9	601.4	608.4
60°	493.4	500.9	508.4	516.0	523.5	532.1	541.6	551.1	560.7	570.2	576.9
62.5°	459.0	467.2	475.5	483.7	491.9	500.8	510.4	519.9	529.5	539.0	545.6
65°	403.6	412.9	422.1	431.4	440.6	450.1	460.0	469.9	479.6	489.5	496.8
67.5°	350.2	360.0	369.9	379.7	389.6	399.7	410.3	420.8	431.3	441.9	449.2
70°	313.7	323.6	333.5	343.2	353.1	363.5	374.5	385.5	396.5	407.5	415.3
72.5°	278.3	288.4	298.5	308.5	318.6	329.5	341.2	352.9	364.5	376.3	383.8
75°	224.0	234.6	245.3	256.0	266.8	278.2	290.3	302.5	314.6	326.8	334.8
77.5°	173.2	184.5	195.8	207.2	218.5	230.6	243.3	256.0	268.7	281.4	289.7
80°	141.9	153.4	165.0	176.6	188.2	200.3	213.0	225.8	238.6	251.3	259.9
82.5°	110.6	122.7	134.8	146.8	158.8	171.2	183.9	196.7	209.4	222.1	231.0
85°	69.0	81.1	93.3	105.4	117.6	130.2	143.2	156.2	169.3	182.3	190.9
87.5°	39.1	51.5	63.8	76.1	88.5	101.1	114.2	127.3	140.3	153.4	162.0
90°	24.0	38.2	52.3	66.4	80.6	94.9	109.2	123.5	137.9	152.1	161.9
92.5°	33.1	43.7	54.2	64.8	75.3	87.8	102.1	116.4	130.8	145.0	154.7
95°	75.1	76.6	78.2	79.7	81.3	88.1	100.2	112.3	124.4	136.6	145.8
97.5°	138.8	152.1	165.3	178.5	191.7	191.0	176.5	162.1	147.6	133.1	140.8
100°	187.8	199.5	211.2	223.0	234.7	230.1	208.9	187.8	166.6	145.4	149.3
102.5°	243.6	253.3	263.0	272.7	282.3	290.7	297.4	304.3	311.1	317.9	282.4
105°	330.0	337.2	344.4	351.6	358.8	368.4	380.3	392.1	404.0	415.9	425.2
107.5°	412.5	417.9	423.4	428.8	434.2	442.9	454.5	466.3	478.0	489.8	497.9
110°	467.2	472.0	476.8	481.5	486.2	494.4	506.0	517.5	529.0	540.5	547.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	520.3	525.2	530.0	534.9	539.8	547.4	557.7	568.0	578.3	588.6	595.0
115°	602.1	605.4	608.7	612.0	615.4	621.5	630.6	639.6	648.6	657.6	664.5
117.5°	676.9	679.5	681.9	684.4	687.0	692.8	701.9	711.0	720.2	729.3	735.2
120°	726.7	728.5	730.3	732.1	733.9	738.9	747.1	755.2	763.4	771.5	777.7
122.5°	774.0	774.8	775.5	776.2	777.0	781.5	789.7	798.0	806.2	814.5	820.6
125°	840.7	841.3	842.0	842.6	843.3	846.9	853.7	860.5	867.2	874.0	880.2
127.5°	904.7	904.6	904.6	904.5	904.4	907.8	914.4	921.0	927.6	934.3	939.3
130°	945.1	945.0	944.9	944.9	944.9	947.5	952.8	958.1	963.5	968.8	974.3
132.5°	983.2	983.3	983.4	983.6	983.7	986.0	990.7	995.2	999.8	1004.4	1009.7
135°	1038.9	1038.7	1038.4	1038.2	1038.0	1039.3	1042.4	1045.3	1048.2	1051.2	1056.3
137.5°	1089.5	1089.3	1089.1	1088.9	1088.8	1089.6	1091.6	1093.6	1095.7	1097.7	1102.4
140°	1122.5	1122.7	1122.8	1123.0	1123.2	1123.6	1124.5	1125.2	1125.9	1126.7	1131.1
142.5°	1151.0	1151.9	1152.7	1153.4	1154.2	1154.6	1154.8	1154.9	1155.0	1155.1	1158.9
145°	1196.3	1196.7	1197.1	1197.5	1197.9	1198.2	1198.2	1198.2	1198.2	1198.2	1200.1
147.5°	1232.4	1233.5	1234.4	1235.5	1236.6	1237.0	1236.7	1236.5	1236.2	1236.0	1236.4
150°	1258.7	1259.3	1260.0	1260.6	1261.3	1261.4	1261.3	1261.0	1260.8	1260.5	1260.5
152.5°	1279.6	1280.3	1281.0	1281.7	1282.4	1282.5	1282.1	1281.7	1281.2	1280.8	1281.2
155°	1310.3	1310.4	1310.7	1310.9	1311.2	1310.9	1310.3	1309.5	1308.8	1308.1	1309.0
157.5°	1336.3	1336.1	1335.9	1335.8	1335.7	1335.2	1334.4	1333.6	1332.9	1332.0	1333.3
160°	1351.4	1350.8	1350.1	1349.3	1348.7	1348.2	1347.9	1347.7	1347.4	1347.3	1348.7
162.5°	1365.0	1364.1	1363.3	1362.4	1361.5	1360.9	1360.7	1360.4	1360.2	1359.9	1361.3
165°	1382.2	1381.0	1379.8	1378.6	1377.4	1376.9	1376.9	1376.9	1376.9	1376.9	1378.8
167.5°	1395.7	1394.5	1393.3	1392.0	1390.8	1390.1	1390.0	1389.8	1389.7	1389.5	1391.6
170°	1403.3	1401.9	1400.4	1399.1	1397.7	1397.1	1397.3	1397.5	1397.7	1398.0	1399.9
172.5°	1408.3	1407.0	1405.6	1404.1	1402.7	1402.2	1402.4	1402.6	1402.8	1403.0	1404.9
175°	1413.9	1412.4	1411.0	1409.7	1408.2	1407.6	1407.9	1408.1	1408.3	1408.6	1410.7
177.5°	1416.4	1415.1	1413.7	1412.4	1411.1	1410.6	1411.0	1411.4	1411.8	1412.2	1413.6
180°	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1158.5	1160.2	1161.8	1162.5	1162.2	1162.0	1161.8	1161.6
5°	1155.5	1157.8	1160.1	1161.1	1160.8	1160.6	1160.3	1160.0
7.5°	1149.3	1151.9	1154.5	1155.7	1155.4	1155.1	1154.8	1154.5
10°	1143.0	1145.7	1148.3	1149.4	1149.2	1148.8	1148.5	1148.3
12.5°	1134.2	1136.6	1139.0	1140.2	1140.1	1140.0	1140.0	1140.0
15°	1118.3	1121.0	1123.5	1124.7	1124.4	1124.1	1123.8	1123.5
17.5°	1098.9	1101.6	1104.2	1105.5	1105.2	1105.0	1104.7	1104.5
20°	1083.8	1086.6	1089.6	1091.0	1091.0	1091.0	1091.0	1091.0
22.5°	1066.0	1068.9	1071.8	1073.5	1074.0	1074.4	1074.9	1075.4
25°	1038.8	1042.0	1045.1	1046.8	1047.2	1047.4	1047.7	1048.0
27.5°	1008.1	1011.1	1014.0	1015.6	1016.0	1016.4	1016.7	1017.0
30°	986.7	989.9	993.0	994.9	995.5	996.1	996.6	997.3
32.5°	964.7	968.3	972.0	974.1	974.7	975.3	975.8	976.4
35°	929.8	933.8	937.9	940.4	941.3	942.2	943.0	943.9
37.5°	893.5	897.6	901.7	904.2	905.1	906.0	907.0	907.9
40°	867.9	872.3	876.6	879.4	880.5	881.7	882.8	883.9
42.5°	842.8	847.6	852.4	855.2	856.2	857.1	858.0	859.0
45°	804.0	808.9	813.8	817.0	818.5	819.9	821.3	822.8
47.5°	763.0	768.0	773.1	776.5	778.3	780.0	781.7	783.5
50°	734.1	739.9	745.7	749.4	751.2	752.9	754.6	756.4
52.5°	705.0	710.8	716.5	720.3	722.0	723.7	725.5	727.2
55°	661.2	667.0	672.8	676.5	678.2	680.0	681.8	683.5
57.5°	615.2	622.2	629.0	633.2	634.9	636.5	638.1	639.8
60°	583.5	590.2	596.8	601.3	603.6	605.9	608.3	610.6
62.5°	552.3	559.0	565.6	570.1	572.4	574.7	577.0	579.4
65°	503.9	511.2	518.4	523.2	525.5	527.8	530.2	532.5
67.5°	456.6	463.9	471.2	476.1	478.3	480.5	482.8	485.1
70°	423.1	430.9	438.7	443.7	445.6	447.7	449.7	451.8
72.5°	391.4	399.0	406.6	411.5	413.8	416.0	418.2	420.5
75°	343.0	351.1	359.1	364.5	367.1	369.7	372.3	375.0
77.5°	297.9	306.1	314.3	319.8	322.6	325.4	328.2	330.9
80°	268.6	277.3	286.0	291.5	293.8	296.1	298.4	300.8
82.5°	239.9	248.8	257.7	263.5	266.0	268.6	271.1	273.6
85°	199.6	208.3	217.0	222.7	225.7	228.5	231.5	234.3
87.5°	170.6	179.4	188.0	193.6	196.3	198.9	201.6	204.2
90°	171.8	181.6	191.4	197.6	200.4	203.2	206.0	208.8
92.5°	164.2	173.7	183.4	189.3	191.8	194.1	196.6	198.9
95°	155.0	164.2	173.4	179.4	182.3	185.2	187.9	190.8
97.5°	148.5	156.3	164.0	169.2	171.9	174.6	177.4	180.1
100°	153.1	156.9	160.8	163.8	166.1	168.3	170.6	172.8
102.5°	246.9	211.4	175.9	159.2	161.5	163.9	166.2	168.4
105°	434.6	443.9	453.2	454.9	448.7	442.5	436.4	430.2
107.5°	506.1	514.2	522.4	527.9	530.8	533.9	536.8	539.8
110°	554.8	561.9	569.1	574.1	577.2	580.2	583.2	586.2





TEST NUMBER: P332855-930

CATALOG NUMBER: S124DIW-S1195D1340U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	601.3	607.6	614.0	618.7	621.9	625.2	628.4	631.5
115°	671.3	678.1	684.9	689.4	691.4	693.4	695.5	697.5
117.5°	741.2	747.1	753.0	757.1	759.3	761.6	763.8	766.0
120°	784.0	790.3	796.5	800.5	802.4	804.3	806.1	808.0
122.5°	826.6	832.7	838.8	842.6	844.2	845.9	847.4	849.1
125°	886.4	892.6	898.8	902.9	904.8	906.9	908.8	910.8
127.5°	944.4	949.5	954.6	958.0	959.8	961.5	963.3	965.1
130°	979.7	985.1	990.6	994.2	995.9	997.7	999.4	1001.1
132.5°	1014.9	1020.0	1025.2	1028.7	1030.2	1031.8	1033.3	1034.9
135°	1061.4	1066.5	1071.6	1075.3	1077.5	1079.7	1081.9	1084.1
137.5°	1107.2	1111.9	1116.6	1119.7	1121.0	1122.3	1123.6	1124.9
140°	1135.6	1140.1	1144.6	1147.6	1149.3	1151.0	1152.7	1154.4
142.5°	1162.7	1166.5	1170.4	1172.9	1174.1	1175.4	1176.6	1177.9
145°	1202.1	1204.0	1206.0	1207.8	1209.4	1211.0	1212.7	1214.3
147.5°	1236.8	1237.2	1237.7	1238.4	1239.7	1240.8	1241.9	1243.1
150°	1260.5	1260.5	1260.5	1260.6	1260.9	1261.1	1261.3	1261.6
152.5°	1281.6	1282.0	1282.3	1282.5	1282.3	1282.1	1282.1	1281.9
155°	1310.0	1310.9	1311.9	1312.0	1311.3	1310.6	1309.9	1309.2
157.5°	1334.5	1335.7	1336.9	1336.9	1335.7	1334.5	1333.3	1332.0
160°	1350.1	1351.4	1352.9	1352.9	1351.4	1350.1	1348.7	1347.3
162.5°	1362.8	1364.2	1365.5	1365.5	1363.9	1362.3	1360.7	1359.1
165°	1380.6	1382.5	1384.4	1384.2	1382.2	1380.1	1377.9	1375.8
167.5°	1393.7	1395.7	1397.8	1397.7	1395.3	1392.9	1390.7	1388.3
170°	1401.7	1403.6	1405.5	1405.2	1403.0	1400.6	1398.2	1395.9
172.5°	1406.8	1408.8	1410.6	1410.3	1407.7	1405.2	1402.6	1400.1
175°	1412.8	1415.0	1417.1	1416.7	1413.9	1411.0	1408.2	1405.4
177.5°	1415.2	1416.7	1418.2	1417.8	1415.5	1413.3	1411.0	1408.8
180°	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9

(END OF REPORT)