

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: P331997-940

Luminaire Tested: **S123DIP-S775D1195U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331997-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S775D1195U940-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7081.9 lumens  
Efficiency: N/A  
Efficacy: 124.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

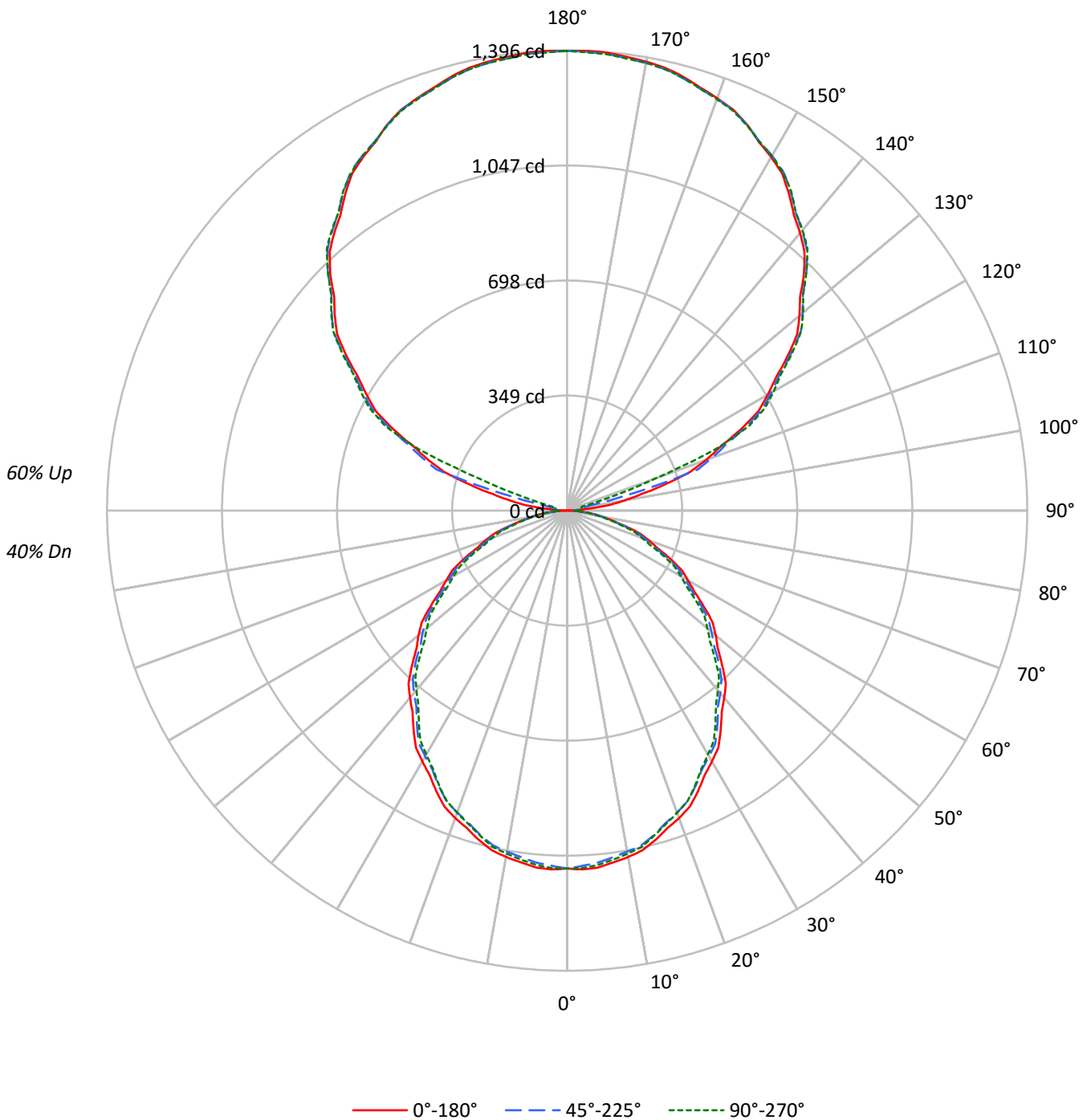
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0	
RCR																						
0	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40				
1	95	91	87	84	87	83	80	77	68	66	64	54	53	51	41	40	39	34				
2	87	80	74	68	79	73	67	63	60	56	53	47	45	43	36	35	33	28				
3	79	70	63	57	72	64	58	53	52	48	44	42	39	36	32	30	28	24				
4	72	62	54	48	66	57	50	45	47	42	38	37	34	31	29	26	24	20				
5	66	55	47	41	60	50	43	38	42	36	32	33	30	27	26	23	21	18				
6	61	49	41	36	55	45	38	33	37	32	28	30	26	23	23	21	19	15				
7	56	44	37	31	51	41	34	29	34	29	25	27	23	21	21	19	16	14				
8	52	40	33	27	48	37	30	26	31	26	22	25	21	18	20	17	15	12				
9	49	37	29	24	44	34	27	23	28	23	20	23	19	16	18	15	13	11				
10	45	34	26	22	41	31	25	20	26	21	18	21	17	15	17	14	12	10				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	11689	11689	11689
5°	11743	11581	11662
10°	11664	11481	11552
15°	11529	11352	11373
20°	11369	11165	11176
25°	11156	10946	10923
30°	10920	10700	10618
35°	10674	10441	10306
40°	10418	10153	9997
45°	10135	9893	9651
50°	9851	9568	9302
55°	9481	9233	8955
60°	9104	8844	8564
65°	8777	8420	8155
70°	8286	7934	7582
75°	7573	7303	6991
80°	6831	6540	6484
85°	5990	5768	5545



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.3	1.4
10°-20°	288.8	4.1
20°-30°	426.6	6.0
30°-40°	498.4	7.0
40°-50°	501.0	7.1
50°-60°	440.1	6.2
60°-70°	327.9	4.6
70°-80°	186.8	2.6
80°-90°	57.5	0.8
90°-100°	50.7	0.7
100°-110°	241.6	3.4
110°-120°	580.4	8.2
120°-130°	739.1	10.4
130°-140°	789.7	11.2
140°-150°	738.4	10.4
150°-160°	595.6	8.4
160°-170°	384.4	5.4
170°-180°	132.5	1.9
0°-30°	817.7	11.5
0°-40°	1316.1	18.6
0°-60°	2257.3	31.9
0°-90°	2829.5	40.0
90°-120°	872.7	12.3
90°-150°	3139.9	44.3
90°-180°	4252.0	60.0
0°-180°	7081.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1086	1086	1086	1086	1086	
5°	1087	1082	1072	1081	1079	103
15°	1035	1030	1019	1025	1021	292
25°	939	933	922	922	920	432
35°	812	806	795	789	784	508
45°	666	662	650	639	634	514
55°	505	504	492	482	477	452
65°	345	340	331	323	320	340
75°	182	178	176	171	168	195
85°	48	47	47	45	45	53
90°	1	12	25	29	31	6
95°	63	24	32	39	39	78
105°	309	314	227	54	46	327
115°	579	586	595	605	609	571
125°	816	824	829	831	833	729
135°	1016	1022	1027	1030	1027	782
145°	1173	1180	1182	1184	1184	734
155°	1292	1290	1291	1295	1290	595
165°	1362	1359	1358	1366	1359	385
175°	1394	1390	1390	1397	1389	133
180°	1394	1394	1394	1394	1394	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9
2.5°	1089.6	1089.0	1088.3	1087.6	1087.0	1085.7	1083.9	1082.1	1080.2	1078.4	1080.0
5°	1086.8	1085.7	1084.8	1083.7	1082.6	1081.0	1078.7	1076.5	1074.2	1071.8	1074.0
7.5°	1076.2	1075.1	1074.1	1073.1	1072.0	1070.3	1067.9	1065.6	1063.2	1060.9	1062.7
10°	1067.2	1066.1	1065.1	1064.1	1063.1	1061.2	1058.5	1055.8	1053.1	1050.4	1052.3
12.5°	1055.3	1054.4	1053.6	1052.7	1051.8	1050.1	1047.6	1045.0	1042.5	1039.9	1041.3
15°	1034.6	1033.7	1032.9	1032.1	1031.2	1029.5	1026.7	1024.0	1021.4	1018.7	1020.3
17.5°	1010.4	1009.3	1008.3	1007.2	1006.1	1004.2	1001.6	998.8	996.1	993.5	994.6
20°	992.5	991.2	990.1	988.8	987.6	985.5	982.8	980.2	977.5	974.7	975.6
22.5°	972.3	971.1	969.8	968.6	967.3	965.4	962.7	960.0	957.3	954.6	955.3
25°	939.3	938.1	936.8	935.6	934.3	932.4	929.6	926.9	924.3	921.6	921.8
27.5°	904.0	902.8	901.6	900.4	899.2	897.2	894.2	891.4	888.4	885.5	885.6
30°	878.6	877.5	876.6	875.5	874.4	872.4	869.6	866.7	863.8	860.9	860.9
32.5°	853.2	851.9	850.4	849.1	847.7	846.0	843.6	841.4	839.2	837.0	835.8
35°	812.3	811.1	809.9	808.6	807.4	805.4	802.6	800.0	797.3	794.6	793.4
37.5°	770.4	768.9	767.3	765.7	764.2	762.1	759.3	756.5	753.8	751.1	749.6
40°	741.4	740.1	738.9	737.6	736.4	734.3	731.4	728.5	725.6	722.6	721.0
42.5°	712.2	710.8	709.4	708.0	706.6	704.5	701.5	698.6	695.7	692.8	691.2
45°	665.8	664.9	664.1	663.3	662.4	660.7	657.9	655.2	652.6	649.9	647.4
47.5°	619.6	618.4	617.2	616.0	614.7	612.9	610.4	607.9	605.3	602.8	600.3
50°	588.3	587.2	586.1	585.1	584.1	582.2	579.5	576.8	574.1	571.4	569.2
52.5°	555.4	554.6	553.9	553.2	552.5	550.7	547.9	545.0	542.2	539.3	537.3
55°	505.2	504.9	504.7	504.5	504.3	502.8	500.2	497.5	494.7	492.0	489.8
57.5°	457.4	456.6	455.9	455.2	454.5	453.1	450.9	448.7	446.6	444.4	442.4
60°	422.9	422.8	422.6	422.3	422.1	420.8	418.3	415.8	413.3	410.8	408.9
62.5°	392.4	391.8	391.3	390.7	390.2	388.7	386.2	383.7	381.2	378.7	376.8
65°	344.6	343.5	342.4	341.4	340.4	338.9	336.7	334.7	332.6	330.6	328.9
67.5°	293.9	293.0	292.1	291.1	290.3	289.0	287.5	285.9	284.3	282.8	281.2
70°	263.3	262.1	260.8	259.6	258.3	257.1	255.8	254.6	253.3	252.1	250.7
72.5°	231.2	230.2	229.3	228.5	227.6	226.4	225.0	223.6	222.1	220.7	219.5
75°	182.1	181.2	180.4	179.6	178.8	178.0	177.4	176.7	176.1	175.6	174.5
77.5°	138.6	138.1	137.7	137.2	136.7	136.2	135.4	134.6	133.9	133.1	132.4
80°	110.2	109.6	109.0	108.3	107.7	107.2	106.7	106.4	105.9	105.5	105.3
82.5°	82.6	82.4	82.3	82.1	82.0	81.9	81.9	81.8	81.7	81.6	81.2
85°	48.5	48.2	47.7	47.3	46.9	46.7	46.7	46.7	46.7	46.7	46.3
87.5°	19.6	19.6	19.5	19.5	19.4	19.7	20.1	20.5	21.0	21.4	21.4
90°	1.1	3.3	5.6	7.9	10.3	12.9	15.9	18.9	21.8	24.9	25.8
92.5°	19.3	18.6	18.0	17.3	16.7	17.5	19.8	22.0	24.3	26.5	28.0
95°	63.2	53.8	44.3	34.9	25.4	22.0	24.5	27.0	29.6	32.1	33.7
97.5°	127.0	122.8	118.5	114.3	110.0	99.7	83.1	66.5	49.9	33.3	35.2
100°	175.0	179.7	184.3	188.9	193.5	177.8	142.0	106.0	70.1	34.2	36.0
102.5°	229.8	233.1	236.4	239.7	243.1	225.1	185.8	146.6	107.4	68.1	62.4
105°	308.7	311.3	313.8	316.3	318.9	309.8	289.0	268.3	247.6	226.9	186.1
107.5°	392.0	394.0	396.1	398.1	400.1	402.8	406.1	409.3	412.6	415.9	385.9
110°	447.5	449.4	451.2	453.1	455.0	457.1	459.7	462.2	464.7	467.3	459.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	500.6	502.2	503.9	505.6	507.2	509.3	511.8	514.4	516.9	519.4	519.6
115°	579.2	580.5	581.8	583.3	584.6	586.4	588.4	590.5	592.6	594.7	597.0
117.5°	655.1	656.8	658.5	660.3	662.0	663.3	664.4	665.5	666.6	667.6	669.4
120°	702.4	704.5	706.6	708.6	710.7	712.1	712.7	713.5	714.2	714.8	716.7
122.5°	750.5	752.2	753.9	755.5	757.3	758.6	759.5	760.4	761.2	762.1	763.4
125°	816.4	818.2	820.0	821.9	823.8	825.1	826.0	827.0	827.9	828.8	829.3
127.5°	880.2	882.0	883.9	885.7	887.5	889.0	890.1	891.3	892.3	893.4	894.2
130°	920.0	921.9	923.6	925.5	927.3	928.7	929.6	930.6	931.5	932.4	933.4
132.5°	958.1	959.9	961.8	963.6	965.5	966.7	967.5	968.2	968.9	969.7	970.6
135°	1016.3	1017.7	1019.0	1020.5	1021.8	1023.0	1024.0	1024.8	1025.7	1026.7	1027.3
137.5°	1066.0	1067.8	1069.5	1071.3	1073.1	1074.2	1074.7	1075.2	1075.7	1076.2	1077.3
140°	1099.2	1100.5	1102.0	1103.3	1104.7	1105.7	1106.4	1107.1	1107.9	1108.5	1109.5
142.5°	1129.9	1131.2	1132.7	1134.0	1135.4	1136.4	1137.1	1137.8	1138.5	1139.2	1140.0
145°	1172.8	1174.4	1176.0	1177.6	1179.2	1180.3	1180.7	1181.2	1181.6	1182.1	1182.5
147.5°	1213.2	1214.2	1215.3	1216.3	1217.4	1218.2	1218.6	1219.1	1219.5	1219.9	1220.5
150°	1238.1	1238.7	1239.4	1240.1	1240.8	1241.4	1241.8	1242.2	1242.8	1243.2	1243.7
152.5°	1260.4	1260.7	1261.1	1261.3	1261.7	1261.9	1262.2	1262.6	1262.8	1263.1	1263.9
155°	1291.9	1291.5	1290.9	1290.5	1290.0	1289.9	1290.1	1290.4	1290.7	1290.8	1292.0
157.5°	1316.3	1316.3	1316.3	1316.2	1316.2	1316.0	1315.8	1315.5	1315.4	1315.1	1316.5
160°	1331.2	1331.1	1330.8	1330.6	1330.3	1330.1	1329.9	1329.6	1329.5	1329.2	1330.6
162.5°	1345.3	1344.8	1344.2	1343.5	1342.9	1342.6	1342.3	1342.1	1341.8	1341.6	1343.2
165°	1362.4	1361.6	1360.9	1360.3	1359.6	1359.1	1358.9	1358.6	1358.4	1358.2	1360.0
167.5°	1375.6	1374.7	1373.8	1372.9	1371.9	1371.5	1371.5	1371.5	1371.5	1371.5	1373.3
170°	1383.0	1382.2	1381.3	1380.3	1379.4	1378.9	1378.9	1378.9	1378.9	1378.9	1380.7
172.5°	1388.0	1387.0	1385.8	1384.7	1383.6	1383.1	1383.3	1383.5	1383.7	1383.8	1385.7
175°	1394.5	1393.3	1392.1	1391.0	1389.8	1389.4	1389.6	1389.8	1390.1	1390.3	1392.0
177.5°	1396.2	1395.2	1394.3	1393.4	1392.4	1392.0	1392.2	1392.4	1392.6	1392.8	1394.3
180°	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9	1085.9
2.5°	1081.7	1083.4	1085.0	1085.8	1085.7	1085.5	1085.3	1085.1
5°	1076.0	1078.1	1080.2	1081.0	1080.6	1080.2	1079.8	1079.3
7.5°	1064.6	1066.5	1068.4	1069.2	1068.9	1068.6	1068.4	1068.2
10°	1054.2	1056.0	1057.8	1058.6	1058.2	1057.7	1057.4	1056.9
12.5°	1042.7	1044.0	1045.4	1046.0	1045.7	1045.4	1045.3	1045.0
15°	1022.0	1023.6	1025.3	1025.5	1024.2	1023.0	1021.8	1020.6
17.5°	995.8	996.9	998.1	998.4	998.0	997.6	997.1	996.7
20°	976.4	977.2	978.1	978.2	977.6	977.0	976.3	975.7
22.5°	955.9	956.6	957.3	957.2	956.4	955.6	954.8	954.0
25°	921.9	922.2	922.4	922.2	921.6	921.0	920.3	919.7
27.5°	885.8	886.0	886.2	885.8	885.1	884.3	883.5	882.7
30°	860.9	860.9	860.9	860.1	858.7	857.2	855.8	854.3
32.5°	834.6	833.5	832.3	831.3	830.5	829.7	828.9	828.2
35°	792.1	790.9	789.6	788.5	787.4	786.4	785.3	784.3
37.5°	748.1	746.5	745.1	744.0	743.3	742.7	742.0	741.4
40°	719.3	717.7	716.0	714.8	714.0	713.1	712.3	711.5
42.5°	689.5	687.8	686.2	684.9	684.1	683.2	682.4	681.6
45°	644.9	642.4	639.9	638.1	637.1	636.1	635.0	634.0
47.5°	597.9	595.5	593.0	591.3	590.4	589.5	588.6	587.6
50°	566.9	564.5	562.3	560.5	559.3	558.0	556.8	555.5
52.5°	535.4	533.4	531.5	529.9	528.7	527.4	526.2	525.0
55°	487.5	485.2	483.0	481.3	480.2	479.2	478.1	477.2
57.5°	440.3	438.4	436.3	434.7	433.5	432.3	431.1	429.9
60°	407.1	405.2	403.3	401.9	400.8	399.8	398.8	397.8
62.5°	375.0	373.1	371.2	370.0	369.3	368.5	367.8	367.1
65°	327.2	325.6	323.9	322.7	322.1	321.5	320.8	320.2
67.5°	279.8	278.4	276.9	275.7	274.9	274.0	273.1	272.2
70°	249.2	247.7	246.3	245.0	244.0	243.0	241.9	240.9
72.5°	218.1	216.9	215.6	214.6	214.1	213.6	213.0	212.5
75°	173.4	172.5	171.4	170.6	170.0	169.3	168.7	168.1
77.5°	131.7	131.0	130.3	130.0	130.0	130.0	130.0	130.0
80°	105.1	104.9	104.7	104.6	104.6	104.6	104.6	104.6
82.5°	80.9	80.5	80.1	79.8	79.7	79.5	79.4	79.2
85°	45.8	45.5	45.0	44.9	44.9	44.9	44.9	44.9
87.5°	21.4	21.5	21.5	21.5	21.7	21.8	21.8	21.9
90°	26.7	27.6	28.5	29.2	29.7	30.1	30.6	31.1
92.5°	29.4	30.9	32.5	33.3	33.5	33.9	34.2	34.4
95°	35.3	36.9	38.5	39.3	39.3	39.3	39.3	39.3
97.5°	37.0	38.9	40.8	41.7	42.0	42.3	42.4	42.7
100°	37.9	39.7	41.6	42.6	42.8	43.1	43.2	43.5
102.5°	56.7	51.0	45.3	42.7	43.1	43.5	44.0	44.3
105°	145.3	104.6	63.8	43.8	44.2	44.7	45.1	45.6
107.5°	356.1	326.2	296.3	266.0	235.3	204.6	173.9	143.2
110°	452.0	444.4	436.8	416.6	383.7	350.7	317.8	284.9





TEST NUMBER: P331997-940

CATALOG NUMBER: S123DIP-S775D1195U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	519.7	519.9	520.0	516.6	509.6	502.7	495.7	488.7
115°	599.2	601.5	603.9	605.5	606.4	607.3	608.2	609.1
117.5°	671.3	673.2	674.9	676.0	676.2	676.4	676.5	676.7
120°	718.5	720.3	722.2	723.1	723.1	723.1	723.1	723.1
122.5°	764.6	766.0	767.2	767.9	768.1	768.3	768.6	768.7
125°	829.7	830.2	830.6	831.1	831.5	832.1	832.5	832.9
127.5°	894.9	895.6	896.3	896.5	896.1	895.6	895.2	894.7
130°	934.2	935.1	936.1	936.3	935.9	935.4	935.0	934.5
132.5°	971.5	972.5	973.4	973.5	972.9	972.2	971.6	970.9
135°	1028.1	1028.8	1029.5	1029.5	1028.8	1028.1	1027.3	1026.7
137.5°	1078.4	1079.5	1080.6	1080.9	1080.5	1080.0	1079.6	1079.1
140°	1110.4	1111.3	1112.2	1112.4	1112.0	1111.5	1111.1	1110.6
142.5°	1140.7	1141.4	1142.1	1142.2	1141.6	1140.9	1140.2	1139.6
145°	1183.0	1183.5	1183.9	1184.1	1184.1	1184.1	1184.1	1184.1
147.5°	1220.9	1221.4	1221.8	1221.6	1220.5	1219.4	1218.3	1217.3
150°	1244.1	1244.6	1245.0	1244.9	1244.2	1243.6	1242.9	1242.2
152.5°	1264.7	1265.6	1266.4	1266.3	1265.2	1264.2	1263.1	1262.0
155°	1293.2	1294.3	1295.5	1295.3	1294.0	1292.6	1291.2	1289.9
157.5°	1317.9	1319.2	1320.6	1320.4	1318.7	1316.8	1315.0	1313.2
160°	1331.9	1333.3	1334.7	1334.6	1333.0	1331.4	1329.7	1328.1
162.5°	1344.8	1346.3	1347.9	1347.9	1346.5	1345.1	1343.6	1342.2
165°	1361.9	1363.7	1365.6	1365.7	1364.1	1362.4	1360.8	1359.2
167.5°	1375.1	1377.0	1378.9	1378.9	1377.0	1375.1	1373.3	1371.5
170°	1382.6	1384.5	1386.3	1386.3	1384.5	1382.6	1380.7	1378.9
172.5°	1387.6	1389.4	1391.2	1391.2	1389.1	1387.1	1385.1	1383.0
175°	1393.6	1395.2	1396.8	1396.6	1394.8	1392.9	1391.2	1389.3
177.5°	1395.7	1397.2	1398.6	1398.5	1396.7	1394.8	1392.9	1391.2
180°	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5	1394.5

(END OF REPORT)