

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: P332172-940

Luminaire Tested: **S123DIW-S775D1320U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332172-940
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: S123DIW-S775D1320U940-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1320 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7536.3 lumens
Efficiency: N/A
Efficacy: 122.7 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

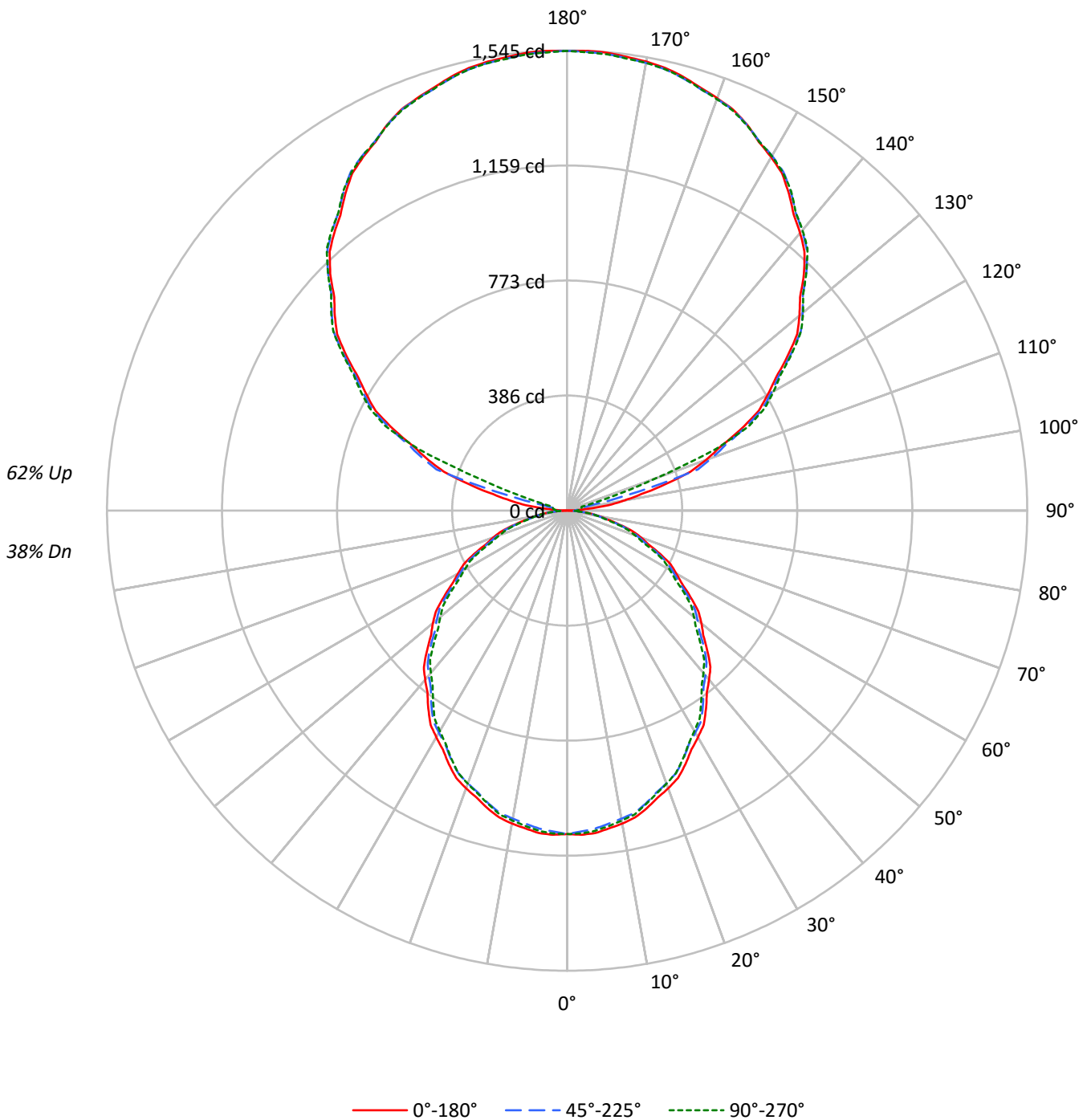
Input Watts (W): 61.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	104	104	104	104	94	94	94	94	76	76	76	60	60	60	45	45	45	38				
1	95	91	87	83	86	82	79	76	67	65	63	53	51	50	39	38	38	32				
2	86	79	73	68	78	72	67	62	58	55	52	46	44	41	35	33	32	26				
3	79	69	62	57	71	63	57	52	52	47	43	41	38	35	31	29	27	22				
4	72	61	54	48	65	56	49	44	46	41	37	36	33	30	27	25	23	19				
5	66	55	47	41	60	50	43	38	41	36	32	32	29	26	25	22	20	17				
6	61	49	41	35	55	45	38	33	37	31	28	29	25	23	22	20	18	15				
7	56	44	36	31	51	40	33	29	33	28	24	27	23	20	20	18	16	13				
8	52	40	32	27	47	37	30	25	30	25	21	24	20	18	19	16	14	12				
9	48	36	29	24	44	33	27	22	28	23	19	22	19	16	17	15	13	10				
10	45	33	26	21	41	31	24	20	25	21	17	21	17	14	16	13	11	9				

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	3.8
20°-30°	426.6	5.7
30°-40°	498.4	6.6
40°-50°	501.0	6.6
50°-60°	440.1	5.8
60°-70°	327.9	4.4
70°-80°	186.8	2.5
80°-90°	57.9	0.8
90°-100°	56.1	0.7
100°-110°	267.4	3.5
110°-120°	642.3	8.5
120°-130°	818.0	10.9
130°-140°	874.0	11.6
140°-150°	817.3	10.8
150°-160°	659.2	8.7
160°-170°	425.5	5.6
170°-180°	146.6	1.9
0°-30°	817.7	10.9
0°-40°	1316.1	17.5
0°-60°	2257.3	30.0
0°-90°	2829.9	37.6
90°-120°	965.9	12.8
90°-150°	3475.0	46.1
90°-180°	4706.0	62.4
0°-180°	7536.3	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	13	28	32	34	6
95°	70	26	36	43	44	86
105°	342	348	251	60	50	362
115°	641	648	658	669	674	632
125°	904	912	917	920	922	807
135°	1125	1132	1136	1139	1136	866
145°	1298	1306	1308	1310	1310	812
155°	1430	1428	1429	1434	1428	658
165°	1508	1504	1503	1511	1504	426
175°	1543	1538	1539	1546	1538	147
180°	1543	1543	1543	1543	1543	



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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	19.7	19.7	19.7	20.0	20.4	21.0	21.4	21.9	21.9
90°	1.2	3.7	6.2	8.8	11.3	14.3	17.6	20.9	24.2	27.6	28.5
92.5°	21.3	20.6	19.9	19.2	18.5	19.4	21.8	24.3	26.8	29.3	30.9
95°	69.9	59.5	49.0	38.6	28.2	24.3	27.1	30.0	32.7	35.6	37.4
97.5°	140.5	135.9	131.2	126.5	121.8	110.3	91.9	73.7	55.3	36.9	39.0
100°	193.8	198.9	203.9	209.0	214.2	196.8	157.1	117.3	77.6	37.8	39.9
102.5°	254.3	258.0	261.6	265.3	269.0	249.1	205.7	162.3	118.9	75.4	69.1
105°	341.7	344.5	347.3	350.1	352.8	342.9	319.9	296.9	274.0	251.1	206.0
107.5°	433.9	436.1	438.4	440.6	442.8	445.8	449.4	453.0	456.6	460.2	427.1
110°	495.3	497.4	499.4	501.4	503.5	505.9	508.7	511.5	514.3	517.1	508.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	554.0	555.9	557.7	559.5	561.3	563.7	566.5	569.3	572.1	574.9	575.1
115°	641.0	642.5	644.0	645.5	647.0	649.0	651.2	653.5	655.9	658.2	660.7
117.5°	725.1	727.0	728.9	730.8	732.6	734.1	735.3	736.6	737.7	738.9	740.9
120°	777.4	779.7	781.9	784.3	786.6	788.1	788.8	789.6	790.4	791.1	793.2
122.5°	830.6	832.5	834.4	836.2	838.1	839.5	840.5	841.5	842.5	843.5	844.9
125°	903.5	905.5	907.6	909.6	911.7	913.2	914.2	915.3	916.2	917.3	917.7
127.5°	974.1	976.2	978.2	980.3	982.3	983.9	985.2	986.4	987.6	988.8	989.6
130°	1018.2	1020.2	1022.3	1024.3	1026.4	1027.9	1028.9	1029.9	1030.9	1031.9	1033.0
132.5°	1060.3	1062.4	1064.4	1066.5	1068.5	1070.0	1070.8	1071.6	1072.4	1073.2	1074.2
135°	1124.8	1126.3	1127.8	1129.4	1131.0	1132.2	1133.2	1134.3	1135.2	1136.3	1137.0
137.5°	1179.8	1181.8	1183.7	1185.6	1187.6	1188.8	1189.4	1190.0	1190.5	1191.1	1192.3
140°	1216.6	1218.1	1219.6	1221.1	1222.6	1223.8	1224.6	1225.3	1226.1	1226.8	1227.9
142.5°	1250.4	1252.0	1253.6	1255.1	1256.6	1257.8	1258.5	1259.3	1260.0	1260.8	1261.6
145°	1298.0	1299.8	1301.5	1303.3	1305.1	1306.2	1306.7	1307.2	1307.8	1308.2	1308.8
147.5°	1342.6	1343.8	1345.0	1346.1	1347.4	1348.2	1348.7	1349.2	1349.7	1350.2	1350.8
150°	1370.2	1370.9	1371.7	1372.4	1373.2	1373.9	1374.4	1374.8	1375.4	1375.9	1376.4
152.5°	1394.9	1395.3	1395.6	1396.0	1396.3	1396.7	1397.0	1397.3	1397.6	1397.9	1398.8
155°	1429.8	1429.3	1428.8	1428.3	1427.7	1427.6	1427.9	1428.2	1428.4	1428.6	1429.9
157.5°	1456.9	1456.8	1456.8	1456.7	1456.6	1456.5	1456.3	1456.0	1455.7	1455.5	1457.0
160°	1473.4	1473.1	1472.8	1472.6	1472.3	1472.1	1471.9	1471.6	1471.3	1471.1	1472.6
162.5°	1489.0	1488.3	1487.6	1486.9	1486.3	1485.9	1485.6	1485.3	1485.1	1484.8	1486.6
165°	1507.8	1507.0	1506.2	1505.5	1504.7	1504.2	1504.0	1503.7	1503.4	1503.2	1505.2
167.5°	1522.4	1521.4	1520.4	1519.4	1518.3	1517.9	1517.9	1517.9	1517.9	1517.9	1519.9
170°	1530.7	1529.6	1528.7	1527.7	1526.6	1526.1	1526.1	1526.1	1526.1	1526.1	1528.1
172.5°	1536.2	1535.0	1533.7	1532.5	1531.3	1530.8	1531.0	1531.2	1531.4	1531.6	1533.7
175°	1543.3	1542.0	1540.8	1539.4	1538.2	1537.7	1537.9	1538.2	1538.5	1538.7	1540.5
177.5°	1545.2	1544.1	1543.1	1542.1	1541.1	1540.7	1540.9	1541.1	1541.2	1541.5	1543.1
180°	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3



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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°	22.0	22.0	22.1	22.1	22.3	22.4	22.5	22.6
90°	29.5	30.6	31.6	32.4	32.9	33.3	33.9	34.4
92.5°	32.6	34.2	35.8	36.8	37.2	37.5	37.7	38.1
95°	39.1	40.9	42.7	43.6	43.6	43.6	43.6	43.6
97.5°	41.0	43.1	45.0	46.2	46.5	46.7	47.0	47.3
100°	41.9	44.0	46.0	47.2	47.3	47.6	47.9	48.2
102.5°	62.8	56.4	50.2	47.3	47.7	48.2	48.6	49.0
105°	160.9	115.8	70.7	48.4	49.0	49.4	49.9	50.5
107.5°	394.1	361.1	328.0	294.4	260.5	226.4	192.4	158.5
110°	500.2	491.9	483.5	461.0	424.6	388.2	351.8	315.3



TEST NUMBER: P332172-940

CATALOG NUMBER: S123DIW-S775D1320U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	575.2	575.3	575.5	571.8	564.0	556.3	548.7	541.0
115°	663.3	665.8	668.3	670.1	671.1	672.2	673.2	674.2
117.5°	743.0	744.9	747.0	748.1	748.3	748.5	748.8	748.9
120°	795.2	797.3	799.3	800.3	800.3	800.3	800.3	800.3
122.5°	846.3	847.7	849.2	850.0	850.2	850.3	850.6	850.8
125°	918.3	918.8	919.3	919.8	920.3	920.9	921.3	921.9
127.5°	990.4	991.2	992.1	992.2	991.8	991.2	990.7	990.2
130°	1033.9	1035.0	1036.0	1036.3	1035.7	1035.3	1034.7	1034.2
132.5°	1075.2	1076.3	1077.3	1077.5	1076.7	1076.0	1075.3	1074.6
135°	1137.8	1138.5	1139.3	1139.3	1138.5	1137.8	1137.0	1136.3
137.5°	1193.6	1194.7	1196.0	1196.3	1195.8	1195.3	1194.8	1194.3
140°	1228.9	1229.9	1230.9	1231.2	1230.7	1230.1	1229.7	1229.1
142.5°	1262.4	1263.2	1264.1	1264.1	1263.4	1262.7	1261.9	1261.2
145°	1309.3	1309.7	1310.3	1310.5	1310.5	1310.5	1310.5	1310.5
147.5°	1351.2	1351.7	1352.3	1351.9	1350.8	1349.6	1348.4	1347.2
150°	1376.9	1377.4	1378.0	1377.8	1377.1	1376.3	1375.6	1374.8
152.5°	1399.7	1400.7	1401.6	1401.5	1400.3	1399.1	1397.9	1396.8
155°	1431.2	1432.4	1433.8	1433.6	1432.1	1430.6	1429.1	1427.5
157.5°	1458.6	1460.1	1461.6	1461.3	1459.4	1457.4	1455.4	1453.4
160°	1474.1	1475.7	1477.2	1477.0	1475.2	1473.5	1471.7	1469.9
162.5°	1488.3	1490.0	1491.7	1491.8	1490.2	1488.7	1487.1	1485.5
165°	1507.3	1509.3	1511.4	1511.4	1509.7	1507.9	1506.1	1504.3
167.5°	1522.0	1523.9	1526.0	1526.0	1523.9	1522.0	1519.9	1517.9
170°	1530.2	1532.2	1534.3	1534.3	1532.2	1530.2	1528.1	1526.1
172.5°	1535.7	1537.8	1539.8	1539.6	1537.4	1535.2	1532.9	1530.7
175°	1542.3	1544.1	1545.9	1545.7	1543.7	1541.7	1539.6	1537.6
177.5°	1544.7	1546.4	1548.0	1547.8	1545.8	1543.7	1541.7	1539.6
180°	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3	1543.3

(END OF REPORT)