

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: P332167-840

Luminaire Tested: **S123DIW-S775D1030U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332167-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S775D1030U840-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6812.4 lumens
Efficiency: N/A
Efficacy: 129.5 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: General Diffuse

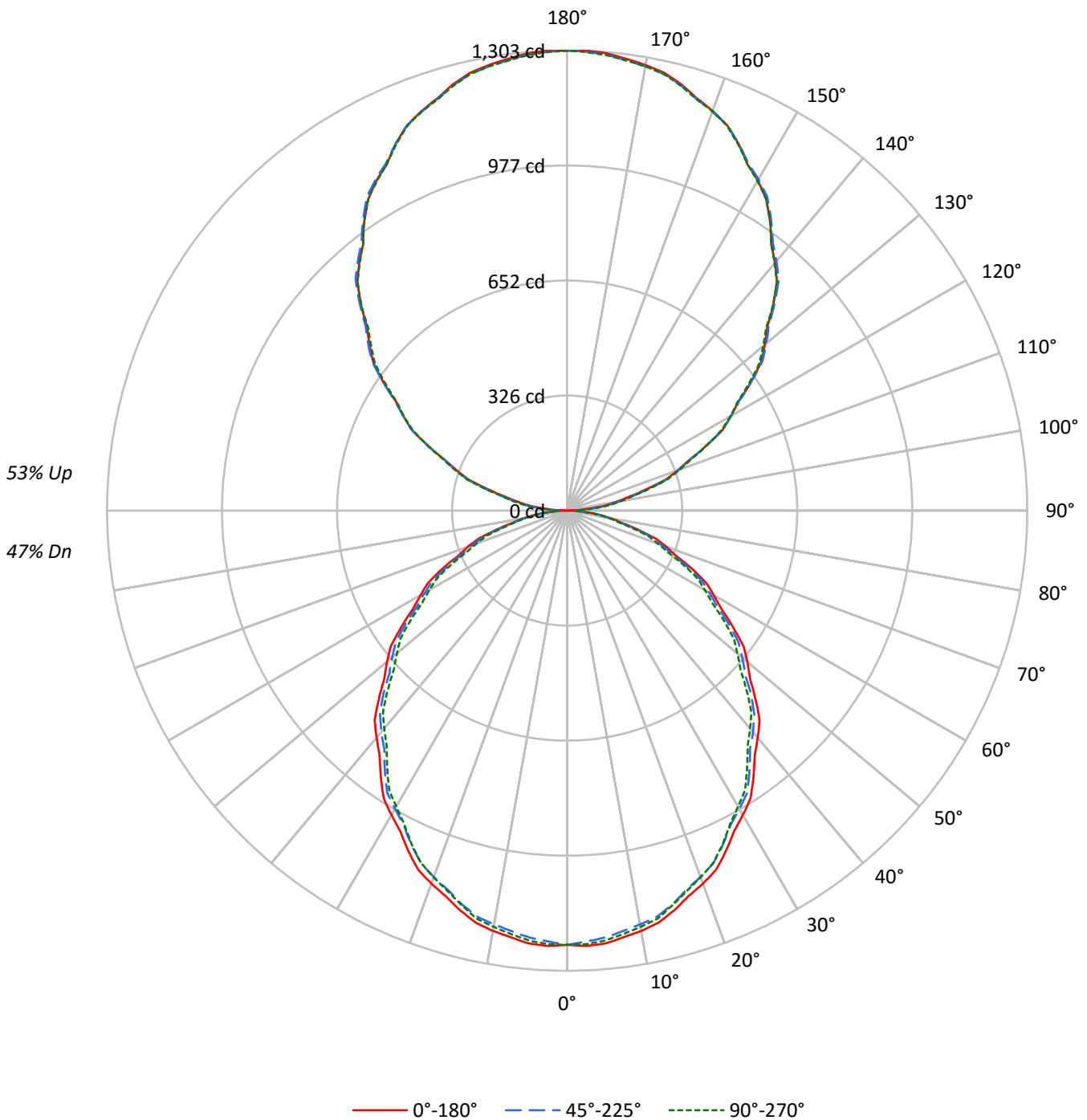
Input Watts (W): 52.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	98	98	98	98	82	82	82	67	67	67	53	53	53	47				47
1	97	93	89	85	89	85	82	79	71	69	67	59	57	56	47	46	45				39	
2	88	81	75	70	81	75	69	65	63	59	55	52	49	46	41	39	38				33	
3	81	71	64	58	74	66	59	54	55	50	46	46	42	39	37	34	32				28	
4	74	63	55	49	67	58	51	46	49	44	40	41	37	34	33	30	28				24	
5	68	56	48	42	62	52	45	39	44	38	34	36	32	29	29	26	24				21	
6	62	50	42	36	57	46	39	34	39	34	30	33	29	25	27	24	21				18	
7	58	45	37	32	53	42	35	30	36	30	26	30	26	22	24	21	19				16	
8	53	41	33	28	49	38	31	26	33	27	23	27	23	20	22	19	17				14	
9	50	37	30	25	46	35	28	24	30	24	21	25	21	18	21	18	15				13	
10	46	34	27	22	43	32	26	21	27	22	19	23	19	16	19	16	14				12	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13237	13237	13237
5°	13299	13116	13207
10°	13210	13002	13083
15°	13056	12856	12880
20°	12875	12645	12657
25°	12634	12396	12371
30°	12367	12117	12026
35°	12089	11825	11671
40°	11797	11500	11323
45°	11478	11204	10930
50°	11156	10836	10535
55°	10736	10457	10141
60°	10312	10015	9698
65°	9938	9536	9235
70°	9385	8985	8585
75°	8576	8268	7918
80°	7736	7407	7345
85°	6780	6533	6274



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.8	1.7
10°-20°	327.1	4.8
20°-30°	483.2	7.1
30°-40°	564.4	8.3
40°-50°	567.4	8.3
50°-60°	498.4	7.3
60°-70°	371.3	5.5
70°-80°	211.6	3.1
80°-90°	64.6	0.9
90°-100°	84.9	1.2
100°-110°	254.0	3.7
110°-120°	431.9	6.3
120°-130°	568.1	8.3
130°-140°	638.6	9.4
140°-150°	627.7	9.2
150°-160°	528.4	7.8
160°-170°	351.8	5.2
170°-180°	123.2	1.8
0°-30°	926.1	13.6
0°-40°	1490.5	21.9
0°-60°	2556.3	37.5
0°-90°	3203.8	47.0
90°-120°	770.8	11.3
90°-150°	2605.2	38.2
90°-180°	3609.0	53.0
0°-180°	6812.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1230	1230	1230	1230	1230	
5°	1231	1225	1214	1224	1222	117
15°	1172	1167	1154	1161	1156	330
25°	1064	1057	1044	1044	1042	490
35°	920	913	900	894	888	575
45°	754	749	736	724	718	582
55°	572	570	557	546	540	512
65°	390	385	374	366	363	385
75°	206	202	199	194	190	221
85°	55	53	53	51	51	60
90°	1	11	24	29	31	7
95°	60	68	76	80	80	68
105°	230	233	242	242	244	247
115°	435	438	436	437	436	430
125°	636	639	637	633	629	567
135°	826	831	831	827	825	636
145°	1002	1004	1007	1006	1002	625
155°	1147	1147	1148	1151	1145	528
165°	1249	1246	1246	1252	1245	352
175°	1299	1296	1295	1301	1294	123
180°	1302	1302	1302	1302	1302	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8
2.5°	1234.0	1233.2	1232.5	1231.7	1231.0	1229.6	1227.5	1225.5	1223.4	1221.3	1223.1
5°	1230.8	1229.6	1228.5	1227.3	1226.1	1224.3	1221.6	1219.1	1216.5	1213.9	1216.3
7.5°	1218.8	1217.6	1216.4	1215.3	1214.1	1212.1	1209.4	1206.8	1204.1	1201.4	1203.6
10°	1208.6	1207.4	1206.3	1205.1	1204.0	1201.8	1198.7	1195.7	1192.7	1189.6	1191.7
12.5°	1195.1	1194.1	1193.2	1192.1	1191.1	1189.2	1186.4	1183.5	1180.6	1177.7	1179.3
15°	1171.6	1170.6	1169.7	1168.8	1167.8	1165.9	1162.8	1159.7	1156.7	1153.7	1155.5
17.5°	1144.3	1143.1	1141.9	1140.6	1139.4	1137.3	1134.3	1131.1	1128.1	1125.1	1126.4
20°	1124.0	1122.6	1121.3	1119.8	1118.4	1116.1	1113.1	1110.0	1107.0	1103.9	1104.9
22.5°	1101.2	1099.7	1098.3	1096.9	1095.5	1093.3	1090.3	1087.2	1084.2	1081.1	1081.9
25°	1063.8	1062.4	1061.0	1059.6	1058.1	1055.9	1052.8	1049.8	1046.7	1043.7	1043.9
27.5°	1023.8	1022.4	1021.1	1019.7	1018.3	1016.0	1012.7	1009.5	1006.1	1002.8	1003.0
30°	995.0	993.8	992.7	991.5	990.3	988.1	984.8	981.5	978.3	974.9	974.9
32.5°	966.2	964.7	963.1	961.6	960.1	958.1	955.4	952.9	950.4	947.9	946.5
35°	920.0	918.6	917.2	915.7	914.3	912.1	909.0	905.9	902.9	899.9	898.5
37.5°	872.5	870.8	869.0	867.2	865.5	863.0	859.9	856.8	853.6	850.6	848.9
40°	839.6	838.2	836.8	835.4	833.9	831.6	828.3	825.1	821.7	818.4	816.6
42.5°	806.6	805.0	803.3	801.8	800.2	797.8	794.5	791.1	787.9	784.6	782.7
45°	754.0	753.0	752.0	751.1	750.1	748.2	745.1	742.0	739.0	736.0	733.2
47.5°	701.7	700.3	698.9	697.6	696.2	694.1	691.3	688.4	685.5	682.7	679.8
50°	666.2	665.0	663.8	662.7	661.5	659.3	656.3	653.3	650.2	647.1	644.6
52.5°	628.9	628.1	627.3	626.5	625.7	623.7	620.5	617.2	614.0	610.8	608.5
55°	572.1	571.8	571.6	571.4	571.1	569.5	566.4	563.4	560.3	557.2	554.7
57.5°	518.0	517.2	516.3	515.5	514.7	513.1	510.7	508.2	505.7	503.3	501.0
60°	479.0	478.8	478.6	478.3	478.1	476.6	473.7	470.9	468.1	465.2	463.1
62.5°	444.3	443.7	443.1	442.5	441.9	440.2	437.4	434.5	431.7	428.9	426.8
65°	390.2	389.0	387.8	386.7	385.5	383.7	381.3	379.0	376.7	374.4	372.4
67.5°	332.9	331.8	330.8	329.7	328.7	327.3	325.6	323.8	321.9	320.2	318.5
70°	298.2	296.8	295.4	294.0	292.6	291.1	289.7	288.3	286.9	285.5	283.9
72.5°	261.9	260.7	259.7	258.7	257.7	256.4	254.8	253.2	251.6	249.9	248.5
75°	206.2	205.2	204.3	203.4	202.5	201.6	200.9	200.2	199.4	198.8	197.6
77.5°	156.9	156.4	155.9	155.4	154.8	154.2	153.3	152.5	151.7	150.8	150.0
80°	124.8	124.1	123.4	122.7	122.0	121.4	120.9	120.5	120.0	119.5	119.3
82.5°	93.5	93.3	93.2	93.0	92.9	92.8	92.7	92.6	92.5	92.4	92.0
85°	54.9	54.5	54.0	53.6	53.1	52.9	52.9	52.9	52.9	52.9	52.4
87.5°	22.2	22.1	22.0	21.9	21.7	21.9	22.3	22.7	23.1	23.5	23.5
90°	1.0	3.3	5.6	7.9	10.1	12.7	15.7	18.7	21.6	24.5	25.4
92.5°	24.7	26.3	27.9	29.4	30.9	32.5	34.2	36.0	37.6	39.3	40.0
95°	60.4	61.9	63.5	65.1	66.8	68.5	70.3	72.1	73.9	75.7	76.6
97.5°	107.2	108.4	109.6	110.8	112.0	113.2	114.5	115.8	117.1	118.5	119.6
100°	139.2	140.5	141.9	143.2	144.6	145.8	147.0	148.1	149.3	150.4	151.1
102.5°	176.0	176.8	177.6	178.4	179.3	180.4	181.9	183.4	184.9	186.4	187.1
105°	230.2	230.7	231.2	231.6	232.1	233.3	235.3	237.3	239.4	241.5	241.5
107.5°	293.3	293.5	293.8	294.1	294.3	294.9	295.7	296.5	297.3	298.1	298.8
110°	332.5	333.0	333.5	333.9	334.4	334.8	335.3	335.7	336.2	336.6	337.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	373.4	373.8	374.0	374.3	374.6	374.7	374.8	374.9	375.0	375.1	376.2
115°	434.8	435.5	436.2	436.9	437.6	437.7	437.2	436.8	436.3	435.9	436.1
117.5°	496.7	497.1	497.6	498.0	498.5	498.4	497.8	497.2	496.6	496.0	495.9
120°	535.1	536.4	537.9	539.2	540.6	540.7	539.5	538.4	537.2	536.1	535.8
122.5°	575.2	576.2	577.2	578.1	579.2	579.4	578.9	578.2	577.6	577.0	576.4
125°	636.4	637.0	637.7	638.4	639.1	639.2	638.7	638.3	637.8	637.4	636.5
127.5°	692.9	694.3	695.8	697.2	698.6	699.1	698.6	698.1	697.6	697.1	695.9
130°	730.5	732.4	734.2	736.0	737.8	738.3	737.7	737.0	736.3	735.6	734.7
132.5°	768.1	769.9	771.7	773.7	775.5	776.1	775.6	775.1	774.6	774.1	773.0
135°	825.7	827.0	828.4	829.7	831.1	831.6	831.4	831.2	831.0	830.7	829.8
137.5°	878.9	880.0	881.1	882.2	883.4	884.2	884.8	885.4	886.1	886.7	885.7
140°	915.6	916.9	918.0	919.1	920.2	920.9	921.1	921.4	921.6	921.8	921.6
142.5°	949.3	950.4	951.5	952.6	953.8	954.5	954.9	955.3	955.8	956.2	955.9
145°	1001.6	1002.1	1002.5	1003.0	1003.4	1004.0	1004.7	1005.4	1006.0	1006.7	1006.5
147.5°	1047.4	1048.2	1049.0	1050.0	1050.8	1051.5	1052.1	1052.8	1053.4	1054.0	1054.0
150°	1079.3	1079.8	1080.3	1080.8	1081.2	1081.7	1082.1	1082.6	1083.0	1083.5	1083.5
152.5°	1105.6	1106.2	1106.8	1107.5	1108.1	1108.5	1108.8	1109.1	1109.4	1109.6	1110.0
155°	1146.9	1146.9	1146.9	1146.9	1146.9	1147.0	1147.2	1147.5	1147.7	1147.9	1148.8
157.5°	1182.1	1181.8	1181.5	1181.2	1181.0	1180.9	1181.1	1181.3	1181.5	1181.6	1182.7
160°	1204.2	1203.8	1203.3	1202.9	1202.3	1202.1	1202.1	1202.1	1202.1	1202.1	1203.3
162.5°	1223.9	1223.2	1222.5	1221.9	1221.3	1221.0	1221.2	1221.4	1221.6	1221.8	1222.9
165°	1249.2	1248.5	1247.9	1247.2	1246.5	1246.2	1246.2	1246.2	1246.2	1246.2	1247.5
167.5°	1269.5	1268.6	1267.7	1266.8	1265.9	1265.5	1265.7	1265.9	1266.1	1266.2	1267.6
170°	1280.9	1280.0	1279.1	1278.2	1277.3	1276.9	1276.9	1276.9	1276.9	1276.9	1278.4
172.5°	1289.9	1289.0	1288.1	1287.2	1286.3	1285.9	1285.9	1285.9	1285.9	1285.9	1287.3
175°	1299.4	1298.5	1297.6	1296.7	1295.8	1295.3	1295.3	1295.3	1295.3	1295.3	1296.7
177.5°	1303.2	1302.5	1301.8	1301.0	1300.3	1300.0	1300.0	1300.0	1300.0	1300.0	1301.0
180°	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8	1229.8
2.5°	1225.1	1227.0	1228.8	1229.7	1229.5	1229.3	1229.1	1228.9
5°	1218.6	1220.9	1223.4	1224.3	1223.8	1223.4	1222.8	1222.3
7.5°	1205.7	1207.8	1209.9	1210.8	1210.5	1210.2	1209.9	1209.7
10°	1193.9	1195.9	1198.0	1198.9	1198.4	1197.9	1197.5	1197.0
12.5°	1180.8	1182.3	1184.0	1184.6	1184.3	1184.0	1183.8	1183.5
15°	1157.4	1159.2	1161.1	1161.3	1159.9	1158.5	1157.2	1155.8
17.5°	1127.7	1129.0	1130.3	1130.7	1130.2	1129.7	1129.2	1128.7
20°	1105.8	1106.7	1107.7	1107.8	1107.1	1106.4	1105.7	1105.0
22.5°	1082.6	1083.4	1084.1	1084.0	1083.2	1082.3	1081.4	1080.5
25°	1044.1	1044.4	1044.6	1044.4	1043.7	1043.0	1042.3	1041.6
27.5°	1003.2	1003.4	1003.6	1003.2	1002.4	1001.5	1000.6	999.7
30°	974.9	974.9	974.9	974.1	972.5	970.8	969.2	967.6
32.5°	945.2	943.9	942.6	941.5	940.6	939.7	938.8	938.0
35°	897.1	895.6	894.2	892.9	891.7	890.6	889.4	888.2
37.5°	847.2	845.5	843.8	842.6	841.8	841.1	840.3	839.6
40°	814.7	812.8	810.9	809.5	808.6	807.6	806.7	805.8
42.5°	780.8	778.9	777.1	775.7	774.8	773.8	772.8	771.9
45°	730.3	727.5	724.7	722.7	721.5	720.3	719.1	718.0
47.5°	677.1	674.4	671.6	669.6	668.6	667.6	666.6	665.5
50°	642.0	639.3	636.8	634.8	633.4	632.0	630.6	629.1
52.5°	606.3	604.1	601.9	600.2	598.7	597.3	595.9	594.5
55°	552.1	549.5	546.9	545.0	543.8	542.7	541.5	540.4
57.5°	498.7	496.4	494.1	492.3	490.9	489.6	488.2	486.9
60°	461.0	458.9	456.8	455.1	453.9	452.8	451.6	450.5
62.5°	424.6	422.5	420.4	419.0	418.2	417.4	416.6	415.8
65°	370.5	368.7	366.8	365.5	364.8	364.1	363.3	362.6
67.5°	316.9	315.3	313.6	312.3	311.3	310.3	309.3	308.3
70°	282.3	280.5	278.9	277.5	276.3	275.2	274.0	272.8
72.5°	247.0	245.6	244.2	243.1	242.5	241.9	241.3	240.7
75°	196.4	195.3	194.1	193.2	192.5	191.8	191.1	190.4
77.5°	149.2	148.3	147.5	147.2	147.2	147.2	147.2	147.2
80°	119.1	118.8	118.6	118.5	118.5	118.5	118.5	118.5
82.5°	91.6	91.2	90.7	90.4	90.3	90.1	89.9	89.7
85°	51.9	51.5	51.0	50.8	50.8	50.8	50.8	50.8
87.5°	23.5	23.5	23.5	23.5	23.6	23.7	23.8	23.9
90°	26.4	27.3	28.2	28.9	29.3	29.8	30.2	30.7
92.5°	40.7	41.5	42.2	42.4	42.1	41.9	41.6	41.3
95°	77.6	78.5	79.4	79.8	79.8	79.8	79.8	79.8
97.5°	120.6	121.6	122.7	123.1	123.0	123.0	122.9	122.8
100°	151.8	152.5	153.1	153.7	154.1	154.6	155.0	155.5
102.5°	187.7	188.4	189.1	189.5	189.3	189.2	189.1	189.0
105°	241.5	241.5	241.5	241.7	242.2	242.6	243.1	243.5
107.5°	299.6	300.3	301.0	301.2	301.0	300.7	300.4	300.1
110°	338.4	339.3	340.2	340.4	340.0	339.5	339.1	338.6



TEST NUMBER: P332167-840

CATALOG NUMBER: S123DIW-S775D1030U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	377.3	378.3	379.4	379.9	379.8	379.7	379.7	379.6
115°	436.3	436.6	436.8	436.8	436.6	436.3	436.1	435.9
117.5°	495.9	495.8	495.8	495.4	494.8	494.2	493.5	492.9
120°	535.6	535.4	535.2	534.8	534.4	533.9	533.5	533.0
122.5°	575.8	575.2	574.7	574.0	573.4	572.8	572.2	571.5
125°	635.6	634.7	633.8	632.9	632.0	631.1	630.2	629.2
127.5°	694.6	693.4	692.1	690.8	689.8	688.8	687.7	686.7
130°	733.8	732.9	732.0	730.7	729.1	727.5	726.0	724.4
132.5°	771.9	770.8	769.7	768.6	767.3	766.1	764.9	763.7
135°	828.9	828.0	827.1	826.5	826.0	825.6	825.1	824.7
137.5°	884.7	883.7	882.8	881.9	881.0	880.2	879.3	878.5
140°	921.4	921.1	920.9	920.0	918.4	916.9	915.2	913.6
142.5°	955.7	955.5	955.3	954.5	953.3	952.1	950.9	949.7
145°	1006.3	1006.0	1005.8	1005.2	1004.3	1003.4	1002.5	1001.6
147.5°	1054.0	1054.0	1054.0	1053.3	1052.0	1050.6	1049.2	1047.8
150°	1083.5	1083.5	1083.5	1082.8	1081.5	1080.1	1078.7	1077.3
152.5°	1110.3	1110.8	1111.2	1110.8	1109.5	1108.3	1107.1	1106.0
155°	1149.7	1150.6	1151.5	1151.2	1149.6	1148.0	1146.5	1144.9
157.5°	1183.6	1184.6	1185.5	1185.4	1184.1	1182.9	1181.5	1180.2
160°	1204.5	1205.6	1206.7	1206.8	1205.9	1205.0	1204.1	1203.2
162.5°	1224.1	1225.2	1226.4	1226.2	1224.8	1223.2	1221.8	1220.3
165°	1248.9	1250.2	1251.6	1251.5	1249.9	1248.3	1246.7	1245.2
167.5°	1269.0	1270.4	1271.8	1271.8	1270.4	1269.0	1267.6	1266.2
170°	1280.0	1281.6	1283.2	1283.2	1281.6	1280.0	1278.4	1276.9
172.5°	1288.7	1290.1	1291.5	1291.4	1289.8	1288.2	1286.6	1285.1
175°	1298.0	1299.4	1300.7	1300.6	1299.0	1297.4	1295.9	1294.2
177.5°	1302.1	1303.2	1304.3	1304.2	1302.9	1301.7	1300.4	1299.2
180°	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4	1302.4

(END OF REPORT)