

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: P332160

Luminaire Tested: **S123DIW-S775D755U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332160
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-S775D755U835-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6192.0 lumens
Efficiency: N/A
Efficacy: 137.6 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

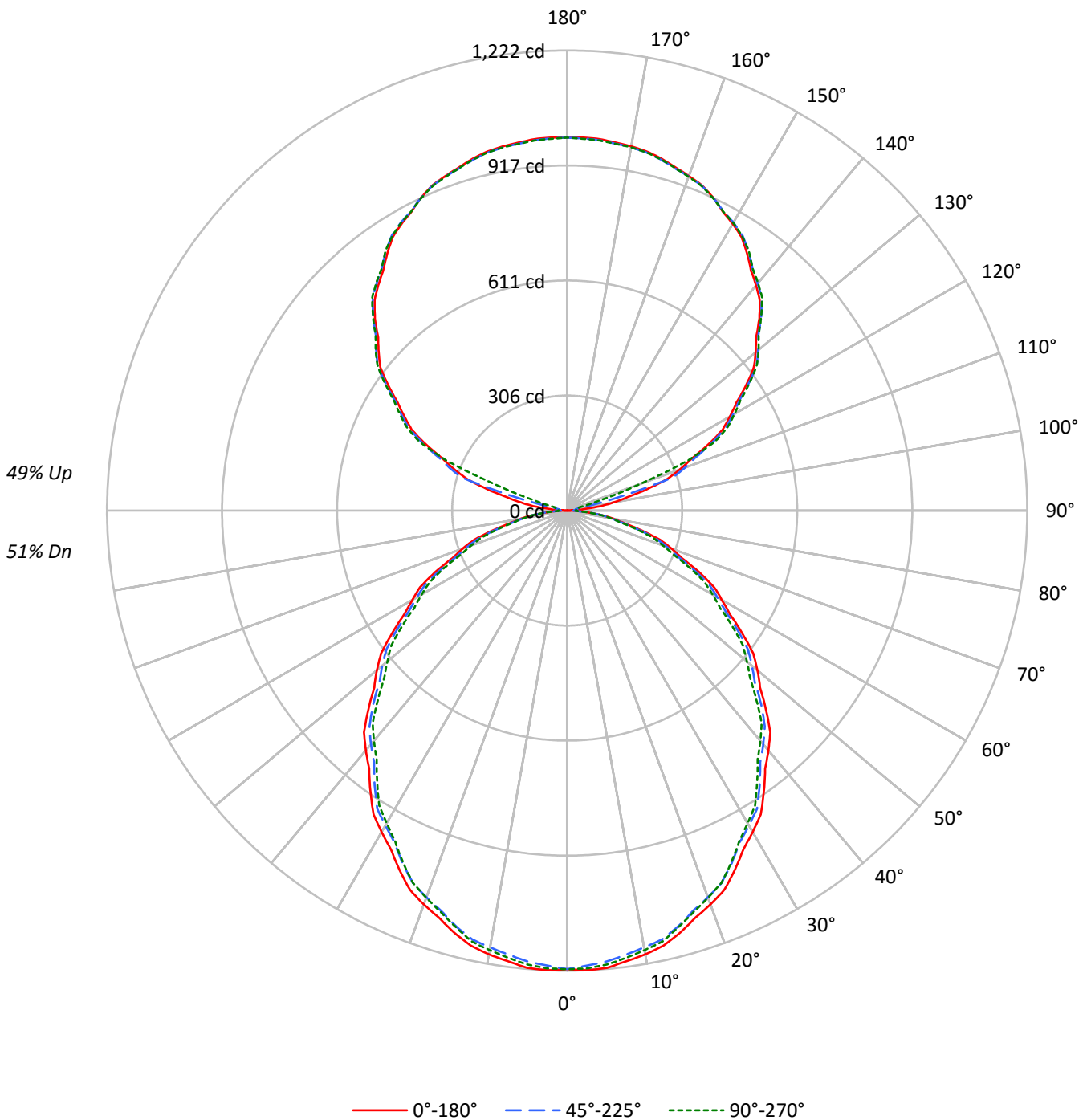
Input Watts (W): 45
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0		
RCR																										
0	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51					51			
1	98	94	90	86	90	87	83	80	74	71	69	62	60	58	50	49	48	43					43			
2	89	82	76	70	82	76	70	66	64	60	57	54	51	49	44	42	41	36					36			
3	81	72	64	59	75	67	60	55	57	52	48	48	44	41	39	37	34	30					30			
4	74	64	56	49	68	59	52	47	50	45	41	43	38	35	35	32	30	26					26			
5	68	57	48	42	63	53	45	40	45	39	35	38	34	30	32	28	26	23					23			
6	63	51	43	37	58	47	40	35	41	35	31	34	30	27	29	25	23	20					20			
7	58	46	38	32	54	43	36	30	37	31	27	31	27	24	26	23	20	18					18			
8	54	42	34	28	50	39	32	27	34	28	24	29	24	21	24	21	18	16					16			
9	50	38	30	25	46	36	29	24	31	25	21	26	22	19	22	19	16	14					14			
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	21	17	15	13					13			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13108	13108	13108
5°	13169	12988	13078
10°	13081	12875	12955
15°	12929	12730	12754
20°	12749	12521	12534
25°	12511	12275	12250
30°	12246	11999	11908
35°	11971	11709	11557
40°	11682	11387	11212
45°	11365	11094	10823
50°	11047	10731	10433
55°	10631	10355	10042
60°	10211	9918	9604
65°	9841	9442	9146
70°	9294	8897	8500
75°	8492	8189	7839
80°	7662	7333	7271
85°	6719	6472	6212



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.7	1.9
10°-20°	323.9	5.2
20°-30°	478.4	7.7
30°-40°	558.9	9.0
40°-50°	561.9	9.1
50°-60°	493.6	8.0
60°-70°	367.7	5.9
70°-80°	209.5	3.4
80°-90°	62.9	1.0
90°-100°	36.0	0.6
100°-110°	171.6	2.8
110°-120°	412.3	6.7
120°-130°	525.0	8.5
130°-140°	560.9	9.1
140°-150°	524.5	8.5
150°-160°	423.1	6.8
160°-170°	273.1	4.4
170°-180°	94.1	1.5
0°-30°	917.1	14.8
0°-40°	1475.9	23.8
0°-60°	2531.4	40.9
0°-90°	3171.5	51.2
90°-120°	619.9	10.0
90°-150°	2230.2	36.0
90°-180°	3020.0	48.8
0°-180°	6192.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1218	1218	1218	1218	1218	
5°	1219	1213	1202	1212	1210	115
15°	1160	1155	1142	1150	1144	327
25°	1053	1047	1034	1034	1031	485
35°	911	904	891	885	880	570
45°	747	742	729	717	711	576
55°	566	565	552	541	535	507
65°	386	381	371	363	359	381
75°	204	200	197	192	188	218
85°	54	52	52	50	50	60
90°	1	8	18	21	22	5
95°	45	17	23	28	28	55
105°	219	223	161	38	32	232
115°	411	416	422	430	433	406
125°	580	586	589	590	592	518
135°	722	726	729	731	729	555
145°	833	838	840	841	841	521
155°	918	916	917	920	916	423
165°	968	966	965	970	965	273
175°	990	987	988	992	987	94
180°	990	990	990	990	990	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8
2.5°	1221.9	1221.2	1220.5	1219.7	1219.0	1217.6	1215.5	1213.5	1211.4	1209.4	1211.2
5°	1218.8	1217.6	1216.5	1215.3	1214.1	1212.3	1209.7	1207.2	1204.6	1202.0	1204.4
7.5°	1206.9	1205.7	1204.5	1203.4	1202.2	1200.3	1197.6	1195.0	1192.3	1189.7	1191.8
10°	1196.8	1195.6	1194.5	1193.3	1192.2	1190.1	1187.0	1184.0	1181.0	1178.0	1180.1
12.5°	1183.4	1182.4	1181.5	1180.5	1179.5	1177.6	1174.8	1171.9	1169.1	1166.2	1167.8
15°	1160.2	1159.2	1158.3	1157.4	1156.4	1154.5	1151.4	1148.4	1145.4	1142.4	1144.2
17.5°	1133.1	1131.9	1130.7	1129.5	1128.3	1126.2	1123.2	1120.1	1117.1	1114.1	1115.4
20°	1113.0	1111.6	1110.3	1108.9	1107.5	1105.2	1102.2	1099.2	1096.2	1093.1	1094.1
22.5°	1090.4	1089.0	1087.6	1086.2	1084.8	1082.6	1079.6	1076.6	1073.6	1070.5	1071.3
25°	1053.4	1052.0	1050.6	1049.2	1047.8	1045.6	1042.5	1039.5	1036.5	1033.5	1033.7
27.5°	1013.8	1012.4	1011.1	1009.7	1008.4	1006.1	1002.8	999.6	996.3	993.0	993.2
30°	985.3	984.1	983.0	981.8	980.6	978.4	975.2	971.9	968.7	965.4	965.4
32.5°	956.8	955.3	953.7	952.2	950.7	948.7	946.1	943.6	941.1	938.6	937.3
35°	911.0	909.6	908.2	906.8	905.4	903.2	900.1	897.1	894.1	891.1	889.7
37.5°	864.0	862.3	860.5	858.7	857.0	854.6	851.5	848.4	845.3	842.3	840.6
40°	831.4	830.0	828.6	827.2	825.8	823.5	820.2	817.0	813.7	810.4	808.6
42.5°	798.7	797.1	795.5	794.0	792.4	790.0	786.7	783.4	780.2	776.9	775.1
45°	746.6	745.6	744.7	743.8	742.8	740.9	737.8	734.8	731.8	728.8	726.0
47.5°	694.8	693.5	692.1	690.8	689.4	687.3	684.5	681.7	678.8	676.0	673.2
50°	659.7	658.5	657.3	656.2	655.0	652.9	649.9	646.9	643.8	640.8	638.3
52.5°	622.8	622.0	621.2	620.4	619.6	617.6	614.4	611.2	608.0	604.8	602.6
55°	566.5	566.2	566.0	565.8	565.5	563.9	560.9	557.9	554.8	551.8	549.3
57.5°	512.9	512.1	511.3	510.5	509.7	508.1	505.7	503.2	500.8	498.4	496.1
60°	474.3	474.1	473.9	473.6	473.4	471.9	469.1	466.3	463.5	460.7	458.6
62.5°	440.0	439.4	438.8	438.2	437.6	435.9	433.1	430.3	427.5	424.7	422.6
65°	386.4	385.2	384.0	382.9	381.7	380.0	377.6	375.3	373.0	370.7	368.8
67.5°	329.6	328.6	327.6	326.5	325.5	324.1	322.4	320.6	318.8	317.1	315.4
70°	295.3	293.9	292.5	291.1	289.7	288.3	286.9	285.5	284.1	282.7	281.1
72.5°	259.3	258.2	257.2	256.2	255.2	253.9	252.3	250.7	249.1	247.5	246.1
75°	204.2	203.2	202.3	201.4	200.5	199.6	198.9	198.2	197.5	196.9	195.7
77.5°	155.4	154.9	154.4	153.9	153.3	152.7	151.8	151.0	150.2	149.3	148.5
80°	123.6	122.9	122.2	121.5	120.8	120.2	119.7	119.3	118.8	118.3	118.1
82.5°	92.6	92.4	92.3	92.1	92.0	91.9	91.8	91.7	91.6	91.5	91.1
85°	54.4	54.0	53.5	53.1	52.6	52.4	52.4	52.4	52.4	52.4	51.9
87.5°	21.9	21.7	21.5	21.2	21.0	21.0	21.2	21.5	21.7	22.0	21.9
90°	0.7	2.4	4.0	5.6	7.3	9.2	11.3	13.4	15.5	17.7	18.3
92.5°	13.7	13.2	12.8	12.3	11.9	12.4	14.0	15.6	17.2	18.8	19.9
95°	44.9	38.2	31.5	24.8	18.1	15.6	17.4	19.2	21.0	22.8	24.0
97.5°	90.2	87.2	84.2	81.2	78.2	70.8	59.0	47.2	35.5	23.7	25.0
100°	124.4	127.6	130.9	134.2	137.4	126.3	100.8	75.3	49.8	24.3	25.6
102.5°	163.2	165.6	167.9	170.3	172.6	159.9	132.0	104.1	76.3	48.4	44.4
105°	219.3	221.1	222.9	224.7	226.5	220.0	205.3	190.6	175.9	161.2	132.2
107.5°	278.4	279.9	281.3	282.8	284.2	286.1	288.4	290.7	293.1	295.4	274.1
110°	317.9	319.2	320.5	321.8	323.1	324.7	326.5	328.3	330.1	331.9	326.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	355.6	356.7	357.9	359.1	360.3	361.8	363.6	365.4	367.2	369.0	369.1
115°	411.3	412.3	413.3	414.3	415.3	416.5	418.0	419.4	420.9	422.4	424.0
117.5°	465.4	466.6	467.8	469.0	470.2	471.2	471.9	472.7	473.4	474.2	475.5
120°	498.9	500.4	501.9	503.3	504.8	505.8	506.3	506.8	507.3	507.7	509.1
122.5°	533.1	534.3	535.5	536.7	537.9	538.8	539.4	540.1	540.7	541.3	542.2
125°	579.9	581.2	582.5	583.8	585.1	586.1	586.7	587.4	588.0	588.7	589.0
127.5°	625.2	626.5	627.8	629.1	630.4	631.5	632.3	633.0	633.8	634.6	635.1
130°	653.4	654.8	656.1	657.4	658.7	659.7	660.3	661.0	661.6	662.3	662.9
132.5°	680.5	681.8	683.1	684.4	685.8	686.7	687.2	687.7	688.2	688.8	689.4
135°	721.9	722.9	723.8	724.8	725.8	726.6	727.3	727.9	728.6	729.2	729.7
137.5°	757.2	758.4	759.7	760.9	762.2	763.0	763.3	763.7	764.1	764.4	765.2
140°	780.7	781.7	782.7	783.7	784.7	785.4	785.9	786.4	786.9	787.4	788.0
142.5°	802.5	803.5	804.5	805.5	806.5	807.2	807.7	808.2	808.7	809.2	809.7
145°	833.0	834.1	835.3	836.4	837.6	838.3	838.6	839.0	839.3	839.6	839.9
147.5°	861.7	862.4	863.2	863.9	864.7	865.2	865.6	865.9	866.2	866.5	866.9
150°	879.4	879.8	880.3	880.8	881.3	881.7	882.1	882.4	882.7	883.0	883.4
152.5°	895.2	895.5	895.7	895.9	896.2	896.4	896.6	896.8	897.0	897.2	897.7
155°	917.6	917.3	917.0	916.6	916.3	916.2	916.4	916.6	916.7	916.9	917.7
157.5°	935.0	935.0	934.9	934.9	934.9	934.8	934.6	934.4	934.3	934.1	935.1
160°	945.6	945.4	945.3	945.1	944.9	944.8	944.6	944.4	944.3	944.1	945.1
162.5°	955.6	955.2	954.7	954.3	953.9	953.6	953.4	953.3	953.1	952.9	954.1
165°	967.7	967.2	966.7	966.2	965.7	965.4	965.2	965.0	964.9	964.7	966.0
167.5°	977.1	976.4	975.8	975.1	974.5	974.1	974.1	974.1	974.1	974.1	975.4
170°	982.4	981.7	981.1	980.4	979.8	979.4	979.4	979.4	979.4	979.4	980.7
172.5°	985.9	985.1	984.3	983.6	982.8	982.4	982.6	982.7	982.8	983.0	984.3
175°	990.5	989.6	988.8	988.0	987.2	986.9	987.0	987.2	987.4	987.5	988.7
177.5°	991.6	991.0	990.3	989.7	989.0	988.8	988.9	989.0	989.2	989.3	990.3
180°	990.5	990.5	990.5	990.5	990.5	990.5	990.5	990.5	990.5	990.5	990.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8	1217.8
2.5°	1213.1	1215.0	1216.8	1217.7	1217.5	1217.3	1217.1	1216.9
5°	1206.7	1209.0	1211.4	1212.3	1211.8	1211.4	1210.9	1210.4
7.5°	1193.9	1196.0	1198.1	1199.0	1198.7	1198.4	1198.1	1197.9
10°	1182.2	1184.2	1186.3	1187.2	1186.7	1186.2	1185.8	1185.3
12.5°	1169.3	1170.8	1172.4	1173.0	1172.7	1172.4	1172.2	1171.9
15°	1146.1	1147.9	1149.8	1150.0	1148.6	1147.2	1145.9	1144.5
17.5°	1116.7	1118.0	1119.3	1119.7	1119.2	1118.7	1118.2	1117.7
20°	1095.0	1095.9	1096.9	1097.0	1096.3	1095.6	1094.9	1094.2
22.5°	1072.0	1072.8	1073.5	1073.4	1072.6	1071.7	1070.8	1069.9
25°	1033.9	1034.2	1034.4	1034.2	1033.5	1032.8	1032.1	1031.4
27.5°	993.4	993.6	993.8	993.4	992.6	991.7	990.8	989.9
30°	965.4	965.4	965.4	964.6	963.0	961.3	959.7	958.1
32.5°	936.0	934.7	933.4	932.3	931.4	930.5	929.6	928.8
35°	888.3	886.9	885.5	884.2	883.0	881.9	880.7	879.5
37.5°	838.9	837.2	835.6	834.4	833.6	832.9	832.1	831.4
40°	806.7	804.9	803.0	801.6	800.7	799.7	798.8	797.9
42.5°	773.2	771.3	769.5	768.1	767.2	766.2	765.3	764.4
45°	723.2	720.4	717.6	715.6	714.5	713.3	712.1	711.0
47.5°	670.5	667.8	665.0	663.1	662.1	661.1	660.1	659.0
50°	635.7	633.1	630.6	628.6	627.2	625.8	624.4	623.0
52.5°	600.4	598.2	596.0	594.3	592.9	591.5	590.1	588.7
55°	546.7	544.1	541.6	539.7	538.5	537.4	536.2	535.1
57.5°	493.8	491.6	489.3	487.5	486.1	484.8	483.4	482.1
60°	456.5	454.4	452.3	450.7	449.5	448.4	447.2	446.1
62.5°	420.5	418.4	416.3	414.9	414.1	413.3	412.5	411.7
65°	366.9	365.1	363.2	361.9	361.2	360.5	359.8	359.1
67.5°	313.8	312.2	310.5	309.2	308.3	307.3	306.3	305.3
70°	279.5	277.8	276.2	274.8	273.6	272.5	271.3	270.1
72.5°	244.6	243.2	241.8	240.7	240.1	239.5	238.9	238.3
75°	194.5	193.4	192.2	191.3	190.6	189.9	189.2	188.5
77.5°	147.7	146.9	146.1	145.8	145.8	145.8	145.8	145.8
80°	117.9	117.6	117.4	117.3	117.3	117.3	117.3	117.3
82.5°	90.7	90.3	89.8	89.5	89.4	89.2	89.0	88.8
85°	51.4	51.0	50.5	50.3	50.3	50.3	50.3	50.3
87.5°	21.9	21.8	21.7	21.7	21.8	21.9	21.9	22.0
90°	19.0	19.6	20.3	20.8	21.1	21.4	21.7	22.1
92.5°	20.9	22.0	23.0	23.6	23.8	24.0	24.2	24.4
95°	25.1	26.2	27.4	28.0	28.0	28.0	28.0	28.0
97.5°	26.3	27.6	28.9	29.7	29.8	30.0	30.2	30.3
100°	26.9	28.2	29.5	30.3	30.4	30.6	30.7	30.9
102.5°	40.3	36.3	32.2	30.3	30.6	30.9	31.2	31.5
105°	103.3	74.3	45.4	31.1	31.4	31.7	32.1	32.4
107.5°	252.9	231.7	210.5	189.0	167.1	145.3	123.5	101.7
110°	321.1	315.7	310.3	295.9	272.5	249.1	225.7	202.4



TEST NUMBER: P332160

CATALOG NUMBER: S123DIW-S775D755U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	369.2	369.3	369.4	366.9	362.0	357.1	352.1	347.2
115°	425.7	427.3	428.9	430.1	430.7	431.4	432.0	432.7
117.5°	476.8	478.1	479.4	480.1	480.3	480.4	480.5	480.7
120°	510.4	511.7	513.0	513.6	513.6	513.6	513.6	513.6
122.5°	543.1	544.0	545.0	545.5	545.6	545.7	545.9	546.0
125°	589.3	589.7	590.0	590.3	590.7	591.0	591.3	591.6
127.5°	635.7	636.2	636.7	636.8	636.5	636.1	635.8	635.5
130°	663.6	664.2	664.9	665.1	664.7	664.4	664.1	663.7
132.5°	690.1	690.7	691.4	691.5	691.0	690.6	690.1	689.6
135°	730.2	730.7	731.2	731.2	730.7	730.2	729.7	729.2
137.5°	766.0	766.8	767.6	767.8	767.5	767.1	766.8	766.5
140°	788.7	789.3	790.0	790.2	789.8	789.5	789.2	788.8
142.5°	810.2	810.7	811.2	811.3	810.8	810.4	809.9	809.4
145°	840.3	840.6	840.9	841.1	841.1	841.1	841.1	841.1
147.5°	867.2	867.5	867.9	867.6	866.9	866.1	865.4	864.6
150°	883.7	884.0	884.3	884.3	883.8	883.3	882.8	882.3
152.5°	898.3	898.9	899.5	899.4	898.7	897.9	897.2	896.4
155°	918.5	919.3	920.2	920.1	919.1	918.1	917.1	916.1
157.5°	936.1	937.0	938.0	937.9	936.6	935.3	934.1	932.8
160°	946.1	947.1	948.0	948.0	946.8	945.7	944.5	943.4
162.5°	955.2	956.3	957.4	957.4	956.4	955.4	954.4	953.4
165°	967.3	968.6	969.9	970.0	968.9	967.7	966.6	965.4
167.5°	976.7	978.1	979.4	979.4	978.1	976.7	975.4	974.1
170°	982.0	983.4	984.7	984.7	983.4	982.0	980.7	979.4
172.5°	985.6	986.9	988.2	988.1	986.7	985.3	983.8	982.4
175°	989.8	991.0	992.1	992.0	990.7	989.4	988.1	986.8
177.5°	991.4	992.4	993.5	993.3	992.0	990.7	989.4	988.1
180°	990.5	990.5	990.5	990.5	990.5	990.5	990.5	990.5

(END OF REPORT)