

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: P332327-927

Luminaire Tested: **S123RDIP-S775D1195U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332327-927  
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: S123RDIP-S775D1195U927-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1195 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6091.7 lumens  
Efficiency: N/A  
Efficacy: 107.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

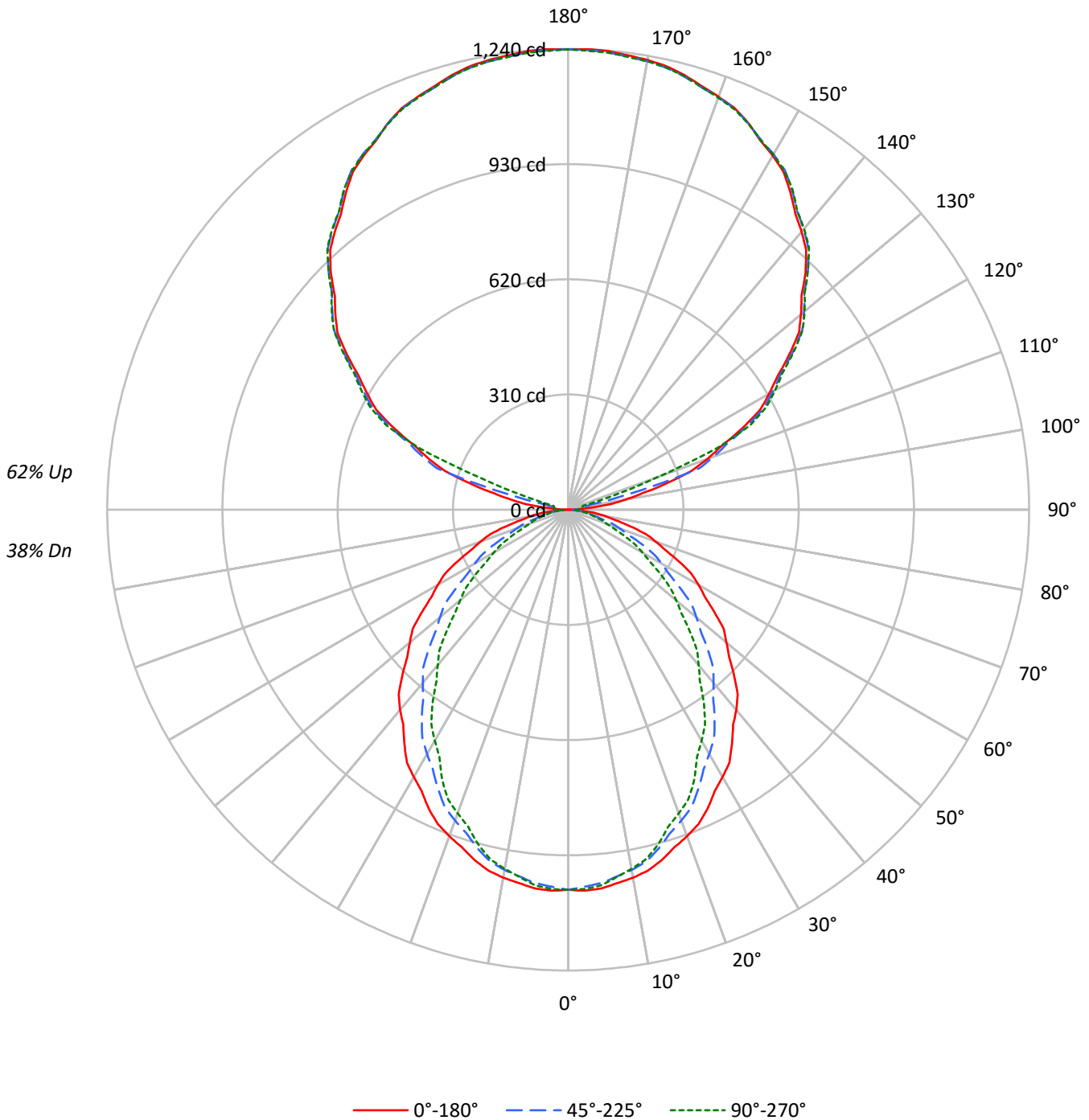
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	104	104	104	104	95	95	95	95	77	77	77	60	60	60	45	45	45	38
1	95	91	87	84	86	83	80	77	67	65	63	53	52	51	40	39	39	32
2	87	80	74	69	79	73	68	63	59	56	53	47	45	43	36	34	33	28
3	79	70	63	58	72	64	58	53	53	48	45	42	39	36	32	30	28	24
4	73	62	55	49	66	57	50	45	47	42	38	37	34	31	29	26	24	20
5	67	56	48	42	60	51	44	39	42	37	33	34	30	27	26	23	21	18
6	62	50	42	36	56	46	39	34	38	33	29	30	27	24	23	21	19	16
7	57	45	37	32	52	41	35	30	34	29	25	28	24	21	21	19	17	14
8	53	41	33	28	48	38	31	26	31	26	23	25	22	19	20	17	15	13
9	49	37	30	25	45	34	28	23	29	24	20	23	20	17	18	16	14	12
10	46	34	27	22	42	31	25	21	26	21	18	21	18	15	17	14	12	10

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

	0°	45°	90°
0°	11009	11009	11009
5°	11051	10899	10962
10°	10989	10762	10726
15°	10871	10510	10399
20°	10709	10195	9958
25°	10542	9841	9526
30°	10320	9434	8918
35°	10093	9025	8360
40°	9884	8543	7669
45°	9608	8068	7046
50°	9306	7529	6348
55°	8997	6912	5697
60°	8714	6250	4982
65°	8344	5535	4266
70°	7884	4648	3446
75°	7207	3656	3244
80°	6428	3242	2982
85°	5434	2865	2655



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.0	1.6
10°-20°	267.2	4.4
20°-30°	384.8	6.3
30°-40°	433.4	7.1
40°-50°	414.6	6.8
50°-60°	339.6	5.6
60°-70°	229.1	3.8
70°-80°	115.3	1.9
80°-90°	34.0	0.6
90°-100°	45.0	0.7
100°-110°	214.7	3.5
110°-120°	515.6	8.5
120°-130°	656.6	10.8
130°-140°	701.5	11.5
140°-150°	656.0	10.8
150°-160°	529.2	8.7
160°-170°	341.5	5.6
170°-180°	117.7	1.9
0°-30°	748.0	12.3
0°-40°	1181.5	19.4
0°-60°	1935.6	31.8
0°-90°	2313.9	38.0
90°-120°	775.3	12.7
90°-150°	2789.4	45.8
90°-180°	3778.0	62.0
0°-180°	6091.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1023	1023	1023	1023	1023	
5°	1023	1018	1009	1016	1014	97
15°	976	966	943	939	933	275
25°	888	866	829	812	802	408
35°	768	737	687	652	636	481
45°	631	592	530	484	463	487
55°	479	437	368	322	304	430
65°	328	281	217	178	168	324
75°	173	133	88	80	78	185
85°	44	27	23	22	22	49
90°	1	10	22	26	28	5
95°	56	21	28	35	35	69
105°	274	279	202	48	40	291
115°	514	520	528	537	541	508
125°	725	732	736	738	740	647
135°	903	908	912	915	912	695
145°	1042	1048	1050	1052	1052	652
155°	1148	1146	1147	1151	1146	529
165°	1210	1208	1207	1213	1208	342
175°	1239	1234	1235	1241	1234	118
180°	1239	1239	1239	1239	1239	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8
2.5°	1026.0	1025.5	1024.8	1024.3	1023.7	1022.5	1020.7	1019.0	1017.2	1015.4	1017.1
5°	1022.8	1021.8	1020.9	1020.0	1019.1	1017.5	1015.3	1013.0	1010.8	1008.7	1010.3
7.5°	1013.3	1012.3	1011.3	1010.3	1009.3	1007.3	1004.5	1001.6	998.8	995.9	996.8
10°	1005.4	1004.0	1002.7	1001.5	1000.1	997.8	994.5	991.3	987.9	984.6	984.8
12.5°	994.0	992.6	991.2	989.8	988.3	985.6	981.5	977.5	973.4	969.3	969.2
15°	975.5	973.4	971.4	969.4	967.3	963.8	958.6	953.5	948.2	943.1	942.2
17.5°	952.0	949.7	947.4	945.0	942.6	938.2	931.6	925.0	918.5	912.0	910.0
20°	934.9	931.8	928.9	926.0	923.1	918.1	911.0	904.0	897.1	890.0	887.6
22.5°	915.6	912.2	908.8	905.4	902.0	896.6	889.1	881.7	874.3	866.8	863.8
25°	887.6	883.0	878.3	873.7	869.1	862.5	854.1	845.6	837.1	828.6	824.7
27.5°	853.5	848.4	843.4	838.3	833.2	825.9	816.5	807.1	797.6	788.1	782.8
30°	830.3	824.7	819.3	813.7	808.2	800.3	790.0	779.6	769.3	759.0	752.7
32.5°	807.1	800.8	794.6	788.3	782.0	773.4	762.5	751.6	740.7	729.8	722.9
35°	768.1	761.4	754.8	748.2	741.6	732.5	721.1	709.6	698.2	686.8	678.9
37.5°	728.6	721.2	713.8	706.5	699.1	689.4	677.2	665.0	652.8	640.6	631.5
40°	703.4	695.3	687.1	679.1	671.0	660.4	647.3	634.2	621.1	608.0	598.4
42.5°	674.9	666.8	658.6	650.5	642.5	631.6	618.1	604.5	591.0	577.5	567.0
45°	631.2	623.0	614.7	606.3	598.0	586.8	572.6	558.4	544.2	530.0	519.5
47.5°	587.6	578.5	569.4	560.3	551.2	539.6	525.4	511.1	496.9	482.8	471.3
50°	555.7	547.1	538.4	529.7	521.1	509.3	494.4	479.4	464.5	449.6	438.2
52.5°	527.2	517.8	508.4	499.0	489.6	477.5	462.7	448.0	433.2	418.4	406.5
55°	479.4	470.4	461.4	452.3	443.3	430.9	415.3	399.7	384.0	368.3	357.6
57.5°	435.3	425.5	415.7	405.8	395.9	383.2	367.4	351.6	335.9	320.2	310.1
60°	404.8	394.7	384.5	374.4	364.2	351.5	336.2	320.9	305.6	290.3	280.4
62.5°	374.2	364.1	353.9	343.8	333.7	321.0	305.7	290.4	275.1	259.8	250.4
65°	327.6	317.5	307.4	297.2	287.1	274.8	260.5	246.1	231.7	217.3	208.3
67.5°	281.1	270.8	260.5	250.3	240.0	228.0	214.2	200.4	186.6	172.9	166.1
70°	250.5	240.6	230.6	220.6	210.7	199.2	186.3	173.5	160.6	147.7	141.2
72.5°	220.0	210.2	200.3	190.5	180.8	170.0	158.3	146.6	134.8	123.1	117.8
75°	173.3	164.5	155.7	146.8	138.0	128.5	118.4	108.2	98.1	87.9	86.1
77.5°	130.9	122.9	114.9	106.9	98.9	91.7	85.1	78.6	72.1	65.5	64.6
80°	103.7	96.1	88.6	81.0	73.4	67.7	63.8	60.0	56.2	52.3	51.7
82.5°	77.8	71.3	64.7	58.2	51.7	47.5	45.7	43.9	42.1	40.3	39.8
85°	44.0	39.9	35.9	31.8	27.7	25.4	24.9	24.3	23.8	23.2	22.9
87.5°	16.1	14.9	13.7	12.4	11.2	10.9	11.5	12.0	12.5	13.1	13.1
90°	1.0	2.9	5.0	7.1	9.1	11.5	14.1	16.8	19.4	22.1	22.9
92.5°	17.1	16.6	16.0	15.4	14.8	15.5	17.6	19.6	21.5	23.5	24.9
95°	56.2	47.8	39.4	31.0	22.6	19.6	21.8	24.0	26.3	28.5	29.9
97.5°	112.8	109.1	105.3	101.6	97.8	88.6	73.8	59.1	44.4	29.6	31.3
100°	155.5	159.6	163.7	167.8	171.9	158.0	126.1	94.2	62.3	30.3	32.0
102.5°	204.1	207.1	210.0	212.9	215.9	199.9	165.1	130.2	95.4	60.5	55.5
105°	274.3	276.6	278.8	281.0	283.3	275.2	256.7	238.4	220.0	201.5	165.3
107.5°	348.2	350.1	351.9	353.6	355.5	357.8	360.8	363.6	366.5	369.5	342.9
110°	397.6	399.3	400.8	402.5	404.2	406.1	408.4	410.6	412.8	415.1	408.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	444.7	446.2	447.7	449.2	450.6	452.5	454.7	457.0	459.2	461.4	461.6
115°	514.5	515.7	516.9	518.2	519.4	520.9	522.8	524.6	526.5	528.3	530.4
117.5°	582.0	583.5	585.0	586.6	588.1	589.3	590.3	591.2	592.2	593.1	594.7
120°	624.0	625.8	627.7	629.5	631.4	632.6	633.2	633.8	634.5	635.0	636.7
122.5°	666.7	668.2	669.7	671.2	672.8	673.9	674.7	675.5	676.2	677.0	678.2
125°	725.2	726.9	728.5	730.2	731.8	733.0	733.8	734.7	735.5	736.3	736.7
127.5°	782.0	783.5	785.2	786.9	788.5	789.8	790.8	791.8	792.7	793.7	794.4
130°	817.3	819.0	820.5	822.2	823.8	825.1	825.9	826.7	827.5	828.3	829.2
132.5°	851.1	852.8	854.4	856.0	857.7	858.8	859.5	860.2	860.8	861.5	862.3
135°	902.9	904.1	905.3	906.6	907.8	908.8	909.7	910.5	911.2	912.1	912.7
137.5°	947.1	948.6	950.1	951.7	953.3	954.3	954.7	955.2	955.6	956.1	957.0
140°	976.5	977.7	979.0	980.2	981.4	982.3	982.9	983.6	984.2	984.8	985.6
142.5°	1003.8	1005.0	1006.2	1007.4	1008.7	1009.6	1010.2	1010.8	1011.5	1012.0	1012.7
145°	1041.9	1043.3	1044.7	1046.2	1047.6	1048.5	1048.9	1049.3	1049.7	1050.1	1050.5
147.5°	1077.8	1078.7	1079.7	1080.5	1081.5	1082.2	1082.6	1083.0	1083.4	1083.8	1084.3
150°	1099.9	1100.4	1101.1	1101.7	1102.3	1102.8	1103.2	1103.6	1104.1	1104.5	1104.9
152.5°	1119.7	1120.0	1120.3	1120.5	1120.9	1121.1	1121.3	1121.7	1121.9	1122.1	1122.8
155°	1147.7	1147.3	1146.8	1146.4	1146.1	1146.0	1146.1	1146.4	1146.6	1146.8	1147.8
157.5°	1169.4	1169.3	1169.3	1169.3	1169.3	1169.1	1168.9	1168.7	1168.5	1168.3	1169.6
160°	1182.6	1182.5	1182.3	1182.1	1181.9	1181.6	1181.5	1181.2	1181.1	1180.8	1182.1
162.5°	1195.2	1194.7	1194.1	1193.6	1193.0	1192.7	1192.5	1192.3	1192.1	1191.8	1193.3
165°	1210.3	1209.7	1209.0	1208.5	1207.8	1207.4	1207.2	1207.0	1206.8	1206.6	1208.2
167.5°	1222.1	1221.2	1220.4	1219.6	1218.8	1218.4	1218.4	1218.4	1218.4	1218.4	1220.0
170°	1228.7	1227.9	1227.1	1226.2	1225.4	1225.0	1225.0	1225.0	1225.0	1225.0	1226.6
172.5°	1233.1	1232.2	1231.1	1230.2	1229.2	1228.8	1228.9	1229.1	1229.2	1229.4	1231.1
175°	1238.8	1237.8	1236.8	1235.7	1234.7	1234.3	1234.5	1234.7	1234.9	1235.1	1236.6
177.5°	1240.3	1239.4	1238.7	1237.9	1237.0	1236.7	1236.8	1237.0	1237.2	1237.3	1238.7
180°	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8
2.5°	1018.7	1020.3	1021.9	1022.6	1022.3	1022.0	1021.7	1021.4
5°	1011.9	1013.6	1015.3	1015.9	1015.6	1015.2	1014.8	1014.5
7.5°	997.8	998.6	999.6	999.7	999.1	998.5	997.8	997.2
10°	985.0	985.2	985.3	985.0	984.0	983.1	982.2	981.3
12.5°	969.1	969.0	968.9	968.3	967.3	966.1	965.1	964.0
15°	941.3	940.3	939.4	938.3	937.1	935.7	934.5	933.2
17.5°	908.0	906.1	904.1	902.2	900.2	898.3	896.4	894.5
20°	885.3	882.8	880.4	878.1	875.9	873.7	871.5	869.3
22.5°	860.9	857.9	854.8	852.3	850.2	848.2	846.1	844.1
25°	820.9	817.1	813.2	810.2	808.2	806.1	804.1	802.1
27.5°	777.4	772.1	766.7	762.4	759.3	756.2	753.1	750.0
30°	746.5	740.1	733.9	729.3	726.4	723.4	720.4	717.5
32.5°	716.1	709.2	702.3	697.4	694.3	691.2	688.1	685.0
35°	671.0	663.1	655.1	649.5	646.2	642.9	639.5	636.2
37.5°	622.5	613.5	604.5	598.0	593.9	589.8	585.7	581.6
40°	588.8	579.2	569.7	562.8	558.5	554.3	550.0	545.8
42.5°	556.5	546.1	535.6	528.5	524.7	520.9	517.1	513.3
45°	509.1	498.5	488.0	480.5	476.1	471.7	467.3	462.9
47.5°	459.9	448.5	437.0	429.4	425.4	421.4	417.6	413.6
50°	426.7	415.3	403.9	396.0	391.8	387.5	383.3	379.1
52.5°	394.7	382.8	370.9	363.1	359.3	355.5	351.6	347.8
55°	346.9	336.2	325.5	318.3	314.7	310.9	307.3	303.6
57.5°	300.0	289.9	279.8	273.1	270.1	266.9	263.7	260.6
60°	270.4	260.5	250.5	244.0	240.8	237.7	234.6	231.4
62.5°	241.1	231.7	222.4	216.0	212.7	209.5	206.2	202.9
65°	199.2	190.2	181.2	175.6	173.6	171.6	169.6	167.5
67.5°	159.4	152.7	145.8	141.4	139.3	137.0	134.9	132.7
70°	134.8	128.3	121.8	117.6	115.6	113.5	111.5	109.5
72.5°	112.6	107.3	102.0	98.9	98.1	97.3	96.4	95.5
75°	84.2	82.4	80.6	79.5	79.1	78.7	78.3	78.0
77.5°	63.5	62.5	61.6	60.8	60.5	60.1	59.7	59.4
80°	51.2	50.6	50.1	49.6	49.2	48.9	48.5	48.1
82.5°	39.2	38.7	38.1	37.8	37.7	37.6	37.5	37.5
85°	22.5	22.1	21.8	21.5	21.5	21.5	21.5	21.5
87.5°	13.1	13.1	13.1	13.1	13.0	13.0	12.9	12.8
90°	23.7	24.6	25.3	26.0	26.4	26.8	27.2	27.6
92.5°	26.1	27.5	28.8	29.5	29.8	30.1	30.3	30.6
95°	31.4	32.8	34.2	34.9	34.9	34.9	34.9	34.9
97.5°	32.9	34.5	36.2	37.1	37.3	37.5	37.7	37.9
100°	33.7	35.3	36.9	37.9	38.0	38.3	38.4	38.7
102.5°	50.4	45.3	40.2	37.9	38.3	38.7	39.1	39.4
105°	129.1	92.9	56.7	38.9	39.3	39.7	40.1	40.5
107.5°	316.3	289.8	263.2	236.3	209.1	181.7	154.5	127.2
110°	401.6	394.8	388.1	370.1	340.9	311.6	282.3	253.1





TEST NUMBER: P332327-927

CATALOG NUMBER: S123RDIP-S775D1195U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	461.7	461.8	462.0	458.9	452.7	446.6	440.4	434.2
115°	532.3	534.4	536.5	537.9	538.7	539.6	540.3	541.1
117.5°	596.4	598.0	599.6	600.6	600.7	600.9	601.0	601.2
120°	638.3	639.9	641.6	642.4	642.4	642.4	642.4	642.4
122.5°	679.3	680.5	681.6	682.2	682.4	682.5	682.8	682.9
125°	737.1	737.5	737.9	738.3	738.7	739.2	739.6	740.0
127.5°	795.0	795.7	796.3	796.5	796.1	795.7	795.3	794.8
130°	830.0	830.8	831.6	831.8	831.4	831.0	830.6	830.2
132.5°	863.1	864.0	864.7	864.8	864.3	863.7	863.2	862.5
135°	913.3	913.9	914.6	914.6	913.9	913.3	912.7	912.1
137.5°	958.1	959.0	960.0	960.3	959.9	959.5	959.1	958.6
140°	986.4	987.2	988.1	988.2	987.9	987.5	987.1	986.7
142.5°	1013.4	1014.0	1014.6	1014.7	1014.2	1013.5	1013.0	1012.4
145°	1051.0	1051.4	1051.8	1051.9	1051.9	1051.9	1051.9	1051.9
147.5°	1084.7	1085.1	1085.4	1085.2	1084.3	1083.3	1082.4	1081.4
150°	1105.3	1105.6	1106.0	1106.0	1105.3	1104.8	1104.1	1103.5
152.5°	1123.6	1124.3	1125.1	1125.0	1124.0	1123.1	1122.1	1121.2
155°	1148.8	1149.9	1150.9	1150.7	1149.5	1148.3	1147.1	1145.9
157.5°	1170.8	1172.0	1173.2	1173.1	1171.5	1169.8	1168.2	1166.6
160°	1183.3	1184.5	1185.7	1185.7	1184.2	1182.8	1181.3	1179.9
162.5°	1194.7	1196.0	1197.5	1197.5	1196.2	1194.9	1193.7	1192.4
165°	1209.9	1211.5	1213.1	1213.2	1211.8	1210.4	1208.9	1207.5
167.5°	1221.6	1223.3	1225.0	1225.0	1223.3	1221.6	1220.0	1218.4
170°	1228.3	1229.9	1231.5	1231.5	1229.9	1228.3	1226.6	1225.0
172.5°	1232.7	1234.3	1236.0	1235.9	1234.1	1232.3	1230.5	1228.7
175°	1238.0	1239.4	1240.9	1240.7	1239.1	1237.5	1235.9	1234.2
177.5°	1239.9	1241.3	1242.5	1242.4	1240.8	1239.1	1237.5	1235.9
180°	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8

(END OF REPORT)