

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: P332448-927

Luminaire Tested: **S123RDIW-S775D1535U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332448-927  
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: S123RDIW-S775D1535U927-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1535 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7176.1 lumens  
Efficiency: N/A  
Efficacy: 105.4 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

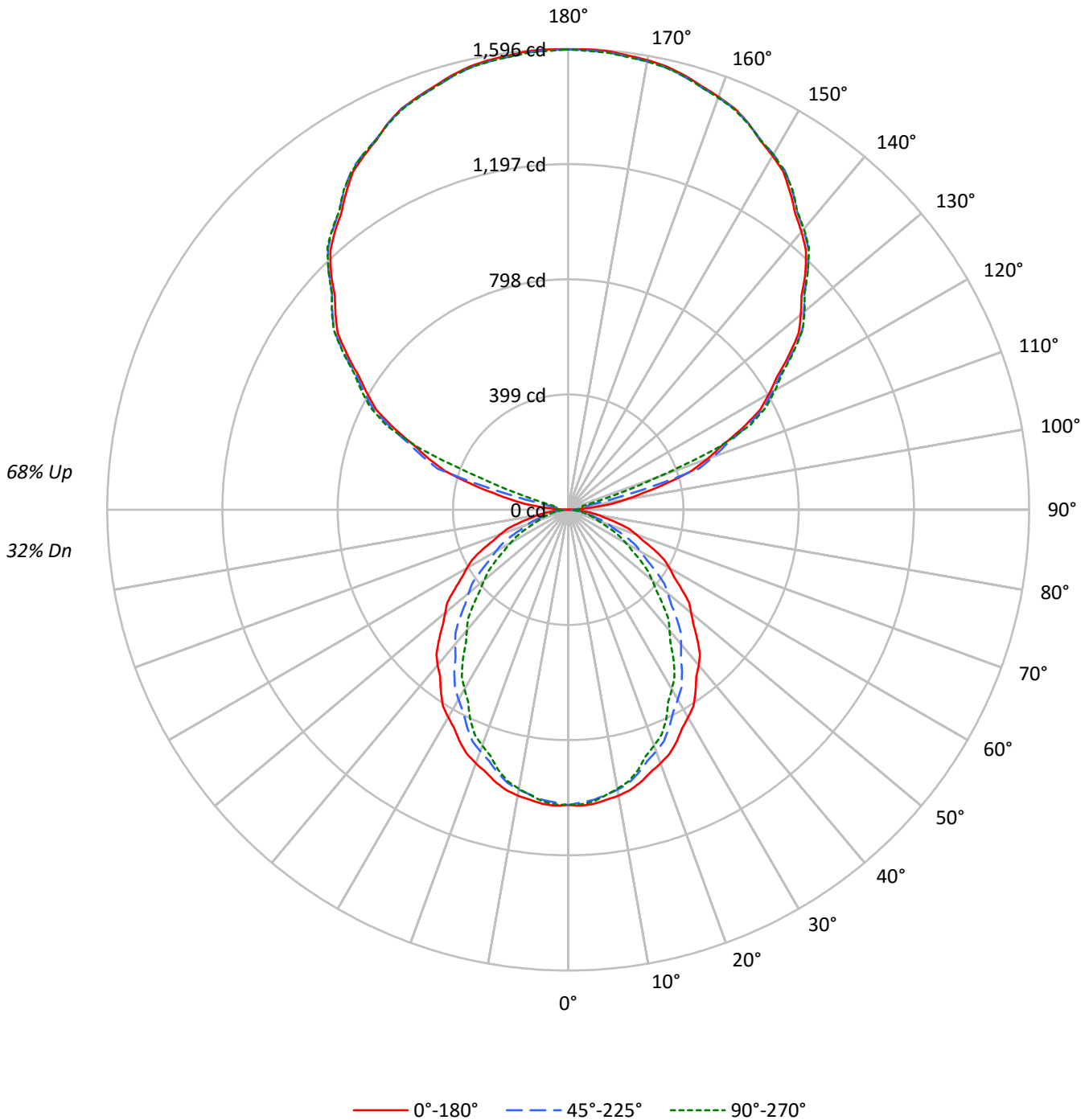
Input Watts (W): 68.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	73	73	73	56	56	56	40	40	40	32
1	94	90	86	83	85	81	78	75	65	62	61	49	48	47	35	35	34	28
2	86	79	73	68	77	71	66	62	57	53	50	44	41	39	31	30	29	23
3	78	69	62	57	70	63	57	52	50	46	43	39	36	34	28	26	25	20
4	72	61	54	48	64	56	49	44	45	40	36	35	31	29	25	23	22	17
5	66	55	47	41	59	50	43	38	40	35	31	31	28	25	23	21	19	15
6	61	49	41	36	54	44	38	33	36	31	27	28	25	22	21	18	17	13
7	56	44	36	31	50	40	33	29	33	28	24	26	22	19	19	17	15	12
8	52	40	33	27	47	36	30	25	30	25	21	23	20	17	17	15	13	11
9	48	36	29	24	43	33	27	23	27	22	19	21	18	15	16	14	12	10
10	45	33	26	22	41	30	24	20	25	20	17	20	16	14	15	13	11	9

**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	1.3
10°-20°	267.2	3.7
20°-30°	384.8	5.4
30°-40°	433.4	6.0
40°-50°	414.6	5.8
50°-60°	339.6	4.7
60°-70°	229.1	3.2
70°-80°	115.3	1.6
80°-90°	34.9	0.5
90°-100°	58.0	0.8
100°-110°	276.2	3.8
110°-120°	663.5	9.2
120°-130°	844.9	11.8
130°-140°	902.7	12.6
140°-150°	844.1	11.8
150°-160°	680.9	9.5
160°-170°	439.5	6.1
170°-180°	151.5	2.1
0°-30°	748.0	10.4
0°-40°	1181.5	16.5
0°-60°	1935.6	27.0
0°-90°	2314.9	32.3
90°-120°	997.6	13.9
90°-150°	3589.3	50.0
90°-180°	4861.0	67.7
0°-180°	7176.1	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	13	28	33	36	6
95°	72	27	37	44	45	89
105°	353	359	259	62	52	374
115°	662	669	680	691	696	653
125°	933	942	948	950	952	833
135°	1162	1169	1174	1177	1174	894
145°	1341	1349	1351	1354	1354	839
155°	1477	1475	1476	1481	1474	680
165°	1557	1554	1553	1561	1554	440
175°	1594	1588	1589	1597	1588	152
180°	1594	1594	1594	1594	1594	



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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°	16.2	15.1	13.9	12.9	11.8	11.6	12.3	12.9	13.6	14.3	14.3
90°	1.2	3.8	6.4	9.1	11.7	14.7	18.1	21.5	25.0	28.4	29.5
92.5°	22.0	21.3	20.5	19.8	19.1	20.0	22.6	25.2	27.7	30.3	32.0
95°	72.2	61.5	50.7	39.8	29.1	25.1	28.0	30.9	33.8	36.7	38.6
97.5°	145.2	140.4	135.5	130.6	125.8	113.9	95.0	76.0	57.1	38.1	40.2
100°	200.2	205.4	210.6	215.9	221.2	203.3	162.2	121.2	80.2	39.1	41.2
102.5°	262.7	266.5	270.3	274.0	277.8	257.3	212.5	167.6	122.8	78.0	71.4
105°	352.9	355.8	358.7	361.6	364.5	354.1	330.4	306.7	283.0	259.4	212.8
107.5°	448.1	450.4	452.7	455.1	457.4	460.4	464.1	467.9	471.7	475.4	441.2
110°	511.6	513.7	515.8	517.9	520.1	522.5	525.5	528.3	531.2	534.1	525.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	572.3	574.2	576.1	578.0	579.8	582.3	585.1	588.0	590.9	593.8	594.0
115°	662.0	663.6	665.2	666.8	668.4	670.3	672.7	675.0	677.4	679.8	682.4
117.5°	748.9	750.9	752.8	754.8	756.8	758.4	759.5	760.7	761.9	763.2	765.2
120°	803.0	805.3	807.7	810.1	812.5	814.0	814.8	815.6	816.3	817.1	819.3
122.5°	857.9	859.8	861.8	863.7	865.7	867.2	868.2	869.2	870.1	871.2	872.7
125°	933.2	935.3	937.5	939.5	941.7	943.3	944.3	945.3	946.4	947.5	948.0
127.5°	1006.2	1008.3	1010.4	1012.5	1014.6	1016.3	1017.6	1018.8	1020.1	1021.4	1022.2
130°	1051.6	1053.8	1055.9	1058.0	1060.1	1061.7	1062.7	1063.7	1064.9	1065.9	1066.9
132.5°	1095.3	1097.3	1099.5	1101.5	1103.7	1105.2	1106.0	1106.8	1107.6	1108.5	1109.5
135°	1161.8	1163.4	1165.0	1166.6	1168.2	1169.4	1170.4	1171.6	1172.6	1173.6	1174.4
137.5°	1218.6	1220.7	1222.7	1224.6	1226.6	1228.0	1228.5	1229.1	1229.7	1230.3	1231.5
140°	1256.6	1258.1	1259.7	1261.3	1262.9	1264.0	1264.8	1265.6	1266.4	1267.2	1268.3
142.5°	1291.6	1293.2	1294.7	1296.3	1297.9	1299.1	1299.9	1300.7	1301.5	1302.3	1303.1
145°	1340.6	1342.4	1344.3	1346.2	1348.0	1349.2	1349.7	1350.2	1350.8	1351.3	1351.8
147.5°	1386.8	1388.1	1389.3	1390.4	1391.6	1392.5	1393.1	1393.6	1394.1	1394.6	1395.2
150°	1415.2	1416.0	1416.8	1417.6	1418.4	1419.0	1419.6	1420.1	1420.6	1421.2	1421.7
152.5°	1440.8	1441.2	1441.5	1441.9	1442.3	1442.6	1443.0	1443.3	1443.6	1443.9	1444.9
155°	1476.8	1476.3	1475.8	1475.3	1474.7	1474.6	1474.9	1475.1	1475.4	1475.6	1476.9
157.5°	1504.8	1504.8	1504.7	1504.6	1504.6	1504.4	1504.1	1503.9	1503.6	1503.3	1504.9
160°	1521.9	1521.5	1521.3	1521.1	1520.8	1520.5	1520.3	1520.0	1519.7	1519.5	1521.1
162.5°	1537.9	1537.2	1536.6	1535.9	1535.2	1534.7	1534.5	1534.2	1533.9	1533.7	1535.5
165°	1557.4	1556.6	1555.8	1555.0	1554.2	1553.7	1553.4	1553.2	1552.9	1552.6	1554.7
167.5°	1572.5	1571.5	1570.4	1569.4	1568.3	1567.8	1567.8	1567.8	1567.8	1567.8	1569.9
170°	1581.0	1580.0	1578.9	1577.9	1576.8	1576.3	1576.3	1576.3	1576.3	1576.3	1578.4
172.5°	1586.7	1585.5	1584.2	1582.9	1581.7	1581.1	1581.4	1581.6	1581.8	1582.0	1584.1
175°	1594.0	1592.8	1591.4	1590.1	1588.8	1588.2	1588.6	1588.8	1589.0	1589.4	1591.2
177.5°	1595.9	1594.9	1593.9	1592.8	1591.7	1591.3	1591.6	1591.7	1592.0	1592.2	1593.9
180°	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0



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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°	14.4	14.5	14.6	14.6	14.5	14.5	14.4	14.4
90°	30.5	31.6	32.6	33.4	34.0	34.5	35.0	35.5
92.5°	33.7	35.4	37.1	38.0	38.3	38.7	39.0	39.3
95°	40.4	42.2	44.0	45.0	45.0	45.0	45.0	45.0
97.5°	42.4	44.4	46.6	47.8	48.0	48.2	48.6	48.8
100°	43.3	45.4	47.5	48.7	49.0	49.2	49.5	49.7
102.5°	64.9	58.4	51.8	48.8	49.3	49.7	50.2	50.7
105°	166.2	119.6	73.0	50.0	50.5	51.1	51.6	52.1
107.5°	407.0	372.9	338.7	304.1	269.0	233.9	198.8	163.7
110°	516.7	508.0	499.4	476.2	438.6	400.9	363.3	325.7





TEST NUMBER: P332448-927

CATALOG NUMBER: S123RDIW-S775D1535U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	594.1	594.3	594.5	590.6	582.6	574.6	566.7	558.7
115°	685.1	687.7	690.3	692.1	693.2	694.3	695.3	696.4
117.5°	767.4	769.4	771.6	772.8	772.9	773.2	773.4	773.6
120°	821.4	823.5	825.6	826.6	826.6	826.6	826.6	826.6
122.5°	874.1	875.6	877.1	877.9	878.1	878.3	878.5	878.8
125°	948.5	949.0	949.5	950.1	950.6	951.1	951.6	952.2
127.5°	1023.0	1023.9	1024.7	1024.8	1024.4	1023.8	1023.3	1022.8
130°	1067.9	1069.1	1070.1	1070.3	1069.8	1069.3	1068.7	1068.3
132.5°	1110.6	1111.7	1112.7	1112.9	1112.1	1111.4	1110.6	1109.9
135°	1175.2	1176.0	1176.8	1176.8	1176.0	1175.2	1174.4	1173.6
137.5°	1232.8	1234.1	1235.3	1235.6	1235.2	1234.6	1234.1	1233.6
140°	1269.3	1270.3	1271.4	1271.7	1271.1	1270.7	1270.1	1269.6
142.5°	1303.9	1304.8	1305.6	1305.7	1305.0	1304.2	1303.5	1302.7
145°	1352.3	1352.9	1353.4	1353.7	1353.7	1353.7	1353.7	1353.7
147.5°	1395.7	1396.2	1396.8	1396.4	1395.2	1394.0	1392.7	1391.5
150°	1422.2	1422.8	1423.2	1423.2	1422.4	1421.6	1420.8	1420.0
152.5°	1445.8	1446.8	1447.7	1447.6	1446.4	1445.1	1443.9	1442.7
155°	1478.3	1479.6	1480.9	1480.7	1479.2	1477.6	1476.0	1474.5
157.5°	1506.5	1508.1	1509.7	1509.4	1507.4	1505.3	1503.2	1501.2
160°	1522.7	1524.2	1525.7	1525.7	1523.8	1521.9	1520.1	1518.3
162.5°	1537.2	1539.1	1540.8	1540.9	1539.3	1537.6	1536.0	1534.4
165°	1556.8	1558.9	1561.1	1561.2	1559.3	1557.5	1555.6	1553.8
167.5°	1572.0	1574.1	1576.2	1576.2	1574.1	1572.0	1569.9	1567.8
170°	1580.5	1582.6	1584.8	1584.8	1582.6	1580.5	1578.4	1576.3
172.5°	1586.2	1588.3	1590.4	1590.3	1588.0	1585.7	1583.3	1581.0
175°	1593.0	1594.8	1596.7	1596.6	1594.4	1592.4	1590.2	1588.2
177.5°	1595.5	1597.2	1598.9	1598.7	1596.6	1594.5	1592.4	1590.3
180°	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0

(END OF REPORT)