

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: P332176

Luminaire Tested: **S123DIW-S775D1535U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332176  
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-S775D1535U835-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1535 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9372.1 lumens  
Efficiency: N/A  
Efficacy: 137.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

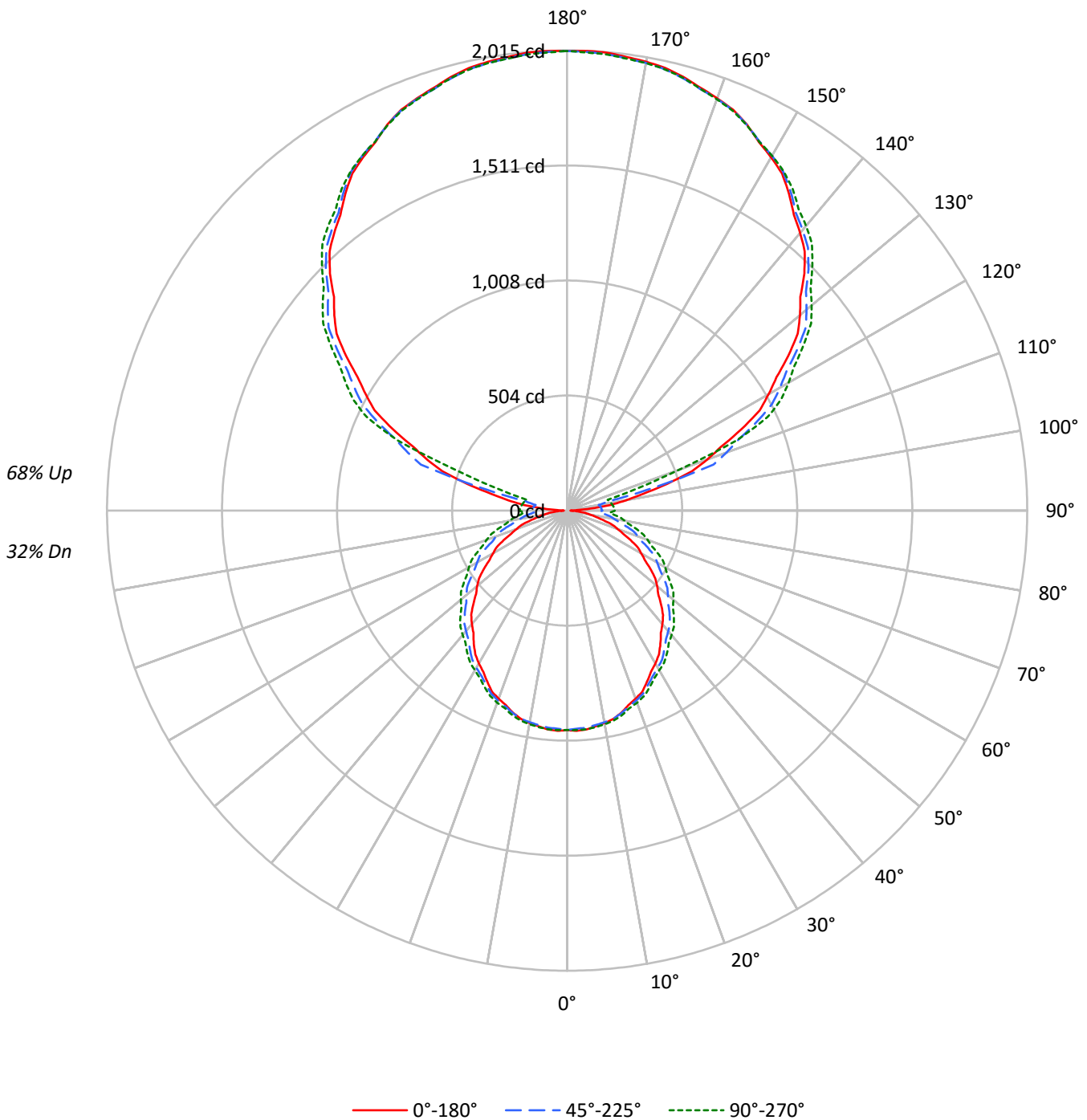
Input Watts (W): 68.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	92	92	92	92	73	73	73	55	55	55	39	39	39	32
1	93	88	84	81	83	80	76	73	63	61	58	48	46	45	34	33	32	25
2	84	77	71	65	75	69	64	59	55	51	48	41	39	37	29	28	26	21
3	77	67	60	54	69	61	54	49	48	44	40	36	33	31	26	24	22	17
4	70	59	51	45	63	53	47	41	42	38	34	32	29	26	23	21	19	15
5	64	53	45	39	57	48	41	35	38	33	29	29	25	22	20	18	16	13
6	59	47	39	33	53	42	36	30	34	29	25	26	22	19	18	16	14	11
7	54	42	34	29	49	38	31	27	31	26	22	23	20	17	17	14	13	10
8	50	38	31	25	45	35	28	23	28	23	19	21	18	15	15	13	11	9
9	47	35	27	22	42	32	25	21	25	20	17	20	16	13	14	12	10	8
10	44	32	25	20	39	29	23	18	23	19	15	18	15	12	13	11	9	7

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

	0°	45°	90°
0°	10346	10346	10346
5°	10379	10086	10092
10°	10286	9853	9804
15°	10153	9590	9490
20°	9963	9288	9146
25°	9730	8942	8782
30°	9490	8630	8415
35°	9221	8300	8121
40°	8965	8000	7807
45°	8682	7712	7556
50°	8400	7427	7278
55°	8091	7135	7030
60°	7790	6839	6774
65°	7480	6524	6470
70°	7013	6169	6159
75°	6425	5763	5842
80°	5749	5363	5479
85°	5117	5090	5269



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	91.1	1.0
10°-20°	259.8	2.8
20°-30°	388.5	4.1
30°-40°	464.0	5.0
40°-50°	485.4	5.2
50°-60°	455.5	4.9
60°-70°	380.5	4.1
70°-80°	272.2	2.9
80°-90°	168.0	1.8
90°-100°	175.0	1.9
100°-110°	423.5	4.5
110°-120°	887.5	9.5
120°-130°	1095.1	11.7
130°-140°	1152.3	12.3
140°-150°	1068.3	11.4
150°-160°	859.6	9.2
160°-170°	554.7	5.9
170°-180°	191.2	2.0
0°-30°	739.4	7.9
0°-40°	1203.3	12.8
0°-60°	2144.3	22.9
0°-90°	2964.9	31.6
90°-120°	1486.0	15.9
90°-150°	4801.8	51.2
90°-180°	6407.0	68.4
0°-180°	9372.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	961	961	961	961	961	
5°	962	960	954	962	961	91
15°	916	919	918	928	928	258
25°	827	837	841	854	854	381
35°	712	729	742	757	762	445
45°	582	607	634	653	662	449
55°	444	479	516	543	553	397
65°	307	348	394	424	436	303
75°	166	216	268	301	315	178
85°	51	104	159	193	205	54
90°	15	82	154	194	209	14
95°	103	87	150	191	203	122
105°	454	488	406	184	183	481
115°	841	864	914	952	968	830
125°	1181	1194	1230	1254	1265	1055
135°	1469	1477	1494	1516	1518	1130
145°	1693	1702	1706	1717	1721	1059
155°	1864	1862	1863	1869	1861	859
165°	1966	1962	1960	1971	1961	555
175°	2012	2005	2006	2016	2005	191
180°	2012	2012	2012	2012	2012	



TEST NUMBER: P332176

CATALOG NUMBER: S123DIW-S775D1535U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	961.2	961.2	961.2	961.2	961.2	961.2	961.2	961.2	961.2	961.2	961.2
2.5°	965.4	964.8	964.3	963.7	963.2	962.1	960.7	959.2	957.7	956.2	957.7
5°	962.3	961.8	961.3	960.9	960.4	959.5	958.1	956.7	955.3	953.9	955.8
7.5°	952.8	952.9	953.0	953.1	953.2	952.6	951.2	949.9	948.5	947.2	949.5
10°	944.5	944.9	945.4	945.9	946.3	946.0	944.8	943.7	942.5	941.3	943.7
12.5°	934.4	935.1	935.7	936.4	937.0	937.0	936.2	935.4	934.6	933.8	935.9
15°	916.2	916.9	917.6	918.3	919.0	919.2	919.0	918.8	918.5	918.3	920.6
17.5°	893.2	894.6	896.0	897.3	898.7	899.4	899.3	899.2	899.1	899.0	901.1
20°	876.4	877.8	879.2	880.6	882.0	882.9	883.4	883.9	884.3	884.8	886.9
22.5°	858.8	860.2	861.6	863.0	864.4	865.4	866.1	866.7	867.4	868.0	870.7
25°	827.2	829.5	831.8	834.2	836.5	838.0	838.7	839.4	840.1	840.8	843.8
27.5°	795.4	798.0	800.7	803.3	806.0	808.0	809.5	811.0	812.5	814.0	816.6
30°	772.7	775.8	778.8	781.8	784.8	787.3	789.1	791.0	792.9	794.7	797.5
32.5°	747.6	751.0	754.4	757.8	761.2	764.1	766.5	769.0	771.4	773.8	776.8
35°	712.0	715.7	719.5	723.2	726.9	730.3	733.3	736.3	739.4	742.4	745.9
37.5°	674.3	678.5	682.7	686.9	691.1	695.0	698.8	702.5	706.2	709.9	713.9
40°	649.2	653.4	657.6	661.8	665.9	670.4	675.0	679.7	684.3	689.0	692.9
42.5°	621.5	626.7	631.8	636.9	642.0	647.0	651.8	656.7	661.5	666.4	670.7
45°	582.2	587.8	593.3	598.9	604.5	610.2	616.0	621.8	627.7	633.5	637.9
47.5°	540.9	547.3	553.6	559.9	566.2	572.7	579.4	586.0	592.7	599.3	604.3
50°	514.1	520.6	527.1	533.7	540.2	547.0	554.3	561.5	568.7	575.9	581.2
52.5°	485.6	492.5	499.4	506.3	513.2	520.6	528.6	536.5	544.5	552.4	558.0
55°	444.0	451.6	459.3	467.0	474.7	482.7	491.1	499.5	507.8	516.2	522.5
57.5°	403.3	411.3	419.3	427.3	435.4	443.9	453.1	462.3	471.4	480.6	486.9
60°	374.9	383.2	391.6	400.0	408.4	417.3	426.9	436.4	445.9	455.5	462.0
62.5°	348.0	356.6	365.2	373.7	382.3	391.6	401.7	411.8	421.9	432.0	438.5
65°	306.8	315.9	324.9	334.0	343.1	352.7	363.0	373.2	383.5	393.7	400.7
67.5°	264.9	274.5	284.2	293.8	303.4	313.5	323.9	334.3	344.7	355.2	362.8
70°	235.6	245.6	255.6	265.6	275.6	286.2	297.4	308.5	319.7	330.9	338.3
72.5°	208.8	218.8	228.8	238.8	248.8	259.6	271.1	282.7	294.2	305.7	313.4
75°	166.5	177.4	188.4	199.3	210.2	221.5	233.1	244.8	256.4	268.1	275.7
77.5°	129.6	140.7	151.7	162.7	173.7	185.1	196.9	208.6	220.3	232.0	240.1
80°	103.7	115.1	126.5	137.9	149.3	161.0	173.1	185.2	197.3	209.4	217.3
82.5°	81.0	92.6	104.2	115.8	127.4	139.3	151.6	163.9	176.2	188.5	196.4
85°	51.3	62.9	74.6	86.2	97.8	109.8	122.2	134.5	146.8	159.2	167.1
87.5°	28.2	40.4	52.7	64.9	77.2	89.7	102.4	115.1	127.8	140.6	148.8
90°	15.1	29.8	44.6	59.3	74.0	89.5	105.6	121.8	138.0	154.2	163.4
92.5°	40.6	49.9	59.3	68.6	78.0	90.1	105.1	120.0	135.0	149.9	159.7
95°	102.7	98.2	93.6	89.1	84.5	89.8	104.8	119.9	134.9	150.0	159.5
97.5°	193.5	195.6	197.7	199.8	201.9	196.4	183.4	170.3	157.3	144.3	153.9
100°	262.1	276.2	290.3	304.3	318.4	304.9	263.8	222.7	181.6	140.4	149.8
102.5°	340.2	351.7	363.1	374.6	386.1	368.8	322.7	276.6	230.5	184.4	182.8
105°	453.9	463.1	472.4	481.6	490.8	485.5	465.6	445.7	425.8	405.9	353.6
107.5°	572.8	580.5	588.2	595.8	603.5	614.4	628.7	642.9	657.1	671.3	634.4
110°	652.1	659.0	665.8	672.7	679.5	689.4	702.4	715.3	728.3	741.3	736.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	728.7	734.5	740.3	746.2	752.0	761.2	773.8	786.4	799.0	811.6	817.6
115°	840.9	845.7	850.5	855.3	860.1	868.1	879.5	890.9	902.2	913.6	922.5
117.5°	950.5	954.6	958.8	963.0	967.2	974.0	983.4	992.7	1002.1	1011.5	1019.7
120°	1017.8	1021.9	1026.1	1030.2	1034.4	1040.8	1049.5	1058.2	1066.8	1075.5	1083.5
122.5°	1087.2	1090.2	1093.3	1096.3	1099.4	1105.2	1113.8	1122.4	1130.9	1139.5	1146.5
125°	1181.2	1183.8	1186.5	1189.2	1191.8	1197.2	1205.3	1213.3	1221.4	1229.5	1235.0
127.5°	1273.3	1275.7	1278.1	1280.6	1283.0	1287.8	1295.0	1302.1	1309.3	1316.5	1322.2
130°	1330.7	1333.1	1335.5	1338.0	1340.4	1344.6	1350.6	1356.6	1362.5	1368.5	1374.3
132.5°	1384.9	1387.5	1390.1	1392.7	1395.3	1399.0	1403.8	1408.6	1413.4	1418.2	1423.7
135°	1468.7	1470.4	1472.2	1474.0	1475.7	1478.5	1482.4	1486.3	1490.2	1494.1	1499.3
137.5°	1540.2	1542.6	1544.9	1547.2	1549.6	1551.8	1554.0	1556.2	1558.4	1560.5	1565.8
140°	1587.2	1589.2	1591.2	1593.2	1595.2	1597.0	1598.7	1600.4	1602.1	1603.8	1608.6
142.5°	1631.5	1633.3	1635.1	1636.9	1638.7	1640.2	1641.3	1642.4	1643.6	1644.7	1648.9
145°	1693.4	1695.5	1697.6	1699.6	1701.7	1703.1	1703.8	1704.4	1705.1	1705.8	1708.3
147.5°	1750.6	1752.2	1753.7	1755.2	1756.7	1757.8	1758.5	1759.2	1759.8	1760.5	1761.7
150°	1786.5	1787.5	1788.5	1789.5	1790.5	1791.3	1792.0	1792.7	1793.3	1794.0	1794.6
152.5°	1818.8	1819.3	1819.7	1820.2	1820.7	1821.1	1821.5	1821.9	1822.3	1822.7	1823.9
155°	1864.2	1863.6	1862.9	1862.3	1861.6	1861.4	1861.8	1862.1	1862.4	1862.7	1864.4
157.5°	1899.5	1899.5	1899.4	1899.3	1899.3	1899.1	1898.7	1898.4	1898.1	1897.7	1899.7
160°	1921.1	1920.7	1920.4	1920.1	1919.7	1919.4	1919.1	1918.7	1918.4	1918.1	1920.1
162.5°	1941.4	1940.5	1939.7	1938.8	1937.9	1937.3	1937.0	1936.7	1936.3	1936.0	1938.3
165°	1965.9	1964.9	1963.9	1962.9	1961.9	1961.3	1960.9	1960.6	1960.3	1959.9	1962.6
167.5°	1985.0	1983.7	1982.4	1981.1	1979.7	1979.1	1979.1	1979.1	1979.1	1979.1	1981.7
170°	1995.8	1994.5	1993.1	1991.8	1990.5	1989.8	1989.8	1989.8	1989.8	1989.8	1992.5
172.5°	2003.0	2001.4	1999.8	1998.2	1996.6	1995.9	1996.2	1996.5	1996.7	1997.0	1999.7
175°	2012.2	2010.6	2008.9	2007.3	2005.6	2004.9	2005.3	2005.6	2005.9	2006.3	2008.6
177.5°	2014.6	2013.3	2012.0	2010.7	2009.3	2008.8	2009.1	2009.3	2009.6	2009.9	2012.0
180°	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	961.2	961.2	961.2	961.2	961.2	961.2	961.2	961.2
2.5°	959.2	960.7	962.1	962.8	962.6	962.4	962.2	962.1
5°	957.6	959.5	961.3	962.1	961.9	961.7	961.5	961.2
7.5°	951.8	954.2	956.5	957.5	957.2	957.0	956.7	956.4
10°	946.0	948.3	950.6	951.6	951.1	950.6	950.2	949.7
12.5°	938.1	940.2	942.3	943.2	942.7	942.3	941.8	941.3
15°	922.9	925.3	927.6	928.6	928.4	928.2	927.9	927.7
17.5°	903.2	905.3	907.4	908.3	908.0	907.6	907.3	907.0
20°	889.0	891.1	893.2	894.3	894.6	894.8	895.0	895.3
22.5°	873.3	876.0	878.6	879.9	879.8	879.6	879.5	879.3
25°	846.9	849.9	852.9	854.4	854.4	854.4	854.4	854.4
27.5°	819.2	821.8	824.4	825.8	826.0	826.2	826.4	826.6
30°	800.3	803.1	805.9	807.3	807.3	807.3	807.3	807.3
32.5°	779.7	782.7	785.7	787.5	788.0	788.6	789.1	789.7
35°	749.4	752.9	756.3	758.6	759.5	760.4	761.3	762.3
37.5°	717.8	721.8	725.7	728.1	728.8	729.6	730.3	731.1
40°	696.9	700.8	704.8	707.2	708.2	709.1	710.0	711.0
42.5°	675.0	679.3	683.7	686.5	687.8	689.1	690.4	691.7
45°	642.3	646.7	651.2	654.3	656.2	658.0	659.9	661.8
47.5°	609.3	614.3	619.3	622.5	623.9	625.4	626.8	628.2
50°	586.6	591.9	597.3	600.8	602.4	604.0	605.7	607.3
52.5°	563.5	569.1	574.6	578.4	580.4	582.4	584.4	586.4
55°	528.8	535.1	541.3	545.4	547.3	549.1	551.0	552.9
57.5°	493.3	499.6	505.9	510.2	512.4	514.6	516.7	518.9
60°	468.5	475.0	481.5	486.1	488.6	491.2	493.8	496.3
62.5°	445.1	451.6	458.1	462.5	464.9	467.3	469.7	472.0
65°	407.7	414.6	421.6	426.3	428.6	430.9	433.3	435.6
67.5°	370.4	378.1	385.7	390.5	392.4	394.4	396.4	398.3
70°	345.8	353.2	360.7	365.5	367.9	370.2	372.5	374.9
72.5°	321.0	328.6	336.3	341.3	343.6	345.9	348.2	350.6
75°	283.4	291.1	298.8	304.0	306.8	309.6	312.4	315.2
77.5°	248.2	256.3	264.4	269.5	271.7	273.8	276.0	278.1
80°	225.2	233.1	241.1	246.2	248.5	250.8	253.2	255.5
82.5°	204.3	212.2	220.1	225.2	227.6	229.9	232.2	234.5
85°	175.0	182.9	190.8	195.9	198.2	200.6	202.9	205.2
87.5°	156.9	165.1	173.3	178.6	181.1	183.5	186.0	188.4
90°	172.7	181.9	191.2	197.3	200.3	203.3	206.2	209.2
92.5°	169.6	179.4	189.3	195.5	198.0	200.6	203.1	205.6
95°	169.1	178.6	188.2	194.1	196.4	198.7	201.1	203.4
97.5°	163.4	173.0	182.6	188.8	191.4	194.1	196.7	199.4
100°	159.2	168.6	178.1	184.1	186.7	189.4	192.1	194.7
102.5°	181.1	179.4	177.7	178.4	181.3	184.2	187.1	190.1
105°	301.4	249.1	196.8	172.0	174.8	177.5	180.3	183.1
107.5°	597.5	560.6	523.7	484.2	441.9	399.6	357.4	315.1
110°	731.4	726.5	721.6	696.3	650.7	605.0	559.4	513.7





TEST NUMBER: P332176

CATALOG NUMBER: S123DIW-S775D1535U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	823.7	829.8	835.8	834.9	826.9	818.9	810.9	802.9
115°	931.4	940.3	949.2	955.3	958.5	961.7	964.9	968.1
117.5°	1027.9	1036.1	1044.3	1049.5	1051.5	1053.6	1055.7	1057.8
120°	1091.5	1099.5	1107.6	1112.4	1114.0	1115.6	1117.3	1118.9
122.5°	1153.6	1160.6	1167.6	1172.1	1174.0	1175.9	1177.7	1179.6
125°	1240.6	1246.1	1251.7	1255.6	1257.9	1260.2	1262.5	1264.8
127.5°	1327.8	1333.5	1339.2	1342.5	1343.4	1344.3	1345.2	1346.1
130°	1380.0	1385.8	1391.5	1394.8	1395.5	1396.2	1397.0	1397.7
132.5°	1429.3	1434.8	1440.4	1443.5	1444.2	1444.8	1445.5	1446.1
135°	1504.5	1509.6	1514.8	1517.5	1517.7	1517.8	1518.0	1518.2
137.5°	1571.1	1576.3	1581.6	1584.5	1585.0	1585.5	1586.0	1586.5
140°	1613.5	1618.3	1623.1	1625.8	1626.3	1626.8	1627.3	1627.8
142.5°	1653.1	1657.3	1661.4	1663.7	1663.9	1664.1	1664.4	1664.6
145°	1710.8	1713.4	1715.9	1717.6	1718.5	1719.5	1720.4	1721.3
147.5°	1762.9	1764.2	1765.4	1765.7	1765.0	1764.3	1763.6	1762.9
150°	1795.3	1796.0	1796.6	1796.7	1796.2	1795.6	1795.1	1794.6
152.5°	1825.1	1826.3	1827.5	1827.3	1825.9	1824.5	1823.0	1821.6
155°	1866.1	1867.7	1869.4	1869.2	1867.2	1865.2	1863.2	1861.3
157.5°	1901.7	1903.7	1905.7	1905.4	1902.8	1900.2	1897.6	1895.0
160°	1922.1	1924.0	1926.0	1925.9	1923.5	1921.2	1918.9	1916.6
162.5°	1940.5	1942.8	1945.0	1945.1	1943.1	1941.0	1939.0	1936.9
165°	1965.2	1967.9	1970.6	1970.7	1968.4	1966.1	1963.7	1961.4
167.5°	1984.4	1987.0	1989.7	1989.7	1987.0	1984.4	1981.7	1979.1
170°	1995.1	1997.8	2000.5	2000.5	1997.8	1995.1	1992.5	1989.8
172.5°	2002.3	2005.0	2007.6	2007.5	2004.6	2001.7	1998.7	1995.8
175°	2010.9	2013.2	2015.6	2015.4	2012.7	2010.1	2007.4	2004.8
177.5°	2014.1	2016.2	2018.4	2018.1	2015.4	2012.8	2010.1	2007.5
180°	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2	2012.2

(END OF REPORT)