

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: P332177-840

Luminaire Tested: **S123DIW-S775D1535U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332177-840
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-S775D1535U840-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1535 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8638.8 lumens
Efficiency: N/A
Efficacy: 126.9 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

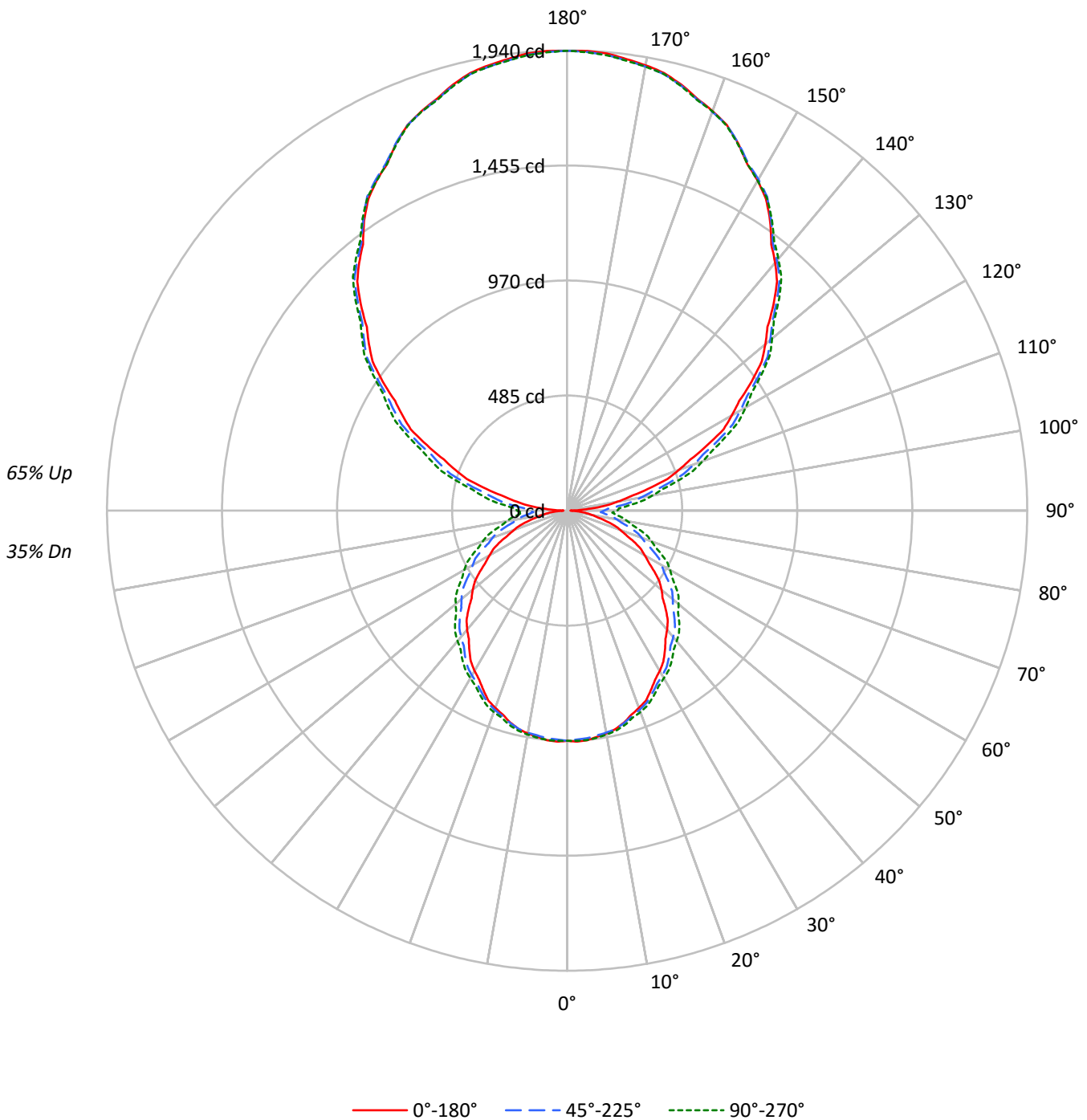
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	75	75	75	58	58	58	42	42	42	35
1	94	89	85	81	84	80	77	74	64	62	60	50	48	46	36	35	34	28
2	85	77	71	66	76	70	65	60	56	52	49	43	40	38	31	30	28	23
3	77	68	60	54	69	61	55	50	49	44	41	38	35	32	27	25	24	19
4	70	60	52	46	63	54	47	42	43	38	34	34	30	27	24	22	20	16
5	65	53	45	39	58	48	41	36	39	33	29	30	26	23	22	19	17	14
6	59	47	39	33	53	43	36	31	35	29	25	27	23	20	20	17	15	12
7	55	43	35	29	49	39	32	27	31	26	22	24	21	18	18	15	13	11
8	51	39	31	26	46	35	28	24	28	23	20	22	19	16	16	14	12	9
9	47	35	28	23	42	32	25	21	26	21	17	20	17	14	15	13	11	8
10	44	32	25	20	40	29	23	19	24	19	16	19	15	13	14	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10449	10449	10449
5°	10481	10185	10191
10°	10387	9951	9901
15°	10253	9685	9584
20°	10061	9380	9236
25°	9826	9030	8869
30°	9583	8714	8498
35°	9312	8382	8201
40°	9054	8079	7884
45°	8767	7788	7630
50°	8484	7501	7350
55°	8172	7206	7099
60°	7867	6907	6840
65°	7553	6588	6534
70°	7082	6231	6219
75°	6487	5819	5899
80°	5804	5417	5533
85°	5167	5142	5320



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.0	1.1
10°-20°	262.3	3.0
20°-30°	392.3	4.5
30°-40°	468.5	5.4
40°-50°	490.2	5.7
50°-60°	460.0	5.3
60°-70°	384.2	4.4
70°-80°	274.9	3.2
80°-90°	169.7	2.0
90°-100°	229.2	2.7
100°-110°	453.6	5.3
110°-120°	693.4	8.0
120°-130°	874.5	10.1
130°-140°	963.4	11.2
140°-150°	937.1	10.8
150°-160°	786.6	9.1
160°-170°	523.6	6.1
170°-180°	183.3	2.1
0°-30°	746.7	8.6
0°-40°	1215.2	14.1
0°-60°	2165.4	25.1
0°-90°	2994.2	34.7
90°-120°	1376.1	15.9
90°-150°	4151.1	48.1
90°-180°	5645.0	65.3
0°-180°	8638.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	971	971	971	971	971	
5°	972	969	963	971	971	92
15°	925	928	927	937	937	260
25°	835	846	849	862	863	385
35°	719	736	750	765	770	450
45°	588	613	640	659	668	453
55°	448	483	521	549	558	401
65°	310	351	398	428	440	306
75°	168	218	271	304	318	180
85°	52	105	161	195	207	54
90°	15	83	156	196	212	15
95°	102	154	217	255	267	110
105°	351	381	439	467	481	375
115°	652	671	705	731	739	646
125°	950	956	983	998	1000	848
135°	1231	1239	1249	1262	1264	948
145°	1492	1494	1498	1505	1504	931
155°	1707	1707	1709	1714	1704	785
165°	1859	1855	1855	1863	1853	524
175°	1934	1928	1928	1936	1926	184
180°	1938	1938	1938	1938	1938	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7
2.5°	974.9	974.3	973.8	973.2	972.7	971.6	970.2	968.7	967.1	965.6	967.1
5°	971.8	971.3	970.8	970.4	969.9	969.0	967.6	966.1	964.7	963.3	965.2
7.5°	962.2	962.3	962.4	962.5	962.6	962.0	960.6	959.3	957.9	956.5	958.9
10°	953.8	954.2	954.7	955.2	955.6	955.3	954.1	953.0	951.8	950.6	953.0
12.5°	943.6	944.3	944.9	945.6	946.2	946.2	945.4	944.6	943.8	943.0	945.1
15°	925.2	925.9	926.7	927.4	928.1	928.3	928.1	927.9	927.6	927.4	929.7
17.5°	902.0	903.4	904.8	906.2	907.6	908.3	908.2	908.1	908.0	907.9	910.0
20°	885.0	886.5	887.9	889.3	890.7	891.6	892.1	892.6	893.0	893.5	895.6
22.5°	867.3	868.7	870.1	871.5	872.9	873.9	874.6	875.3	876.0	876.6	879.3
25°	835.4	837.7	840.0	842.4	844.8	846.3	847.0	847.7	848.4	849.1	852.1
27.5°	803.2	805.9	808.6	811.2	814.0	816.0	817.5	819.0	820.5	822.0	824.7
30°	780.3	783.5	786.5	789.5	792.5	795.1	796.9	798.8	800.7	802.5	805.4
32.5°	755.0	758.4	761.8	765.3	768.7	771.6	774.1	776.6	779.0	781.4	784.5
35°	719.0	722.8	726.6	730.3	734.1	737.5	740.5	743.6	746.7	749.7	753.3
37.5°	681.0	685.2	689.4	693.7	697.9	701.9	705.7	709.4	713.2	716.9	720.9
40°	655.6	659.8	664.1	668.3	672.5	677.0	681.7	686.4	691.1	695.8	699.7
42.5°	627.6	632.9	638.0	643.2	648.3	653.4	658.2	663.2	668.0	673.0	677.3
45°	587.9	593.6	599.2	604.8	610.5	616.2	622.1	627.9	633.9	639.7	644.2
47.5°	546.2	552.7	559.1	565.4	571.8	578.3	585.1	591.8	598.5	605.2	610.3
50°	519.2	525.7	532.3	539.0	545.5	552.4	559.8	567.0	574.3	581.6	586.9
52.5°	490.4	497.4	504.3	511.3	518.3	525.7	533.8	541.8	549.9	557.8	563.5
55°	448.4	456.1	463.8	471.6	479.4	487.5	495.9	504.4	512.8	521.3	527.7
57.5°	407.3	415.4	423.4	431.5	439.7	448.3	457.6	466.9	476.1	485.3	491.7
60°	378.6	387.0	395.5	403.9	412.4	421.4	431.1	440.7	450.3	460.0	466.6
62.5°	351.4	360.1	368.8	377.4	386.1	395.5	405.7	415.9	426.1	436.3	442.8
65°	309.8	319.0	328.1	337.3	346.5	356.2	366.6	376.9	387.3	397.6	404.7
67.5°	267.5	277.2	287.0	296.7	306.4	316.6	327.1	337.6	348.1	358.7	366.4
70°	237.9	248.0	258.1	268.2	278.3	289.0	300.3	311.5	322.9	334.2	341.6
72.5°	210.9	221.0	231.1	241.2	251.3	262.2	273.8	285.5	297.1	308.7	316.5
75°	168.1	179.2	190.3	201.3	212.3	223.7	235.4	247.2	258.9	270.7	278.4
77.5°	130.9	142.1	153.2	164.3	175.4	186.9	198.8	210.7	222.5	234.3	242.5
80°	104.7	116.2	127.7	139.3	150.8	162.6	174.8	187.0	199.2	211.5	219.4
82.5°	81.8	93.5	105.2	116.9	128.7	140.7	153.1	165.5	177.9	190.4	198.3
85°	51.8	63.5	75.3	87.1	98.8	110.9	123.4	135.8	148.2	160.8	168.7
87.5°	28.5	40.8	53.2	65.5	78.0	90.6	103.4	116.3	129.2	142.0	150.3
90°	15.2	30.2	45.0	60.0	74.8	90.5	106.8	123.3	139.7	156.0	165.4
92.5°	49.8	62.4	75.1	87.9	100.5	114.0	128.3	142.6	156.9	171.2	180.1
95°	101.5	113.0	124.5	136.0	147.6	160.5	174.7	188.9	203.2	217.3	226.0
97.5°	170.0	180.0	190.1	200.1	210.1	221.6	234.5	247.5	260.4	273.4	282.0
100°	216.6	226.2	235.7	245.3	254.8	265.8	278.3	290.8	303.4	315.9	323.7
102.5°	270.6	278.6	286.6	294.6	302.6	313.0	325.8	338.7	351.5	364.4	372.0
105°	351.1	357.4	363.8	370.0	376.4	386.1	399.2	412.4	425.6	438.7	445.2
107.5°	443.6	448.8	454.0	459.2	464.4	472.4	483.2	494.0	504.8	515.6	523.0
110°	501.3	506.1	511.1	515.9	520.9	528.4	538.5	548.6	558.7	568.7	576.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	562.2	566.0	570.0	573.8	577.7	584.2	593.4	602.6	611.7	620.9	628.4
115°	652.5	656.3	660.1	664.0	667.8	673.7	681.5	689.2	697.0	704.8	710.7
117.5°	744.3	746.7	749.1	751.5	754.0	758.6	765.7	772.7	779.8	786.9	792.4
120°	800.6	803.9	807.1	810.3	813.4	818.1	824.2	830.2	836.3	842.3	847.5
122.5°	860.4	862.4	864.5	866.7	868.8	873.0	879.6	886.1	892.5	899.1	903.4
125°	950.4	951.4	952.4	953.4	954.4	958.0	964.1	970.3	976.4	982.6	986.1
127.5°	1034.4	1036.3	1038.2	1040.3	1042.2	1045.6	1050.5	1055.3	1060.3	1065.1	1067.9
130°	1090.5	1093.0	1095.4	1097.9	1100.3	1103.5	1107.1	1110.9	1114.5	1118.1	1121.3
132.5°	1145.7	1148.3	1150.9	1153.7	1156.3	1159.1	1162.2	1165.2	1168.2	1171.2	1173.9
135°	1231.0	1232.8	1234.7	1236.4	1238.2	1240.2	1242.4	1244.8	1247.0	1249.2	1252.1
137.5°	1310.0	1311.5	1313.0	1314.5	1316.1	1318.0	1320.3	1322.6	1324.9	1327.3	1329.6
140°	1364.0	1365.6	1367.4	1369.1	1370.8	1372.1	1373.1	1374.2	1375.2	1376.2	1379.5
142.5°	1413.9	1415.4	1416.9	1418.5	1420.0	1421.1	1421.8	1422.6	1423.3	1424.1	1426.8
145°	1491.9	1492.4	1492.8	1493.2	1493.7	1494.4	1495.4	1496.4	1497.4	1498.4	1500.0
147.5°	1559.0	1560.2	1561.5	1562.8	1564.0	1565.0	1566.0	1566.9	1567.8	1568.8	1569.3
150°	1606.6	1607.3	1607.9	1608.6	1609.3	1609.9	1610.6	1611.3	1611.9	1612.7	1612.7
152.5°	1645.6	1646.5	1647.5	1648.4	1649.3	1650.0	1650.4	1650.8	1651.2	1651.6	1652.2
155°	1707.1	1707.1	1707.1	1707.1	1707.1	1707.3	1707.6	1707.9	1708.3	1708.6	1710.0
157.5°	1759.5	1759.1	1758.7	1758.3	1757.9	1757.8	1758.1	1758.3	1758.6	1758.9	1760.3
160°	1792.4	1791.7	1791.0	1790.3	1789.7	1789.3	1789.3	1789.3	1789.3	1789.3	1791.0
162.5°	1821.6	1820.7	1819.7	1818.8	1817.9	1817.5	1817.8	1818.1	1818.3	1818.6	1820.3
165°	1859.4	1858.4	1857.3	1856.3	1855.3	1854.8	1854.8	1854.8	1854.8	1854.8	1856.8
167.5°	1889.6	1888.1	1886.8	1885.4	1884.1	1883.6	1883.8	1884.1	1884.4	1884.6	1886.7
170°	1906.5	1905.2	1903.9	1902.5	1901.2	1900.5	1900.5	1900.5	1900.5	1900.5	1902.9
172.5°	1920.0	1918.6	1917.2	1915.9	1914.6	1913.9	1913.9	1913.9	1913.9	1913.9	1916.0
175°	1934.0	1932.7	1931.3	1930.0	1928.5	1927.9	1927.9	1927.9	1927.9	1927.9	1930.0
177.5°	1939.7	1938.7	1937.6	1936.5	1935.4	1934.9	1934.9	1934.9	1934.9	1934.9	1936.5
180°	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7
2.5°	968.7	970.2	971.6	972.3	972.1	971.9	971.7	971.6
5°	967.0	969.0	970.8	971.6	971.4	971.2	971.0	970.7
7.5°	961.2	963.6	965.9	966.9	966.6	966.4	966.1	965.8
10°	955.3	957.7	960.0	961.0	960.5	960.0	959.6	959.1
12.5°	947.4	949.5	951.6	952.5	952.0	951.6	951.1	950.6
15°	932.0	934.4	936.8	937.8	937.6	937.4	937.1	936.9
17.5°	912.1	914.2	916.4	917.3	917.0	916.6	916.3	915.9
20°	897.8	899.9	902.0	903.1	903.4	903.6	903.8	904.1
22.5°	881.9	884.6	887.3	888.6	888.5	888.3	888.2	888.0
25°	855.3	858.3	861.3	862.8	862.8	862.8	862.8	862.8
27.5°	827.3	829.9	832.5	833.9	834.1	834.4	834.6	834.8
30°	808.2	811.0	813.9	815.3	815.3	815.3	815.3	815.3
32.5°	787.4	790.4	793.5	795.3	795.8	796.4	796.9	797.5
35°	756.8	760.3	763.8	766.1	767.0	767.9	768.8	769.8
37.5°	724.9	728.9	732.9	735.3	736.0	736.8	737.5	738.3
40°	703.8	707.7	711.8	714.2	715.2	716.1	717.0	718.0
42.5°	681.7	686.0	690.4	693.3	694.6	695.9	697.2	698.5
45°	648.6	653.1	657.6	660.8	662.7	664.5	666.4	668.3
47.5°	615.3	620.4	625.4	628.6	630.1	631.6	633.0	634.4
50°	592.4	597.7	603.2	606.7	608.3	610.0	611.7	613.3
52.5°	569.1	574.7	580.3	584.1	586.1	588.1	590.2	592.2
55°	534.0	540.4	546.6	550.8	552.7	554.5	556.4	558.4
57.5°	498.2	504.5	510.9	515.2	517.5	519.7	521.8	524.0
60°	473.1	479.7	486.3	490.9	493.4	496.0	498.7	501.2
62.5°	449.5	456.1	462.6	467.1	469.5	471.9	474.3	476.7
65°	411.7	418.7	425.8	430.5	432.8	435.2	437.6	439.9
67.5°	374.1	381.8	389.5	394.4	396.3	398.3	400.3	402.2
70°	349.2	356.7	364.3	369.1	371.5	373.9	376.2	378.6
72.5°	324.2	331.8	339.6	344.7	347.0	349.3	351.6	354.1
75°	286.2	294.0	301.7	307.0	309.8	312.7	315.5	318.3
77.5°	250.6	258.8	267.0	272.2	274.4	276.5	278.7	280.8
80°	227.4	235.4	243.5	248.6	251.0	253.3	255.7	258.0
82.5°	206.3	214.3	222.3	227.4	229.8	232.2	234.5	236.8
85°	176.7	184.7	192.7	197.8	200.2	202.6	204.9	207.2
87.5°	158.5	166.8	175.1	180.5	182.9	185.4	187.9	190.4
90°	174.7	184.1	193.4	199.5	202.6	205.6	208.6	211.7
92.5°	188.9	197.8	206.7	212.1	213.8	215.6	217.3	219.0
95°	234.7	243.3	252.0	257.4	259.7	262.2	264.5	266.8
97.5°	290.5	299.1	307.6	313.1	315.3	317.5	319.7	321.8
100°	331.5	339.3	347.2	352.6	355.6	358.6	361.6	364.7
102.5°	379.7	387.3	395.0	399.9	402.1	404.3	406.5	408.7
105°	451.8	458.5	465.0	469.7	472.5	475.2	478.1	480.9
107.5°	530.4	537.8	545.2	549.7	551.4	553.0	554.7	556.3
110°	583.6	591.1	598.5	602.9	604.1	605.3	606.5	607.6



TEST NUMBER: P332177-840

CATALOG NUMBER: S123DIW-S775D1535U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	635.9	643.5	651.1	655.8	657.7	659.6	661.6	663.5
115°	716.7	722.7	728.7	732.5	734.0	735.5	737.1	738.6
117.5°	798.0	803.4	809.0	812.2	813.1	814.0	814.9	815.8
120°	852.5	857.6	862.6	865.7	866.7	867.6	868.6	869.5
122.5°	907.8	912.1	916.4	918.9	919.6	920.3	921.0	921.7
125°	989.7	993.3	996.8	998.9	999.1	999.4	999.7	1000.0
127.5°	1070.7	1073.4	1076.2	1077.5	1077.6	1077.6	1077.7	1077.7
130°	1124.4	1127.5	1130.6	1131.7	1130.7	1129.7	1128.8	1127.8
132.5°	1176.5	1179.1	1181.8	1183.1	1182.8	1182.6	1182.3	1182.1
135°	1255.0	1257.9	1260.7	1262.4	1262.9	1263.4	1263.9	1264.5
137.5°	1331.9	1334.1	1336.5	1337.6	1337.5	1337.4	1337.3	1337.1
140°	1382.7	1385.8	1389.1	1390.1	1388.9	1387.7	1386.4	1385.2
142.5°	1429.7	1432.5	1435.3	1436.4	1435.7	1435.1	1434.4	1433.8
145°	1501.6	1503.1	1504.6	1505.2	1504.8	1504.4	1504.0	1503.5
147.5°	1569.9	1570.5	1571.0	1570.7	1569.5	1568.4	1567.2	1566.0
150°	1612.7	1612.7	1612.7	1611.8	1610.3	1608.8	1607.2	1605.7
152.5°	1652.7	1653.3	1653.9	1653.3	1651.6	1649.9	1648.3	1646.6
155°	1711.3	1712.6	1714.0	1713.5	1711.1	1708.8	1706.4	1704.0
157.5°	1761.7	1763.1	1764.5	1764.3	1762.4	1760.5	1758.6	1756.8
160°	1792.7	1794.4	1796.0	1796.2	1794.9	1793.5	1792.2	1790.8
162.5°	1821.9	1823.6	1825.3	1825.1	1822.9	1820.8	1818.6	1816.4
165°	1858.9	1860.9	1862.9	1862.8	1860.4	1858.1	1855.6	1853.3
167.5°	1888.9	1891.0	1893.0	1893.0	1891.0	1888.9	1886.7	1884.6
170°	1905.2	1907.6	1910.0	1910.0	1907.6	1905.2	1902.9	1900.5
172.5°	1918.0	1920.2	1922.3	1922.2	1919.8	1917.4	1915.0	1912.7
175°	1932.0	1934.0	1936.0	1935.8	1933.5	1931.1	1928.7	1926.4
177.5°	1938.1	1939.7	1941.4	1941.3	1939.3	1937.4	1935.6	1933.7
180°	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5	1938.5

(END OF REPORT)