

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

Luminaire Tested: **S123DIW-S775D1535U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332177
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-S775D1535U835-4F0-1E-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: 8554.4 lumens
Efficiency: N/A
Efficacy: 125.6 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

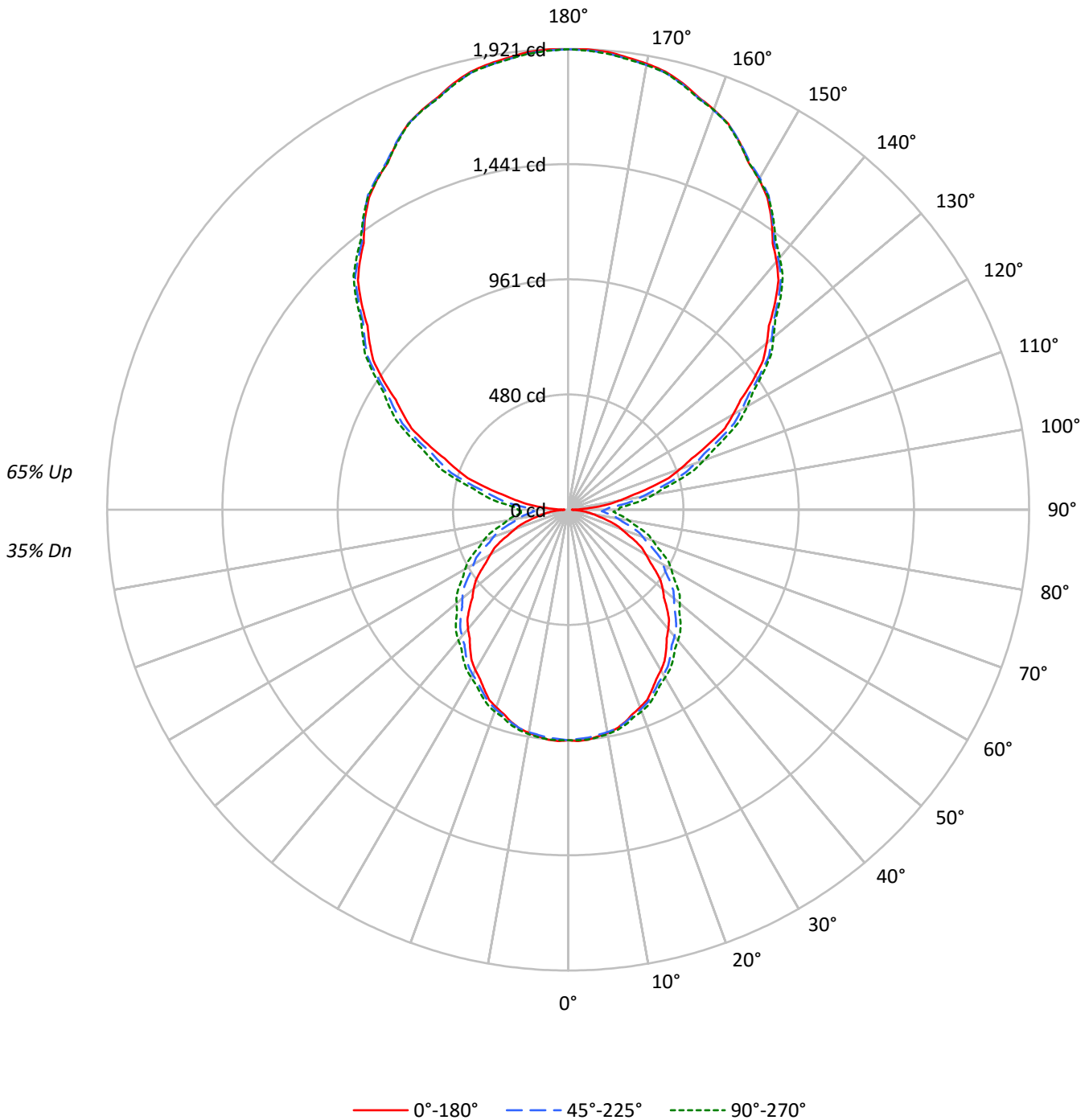
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	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	1.1
10°-20°	259.8	3.0
20°-30°	388.5	4.5
30°-40°	464.0	5.4
40°-50°	485.4	5.7
50°-60°	455.5	5.3
60°-70°	380.5	4.4
70°-80°	272.2	3.2
80°-90°	168.0	2.0
90°-100°	226.9	2.7
100°-110°	449.2	5.3
110°-120°	686.6	8.0
120°-130°	865.9	10.1
130°-140°	954.0	11.2
140°-150°	927.9	10.8
150°-160°	778.9	9.1
160°-170°	518.5	6.1
170°-180°	181.6	2.1
0°-30°	739.4	8.6
0°-40°	1203.3	14.1
0°-60°	2144.3	25.1
0°-90°	2965.0	34.7
90°-120°	1362.7	15.9
90°-150°	4110.5	48.1
90°-180°	5589.0	65.3
0°-180°	8554.4	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	195	210	15
95°	100	153	215	252	264	109
105°	348	378	434	463	476	372
115°	646	664	698	723	731	639
125°	941	947	973	988	990	839
135°	1219	1227	1237	1249	1252	939
145°	1477	1479	1484	1490	1489	922
155°	1690	1690	1692	1697	1687	778
165°	1841	1837	1837	1845	1835	519
175°	1915	1909	1909	1917	1908	182
180°	1920	1920	1920	1920	1920	



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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	115.2	127.9	140.6	148.8
90°	15.1	29.9	44.6	59.4	74.1	89.6	105.8	122.1	138.3	154.5	163.8
92.5°	49.3	61.8	74.4	87.0	99.5	112.9	127.0	141.2	155.4	169.5	178.3
95°	100.5	111.9	123.3	134.7	146.2	158.9	173.0	187.1	201.2	215.2	223.8
97.5°	168.3	178.2	188.2	198.1	208.0	219.4	232.2	245.1	257.9	270.7	279.2
100°	214.5	224.0	233.4	242.9	252.3	263.2	275.6	288.0	300.4	312.8	320.5
102.5°	268.0	275.9	283.8	291.7	299.6	309.9	322.6	335.4	348.1	360.8	368.4
105°	347.7	353.9	360.2	366.4	372.7	382.3	395.3	408.4	421.4	434.4	440.9
107.5°	439.3	444.4	449.6	454.7	459.9	467.8	478.5	489.2	499.9	510.6	517.9
110°	496.4	501.2	506.1	510.9	515.8	523.2	533.2	543.2	553.2	563.1	570.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	556.7	560.5	564.4	568.2	572.1	578.5	587.6	596.7	605.7	614.8	622.3
115°	646.1	649.9	653.7	657.5	661.3	667.1	674.8	682.5	690.2	697.9	703.8
117.5°	737.0	739.4	741.8	744.2	746.6	751.2	758.2	765.2	772.2	779.2	784.7
120°	792.8	796.0	799.2	802.4	805.5	810.1	816.1	822.1	828.1	834.1	839.2
122.5°	852.0	854.0	856.1	858.2	860.3	864.5	871.0	877.4	883.8	890.3	894.6
125°	941.1	942.1	943.1	944.1	945.1	948.6	954.7	960.8	966.9	973.0	976.5
127.5°	1024.3	1026.2	1028.1	1030.1	1032.0	1035.4	1040.2	1045.0	1049.9	1054.7	1057.5
130°	1079.8	1082.3	1084.7	1087.2	1089.6	1092.7	1096.3	1100.0	1103.6	1107.2	1110.3
132.5°	1134.5	1137.1	1139.7	1142.4	1145.0	1147.8	1150.8	1153.8	1156.8	1159.8	1162.4
135°	1219.0	1220.8	1222.6	1224.3	1226.1	1228.1	1230.3	1232.6	1234.8	1237.0	1239.9
137.5°	1297.2	1298.7	1300.2	1301.7	1303.2	1305.1	1307.4	1309.7	1312.0	1314.3	1316.6
140°	1350.7	1352.3	1354.0	1355.7	1357.4	1358.7	1359.7	1360.8	1361.8	1362.8	1366.0
142.5°	1400.1	1401.6	1403.1	1404.6	1406.1	1407.2	1407.9	1408.7	1409.4	1410.2	1412.9
145°	1477.3	1477.8	1478.2	1478.6	1479.1	1479.8	1480.8	1481.8	1482.8	1483.8	1485.3
147.5°	1543.8	1545.0	1546.2	1547.5	1548.7	1549.7	1550.7	1551.6	1552.5	1553.5	1554.0
150°	1590.9	1591.6	1592.2	1592.9	1593.6	1594.2	1594.9	1595.6	1596.2	1596.9	1596.9
152.5°	1629.5	1630.4	1631.4	1632.3	1633.2	1633.9	1634.3	1634.7	1635.1	1635.5	1636.1
155°	1690.4	1690.4	1690.4	1690.4	1690.4	1690.6	1690.9	1691.2	1691.6	1691.9	1693.3
157.5°	1742.3	1741.9	1741.5	1741.1	1740.7	1740.6	1740.9	1741.1	1741.4	1741.7	1743.1
160°	1774.9	1774.2	1773.5	1772.8	1772.2	1771.8	1771.8	1771.8	1771.8	1771.8	1773.5
162.5°	1803.8	1802.9	1801.9	1801.0	1800.1	1799.7	1800.0	1800.3	1800.5	1800.8	1802.5
165°	1841.2	1840.2	1839.2	1838.2	1837.2	1836.7	1836.7	1836.7	1836.7	1836.7	1838.7
167.5°	1871.1	1869.7	1868.4	1867.0	1865.7	1865.2	1865.4	1865.7	1866.0	1866.2	1868.3
170°	1887.9	1886.6	1885.3	1883.9	1882.6	1881.9	1881.9	1881.9	1881.9	1881.9	1884.3
172.5°	1901.2	1899.9	1898.5	1897.2	1895.9	1895.2	1895.2	1895.2	1895.2	1895.2	1897.3
175°	1915.1	1913.8	1912.4	1911.1	1909.7	1909.1	1909.1	1909.1	1909.1	1909.1	1911.1
177.5°	1920.8	1919.8	1918.7	1917.6	1916.5	1916.0	1916.0	1916.0	1916.0	1916.0	1917.6
180°	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6



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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°	157.0	165.2	173.4	178.7	181.1	183.6	186.1	188.5
90°	173.0	182.3	191.5	197.6	200.6	203.6	206.6	209.6
92.5°	187.1	195.9	204.7	210.0	211.7	213.5	215.2	216.9
95°	232.4	240.9	249.5	254.9	257.2	259.6	261.9	264.2
97.5°	287.7	296.2	304.6	310.0	312.2	314.4	316.6	318.7
100°	328.3	336.0	343.8	349.2	352.1	355.1	358.1	361.1
102.5°	376.0	383.5	391.1	396.0	398.2	400.4	402.5	404.7
105°	447.4	454.0	460.5	465.1	467.9	470.6	473.4	476.2
107.5°	525.2	532.5	539.9	544.3	546.0	547.6	549.3	550.9
110°	577.9	585.3	592.7	597.0	598.2	599.4	600.6	601.7



TEST NUMBER: P332177

CATALOG NUMBER: S123DIW-S775D1535U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	629.7	637.2	644.7	649.4	651.3	653.2	655.1	657.0
115°	709.7	715.6	721.6	725.3	726.8	728.3	729.9	731.4
117.5°	790.2	795.6	801.1	804.3	805.2	806.0	806.9	807.8
120°	844.2	849.2	854.2	857.2	858.2	859.1	860.1	861.0
122.5°	898.9	903.2	907.4	909.9	910.6	911.3	912.0	912.7
125°	980.0	983.6	987.1	989.1	989.3	989.6	989.9	990.2
127.5°	1060.2	1062.9	1065.7	1067.0	1067.1	1067.1	1067.2	1067.2
130°	1113.4	1116.5	1119.6	1120.6	1119.7	1118.7	1117.8	1116.8
132.5°	1165.0	1167.6	1170.3	1171.5	1171.2	1171.0	1170.8	1170.6
135°	1242.7	1245.6	1248.4	1250.1	1250.6	1251.1	1251.6	1252.1
137.5°	1318.9	1321.1	1323.4	1324.5	1324.4	1324.3	1324.2	1324.0
140°	1369.2	1372.3	1375.5	1376.5	1375.3	1374.1	1372.9	1371.7
142.5°	1415.7	1418.5	1421.3	1422.4	1421.7	1421.1	1420.4	1419.8
145°	1486.9	1488.4	1489.9	1490.5	1490.1	1489.7	1489.3	1488.8
147.5°	1554.6	1555.2	1555.7	1555.4	1554.2	1553.1	1551.9	1550.7
150°	1596.9	1596.9	1596.9	1596.1	1594.6	1593.1	1591.5	1590.0
152.5°	1636.6	1637.1	1637.7	1637.1	1635.5	1633.8	1632.2	1630.5
155°	1694.6	1695.9	1697.3	1696.8	1694.4	1692.1	1689.7	1687.4
157.5°	1744.5	1745.9	1747.3	1747.1	1745.2	1743.3	1741.4	1739.6
160°	1775.2	1776.9	1778.5	1778.7	1777.4	1776.0	1774.7	1773.3
162.5°	1804.1	1805.8	1807.5	1807.3	1805.1	1803.0	1800.8	1798.7
165°	1840.7	1842.7	1844.7	1844.6	1842.2	1839.9	1837.5	1835.2
167.5°	1870.4	1872.5	1874.5	1874.5	1872.5	1870.4	1868.3	1866.2
170°	1886.6	1889.0	1891.3	1891.3	1889.0	1886.6	1884.3	1881.9
172.5°	1899.3	1901.4	1903.5	1903.4	1901.0	1898.7	1896.3	1894.0
175°	1913.1	1915.1	1917.1	1916.9	1914.6	1912.2	1909.9	1907.6
177.5°	1919.2	1920.8	1922.4	1922.3	1920.4	1918.5	1916.7	1914.8
180°	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6

(END OF REPORT)