

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: P332176-940

Luminaire Tested: **S123DIW-S775D1535U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332176-940
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-S775D1535U940-4F0-1E-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: 8357.2 lumens
Efficiency: N/A
Efficacy: 122.7 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

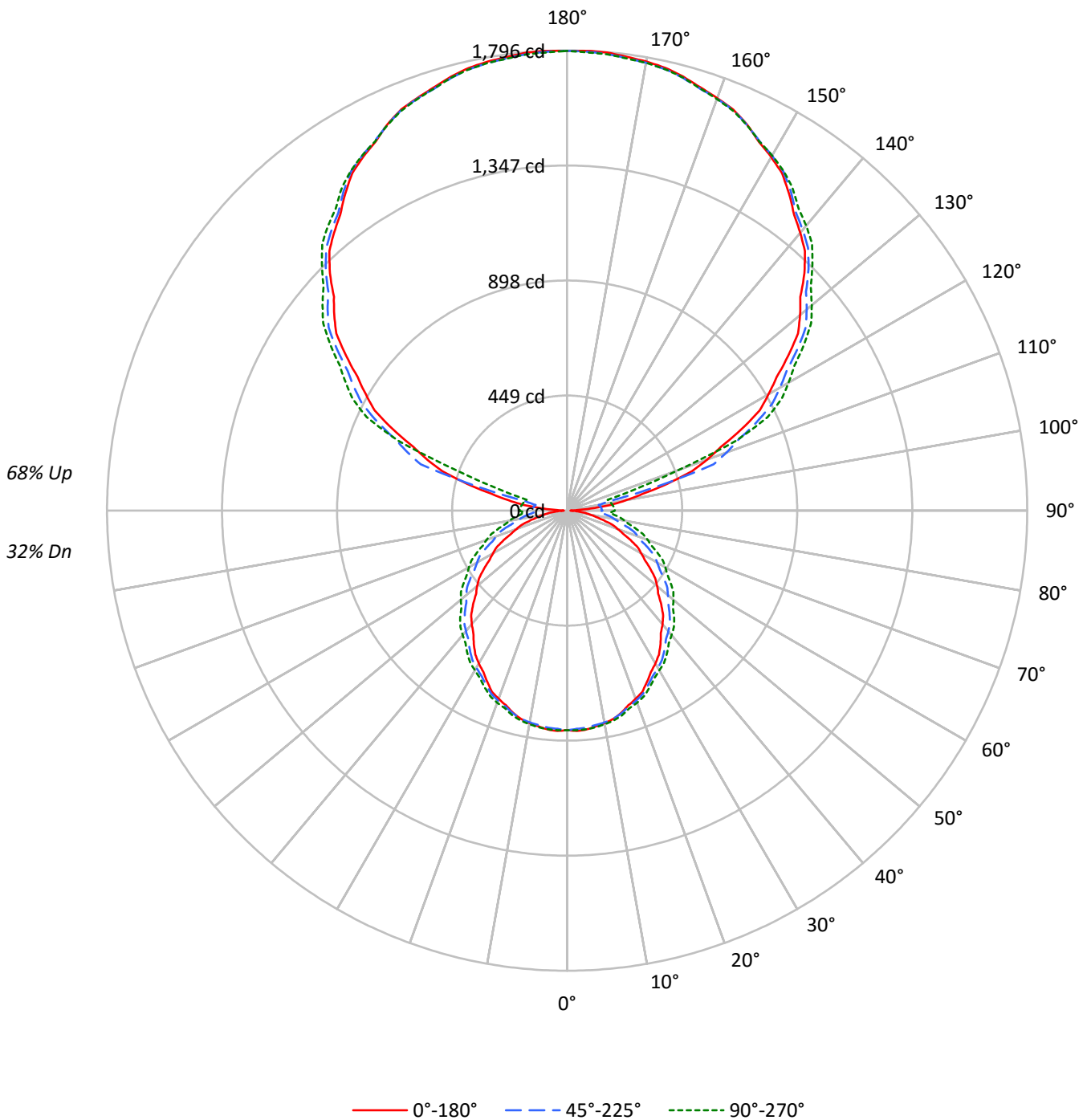
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332176-940

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20						20							20
RC	80					70						30							10
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50
RCR																			
0	103	103	103	103		92	92	92	92		73	73	73		55	55	55		39
1	93	88	84	81		83	80	76	73		63	61	58		48	46	45		34
2	84	77	71	65		75	69	64	59		55	51	48		41	39	37		29
3	77	67	60	54		69	61	54	49		48	44	40		36	33	31		26
4	70	59	51	45		63	53	47	41		42	38	34		32	29	26		23
5	64	53	45	39		57	48	41	35		38	33	29		29	25	22		20
6	59	47	39	33		53	42	36	30		34	29	25		26	22	19		18
7	54	42	34	29		49	38	31	27		31	26	22		23	20	17		17
8	50	38	31	25		45	35	28	23		28	23	19		21	18	15		15
9	47	35	27	22		42	32	25	21		25	20	17		20	16	13		14
10	44	32	25	20		39	29	23	18		23	19	15		18	15	12		13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9226	9226	9226
5°	9255	8994	8999
10°	9172	8787	8743
15°	9054	8552	8462
20°	8884	8283	8155
25°	8676	7974	7832
30°	8462	7695	7504
35°	8223	7401	7242
40°	7995	7134	6961
45°	7742	6877	6737
50°	7490	6622	6490
55°	7215	6363	6268
60°	6946	6099	6041
65°	6670	5818	5769
70°	6254	5502	5492
75°	5730	5140	5210
80°	5128	4782	4885
85°	4559	4540	4699



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.3	1.0
10°-20°	231.6	2.8
20°-30°	346.4	4.1
30°-40°	413.7	5.0
40°-50°	432.9	5.2
50°-60°	406.2	4.9
60°-70°	339.3	4.1
70°-80°	242.7	2.9
80°-90°	149.8	1.8
90°-100°	156.1	1.9
100°-110°	377.7	4.5
110°-120°	791.4	9.5
120°-130°	976.5	11.7
130°-140°	1027.6	12.3
140°-150°	952.6	11.4
150°-160°	766.5	9.2
160°-170°	494.7	5.9
170°-180°	170.5	2.0
0°-30°	659.3	7.9
0°-40°	1073.0	12.8
0°-60°	1912.1	22.9
0°-90°	2643.8	31.6
90°-120°	1325.1	15.9
90°-150°	4281.8	51.2
90°-180°	5713.0	68.4
0°-180°	8357.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	857	857	857	857	857	
5°	858	856	851	858	857	81
15°	817	820	819	828	827	230
25°	738	747	750	761	762	340
35°	635	650	662	675	680	397
45°	519	542	565	582	590	400
55°	396	427	460	484	493	354
65°	274	310	351	378	388	270
75°	148	192	239	269	281	159
85°	46	93	142	172	183	48
90°	14	73	138	173	186	12
95°	92	78	134	170	181	108
105°	405	435	362	164	163	429
115°	750	771	815	849	863	740
125°	1053	1065	1096	1118	1128	941
135°	1310	1317	1332	1352	1354	1008
145°	1510	1518	1521	1531	1535	945
155°	1662	1660	1661	1667	1660	766
165°	1753	1749	1748	1757	1749	495
175°	1794	1788	1789	1797	1788	171
180°	1794	1794	1794	1794	1794	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1
2.5°	860.9	860.3	859.9	859.3	858.9	857.9	856.7	855.3	854.0	852.7	854.0
5°	858.1	857.6	857.2	856.8	856.4	855.6	854.3	853.1	851.9	850.6	852.3
7.5°	849.6	849.7	849.8	849.9	850.0	849.4	848.2	847.0	845.8	844.6	846.7
10°	842.2	842.6	843.0	843.5	843.8	843.6	842.5	841.5	840.4	839.4	841.5
12.5°	833.2	833.8	834.4	835.0	835.5	835.5	834.8	834.1	833.4	832.7	834.6
15°	817.0	817.6	818.2	818.9	819.5	819.7	819.5	819.3	819.0	818.9	820.9
17.5°	796.5	797.7	799.0	800.1	801.4	802.0	801.9	801.8	801.7	801.6	803.5
20°	781.5	782.7	784.0	785.2	786.5	787.3	787.7	788.2	788.5	789.0	790.9
22.5°	765.8	767.0	768.3	769.5	770.8	771.7	772.3	772.8	773.5	774.0	776.4
25°	737.6	739.7	741.7	743.9	745.9	747.3	747.9	748.5	749.1	749.8	752.4
27.5°	709.3	711.6	714.0	716.3	718.7	720.5	721.8	723.2	724.5	725.9	728.2
30°	689.0	691.8	694.5	697.1	699.8	702.0	703.6	705.3	707.0	708.6	711.1
32.5°	666.6	669.7	672.7	675.7	678.8	681.4	683.5	685.7	687.9	690.0	692.7
35°	634.9	638.2	641.6	644.9	648.2	651.2	653.9	656.6	659.3	662.0	665.1
37.5°	601.3	605.0	608.8	612.5	616.3	619.7	623.1	626.4	629.7	633.0	636.6
40°	578.9	582.6	586.4	590.1	593.8	597.8	601.9	606.1	610.2	614.4	617.9
42.5°	554.2	558.8	563.4	567.9	572.5	576.9	581.2	585.6	589.9	594.2	598.1
45°	519.2	524.1	529.1	534.0	539.0	544.1	549.3	554.5	559.7	564.9	568.8
47.5°	482.3	488.0	493.7	499.3	504.9	510.7	516.7	522.5	528.5	534.4	538.9
50°	458.4	464.2	470.0	475.9	481.7	487.8	494.3	500.7	507.1	513.5	518.3
52.5°	433.0	439.2	445.3	451.5	457.6	464.2	471.4	478.4	485.5	492.6	497.6
55°	395.9	402.7	409.6	416.4	423.3	430.4	437.9	445.4	452.8	460.3	465.9
57.5°	359.6	366.8	373.9	381.0	388.3	395.8	404.0	412.2	420.4	428.6	434.2
60°	334.3	341.7	349.2	356.7	364.2	372.1	380.7	389.1	397.6	406.2	412.0
62.5°	310.3	318.0	325.7	333.2	340.9	349.2	358.2	367.2	376.2	385.2	391.0
65°	273.6	281.7	289.7	297.8	305.9	314.5	323.7	332.8	342.0	351.1	357.3
67.5°	236.2	244.8	253.4	262.0	270.5	279.6	288.8	298.1	307.4	316.7	323.5
70°	210.1	219.0	227.9	236.8	245.8	255.2	265.2	275.1	285.1	295.1	301.7
72.5°	186.2	195.1	204.0	212.9	221.9	231.5	241.7	252.1	262.3	272.6	279.5
75°	148.5	158.2	168.0	177.7	187.4	197.5	207.9	218.3	228.6	239.1	245.8
77.5°	115.6	125.5	135.3	145.1	154.9	165.1	175.6	186.0	196.4	206.9	214.1
80°	92.5	102.6	112.8	123.0	133.1	143.6	154.4	165.1	175.9	186.7	193.8
82.5°	72.2	82.6	92.9	103.3	113.6	124.2	135.2	146.2	157.1	168.1	175.1
85°	45.7	56.1	66.5	76.9	87.2	97.9	109.0	119.9	130.9	142.0	149.0
87.5°	25.1	36.0	47.0	57.9	68.8	80.0	91.3	102.6	114.0	125.4	132.7
90°	13.5	26.6	39.8	52.9	66.0	79.8	94.2	108.6	123.1	137.5	145.7
92.5°	36.2	44.5	52.9	61.2	69.6	80.3	93.7	107.0	120.4	133.7	142.4
95°	91.6	87.6	83.5	79.5	75.3	80.1	93.5	106.9	120.3	133.8	142.2
97.5°	172.5	174.4	176.3	178.2	180.0	175.1	163.5	151.9	140.3	128.7	137.2
100°	233.7	246.3	258.9	271.3	283.9	271.9	235.2	198.6	161.9	125.2	133.6
102.5°	303.4	313.6	323.8	334.0	344.3	328.9	287.8	246.6	205.5	164.4	163.0
105°	404.7	413.0	421.2	429.4	437.7	432.9	415.2	397.4	379.7	361.9	315.3
107.5°	510.8	517.6	524.5	531.3	538.1	547.9	560.6	573.3	585.9	598.6	565.7
110°	581.5	587.6	593.7	599.9	605.9	614.7	626.3	637.8	649.4	661.0	656.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	649.8	655.0	660.1	665.4	670.6	678.8	690.0	701.2	712.5	723.7	729.1
115°	749.8	754.1	758.4	762.7	767.0	774.1	784.3	794.4	804.5	814.7	822.6
117.5°	847.6	851.2	855.0	858.7	862.5	868.5	876.9	885.2	893.6	902.0	909.3
120°	907.6	911.2	915.0	918.6	922.4	928.1	935.9	943.6	951.3	959.0	966.2
122.5°	969.5	972.1	974.9	977.6	980.3	985.5	993.2	1000.9	1008.4	1016.1	1022.3
125°	1053.3	1055.6	1058.0	1060.4	1062.7	1067.6	1074.8	1081.9	1089.1	1096.4	1101.3
127.5°	1135.4	1137.6	1139.7	1141.9	1144.1	1148.3	1154.8	1161.1	1167.5	1173.9	1179.0
130°	1186.6	1188.7	1190.9	1193.1	1195.2	1199.0	1204.3	1209.7	1215.0	1220.3	1225.5
132.5°	1234.9	1237.2	1239.6	1241.9	1244.2	1247.5	1251.8	1256.1	1260.3	1264.6	1269.5
135°	1309.7	1311.2	1312.8	1314.4	1315.9	1318.4	1321.9	1325.3	1328.8	1332.3	1336.9
137.5°	1373.4	1375.6	1377.6	1379.7	1381.8	1383.8	1385.7	1387.7	1389.6	1391.5	1396.2
140°	1415.3	1417.1	1418.9	1420.7	1422.5	1424.1	1425.6	1427.1	1428.6	1430.1	1434.4
142.5°	1454.8	1456.4	1458.0	1459.6	1461.2	1462.6	1463.6	1464.5	1465.6	1466.6	1470.3
145°	1510.0	1511.9	1513.8	1515.6	1517.4	1518.7	1519.3	1519.8	1520.5	1521.1	1523.3
147.5°	1561.0	1562.5	1563.8	1565.1	1566.5	1567.4	1568.1	1568.7	1569.2	1569.9	1570.9
150°	1593.0	1593.9	1594.8	1595.7	1596.6	1597.3	1597.9	1598.6	1599.1	1599.7	1600.3
152.5°	1621.8	1622.3	1622.6	1623.1	1623.5	1623.9	1624.3	1624.6	1625.0	1625.3	1626.4
155°	1662.3	1661.8	1661.2	1660.6	1660.0	1659.8	1660.2	1660.5	1660.7	1661.0	1662.5
157.5°	1693.8	1693.8	1693.7	1693.6	1693.6	1693.4	1693.1	1692.8	1692.6	1692.2	1694.0
160°	1713.1	1712.7	1712.4	1712.2	1711.8	1711.5	1711.3	1710.9	1710.7	1710.4	1712.2
162.5°	1731.2	1730.4	1729.7	1728.8	1728.0	1727.5	1727.2	1727.0	1726.6	1726.4	1728.4
165°	1753.0	1752.1	1751.2	1750.3	1749.4	1748.9	1748.6	1748.3	1748.0	1747.7	1750.1
167.5°	1770.0	1768.9	1767.7	1766.6	1765.3	1764.8	1764.8	1764.8	1764.8	1764.8	1767.1
170°	1779.7	1778.5	1777.3	1776.1	1775.0	1774.3	1774.3	1774.3	1774.3	1774.3	1776.7
172.5°	1786.1	1784.7	1783.2	1781.8	1780.4	1779.8	1780.0	1780.3	1780.5	1780.7	1783.2
175°	1794.3	1792.9	1791.4	1789.9	1788.4	1787.8	1788.1	1788.4	1788.7	1789.0	1791.1
177.5°	1796.4	1795.3	1794.1	1793.0	1791.7	1791.3	1791.5	1791.7	1792.0	1792.2	1794.1
180°	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1
2.5°	855.3	856.7	857.9	858.5	858.4	858.2	858.0	857.9
5°	853.9	855.6	857.2	857.9	857.7	857.6	857.4	857.1
7.5°	848.7	850.9	852.9	853.8	853.5	853.4	853.1	852.8
10°	843.6	845.6	847.7	848.6	848.1	847.7	847.3	846.9
12.5°	836.5	838.4	840.3	841.1	840.6	840.3	839.8	839.4
15°	823.0	825.1	827.2	828.0	827.9	827.7	827.4	827.2
17.5°	805.4	807.3	809.1	809.9	809.7	809.3	809.0	808.8
20°	792.7	794.6	796.5	797.5	797.7	797.9	798.1	798.3
22.5°	778.7	781.1	783.5	784.6	784.5	784.3	784.3	784.1
25°	755.2	757.9	760.5	761.9	761.9	761.9	761.9	761.9
27.5°	730.5	732.8	735.1	736.4	736.6	736.7	736.9	737.1
30°	713.6	716.1	718.6	719.9	719.9	719.9	719.9	719.9
32.5°	695.3	697.9	700.6	702.2	702.7	703.2	703.6	704.2
35°	668.2	671.4	674.4	676.5	677.3	678.1	678.9	679.8
37.5°	640.1	643.6	647.1	649.3	649.9	650.6	651.2	651.9
40°	621.4	624.9	628.5	630.6	631.5	632.3	633.1	634.0
42.5°	601.9	605.7	609.7	612.2	613.3	614.5	615.6	616.8
45°	572.7	576.7	580.7	583.4	585.1	586.7	588.4	590.1
47.5°	543.3	547.8	552.2	555.1	556.3	557.7	558.9	560.2
50°	523.1	527.8	532.6	535.7	537.2	538.6	540.1	541.5
52.5°	502.5	507.5	512.4	515.8	517.5	519.3	521.1	522.9
55°	471.5	477.2	482.7	486.3	488.0	489.6	491.3	493.0
57.5°	439.9	445.5	451.1	455.0	456.9	458.9	460.7	462.7
60°	417.8	423.6	429.4	433.5	435.7	438.0	440.3	442.6
62.5°	396.9	402.7	408.5	412.4	414.6	416.7	418.8	420.9
65°	363.6	369.7	375.9	380.1	382.2	384.2	386.4	388.4
67.5°	330.3	337.2	343.9	348.2	349.9	351.7	353.5	355.2
70°	308.4	315.0	321.6	325.9	328.1	330.1	332.2	334.3
72.5°	286.2	293.0	299.9	304.3	306.4	308.4	310.5	312.6
75°	252.7	259.6	266.4	271.1	273.6	276.1	278.6	281.1
77.5°	221.3	228.5	235.8	240.3	242.3	244.2	246.1	248.0
80°	200.8	207.9	215.0	219.5	221.6	223.6	225.8	227.8
82.5°	182.2	189.2	196.3	200.8	203.0	205.0	207.1	209.1
85°	156.0	163.1	170.1	174.7	176.7	178.9	180.9	183.0
87.5°	139.9	147.2	154.5	159.3	161.5	163.6	165.9	168.0
90°	154.0	162.2	170.5	175.9	178.6	181.3	183.9	186.5
92.5°	151.2	160.0	168.8	174.3	176.6	178.9	181.1	183.3
95°	150.8	159.3	167.8	173.1	175.1	177.2	179.3	181.4
97.5°	145.7	154.3	162.8	168.4	170.7	173.1	175.4	177.8
100°	142.0	150.3	158.8	164.2	166.5	168.9	171.3	173.6
102.5°	161.5	160.0	158.5	159.1	161.7	164.3	166.8	169.5
105°	268.8	222.1	175.5	153.4	155.9	158.3	160.8	163.3
107.5°	532.8	499.9	467.0	431.8	394.0	356.3	318.7	281.0
110°	652.2	647.8	643.5	620.9	580.2	539.5	498.8	458.1



TEST NUMBER: P332176-940

CATALOG NUMBER: S123DIW-S775D1535U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	734.5	739.9	745.3	744.5	737.4	730.2	723.1	716.0
115°	830.5	838.5	846.4	851.9	854.7	857.6	860.4	863.3
117.5°	916.6	923.9	931.2	935.9	937.6	939.5	941.4	943.3
120°	973.3	980.4	987.7	991.9	993.4	994.8	996.3	997.7
122.5°	1028.7	1034.9	1041.2	1045.2	1046.9	1048.6	1050.2	1051.9
125°	1106.3	1111.2	1116.2	1119.6	1121.7	1123.7	1125.8	1127.8
127.5°	1184.0	1189.1	1194.2	1197.1	1197.9	1198.7	1199.5	1200.3
130°	1230.6	1235.7	1240.8	1243.8	1244.4	1245.0	1245.7	1246.3
132.5°	1274.5	1279.4	1284.4	1287.2	1287.8	1288.3	1289.0	1289.5
135°	1341.6	1346.1	1350.8	1353.2	1353.3	1353.4	1353.6	1353.8
137.5°	1401.0	1405.6	1410.3	1412.9	1413.4	1413.8	1414.3	1414.7
140°	1438.8	1443.1	1447.3	1449.7	1450.2	1450.6	1451.1	1451.5
142.5°	1474.1	1477.8	1481.5	1483.5	1483.7	1483.9	1484.2	1484.3
145°	1525.5	1527.9	1530.1	1531.6	1532.4	1533.3	1534.1	1534.9
147.5°	1572.0	1573.2	1574.2	1574.5	1573.9	1573.2	1572.6	1572.0
150°	1600.9	1601.5	1602.0	1602.1	1601.7	1601.2	1600.7	1600.3
152.5°	1627.5	1628.5	1629.6	1629.4	1628.2	1626.9	1625.6	1624.3
155°	1664.0	1665.4	1667.0	1666.8	1665.0	1663.2	1661.4	1659.7
157.5°	1695.8	1697.5	1699.3	1699.1	1696.7	1694.4	1692.1	1689.8
160°	1714.0	1715.7	1717.4	1717.3	1715.2	1713.2	1711.1	1709.1
162.5°	1730.4	1732.4	1734.4	1734.5	1732.7	1730.8	1729.0	1727.2
165°	1752.4	1754.8	1757.2	1757.3	1755.2	1753.2	1751.1	1749.0
167.5°	1769.5	1771.8	1774.2	1774.2	1771.8	1769.5	1767.1	1764.8
170°	1779.1	1781.5	1783.9	1783.9	1781.5	1779.1	1776.7	1774.3
172.5°	1785.5	1787.9	1790.2	1790.1	1787.5	1784.9	1782.3	1779.7
175°	1793.1	1795.2	1797.3	1797.2	1794.7	1792.4	1790.0	1787.7
177.5°	1796.0	1797.9	1799.8	1799.6	1797.2	1794.8	1792.4	1790.1
180°	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3	1794.3

(END OF REPORT)