

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: P332177-940

Luminaire Tested: **S123DIW-S775D1535U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332177-940
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-S775D1535U940-4F0-1E-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: 7628.0 lumens
Efficiency: N/A
Efficacy: 112.0 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

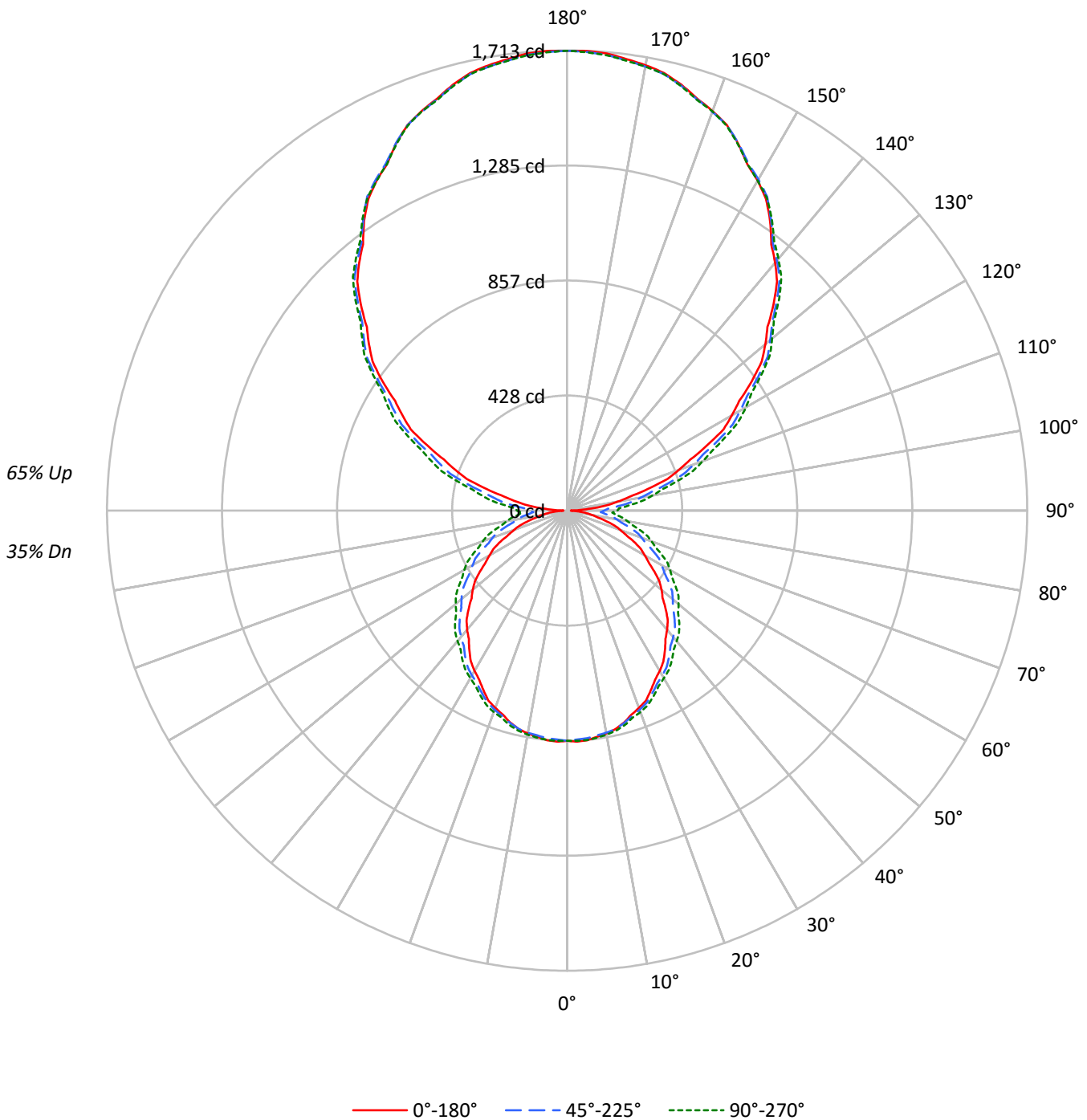
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332177-940

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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°	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



TEST NUMBER: P332177-940

CATALOG NUMBER: S123DIW-S775D1535U940-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.3	1.1
10°-20°	231.6	3.0
20°-30°	346.4	4.5
30°-40°	413.7	5.4
40°-50°	432.9	5.7
50°-60°	406.2	5.3
60°-70°	339.3	4.4
70°-80°	242.7	3.2
80°-90°	149.8	2.0
90°-100°	202.4	2.7
100°-110°	400.5	5.3
110°-120°	612.2	8.0
120°-130°	772.2	10.1
130°-140°	850.7	11.2
140°-150°	827.4	10.8
150°-160°	694.5	9.1
160°-170°	462.3	6.1
170°-180°	161.9	2.1
0°-30°	659.3	8.6
0°-40°	1073.0	14.1
0°-60°	1912.1	25.1
0°-90°	2643.9	34.7
90°-120°	1215.1	15.9
90°-150°	3665.4	48.1
90°-180°	4984.0	65.3
0°-180°	7628.0	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	174	187	13
95°	90	136	192	225	236	97
105°	310	337	387	413	425	332
115°	576	592	622	645	652	570
125°	839	844	868	881	883	748
135°	1087	1094	1103	1114	1116	837
145°	1317	1319	1323	1329	1328	822
155°	1507	1507	1509	1513	1505	694
165°	1642	1638	1638	1645	1636	463
175°	1708	1703	1702	1709	1701	162
180°	1712	1712	1712	1712	1712	



TEST NUMBER: P332177-940

CATALOG NUMBER: S123DIW-S775D1535U940-4F0-1E-UDD-D1

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	102.7	114.0	125.4	132.7
90°	13.5	26.7	39.8	53.0	66.1	79.9	94.3	108.9	123.3	137.8	146.1
92.5°	44.0	55.1	66.3	77.6	88.7	100.7	113.2	125.9	138.6	151.1	159.0
95°	89.6	99.8	109.9	120.1	130.4	141.7	154.3	166.8	179.4	191.9	199.6
97.5°	150.1	158.9	167.8	176.6	185.5	195.6	207.1	218.6	230.0	241.4	249.0
100°	191.3	199.7	208.1	216.6	225.0	234.7	245.8	256.8	267.9	278.9	285.8
102.5°	239.0	246.0	253.1	260.1	267.2	276.3	287.7	299.1	310.4	321.7	328.5
105°	310.0	315.6	321.2	326.7	332.3	340.9	352.5	364.2	375.8	387.4	393.2
107.5°	391.7	396.3	400.9	405.5	410.1	417.1	426.7	436.2	445.8	455.3	461.8
110°	442.6	446.9	451.3	455.6	459.9	466.5	475.5	484.4	493.3	502.1	508.7



TEST NUMBER: P332177-940

CATALOG NUMBER: S123DIW-S775D1535U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	496.4	499.8	503.3	506.7	510.1	515.9	524.0	532.1	540.1	548.2	554.9
115°	576.1	579.5	582.9	586.3	589.7	594.9	601.7	608.6	615.5	622.3	627.6
117.5°	657.2	659.3	661.5	663.6	665.8	669.9	676.1	682.3	688.6	694.8	699.7
120°	706.9	709.8	712.7	715.5	718.3	722.4	727.7	733.1	738.4	743.8	748.3
122.5°	759.7	761.5	763.4	765.3	767.1	770.9	776.7	782.4	788.1	793.9	797.7
125°	839.2	840.1	841.0	841.9	842.8	845.9	851.3	856.8	862.2	867.6	870.8
127.5°	913.4	915.1	916.8	918.6	920.2	923.3	927.6	931.8	936.2	940.5	943.0
130°	962.9	965.1	967.2	969.5	971.6	974.4	977.6	980.9	984.1	987.3	990.1
132.5°	1011.6	1014.0	1016.3	1018.7	1021.0	1023.5	1026.2	1028.9	1031.5	1034.2	1036.5
135°	1087.0	1088.6	1090.2	1091.7	1093.3	1095.1	1097.1	1099.1	1101.1	1103.0	1105.6
137.5°	1156.7	1158.1	1159.4	1160.7	1162.1	1163.8	1165.8	1167.9	1169.9	1172.0	1174.0
140°	1204.4	1205.9	1207.4	1208.9	1210.4	1211.6	1212.5	1213.4	1214.3	1215.2	1218.1
142.5°	1248.5	1249.8	1251.2	1252.5	1253.8	1254.8	1255.4	1256.2	1256.8	1257.5	1259.9
145°	1317.3	1317.8	1318.1	1318.5	1318.9	1319.6	1320.4	1321.3	1322.2	1323.1	1324.5
147.5°	1376.6	1377.7	1378.8	1379.9	1381.0	1381.9	1382.8	1383.6	1384.4	1385.3	1385.7
150°	1418.6	1419.2	1419.8	1420.4	1421.0	1421.6	1422.2	1422.8	1423.3	1424.0	1424.0
152.5°	1453.0	1453.8	1454.7	1455.5	1456.3	1457.0	1457.3	1457.7	1458.0	1458.4	1458.9
155°	1507.3	1507.3	1507.3	1507.3	1507.3	1507.5	1507.8	1508.1	1508.4	1508.7	1509.9
157.5°	1553.6	1553.3	1552.9	1552.6	1552.2	1552.1	1552.4	1552.6	1552.8	1553.1	1554.3
160°	1582.7	1582.1	1581.4	1580.8	1580.3	1579.9	1579.9	1579.9	1579.9	1579.9	1581.4
162.5°	1608.5	1607.7	1606.8	1606.0	1605.2	1604.8	1605.1	1605.3	1605.5	1605.8	1607.3
165°	1641.8	1640.9	1640.0	1639.1	1638.3	1637.8	1637.8	1637.8	1637.8	1637.8	1639.6
167.5°	1668.5	1667.2	1666.1	1664.8	1663.7	1663.2	1663.4	1663.7	1663.9	1664.1	1666.0
170°	1683.5	1682.3	1681.1	1679.9	1678.7	1678.1	1678.1	1678.1	1678.1	1678.1	1680.3
172.5°	1695.3	1694.2	1692.9	1691.8	1690.6	1690.0	1690.0	1690.0	1690.0	1690.0	1691.8
175°	1707.7	1706.6	1705.3	1704.1	1702.9	1702.4	1702.4	1702.4	1702.4	1702.4	1704.1
177.5°	1712.8	1711.9	1710.9	1709.9	1709.0	1708.5	1708.5	1708.5	1708.5	1708.5	1709.9
180°	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7



TEST NUMBER: P332177-940

CATALOG NUMBER: S123DIW-S775D1535U940-4F0-1E-UDD-D1

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°	140.0	147.3	154.6	159.3	161.5	163.7	165.9	168.1
90°	154.3	162.6	170.8	176.2	178.9	181.6	184.2	186.9
92.5°	166.8	174.7	182.5	187.3	188.8	190.4	191.9	193.4
95°	207.2	214.8	222.5	227.3	229.3	231.5	233.5	235.6
97.5°	256.5	264.1	271.6	276.4	278.4	280.4	282.3	284.2
100°	292.7	299.6	306.6	311.4	314.0	316.6	319.3	322.0
102.5°	335.3	342.0	348.7	353.1	355.1	357.0	358.9	360.9
105°	399.0	404.8	410.6	414.7	417.2	419.6	422.1	424.6
107.5°	468.3	474.8	481.4	485.4	486.9	488.3	489.8	491.2
110°	515.3	521.9	528.5	532.4	533.4	534.5	535.6	536.5



TEST NUMBER: P332177-940

CATALOG NUMBER: S123DIW-S775D1535U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	561.5	568.2	574.9	579.1	580.8	582.5	584.2	585.9
115°	632.8	638.1	643.5	646.8	648.1	649.4	650.9	652.2
117.5°	704.6	709.4	714.3	717.2	718.0	718.7	719.5	720.3
120°	752.8	757.2	761.7	764.4	765.3	766.1	767.0	767.8
122.5°	801.6	805.4	809.1	811.4	812.0	812.6	813.2	813.9
125°	873.9	877.1	880.2	882.0	882.2	882.4	882.7	883.0
127.5°	945.4	947.8	950.3	951.5	951.5	951.5	951.6	951.6
130°	992.8	995.6	998.4	999.3	998.4	997.6	996.8	995.9
132.5°	1038.8	1041.2	1043.6	1044.6	1044.4	1044.2	1044.0	1043.8
135°	1108.1	1110.7	1113.2	1114.7	1115.2	1115.6	1116.1	1116.5
137.5°	1176.1	1178.0	1180.1	1181.1	1181.0	1180.9	1180.8	1180.6
140°	1220.9	1223.7	1226.5	1227.4	1226.4	1225.3	1224.2	1223.2
142.5°	1262.4	1264.9	1267.4	1268.4	1267.7	1267.2	1266.6	1266.1
145°	1325.9	1327.2	1328.6	1329.1	1328.7	1328.4	1328.0	1327.6
147.5°	1386.3	1386.8	1387.2	1387.0	1385.9	1384.9	1383.8	1382.8
150°	1424.0	1424.0	1424.0	1423.3	1421.9	1420.6	1419.2	1417.8
152.5°	1459.4	1459.8	1460.4	1459.8	1458.4	1456.9	1455.5	1453.9
155°	1511.1	1512.3	1513.5	1513.1	1510.9	1508.9	1506.7	1504.7
157.5°	1555.6	1556.8	1558.1	1557.9	1556.2	1554.5	1552.8	1551.2
160°	1583.0	1584.5	1585.9	1586.1	1584.9	1583.7	1582.5	1581.3
162.5°	1608.7	1610.3	1611.8	1611.6	1609.6	1607.8	1605.8	1603.9
165°	1641.4	1643.2	1644.9	1644.8	1642.7	1640.7	1638.5	1636.5
167.5°	1667.9	1669.7	1671.5	1671.5	1669.7	1667.9	1666.0	1664.1
170°	1682.3	1684.4	1686.5	1686.5	1684.4	1682.3	1680.3	1678.1
172.5°	1693.6	1695.5	1697.4	1697.3	1695.1	1693.1	1691.0	1688.9
175°	1705.9	1707.7	1709.5	1709.3	1707.3	1705.1	1703.1	1701.0
177.5°	1711.4	1712.8	1714.2	1714.1	1712.4	1710.7	1709.1	1707.4
180°	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7

(END OF REPORT)