

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: P332177-935

Luminaire Tested: **S123DIW-S775D1535U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332177-935
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-S775D1535U935-4F0-1E-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: 7365.3 lumens
Efficiency: N/A
Efficacy: 108.2 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

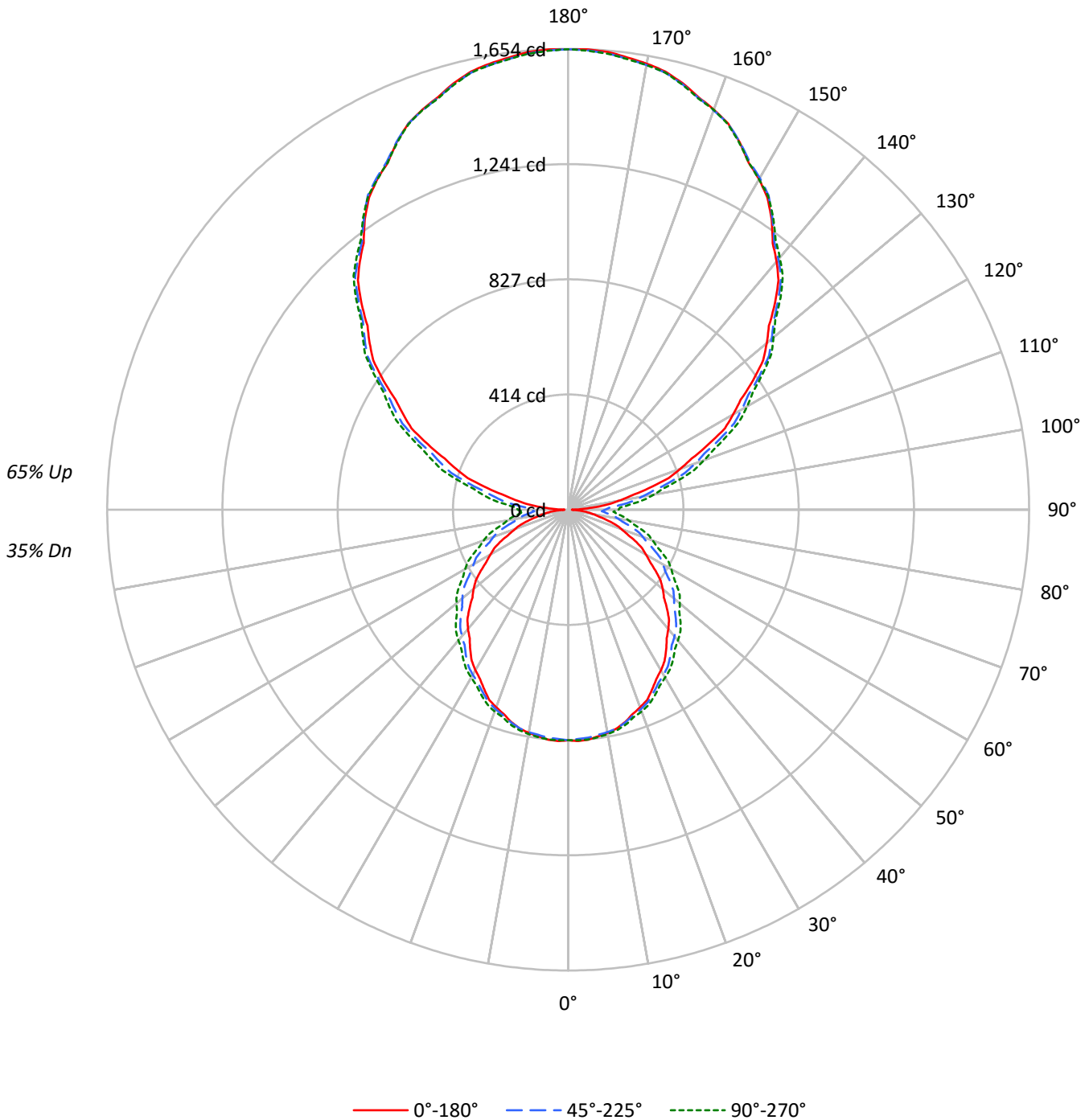
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	8908	8908	8908
5°	8936	8684	8689
10°	8856	8484	8441
15°	8741	8257	8171
20°	8579	7997	7875
25°	8377	7698	7561
30°	8171	7430	7245
35°	7939	7146	6992
40°	7720	6888	6722
45°	7475	6640	6505
50°	7232	6394	6267
55°	6967	6143	6052
60°	6707	5889	5832
65°	6441	5617	5571
70°	6040	5312	5303
75°	5534	4961	5030
80°	4951	4618	4718
85°	4409	4384	4537



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.5	1.1
10°-20°	223.7	3.0
20°-30°	334.5	4.5
30°-40°	399.5	5.4
40°-50°	418.0	5.7
50°-60°	392.2	5.3
60°-70°	327.6	4.4
70°-80°	234.4	3.2
80°-90°	144.7	2.0
90°-100°	195.4	2.7
100°-110°	386.7	5.3
110°-120°	591.2	8.0
120°-130°	745.6	10.1
130°-140°	821.4	11.2
140°-150°	798.9	10.8
150°-160°	670.6	9.1
160°-170°	446.4	6.1
170°-180°	156.3	2.1
0°-30°	636.6	8.6
0°-40°	1036.1	14.1
0°-60°	1846.2	25.1
0°-90°	2552.8	34.7
90°-120°	1173.3	15.9
90°-150°	3539.2	48.1
90°-180°	4812.0	65.3
0°-180°	7365.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	828	828	828	828	828	
5°	828	826	821	828	828	79
15°	789	791	791	799	799	222
25°	712	721	724	735	736	328
35°	613	627	639	652	656	383
45°	501	523	545	562	570	386
55°	382	412	444	468	476	342
65°	264	300	339	365	375	261
75°	143	186	231	260	271	153
85°	44	89	137	166	177	46
90°	13	70	133	168	180	13
95°	86	131	185	217	228	94
105°	299	325	374	398	410	320
115°	556	572	601	623	630	550
125°	810	815	838	851	853	723
135°	1050	1057	1065	1076	1078	809
145°	1272	1274	1278	1283	1282	794
155°	1455	1456	1457	1461	1453	670
165°	1585	1582	1581	1588	1580	447
175°	1649	1644	1644	1651	1642	157
180°	1653	1653	1653	1653	1653	



TEST NUMBER: P332177-935

CATALOG NUMBER: S123DIW-S775D1535U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6
2.5°	831.2	830.7	830.3	829.7	829.3	828.4	827.2	825.9	824.6	823.3	824.6
5°	828.5	828.1	827.7	827.3	826.9	826.1	824.9	823.7	822.5	821.3	822.9
7.5°	820.4	820.4	820.5	820.6	820.7	820.2	819.0	817.9	816.7	815.5	817.5
10°	813.2	813.6	814.0	814.4	814.8	814.5	813.5	812.5	811.5	810.5	812.5
12.5°	804.5	805.1	805.6	806.2	806.8	806.8	806.1	805.4	804.7	804.0	805.8
15°	788.8	789.5	790.1	790.7	791.3	791.4	791.3	791.1	790.8	790.7	792.6
17.5°	769.0	770.3	771.5	772.6	773.8	774.4	774.3	774.2	774.1	774.0	775.8
20°	754.6	755.8	757.0	758.2	759.4	760.2	760.6	761.0	761.4	761.8	763.6
22.5°	739.4	740.6	741.8	743.0	744.2	745.1	745.7	746.2	746.8	747.3	749.7
25°	712.2	714.2	716.2	718.2	720.2	721.5	722.1	722.7	723.3	723.9	726.5
27.5°	684.8	687.1	689.4	691.6	694.0	695.7	697.0	698.3	699.6	700.9	703.1
30°	665.3	668.0	670.5	673.1	675.7	677.9	679.4	681.1	682.7	684.2	686.6
32.5°	643.7	646.6	649.5	652.5	655.4	657.9	660.0	662.1	664.2	666.2	668.8
35°	613.0	616.2	619.5	622.7	625.9	628.8	631.4	634.0	636.6	639.2	642.2
37.5°	580.6	584.2	587.8	591.4	595.0	598.4	601.7	604.9	608.0	611.2	614.7
40°	559.0	562.6	566.2	569.8	573.3	577.2	581.2	585.2	589.2	593.2	596.6
42.5°	535.1	539.6	544.0	548.4	552.8	557.1	561.2	565.4	569.6	573.8	577.5
45°	501.3	506.1	510.8	515.7	520.5	525.4	530.4	535.4	540.4	545.4	549.2
47.5°	465.7	471.2	476.6	482.1	487.5	493.1	498.9	504.5	510.3	516.0	520.3
50°	442.6	448.2	453.8	459.5	465.1	471.0	477.3	483.5	489.7	495.8	500.4
52.5°	418.1	424.0	430.0	435.9	441.9	448.2	455.1	461.9	468.8	475.6	480.4
55°	382.3	388.8	395.5	402.1	408.7	415.6	422.8	430.1	437.2	444.4	449.9
57.5°	347.2	354.1	361.0	367.9	374.9	382.2	390.1	398.0	405.9	413.8	419.2
60°	322.8	329.9	337.2	344.4	351.6	359.3	367.6	375.7	383.9	392.2	397.8
62.5°	299.6	307.0	314.4	321.8	329.2	337.2	345.9	354.6	363.3	372.0	377.5
65°	264.2	272.0	279.7	287.6	295.4	303.7	312.5	321.3	330.2	339.0	345.0
67.5°	228.1	236.3	244.7	253.0	261.2	269.9	278.9	287.8	296.8	305.8	312.4
70°	202.9	211.5	220.1	228.7	237.3	246.4	256.1	265.6	275.3	284.9	291.3
72.5°	179.8	188.4	197.0	205.6	214.2	223.5	233.4	243.4	253.3	263.2	269.8
75°	143.4	152.7	162.2	171.6	181.0	190.7	200.7	210.8	220.8	230.8	237.4
77.5°	111.6	121.1	130.6	140.1	149.6	159.4	169.5	179.6	189.7	199.8	206.7
80°	89.3	99.1	108.9	118.7	128.5	138.6	149.0	159.5	169.9	180.3	187.1
82.5°	69.7	79.7	89.7	99.7	109.7	119.9	130.5	141.1	151.7	162.3	169.1
85°	44.2	54.2	64.2	74.2	84.2	94.5	105.2	115.8	126.4	137.1	143.9
87.5°	24.3	34.8	45.4	55.9	66.5	77.2	88.2	99.2	110.1	121.1	128.1
90°	13.0	25.7	38.4	51.1	63.8	77.1	91.1	105.1	119.1	133.0	141.0
92.5°	42.4	53.2	64.1	74.9	85.7	97.2	109.3	121.6	133.8	145.9	153.5
95°	86.5	96.3	106.2	116.0	125.9	136.8	149.0	161.1	173.2	185.3	192.7
97.5°	144.9	153.4	162.0	170.6	179.1	188.9	199.9	211.0	222.1	233.1	240.4
100°	184.7	192.9	201.0	209.1	217.2	226.6	237.3	248.0	258.6	269.3	276.0
102.5°	230.7	237.5	244.4	251.2	258.0	266.8	277.8	288.8	299.7	310.6	317.2
105°	299.4	304.7	310.1	315.5	320.9	329.2	340.4	351.6	362.8	374.0	379.6
107.5°	378.2	382.6	387.1	391.5	396.0	402.8	412.0	421.2	430.4	439.6	445.9
110°	427.4	431.5	435.8	439.9	444.1	450.5	459.1	467.7	476.3	484.8	491.2



TEST NUMBER: P332177-935

CATALOG NUMBER: S123DIW-S775D1535U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	479.3	482.6	485.9	489.2	492.6	498.1	505.9	513.8	521.5	529.3	535.8
115°	556.3	559.6	562.8	566.1	569.4	574.4	581.0	587.6	594.3	600.9	606.0
117.5°	634.6	636.6	638.7	640.8	642.8	646.8	652.8	658.8	664.9	670.9	675.6
120°	682.6	685.4	688.1	690.9	693.5	697.5	702.7	707.8	713.0	718.2	722.6
122.5°	733.6	735.3	737.1	738.9	740.7	744.3	749.9	755.4	761.0	766.5	770.3
125°	810.3	811.1	812.0	812.9	813.7	816.7	822.0	827.2	832.5	837.8	840.8
127.5°	881.9	883.6	885.2	886.9	888.6	891.5	895.6	899.7	904.0	908.1	910.5
130°	929.7	931.9	933.9	936.1	938.1	940.8	943.9	947.1	950.2	953.3	956.0
132.5°	976.8	979.0	981.3	983.6	985.8	988.3	990.8	993.4	996.0	998.6	1000.8
135°	1049.6	1051.1	1052.7	1054.1	1055.7	1057.4	1059.3	1061.3	1063.2	1065.1	1067.6
137.5°	1116.9	1118.2	1119.5	1120.8	1122.1	1123.7	1125.7	1127.7	1129.6	1131.6	1133.6
140°	1163.0	1164.3	1165.8	1167.3	1168.7	1169.8	1170.7	1171.6	1172.5	1173.4	1176.1
142.5°	1205.5	1206.8	1208.1	1209.4	1210.7	1211.6	1212.2	1212.9	1213.5	1214.2	1216.5
145°	1272.0	1272.4	1272.7	1273.1	1273.5	1274.1	1275.0	1275.8	1276.7	1277.6	1278.8
147.5°	1329.2	1330.2	1331.3	1332.4	1333.4	1334.3	1335.2	1335.9	1336.7	1337.6	1338.0
150°	1369.8	1370.4	1370.9	1371.5	1372.1	1372.6	1373.2	1373.8	1374.3	1374.9	1374.9
152.5°	1403.0	1403.8	1404.6	1405.4	1406.2	1406.8	1407.1	1407.5	1407.8	1408.2	1408.7
155°	1455.4	1455.4	1455.4	1455.4	1455.4	1455.6	1455.9	1456.1	1456.5	1456.7	1457.9
157.5°	1500.1	1499.8	1499.4	1499.1	1498.7	1498.7	1498.9	1499.1	1499.3	1499.6	1500.8
160°	1528.2	1527.6	1527.0	1526.4	1525.9	1525.5	1525.5	1525.5	1525.5	1525.5	1527.0
162.5°	1553.1	1552.3	1551.4	1550.7	1549.9	1549.5	1549.8	1550.1	1550.2	1550.5	1552.0
165°	1585.3	1584.4	1583.6	1582.7	1581.8	1581.4	1581.4	1581.4	1581.4	1581.4	1583.1
167.5°	1611.0	1609.8	1608.7	1607.5	1606.4	1605.9	1606.1	1606.4	1606.6	1606.8	1608.6
170°	1625.5	1624.4	1623.2	1622.0	1620.9	1620.3	1620.3	1620.3	1620.3	1620.3	1622.4
172.5°	1636.9	1635.8	1634.6	1633.5	1632.4	1631.8	1631.8	1631.8	1631.8	1631.8	1633.6
175°	1648.9	1647.8	1646.6	1645.5	1644.3	1643.7	1643.7	1643.7	1643.7	1643.7	1645.5
177.5°	1653.8	1652.9	1652.0	1651.1	1650.1	1649.7	1649.7	1649.7	1649.7	1649.7	1651.1
180°	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8



TEST NUMBER: P332177-935

CATALOG NUMBER: S123DIW-S775D1535U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6
2.5°	825.9	827.2	828.4	829.0	828.8	828.6	828.5	828.4
5°	824.5	826.1	827.7	828.4	828.2	828.0	827.9	827.6
7.5°	819.5	821.6	823.5	824.4	824.1	824.0	823.7	823.5
10°	814.5	816.5	818.5	819.3	818.9	818.5	818.1	817.7
12.5°	807.7	809.5	811.3	812.1	811.7	811.3	810.9	810.5
15°	794.6	796.7	798.7	799.5	799.4	799.2	798.9	798.7
17.5°	777.7	779.5	781.3	782.0	781.8	781.4	781.2	780.9
20°	765.4	767.2	769.0	770.0	770.3	770.4	770.6	770.9
22.5°	751.9	754.2	756.5	757.6	757.5	757.3	757.2	757.1
25°	729.2	731.8	734.3	735.6	735.6	735.6	735.6	735.6
27.5°	705.3	707.6	709.8	711.0	711.2	711.4	711.5	711.7
30°	689.1	691.5	693.9	695.1	695.1	695.1	695.1	695.1
32.5°	671.3	673.9	676.5	678.0	678.5	679.0	679.4	679.9
35°	645.2	648.2	651.2	653.2	653.9	654.7	655.5	656.3
37.5°	618.0	621.5	624.8	626.9	627.5	628.2	628.8	629.5
40°	600.0	603.4	606.8	608.9	609.8	610.5	611.3	612.2
42.5°	581.2	584.9	588.7	591.1	592.2	593.3	594.4	595.6
45°	553.0	556.8	560.7	563.4	565.0	566.5	568.2	569.8
47.5°	524.6	528.9	533.2	536.0	537.2	538.5	539.7	540.9
50°	505.1	509.6	514.3	517.3	518.7	520.0	521.5	522.9
52.5°	485.2	490.0	494.7	498.0	499.7	501.4	503.2	504.9
55°	455.3	460.7	466.1	469.6	471.2	472.8	474.4	476.0
57.5°	424.7	430.2	435.6	439.3	441.2	443.1	444.9	446.8
60°	403.4	409.0	414.6	418.5	420.7	422.9	425.2	427.3
62.5°	383.2	388.8	394.4	398.2	400.3	402.3	404.4	406.4
65°	351.0	357.0	363.0	367.0	369.0	371.0	373.1	375.1
67.5°	318.9	325.5	332.1	336.2	337.9	339.6	341.3	342.9
70°	297.7	304.1	310.6	314.7	316.8	318.7	320.7	322.8
72.5°	276.4	282.9	289.6	293.9	295.8	297.8	299.8	301.9
75°	244.0	250.6	257.3	261.7	264.2	266.6	269.0	271.4
77.5°	213.7	220.7	227.6	232.0	233.9	235.7	237.6	239.4
80°	193.9	200.7	207.6	212.0	214.0	215.9	218.0	220.0
82.5°	175.9	182.7	189.5	193.9	196.0	197.9	199.9	201.9
85°	150.7	157.5	164.3	168.7	170.7	172.7	174.7	176.7
87.5°	135.2	142.2	149.3	153.9	155.9	158.1	160.2	162.3
90°	149.0	157.0	164.9	170.1	172.7	175.3	177.9	180.5
92.5°	161.1	168.7	176.2	180.8	182.3	183.8	185.3	186.8
95°	200.1	207.4	214.8	219.5	221.4	223.5	225.5	227.5
97.5°	247.7	255.0	262.3	266.9	268.8	270.7	272.6	274.4
100°	282.7	289.3	296.0	300.7	303.2	305.7	308.3	310.9
102.5°	323.7	330.2	336.7	341.0	342.9	344.7	346.6	348.4
105°	385.2	390.9	396.5	400.5	402.9	405.2	407.6	410.0
107.5°	452.2	458.5	464.9	468.6	470.1	471.5	472.9	474.3
110°	497.6	503.9	510.3	514.0	515.1	516.1	517.1	518.1



TEST NUMBER: P332177-935

CATALOG NUMBER: S123DIW-S775D1535U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	542.2	548.6	555.1	559.1	560.8	562.4	564.0	565.7
115°	611.1	616.1	621.3	624.5	625.8	627.1	628.4	629.7
117.5°	680.4	685.0	689.7	692.5	693.3	694.0	694.7	695.5
120°	726.9	731.2	735.5	738.0	738.9	739.7	740.5	741.3
122.5°	774.0	777.7	781.3	783.4	784.0	784.6	785.2	785.8
125°	843.8	846.9	849.9	851.6	851.8	852.0	852.3	852.6
127.5°	912.8	915.2	917.6	918.7	918.8	918.8	918.9	918.9
130°	958.6	961.3	964.0	964.8	964.1	963.2	962.4	961.6
132.5°	1003.1	1005.3	1007.6	1008.7	1008.4	1008.2	1008.1	1007.9
135°	1070.0	1072.5	1074.9	1076.3	1076.8	1077.2	1077.6	1078.1
137.5°	1135.6	1137.5	1139.4	1140.4	1140.3	1140.2	1140.1	1140.0
140°	1178.9	1181.6	1184.3	1185.2	1184.1	1183.1	1182.1	1181.0
142.5°	1218.9	1221.3	1223.7	1224.7	1224.1	1223.6	1223.0	1222.4
145°	1280.2	1281.5	1282.8	1283.3	1283.0	1282.6	1282.3	1281.9
147.5°	1338.5	1339.0	1339.5	1339.2	1338.2	1337.2	1336.2	1335.2
150°	1374.9	1374.9	1374.9	1374.2	1373.0	1371.7	1370.3	1369.0
152.5°	1409.1	1409.5	1410.1	1409.5	1408.2	1406.7	1405.3	1403.9
155°	1459.1	1460.2	1461.4	1460.9	1458.9	1456.9	1454.8	1452.9
157.5°	1502.0	1503.2	1504.4	1504.3	1502.6	1501.0	1499.3	1497.8
160°	1528.4	1529.9	1531.3	1531.5	1530.3	1529.1	1528.0	1526.8
162.5°	1553.3	1554.8	1556.3	1556.1	1554.2	1552.4	1550.5	1548.7
165°	1584.8	1586.6	1588.3	1588.2	1586.1	1584.2	1582.1	1580.1
167.5°	1610.4	1612.2	1613.9	1613.9	1612.2	1610.4	1608.6	1606.8
170°	1624.4	1626.4	1628.4	1628.4	1626.4	1624.4	1622.4	1620.3
172.5°	1635.3	1637.1	1638.9	1638.8	1636.8	1634.8	1632.7	1630.7
175°	1647.2	1648.9	1650.6	1650.5	1648.5	1646.4	1644.4	1642.4
177.5°	1652.4	1653.8	1655.2	1655.1	1653.5	1651.8	1650.3	1648.6
180°	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8

(END OF REPORT)