

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: P332207-930

Luminaire Tested: **S123DIW-S1000D1535U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332207-930
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-S1000D1535U930-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 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: 7764.0 lumens
Efficiency: N/A
Efficacy: 101.4 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: General Diffuse

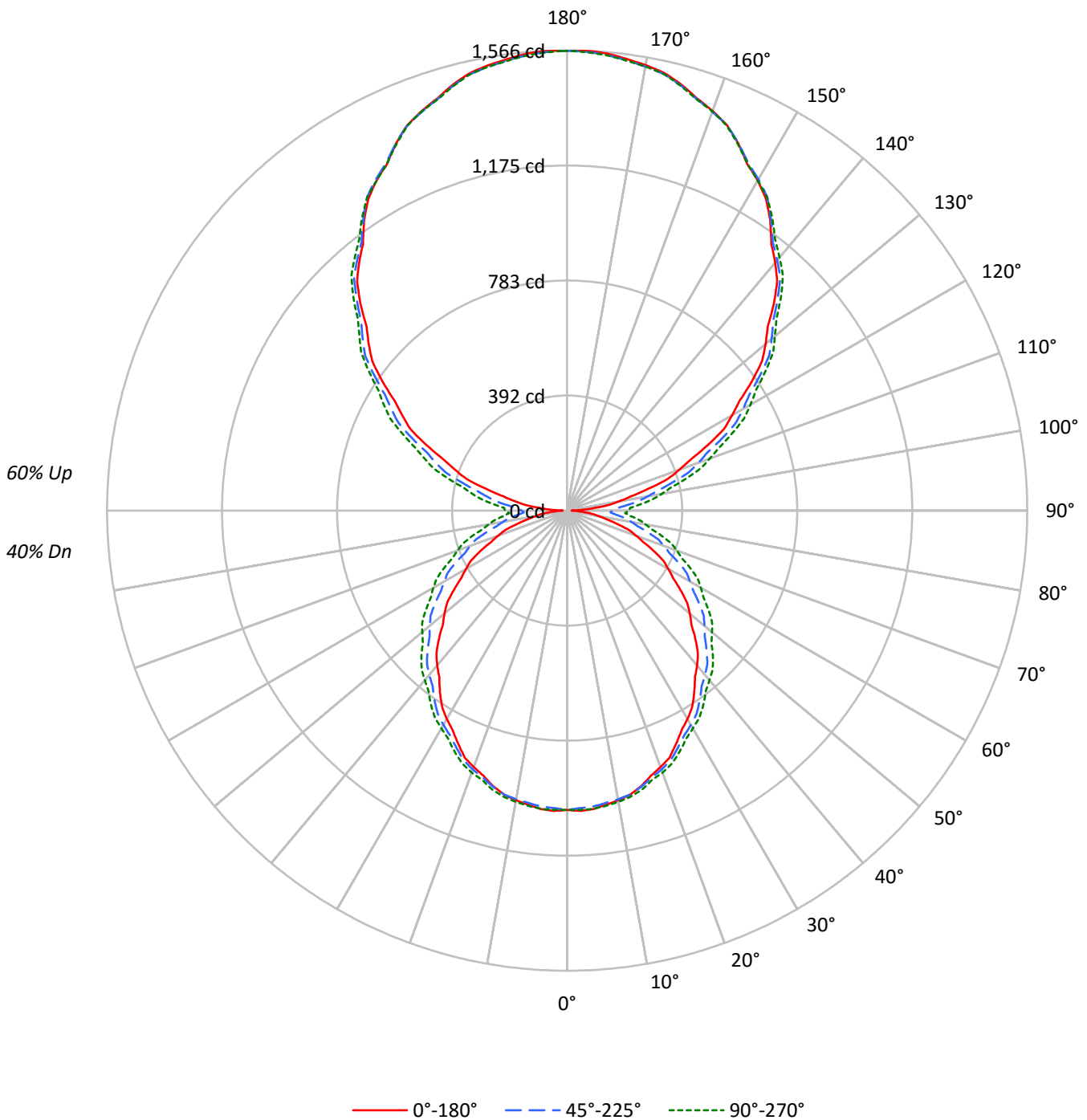
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	78	78	78	62	62	62	47	47	47	40
1	95	90	86	82	86	82	79	75	67	64	62	53	51	50	40	39	38	32
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	32	26
3	78	68	61	55	71	62	56	51	51	46	42	41	37	34	31	28	26	22
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	27	25	23	19
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	25	22	20	16
6	60	48	40	34	54	44	37	31	36	31	27	29	25	22	22	19	17	14
7	55	43	35	30	50	40	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	21	24	20	17	19	16	13	11
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	33	25	21	41	30	23	19	25	20	16	20	16	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10964	10964	10964
5°	10999	10689	10694
10°	10900	10443	10390
15°	10759	10162	10058
20°	10559	9844	9692
25°	10311	9476	9308
30°	10057	9145	8918
35°	9773	8796	8606
40°	9500	8479	8272
45°	9199	8172	8007
50°	8904	7871	7713
55°	8574	7562	7449
60°	8255	7248	7178
65°	7926	6915	6856
70°	7430	6538	6527
75°	6807	6107	6190
80°	6087	5683	5807
85°	5426	5394	5585



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.6	1.2
10°-20°	275.3	3.5
20°-30°	411.7	5.3
30°-40°	491.7	6.3
40°-50°	514.4	6.6
50°-60°	482.8	6.2
60°-70°	403.2	5.2
70°-80°	288.5	3.7
80°-90°	176.7	2.3
90°-100°	209.9	2.7
100°-110°	384.5	5.0
110°-120°	572.0	7.4
120°-130°	713.0	9.2
130°-140°	780.9	10.1
140°-150°	757.2	9.8
150°-160°	635.0	8.2
160°-170°	422.7	5.4
170°-180°	148.0	1.9
0°-30°	783.6	10.1
0°-40°	1275.2	16.4
0°-60°	2272.4	29.3
0°-90°	3140.8	40.5
90°-120°	1166.4	15.0
90°-150°	3417.5	44.0
90°-180°	4623.0	59.5
0°-180°	7764.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1019	1019	1019	1019	1019	
5°	1020	1017	1011	1019	1019	97
15°	971	974	973	984	983	273
25°	877	887	891	905	906	404
35°	755	772	787	803	808	472
45°	617	644	671	692	701	476
55°	470	507	547	576	586	421
65°	325	369	417	449	462	321
75°	176	229	284	319	334	188
85°	54	110	169	205	218	57
90°	16	83	155	196	211	14
95°	85	137	201	239	251	91
105°	286	316	373	403	417	305
115°	528	546	582	609	618	523
125°	768	773	801	819	823	685
135°	994	1001	1012	1026	1030	766
145°	1205	1206	1210	1217	1217	752
155°	1378	1378	1379	1384	1376	634
165°	1501	1498	1498	1504	1496	423
175°	1561	1557	1556	1563	1555	148
180°	1565	1565	1565	1565	1565	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6
2.5°	1023.1	1022.5	1021.9	1021.3	1020.8	1019.6	1018.1	1016.5	1014.9	1013.3	1014.9
5°	1019.8	1019.3	1018.8	1018.3	1017.8	1016.8	1015.4	1013.8	1012.4	1010.9	1012.8
7.5°	1009.7	1009.9	1010.0	1010.1	1010.2	1009.5	1008.1	1006.7	1005.2	1003.8	1006.2
10°	1000.9	1001.4	1001.9	1002.4	1002.9	1002.5	1001.3	1000.0	998.8	997.6	1000.0
12.5°	990.3	990.9	991.6	992.3	993.0	993.0	992.1	991.2	990.4	989.6	991.9
15°	970.9	971.7	972.4	973.1	973.9	974.1	973.9	973.6	973.4	973.1	975.7
17.5°	946.6	948.0	949.5	951.0	952.4	953.2	953.1	952.9	952.8	952.8	955.0
20°	928.8	930.3	931.7	933.2	934.7	935.7	936.2	936.7	937.2	937.7	939.9
22.5°	910.1	911.6	913.1	914.6	916.1	917.1	917.9	918.5	919.2	919.9	922.7
25°	876.6	879.1	881.6	884.0	886.5	888.1	888.8	889.6	890.3	891.0	894.2
27.5°	842.9	845.7	848.5	851.3	854.1	856.3	857.9	859.5	861.0	862.7	865.4
30°	818.9	822.1	825.3	828.5	831.8	834.3	836.3	838.3	840.2	842.2	845.2
32.5°	792.3	795.9	799.5	803.1	806.7	809.8	812.4	814.9	817.5	820.0	823.2
35°	754.6	758.5	762.5	766.4	770.4	773.9	777.1	780.3	783.5	786.8	790.4
37.5°	714.6	719.1	723.5	727.9	732.4	736.5	740.5	744.4	748.4	752.4	756.5
40°	687.9	692.4	696.8	701.3	705.7	710.5	715.3	720.3	725.2	730.2	734.3
42.5°	658.7	664.1	669.5	675.0	680.4	685.7	690.8	695.9	701.1	706.2	710.8
45°	616.9	622.9	628.8	634.7	640.7	646.7	652.8	659.0	665.2	671.3	676.0
47.5°	573.2	579.9	586.7	593.4	600.1	607.0	614.0	621.1	628.1	635.2	640.4
50°	544.9	551.7	558.6	565.6	572.4	579.8	587.3	595.0	602.7	610.3	616.0
52.5°	514.6	522.0	529.3	536.5	543.9	551.7	560.2	568.6	577.0	585.5	591.3
55°	470.5	478.7	486.7	494.9	503.0	511.5	520.4	529.3	538.2	547.1	553.8
57.5°	427.5	435.9	444.4	452.9	461.4	470.5	480.2	489.9	499.6	509.3	516.0
60°	397.3	406.1	415.0	423.9	432.8	442.2	452.3	462.5	472.6	482.7	489.6
62.5°	368.8	377.9	387.0	396.1	405.1	415.1	425.7	436.4	447.1	457.9	464.7
65°	325.1	334.8	344.4	354.0	363.6	373.8	384.7	395.5	406.3	417.3	424.6
67.5°	280.7	291.0	301.2	311.4	321.6	332.2	343.2	354.3	365.3	376.4	384.5
70°	249.6	260.2	270.8	281.5	292.1	303.3	315.1	327.0	338.8	350.7	358.6
72.5°	221.3	231.9	242.5	253.1	263.7	275.1	287.3	299.5	311.8	324.0	332.1
75°	176.4	188.0	199.6	211.2	222.8	234.7	247.1	259.4	271.7	284.1	292.2
77.5°	137.4	149.0	160.8	172.4	184.1	196.2	208.6	221.0	233.5	245.9	254.5
80°	109.8	122.0	134.0	146.1	158.2	170.6	183.4	196.3	209.1	221.9	230.3
82.5°	85.9	98.2	110.5	122.7	135.0	147.7	160.7	173.7	186.7	199.7	208.1
85°	54.4	66.7	79.0	91.4	103.7	116.4	129.5	142.5	155.6	168.7	177.1
87.5°	29.8	42.6	55.4	68.2	81.0	94.1	107.4	120.7	134.0	147.2	155.9
90°	15.7	30.5	45.2	60.1	74.9	90.4	106.5	122.6	138.8	154.9	164.4
92.5°	43.3	56.0	68.8	81.5	94.3	107.9	122.3	136.7	151.1	165.5	174.6
95°	84.7	96.3	107.8	119.4	130.9	143.7	158.0	172.3	186.5	200.8	209.5
97.5°	139.7	149.9	159.9	170.0	180.1	191.8	204.9	218.0	231.1	244.3	252.8
100°	177.2	186.7	196.2	205.8	215.3	226.4	239.1	251.8	264.6	277.3	285.3
102.5°	220.5	228.6	236.8	244.8	252.9	263.4	276.4	289.3	302.2	315.2	323.0
105°	285.5	292.0	298.4	304.9	311.4	321.1	334.2	347.2	360.3	373.4	380.3
107.5°	359.9	365.3	370.6	375.9	381.3	389.6	400.6	411.6	422.7	433.7	441.2
110°	406.2	411.2	416.2	421.2	426.2	433.8	444.3	454.7	465.1	475.5	483.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	455.4	459.3	463.3	467.3	471.3	478.1	487.6	497.3	506.8	516.4	523.9
115°	528.1	531.8	535.7	539.4	543.2	549.2	557.6	565.9	574.2	582.5	588.7
117.5°	602.1	604.5	606.8	609.2	611.6	616.6	624.2	631.9	639.4	647.1	652.9
120°	647.4	650.3	653.1	656.1	658.9	663.7	670.5	677.3	684.0	690.8	696.2
122.5°	695.6	697.5	699.3	701.2	703.0	707.4	714.4	721.5	728.6	735.6	740.3
125°	768.0	768.8	769.6	770.5	771.3	775.0	781.6	788.2	794.8	801.4	805.5
127.5°	835.9	837.4	838.9	840.4	841.9	845.3	850.6	856.0	861.3	866.6	869.9
130°	881.2	883.1	885.0	887.0	888.9	891.9	896.0	900.2	904.2	908.4	912.0
132.5°	925.5	927.6	929.8	931.9	934.0	936.8	940.1	943.5	946.8	950.1	953.3
135°	994.3	995.7	997.2	998.6	1000.0	1001.8	1004.3	1006.7	1009.2	1011.6	1015.0
137.5°	1058.1	1059.2	1060.4	1061.6	1062.7	1064.5	1066.7	1068.9	1071.1	1073.4	1076.2
140°	1101.5	1102.8	1104.2	1105.5	1106.9	1108.1	1109.1	1110.1	1111.2	1112.1	1115.6
142.5°	1141.7	1143.0	1144.1	1145.3	1146.5	1147.4	1148.0	1148.6	1149.2	1149.9	1152.9
145°	1204.7	1205.0	1205.3	1205.6	1205.9	1206.5	1207.3	1208.1	1208.9	1209.7	1211.5
147.5°	1258.7	1259.6	1260.6	1261.7	1262.7	1263.5	1264.3	1265.0	1265.8	1266.6	1267.1
150°	1297.1	1297.6	1298.1	1298.7	1299.3	1299.8	1300.3	1300.9	1301.4	1302.0	1302.0
152.5°	1328.5	1329.3	1330.1	1330.8	1331.5	1332.1	1332.4	1332.8	1333.1	1333.4	1333.9
155°	1378.2	1378.2	1378.2	1378.2	1378.2	1378.3	1378.6	1378.8	1379.2	1379.4	1380.5
157.5°	1420.5	1420.2	1419.8	1419.5	1419.2	1419.1	1419.4	1419.5	1419.8	1420.0	1421.1
160°	1447.1	1446.5	1445.9	1445.4	1444.9	1444.5	1444.5	1444.5	1444.5	1444.5	1445.9
162.5°	1470.6	1469.9	1469.1	1468.4	1467.6	1467.3	1467.5	1467.8	1467.9	1468.2	1469.6
165°	1501.1	1500.3	1499.5	1498.7	1497.9	1497.5	1497.5	1497.5	1497.5	1497.5	1499.1
167.5°	1525.5	1524.4	1523.3	1522.2	1521.1	1520.7	1520.9	1521.1	1521.3	1521.5	1523.2
170°	1539.2	1538.1	1537.1	1535.9	1534.9	1534.3	1534.3	1534.3	1534.3	1534.3	1536.3
172.5°	1550.0	1549.0	1547.8	1546.8	1545.7	1545.2	1545.2	1545.2	1545.2	1545.2	1546.9
175°	1561.4	1560.3	1559.2	1558.1	1557.0	1556.5	1556.5	1556.5	1556.5	1556.5	1558.1
177.5°	1566.0	1565.2	1564.3	1563.4	1562.5	1562.1	1562.1	1562.1	1562.1	1562.1	1563.4
180°	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6
2.5°	1016.5	1018.1	1019.6	1020.3	1020.1	1019.9	1019.8	1019.5
5°	1014.8	1016.8	1018.8	1019.6	1019.4	1019.1	1018.9	1018.6
7.5°	1008.7	1011.2	1013.7	1014.7	1014.5	1014.2	1013.8	1013.6
10°	1002.5	1004.9	1007.5	1008.4	1008.0	1007.5	1007.0	1006.5
12.5°	994.1	996.4	998.7	999.6	999.1	998.6	998.1	997.6
15°	978.1	980.6	983.0	984.1	983.9	983.7	983.4	983.2
17.5°	957.2	959.4	961.6	962.5	962.2	961.9	961.6	961.2
20°	942.1	944.3	946.6	947.8	948.0	948.3	948.5	948.8
22.5°	925.5	928.3	931.2	932.5	932.3	932.2	932.1	931.9
25°	897.5	900.7	903.8	905.5	905.5	905.5	905.5	905.5
27.5°	868.1	870.9	873.7	875.1	875.4	875.5	875.8	876.0
30°	848.2	851.1	854.0	855.6	855.6	855.6	855.6	855.6
32.5°	826.4	829.5	832.7	834.5	835.1	835.7	836.3	836.9
35°	794.1	797.9	801.5	803.9	804.9	805.8	806.8	807.8
37.5°	760.8	764.9	769.2	771.6	772.4	773.1	774.0	774.8
40°	738.5	742.7	746.9	749.5	750.5	751.5	752.4	753.4
42.5°	715.3	719.9	724.6	727.5	728.9	730.3	731.6	733.0
45°	680.7	685.4	690.1	693.4	695.4	697.3	699.4	701.3
47.5°	645.7	651.0	656.2	659.7	661.2	662.8	664.2	665.8
50°	621.7	627.3	633.0	636.7	638.5	640.2	641.9	643.6
52.5°	597.2	603.1	608.9	612.9	615.1	617.2	619.3	621.4
55°	560.4	567.0	573.7	578.0	580.0	582.0	583.9	585.9
57.5°	522.8	529.5	536.1	540.7	543.0	545.3	547.6	549.9
60°	496.5	503.4	510.3	515.1	517.9	520.6	523.3	525.9
62.5°	471.7	478.6	485.4	490.2	492.7	495.2	497.7	500.3
65°	432.0	439.4	446.8	451.8	454.2	456.6	459.2	461.6
67.5°	392.6	400.6	408.7	413.8	415.9	418.0	420.0	422.1
70°	366.4	374.3	382.2	387.4	389.9	392.3	394.8	397.3
72.5°	340.2	348.3	356.4	361.7	364.1	366.6	369.1	371.5
75°	300.4	308.5	316.6	322.2	325.1	328.1	331.0	334.0
77.5°	263.1	271.7	280.2	285.7	287.9	290.2	292.4	294.7
80°	238.7	247.1	255.4	260.9	263.3	265.8	268.3	270.8
82.5°	216.5	224.9	233.3	238.7	241.2	243.6	246.1	248.6
85°	185.4	193.8	202.2	207.7	210.1	212.5	215.0	217.5
87.5°	164.4	173.1	181.6	187.3	189.9	192.4	195.0	197.5
90°	173.8	183.4	192.8	199.0	202.0	205.0	208.1	211.1
92.5°	183.6	192.7	201.7	207.2	209.2	211.2	213.0	215.0
95°	218.3	227.1	235.8	241.4	243.9	246.3	248.7	251.3
97.5°	261.5	270.0	278.7	284.1	286.5	288.9	291.2	293.6
100°	293.2	301.2	309.2	314.6	317.6	320.7	323.7	326.7
102.5°	330.8	338.5	346.3	351.4	353.8	356.1	358.4	360.8
105°	387.2	394.1	401.0	405.9	408.6	411.3	414.1	416.9
107.5°	448.7	456.2	463.7	468.3	470.2	472.0	473.9	475.6
110°	490.5	498.0	505.5	510.0	511.4	512.8	514.3	515.7



TEST NUMBER: P332207-930

CATALOG NUMBER: S123DIW-S1000D1535U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	531.4	539.0	546.5	551.3	553.3	555.4	557.5	559.5
115°	594.9	601.1	607.3	611.2	612.9	614.7	616.4	618.1
117.5°	658.7	664.6	670.3	673.8	675.0	676.1	677.3	678.4
120°	701.6	707.0	712.4	715.7	716.9	718.0	719.3	720.4
122.5°	745.1	749.8	754.6	757.5	758.5	759.4	760.3	761.3
125°	809.6	813.7	817.7	820.1	820.8	821.4	822.1	822.6
127.5°	873.3	876.6	880.0	881.9	882.3	882.7	883.1	883.5
130°	915.6	919.2	922.8	924.3	923.9	923.5	923.0	922.6
132.5°	956.5	959.7	962.9	964.6	964.7	965.0	965.2	965.4
135°	1018.3	1021.7	1025.0	1027.0	1027.7	1028.4	1029.1	1029.7
137.5°	1078.9	1081.7	1084.4	1085.9	1086.1	1086.3	1086.5	1086.6
140°	1119.0	1122.4	1125.8	1127.2	1126.6	1125.8	1125.2	1124.5
142.5°	1156.0	1159.0	1162.0	1163.4	1163.2	1162.9	1162.7	1162.5
145°	1213.2	1214.9	1216.6	1217.3	1217.2	1217.2	1217.0	1216.9
147.5°	1267.7	1268.4	1268.9	1268.9	1268.1	1267.3	1266.6	1265.8
150°	1302.0	1302.0	1302.0	1301.4	1300.2	1299.1	1298.0	1296.8
152.5°	1334.3	1334.7	1335.2	1334.7	1333.4	1332.1	1330.8	1329.4
155°	1381.6	1382.7	1383.8	1383.4	1381.4	1379.6	1377.6	1375.7
157.5°	1422.3	1423.4	1424.6	1424.4	1422.9	1421.3	1419.8	1418.3
160°	1447.3	1448.7	1450.0	1450.2	1449.1	1448.0	1446.9	1445.8
162.5°	1470.9	1472.3	1473.7	1473.5	1471.7	1470.0	1468.2	1466.5
165°	1500.7	1502.4	1504.0	1503.9	1501.9	1500.1	1498.1	1496.2
167.5°	1524.9	1526.6	1528.3	1528.3	1526.6	1524.9	1523.2	1521.5
170°	1538.1	1540.1	1542.0	1542.0	1540.1	1538.1	1536.3	1534.3
172.5°	1548.5	1550.2	1551.9	1551.8	1549.9	1548.0	1546.1	1544.2
175°	1559.7	1561.4	1563.0	1562.8	1561.0	1559.0	1557.1	1555.3
177.5°	1564.7	1566.0	1567.3	1567.2	1565.7	1564.2	1562.7	1561.1
180°	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0	1565.0

(END OF REPORT)