

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: P332149-930

Luminaire Tested: **S123DIW-S560D1535U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332149-930
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-S560D1535U930-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH 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: 6230.9 lumens
Efficiency: N/A
Efficacy: 102.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

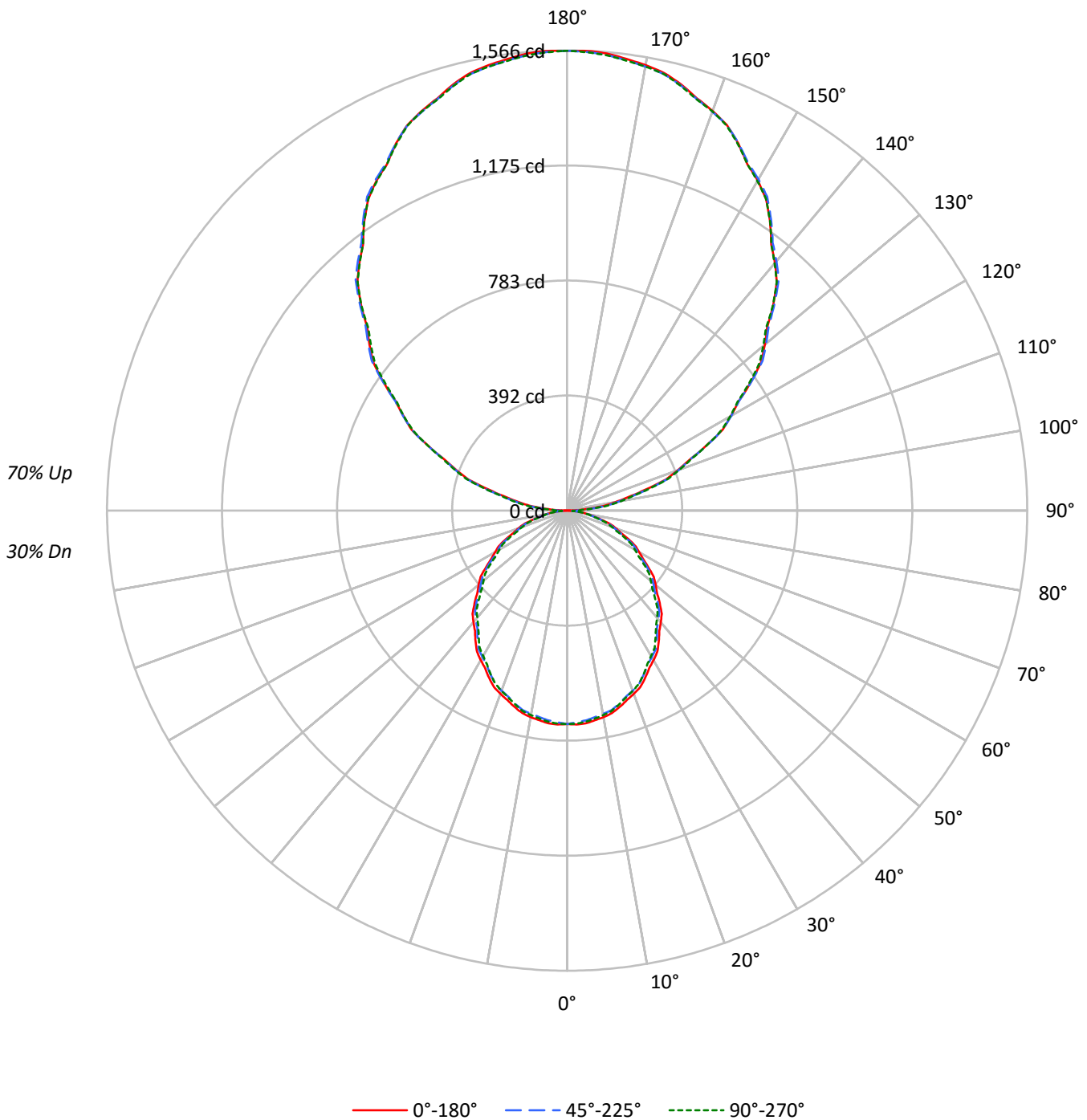
Input Watts (W): 60.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332149-930

CATALOG NUMBER: S123DIW-S560D1535U930-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P332149-930

CATALOG NUMBER: S123DIW-S560D1535U930-4F0-1E-UDD-F1

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	102	102	102	102	92	92	92	92	72	72	72	55	55	55	38	38	38	30
1	93	89	85	82	84	80	77	74	63	61	59	48	46	45	34	33	32	25
2	85	78	72	67	76	70	65	61	55	52	49	42	40	38	30	28	27	21
3	77	68	61	56	69	62	55	51	49	45	41	37	34	32	26	24	23	18
4	71	60	53	47	63	54	48	43	43	39	35	33	30	27	23	21	20	15
5	65	54	46	40	58	48	42	37	39	34	30	29	26	23	21	19	17	13
6	60	48	40	34	53	43	37	32	35	30	26	27	23	20	19	17	15	12
7	55	43	35	30	49	39	32	28	31	26	23	24	21	18	17	15	13	10
8	51	39	32	26	46	35	29	24	28	24	20	22	19	16	16	14	12	9
9	47	36	28	23	42	32	26	22	26	21	18	20	17	14	15	12	11	8
10	44	32	25	21	40	30	23	19	24	19	16	19	15	13	14	11	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7819	7819	7819
5°	7854	7747	7800
10°	7803	7679	7726
15°	7710	7592	7608
20°	7605	7468	7475
25°	7462	7321	7305
30°	7305	7157	7102
35°	7139	6984	6893
40°	6968	6792	6687
45°	6779	6616	6454
50°	6589	6400	6223
55°	6341	6176	5988
60°	6090	5916	5726
65°	5871	5631	5456
70°	5542	5306	5070
75°	5065	4882	4675
80°	4568	4376	4339
85°	4001	3853	3705



TEST NUMBER: P332149-930

CATALOG NUMBER: S123DIW-S560D1535U930-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.4	1.1
10°-20°	193.2	3.1
20°-30°	285.4	4.6
30°-40°	333.3	5.3
40°-50°	335.1	5.4
50°-60°	294.4	4.7
60°-70°	219.3	3.5
70°-80°	124.9	2.0
80°-90°	40.5	0.6
90°-100°	102.0	1.6
100°-110°	305.2	4.9
110°-120°	519.0	8.3
120°-130°	682.7	11.0
130°-140°	767.4	12.3
140°-150°	754.3	12.1
150°-160°	635.0	10.2
160°-170°	422.7	6.8
170°-180°	148.0	2.4
0°-30°	547.0	8.8
0°-40°	880.3	14.1
0°-60°	1509.9	24.2
0°-90°	1894.6	30.4
90°-120°	926.2	14.9
90°-150°	3130.5	50.2
90°-180°	4336.0	69.6
0°-180°	6230.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	726	726	726	726	726	
5°	727	724	717	723	722	69
15°	692	689	681	686	683	195
25°	628	624	616	617	615	289
35°	543	539	532	528	525	340
45°	445	442	435	427	424	344
55°	338	337	329	322	319	303
65°	230	227	221	216	214	227
75°	122	119	117	114	112	130
85°	32	31	31	30	30	36
90°	1	14	30	34	37	6
95°	73	81	91	96	96	82
105°	277	280	290	290	293	296
115°	522	526	524	525	524	517
125°	765	768	766	761	756	682
135°	992	999	998	994	991	764
145°	1204	1206	1210	1208	1204	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	



TEST NUMBER: P332149-930

CATALOG NUMBER: S123DIW-S560D1535U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4
2.5°	728.8	728.4	728.0	727.5	727.1	726.2	725.0	723.7	722.6	721.4	722.4
5°	726.9	726.3	725.5	724.9	724.1	723.1	721.5	720.0	718.5	717.0	718.4
7.5°	719.8	719.2	718.4	717.8	717.1	715.9	714.4	712.7	711.2	709.6	710.9
10°	713.9	713.1	712.5	711.8	711.1	709.8	708.0	706.2	704.4	702.6	703.8
12.5°	705.9	705.2	704.7	704.1	703.5	702.4	700.7	699.0	697.3	695.6	696.5
15°	691.9	691.5	690.9	690.3	689.7	688.6	686.8	685.0	683.1	681.3	682.5
17.5°	675.9	675.1	674.4	673.7	672.9	671.7	669.9	668.1	666.3	664.5	665.3
20°	663.9	663.1	662.2	661.4	660.6	659.3	657.5	655.7	653.8	652.0	652.6
22.5°	650.4	649.5	648.7	647.9	647.0	645.7	643.9	642.1	640.3	638.5	639.0
25°	628.3	627.5	626.6	625.8	624.9	623.6	621.8	620.0	618.2	616.4	616.5
27.5°	604.7	603.9	603.1	602.3	601.4	600.1	598.1	596.2	594.3	592.3	592.4
30°	587.7	587.0	586.3	585.6	584.9	583.6	581.6	579.7	577.8	575.8	575.8
32.5°	570.7	569.8	568.8	567.9	567.0	565.8	564.4	562.8	561.3	559.9	559.1
35°	543.3	542.5	541.7	540.9	540.1	538.7	536.9	535.1	533.3	531.5	530.7
37.5°	515.4	514.3	513.2	512.2	511.1	509.7	507.8	506.1	504.2	502.4	501.4
40°	495.9	495.0	494.2	493.4	492.5	491.1	489.2	487.3	485.3	483.4	482.2
42.5°	476.4	475.5	474.5	473.5	472.6	471.2	469.2	467.3	465.4	463.4	462.3
45°	445.3	444.7	444.2	443.6	443.0	441.9	440.1	438.3	436.5	434.6	433.0
47.5°	414.4	413.6	412.9	412.1	411.2	409.9	408.3	406.6	404.9	403.2	401.5
50°	393.5	392.7	392.1	391.3	390.7	389.5	387.6	385.8	384.0	382.2	380.7
52.5°	371.5	371.0	370.6	370.1	369.6	368.4	366.5	364.6	362.6	360.8	359.5
55°	337.9	337.7	337.6	337.5	337.3	336.3	334.5	332.7	330.9	329.1	327.6
57.5°	305.9	305.4	304.9	304.5	304.0	303.0	301.6	300.2	298.7	297.3	296.0
60°	282.9	282.7	282.7	282.5	282.3	281.4	279.8	278.1	276.5	274.8	273.5
62.5°	262.4	262.0	261.7	261.4	261.0	260.0	258.3	256.7	254.9	253.3	252.1
65°	230.5	229.8	229.1	228.4	227.7	226.7	225.3	223.9	222.5	221.1	220.0
67.5°	196.6	196.0	195.3	194.8	194.1	193.3	192.2	191.2	190.1	189.1	188.2
70°	176.1	175.3	174.5	173.7	172.8	171.9	171.1	170.3	169.4	168.6	167.6
72.5°	154.7	154.0	153.4	152.8	152.2	151.4	150.5	149.5	148.5	147.7	146.8
75°	121.8	121.2	120.7	120.1	119.6	119.1	118.6	118.2	117.8	117.4	116.8
77.5°	92.7	92.4	92.0	91.8	91.5	91.1	90.6	90.1	89.5	89.0	88.6
80°	73.7	73.3	72.9	72.5	72.0	71.7	71.4	71.1	70.8	70.6	70.4
82.5°	55.2	55.1	55.0	55.0	54.9	54.8	54.8	54.7	54.6	54.6	54.3
85°	32.4	32.2	32.0	31.6	31.4	31.2	31.2	31.2	31.2	31.2	31.0
87.5°	13.2	13.5	13.7	13.9	14.1	14.5	15.1	15.7	16.3	16.9	17.0
90°	1.2	4.0	6.7	9.5	12.1	15.3	18.8	22.4	25.9	29.5	30.6
92.5°	29.8	31.6	33.4	35.3	37.2	39.1	41.2	43.1	45.2	47.2	48.1
95°	72.6	74.4	76.4	78.3	80.2	82.3	84.4	86.6	88.8	91.0	92.0
97.5°	128.8	130.3	131.7	133.1	134.5	136.0	137.6	139.2	140.8	142.4	143.7
100°	167.2	168.8	170.5	172.1	173.7	175.3	176.6	178.0	179.4	180.8	181.6
102.5°	211.5	212.5	213.4	214.4	215.4	216.8	218.6	220.4	222.2	224.0	224.9
105°	276.6	277.2	277.7	278.3	278.8	280.3	282.7	285.2	287.7	290.2	290.2
107.5°	352.4	352.7	353.0	353.4	353.7	354.3	355.3	356.3	357.3	358.2	359.1
110°	399.6	400.1	400.6	401.2	401.8	402.3	402.8	403.4	403.9	404.5	405.6



TEST NUMBER: P332149-930

CATALOG NUMBER: S123DIW-S560D1535U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	448.7	449.1	449.4	449.7	450.0	450.3	450.4	450.5	450.6	450.7	452.0
115°	522.5	523.3	524.2	525.0	525.8	525.9	525.4	524.8	524.3	523.7	524.0
117.5°	596.8	597.3	597.9	598.4	598.9	598.8	598.2	597.5	596.7	596.1	596.0
120°	643.0	644.7	646.3	647.9	649.5	649.7	648.3	646.9	645.6	644.2	643.9
122.5°	691.2	692.4	693.6	694.8	696.0	696.3	695.5	694.8	694.1	693.4	692.7
125°	764.7	765.5	766.4	767.2	768.0	768.1	767.6	767.0	766.5	766.0	764.8
127.5°	832.6	834.3	836.1	837.8	839.6	840.2	839.5	838.9	838.4	837.7	836.2
130°	877.8	880.0	882.2	884.4	886.6	887.2	886.4	885.6	884.8	883.9	882.9
132.5°	923.1	925.2	927.4	929.6	931.8	932.6	932.0	931.4	930.7	930.2	928.9
135°	992.1	993.8	995.4	997.0	998.7	999.4	999.1	998.8	998.6	998.3	997.2
137.5°	1056.1	1057.4	1058.8	1060.2	1061.5	1062.6	1063.3	1064.0	1064.7	1065.4	1064.3
140°	1100.3	1101.7	1103.1	1104.4	1105.8	1106.6	1106.9	1107.2	1107.4	1107.7	1107.4
142.5°	1140.7	1142.0	1143.4	1144.8	1146.1	1147.0	1147.5	1148.0	1148.5	1149.0	1148.8
145°	1203.6	1204.2	1204.7	1205.3	1205.8	1206.5	1207.3	1208.1	1208.9	1209.7	1209.5
147.5°	1258.7	1259.6	1260.6	1261.7	1262.7	1263.5	1264.3	1265.0	1265.8	1266.6	1266.6
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



TEST NUMBER: P332149-930

CATALOG NUMBER: S123DIW-S560D1535U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	726.4	726.4	726.4	726.4	726.4	726.4	726.4	726.4
2.5°	723.6	724.6	725.8	726.3	726.2	726.0	725.9	725.9
5°	719.7	721.1	722.5	723.1	722.8	722.5	722.3	721.9
7.5°	712.1	713.3	714.6	715.1	714.9	714.8	714.6	714.4
10°	705.1	706.4	707.6	708.1	707.8	707.5	707.3	706.9
12.5°	697.4	698.4	699.3	699.6	699.4	699.3	699.1	699.0
15°	683.6	684.7	685.8	685.9	685.1	684.3	683.5	682.7
17.5°	666.1	666.8	667.6	667.8	667.6	667.2	666.9	666.6
20°	653.1	653.7	654.2	654.3	653.9	653.5	653.1	652.6
22.5°	639.4	639.8	640.3	640.3	639.8	639.2	638.7	638.1
25°	616.7	616.9	616.9	616.9	616.4	616.0	615.6	615.1
27.5°	592.6	592.6	592.7	592.6	592.0	591.5	590.9	590.4
30°	575.8	575.8	575.8	575.4	574.4	573.4	572.4	571.4
32.5°	558.3	557.5	556.7	556.0	555.5	555.1	554.5	554.0
35°	529.8	529.0	528.2	527.4	526.7	526.0	525.3	524.6
37.5°	500.3	499.4	498.4	497.7	497.3	496.8	496.4	495.9
40°	481.2	480.0	479.0	478.1	477.5	477.0	476.5	475.9
42.5°	461.2	460.1	458.9	458.1	457.5	457.1	456.5	455.9
45°	431.4	429.7	428.0	426.8	426.2	425.4	424.8	424.0
47.5°	399.9	398.3	396.6	395.5	394.9	394.3	393.7	393.1
50°	379.2	377.6	376.1	375.0	374.1	373.2	372.4	371.6
52.5°	358.2	356.9	355.6	354.4	353.6	352.8	352.0	351.1
55°	326.0	324.6	323.0	321.9	321.2	320.5	319.8	319.1
57.5°	294.6	293.2	291.9	290.7	289.9	289.2	288.4	287.6
60°	272.3	271.1	269.8	268.8	268.2	267.4	266.8	266.0
62.5°	250.8	249.6	248.3	247.4	247.0	246.5	246.1	245.6
65°	218.8	217.8	216.6	215.9	215.5	215.1	214.7	214.2
67.5°	187.2	186.2	185.2	184.4	183.8	183.3	182.7	182.1
70°	166.6	165.8	164.8	163.9	163.2	162.5	161.8	161.1
72.5°	145.9	145.0	144.2	143.6	143.2	142.8	142.5	142.1
75°	116.0	115.4	114.6	114.1	113.7	113.2	112.8	112.4
77.5°	88.1	87.6	87.2	86.9	86.9	86.9	86.9	86.9
80°	70.3	70.1	70.0	70.0	70.0	70.0	70.0	70.0
82.5°	54.1	53.8	53.6	53.4	53.3	53.2	53.1	53.0
85°	30.7	30.4	30.1	30.0	30.0	30.0	30.0	30.0
87.5°	17.1	17.2	17.3	17.4	17.5	17.6	17.8	17.9
90°	31.7	32.8	33.9	34.7	35.2	35.8	36.4	36.9
92.5°	48.9	49.8	50.7	51.0	50.6	50.3	50.0	49.7
95°	93.2	94.2	95.3	95.9	95.9	95.9	95.9	95.9
97.5°	144.9	146.1	147.4	148.0	147.9	147.7	147.7	147.6
100°	182.4	183.2	184.0	184.7	185.2	185.8	186.3	186.9
102.5°	225.7	226.5	227.3	227.6	227.6	227.4	227.3	227.2
105°	290.2	290.2	290.2	290.4	291.0	291.6	292.0	292.6
107.5°	360.0	360.9	361.7	362.0	361.7	361.3	361.0	360.7
110°	406.7	407.7	408.9	409.1	408.5	408.1	407.5	406.9



TEST NUMBER: P332149-930

CATALOG NUMBER: S123DIW-S560D1535U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	453.3	454.6	455.9	456.6	456.5	456.3	456.2	456.1
115°	524.3	524.6	524.8	524.8	524.6	524.3	524.0	523.7
117.5°	595.9	595.9	595.8	595.4	594.6	593.9	593.1	592.3
120°	643.7	643.4	643.1	642.7	642.2	641.6	641.1	640.5
122.5°	691.9	691.3	690.6	689.8	689.1	688.3	687.5	686.7
125°	763.8	762.6	761.6	760.4	759.4	758.3	757.2	756.1
127.5°	834.7	833.2	831.6	830.2	829.0	827.7	826.5	825.2
130°	881.7	880.7	879.6	878.1	876.2	874.2	872.4	870.4
132.5°	927.6	926.3	925.0	923.6	922.1	920.6	919.1	917.6
135°	996.1	995.0	993.9	993.1	992.5	992.0	991.5	990.9
137.5°	1063.2	1062.0	1060.9	1059.7	1058.7	1057.7	1056.6	1055.6
140°	1107.2	1106.9	1106.6	1105.5	1103.6	1101.7	1099.8	1097.9
142.5°	1148.5	1148.2	1147.9	1147.0	1145.6	1144.1	1142.6	1141.2
145°	1209.2	1208.9	1208.7	1207.9	1206.9	1205.8	1204.7	1203.6
147.5°	1266.6	1266.6	1266.6	1265.8	1264.1	1262.5	1260.8	1259.1
150°	1302.0	1302.0	1302.0	1301.1	1299.5	1297.9	1296.2	1294.6
152.5°	1334.3	1334.7	1335.2	1334.7	1333.3	1331.9	1330.4	1329.0
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)