

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: P332737-935

Luminaire Tested: **S124DIW-S350D1340U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332737-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S350D1340U935-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5928.1 lumens
Efficiency: N/A
Efficacy: 127.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

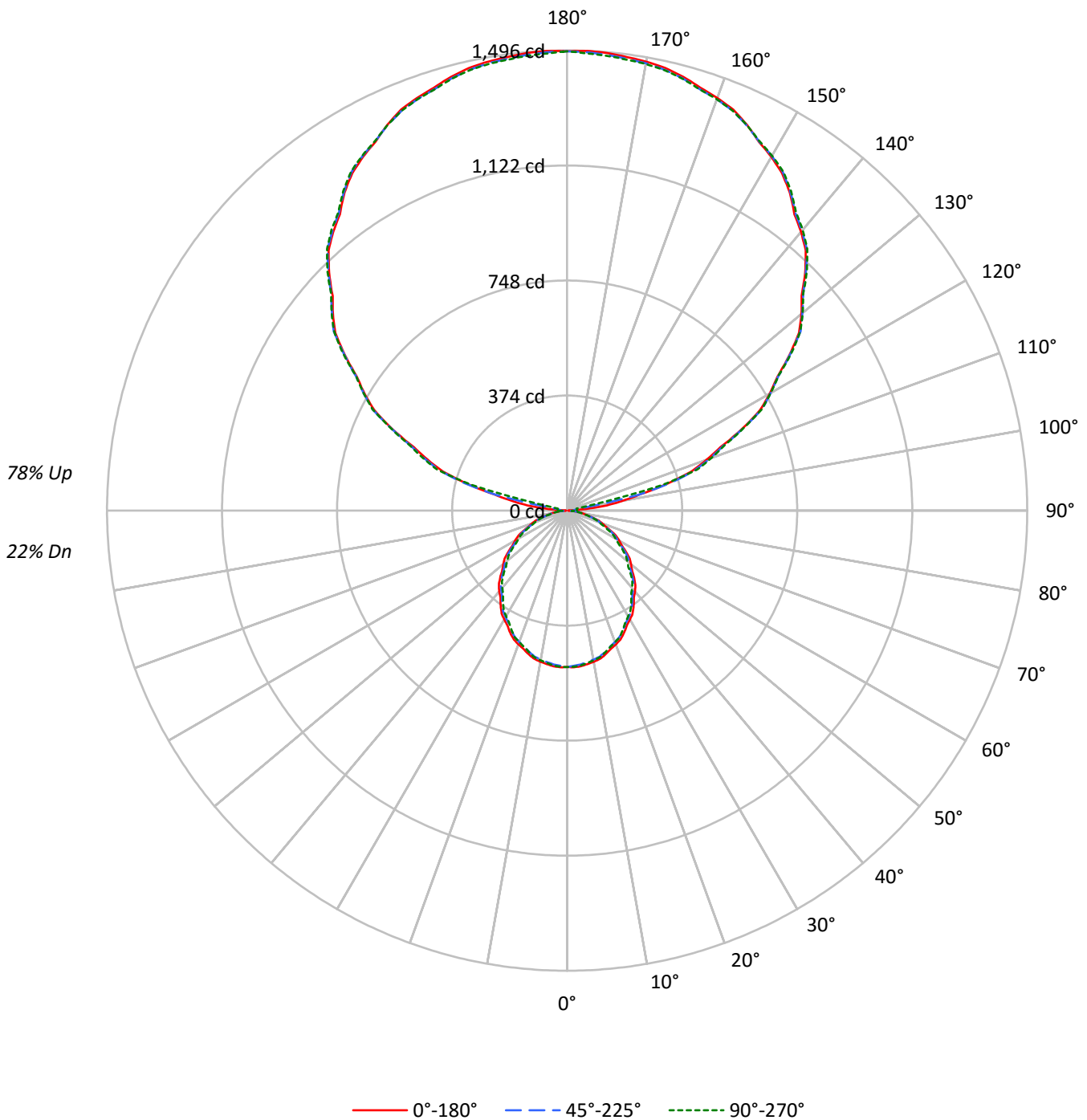
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	100	100	100	100	89	89	89	89	68	68	68	48	48	48	30	30	30	22				
1	92	87	84	80	81	78	74	72	59	57	55	42	41	40	27	26	26	19				
2	83	76	70	65	74	68	63	59	52	49	46	37	35	33	24	22	22	16				
3	76	67	60	54	67	60	54	49	46	42	38	33	30	28	21	19	18	13				
4	69	59	52	46	61	53	46	41	40	36	33	29	26	24	19	17	16	11				
5	63	52	45	39	56	47	40	35	36	31	28	26	23	21	17	15	14	10				
6	58	47	39	34	51	42	35	30	32	28	24	23	20	18	15	13	12	9				
7	54	42	35	29	48	38	31	26	29	25	21	21	18	16	14	12	11	8				
8	50	38	31	26	44	34	28	23	26	22	19	19	16	14	13	11	9	7				
9	46	35	27	23	41	31	25	21	24	20	16	18	15	12	12	10	9	6				
10	43	32	25	20	38	28	22	18	22	18	15	16	13	11	11	9	8	6				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4106	4106	4106
5°	4118	4068	4099
10°	4092	4036	4055
15°	4043	3978	3989
20°	3978	3907	3911
25°	3902	3827	3815
30°	3811	3731	3697
35°	3714	3631	3582
40°	3616	3518	3453
45°	3513	3406	3342
50°	3399	3307	3204
55°	3275	3178	3074
60°	3152	3034	2942
65°	3012	2896	2779
70°	2858	2712	2608
75°	2617	2492	2427
80°	2329	2236	2176
85°	2038	1964	1927



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.9	0.8
10°-20°	135.0	2.3
20°-30°	198.6	3.4
30°-40°	230.9	3.9
40°-50°	230.9	3.9
50°-60°	202.0	3.4
60°-70°	150.0	2.5
70°-80°	85.2	1.4
80°-90°	28.9	0.5
90°-100°	51.1	0.9
100°-110°	325.6	5.5
110°-120°	622.9	10.5
120°-130°	790.7	13.3
130°-140°	846.0	14.3
140°-150°	791.1	13.3
150°-160°	638.0	10.8
160°-170°	411.5	6.9
170°-180°	141.8	2.4
0°-30°	381.5	6.4
0°-40°	612.4	10.3
0°-60°	1045.3	17.6
0°-90°	1309.5	22.1
90°-120°	999.5	16.9
90°-150°	3427.4	57.8
90°-180°	4619.0	77.9
0°-180°	5928.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	509	509	509	509	509	
5°	508	506	502	506	506	48
15°	484	482	476	478	477	136
25°	438	435	430	430	428	201
35°	377	374	368	366	364	236
45°	308	305	298	294	293	237
55°	233	231	226	221	218	208
65°	158	156	152	148	146	156
75°	84	82	80	78	78	89
85°	22	22	21	21	21	24
90°	3	15	24	31	34	4
95°	61	26	24	31	32	79
105°	336	343	348	356	318	352
115°	628	631	630	632	632	617
125°	882	886	884	888	889	787
135°	1094	1094	1098	1100	1102	843
145°	1262	1265	1265	1266	1269	788
155°	1384	1385	1382	1385	1383	638
165°	1460	1454	1454	1462	1453	412
175°	1493	1487	1488	1496	1484	142
180°	1493	1493	1493	1493	1493	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6
2.5°	509.9	509.7	509.5	509.3	509.0	508.5	507.7	507.0	506.2	505.3	506.1
5°	508.2	507.8	507.5	507.1	506.8	506.1	505.1	504.1	503.1	502.0	503.1
7.5°	503.5	503.1	502.7	502.4	502.0	501.3	500.2	499.1	498.0	496.9	497.7
10°	499.2	498.9	498.5	498.2	497.8	497.1	495.8	494.6	493.5	492.3	493.0
12.5°	493.7	493.4	493.0	492.6	492.2	491.5	490.2	489.0	487.7	486.5	487.2
15°	483.7	483.4	483.0	482.7	482.3	481.5	480.1	478.7	477.3	476.0	476.6
17.5°	471.7	471.3	470.9	470.5	469.9	469.1	467.8	466.5	465.2	463.9	464.3
20°	463.0	462.5	462.1	461.6	461.2	460.3	458.9	457.5	456.2	454.8	455.1
22.5°	453.5	452.9	452.3	451.7	451.1	450.1	448.8	447.5	446.1	444.7	445.2
25°	438.1	437.5	436.9	436.2	435.6	434.6	433.3	432.0	430.8	429.6	429.6
27.5°	420.5	419.8	419.2	418.5	417.9	417.0	415.8	414.7	413.5	412.2	412.1
30°	408.8	408.0	407.3	406.6	405.9	404.9	403.7	402.5	401.4	400.2	399.8
32.5°	396.4	395.7	395.0	394.4	393.7	392.8	391.6	390.3	389.1	387.8	387.4
35°	376.9	376.3	375.7	375.1	374.4	373.5	372.2	370.9	369.7	368.4	367.8
37.5°	356.5	355.9	355.3	354.8	354.2	353.3	351.9	350.5	349.1	347.8	347.1
40°	343.1	342.4	341.7	341.0	340.3	339.2	337.9	336.5	335.1	333.8	332.9
42.5°	328.8	328.4	328.0	327.5	327.1	326.1	324.6	323.0	321.6	320.1	319.0
45°	307.7	307.0	306.4	305.8	305.1	304.1	302.6	301.2	299.8	298.3	297.3
47.5°	285.6	285.2	284.7	284.3	283.9	283.0	281.6	280.3	279.0	277.6	276.5
50°	270.6	270.3	269.9	269.5	269.1	268.4	267.1	265.8	264.5	263.3	262.0
52.5°	256.0	255.5	255.0	254.6	254.2	253.3	251.9	250.6	249.3	248.0	246.8
55°	232.7	232.5	232.1	231.9	231.6	230.8	229.5	228.3	227.0	225.8	224.7
57.5°	210.5	210.3	209.9	209.7	209.3	208.5	207.2	206.0	204.7	203.5	202.5
60°	195.2	194.8	194.3	193.8	193.4	192.6	191.4	190.2	189.1	187.9	187.1
62.5°	180.2	179.9	179.4	179.1	178.7	177.9	176.6	175.4	174.1	172.9	172.1
65°	157.7	157.3	156.8	156.4	155.9	155.2	154.3	153.4	152.5	151.6	150.7
67.5°	135.1	134.7	134.2	133.8	133.4	132.8	131.9	131.0	130.2	129.2	128.4
70°	121.1	120.4	119.8	119.2	118.5	117.8	117.1	116.4	115.6	114.9	114.2
72.5°	106.1	105.4	104.8	104.2	103.5	102.9	102.3	101.8	101.2	100.6	100.0
75°	83.9	83.5	83.1	82.6	82.1	81.7	81.3	80.8	80.3	79.9	79.6
77.5°	62.9	62.7	62.4	62.3	62.1	61.7	61.4	61.0	60.5	60.2	60.0
80°	50.1	49.9	49.6	49.3	49.1	48.8	48.6	48.5	48.3	48.1	47.9
82.5°	37.7	37.6	37.5	37.4	37.2	37.1	37.1	37.1	37.0	37.0	36.9
85°	22.0	22.0	22.0	22.0	22.0	22.0	21.7	21.5	21.4	21.2	21.2
87.5°	9.1	9.6	10.1	10.6	11.0	11.5	11.8	12.1	12.4	12.7	13.0
90°	3.4	6.1	8.8	11.5	14.3	16.6	18.6	20.6	22.6	24.5	26.1
92.5°	14.0	14.2	14.4	14.6	14.6	15.8	17.7	19.7	21.7	23.7	25.1
95°	61.4	53.0	44.5	36.1	27.6	23.6	23.8	24.1	24.3	24.5	26.1
97.5°	130.4	135.7	140.9	146.2	151.4	140.3	112.5	84.9	57.2	29.4	29.6
100°	183.1	187.6	192.1	196.6	201.0	186.1	151.9	117.6	83.3	49.2	44.9
102.5°	242.1	245.4	248.7	251.9	255.2	254.6	250.1	245.7	241.3	236.8	191.2
105°	336.1	337.6	339.1	340.6	342.1	343.5	344.7	345.9	347.2	348.4	350.7
107.5°	423.4	424.2	425.0	425.7	426.5	427.7	429.4	431.0	432.7	434.5	435.5
110°	482.4	483.2	484.0	484.7	485.4	486.6	488.0	489.5	491.0	492.5	493.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	539.6	541.0	542.3	543.6	545.0	546.0	546.7	547.4	548.1	548.8	548.7
115°	627.6	628.4	629.1	629.8	630.6	630.9	630.6	630.3	630.1	629.8	630.3
117.5°	706.9	707.9	708.9	709.9	710.8	711.6	712.2	712.7	713.3	713.9	713.8
120°	760.5	761.5	762.5	763.5	764.5	764.8	764.7	764.4	764.1	763.9	764.4
122.5°	810.5	811.1	811.8	812.4	813.0	813.4	813.7	814.1	814.4	814.8	815.1
125°	882.3	883.2	884.2	885.2	886.2	886.5	886.0	885.5	884.9	884.5	885.2
127.5°	950.1	950.4	950.6	950.9	951.1	951.8	953.0	954.1	955.3	956.4	956.2
130°	993.9	994.2	994.5	994.6	994.9	995.4	996.2	996.9	997.6	998.4	998.7
132.5°	1034.1	1034.6	1035.0	1035.4	1035.9	1036.6	1037.6	1038.5	1039.4	1040.3	1040.6
135°	1094.4	1094.2	1093.9	1093.7	1093.5	1093.8	1094.8	1095.8	1096.8	1097.8	1098.3
137.5°	1147.8	1147.9	1148.0	1148.1	1148.2	1148.8	1149.9	1151.0	1152.1	1153.1	1153.7
140°	1182.7	1183.2	1183.6	1184.1	1184.6	1185.2	1185.6	1186.1	1186.6	1187.1	1187.8
142.5°	1213.9	1214.8	1215.7	1216.6	1217.5	1218.1	1218.4	1218.7	1219.0	1219.3	1219.9
145°	1262.0	1262.7	1263.4	1264.2	1264.9	1265.3	1265.3	1265.3	1265.3	1265.3	1265.6
147.5°	1300.1	1301.5	1303.0	1304.3	1305.7	1306.3	1306.1	1305.8	1305.5	1305.3	1305.4
150°	1327.8	1328.9	1329.8	1330.8	1331.8	1332.1	1332.0	1331.7	1331.5	1331.2	1331.2
152.5°	1351.1	1351.9	1352.6	1353.4	1354.3	1354.4	1354.0	1353.5	1353.1	1352.6	1353.1
155°	1383.7	1383.9	1384.1	1384.4	1384.7	1384.4	1383.7	1382.9	1382.2	1381.5	1382.4
157.5°	1411.2	1411.0	1410.8	1410.7	1410.6	1410.1	1409.2	1408.3	1407.6	1406.7	1408.0
160°	1427.2	1426.5	1425.7	1425.0	1424.3	1423.7	1423.5	1423.2	1423.0	1422.8	1424.3
162.5°	1441.5	1440.5	1439.7	1438.7	1437.8	1437.2	1436.9	1436.7	1436.4	1436.1	1437.6
165°	1459.7	1458.4	1457.2	1455.9	1454.7	1454.1	1454.1	1454.1	1454.1	1454.1	1456.0
167.5°	1473.9	1472.7	1471.4	1470.1	1468.8	1468.0	1467.9	1467.7	1467.6	1467.4	1469.6
170°	1482.0	1480.5	1478.9	1477.5	1476.0	1475.4	1475.6	1475.8	1476.1	1476.4	1478.3
172.5°	1487.3	1485.8	1484.4	1482.8	1481.4	1480.7	1481.0	1481.3	1481.4	1481.7	1483.7
175°	1493.1	1491.6	1490.1	1488.7	1487.1	1486.5	1486.8	1487.0	1487.3	1487.5	1489.8
177.5°	1495.8	1494.4	1493.0	1491.6	1490.2	1489.7	1490.1	1490.6	1490.9	1491.3	1492.9
180°	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6
2.5°	506.8	507.6	508.2	508.6	508.5	508.4	508.3	508.2
5°	504.1	505.1	506.1	506.4	506.3	506.1	505.9	505.8
7.5°	498.4	499.3	500.1	500.4	500.3	500.2	500.1	500.0
10°	493.8	494.5	495.2	495.5	495.3	495.1	494.9	494.7
12.5°	488.0	488.8	489.7	489.9	489.7	489.4	489.1	488.9
15°	477.1	477.6	478.2	478.3	478.0	477.8	477.5	477.3
17.5°	464.6	464.9	465.3	465.4	465.2	465.0	464.9	464.7
20°	455.4	455.6	455.9	456.0	455.7	455.6	455.4	455.2
22.5°	445.7	446.2	446.7	446.8	446.4	446.1	445.7	445.5
25°	429.7	429.8	429.9	429.8	429.4	429.0	428.7	428.3
27.5°	411.8	411.6	411.4	411.0	410.6	410.2	409.7	409.2
30°	399.5	399.2	398.7	398.4	397.9	397.4	397.0	396.6
32.5°	386.9	386.5	386.1	385.6	385.2	384.7	384.3	383.8
35°	367.1	366.5	365.8	365.3	364.9	364.5	363.9	363.5
37.5°	346.4	345.7	345.0	344.4	343.8	343.2	342.6	342.0
40°	332.0	331.1	330.2	329.5	329.0	328.6	328.1	327.7
42.5°	318.0	316.9	315.9	315.2	314.9	314.6	314.3	314.0
45°	296.4	295.3	294.4	293.7	293.4	293.2	292.9	292.7
47.5°	275.3	274.2	273.1	272.2	271.6	270.9	270.2	269.5
50°	260.7	259.5	258.2	257.3	256.8	256.2	255.6	255.1
52.5°	245.7	244.6	243.5	242.5	241.9	241.2	240.5	239.8
55°	223.6	222.5	221.4	220.6	220.1	219.6	219.0	218.4
57.5°	201.5	200.4	199.4	198.6	198.1	197.6	197.1	196.5
60°	186.2	185.5	184.6	184.0	183.6	183.0	182.6	182.2
62.5°	171.4	170.7	169.9	169.3	168.8	168.4	168.0	167.5
65°	149.8	148.9	148.0	147.3	146.9	146.4	145.9	145.5
67.5°	127.5	126.7	125.8	125.3	125.2	125.0	124.9	124.8
70°	113.5	112.8	112.0	111.5	111.2	111.0	110.7	110.5
72.5°	99.4	98.8	98.2	97.8	97.6	97.3	97.0	96.8
75°	79.1	78.8	78.4	78.2	78.1	78.0	77.9	77.8
77.5°	59.9	59.8	59.8	59.6	59.3	59.1	58.8	58.6
80°	47.7	47.5	47.4	47.3	47.1	47.0	46.9	46.8
82.5°	36.8	36.7	36.6	36.5	36.4	36.2	36.2	36.1
85°	21.2	21.2	21.2	21.2	21.1	21.0	20.8	20.8
87.5°	13.3	13.6	13.9	14.1	14.2	14.3	14.5	14.6
90°	27.6	29.0	30.6	31.5	32.0	32.5	33.0	33.5
92.5°	26.7	28.2	29.6	30.4	30.6	30.7	30.7	30.8
95°	27.6	29.0	30.6	31.4	31.6	31.9	32.1	32.4
97.5°	29.8	30.0	30.0	30.3	30.6	30.7	31.0	31.3
100°	40.7	36.5	32.3	30.3	30.6	30.7	31.0	31.3
102.5°	145.8	100.2	54.7	31.9	32.0	32.0	32.1	32.2
105°	352.9	355.2	357.4	354.0	345.1	336.1	327.2	318.3
107.5°	436.6	437.7	438.8	439.8	440.7	441.7	442.6	443.6
110°	493.5	494.0	494.5	495.1	495.8	496.6	497.3	498.1



TEST NUMBER: P332737-935

CATALOG NUMBER: S124DIW-S350D1340U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	548.5	548.5	548.4	548.8	549.7	550.7	551.6	552.6
115°	630.9	631.4	631.8	632.1	632.1	632.1	632.1	632.1
117.5°	713.6	713.5	713.4	713.3	713.3	713.2	713.1	712.9
120°	764.8	765.3	765.9	765.9	765.3	764.8	764.4	763.9
122.5°	815.4	815.7	816.0	815.9	815.4	814.9	814.4	813.9
125°	886.0	886.7	887.4	887.9	888.2	888.5	888.7	889.0
127.5°	956.1	956.0	955.8	955.6	955.5	955.2	955.0	954.8
130°	998.8	999.1	999.4	999.5	999.5	999.5	999.5	999.5
132.5°	1040.9	1041.1	1041.4	1041.4	1041.2	1041.0	1040.8	1040.6
135°	1098.8	1099.2	1099.8	1100.3	1100.8	1101.2	1101.7	1102.3
137.5°	1154.3	1154.8	1155.4	1155.5	1155.4	1155.3	1155.1	1154.9
140°	1188.6	1189.4	1190.1	1190.6	1190.8	1191.1	1191.4	1191.6
142.5°	1220.4	1220.9	1221.5	1221.8	1221.8	1221.8	1221.9	1221.9
145°	1265.8	1266.0	1266.3	1266.7	1267.1	1267.7	1268.2	1268.7
147.5°	1305.7	1305.9	1306.1	1306.3	1306.6	1306.8	1307.0	1307.3
150°	1331.2	1331.2	1331.2	1331.3	1331.5	1331.8	1332.1	1332.3
152.5°	1353.4	1353.8	1354.2	1354.4	1354.2	1354.0	1353.9	1353.8
155°	1383.5	1384.4	1385.4	1385.5	1384.8	1384.1	1383.3	1382.6
157.5°	1409.3	1410.6	1411.9	1411.9	1410.6	1409.3	1408.0	1406.7
160°	1425.7	1427.2	1428.7	1428.7	1427.2	1425.7	1424.3	1422.8
162.5°	1439.2	1440.6	1442.1	1442.0	1440.4	1438.6	1436.9	1435.3
165°	1458.0	1460.0	1462.0	1461.8	1459.7	1457.4	1455.2	1452.9
167.5°	1471.8	1473.9	1476.2	1476.0	1473.5	1471.0	1468.6	1466.1
170°	1480.3	1482.3	1484.3	1484.0	1481.6	1479.1	1476.6	1474.1
172.5°	1485.7	1487.7	1489.7	1489.4	1486.6	1483.9	1481.3	1478.6
175°	1492.0	1494.3	1496.5	1496.1	1493.1	1490.1	1487.1	1484.2
177.5°	1494.5	1496.1	1497.7	1497.3	1494.9	1492.5	1490.1	1487.7
180°	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1	1493.1

(END OF REPORT)