

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: P333033-930

Luminaire Tested: **S124RDIW-S350D1560U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333033-930
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: S124RDIW-S350D1560U930-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1560 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6254.1 lumens
Efficiency: N/A
Efficacy: 117.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

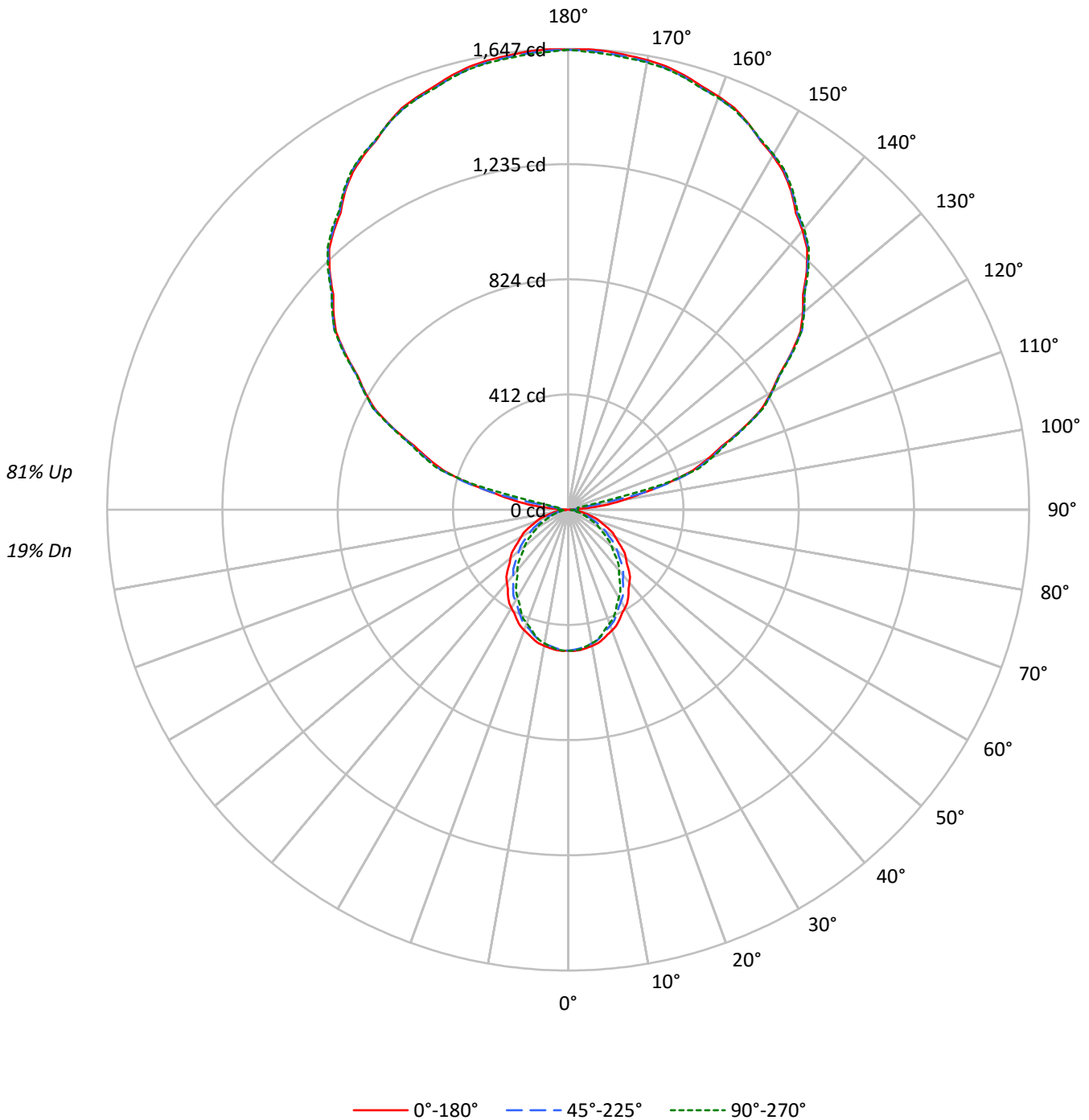
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P333033-930

CATALOG NUMBER: S124RDIW-S350D1560U930-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P333033-930

CATALOG NUMBER: S124RDIW-S350D1560U930-4F0-1E-UDD-F

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	100	100	100	100	88	88	88	88	66	66	66	46	46	46	27	27	27	19
1	91	87	83	80	80	77	74	71	58	56	54	40	39	38	24	24	23	16
2	83	76	70	65	73	67	62	58	51	47	45	35	34	32	21	20	20	13
3	75	67	60	54	66	59	53	49	45	41	38	31	29	27	19	18	17	12
4	69	59	51	46	61	52	46	41	40	35	32	28	25	23	17	16	15	10
5	63	52	45	39	55	46	40	35	35	31	27	25	22	20	15	14	13	9
6	58	47	39	34	51	42	35	30	32	27	24	23	20	17	14	12	11	8
7	54	42	34	29	47	37	31	26	29	24	21	20	17	15	13	11	10	7
8	50	38	31	26	44	34	28	23	26	21	18	19	16	14	12	10	9	6
9	46	34	27	23	40	31	25	20	24	19	16	17	14	12	11	9	8	6
10	43	31	25	20	38	28	22	18	22	17	14	16	13	11	10	8	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4069	4069	4069
5°	4078	4028	4053
10°	4052	3980	3980
15°	4006	3896	3867
20°	3942	3786	3716
25°	3861	3657	3564
30°	3781	3522	3375
35°	3693	3381	3183
40°	3587	3222	2977
45°	3490	3062	2767
50°	3378	2880	2545
55°	3258	2688	2303
60°	3127	2480	2055
65°	3007	2220	1813
70°	2832	1931	1539
75°	2611	1603	1251
80°	2278	1223	1148
85°	1936	1112	1037



TEST NUMBER: P333033-930

CATALOG NUMBER: S124RDIW-S350D1560U930-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.3	0.8
10°-20°	132.0	2.1
20°-30°	190.6	3.0
30°-40°	216.1	3.5
40°-50°	208.7	3.3
50°-60°	173.5	2.8
60°-70°	119.8	1.9
70°-80°	60.7	1.0
80°-90°	20.3	0.3
90°-100°	56.2	0.9
100°-110°	358.5	5.7
110°-120°	685.8	11.0
120°-130°	870.5	13.9
130°-140°	931.4	14.9
140°-150°	871.0	13.9
150°-160°	702.4	11.2
160°-170°	453.0	7.2
170°-180°	156.1	2.5
0°-30°	370.0	5.9
0°-40°	586.1	9.4
0°-60°	968.3	15.5
0°-90°	1169.2	18.7
90°-120°	1100.5	17.6
90°-150°	3773.4	60.3
90°-180°	5085.0	81.3
0°-180°	6254.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	504	504	504	504	504	
5°	503	502	497	501	500	48
15°	479	475	466	465	463	135
25°	433	426	411	404	400	200
35°	375	362	343	330	323	234
45°	306	291	268	250	242	236
55°	232	216	191	172	164	207
65°	157	140	116	100	95	155
75°	84	69	51	43	40	88
85°	21	13	12	11	11	24
90°	4	17	27	34	37	4
95°	68	28	27	34	36	87
105°	370	377	384	392	350	387
115°	691	694	693	696	696	680
125°	971	976	974	977	979	867
135°	1205	1204	1209	1211	1214	928
145°	1389	1393	1393	1394	1397	868
155°	1523	1524	1521	1525	1522	702
165°	1607	1601	1601	1610	1600	454
175°	1644	1637	1638	1647	1634	156
180°	1644	1644	1644	1644	1644	



TEST NUMBER: P333033-930

CATALOG NUMBER: S124RDIW-S350D1560U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0
2.5°	505.2	504.9	504.7	504.4	504.1	503.6	502.9	502.1	501.3	500.6	501.3
5°	503.2	502.9	502.6	502.2	501.8	501.2	500.1	499.1	498.1	497.1	497.9
7.5°	498.6	498.3	498.0	497.6	497.3	496.4	495.0	493.7	492.4	491.1	491.5
10°	494.3	493.9	493.5	493.1	492.6	491.6	490.1	488.5	487.0	485.5	485.8
12.5°	488.8	488.3	487.8	487.3	486.8	485.7	483.8	482.0	480.2	478.3	478.6
15°	479.3	478.5	477.8	477.0	476.2	474.7	472.6	470.4	468.3	466.2	466.0
17.5°	467.8	466.7	465.5	464.5	463.3	461.5	458.9	456.3	453.8	451.2	450.7
20°	458.9	457.7	456.6	455.5	454.4	452.4	449.5	446.5	443.6	440.7	440.0
22.5°	449.0	447.7	446.5	445.2	443.9	441.7	438.6	435.5	432.4	429.3	428.3
25°	433.4	431.9	430.3	428.8	427.2	424.7	421.2	417.7	414.1	410.6	409.1
27.5°	417.0	415.1	413.1	411.2	409.3	406.4	402.7	398.9	395.2	391.4	389.6
30°	405.6	403.4	401.3	399.2	397.1	394.0	389.9	385.9	381.8	377.8	375.7
32.5°	393.5	391.1	388.7	386.3	383.8	380.6	376.4	372.3	368.1	363.9	361.4
35°	374.7	371.9	369.2	366.5	363.7	360.2	356.0	351.6	347.4	343.1	340.1
37.5°	354.6	351.7	348.9	346.1	343.2	339.5	334.7	330.0	325.2	320.5	317.2
40°	340.4	337.5	334.7	331.9	329.1	325.2	320.3	315.4	310.5	305.7	302.1
42.5°	326.8	323.8	320.8	317.9	315.0	310.9	305.8	300.7	295.6	290.5	286.8
45°	305.7	302.5	299.3	296.1	292.9	288.8	283.6	278.5	273.4	268.2	264.0
47.5°	283.8	280.5	277.3	273.9	270.7	266.4	261.1	255.7	250.3	245.0	240.6
50°	269.0	265.6	262.3	258.9	255.6	251.2	245.7	240.2	234.7	229.3	224.9
52.5°	253.9	250.5	247.3	244.0	240.8	236.3	230.6	225.0	219.4	213.8	209.5
55°	231.5	228.1	224.7	221.3	217.8	213.3	207.7	202.2	196.6	191.0	186.5
57.5°	209.5	205.9	202.4	198.8	195.2	190.7	185.2	179.7	174.2	168.7	164.2
60°	193.7	190.3	186.9	183.4	180.0	175.5	170.1	164.5	159.1	153.6	149.1
62.5°	179.5	175.9	172.4	168.8	165.3	160.7	155.1	149.4	143.8	138.2	134.0
65°	157.4	153.8	150.1	146.4	142.7	138.1	132.6	127.1	121.6	116.2	112.5
67.5°	134.5	131.0	127.4	123.9	120.4	116.1	111.0	105.9	100.8	95.7	92.5
70°	120.0	116.4	112.8	109.3	105.6	101.3	96.4	91.6	86.7	81.8	79.0
72.5°	104.6	101.3	98.1	94.8	91.6	87.6	83.0	78.4	73.8	69.1	66.8
75°	83.7	80.6	77.4	74.2	71.0	67.4	63.4	59.4	55.4	51.4	49.3
77.5°	62.6	59.9	57.2	54.5	51.9	48.8	45.6	42.3	39.1	35.8	34.7
80°	49.0	46.6	44.0	41.6	39.1	36.5	34.0	31.4	28.8	26.3	26.0
82.5°	37.3	35.0	32.7	30.4	28.1	26.3	24.8	23.3	21.9	20.4	20.2
85°	20.9	19.2	17.4	15.7	13.9	13.0	12.7	12.5	12.2	12.0	11.8
87.5°	7.8	7.9	7.9	8.0	8.1	8.2	8.6	9.0	9.4	9.7	10.0
90°	3.7	6.7	9.7	12.7	15.7	18.3	20.5	22.7	24.9	27.1	28.7
92.5°	15.5	15.7	15.8	16.0	16.1	17.3	19.5	21.7	23.9	26.1	27.7
95°	67.6	58.3	49.1	39.8	30.5	25.9	26.3	26.5	26.7	27.1	28.7
97.5°	143.6	149.4	155.2	161.0	166.8	154.4	123.9	93.4	62.9	32.4	32.6
100°	201.6	206.6	211.5	216.4	221.3	204.9	167.2	129.5	91.8	54.1	49.5
102.5°	266.5	270.2	273.8	277.4	281.0	280.3	275.4	270.5	265.5	260.7	210.5
105°	370.1	371.7	373.3	375.0	376.7	378.1	379.5	380.9	382.2	383.6	386.0
107.5°	466.2	467.1	467.9	468.7	469.5	470.8	472.7	474.6	476.4	478.3	479.5
110°	531.2	532.0	532.8	533.6	534.4	535.7	537.3	538.9	540.5	542.2	542.7



TEST NUMBER: P333033-930

CATALOG NUMBER: S124RDIW-S350D1560U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	594.1	595.6	597.0	598.5	600.0	601.1	601.9	602.7	603.4	604.2	604.1
115°	691.0	691.8	692.6	693.4	694.2	694.6	694.2	694.0	693.7	693.4	694.0
117.5°	778.3	779.3	780.5	781.5	782.7	783.5	784.1	784.7	785.3	785.9	785.8
120°	837.3	838.4	839.5	840.6	841.6	842.0	841.8	841.6	841.2	841.0	841.6
122.5°	892.3	893.0	893.6	894.3	895.0	895.5	895.9	896.3	896.7	897.1	897.4
125°	971.3	972.4	973.5	974.6	975.7	975.9	975.4	974.9	974.3	973.8	974.6
127.5°	1046.0	1046.4	1046.6	1046.8	1047.2	1047.9	1049.2	1050.4	1051.7	1053.0	1052.8
130°	1094.3	1094.5	1094.8	1095.1	1095.4	1095.9	1096.7	1097.6	1098.4	1099.2	1099.4
132.5°	1138.5	1139.0	1139.5	1140.0	1140.5	1141.3	1142.3	1143.3	1144.4	1145.4	1145.7
135°	1204.9	1204.6	1204.4	1204.1	1203.8	1204.2	1205.3	1206.4	1207.5	1208.6	1209.2
137.5°	1263.7	1263.8	1263.9	1264.0	1264.1	1264.8	1266.0	1267.2	1268.4	1269.6	1270.2
140°	1302.0	1302.6	1303.2	1303.7	1304.2	1304.8	1305.3	1305.9	1306.4	1306.9	1307.8
142.5°	1336.4	1337.4	1338.5	1339.5	1340.4	1341.1	1341.4	1341.7	1342.1	1342.4	1343.0
145°	1389.4	1390.2	1391.0	1391.8	1392.6	1393.0	1393.0	1393.0	1393.0	1393.0	1393.3
147.5°	1431.4	1432.9	1434.4	1436.0	1437.5	1438.1	1437.9	1437.6	1437.3	1437.0	1437.3
150°	1461.9	1463.0	1464.0	1465.2	1466.2	1466.6	1466.4	1466.2	1465.8	1465.6	1465.6
152.5°	1487.4	1488.3	1489.2	1490.0	1490.9	1491.2	1490.6	1490.1	1489.6	1489.1	1489.6
155°	1523.4	1523.6	1523.9	1524.2	1524.4	1524.2	1523.4	1522.6	1521.8	1520.9	1522.0
157.5°	1553.6	1553.5	1553.3	1553.1	1553.0	1552.4	1551.4	1550.5	1549.6	1548.7	1550.1
160°	1571.3	1570.5	1569.7	1568.9	1568.1	1567.5	1567.2	1566.9	1566.7	1566.4	1568.1
162.5°	1587.1	1586.0	1584.9	1584.0	1582.9	1582.3	1581.9	1581.7	1581.4	1581.1	1582.7
165°	1607.0	1605.6	1604.3	1602.9	1601.5	1600.8	1600.8	1600.8	1600.8	1600.8	1603.0
167.5°	1622.7	1621.3	1619.8	1618.5	1617.0	1616.2	1616.1	1615.9	1615.8	1615.6	1618.0
170°	1631.6	1629.9	1628.2	1626.6	1625.0	1624.3	1624.6	1624.9	1625.1	1625.4	1627.6
172.5°	1637.4	1635.8	1634.2	1632.6	1630.9	1630.2	1630.5	1630.8	1631.0	1631.3	1633.5
175°	1643.8	1642.2	1640.5	1638.9	1637.3	1636.6	1636.9	1637.1	1637.4	1637.7	1640.1
177.5°	1646.8	1645.3	1643.7	1642.2	1640.7	1640.1	1640.5	1641.0	1641.4	1641.8	1643.6
180°	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8



TEST NUMBER: P333033-930

CATALOG NUMBER: S124RDIW-S350D1560U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0
2.5°	502.1	502.9	503.6	503.9	503.9	503.9	503.8	503.7
5°	498.8	499.6	500.5	500.8	500.7	500.5	500.3	500.1
7.5°	492.1	492.7	493.3	493.3	493.1	492.8	492.5	492.3
10°	486.2	486.5	486.8	486.8	486.5	486.2	485.8	485.5
12.5°	478.7	479.0	479.2	479.1	478.6	478.1	477.6	477.1
15°	465.9	465.7	465.5	465.1	464.5	463.9	463.3	462.7
17.5°	450.2	449.8	449.3	448.6	447.7	446.8	445.9	445.0
20°	439.4	438.6	438.0	437.1	435.9	434.8	433.7	432.6
22.5°	427.2	426.2	425.2	424.2	423.3	422.4	421.5	420.5
25°	407.6	406.3	404.8	403.7	402.8	401.9	401.0	400.1
27.5°	387.8	386.0	384.2	382.7	381.4	380.2	379.0	377.7
30°	373.5	371.4	369.2	367.5	366.1	364.8	363.4	362.0
32.5°	359.0	356.4	354.0	352.0	350.7	349.4	348.1	346.8
35°	337.2	334.4	331.4	329.2	327.7	326.1	324.6	323.0
37.5°	314.0	310.7	307.4	305.0	303.5	301.9	300.4	298.8
40°	298.4	294.8	291.2	288.7	287.1	285.6	284.1	282.5
42.5°	283.2	279.5	275.8	273.2	271.6	269.9	268.3	266.8
45°	259.8	255.6	251.4	248.5	247.0	245.4	243.9	242.4
47.5°	236.3	231.9	227.6	224.5	222.8	221.1	219.4	217.8
50°	220.6	216.4	212.1	209.1	207.5	205.9	204.2	202.6
52.5°	205.0	200.7	196.4	193.3	191.7	190.0	188.3	186.5
55°	182.1	177.7	173.2	170.2	168.5	166.9	165.3	163.6
57.5°	159.6	155.2	150.6	147.7	146.5	145.3	144.0	142.8
60°	144.6	140.2	135.7	132.8	131.4	130.1	128.7	127.3
62.5°	130.0	125.8	121.7	119.1	118.0	116.9	115.8	114.7
65°	108.8	105.1	101.4	99.1	98.0	97.0	96.0	94.9
67.5°	89.4	86.2	83.0	80.9	79.7	78.6	77.5	76.3
70°	76.1	73.3	70.5	68.6	67.8	66.9	66.0	65.2
72.5°	64.3	61.9	59.5	57.9	57.1	56.3	55.5	54.7
75°	47.4	45.4	43.5	42.2	41.7	41.2	40.7	40.1
77.5°	33.5	32.4	31.2	30.6	30.4	30.2	30.1	29.9
80°	25.8	25.4	25.2	25.0	24.9	24.9	24.8	24.7
82.5°	20.0	19.8	19.6	19.5	19.4	19.3	19.2	19.2
85°	11.7	11.4	11.3	11.2	11.2	11.2	11.2	11.2
87.5°	10.3	10.5	10.8	11.0	11.2	11.3	11.5	11.7
90°	30.3	32.0	33.6	34.7	35.2	35.8	36.4	36.9
92.5°	29.4	31.0	32.6	33.5	33.6	33.8	33.8	33.9
95°	30.3	32.0	33.6	34.6	34.8	35.1	35.4	35.6
97.5°	32.8	32.9	33.1	33.3	33.6	33.9	34.2	34.4
100°	44.8	40.2	35.5	33.3	33.6	33.9	34.2	34.4
102.5°	160.5	110.3	60.3	35.2	35.2	35.3	35.4	35.4
105°	388.5	391.0	393.5	389.7	379.9	370.1	360.3	350.4
107.5°	480.7	481.9	483.1	484.2	485.3	486.2	487.3	488.4
110°	543.3	543.9	544.4	545.1	545.9	546.7	547.6	548.4



TEST NUMBER: P333033-930

CATALOG NUMBER: S124RDIW-S350D1560U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	604.0	603.8	603.7	604.2	605.3	606.3	607.3	608.4
115°	694.6	695.0	695.6	695.9	695.9	695.9	695.9	695.9
117.5°	785.7	785.5	785.5	785.4	785.2	785.1	785.1	784.9
120°	842.0	842.6	843.2	843.2	842.6	842.0	841.6	841.0
122.5°	897.7	898.1	898.4	898.2	897.7	897.2	896.6	896.1
125°	975.4	976.2	977.1	977.6	977.9	978.1	978.4	978.7
127.5°	1052.6	1052.5	1052.3	1052.1	1051.9	1051.7	1051.4	1051.2
130°	1099.8	1100.0	1100.2	1100.4	1100.4	1100.4	1100.4	1100.4
132.5°	1146.0	1146.2	1146.5	1146.6	1146.3	1146.1	1145.9	1145.7
135°	1209.7	1210.2	1210.8	1211.4	1211.9	1212.4	1213.0	1213.5
137.5°	1270.8	1271.4	1272.0	1272.2	1272.0	1271.9	1271.7	1271.5
140°	1308.6	1309.5	1310.3	1310.8	1311.1	1311.3	1311.6	1311.9
142.5°	1343.6	1344.2	1344.8	1345.1	1345.2	1345.2	1345.2	1345.3
145°	1393.6	1393.8	1394.1	1394.6	1395.1	1395.6	1396.2	1396.7
147.5°	1437.5	1437.7	1437.9	1438.2	1438.4	1438.7	1439.0	1439.2
150°	1465.6	1465.6	1465.6	1465.7	1466.0	1466.2	1466.6	1466.8
152.5°	1490.0	1490.4	1490.9	1491.0	1490.9	1490.7	1490.5	1490.4
155°	1523.1	1524.2	1525.3	1525.4	1524.6	1523.8	1523.0	1522.2
157.5°	1551.5	1553.0	1554.4	1554.4	1553.0	1551.5	1550.1	1548.7
160°	1569.7	1571.3	1573.0	1573.0	1571.3	1569.7	1568.1	1566.4
162.5°	1584.5	1586.1	1587.7	1587.6	1585.8	1583.9	1582.0	1580.1
165°	1605.2	1607.4	1609.6	1609.4	1607.0	1604.5	1602.1	1599.6
167.5°	1620.4	1622.8	1625.2	1625.1	1622.3	1619.6	1616.8	1614.1
170°	1629.8	1632.0	1634.2	1633.9	1631.2	1628.4	1625.7	1622.9
172.5°	1635.7	1637.9	1640.1	1639.6	1636.7	1633.8	1630.8	1627.8
175°	1642.6	1645.1	1647.6	1647.1	1643.8	1640.5	1637.3	1634.0
177.5°	1645.4	1647.1	1648.9	1648.5	1645.8	1643.2	1640.5	1637.9
180°	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8	1643.8

(END OF REPORT)