

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: P333033-927

Luminaire Tested: **S124RDIW-S350D1560U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333033-927
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-S350D1560U927-4F0-1E-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: 6076.8 lumens
Efficiency: N/A
Efficacy: 113.8 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

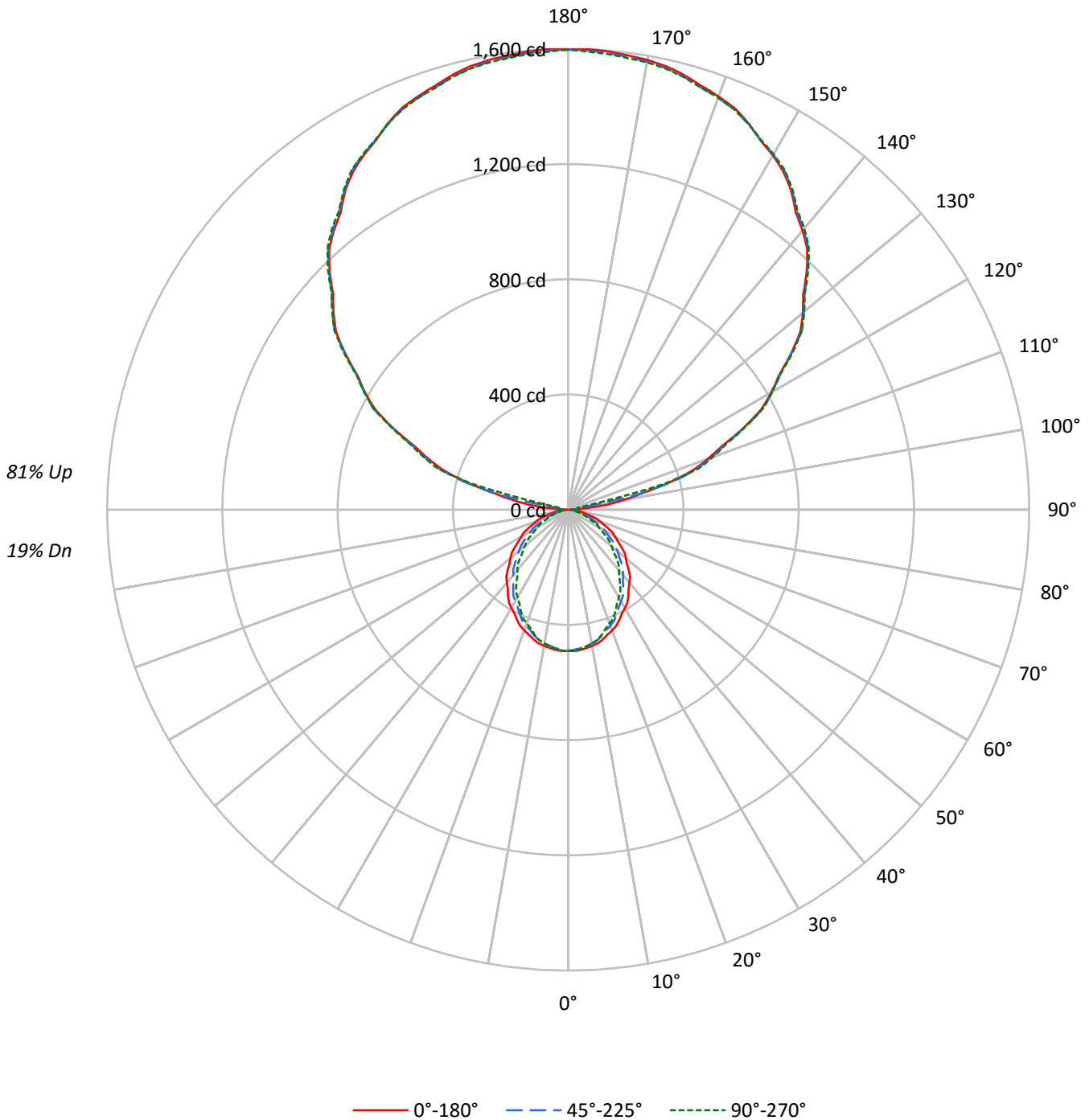
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	3953	3953	3953
5°	3962	3914	3938
10°	3937	3867	3867
15°	3892	3786	3758
20°	3830	3679	3611
25°	3751	3553	3463
30°	3674	3422	3278
35°	3588	3286	3094
40°	3485	3130	2893
45°	3391	2975	2689
50°	3282	2798	2473
55°	3167	2612	2238
60°	3039	2409	1997
65°	2923	2157	1761
70°	2752	1876	1496
75°	2539	1556	1216
80°	2213	1186	1116
85°	1880	1074	1010



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.0	0.8
10°-20°	128.3	2.1
20°-30°	185.2	3.0
30°-40°	210.0	3.5
40°-50°	202.8	3.3
50°-60°	168.6	2.8
60°-70°	116.4	1.9
70°-80°	59.0	1.0
80°-90°	19.8	0.3
90°-100°	54.6	0.9
100°-110°	348.3	5.7
110°-120°	666.3	11.0
120°-130°	845.9	13.9
130°-140°	905.0	14.9
140°-150°	846.3	13.9
150°-160°	682.5	11.2
160°-170°	440.2	7.2
170°-180°	151.7	2.5
0°-30°	359.5	5.9
0°-40°	569.5	9.4
0°-60°	940.8	15.5
0°-90°	1136.0	18.7
90°-120°	1069.3	17.6
90°-150°	3666.4	60.3
90°-180°	4941.0	81.3
0°-180°	6076.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	490	490	490	490	490	
5°	489	487	483	486	486	46
15°	466	462	453	452	450	131
25°	421	414	399	393	389	194
35°	364	352	333	321	314	227
45°	297	283	261	243	236	229
55°	225	209	186	167	159	201
65°	153	136	113	97	92	151
75°	81	67	50	42	39	86
85°	20	13	12	11	11	23
90°	4	17	26	33	36	4
95°	66	27	26	33	35	84
105°	360	367	373	380	340	376
115°	671	675	674	676	676	660
125°	944	948	946	950	951	842
135°	1171	1170	1174	1177	1179	902
145°	1350	1353	1354	1355	1357	843
155°	1480	1481	1478	1482	1479	682
165°	1561	1556	1555	1564	1554	441
175°	1597	1591	1591	1601	1588	152
180°	1597	1597	1597	1597	1597	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7
2.5°	490.9	490.6	490.4	490.1	489.8	489.3	488.6	487.9	487.1	486.4	487.1
5°	488.9	488.6	488.3	488.0	487.6	487.0	485.9	485.0	483.9	483.0	483.8
7.5°	484.5	484.2	483.9	483.5	483.2	482.3	481.0	479.7	478.4	477.1	477.6
10°	480.3	479.9	479.5	479.1	478.6	477.7	476.2	474.7	473.2	471.7	472.1
12.5°	474.9	474.4	474.0	473.5	473.0	471.9	470.1	468.3	466.6	464.8	465.0
15°	465.7	464.9	464.2	463.4	462.7	461.3	459.2	457.1	455.0	453.0	452.8
17.5°	454.6	453.4	452.3	451.3	450.2	448.4	445.9	443.4	440.9	438.4	437.9
20°	445.8	444.7	443.7	442.6	441.5	439.6	436.7	433.9	431.0	428.2	427.5
22.5°	436.3	435.0	433.8	432.6	431.3	429.2	426.2	423.2	420.2	417.1	416.1
25°	421.1	419.6	418.1	416.6	415.1	412.6	409.2	405.8	402.3	398.9	397.5
27.5°	405.2	403.3	401.4	399.6	397.7	394.9	391.3	387.6	384.0	380.3	378.5
30°	394.1	392.0	389.9	387.9	385.8	382.8	378.8	374.9	371.0	367.1	365.0
32.5°	382.4	380.0	377.7	375.3	373.0	369.8	365.8	361.7	357.7	353.6	351.2
35°	364.1	361.4	358.8	356.1	353.4	350.0	345.9	341.7	337.5	333.4	330.5
37.5°	344.5	341.7	339.1	336.3	333.5	329.9	325.2	320.6	316.0	311.4	308.2
40°	330.7	328.0	325.2	322.5	319.7	316.0	311.2	306.5	301.7	297.0	293.5
42.5°	317.5	314.7	311.7	308.9	306.0	302.1	297.1	292.2	287.2	282.3	278.7
45°	297.0	293.9	290.8	287.7	284.6	280.6	275.6	270.6	265.6	260.6	256.5
47.5°	275.8	272.6	269.4	266.2	263.0	258.8	253.7	248.4	243.2	238.1	233.8
50°	261.3	258.1	254.8	251.6	248.3	244.1	238.8	233.4	228.1	222.8	218.6
52.5°	246.7	243.4	240.3	237.1	233.9	229.6	224.1	218.6	213.2	207.7	203.5
55°	225.0	221.7	218.3	215.0	211.7	207.2	201.8	196.5	191.0	185.6	181.3
57.5°	203.5	200.0	196.6	193.1	189.6	185.3	179.9	174.6	169.3	163.9	159.5
60°	188.2	184.9	181.6	178.2	174.9	170.6	165.2	159.9	154.6	149.2	144.9
62.5°	174.4	171.0	167.5	164.1	160.6	156.1	150.7	145.2	139.7	134.3	130.2
65°	153.0	149.4	145.8	142.3	138.6	134.2	128.9	123.5	118.2	112.9	109.3
67.5°	130.7	127.3	123.8	120.4	117.0	112.8	107.8	102.9	97.9	93.0	89.9
70°	116.6	113.1	109.6	106.2	102.6	98.5	93.7	89.0	84.2	79.5	76.8
72.5°	101.6	98.5	95.3	92.1	89.0	85.2	80.6	76.1	71.7	67.2	64.9
75°	81.4	78.3	75.2	72.1	69.0	65.5	61.6	57.7	53.8	49.9	47.9
77.5°	60.8	58.2	55.6	53.0	50.4	47.5	44.3	41.1	37.9	34.8	33.7
80°	47.6	45.2	42.8	40.4	37.9	35.5	33.0	30.5	28.0	25.5	25.3
82.5°	36.2	34.0	31.8	29.5	27.3	25.5	24.1	22.7	21.2	19.8	19.6
85°	20.3	18.6	17.0	15.2	13.5	12.6	12.4	12.1	11.9	11.6	11.5
87.5°	7.6	7.7	7.7	7.8	7.8	8.0	8.4	8.7	9.1	9.4	9.7
90°	3.6	6.5	9.4	12.4	15.3	17.8	19.9	22.0	24.2	26.3	27.9
92.5°	15.1	15.2	15.4	15.5	15.7	16.8	18.9	21.1	23.2	25.3	26.9
95°	65.7	56.6	47.7	38.7	29.6	25.2	25.5	25.7	26.0	26.3	27.9
97.5°	139.5	145.1	150.8	156.5	162.1	150.0	120.4	90.8	61.2	31.5	31.7
100°	195.9	200.7	205.5	210.2	215.0	199.1	162.5	125.8	89.2	52.6	48.1
102.5°	259.0	262.5	266.0	269.5	273.0	272.4	267.6	262.8	258.0	253.3	204.5
105°	359.6	361.2	362.7	364.4	366.0	367.4	368.8	370.1	371.4	372.7	375.1
107.5°	453.0	453.8	454.6	455.4	456.2	457.5	459.3	461.1	462.9	464.7	465.9
110°	516.1	516.9	517.7	518.5	519.3	520.5	522.0	523.6	525.2	526.8	527.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	577.3	578.7	580.1	581.5	583.0	584.1	584.8	585.6	586.3	587.1	586.9
115°	671.4	672.2	673.0	673.8	674.5	674.9	674.5	674.3	674.1	673.8	674.3
117.5°	756.2	757.2	758.4	759.4	760.5	761.3	761.8	762.5	763.0	763.6	763.5
120°	813.6	814.6	815.7	816.7	817.8	818.2	817.9	817.7	817.4	817.1	817.7
122.5°	867.0	867.7	868.3	868.9	869.7	870.1	870.5	870.8	871.2	871.6	872.0
125°	943.8	944.8	945.9	947.0	948.0	948.2	947.8	947.2	946.7	946.2	947.0
127.5°	1016.4	1016.7	1016.9	1017.2	1017.5	1018.2	1019.5	1020.6	1021.8	1023.1	1022.9
130°	1063.3	1063.5	1063.7	1064.1	1064.3	1064.9	1065.6	1066.4	1067.2	1068.0	1068.3
132.5°	1106.2	1106.7	1107.2	1107.7	1108.2	1108.9	1109.9	1110.9	1111.9	1112.9	1113.2
135°	1170.8	1170.4	1170.2	1170.0	1169.7	1170.1	1171.2	1172.2	1173.3	1174.3	1174.9
137.5°	1227.9	1228.0	1228.0	1228.2	1228.3	1228.9	1230.1	1231.3	1232.4	1233.6	1234.1
140°	1265.1	1265.7	1266.2	1266.7	1267.3	1267.8	1268.3	1268.8	1269.4	1269.9	1270.7
142.5°	1298.5	1299.5	1300.5	1301.5	1302.4	1303.1	1303.4	1303.7	1304.0	1304.3	1304.9
145°	1350.0	1350.8	1351.5	1352.3	1353.1	1353.5	1353.5	1353.5	1353.5	1353.5	1353.8
147.5°	1390.8	1392.3	1393.8	1395.3	1396.8	1397.3	1397.1	1396.9	1396.5	1396.3	1396.5
150°	1420.5	1421.5	1422.5	1423.6	1424.7	1425.1	1424.8	1424.6	1424.3	1424.0	1424.0
152.5°	1445.3	1446.1	1447.0	1447.8	1448.7	1448.9	1448.3	1447.9	1447.4	1446.9	1447.4
155°	1480.2	1480.4	1480.7	1481.0	1481.2	1481.0	1480.2	1479.4	1478.6	1477.7	1478.8
157.5°	1509.6	1509.4	1509.3	1509.1	1508.9	1508.4	1507.4	1506.6	1505.7	1504.8	1506.2
160°	1526.8	1526.0	1525.2	1524.4	1523.6	1523.0	1522.7	1522.5	1522.3	1521.9	1523.6
162.5°	1542.1	1541.0	1540.0	1539.1	1538.0	1537.4	1537.1	1536.8	1536.6	1536.3	1537.9
165°	1561.4	1560.0	1558.8	1557.4	1556.1	1555.4	1555.4	1555.4	1555.4	1555.4	1557.5
167.5°	1576.7	1575.3	1573.9	1572.6	1571.1	1570.4	1570.3	1570.1	1569.9	1569.8	1572.1
170°	1585.3	1583.7	1582.1	1580.5	1578.9	1578.3	1578.5	1578.8	1579.1	1579.3	1581.4
172.5°	1591.0	1589.4	1587.9	1586.3	1584.7	1584.0	1584.3	1584.5	1584.8	1585.1	1587.1
175°	1597.2	1595.6	1594.0	1592.4	1590.9	1590.2	1590.5	1590.7	1591.0	1591.3	1593.6
177.5°	1600.1	1598.6	1597.1	1595.6	1594.2	1593.6	1594.0	1594.5	1594.9	1595.3	1597.0
180°	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7
2.5°	487.9	488.6	489.3	489.6	489.6	489.6	489.5	489.4
5°	484.7	485.4	486.3	486.6	486.5	486.3	486.1	485.9
7.5°	478.2	478.7	479.3	479.3	479.1	478.9	478.6	478.3
10°	472.4	472.7	473.0	473.0	472.7	472.4	472.1	471.7
12.5°	465.2	465.4	465.6	465.5	465.0	464.5	464.1	463.6
15°	452.7	452.5	452.3	451.9	451.3	450.8	450.2	449.6
17.5°	437.4	437.0	436.6	435.9	435.0	434.1	433.2	432.4
20°	426.9	426.2	425.6	424.7	423.6	422.5	421.4	420.3
22.5°	415.1	414.1	413.1	412.2	411.3	410.4	409.6	408.6
25°	396.1	394.7	393.3	392.2	391.3	390.5	389.7	388.8
27.5°	376.8	375.0	373.3	371.9	370.6	369.4	368.2	367.0
30°	362.9	360.8	358.8	357.0	355.7	354.4	353.1	351.7
32.5°	348.8	346.3	344.0	342.1	340.8	339.5	338.3	337.0
35°	327.6	324.9	322.0	319.9	318.4	316.9	315.4	313.9
37.5°	305.1	301.9	298.7	296.4	294.9	293.3	291.8	290.3
40°	289.9	286.5	283.0	280.5	279.0	277.5	276.0	274.5
42.5°	275.1	271.6	268.0	265.5	263.9	262.3	260.7	259.2
45°	252.5	248.3	244.2	241.5	240.0	238.4	236.9	235.5
47.5°	229.6	225.3	221.1	218.2	216.5	214.8	213.2	211.6
50°	214.4	210.2	206.0	203.2	201.6	200.0	198.4	196.9
52.5°	199.2	195.0	190.8	187.8	186.2	184.6	182.9	181.3
55°	177.0	172.6	168.3	165.3	163.7	162.2	160.6	159.0
57.5°	155.1	150.8	146.3	143.5	142.4	141.2	139.9	138.7
60°	140.5	136.3	131.9	129.0	127.7	126.4	125.1	123.7
62.5°	126.3	122.2	118.3	115.7	114.6	113.6	112.5	111.5
65°	105.7	102.1	98.5	96.3	95.2	94.3	93.2	92.2
67.5°	86.8	83.7	80.6	78.6	77.5	76.4	75.3	74.1
70°	74.0	71.2	68.5	66.7	65.8	65.0	64.2	63.4
72.5°	62.5	60.1	57.8	56.2	55.5	54.7	53.9	53.2
75°	46.0	44.1	42.2	41.0	40.5	40.0	39.5	39.0
77.5°	32.6	31.4	30.3	29.7	29.5	29.4	29.2	29.1
80°	25.0	24.7	24.5	24.3	24.2	24.2	24.1	24.0
82.5°	19.4	19.3	19.1	18.9	18.9	18.8	18.7	18.6
85°	11.3	11.1	10.9	10.9	10.9	10.9	10.9	10.9
87.5°	10.0	10.2	10.5	10.7	10.9	11.0	11.2	11.3
90°	29.5	31.1	32.6	33.7	34.2	34.8	35.3	35.8
92.5°	28.5	30.1	31.7	32.6	32.6	32.8	32.9	33.0
95°	29.5	31.1	32.6	33.6	33.8	34.1	34.4	34.6
97.5°	31.8	32.0	32.2	32.4	32.6	33.0	33.2	33.4
100°	43.6	39.1	34.5	32.4	32.6	33.0	33.2	33.4
102.5°	155.9	107.2	58.5	34.2	34.2	34.3	34.4	34.4
105°	377.5	379.9	382.3	378.7	369.2	359.6	350.1	340.5
107.5°	467.1	468.3	469.4	470.5	471.5	472.5	473.5	474.5
110°	527.9	528.5	528.9	529.7	530.4	531.2	532.0	532.8



TEST NUMBER: P333033-927

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	586.8	586.7	586.6	587.1	588.1	589.1	590.1	591.1
115°	674.9	675.3	675.9	676.2	676.2	676.2	676.2	676.2
117.5°	763.4	763.3	763.2	763.1	763.0	762.9	762.8	762.6
120°	818.2	818.7	819.3	819.3	818.7	818.2	817.7	817.1
122.5°	872.3	872.6	872.9	872.7	872.3	871.7	871.2	870.7
125°	947.8	948.6	949.4	949.9	950.1	950.4	950.7	950.9
127.5°	1022.8	1022.6	1022.5	1022.2	1022.1	1021.8	1021.6	1021.4
130°	1068.6	1068.8	1069.1	1069.2	1069.2	1069.2	1069.2	1069.2
132.5°	1113.5	1113.7	1114.0	1114.0	1113.8	1113.6	1113.4	1113.2
135°	1175.4	1175.9	1176.5	1177.0	1177.5	1178.1	1178.6	1179.1
137.5°	1234.8	1235.3	1236.0	1236.1	1236.0	1235.8	1235.6	1235.5
140°	1271.5	1272.3	1273.1	1273.6	1273.9	1274.1	1274.4	1274.7
142.5°	1305.5	1306.1	1306.6	1306.9	1307.0	1307.1	1307.1	1307.2
145°	1354.1	1354.3	1354.6	1355.0	1355.5	1356.1	1356.6	1357.1
147.5°	1396.7	1396.9	1397.2	1397.4	1397.6	1397.9	1398.2	1398.4
150°	1424.0	1424.0	1424.0	1424.2	1424.4	1424.7	1425.0	1425.2
152.5°	1447.8	1448.2	1448.7	1448.7	1448.6	1448.4	1448.3	1448.1
155°	1479.9	1481.0	1482.0	1482.2	1481.4	1480.6	1479.8	1479.0
157.5°	1507.5	1508.9	1510.3	1510.3	1508.9	1507.5	1506.2	1504.8
160°	1525.2	1526.8	1528.4	1528.4	1526.8	1525.2	1523.6	1521.9
162.5°	1539.5	1541.1	1542.7	1542.5	1540.8	1539.0	1537.2	1535.3
165°	1559.6	1561.8	1563.9	1563.8	1561.4	1559.0	1556.6	1554.3
167.5°	1574.5	1576.8	1579.1	1579.0	1576.3	1573.7	1571.0	1568.4
170°	1583.6	1585.7	1587.9	1587.5	1584.9	1582.2	1579.6	1576.9
172.5°	1589.3	1591.4	1593.6	1593.2	1590.3	1587.5	1584.6	1581.7
175°	1596.0	1598.5	1600.8	1600.4	1597.2	1594.0	1590.9	1587.7
177.5°	1598.7	1600.4	1602.1	1601.7	1599.2	1596.6	1594.0	1591.5
180°	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2	1597.2

(END OF REPORT)