

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: P333113-927

Luminaire Tested: **S124RDIW-S1195D1560U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333113-927
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-S1195D1560U927-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 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: 8762.3 lumens
Efficiency: N/A
Efficacy: 105.7 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: General Diffuse

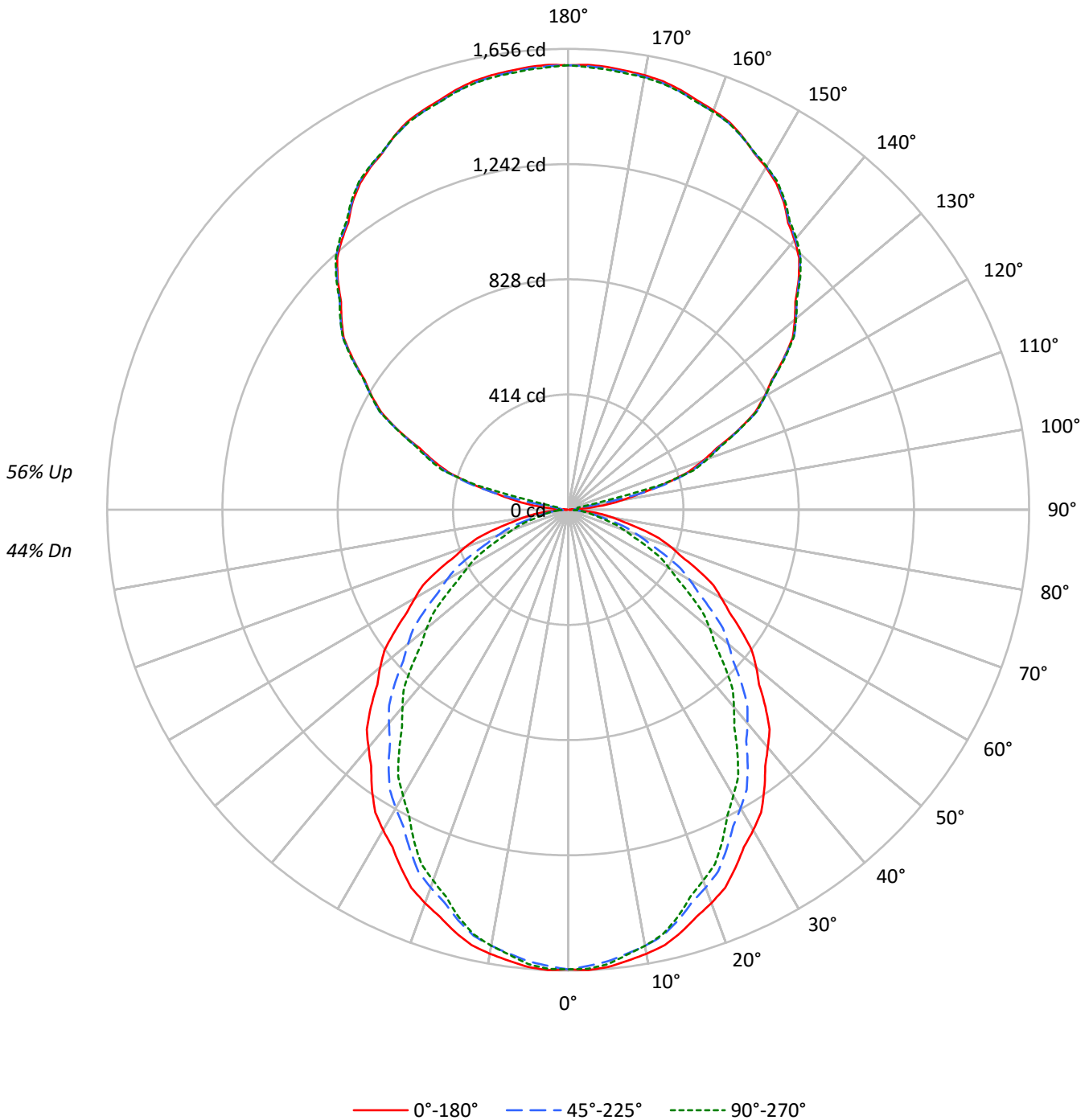
Input Watts (W): 82.9
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	80	80	80		64	64	64		50	50	50	44
1	97	92	89	85	88	85	81	79	70	68	66		57	55	54		45	44	43	37
2	88	81	75	70	80	74	69	65	62	58	55		50	48	45		40	38	36	32
3	80	71	64	58	73	66	59	54	55	50	46		45	41	39		35	33	31	27
4	74	63	55	50	67	58	51	46	49	44	40		40	36	33		32	29	27	23
5	68	56	48	43	62	52	45	40	44	38	34		36	32	29		29	26	24	20
6	62	51	43	37	57	47	40	35	39	34	30		32	28	25		26	23	21	18
7	58	46	38	32	53	42	35	30	36	30	26		30	26	23		24	21	19	16
8	54	41	34	29	49	38	32	27	33	27	24		27	23	20		22	19	17	14
9	50	38	31	26	46	35	29	24	30	25	21		25	21	18		20	17	15	13
10	47	35	28	23	43	32	26	22	27	22	19		23	19	16		19	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13337	13337	13337
5°	13367	13203	13285
10°	13283	13045	13045
15°	13131	12771	12676
20°	12921	12411	12182
25°	12653	11989	11685
30°	12393	11544	11060
35°	12105	11083	10435
40°	11758	10559	9759
45°	11439	10038	9070
50°	11074	9437	8341
55°	10683	8812	7548
60°	10253	8128	6739
65°	9859	7272	5945
70°	9286	6331	5046
75°	8562	5250	4105
80°	7471	3998	3766
85°	6326	3631	3399



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.2	1.8
10°-20°	432.8	4.9
20°-30°	624.9	7.1
30°-40°	708.3	8.1
40°-50°	684.0	7.8
50°-60°	568.8	6.5
60°-70°	392.8	4.5
70°-80°	199.1	2.3
80°-90°	55.7	0.6
90°-100°	54.6	0.6
100°-110°	348.3	4.0
110°-120°	666.3	7.6
120°-130°	845.9	9.7
130°-140°	905.0	10.3
140°-150°	846.3	9.7
150°-160°	682.5	7.8
160°-170°	440.2	5.0
170°-180°	151.7	1.7
0°-30°	1212.9	13.8
0°-40°	1921.2	21.9
0°-60°	3174.0	36.2
0°-90°	3821.5	43.6
90°-120°	1069.3	12.2
90°-150°	3666.4	41.8
90°-180°	4941.0	56.4
0°-180°	8762.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1652	1652	1652	1652	1652	
5°	1650	1644	1629	1641	1639	156
15°	1571	1559	1528	1525	1517	442
25°	1420	1396	1346	1325	1312	654
35°	1228	1186	1125	1083	1059	767
45°	1002	953	879	819	794	772
55°	759	707	626	563	536	679
65°	516	460	381	328	311	509
75°	274	227	168	140	132	290
85°	68	44	39	37	37	77
90°	4	17	26	33	36	6
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°	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0
2.5°	1656.1	1655.2	1654.3	1653.4	1652.5	1650.8	1648.4	1645.8	1643.4	1640.9	1643.4
5°	1649.5	1648.4	1647.3	1646.2	1645.0	1642.7	1639.4	1636.0	1632.7	1629.3	1632.1
7.5°	1634.6	1633.4	1632.2	1631.0	1629.8	1627.1	1622.7	1618.3	1613.9	1609.6	1611.4
10°	1620.4	1619.0	1617.6	1616.2	1614.8	1611.5	1606.5	1601.5	1596.4	1591.3	1592.4
12.5°	1602.2	1600.6	1598.9	1597.3	1595.7	1591.9	1585.9	1580.0	1574.0	1568.0	1568.8
15°	1571.1	1568.5	1566.1	1563.5	1561.0	1556.2	1549.2	1542.1	1535.1	1528.0	1527.5
17.5°	1533.4	1529.7	1526.1	1522.4	1518.8	1512.8	1504.3	1495.9	1487.4	1479.0	1477.4
20°	1504.0	1500.4	1496.7	1493.1	1489.5	1482.8	1473.3	1463.7	1454.1	1444.6	1442.3
22.5°	1471.6	1467.6	1463.5	1459.4	1455.2	1448.1	1437.8	1427.6	1417.4	1407.2	1403.7
25°	1420.5	1415.5	1410.4	1405.4	1400.3	1392.0	1380.5	1369.0	1357.5	1345.9	1341.2
27.5°	1366.9	1360.6	1354.2	1347.9	1341.5	1332.2	1319.9	1307.6	1295.2	1282.9	1277.0
30°	1329.5	1322.5	1315.4	1308.4	1301.4	1291.3	1278.0	1264.8	1251.6	1238.4	1231.4
32.5°	1290.0	1282.1	1274.1	1266.2	1258.3	1247.5	1233.8	1220.2	1206.5	1192.9	1184.7
35°	1228.3	1219.2	1210.3	1201.3	1192.3	1180.7	1166.7	1152.7	1138.6	1124.6	1115.0
37.5°	1162.3	1152.9	1143.7	1134.4	1125.1	1112.7	1097.2	1081.6	1066.0	1050.4	1039.7
40°	1115.7	1106.4	1097.2	1087.9	1078.6	1066.0	1050.0	1033.9	1017.9	1001.9	990.1
42.5°	1071.2	1061.4	1051.7	1042.0	1032.3	1019.1	1002.3	985.6	969.0	952.3	940.2
45°	1001.9	991.4	981.0	970.7	960.3	946.6	929.8	912.9	896.0	879.2	865.4
47.5°	930.3	919.5	908.8	898.0	887.3	873.1	855.6	838.0	820.5	803.0	788.7
50°	881.7	870.7	859.8	848.8	837.8	823.3	805.3	787.3	769.4	751.4	737.4
52.5°	832.1	821.3	810.6	799.9	789.2	774.5	756.1	737.7	719.2	700.8	686.5
55°	759.0	747.7	736.5	725.2	714.0	699.3	681.0	662.7	644.4	626.1	611.6
57.5°	686.6	674.9	663.2	651.6	639.8	625.0	607.0	589.0	571.0	553.0	538.2
60°	635.0	623.8	612.5	601.3	590.0	575.4	557.5	539.5	521.4	503.4	488.9
62.5°	588.4	576.8	565.1	553.4	541.7	526.6	508.2	489.7	471.3	452.9	439.3
65°	516.1	504.0	491.9	479.8	467.8	452.7	434.7	416.8	398.8	380.7	368.7
67.5°	440.9	429.4	417.8	406.2	394.7	380.5	363.8	347.1	330.4	313.7	303.3
70°	393.4	381.6	369.8	358.0	346.2	332.2	316.2	300.2	284.2	268.2	258.9
72.5°	342.8	332.2	321.5	310.8	300.1	287.2	272.0	256.9	241.8	226.6	218.7
75°	274.5	264.1	253.7	243.3	232.9	221.1	207.9	194.6	181.5	168.3	161.8
77.5°	205.2	196.4	187.5	178.7	169.8	160.1	149.4	138.8	128.1	117.4	113.6
80°	160.7	152.5	144.3	136.2	128.0	119.8	111.3	102.9	94.4	86.0	85.2
82.5°	122.2	114.7	107.3	99.7	92.3	86.1	81.3	76.4	71.6	66.8	66.1
85°	68.3	62.7	57.0	51.4	45.8	42.6	41.7	40.9	40.1	39.2	38.7
87.5°	24.0	22.8	21.5	20.4	19.2	18.6	18.9	19.0	19.3	19.4	19.5
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°	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0	1652.0
2.5°	1645.8	1648.4	1650.8	1651.9	1651.7	1651.5	1651.2	1651.1
5°	1634.9	1637.7	1640.5	1641.6	1641.1	1640.5	1640.0	1639.4
7.5°	1613.1	1614.9	1616.8	1617.2	1616.3	1615.4	1614.5	1613.6
10°	1593.6	1594.7	1595.9	1595.9	1594.7	1593.6	1592.4	1591.3
12.5°	1569.4	1570.1	1570.7	1570.3	1568.8	1567.2	1565.6	1564.0
15°	1526.9	1526.4	1525.8	1524.6	1522.6	1520.6	1518.7	1516.7
17.5°	1475.8	1474.3	1472.7	1470.4	1467.4	1464.4	1461.5	1458.5
20°	1440.1	1437.8	1435.6	1432.7	1429.0	1425.4	1421.7	1418.0
22.5°	1400.4	1397.0	1393.7	1390.5	1387.5	1384.5	1381.6	1378.6
25°	1336.3	1331.6	1326.8	1323.0	1320.2	1317.4	1314.5	1311.8
27.5°	1271.1	1265.2	1259.3	1254.3	1250.3	1246.3	1242.2	1238.2
30°	1224.3	1217.3	1210.3	1204.5	1200.0	1195.6	1191.0	1186.5
32.5°	1176.5	1168.4	1160.2	1154.1	1149.8	1145.5	1141.2	1136.9
35°	1105.4	1095.9	1086.3	1079.0	1074.0	1068.9	1063.8	1058.8
37.5°	1029.0	1018.4	1007.7	999.8	994.7	989.7	984.7	979.6
40°	978.3	966.5	954.7	946.2	941.1	936.0	931.1	926.0
42.5°	928.2	916.2	904.1	895.5	890.2	884.9	879.6	874.3
45°	851.6	837.8	824.0	814.6	809.6	804.5	799.5	794.4
47.5°	774.4	760.2	745.9	735.9	730.4	724.8	719.2	713.7
50°	723.3	709.2	695.1	685.5	680.2	674.8	669.5	664.1
52.5°	672.2	658.0	643.6	633.7	628.2	622.7	617.0	611.5
55°	596.9	582.3	567.7	557.7	552.4	547.0	541.7	536.3
57.5°	523.4	508.5	493.7	484.3	480.2	476.1	472.1	468.0
60°	474.2	459.6	445.0	435.5	430.9	426.4	421.9	417.4
62.5°	425.9	412.4	398.9	390.3	386.7	383.2	379.5	376.0
65°	356.6	344.5	332.4	324.6	321.3	317.9	314.6	311.2
67.5°	292.9	282.5	272.1	265.1	261.3	257.6	253.9	250.2
70°	249.6	240.3	231.1	225.1	222.2	219.4	216.6	213.8
72.5°	210.8	202.9	195.0	189.7	187.1	184.6	182.0	179.4
75°	155.3	148.9	142.4	138.3	136.7	134.9	133.2	131.6
77.5°	109.9	106.1	102.3	100.2	99.7	99.2	98.7	98.2
80°	84.4	83.5	82.6	82.1	81.8	81.5	81.3	81.0
82.5°	65.6	65.0	64.3	63.8	63.6	63.3	63.1	62.7
85°	38.1	37.5	37.0	36.7	36.7	36.7	36.7	36.7
87.5°	19.6	19.7	19.8	20.0	20.4	20.7	21.0	21.3
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: P333113-927

CATALOG NUMBER: S124RDIW-S1195D1560U927-4F0-1E-UDD-F

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)