

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: P333114-927

Luminaire Tested: **S124RDIW-S1195D1560U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333114-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
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-F1  
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, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8106.5 lumens  
Efficiency: N/A  
Efficacy: 97.8 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: General Diffuse

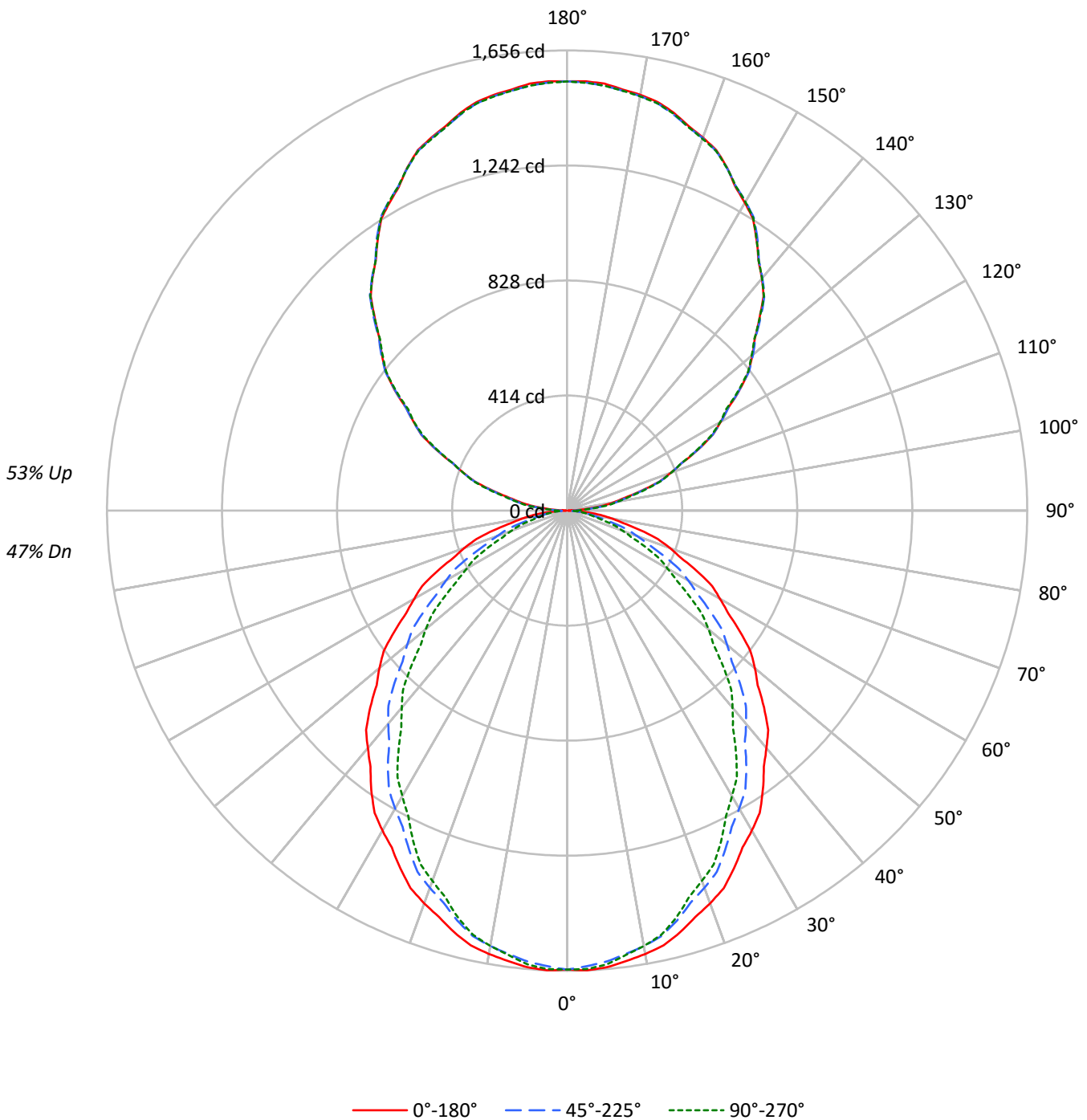
Input Watts (W): 82.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	106	106	106	106	98	98	98	98	82	82	82	67	67	67	53	53	53	47				
1	97	93	89	86	89	86	83	80	72	70	68	59	58	56	48	47	46	40				
2	89	82	76	71	81	75	70	66	63	60	56	52	50	47	42	40	39	34				
3	81	72	65	59	74	66	60	55	56	51	48	47	43	40	38	35	33	29				
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	34	31	29	25				
5	68	57	49	43	63	53	46	40	45	39	35	37	33	30	31	28	25	22				
6	63	51	43	37	58	47	40	35	40	35	31	34	30	27	28	25	22	19				
7	58	46	38	33	53	43	36	31	37	31	27	31	27	24	25	22	20	17				
8	54	42	34	29	50	39	32	27	33	28	24	28	24	21	23	20	18	16				
9	50	38	31	26	46	36	29	25	31	25	22	26	22	19	22	18	16	14				
10	47	35	28	23	43	33	26	22	28	23	20	24	20	17	20	17	15	13				

**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	1.9
10°-20°	432.8	5.3
20°-30°	624.9	7.7
30°-40°	708.3	8.7
40°-50°	684.0	8.4
50°-60°	568.8	7.0
60°-70°	392.8	4.8
70°-80°	199.1	2.5
80°-90°	55.7	0.7
90°-100°	101.9	1.3
100°-110°	301.8	3.7
110°-120°	512.2	6.3
120°-130°	675.4	8.3
130°-140°	758.5	9.4
140°-150°	745.3	9.2
150°-160°	626.9	7.7
160°-170°	417.1	5.1
170°-180°	146.1	1.8
0°-30°	1212.9	15.0
0°-40°	1921.2	23.7
0°-60°	3174.0	39.2
0°-90°	3821.5	47.1
90°-120°	915.8	11.3
90°-150°	3095.0	38.2
90°-180°	4285.0	52.9
0°-180°	8106.5	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	8
95°	72	82	91	94	94	80
105°	278	280	284	288	291	295
115°	521	521	518	517	516	513
125°	758	758	757	755	752	676
135°	978	985	986	983	980	757
145°	1188	1193	1194	1193	1190	743
155°	1362	1362	1360	1365	1360	626
165°	1482	1479	1476	1483	1479	418
175°	1542	1536	1535	1542	1535	146
180°	1544	1544	1544	1544	1544	



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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°	25.6	28.9	32.2	35.6	39.0	41.4	42.9	44.4	45.8	47.3	48.2
95°	71.7	74.1	76.4	78.8	81.2	83.3	85.2	87.1	89.0	90.8	91.6
97.5°	125.2	127.1	129.0	130.9	132.8	134.9	137.0	139.2	141.4	143.5	144.5
100°	167.2	168.3	169.4	170.4	171.5	173.2	175.6	178.0	180.4	182.8	183.3
102.5°	211.2	211.6	212.1	212.5	212.9	214.2	216.3	218.6	220.7	222.9	223.6
105°	278.3	278.6	278.8	279.1	279.4	280.0	281.1	282.2	283.2	284.3	285.1
107.5°	348.8	349.1	349.4	349.7	350.1	350.3	350.5	350.6	350.8	350.9	351.6
110°	396.6	397.1	397.6	398.2	398.7	398.9	398.5	398.3	398.0	397.8	397.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	446.2	446.4	446.5	446.6	446.7	446.5	446.0	445.5	445.0	444.6	444.5
115°	520.8	520.8	520.8	520.8	520.8	520.5	520.0	519.4	519.0	518.4	518.2
117.5°	591.0	591.2	591.4	591.7	591.9	591.8	591.4	591.0	590.7	590.3	589.4
120°	637.9	638.9	640.0	641.0	642.1	642.2	641.4	640.6	639.8	639.1	637.7
122.5°	686.6	687.0	687.5	687.9	688.2	688.3	687.9	687.5	687.2	686.8	686.0
125°	758.5	758.5	758.5	758.5	758.5	758.4	758.1	757.8	757.6	757.3	756.8
127.5°	823.7	824.5	825.3	826.1	826.9	827.1	826.6	826.2	825.9	825.4	824.8
130°	869.6	870.4	871.2	872.0	872.7	873.1	873.1	873.1	873.1	873.1	872.7
132.5°	916.4	917.0	917.6	918.1	918.8	918.9	918.7	918.5	918.3	918.1	917.6
135°	978.3	979.9	981.4	983.1	984.7	985.5	985.5	985.5	985.5	985.5	984.9
137.5°	1045.7	1046.4	1047.1	1047.9	1048.6	1049.2	1049.6	1050.0	1050.5	1050.9	1050.2
140°	1090.6	1091.1	1091.6	1092.2	1092.7	1093.0	1093.0	1093.0	1093.0	1093.0	1092.7
142.5°	1131.6	1132.2	1132.7	1133.2	1133.8	1133.9	1133.7	1133.5	1133.3	1133.1	1133.1
145°	1188.5	1189.5	1190.6	1191.7	1192.8	1193.4	1193.7	1194.0	1194.2	1194.5	1194.2
147.5°	1244.9	1246.2	1247.4	1248.7	1250.0	1250.5	1250.3	1250.1	1249.9	1249.7	1249.4
150°	1279.3	1280.3	1281.4	1282.5	1283.6	1284.0	1284.0	1284.0	1284.0	1284.0	1284.0
152.5°	1311.8	1312.4	1313.0	1313.7	1314.3	1314.8	1314.9	1315.2	1315.4	1315.6	1316.2
155°	1361.7	1361.7	1361.7	1361.7	1361.7	1361.6	1361.3	1361.0	1360.8	1360.5	1361.6
157.5°	1403.7	1403.3	1402.8	1402.3	1401.8	1401.6	1401.5	1401.4	1401.4	1401.4	1402.2
160°	1428.6	1428.3	1428.1	1427.8	1427.5	1427.3	1427.0	1426.7	1426.5	1426.2	1427.0
162.5°	1451.5	1450.9	1450.2	1449.5	1448.7	1448.3	1448.0	1447.8	1447.5	1447.2	1448.7
165°	1482.3	1481.5	1480.7	1480.0	1479.2	1478.5	1478.0	1477.4	1476.9	1476.4	1478.0
167.5°	1506.0	1504.9	1503.8	1502.7	1501.6	1501.0	1501.1	1501.1	1501.2	1501.3	1502.8
170°	1519.4	1518.1	1516.7	1515.4	1514.1	1513.5	1513.8	1514.1	1514.3	1514.6	1516.2
172.5°	1528.9	1527.8	1526.7	1525.6	1524.5	1523.9	1524.0	1524.1	1524.1	1524.2	1526.0
175°	1542.1	1540.7	1539.4	1538.1	1536.8	1536.0	1535.7	1535.4	1535.2	1534.9	1536.8
177.5°	1546.3	1545.3	1544.3	1543.2	1542.1	1541.6	1541.6	1541.6	1541.6	1541.6	1543.1
180°	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4



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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°	49.2	50.1	51.1	51.7	52.0	52.4	52.7	53.0
95°	92.4	93.2	94.0	94.3	94.3	94.3	94.3	94.3
97.5°	145.5	146.5	147.4	147.9	147.9	147.9	147.9	147.9
100°	183.8	184.3	184.9	185.1	185.1	185.1	185.1	185.1
102.5°	224.3	225.1	225.9	226.3	226.6	226.8	227.0	227.2
105°	285.9	286.7	287.5	288.3	289.1	289.9	290.7	291.4
107.5°	352.4	353.2	353.9	354.3	354.2	354.2	354.1	354.0
110°	396.7	396.2	395.6	395.8	396.6	397.4	398.2	398.9





TEST NUMBER: P333114-927

CATALOG NUMBER: S124RDIW-S1195D1560U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	444.3	444.3	444.2	444.2	444.3	444.5	444.7	444.8
115°	517.8	517.6	517.4	517.1	516.8	516.6	516.3	516.0
117.5°	588.5	587.6	586.7	586.0	585.4	584.9	584.4	583.8
120°	636.4	635.1	633.7	633.3	633.9	634.4	634.9	635.5
122.5°	685.0	684.1	683.3	682.3	681.4	680.4	679.5	678.5
125°	756.2	755.7	755.2	754.6	754.1	753.6	753.0	752.5
127.5°	824.3	823.8	823.2	822.8	822.4	822.0	821.5	821.1
130°	872.1	871.6	871.0	870.2	869.2	868.2	867.0	866.0
132.5°	917.0	916.5	915.9	915.4	915.0	914.7	914.2	913.8
135°	984.4	983.9	983.3	982.6	981.8	981.0	980.2	979.5
137.5°	1049.6	1048.8	1048.1	1047.9	1048.1	1048.2	1048.4	1048.5
140°	1092.4	1092.2	1091.9	1091.6	1091.4	1091.1	1090.8	1090.6
142.5°	1133.0	1132.9	1132.9	1132.8	1132.7	1132.7	1132.7	1132.6
145°	1194.0	1193.7	1193.4	1192.9	1192.1	1191.3	1190.5	1189.7
147.5°	1249.3	1249.0	1248.8	1248.6	1248.3	1248.1	1247.8	1247.5
150°	1284.0	1284.0	1284.0	1284.0	1283.7	1283.4	1283.2	1282.9
152.5°	1316.8	1317.5	1318.1	1318.1	1317.4	1316.8	1316.1	1315.3
155°	1362.6	1363.7	1364.8	1364.8	1363.7	1362.6	1361.6	1360.5
157.5°	1403.0	1403.7	1404.5	1404.5	1403.6	1402.7	1401.8	1400.9
160°	1427.8	1428.6	1429.4	1429.1	1427.8	1426.5	1425.1	1423.8
162.5°	1450.1	1451.5	1452.9	1453.0	1451.7	1450.4	1449.1	1447.7
165°	1479.6	1481.1	1482.7	1483.0	1481.9	1480.9	1479.8	1478.8
167.5°	1504.4	1506.0	1507.6	1507.6	1505.9	1504.3	1502.6	1500.9
170°	1517.8	1519.4	1521.0	1520.8	1519.0	1517.1	1515.3	1513.4
172.5°	1527.8	1529.5	1531.4	1531.4	1529.5	1527.6	1525.7	1523.9
175°	1538.7	1540.5	1542.4	1542.4	1540.5	1538.7	1536.8	1534.9
177.5°	1544.6	1546.0	1547.5	1547.4	1545.7	1544.0	1542.4	1540.6
180°	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4

(END OF REPORT)