

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: P333109-927

Luminaire Tested: **S124RDIW-S1195D1340U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333109-927
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-S1195D1340U927-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1340 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8070.4 lumens
Efficiency: N/A
Efficacy: 105.9 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

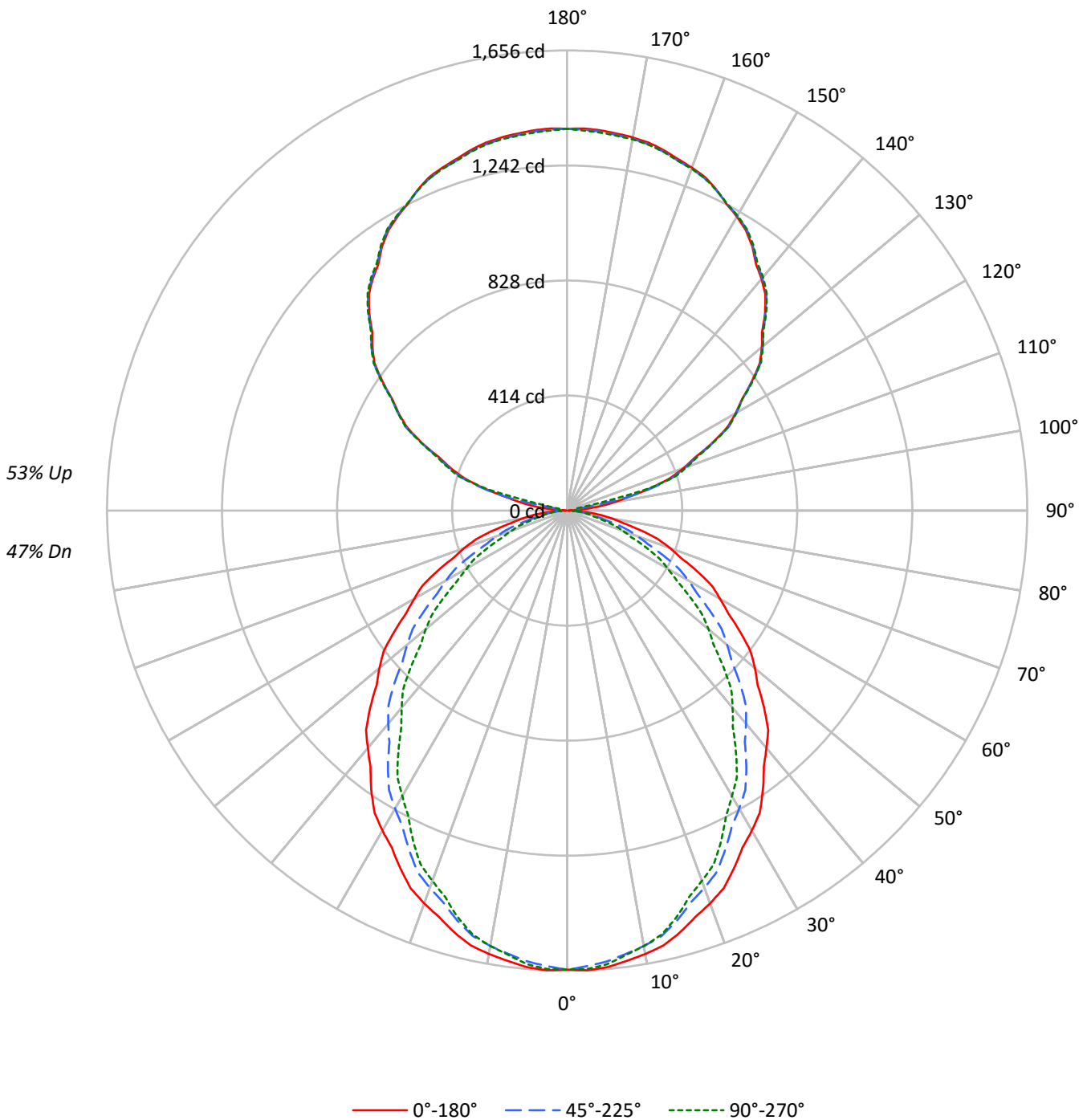
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	98	98	98	98	82	82	82		67	67	67		54	54	54	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	82	75	70	66	63	60	56		53	50	48		42	41	39	34
3	81	72	65	59	74	67	60	55	56	52	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		38	33	30		31	28	25	22
6	63	51	43	37	58	47	40	35	40	35	31		34	30	27		28	25	22	20
7	58	46	38	33	54	43	36	31	37	31	27		31	27	24		25	22	20	17
8	54	42	34	29	50	39	32	28	34	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	19	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	5.4
20°-30°	624.9	7.7
30°-40°	708.3	8.8
40°-50°	684.0	8.5
50°-60°	568.8	7.0
60°-70°	392.8	4.9
70°-80°	199.1	2.5
80°-90°	55.0	0.7
90°-100°	47.0	0.6
100°-110°	299.6	3.7
110°-120°	573.1	7.1
120°-130°	727.5	9.0
130°-140°	778.4	9.6
140°-150°	727.9	9.0
150°-160°	587.0	7.3
160°-170°	378.6	4.7
170°-180°	130.5	1.6
0°-30°	1212.9	15.0
0°-40°	1921.2	23.8
0°-60°	3174.0	39.3
0°-90°	3820.9	47.3
90°-120°	919.7	11.4
90°-150°	3153.4	39.1
90°-180°	4250.0	52.7
0°-180°	8070.4	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°	3	14	23	29	31	6
95°	56	24	23	28	30	73
105°	309	315	321	327	293	324
115°	577	580	580	581	582	568
125°	812	816	814	817	818	724
135°	1007	1006	1010	1012	1014	776
145°	1161	1164	1164	1165	1167	725
155°	1273	1274	1271	1275	1272	587
165°	1343	1338	1338	1345	1337	379
175°	1374	1368	1369	1377	1366	131
180°	1374	1374	1374	1374	1374	



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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°	23.9	22.6	21.3	20.0	18.7	18.1	18.3	18.4	18.5	18.7	18.8
90°	3.1	5.6	8.1	10.6	13.2	15.3	17.1	18.9	20.8	22.6	24.0
92.5°	12.9	13.1	13.2	13.4	13.5	14.5	16.3	18.1	20.0	21.8	23.1
95°	56.5	48.7	41.0	33.2	25.4	21.7	21.9	22.2	22.3	22.6	24.0
97.5°	120.0	124.8	129.7	134.5	139.3	129.0	103.5	78.1	52.6	27.1	27.3
100°	168.5	172.6	176.7	180.9	185.0	171.3	139.7	108.2	76.7	45.2	41.4
102.5°	222.8	225.8	228.8	231.8	234.8	234.2	230.1	226.1	222.0	217.9	175.9
105°	309.3	310.6	312.0	313.4	314.7	316.0	317.2	318.3	319.4	320.6	322.7
107.5°	389.6	390.3	391.0	391.7	392.4	393.5	395.1	396.6	398.2	399.7	400.7
110°	443.9	444.6	445.3	445.9	446.6	447.7	449.0	450.4	451.8	453.1	453.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	496.5	497.7	499.0	500.2	501.5	502.3	503.0	503.7	504.3	504.9	504.9
115°	577.4	578.1	578.8	579.5	580.2	580.4	580.2	580.0	579.7	579.5	580.0
117.5°	650.4	651.3	652.2	653.2	654.0	654.7	655.3	655.8	656.2	656.8	656.7
120°	699.7	700.6	701.6	702.5	703.4	703.7	703.5	703.3	703.1	702.8	703.3
122.5°	745.8	746.3	746.9	747.4	748.0	748.4	748.7	749.0	749.3	749.6	750.0
125°	811.7	812.6	813.6	814.4	815.4	815.6	815.2	814.7	814.2	813.8	814.4
127.5°	874.2	874.4	874.6	874.9	875.1	875.8	876.8	877.8	878.9	880.0	879.8
130°	914.5	914.7	915.0	915.1	915.4	915.8	916.6	917.2	917.9	918.6	918.9
132.5°	951.5	951.9	952.3	952.7	953.1	953.8	954.7	955.5	956.3	957.2	957.4
135°	1006.9	1006.7	1006.5	1006.3	1006.1	1006.4	1007.3	1008.2	1009.2	1010.0	1010.5
137.5°	1056.1	1056.1	1056.2	1056.4	1056.5	1057.0	1058.0	1059.0	1060.0	1061.0	1061.5
140°	1088.1	1088.6	1089.0	1089.5	1090.0	1090.4	1090.8	1091.3	1091.8	1092.3	1092.9
142.5°	1116.9	1117.7	1118.6	1119.4	1120.2	1120.7	1121.0	1121.3	1121.6	1121.8	1122.4
145°	1161.1	1161.7	1162.4	1163.2	1163.8	1164.2	1164.2	1164.2	1164.2	1164.2	1164.4
147.5°	1196.2	1197.5	1198.8	1200.1	1201.3	1201.9	1201.7	1201.4	1201.2	1200.9	1201.1
150°	1221.7	1222.7	1223.5	1224.5	1225.3	1225.7	1225.5	1225.3	1225.0	1224.8	1224.8
152.5°	1243.1	1243.8	1244.5	1245.2	1246.0	1246.2	1245.8	1245.3	1244.9	1244.5	1244.9
155°	1273.1	1273.3	1273.5	1273.7	1274.0	1273.7	1273.1	1272.4	1271.7	1271.1	1271.9
157.5°	1298.4	1298.2	1298.1	1297.9	1297.8	1297.4	1296.6	1295.8	1295.1	1294.3	1295.5
160°	1313.1	1312.5	1311.8	1311.1	1310.4	1310.0	1309.7	1309.5	1309.2	1309.1	1310.4
162.5°	1326.3	1325.4	1324.6	1323.7	1322.9	1322.3	1322.1	1321.8	1321.6	1321.4	1322.7
165°	1343.0	1341.8	1340.7	1339.5	1338.4	1337.8	1337.8	1337.8	1337.8	1337.8	1339.7
167.5°	1356.1	1354.9	1353.8	1352.6	1351.4	1350.7	1350.6	1350.4	1350.3	1350.1	1352.2
170°	1363.5	1362.2	1360.7	1359.4	1358.0	1357.5	1357.6	1357.9	1358.1	1358.4	1360.2
172.5°	1368.4	1367.1	1365.7	1364.3	1362.9	1362.4	1362.6	1362.9	1363.0	1363.3	1365.1
175°	1373.8	1372.4	1371.0	1369.7	1368.3	1367.7	1367.9	1368.2	1368.4	1368.7	1370.7
177.5°	1376.3	1375.0	1373.6	1372.4	1371.1	1370.6	1371.0	1371.4	1371.7	1372.1	1373.6
180°	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8



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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°	18.8	18.9	18.9	19.1	19.4	19.7	20.0	20.4
90°	25.3	26.7	28.1	29.0	29.5	29.9	30.3	30.8
92.5°	24.6	25.9	27.3	28.0	28.1	28.2	28.3	28.4
95°	25.3	26.7	28.1	28.9	29.1	29.3	29.5	29.8
97.5°	27.4	27.6	27.6	27.9	28.1	28.3	28.5	28.8
100°	37.5	33.6	29.7	27.9	28.1	28.3	28.5	28.8
102.5°	134.1	92.2	50.3	29.4	29.5	29.5	29.5	29.6
105°	324.7	326.8	328.8	325.7	317.5	309.3	301.0	292.9
107.5°	401.7	402.7	403.7	404.6	405.5	406.4	407.3	408.1
110°	454.1	454.5	455.0	455.5	456.2	456.9	457.6	458.3



TEST NUMBER: P333109-927

CATALOG NUMBER: S124RDIW-S1195D1340U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	504.7	504.6	504.5	504.9	505.8	506.7	507.6	508.4
115°	580.4	580.9	581.3	581.5	581.5	581.5	581.5	581.5
117.5°	656.6	656.5	656.4	656.3	656.2	656.2	656.1	655.9
120°	703.7	704.2	704.6	704.6	704.2	703.7	703.3	702.8
122.5°	750.2	750.5	750.8	750.7	750.2	749.7	749.3	748.8
125°	815.2	815.9	816.5	817.0	817.2	817.5	817.7	817.9
127.5°	879.7	879.6	879.4	879.2	879.1	878.8	878.7	878.5
130°	919.0	919.2	919.5	919.6	919.6	919.6	919.6	919.6
132.5°	957.7	957.9	958.1	958.1	958.0	957.8	957.6	957.4
135°	1011.0	1011.4	1011.9	1012.3	1012.8	1013.2	1013.7	1014.2
137.5°	1062.0	1062.5	1063.0	1063.2	1063.0	1063.0	1062.8	1062.6
140°	1093.6	1094.3	1095.0	1095.4	1095.7	1095.9	1096.1	1096.4
142.5°	1122.8	1123.3	1123.9	1124.1	1124.2	1124.2	1124.3	1124.3
145°	1164.6	1164.8	1165.1	1165.5	1165.9	1166.3	1166.8	1167.3
147.5°	1201.3	1201.5	1201.7	1201.9	1202.1	1202.4	1202.5	1202.8
150°	1224.8	1224.8	1224.8	1224.9	1225.1	1225.3	1225.6	1225.8
152.5°	1245.2	1245.6	1245.9	1246.1	1245.9	1245.8	1245.7	1245.5
155°	1272.9	1273.7	1274.7	1274.8	1274.1	1273.4	1272.7	1272.1
157.5°	1296.6	1297.8	1299.0	1299.0	1297.8	1296.6	1295.5	1294.3
160°	1311.8	1313.1	1314.5	1314.5	1313.1	1311.8	1310.4	1309.1
162.5°	1324.1	1325.5	1326.8	1326.7	1325.2	1323.7	1322.1	1320.6
165°	1341.5	1343.3	1345.1	1345.0	1343.0	1340.9	1338.9	1336.8
167.5°	1354.2	1356.1	1358.2	1358.0	1355.7	1353.4	1351.2	1348.9
170°	1362.0	1363.8	1365.6	1365.4	1363.2	1360.9	1358.6	1356.3
172.5°	1366.9	1368.8	1370.6	1370.3	1367.8	1365.3	1362.9	1360.4
175°	1372.8	1374.8	1376.9	1376.5	1373.8	1371.0	1368.3	1365.6
177.5°	1375.1	1376.5	1378.0	1377.6	1375.4	1373.2	1371.0	1368.8
180°	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8

(END OF REPORT)