

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: P332704-930

Luminaire Tested: **S124DIP-S1195D1035U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332704-930
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: S124DIP-S1195D1035U930-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

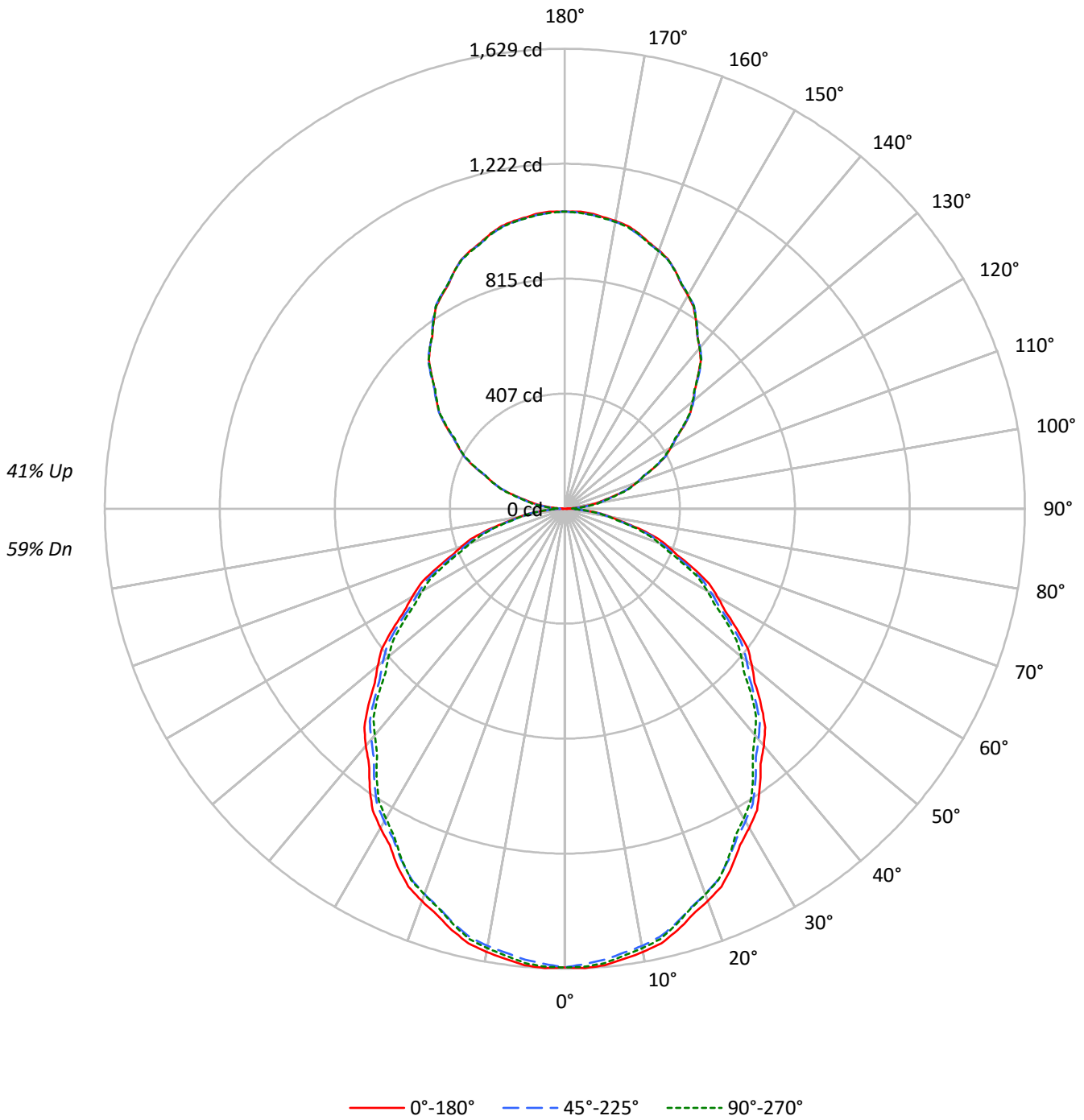
Lumens per Lamp: N/A
Luminaire Lumens: 7091.8 lumens
Efficiency: N/A
Efficacy: 106.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (Ain): 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									
RC	80									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	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59																			
1	100	95	91	88	93	89	86	82	77	75	72	67	65	63	57	55	54	49																			
2	91	83	77	72	84	78	72	68	68	64	60	58	55	53	50	48	46	41																			
3	83	73	66	60	77	69	62	57	60	55	50	52	48	45	44	41	39	35																			
4	76	65	57	51	70	61	54	48	53	48	43	46	42	38	40	36	33	30																			
5	70	58	50	43	65	54	47	41	48	42	37	41	37	33	36	32	29	26																			
6	64	52	44	38	60	49	41	36	43	37	32	37	33	29	32	29	26	23																			
7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	30	26	23	20																			
8	55	43	35	29	51	40	33	28	36	30	26	31	26	23	27	23	20	18																			
9	51	39	31	26	48	37	30	25	33	27	23	29	24	21	25	21	19	16																			
10	48	36	28	24	45	34	27	23	30	25	21	27	22	19	23	20	17	15																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13116	13116	13116
5°	13156	12998	13092
10°	13073	12892	12956
15°	12915	12709	12741
20°	12706	12482	12493
25°	12466	12222	12188
30°	12172	11918	11808
35°	11869	11599	11445
40°	11552	11236	11031
45°	11222	10880	10671
50°	10857	10562	10236
55°	10463	10151	9821
60°	10069	9689	9397
65°	9626	9251	8879
70°	9128	8665	8327
75°	8366	7960	7757
80°	7443	7141	6960
85°	6512	6271	6150



TEST NUMBER: P332704-930

CATALOG NUMBER: S124DIP-S1195D1035U930-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.0	2.2
10°-20°	431.1	6.1
20°-30°	634.5	8.9
30°-40°	737.7	10.4
40°-50°	737.7	10.4
50°-60°	645.3	9.1
60°-70°	479.2	6.8
70°-80°	272.3	3.8
80°-90°	81.7	1.2
90°-100°	69.4	1.0
100°-110°	205.6	2.9
110°-120°	348.9	4.9
120°-130°	460.1	6.5
130°-140°	516.7	7.3
140°-150°	507.8	7.2
150°-160°	427.1	6.0
160°-170°	284.1	4.0
170°-180°	99.5	1.4
0°-30°	1218.6	17.2
0°-40°	1956.3	27.6
0°-60°	3339.3	47.1
0°-90°	4172.5	58.8
90°-120°	623.9	8.8
90°-150°	2108.6	29.7
90°-180°	2919.0	41.2
0°-180°	7091.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1625	1625	1625	1625	1625	
5°	1623	1618	1604	1617	1616	154
15°	1545	1539	1521	1528	1524	435
25°	1400	1390	1372	1373	1368	644
35°	1204	1195	1177	1168	1161	753
45°	983	973	953	939	935	757
55°	743	739	721	706	698	666
65°	504	497	484	472	465	499
75°	268	262	255	250	249	285
85°	70	70	68	68	66	77
90°	2	11	18	23	24	7
95°	49	56	62	64	64	54
105°	190	191	194	196	198	201
115°	355	355	353	352	352	350
125°	517	517	516	514	513	460
135°	666	671	671	670	667	515
145°	810	813	814	813	810	507
155°	928	928	927	930	927	427
165°	1010	1008	1006	1010	1008	285
175°	1051	1047	1046	1051	1046	100
180°	1052	1052	1052	1052	1052	



TEST NUMBER: P332704-930

CATALOG NUMBER: S124DIP-S1195D1035U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7
2.5°	1628.9	1628.2	1627.5	1626.8	1626.1	1624.5	1622.0	1619.4	1616.9	1614.4	1616.7
5°	1623.4	1622.3	1621.1	1620.0	1618.9	1616.7	1613.5	1610.3	1607.1	1603.9	1607.1
7.5°	1608.3	1607.2	1606.1	1604.8	1603.7	1601.4	1597.8	1594.3	1590.8	1587.2	1589.8
10°	1594.8	1593.7	1592.5	1591.3	1590.2	1587.7	1584.0	1580.2	1576.5	1572.7	1575.0
12.5°	1577.1	1576.0	1574.8	1573.6	1572.5	1569.9	1565.9	1562.0	1558.0	1554.0	1556.5
15°	1545.3	1544.2	1543.0	1541.9	1540.7	1538.0	1533.6	1529.3	1524.9	1520.6	1522.3
17.5°	1507.1	1505.6	1504.1	1502.8	1501.3	1498.5	1494.4	1490.3	1486.2	1482.1	1483.2
20°	1479.0	1477.5	1476.0	1474.6	1473.2	1470.2	1465.9	1461.6	1457.3	1452.9	1453.8
22.5°	1448.7	1446.8	1445.0	1443.0	1441.1	1437.9	1433.6	1429.3	1425.0	1420.6	1422.2
25°	1399.5	1397.5	1395.5	1393.4	1391.4	1388.4	1384.3	1380.3	1376.2	1372.1	1372.5
27.5°	1343.3	1341.2	1339.1	1337.0	1335.0	1332.0	1328.3	1324.5	1320.8	1317.0	1316.3
30°	1305.8	1303.5	1301.1	1298.9	1296.6	1293.5	1289.7	1286.0	1282.2	1278.5	1277.3
32.5°	1266.2	1264.1	1262.1	1260.0	1257.8	1254.8	1250.8	1246.8	1242.8	1238.8	1237.5
35°	1204.3	1202.2	1200.2	1198.2	1196.1	1193.1	1189.0	1185.0	1181.0	1176.9	1174.8
37.5°	1138.9	1137.0	1135.2	1133.3	1131.5	1128.4	1124.1	1119.7	1115.3	1111.0	1108.8
40°	1096.2	1093.9	1091.5	1089.2	1087.0	1083.6	1079.3	1074.9	1070.6	1066.2	1063.3
42.5°	1050.4	1049.0	1047.6	1046.2	1044.8	1041.7	1036.9	1032.1	1027.3	1022.5	1019.1
45°	982.9	980.9	978.8	976.8	974.9	971.5	966.9	962.2	957.6	953.0	949.8
47.5°	912.3	910.9	909.5	908.2	906.8	904.0	899.7	895.4	891.1	886.9	883.3
50°	864.5	863.3	862.1	861.0	859.8	857.2	853.1	849.1	845.1	841.0	837.0
52.5°	817.6	816.2	814.8	813.4	812.0	809.2	804.9	800.6	796.4	792.1	788.5
55°	743.4	742.5	741.7	740.8	739.9	737.4	733.4	729.4	725.3	721.2	717.8
57.5°	672.5	671.6	670.6	669.6	668.6	666.1	662.1	658.1	654.1	650.1	646.9
60°	623.6	622.2	620.7	619.3	617.8	615.2	611.5	607.7	603.9	600.1	597.5
62.5°	575.7	574.5	573.2	572.0	570.9	568.3	564.3	560.3	556.3	552.3	549.9
65°	503.9	502.4	500.9	499.5	498.1	495.9	493.0	490.1	487.2	484.3	481.4
67.5°	431.5	430.2	428.8	427.5	426.2	424.0	421.3	418.5	415.7	412.9	410.2
70°	386.7	384.7	382.6	380.6	378.5	376.4	374.1	371.8	369.4	367.1	364.8
72.5°	338.8	336.7	334.7	332.6	330.7	328.7	326.9	325.0	323.2	321.3	319.4
75°	268.2	266.8	265.3	263.8	262.4	261.0	259.5	258.0	256.7	255.2	254.0
77.5°	200.7	200.1	199.5	198.9	198.2	197.2	196.0	194.7	193.5	192.2	191.8
80°	160.1	159.2	158.4	157.5	156.7	156.0	155.4	154.7	154.2	153.6	153.0
82.5°	120.6	120.2	119.8	119.4	119.0	118.7	118.5	118.5	118.3	118.2	117.9
85°	70.3	70.3	70.3	70.3	70.3	70.0	69.5	68.9	68.2	67.7	67.7
87.5°	27.6	27.7	27.9	28.0	28.2	28.4	28.4	28.5	28.5	28.6	28.8
90°	2.4	4.4	6.4	8.4	10.4	12.1	13.5	15.0	16.5	17.9	19.0
92.5°	17.4	19.7	21.9	24.2	26.5	28.2	29.2	30.2	31.2	32.2	32.9
95°	48.8	50.5	52.1	53.7	55.4	56.7	58.0	59.4	60.6	61.9	62.4
97.5°	85.3	86.6	87.9	89.2	90.5	91.9	93.4	94.8	96.4	97.8	98.5
100°	113.9	114.6	115.4	116.1	116.8	118.0	119.6	121.2	122.9	124.5	124.9
102.5°	143.9	144.1	144.5	144.7	145.0	145.9	147.4	148.9	150.3	151.9	152.4
105°	189.6	189.8	190.0	190.1	190.4	190.8	191.5	192.2	193.0	193.7	194.2
107.5°	237.7	237.8	238.1	238.3	238.5	238.6	238.8	238.9	239.0	239.1	239.6
110°	270.2	270.5	270.9	271.3	271.7	271.7	271.5	271.3	271.2	271.0	270.6



TEST NUMBER: P332704-930

CATALOG NUMBER: S124DIP-S1195D1035U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	304.0	304.1	304.2	304.3	304.4	304.2	303.9	303.5	303.2	302.9	302.8
115°	354.8	354.8	354.8	354.8	354.8	354.7	354.2	353.9	353.5	353.2	353.0
117.5°	402.7	402.8	402.9	403.1	403.2	403.2	402.9	402.7	402.4	402.2	401.5
120°	434.6	435.3	436.0	436.8	437.5	437.6	437.0	436.4	435.9	435.4	434.5
122.5°	467.7	468.1	468.3	468.6	468.9	469.0	468.7	468.4	468.1	467.9	467.3
125°	516.7	516.7	516.7	516.7	516.7	516.7	516.5	516.3	516.1	515.9	515.6
127.5°	561.2	561.7	562.2	562.8	563.4	563.5	563.2	562.9	562.6	562.3	562.0
130°	592.4	593.0	593.5	594.0	594.6	594.8	594.8	594.8	594.8	594.8	594.5
132.5°	624.4	624.8	625.1	625.5	625.9	626.1	625.9	625.7	625.6	625.5	625.1
135°	666.5	667.6	668.6	669.8	670.8	671.4	671.4	671.4	671.4	671.4	671.0
137.5°	712.4	712.9	713.4	713.9	714.4	714.8	715.1	715.4	715.7	716.0	715.5
140°	743.0	743.3	743.7	744.0	744.4	744.6	744.6	744.6	744.6	744.6	744.4
142.5°	770.9	771.4	771.7	772.1	772.4	772.5	772.4	772.3	772.1	771.9	771.9
145°	809.7	810.4	811.1	811.9	812.6	813.0	813.3	813.4	813.6	813.8	813.6
147.5°	848.2	849.0	849.9	850.8	851.6	852.0	851.8	851.7	851.5	851.4	851.3
150°	871.6	872.3	873.0	873.8	874.5	874.8	874.8	874.8	874.8	874.8	874.8
152.5°	893.7	894.1	894.5	895.0	895.4	895.7	895.9	896.0	896.2	896.3	896.7
155°	927.7	927.7	927.7	927.7	927.7	927.6	927.4	927.2	927.1	926.9	927.6
157.5°	956.3	956.0	955.7	955.4	955.0	954.9	954.8	954.8	954.8	954.7	955.3
160°	973.3	973.1	972.9	972.7	972.6	972.4	972.2	972.0	971.8	971.7	972.2
162.5°	988.9	988.5	988.0	987.5	987.0	986.7	986.5	986.3	986.2	985.9	986.9
165°	1009.9	1009.3	1008.9	1008.3	1007.7	1007.3	1006.9	1006.6	1006.2	1005.8	1006.9
167.5°	1026.1	1025.2	1024.5	1023.8	1023.0	1022.6	1022.6	1022.7	1022.7	1022.8	1023.9
170°	1035.1	1034.2	1033.3	1032.4	1031.5	1031.1	1031.4	1031.5	1031.7	1031.8	1033.0
172.5°	1041.6	1040.9	1040.2	1039.3	1038.6	1038.2	1038.3	1038.3	1038.4	1038.4	1039.6
175°	1050.6	1049.7	1048.8	1047.9	1047.0	1046.4	1046.3	1046.0	1045.9	1045.7	1047.0
177.5°	1053.5	1052.8	1052.1	1051.3	1050.6	1050.3	1050.3	1050.3	1050.3	1050.3	1051.2
180°	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2



TEST NUMBER: P332704-930

CATALOG NUMBER: S124DIP-S1195D1035U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7
2.5°	1618.9	1621.3	1623.6	1624.6	1624.4	1624.2	1623.9	1623.7
5°	1610.3	1613.5	1616.7	1618.0	1617.4	1616.8	1616.2	1615.6
7.5°	1592.4	1594.9	1597.4	1598.6	1598.2	1597.8	1597.5	1597.2
10°	1577.3	1579.6	1581.9	1582.8	1582.3	1581.7	1581.0	1580.5
12.5°	1559.0	1561.5	1564.2	1565.0	1564.2	1563.3	1562.5	1561.7
15°	1524.0	1525.8	1527.5	1528.0	1527.1	1526.2	1525.3	1524.5
17.5°	1484.3	1485.4	1486.5	1486.7	1486.1	1485.6	1485.0	1484.4
20°	1454.7	1455.5	1456.4	1456.5	1456.0	1455.4	1454.8	1454.2
22.5°	1423.8	1425.3	1426.9	1427.1	1426.1	1425.1	1424.0	1422.9
25°	1372.8	1373.0	1373.4	1372.9	1371.7	1370.6	1369.5	1368.3
27.5°	1315.6	1314.9	1314.2	1313.1	1311.7	1310.3	1308.8	1307.3
30°	1276.1	1275.0	1273.8	1272.5	1271.1	1269.7	1268.2	1266.7
32.5°	1236.1	1234.7	1233.3	1231.9	1230.4	1229.0	1227.6	1226.1
35°	1172.9	1170.9	1168.8	1167.1	1165.6	1164.2	1162.7	1161.3
37.5°	1106.6	1104.4	1102.2	1100.2	1098.3	1096.3	1094.5	1092.5
40°	1060.5	1057.5	1054.7	1052.5	1051.1	1049.6	1048.1	1046.7
42.5°	1015.8	1012.4	1009.1	1006.9	1005.9	1004.9	1004.0	1003.0
45°	946.6	943.5	940.3	938.2	937.3	936.5	935.6	934.7
47.5°	879.7	876.1	872.5	869.6	867.4	865.2	863.0	860.8
50°	832.9	828.8	824.8	821.9	820.2	818.5	816.7	815.0
52.5°	784.9	781.3	777.7	774.9	772.7	770.5	768.3	766.1
55°	714.3	710.9	707.4	704.7	703.0	701.3	699.5	697.8
57.5°	643.6	640.3	637.0	634.5	632.8	631.1	629.4	627.8
60°	594.9	592.4	589.8	587.7	586.3	584.8	583.4	582.0
62.5°	547.5	545.1	542.7	540.9	539.4	537.9	536.5	535.1
65°	478.5	475.6	472.7	470.6	469.1	467.7	466.2	464.8
67.5°	407.4	404.6	401.9	400.2	399.8	399.4	399.0	398.6
70°	362.5	360.2	357.8	356.3	355.4	354.6	353.7	352.8
72.5°	317.6	315.8	313.9	312.5	311.7	310.8	309.9	309.1
75°	252.8	251.7	250.5	249.8	249.6	249.2	248.9	248.7
77.5°	191.4	191.1	190.8	190.2	189.5	188.7	187.9	187.2
80°	152.5	151.9	151.3	150.9	150.6	150.3	150.0	149.7
82.5°	117.5	117.2	116.8	116.5	116.2	115.9	115.6	115.4
85°	67.7	67.7	67.7	67.6	67.3	66.9	66.7	66.4
87.5°	29.0	29.2	29.4	29.6	29.7	29.8	29.8	29.8
90°	20.1	21.2	22.3	23.0	23.3	23.7	24.1	24.4
92.5°	33.5	34.2	34.8	35.3	35.5	35.7	36.0	36.1
95°	62.9	63.5	64.0	64.3	64.3	64.3	64.3	64.3
97.5°	99.1	99.8	100.4	100.8	100.8	100.8	100.8	100.8
100°	125.2	125.6	126.0	126.1	126.1	126.1	126.1	126.1
102.5°	152.9	153.4	153.8	154.2	154.3	154.5	154.7	154.7
105°	194.8	195.3	195.8	196.4	196.9	197.5	198.0	198.5
107.5°	240.1	240.6	241.1	241.3	241.3	241.2	241.2	241.2
110°	270.3	269.9	269.5	269.6	270.2	270.7	271.3	271.8



TEST NUMBER: P332704-930

CATALOG NUMBER: S124DIP-S1195D1035U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	302.7	302.6	302.6	302.6	302.7	302.8	303.0	303.0
115°	352.8	352.6	352.5	352.3	352.1	351.9	351.7	351.6
117.5°	401.0	400.3	399.7	399.3	398.8	398.5	398.1	397.8
120°	433.6	432.7	431.8	431.5	431.9	432.2	432.6	432.9
122.5°	466.7	466.1	465.5	464.8	464.1	463.5	462.8	462.2
125°	515.2	514.9	514.5	514.1	513.8	513.4	513.1	512.7
127.5°	561.6	561.3	560.8	560.5	560.3	559.9	559.7	559.4
130°	594.2	593.8	593.5	592.9	592.2	591.4	590.7	590.0
132.5°	624.8	624.4	624.0	623.7	623.4	623.1	622.8	622.6
135°	670.7	670.3	669.9	669.4	669.0	668.4	667.8	667.3
137.5°	715.0	714.5	714.1	713.9	714.0	714.1	714.2	714.4
140°	744.3	744.0	743.9	743.7	743.6	743.3	743.1	743.0
142.5°	771.8	771.8	771.8	771.8	771.8	771.7	771.7	771.6
145°	813.4	813.3	813.0	812.7	812.1	811.6	811.1	810.5
147.5°	851.1	850.9	850.8	850.6	850.4	850.3	850.1	849.9
150°	874.8	874.8	874.8	874.7	874.6	874.3	874.2	874.0
152.5°	897.2	897.6	898.1	898.1	897.6	897.1	896.6	896.1
155°	928.4	929.0	929.8	929.8	929.0	928.4	927.6	926.9
157.5°	955.8	956.3	956.9	956.8	956.3	955.6	955.0	954.4
160°	972.7	973.3	973.8	973.6	972.7	971.8	970.9	970.0
162.5°	987.9	988.9	989.9	989.9	989.0	988.1	987.2	986.3
165°	1008.0	1009.1	1010.2	1010.3	1009.7	1008.9	1008.2	1007.5
167.5°	1024.9	1026.1	1027.1	1027.1	1026.0	1024.8	1023.7	1022.6
170°	1034.0	1035.1	1036.2	1036.1	1034.9	1033.6	1032.3	1031.0
172.5°	1040.8	1042.0	1043.3	1043.3	1042.0	1040.7	1039.5	1038.2
175°	1048.2	1049.5	1050.8	1050.8	1049.5	1048.2	1047.0	1045.7
177.5°	1052.3	1053.3	1054.3	1054.3	1053.1	1051.9	1050.8	1049.6
180°	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2	1052.2

(END OF REPORT)