

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: P332043-840

Luminaire Tested: **S123DIP-S1000D1195U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332043-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S1000D1195U840-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8302.3 lumens  
Efficiency: N/A  
Efficacy: 126.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse

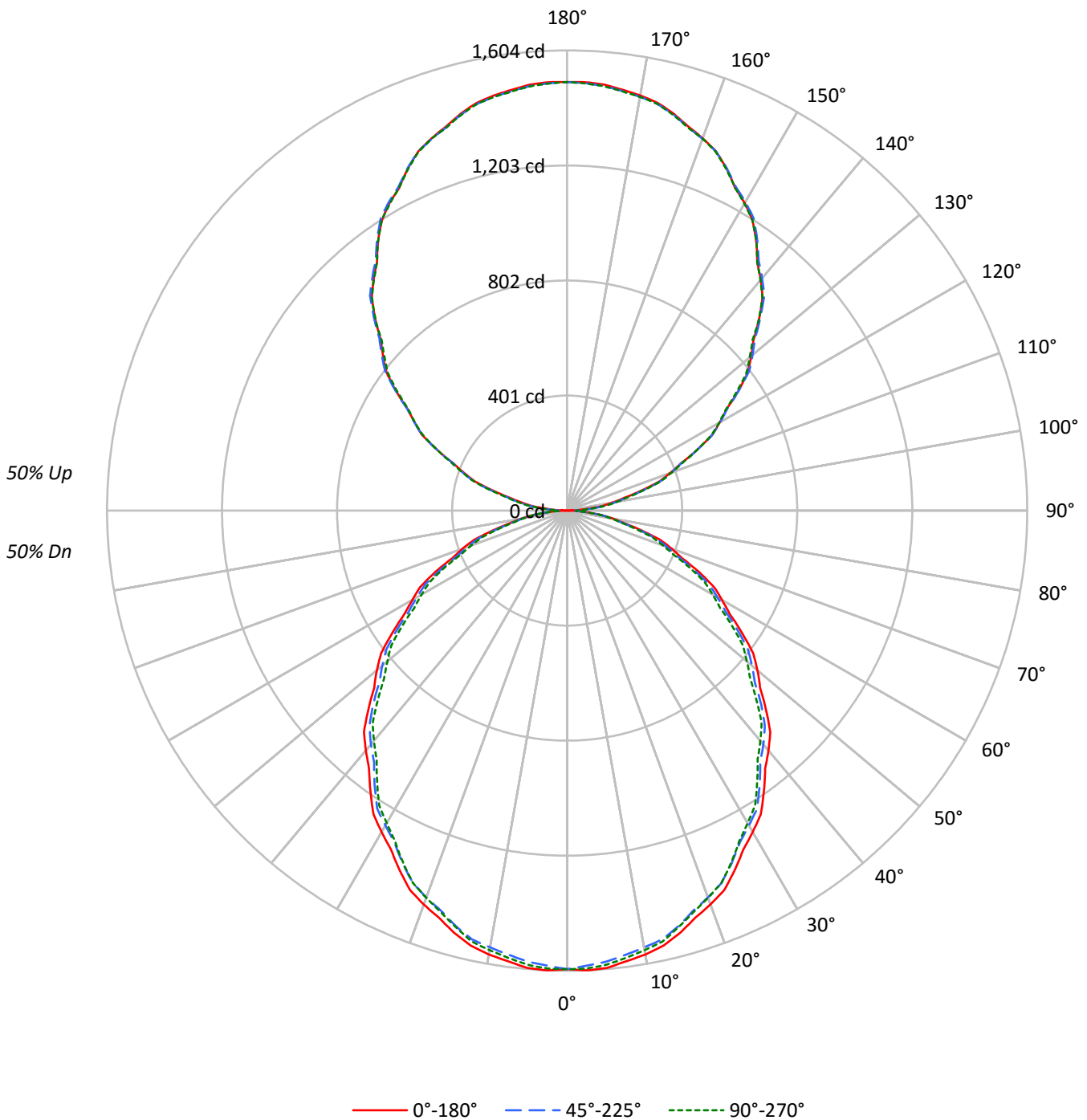
Input Watts (W): 65.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50				
1	98	93	89	86	90	86	83	80	73	71	68	61	59	58	50	48	47	42				
2	89	82	75	70	82	75	70	65	64	60	57	53	51	48	44	42	40	35				
3	81	72	64	58	75	66	60	55	56	52	47	47	44	41	39	36	34	30				
4	74	63	55	49	68	59	52	46	50	45	40	42	38	35	35	32	29	26				
5	68	56	48	42	63	52	45	40	45	39	35	38	33	30	31	28	25	22				
6	63	51	42	37	58	47	40	35	40	35	30	34	30	26	28	25	22	19				
7	58	46	38	32	53	43	35	30	37	31	27	31	27	23	26	22	20	17				
8	54	41	34	28	50	39	32	27	33	28	24	28	24	21	24	20	18	15				
9	50	38	30	25	46	35	29	24	31	25	21	26	22	19	22	18	16	14				
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	15	13				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	17206	17206	17206
5°	17286	17049	17168
10°	17171	16901	17006
15°	16971	16710	16741
20°	16736	16436	16452
25°	16422	16112	16079
30°	16075	15751	15631
35°	15713	15369	15172
40°	15336	14948	14716
45°	14918	14562	14206
50°	14502	14086	13695
55°	13955	13594	13181
60°	13403	13020	12605
65°	12918	12394	12006
70°	12198	11679	11160
75°	11146	10746	10289
80°	10054	9627	9540
85°	8830	8497	8139



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	150.6	1.8
10°-20°	425.2	5.1
20°-30°	628.0	7.6
30°-40°	733.6	8.8
40°-50°	737.6	8.9
50°-60°	647.9	7.8
60°-70°	482.7	5.8
70°-80°	275.0	3.3
80°-90°	83.4	1.0
90°-100°	97.3	1.2
100°-110°	291.2	3.5
110°-120°	495.4	6.0
120°-130°	651.6	7.8
130°-140°	732.3	8.8
140°-150°	719.9	8.7
150°-160°	606.0	7.3
160°-170°	403.4	4.9
170°-180°	141.3	1.7
0°-30°	1203.8	14.5
0°-40°	1937.4	23.3
0°-60°	3322.8	40.0
0°-90°	4163.9	50.2
90°-120°	883.9	10.6
90°-150°	2987.7	36.0
90°-180°	4138.0	49.8
0°-180°	8302.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1598	1598	1598	1598	1598	
5°	1600	1593	1578	1591	1589	152
15°	1523	1517	1500	1509	1502	429
25°	1383	1374	1357	1358	1354	637
35°	1196	1187	1170	1162	1155	748
45°	980	974	957	941	933	756
55°	744	741	724	710	702	666
65°	507	500	487	476	471	500
75°	268	263	258	252	247	287
85°	72	69	69	66	66	78
90°	1	13	28	33	35	8
95°	69	78	87	91	92	78
105°	264	267	277	277	279	283
115°	499	502	500	501	500	493
125°	730	733	731	726	722	651
135°	947	953	953	948	946	729
145°	1149	1151	1155	1153	1149	717
155°	1315	1315	1316	1320	1313	605
165°	1433	1429	1429	1435	1428	404
175°	1490	1486	1485	1492	1484	141
180°	1494	1494	1494	1494	1494	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5
2.5°	1604.0	1603.1	1602.0	1601.0	1600.1	1598.2	1595.6	1592.9	1590.2	1587.5	1589.9
5°	1599.8	1598.3	1596.8	1595.3	1593.8	1591.3	1588.0	1584.6	1581.2	1577.9	1580.9
7.5°	1584.2	1582.7	1581.1	1579.6	1578.1	1575.6	1572.2	1568.6	1565.2	1561.7	1564.4
10°	1571.0	1569.5	1567.9	1566.4	1564.9	1562.2	1558.2	1554.2	1550.2	1546.3	1549.0
12.5°	1553.4	1552.2	1550.8	1549.5	1548.3	1545.8	1542.1	1538.3	1534.6	1530.9	1532.9
15°	1522.9	1521.7	1520.5	1519.2	1518.0	1515.4	1511.5	1507.5	1503.5	1499.5	1502.0
17.5°	1487.4	1485.8	1484.3	1482.7	1481.1	1478.3	1474.3	1470.4	1466.4	1462.4	1464.1
20°	1461.1	1459.3	1457.4	1455.5	1453.7	1450.8	1446.8	1442.9	1439.0	1434.9	1436.1
22.5°	1431.4	1429.6	1427.7	1425.8	1424.0	1421.2	1417.1	1413.2	1409.3	1405.2	1406.2
25°	1382.7	1380.9	1379.1	1377.3	1375.3	1372.5	1368.5	1364.5	1360.6	1356.6	1356.9
27.5°	1330.8	1329.0	1327.2	1325.4	1323.6	1320.6	1316.4	1312.1	1307.8	1303.5	1303.7
30°	1293.3	1291.8	1290.3	1288.8	1287.3	1284.3	1280.1	1275.8	1271.5	1267.3	1267.3
32.5°	1256.0	1253.9	1251.9	1249.9	1247.9	1245.3	1241.9	1238.7	1235.4	1232.0	1230.3
35°	1195.8	1194.0	1192.1	1190.3	1188.4	1185.6	1181.5	1177.6	1173.7	1169.6	1167.8
37.5°	1134.2	1131.9	1129.5	1127.2	1124.9	1121.8	1117.7	1113.7	1109.6	1105.6	1103.4
40°	1091.4	1089.4	1087.6	1085.8	1084.0	1081.0	1076.6	1072.4	1068.1	1063.8	1061.4
42.5°	1048.4	1046.3	1044.3	1042.2	1040.2	1036.9	1032.7	1028.4	1024.1	1019.9	1017.4
45°	980.0	978.8	977.5	976.3	975.1	972.5	968.6	964.5	960.6	956.6	953.0
47.5°	912.1	910.3	908.6	906.8	905.0	902.2	898.6	894.8	891.1	887.4	883.7
50°	866.0	864.3	862.8	861.3	859.8	857.1	853.0	849.1	845.2	841.2	837.8
52.5°	817.5	816.5	815.5	814.5	813.3	810.7	806.6	802.3	798.1	793.9	791.0
55°	743.6	743.3	743.0	742.7	742.4	740.2	736.3	732.3	728.3	724.4	720.9
57.5°	673.2	672.2	671.2	670.1	669.0	666.9	663.8	660.6	657.4	654.3	651.3
60°	622.6	622.3	622.0	621.7	621.4	619.5	615.7	612.1	608.4	604.8	602.0
62.5°	577.5	576.7	575.9	575.1	574.4	572.2	568.5	564.8	561.2	557.4	554.7
65°	507.2	505.6	504.1	502.6	501.1	498.8	495.7	492.7	489.6	486.6	484.1
67.5°	432.7	431.3	430.0	428.7	427.3	425.5	423.1	420.8	418.5	416.2	414.0
70°	387.6	385.8	384.0	382.1	380.3	378.4	376.6	374.8	372.9	371.1	369.0
72.5°	340.3	339.0	337.6	336.3	335.0	333.3	331.1	329.1	327.0	324.9	323.1
75°	268.0	266.8	265.6	264.4	263.2	262.1	261.2	260.2	259.3	258.4	256.9
77.5°	204.0	203.3	202.6	202.0	201.3	200.4	199.3	198.2	197.1	196.0	195.0
80°	162.2	161.3	160.4	159.5	158.5	157.7	157.1	156.5	155.9	155.3	155.0
82.5°	121.5	121.3	121.2	121.0	120.8	120.6	120.5	120.4	120.3	120.2	119.6
85°	71.5	70.9	70.3	69.7	69.1	68.8	68.8	68.8	68.8	68.8	68.1
87.5°	28.8	28.6	28.4	28.2	28.0	28.1	28.5	29.0	29.4	29.8	29.8
90°	1.2	3.7	6.4	9.0	11.6	14.6	18.0	21.4	24.7	28.2	29.2
92.5°	28.4	30.2	31.9	33.7	35.4	37.4	39.3	41.2	43.1	45.0	45.8
95°	69.3	71.1	72.9	74.7	76.5	78.5	80.6	82.6	84.7	86.8	87.9
97.5°	123.0	124.3	125.7	127.0	128.4	129.9	131.4	132.9	134.3	135.8	137.0
100°	159.6	161.2	162.7	164.3	165.8	167.2	168.5	169.9	171.2	172.5	173.3
102.5°	201.8	202.8	203.7	204.6	205.6	206.9	208.6	210.4	212.1	213.8	214.6
105°	264.0	264.5	265.1	265.6	266.1	267.5	269.8	272.3	274.6	276.9	276.9
107.5°	336.3	336.6	336.9	337.2	337.5	338.2	339.1	340.0	340.9	341.9	342.7
110°	381.3	381.8	382.3	382.9	383.4	384.0	384.5	385.0	385.5	386.1	387.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	428.3	428.6	428.9	429.2	429.5	429.7	429.8	429.9	430.0	430.1	431.4
115°	498.7	499.5	500.2	501.0	501.8	501.9	501.4	500.9	500.4	499.9	500.1
117.5°	569.6	570.1	570.6	571.1	571.6	571.6	570.9	570.2	569.6	568.9	568.8
120°	613.7	615.2	616.8	618.3	620.0	620.1	618.7	617.4	616.1	614.8	614.6
122.5°	659.6	660.8	662.0	663.1	664.3	664.5	663.8	663.1	662.5	661.8	661.1
125°	729.8	730.6	731.3	732.2	733.0	733.1	732.6	732.1	731.5	731.0	729.9
127.5°	794.6	796.3	797.9	799.6	801.2	801.8	801.2	800.6	800.1	799.5	798.1
130°	837.8	839.8	841.9	844.0	846.1	846.8	846.0	845.2	844.4	843.6	842.6
132.5°	880.9	883.0	885.1	887.2	889.3	890.1	889.5	888.9	888.3	887.8	886.5
135°	946.8	948.5	950.0	951.6	953.1	953.8	953.5	953.3	953.0	952.7	951.7
137.5°	1007.9	1009.2	1010.5	1011.8	1013.1	1014.1	1014.8	1015.4	1016.1	1016.8	1015.7
140°	1050.2	1051.5	1052.8	1054.1	1055.3	1056.1	1056.4	1056.6	1056.9	1057.2	1056.9
142.5°	1088.6	1089.9	1091.3	1092.6	1093.9	1094.7	1095.2	1095.7	1096.1	1096.6	1096.3
145°	1148.7	1149.2	1149.7	1150.2	1150.7	1151.4	1152.3	1153.0	1153.8	1154.6	1154.3
147.5°	1201.2	1202.2	1203.2	1204.1	1205.1	1205.9	1206.6	1207.3	1208.0	1208.8	1208.8
150°	1237.9	1238.4	1238.9	1239.4	1240.0	1240.5	1241.0	1241.5	1242.0	1242.5	1242.5
152.5°	1267.9	1268.7	1269.4	1270.1	1270.8	1271.3	1271.6	1272.0	1272.3	1272.6	1273.0
155°	1315.3	1315.3	1315.3	1315.3	1315.3	1315.5	1315.8	1316.0	1316.3	1316.5	1317.6
157.5°	1355.6	1355.3	1355.0	1354.7	1354.4	1354.3	1354.6	1354.8	1355.0	1355.2	1356.3
160°	1381.0	1380.5	1380.0	1379.5	1379.0	1378.7	1378.7	1378.7	1378.7	1378.7	1380.0
162.5°	1403.5	1402.8	1402.1	1401.4	1400.7	1400.4	1400.6	1400.8	1401.0	1401.2	1402.5
165°	1432.7	1431.9	1431.1	1430.3	1429.6	1429.2	1429.2	1429.2	1429.2	1429.2	1430.7
167.5°	1455.9	1454.8	1453.8	1452.8	1451.7	1451.3	1451.5	1451.7	1451.9	1452.1	1453.7
170°	1469.1	1467.9	1466.9	1465.9	1464.8	1464.3	1464.3	1464.3	1464.3	1464.3	1466.1
172.5°	1479.4	1478.3	1477.2	1476.2	1475.2	1474.7	1474.7	1474.7	1474.7	1474.7	1476.3
175°	1490.2	1489.1	1488.0	1487.0	1486.0	1485.4	1485.4	1485.4	1485.4	1485.4	1487.0
177.5°	1494.6	1493.8	1493.0	1492.1	1491.3	1490.9	1490.9	1490.9	1490.9	1490.9	1492.1
180°	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5	1598.5
2.5°	1592.4	1594.9	1597.3	1598.4	1598.1	1597.9	1597.6	1597.4
5°	1584.0	1587.0	1590.1	1591.3	1590.7	1590.1	1589.5	1588.9
7.5°	1567.2	1569.9	1572.7	1573.9	1573.5	1573.2	1572.8	1572.4
10°	1551.8	1554.5	1557.3	1558.3	1557.7	1557.1	1556.5	1555.9
12.5°	1534.9	1536.9	1538.9	1539.7	1539.4	1539.0	1538.6	1538.3
15°	1504.4	1506.8	1509.3	1509.6	1507.8	1505.9	1504.1	1502.3
17.5°	1465.8	1467.5	1469.3	1469.8	1469.2	1468.4	1467.7	1467.1
20°	1437.3	1438.7	1439.9	1440.0	1439.1	1438.1	1437.2	1436.3
22.5°	1407.2	1408.2	1409.2	1409.1	1408.0	1406.7	1405.6	1404.4
25°	1357.2	1357.6	1357.9	1357.6	1356.6	1355.6	1354.7	1353.8
27.5°	1304.0	1304.2	1304.5	1304.0	1302.9	1301.7	1300.6	1299.4
30°	1267.3	1267.3	1267.3	1266.2	1264.0	1261.9	1259.8	1257.6
32.5°	1228.6	1227.0	1225.3	1223.8	1222.6	1221.4	1220.3	1219.1
35°	1166.0	1164.2	1162.4	1160.6	1159.1	1157.6	1156.1	1154.6
37.5°	1101.3	1099.0	1096.8	1095.2	1094.3	1093.3	1092.3	1091.4
40°	1058.9	1056.5	1054.1	1052.2	1051.0	1049.8	1048.5	1047.3
42.5°	1014.9	1012.5	1010.1	1008.2	1007.0	1005.8	1004.6	1003.4
45°	949.3	945.6	942.0	939.4	937.9	936.3	934.8	933.2
47.5°	880.1	876.6	872.9	870.5	869.1	867.8	866.5	865.1
50°	834.5	831.1	827.7	825.2	823.3	821.4	819.6	817.8
52.5°	788.1	785.3	782.4	780.0	778.2	776.4	774.6	772.7
55°	717.6	714.3	710.9	708.4	706.9	705.4	703.9	702.4
57.5°	648.2	645.3	642.3	639.9	638.1	636.3	634.6	632.8
60°	599.3	596.5	593.8	591.7	590.1	588.5	587.0	585.5
62.5°	552.0	549.3	546.4	544.6	543.5	542.5	541.5	540.5
65°	481.7	479.2	476.8	475.1	474.2	473.3	472.3	471.4
67.5°	411.9	409.8	407.7	406.0	404.7	403.3	402.0	400.8
70°	366.8	364.7	362.5	360.7	359.2	357.7	356.2	354.6
72.5°	321.1	319.2	317.3	316.0	315.2	314.4	313.7	312.9
75°	255.4	253.8	252.3	251.1	250.1	249.2	248.3	247.4
77.5°	193.9	192.9	191.9	191.4	191.4	191.4	191.4	191.4
80°	154.7	154.4	154.1	153.9	153.9	153.9	153.9	153.9
82.5°	119.1	118.5	118.0	117.5	117.2	117.0	116.8	116.5
85°	67.5	66.9	66.2	65.9	65.9	65.9	65.9	65.9
87.5°	29.8	29.7	29.7	29.7	29.8	29.9	30.0	30.1
90°	30.3	31.3	32.3	33.1	33.6	34.1	34.6	35.2
92.5°	46.8	47.6	48.4	48.7	48.4	48.1	47.7	47.4
95°	88.9	90.0	91.0	91.5	91.5	91.5	91.5	91.5
97.5°	138.3	139.5	140.7	141.2	141.1	141.0	140.9	140.8
100°	174.0	174.8	175.6	176.2	176.8	177.3	177.8	178.3
102.5°	215.3	216.1	216.9	217.2	217.1	217.0	216.9	216.8
105°	276.9	276.9	276.9	277.2	277.7	278.2	278.7	279.2
107.5°	343.6	344.5	345.3	345.5	345.2	344.9	344.6	344.3
110°	388.1	389.2	390.2	390.4	389.9	389.4	388.9	388.4





TEST NUMBER: P332043-840

CATALOG NUMBER: S123DIP-S1000D1195U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	432.6	433.9	435.2	435.8	435.7	435.6	435.5	435.4
115°	500.4	500.6	500.9	500.9	500.6	500.4	500.1	499.9
117.5°	568.8	568.7	568.7	568.3	567.5	566.7	566.0	565.3
120°	614.3	614.1	613.8	613.4	612.9	612.4	611.9	611.3
122.5°	660.5	659.7	659.0	658.3	657.6	656.9	656.1	655.4
125°	728.9	727.9	726.8	725.8	724.8	723.7	722.7	721.6
127.5°	796.6	795.2	793.7	792.3	791.1	789.9	788.7	787.6
130°	841.5	840.5	839.5	838.0	836.2	834.4	832.5	830.7
132.5°	885.2	884.0	882.7	881.4	880.0	878.6	877.2	875.8
135°	950.7	949.6	948.6	947.8	947.3	946.7	946.2	945.7
137.5°	1014.6	1013.5	1012.4	1011.4	1010.4	1009.5	1008.5	1007.4
140°	1056.6	1056.4	1056.1	1055.1	1053.3	1051.5	1049.7	1047.8
142.5°	1096.1	1095.8	1095.6	1094.7	1093.3	1091.9	1090.6	1089.1
145°	1154.1	1153.8	1153.6	1152.9	1151.9	1150.7	1149.7	1148.7
147.5°	1208.8	1208.8	1208.8	1208.0	1206.4	1204.9	1203.3	1201.7
150°	1242.5	1242.5	1242.5	1241.8	1240.2	1238.7	1237.1	1235.6
152.5°	1273.4	1273.8	1274.2	1273.8	1272.4	1271.1	1269.7	1268.4
155°	1318.6	1319.6	1320.7	1320.3	1318.5	1316.7	1314.8	1312.9
157.5°	1357.4	1358.5	1359.6	1359.4	1358.0	1356.5	1355.0	1353.5
160°	1381.3	1382.6	1383.9	1384.0	1383.0	1381.9	1380.9	1379.9
162.5°	1403.8	1405.1	1406.4	1406.2	1404.5	1402.9	1401.2	1399.6
165°	1432.3	1433.8	1435.4	1435.2	1433.4	1431.6	1429.8	1427.9
167.5°	1455.3	1456.9	1458.5	1458.5	1456.9	1455.3	1453.7	1452.1
170°	1467.9	1469.9	1471.7	1471.7	1469.9	1467.9	1466.1	1464.3
172.5°	1477.9	1479.6	1481.2	1481.1	1479.1	1477.3	1475.5	1473.7
175°	1488.5	1490.2	1491.7	1491.6	1489.8	1487.9	1486.1	1484.3
177.5°	1493.4	1494.6	1495.8	1495.7	1494.3	1492.8	1491.4	1490.0
180°	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7

(END OF REPORT)