

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: P332797-840

Luminaire Tested: **S124DIW-S795D1340U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332797-840  
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: S124DIW-S795D1340U840-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1340 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8862.4 lumens  
Efficiency: N/A  
Efficacy: 144.3 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: Semi-Indirect

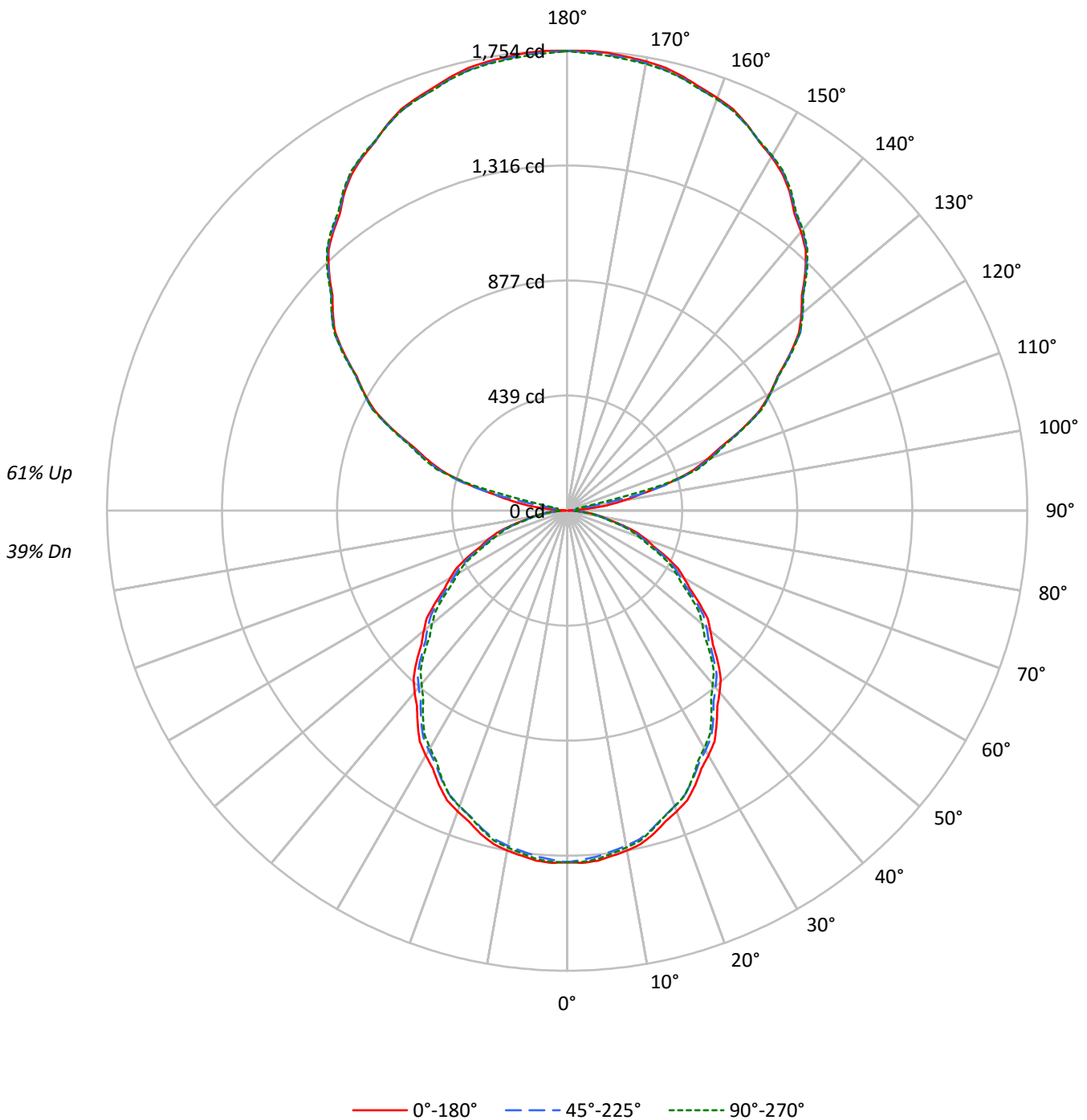
Input Watts (W): 61.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	104	104	104	104	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	95	91	87	84	86	83	80	77	67	65	63	53	52	51	40	40	39	33
2	87	79	73	68	79	72	67	63	59	55	52	47	44	42	36	34	33	27
3	79	70	63	57	72	64	57	52	52	48	44	41	38	36	32	29	28	23
4	72	62	54	48	65	56	50	44	46	41	37	37	33	30	28	26	24	20
5	66	55	47	41	60	50	43	38	41	36	32	33	29	26	25	23	21	17
6	61	49	41	35	55	45	38	33	37	32	28	30	26	23	23	20	18	15
7	56	44	36	31	51	41	34	29	34	28	25	27	23	20	21	18	16	13
8	52	40	33	27	47	37	30	25	31	25	22	25	21	18	19	17	15	12
9	49	37	29	24	44	34	27	23	28	23	19	23	19	16	18	15	13	11
10	45	33	26	22	41	31	25	20	26	21	17	21	17	15	16	14	12	10

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

	0°	45°	90°
0°	10823	10823	10823
5°	10855	10724	10802
10°	10787	10637	10690
15°	10657	10486	10513
20°	10483	10299	10308
25°	10286	10085	10056
30°	10043	9833	9743
35°	9792	9570	9443
40°	9531	9271	9101
45°	9259	8977	8805
50°	8959	8715	8446
55°	8633	8376	8103
60°	8307	7995	7753
65°	7941	7633	7324
70°	7530	7152	6871
75°	6903	6569	6400
80°	6141	5890	5742
85°	5372	5169	5067



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.2	1.4
10°-20°	355.7	4.0
20°-30°	523.5	5.9
30°-40°	608.6	6.9
40°-50°	608.7	6.9
50°-60°	532.4	6.0
60°-70°	395.4	4.5
70°-80°	224.6	2.5
80°-90°	69.9	0.8
90°-100°	59.9	0.7
100°-110°	381.9	4.3
110°-120°	730.6	8.2
120°-130°	927.4	10.5
130°-140°	992.3	11.2
140°-150°	927.9	10.5
150°-160°	748.3	8.4
160°-170°	482.6	5.4
170°-180°	166.3	1.9
0°-30°	1005.5	11.3
0°-40°	1614.1	18.2
0°-60°	2755.2	31.1
0°-90°	3445.1	38.9
90°-120°	1172.4	13.2
90°-150°	4020.0	45.4
90°-180°	5417.0	61.1
0°-180°	8862.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1341	1341	1341	1341	1341	
5°	1340	1335	1323	1334	1333	127
15°	1275	1270	1255	1260	1258	359
25°	1155	1147	1132	1133	1129	531
35°	994	986	971	964	958	621
45°	811	803	786	775	771	625
55°	613	609	595	583	576	549
65°	416	410	400	389	383	411
75°	221	216	211	206	205	235
85°	58	58	56	56	55	64
90°	4	18	29	36	39	6
95°	72	30	29	36	38	93
105°	394	402	409	417	373	413
115°	736	740	739	741	741	724
125°	1035	1040	1037	1041	1043	924
135°	1284	1283	1288	1290	1293	989
145°	1480	1484	1484	1485	1488	925
155°	1623	1624	1620	1625	1622	748
165°	1712	1706	1706	1715	1704	484
175°	1751	1744	1745	1755	1741	167
180°	1751	1751	1751	1751	1751	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6
2.5°	1344.0	1343.4	1342.8	1342.3	1341.7	1340.4	1338.3	1336.2	1334.0	1332.0	1333.8
5°	1339.5	1338.6	1337.6	1336.7	1335.6	1333.8	1331.2	1328.6	1326.0	1323.3	1326.0
7.5°	1327.1	1326.1	1325.1	1324.1	1323.2	1321.3	1318.4	1315.5	1312.5	1309.6	1311.7
10°	1315.9	1314.9	1313.9	1313.0	1312.0	1310.0	1306.9	1303.8	1300.7	1297.6	1299.5
12.5°	1301.2	1300.3	1299.3	1298.4	1297.5	1295.3	1292.0	1288.7	1285.5	1282.1	1284.2
15°	1275.1	1274.0	1273.1	1272.1	1271.2	1269.0	1265.4	1261.8	1258.2	1254.7	1256.1
17.5°	1243.4	1242.2	1241.0	1239.9	1238.7	1236.4	1233.0	1229.6	1226.2	1222.8	1223.8
20°	1220.2	1219.0	1217.9	1216.7	1215.5	1213.0	1209.5	1205.9	1202.3	1198.8	1199.5
22.5°	1195.4	1193.8	1192.1	1190.6	1189.0	1186.5	1182.9	1179.3	1175.7	1172.2	1173.5
25°	1154.7	1153.1	1151.3	1149.7	1148.0	1145.5	1142.2	1138.8	1135.5	1132.2	1132.4
27.5°	1108.3	1106.6	1104.9	1103.2	1101.5	1099.0	1095.9	1092.9	1089.7	1086.6	1086.0
30°	1077.4	1075.5	1073.6	1071.7	1069.8	1067.2	1064.1	1061.1	1057.9	1054.8	1053.9
32.5°	1044.7	1043.0	1041.3	1039.6	1037.8	1035.3	1032.1	1028.7	1025.5	1022.2	1021.1
35°	993.6	991.9	990.3	988.6	986.9	984.4	981.1	977.8	974.4	971.1	969.4
37.5°	939.7	938.2	936.6	935.1	933.5	931.0	927.5	923.8	920.3	916.7	914.8
40°	904.4	902.5	900.6	898.7	896.8	894.0	890.5	886.9	883.3	879.7	877.4
42.5°	866.7	865.5	864.3	863.2	862.0	859.5	855.6	851.6	847.6	843.6	840.9
45°	811.0	809.3	807.7	806.0	804.4	801.5	797.8	794.0	790.1	786.3	783.7
47.5°	752.8	751.6	750.5	749.3	748.2	745.9	742.4	738.8	735.3	731.7	728.7
50°	713.3	712.3	711.3	710.3	709.4	707.3	704.0	700.6	697.2	693.9	690.5
52.5°	674.6	673.5	672.3	671.2	669.9	667.6	664.1	660.6	657.0	653.5	650.6
55°	613.4	612.6	611.9	611.2	610.5	608.4	605.1	601.8	598.4	595.1	592.2
57.5°	554.9	554.1	553.3	552.5	551.7	549.6	546.3	543.0	539.8	536.4	533.7
60°	514.5	513.3	512.1	511.0	509.8	507.6	504.5	501.4	498.3	495.2	493.0
62.5°	475.0	474.0	473.0	472.0	471.0	468.9	465.5	462.2	459.0	455.7	453.7
65°	415.7	414.5	413.3	412.1	410.9	409.1	406.8	404.3	401.9	399.6	397.2
67.5°	356.0	354.9	353.8	352.6	351.6	349.9	347.6	345.3	343.1	340.7	338.4
70°	319.0	317.4	315.7	314.0	312.4	310.5	308.6	306.7	304.8	303.0	301.0
72.5°	279.5	277.8	276.2	274.5	272.8	271.2	269.7	268.1	266.6	265.1	263.6
75°	221.3	220.0	218.9	217.7	216.5	215.3	214.1	212.9	211.8	210.6	209.5
77.5°	165.6	165.1	164.6	164.1	163.5	162.8	161.7	160.7	159.6	158.5	158.2
80°	132.1	131.4	130.7	130.0	129.3	128.7	128.2	127.7	127.2	126.7	126.2
82.5°	99.5	99.2	98.8	98.5	98.2	98.0	97.9	97.8	97.7	97.6	97.3
85°	58.0	58.0	58.0	58.0	58.0	57.8	57.3	56.9	56.4	55.8	55.8
87.5°	23.1	23.5	24.0	24.4	24.9	25.2	25.5	25.9	26.2	26.4	26.8
90°	3.9	7.2	10.3	13.5	16.8	19.5	21.8	24.1	26.5	28.8	30.6
92.5°	16.5	16.7	16.9	17.1	17.2	18.5	20.8	23.1	25.4	27.8	29.5
95°	72.0	62.1	52.2	42.3	32.4	27.7	28.0	28.3	28.5	28.8	30.6
97.5°	153.0	159.2	165.3	171.5	177.6	164.5	132.0	99.6	67.1	34.5	34.7
100°	214.8	220.0	225.3	230.6	235.8	218.3	178.1	137.9	97.8	57.7	52.7
102.5°	284.0	287.8	291.6	295.5	299.3	298.6	293.4	288.2	283.0	277.7	224.3
105°	394.3	396.0	397.8	399.5	401.2	402.8	404.3	405.8	407.2	408.7	411.3
107.5°	496.7	497.6	498.5	499.3	500.2	501.6	503.6	505.5	507.6	509.6	510.8
110°	565.8	566.7	567.6	568.5	569.4	570.7	572.4	574.1	575.9	577.6	578.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	632.9	634.5	636.1	637.6	639.2	640.4	641.3	642.1	642.9	643.7	643.6
115°	736.1	737.0	737.9	738.7	739.6	739.9	739.6	739.3	739.0	738.7	739.3
117.5°	829.1	830.3	831.4	832.6	833.7	834.7	835.4	836.0	836.6	837.3	837.2
120°	892.0	893.1	894.3	895.5	896.7	897.1	896.9	896.6	896.3	896.0	896.6
122.5°	950.7	951.4	952.1	952.8	953.5	954.0	954.4	954.8	955.2	955.6	956.0
125°	1034.8	1035.9	1037.1	1038.2	1039.5	1039.8	1039.2	1038.5	1037.9	1037.4	1038.2
127.5°	1114.4	1114.7	1115.0	1115.3	1115.6	1116.4	1117.7	1119.0	1120.4	1121.8	1121.6
130°	1165.8	1166.1	1166.4	1166.6	1166.9	1167.5	1168.4	1169.2	1170.1	1171.0	1171.3
132.5°	1212.9	1213.5	1214.0	1214.5	1215.0	1215.9	1217.0	1218.0	1219.1	1220.2	1220.5
135°	1283.6	1283.3	1283.0	1282.8	1282.5	1282.9	1284.0	1285.3	1286.5	1287.6	1288.2
137.5°	1346.3	1346.4	1346.5	1346.7	1346.8	1347.5	1348.7	1350.0	1351.3	1352.5	1353.2
140°	1387.2	1387.8	1388.3	1388.9	1389.5	1390.1	1390.6	1391.2	1391.8	1392.4	1393.2
142.5°	1423.8	1424.8	1425.9	1426.9	1428.1	1428.7	1429.1	1429.4	1429.8	1430.1	1430.8
145°	1480.2	1481.0	1481.9	1482.8	1483.6	1484.1	1484.1	1484.1	1484.1	1484.1	1484.4
147.5°	1524.9	1526.5	1528.2	1529.8	1531.5	1532.2	1531.9	1531.6	1531.3	1531.0	1531.2
150°	1557.4	1558.6	1559.7	1560.9	1562.1	1562.5	1562.3	1562.0	1561.7	1561.4	1561.4
152.5°	1584.7	1585.6	1586.5	1587.4	1588.4	1588.6	1588.1	1587.5	1587.0	1586.5	1587.0
155°	1623.0	1623.2	1623.5	1623.8	1624.1	1623.8	1623.0	1622.0	1621.1	1620.3	1621.4
157.5°	1655.2	1655.0	1654.8	1654.6	1654.5	1653.9	1652.8	1651.8	1650.9	1649.9	1651.4
160°	1674.0	1673.1	1672.2	1671.3	1670.5	1669.9	1669.6	1669.3	1669.0	1668.8	1670.5
162.5°	1690.7	1689.6	1688.6	1687.5	1686.4	1685.7	1685.4	1685.1	1684.8	1684.5	1686.2
165°	1712.0	1710.5	1709.1	1707.6	1706.2	1705.5	1705.5	1705.5	1705.5	1705.5	1707.8
167.5°	1728.8	1727.3	1725.8	1724.2	1722.7	1721.8	1721.7	1721.5	1721.3	1721.1	1723.7
170°	1738.2	1736.5	1734.6	1732.9	1731.2	1730.5	1730.7	1731.0	1731.3	1731.6	1733.9
172.5°	1744.4	1742.7	1741.0	1739.2	1737.5	1736.8	1737.1	1737.4	1737.6	1737.9	1740.2
175°	1751.3	1749.5	1747.8	1746.1	1744.2	1743.5	1743.8	1744.1	1744.4	1744.7	1747.4
177.5°	1754.4	1752.8	1751.1	1749.5	1747.9	1747.3	1747.8	1748.3	1748.7	1749.2	1751.0
180°	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6
2.5°	1335.7	1337.7	1339.6	1340.5	1340.3	1340.1	1339.9	1339.7
5°	1328.6	1331.2	1333.8	1334.9	1334.4	1334.0	1333.5	1333.0
7.5°	1313.8	1316.0	1318.0	1318.9	1318.7	1318.4	1318.1	1317.8
10°	1301.4	1303.3	1305.3	1306.0	1305.5	1304.9	1304.5	1304.0
12.5°	1286.4	1288.4	1290.5	1291.2	1290.6	1289.9	1289.2	1288.6
15°	1257.5	1258.9	1260.3	1260.7	1260.0	1259.3	1258.6	1257.9
17.5°	1224.7	1225.6	1226.5	1226.7	1226.2	1225.7	1225.3	1224.8
20°	1200.2	1200.9	1201.6	1201.7	1201.2	1200.8	1200.3	1199.8
22.5°	1174.7	1176.0	1177.3	1177.5	1176.6	1175.8	1174.9	1174.1
25°	1132.7	1132.9	1133.2	1132.8	1131.9	1130.8	1129.9	1128.9
27.5°	1085.5	1084.9	1084.3	1083.5	1082.3	1081.1	1079.8	1078.6
30°	1052.9	1052.0	1051.0	1050.0	1048.7	1047.5	1046.3	1045.2
32.5°	1019.9	1018.8	1017.6	1016.4	1015.2	1014.0	1012.8	1011.7
35°	967.8	966.0	964.3	962.9	961.7	960.6	959.4	958.2
37.5°	913.0	911.2	909.5	907.8	906.2	904.6	903.0	901.4
40°	874.9	872.6	870.2	868.4	867.2	866.1	864.8	863.6
42.5°	838.1	835.4	832.5	830.8	830.0	829.2	828.4	827.6
45°	781.0	778.4	775.8	774.2	773.4	772.6	771.9	771.2
47.5°	725.8	722.9	719.8	717.5	715.7	713.9	712.1	710.2
50°	687.2	683.9	680.5	678.1	676.7	675.3	673.9	672.5
52.5°	647.6	644.6	641.7	639.3	637.5	635.7	633.9	632.1
55°	589.4	586.5	583.6	581.5	580.1	578.7	577.1	575.7
57.5°	531.0	528.3	525.5	523.5	522.1	520.7	519.4	518.0
60°	490.9	488.8	486.6	484.9	483.7	482.5	481.3	480.2
62.5°	451.7	449.8	447.9	446.3	445.0	443.8	442.7	441.5
65°	394.9	392.4	390.0	388.3	387.1	385.9	384.7	383.4
67.5°	336.2	333.9	331.5	330.2	329.9	329.6	329.2	328.9
70°	299.1	297.2	295.3	294.0	293.3	292.6	291.9	291.1
72.5°	262.1	260.5	259.0	257.9	257.1	256.4	255.7	255.0
75°	208.6	207.6	206.7	206.1	205.9	205.6	205.4	205.2
77.5°	157.9	157.6	157.4	156.9	156.3	155.7	155.1	154.5
80°	125.8	125.3	124.8	124.5	124.2	124.0	123.8	123.5
82.5°	96.9	96.6	96.3	96.1	95.9	95.6	95.4	95.1
85°	55.8	55.8	55.8	55.7	55.5	55.2	55.0	54.7
87.5°	27.1	27.5	27.8	28.0	28.2	28.3	28.4	28.5
90°	32.3	34.0	35.9	37.0	37.6	38.2	38.7	39.3
92.5°	31.3	33.0	34.7	35.6	35.9	36.0	36.1	36.2
95°	32.3	34.0	35.9	36.9	37.1	37.4	37.7	38.0
97.5°	34.9	35.1	35.2	35.5	35.9	36.1	36.4	36.7
100°	47.8	42.8	37.9	35.5	35.9	36.1	36.4	36.7
102.5°	171.0	117.5	64.1	37.5	37.6	37.6	37.7	37.8
105°	413.9	416.6	419.2	415.3	404.8	394.3	383.7	373.3
107.5°	512.1	513.4	514.6	515.8	516.9	518.1	519.2	520.3
110°	578.9	579.4	580.0	580.7	581.6	582.5	583.3	584.2





TEST NUMBER: P332797-840

CATALOG NUMBER: S124DIW-S795D1340U840-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	643.4	643.3	643.2	643.7	644.8	645.9	647.0	648.1
115°	739.9	740.5	741.0	741.3	741.3	741.3	741.3	741.3
117.5°	837.0	836.9	836.8	836.7	836.6	836.5	836.4	836.2
120°	897.1	897.7	898.3	898.3	897.7	897.1	896.6	896.0
122.5°	956.3	956.7	957.0	956.9	956.3	955.7	955.2	954.6
125°	1039.2	1040.1	1040.9	1041.5	1041.8	1042.1	1042.4	1042.7
127.5°	1121.5	1121.3	1121.1	1120.8	1120.6	1120.3	1120.1	1119.9
130°	1171.5	1171.8	1172.2	1172.4	1172.4	1172.4	1172.4	1172.4
132.5°	1220.8	1221.1	1221.4	1221.4	1221.2	1221.0	1220.7	1220.5
135°	1288.8	1289.3	1289.9	1290.5	1291.1	1291.6	1292.2	1292.8
137.5°	1353.8	1354.4	1355.1	1355.3	1355.1	1355.0	1354.8	1354.6
140°	1394.1	1395.0	1395.8	1396.4	1396.7	1397.0	1397.4	1397.7
142.5°	1431.4	1432.0	1432.7	1433.0	1433.1	1433.1	1433.2	1433.2
145°	1484.6	1484.9	1485.2	1485.7	1486.2	1486.8	1487.4	1488.0
147.5°	1531.5	1531.7	1531.9	1532.2	1532.5	1532.8	1533.0	1533.3
150°	1561.4	1561.4	1561.4	1561.5	1561.8	1562.1	1562.4	1562.7
152.5°	1587.4	1587.9	1588.3	1588.5	1588.3	1588.1	1588.0	1587.8
155°	1622.7	1623.8	1625.0	1625.1	1624.3	1623.4	1622.4	1621.6
157.5°	1652.9	1654.5	1656.0	1656.0	1654.5	1652.9	1651.4	1649.9
160°	1672.2	1674.0	1675.8	1675.8	1674.0	1672.2	1670.5	1668.8
162.5°	1688.0	1689.7	1691.4	1691.3	1689.4	1687.4	1685.4	1683.4
165°	1710.1	1712.4	1714.8	1714.5	1712.0	1709.4	1706.8	1704.1
167.5°	1726.3	1728.8	1731.4	1731.2	1728.3	1725.4	1722.5	1719.6
170°	1736.3	1738.6	1740.9	1740.6	1737.8	1734.8	1731.9	1729.0
172.5°	1742.5	1744.9	1747.3	1746.9	1743.6	1740.5	1737.4	1734.2
175°	1750.0	1752.6	1755.2	1754.7	1751.3	1747.8	1744.2	1740.8
177.5°	1752.9	1754.7	1756.7	1756.2	1753.3	1750.6	1747.8	1744.9
180°	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3

(END OF REPORT)