

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: P332701-840

Luminaire Tested: **S124DIP-S1195D1035U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332701-840  
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-S1195D1035U840-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP 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: 8528.7 lumens  
Efficiency: N/A  
Efficacy: 127.7 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

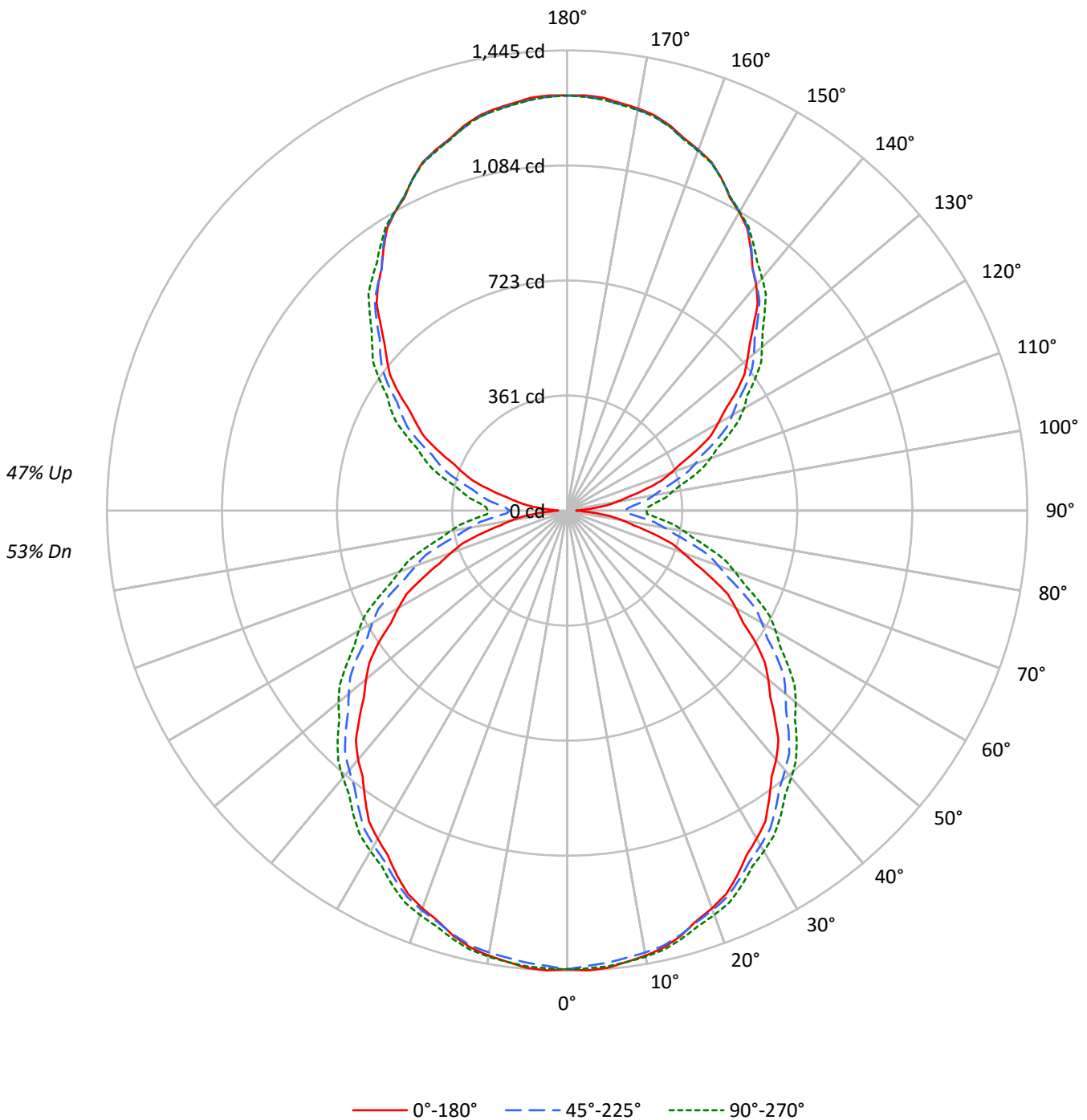
Input Watts (W): 66.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20				20				20				20				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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	53
1	97	93	88	84	90	86	82	79	73	70	68	61	59	57	51	49	48	43
2	88	80	74	68	81	74	69	64	63	59	55	53	50	47	44	41	39	35
3	80	70	62	56	74	65	58	53	56	50	46	47	43	39	38	36	33	29
4	73	62	54	47	67	57	50	44	49	43	39	41	37	33	34	31	28	24
5	67	55	46	40	62	51	43	38	44	38	33	37	32	29	31	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	29	25	28	24	21	18
7	57	44	36	30	53	41	34	29	36	30	25	30	26	22	25	22	19	16
8	53	40	32	27	49	38	30	25	32	27	22	28	23	20	23	19	17	14
9	49	37	29	24	45	34	27	22	30	24	20	25	21	17	21	18	15	13
10	46	34	26	21	42	31	25	20	27	22	18	23	19	16	20	16	14	12

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

	0°	45°	90°
0°	11626	11626	11626
5°	11661	11362	11394
10°	11590	11176	11167
15°	11486	10961	10900
20°	11330	10723	10641
25°	11153	10457	10356
30°	10961	10193	10063
35°	10745	9921	9805
40°	10573	9663	9538
45°	10316	9426	9309
50°	10098	9151	9066
55°	9875	8894	8781
60°	9525	8563	8521
65°	9141	8210	8201
70°	8676	7806	7830
75°	8028	7363	7494
80°	7309	6935	7163
85°	6389	6559	6968



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.4	1.6
10°-20°	390.7	4.6
20°-30°	590.8	6.9
30°-40°	714.8	8.4
40°-50°	755.7	8.9
50°-60°	711.2	8.3
60°-70°	590.1	6.9
70°-80°	414.5	4.9
80°-90°	238.2	2.8
90°-100°	225.1	2.6
100°-110°	357.6	4.2
110°-120°	501.3	5.9
120°-130°	608.9	7.1
130°-140°	656.9	7.7
140°-150°	632.4	7.4
150°-160°	529.0	6.2
160°-170°	352.0	4.1
170°-180°	123.2	1.4
0°-30°	1117.8	13.1
0°-40°	1832.6	21.5
0°-60°	3299.5	38.7
0°-90°	4542.2	53.3
90°-120°	1084.1	12.7
90°-150°	2982.3	35.0
90°-180°	3987.0	46.7
0°-180°	8528.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1440	1440	1440	1440	1440	
5°	1442	1436	1426	1438	1437	137
15°	1382	1383	1379	1392	1392	389
25°	1264	1274	1279	1296	1298	582
35°	1106	1125	1142	1163	1169	692
45°	922	953	984	1010	1019	713
55°	722	757	805	836	847	643
65°	500	552	606	645	660	495
75°	277	338	405	448	464	295
85°	85	153	226	272	290	91
90°	29	104	182	232	250	21
95°	81	144	217	262	278	84
105°	249	284	346	388	406	266
115°	449	466	513	546	558	443
125°	646	647	684	712	720	576
135°	829	835	846	869	877	641
145°	1004	1007	1008	1016	1020	629
155°	1149	1149	1148	1152	1148	529
165°	1251	1248	1246	1251	1248	352
175°	1301	1297	1295	1302	1295	123
180°	1303	1303	1303	1303	1303	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1445.2	1444.3	1443.5	1442.6	1441.8	1440.2	1437.8	1435.6	1433.3	1431.0	1433.0
5°	1441.6	1440.6	1439.5	1438.5	1437.3	1435.5	1433.0	1430.5	1428.1	1425.5	1428.4
7.5°	1429.4	1428.8	1428.1	1427.4	1426.8	1425.4	1423.4	1421.3	1419.2	1417.1	1420.4
10°	1419.1	1418.7	1418.4	1418.0	1417.6	1416.5	1414.7	1413.0	1411.2	1409.4	1412.6
12.5°	1404.8	1404.8	1404.7	1404.6	1404.6	1403.9	1402.7	1401.5	1400.3	1399.1	1402.0
15°	1382.0	1382.3	1382.7	1383.0	1383.4	1383.0	1382.0	1380.9	1379.8	1378.8	1382.0
17.5°	1350.7	1351.8	1352.8	1353.9	1354.9	1355.4	1355.2	1354.9	1354.7	1354.5	1357.9
20°	1328.8	1329.8	1330.9	1332.0	1333.0	1333.7	1334.1	1334.5	1334.8	1335.2	1338.8
22.5°	1304.2	1305.6	1307.0	1308.3	1309.7	1310.7	1311.3	1312.0	1312.6	1313.2	1316.9
25°	1264.3	1266.4	1268.6	1270.7	1272.8	1274.4	1275.6	1276.6	1277.7	1278.8	1282.7
27.5°	1219.7	1222.9	1226.1	1229.2	1232.3	1234.8	1236.4	1238.1	1239.7	1241.3	1245.0
30°	1190.0	1193.0	1195.8	1198.7	1201.5	1204.3	1206.7	1209.2	1211.7	1214.3	1218.2
32.5°	1157.8	1161.2	1164.7	1168.1	1171.5	1174.7	1177.5	1180.3	1183.1	1185.9	1190.4
35°	1106.2	1110.5	1114.8	1119.1	1123.4	1127.3	1130.9	1134.5	1138.1	1141.7	1146.7
37.5°	1054.3	1059.2	1064.2	1069.1	1074.1	1078.7	1083.2	1087.6	1092.1	1096.5	1101.7
40°	1020.8	1025.4	1030.1	1034.7	1039.4	1044.2	1049.2	1054.3	1059.2	1064.3	1069.6
42.5°	982.1	987.2	992.5	997.7	1003.0	1008.6	1014.4	1020.3	1026.1	1032.1	1038.0
45°	922.4	929.2	936.0	942.8	949.6	956.4	963.2	970.1	976.8	983.7	989.8
47.5°	865.3	872.3	879.4	886.4	893.4	900.9	908.8	916.7	924.5	932.4	938.7
50°	824.0	831.9	839.8	847.7	855.6	863.4	871.3	879.2	887.1	894.9	902.1
52.5°	782.7	790.6	798.5	806.4	814.3	822.7	831.7	840.8	849.8	858.9	866.1
55°	722.5	729.9	737.5	745.0	752.6	761.6	772.4	783.2	794.0	804.7	811.8
57.5°	655.0	664.4	673.7	683.0	692.3	702.3	713.0	723.7	734.4	745.0	753.6
60°	611.2	620.5	629.8	639.1	648.4	659.0	670.9	682.7	694.5	706.3	714.6
62.5°	568.6	578.8	589.0	599.2	609.3	620.3	632.2	644.0	655.8	667.6	675.8
65°	499.9	511.4	522.8	534.3	545.7	557.5	569.8	582.0	594.1	606.3	615.3
67.5°	433.7	446.0	458.2	470.3	482.5	495.1	508.2	521.2	534.2	547.3	556.4
70°	388.6	400.8	413.0	425.2	437.4	450.3	463.8	477.5	491.1	504.7	514.4
72.5°	344.8	357.2	369.7	382.1	394.7	408.1	422.6	437.1	451.5	466.1	475.4
75°	277.4	290.6	303.9	317.1	330.4	344.6	359.6	374.7	389.7	404.8	414.8
77.5°	214.5	228.5	242.6	256.6	270.6	285.6	301.3	317.1	332.9	348.6	358.8
80°	175.8	190.1	204.4	218.7	233.1	248.1	263.9	279.7	295.5	311.2	321.9
82.5°	137.0	152.0	166.9	181.8	196.7	212.1	227.8	243.6	259.3	275.1	286.1
85°	85.4	100.5	115.5	130.6	145.6	161.3	177.3	193.5	209.6	225.8	236.5
87.5°	48.4	63.4	78.6	93.7	108.8	124.4	140.5	156.5	172.6	188.5	199.2
90°	28.8	45.6	62.4	79.2	96.0	113.0	130.2	147.4	164.6	181.8	193.6
92.5°	46.0	61.8	77.6	93.2	109.0	125.1	141.8	158.4	175.1	191.8	202.8
95°	81.4	95.3	109.2	123.0	136.8	151.9	168.1	184.4	200.7	216.9	227.2
97.5°	124.6	136.4	148.2	160.1	171.8	185.9	202.3	218.6	235.1	251.5	261.7
100°	158.9	169.1	179.3	189.5	199.8	212.8	228.8	244.8	260.7	276.8	286.9
102.5°	195.9	204.5	213.0	221.6	230.0	242.1	257.6	273.2	288.6	304.2	314.2
105°	249.3	256.8	264.2	271.6	278.9	289.7	303.9	318.0	332.1	346.3	356.0
107.5°	308.5	314.7	320.8	327.0	333.2	342.5	355.2	367.9	380.5	393.2	402.6
110°	347.6	353.0	358.5	364.0	369.4	378.3	390.6	402.9	415.3	427.6	435.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	388.2	392.7	397.3	401.8	406.4	414.3	426.0	437.5	449.1	460.6	468.5
115°	449.2	452.4	455.7	458.8	462.0	469.2	480.2	491.2	502.2	513.2	520.9
117.5°	508.1	510.2	512.3	514.4	516.5	522.8	533.2	543.5	553.9	564.2	571.0
120°	546.3	548.3	550.3	552.2	554.2	560.1	569.8	579.5	589.3	599.0	605.0
122.5°	587.4	588.0	588.5	589.2	589.8	594.8	604.3	613.8	623.3	632.8	639.2
125°	646.5	646.1	645.8	645.4	645.1	649.2	658.0	666.7	675.5	684.2	690.5
127.5°	701.3	701.6	701.9	702.2	702.5	705.9	712.5	718.9	725.5	732.0	738.0
130°	738.6	738.9	739.3	739.6	739.9	743.0	748.6	754.4	760.1	765.9	771.8
132.5°	778.2	778.3	778.4	778.6	778.7	780.9	785.4	789.8	794.2	798.6	804.4
135°	828.8	830.1	831.4	832.8	834.1	836.1	838.6	841.1	843.5	846.1	851.4
137.5°	885.7	885.9	886.2	886.5	886.7	887.6	889.2	890.8	892.3	893.9	898.6
140°	923.5	923.6	923.7	923.8	923.8	924.1	924.4	924.8	925.1	925.5	930.0
142.5°	956.9	957.3	957.7	958.1	958.4	958.4	958.0	957.7	957.3	956.8	960.9
145°	1004.5	1005.1	1005.6	1006.1	1006.7	1007.0	1007.3	1007.5	1007.7	1007.9	1009.9
147.5°	1052.2	1052.9	1053.6	1054.3	1055.0	1055.3	1055.1	1054.9	1054.7	1054.6	1054.7
150°	1081.2	1081.7	1082.3	1082.8	1083.3	1083.6	1083.6	1083.6	1083.6	1083.6	1083.6
152.5°	1107.3	1107.7	1108.2	1108.7	1109.1	1109.4	1109.6	1109.8	1110.0	1110.1	1110.8
155°	1149.1	1149.1	1149.1	1149.1	1149.1	1149.0	1148.7	1148.5	1148.3	1148.1	1149.0
157.5°	1184.6	1184.2	1183.8	1183.4	1183.0	1182.8	1182.7	1182.7	1182.7	1182.6	1183.3
160°	1205.6	1205.3	1205.1	1204.9	1204.7	1204.5	1204.2	1204.0	1203.8	1203.6	1204.2
162.5°	1224.9	1224.4	1223.8	1223.1	1222.5	1222.1	1221.9	1221.7	1221.5	1221.2	1222.4
165°	1250.9	1250.2	1249.6	1248.9	1248.2	1247.7	1247.2	1246.8	1246.3	1245.9	1247.2
167.5°	1270.9	1269.9	1269.0	1268.1	1267.1	1266.7	1266.7	1266.8	1266.8	1266.9	1268.2
170°	1282.1	1281.0	1279.9	1278.8	1277.7	1277.2	1277.5	1277.7	1277.9	1278.1	1279.5
172.5°	1290.2	1289.3	1288.4	1287.4	1286.5	1286.0	1286.1	1286.1	1286.2	1286.2	1287.7
175°	1301.3	1300.2	1299.1	1298.0	1296.9	1296.2	1296.0	1295.7	1295.5	1295.3	1296.9
177.5°	1304.9	1304.0	1303.1	1302.2	1301.3	1300.9	1300.9	1300.9	1300.9	1300.9	1302.1
180°	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1435.0	1437.0	1439.1	1439.9	1439.6	1439.3	1439.1	1438.8
5°	1431.3	1434.1	1436.9	1438.2	1437.8	1437.5	1437.1	1436.8
7.5°	1423.6	1426.8	1430.1	1431.5	1431.1	1430.8	1430.4	1430.1
10°	1415.8	1419.1	1422.3	1423.7	1423.4	1423.0	1422.6	1422.3
12.5°	1404.9	1407.9	1410.8	1412.3	1412.2	1412.1	1412.0	1412.0
15°	1385.2	1388.5	1391.6	1393.1	1392.7	1392.4	1392.0	1391.6
17.5°	1361.2	1364.4	1367.8	1369.3	1369.0	1368.7	1368.4	1368.1
20°	1342.4	1345.9	1349.6	1351.3	1351.3	1351.3	1351.3	1351.3
22.5°	1320.4	1324.0	1327.6	1329.7	1330.3	1330.8	1331.4	1332.0
25°	1286.7	1290.6	1294.5	1296.7	1297.1	1297.4	1297.8	1298.1
27.5°	1248.7	1252.3	1256.0	1258.0	1258.5	1258.9	1259.3	1259.7
30°	1222.1	1226.1	1230.0	1232.3	1233.0	1233.8	1234.5	1235.3
32.5°	1194.9	1199.4	1204.0	1206.6	1207.3	1208.0	1208.7	1209.4
35°	1151.8	1156.7	1161.7	1164.8	1165.9	1167.0	1168.0	1169.1
37.5°	1106.7	1111.8	1116.9	1120.0	1121.2	1122.3	1123.5	1124.6
40°	1075.0	1080.5	1085.8	1089.2	1090.7	1092.1	1093.5	1094.9
42.5°	1043.9	1049.9	1055.8	1059.3	1060.6	1061.7	1062.8	1064.0
45°	995.8	1002.0	1008.0	1012.0	1013.8	1015.5	1017.3	1019.2
47.5°	945.0	951.3	957.7	961.8	964.0	966.1	968.3	970.5
50°	909.3	916.5	923.6	928.3	930.5	932.6	934.7	936.9
52.5°	873.2	880.4	887.5	892.2	894.3	896.5	898.6	900.8
55°	819.0	826.2	833.3	838.0	840.1	842.3	844.4	846.6
57.5°	762.0	770.6	779.1	784.4	786.4	788.4	790.4	792.4
60°	722.8	731.0	739.2	744.8	747.7	750.5	753.5	756.3
62.5°	684.1	692.4	700.5	706.1	709.0	711.9	714.7	717.6
65°	624.2	633.2	642.2	648.0	651.0	653.8	656.7	659.5
67.5°	565.5	574.6	583.7	589.7	592.5	595.2	598.0	600.9
70°	524.1	533.7	543.4	549.6	552.0	554.5	557.0	559.6
72.5°	484.8	494.2	503.6	509.7	512.5	515.2	518.1	520.9
75°	424.9	434.8	444.8	451.5	454.7	458.0	461.2	464.4
77.5°	369.0	379.2	389.3	396.2	399.6	403.0	406.5	409.9
80°	332.8	343.5	354.3	361.0	363.9	366.8	369.6	372.5
82.5°	297.2	308.2	319.2	326.4	329.5	332.6	335.8	338.9
85°	247.2	258.0	268.7	275.9	279.5	283.1	286.7	290.2
87.5°	210.0	220.6	231.3	238.2	241.5	244.7	247.9	251.2
90°	205.3	217.0	228.7	236.3	239.6	242.9	246.2	249.5
92.5°	213.7	224.6	235.5	242.5	245.6	248.7	251.9	255.0
95°	237.6	247.9	258.3	265.1	268.3	271.6	274.8	278.0
97.5°	271.9	282.1	292.3	298.9	301.9	305.1	308.1	311.2
100°	297.0	307.1	317.3	323.6	326.1	328.6	331.1	333.7
102.5°	324.3	334.3	344.3	350.7	353.8	356.7	359.7	362.6
105°	365.6	375.3	384.9	391.4	395.0	398.5	402.0	405.6
107.5°	412.1	421.5	431.0	437.0	439.5	442.0	444.5	447.2
110°	443.1	451.0	458.8	464.4	468.0	471.5	475.0	478.6





TEST NUMBER: P332701-840

CATALOG NUMBER: S124DIP-S1195D1035U840-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	476.4	484.2	492.1	497.6	500.5	503.5	506.5	509.6
115°	528.6	536.2	543.9	548.9	551.2	553.4	555.7	558.1
117.5°	577.6	584.3	591.1	595.6	598.0	600.5	602.9	605.2
120°	611.1	617.0	623.1	627.8	631.2	634.4	637.7	641.1
122.5°	645.6	652.1	658.4	662.5	664.3	666.1	667.8	669.6
125°	696.9	703.3	709.6	713.7	715.4	717.1	718.8	720.5
127.5°	744.0	750.0	756.0	760.0	762.1	764.2	766.3	768.3
130°	777.9	783.9	789.9	793.5	794.8	796.0	797.3	798.5
132.5°	810.0	815.8	821.4	825.3	827.0	828.8	830.6	832.4
135°	856.7	861.9	867.3	870.6	872.1	873.5	875.0	876.6
137.5°	903.2	907.9	912.5	915.8	917.8	919.7	921.6	923.5
140°	934.4	938.9	943.3	946.2	947.9	949.4	951.0	952.5
142.5°	964.9	969.0	973.0	975.7	977.1	978.7	980.1	981.6
145°	1011.9	1013.8	1015.7	1017.0	1017.8	1018.5	1019.4	1020.1
147.5°	1054.8	1054.9	1055.0	1055.5	1056.4	1057.3	1058.2	1059.1
150°	1083.6	1083.6	1083.6	1083.5	1083.3	1083.0	1082.8	1082.6
152.5°	1111.3	1111.8	1112.4	1112.4	1111.8	1111.2	1110.5	1109.9
155°	1149.9	1150.7	1151.7	1151.7	1150.7	1149.9	1149.0	1148.1
157.5°	1183.9	1184.6	1185.3	1185.2	1184.5	1183.7	1183.0	1182.1
160°	1204.9	1205.6	1206.2	1206.0	1204.9	1203.8	1202.6	1201.5
162.5°	1223.7	1224.9	1226.1	1226.2	1225.1	1224.0	1222.8	1221.6
165°	1248.6	1249.9	1251.2	1251.4	1250.6	1249.7	1248.8	1247.9
167.5°	1269.5	1270.9	1272.2	1272.2	1270.8	1269.4	1268.0	1266.7
170°	1280.8	1282.1	1283.5	1283.3	1281.8	1280.2	1278.7	1277.1
172.5°	1289.2	1290.7	1292.3	1292.2	1290.7	1289.1	1287.6	1286.0
175°	1298.4	1300.0	1301.5	1301.5	1300.0	1298.4	1296.9	1295.3
177.5°	1303.4	1304.6	1306.0	1305.9	1304.4	1302.9	1301.5	1300.1
180°	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3

(END OF REPORT)