

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: P332702-830

Luminaire Tested: **S124DIP-S1195D1035U830-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332702-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S1195D1035U830-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1035 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

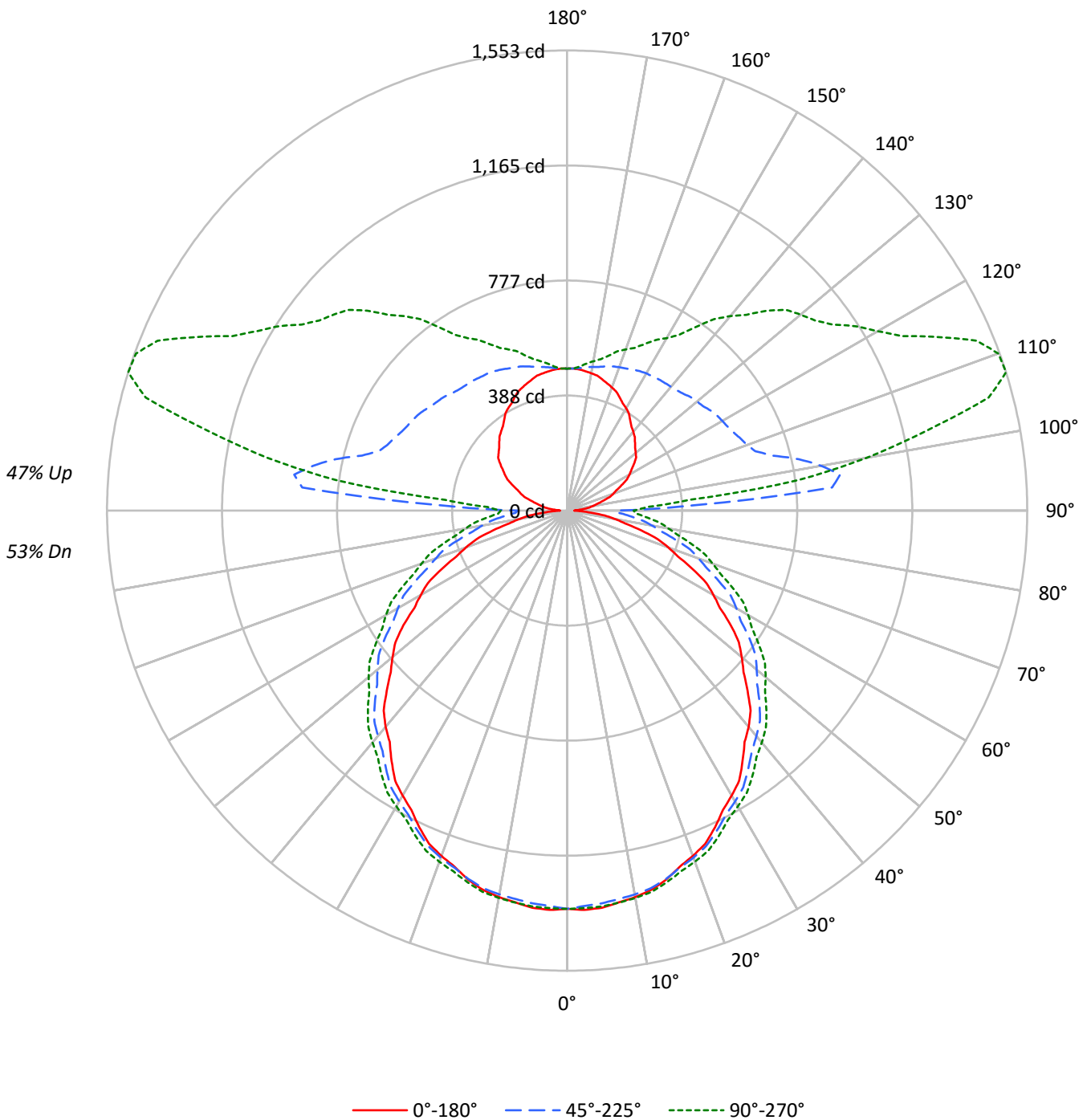
Lumens per Lamp: N/A  
Luminaire Lumens: 8067.5 lumens  
Efficiency: N/A  
Efficacy: 120.8 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse  
  
Input Watts (W): 66.8  
Input Voltage (V): 120  
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	71	71	71	58	58	58	53
1	97	92	88	84	90	86	82	78	73	70	67	61	59	57	50	49	47	42
2	88	80	74	68	81	74	68	64	63	59	55	53	50	47	43	41	39	34
3	80	70	62	56	74	65	58	53	55	50	46	46	42	39	38	35	33	29
4	73	62	53	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	28	30	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	28	25	27	24	21	18
7	57	44	36	30	52	41	34	29	35	29	25	30	25	22	25	21	19	16
8	53	40	32	27	49	37	30	25	32	26	22	27	23	19	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	13	11

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

	0°	45°	90°
0°	10851	10851	10851
5°	10884	10604	10635
10°	10818	10431	10423
15°	10721	10231	10174
20°	10574	10009	9931
25°	10410	9760	9665
30°	10231	9513	9392
35°	10029	9259	9152
40°	9868	9019	8902
45°	9628	8797	8688
50°	9425	8541	8461
55°	9216	8300	8195
60°	8889	7992	7953
65°	8532	7663	7655
70°	8098	7286	7308
75°	7493	6872	6995
80°	6823	6474	6686
85°	5963	6123	6505



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.3	1.6
10°-20°	364.7	4.5
20°-30°	551.4	6.8
30°-40°	667.1	8.3
40°-50°	705.3	8.7
50°-60°	663.8	8.2
60°-70°	550.7	6.8
70°-80°	386.8	4.8
80°-90°	221.3	2.7
90°-100°	475.8	5.9
100°-110°	816.1	10.1
110°-120°	709.4	8.8
120°-130°	578.8	7.2
130°-140°	468.0	5.8
140°-150°	348.7	4.3
150°-160°	242.9	3.0
160°-170°	142.9	1.8
170°-180°	46.5	0.6
0°-30°	1043.3	12.9
0°-40°	1710.5	21.2
0°-60°	3079.5	38.2
0°-90°	4238.4	52.5
90°-120°	2001.3	24.8
90°-150°	3396.9	42.1
90°-180°	3829.0	47.5
0°-180°	8067.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1344	1344	1344	1344	1344	
5°	1346	1341	1330	1342	1341	128
15°	1290	1291	1287	1300	1299	363
25°	1180	1189	1194	1209	1212	543
35°	1032	1050	1066	1086	1091	646
45°	861	890	918	943	951	665
55°	674	707	751	780	790	601
65°	467	515	566	602	616	462
75°	259	315	378	418	434	275
85°	80	143	211	254	271	85
90°	25	92	166	210	224	18
95°	51	168	898	550	415	50
105°	124	205	717	1465	1473	133
115°	203	268	621	1160	1386	202
125°	276	328	590	970	1094	246
135°	324	386	556	836	954	251
145°	371	424	540	683	756	233
155°	421	454	525	595	620	194
165°	458	472	503	533	541	129
175°	478	479	483	489	487	45
180°	479	479	479	479	479	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1348.9	1348.0	1347.3	1346.4	1345.7	1344.2	1342.0	1339.9	1337.8	1335.6	1337.5
5°	1345.5	1344.5	1343.5	1342.6	1341.5	1339.8	1337.5	1335.1	1332.8	1330.5	1333.1
7.5°	1334.1	1333.5	1332.8	1332.3	1331.7	1330.4	1328.5	1326.5	1324.6	1322.7	1325.7
10°	1324.5	1324.1	1323.8	1323.4	1323.1	1322.1	1320.4	1318.8	1317.1	1315.4	1318.4
12.5°	1311.2	1311.2	1311.1	1311.0	1311.0	1310.3	1309.2	1308.1	1306.9	1305.8	1308.5
15°	1289.9	1290.2	1290.5	1290.8	1291.2	1290.8	1289.9	1288.8	1287.8	1286.9	1289.9
17.5°	1260.7	1261.7	1262.6	1263.7	1264.6	1265.1	1264.9	1264.6	1264.4	1264.2	1267.3
20°	1240.2	1241.1	1242.2	1243.2	1244.2	1244.8	1245.2	1245.6	1245.9	1246.2	1249.5
22.5°	1217.3	1218.5	1219.8	1221.1	1222.4	1223.3	1223.9	1224.6	1225.1	1225.7	1229.1
25°	1180.0	1181.9	1184.0	1186.0	1188.0	1189.5	1190.5	1191.5	1192.5	1193.5	1197.2
27.5°	1138.4	1141.4	1144.3	1147.3	1150.2	1152.4	1154.0	1155.6	1157.1	1158.6	1162.0
30°	1110.7	1113.4	1116.1	1118.8	1121.4	1124.0	1126.2	1128.6	1131.0	1133.3	1137.0
32.5°	1080.6	1083.8	1087.0	1090.2	1093.4	1096.4	1099.0	1101.6	1104.2	1106.8	1111.1
35°	1032.5	1036.5	1040.5	1044.5	1048.5	1052.2	1055.6	1058.9	1062.2	1065.5	1070.3
37.5°	984.0	988.6	993.3	997.9	1002.5	1006.8	1011.0	1015.1	1019.3	1023.4	1028.2
40°	952.7	957.1	961.4	965.7	970.1	974.6	979.3	984.0	988.6	993.3	998.3
42.5°	916.6	921.4	926.3	931.2	936.1	941.3	946.8	952.3	957.7	963.3	968.8
45°	860.9	867.2	873.6	880.0	886.3	892.7	899.0	905.4	911.7	918.1	923.8
47.5°	807.6	814.2	820.8	827.3	833.9	840.8	848.2	855.5	862.9	870.2	876.1
50°	769.1	776.5	783.8	791.2	798.5	805.9	813.2	820.6	827.9	835.3	842.0
52.5°	730.6	737.9	745.3	752.6	760.0	767.9	776.3	784.8	793.1	801.6	808.3
55°	674.3	681.3	688.3	695.3	702.4	710.9	721.0	730.9	741.0	751.0	757.7
57.5°	611.3	620.1	628.8	637.4	646.1	655.4	665.4	675.4	685.4	695.3	703.3
60°	570.4	579.1	587.8	596.5	605.2	615.1	626.1	637.2	648.2	659.2	666.9
62.5°	530.7	540.2	549.7	559.2	568.6	578.9	590.0	601.1	612.1	623.1	630.7
65°	466.6	477.3	488.0	498.7	509.3	520.4	531.8	543.2	554.5	565.9	574.3
67.5°	404.8	416.2	427.6	438.9	450.3	462.1	474.3	486.4	498.6	510.9	519.3
70°	362.7	374.1	385.5	396.8	408.2	420.3	432.9	445.6	458.4	471.1	480.1
72.5°	321.8	333.4	345.1	356.7	368.3	380.9	394.5	407.9	421.4	435.0	443.7
75°	258.9	271.3	283.6	296.0	308.4	321.6	335.6	349.7	363.7	377.8	387.1
77.5°	200.2	213.3	226.4	239.5	252.6	266.6	281.3	296.0	310.7	325.4	334.9
80°	164.1	177.4	190.8	204.2	217.5	231.6	246.3	261.1	275.8	290.5	300.5
82.5°	127.9	141.9	155.8	169.7	183.6	197.9	212.6	227.3	242.0	256.7	267.0
85°	79.7	93.8	107.8	121.9	135.9	150.5	165.5	180.6	195.7	210.8	220.7
87.5°	44.8	58.7	73.0	86.8	100.7	114.8	130.5	145.2	160.2	175.2	184.7
90°	25.0	40.2	56.5	70.8	85.1	99.0	119.0	133.4	149.7	166.0	174.7
92.5°	33.6	50.5	71.4	94.9	120.7	153.5	215.7	303.1	388.6	440.3	399.8
95°	50.6	64.5	84.9	108.2	141.9	193.7	289.3	457.3	695.9	897.8	928.5
97.5°	73.4	82.9	100.6	121.3	150.2	194.9	271.5	412.5	649.6	929.3	1121.0
100°	88.0	96.8	112.1	132.1	158.6	199.6	268.2	387.5	592.5	870.9	1120.8
102.5°	103.1	112.3	125.7	143.8	168.6	207.5	270.4	376.7	552.9	800.9	1058.1
105°	123.7	133.2	144.6	162.5	186.2	223.0	280.5	371.0	515.1	716.6	946.1
107.5°	149.3	156.7	166.8	184.4	206.0	241.6	294.6	377.5	501.7	665.7	854.4
110°	165.4	172.0	181.3	197.4	219.0	252.6	305.7	383.2	498.4	646.6	807.7



TEST NUMBER: P332702-830

CATALOG NUMBER: S124DIP-S1195D1035U830-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	180.8	186.8	196.4	211.1	232.1	265.2	316.3	389.6	497.5	633.8	778.1
115°	202.8	208.7	218.3	230.7	251.6	283.9	332.2	399.4	497.6	621.2	747.2
117.5°	227.4	231.9	239.5	251.7	270.2	302.5	348.2	410.1	498.5	611.2	727.9
120°	242.8	245.6	253.3	264.6	281.6	313.3	358.7	417.4	499.5	605.2	716.3
122.5°	257.8	259.9	266.6	276.4	294.2	324.4	369.4	424.4	500.8	598.4	704.3
125°	276.1	279.5	284.8	294.8	312.4	342.7	384.9	436.6	504.3	589.7	686.5
127.5°	293.3	296.0	302.4	313.9	332.2	361.7	401.0	447.0	505.3	578.7	663.7
130°	301.9	305.3	312.5	326.2	343.8	373.6	410.9	453.0	506.3	571.9	649.4
132.5°	311.6	314.3	323.8	336.8	355.8	383.6	419.9	460.1	507.8	566.4	636.8
135°	323.9	327.6	337.1	353.1	372.8	398.4	431.9	468.1	509.0	556.5	616.4
137.5°	337.6	340.8	350.9	365.8	386.0	409.7	439.8	472.6	507.9	549.4	599.3
140°	347.4	349.9	359.9	375.6	395.0	417.5	446.1	476.5	508.9	545.0	589.8
142.5°	356.8	359.5	369.0	384.2	403.1	424.8	452.1	479.8	510.0	542.6	582.3
145°	371.3	373.8	382.9	395.7	413.2	433.8	458.3	483.6	511.0	540.1	572.2
147.5°	388.0	388.6	396.6	409.8	424.3	442.8	465.8	488.0	511.9	536.7	563.5
150°	398.6	399.2	406.4	417.4	431.1	448.8	469.6	490.2	511.9	534.4	558.0
152.5°	407.2	407.3	414.7	425.2	437.7	454.1	472.6	491.7	510.4	530.7	552.0
155°	420.6	421.5	427.2	436.6	447.0	461.1	477.0	493.0	508.1	525.1	542.9
157.5°	433.9	433.9	439.2	446.6	455.6	466.7	480.2	493.0	505.7	519.2	533.7
160°	442.2	442.2	446.0	452.6	460.1	470.5	481.7	493.0	503.4	514.7	527.0
162.5°	449.8	449.0	452.0	457.9	464.7	472.8	483.2	493.0	501.1	510.2	520.9
165°	458.3	458.3	460.1	464.9	469.6	475.1	483.6	491.2	496.8	503.4	511.0
167.5°	466.7	465.8	466.7	470.3	473.0	477.2	483.4	488.9	492.3	496.6	501.9
170°	470.5	469.6	470.5	473.3	475.1	478.0	482.7	487.4	489.3	492.1	495.9
172.5°	474.2	473.3	473.4	475.5	476.6	478.7	481.9	485.9	486.3	487.6	490.6
175°	478.0	477.0	477.0	478.0	478.9	478.9	480.8	483.6	482.7	482.7	484.6
177.5°	479.7	478.9	478.2	478.9	478.9	478.9	479.7	481.2	479.7	479.7	480.4
180°	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9



TEST NUMBER: P332702-830

CATALOG NUMBER: S124DIP-S1195D1035U830-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1339.4	1341.2	1343.1	1343.9	1343.6	1343.3	1343.1	1342.8
5°	1335.9	1338.5	1341.1	1342.4	1342.0	1341.7	1341.3	1341.0
7.5°	1328.7	1331.7	1334.7	1336.1	1335.7	1335.4	1335.0	1334.7
10°	1321.4	1324.5	1327.5	1328.8	1328.5	1328.1	1327.8	1327.5
12.5°	1311.3	1314.0	1316.7	1318.1	1318.1	1318.0	1317.9	1317.9
15°	1292.9	1295.9	1298.8	1300.2	1299.9	1299.6	1299.2	1298.8
17.5°	1270.5	1273.5	1276.6	1278.0	1277.7	1277.4	1277.1	1276.9
20°	1252.9	1256.2	1259.6	1261.2	1261.2	1261.2	1261.2	1261.2
22.5°	1232.4	1235.8	1239.1	1241.0	1241.6	1242.1	1242.6	1243.2
25°	1200.9	1204.6	1208.2	1210.2	1210.6	1210.9	1211.3	1211.5
27.5°	1165.5	1168.8	1172.2	1174.1	1174.6	1175.0	1175.4	1175.7
30°	1140.7	1144.3	1148.0	1150.2	1150.8	1151.5	1152.2	1152.9
32.5°	1115.2	1119.5	1123.7	1126.1	1126.8	1127.5	1128.1	1128.8
35°	1075.0	1079.6	1084.3	1087.1	1088.2	1089.2	1090.1	1091.2
37.5°	1032.9	1037.6	1042.5	1045.4	1046.4	1047.4	1048.6	1049.6
40°	1003.3	1008.4	1013.4	1016.6	1017.9	1019.3	1020.6	1021.9
42.5°	974.3	979.9	985.4	988.7	989.9	990.9	991.9	993.1
45°	929.4	935.2	940.8	944.5	946.2	947.8	949.5	951.2
47.5°	882.0	887.9	893.8	897.7	899.8	901.7	903.7	905.8
50°	848.7	855.4	862.0	866.4	868.5	870.4	872.4	874.4
52.5°	815.0	821.7	828.3	832.7	834.7	836.7	838.7	840.7
55°	764.4	771.1	777.8	782.1	784.1	786.2	788.2	790.1
57.5°	711.2	719.3	727.2	732.1	734.0	735.8	737.7	739.6
60°	674.6	682.3	689.9	695.1	697.9	700.5	703.2	705.9
62.5°	638.5	646.2	653.8	659.0	661.8	664.4	667.0	669.8
65°	582.6	591.0	599.4	604.8	607.6	610.2	612.9	615.6
67.5°	527.8	536.3	544.8	550.4	553.0	555.5	558.2	560.8
70°	489.2	498.1	507.2	512.9	515.2	517.6	519.9	522.3
72.5°	452.5	461.3	470.0	475.7	478.3	480.9	483.5	486.2
75°	396.5	405.9	415.2	421.4	424.4	427.4	430.5	433.5
77.5°	344.4	353.9	363.4	369.8	373.0	376.2	379.4	382.6
80°	310.6	320.6	330.6	337.0	339.6	342.3	345.0	347.7
82.5°	277.4	287.7	297.9	304.6	307.6	310.5	313.4	316.3
85°	230.7	240.8	250.8	257.5	260.9	264.2	267.6	270.9
87.5°	194.6	204.5	214.4	220.7	223.9	227.1	229.8	232.7
90°	185.3	196.0	206.6	212.8	216.4	220.1	221.8	224.4
92.5°	345.4	309.2	290.1	277.4	269.0	266.6	266.1	268.7
95°	846.2	709.5	592.4	507.1	464.0	437.9	424.0	414.7
97.5°	1169.3	1123.9	1040.6	948.2	883.4	829.7	804.4	787.7
100°	1267.2	1295.1	1258.0	1194.0	1114.6	1059.5	1033.6	1028.4
102.5°	1255.4	1357.5	1379.6	1356.3	1308.7	1269.7	1242.6	1239.2
105°	1169.9	1341.0	1442.6	1486.7	1491.2	1486.4	1475.9	1472.9
107.5°	1053.5	1235.0	1374.4	1463.7	1512.6	1536.4	1548.2	1553.1
110°	982.9	1153.3	1297.4	1406.2	1475.6	1517.8	1537.5	1548.6





TEST NUMBER: P332702-830

CATALOG NUMBER: S124DIP-S1195D1035U830-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	928.9	1080.2	1216.6	1325.1	1403.6	1454.2	1480.5	1496.9
115°	872.1	995.1	1112.7	1207.8	1284.5	1343.3	1375.7	1385.6
117.5°	839.0	941.7	1035.2	1116.6	1182.7	1232.8	1265.9	1274.5
120°	821.8	916.1	998.0	1069.5	1125.8	1169.9	1197.0	1210.0
122.5°	806.8	898.0	973.2	1036.2	1084.0	1121.8	1144.9	1157.6
125°	783.2	870.4	941.7	997.7	1037.3	1066.6	1086.5	1094.1
127.5°	754.6	838.0	908.7	962.1	1002.1	1028.7	1046.0	1054.0
130°	733.6	813.9	883.9	937.8	978.4	1003.9	1021.0	1028.6
132.5°	712.4	788.0	856.2	909.9	949.8	978.4	994.7	1002.3
135°	681.0	747.5	810.3	861.0	900.7	929.1	946.1	953.8
137.5°	653.4	710.0	763.3	809.1	845.9	873.6	887.7	896.2
140°	637.4	686.0	732.7	775.2	809.8	832.2	847.1	856.3
142.5°	623.4	666.2	706.3	743.2	773.7	794.4	807.4	814.1
145°	604.4	638.4	668.5	696.6	721.4	738.8	749.5	755.5
147.5°	588.6	614.3	637.2	658.6	676.9	691.7	699.9	702.7
150°	580.6	602.2	621.0	638.0	653.0	665.2	670.9	671.8
152.5°	572.3	590.9	608.2	622.2	635.0	644.9	648.3	649.2
155°	559.9	575.0	589.0	600.3	609.7	617.3	620.1	620.1
157.5°	546.5	559.1	571.0	580.0	587.1	592.8	594.5	594.5
160°	538.2	548.6	558.9	566.5	572.1	577.8	578.7	578.7
162.5°	529.9	538.8	546.9	553.6	557.8	563.5	564.4	563.6
165°	518.5	524.1	530.7	535.4	539.1	542.9	542.0	541.0
167.5°	507.4	511.7	517.0	519.8	521.7	524.1	524.0	523.2
170°	500.6	503.4	507.2	510.0	511.9	512.8	511.9	511.9
172.5°	494.6	496.6	498.9	501.0	502.1	503.0	502.1	500.6
175°	486.4	487.4	489.3	489.3	489.3	491.2	489.3	487.4
177.5°	481.2	481.9	481.9	482.7	481.9	482.7	481.2	479.7
180°	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9

(END OF REPORT)