

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: P332683-830

Luminaire Tested: **S124DIP-S1195D590U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332683-830  
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-S1195D590U830-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 590 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6512.1 lumens  
Efficiency: N/A  
Efficacy: 118.2 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: Semi-Direct

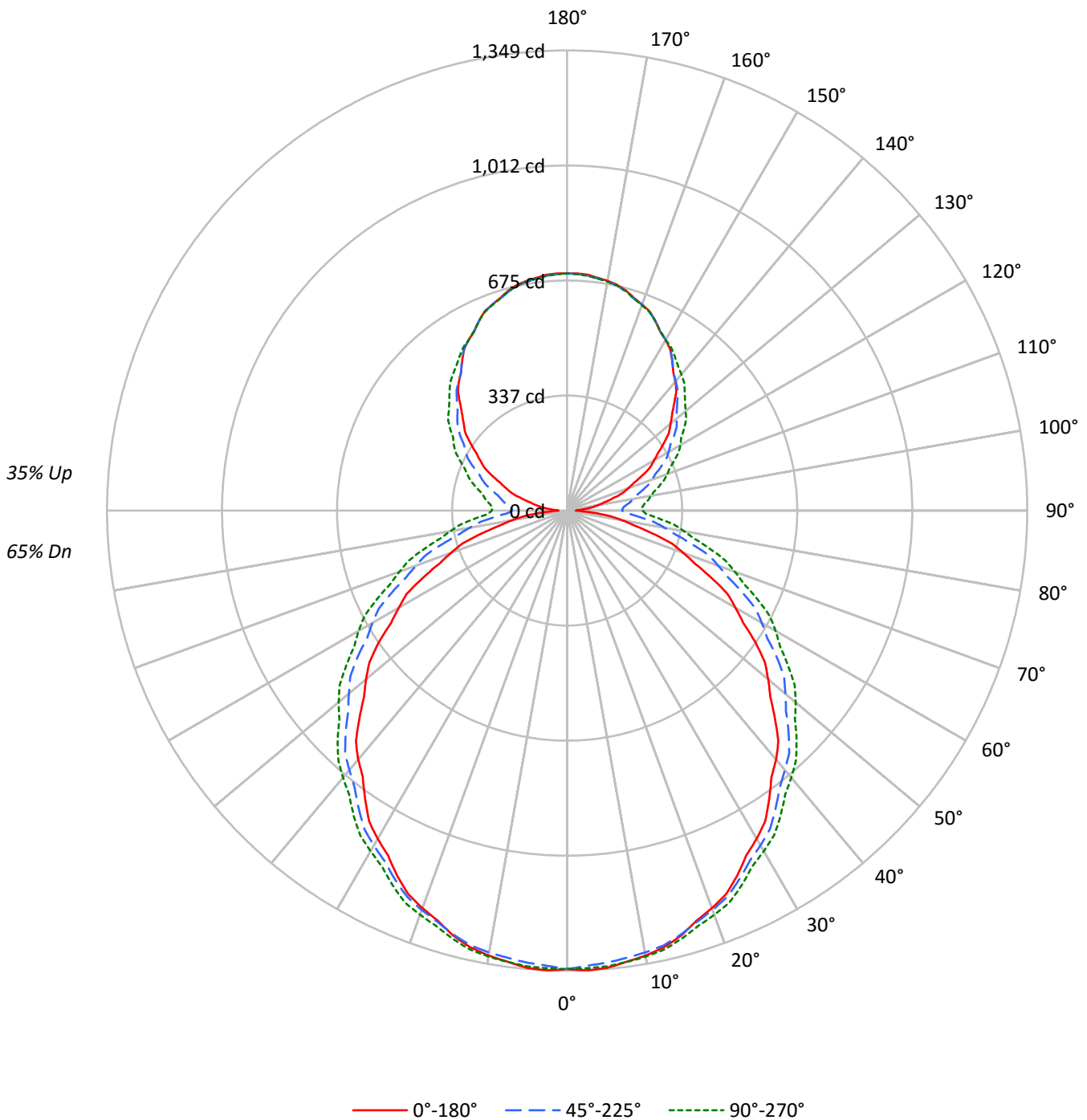
Input Watts (W): 55.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332683-830

CATALOG NUMBER: S124DIP-S1195D590U830-4F0-1E-UDD-D1

### Luminous Intensity Polar Plot





TEST NUMBER: P332683-830

CATALOG NUMBER: S124DIP-S1195D590U830-4F0-1E-UDD-D1

**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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65
1	100	95	90	86	94	89	85	82	79	76	73	69	66	64	60	58	57	52
2	90	82	75	69	84	77	71	66	68	63	59	60	56	53	52	49	47	43
3	82	72	64	57	77	68	60	54	60	54	49	52	48	44	45	42	39	35
4	75	63	55	48	70	60	52	46	53	46	42	46	41	37	40	36	33	30
5	69	56	47	41	64	53	45	39	47	41	36	41	36	32	36	32	29	26
6	63	50	42	35	59	48	40	34	42	36	31	37	32	28	33	28	25	22
7	59	45	37	31	55	43	35	30	38	32	27	34	29	25	30	26	22	20
8	54	41	33	27	51	39	32	26	35	29	24	31	26	22	27	23	20	18
9	51	38	30	24	47	36	28	23	32	26	22	29	23	20	25	21	18	16
10	47	35	27	22	44	33	26	21	30	24	19	26	21	18	23	19	16	14

**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



TEST NUMBER: P332683-830

CATALOG NUMBER: S124DIP-S1195D590U830-4F0-1E-UDD-D1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.3	2.0
10°-20°	364.7	5.6
20°-30°	551.4	8.5
30°-40°	667.1	10.2
40°-50°	705.3	10.8
50°-60°	663.8	10.2
60°-70°	550.7	8.5
70°-80°	386.8	5.9
80°-90°	220.8	3.4
90°-100°	175.7	2.7
100°-110°	231.9	3.6
110°-120°	295.0	4.5
120°-130°	340.3	5.2
130°-140°	357.1	5.5
140°-150°	338.6	5.2
150°-160°	282.1	4.3
160°-170°	187.7	2.9
170°-180°	65.7	1.0
0°-30°	1043.3	16.0
0°-40°	1710.5	26.3
0°-60°	3079.5	47.3
0°-90°	4237.9	65.1
90°-120°	702.7	10.8
90°-150°	1738.7	26.7
90°-180°	2274.0	34.9
0°-180°	6512.1	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°	26	92	161	206	221	18
95°	52	107	172	212	228	51
105°	139	171	227	265	280	148
115°	244	259	304	335	347	241
125°	347	348	383	409	418	310
135°	443	447	457	479	488	343
145°	536	537	538	546	550	336
155°	613	613	612	614	612	282
165°	667	666	664	667	666	188
175°	694	691	691	694	691	66
180°	695	695	695	695	695	



TEST NUMBER: P332683-830

CATALOG NUMBER: S124DIP-S1195D590U830-4F0-1E-UDD-D1

**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°	44.9	58.8	72.7	86.6	100.5	114.9	129.7	144.6	159.4	174.3	184.1
90°	25.7	40.3	55.0	69.7	84.5	99.4	114.8	130.2	145.5	160.8	171.3
92.5°	34.4	47.9	61.5	75.0	88.6	102.8	117.9	133.0	148.0	163.1	173.0
95°	51.8	63.9	76.1	88.1	100.3	113.6	128.2	142.7	157.2	171.8	181.2
97.5°	74.1	84.5	94.8	105.2	115.6	128.0	142.5	157.1	171.6	186.2	195.4
100°	91.8	100.9	110.2	119.3	128.5	140.2	154.3	168.4	182.5	196.6	205.9
102.5°	111.6	119.4	127.2	135.1	142.9	153.6	167.4	181.2	194.9	208.7	217.7
105°	138.8	145.6	152.4	159.2	166.1	175.9	188.7	201.6	214.4	227.2	236.0
107.5°	170.2	175.9	181.4	187.1	192.7	201.4	213.2	225.0	236.8	248.5	257.1
110°	190.5	195.5	200.4	205.3	210.2	218.5	230.1	241.7	253.3	264.8	272.3



TEST NUMBER: P332683-830

CATALOG NUMBER: S124DIP-S1195D590U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	211.7	215.8	220.1	224.2	228.5	236.0	246.9	258.0	268.9	279.8	287.2
115°	243.5	246.4	249.4	252.4	255.4	262.2	272.7	283.1	293.6	304.1	311.3
117.5°	274.8	276.6	278.5	280.4	282.3	288.1	297.9	307.7	317.5	327.3	333.9
120°	294.6	296.1	297.6	299.1	300.5	305.9	315.3	324.6	333.9	343.3	349.4
122.5°	316.5	316.9	317.4	317.7	318.1	322.8	331.8	340.8	349.8	358.7	365.0
125°	347.4	347.0	346.7	346.4	346.0	350.0	358.3	366.5	374.8	383.0	389.1
127.5°	376.5	376.5	376.5	376.5	376.5	379.7	385.9	392.1	398.3	404.5	410.4
130°	395.9	395.9	396.0	396.0	396.0	398.7	404.0	409.3	414.7	420.1	425.8
132.5°	417.0	416.9	416.8	416.7	416.7	418.7	422.9	427.1	431.3	435.5	441.0
135°	443.3	444.0	444.7	445.4	446.2	447.7	450.1	452.3	454.7	457.0	462.1
137.5°	473.6	473.6	473.6	473.6	473.6	474.3	475.6	476.9	478.2	479.6	484.2
140°	493.8	493.7	493.6	493.5	493.4	493.5	493.9	494.3	494.6	494.9	499.1
142.5°	511.1	511.2	511.4	511.6	511.8	511.7	511.4	511.1	510.9	510.6	514.3
145°	536.4	536.5	536.7	536.9	537.0	537.1	537.2	537.3	537.4	537.5	539.5
147.5°	561.8	562.0	562.2	562.5	562.7	562.8	562.7	562.6	562.5	562.4	562.6
150°	577.2	577.4	577.5	577.7	577.8	577.9	577.9	577.9	577.9	577.9	577.9
152.5°	590.7	590.9	591.1	591.4	591.5	591.7	591.8	591.9	592.0	592.1	592.4
155°	612.8	612.8	612.8	612.8	612.8	612.7	612.7	612.6	612.5	612.3	612.7
157.5°	631.8	631.5	631.3	631.1	630.9	630.7	630.7	630.7	630.7	630.7	631.0
160°	642.9	642.8	642.7	642.6	642.4	642.3	642.2	642.2	642.0	641.9	642.2
162.5°	653.3	653.0	652.6	652.3	652.1	651.8	651.7	651.6	651.5	651.3	652.0
165°	667.1	666.8	666.4	666.1	665.7	665.4	665.2	665.0	664.7	664.5	665.2
167.5°	677.8	677.3	676.7	676.3	675.8	675.5	675.5	675.6	675.6	675.6	676.4
170°	683.8	683.2	682.6	682.0	681.4	681.2	681.3	681.4	681.6	681.6	682.4
172.5°	688.1	687.6	687.1	686.6	686.1	685.9	685.9	685.9	685.9	686.0	686.7
175°	694.0	693.4	692.9	692.2	691.6	691.3	691.2	691.1	690.9	690.8	691.6
177.5°	696.0	695.5	695.0	694.6	694.0	693.8	693.8	693.8	693.8	693.8	694.5
180°	695.1	695.1	695.1	695.1	695.1	695.1	695.1	695.1	695.1	695.1	695.1



TEST NUMBER: P332683-830

CATALOG NUMBER: S124DIP-S1195D590U830-4F0-1E-UDD-D1

**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°	194.0	203.8	213.6	220.0	223.0	226.0	229.0	232.0
90°	181.6	192.1	202.5	209.2	212.1	215.0	217.9	220.8
92.5°	182.8	192.7	202.6	208.9	211.7	214.5	217.4	220.1
95°	190.6	200.0	209.3	215.6	218.6	221.6	224.6	227.6
97.5°	204.6	213.8	223.0	229.0	231.9	234.8	237.6	240.5
100°	215.2	224.4	233.8	239.5	241.9	244.2	246.6	248.9
102.5°	226.9	236.0	245.1	251.0	253.6	256.4	259.1	261.7
105°	244.7	253.4	262.1	268.1	271.1	274.1	277.1	280.1
107.5°	265.7	274.2	282.8	288.2	290.7	293.0	295.4	297.8
110°	279.7	287.2	294.6	299.8	302.9	305.9	309.0	312.0





TEST NUMBER: P332683-830

CATALOG NUMBER: S124DIP-S1195D590U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	294.6	302.0	309.3	314.4	317.2	319.9	322.6	325.5
115°	318.5	325.7	333.0	337.7	340.0	342.1	344.4	346.6
117.5°	340.4	347.0	353.5	358.1	360.5	363.0	365.4	367.8
120°	355.4	361.6	367.7	372.1	375.0	378.0	380.9	383.8
122.5°	371.4	377.6	383.9	388.0	390.0	392.0	394.0	396.0
125°	395.2	401.3	407.5	411.3	413.1	414.9	416.7	418.5
127.5°	416.1	421.9	427.7	431.6	433.8	435.8	437.9	440.0
130°	431.6	437.4	443.2	446.9	448.4	449.9	451.4	453.0
132.5°	446.5	452.0	457.5	461.2	463.0	464.8	466.7	468.4
135°	467.3	472.4	477.5	480.9	482.5	484.2	485.8	487.5
137.5°	488.7	493.3	497.9	501.1	502.8	504.5	506.2	508.0
140°	503.3	507.6	511.8	514.7	516.2	517.8	519.3	520.9
142.5°	518.1	521.9	525.8	528.3	529.7	531.0	532.4	533.9
145°	541.4	543.3	545.2	546.6	547.5	548.6	549.5	550.4
147.5°	562.8	562.9	563.1	563.6	564.6	565.5	566.6	567.5
150°	577.9	577.9	577.9	577.9	577.7	577.6	577.5	577.4
152.5°	592.7	593.0	593.2	593.2	593.0	592.6	592.3	592.0
155°	613.2	613.7	614.3	614.3	613.7	613.2	612.7	612.3
157.5°	631.4	631.8	632.2	632.1	631.7	631.3	630.8	630.5
160°	642.6	642.9	643.3	643.2	642.6	642.0	641.4	640.8
162.5°	652.6	653.3	653.9	653.9	653.4	652.7	652.1	651.6
165°	665.9	666.6	667.3	667.4	666.9	666.5	666.0	665.5
167.5°	677.0	677.8	678.5	678.4	677.8	677.0	676.3	675.5
170°	683.1	683.8	684.5	684.5	683.6	682.8	681.9	681.1
172.5°	687.6	688.4	689.2	689.2	688.3	687.5	686.6	685.9
175°	692.5	693.3	694.1	694.1	693.3	692.5	691.6	690.8
177.5°	695.1	695.8	696.4	696.4	695.7	694.9	694.1	693.3
180°	695.1	695.1	695.1	695.1	695.1	695.1	695.1	695.1

(END OF REPORT)