

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: P331324-830

Luminaire Tested: **S122DIP-S485D1080U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331324-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S485D1080U830-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5914.4 lumens  
Efficiency: N/A  
Efficacy: 119.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

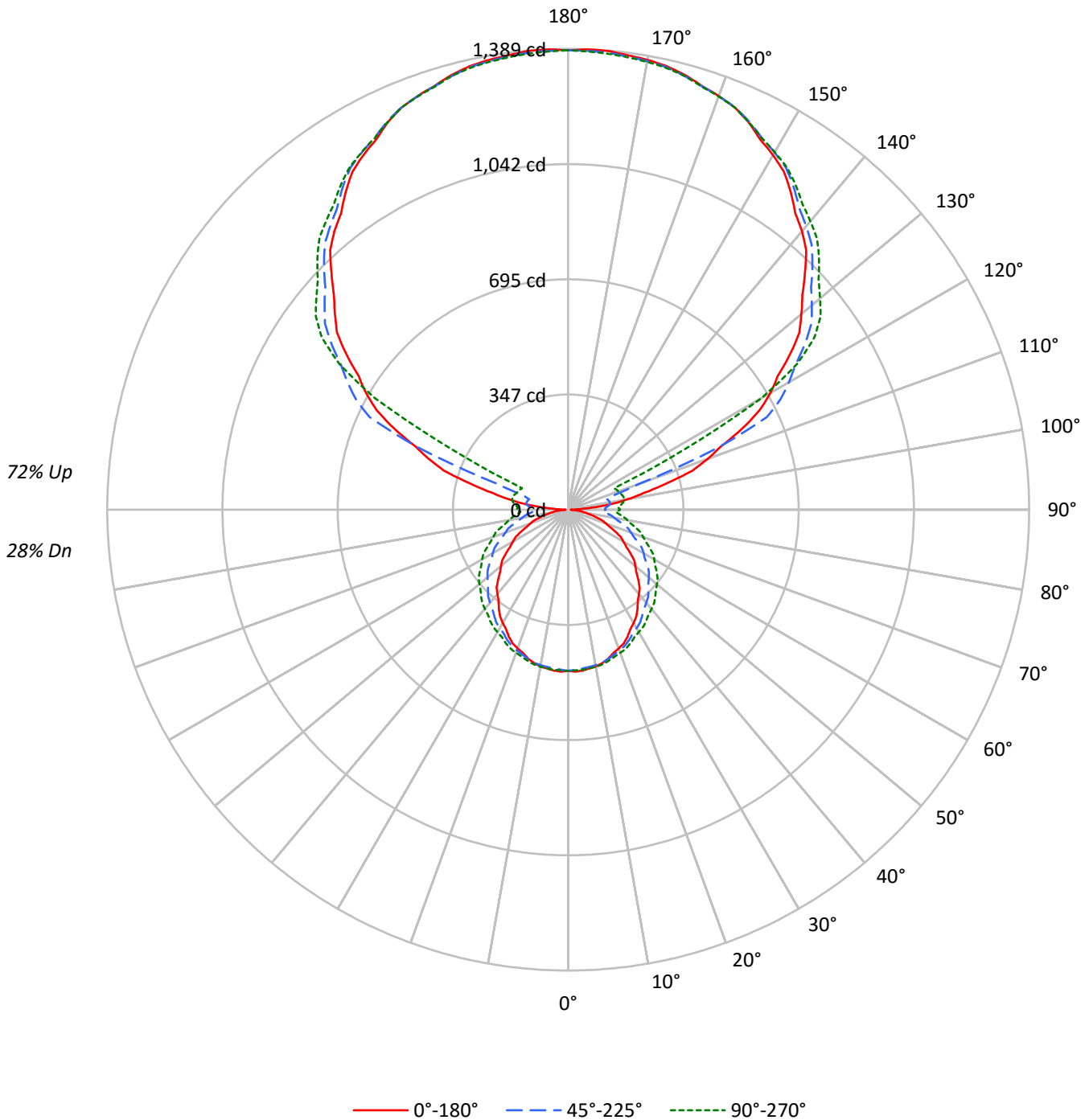
Input Watts (W): 49.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331324-830

CATALOG NUMBER: S122DIP-S485D1080U830-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P331324-830

CATALOG NUMBER: S122DIP-S485D1080U830-4F0-1E-UDD-D

**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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	92	87	83	80	82	78	75	72	61	59	56	45	43	42	30	29	28	22
2	83	76	70	64	74	68	63	58	53	49	46	39	37	34	26	25	23	18
3	76	66	59	53	67	59	53	48	46	42	38	34	31	29	23	21	19	14
4	69	58	51	45	61	52	46	40	41	36	32	30	27	24	20	18	17	12
5	63	52	44	38	56	46	39	34	36	31	27	27	23	21	18	16	14	10
6	58	46	38	32	52	41	35	29	33	27	24	24	21	18	16	14	12	9
7	54	41	34	28	48	37	30	26	29	24	21	22	18	16	15	13	11	8
8	50	37	30	25	44	34	27	22	27	22	18	20	16	14	14	11	10	7
9	46	34	27	22	41	31	24	20	24	19	16	18	15	12	13	10	9	6
10	43	31	24	19	38	28	22	18	22	18	14	17	13	11	12	9	8	6

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

	0°	45°	90°
0°	7842	7842	7842
5°	7880	7549	7520
10°	7831	7327	7244
15°	7723	7090	6952
20°	7587	6836	6671
25°	7453	6592	6417
30°	7262	6342	6160
35°	7069	6100	5981
40°	6869	5895	5801
45°	6677	5709	5648
50°	6471	5541	5495
55°	6254	5363	5341
60°	5990	5177	5178
65°	5716	4959	4983
70°	5407	4723	4775
75°	5013	4495	4582
80°	4391	4260	4385
85°	3800	4054	4232



TEST NUMBER: P331324-830

CATALOG NUMBER: S122DIP-S485D1080U830-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	46.0	0.8
10°-20°	132.0	2.2
20°-30°	200.0	3.4
30°-40°	243.6	4.1
40°-50°	262.1	4.4
50°-60°	254.5	4.3
60°-70°	222.2	3.8
70°-80°	171.1	2.9
80°-90°	118.2	2.0
90°-100°	125.3	2.1
100°-110°	227.1	3.8
110°-120°	490.9	8.3
120°-130°	768.7	13.0
130°-140°	803.8	13.6
140°-150°	740.4	12.5
150°-160°	594.0	10.0
160°-170°	382.8	6.5
170°-180°	131.8	2.2
0°-30°	378.0	6.4
0°-40°	621.6	10.5
0°-60°	1138.1	19.2
0°-90°	1649.6	27.9
90°-120°	843.4	14.3
90°-150°	3156.2	53.4
90°-180°	4265.0	72.1
0°-180°	5914.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	486	486	486	486	486	
5°	487	485	481	485	484	46
15°	465	466	466	472	472	131
25°	422	427	434	442	444	194
35°	364	376	389	404	410	227
45°	298	318	342	363	371	230
55°	229	255	291	315	325	204
65°	156	191	232	260	270	155
75°	87	126	171	200	210	92
85°	25	69	114	142	153	27
90°	8	60	113	145	157	8
95°	71	74	120	150	159	84
105°	308	343	122	156	169	329
115°	579	606	660	239	153	570
125°	816	831	871	896	906	728
135°	1009	1025	1041	1064	1069	779
145°	1169	1169	1185	1196	1195	731
155°	1288	1280	1290	1296	1288	593
165°	1357	1351	1354	1360	1354	383
175°	1388	1381	1383	1389	1380	132
180°	1385	1385	1385	1385	1385	



TEST NUMBER: P331324-830

CATALOG NUMBER: S122DIP-S485D1080U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7
2.5°	488.5	488.1	487.8	487.4	487.0	486.4	485.5	484.7	483.8	482.9	483.5
5°	487.1	486.6	486.2	485.7	485.2	484.6	483.6	482.7	481.7	480.8	481.7
7.5°	482.8	482.4	482.1	481.8	481.5	481.0	480.2	479.6	478.8	478.1	479.2
10°	479.4	479.1	478.7	478.4	478.2	477.8	477.3	476.8	476.4	475.9	477.1
12.5°	473.7	473.8	473.9	473.9	474.0	473.8	473.5	473.2	472.8	472.5	473.7
15°	464.6	464.9	465.2	465.5	465.8	466.0	466.0	466.0	466.0	466.0	467.4
17.5°	452.8	453.5	454.1	454.8	455.4	456.0	456.5	456.9	457.5	458.0	459.4
20°	444.9	445.6	446.5	447.2	448.0	448.7	449.3	450.0	450.6	451.2	452.9
22.5°	436.4	437.3	438.3	439.1	440.1	440.9	441.9	442.7	443.6	444.5	446.2
25°	422.4	423.5	424.5	425.7	426.7	428.0	429.4	430.8	432.3	433.6	435.5
27.5°	405.5	407.3	409.1	410.9	412.6	414.3	415.9	417.6	419.2	420.9	423.3
30°	394.2	396.2	398.2	400.3	402.4	404.4	406.4	408.4	410.5	412.5	415.0
32.5°	381.8	384.1	386.3	388.7	391.0	393.3	395.7	398.1	400.5	402.9	405.8
35°	363.9	366.6	369.3	371.9	374.6	377.4	380.3	383.3	386.3	389.3	392.7
37.5°	344.5	347.6	350.6	353.7	356.8	360.2	364.1	367.9	371.7	375.6	379.5
40°	331.6	335.0	338.5	341.9	345.3	349.1	353.4	357.6	361.8	366.1	370.1
42.5°	319.1	322.6	326.0	329.5	332.9	337.1	342.0	346.8	351.7	356.5	360.9
45°	298.5	302.7	306.9	311.1	315.4	320.2	325.6	331.1	336.7	342.1	346.9
47.5°	278.1	282.7	287.3	291.8	296.4	302.0	308.4	314.8	321.2	327.6	332.7
50°	264.0	268.8	273.7	278.5	283.3	289.3	296.3	303.4	310.5	317.4	322.8
52.5°	250.4	255.5	260.6	265.8	270.9	277.1	284.6	291.9	299.4	306.8	312.2
55°	228.8	234.4	240.1	245.6	251.3	258.2	266.4	274.5	282.6	290.7	296.3
57.5°	207.4	213.8	220.1	226.4	232.8	240.1	248.4	256.7	264.9	273.2	279.4
60°	192.2	198.9	205.7	212.4	219.0	226.9	235.8	244.7	253.6	262.6	268.5
62.5°	178.6	185.6	192.7	199.6	206.6	214.5	223.4	232.3	241.3	250.2	256.5
65°	156.3	163.9	171.6	179.3	186.9	195.4	204.6	213.9	223.1	232.3	238.7
67.5°	135.7	143.7	151.7	159.8	167.8	176.4	186.0	195.4	204.8	214.2	220.7
70°	121.1	129.2	137.3	145.4	153.6	162.5	172.2	181.9	191.6	201.3	208.0
72.5°	107.5	115.9	124.3	132.7	141.1	150.2	160.0	169.8	179.6	189.5	196.1
75°	86.6	95.4	104.1	112.8	121.6	131.0	141.0	151.0	161.1	171.1	177.8
77.5°	66.4	75.5	84.6	93.8	103.0	112.6	122.8	133.0	143.2	153.4	160.0
80°	52.8	62.3	71.9	81.4	91.0	100.9	111.0	121.1	131.3	141.5	148.1
82.5°	41.6	51.0	60.3	69.7	79.2	89.1	99.3	109.6	119.9	130.3	136.8
85°	25.4	35.1	44.8	54.5	64.1	74.0	84.0	94.0	104.1	114.0	120.6
87.5°	14.0	23.8	33.6	43.5	53.3	63.3	73.7	84.1	94.4	104.8	111.4
90°	8.0	19.6	31.1	42.6	54.1	65.8	77.6	89.4	101.1	112.9	120.4
92.5°	26.7	35.0	43.2	51.4	59.6	69.0	79.6	90.0	100.6	111.1	117.8
95°	70.8	70.8	70.8	70.8	70.8	76.3	87.2	98.1	109.1	120.0	127.1
97.5°	134.2	120.0	105.8	91.7	77.5	76.7	89.4	102.0	114.6	127.2	133.8
100°	182.3	157.6	132.8	108.1	83.4	77.3	89.8	102.5	115.0	127.5	135.1
102.5°	234.6	233.5	232.2	231.1	230.0	217.8	194.6	171.4	148.4	125.2	133.2
105°	308.1	319.3	330.5	341.8	353.0	332.2	279.7	227.0	174.3	121.7	129.6
107.5°	392.8	401.8	410.8	419.8	428.9	400.8	335.6	270.5	205.5	140.3	143.1
110°	446.7	454.5	462.3	470.1	477.9	453.5	396.8	340.1	283.4	226.8	209.4



TEST NUMBER: P331324-830

CATALOG NUMBER: S122DIP-S485D1080U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	497.9	504.7	511.5	518.3	525.1	524.1	515.6	506.9	498.3	489.7	413.5
115°	578.9	584.5	589.9	595.5	601.0	610.0	622.6	635.3	647.8	660.4	562.0
117.5°	650.5	655.9	661.3	666.7	672.0	679.9	690.2	700.5	710.9	721.2	700.9
120°	703.5	707.5	711.4	715.4	719.3	726.4	736.7	747.0	757.2	767.5	774.6
122.5°	748.4	752.1	755.9	759.7	763.5	770.4	780.7	791.0	801.2	811.4	817.3
125°	816.0	818.9	821.8	824.7	827.6	833.7	842.9	852.2	861.4	870.6	876.4
127.5°	877.9	881.0	884.0	887.1	890.1	895.2	902.5	909.6	916.8	924.1	930.2
130°	917.2	920.6	924.0	927.5	930.9	935.4	941.1	946.9	952.6	958.4	964.5
132.5°	957.2	960.2	963.0	965.9	968.7	972.7	977.7	982.7	987.7	992.6	998.3
135°	1008.7	1012.2	1015.8	1019.4	1022.9	1026.5	1030.1	1033.6	1037.2	1040.8	1046.3
137.5°	1061.4	1063.8	1066.3	1068.7	1071.2	1073.9	1076.9	1079.9	1082.8	1085.8	1090.8
140°	1095.9	1097.5	1099.1	1100.7	1102.3	1104.6	1107.3	1110.0	1112.9	1115.6	1120.1
142.5°	1124.7	1126.1	1127.6	1129.1	1130.5	1132.7	1135.5	1138.4	1141.2	1144.2	1147.9
145°	1169.3	1169.0	1168.8	1168.7	1168.4	1170.2	1173.9	1177.7	1181.6	1185.3	1187.8
147.5°	1208.8	1208.0	1207.1	1206.3	1205.4	1206.8	1210.6	1214.3	1218.0	1221.8	1223.0
150°	1234.4	1232.8	1231.3	1229.7	1228.2	1229.2	1232.8	1236.3	1239.9	1243.4	1244.8
152.5°	1256.0	1254.3	1252.5	1250.8	1249.2	1249.9	1253.3	1256.7	1260.1	1263.5	1264.8
155°	1287.5	1285.5	1283.6	1281.5	1279.5	1279.9	1282.5	1285.2	1287.9	1290.5	1291.8
157.5°	1312.2	1310.5	1308.8	1307.1	1305.4	1305.5	1307.4	1309.2	1311.1	1313.0	1314.5
160°	1326.6	1325.3	1323.9	1322.6	1321.3	1321.3	1322.6	1323.9	1325.3	1326.6	1327.9
162.5°	1339.4	1338.1	1336.7	1335.4	1334.1	1334.0	1335.1	1336.3	1337.5	1338.6	1340.1
165°	1356.7	1355.3	1354.0	1352.6	1351.3	1350.9	1351.6	1352.4	1353.0	1353.7	1355.2
167.5°	1369.5	1368.2	1366.8	1365.5	1364.1	1363.8	1364.4	1365.0	1365.6	1366.3	1367.8
170°	1376.7	1375.4	1374.0	1372.7	1371.4	1370.9	1371.4	1371.8	1372.2	1372.7	1374.2
172.5°	1381.5	1380.2	1378.8	1377.5	1376.2	1375.7	1376.2	1376.6	1377.1	1377.5	1379.0
175°	1387.7	1386.2	1384.6	1383.1	1381.5	1380.9	1381.4	1381.9	1382.2	1382.7	1384.3
177.5°	1388.7	1387.5	1386.2	1385.0	1383.7	1383.2	1383.4	1383.6	1383.7	1383.9	1385.2
180°	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7



TEST NUMBER: P331324-830

CATALOG NUMBER: S122DIP-S485D1080U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7
2.5°	484.2	484.7	485.4	485.6	485.3	485.1	484.8	484.6
5°	482.7	483.6	484.6	484.9	484.7	484.7	484.5	484.3
7.5°	480.3	481.5	482.6	483.1	483.0	482.8	482.6	482.5
10°	478.3	479.6	480.9	481.5	481.3	481.1	481.0	480.8
12.5°	474.9	476.3	477.5	478.1	477.9	477.7	477.6	477.4
15°	468.8	470.2	471.6	472.2	472.1	471.9	471.7	471.6
17.5°	460.9	462.4	463.8	464.6	464.6	464.6	464.6	464.6
20°	454.7	456.4	458.1	458.9	458.9	458.9	458.9	458.9
22.5°	447.9	449.6	451.4	452.3	452.6	452.8	453.1	453.4
25°	437.3	439.2	441.1	442.3	442.8	443.3	443.7	444.2
27.5°	425.7	428.1	430.5	431.8	432.2	432.5	432.8	433.2
30°	417.5	420.0	422.5	424.0	424.4	424.9	425.4	425.8
32.5°	408.7	411.5	414.4	416.3	417.2	418.0	418.9	419.7
35°	396.2	399.6	403.0	405.3	406.4	407.5	408.6	409.7
37.5°	383.2	387.1	390.9	393.3	394.5	395.7	396.8	398.0
40°	374.2	378.2	382.3	385.0	386.4	387.9	389.3	390.7
42.5°	365.3	369.8	374.2	377.2	378.5	379.9	381.4	382.8
45°	351.9	356.7	361.5	364.7	366.3	367.9	369.4	371.0
47.5°	337.7	342.8	347.9	351.3	353.0	354.7	356.5	358.2
50°	328.1	333.4	338.7	342.2	344.0	345.7	347.4	349.1
52.5°	317.6	323.1	328.6	332.2	334.0	335.9	337.7	339.6
55°	302.0	307.6	313.2	317.1	319.1	321.1	323.2	325.2
57.5°	285.4	291.4	297.6	301.6	303.7	305.8	307.8	309.9
60°	274.5	280.4	286.3	290.4	292.6	294.8	297.0	299.2
62.5°	262.8	269.1	275.4	279.7	281.7	283.8	285.9	287.9
65°	245.2	251.6	258.0	262.2	264.2	266.3	268.2	270.3
67.5°	227.2	233.7	240.2	244.5	246.6	248.7	250.9	253.0
70°	214.8	221.5	228.2	232.5	234.4	236.3	238.2	240.1
72.5°	202.7	209.3	215.9	220.4	222.5	224.8	227.1	229.3
75°	184.5	191.2	197.9	202.4	204.3	206.4	208.4	210.5
77.5°	166.7	173.4	180.1	184.5	186.7	188.9	191.1	193.3
80°	154.7	161.2	167.8	172.1	174.4	176.5	178.7	180.9
82.5°	143.4	150.0	156.5	160.8	162.9	164.9	167.0	169.1
85°	127.1	133.7	140.3	144.7	146.8	149.1	151.3	153.4
87.5°	118.0	124.6	131.2	135.5	137.7	139.8	141.9	143.9
90°	127.7	135.1	142.4	147.3	149.6	151.9	154.3	156.6
92.5°	124.5	131.2	137.9	142.3	144.5	146.7	148.8	150.9
95°	134.1	141.2	148.3	152.6	154.3	155.9	157.6	159.2
97.5°	140.5	147.2	153.9	158.3	160.4	162.5	164.7	166.7
100°	142.6	150.2	157.8	162.7	164.9	167.0	169.2	171.4
102.5°	141.1	149.1	157.1	162.2	164.6	166.9	169.3	171.6
105°	137.5	145.4	153.4	158.6	161.3	163.8	166.5	169.1
107.5°	145.8	148.6	151.4	154.1	156.7	159.3	161.9	164.5
110°	192.2	174.9	157.7	150.3	153.0	155.6	158.2	160.8





TEST NUMBER: P331324-830

CATALOG NUMBER: S122DIP-S485D1080U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	337.2	261.1	184.8	148.0	150.3	152.8	155.2	157.7
115°	463.6	365.2	266.8	210.5	196.1	181.9	167.6	153.3
117.5°	680.6	660.3	640.0	604.3	553.2	502.1	451.0	399.9
120°	781.7	788.7	795.7	785.0	756.8	728.4	700.1	671.8
122.5°	823.1	829.0	834.9	835.7	831.2	826.9	822.6	818.1
125°	882.1	888.0	893.7	897.7	899.8	901.8	903.9	906.0
127.5°	936.3	942.4	948.7	952.4	953.9	955.5	957.0	958.5
130°	970.7	976.9	983.2	986.7	987.8	988.8	989.9	990.9
132.5°	1004.1	1009.8	1015.5	1018.9	1019.9	1021.0	1022.0	1023.0
135°	1051.8	1057.3	1062.8	1066.0	1066.8	1067.6	1068.4	1069.2
137.5°	1095.9	1101.0	1106.0	1108.7	1109.0	1109.3	1109.7	1109.9
140°	1124.6	1129.1	1133.6	1135.8	1135.6	1135.5	1135.3	1135.1
142.5°	1151.8	1155.7	1159.4	1161.2	1160.9	1160.6	1160.3	1160.0
145°	1190.3	1192.8	1195.3	1196.4	1196.1	1195.7	1195.4	1195.0
147.5°	1224.4	1225.7	1226.9	1227.3	1226.7	1226.2	1225.6	1225.0
150°	1246.1	1247.5	1248.8	1248.9	1247.7	1246.7	1245.6	1244.4
152.5°	1266.1	1267.5	1268.9	1268.8	1267.2	1265.8	1264.3	1262.9
155°	1293.2	1294.6	1295.9	1295.6	1293.8	1292.1	1290.3	1288.5
157.5°	1316.0	1317.5	1319.0	1318.9	1317.2	1315.4	1313.7	1311.9
160°	1329.3	1330.6	1331.9	1331.8	1330.3	1328.7	1327.2	1325.6
162.5°	1341.6	1343.1	1344.7	1344.4	1342.6	1340.7	1338.7	1336.8
165°	1356.8	1358.3	1359.9	1359.9	1358.3	1356.8	1355.2	1353.7
167.5°	1369.4	1370.9	1372.5	1372.2	1370.3	1368.3	1366.3	1364.2
170°	1375.8	1377.3	1378.9	1378.7	1376.7	1374.7	1372.7	1370.6
172.5°	1380.6	1382.1	1383.7	1383.6	1381.5	1379.5	1377.5	1375.5
175°	1385.8	1387.4	1388.9	1388.6	1386.4	1384.1	1382.0	1379.7
177.5°	1386.4	1387.6	1388.9	1388.7	1387.1	1385.5	1383.9	1382.3
180°	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7	1384.7

(END OF REPORT)