

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: P332070-930

Luminaire Tested: **S123DIP-S1165D805U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332070-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S1165D805U930-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6129.0 lumens  
Efficiency: N/A  
Efficacy: 101.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Direct

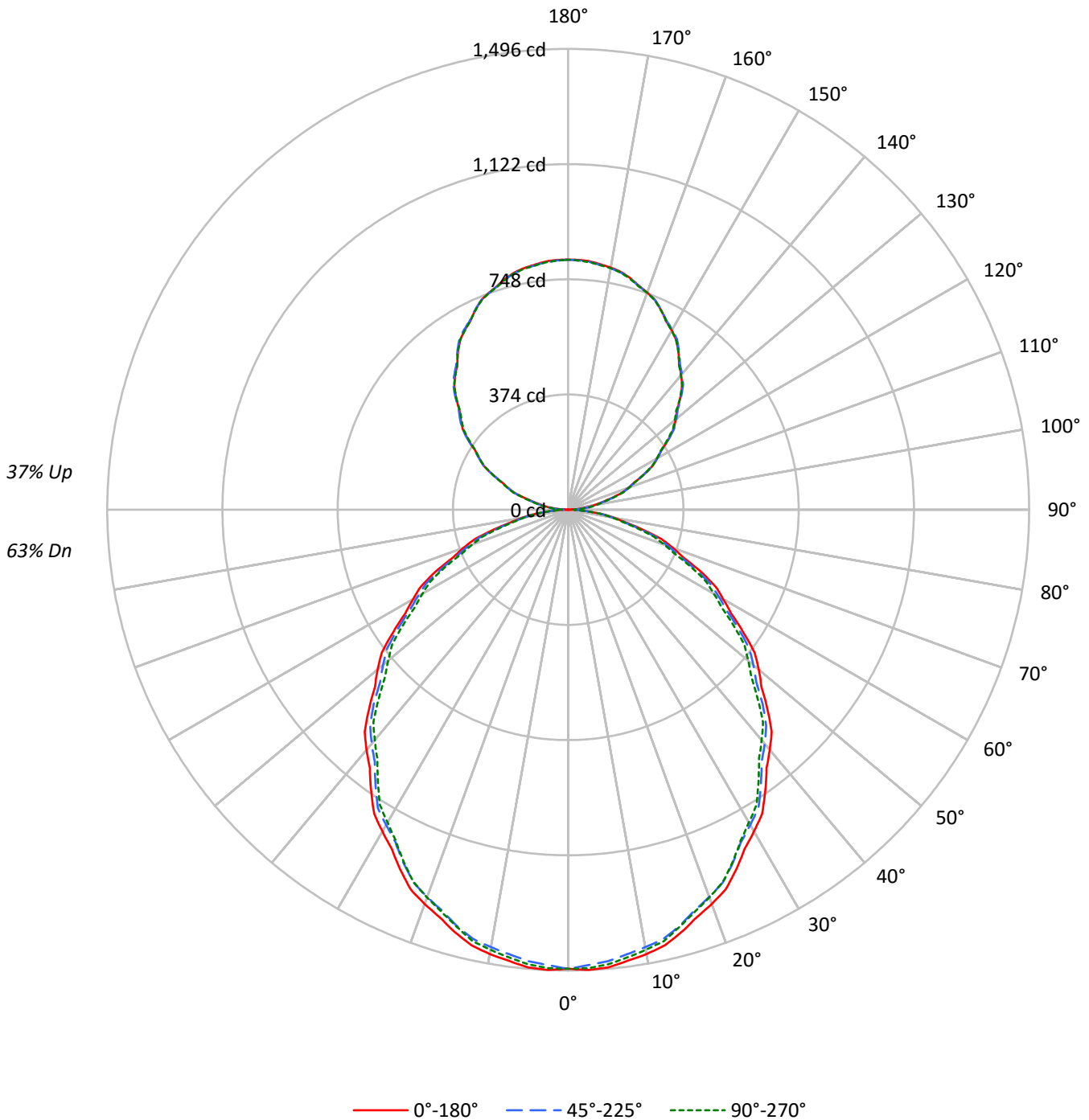
Input Watts (W): 60.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	91	91	91		79	79	79		68	68	68	63
1	101	96	92	89	94	90	87	84	80	77	74		70	68	66		60	59	58	53
2	92	84	78	72	86	79	73	69	70	65	62		61	58	55		53	51	48	44
3	84	74	66	60	78	70	63	57	61	56	52		54	50	46		47	44	41	38
4	77	65	57	51	71	62	54	49	55	49	44		48	43	40		42	38	35	32
5	70	58	50	44	66	55	48	42	49	43	38		43	38	35		38	34	31	28
6	65	52	44	38	61	50	42	37	44	38	33		39	34	30		34	30	27	25
7	60	47	39	33	56	45	37	32	40	34	29		36	31	27		31	27	24	22
8	56	43	35	30	52	41	34	29	37	31	26		33	28	24		29	25	22	19
9	52	39	32	27	49	37	30	26	34	28	24		30	25	22		27	23	20	18
10	49	36	29	24	46	34	28	23	31	25	21		28	23	20		25	21	18	16

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

	0°	45°	90°
0°	16043	16043	16043
5°	16119	15896	16008
10°	16010	15759	15856
15°	15824	15581	15610
20°	15605	15326	15340
25°	15311	15023	14992
30°	14989	14686	14574
35°	14651	14331	14146
40°	14299	13939	13722
45°	13910	13577	13247
50°	13520	13134	12769
55°	13011	12675	12288
60°	12499	12140	11752
65°	12045	11556	11196
70°	11374	10889	10408
75°	10393	10019	9590
80°	9372	8976	8901
85°	8225	7916	7608



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	140.4	2.3
10°-20°	396.4	6.5
20°-30°	585.6	9.6
30°-40°	684.0	11.2
40°-50°	687.7	11.2
50°-60°	604.1	9.9
60°-70°	450.0	7.3
70°-80°	256.4	4.2
80°-90°	76.0	1.2
90°-100°	52.9	0.9
100°-110°	158.2	2.6
110°-120°	269.1	4.4
120°-130°	354.0	5.8
130°-140°	397.9	6.5
140°-150°	391.1	6.4
150°-160°	329.2	5.4
160°-170°	219.2	3.6
170°-180°	76.7	1.3
0°-30°	1122.4	18.3
0°-40°	1806.5	29.5
0°-60°	3098.3	50.6
0°-90°	3880.7	63.3
90°-120°	480.2	7.8
90°-150°	1623.1	26.5
90°-180°	2248.0	36.7
0°-180°	6129.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1490	1490	1490	1490	1490	
5°	1492	1485	1471	1483	1482	141
15°	1420	1414	1398	1407	1401	400
25°	1289	1281	1265	1266	1262	594
35°	1115	1107	1091	1083	1076	697
45°	914	908	892	877	870	705
55°	693	691	675	662	655	621
65°	473	466	454	444	440	466
75°	250	245	241	235	231	267
85°	67	64	64	62	62	73
90°	1	7	15	18	19	6
95°	38	42	47	50	50	42
105°	143	145	150	150	152	154
115°	271	273	272	272	272	268
125°	396	398	397	395	392	353
135°	514	518	518	515	514	396
145°	624	625	627	626	624	390
155°	714	715	715	717	713	329
165°	778	776	776	780	776	219
175°	810	807	807	810	806	77
180°	812	812	812	812	812	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4
2.5°	1495.6	1494.7	1493.8	1492.9	1491.9	1490.2	1487.8	1485.2	1482.7	1480.2	1482.5
5°	1491.8	1490.4	1488.9	1487.5	1486.0	1483.8	1480.7	1477.5	1474.4	1471.2	1474.1
7.5°	1477.2	1475.7	1474.3	1472.8	1471.5	1469.1	1465.8	1462.6	1459.4	1456.1	1458.7
10°	1464.8	1463.4	1462.0	1460.5	1459.1	1456.6	1452.9	1449.2	1445.4	1441.8	1444.3
12.5°	1448.5	1447.2	1446.0	1444.9	1443.7	1441.3	1437.9	1434.4	1430.9	1427.4	1429.3
15°	1420.0	1418.9	1417.7	1416.6	1415.4	1413.0	1409.3	1405.6	1401.9	1398.2	1400.4
17.5°	1386.9	1385.4	1384.0	1382.5	1381.0	1378.4	1374.7	1371.0	1367.3	1363.6	1365.2
20°	1362.3	1360.6	1358.9	1357.1	1355.5	1352.7	1349.1	1345.4	1341.7	1338.0	1339.1
22.5°	1334.6	1332.9	1331.2	1329.5	1327.8	1325.1	1321.4	1317.7	1314.0	1310.3	1311.2
25°	1289.2	1287.5	1285.8	1284.1	1282.5	1279.7	1276.0	1272.4	1268.6	1264.9	1265.2
27.5°	1240.8	1239.2	1237.5	1235.8	1234.2	1231.4	1227.4	1223.4	1219.4	1215.4	1215.7
30°	1206.0	1204.5	1203.1	1201.7	1200.3	1197.6	1193.6	1189.6	1185.6	1181.6	1181.6
32.5°	1171.1	1169.2	1167.3	1165.5	1163.6	1161.1	1158.1	1155.0	1151.9	1148.8	1147.2
35°	1115.0	1113.3	1111.6	1109.9	1108.2	1105.5	1101.7	1098.0	1094.3	1090.6	1088.9
37.5°	1057.5	1055.4	1053.2	1051.1	1048.9	1045.9	1042.2	1038.4	1034.7	1030.9	1028.8
40°	1017.6	1015.9	1014.2	1012.4	1010.7	1007.9	1003.9	999.9	995.9	992.0	989.7
42.5°	977.5	975.7	973.7	971.8	969.8	966.9	962.9	958.9	954.9	951.0	948.7
45°	913.8	912.6	911.5	910.4	909.2	906.8	903.1	899.4	895.7	891.9	888.6
47.5°	850.4	848.8	847.2	845.5	843.8	841.3	837.8	834.3	830.9	827.4	824.0
50°	807.4	806.0	804.5	803.2	801.7	799.2	795.4	791.7	788.0	784.3	781.2
52.5°	762.3	761.3	760.3	759.4	758.4	755.9	752.0	748.1	744.2	740.2	737.5
55°	693.3	693.1	692.8	692.5	692.2	690.2	686.5	682.8	679.1	675.4	672.3
57.5°	627.7	626.7	625.7	624.8	623.9	621.9	618.9	616.0	613.0	610.0	607.2
60°	580.6	580.2	580.0	579.7	579.4	577.6	574.1	570.7	567.3	563.9	561.3
62.5°	538.5	537.8	537.0	536.3	535.6	533.5	530.0	526.6	523.3	519.8	517.2
65°	472.9	471.5	470.0	468.6	467.2	465.0	462.2	459.3	456.5	453.7	451.4
67.5°	403.4	402.2	401.0	399.7	398.4	396.7	394.5	392.4	390.2	388.1	386.0
70°	361.4	359.7	358.0	356.3	354.6	352.9	351.1	349.4	347.7	346.0	344.1
72.5°	317.3	316.1	314.8	313.6	312.3	310.7	308.8	306.8	304.9	303.0	301.2
75°	249.9	248.7	247.6	246.5	245.3	244.3	243.5	242.6	241.8	240.9	239.5
77.5°	190.2	189.6	188.9	188.3	187.7	186.9	185.8	184.8	183.8	182.8	181.8
80°	151.2	150.3	149.5	148.6	147.8	147.1	146.5	145.9	145.4	144.8	144.6
82.5°	113.3	113.1	112.9	112.8	112.6	112.4	112.3	112.3	112.1	112.0	111.5
85°	66.6	66.0	65.5	64.9	64.3	64.1	64.1	64.1	64.1	64.1	63.5
87.5°	26.8	26.4	26.0	25.6	25.2	25.0	25.2	25.4	25.4	25.6	25.5
90°	0.7	2.0	3.5	4.9	6.3	7.9	9.8	11.6	13.5	15.3	15.9
92.5°	15.4	16.4	17.4	18.3	19.2	20.3	21.4	22.4	23.4	24.5	24.9
95°	37.6	38.6	39.6	40.6	41.6	42.6	43.8	44.9	46.1	47.2	47.8
97.5°	66.8	67.5	68.2	69.0	69.8	70.5	71.3	72.2	73.0	73.8	74.4
100°	86.7	87.6	88.4	89.3	90.1	90.9	91.6	92.3	93.0	93.7	94.2
102.5°	109.7	110.1	110.6	111.2	111.7	112.4	113.3	114.3	115.2	116.2	116.6
105°	143.4	143.7	144.0	144.3	144.6	145.4	146.6	147.9	149.2	150.4	150.4
107.5°	182.7	182.9	183.0	183.2	183.4	183.7	184.3	184.7	185.2	185.7	186.2
110°	207.2	207.4	207.7	208.0	208.3	208.6	208.9	209.1	209.5	209.7	210.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	232.7	232.8	233.0	233.2	233.3	233.4	233.5	233.6	233.7	233.7	234.4
115°	270.9	271.3	271.7	272.1	272.6	272.7	272.4	272.1	271.8	271.6	271.7
117.5°	309.4	309.7	310.0	310.2	310.5	310.5	310.1	309.7	309.4	309.0	309.0
120°	333.4	334.2	335.1	335.9	336.8	336.9	336.1	335.4	334.8	334.0	333.9
122.5°	358.4	359.0	359.6	360.2	360.9	361.0	360.6	360.3	359.9	359.5	359.1
125°	396.5	396.9	397.3	397.8	398.2	398.3	397.9	397.7	397.4	397.1	396.6
127.5°	431.7	432.6	433.5	434.4	435.3	435.6	435.3	435.0	434.6	434.3	433.6
130°	455.1	456.2	457.4	458.5	459.7	460.0	459.6	459.2	458.8	458.3	457.7
132.5°	478.6	479.7	480.9	482.0	483.1	483.6	483.2	482.9	482.6	482.2	481.6
135°	514.4	515.3	516.1	517.0	517.8	518.2	518.0	517.9	517.7	517.6	517.1
137.5°	547.6	548.3	548.9	549.7	550.4	550.9	551.3	551.6	552.0	552.4	551.8
140°	570.5	571.2	571.9	572.7	573.3	573.7	573.9	574.1	574.2	574.3	574.2
142.5°	591.4	592.2	592.8	593.5	594.3	594.8	595.0	595.3	595.5	595.7	595.6
145°	624.0	624.4	624.6	624.9	625.2	625.5	626.0	626.4	626.8	627.2	627.1
147.5°	652.6	653.1	653.6	654.1	654.7	655.1	655.5	655.9	656.3	656.7	656.7
150°	672.5	672.8	673.0	673.4	673.6	673.9	674.2	674.5	674.7	675.1	675.1
152.5°	688.8	689.2	689.6	690.0	690.4	690.7	690.9	691.0	691.2	691.4	691.6
155°	714.5	714.5	714.5	714.5	714.5	714.6	714.8	714.9	715.1	715.2	715.8
157.5°	736.5	736.3	736.1	736.0	735.8	735.8	735.9	736.1	736.1	736.2	736.9
160°	750.2	750.0	749.7	749.4	749.1	749.0	749.0	749.0	749.0	749.0	749.7
162.5°	762.5	762.1	761.7	761.3	760.9	760.8	760.9	761.0	761.1	761.2	761.9
165°	778.3	777.9	777.5	777.1	776.6	776.4	776.4	776.4	776.4	776.4	777.2
167.5°	790.9	790.4	789.8	789.2	788.6	788.5	788.6	788.6	788.8	788.9	789.8
170°	798.1	797.5	797.0	796.4	795.8	795.5	795.5	795.5	795.5	795.5	796.5
172.5°	803.6	803.2	802.6	802.0	801.4	801.1	801.1	801.1	801.1	801.1	802.0
175°	809.5	808.9	808.5	807.9	807.3	807.0	807.0	807.0	807.0	807.0	807.9
177.5°	812.0	811.5	811.1	810.6	810.2	809.9	809.9	809.9	809.9	809.9	810.6
180°	811.5	811.5	811.5	811.5	811.5	811.5	811.5	811.5	811.5	811.5	811.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4	1490.4
2.5°	1484.7	1487.0	1489.3	1490.4	1490.1	1489.9	1489.6	1489.5
5°	1476.9	1479.8	1482.6	1483.8	1483.2	1482.6	1482.1	1481.5
7.5°	1461.3	1463.8	1466.4	1467.5	1467.1	1466.8	1466.5	1466.2
10°	1446.9	1449.4	1452.0	1453.0	1452.5	1451.9	1451.3	1450.7
12.5°	1431.2	1433.1	1434.9	1435.7	1435.3	1435.0	1434.7	1434.4
15°	1402.7	1405.0	1407.3	1407.6	1405.9	1404.2	1402.5	1400.8
17.5°	1366.8	1368.4	1369.9	1370.4	1369.9	1369.2	1368.6	1368.0
20°	1340.3	1341.4	1342.6	1342.6	1341.8	1340.9	1340.1	1339.2
22.5°	1312.1	1313.0	1313.9	1313.9	1312.8	1311.7	1310.6	1309.5
25°	1265.5	1265.8	1266.1	1265.8	1264.9	1264.0	1263.2	1262.3
27.5°	1215.9	1216.1	1216.3	1215.9	1214.9	1213.7	1212.7	1211.6
30°	1181.6	1181.6	1181.6	1180.6	1178.6	1176.6	1174.6	1172.6
32.5°	1145.6	1144.0	1142.4	1141.1	1140.0	1138.9	1137.8	1136.8
35°	1087.2	1085.5	1083.8	1082.2	1080.8	1079.4	1077.9	1076.5
37.5°	1026.8	1024.7	1022.7	1021.2	1020.3	1019.4	1018.5	1017.6
40°	987.4	985.1	982.8	981.1	980.0	978.8	977.7	976.6
42.5°	946.4	944.1	941.8	940.1	939.0	937.8	936.7	935.6
45°	885.2	881.7	878.3	875.9	874.5	873.0	871.6	870.2
47.5°	820.7	817.3	813.9	811.6	810.4	809.1	807.9	806.7
50°	778.0	774.9	771.8	769.4	767.7	766.0	764.3	762.5
52.5°	734.9	732.2	729.5	727.3	725.6	723.9	722.2	720.5
55°	669.1	666.0	662.8	660.6	659.2	657.7	656.3	654.8
57.5°	604.5	601.7	598.8	596.6	595.0	593.4	591.7	590.0
60°	558.8	556.2	553.7	551.6	550.2	548.8	547.4	545.9
62.5°	514.7	512.1	509.6	507.8	506.8	505.8	504.9	503.9
65°	449.1	446.9	444.6	443.0	442.1	441.3	440.4	439.6
67.5°	384.1	382.0	380.1	378.5	377.3	376.1	374.9	373.7
70°	342.0	340.1	338.0	336.3	334.9	333.5	332.1	330.7
72.5°	299.5	297.7	295.9	294.6	293.9	293.2	292.4	291.7
75°	238.1	236.7	235.2	234.1	233.3	232.4	231.5	230.6
77.5°	180.8	179.9	178.9	178.4	178.4	178.4	178.4	178.4
80°	144.2	144.0	143.7	143.6	143.6	143.6	143.6	143.6
82.5°	111.0	110.5	110.0	109.6	109.3	109.2	108.9	108.7
85°	62.9	62.4	61.8	61.6	61.6	61.6	61.6	61.6
87.5°	25.4	25.3	25.2	25.1	25.2	25.3	25.3	25.4
90°	16.5	17.0	17.5	18.0	18.3	18.6	18.8	19.2
92.5°	25.4	25.8	26.3	26.4	26.3	26.1	25.9	25.8
95°	48.3	48.8	49.4	49.7	49.7	49.7	49.7	49.7
97.5°	75.1	75.7	76.4	76.7	76.6	76.6	76.6	76.5
100°	94.6	95.0	95.4	95.8	96.0	96.3	96.6	96.9
102.5°	117.0	117.4	117.8	118.1	118.0	117.9	117.9	117.8
105°	150.4	150.4	150.4	150.6	150.8	151.2	151.4	151.7
107.5°	186.6	187.1	187.6	187.7	187.5	187.4	187.2	187.0
110°	210.8	211.4	212.0	212.1	211.8	211.6	211.2	211.0





TEST NUMBER: P332070-930

CATALOG NUMBER: S123DIP-S1165D805U930-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	235.1	235.7	236.4	236.7	236.7	236.6	236.5	236.5
115°	271.8	272.0	272.1	272.1	272.0	271.8	271.7	271.6
117.5°	309.0	308.9	308.9	308.7	308.3	307.9	307.5	307.1
120°	333.7	333.6	333.5	333.2	333.0	332.6	332.4	332.1
122.5°	358.8	358.4	358.1	357.7	357.3	356.9	356.4	356.0
125°	396.0	395.4	394.8	394.3	393.7	393.1	392.6	392.0
127.5°	432.8	431.9	431.2	430.5	429.8	429.2	428.5	427.9
130°	457.2	456.6	456.1	455.3	454.3	453.3	452.3	451.3
132.5°	480.9	480.2	479.6	478.8	478.1	477.3	476.5	475.8
135°	516.5	515.9	515.4	514.9	514.6	514.4	514.0	513.8
137.5°	551.2	550.7	550.0	549.4	548.9	548.4	547.9	547.3
140°	574.1	573.9	573.7	573.2	572.2	571.2	570.2	569.2
142.5°	595.5	595.3	595.2	594.8	593.9	593.2	592.4	591.7
145°	627.0	626.8	626.6	626.3	625.7	625.2	624.6	624.0
147.5°	656.7	656.7	656.7	656.2	655.4	654.5	653.7	652.9
150°	675.1	675.1	675.1	674.7	673.8	672.9	672.1	671.2
152.5°	691.8	692.0	692.3	692.0	691.3	690.6	689.8	689.1
155°	716.3	716.9	717.5	717.2	716.2	715.3	714.3	713.3
157.5°	737.4	738.0	738.6	738.5	737.8	736.9	736.1	735.3
160°	750.4	751.1	751.8	751.9	751.3	750.7	750.2	749.6
162.5°	762.6	763.4	764.1	763.9	763.0	762.1	761.2	760.3
165°	778.1	778.9	779.8	779.8	778.8	777.7	776.7	775.8
167.5°	790.7	791.5	792.4	792.4	791.5	790.7	789.8	788.9
170°	797.5	798.5	799.5	799.5	798.5	797.5	796.5	795.5
172.5°	802.9	803.8	804.6	804.6	803.6	802.6	801.6	800.6
175°	808.7	809.5	810.4	810.3	809.3	808.4	807.3	806.3
177.5°	811.3	812.0	812.6	812.6	811.8	811.0	810.2	809.4
180°	811.5	811.5	811.5	811.5	811.5	811.5	811.5	811.5

(END OF REPORT)