

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: P332035-940

Luminaire Tested: **S123DIP-S1000D1025U940-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332035-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S1000D1025U940-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6984.3 lumens  
Efficiency: N/A  
Efficacy: 115.4 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: General Diffuse

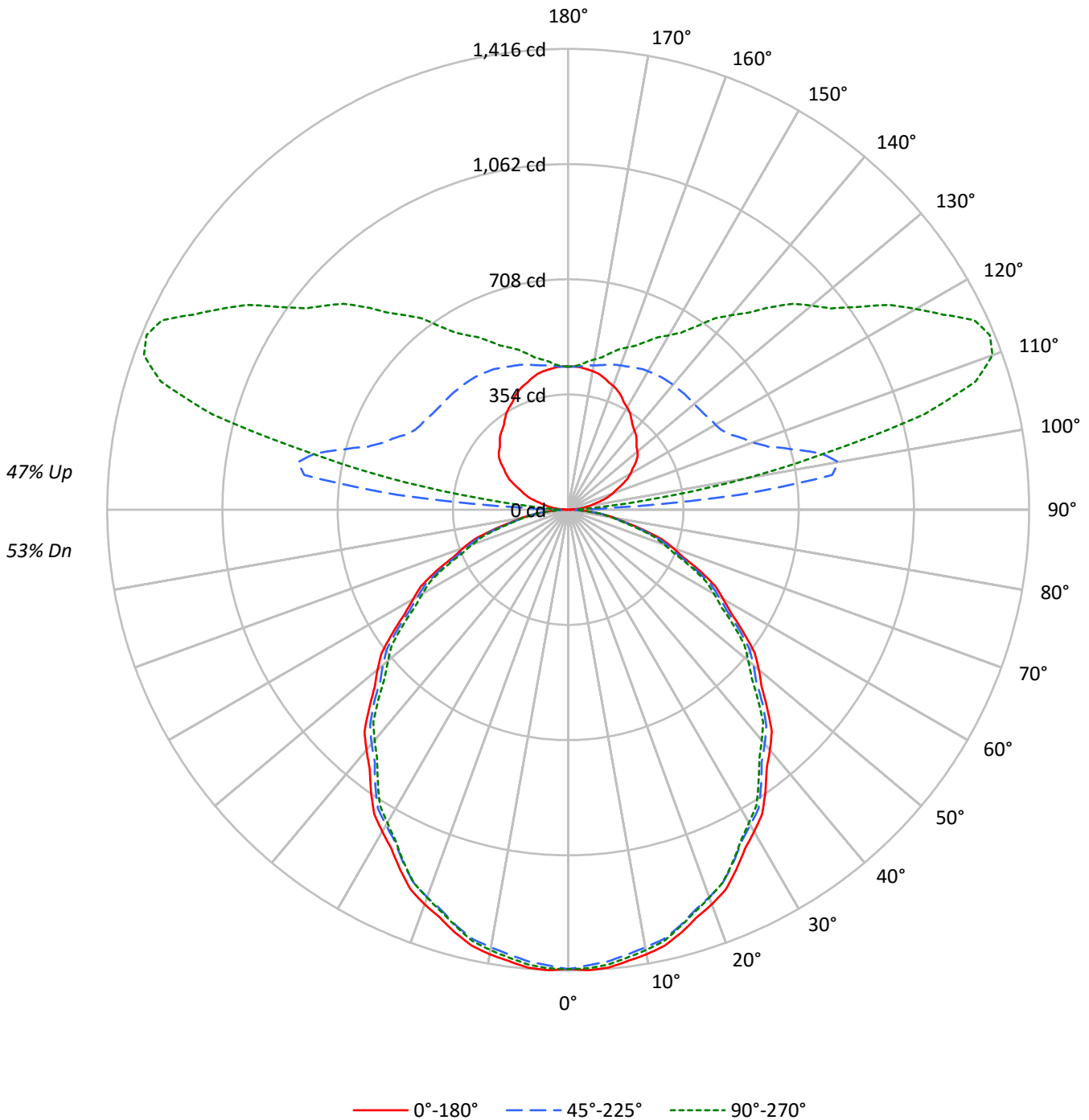
Input Watts (W): 60.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	59	59	59	53
1	98	94	90	86	91	87	84	81	74	72	70	62	61	59	52	50	49	44
2	89	82	76	71	83	76	71	66	65	61	58	55	52	49	45	43	41	37
3	82	72	65	59	75	67	60	55	57	52	48	48	45	42	40	38	35	31
4	75	64	56	50	69	59	52	47	51	45	41	43	39	36	36	33	30	27
5	69	57	49	43	63	53	46	40	46	40	35	39	34	31	32	29	26	23
6	63	51	43	37	58	48	40	35	41	35	31	35	31	27	29	26	23	20
7	58	46	38	32	54	43	36	31	37	31	27	32	27	24	27	23	21	18
8	54	42	34	29	50	39	32	27	34	28	24	29	25	21	25	21	19	16
9	50	38	31	26	47	36	29	24	31	26	22	27	22	19	23	19	17	15
10	47	35	28	23	44	33	26	22	29	23	20	25	20	17	21	18	15	13

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

	0°	45°	90°
0°	15193	15193	15193
5°	15263	15055	15159
10°	15162	14924	15017
15°	14985	14755	14782
20°	14778	14513	14528
25°	14500	14226	14197
30°	14194	13908	13801
35°	13875	13571	13397
40°	13541	13198	12995
45°	13172	12858	12543
50°	12804	12439	12092
55°	12322	12003	11639
60°	11834	11496	11130
65°	11405	10942	10603
70°	10770	10313	9854
75°	9844	9491	9087
80°	8877	8498	8424
85°	7793	7497	7188



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.0	1.9
10°-20°	375.4	5.4
20°-30°	554.6	7.9
30°-40°	647.8	9.3
40°-50°	651.3	9.3
50°-60°	572.1	8.2
60°-70°	426.2	6.1
70°-80°	242.8	3.5
80°-90°	73.1	1.0
90°-100°	244.7	3.5
100°-110°	692.9	9.9
110°-120°	681.6	9.8
120°-130°	543.7	7.8
130°-140°	428.7	6.1
140°-150°	319.9	4.6
150°-160°	223.0	3.2
160°-170°	131.0	1.9
170°-180°	42.6	0.6
0°-30°	1062.9	15.2
0°-40°	1710.7	24.5
0°-60°	2934.1	42.0
0°-90°	3676.2	52.6
90°-120°	1619.2	23.2
90°-150°	2911.5	41.7
90°-180°	3308.0	47.4
0°-180°	6984.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1412	1412	1412	1412	1412	
5°	1413	1406	1393	1405	1403	134
15°	1345	1339	1324	1333	1326	379
25°	1221	1213	1198	1199	1195	562
35°	1056	1048	1033	1026	1020	660
45°	865	860	845	831	824	668
55°	657	655	640	627	620	588
65°	448	441	430	420	416	442
75°	237	232	228	222	218	253
85°	63	61	61	58	58	69
90°	2	11	22	25	26	6
95°	30	98	528	154	103	33
105°	103	153	716	1251	1132	110
115°	182	227	547	1200	1377	181
125°	254	300	511	926	1086	225
135°	297	355	504	762	880	230
145°	339	389	498	625	688	213
155°	385	416	482	547	570	177
165°	421	433	461	489	498	119
175°	439	439	442	449	448	42
180°	440	440	440	440	440	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5
2.5°	1416.3	1415.5	1414.6	1413.7	1412.9	1411.2	1408.9	1406.5	1404.2	1401.8	1403.9
5°	1412.6	1411.3	1410.0	1408.6	1407.3	1405.2	1402.2	1399.2	1396.2	1393.3	1396.0
7.5°	1398.8	1397.5	1396.2	1394.8	1393.5	1391.2	1388.2	1385.1	1382.1	1378.9	1381.3
10°	1387.2	1385.9	1384.5	1383.1	1381.8	1379.4	1375.9	1372.3	1368.9	1365.4	1367.8
12.5°	1371.6	1370.6	1369.4	1368.2	1367.2	1364.9	1361.6	1358.3	1355.0	1351.7	1353.5
15°	1344.7	1343.6	1342.6	1341.5	1340.4	1338.1	1334.6	1331.1	1327.6	1324.1	1326.2
17.5°	1313.4	1312.0	1310.6	1309.2	1307.8	1305.4	1301.8	1298.3	1294.9	1291.3	1292.8
20°	1290.1	1288.5	1286.9	1285.2	1283.6	1281.0	1277.6	1274.1	1270.6	1267.0	1268.1
22.5°	1263.9	1262.3	1260.7	1259.0	1257.4	1254.9	1251.3	1247.9	1244.4	1240.8	1241.7
25°	1220.9	1219.3	1217.7	1216.1	1214.4	1211.9	1208.4	1204.9	1201.4	1197.8	1198.1
27.5°	1175.1	1173.5	1171.9	1170.4	1168.8	1166.1	1162.3	1158.6	1154.8	1151.0	1151.2
30°	1142.0	1140.7	1139.3	1138.0	1136.7	1134.1	1130.3	1126.5	1122.8	1119.0	1119.0
32.5°	1109.0	1107.2	1105.5	1103.7	1101.9	1099.6	1096.6	1093.8	1090.8	1087.9	1086.4
35°	1055.9	1054.3	1052.7	1051.1	1049.4	1046.9	1043.3	1039.8	1036.3	1032.8	1031.2
37.5°	1001.5	999.4	997.4	995.3	993.3	990.5	986.9	983.4	979.8	976.2	974.3
40°	963.7	962.0	960.4	958.8	957.2	954.5	950.7	946.9	943.2	939.3	937.2
42.5°	925.8	923.9	922.1	920.2	918.5	915.6	911.9	908.1	904.3	900.5	898.4
45°	865.3	864.2	863.2	862.1	861.0	858.7	855.2	851.7	848.2	844.7	841.5
47.5°	805.4	803.8	802.3	800.7	799.2	796.7	793.4	790.1	786.8	783.5	780.3
50°	764.6	763.2	761.9	760.5	759.2	756.8	753.2	749.8	746.3	742.8	739.8
52.5°	721.8	720.9	720.1	719.2	718.2	715.9	712.2	708.5	704.7	701.0	698.5
55°	656.6	656.3	656.0	655.8	655.5	653.6	650.1	646.6	643.1	639.6	636.6
57.5°	594.4	593.5	592.6	591.7	590.8	588.9	586.1	583.3	580.5	577.7	575.1
60°	549.7	549.5	549.2	548.9	548.7	547.0	543.7	540.5	537.3	534.0	531.5
62.5°	510.0	509.3	508.5	507.8	507.2	505.2	501.9	498.7	495.5	492.2	489.8
65°	447.8	446.5	445.1	443.8	442.5	440.4	437.7	435.1	432.3	429.6	427.5
67.5°	382.1	380.8	379.7	378.5	377.3	375.7	373.6	371.6	369.5	367.5	365.6
70°	342.2	340.6	339.0	337.4	335.8	334.1	332.5	330.9	329.3	327.7	325.8
72.5°	300.5	299.3	298.1	296.9	295.8	294.3	292.4	290.6	288.7	286.9	285.3
75°	236.7	235.6	234.5	233.4	232.4	231.4	230.6	229.8	229.0	228.2	226.9
77.5°	180.1	179.5	178.9	178.3	177.7	176.9	176.0	175.0	174.1	173.1	172.2
80°	143.2	142.4	141.6	140.8	140.0	139.3	138.8	138.2	137.7	137.1	136.9
82.5°	107.3	107.1	107.0	106.8	106.6	106.5	106.4	106.3	106.2	106.1	105.6
85°	63.1	62.6	62.1	61.5	61.0	60.7	60.7	60.7	60.7	60.7	60.1
87.5°	25.6	25.3	25.1	24.9	24.6	24.5	24.9	25.1	25.5	25.8	25.4
90°	1.8	3.6	5.4	8.0	9.8	11.6	14.3	16.9	19.6	22.3	21.4
92.5°	11.1	16.4	23.9	30.8	38.3	51.5	74.7	113.1	150.6	136.9	103.3
95°	30.2	32.9	42.7	57.9	81.0	115.7	191.4	324.0	469.9	527.8	428.1
97.5°	51.6	52.5	60.2	73.3	96.1	133.7	206.0	355.5	598.9	818.0	875.1
100°	65.9	66.8	73.0	85.4	106.8	141.5	203.8	335.6	569.6	842.9	1018.2
102.5°	80.8	82.4	87.9	99.7	119.0	150.8	206.7	318.4	526.9	796.7	1025.4
105°	103.3	105.9	111.3	122.0	138.8	166.5	214.5	306.2	474.4	715.6	971.1
107.5°	127.1	129.7	134.9	145.4	161.3	186.9	229.1	305.3	441.0	644.1	876.0
110°	144.2	146.9	151.3	161.1	176.2	201.2	241.2	308.9	428.1	603.5	816.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	159.9	162.6	167.0	176.7	191.9	216.2	253.3	316.0	421.0	576.4	764.2
115°	182.4	186.0	191.4	200.3	215.4	239.4	273.2	327.5	418.3	547.4	701.4
117.5°	205.1	209.2	213.7	221.8	238.7	261.0	294.4	342.9	419.9	530.3	663.4
120°	220.7	223.4	227.8	236.7	253.7	275.9	308.0	354.3	422.8	522.5	643.5
122.5°	234.3	236.9	241.4	251.0	267.2	290.9	322.2	365.0	427.8	517.5	627.1
125°	253.7	255.5	260.8	270.5	287.5	311.6	342.7	381.8	435.2	511.0	606.2
127.5°	268.5	271.1	277.7	287.7	306.4	330.4	360.5	395.7	443.8	507.7	587.6
130°	277.7	280.4	288.4	299.1	317.7	341.8	371.1	405.0	449.5	505.6	577.7
132.5°	284.8	288.2	296.9	309.8	328.4	351.8	380.4	413.6	453.8	504.9	568.4
135°	297.3	300.9	310.7	324.0	342.7	366.7	394.3	424.5	460.2	503.8	556.3
137.5°	309.1	312.8	322.4	336.6	355.2	377.4	403.9	432.7	464.4	501.9	545.8
140°	316.9	321.3	330.2	344.5	362.3	384.5	410.4	437.0	467.3	501.1	539.4
142.5°	325.4	329.1	338.8	351.6	369.3	390.2	415.4	441.3	469.4	499.7	533.7
145°	339.1	341.8	349.8	363.2	378.3	398.8	421.9	445.9	470.8	497.6	526.0
147.5°	353.0	354.6	362.5	374.0	388.6	406.1	427.2	448.8	470.8	494.2	518.5
150°	362.3	363.2	370.2	381.8	394.3	410.4	430.8	449.5	470.8	491.3	513.5
152.5°	371.5	371.7	378.8	389.0	400.0	415.4	432.9	450.9	468.7	487.8	507.9
155°	385.4	385.4	390.7	399.7	409.5	421.9	437.0	451.3	466.4	481.5	499.4
157.5°	396.5	397.2	401.4	409.3	417.6	427.2	439.3	452.2	463.4	476.0	489.7
160°	405.0	405.0	408.6	415.6	421.9	430.8	441.5	452.2	462.0	471.7	483.3
162.5°	411.4	411.4	414.3	419.9	425.4	432.9	442.2	451.5	459.1	467.4	476.9
165°	421.0	420.1	421.9	426.3	429.9	436.1	443.3	449.5	454.9	461.1	468.1
167.5°	428.3	427.2	428.1	431.5	434.0	437.9	443.1	448.1	450.6	454.7	459.9
170°	432.6	430.8	431.7	434.4	436.1	437.9	442.4	445.9	447.7	450.4	454.9
172.5°	435.4	434.4	434.5	436.5	437.6	438.6	442.4	445.2	445.6	446.8	449.9
175°	438.8	437.9	437.0	438.8	438.8	439.7	441.5	443.3	442.4	442.4	444.2
177.5°	440.4	439.7	439.0	439.7	439.7	439.7	440.4	441.8	440.4	439.7	440.4
180°	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5	1411.5
2.5°	1406.0	1408.3	1410.4	1411.4	1411.1	1411.0	1410.7	1410.5
5°	1398.6	1401.3	1404.1	1405.2	1404.6	1404.1	1403.6	1403.0
7.5°	1383.8	1386.3	1388.7	1389.7	1389.4	1389.1	1388.8	1388.4
10°	1370.2	1372.6	1375.1	1376.0	1375.5	1374.9	1374.4	1373.9
12.5°	1355.3	1357.1	1358.9	1359.6	1359.3	1359.0	1358.6	1358.3
15°	1328.4	1330.5	1332.8	1333.0	1331.4	1329.7	1328.1	1326.5
17.5°	1294.3	1295.8	1297.4	1297.8	1297.3	1296.6	1296.0	1295.5
20°	1269.2	1270.3	1271.4	1271.5	1270.7	1269.9	1269.1	1268.3
22.5°	1242.6	1243.4	1244.3	1244.2	1243.2	1242.2	1241.2	1240.1
25°	1198.4	1198.7	1199.0	1198.7	1197.8	1197.0	1196.2	1195.4
27.5°	1151.5	1151.6	1151.9	1151.5	1150.5	1149.4	1148.4	1147.4
30°	1119.0	1119.0	1119.0	1118.0	1116.2	1114.3	1112.4	1110.4
32.5°	1084.9	1083.4	1081.9	1080.6	1079.6	1078.5	1077.5	1076.5
35°	1029.6	1028.0	1026.4	1024.8	1023.5	1022.2	1020.8	1019.5
37.5°	972.4	970.4	968.5	967.1	966.3	965.4	964.5	963.7
40°	935.0	932.9	930.8	929.1	928.0	926.9	925.9	924.8
42.5°	896.2	894.0	891.9	890.3	889.2	888.1	887.1	886.0
45°	838.2	835.0	831.8	829.5	828.1	826.8	825.5	824.0
47.5°	777.1	774.0	770.8	768.7	767.4	766.2	765.1	763.8
50°	736.8	733.9	730.8	728.6	727.0	725.3	723.7	722.1
52.5°	695.9	693.4	690.9	688.8	687.2	685.5	683.9	682.3
55°	633.6	630.7	627.8	625.5	624.2	622.9	621.5	620.2
57.5°	572.4	569.8	567.1	565.0	563.5	561.9	560.4	558.7
60°	529.1	526.7	524.3	522.5	521.0	519.7	518.4	517.0
62.5°	487.4	485.0	482.5	480.9	479.9	479.0	478.1	477.2
65°	425.3	423.1	421.0	419.5	418.7	417.9	417.1	416.3
67.5°	363.7	361.9	360.0	358.5	357.3	356.1	355.0	353.9
70°	323.9	322.0	320.1	318.5	317.2	315.8	314.5	313.1
72.5°	283.6	281.9	280.2	279.0	278.3	277.6	277.0	276.3
75°	225.5	224.1	222.7	221.7	220.9	220.1	219.3	218.5
77.5°	171.2	170.3	169.4	169.0	169.0	169.0	169.0	169.0
80°	136.6	136.3	136.1	135.9	135.9	135.9	135.9	135.9
82.5°	105.1	104.6	104.2	103.8	103.5	103.3	103.2	102.9
85°	59.6	59.0	58.5	58.2	58.2	58.2	58.2	58.2
87.5°	25.4	25.3	25.3	25.6	25.4	25.6	25.8	25.6
90°	22.3	23.2	24.1	25.8	24.9	25.8	26.7	25.8
92.5°	74.9	59.5	52.5	47.9	46.3	43.6	44.5	42.9
95°	320.4	217.2	170.0	137.9	121.1	113.1	106.8	103.3
97.5°	798.8	639.8	525.0	418.5	352.8	312.8	288.7	281.1
100°	1049.5	977.3	873.2	746.8	656.9	591.9	557.2	558.1
102.5°	1132.7	1130.4	1069.7	989.6	919.6	868.2	839.2	818.7
105°	1157.1	1246.2	1263.0	1239.9	1198.9	1165.1	1136.7	1132.2
107.5°	1087.0	1231.5	1309.5	1341.2	1341.9	1330.5	1320.9	1312.7
110°	1020.0	1183.8	1295.9	1358.3	1383.2	1390.4	1388.6	1386.8





TEST NUMBER: P332035-940

CATALOG NUMBER: S123DIP-S1000D1025U940-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	953.8	1121.1	1246.8	1327.0	1372.5	1394.5	1401.3	1401.7
115°	866.0	1020.9	1151.7	1248.8	1315.5	1354.7	1372.5	1377.0
117.5°	802.5	936.2	1053.6	1152.1	1221.7	1266.6	1292.3	1298.2
120°	769.0	889.2	996.0	1085.9	1156.2	1206.0	1227.4	1232.8
122.5°	742.7	851.5	950.5	1033.9	1096.4	1141.3	1164.8	1171.5
125°	707.7	804.7	890.1	961.3	1018.2	1057.4	1079.7	1085.9
127.5°	677.0	763.5	840.6	905.4	956.1	989.6	1009.7	1015.4
130°	657.8	737.9	809.9	870.5	917.7	949.8	968.4	975.5
132.5°	640.0	713.6	780.8	838.5	882.8	914.8	931.4	936.4
135°	615.9	679.1	737.0	787.7	831.3	858.0	874.1	880.3
137.5°	594.1	645.9	695.7	739.7	776.3	803.4	816.9	821.0
140°	581.2	626.6	669.3	707.7	741.5	766.3	780.6	779.7
142.5°	569.1	608.1	645.2	678.4	707.3	729.3	742.2	741.3
145°	554.6	583.9	612.3	638.2	660.4	679.1	686.3	688.0
147.5°	542.6	565.9	588.9	607.3	624.1	636.8	643.5	644.3
150°	534.0	554.6	573.2	590.1	603.5	613.2	618.6	618.6
152.5°	526.2	543.9	560.4	574.4	585.0	594.1	597.3	597.3
155°	514.4	528.7	542.1	552.8	560.8	567.8	569.6	570.5
157.5°	502.0	513.9	524.2	532.6	539.6	544.9	546.4	546.2
160°	494.9	504.7	513.5	519.8	526.0	531.4	531.4	530.5
162.5°	486.3	494.7	502.9	508.5	512.6	517.1	517.1	516.2
165°	475.3	480.6	486.9	491.3	494.9	498.5	497.6	497.6
167.5°	465.7	469.8	473.3	476.5	478.1	480.6	479.7	479.7
170°	459.3	462.0	465.5	467.3	468.1	469.9	469.0	469.0
172.5°	453.6	455.6	458.4	459.5	459.7	461.5	459.9	459.1
175°	445.9	446.8	448.6	448.6	448.6	449.5	448.6	447.7
177.5°	441.1	441.8	442.6	442.6	441.8	442.6	441.1	441.1
180°	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7

(END OF REPORT)