

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: P332041

Luminaire Tested: **S123DIP-S1000D1195U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332041  
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-S1000D1195U835-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8521.2 lumens  
Efficiency: N/A  
Efficacy: 130.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

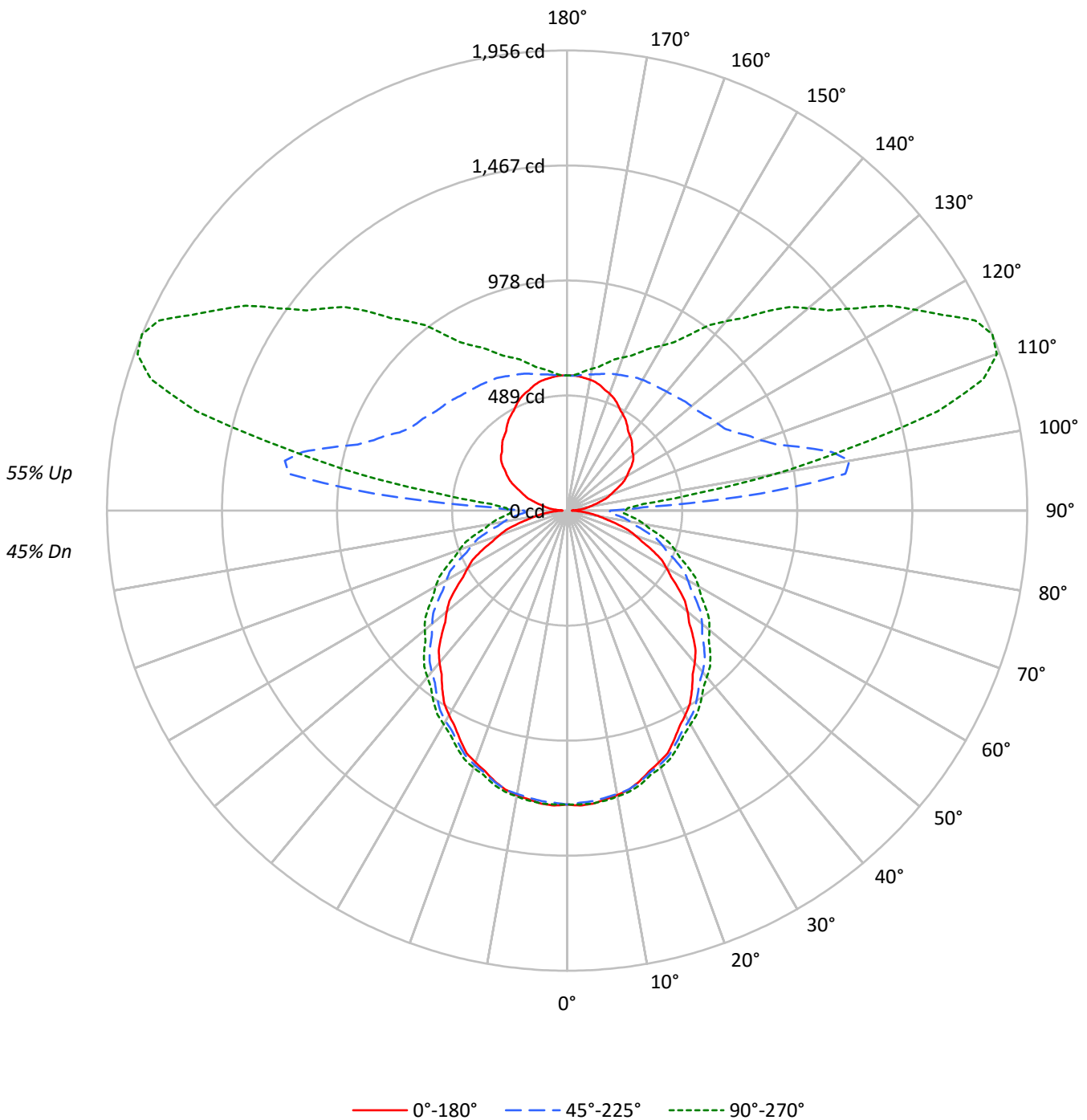
Input Watts (W): 65.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	45
1	96	91	87	83	87	83	80	77	69	67	64	56	54	53	44	43	42	36
2	87	79	72	67	79	72	67	62	60	56	52	49	46	43	38	36	34	29
3	79	69	61	55	72	63	57	51	53	48	44	43	39	36	34	31	29	25
4	72	61	53	47	66	56	49	43	47	41	37	38	34	31	30	27	25	21
5	66	54	46	40	60	50	42	37	42	36	32	34	30	26	27	24	21	18
6	61	48	40	34	55	45	37	32	37	32	27	31	26	23	24	21	19	16
7	56	44	35	30	51	40	33	28	34	28	24	28	23	20	22	19	16	14
8	52	39	32	26	47	36	29	25	31	25	21	25	21	18	20	17	15	12
9	48	36	28	23	44	33	26	22	28	23	19	23	19	16	19	16	13	11
10	45	33	26	21	41	31	24	20	26	21	17	21	17	14	17	14	12	10

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

	0°	45°	90°
0°	13448	13448	13448
5°	13490	13110	13117
10°	13370	12808	12744
15°	13197	12465	12336
20°	12951	12074	11888
25°	12647	11623	11416
30°	12335	11217	10938
35°	11987	10789	10556
40°	11653	10399	10147
45°	11284	10024	9821
50°	10920	9654	9461
55°	10517	9275	9136
60°	10125	8890	8804
65°	9723	8481	8409
70°	9115	8019	8005
75°	8351	7490	7593
80°	7467	6971	7122
85°	6653	6616	6850



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.4	1.4
10°-20°	337.6	4.0
20°-30°	505.0	5.9
30°-40°	603.1	7.1
40°-50°	631.0	7.4
50°-60°	592.1	6.9
60°-70°	494.5	5.8
70°-80°	353.8	4.2
80°-90°	215.4	2.5
90°-100°	451.8	5.3
100°-110°	1001.7	11.8
110°-120°	954.7	11.2
120°-130°	746.8	8.8
130°-140°	576.2	6.8
140°-150°	421.2	4.9
150°-160°	291.1	3.4
160°-170°	171.0	2.0
170°-180°	55.6	0.7
0°-30°	961.1	11.3
0°-40°	1564.1	18.4
0°-60°	2787.2	32.7
0°-90°	3851.0	45.2
90°-120°	2408.2	28.3
90°-150°	4152.4	48.7
90°-180°	4670.0	54.8
0°-180°	8521.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1249	1249	1249	1249	1249	
5°	1251	1248	1240	1250	1249	119
15°	1191	1195	1194	1206	1206	335
25°	1075	1088	1093	1110	1111	495
35°	926	947	965	985	991	579
45°	757	790	823	848	860	583
55°	577	622	671	706	719	517
65°	399	452	512	551	566	394
75°	216	281	348	392	410	231
85°	67	135	207	251	267	70
90°	20	98	183	231	247	15
95°	54	197	824	376	325	54
105°	146	244	1036	1772	1630	154
115°	245	322	787	1670	1913	243
125°	335	397	710	1279	1499	298
135°	391	465	674	1035	1197	302
145°	444	507	650	827	914	278
155°	503	543	629	715	745	231
165°	550	565	602	638	650	155
175°	573	573	577	586	584	54
180°	574	574	574	574	574	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4
2.5°	1254.9	1254.2	1253.4	1252.7	1252.0	1250.6	1248.7	1246.8	1244.8	1242.9	1244.8
5°	1250.8	1250.2	1249.6	1249.0	1248.4	1247.2	1245.4	1243.5	1241.7	1239.9	1242.3
7.5°	1238.5	1238.7	1238.8	1238.9	1239.0	1238.2	1236.5	1234.7	1232.9	1231.2	1234.2
10°	1227.7	1228.3	1228.9	1229.5	1230.1	1229.6	1228.1	1226.6	1225.1	1223.6	1226.6
12.5°	1214.6	1215.4	1216.3	1217.1	1218.0	1217.9	1216.9	1215.8	1214.8	1213.8	1216.6
15°	1190.9	1191.8	1192.7	1193.6	1194.5	1194.8	1194.5	1194.2	1193.9	1193.6	1196.7
17.5°	1161.0	1162.8	1164.6	1166.4	1168.2	1169.1	1169.0	1168.8	1168.7	1168.6	1171.3
20°	1139.2	1141.0	1142.8	1144.6	1146.4	1147.7	1148.3	1148.9	1149.5	1150.1	1152.8
22.5°	1116.3	1118.1	1120.0	1121.8	1123.6	1124.9	1125.8	1126.6	1127.5	1128.3	1131.7
25°	1075.2	1078.2	1081.3	1084.3	1087.3	1089.3	1090.2	1091.1	1092.0	1092.9	1096.8
27.5°	1033.8	1037.3	1040.7	1044.2	1047.6	1050.3	1052.3	1054.2	1056.1	1058.1	1061.5
30°	1004.4	1008.4	1012.3	1016.2	1020.2	1023.3	1025.8	1028.2	1030.6	1033.0	1036.7
32.5°	971.8	976.2	980.6	985.0	989.4	993.2	996.4	999.5	1002.7	1005.8	1009.7
35°	925.5	930.3	935.2	940.0	944.9	949.2	953.2	957.1	961.0	965.0	969.5
37.5°	876.5	882.0	887.4	892.8	898.3	903.4	908.3	913.1	917.9	922.8	927.9
40°	843.8	849.3	854.7	860.2	865.6	871.4	877.4	883.5	889.5	895.6	900.7
42.5°	807.9	814.6	821.2	827.9	834.5	841.0	847.3	853.6	859.9	866.2	871.8
45°	756.7	764.0	771.3	778.5	785.8	793.2	800.7	808.3	815.9	823.4	829.2
47.5°	703.1	711.3	719.6	727.8	736.0	744.5	753.1	761.8	770.4	779.1	785.5
50°	668.3	676.7	685.2	693.7	702.1	711.1	720.4	729.8	739.2	748.6	755.5
52.5°	631.2	640.2	649.2	658.1	667.1	676.7	687.1	697.4	707.7	718.1	725.3
55°	577.1	587.1	597.0	607.0	617.0	627.4	638.3	649.2	660.1	671.0	679.2
57.5°	524.3	534.7	545.1	555.5	565.9	577.1	589.0	600.9	612.8	624.7	632.9
60°	487.3	498.1	509.0	519.9	530.8	542.4	554.8	567.3	579.7	592.1	600.5
62.5°	452.4	463.5	474.7	485.8	496.9	509.1	522.2	535.3	548.4	561.6	570.0
65°	398.8	410.6	422.4	434.2	446.0	458.5	471.8	485.1	498.4	511.8	520.8
67.5°	344.3	356.9	369.4	381.9	394.4	407.5	421.0	434.6	448.1	461.7	471.6
70°	306.2	319.2	332.2	345.3	358.3	372.0	386.5	401.1	415.6	430.1	439.8
72.5°	271.4	284.4	297.4	310.4	323.4	337.4	352.4	367.4	382.4	397.4	407.3
75°	216.4	230.6	244.8	259.1	273.3	287.9	303.1	318.2	333.3	348.4	358.4
77.5°	168.5	182.8	197.2	211.5	225.8	240.6	255.9	271.1	286.4	301.6	312.1
80°	134.7	149.6	164.4	179.2	194.0	209.3	225.0	240.8	256.5	272.2	282.5
82.5°	105.3	120.4	135.5	150.5	165.6	181.1	197.1	213.0	229.0	245.0	255.3
85°	66.7	81.8	96.9	112.1	127.2	142.8	158.8	174.8	190.8	206.9	217.2
87.5°	36.7	52.2	67.7	83.5	99.0	114.7	130.8	147.0	163.1	179.2	189.3
90°	20.0	37.2	54.3	72.6	89.8	107.2	126.1	145.0	163.9	182.8	192.0
92.5°	31.0	51.4	74.5	96.9	120.0	151.5	197.1	262.3	326.5	323.8	289.9
95°	54.5	69.8	94.3	125.9	167.9	226.5	340.1	528.0	733.4	823.7	703.0
97.5°	80.7	92.5	113.2	141.0	181.4	242.8	351.3	560.7	892.5	1192.7	1276.3
100°	98.2	109.1	126.9	152.8	190.4	247.5	342.7	528.6	848.1	1218.7	1456.3
102.5°	116.7	127.5	143.4	167.4	201.2	254.0	340.6	500.2	786.0	1151.7	1458.9
105°	145.7	156.4	170.6	191.8	221.2	267.3	343.1	475.7	708.3	1036.2	1378.1
107.5°	175.2	184.8	197.7	217.6	244.5	287.2	354.6	466.4	655.8	933.3	1244.1
110°	196.4	205.3	216.6	234.8	260.0	301.3	365.7	466.1	633.9	874.8	1160.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	216.8	224.8	235.1	252.3	276.6	316.2	376.4	469.8	618.5	833.0	1085.8
115°	245.0	253.3	263.9	279.1	302.5	341.1	396.2	477.9	607.3	786.7	994.9
117.5°	274.2	281.8	289.9	302.8	327.1	362.4	416.3	489.7	600.5	754.8	935.8
120°	293.6	298.6	305.9	319.0	342.6	377.4	429.2	499.6	599.1	739.2	904.1
122.5°	311.2	315.5	322.1	335.4	357.4	393.4	443.8	509.1	600.6	727.2	877.1
125°	335.2	337.5	344.5	357.3	379.4	415.1	464.6	524.4	602.9	710.5	841.1
127.5°	354.5	357.7	366.0	378.7	402.8	437.6	484.2	537.4	607.4	698.1	808.4
130°	366.6	369.8	379.9	393.6	417.7	451.9	496.3	546.5	610.6	689.9	789.7
132.5°	374.8	379.1	390.5	407.1	431.5	464.3	506.6	554.6	612.0	683.5	772.0
135°	390.8	395.1	407.6	424.7	448.8	481.7	521.0	563.9	613.7	673.9	747.9
137.5°	405.8	410.5	422.8	441.1	465.1	494.9	531.4	570.9	614.2	664.8	727.0
140°	415.0	420.8	432.4	451.0	474.2	503.7	538.3	574.1	614.5	659.6	714.1
142.5°	426.1	430.8	443.1	459.6	482.6	509.7	542.7	576.8	613.7	653.4	701.8
145°	444.0	447.2	457.4	474.5	493.9	520.5	550.7	582.1	614.6	649.5	689.1
147.5°	460.8	462.9	473.1	488.2	507.3	530.0	557.7	585.8	614.6	645.1	677.6
150°	472.9	474.0	483.3	498.4	514.7	535.6	562.3	586.7	614.6	641.3	670.4
152.5°	485.0	485.2	494.5	507.7	522.1	542.1	565.1	588.6	611.8	636.7	663.0
155°	503.1	503.1	510.1	521.7	534.4	550.7	570.5	589.1	608.8	628.6	651.8
157.5°	517.5	518.4	524.0	534.2	545.1	557.7	573.5	590.2	604.9	621.4	639.2
160°	528.6	528.6	533.3	542.6	550.7	562.3	576.3	590.2	603.0	615.8	630.9
162.5°	537.0	537.0	540.7	548.2	555.4	565.1	577.2	589.3	599.3	610.2	622.5
165°	549.6	548.4	550.7	556.5	561.2	569.3	578.6	586.7	593.7	601.8	611.1
167.5°	559.1	557.7	558.8	563.3	566.5	571.6	578.4	584.9	588.1	593.5	600.2
170°	564.7	562.3	563.5	567.0	569.3	571.6	577.4	582.1	584.4	587.9	593.7
172.5°	568.4	567.0	567.2	569.8	571.2	572.6	577.4	581.2	581.6	583.2	587.2
175°	572.8	571.6	570.5	572.8	572.8	574.0	576.3	578.6	577.4	577.4	579.8
177.5°	574.9	574.0	573.0	574.0	574.0	574.0	574.9	576.7	574.9	574.0	574.9
180°	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4
2.5°	1246.8	1248.7	1250.6	1251.5	1251.2	1251.0	1250.8	1250.5
5°	1244.7	1247.2	1249.6	1250.6	1250.3	1250.0	1249.7	1249.4
7.5°	1237.2	1240.3	1243.3	1244.6	1244.3	1243.9	1243.5	1243.2
10°	1229.6	1232.6	1235.7	1236.9	1236.3	1235.7	1235.1	1234.5
12.5°	1219.3	1222.1	1224.9	1226.0	1225.4	1224.8	1224.2	1223.6
15°	1199.7	1202.7	1205.7	1207.1	1206.8	1206.5	1206.2	1205.9
17.5°	1174.0	1176.8	1179.5	1180.6	1180.2	1179.8	1179.4	1178.9
20°	1155.5	1158.2	1161.0	1162.5	1162.8	1163.1	1163.4	1163.7
22.5°	1135.2	1138.6	1142.1	1143.7	1143.5	1143.4	1143.2	1143.0
25°	1100.8	1104.7	1108.6	1110.6	1110.6	1110.6	1110.6	1110.6
27.5°	1064.8	1068.2	1071.6	1073.4	1073.7	1073.9	1074.2	1074.4
30°	1040.3	1043.9	1047.5	1049.4	1049.4	1049.4	1049.4	1049.4
32.5°	1013.6	1017.4	1021.3	1023.6	1024.3	1025.0	1025.8	1026.5
35°	974.0	978.6	983.1	986.0	987.2	988.4	989.6	990.8
37.5°	933.1	938.2	943.4	946.4	947.4	948.3	949.3	950.3
40°	905.8	911.0	916.1	919.3	920.5	921.7	922.9	924.1
42.5°	877.4	883.0	888.7	892.3	894.0	895.7	897.4	899.1
45°	834.9	840.7	846.4	850.5	852.9	855.3	857.8	860.2
47.5°	792.0	798.5	804.9	809.1	811.0	812.9	814.7	816.6
50°	762.5	769.4	776.4	780.9	783.1	785.2	787.3	789.4
52.5°	732.5	739.7	746.9	751.8	754.4	757.0	759.6	762.2
55°	687.3	695.5	703.7	708.9	711.4	713.8	716.2	718.6
57.5°	641.2	649.4	657.6	663.2	666.0	668.8	671.7	674.5
60°	609.0	617.5	625.9	631.8	635.2	638.5	641.8	645.1
62.5°	578.5	587.0	595.4	601.2	604.3	607.4	610.5	613.6
65°	529.9	539.0	548.0	554.1	557.1	560.1	563.2	566.2
67.5°	481.5	491.4	501.3	507.6	510.1	512.7	515.2	517.7
70°	449.4	459.1	468.8	475.2	478.2	481.2	484.2	487.3
72.5°	417.3	427.2	437.1	443.6	446.6	449.6	452.7	455.7
75°	368.4	378.4	388.3	395.2	398.8	402.4	406.0	409.7
77.5°	322.7	333.2	343.7	350.4	353.1	355.9	358.7	361.5
80°	292.8	303.1	313.3	320.0	323.0	326.0	329.1	332.1
82.5°	265.6	275.8	286.1	292.8	295.8	298.8	301.8	304.9
85°	227.4	237.7	248.0	254.7	257.7	260.7	263.7	266.8
87.5°	199.8	210.3	220.8	227.9	230.7	234.0	237.2	240.0
90°	203.4	214.9	226.3	235.3	237.1	241.3	245.5	247.4
92.5°	263.0	252.8	253.8	254.2	254.9	254.2	258.1	258.8
95°	571.8	446.4	394.2	358.5	339.5	332.1	326.9	325.3
97.5°	1185.6	987.1	846.3	713.3	630.6	581.3	553.0	546.0
100°	1505.8	1420.4	1293.3	1134.2	1019.9	938.1	895.8	900.0
102.5°	1607.5	1613.0	1542.3	1443.5	1355.2	1291.1	1256.2	1232.5
105°	1629.4	1754.1	1784.6	1760.0	1709.3	1667.9	1633.4	1630.3
107.5°	1527.6	1724.4	1834.3	1881.0	1884.6	1872.4	1862.5	1854.5
110°	1434.3	1656.0	1810.2	1896.7	1931.6	1943.3	1943.4	1943.5





TEST NUMBER: P332041

CATALOG NUMBER: S123DIP-S1000D1195U835-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1340.9	1566.9	1738.6	1848.3	1910.4	1941.9	1953.4	1956.5
115°	1217.1	1426.6	1604.6	1736.1	1825.6	1879.2	1904.8	1913.1
117.5°	1124.5	1306.2	1466.8	1600.1	1693.3	1754.2	1790.0	1800.3
120°	1074.9	1238.7	1385.1	1507.0	1600.9	1668.1	1698.1	1707.2
122.5°	1034.6	1183.3	1319.2	1432.6	1516.3	1576.9	1609.7	1620.7
125°	979.9	1112.9	1230.8	1328.0	1404.5	1457.7	1488.9	1499.1
127.5°	931.1	1050.0	1156.6	1245.2	1313.5	1359.2	1387.5	1397.0
130°	900.0	1010.4	1110.2	1193.0	1256.4	1300.0	1326.2	1337.4
132.5°	870.9	972.6	1065.7	1144.8	1204.7	1248.6	1272.2	1280.8
135°	831.2	919.2	1000.1	1069.8	1128.3	1164.6	1187.1	1196.7
137.5°	794.8	867.2	937.0	997.6	1046.9	1083.8	1102.9	1109.8
140°	773.2	837.0	897.3	950.3	995.9	1030.0	1050.1	1050.4
142.5°	752.1	807.0	859.4	905.6	944.8	975.1	993.4	993.7
145°	728.7	769.4	809.0	844.5	874.8	900.4	910.9	914.4
147.5°	709.7	740.9	771.6	796.4	819.6	837.2	847.1	849.1
150°	697.1	723.8	748.2	770.6	788.6	802.0	809.6	810.2
152.5°	686.9	709.9	731.5	749.9	763.7	775.7	780.0	780.1
155°	671.5	690.1	707.6	721.5	732.0	741.3	743.6	744.7
157.5°	655.3	670.9	684.3	695.2	704.3	711.3	713.1	712.9
160°	646.0	658.8	670.4	678.5	686.7	693.6	693.6	692.5
162.5°	634.8	645.8	656.4	663.6	669.0	675.0	675.0	673.9
165°	620.4	627.4	635.5	641.3	646.0	650.6	649.5	649.5
167.5°	607.9	613.2	617.9	622.1	624.1	627.4	626.2	626.2
170°	599.5	603.0	607.6	610.0	611.1	613.5	612.3	612.3
172.5°	592.1	594.6	598.4	599.7	600.0	602.3	600.2	599.3
175°	582.1	583.2	585.6	585.6	585.6	586.7	585.6	584.4
177.5°	575.8	576.7	577.7	577.7	576.7	577.7	575.8	575.8
180°	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0

(END OF REPORT)