

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: P332041-830

Luminaire Tested: **S123DIP-S1000D1195U830-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332041-830  
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-S1000D1195U830-4F0-1E-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: 8031.6 lumens  
Efficiency: N/A  
Efficacy: 122.8 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

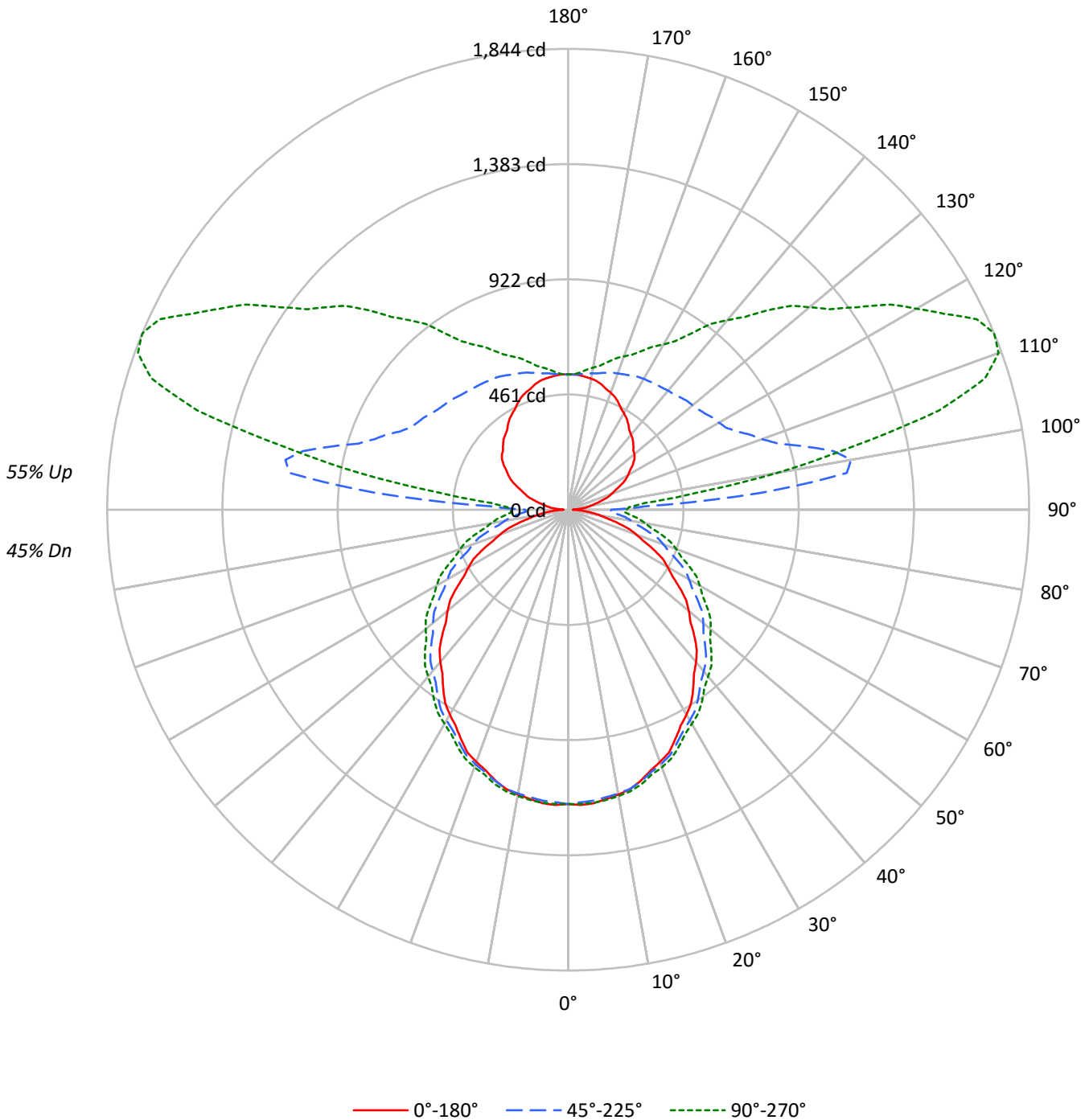
Input Watts (W): 65.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	12676	12676	12676
5°	12715	12357	12363
10°	12602	12072	12012
15°	12439	11748	11627
20°	12206	11380	11204
25°	11920	10955	10760
30°	11627	10572	10310
35°	11297	10169	9950
40°	10983	9801	9564
45°	10635	9448	9257
50°	10293	9100	8917
55°	9912	8741	8611
60°	9543	8380	8298
65°	9165	7994	7927
70°	8591	7558	7545
75°	7872	7060	7157
80°	7040	6572	6712
85°	6274	6235	6458



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.6	1.4
10°-20°	318.2	4.0
20°-30°	476.0	5.9
30°-40°	568.4	7.1
40°-50°	594.7	7.4
50°-60°	558.1	6.9
60°-70°	466.1	5.8
70°-80°	333.5	4.2
80°-90°	203.1	2.5
90°-100°	425.8	5.3
100°-110°	944.2	11.8
110°-120°	899.8	11.2
120°-130°	703.9	8.8
130°-140°	543.1	6.8
140°-150°	397.0	4.9
150°-160°	274.4	3.4
160°-170°	161.2	2.0
170°-180°	52.4	0.7
0°-30°	905.9	11.3
0°-40°	1474.3	18.4
0°-60°	2627.1	32.7
0°-90°	3629.8	45.2
90°-120°	2269.9	28.3
90°-150°	3913.8	48.7
90°-180°	4402.0	54.8
0°-180°	8031.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1178	1178	1178	1178	1178	
5°	1179	1176	1169	1178	1178	112
15°	1122	1126	1125	1137	1137	316
25°	1013	1026	1030	1046	1047	467
35°	872	893	910	928	934	545
45°	713	744	776	800	811	550
55°	544	586	632	666	677	487
65°	376	426	482	519	534	371
75°	204	264	328	369	386	218
85°	63	127	195	237	252	66
90°	19	93	172	218	233	14
95°	51	186	776	355	307	51
105°	137	230	977	1670	1537	145
115°	231	303	742	1574	1803	229
125°	316	374	670	1206	1413	281
135°	368	438	635	975	1128	285
145°	418	478	612	779	862	262
155°	474	511	592	673	702	218
165°	518	533	567	602	612	146
175°	540	540	544	552	551	51
180°	541	541	541	541	541	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1182.8	1182.1	1181.4	1180.7	1180.1	1178.7	1177.0	1175.2	1173.3	1171.5	1173.3
5°	1178.9	1178.4	1177.8	1177.2	1176.7	1175.5	1173.8	1172.1	1170.4	1168.7	1170.9
7.5°	1167.3	1167.5	1167.6	1167.7	1167.8	1167.1	1165.5	1163.8	1162.1	1160.5	1163.3
10°	1157.2	1157.7	1158.3	1158.9	1159.4	1159.0	1157.5	1156.1	1154.7	1153.3	1156.1
12.5°	1144.8	1145.6	1146.4	1147.2	1148.0	1147.9	1147.0	1145.9	1145.0	1144.1	1146.7
15°	1122.5	1123.3	1124.2	1125.0	1125.9	1126.1	1125.9	1125.6	1125.3	1125.0	1127.9
17.5°	1094.3	1096.0	1097.7	1099.4	1101.1	1101.9	1101.8	1101.6	1101.5	1101.5	1104.0
20°	1073.7	1075.4	1077.1	1078.8	1080.5	1081.8	1082.3	1082.9	1083.5	1084.0	1086.6
22.5°	1052.2	1053.9	1055.6	1057.3	1059.0	1060.3	1061.1	1061.9	1062.7	1063.5	1066.7
25°	1013.4	1016.2	1019.2	1022.0	1024.8	1026.7	1027.6	1028.4	1029.3	1030.1	1033.8
27.5°	974.4	977.7	980.9	984.2	987.4	990.0	991.8	993.6	995.4	997.3	1000.5
30°	946.7	950.5	954.1	957.8	961.6	964.5	966.9	969.1	971.4	973.6	977.1
32.5°	916.0	920.1	924.3	928.4	932.6	936.1	939.1	942.1	945.1	948.0	951.7
35°	872.3	876.8	881.5	886.0	890.6	894.7	898.4	902.1	905.8	909.6	913.8
37.5°	826.1	831.3	836.4	841.5	846.7	851.5	856.1	860.6	865.2	869.8	874.6
40°	795.3	800.5	805.6	810.8	815.9	821.3	827.0	832.7	838.4	844.1	848.9
42.5°	761.5	767.8	774.0	780.3	786.6	792.7	798.6	804.6	810.5	816.4	821.7
45°	713.2	720.1	727.0	733.8	740.6	747.6	754.7	761.9	769.0	776.1	781.6
47.5°	662.7	670.4	678.3	686.0	693.7	701.7	709.8	718.0	726.1	734.3	740.4
50°	629.9	637.8	645.8	653.8	661.8	670.2	679.0	687.9	696.7	705.6	712.1
52.5°	594.9	603.4	611.9	620.3	628.8	637.8	647.6	657.3	667.0	676.8	683.6
55°	543.9	553.4	562.7	572.1	581.5	591.4	601.6	611.9	622.2	632.4	640.2
57.5°	494.2	504.0	513.8	523.6	533.4	543.9	555.2	566.4	577.6	588.8	596.5
60°	459.3	469.5	479.8	490.0	500.3	511.2	522.9	534.7	546.4	558.1	566.0
62.5°	426.4	436.9	447.4	457.9	468.3	479.8	492.2	504.5	516.9	529.3	537.2
65°	375.9	387.0	398.1	409.3	420.4	432.2	444.7	457.2	469.8	482.4	490.9
67.5°	324.5	336.4	348.2	360.0	371.7	384.1	396.8	409.6	422.4	435.2	444.5
70°	288.6	300.9	313.1	325.5	337.7	350.6	364.3	378.1	391.7	405.4	414.5
72.5°	255.8	268.1	280.3	292.6	304.8	318.0	332.2	346.3	360.4	374.6	383.9
75°	204.0	217.4	230.7	244.2	257.6	271.4	285.7	299.9	314.1	328.4	337.8
77.5°	158.8	172.3	185.9	199.3	212.8	226.8	241.2	255.5	269.9	284.3	294.2
80°	127.0	141.0	155.0	168.9	182.9	197.3	212.1	227.0	241.8	256.6	266.3
82.5°	99.2	113.5	127.7	141.9	156.1	170.7	185.8	200.8	215.8	230.9	240.6
85°	62.9	77.1	91.3	105.7	119.9	134.6	149.7	164.8	179.8	195.0	204.7
87.5°	34.6	49.2	63.8	78.7	93.3	108.1	123.3	138.6	153.7	168.9	178.4
90°	18.9	35.1	51.2	68.4	84.6	101.0	118.9	136.7	154.5	172.3	181.0
92.5°	29.2	48.4	70.2	91.3	113.1	142.8	185.8	247.2	307.7	305.2	273.2
95°	51.4	65.8	88.9	118.7	158.3	213.5	320.6	497.7	691.3	776.4	662.6
97.5°	76.1	87.2	106.7	132.9	171.0	228.8	331.1	528.5	841.2	1124.2	1203.0
100°	92.6	102.8	119.6	144.0	179.5	233.3	323.0	498.2	799.4	1148.7	1372.6
102.5°	110.0	120.2	135.2	157.8	189.6	239.4	321.0	471.5	740.8	1085.5	1375.1
105°	137.3	147.4	160.8	180.8	208.5	251.9	323.4	448.4	667.6	976.7	1298.9
107.5°	165.1	174.2	186.3	205.1	230.5	270.7	334.2	439.6	618.1	879.7	1172.6
110°	185.1	193.5	204.2	221.3	245.1	284.0	344.7	439.3	597.5	824.5	1093.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	204.3	211.9	221.6	237.8	260.7	298.0	354.8	442.8	583.0	785.1	1023.4
115°	230.9	238.7	248.7	263.1	285.1	321.5	373.4	450.4	572.4	741.5	937.7
117.5°	258.4	265.6	273.2	285.4	308.3	341.6	392.4	461.6	566.0	711.4	882.0
120°	276.7	281.4	288.3	300.7	322.9	355.7	404.5	470.9	564.7	696.7	852.2
122.5°	293.3	297.4	303.6	316.1	336.9	370.8	418.3	479.8	566.1	685.4	826.7
125°	315.9	318.1	324.7	336.8	357.6	391.2	437.9	494.3	568.3	669.7	792.8
127.5°	334.1	337.1	345.0	356.9	379.7	412.5	456.4	506.5	572.5	658.0	762.0
130°	345.5	348.6	358.1	371.0	393.7	425.9	467.8	515.1	575.5	650.3	744.3
132.5°	353.3	357.3	368.1	383.7	406.7	437.6	477.5	522.7	576.8	644.2	727.6
135°	368.3	372.4	384.2	400.3	423.0	454.0	491.1	531.5	578.4	635.2	704.9
137.5°	382.5	386.9	398.5	415.8	438.4	466.5	500.9	538.1	578.9	626.6	685.2
140°	391.2	396.6	407.6	425.1	447.0	474.8	507.4	541.1	579.2	621.7	673.1
142.5°	401.6	406.0	417.6	433.2	454.9	480.4	511.5	543.7	578.4	615.9	661.5
145°	418.5	421.5	431.1	447.2	465.5	490.6	519.1	548.7	579.3	612.2	649.5
147.5°	434.3	436.3	445.9	460.1	478.2	499.5	525.7	552.1	579.3	608.0	638.7
150°	445.7	446.8	455.5	469.8	485.1	504.8	530.0	553.0	579.3	604.5	631.9
152.5°	457.1	457.3	466.1	478.5	492.1	511.0	532.6	554.8	576.6	600.1	624.9
155°	474.2	474.2	480.8	491.7	503.7	519.1	537.7	555.3	573.8	592.5	614.3
157.5°	487.8	488.6	493.9	503.5	513.8	525.7	540.5	556.3	570.1	585.7	602.5
160°	498.2	498.2	502.7	511.4	519.1	530.0	543.2	556.3	568.4	580.4	594.7
162.5°	506.1	506.1	509.6	516.7	523.5	532.6	544.0	555.4	564.9	575.1	586.7
165°	518.0	516.9	519.1	524.5	529.0	536.6	545.4	553.0	559.6	567.2	576.0
167.5°	527.0	525.7	526.7	530.9	534.0	538.8	545.2	551.3	554.3	559.4	565.7
170°	532.3	530.0	531.1	534.4	536.6	538.8	544.2	548.7	550.8	554.1	559.6
172.5°	535.7	534.4	534.6	537.1	538.4	539.7	544.2	547.8	548.2	549.7	553.5
175°	539.9	538.8	537.7	539.9	539.9	541.0	543.2	545.4	544.2	544.2	546.5
177.5°	541.9	541.0	540.1	541.0	541.0	541.0	541.9	543.6	541.9	541.0	541.9
180°	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1175.2	1177.0	1178.7	1179.6	1179.3	1179.1	1178.9	1178.6
5°	1173.2	1175.5	1177.8	1178.7	1178.5	1178.2	1177.9	1177.6
7.5°	1166.1	1169.0	1171.9	1173.1	1172.8	1172.4	1172.1	1171.8
10°	1159.0	1161.8	1164.7	1165.8	1165.3	1164.7	1164.1	1163.6
12.5°	1149.2	1151.9	1154.5	1155.6	1155.0	1154.4	1153.9	1153.3
15°	1130.8	1133.6	1136.4	1137.7	1137.5	1137.2	1136.9	1136.6
17.5°	1106.5	1109.2	1111.7	1112.8	1112.4	1112.0	1111.6	1111.2
20°	1089.1	1091.7	1094.3	1095.7	1096.0	1096.3	1096.6	1096.8
22.5°	1070.0	1073.2	1076.5	1078.0	1077.8	1077.7	1077.5	1077.3
25°	1037.6	1041.2	1044.9	1046.8	1046.8	1046.8	1046.8	1046.8
27.5°	1003.6	1006.8	1010.0	1011.7	1012.0	1012.2	1012.5	1012.7
30°	980.5	983.9	987.3	989.1	989.1	989.1	989.1	989.1
32.5°	955.4	958.9	962.6	964.8	965.4	966.1	966.9	967.5
35°	918.0	922.4	926.6	929.3	930.5	931.6	932.7	933.9
37.5°	879.5	884.3	889.2	892.0	893.0	893.8	894.8	895.7
40°	853.8	858.7	863.5	866.5	867.6	868.7	869.9	871.0
42.5°	827.0	832.3	837.6	841.0	842.6	844.2	845.8	847.4
45°	786.9	792.4	797.8	801.6	803.9	806.2	808.5	810.8
47.5°	746.5	752.6	758.7	762.6	764.4	766.2	767.9	769.7
50°	718.7	725.2	731.8	736.0	738.1	740.1	742.1	744.0
52.5°	690.4	697.2	704.0	708.6	711.1	713.5	716.0	718.4
55°	647.8	655.5	663.3	668.2	670.5	672.8	675.0	677.3
57.5°	604.4	612.1	619.8	625.1	627.7	630.4	633.1	635.7
60°	574.0	582.0	589.9	595.5	598.7	601.8	604.9	608.0
62.5°	545.3	553.3	561.2	566.7	569.6	572.5	575.4	578.3
65°	499.5	508.0	516.5	522.3	525.1	527.9	530.8	533.7
67.5°	453.8	463.2	472.5	478.4	480.8	483.2	485.6	488.0
70°	423.6	432.7	441.9	447.9	450.7	453.6	456.4	459.3
72.5°	393.3	402.7	412.0	418.1	420.9	423.8	426.7	429.5
75°	347.2	356.7	366.0	372.5	375.9	379.3	382.7	386.2
77.5°	304.2	314.1	324.0	330.3	332.8	335.5	338.1	340.7
80°	276.0	285.7	295.3	301.6	304.4	307.3	310.2	313.0
82.5°	250.3	260.0	269.7	276.0	278.8	281.6	284.5	287.4
85°	214.3	224.0	233.8	240.1	242.9	245.7	248.5	251.5
87.5°	188.3	198.2	208.1	214.8	217.4	220.6	223.6	226.2
90°	191.7	202.6	213.3	221.8	223.5	227.4	231.4	233.2
92.5°	247.9	238.3	239.2	239.6	240.3	239.6	243.3	243.9
95°	538.9	420.8	371.6	337.9	320.0	313.0	308.1	306.6
97.5°	1117.5	930.4	797.7	672.3	594.4	547.9	521.2	514.6
100°	1419.3	1338.8	1219.0	1069.0	961.3	884.2	844.3	848.3
102.5°	1515.1	1520.3	1453.7	1360.6	1277.3	1216.9	1184.0	1161.7
105°	1535.8	1653.3	1682.1	1658.9	1611.1	1572.1	1539.5	1536.6
107.5°	1439.8	1625.3	1728.9	1772.9	1776.3	1764.8	1755.5	1747.9
110°	1351.9	1560.9	1706.2	1787.7	1820.6	1831.6	1831.7	1831.8





TEST NUMBER: P332041-830

CATALOG NUMBER: S123DIP-S1000D1195U830-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1263.9	1476.9	1638.7	1742.1	1800.6	1830.3	1841.2	1844.1
115°	1147.2	1344.6	1512.4	1636.3	1720.7	1771.2	1795.4	1803.2
117.5°	1059.9	1231.1	1382.5	1508.2	1596.0	1653.4	1687.2	1696.9
120°	1013.1	1167.5	1305.5	1420.4	1508.9	1572.3	1600.5	1609.1
122.5°	975.2	1115.3	1243.4	1350.3	1429.2	1486.3	1517.2	1527.6
125°	923.6	1049.0	1160.1	1251.7	1323.8	1373.9	1403.4	1413.0
127.5°	877.6	989.7	1090.1	1173.7	1238.0	1281.1	1307.8	1316.7
130°	848.3	952.3	1046.4	1124.5	1184.2	1225.3	1250.0	1260.6
132.5°	820.9	916.7	1004.5	1079.0	1135.5	1176.9	1199.1	1207.2
135°	783.4	866.4	942.6	1008.3	1063.5	1097.7	1118.9	1127.9
137.5°	749.1	817.4	883.2	940.3	986.7	1021.5	1039.5	1046.0
140°	728.8	788.9	845.7	895.7	938.7	970.8	989.8	990.0
142.5°	708.9	760.6	810.0	853.6	890.5	919.1	936.3	936.6
145°	686.8	725.2	762.5	796.0	824.5	848.7	858.6	861.9
147.5°	668.9	698.3	727.3	750.6	772.5	789.1	798.4	800.3
150°	657.0	682.2	705.2	726.3	743.3	755.9	763.1	763.6
152.5°	647.4	669.1	689.5	706.8	719.8	731.1	735.2	735.3
155°	632.9	650.4	666.9	680.0	689.9	698.7	700.9	701.9
157.5°	617.6	632.4	645.0	655.3	663.8	670.4	672.1	671.9
160°	608.9	620.9	631.9	639.5	647.2	653.7	653.7	652.7
162.5°	598.3	608.7	618.7	625.5	630.6	636.2	636.2	635.2
165°	584.8	591.4	599.0	604.5	608.9	613.2	612.2	612.2
167.5°	573.0	578.0	582.4	586.4	588.2	591.4	590.2	590.2
170°	565.1	568.4	572.7	575.0	576.0	578.2	577.1	577.1
172.5°	558.1	560.4	564.0	565.2	565.5	567.7	565.7	564.9
175°	548.7	549.7	552.0	552.0	552.0	553.0	552.0	550.8
177.5°	542.7	543.6	544.5	544.5	543.6	544.5	542.7	542.7
180°	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0

(END OF REPORT)