

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: P332194-840

Luminaire Tested: **S123DIW-S1000D1030U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332194-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S1000D1030U840-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8407.3 lumens
Efficiency: N/A
Efficacy: 137.4 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

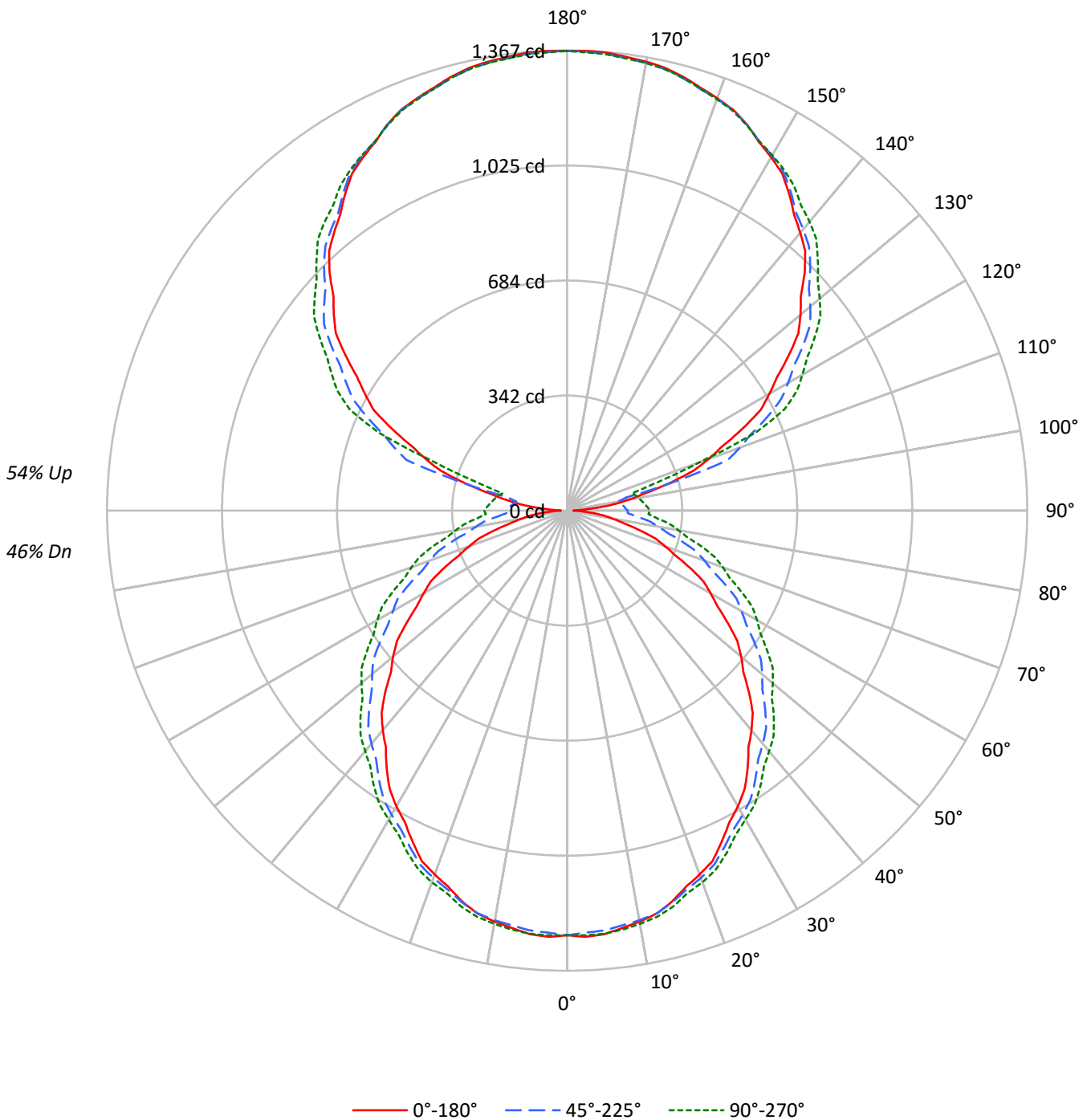
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332194-840

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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	98	98	98	98	81	81	81		66	66	66		53	53	53	46
1	96	91	87	83	88	84	80	77	70	67	65		57	55	53		45	44	43	37
2	87	79	73	67	79	73	67	62	61	56	53		49	46	44		39	37	35	30
3	79	69	62	55	72	64	57	52	53	48	44		43	40	37		34	32	29	25
4	72	61	53	47	66	56	49	43	47	41	37		38	34	31		30	28	25	21
5	66	54	46	40	60	50	43	37	42	36	32		34	30	27		27	24	22	18
6	61	49	40	34	56	45	37	32	38	32	28		31	27	23		25	21	19	16
7	56	44	36	30	51	40	33	28	34	28	24		28	24	20		23	19	17	14
8	52	40	32	26	48	37	30	25	31	25	21		26	21	18		21	17	15	13
9	48	36	28	23	44	33	27	22	28	23	19		24	19	16		19	16	13	11
10	45	33	26	21	41	31	24	20	26	21	17		22	18	15		18	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13581	13581	13581
5°	13623	13239	13246
10°	13501	12935	12870
15°	13327	12588	12458
20°	13078	12192	12005
25°	12772	11738	11529
30°	12457	11328	11046
35°	12104	10895	10660
40°	11767	10501	10247
45°	11396	10122	9918
50°	11028	9750	9554
55°	10621	9366	9226
60°	10225	8977	8892
65°	9818	8564	8493
70°	9204	8097	8084
75°	8432	7563	7667
80°	7539	7041	7193
85°	6723	6680	6917



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.6	1.4
10°-20°	341.0	4.1
20°-30°	510.0	6.1
30°-40°	609.0	7.2
40°-50°	637.2	7.6
50°-60°	598.0	7.1
60°-70°	499.4	5.9
70°-80°	357.3	4.3
80°-90°	216.9	2.6
90°-100°	183.3	2.2
100°-110°	334.8	4.0
110°-120°	633.9	7.5
120°-130°	761.1	9.1
130°-140°	790.0	9.4
140°-150°	726.6	8.6
150°-160°	583.2	6.9
160°-170°	376.4	4.5
170°-180°	129.7	1.5
0°-30°	970.6	11.5
0°-40°	1579.6	18.8
0°-60°	2814.7	33.5
0°-90°	3888.4	46.2
90°-120°	1152.0	13.7
90°-150°	3429.6	40.8
90°-180°	4519.0	53.8
0°-180°	8407.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1262	1262	1262	1262	1262	
5°	1263	1260	1252	1262	1262	120
15°	1203	1206	1205	1218	1218	339
25°	1086	1099	1104	1121	1122	500
35°	935	956	974	994	1001	584
45°	764	797	832	857	869	589
55°	583	628	678	713	726	522
65°	403	457	517	556	572	398
75°	218	283	352	396	414	233
85°	67	136	209	254	269	71
90°	19	97	180	228	246	15
95°	77	93	168	215	231	88
105°	313	353	325	193	198	332
115°	574	598	655	697	713	567
125°	803	814	856	885	898	718
135°	998	1003	1022	1048	1053	768
145°	1150	1155	1157	1170	1176	719
155°	1265	1263	1264	1268	1263	583
165°	1334	1331	1330	1337	1331	377
175°	1365	1361	1361	1368	1360	130
180°	1365	1365	1365	1365	1365	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7
2.5°	1267.3	1266.6	1265.8	1265.1	1264.4	1262.9	1261.0	1259.1	1257.1	1255.2	1257.1
5°	1263.1	1262.5	1261.9	1261.3	1260.7	1259.5	1257.7	1255.8	1253.9	1252.1	1254.6
7.5°	1250.7	1250.9	1251.0	1251.1	1251.2	1250.4	1248.7	1246.9	1245.1	1243.3	1246.4
10°	1239.8	1240.4	1241.0	1241.6	1242.2	1241.7	1240.2	1238.7	1237.2	1235.7	1238.7
12.5°	1226.6	1227.4	1228.3	1229.1	1230.0	1229.9	1228.9	1227.8	1226.8	1225.8	1228.6
15°	1202.6	1203.6	1204.5	1205.4	1206.3	1206.6	1206.3	1206.0	1205.7	1205.4	1208.5
17.5°	1172.5	1174.3	1176.1	1177.9	1179.7	1180.6	1180.5	1180.3	1180.2	1180.1	1182.9
20°	1150.4	1152.3	1154.1	1155.9	1157.7	1159.0	1159.6	1160.2	1160.8	1161.4	1164.2
22.5°	1127.3	1129.1	1131.0	1132.9	1134.7	1136.0	1136.9	1137.7	1138.6	1139.4	1142.9
25°	1085.8	1088.8	1092.0	1095.0	1098.0	1100.0	1101.0	1101.9	1102.8	1103.7	1107.6
27.5°	1044.0	1047.5	1051.0	1054.5	1057.9	1060.7	1062.7	1064.6	1066.5	1068.5	1072.0
30°	1014.3	1018.3	1022.3	1026.2	1030.3	1033.4	1035.9	1038.3	1040.8	1043.2	1046.9
32.5°	981.4	985.8	990.3	994.7	999.2	1003.0	1006.2	1009.4	1012.6	1015.7	1019.7
35°	934.6	939.5	944.4	949.3	954.2	958.6	962.6	966.5	970.5	974.5	979.1
37.5°	885.1	890.7	896.2	901.6	907.2	912.3	917.3	922.1	927.0	931.9	937.1
40°	852.1	857.7	863.1	868.7	874.1	880.0	886.1	892.2	898.3	904.4	909.6
42.5°	815.9	822.6	829.3	836.1	842.7	849.3	855.7	862.0	868.4	874.7	880.4
45°	764.2	771.5	778.9	786.2	793.6	801.0	808.6	816.3	823.9	831.5	837.4
47.5°	710.0	718.3	726.7	735.0	743.3	751.8	760.5	769.3	778.0	786.8	793.2
50°	674.9	683.4	692.0	700.5	709.0	718.1	727.5	737.0	746.5	756.0	763.0
52.5°	637.4	646.5	655.6	664.6	673.7	683.4	693.9	704.3	714.7	725.2	732.5
55°	582.8	592.9	602.9	613.0	623.1	633.6	644.6	655.6	666.6	677.6	685.9
57.5°	529.5	540.0	550.5	561.0	571.5	582.8	594.8	606.8	618.8	630.9	639.1
60°	492.1	503.0	514.0	525.0	536.0	547.8	560.3	572.9	585.4	597.9	606.4
62.5°	456.9	468.1	479.4	490.6	501.8	514.1	527.4	540.6	553.8	567.1	575.6
65°	402.7	414.7	426.6	438.5	450.4	463.0	476.5	489.9	503.3	516.8	525.9
67.5°	347.7	360.4	373.0	385.7	398.3	411.5	425.2	438.9	452.5	466.3	476.3
70°	309.2	322.3	335.5	348.7	361.8	375.7	390.3	405.1	419.7	434.3	444.1
72.5°	274.1	287.2	300.3	313.5	326.6	340.7	355.9	371.0	386.2	401.3	411.3
75°	218.5	232.9	247.2	261.7	276.0	290.7	306.1	321.3	336.6	351.8	361.9
77.5°	170.2	184.6	199.1	213.6	228.0	243.0	258.4	273.8	289.2	304.6	315.2
80°	136.0	151.1	166.0	181.0	195.9	211.4	227.2	243.2	259.0	274.9	285.3
82.5°	106.3	121.6	136.8	152.0	167.2	182.9	199.0	215.1	231.3	247.4	257.8
85°	67.4	82.6	97.9	113.2	128.5	144.2	160.4	176.5	192.7	208.9	219.3
87.5°	36.8	52.4	68.1	83.7	99.4	115.3	131.5	147.6	163.8	180.0	190.6
90°	18.9	36.2	53.3	70.6	87.8	105.6	124.1	142.6	161.2	179.7	191.0
92.5°	35.6	48.5	61.4	74.2	87.2	102.3	119.9	137.4	154.9	172.5	184.1
95°	77.0	79.7	82.3	85.0	87.7	97.8	115.2	132.6	150.1	167.5	178.5
97.5°	137.8	144.4	151.1	157.6	164.2	166.5	164.6	162.7	160.8	158.9	169.8
100°	183.8	198.0	212.4	226.6	241.0	237.5	216.4	195.3	174.2	153.1	163.7
102.5°	236.2	248.3	260.3	272.4	284.4	278.1	253.6	228.9	204.3	179.8	182.8
105°	313.3	323.1	332.9	342.6	352.5	353.9	346.7	339.5	332.3	325.2	293.9
107.5°	393.1	401.4	409.6	417.8	426.1	438.0	453.6	469.3	484.9	500.6	479.6
110°	446.5	453.7	461.0	468.4	475.6	486.7	501.3	516.0	530.7	545.4	545.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	498.4	504.5	510.7	516.7	522.9	533.1	547.3	561.5	575.7	590.0	597.7
115°	573.9	578.9	583.9	589.0	593.9	603.0	616.0	629.0	642.1	655.1	664.7
117.5°	648.0	652.0	655.9	659.8	663.8	671.4	682.8	694.1	705.5	716.8	725.9
120°	693.2	696.8	700.3	703.9	707.4	714.6	725.4	736.1	746.9	757.6	766.4
122.5°	740.2	742.8	745.2	747.6	750.1	756.6	767.0	777.5	787.9	798.4	806.4
125°	803.4	805.2	807.0	808.8	810.6	816.4	826.2	835.9	845.7	855.5	862.3
127.5°	865.9	867.4	868.9	870.4	871.9	876.9	885.2	893.6	902.1	910.5	917.3
130°	904.8	906.4	907.9	909.3	910.8	915.0	922.1	929.1	936.1	943.1	949.8
132.5°	941.1	942.8	944.5	946.2	948.1	951.7	957.4	962.9	968.6	974.1	980.6
135°	997.7	998.9	999.9	1001.0	1002.0	1004.6	1008.9	1013.2	1017.4	1021.7	1027.8
137.5°	1046.2	1047.6	1049.1	1050.6	1052.1	1054.0	1056.4	1058.7	1061.2	1063.6	1069.4
140°	1077.5	1078.9	1080.3	1081.7	1083.0	1084.5	1086.0	1087.6	1089.2	1090.9	1096.3
142.5°	1107.6	1108.7	1109.8	1111.0	1112.1	1113.0	1113.9	1114.7	1115.6	1116.4	1121.3
145°	1149.5	1150.8	1152.2	1153.4	1154.7	1155.5	1156.0	1156.4	1156.9	1157.3	1160.2
147.5°	1187.8	1188.8	1189.8	1190.8	1191.9	1192.7	1193.1	1193.6	1194.0	1194.5	1195.7
150°	1212.1	1212.7	1213.5	1214.2	1214.8	1215.4	1215.8	1216.3	1216.7	1217.2	1217.6
152.5°	1234.1	1234.4	1234.7	1235.0	1235.3	1235.6	1235.9	1236.1	1236.4	1236.7	1237.5
155°	1264.9	1264.4	1263.9	1263.5	1263.0	1262.9	1263.1	1263.3	1263.6	1263.8	1265.0
157.5°	1288.8	1288.8	1288.7	1288.7	1288.6	1288.5	1288.3	1288.0	1287.8	1287.6	1288.9
160°	1303.4	1303.1	1302.9	1302.7	1302.5	1302.2	1302.0	1301.8	1301.6	1301.4	1302.7
162.5°	1317.2	1316.6	1316.1	1315.5	1314.8	1314.4	1314.2	1314.0	1313.7	1313.5	1315.0
165°	1333.8	1333.1	1332.5	1331.8	1331.1	1330.7	1330.4	1330.2	1330.0	1329.8	1331.6
167.5°	1346.8	1345.9	1345.0	1344.1	1343.2	1342.7	1342.7	1342.7	1342.7	1342.7	1344.5
170°	1354.1	1353.2	1352.3	1351.4	1350.5	1350.1	1350.1	1350.1	1350.1	1350.1	1351.8
172.5°	1359.0	1357.9	1356.9	1355.7	1354.6	1354.2	1354.3	1354.5	1354.7	1354.9	1356.8
175°	1365.2	1364.1	1363.0	1361.9	1360.8	1360.3	1360.5	1360.8	1361.0	1361.2	1362.8
177.5°	1366.9	1365.9	1365.1	1364.2	1363.3	1362.9	1363.1	1363.3	1363.4	1363.6	1365.1
180°	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7	1261.7
2.5°	1259.1	1261.0	1262.9	1263.8	1263.5	1263.3	1263.1	1262.8
5°	1257.0	1259.5	1261.9	1262.9	1262.6	1262.3	1262.0	1261.7
7.5°	1249.4	1252.5	1255.6	1256.9	1256.6	1256.2	1255.8	1255.5
10°	1241.7	1244.8	1247.9	1249.1	1248.5	1247.9	1247.3	1246.7
12.5°	1231.3	1234.2	1237.0	1238.1	1237.5	1236.9	1236.3	1235.7
15°	1211.5	1214.6	1217.6	1219.0	1218.7	1218.4	1218.1	1217.8
17.5°	1185.6	1188.4	1191.1	1192.2	1191.8	1191.4	1191.0	1190.5
20°	1166.9	1169.6	1172.5	1174.0	1174.3	1174.6	1174.9	1175.2
22.5°	1146.4	1149.8	1153.4	1155.0	1154.8	1154.7	1154.5	1154.3
25°	1111.7	1115.6	1119.5	1121.6	1121.6	1121.6	1121.6	1121.6
27.5°	1075.3	1078.7	1082.2	1084.0	1084.3	1084.5	1084.8	1085.0
30°	1050.6	1054.2	1057.8	1059.8	1059.8	1059.8	1059.8	1059.8
32.5°	1023.6	1027.4	1031.4	1033.7	1034.4	1035.1	1035.9	1036.6
35°	983.6	988.3	992.8	995.7	996.9	998.2	999.4	1000.6
37.5°	942.3	947.5	952.7	955.7	956.7	957.7	958.7	959.7
40°	914.7	920.0	925.1	928.4	929.6	930.8	932.0	933.2
42.5°	886.1	891.7	897.5	901.1	902.8	904.5	906.3	908.0
45°	843.1	849.0	854.7	858.9	861.3	863.7	866.3	868.7
47.5°	799.8	806.4	812.8	817.1	819.0	820.9	822.7	824.7
50°	770.0	777.0	784.1	788.6	790.8	792.9	795.1	797.2
52.5°	739.7	747.0	754.3	759.2	761.8	764.5	767.1	769.7
55°	694.1	702.4	710.6	715.9	718.4	720.8	723.3	725.7
57.5°	647.5	655.8	664.1	669.7	672.6	675.4	678.3	681.2
60°	615.0	623.6	632.1	638.0	641.5	644.8	648.1	651.5
62.5°	584.2	592.8	601.3	607.1	610.3	613.4	616.5	619.7
65°	535.1	544.3	553.4	559.6	562.6	565.6	568.8	571.8
67.5°	486.3	496.2	506.2	512.6	515.1	517.8	520.3	522.8
70°	453.8	463.6	473.4	479.9	482.9	485.9	489.0	492.1
72.5°	421.4	431.4	441.4	448.0	451.0	454.0	457.2	460.2
75°	372.0	382.1	392.1	399.1	402.7	406.4	410.0	413.7
77.5°	325.9	336.5	347.1	353.9	356.6	359.4	362.2	365.1
80°	295.7	306.1	316.4	323.2	326.2	329.2	332.3	335.4
82.5°	268.2	278.5	288.9	295.7	298.7	301.7	304.8	307.9
85°	229.6	240.0	250.4	257.2	260.2	263.3	266.3	269.4
87.5°	201.1	211.7	222.3	229.1	232.3	235.4	238.5	241.7
90°	202.3	213.5	224.8	232.2	235.7	239.2	242.7	246.2
92.5°	195.6	207.2	218.8	226.1	229.2	232.3	235.4	238.4
95°	189.7	200.7	211.7	218.7	221.8	224.9	227.9	231.0
97.5°	180.7	191.6	202.5	209.5	212.9	216.1	219.3	222.7
100°	174.4	185.0	195.7	202.7	205.9	209.2	212.5	215.8
102.5°	185.8	188.7	191.8	195.1	198.5	202.0	205.4	208.9
105°	262.6	231.2	199.9	185.8	188.9	192.2	195.4	198.5
107.5°	458.5	437.4	416.4	392.1	364.8	337.3	309.9	282.6
110°	546.4	546.9	547.4	532.8	503.0	473.2	443.4	413.6



TEST NUMBER: P332194-840

CATALOG NUMBER: S123DIW-S1000D1030U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	605.6	613.4	621.3	623.1	619.0	614.9	610.8	606.6
115°	674.2	683.8	693.4	699.8	703.2	706.6	709.9	713.3
117.5°	735.0	744.1	753.2	758.9	761.5	764.1	766.7	769.2
120°	775.3	784.1	792.9	798.4	800.5	802.6	804.9	807.0
122.5°	814.5	822.5	830.5	835.7	838.0	840.3	842.6	845.0
125°	869.2	876.1	882.9	887.7	890.2	892.8	895.3	898.0
127.5°	924.0	930.8	937.6	941.8	943.4	945.0	946.6	948.3
130°	956.5	963.2	970.0	974.0	975.3	976.7	978.2	979.5
132.5°	987.0	993.5	1000.0	1003.9	1005.4	1006.8	1008.2	1009.8
135°	1034.0	1040.2	1046.4	1049.9	1050.8	1051.6	1052.5	1053.3
137.5°	1075.4	1081.3	1087.2	1090.7	1091.8	1092.9	1093.9	1095.0
140°	1101.8	1107.2	1112.8	1116.0	1117.1	1118.2	1119.2	1120.3
142.5°	1126.1	1130.8	1135.7	1138.5	1139.4	1140.3	1141.2	1142.2
145°	1163.2	1166.0	1168.9	1170.9	1172.2	1173.4	1174.7	1175.9
147.5°	1196.8	1198.0	1199.2	1199.8	1199.9	1199.9	1200.0	1200.0
150°	1218.1	1218.5	1219.0	1219.2	1219.1	1219.0	1219.0	1218.9
152.5°	1238.3	1239.1	1239.9	1239.8	1238.9	1238.0	1237.1	1236.2
155°	1266.1	1267.2	1268.4	1268.2	1266.9	1265.6	1264.1	1262.8
157.5°	1290.3	1291.6	1292.9	1292.7	1291.0	1289.3	1287.5	1285.8
160°	1304.0	1305.5	1306.8	1306.7	1305.0	1303.5	1301.9	1300.3
162.5°	1316.6	1318.2	1319.7	1319.7	1318.4	1317.0	1315.6	1314.1
165°	1333.3	1335.1	1337.0	1337.1	1335.5	1333.9	1332.3	1330.8
167.5°	1346.4	1348.2	1350.0	1350.0	1348.2	1346.4	1344.5	1342.7
170°	1353.6	1355.4	1357.3	1357.3	1355.4	1353.6	1351.8	1350.1
172.5°	1358.6	1360.3	1362.1	1362.0	1360.1	1358.1	1356.0	1354.1
175°	1364.3	1365.9	1367.6	1367.5	1365.6	1363.8	1362.0	1360.2
177.5°	1366.5	1368.0	1369.4	1369.3	1367.5	1365.6	1363.8	1362.0
180°	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2	1365.2

(END OF REPORT)