

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: P332195-830

Luminaire Tested: **S123DIW-S1000D1030U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332195-830
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: S123DIW-S1000D1030U830-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7329.0 lumens
Efficiency: N/A
Efficacy: 119.8 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

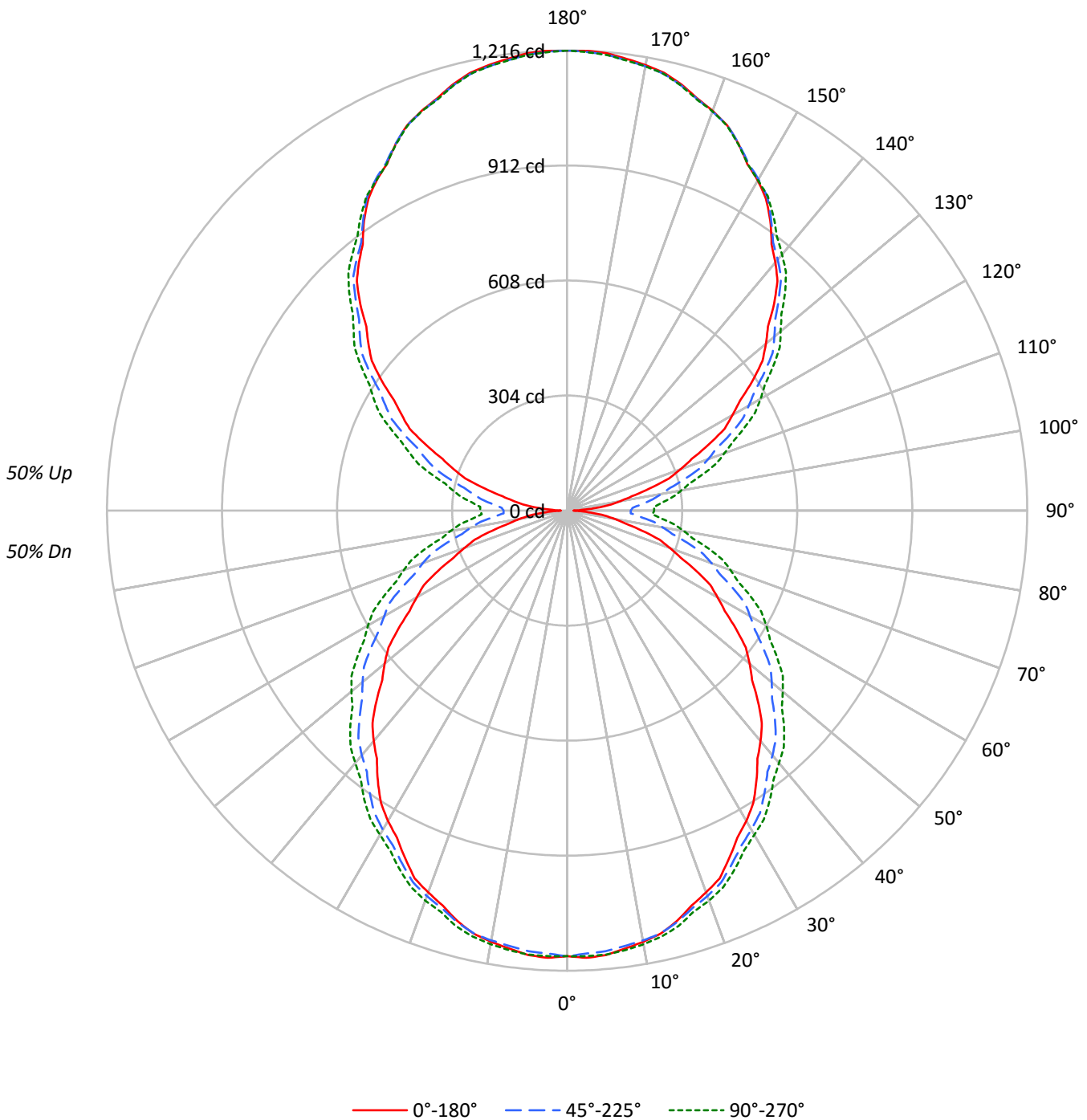
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	97	92	88	84	89	85	81	78	71	69	66	59	57	55	48	46	45	40
2	88	80	73	68	80	73	68	63	62	58	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	67	57	49	44	48	42	38	40	36	32	32	29	26	23
5	67	55	46	40	61	50	43	37	43	37	32	36	31	28	29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28	32	28	24	26	23	20	17
7	57	44	36	30	52	41	34	28	35	29	25	29	25	21	24	20	18	15
8	52	40	32	27	48	37	30	25	32	26	22	27	22	19	22	18	16	13
9	49	36	29	24	45	34	27	22	29	23	20	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	18	23	18	15	19	15	13	11

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	1.5
10°-20°	318.2	4.3
20°-30°	476.0	6.5
30°-40°	568.4	7.8
40°-50°	594.7	8.1
50°-60°	558.1	7.6
60°-70°	466.1	6.4
70°-80°	333.5	4.6
80°-90°	202.5	2.8
90°-100°	204.0	2.8
100°-110°	328.7	4.5
110°-120°	464.4	6.3
120°-130°	565.3	7.7
130°-140°	611.7	8.3
140°-150°	589.2	8.0
150°-160°	493.2	6.7
160°-170°	328.3	4.5
170°-180°	115.0	1.6
0°-30°	905.9	12.4
0°-40°	1474.3	20.1
0°-60°	2627.1	35.8
0°-90°	3629.2	49.5
90°-120°	997.1	13.6
90°-150°	2763.3	37.7
90°-180°	3700.0	50.5
0°-180°	7329.0	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°	18	90	168	214	230	15
95°	70	128	198	240	254	74
105°	225	260	322	356	371	240
115°	412	432	475	505	516	408
125°	598	602	636	658	664	533
135°	773	778	791	809	814	596
145°	936	937	940	948	950	584
155°	1070	1070	1071	1075	1069	493
165°	1166	1163	1163	1168	1162	329
175°	1213	1209	1209	1214	1208	115
180°	1216	1216	1216	1216	1216	



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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°	34.3	48.9	63.5	78.1	92.8	107.6	122.7	137.8	152.9	168.1	177.9
90°	17.6	33.7	49.8	65.9	82.0	98.7	116.0	133.3	150.6	167.9	178.4
92.5°	38.7	52.8	66.8	80.9	94.9	109.9	125.7	141.7	157.5	173.4	183.6
95°	70.4	83.0	95.7	108.3	120.8	135.0	150.6	166.4	182.0	197.7	207.4
97.5°	112.6	123.8	134.9	146.1	157.2	170.0	184.6	199.2	213.8	228.4	237.8
100°	141.4	151.8	162.2	172.6	183.0	195.3	209.4	223.7	237.8	251.9	260.9
102.5°	174.7	183.7	192.7	201.7	210.7	222.3	236.6	250.9	265.1	279.5	288.1
105°	225.1	232.3	239.7	246.9	254.2	264.9	279.1	293.2	307.4	321.6	329.5
107.5°	282.4	288.5	294.5	300.6	306.7	315.9	328.3	340.7	353.1	365.5	373.8
110°	318.0	323.6	329.1	334.7	340.3	348.9	360.8	372.6	384.5	396.2	404.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	356.3	360.7	365.1	369.7	374.1	381.9	392.9	404.0	415.0	426.0	434.2
115°	412.3	416.3	420.4	424.4	428.5	435.5	445.3	455.1	465.0	474.8	481.8
117.5°	469.7	472.2	474.8	477.3	479.8	485.6	494.7	503.8	512.8	522.0	528.7
120°	504.5	507.3	509.9	512.6	515.4	520.8	529.2	537.5	545.9	554.2	560.6
122.5°	542.0	543.7	545.4	547.0	548.7	553.7	562.1	570.5	578.9	587.3	593.0
125°	597.8	598.4	599.1	599.7	600.3	604.5	612.5	620.3	628.1	635.9	641.1
127.5°	650.5	651.6	652.6	653.7	654.8	658.6	664.9	671.3	677.7	684.0	688.5
130°	685.6	687.0	688.4	689.8	691.3	694.6	699.6	704.6	709.7	714.8	719.3
132.5°	719.7	721.4	723.0	724.7	726.3	729.2	733.3	737.4	741.5	745.6	749.7
135°	773.2	774.2	775.1	776.2	777.1	779.1	782.0	784.9	787.9	790.8	795.0
137.5°	822.6	823.4	824.3	825.1	826.0	827.5	829.8	832.1	834.4	836.8	840.4
140°	855.9	857.0	858.1	859.1	860.2	861.2	862.3	863.4	864.4	865.5	869.6
142.5°	887.2	888.1	888.9	889.8	890.6	891.3	891.8	892.4	893.0	893.4	897.1
145°	936.1	936.2	936.4	936.5	936.7	937.1	937.7	938.4	939.0	939.6	941.7
147.5°	977.6	978.4	979.1	980.0	980.7	981.4	981.9	982.6	983.2	983.7	984.4
150°	1007.4	1007.9	1008.2	1008.7	1009.1	1009.6	1009.9	1010.4	1010.8	1011.3	1011.3
152.5°	1031.9	1032.5	1033.0	1033.7	1034.3	1034.6	1034.9	1035.2	1035.5	1035.7	1036.0
155°	1070.4	1070.4	1070.4	1070.4	1070.4	1070.5	1070.7	1071.0	1071.2	1071.4	1072.2
157.5°	1103.3	1103.1	1102.8	1102.5	1102.3	1102.2	1102.4	1102.6	1102.8	1102.9	1103.8
160°	1123.9	1123.5	1123.0	1122.7	1122.2	1122.0	1122.0	1122.0	1122.0	1122.0	1123.0
162.5°	1142.3	1141.7	1141.0	1140.5	1139.9	1139.6	1139.8	1140.0	1140.2	1140.4	1141.4
165°	1165.9	1165.3	1164.7	1164.0	1163.4	1163.1	1163.1	1163.1	1163.1	1163.1	1164.3
167.5°	1184.9	1184.0	1183.2	1182.3	1181.5	1181.1	1181.3	1181.5	1181.7	1181.8	1183.1
170°	1195.5	1194.7	1193.8	1193.0	1192.1	1191.8	1191.8	1191.8	1191.8	1191.8	1193.2
172.5°	1203.9	1203.1	1202.2	1201.4	1200.5	1200.1	1200.1	1200.1	1200.1	1200.1	1201.5
175°	1212.8	1211.9	1211.1	1210.2	1209.4	1208.9	1208.9	1208.9	1208.9	1208.9	1210.2
177.5°	1216.4	1215.7	1215.0	1214.3	1213.6	1213.3	1213.3	1213.3	1213.3	1213.3	1214.3
180°	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6



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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°	187.8	197.6	207.5	213.9	216.8	219.7	222.6	225.6
90°	189.0	199.5	210.0	217.0	220.3	223.5	226.8	230.1
92.5°	193.7	203.9	214.0	220.3	222.6	225.0	227.3	229.7
95°	217.1	226.7	236.4	242.7	245.5	248.4	251.2	254.1
97.5°	247.3	256.7	266.3	272.3	275.1	277.9	280.7	283.4
100°	269.8	278.7	287.6	293.7	297.0	300.2	303.5	306.8
102.5°	296.8	305.5	314.1	319.9	322.6	325.4	328.2	330.9
105°	337.5	345.5	353.5	359.0	361.9	365.0	368.0	371.0
107.5°	382.1	390.5	398.8	404.1	406.3	408.6	410.9	413.1
110°	412.7	421.0	429.3	434.3	436.2	438.1	440.0	441.8



TEST NUMBER: P332195-830

CATALOG NUMBER: S123DIW-S1000D1030U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	442.4	450.6	458.8	464.1	466.6	469.0	471.4	473.8
115°	488.9	496.0	503.0	507.6	509.6	511.7	513.8	515.9
117.5°	535.5	542.2	548.9	553.1	554.7	556.4	558.0	559.6
120°	566.9	573.3	579.7	583.6	585.1	586.7	588.3	589.8
122.5°	598.9	604.6	610.4	614.0	615.4	616.8	618.2	619.6
125°	646.2	651.4	656.5	659.7	660.8	661.9	663.1	664.2
127.5°	693.0	697.4	701.8	704.6	705.5	706.5	707.5	708.4
130°	724.0	728.5	733.1	735.5	735.7	735.9	736.1	736.4
132.5°	753.9	758.1	762.2	764.7	765.5	766.3	767.1	767.9
135°	799.4	803.6	807.9	810.6	811.5	812.6	813.5	814.5
137.5°	844.0	847.6	851.2	853.3	853.9	854.6	855.2	855.8
140°	873.6	877.7	881.7	883.7	883.7	883.6	883.5	883.5
142.5°	900.7	904.3	908.0	909.8	910.1	910.4	910.7	911.0
145°	943.8	945.8	947.9	949.0	949.3	949.7	950.0	950.3
147.5°	985.1	985.8	986.5	986.7	986.5	986.2	986.0	985.7
150°	1011.3	1011.3	1011.3	1010.9	1010.2	1009.5	1008.8	1008.0
152.5°	1036.3	1036.7	1037.1	1036.7	1035.8	1034.7	1033.8	1032.7
155°	1073.1	1073.9	1074.8	1074.5	1073.0	1071.5	1070.1	1068.6
157.5°	1104.7	1105.6	1106.5	1106.4	1105.1	1104.0	1102.8	1101.5
160°	1124.2	1125.2	1126.2	1126.3	1125.5	1124.6	1123.8	1122.9
162.5°	1142.5	1143.5	1144.6	1144.4	1143.1	1141.7	1140.4	1139.0
165°	1165.6	1166.9	1168.2	1168.1	1166.6	1165.1	1163.6	1162.2
167.5°	1184.4	1185.7	1187.0	1187.0	1185.7	1184.4	1183.1	1181.8
170°	1194.7	1196.2	1197.7	1197.7	1196.2	1194.7	1193.2	1191.8
172.5°	1202.8	1204.1	1205.4	1205.3	1203.8	1202.3	1200.8	1199.4
175°	1211.4	1212.8	1214.0	1213.9	1212.4	1210.9	1209.5	1208.0
177.5°	1215.3	1216.4	1217.4	1217.3	1216.1	1214.9	1213.7	1212.6
180°	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6

(END OF REPORT)