

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: P332195-940

Luminaire Tested: **S123DIW-S1000D1030U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332195-940
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-S1000D1030U940-4F0-1E-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

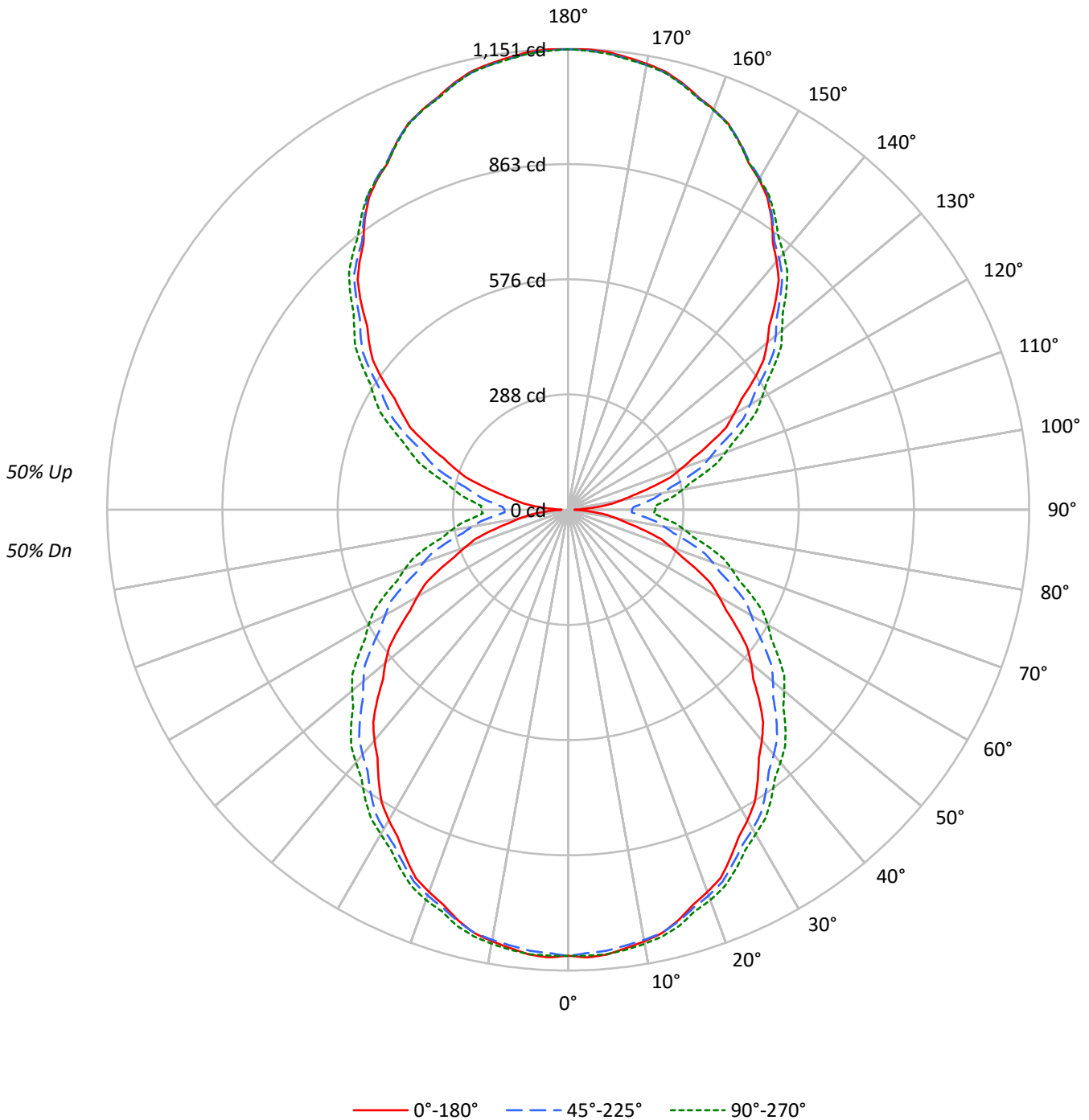
Lumens per Lamp: N/A
Luminaire Lumens: 6933.7 lumens
Efficiency: N/A
Efficacy: 113.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 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





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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°	11992	11992	11992
5°	12030	11690	11697
10°	11922	11421	11364
15°	11768	11114	11000
20°	11548	10767	10600
25°	11278	10365	10179
30°	10999	10002	9754
35°	10689	9620	9413
40°	10391	9273	9048
45°	10062	8938	8757
50°	9737	8608	8436
55°	9378	8270	8147
60°	9028	7928	7850
65°	8670	7563	7499
70°	8127	7150	7138
75°	7448	6679	6770
80°	6658	6216	6350
85°	5935	5899	6108



TEST NUMBER: P332195-940

CATALOG NUMBER: S123DIW-S1000D1030U940-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.6	1.5
10°-20°	301.1	4.3
20°-30°	450.3	6.5
30°-40°	537.8	7.8
40°-50°	562.6	8.1
50°-60°	528.0	7.6
60°-70°	441.0	6.4
70°-80°	315.5	4.6
80°-90°	191.6	2.8
90°-100°	193.0	2.8
100°-110°	311.0	4.5
110°-120°	439.3	6.3
120°-130°	534.8	7.7
130°-140°	578.7	8.3
140°-150°	557.4	8.0
150°-160°	466.6	6.7
160°-170°	310.6	4.5
170°-180°	108.8	1.6
0°-30°	857.0	12.4
0°-40°	1394.8	20.1
0°-60°	2485.4	35.8
0°-90°	3433.5	49.5
90°-120°	943.3	13.6
90°-150°	2614.3	37.7
90°-180°	3500.0	50.5
0°-180°	6933.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1114	1114	1114	1114	1114	
5°	1115	1113	1106	1115	1114	106
15°	1062	1065	1064	1076	1075	299
25°	959	970	975	989	990	442
35°	825	844	860	878	884	516
45°	675	704	734	757	767	520
55°	515	555	598	630	641	461
65°	356	403	456	491	505	351
75°	193	250	311	349	365	206
85°	60	120	184	224	238	62
90°	17	86	159	202	218	14
95°	67	121	187	227	240	70
105°	213	246	304	337	351	227
115°	390	409	449	478	488	386
125°	566	570	602	623	628	505
135°	732	736	748	766	771	563
145°	886	886	889	897	899	553
155°	1013	1013	1014	1017	1011	466
165°	1103	1100	1100	1105	1100	311
175°	1147	1144	1144	1148	1143	109
180°	1150	1150	1150	1150	1150	



TEST NUMBER: P332195-940

CATALOG NUMBER: S123DIW-S1000D1030U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1
2.5°	1119.0	1118.4	1117.7	1117.0	1116.4	1115.2	1113.5	1111.8	1110.0	1108.3	1110.0
5°	1115.4	1114.8	1114.3	1113.7	1113.2	1112.1	1110.5	1108.8	1107.2	1105.6	1107.8
7.5°	1104.4	1104.6	1104.7	1104.7	1104.8	1104.1	1102.6	1101.0	1099.4	1097.9	1100.5
10°	1094.8	1095.3	1095.8	1096.4	1096.9	1096.4	1095.1	1093.8	1092.4	1091.1	1093.8
12.5°	1083.1	1083.8	1084.6	1085.3	1086.1	1086.0	1085.1	1084.1	1083.3	1082.4	1084.9
15°	1061.9	1062.7	1063.5	1064.3	1065.1	1065.4	1065.1	1064.9	1064.6	1064.3	1067.1
17.5°	1035.3	1036.9	1038.5	1040.1	1041.7	1042.5	1042.4	1042.2	1042.1	1042.1	1044.5
20°	1015.8	1017.4	1019.0	1020.7	1022.3	1023.4	1024.0	1024.5	1025.0	1025.6	1028.0
22.5°	995.4	997.0	998.7	1000.3	1001.9	1003.1	1003.9	1004.6	1005.4	1006.1	1009.1
25°	958.8	961.4	964.2	966.9	969.6	971.3	972.1	972.9	973.7	974.6	978.0
27.5°	921.9	925.0	928.0	931.1	934.2	936.6	938.3	940.0	941.7	943.5	946.6
30°	895.6	899.2	902.7	906.2	909.7	912.5	914.7	916.9	919.0	921.1	924.4
32.5°	866.6	870.5	874.4	878.3	882.3	885.6	888.5	891.3	894.1	896.9	900.4
35°	825.3	829.6	833.9	838.2	842.6	846.4	850.0	853.5	856.9	860.5	864.5
37.5°	781.6	786.5	791.3	796.1	801.0	805.6	809.9	814.2	818.5	822.9	827.4
40°	752.4	757.3	762.1	767.0	771.9	777.0	782.4	787.8	793.2	798.6	803.2
42.5°	720.4	726.4	732.3	738.2	744.1	749.9	755.5	761.2	766.8	772.4	777.4
45°	674.8	681.3	687.8	694.2	700.7	707.3	714.0	720.8	727.5	734.2	739.4
47.5°	627.0	634.3	641.7	649.0	656.3	663.9	671.5	679.3	687.0	694.7	700.4
50°	595.9	603.4	611.0	618.6	626.1	634.1	642.4	650.8	659.2	667.5	673.7
52.5°	562.8	570.9	578.9	586.8	594.9	603.4	612.7	621.9	631.1	640.3	646.8
55°	514.6	523.5	532.4	541.3	550.2	559.5	569.2	578.9	588.6	598.3	605.6
57.5°	467.5	476.8	486.1	495.3	504.6	514.6	525.2	535.8	546.4	557.1	564.4
60°	434.5	444.2	453.9	463.6	473.3	483.7	494.7	505.9	516.9	528.0	535.5
62.5°	403.4	413.3	423.3	433.2	443.1	454.0	465.7	477.3	489.0	500.8	508.3
65°	355.6	366.1	376.7	387.2	397.7	408.8	420.7	432.6	444.4	456.4	464.4
67.5°	307.0	318.3	329.4	340.5	351.7	363.4	375.4	387.5	399.6	411.7	420.5
70°	273.0	284.6	296.2	307.9	319.5	331.7	344.6	357.7	370.6	383.5	392.2
72.5°	242.0	253.6	265.2	276.8	288.4	300.9	314.2	327.6	341.0	354.4	363.2
75°	193.0	205.6	218.3	231.0	243.7	256.7	270.3	283.7	297.2	310.7	319.6
77.5°	150.3	163.0	175.8	188.6	201.3	214.5	228.2	241.7	255.4	268.9	278.3
80°	120.1	133.4	146.6	159.8	173.0	186.6	200.6	214.7	228.7	242.7	251.9
82.5°	93.9	107.4	120.8	134.2	147.7	161.5	175.8	189.9	204.2	218.5	227.7
85°	59.5	72.9	86.4	100.0	113.4	127.3	141.6	155.9	170.1	184.5	193.7
87.5°	32.5	46.3	60.1	73.9	87.8	101.8	116.1	130.4	144.6	159.0	168.3
90°	16.7	31.9	47.1	62.3	77.6	93.4	109.8	126.1	142.5	158.8	168.8
92.5°	36.6	49.9	63.2	76.5	89.8	104.0	119.0	134.0	149.0	164.1	173.7
95°	66.6	78.6	90.5	102.5	114.3	127.7	142.5	157.4	172.2	187.0	196.2
97.5°	106.6	117.1	127.6	138.2	148.7	160.9	174.7	188.4	202.2	216.1	225.0
100°	133.8	143.7	153.5	163.3	173.2	184.8	198.1	211.6	225.0	238.4	246.8
102.5°	165.3	173.8	182.4	190.8	199.3	210.3	223.8	237.4	250.8	264.4	272.6
105°	212.9	219.8	226.8	233.6	240.5	250.6	264.0	277.4	290.8	304.3	311.7
107.5°	267.2	273.0	278.7	284.4	290.2	298.9	310.6	322.4	334.0	345.8	353.7
110°	300.9	306.1	311.4	316.6	321.9	330.1	341.3	352.5	363.7	374.9	382.7



TEST NUMBER: P332195-940

CATALOG NUMBER: S123DIW-S1000D1030U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	337.1	341.3	345.4	349.7	353.9	361.3	371.8	382.2	392.6	403.1	410.8
115°	390.0	393.9	397.7	401.5	405.4	412.0	421.2	430.5	439.9	449.2	455.8
117.5°	444.3	446.7	449.2	451.6	454.0	459.4	468.1	476.6	485.2	493.8	500.2
120°	477.3	479.9	482.4	485.0	487.6	492.8	500.7	508.5	516.5	524.3	530.4
122.5°	512.7	514.3	515.9	517.5	519.1	523.9	531.8	539.8	547.7	555.6	561.1
125°	565.5	566.1	566.8	567.4	567.9	571.9	579.4	586.8	594.2	601.6	606.5
127.5°	615.5	616.4	617.4	618.5	619.5	623.0	629.0	635.1	641.1	647.1	651.4
130°	648.6	650.0	651.3	652.6	654.0	657.1	661.9	666.6	671.5	676.3	680.6
132.5°	680.9	682.5	684.0	685.6	687.2	689.8	693.8	697.6	701.5	705.3	709.3
135°	731.5	732.5	733.3	734.3	735.2	737.1	739.9	742.6	745.4	748.1	752.2
137.5°	778.2	779.0	779.8	780.6	781.4	782.8	785.1	787.2	789.4	791.7	795.0
140°	809.8	810.7	811.8	812.8	813.8	814.8	815.8	816.8	817.8	818.9	822.7
142.5°	839.4	840.2	841.0	841.8	842.6	843.2	843.7	844.3	844.8	845.3	848.7
145°	885.6	885.7	885.9	886.0	886.2	886.5	887.2	887.8	888.3	888.9	890.9
147.5°	924.9	925.6	926.3	927.1	927.8	928.4	929.0	929.6	930.1	930.7	931.3
150°	953.1	953.5	953.9	954.3	954.7	955.1	955.5	955.9	956.3	956.7	956.7
152.5°	976.2	976.8	977.3	977.9	978.5	978.8	979.1	979.4	979.6	979.8	980.2
155°	1012.7	1012.7	1012.7	1012.7	1012.7	1012.8	1013.0	1013.3	1013.4	1013.6	1014.4
157.5°	1043.8	1043.6	1043.3	1043.0	1042.9	1042.8	1042.9	1043.1	1043.3	1043.4	1044.3
160°	1063.3	1062.9	1062.5	1062.1	1061.7	1061.5	1061.5	1061.5	1061.5	1061.5	1062.5
162.5°	1080.7	1080.1	1079.5	1079.0	1078.4	1078.2	1078.3	1078.5	1078.7	1078.9	1079.9
165°	1103.0	1102.4	1101.9	1101.3	1100.6	1100.4	1100.4	1100.4	1100.4	1100.4	1101.5
167.5°	1121.0	1120.2	1119.4	1118.6	1117.8	1117.4	1117.6	1117.8	1117.9	1118.0	1119.3
170°	1131.0	1130.2	1129.4	1128.6	1127.8	1127.5	1127.5	1127.5	1127.5	1127.5	1128.8
172.5°	1139.0	1138.2	1137.4	1136.6	1135.8	1135.4	1135.4	1135.4	1135.4	1135.4	1136.7
175°	1147.4	1146.6	1145.8	1145.0	1144.2	1143.7	1143.7	1143.7	1143.7	1143.7	1145.0
177.5°	1150.8	1150.1	1149.5	1148.8	1148.2	1147.9	1147.9	1147.9	1147.9	1147.9	1148.8
180°	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0



TEST NUMBER: P332195-940

CATALOG NUMBER: S123DIW-S1000D1030U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1
2.5°	1111.8	1113.5	1115.2	1116.0	1115.7	1115.5	1115.4	1115.1
5°	1109.9	1112.1	1114.3	1115.2	1114.9	1114.6	1114.4	1114.1
7.5°	1103.2	1106.0	1108.7	1109.8	1109.6	1109.2	1108.8	1108.6
10°	1096.4	1099.1	1101.9	1103.0	1102.4	1101.9	1101.4	1100.8
12.5°	1087.3	1089.8	1092.3	1093.2	1092.7	1092.2	1091.6	1091.1
15°	1069.8	1072.5	1075.1	1076.4	1076.1	1075.8	1075.6	1075.3
17.5°	1046.9	1049.4	1051.8	1052.8	1052.4	1052.0	1051.7	1051.2
20°	1030.4	1032.8	1035.3	1036.6	1036.9	1037.1	1037.4	1037.7
22.5°	1012.3	1015.3	1018.4	1019.8	1019.7	1019.6	1019.4	1019.2
25°	981.6	985.1	988.6	990.3	990.3	990.3	990.3	990.3
27.5°	949.5	952.5	955.6	957.2	957.4	957.6	957.9	958.1
30°	927.6	930.9	934.1	935.8	935.8	935.8	935.8	935.8
32.5°	903.8	907.2	910.7	912.8	913.4	914.0	914.7	915.3
35°	868.5	872.6	876.6	879.2	880.3	881.4	882.4	883.5
37.5°	832.1	836.6	841.2	843.9	844.8	845.6	846.5	847.4
40°	807.7	812.3	816.9	819.7	820.8	821.9	823.0	824.0
42.5°	782.4	787.4	792.5	795.7	797.2	798.7	800.2	801.7
45°	744.5	749.7	754.7	758.4	760.5	762.7	764.9	767.0
47.5°	706.2	712.0	717.7	721.5	723.2	724.9	726.5	728.2
50°	679.9	686.1	692.3	696.3	698.3	700.2	702.0	703.9
52.5°	653.2	659.6	666.0	670.4	672.7	675.0	677.3	679.7
55°	612.9	620.2	627.5	632.1	634.4	636.5	638.6	640.8
57.5°	571.8	579.1	586.4	591.4	593.9	596.4	599.0	601.5
60°	543.1	550.6	558.1	563.4	566.4	569.4	572.3	575.2
62.5°	515.9	523.4	530.9	536.1	538.9	541.6	544.4	547.2
65°	472.5	480.6	488.7	494.1	496.8	499.4	502.2	504.9
67.5°	429.4	438.2	447.0	452.6	454.9	457.2	459.4	461.6
70°	400.7	409.4	418.0	423.7	426.4	429.1	431.8	434.5
72.5°	372.1	380.9	389.8	395.6	398.2	400.9	403.7	406.4
75°	328.5	337.4	346.3	352.4	355.6	358.8	362.0	365.3
77.5°	287.8	297.1	306.5	312.5	314.9	317.4	319.9	322.4
80°	261.1	270.3	279.4	285.3	288.0	290.7	293.5	296.1
82.5°	236.8	245.9	255.1	261.1	263.8	266.4	269.1	271.9
85°	202.8	212.0	221.1	227.1	229.8	232.5	235.1	237.9
87.5°	177.6	186.9	196.3	202.3	205.1	207.9	210.6	213.5
90°	178.8	188.8	198.7	205.3	208.4	211.4	214.5	217.7
92.5°	183.2	192.9	202.4	208.4	210.6	212.9	215.1	217.3
95°	205.4	214.5	223.6	229.6	232.3	235.0	237.6	240.4
97.5°	234.0	242.9	251.9	257.6	260.3	262.9	265.6	268.1
100°	255.2	263.7	272.1	277.9	281.0	284.0	287.1	290.3
102.5°	280.8	289.0	297.2	302.6	305.2	307.8	310.5	313.1
105°	319.3	326.9	334.4	339.7	342.4	345.3	348.1	351.0
107.5°	361.5	369.4	377.3	382.3	384.4	386.6	388.7	390.8
110°	390.5	398.3	406.2	410.9	412.7	414.5	416.3	417.9



TEST NUMBER: P332195-940

CATALOG NUMBER: S123DIW-S1000D1030U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	418.6	426.3	434.1	439.1	441.4	443.7	445.9	448.3
115°	462.5	469.2	475.9	480.2	482.1	484.1	486.1	488.0
117.5°	506.6	512.9	519.3	523.3	524.8	526.4	527.9	529.4
120°	536.4	542.3	548.4	552.1	553.6	555.1	556.6	558.0
122.5°	566.6	572.0	577.5	580.9	582.2	583.5	584.9	586.2
125°	611.4	616.3	621.1	624.1	625.2	626.2	627.3	628.4
127.5°	655.6	659.8	664.0	666.6	667.4	668.4	669.3	670.2
130°	684.9	689.2	693.6	695.8	696.0	696.2	696.4	696.7
132.5°	713.3	717.2	721.1	723.4	724.2	725.0	725.8	726.5
135°	756.3	760.3	764.4	766.9	767.8	768.7	769.6	770.6
137.5°	798.4	801.9	805.3	807.3	807.9	808.5	809.0	809.7
140°	826.5	830.4	834.2	836.1	836.1	836.0	835.9	835.9
142.5°	852.1	855.5	859.0	860.8	861.0	861.3	861.6	861.8
145°	892.9	894.8	896.8	897.9	898.1	898.5	898.8	899.0
147.5°	932.0	932.6	933.3	933.4	933.3	933.0	932.8	932.6
150°	956.7	956.7	956.7	956.4	955.7	955.0	954.4	953.7
152.5°	980.4	980.8	981.1	980.8	979.9	978.9	978.0	977.0
155°	1015.2	1016.0	1016.8	1016.6	1015.1	1013.7	1012.4	1010.9
157.5°	1045.1	1046.0	1046.8	1046.7	1045.5	1044.5	1043.3	1042.1
160°	1063.5	1064.5	1065.5	1065.6	1064.8	1064.0	1063.2	1062.4
162.5°	1080.8	1081.8	1082.9	1082.7	1081.5	1080.1	1078.9	1077.5
165°	1102.8	1103.9	1105.2	1105.1	1103.7	1102.2	1100.8	1099.5
167.5°	1120.5	1121.8	1123.0	1123.0	1121.8	1120.5	1119.3	1118.0
170°	1130.2	1131.7	1133.1	1133.1	1131.7	1130.2	1128.8	1127.5
172.5°	1137.9	1139.2	1140.4	1140.3	1138.9	1137.5	1136.0	1134.7
175°	1146.1	1147.4	1148.5	1148.4	1147.0	1145.6	1144.2	1142.8
177.5°	1149.8	1150.8	1151.7	1151.6	1150.5	1149.4	1148.3	1147.2
180°	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0

(END OF REPORT)