

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: P332182

Luminaire Tested: **S123DIW-S1000D460U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332182
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-S1000D460U835-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6044.4 lumens
Efficiency: N/A
Efficacy: 130.8 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: Semi-Direct

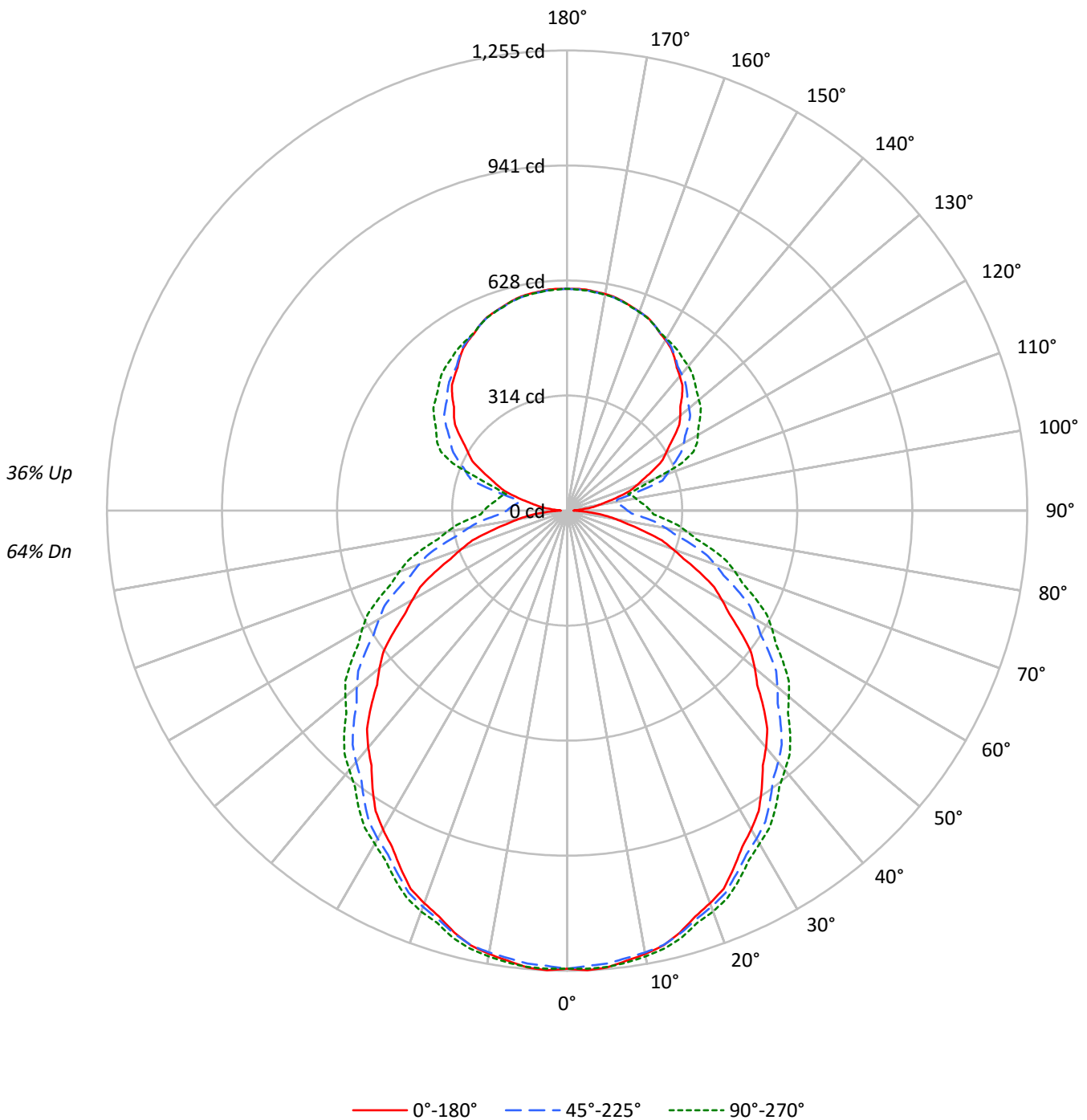
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332182

CATALOG NUMBER: S123DIW-S1000D460U835-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P332182

CATALOG NUMBER: S123DIW-S1000D460U835-4F0-1E-UDD-D

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	50	30	10	50	30	10	0		
RCR																										
0	110	110	110	110	104	104	104	104	91	91	91	79	79	79	69	69	69	64								
1	99	94	90	86	93	89	85	81	78	75	72	68	66	63	59	57	55	51								
2	90	82	75	69	84	77	71	66	67	63	59	59	55	52	51	48	46	42								
3	82	71	63	57	76	67	60	54	59	53	49	52	47	43	45	41	38	35								
4	75	63	55	48	70	59	52	46	52	46	41	46	41	37	40	36	33	29								
5	69	56	47	41	64	53	45	39	47	40	35	41	36	32	36	32	28	25								
6	63	50	42	35	59	47	40	34	42	36	31	37	32	28	32	28	25	22								
7	58	45	37	31	55	43	35	30	38	32	27	34	28	24	29	25	22	19								
8	54	41	33	27	51	39	32	26	35	28	24	31	26	22	27	23	20	17								
9	51	38	30	24	47	36	28	23	32	26	22	28	23	20	25	21	18	16								
10	47	35	27	22	44	33	26	21	29	23	19	26	21	18	23	19	16	14								

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



TEST NUMBER: P332182

CATALOG NUMBER: S123DIW-S1000D460U835-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.4	2.0
10°-20°	337.6	5.6
20°-30°	505.0	8.4
30°-40°	603.1	10.0
40°-50°	631.0	10.4
50°-60°	592.1	9.8
60°-70°	494.5	8.2
70°-80°	353.8	5.9
80°-90°	212.7	3.5
90°-100°	154.4	2.6
100°-110°	202.1	3.3
110°-120°	316.7	5.2
120°-130°	357.6	5.9
130°-140°	359.1	5.9
140°-150°	323.8	5.4
150°-160°	258.3	4.3
160°-170°	166.7	2.8
170°-180°	57.5	1.0
0°-30°	961.1	15.9
0°-40°	1564.1	25.9
0°-60°	2787.2	46.1
0°-90°	3848.3	63.7
90°-120°	673.1	11.1
90°-150°	1713.6	28.4
90°-180°	2196.0	36.3
0°-180°	6044.4	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°	18	90	165	211	227	13
95°	42	79	149	192	208	46
105°	145	181	200	162	172	153
115°	258	279	330	366	380	255
125°	358	364	403	431	443	320
135°	444	446	462	486	493	341
145°	510	512	513	524	530	319
155°	560	559	560	562	559	258
165°	591	590	589	592	590	167
175°	605	603	603	606	602	58
180°	605	605	605	605	605	



TEST NUMBER: P332182

CATALOG NUMBER: S123DIW-S1000D460U835-4F0-1E-UDD-D

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°	36.3	51.6	66.8	82.1	97.3	112.8	128.5	144.2	159.9	175.6	185.9
90°	18.1	34.0	49.8	65.6	81.4	97.7	114.4	131.1	147.9	164.6	175.3
92.5°	25.0	38.1	51.1	64.2	77.3	91.9	108.1	124.3	140.4	156.6	167.3
95°	42.4	50.1	57.8	65.5	73.2	85.0	100.9	116.8	132.8	148.7	158.7
97.5°	68.4	77.2	86.0	94.8	103.7	111.5	118.5	125.5	132.4	139.4	149.2
100°	88.2	99.9	111.5	123.2	134.9	139.9	138.2	136.6	134.9	133.2	142.8
102.5°	110.8	121.0	131.1	141.3	151.4	154.8	151.5	148.1	144.8	141.4	147.5
105°	144.8	153.1	161.5	169.8	178.2	184.4	188.4	192.4	196.4	200.5	191.3
107.5°	179.3	186.3	193.4	200.4	207.5	217.9	231.6	245.4	259.1	272.9	268.0
110°	202.3	208.5	214.7	221.0	227.2	236.9	250.1	263.3	276.5	289.7	294.3



TEST NUMBER: P332182

CATALOG NUMBER: S123DIW-S1000D460U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	225.3	230.5	235.6	240.8	246.0	255.0	267.7	280.4	293.1	305.8	313.5
115°	258.0	262.2	266.4	270.6	274.9	282.9	294.7	306.4	318.2	330.0	338.3
117.5°	290.7	293.6	296.6	299.6	302.6	309.4	320.1	330.8	341.4	352.1	360.1
120°	310.1	312.5	314.9	317.3	319.7	326.0	336.3	346.6	356.9	367.2	374.9
122.5°	330.9	332.4	334.0	335.5	337.0	342.7	352.6	362.5	372.3	382.2	389.5
125°	358.1	358.9	359.7	360.5	361.3	366.3	375.5	384.6	393.8	403.0	409.5
127.5°	385.8	386.3	386.8	387.3	387.8	391.9	399.6	407.4	415.1	422.8	429.2
130°	403.0	403.5	404.0	404.5	405.0	408.5	414.9	421.4	427.8	434.3	440.4
132.5°	418.5	419.2	420.0	420.7	421.4	424.4	429.5	434.7	439.9	445.0	450.9
135°	443.5	443.8	444.1	444.4	444.6	446.7	450.4	454.1	457.8	461.6	467.3
137.5°	464.8	465.3	465.8	466.3	466.8	468.1	470.2	472.3	474.4	476.5	481.8
140°	478.0	478.6	479.2	479.8	480.4	481.3	482.6	483.8	485.0	486.2	491.1
142.5°	491.3	491.7	492.1	492.4	492.8	493.2	493.7	494.2	494.6	495.1	499.5
145°	509.9	510.3	510.7	511.1	511.5	511.8	512.0	512.2	512.4	512.6	515.2
147.5°	526.1	526.6	527.0	527.5	527.9	528.3	528.5	528.7	528.9	529.1	530.0
150°	536.9	537.2	537.5	537.8	538.1	538.3	538.5	538.7	538.9	539.1	539.3
152.5°	546.6	546.7	546.9	547.0	547.2	547.3	547.4	547.5	547.6	547.8	548.1
155°	560.2	560.0	559.8	559.7	559.5	559.4	559.5	559.6	559.7	559.8	560.3
157.5°	570.9	570.8	570.8	570.8	570.8	570.7	570.6	570.5	570.4	570.3	570.9
160°	577.3	577.2	577.1	577.0	576.9	576.8	576.7	576.6	576.5	576.4	577.0
162.5°	583.4	583.2	582.9	582.7	582.4	582.2	582.1	582.0	581.9	581.8	582.5
165°	590.8	590.5	590.2	589.9	589.6	589.4	589.3	589.2	589.1	589.0	589.8
167.5°	596.6	596.2	595.8	595.4	595.0	594.8	594.8	594.8	594.8	594.8	595.6
170°	599.8	599.4	599.0	598.6	598.2	598.0	598.0	598.0	598.0	598.0	598.8
172.5°	601.9	601.5	601.0	600.5	600.0	599.8	599.9	600.0	600.1	600.1	600.9
175°	604.7	604.2	603.7	603.2	602.7	602.5	602.6	602.7	602.8	602.9	603.6
177.5°	605.4	605.0	604.6	604.2	603.8	603.7	603.8	603.8	603.9	604.0	604.6
180°	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7



TEST NUMBER: P332182

CATALOG NUMBER: S123DIW-S1000D460U835-4F0-1E-UDD-D

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°	196.3	206.6	217.0	223.7	226.8	229.8	232.9	236.0
90°	185.9	196.6	207.3	214.3	217.5	220.7	223.9	227.2
92.5°	177.9	188.6	199.3	206.1	209.0	211.9	214.8	217.7
95°	168.8	178.9	189.0	195.5	198.5	201.6	204.6	207.6
97.5°	159.0	168.8	178.7	185.1	188.2	191.4	194.5	197.6
100°	152.4	161.9	171.5	177.9	181.0	184.1	187.2	190.4
102.5°	153.5	159.6	165.7	170.3	173.5	176.7	179.9	183.1
105°	182.1	172.9	163.7	160.5	163.4	166.4	169.3	172.2
107.5°	263.2	258.3	253.5	245.7	235.1	224.4	213.8	203.1
110°	298.9	303.4	308.0	304.4	292.5	280.6	268.8	256.9



TEST NUMBER: P332182

CATALOG NUMBER: S123DIW-S1000D460U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	321.2	328.9	336.6	340.2	339.9	339.5	339.2	338.8
115°	346.5	354.8	363.0	368.6	371.4	374.2	377.0	379.9
117.5°	368.1	376.1	384.1	389.3	391.8	394.2	396.6	399.1
120°	382.7	390.4	398.2	403.1	405.2	407.4	409.5	411.6
122.5°	396.8	404.0	411.3	416.0	418.2	420.4	422.6	424.8
125°	416.1	422.6	429.2	433.6	435.9	438.2	440.6	442.9
127.5°	435.5	441.8	448.1	452.2	454.0	455.9	457.7	459.6
130°	446.6	452.7	458.9	462.8	464.4	466.0	467.6	469.2
132.5°	456.8	462.7	468.6	472.5	474.3	476.0	477.8	479.6
135°	473.1	478.8	484.5	488.0	489.2	490.4	491.7	492.9
137.5°	487.0	492.3	497.5	500.8	502.1	503.5	504.8	506.1
140°	496.0	501.0	505.9	509.0	510.4	511.7	513.0	514.3
142.5°	503.9	508.2	512.6	515.4	516.6	517.9	519.1	520.3
145°	517.9	520.5	523.1	525.0	526.2	527.4	528.6	529.9
147.5°	530.9	531.8	532.8	533.5	534.2	534.8	535.4	536.1
150°	539.5	539.7	539.9	540.2	540.5	540.8	541.1	541.4
152.5°	548.5	548.8	549.2	549.2	548.9	548.5	548.2	547.9
155°	560.8	561.3	561.8	561.7	561.1	560.5	559.9	559.4
157.5°	571.5	572.1	572.7	572.6	571.8	571.1	570.3	569.5
160°	577.6	578.2	578.8	578.8	578.1	577.4	576.7	576.0
162.5°	583.2	583.9	584.5	584.6	583.9	583.3	582.7	582.1
165°	590.6	591.4	592.2	592.2	591.5	590.9	590.2	589.5
167.5°	596.4	597.1	597.9	597.9	597.1	596.4	595.6	594.8
170°	599.6	600.4	601.2	601.2	600.4	599.6	598.8	598.0
172.5°	601.7	602.5	603.3	603.3	602.4	601.5	600.7	599.8
175°	604.3	605.0	605.7	605.7	604.9	604.1	603.3	602.5
177.5°	605.3	605.9	606.6	606.5	605.7	604.9	604.1	603.3
180°	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7

(END OF REPORT)