

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: P332182-840

Luminaire Tested: **S123DIW-S1000D460U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332182-840
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-S1000D460U840-4F0-1E-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: 6104.1 lumens
Efficiency: N/A
Efficacy: 132.1 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

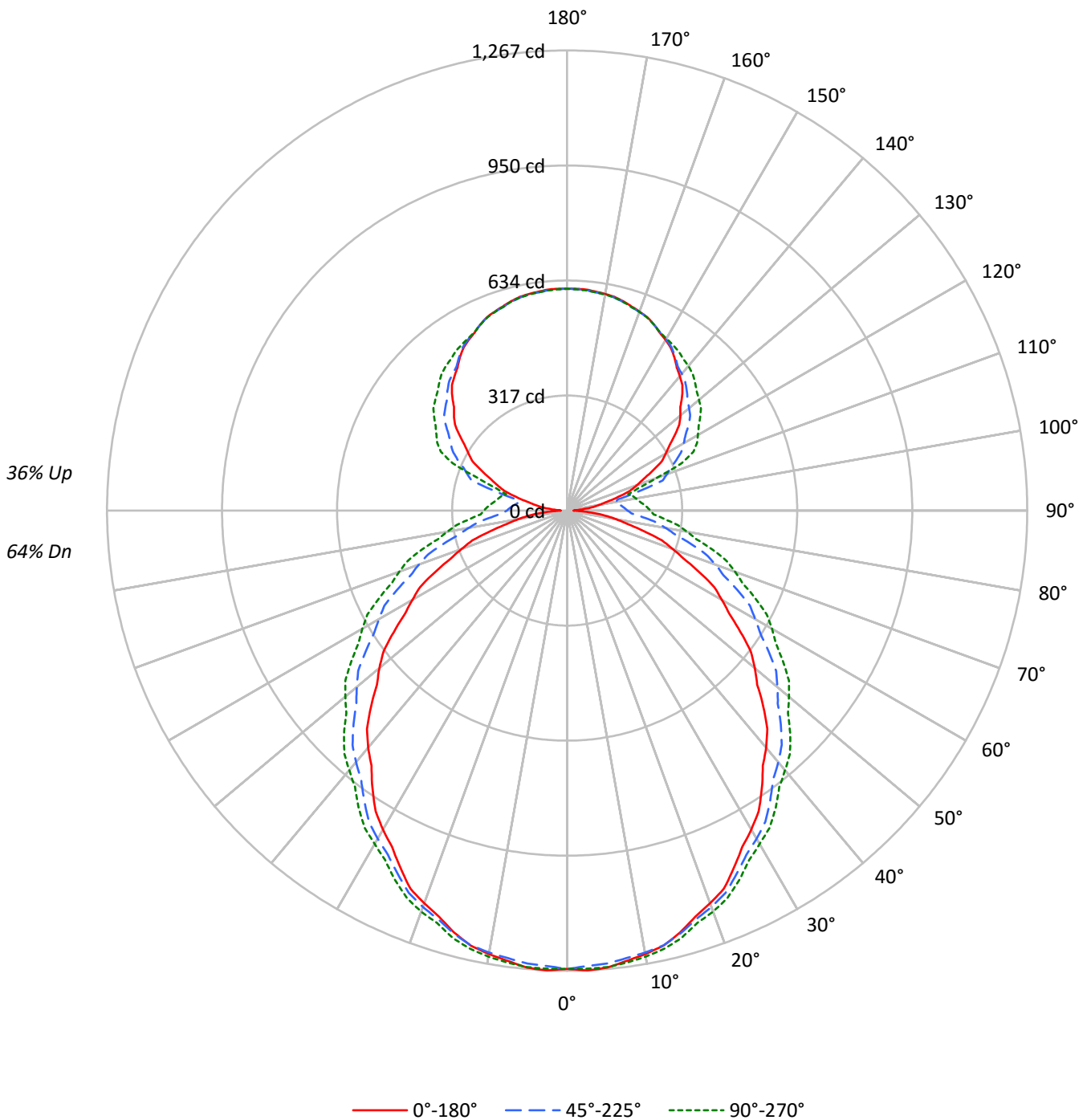
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332182-840

CATALOG NUMBER: S123DIW-S1000D460U840-4F0-1E-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	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°	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	2.0
10°-20°	341.0	5.6
20°-30°	510.0	8.4
30°-40°	609.0	10.0
40°-50°	637.2	10.4
50°-60°	598.0	9.8
60°-70°	499.4	8.2
70°-80°	357.3	5.9
80°-90°	214.8	3.5
90°-100°	155.9	2.6
100°-110°	204.1	3.3
110°-120°	319.8	5.2
120°-130°	361.2	5.9
130°-140°	362.7	5.9
140°-150°	327.0	5.4
150°-160°	260.9	4.3
160°-170°	168.4	2.8
170°-180°	58.0	1.0
0°-30°	970.6	15.9
0°-40°	1579.6	25.9
0°-60°	2814.7	46.1
0°-90°	3886.3	63.7
90°-120°	679.8	11.1
90°-150°	1730.6	28.4
90°-180°	2218.0	36.3
0°-180°	6104.1	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°	18	90	166	213	229	13
95°	43	80	150	194	210	46
105°	146	183	202	164	174	154
115°	260	282	333	369	384	257
125°	362	367	407	436	447	323
135°	448	450	466	491	498	345
145°	515	517	518	529	535	322
155°	566	565	565	567	565	261
165°	597	595	595	598	595	169
175°	611	608	609	612	608	58
180°	611	611	611	611	611	



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CATALOG NUMBER: S123DIW-S1000D460U840-4F0-1E-UDD-D

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°	36.7	52.1	67.5	82.9	98.3	113.9	129.8	145.6	161.5	177.3	187.7
90°	18.3	34.3	50.3	66.2	82.2	98.7	115.5	132.4	149.4	166.2	177.0
92.5°	25.2	38.5	51.6	64.8	78.1	92.8	109.2	125.5	141.8	158.1	169.0
95°	42.8	50.6	58.4	66.1	73.9	85.8	101.9	118.0	134.1	150.2	160.3
97.5°	69.1	78.0	86.8	95.7	104.7	112.6	119.7	126.7	133.7	140.8	150.7
100°	89.1	100.9	112.6	124.4	136.2	141.3	139.6	137.9	136.2	134.5	144.2
102.5°	111.9	122.2	132.4	142.7	152.9	156.3	153.0	149.6	146.2	142.8	149.0
105°	146.2	154.6	163.1	171.5	180.0	186.2	190.3	194.3	198.3	202.5	193.2
107.5°	181.1	188.1	195.3	202.4	209.5	220.0	233.9	247.8	261.7	275.6	270.6
110°	204.3	210.6	216.8	223.2	229.4	239.2	252.6	265.9	279.2	292.6	297.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	227.5	232.8	237.9	243.2	248.4	257.5	270.3	283.2	296.0	308.8	316.6
115°	260.5	264.8	269.0	273.3	277.6	285.7	297.6	309.4	321.3	333.3	341.6
117.5°	293.6	296.5	299.5	302.6	305.6	312.5	323.3	334.1	344.8	355.6	363.7
120°	313.2	315.6	318.0	320.4	322.9	329.2	339.6	350.0	360.4	370.8	378.6
122.5°	334.2	335.7	337.3	338.8	340.3	346.1	356.1	366.1	376.0	386.0	393.3
125°	361.6	362.4	363.2	364.1	364.9	369.9	379.2	388.4	397.7	407.0	413.5
127.5°	389.6	390.1	390.6	391.1	391.6	395.8	403.5	411.4	419.2	427.0	433.4
130°	407.0	407.5	408.0	408.5	409.0	412.5	419.0	425.6	432.0	438.6	444.7
132.5°	422.6	423.3	424.1	424.9	425.6	428.6	433.7	439.0	444.2	449.4	455.3
135°	447.9	448.2	448.5	448.8	449.0	451.1	454.8	458.6	462.3	466.2	471.9
137.5°	469.4	469.9	470.4	470.9	471.4	472.7	474.8	477.0	479.1	481.2	486.6
140°	482.7	483.3	483.9	484.5	485.1	486.0	487.4	488.6	489.8	491.0	495.9
142.5°	496.1	496.6	497.0	497.3	497.7	498.1	498.6	499.1	499.5	500.0	504.4
145°	514.9	515.3	515.7	516.1	516.5	516.8	517.1	517.3	517.5	517.7	520.3
147.5°	531.3	531.8	532.2	532.7	533.1	533.5	533.7	533.9	534.1	534.3	535.2
150°	542.2	542.5	542.8	543.1	543.4	543.6	543.8	544.0	544.2	544.4	544.6
152.5°	552.0	552.1	552.3	552.4	552.6	552.7	552.8	552.9	553.0	553.2	553.5
155°	565.7	565.5	565.3	565.2	565.0	564.9	565.0	565.1	565.2	565.3	565.8
157.5°	576.5	576.4	576.4	576.4	576.4	576.3	576.2	576.1	576.0	575.9	576.5
160°	583.0	582.9	582.8	582.7	582.6	582.5	582.4	582.3	582.2	582.1	582.7
162.5°	589.2	589.0	588.7	588.4	588.1	587.9	587.8	587.7	587.6	587.5	588.2
165°	596.6	596.3	596.0	595.7	595.4	595.2	595.1	595.0	594.9	594.8	595.6
167.5°	602.5	602.1	601.7	601.3	600.9	600.7	600.7	600.7	600.7	600.7	601.5
170°	605.7	605.3	604.9	604.5	604.1	603.9	603.9	603.9	603.9	603.9	604.7
172.5°	607.8	607.4	606.9	606.4	605.9	605.7	605.8	605.9	606.0	606.0	606.8
175°	610.7	610.2	609.7	609.2	608.6	608.4	608.5	608.6	608.7	608.8	609.6
177.5°	611.4	611.0	610.6	610.2	609.8	609.7	609.8	609.8	609.9	610.0	610.6
180°	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7



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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°	198.2	208.6	219.1	225.9	229.0	232.1	235.2	238.3
90°	187.7	198.5	209.3	216.4	219.6	222.9	226.1	229.4
92.5°	179.7	190.5	201.3	208.1	211.1	214.0	216.9	219.8
95°	170.5	180.7	190.9	197.4	200.5	203.6	206.6	209.6
97.5°	160.6	170.5	180.5	186.9	190.1	193.3	196.4	199.5
100°	153.9	163.5	173.2	179.7	182.8	185.9	189.0	192.3
102.5°	155.0	161.2	167.3	172.0	175.2	178.4	181.7	184.9
105°	183.9	174.6	165.3	162.1	165.0	168.0	171.0	173.9
107.5°	265.8	260.8	256.0	248.1	237.4	226.6	215.9	205.1
110°	301.8	306.4	311.0	307.4	295.4	283.4	271.5	259.4



TEST NUMBER: P332182-840

CATALOG NUMBER: S123DIW-S1000D460U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	324.4	332.1	339.9	343.6	343.3	342.8	342.5	342.1
115°	349.9	358.3	366.6	372.2	375.1	377.9	380.7	383.6
117.5°	371.7	379.8	387.9	393.1	395.7	398.1	400.5	403.0
120°	386.5	394.3	402.1	407.1	409.2	411.4	413.5	415.7
122.5°	400.7	408.0	415.4	420.1	422.3	424.5	426.8	429.0
125°	420.2	426.8	433.4	437.9	440.2	442.5	444.9	447.3
127.5°	439.8	446.2	452.5	456.7	458.5	460.4	462.2	464.1
130°	451.0	457.2	463.4	467.4	469.0	470.6	472.2	473.8
132.5°	461.3	467.3	473.2	477.2	479.0	480.7	482.5	484.3
135°	477.8	483.5	489.3	492.8	494.0	495.2	496.6	497.8
137.5°	491.8	497.2	502.4	505.7	507.1	508.5	509.8	511.1
140°	500.9	505.9	510.9	514.0	515.4	516.7	518.1	519.4
142.5°	508.9	513.2	517.7	520.5	521.7	523.0	524.2	525.4
145°	523.0	525.6	528.3	530.2	531.4	532.6	533.8	535.1
147.5°	536.1	537.0	538.1	538.8	539.5	540.1	540.7	541.4
150°	544.8	545.0	545.2	545.5	545.8	546.1	546.4	546.7
152.5°	553.9	554.2	554.6	554.6	554.3	553.9	553.6	553.3
155°	566.3	566.8	567.3	567.2	566.6	566.0	565.4	564.9
157.5°	577.1	577.7	578.3	578.2	577.4	576.7	575.9	575.1
160°	583.3	583.9	584.5	584.5	583.8	583.1	582.4	581.7
162.5°	589.0	589.7	590.3	590.4	589.7	589.1	588.4	587.8
165°	596.4	597.2	598.0	598.0	597.3	596.7	596.0	595.3
167.5°	602.3	603.0	603.8	603.8	603.0	602.3	601.5	600.7
170°	605.5	606.3	607.1	607.1	606.3	605.5	604.7	603.9
172.5°	607.6	608.4	609.3	609.3	608.3	607.4	606.6	605.7
175°	610.3	611.0	611.7	611.7	610.9	610.1	609.3	608.4
177.5°	611.3	611.9	612.6	612.5	611.7	610.9	610.1	609.3
180°	610.7	610.7	610.7	610.7	610.7	610.7	610.7	610.7

(END OF REPORT)