

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: P331593-840

Luminaire Tested: **S122DIW-S1005D710U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331593-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S1005D710U840-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 710 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6939.6 lumens
Efficiency: N/A
Efficacy: 116.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

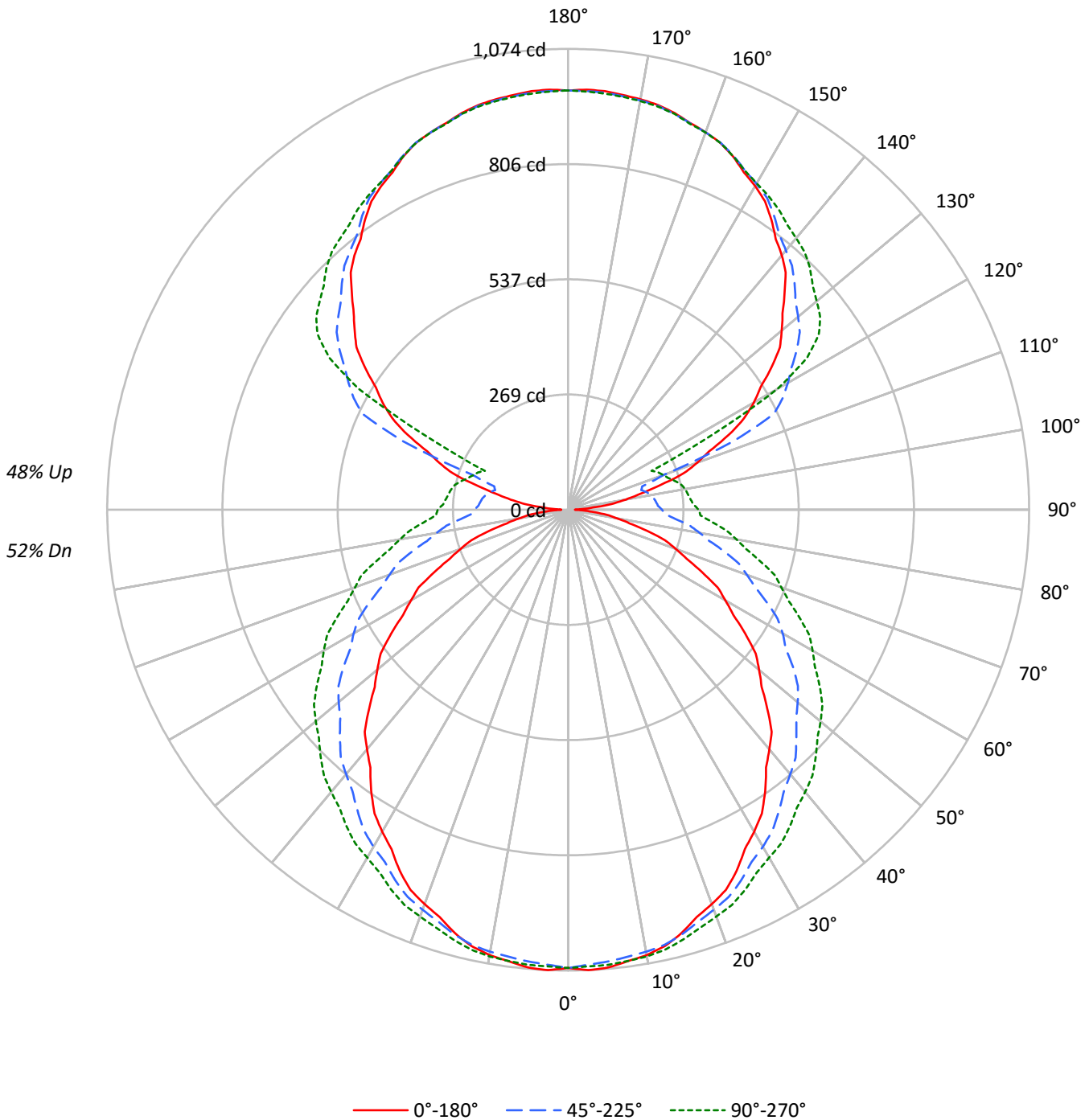
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331593-840

CATALOG NUMBER: S122DIW-S1005D710U840-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P331593-840

CATALOG NUMBER: S122DIW-S1005D710U840-4F0-1E-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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	97	92	87	83	89	85	81	77	72	69	66	60	58	56	49	47	46	41
2	87	79	72	67	80	73	67	62	62	57	54	52	48	45	42	40	38	33
3	79	69	61	55	73	64	57	51	54	49	44	45	41	38	37	34	31	27
4	72	61	52	46	66	56	49	43	48	42	37	40	35	32	33	29	26	23
5	66	54	45	39	61	50	42	37	43	37	32	36	31	27	29	26	23	20
6	61	48	40	34	56	45	37	32	38	32	28	32	27	24	26	23	20	17
7	56	43	35	29	52	40	33	28	35	29	24	29	24	21	24	20	18	15
8	52	39	31	26	48	37	29	24	31	26	21	27	22	18	22	18	16	13
9	49	36	28	23	45	33	26	22	29	23	19	24	20	17	20	17	14	12
10	45	33	25	20	42	31	24	19	26	21	17	23	18	15	19	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17241	17241	17241
5°	17327	16597	16534
10°	17217	16106	15925
15°	16980	15587	15284
20°	16681	15031	14669
25°	16384	14494	14107
30°	15966	13945	13546
35°	15544	13412	13150
40°	15099	12958	12754
45°	14678	12551	12415
50°	14226	12185	12082
55°	13750	11789	11742
60°	13168	11380	11382
65°	12566	10901	10957
70°	11886	10385	10497
75°	11021	9881	10071
80°	9646	9362	9643
85°	8334	8915	9308



TEST NUMBER: P331593-840

CATALOG NUMBER: S122DIW-S1005D710U840-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.2	1.5
10°-20°	290.2	4.2
20°-30°	439.7	6.3
30°-40°	535.6	7.7
40°-50°	576.2	8.3
50°-60°	559.5	8.1
60°-70°	488.6	7.0
70°-80°	376.1	5.4
80°-90°	254.8	3.7
90°-100°	206.5	3.0
100°-110°	246.5	3.6
110°-120°	403.3	5.8
120°-130°	574.2	8.3
130°-140°	580.5	8.4
140°-150°	524.7	7.6
150°-160°	419.1	6.0
160°-170°	270.1	3.9
170°-180°	93.0	1.3
0°-30°	831.1	12.0
0°-40°	1366.6	19.7
0°-60°	2502.3	36.1
0°-90°	3621.8	52.2
90°-120°	856.3	12.3
90°-150°	2535.7	36.5
90°-180°	3318.0	47.8
0°-180°	6939.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1068	1068	1068	1068	1068	
5°	1071	1066	1057	1066	1065	102
15°	1022	1024	1024	1038	1037	288
25°	929	940	953	971	976	427
35°	800	827	856	889	901	500
45°	656	699	752	798	816	506
55°	503	560	639	693	715	450
65°	344	420	511	572	594	341
75°	190	278	376	440	463	201
85°	56	152	251	313	337	60
90°	16	114	218	281	304	13
95°	58	110	206	265	286	66
105°	223	279	176	236	258	238
115°	413	445	529	262	214	406
125°	578	590	650	695	713	516
135°	713	725	746	784	796	551
145°	825	825	836	850	855	516
155°	908	903	911	914	909	418
165°	957	953	955	960	955	270
175°	979	974	976	980	974	93
180°	977	977	977	977	977	



TEST NUMBER: P331593-840

CATALOG NUMBER: S122DIW-S1005D710U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8
2.5°	1074.1	1073.3	1072.4	1071.6	1070.8	1069.3	1067.4	1065.5	1063.6	1061.7	1063.1
5°	1071.0	1070.0	1068.9	1067.8	1066.8	1065.3	1063.3	1061.2	1059.1	1057.0	1059.1
7.5°	1061.4	1060.7	1060.0	1059.3	1058.6	1057.5	1055.9	1054.3	1052.8	1051.2	1053.6
10°	1054.0	1053.3	1052.6	1051.9	1051.2	1050.4	1049.4	1048.2	1047.2	1046.2	1048.9
12.5°	1041.6	1041.7	1041.9	1042.0	1042.1	1041.8	1041.1	1040.3	1039.6	1038.7	1041.6
15°	1021.5	1022.2	1022.8	1023.5	1024.2	1024.5	1024.5	1024.5	1024.5	1024.5	1027.6
17.5°	995.4	996.9	998.4	999.8	1001.2	1002.5	1003.6	1004.7	1005.8	1006.9	1010.2
20°	978.2	979.9	981.6	983.3	985.0	986.5	988.0	989.3	990.7	992.1	995.8
22.5°	959.6	961.5	963.5	965.5	967.6	969.5	971.4	973.3	975.2	977.1	981.0
25°	928.6	931.0	933.4	935.8	938.3	941.0	944.0	947.2	950.3	953.3	957.5
27.5°	891.4	895.3	899.3	903.2	907.2	910.9	914.5	918.2	921.8	925.5	930.7
30°	866.7	871.1	875.7	880.1	884.5	889.1	893.5	898.0	902.4	907.0	912.4
32.5°	839.4	844.4	849.5	854.5	859.5	864.6	870.0	875.3	880.6	885.9	892.2
35°	800.1	806.0	811.8	817.7	823.5	829.7	836.3	842.7	849.3	855.9	863.4
37.5°	757.4	764.2	770.9	777.6	784.4	791.9	800.4	808.9	817.4	825.9	834.2
40°	728.9	736.5	744.1	751.6	759.2	767.6	776.9	786.2	795.5	804.8	813.7
42.5°	701.8	709.2	716.8	724.4	732.0	741.0	751.7	762.4	773.1	783.8	793.5
45°	656.2	665.5	674.8	684.1	693.4	704.0	716.1	728.1	740.1	752.1	762.9
47.5°	611.4	621.5	631.6	641.7	651.8	663.9	678.0	692.1	706.2	720.2	731.4
50°	580.4	591.1	601.7	612.4	623.0	636.1	651.6	667.0	682.5	698.0	709.7
52.5°	550.7	561.9	573.1	584.3	595.5	609.3	625.5	641.9	658.1	674.5	686.4
55°	503.0	515.3	527.8	540.2	552.5	567.6	585.5	603.4	621.3	639.1	651.6
57.5°	456.0	469.9	483.8	497.9	511.8	527.9	546.1	564.3	582.6	600.8	614.1
60°	422.5	437.3	452.1	466.9	481.7	498.9	518.5	538.1	557.6	577.2	590.4
62.5°	392.8	408.1	423.4	438.8	454.1	471.6	491.2	510.8	530.5	550.1	563.9
65°	343.6	360.4	377.3	394.2	411.0	429.6	449.9	470.1	490.4	510.7	524.8
67.5°	298.4	316.0	333.6	351.2	368.8	388.0	408.8	429.6	450.3	471.1	485.3
70°	266.2	284.1	301.9	319.8	337.7	357.3	378.7	400.0	421.3	442.6	457.4
72.5°	236.5	254.9	273.4	291.8	310.2	330.2	351.8	373.4	395.1	416.7	431.1
75°	190.4	209.6	228.8	248.1	267.4	288.0	310.0	332.0	354.1	376.1	390.8
77.5°	145.8	165.9	186.1	206.2	226.4	247.6	270.0	292.4	314.7	337.1	351.8
80°	116.0	137.0	158.0	179.0	200.0	221.7	244.0	266.4	288.7	311.0	325.5
82.5°	91.3	112.0	132.7	153.4	174.1	195.8	218.4	241.1	263.7	286.3	300.7
85°	55.7	77.1	98.4	119.7	141.0	162.7	184.7	206.7	228.7	250.7	265.2
87.5°	30.5	51.3	72.2	93.0	113.8	135.4	157.6	180.0	202.2	224.5	238.6
90°	16.2	37.9	59.6	81.2	102.9	125.3	148.7	171.9	195.2	218.4	233.0
92.5°	28.5	47.0	65.3	83.7	102.2	122.3	144.1	165.9	187.7	209.5	223.5
95°	58.4	69.3	80.3	91.3	102.3	118.7	140.4	162.1	183.8	205.5	219.4
97.5°	102.0	101.8	101.6	101.3	101.1	112.2	134.5	156.8	179.3	201.6	214.9
100°	135.9	127.1	118.4	109.6	100.8	107.3	129.3	151.2	173.1	195.1	209.0
102.5°	172.1	179.2	186.2	193.3	200.4	202.1	198.4	194.8	191.2	187.5	201.6
105°	222.7	237.3	252.1	266.7	281.4	276.2	251.3	226.2	201.3	176.2	190.0
107.5°	282.2	294.0	305.7	317.5	329.3	318.0	283.7	249.4	215.1	180.8	190.6
110°	319.4	329.5	339.7	349.9	360.1	350.9	322.3	293.8	265.3	236.7	232.0



TEST NUMBER: P331593-840

CATALOG NUMBER: S122DIW-S1005D710U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	355.6	364.3	372.9	381.6	390.4	397.1	401.9	406.8	411.5	416.4	370.0
115°	412.7	419.2	425.6	432.0	438.5	451.4	470.8	490.3	509.7	529.1	466.7
117.5°	462.2	467.7	473.1	478.6	484.0	495.2	512.3	529.3	546.3	563.3	555.9
120°	499.5	503.2	507.0	510.7	514.4	524.6	541.2	557.7	574.3	591.0	602.5
122.5°	531.2	534.2	537.2	540.3	543.3	552.8	568.9	584.8	600.9	616.9	627.3
125°	577.8	579.9	582.0	584.0	586.0	594.0	608.0	622.0	636.0	650.1	660.4
127.5°	621.6	623.5	625.4	627.3	629.2	635.7	646.8	657.9	669.0	680.1	690.2
130°	649.2	651.5	653.6	655.8	657.9	663.5	672.5	681.4	690.3	699.3	709.3
132.5°	677.5	679.3	681.2	682.9	684.7	689.2	696.5	703.9	711.1	718.4	727.9
135°	712.8	715.3	717.8	720.3	722.8	726.5	731.3	736.2	741.0	745.9	754.7
137.5°	749.9	751.6	753.4	755.0	756.7	759.1	762.2	765.4	768.4	771.5	779.4
140°	774.3	775.2	776.1	777.0	777.9	779.6	781.9	784.4	786.8	789.2	796.2
142.5°	794.7	795.4	796.2	797.0	797.8	799.2	801.3	803.4	805.6	807.7	813.3
145°	825.1	824.9	824.8	824.6	824.4	825.7	828.3	831.0	833.6	836.4	839.5
147.5°	852.8	852.3	851.7	851.1	850.5	851.5	854.1	856.8	859.4	862.0	863.1
150°	871.0	869.9	868.8	867.7	866.6	867.3	869.8	872.3	874.8	877.4	878.3
152.5°	886.3	885.0	883.8	882.5	881.3	881.9	884.3	886.7	889.1	891.5	892.4
155°	908.5	907.1	905.6	904.2	902.8	903.0	904.9	906.8	908.7	910.6	911.5
157.5°	925.8	924.6	923.4	922.2	921.1	921.1	922.4	923.7	925.0	926.3	927.5
160°	936.0	935.0	934.1	933.2	932.2	932.2	933.2	934.1	935.0	936.0	937.0
162.5°	945.0	944.1	943.2	942.2	941.3	941.2	942.0	942.9	943.7	944.5	945.5
165°	957.3	956.2	955.3	954.4	953.4	953.2	953.7	954.1	954.6	955.1	956.2
167.5°	966.2	965.3	964.4	963.4	962.5	962.3	962.7	963.1	963.6	964.0	965.1
170°	971.4	970.4	969.5	968.6	967.6	967.2	967.6	968.0	968.3	968.6	969.7
172.5°	974.7	973.8	972.9	971.9	971.0	970.7	971.0	971.3	971.6	971.9	973.0
175°	979.2	978.1	976.9	975.8	974.7	974.3	974.6	975.0	975.3	975.6	976.7
177.5°	979.9	979.0	978.1	977.2	976.3	975.9	976.0	976.2	976.3	976.4	977.3
180°	977.0	977.0	977.0	977.0	977.0	977.0	977.0	977.0	977.0	977.0	977.0



TEST NUMBER: P331593-840

CATALOG NUMBER: S122DIW-S1005D710U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8	1067.8
2.5°	1064.4	1065.8	1067.2	1067.6	1067.0	1066.5	1065.9	1065.4
5°	1061.2	1063.3	1065.3	1066.1	1065.8	1065.5	1065.1	1064.8
7.5°	1056.1	1058.6	1061.1	1062.2	1061.8	1061.5	1061.1	1060.8
10°	1051.7	1054.5	1057.2	1058.4	1058.0	1057.7	1057.4	1057.0
12.5°	1044.3	1047.0	1049.8	1051.0	1050.7	1050.3	1050.0	1049.7
15°	1030.8	1033.8	1036.9	1038.3	1037.9	1037.6	1037.2	1036.9
17.5°	1013.4	1016.6	1019.9	1021.5	1021.5	1021.5	1021.5	1021.5
20°	999.6	1003.4	1007.1	1009.1	1009.1	1009.1	1009.1	1009.1
22.5°	984.7	988.6	992.3	994.5	995.0	995.6	996.1	996.7
25°	961.6	965.7	969.9	972.4	973.5	974.5	975.5	976.5
27.5°	935.9	941.2	946.4	949.4	950.2	950.9	951.7	952.4
30°	918.0	923.4	929.0	932.2	933.2	934.2	935.3	936.3
32.5°	898.6	904.8	911.2	915.2	917.2	919.0	920.9	922.7
35°	871.0	878.6	886.2	891.1	893.5	896.0	898.4	900.7
37.5°	842.6	851.0	859.4	864.8	867.4	870.0	872.5	875.0
40°	822.6	831.6	840.5	846.6	849.7	852.7	855.9	859.0
42.5°	803.2	813.0	822.8	829.2	832.3	835.5	838.5	841.6
45°	773.5	784.2	794.8	801.8	805.3	808.7	812.1	815.6
47.5°	742.6	753.7	764.9	772.3	776.1	779.9	783.7	787.5
50°	721.3	733.1	744.8	752.6	756.3	760.0	763.9	767.6
52.5°	698.4	710.3	722.4	730.3	734.4	738.5	742.6	746.6
55°	664.0	676.3	688.7	697.1	701.6	706.1	710.5	715.0
57.5°	627.5	640.9	654.2	663.1	667.6	672.2	676.7	681.3
60°	603.4	616.5	629.5	638.5	643.3	648.1	653.0	657.7
62.5°	577.8	591.7	605.6	614.8	619.4	623.9	628.4	633.0
65°	539.0	553.0	567.1	576.4	580.9	585.3	589.9	594.3
67.5°	499.6	513.8	528.1	537.6	542.2	546.8	551.6	556.2
70°	472.2	487.0	501.8	511.2	515.3	519.5	523.6	527.8
72.5°	445.7	460.2	474.6	484.4	489.4	494.3	499.3	504.2
75°	405.7	420.4	435.3	444.8	449.3	453.8	458.3	462.7
77.5°	366.5	381.2	396.0	405.8	410.5	415.4	420.2	425.0
80°	339.9	354.5	368.9	378.5	383.3	388.1	392.9	397.8
82.5°	315.2	329.6	344.1	353.6	358.1	362.6	367.2	371.7
85°	279.6	294.1	308.5	318.1	323.0	327.8	332.5	337.4
87.5°	252.9	267.0	281.2	290.5	295.0	299.4	304.0	308.4
90°	247.5	262.1	276.6	286.1	290.5	295.0	299.4	303.9
92.5°	237.3	251.3	265.1	274.2	278.5	282.9	287.2	291.4
95°	233.3	247.1	260.9	269.8	273.9	277.8	281.8	285.8
97.5°	228.3	241.7	255.0	263.8	268.0	272.3	276.5	280.7
100°	223.0	237.0	251.0	260.0	264.1	268.2	272.4	276.4
102.5°	215.7	229.7	243.9	253.0	257.2	261.5	265.7	269.9
105°	203.8	217.5	231.3	240.3	244.8	249.2	253.6	258.0
107.5°	200.4	210.2	219.9	227.1	231.5	235.9	240.3	244.7
110°	227.3	222.6	217.8	217.7	222.2	226.5	231.0	235.4



TEST NUMBER: P331593-840

CATALOG NUMBER: S122DIW-S1005D710U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	323.8	277.4	231.2	210.2	214.4	218.7	223.0	227.3
115°	404.2	341.8	279.3	244.4	236.9	229.3	221.8	214.3
117.5°	548.5	541.1	533.6	513.1	479.5	445.8	412.1	378.5
120°	614.0	625.5	637.0	634.1	616.6	599.2	581.8	564.3
122.5°	637.8	648.3	658.8	663.6	662.8	661.9	661.0	660.0
125°	670.8	681.2	691.6	698.5	702.1	705.7	709.2	712.8
127.5°	700.4	710.5	720.6	727.3	730.4	733.6	736.7	739.8
130°	719.2	729.2	739.2	745.5	748.1	750.7	753.3	755.9
132.5°	737.4	746.8	756.3	762.3	764.9	767.5	770.1	772.6
135°	763.5	772.2	781.0	786.7	789.1	791.5	794.0	796.5
137.5°	787.3	795.2	803.0	807.9	809.7	811.5	813.2	815.1
140°	803.0	810.0	816.9	821.0	822.2	823.5	824.9	826.1
142.5°	819.1	824.8	830.4	833.7	834.8	835.8	836.8	837.8
145°	842.6	845.9	849.0	851.0	851.9	852.9	853.8	854.7
147.5°	864.2	865.4	866.5	867.1	867.3	867.4	867.6	867.7
150°	879.2	880.2	881.1	881.2	880.4	879.6	878.8	878.1
152.5°	893.3	894.3	895.2	895.2	894.1	893.1	892.1	891.0
155°	912.4	913.4	914.3	914.1	912.9	911.7	910.4	909.2
157.5°	928.6	929.6	930.7	930.6	929.4	928.2	927.0	925.6
160°	937.9	938.9	939.8	939.7	938.6	937.5	936.4	935.3
162.5°	946.6	947.7	948.8	948.7	947.3	945.9	944.5	943.2
165°	957.4	958.4	959.5	959.5	958.4	957.4	956.2	955.1
167.5°	966.2	967.3	968.4	968.3	966.8	965.4	964.0	962.6
170°	970.8	971.8	972.9	972.8	971.4	970.0	968.6	967.1
172.5°	974.1	975.2	976.3	976.1	974.7	973.3	971.9	970.5
175°	977.9	978.9	980.0	979.8	978.2	976.6	975.0	973.5
177.5°	978.3	979.1	980.0	979.9	978.8	977.5	976.4	975.3
180°	977.0	977.0	977.0	977.0	977.0	977.0	977.0	977.0

(END OF REPORT)