

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: P332194-930

Luminaire Tested: **S123DIW-S1000D1030U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332194-930
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-S1000D1030U930-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6787.5 lumens
Efficiency: N/A
Efficacy: 110.9 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

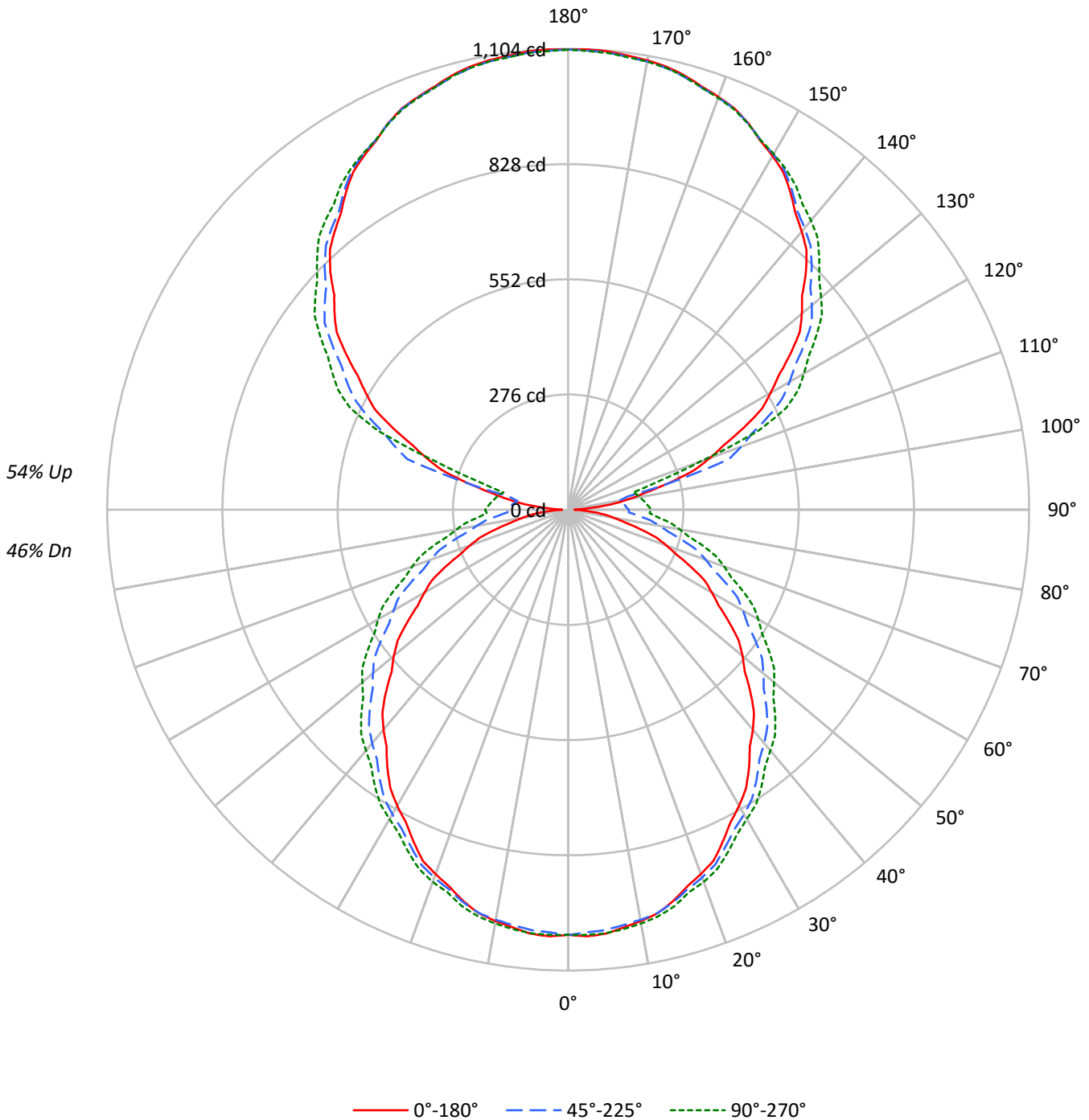
Input Watts (W): 61.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332194-930

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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	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53	46
1	96	91	87	83	88	84	80	77	70	67	65	57	55	53	45	44	43	37
2	87	79	73	67	79	73	67	62	61	56	53	49	46	44	39	37	35	30
3	79	69	62	55	72	64	57	52	53	48	44	43	40	37	34	32	29	25
4	72	61	53	47	66	56	49	43	47	41	37	38	34	31	30	28	25	21
5	66	54	46	40	60	50	43	37	42	36	32	34	30	27	27	24	22	18
6	61	49	40	34	56	45	37	32	38	32	28	31	27	23	25	21	19	16
7	56	44	36	30	51	40	33	28	34	28	24	28	24	20	23	19	17	14
8	52	40	32	26	48	37	30	25	31	25	21	26	21	18	21	17	15	13
9	48	36	28	23	44	33	27	22	28	23	19	24	19	16	19	16	13	11
10	45	33	26	21	41	31	24	20	26	21	17	22	18	15	18	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10964	10964	10964
5°	10999	10689	10694
10°	10900	10443	10390
15°	10759	10162	10058
20°	10559	9844	9692
25°	10311	9476	9308
30°	10057	9145	8918
35°	9773	8796	8606
40°	9500	8479	8272
45°	9199	8172	8007
50°	8904	7871	7713
55°	8574	7562	7449
60°	8255	7248	7178
65°	7926	6915	6856
70°	7430	6538	6527
75°	6807	6107	6190
80°	6087	5683	5807
85°	5426	5394	5585



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.6	1.4
10°-20°	275.3	4.1
20°-30°	411.7	6.1
30°-40°	491.7	7.2
40°-50°	514.4	7.6
50°-60°	482.8	7.1
60°-70°	403.2	5.9
70°-80°	288.5	4.3
80°-90°	175.1	2.6
90°-100°	148.0	2.2
100°-110°	270.3	4.0
110°-120°	511.7	7.5
120°-130°	614.5	9.1
130°-140°	637.8	9.4
140°-150°	586.6	8.6
150°-160°	470.8	6.9
160°-170°	303.9	4.5
170°-180°	104.7	1.5
0°-30°	783.6	11.5
0°-40°	1275.2	18.8
0°-60°	2272.4	33.5
0°-90°	3139.2	46.2
90°-120°	930.1	13.7
90°-150°	2768.9	40.8
90°-180°	3648.0	53.7
0°-180°	6787.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1019	1019	1019	1019	1019	
5°	1020	1017	1011	1019	1019	97
15°	971	974	973	984	983	273
25°	877	887	891	905	906	404
35°	755	772	787	803	808	472
45°	617	644	671	692	701	476
55°	470	507	547	576	586	421
65°	325	369	417	449	462	321
75°	176	229	284	319	334	188
85°	54	110	169	205	218	57
90°	15	78	145	184	199	12
95°	62	75	135	174	186	71
105°	253	285	262	156	160	268
115°	463	483	529	562	576	457
125°	649	657	691	715	725	579
135°	806	810	825	846	850	620
145°	928	933	934	944	949	581
155°	1021	1020	1020	1024	1020	470
165°	1077	1074	1074	1079	1074	304
175°	1102	1098	1099	1104	1098	105
180°	1102	1102	1102	1102	1102	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6
2.5°	1023.1	1022.5	1021.9	1021.3	1020.8	1019.6	1018.1	1016.5	1014.9	1013.3	1014.9
5°	1019.8	1019.3	1018.8	1018.3	1017.8	1016.8	1015.4	1013.8	1012.4	1010.9	1012.8
7.5°	1009.7	1009.9	1010.0	1010.1	1010.2	1009.5	1008.1	1006.7	1005.2	1003.8	1006.2
10°	1000.9	1001.4	1001.9	1002.4	1002.9	1002.5	1001.3	1000.0	998.8	997.6	1000.0
12.5°	990.3	990.9	991.6	992.3	993.0	993.0	992.1	991.2	990.4	989.6	991.9
15°	970.9	971.7	972.4	973.1	973.9	974.1	973.9	973.6	973.4	973.1	975.7
17.5°	946.6	948.0	949.5	951.0	952.4	953.2	953.1	952.9	952.8	952.8	955.0
20°	928.8	930.3	931.7	933.2	934.7	935.7	936.2	936.7	937.2	937.7	939.9
22.5°	910.1	911.6	913.1	914.6	916.1	917.1	917.9	918.5	919.2	919.9	922.7
25°	876.6	879.1	881.6	884.0	886.5	888.1	888.8	889.6	890.3	891.0	894.2
27.5°	842.9	845.7	848.5	851.3	854.1	856.3	857.9	859.5	861.0	862.7	865.4
30°	818.9	822.1	825.3	828.5	831.8	834.3	836.3	838.3	840.2	842.2	845.2
32.5°	792.3	795.9	799.5	803.1	806.7	809.8	812.4	814.9	817.5	820.0	823.2
35°	754.6	758.5	762.5	766.4	770.4	773.9	777.1	780.3	783.5	786.8	790.4
37.5°	714.6	719.1	723.5	727.9	732.4	736.5	740.5	744.4	748.4	752.4	756.5
40°	687.9	692.4	696.8	701.3	705.7	710.5	715.3	720.3	725.2	730.2	734.3
42.5°	658.7	664.1	669.5	675.0	680.4	685.7	690.8	695.9	701.1	706.2	710.8
45°	616.9	622.9	628.8	634.7	640.7	646.7	652.8	659.0	665.2	671.3	676.0
47.5°	573.2	579.9	586.7	593.4	600.1	607.0	614.0	621.1	628.1	635.2	640.4
50°	544.9	551.7	558.6	565.6	572.4	579.8	587.3	595.0	602.7	610.3	616.0
52.5°	514.6	522.0	529.3	536.5	543.9	551.7	560.2	568.6	577.0	585.5	591.3
55°	470.5	478.7	486.7	494.9	503.0	511.5	520.4	529.3	538.2	547.1	553.8
57.5°	427.5	435.9	444.4	452.9	461.4	470.5	480.2	489.9	499.6	509.3	516.0
60°	397.3	406.1	415.0	423.9	432.8	442.2	452.3	462.5	472.6	482.7	489.6
62.5°	368.8	377.9	387.0	396.1	405.1	415.1	425.7	436.4	447.1	457.9	464.7
65°	325.1	334.8	344.4	354.0	363.6	373.8	384.7	395.5	406.3	417.3	424.6
67.5°	280.7	291.0	301.2	311.4	321.6	332.2	343.2	354.3	365.3	376.4	384.5
70°	249.6	260.2	270.8	281.5	292.1	303.3	315.1	327.0	338.8	350.7	358.6
72.5°	221.3	231.9	242.5	253.1	263.7	275.1	287.3	299.5	311.8	324.0	332.1
75°	176.4	188.0	199.6	211.2	222.8	234.7	247.1	259.4	271.7	284.1	292.2
77.5°	137.4	149.0	160.8	172.4	184.1	196.2	208.6	221.0	233.5	245.9	254.5
80°	109.8	122.0	134.0	146.1	158.2	170.6	183.4	196.3	209.1	221.9	230.3
82.5°	85.9	98.2	110.5	122.7	135.0	147.7	160.7	173.7	186.7	199.7	208.1
85°	54.4	66.7	79.0	91.4	103.7	116.4	129.5	142.5	155.6	168.7	177.1
87.5°	29.7	42.3	55.0	67.6	80.2	93.1	106.2	119.2	132.2	145.3	153.8
90°	15.2	29.2	43.0	57.0	70.8	85.3	100.2	115.1	130.1	145.0	154.2
92.5°	28.8	39.1	49.6	59.9	70.4	82.6	96.8	111.0	125.1	139.3	148.6
95°	62.1	64.3	66.4	68.6	70.8	78.9	93.0	107.0	121.2	135.3	144.1
97.5°	111.3	116.6	122.0	127.3	132.6	134.4	132.9	131.3	129.8	128.2	137.1
100°	148.4	159.9	171.5	183.0	194.5	191.8	174.7	157.7	140.6	123.6	132.2
102.5°	190.7	200.5	210.2	219.9	229.6	224.5	204.7	184.8	164.9	145.1	147.6
105°	252.9	260.8	268.7	276.6	284.6	285.7	279.9	274.1	268.3	262.5	237.3
107.5°	317.4	324.1	330.7	337.3	344.0	353.6	366.2	378.9	391.5	404.1	387.2
110°	360.4	366.3	372.2	378.1	384.0	392.9	404.7	416.6	428.4	440.3	440.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	402.4	407.3	412.3	417.2	422.2	430.4	441.9	453.3	464.8	476.3	482.6
115°	463.3	467.3	471.4	475.5	479.5	486.8	497.3	507.8	518.4	528.9	536.6
117.5°	523.2	526.4	529.5	532.7	535.9	542.0	551.2	560.4	569.6	578.7	586.0
120°	559.6	562.6	565.4	568.3	571.1	576.9	585.6	594.3	603.0	611.6	618.7
122.5°	597.6	599.7	601.6	603.6	605.6	610.8	619.2	627.7	636.1	644.6	651.0
125°	648.7	650.0	651.5	653.0	654.4	659.1	667.0	674.8	682.7	690.6	696.2
127.5°	699.0	700.3	701.5	702.7	703.9	707.9	714.7	721.5	728.3	735.1	740.5
130°	730.5	731.7	733.0	734.1	735.3	738.7	744.4	750.1	755.8	761.4	766.8
132.5°	759.8	761.2	762.5	763.9	765.4	768.3	772.9	777.4	782.0	786.4	791.7
135°	805.5	806.4	807.2	808.1	808.9	811.1	814.5	818.0	821.4	824.8	829.8
137.5°	844.7	845.8	847.0	848.2	849.4	850.9	852.9	854.8	856.7	858.7	863.4
140°	869.9	871.1	872.1	873.3	874.3	875.5	876.8	878.1	879.4	880.7	885.1
142.5°	894.2	895.1	896.0	896.9	897.8	898.5	899.3	899.9	900.7	901.3	905.2
145°	928.1	929.1	930.2	931.2	932.2	932.9	933.3	933.6	934.0	934.3	936.7
147.5°	959.0	959.8	960.6	961.4	962.3	962.9	963.2	963.6	963.9	964.3	965.3
150°	978.6	979.1	979.7	980.2	980.7	981.2	981.5	981.9	982.3	982.7	983.0
152.5°	996.3	996.5	996.8	997.0	997.3	997.5	997.8	997.9	998.2	998.4	999.1
155°	1021.2	1020.8	1020.4	1020.1	1019.7	1019.6	1019.8	1019.9	1020.2	1020.3	1021.2
157.5°	1040.5	1040.5	1040.4	1040.4	1040.3	1040.2	1040.1	1039.8	1039.7	1039.5	1040.6
160°	1052.3	1052.1	1051.9	1051.7	1051.6	1051.3	1051.2	1051.0	1050.8	1050.7	1051.7
162.5°	1063.4	1062.9	1062.5	1062.0	1061.5	1061.2	1061.0	1060.9	1060.6	1060.5	1061.7
165°	1076.8	1076.3	1075.8	1075.2	1074.6	1074.3	1074.1	1073.9	1073.7	1073.6	1075.1
167.5°	1087.3	1086.6	1085.9	1085.2	1084.4	1084.0	1084.0	1084.0	1084.0	1084.0	1085.5
170°	1093.2	1092.5	1091.8	1091.0	1090.3	1090.0	1090.0	1090.0	1090.0	1090.0	1091.4
172.5°	1097.1	1096.3	1095.4	1094.5	1093.6	1093.3	1093.4	1093.6	1093.7	1093.9	1095.4
175°	1102.2	1101.3	1100.4	1099.5	1098.6	1098.2	1098.4	1098.6	1098.8	1098.9	1100.2
177.5°	1103.5	1102.8	1102.1	1101.4	1100.7	1100.3	1100.5	1100.7	1100.7	1100.9	1102.1
180°	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6
2.5°	1016.5	1018.1	1019.6	1020.3	1020.1	1019.9	1019.8	1019.5
5°	1014.8	1016.8	1018.8	1019.6	1019.4	1019.1	1018.9	1018.6
7.5°	1008.7	1011.2	1013.7	1014.7	1014.5	1014.2	1013.8	1013.6
10°	1002.5	1004.9	1007.5	1008.4	1008.0	1007.5	1007.0	1006.5
12.5°	994.1	996.4	998.7	999.6	999.1	998.6	998.1	997.6
15°	978.1	980.6	983.0	984.1	983.9	983.7	983.4	983.2
17.5°	957.2	959.4	961.6	962.5	962.2	961.9	961.6	961.2
20°	942.1	944.3	946.6	947.8	948.0	948.3	948.5	948.8
22.5°	925.5	928.3	931.2	932.5	932.3	932.2	932.1	931.9
25°	897.5	900.7	903.8	905.5	905.5	905.5	905.5	905.5
27.5°	868.1	870.9	873.7	875.1	875.4	875.5	875.8	876.0
30°	848.2	851.1	854.0	855.6	855.6	855.6	855.6	855.6
32.5°	826.4	829.5	832.7	834.5	835.1	835.7	836.3	836.9
35°	794.1	797.9	801.5	803.9	804.9	805.8	806.8	807.8
37.5°	760.8	764.9	769.2	771.6	772.4	773.1	774.0	774.8
40°	738.5	742.7	746.9	749.5	750.5	751.5	752.4	753.4
42.5°	715.3	719.9	724.6	727.5	728.9	730.3	731.6	733.0
45°	680.7	685.4	690.1	693.4	695.4	697.3	699.4	701.3
47.5°	645.7	651.0	656.2	659.7	661.2	662.8	664.2	665.8
50°	621.7	627.3	633.0	636.7	638.5	640.2	641.9	643.6
52.5°	597.2	603.1	608.9	612.9	615.1	617.2	619.3	621.4
55°	560.4	567.0	573.7	578.0	580.0	582.0	583.9	585.9
57.5°	522.8	529.5	536.1	540.7	543.0	545.3	547.6	549.9
60°	496.5	503.4	510.3	515.1	517.9	520.6	523.3	525.9
62.5°	471.7	478.6	485.4	490.2	492.7	495.2	497.7	500.3
65°	432.0	439.4	446.8	451.8	454.2	456.6	459.2	461.6
67.5°	392.6	400.6	408.7	413.8	415.9	418.0	420.0	422.1
70°	366.4	374.3	382.2	387.4	389.9	392.3	394.8	397.3
72.5°	340.2	348.3	356.4	361.7	364.1	366.6	369.1	371.5
75°	300.4	308.5	316.6	322.2	325.1	328.1	331.0	334.0
77.5°	263.1	271.7	280.2	285.7	287.9	290.2	292.4	294.7
80°	238.7	247.1	255.4	260.9	263.3	265.8	268.3	270.8
82.5°	216.5	224.9	233.3	238.7	241.2	243.6	246.1	248.6
85°	185.4	193.8	202.2	207.7	210.1	212.5	215.0	217.5
87.5°	162.3	170.9	179.4	185.0	187.5	190.0	192.6	195.1
90°	163.3	172.4	181.5	187.4	190.3	193.1	195.9	198.8
92.5°	157.9	167.3	176.7	182.5	185.1	187.5	190.0	192.5
95°	153.1	162.0	170.9	176.6	179.0	181.6	184.0	186.5
97.5°	145.9	154.7	163.5	169.2	171.9	174.5	177.1	179.8
100°	140.8	149.4	158.0	163.6	166.2	168.9	171.5	174.2
102.5°	150.0	152.4	154.8	157.5	160.3	163.1	165.8	168.7
105°	212.0	186.6	161.3	150.0	152.5	155.2	157.8	160.3
107.5°	370.1	353.1	336.1	316.6	294.5	272.3	250.2	228.1
110°	441.2	441.6	442.0	430.2	406.1	382.0	358.0	333.9



TEST NUMBER: P332194-930

CATALOG NUMBER: S123DIW-S1000D1030U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	488.9	495.2	501.6	503.0	499.8	496.4	493.1	489.8
115°	544.3	552.0	559.8	565.0	567.7	570.5	573.2	575.8
117.5°	593.4	600.7	608.1	612.7	614.8	616.9	619.0	621.0
120°	625.9	633.0	640.2	644.6	646.3	648.0	649.8	651.5
122.5°	657.5	664.1	670.5	674.7	676.5	678.4	680.3	682.2
125°	701.7	707.3	712.8	716.6	718.7	720.8	722.8	725.0
127.5°	746.0	751.5	756.9	760.3	761.7	763.0	764.3	765.6
130°	772.3	777.6	783.1	786.4	787.4	788.6	789.7	790.8
132.5°	796.9	802.1	807.3	810.5	811.7	812.9	814.0	815.2
135°	834.8	839.8	844.8	847.6	848.3	849.0	849.7	850.4
137.5°	868.2	872.9	877.8	880.5	881.4	882.3	883.1	884.0
140°	889.5	893.9	898.4	901.0	901.9	902.8	903.6	904.5
142.5°	909.1	913.0	916.9	919.2	919.9	920.6	921.4	922.1
145°	939.1	941.3	943.7	945.3	946.3	947.3	948.4	949.3
147.5°	966.2	967.2	968.2	968.7	968.7	968.7	968.8	968.8
150°	983.4	983.7	984.1	984.3	984.2	984.1	984.1	984.1
152.5°	999.7	1000.4	1001.0	1000.9	1000.2	999.5	998.7	998.0
155°	1022.1	1023.0	1024.0	1023.9	1022.8	1021.7	1020.6	1019.5
157.5°	1041.7	1042.8	1043.8	1043.7	1042.3	1040.9	1039.4	1038.0
160°	1052.8	1053.9	1055.0	1054.9	1053.6	1052.4	1051.1	1049.8
162.5°	1062.9	1064.2	1065.4	1065.4	1064.4	1063.2	1062.1	1060.9
165°	1076.4	1077.9	1079.4	1079.5	1078.2	1076.9	1075.6	1074.4
167.5°	1087.0	1088.4	1089.9	1089.9	1088.4	1087.0	1085.5	1084.0
170°	1092.8	1094.3	1095.8	1095.8	1094.3	1092.8	1091.4	1090.0
172.5°	1096.8	1098.2	1099.7	1099.6	1098.0	1096.4	1094.8	1093.2
175°	1101.5	1102.8	1104.1	1104.0	1102.5	1101.1	1099.6	1098.1
177.5°	1103.3	1104.4	1105.5	1105.5	1104.0	1102.5	1101.1	1099.6
180°	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2

(END OF REPORT)