

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: P331512-935

Luminaire Tested: **S122DIW-S485D970U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331512-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S485D970U935-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4595.1 lumens
Efficiency: N/A
Efficacy: 101.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

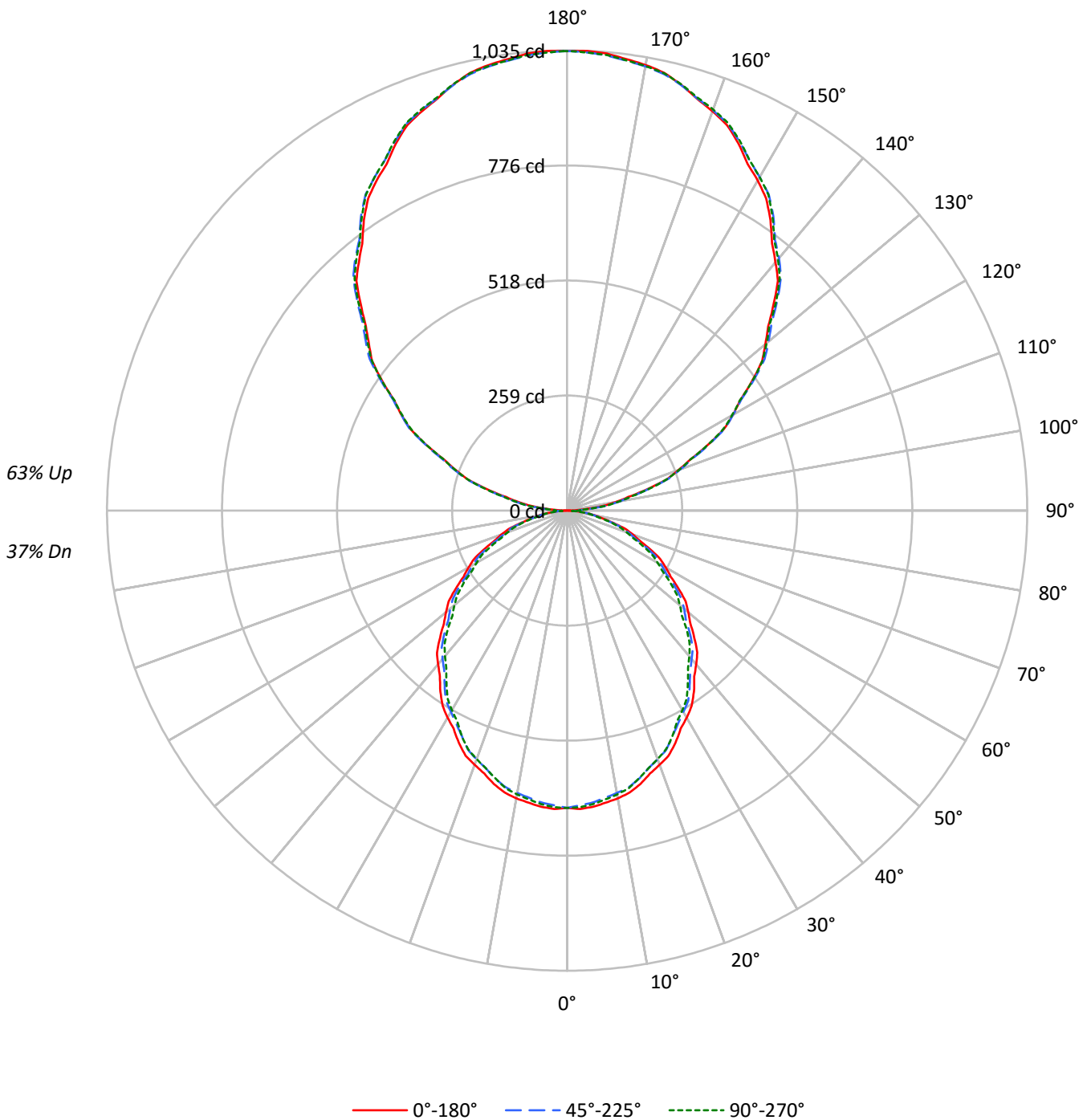
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331512-935

CATALOG NUMBER: S122DIW-S485D970U935-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P331512-935

CATALOG NUMBER: S122DIW-S485D970U935-4F0-1E-UDD-F1

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	104	104	104	104	94	94	94	94	76	76	76	60	60	60	44	44	44	37
1	95	91	87	83	86	82	79	76	67	64	62	52	51	49	39	38	37	31
2	86	79	73	68	78	72	67	62	58	55	52	46	43	41	34	33	31	26
3	79	69	62	57	71	63	57	52	51	47	43	41	37	35	30	28	27	22
4	72	61	54	48	65	56	49	44	46	41	37	36	33	30	27	25	23	19
5	66	55	47	41	60	50	43	38	41	36	32	32	29	26	25	22	20	17
6	61	49	41	35	55	45	38	33	37	31	28	29	25	23	22	20	18	15
7	56	44	36	31	51	40	33	29	33	28	24	27	23	20	20	18	16	13
8	52	40	32	27	47	37	30	25	30	25	21	24	20	18	19	16	14	12
9	48	36	29	24	44	33	27	22	28	23	19	22	19	16	17	15	13	10
10	45	33	26	22	41	31	24	20	25	21	17	21	17	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10797	10797	10797
5°	10838	10682	10746
10°	10775	10575	10627
15°	10641	10437	10425
20°	10452	10232	10220
25°	10265	9978	9978
30°	10023	9747	9661
35°	9798	9469	9329
40°	9514	9190	9012
45°	9236	8912	8690
50°	8932	8626	8317
55°	8617	8290	7983
60°	8263	7892	7598
65°	7885	7492	7148
70°	7407	7010	6680
75°	6744	6457	6301
80°	5979	5793	5504
85°	4872	4650	4168



TEST NUMBER: P331512-935

CATALOG NUMBER: S122DIW-S485D970U935-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.9	1.4
10°-20°	176.9	3.9
20°-30°	260.1	5.7
30°-40°	302.1	6.6
40°-50°	301.8	6.6
50°-60°	263.2	5.7
60°-70°	194.6	4.2
70°-80°	110.2	2.4
80°-90°	33.8	0.7
90°-100°	65.5	1.4
100°-110°	203.4	4.4
110°-120°	347.6	7.6
120°-130°	457.2	9.9
130°-140°	513.1	11.2
140°-150°	503.1	10.9
150°-160°	422.0	9.2
160°-170°	279.9	6.1
170°-180°	97.8	2.1
0°-30°	499.9	10.9
0°-40°	802.0	17.5
0°-60°	1366.9	29.7
0°-90°	1705.5	37.1
90°-120°	616.5	13.4
90°-150°	2089.9	45.5
90°-180°	2890.0	62.9
0°-180°	4595.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	669	669	669	669	669	
5°	669	666	659	664	663	63
15°	637	632	624	627	624	179
25°	576	571	560	561	560	265
35°	497	490	480	476	473	310
45°	404	400	390	384	381	312
55°	306	302	294	287	284	274
65°	206	202	196	190	187	204
75°	108	107	104	100	101	115
85°	26	26	25	23	22	30
90°	1	12	30	29	30	4
95°	45	54	56	56	54	52
105°	188	190	192	194	194	198
115°	349	354	352	351	349	345
125°	508	515	513	510	509	453
135°	657	666	668	667	664	507
145°	797	803	808	809	806	498
155°	911	914	916	920	918	419
165°	992	991	991	996	992	280
175°	1032	1029	1027	1033	1028	98
180°	1033	1033	1033	1033	1033	



TEST NUMBER: P331512-935

CATALOG NUMBER: S122DIW-S485D970U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7
2.5°	671.8	671.2	670.7	670.1	669.5	668.7	667.4	666.2	664.9	663.6	664.8
5°	668.7	668.1	667.6	667.0	666.5	665.4	663.8	662.3	660.6	659.1	660.2
7.5°	662.8	661.9	661.1	660.1	659.3	658.1	656.4	654.9	653.2	651.6	652.8
10°	657.2	656.2	655.1	654.2	653.2	651.8	650.1	648.4	646.7	645.0	646.1
12.5°	649.5	648.6	647.6	646.8	645.9	644.6	642.9	641.2	639.5	637.7	638.5
15°	636.6	635.8	634.9	634.0	633.2	631.8	629.9	628.1	626.2	624.4	624.9
17.5°	620.1	619.3	618.5	617.6	616.7	615.4	613.5	611.6	609.7	607.8	608.5
20°	608.3	607.4	606.6	605.7	604.9	603.5	601.4	599.4	597.4	595.5	595.9
22.5°	596.5	595.3	594.1	592.9	591.7	590.1	588.2	586.3	584.4	582.6	582.6
25°	576.2	575.0	573.9	572.7	571.6	569.8	567.4	564.9	562.5	560.1	560.3
27.5°	553.0	552.0	551.0	549.9	548.9	547.4	545.5	543.5	541.7	539.8	539.3
30°	537.6	536.4	535.3	534.2	533.0	531.3	529.2	527.1	525.0	522.8	522.4
32.5°	521.1	520.2	519.3	518.3	517.5	515.8	513.6	511.3	509.1	506.9	506.1
35°	497.1	495.6	494.2	492.8	491.4	489.5	487.2	484.9	482.6	480.4	479.5
37.5°	469.9	468.6	467.4	466.1	464.9	463.1	460.8	458.6	456.2	454.0	452.9
40°	451.4	450.2	449.1	448.0	446.9	445.1	442.8	440.6	438.2	436.0	434.7
42.5°	433.4	432.2	431.1	430.0	428.9	427.1	424.8	422.6	420.3	417.9	416.6
45°	404.5	403.5	402.4	401.5	400.5	398.9	396.7	394.6	392.4	390.3	388.7
47.5°	375.7	374.7	373.8	372.8	371.9	370.3	368.1	365.8	363.6	361.4	359.7
50°	355.6	354.9	354.1	353.4	352.8	351.4	349.4	347.4	345.3	343.4	341.4
52.5°	336.0	335.1	334.2	333.2	332.3	330.9	329.0	327.1	325.2	323.3	321.7
55°	306.1	305.2	304.4	303.5	302.6	301.4	299.6	297.9	296.2	294.5	292.8
57.5°	276.0	275.3	274.6	274.0	273.3	272.0	270.1	268.2	266.3	264.4	262.7
60°	255.9	255.4	254.8	254.2	253.7	252.4	250.4	248.3	246.3	244.4	242.8
62.5°	236.3	235.5	234.5	233.6	232.7	231.5	230.0	228.4	226.9	225.3	223.9
65°	206.4	205.5	204.7	203.8	203.0	201.8	200.4	199.0	197.5	196.1	194.8
67.5°	175.9	175.2	174.5	173.8	173.1	172.2	170.9	169.6	168.3	167.0	166.1
70°	156.9	156.4	155.8	155.2	154.6	153.7	152.4	151.1	149.8	148.5	147.6
72.5°	137.3	136.8	136.2	135.6	135.1	134.4	133.5	132.7	131.9	131.0	130.0
75°	108.1	107.7	107.5	107.2	106.9	106.4	105.6	105.0	104.3	103.5	102.6
77.5°	81.8	81.3	80.8	80.3	79.8	79.5	79.2	78.9	78.6	78.4	77.9
80°	64.3	64.1	64.1	63.9	63.7	63.5	63.2	62.9	62.7	62.3	61.9
82.5°	47.9	47.8	47.8	47.8	47.7	47.6	47.4	47.3	47.1	46.9	46.4
85°	26.3	26.3	26.1	25.9	25.8	25.7	25.5	25.4	25.2	25.1	24.6
87.5°	9.5	9.6	9.9	10.2	10.4	10.8	11.5	12.1	12.7	13.3	12.9
90°	0.9	3.2	5.5	7.8	10.2	13.4	17.7	22.0	26.3	30.5	30.1
92.5°	15.5	17.2	18.9	20.7	22.4	23.7	24.7	25.7	26.7	27.7	27.8
95°	45.4	47.3	49.2	51.1	53.1	54.2	54.7	55.0	55.4	55.8	55.8
97.5°	82.8	84.6	86.3	88.0	89.6	90.9	91.6	92.4	93.1	93.8	93.8
100°	110.7	112.3	113.8	115.4	116.9	118.0	118.6	119.2	119.8	120.4	120.4
102.5°	140.1	141.3	142.5	143.8	145.0	146.0	146.7	147.5	148.2	149.0	149.1
105°	187.5	188.0	188.6	189.2	189.9	190.3	190.7	191.1	191.5	191.8	192.3
107.5°	235.3	236.2	236.9	237.8	238.7	239.1	239.1	239.1	239.1	239.1	239.3
110°	266.0	267.2	268.3	269.5	270.6	271.2	271.2	271.2	271.2	271.2	271.2



TEST NUMBER: P331512-935

CATALOG NUMBER: S122DIW-S485D970U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	299.5	300.7	301.8	303.0	304.1	304.6	304.4	304.3	304.2	304.0	303.5
115°	348.8	350.0	351.1	352.3	353.4	353.9	353.4	353.1	352.7	352.3	352.1
117.5°	398.0	399.6	401.1	402.7	404.2	404.4	403.4	402.3	401.2	400.1	399.7
120°	430.8	432.4	433.9	435.5	437.0	437.0	435.5	433.9	432.4	430.8	430.8
122.5°	460.8	462.7	464.5	466.4	468.2	468.6	467.5	466.5	465.4	464.3	463.8
125°	507.6	509.3	511.0	512.8	514.5	515.1	514.5	513.9	513.3	512.8	512.2
127.5°	553.1	555.3	557.5	559.7	561.9	562.7	562.0	561.3	560.6	559.9	559.1
130°	581.7	584.2	586.7	589.3	591.8	592.8	592.5	592.0	591.7	591.2	590.9
132.5°	613.7	615.8	617.9	619.9	622.0	623.0	623.1	623.2	623.3	623.4	622.5
135°	656.7	658.8	660.9	663.1	665.2	666.4	666.8	667.2	667.6	668.0	667.8
137.5°	701.8	703.6	705.3	707.1	708.8	710.0	710.4	710.9	711.4	712.0	711.8
140°	729.0	730.8	732.5	734.3	736.0	737.4	738.4	739.3	740.3	741.2	741.2
142.5°	757.0	758.7	760.4	762.2	764.0	765.2	765.8	766.5	767.2	767.8	767.9
145°	797.0	798.4	799.8	801.2	802.5	803.7	804.9	806.1	807.3	808.4	808.6
147.5°	832.8	834.5	836.1	837.7	839.3	840.5	841.3	842.1	842.8	843.6	844.0
150°	857.2	858.4	859.5	860.7	861.9	862.9	863.7	864.4	865.2	866.0	866.5
152.5°	878.9	880.0	881.2	882.4	883.6	884.6	885.5	886.4	887.3	888.3	889.0
155°	911.3	911.9	912.5	913.1	913.6	914.2	914.8	915.4	915.9	916.5	917.5
157.5°	939.0	939.4	939.8	940.2	940.6	941.0	941.3	941.7	942.0	942.4	943.7
160°	955.8	956.1	956.6	956.9	957.3	957.6	957.9	958.0	958.2	958.4	959.6
162.5°	971.1	971.2	971.3	971.4	971.5	971.6	971.8	972.0	972.2	972.3	973.7
165°	991.5	991.4	991.2	990.9	990.8	990.7	990.7	990.7	990.7	990.7	992.0
167.5°	1008.7	1008.1	1007.5	1006.9	1006.3	1006.0	1006.0	1005.9	1005.9	1005.8	1007.2
170°	1017.7	1017.1	1016.6	1016.0	1015.4	1015.0	1014.8	1014.6	1014.4	1014.3	1015.5
172.5°	1024.0	1023.4	1022.8	1022.3	1021.7	1021.2	1021.1	1020.9	1020.7	1020.5	1021.8
175°	1031.7	1031.0	1030.5	1029.9	1029.3	1028.8	1028.5	1028.0	1027.7	1027.3	1028.6
177.5°	1034.8	1034.3	1033.9	1033.4	1032.9	1032.5	1032.3	1031.9	1031.7	1031.3	1032.3
180°	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4



TEST NUMBER: P331512-935

CATALOG NUMBER: S122DIW-S485D970U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	668.7	668.7	668.7	668.7	668.7	668.7	668.7	668.7
2.5°	665.9	667.0	668.1	668.7	668.4	668.1	668.0	667.7
5°	661.4	662.5	663.7	664.1	663.8	663.5	663.2	663.0
7.5°	653.9	655.0	656.3	656.6	656.3	656.0	655.7	655.4
10°	647.2	648.4	649.5	649.9	649.5	649.0	648.6	648.2
12.5°	639.4	640.2	640.9	641.2	640.8	640.6	640.2	639.9
15°	625.5	626.1	626.6	626.5	625.9	625.2	624.5	623.7
17.5°	609.1	609.8	610.4	610.4	609.7	609.1	608.4	607.7
20°	596.3	596.8	597.2	597.1	596.5	595.9	595.4	594.8
22.5°	582.7	582.8	582.9	582.8	582.5	582.1	581.8	581.4
25°	560.7	560.9	561.2	561.2	560.9	560.7	560.3	560.1
27.5°	538.9	538.5	538.0	537.5	536.8	536.1	535.5	534.8
30°	521.9	521.5	521.1	520.6	520.0	519.4	518.8	518.2
32.5°	505.3	504.5	503.8	503.1	502.5	502.0	501.4	500.8
35°	478.6	477.8	476.9	476.1	475.4	474.7	474.0	473.3
37.5°	451.9	450.8	449.8	448.8	448.2	447.5	446.8	446.2
40°	433.4	432.1	430.8	429.9	429.3	428.8	428.2	427.6
42.5°	415.2	413.8	412.3	411.3	410.4	409.7	408.9	408.0
45°	387.2	385.6	384.0	383.0	382.4	381.9	381.3	380.6
47.5°	358.1	356.4	354.7	353.5	352.7	351.9	351.0	350.2
50°	339.4	337.3	335.4	334.0	333.3	332.6	331.8	331.1
52.5°	320.0	318.3	316.7	315.4	314.4	313.5	312.5	311.6
55°	291.1	289.4	287.7	286.5	285.7	285.0	284.3	283.6
57.5°	261.1	259.3	257.7	256.6	256.0	255.5	254.9	254.3
60°	241.2	239.6	238.1	237.0	236.6	236.2	235.7	235.3
62.5°	222.4	220.9	219.5	218.5	217.9	217.4	216.9	216.3
65°	193.6	192.3	191.0	189.9	189.2	188.6	187.9	187.1
67.5°	165.1	164.0	163.1	162.3	161.7	161.1	160.6	160.0
70°	146.5	145.5	144.6	143.8	143.2	142.6	142.1	141.5
72.5°	129.1	128.0	127.1	126.3	125.9	125.4	124.9	124.5
75°	101.8	101.0	100.1	99.8	100.1	100.4	100.7	101.0
77.5°	77.5	77.1	76.6	76.2	75.8	75.4	75.0	74.6
80°	61.5	61.0	60.7	60.3	60.0	59.8	59.4	59.2
82.5°	45.9	45.3	44.8	44.4	44.4	44.3	44.3	44.3
85°	24.2	23.8	23.3	23.1	22.9	22.8	22.6	22.5
87.5°	12.5	12.1	11.6	11.4	11.3	11.2	11.1	11.1
90°	29.7	29.4	28.9	28.8	29.1	29.3	29.4	29.6
92.5°	27.9	28.0	28.1	28.1	28.2	28.2	28.2	28.2
95°	55.8	55.8	55.8	55.6	55.2	54.8	54.4	54.1
97.5°	93.8	93.8	93.8	93.8	93.8	93.8	93.7	93.7
100°	120.4	120.4	120.4	120.3	120.0	119.9	119.7	119.5
102.5°	149.3	149.4	149.6	149.6	149.4	149.1	149.0	148.8
105°	192.6	193.0	193.4	193.6	193.6	193.6	193.6	193.6
107.5°	239.4	239.6	239.7	239.4	238.5	237.5	236.7	235.8
110°	271.2	271.2	271.2	271.0	270.4	269.8	269.1	268.6



TEST NUMBER: P331512-935

CATALOG NUMBER: S122DIW-S485D970U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	303.1	302.6	302.1	301.7	301.3	300.8	300.4	300.0
115°	351.9	351.7	351.5	351.1	350.6	350.0	349.4	348.8
117.5°	399.2	398.7	398.2	397.7	397.2	396.6	396.0	395.4
120°	430.8	430.8	430.8	430.5	429.9	429.4	428.8	428.2
122.5°	463.4	462.9	462.4	462.0	461.6	461.2	460.7	460.3
125°	511.6	511.0	510.5	510.1	509.9	509.7	509.5	509.3
127.5°	558.4	557.8	557.1	556.4	555.8	555.2	554.6	554.0
130°	590.5	590.1	589.7	589.1	588.3	587.5	586.8	586.0
132.5°	621.6	620.8	619.9	619.2	618.6	617.9	617.3	616.7
135°	667.6	667.4	667.2	666.8	666.2	665.6	665.1	664.5
137.5°	711.6	711.5	711.4	710.8	710.1	709.3	708.5	707.7
140°	741.2	741.2	741.2	740.9	740.1	739.3	738.6	737.8
142.5°	768.1	768.3	768.4	768.1	767.3	766.5	765.8	765.0
145°	808.8	809.0	809.2	808.9	808.1	807.4	806.6	805.8
147.5°	844.5	844.9	845.3	845.2	844.5	843.7	843.0	842.2
150°	867.1	867.7	868.3	868.3	867.7	867.1	866.5	866.0
152.5°	889.8	890.5	891.2	891.2	890.5	889.8	889.0	888.3
155°	918.5	919.5	920.4	920.6	920.1	919.5	918.9	918.3
157.5°	945.0	946.3	947.6	947.8	946.9	946.0	945.0	944.1
160°	960.7	961.9	963.0	963.3	962.5	961.7	961.0	960.2
162.5°	975.0	976.3	977.7	977.8	976.9	975.9	975.0	974.1
165°	993.4	994.7	996.1	996.3	995.3	994.4	993.4	992.4
167.5°	1008.6	1010.0	1011.2	1011.4	1010.5	1009.4	1008.4	1007.5
170°	1016.9	1018.3	1019.7	1019.8	1018.6	1017.4	1016.2	1015.1
172.5°	1023.2	1024.6	1025.9	1026.1	1024.8	1023.7	1022.5	1021.4
175°	1030.0	1031.4	1032.7	1032.9	1031.7	1030.5	1029.3	1028.2
177.5°	1033.2	1034.1	1035.0	1035.0	1034.1	1033.2	1032.3	1031.3
180°	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4

(END OF REPORT)