

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: P332780-935

Luminaire Tested: **S124DIW-S795D470U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332780-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S795D470U935-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4334.1 lumens
Efficiency: N/A
Efficacy: 115.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

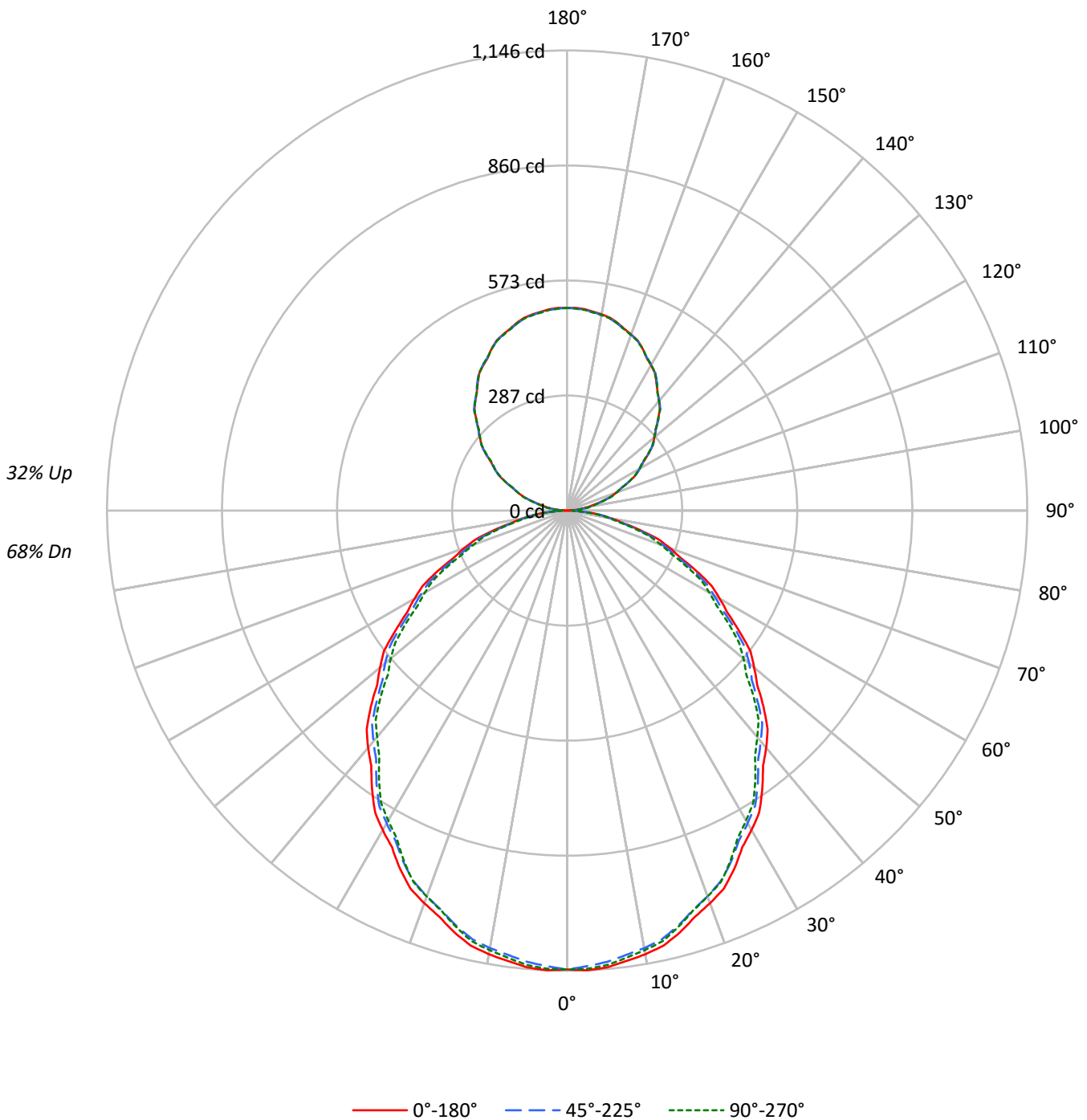
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332780-935

CATALOG NUMBER: S124DIW-S795D470U935-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





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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	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	68
1	102	97	93	90	96	92	88	85	82	79	77	72	70	69	64	62	61	57
2	93	85	79	73	87	80	75	70	72	67	63	64	60	57	56	54	51	48
3	85	75	67	61	79	71	64	58	63	58	53	56	52	48	50	47	44	40
4	77	66	58	52	73	63	55	50	56	50	46	50	45	42	45	41	38	35
5	71	59	51	44	67	56	48	43	50	44	39	45	40	36	40	36	33	30
6	66	53	45	39	62	50	43	37	46	39	34	41	36	32	36	32	29	26
7	61	48	40	34	57	46	38	33	41	35	30	37	32	28	33	29	26	23
8	56	44	36	30	53	42	34	29	38	32	27	34	29	25	31	26	23	21
9	53	40	32	27	50	38	31	26	35	29	24	31	26	23	28	24	21	19
10	49	37	29	24	47	35	28	24	32	26	22	29	24	21	26	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9227	9227	9227
5°	9255	9143	9210
10°	9197	9069	9114
15°	9086	8940	8964
20°	8937	8781	8789
25°	8769	8598	8573
30°	8563	8383	8307
35°	8348	8159	8051
40°	8126	7904	7759
45°	7895	7654	7507
50°	7637	7430	7200
55°	7361	7142	6909
60°	7083	6817	6610
65°	6770	6508	6245
70°	6420	6097	5858
75°	5883	5599	5459
80°	5235	5026	4895
85°	4576	4409	4326



TEST NUMBER: P332780-935

CATALOG NUMBER: S124DIW-S795D470U935-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.6	2.5
10°-20°	303.3	7.0
20°-30°	446.4	10.3
30°-40°	518.9	12.0
40°-50°	518.9	12.0
50°-60°	453.9	10.5
60°-70°	337.1	7.8
70°-80°	191.5	4.4
80°-90°	56.8	1.3
90°-100°	33.3	0.8
100°-110°	98.6	2.3
110°-120°	167.3	3.9
120°-130°	220.6	5.1
130°-140°	247.7	5.7
140°-150°	243.4	5.6
150°-160°	204.8	4.7
160°-170°	136.2	3.1
170°-180°	47.7	1.1
0°-30°	857.3	19.8
0°-40°	1376.2	31.8
0°-60°	2349.1	54.2
0°-90°	2934.5	67.7
90°-120°	299.1	6.9
90°-150°	1010.9	23.3
90°-180°	1400.0	32.3
0°-180°	4334.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1143	1143	1143	1143	1143	
5°	1142	1138	1128	1138	1136	108
15°	1087	1083	1070	1075	1072	306
25°	984	978	965	966	962	453
35°	847	840	828	822	817	529
45°	692	685	670	661	658	533
55°	523	520	507	497	491	468
65°	354	350	341	332	327	351
75°	189	184	180	176	175	200
85°	49	49	48	48	47	54
90°	1	5	9	11	12	4
95°	23	27	30	31	31	26
105°	91	91	93	94	95	96
115°	170	170	169	169	169	168
125°	248	248	247	247	246	221
135°	320	322	322	321	320	247
145°	388	390	390	390	389	243
155°	445	445	444	446	444	205
165°	484	483	482	484	483	136
175°	504	502	501	504	501	48
180°	504	504	504	504	504	



TEST NUMBER: P332780-935

CATALOG NUMBER: S124DIW-S795D470U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0
2.5°	1145.9	1145.4	1144.9	1144.4	1143.9	1142.8	1141.0	1139.2	1137.4	1135.7	1137.2
5°	1142.0	1141.3	1140.4	1139.6	1138.8	1137.2	1135.0	1132.7	1130.5	1128.3	1130.5
7.5°	1131.4	1130.6	1129.8	1128.9	1128.2	1126.5	1124.0	1121.5	1119.0	1116.5	1118.4
10°	1121.9	1121.1	1120.2	1119.5	1118.6	1116.9	1114.2	1111.6	1109.0	1106.3	1107.9
12.5°	1109.4	1108.6	1107.8	1107.0	1106.2	1104.3	1101.6	1098.7	1096.0	1093.1	1094.9
15°	1087.1	1086.2	1085.5	1084.6	1083.8	1081.9	1078.8	1075.8	1072.7	1069.7	1070.9
17.5°	1060.1	1059.1	1058.1	1057.1	1056.1	1054.1	1051.3	1048.4	1045.4	1042.6	1043.4
20°	1040.3	1039.3	1038.4	1037.3	1036.3	1034.2	1031.2	1028.1	1025.1	1022.1	1022.7
22.5°	1019.2	1017.8	1016.4	1015.1	1013.7	1011.6	1008.5	1005.5	1002.4	999.4	1000.5
25°	984.5	983.1	981.6	980.2	978.8	976.6	973.8	970.9	968.1	965.3	965.4
27.5°	944.9	943.5	942.0	940.6	939.1	937.0	934.4	931.8	929.1	926.4	925.9
30°	918.6	917.0	915.3	913.7	912.1	909.9	907.2	904.7	902.0	899.3	898.5
32.5°	890.7	889.2	887.8	886.3	884.8	882.7	879.9	877.1	874.3	871.5	870.6
35°	847.1	845.7	844.3	842.8	841.5	839.3	836.5	833.6	830.8	827.9	826.5
37.5°	801.2	799.9	798.6	797.3	795.9	793.8	790.7	787.6	784.6	781.5	780.0
40°	771.1	769.5	767.8	766.2	764.6	762.2	759.2	756.1	753.1	750.0	748.0
42.5°	738.9	737.9	736.9	736.0	734.9	732.8	729.4	726.1	722.6	719.3	717.0
45°	691.5	690.0	688.6	687.2	685.8	683.4	680.2	676.9	673.6	670.4	668.1
47.5°	641.8	640.8	639.9	638.9	637.9	635.9	632.9	629.9	626.9	623.9	621.3
50°	608.1	607.3	606.5	605.6	604.9	603.0	600.2	597.4	594.4	591.6	588.8
52.5°	575.1	574.2	573.2	572.2	571.2	569.2	566.2	563.2	560.2	557.2	554.7
55°	523.0	522.3	521.7	521.1	520.5	518.8	515.9	513.1	510.2	507.4	504.9
57.5°	473.1	472.4	471.7	471.1	470.4	468.6	465.8	463.0	460.2	457.4	455.0
60°	438.7	437.6	436.6	435.7	434.6	432.7	430.2	427.5	424.8	422.2	420.3
62.5°	405.0	404.2	403.3	402.4	401.6	399.8	396.9	394.1	391.3	388.5	386.8
65°	354.4	353.4	352.4	351.4	350.3	348.8	346.8	344.7	342.7	340.7	338.6
67.5°	303.5	302.6	301.6	300.7	299.8	298.3	296.4	294.4	292.5	290.5	288.5
70°	272.0	270.6	269.1	267.7	266.3	264.8	263.1	261.5	259.8	258.3	256.7
72.5°	238.3	236.9	235.5	234.0	232.6	231.3	230.0	228.6	227.3	226.0	224.7
75°	188.6	187.6	186.7	185.6	184.6	183.6	182.5	181.5	180.6	179.5	178.7
77.5°	141.2	140.8	140.3	139.9	139.4	138.8	137.8	137.0	136.0	135.2	134.9
80°	112.6	112.0	111.4	110.8	110.2	109.7	109.3	108.9	108.5	108.1	107.6
82.5°	84.8	84.6	84.2	83.9	83.7	83.5	83.4	83.3	83.3	83.2	82.9
85°	49.4	49.4	49.4	49.4	49.4	49.2	48.8	48.5	48.0	47.6	47.6
87.5°	19.3	19.3	19.4	19.4	19.4	19.4	19.4	19.4	19.3	19.3	19.4
90°	1.2	2.2	3.1	4.0	5.0	5.8	6.5	7.2	7.9	8.6	9.1
92.5°	8.4	9.5	10.5	11.6	12.7	13.5	14.0	14.5	15.0	15.4	15.8
95°	23.4	24.2	25.0	25.7	26.5	27.2	27.8	28.4	29.0	29.6	29.9
97.5°	40.9	41.5	42.1	42.8	43.4	44.1	44.8	45.5	46.1	46.9	47.2
100°	54.6	54.9	55.3	55.6	56.1	56.6	57.3	58.1	58.9	59.7	59.8
102.5°	69.0	69.1	69.2	69.4	69.6	70.0	70.7	71.4	72.1	72.8	73.0
105°	90.9	91.0	91.1	91.2	91.3	91.4	91.8	92.1	92.5	92.8	93.1
107.5°	113.9	114.0	114.2	114.3	114.3	114.4	114.5	114.5	114.6	114.6	114.9
110°	129.5	129.7	129.8	130.0	130.2	130.3	130.2	130.1	130.0	129.9	129.8



TEST NUMBER: P332780-935

CATALOG NUMBER: S124DIW-S795D470U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	145.8	145.8	145.9	145.9	145.9	145.9	145.7	145.5	145.3	145.3	145.2
115°	170.1	170.1	170.1	170.1	170.1	170.0	169.9	169.7	169.5	169.4	169.3
117.5°	193.0	193.1	193.2	193.3	193.3	193.3	193.2	193.0	193.0	192.8	192.5
120°	208.4	208.7	209.1	209.4	209.7	209.7	209.5	209.2	209.0	208.7	208.3
122.5°	224.3	224.4	224.5	224.6	224.8	224.8	224.7	224.5	224.5	224.4	224.0
125°	247.7	247.7	247.7	247.7	247.7	247.7	247.6	247.5	247.5	247.4	247.2
127.5°	269.1	269.3	269.6	269.8	270.1	270.2	270.0	269.8	269.8	269.6	269.4
130°	284.0	284.3	284.6	284.8	285.1	285.2	285.2	285.2	285.2	285.2	285.0
132.5°	299.3	299.5	299.7	299.9	300.1	300.1	300.1	300.0	300.0	299.9	299.7
135°	319.5	320.0	320.6	321.1	321.6	321.8	321.8	321.8	321.8	321.8	321.7
137.5°	341.6	341.8	342.0	342.2	342.5	342.7	342.9	343.0	343.1	343.3	343.0
140°	356.2	356.4	356.5	356.7	356.9	357.0	357.0	357.0	357.0	357.0	356.9
142.5°	369.6	369.8	370.0	370.1	370.3	370.4	370.3	370.2	370.1	370.1	370.1
145°	388.2	388.6	388.9	389.3	389.6	389.8	389.9	389.9	390.0	390.1	390.0
147.5°	406.7	407.0	407.4	407.9	408.3	408.5	408.4	408.3	408.3	408.2	408.1
150°	417.8	418.2	418.5	418.9	419.2	419.4	419.4	419.4	419.4	419.4	419.4
152.5°	428.4	428.7	428.9	429.1	429.3	429.5	429.5	429.6	429.6	429.7	429.9
155°	444.8	444.8	444.8	444.8	444.8	444.7	444.6	444.5	444.4	444.4	444.7
157.5°	458.5	458.3	458.2	458.1	457.9	457.8	457.8	457.8	457.7	457.7	458.0
160°	466.7	466.6	466.5	466.4	466.3	466.2	466.1	466.1	466.0	465.9	466.1
162.5°	474.2	473.9	473.6	473.5	473.2	473.0	472.9	472.9	472.8	472.7	473.2
165°	484.1	483.9	483.6	483.4	483.1	482.9	482.8	482.6	482.4	482.2	482.8
167.5°	491.9	491.5	491.2	490.9	490.4	490.3	490.3	490.3	490.3	490.3	490.9
170°	496.3	495.8	495.4	495.0	494.6	494.4	494.5	494.6	494.6	494.7	495.2
172.5°	499.4	499.0	498.7	498.3	497.9	497.7	497.7	497.8	497.8	497.8	498.4
175°	503.7	503.3	502.8	502.4	502.0	501.7	501.6	501.5	501.4	501.4	502.0
177.5°	505.1	504.7	504.4	504.0	503.7	503.5	503.5	503.5	503.5	503.5	504.0
180°	504.5	504.5	504.5	504.5	504.5	504.5	504.5	504.5	504.5	504.5	504.5



TEST NUMBER: P332780-935

CATALOG NUMBER: S124DIW-S795D470U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0
2.5°	1138.8	1140.5	1142.1	1142.9	1142.7	1142.5	1142.4	1142.2
5°	1132.7	1135.0	1137.2	1138.2	1137.7	1137.4	1137.0	1136.5
7.5°	1120.2	1122.0	1123.7	1124.5	1124.3	1124.0	1123.8	1123.5
10°	1109.6	1111.2	1112.8	1113.4	1113.0	1112.6	1112.2	1111.8
12.5°	1096.7	1098.5	1100.3	1100.9	1100.4	1099.8	1099.2	1098.6
15°	1072.1	1073.3	1074.5	1074.9	1074.3	1073.7	1073.1	1072.5
17.5°	1044.1	1044.9	1045.7	1045.9	1045.4	1045.0	1044.7	1044.2
20°	1023.3	1023.9	1024.5	1024.6	1024.2	1023.8	1023.4	1023.0
22.5°	1001.5	1002.6	1003.8	1003.9	1003.2	1002.5	1001.7	1001.0
25°	965.7	965.9	966.1	965.8	965.0	964.1	963.4	962.5
27.5°	925.5	925.0	924.5	923.8	922.7	921.7	920.7	919.6
30°	897.7	896.9	896.0	895.2	894.1	893.1	892.1	891.1
32.5°	869.5	868.6	867.6	866.6	865.6	864.5	863.5	862.5
35°	825.1	823.6	822.2	821.0	819.9	819.0	817.9	816.9
37.5°	778.4	776.9	775.4	774.0	772.6	771.3	769.9	768.5
40°	746.0	744.0	741.9	740.4	739.3	738.4	737.4	736.3
42.5°	714.5	712.2	709.8	708.3	707.7	707.0	706.3	705.6
45°	665.9	663.7	661.4	660.0	659.4	658.8	658.1	657.5
47.5°	618.8	616.3	613.7	611.7	610.2	608.6	607.1	605.5
50°	585.9	583.1	580.2	578.2	577.0	575.8	574.5	573.3
52.5°	552.2	549.6	547.1	545.1	543.5	542.0	540.4	538.9
55°	502.5	500.1	497.6	495.8	494.6	493.4	492.1	490.9
57.5°	452.7	450.4	448.1	446.3	445.1	443.9	442.8	441.6
60°	418.5	416.7	414.8	413.5	412.4	411.4	410.4	409.4
62.5°	385.1	383.5	381.9	380.5	379.4	378.4	377.5	376.4
65°	336.7	334.6	332.5	331.1	330.0	329.0	328.0	326.9
67.5°	286.6	284.6	282.7	281.5	281.3	281.0	280.7	280.4
70°	255.0	253.4	251.8	250.6	250.0	249.4	248.8	248.2
72.5°	223.4	222.1	220.8	219.9	219.2	218.6	218.0	217.4
75°	177.9	177.0	176.2	175.7	175.6	175.3	175.1	175.0
77.5°	134.7	134.4	134.2	133.8	133.3	132.8	132.2	131.7
80°	107.3	106.9	106.4	106.2	105.9	105.7	105.6	105.3
82.5°	82.7	82.4	82.1	82.0	81.8	81.5	81.4	81.1
85°	47.6	47.6	47.6	47.5	47.4	47.1	46.9	46.7
87.5°	19.5	19.6	19.7	19.8	19.8	19.9	19.9	19.9
90°	9.6	10.2	10.7	11.0	11.2	11.4	11.5	11.7
92.5°	16.1	16.4	16.7	16.9	17.0	17.1	17.2	17.3
95°	30.1	30.4	30.7	30.8	30.8	30.8	30.8	30.8
97.5°	47.5	47.9	48.1	48.3	48.3	48.3	48.3	48.3
100°	60.0	60.2	60.4	60.4	60.4	60.4	60.4	60.4
102.5°	73.3	73.5	73.8	74.0	74.0	74.0	74.1	74.2
105°	93.4	93.7	93.9	94.2	94.5	94.7	95.0	95.2
107.5°	115.1	115.4	115.6	115.7	115.7	115.7	115.6	115.6
110°	129.6	129.4	129.2	129.2	129.5	129.8	130.0	130.3



TEST NUMBER: P332780-935

CATALOG NUMBER: S124DIW-S795D470U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	145.2	145.1	145.1	145.1	145.2	145.2	145.3	145.3
115°	169.2	169.1	169.0	168.9	168.8	168.8	168.7	168.6
117.5°	192.3	191.9	191.7	191.4	191.2	191.1	190.9	190.7
120°	207.8	207.4	207.0	206.9	207.1	207.2	207.4	207.6
122.5°	223.8	223.4	223.2	222.8	222.6	222.2	221.9	221.6
125°	247.0	246.8	246.7	246.5	246.3	246.2	246.0	245.8
127.5°	269.2	269.1	268.9	268.7	268.6	268.5	268.4	268.2
130°	284.8	284.6	284.5	284.2	283.9	283.5	283.2	282.8
132.5°	299.5	299.4	299.2	299.0	298.9	298.8	298.6	298.5
135°	321.5	321.3	321.2	321.0	320.7	320.5	320.2	319.9
137.5°	342.8	342.6	342.3	342.2	342.3	342.3	342.4	342.5
140°	356.8	356.7	356.6	356.5	356.5	356.4	356.3	356.2
142.5°	370.1	370.1	370.1	370.0	370.0	370.0	370.0	370.0
145°	389.9	389.9	389.8	389.6	389.3	389.1	388.8	388.6
147.5°	408.0	407.9	407.9	407.9	407.8	407.7	407.6	407.5
150°	419.4	419.4	419.4	419.4	419.3	419.2	419.1	419.0
152.5°	430.2	430.3	430.6	430.5	430.3	430.1	429.9	429.6
155°	445.1	445.4	445.7	445.7	445.4	445.1	444.7	444.4
157.5°	458.2	458.5	458.7	458.7	458.5	458.1	457.9	457.5
160°	466.4	466.7	466.9	466.8	466.4	466.0	465.5	465.0
162.5°	473.6	474.2	474.6	474.6	474.2	473.7	473.3	472.9
165°	483.3	483.8	484.3	484.4	484.1	483.7	483.4	483.0
167.5°	491.4	491.9	492.4	492.4	491.9	491.4	490.8	490.3
170°	495.8	496.3	496.8	496.7	496.1	495.5	494.9	494.3
172.5°	499.0	499.6	500.2	500.2	499.6	498.9	498.3	497.7
175°	502.6	503.2	503.8	503.8	503.2	502.6	502.0	501.4
177.5°	504.5	505.0	505.5	505.4	504.9	504.4	503.8	503.3
180°	504.5	504.5	504.5	504.5	504.5	504.5	504.5	504.5

(END OF REPORT)