

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: P332421

Luminaire Tested: **S123RDIW-S560D1030U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332421
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S560D1030U835-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5710.8 lumens
Efficiency: N/A
Efficacy: 126.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

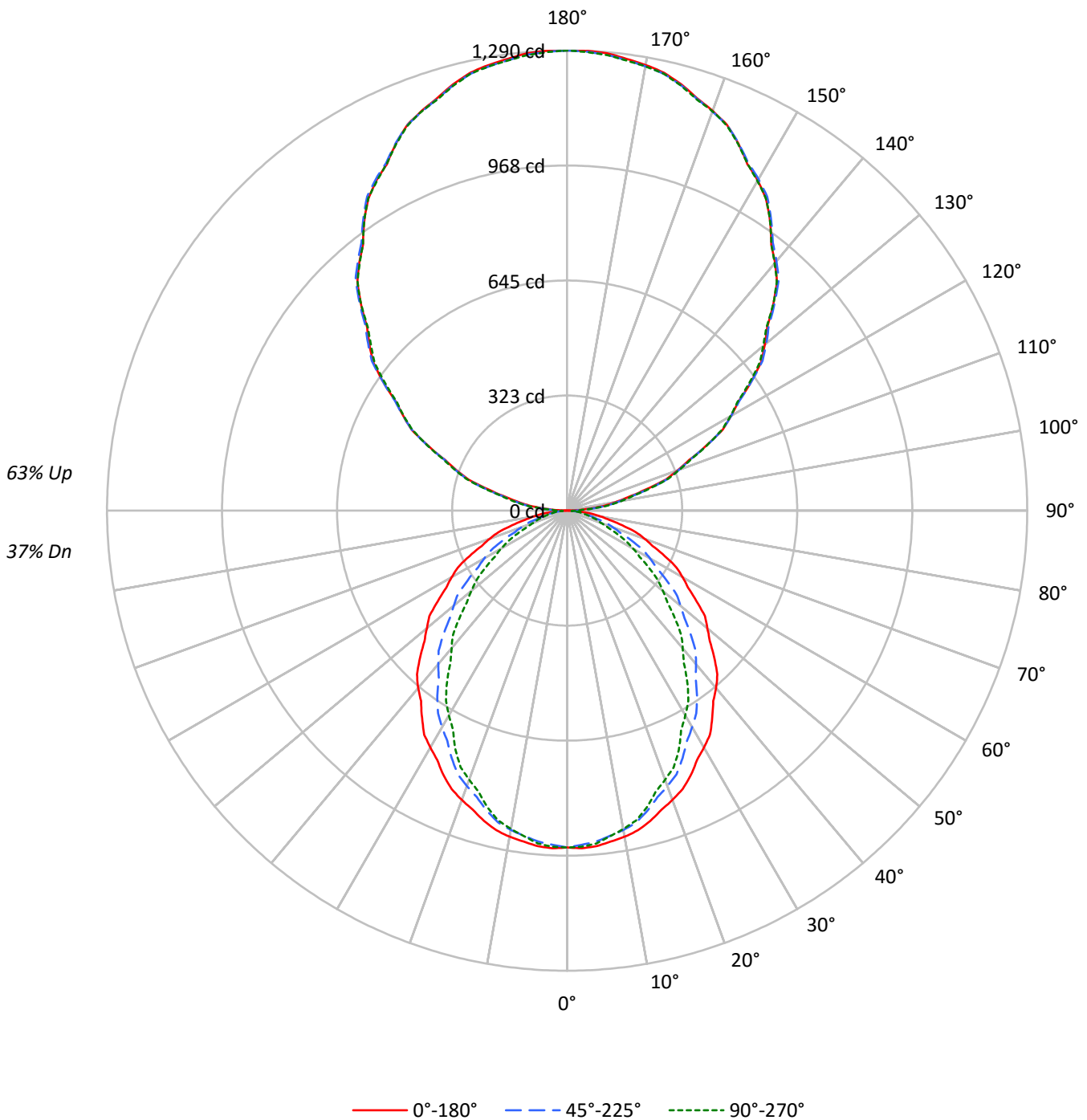
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	104	104	104	104	94	94	94	94	76	76	76	60	60	60	45	45	45	37
1	95	91	87	84	86	83	80	77	67	65	63	53	51	50	40	39	38	32
2	87	80	74	69	79	73	68	63	59	56	53	47	44	42	35	34	32	27
3	79	70	63	58	72	64	58	53	52	48	44	41	38	36	31	29	28	23
4	73	62	55	49	66	57	50	45	47	42	38	37	34	31	28	26	24	20
5	67	55	48	42	60	51	44	39	42	37	33	33	30	27	25	23	21	18
6	61	50	42	36	56	46	39	34	38	32	29	30	26	24	23	21	19	16
7	57	45	37	32	51	41	34	30	34	29	25	27	24	21	21	19	17	14
8	53	41	33	28	48	37	31	26	31	26	22	25	21	19	20	17	15	13
9	49	37	30	25	44	34	28	23	28	24	20	23	19	17	18	15	14	11
10	46	34	27	22	42	31	25	21	26	21	18	21	18	15	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10167	10167	10167
5°	10205	10065	10122
10°	10147	9939	9905
15°	10038	9706	9604
20°	9889	9415	9196
25°	9734	9089	8797
30°	9531	8712	8236
35°	9320	8335	7720
40°	9128	7890	7082
45°	8873	7451	6506
50°	8594	6953	5863
55°	8310	6382	5262
60°	8047	5772	4600
65°	7707	5112	3940
70°	7279	4293	3182
75°	6658	3377	2994
80°	5938	2994	2752
85°	5014	2643	2458



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.7	1.6
10°-20°	246.8	4.3
20°-30°	355.3	6.2
30°-40°	400.3	7.0
40°-50°	382.9	6.7
50°-60°	313.6	5.5
60°-70°	211.6	3.7
70°-80°	106.4	1.9
80°-90°	32.0	0.6
90°-100°	84.0	1.5
100°-110°	251.5	4.4
110°-120°	427.7	7.5
120°-130°	562.6	9.9
130°-140°	632.3	11.1
140°-150°	621.6	10.9
150°-160°	523.3	9.2
160°-170°	348.3	6.1
170°-180°	122.0	2.1
0°-30°	690.8	12.1
0°-40°	1091.1	19.1
0°-60°	1787.6	31.3
0°-90°	2137.5	37.4
90°-120°	763.2	13.4
90°-150°	2579.7	45.2
90°-180°	3573.0	62.6
0°-180°	5710.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	944	944	944	944	944	
5°	944	940	932	938	937	90
15°	901	892	871	867	862	254
25°	820	800	765	750	741	377
35°	709	681	634	602	588	444
45°	583	547	490	447	427	450
55°	443	404	340	297	280	397
65°	303	259	201	165	155	299
75°	160	123	81	74	72	171
85°	41	25	21	20	20	46
90°	1	11	24	28	30	6
95°	60	67	75	79	79	67
105°	228	230	239	239	241	244
115°	431	433	432	432	432	426
125°	630	633	631	627	623	562
135°	818	823	823	819	817	630
145°	992	994	997	996	992	619
155°	1136	1136	1137	1140	1134	523
165°	1237	1234	1234	1239	1233	349
175°	1287	1283	1283	1288	1282	122
180°	1290	1290	1290	1290	1290	



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CATALOG NUMBER: S123RDIW-S560D1030U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5
2.5°	947.6	947.0	946.5	945.9	945.4	944.3	942.7	941.0	939.4	937.8	939.3
5°	944.5	943.7	942.8	942.0	941.1	939.7	937.6	935.6	933.5	931.5	933.0
7.5°	935.8	934.9	933.9	933.0	932.1	930.3	927.7	925.0	922.3	919.7	920.5
10°	928.4	927.2	926.0	924.8	923.7	921.5	918.5	915.4	912.3	909.3	909.4
12.5°	918.0	916.7	915.3	914.0	912.7	910.2	906.4	902.7	898.9	895.2	895.1
15°	900.8	899.0	897.1	895.2	893.4	890.0	885.3	880.5	875.7	871.0	870.1
17.5°	879.2	877.1	874.9	872.7	870.5	866.4	860.3	854.3	848.2	842.2	840.4
20°	863.3	860.6	857.9	855.1	852.4	847.8	841.3	834.9	828.4	821.9	819.7
22.5°	845.5	842.4	839.3	836.1	833.0	828.0	821.1	814.2	807.4	800.5	797.7
25°	819.6	815.4	811.1	806.9	802.6	796.6	788.7	780.9	773.1	765.3	761.7
27.5°	788.2	783.5	778.8	774.1	769.4	762.7	754.0	745.3	736.6	727.9	722.9
30°	766.8	761.7	756.6	751.5	746.4	739.0	729.5	720.0	710.4	700.9	695.1
32.5°	745.3	739.6	733.8	728.0	722.2	714.3	704.2	694.1	684.0	673.9	667.6
35°	709.3	703.2	697.1	691.0	684.8	676.5	665.9	655.4	644.8	634.3	626.9
37.5°	672.9	666.1	659.3	652.4	645.6	636.6	625.3	614.1	602.8	591.5	583.2
40°	649.6	642.1	634.6	627.1	619.6	609.8	597.8	585.7	573.6	561.5	552.6
42.5°	623.2	615.7	608.3	600.8	593.3	583.3	570.8	558.3	545.8	533.3	523.6
45°	582.9	575.3	567.6	560.0	552.3	541.9	528.8	515.7	502.6	489.5	479.8
47.5°	542.6	534.2	525.8	517.4	509.0	498.3	485.1	472.0	458.9	445.8	435.3
50°	513.2	505.2	497.2	489.2	481.2	470.3	456.5	442.8	429.0	415.2	404.6
52.5°	486.9	478.2	469.5	460.8	452.2	441.0	427.3	413.7	400.0	386.4	375.4
55°	442.8	434.4	426.1	417.7	409.4	398.0	383.5	369.1	354.6	340.1	330.2
57.5°	402.0	392.9	383.8	374.7	365.6	353.8	339.3	324.8	310.2	295.7	286.4
60°	373.8	364.5	355.1	345.7	336.4	324.6	310.5	296.4	282.2	268.1	258.9
62.5°	345.6	336.3	326.9	317.5	308.2	296.4	282.3	268.2	254.0	239.9	231.3
65°	302.6	293.2	283.9	274.5	265.1	253.8	240.5	227.3	214.0	200.7	192.4
67.5°	259.5	250.1	240.6	231.1	221.7	210.6	197.8	185.1	172.4	159.6	153.4
70°	231.3	222.1	213.0	203.8	194.6	184.0	172.1	160.2	148.3	136.4	130.4
72.5°	203.1	194.1	185.0	176.0	166.9	157.0	146.2	135.3	124.5	113.7	108.8
75°	160.1	151.9	143.8	135.6	127.4	118.6	109.3	99.9	90.6	81.2	79.5
77.5°	120.9	113.5	106.1	98.7	91.3	84.6	78.6	72.6	66.5	60.5	59.6
80°	95.8	88.8	81.8	74.8	67.8	62.6	59.0	55.4	51.8	48.3	47.7
82.5°	71.9	65.8	59.8	53.8	47.7	43.9	42.2	40.6	38.9	37.2	36.7
85°	40.6	36.9	33.1	29.4	25.6	23.5	23.0	22.5	22.0	21.4	21.1
87.5°	14.9	13.9	12.8	11.8	10.7	10.5	11.1	11.7	12.2	12.8	12.9
90°	1.0	3.3	5.5	7.8	10.0	12.6	15.5	18.5	21.4	24.3	25.2
92.5°	24.5	26.0	27.6	29.1	30.6	32.2	33.9	35.6	37.2	38.9	39.6
95°	59.8	61.3	62.9	64.5	66.1	67.8	69.6	71.4	73.2	75.0	75.9
97.5°	106.2	107.3	108.5	109.7	110.9	112.1	113.4	114.7	116.0	117.3	118.4
100°	137.8	139.1	140.5	141.8	143.2	144.4	145.6	146.7	147.8	148.9	149.6
102.5°	174.3	175.1	175.9	176.7	177.5	178.6	180.1	181.6	183.1	184.6	185.3
105°	228.0	228.4	228.9	229.3	229.8	231.0	233.0	235.0	237.1	239.1	239.1
107.5°	290.4	290.6	290.9	291.2	291.4	292.0	292.8	293.6	294.4	295.2	295.9
110°	329.3	329.7	330.2	330.6	331.1	331.5	332.0	332.4	332.9	333.3	334.2



TEST NUMBER: P332421

CATALOG NUMBER: S123RDIW-S560D1030U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	369.8	370.1	370.3	370.6	370.9	371.0	371.1	371.2	371.3	371.4	372.5
115°	430.6	431.2	431.9	432.6	433.3	433.4	432.9	432.5	432.0	431.6	431.8
117.5°	491.8	492.2	492.7	493.1	493.6	493.5	492.9	492.3	491.7	491.2	491.1
120°	529.9	531.2	532.6	533.9	535.3	535.4	534.2	533.1	532.0	530.9	530.6
122.5°	569.6	570.6	571.6	572.5	573.5	573.7	573.2	572.6	572.0	571.4	570.8
125°	630.2	630.8	631.5	632.2	632.9	633.0	632.5	632.1	631.6	631.2	630.3
127.5°	686.1	687.5	689.0	690.4	691.8	692.3	691.8	691.3	690.8	690.3	689.1
130°	723.4	725.2	727.0	728.8	730.6	731.1	730.5	729.8	729.1	728.4	727.5
132.5°	760.6	762.4	764.2	766.1	767.9	768.5	768.0	767.5	767.0	766.5	765.4
135°	817.6	818.9	820.3	821.6	823.0	823.5	823.3	823.1	822.9	822.6	821.7
137.5°	870.3	871.4	872.5	873.6	874.8	875.6	876.2	876.8	877.4	878.0	877.0
140°	906.7	907.9	909.0	910.1	911.2	911.9	912.1	912.4	912.6	912.8	912.6
142.5°	940.0	941.1	942.2	943.3	944.5	945.2	945.6	946.0	946.5	946.9	946.6
145°	991.8	992.3	992.7	993.2	993.6	994.2	994.9	995.6	996.2	996.9	996.7
147.5°	1037.2	1038.0	1038.8	1039.7	1040.5	1041.2	1041.8	1042.5	1043.1	1043.7	1043.7
150°	1068.8	1069.3	1069.7	1070.2	1070.6	1071.1	1071.5	1072.0	1072.4	1072.9	1072.9
152.5°	1094.8	1095.4	1096.0	1096.7	1097.3	1097.7	1098.0	1098.3	1098.6	1098.8	1099.2
155°	1135.7	1135.7	1135.7	1135.7	1135.7	1135.8	1136.0	1136.3	1136.5	1136.7	1137.6
157.5°	1170.6	1170.3	1170.0	1169.7	1169.5	1169.4	1169.6	1169.8	1170.0	1170.1	1171.1
160°	1192.4	1192.0	1191.5	1191.1	1190.6	1190.4	1190.4	1190.4	1190.4	1190.4	1191.5
162.5°	1211.9	1211.3	1210.6	1210.0	1209.4	1209.1	1209.3	1209.5	1209.7	1209.9	1211.0
165°	1237.0	1236.3	1235.7	1235.0	1234.3	1234.0	1234.0	1234.0	1234.0	1234.0	1235.3
167.5°	1257.1	1256.2	1255.3	1254.4	1253.5	1253.1	1253.3	1253.5	1253.7	1253.8	1255.2
170°	1268.4	1267.5	1266.6	1265.7	1264.8	1264.4	1264.4	1264.4	1264.4	1264.4	1265.9
172.5°	1277.3	1276.4	1275.5	1274.6	1273.7	1273.3	1273.3	1273.3	1273.3	1273.3	1274.7
175°	1286.7	1285.8	1284.9	1284.0	1283.1	1282.6	1282.6	1282.6	1282.6	1282.6	1284.0
177.5°	1290.5	1289.8	1289.1	1288.3	1287.6	1287.3	1287.3	1287.3	1287.3	1287.3	1288.3
180°	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7



TEST NUMBER: P332421

CATALOG NUMBER: S123RDIW-S560D1030U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5
2.5°	940.8	942.3	943.8	944.4	944.1	943.8	943.6	943.3
5°	934.5	936.1	937.6	938.2	937.9	937.5	937.2	936.8
7.5°	921.4	922.2	923.1	923.2	922.6	922.1	921.5	920.9
10°	909.6	909.8	909.9	909.6	908.8	907.9	907.1	906.2
12.5°	895.0	894.9	894.8	894.2	893.2	892.2	891.3	890.3
15°	869.3	868.4	867.6	866.5	865.3	864.2	863.0	861.8
17.5°	838.6	836.8	834.9	833.2	831.4	829.6	827.8	826.1
20°	817.5	815.3	813.1	811.0	808.9	806.9	804.8	802.8
22.5°	795.0	792.2	789.5	787.1	785.2	783.3	781.4	779.5
25°	758.1	754.5	751.0	748.2	746.4	744.5	742.6	740.7
27.5°	717.9	713.0	708.0	704.1	701.2	698.4	695.5	692.6
30°	689.3	683.5	677.8	673.5	670.8	668.1	665.3	662.6
32.5°	661.3	654.9	648.6	644.0	641.2	638.3	635.4	632.6
35°	619.6	612.3	605.0	599.8	596.7	593.7	590.6	587.5
37.5°	574.9	566.6	558.3	552.3	548.5	544.7	540.9	537.1
40°	543.8	534.9	526.1	519.7	515.8	511.9	508.0	504.0
42.5°	514.0	504.3	494.6	488.0	484.5	481.0	477.5	474.0
45°	470.1	460.4	450.7	443.8	439.7	435.6	431.5	427.4
47.5°	424.7	414.2	403.6	396.5	392.9	389.2	385.6	381.9
50°	394.1	383.5	373.0	365.7	361.8	357.9	354.0	350.1
52.5°	364.5	353.5	342.5	335.3	331.8	328.3	324.8	321.3
55°	320.4	310.5	300.6	294.0	290.6	287.2	283.8	280.4
57.5°	277.0	267.7	258.4	252.3	249.4	246.5	243.6	240.7
60°	249.7	240.5	231.3	225.3	222.4	219.5	216.6	213.7
62.5°	222.6	214.0	205.3	199.5	196.5	193.4	190.4	187.4
65°	184.0	175.7	167.3	162.2	160.4	158.5	156.6	154.7
67.5°	147.2	140.9	134.7	130.6	128.6	126.6	124.6	122.6
70°	124.4	118.5	112.5	108.6	106.7	104.9	103.0	101.1
72.5°	103.9	99.1	94.2	91.4	90.6	89.8	89.0	88.2
75°	77.8	76.1	74.4	73.4	73.0	72.7	72.3	72.0
77.5°	58.7	57.8	56.8	56.2	55.9	55.5	55.2	54.8
80°	47.2	46.7	46.2	45.8	45.5	45.1	44.8	44.4
82.5°	36.2	35.7	35.2	34.9	34.8	34.8	34.7	34.6
85°	20.8	20.4	20.1	19.9	19.9	19.9	19.9	19.9
87.5°	12.9	13.0	13.0	13.0	13.0	12.9	12.9	12.8
90°	26.1	27.0	27.9	28.6	29.0	29.5	29.9	30.4
92.5°	40.3	41.1	41.8	42.0	41.7	41.5	41.2	40.9
95°	76.8	77.7	78.6	79.0	79.0	79.0	79.0	79.0
97.5°	119.4	120.4	121.5	121.9	121.8	121.8	121.7	121.6
100°	150.3	151.0	151.6	152.2	152.6	153.1	153.5	154.0
102.5°	185.9	186.6	187.3	187.6	187.5	187.4	187.3	187.2
105°	239.1	239.1	239.1	239.3	239.8	240.2	240.7	241.1
107.5°	296.7	297.4	298.1	298.3	298.1	297.8	297.5	297.2
110°	335.1	336.0	336.9	337.1	336.7	336.2	335.8	335.3



TEST NUMBER: P332421

CATALOG NUMBER: S123RDIW-S560D1030U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	373.6	374.6	375.7	376.2	376.1	376.0	376.0	375.9
115°	432.0	432.3	432.5	432.5	432.3	432.0	431.8	431.6
117.5°	491.1	491.0	491.0	490.6	490.0	489.4	488.7	488.1
120°	530.4	530.2	530.0	529.6	529.2	528.7	528.3	527.8
122.5°	570.2	569.6	569.1	568.4	567.8	567.2	566.6	565.9
125°	629.4	628.5	627.6	626.7	625.8	624.9	624.0	623.1
127.5°	687.8	686.6	685.3	684.1	683.1	682.1	681.0	680.0
130°	726.6	725.7	724.8	723.6	722.0	720.4	718.9	717.3
132.5°	764.4	763.3	762.2	761.1	759.8	758.6	757.4	756.2
135°	820.8	819.9	819.0	818.4	817.9	817.5	817.0	816.6
137.5°	876.1	875.1	874.2	873.3	872.4	871.6	870.7	869.9
140°	912.4	912.1	911.9	911.0	909.4	907.9	906.3	904.7
142.5°	946.4	946.2	946.0	945.2	944.0	942.8	941.6	940.4
145°	996.5	996.2	996.0	995.4	994.5	993.6	992.7	991.8
147.5°	1043.7	1043.7	1043.7	1043.0	1041.7	1040.3	1039.0	1037.6
150°	1072.9	1072.9	1072.9	1072.2	1070.9	1069.5	1068.2	1066.8
152.5°	1099.5	1099.9	1100.3	1099.9	1098.7	1097.5	1096.3	1095.2
155°	1138.5	1139.4	1140.3	1140.0	1138.4	1136.8	1135.3	1133.7
157.5°	1172.0	1173.0	1173.9	1173.8	1172.5	1171.3	1170.0	1168.7
160°	1192.7	1193.8	1194.9	1195.0	1194.1	1193.2	1192.3	1191.4
162.5°	1212.1	1213.2	1214.4	1214.2	1212.8	1211.3	1209.9	1208.4
165°	1236.7	1238.0	1239.4	1239.3	1237.7	1236.1	1234.5	1233.0
167.5°	1256.6	1258.0	1259.4	1259.4	1258.0	1256.6	1255.2	1253.8
170°	1267.5	1269.1	1270.7	1270.7	1269.1	1267.5	1265.9	1264.4
172.5°	1276.1	1277.5	1278.9	1278.8	1277.2	1275.6	1274.0	1272.5
175°	1285.3	1286.7	1288.0	1287.9	1286.3	1284.7	1283.2	1281.6
177.5°	1289.4	1290.5	1291.6	1291.5	1290.2	1289.0	1287.7	1286.5
180°	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7	1289.7

(END OF REPORT)