

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: P332291-940

Luminaire Tested: **S123RDIP-S560D1025U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332291-940  
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: S123RDIP-S560D1025U940-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1025 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5559.4 lumens  
Efficiency: N/A  
Efficacy: 124.9 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

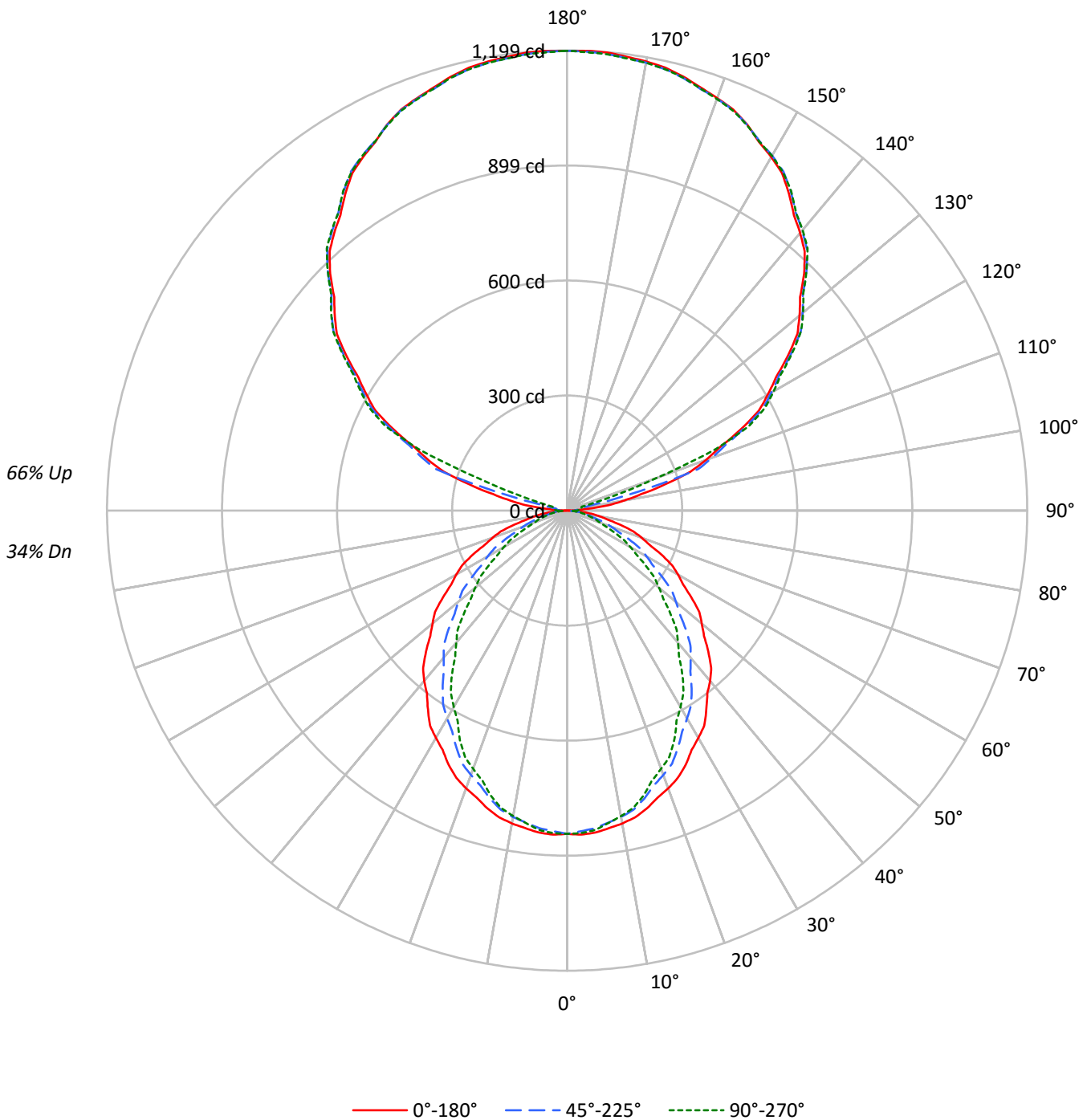
Input Watts (W): 44.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	75	75	75	57	57	57	42	42	42	34
1	94	90	87	83	85	82	79	76	66	63	62	51	49	48	37	36	36	29
2	86	79	73	68	78	72	67	62	58	54	51	45	43	41	33	32	30	25
3	79	70	63	57	71	63	57	52	51	47	43	40	37	34	29	28	26	21
4	72	62	54	48	65	56	50	45	45	41	37	36	32	30	26	24	23	18
5	66	55	47	41	60	50	43	38	41	36	32	32	28	26	24	22	20	16
6	61	49	41	36	55	45	38	33	37	32	28	29	25	23	22	19	17	14
7	56	44	37	31	51	41	34	29	33	28	24	26	23	20	20	17	16	13
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	16	14	11
9	49	37	29	25	44	34	27	23	28	23	19	22	19	16	17	14	13	10
10	45	34	27	22	41	31	25	20	25	21	17	20	17	14	16	13	11	9

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9065	9065	9065
5°	9100	8975	9027
10°	9049	8862	8833
15°	8952	8655	8564
20°	8818	8395	8200
25°	8679	8105	7845
30°	8499	7768	7343
35°	8311	7432	6884
40°	8140	7035	6315
45°	7913	6645	5801
50°	7663	6199	5228
55°	7409	5692	4692
60°	7175	5147	4103
65°	6872	4559	3512
70°	6493	3827	2839
75°	5939	3011	2670
80°	5294	2672	2455
85°	4471	2359	2186



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	79.1	1.4
10°-20°	220.1	4.0
20°-30°	316.9	5.7
30°-40°	356.9	6.4
40°-50°	341.4	6.1
50°-60°	279.6	5.0
60°-70°	188.7	3.4
70°-80°	94.9	1.7
80°-90°	28.5	0.5
90°-100°	43.6	0.8
100°-110°	207.6	3.7
110°-120°	498.6	9.0
120°-130°	634.9	11.4
130°-140°	678.4	12.2
140°-150°	634.4	11.4
150°-160°	511.7	9.2
160°-170°	330.3	5.9
170°-180°	113.8	2.0
0°-30°	616.0	11.1
0°-40°	972.9	17.5
0°-60°	1594.0	28.7
0°-90°	1906.0	34.3
90°-120°	749.8	13.5
90°-150°	2697.6	48.5
90°-180°	3653.0	65.7
0°-180°	5559.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	842	842	842	842	842	
5°	842	839	831	836	835	80
15°	803	795	777	773	768	226
25°	731	713	682	668	660	336
35°	632	607	566	537	524	396
45°	520	488	436	399	381	401
55°	395	360	303	265	250	354
65°	270	231	179	147	138	267
75°	143	110	72	66	64	152
85°	36	22	19	18	18	41
90°	1	10	21	25	27	4
95°	54	20	28	34	34	67
105°	265	270	195	46	39	281
115°	498	503	511	520	523	491
125°	701	708	712	714	716	626
135°	873	878	882	884	882	672
145°	1008	1014	1016	1017	1017	630
155°	1110	1108	1109	1113	1108	511
165°	1170	1168	1167	1173	1168	331
175°	1198	1194	1194	1200	1194	114
180°	1198	1198	1198	1198	1198	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2
2.5°	845.0	844.5	844.0	843.5	843.0	842.0	840.6	839.1	837.7	836.2	837.6
5°	842.2	841.5	840.7	840.0	839.2	837.9	836.1	834.3	832.4	830.6	832.0
7.5°	834.5	833.7	832.8	832.0	831.2	829.6	827.2	824.8	822.4	820.1	820.8
10°	827.9	826.8	825.7	824.7	823.7	821.7	819.0	816.3	813.5	810.8	810.9
12.5°	818.6	817.4	816.2	815.0	813.9	811.6	808.2	804.9	801.6	798.3	798.2
15°	803.3	801.6	800.0	798.3	796.7	793.6	789.4	785.2	780.9	776.7	775.9
17.5°	784.0	782.1	780.2	778.2	776.2	772.6	767.1	761.8	756.3	751.0	749.4
20°	769.8	767.4	765.0	762.5	760.1	756.0	750.2	744.5	738.7	732.9	730.9
22.5°	753.9	751.2	748.4	745.6	742.8	738.3	732.2	726.0	720.0	713.8	711.3
25°	730.8	727.1	723.3	719.5	715.7	710.3	703.3	696.3	689.4	682.4	679.2
27.5°	702.8	698.7	694.5	690.3	686.1	680.1	672.3	664.6	656.8	649.1	644.6
30°	683.8	679.2	674.7	670.1	665.6	659.0	650.5	642.0	633.5	625.0	619.8
32.5°	664.6	659.5	654.3	649.2	644.0	636.9	627.9	618.9	609.9	600.9	595.3
35°	632.5	627.1	621.6	616.2	610.6	603.2	593.8	584.4	575.0	565.6	559.0
37.5°	600.0	594.0	587.9	581.8	575.7	567.7	557.6	547.6	537.5	527.4	520.0
40°	579.3	572.6	565.9	559.2	552.5	543.8	533.1	522.3	511.5	500.7	492.8
42.5°	555.7	549.0	542.4	535.7	529.1	520.1	509.0	497.8	486.7	475.5	466.9
45°	519.8	513.0	506.1	499.4	492.5	483.2	471.5	459.9	448.2	436.5	427.8
47.5°	483.8	476.4	468.9	461.4	453.9	444.3	432.6	420.9	409.2	397.5	388.2
50°	457.6	450.5	443.4	436.2	429.1	419.4	407.1	394.8	382.5	370.2	360.8
52.5°	434.2	426.4	418.7	410.9	403.2	393.2	381.0	368.9	356.7	344.6	334.7
55°	394.8	387.4	380.0	372.5	365.1	354.9	342.0	329.1	316.2	303.3	294.4
57.5°	358.5	350.4	342.2	334.1	326.0	315.5	302.6	289.6	276.6	263.7	255.4
60°	333.3	325.0	316.6	308.3	300.0	289.4	276.9	264.3	251.6	239.1	230.9
62.5°	308.2	299.9	291.5	283.1	274.8	264.3	251.7	239.2	226.5	213.9	206.3
65°	269.8	261.4	253.2	244.8	236.4	226.3	214.5	202.7	190.8	179.0	171.6
67.5°	231.4	223.0	214.5	206.1	197.7	187.8	176.4	165.1	153.7	142.3	136.8
70°	206.3	198.0	189.9	181.7	173.5	164.1	153.5	142.9	132.2	121.6	116.3
72.5°	181.1	173.1	165.0	156.9	148.8	140.0	130.4	120.6	111.0	101.4	97.0
75°	142.8	135.5	128.2	120.9	113.6	105.8	97.5	89.1	80.8	72.4	70.9
77.5°	107.8	101.2	94.6	88.0	81.4	75.4	70.1	64.7	59.3	53.9	53.1
80°	85.4	79.2	72.9	66.7	60.5	55.8	52.6	49.4	46.2	43.1	42.5
82.5°	64.1	58.7	53.3	48.0	42.5	39.1	37.6	36.2	34.7	33.2	32.7
85°	36.2	32.9	29.5	26.2	22.8	21.0	20.5	20.1	19.6	19.1	18.8
87.5°	13.3	12.4	11.4	10.4	9.5	9.4	9.8	10.3	10.9	11.4	11.4
90°	0.9	2.9	4.8	6.9	8.8	11.1	13.6	16.2	18.8	21.4	22.1
92.5°	16.6	16.0	15.4	14.9	14.4	15.1	16.9	18.9	20.9	22.8	24.1
95°	54.3	46.2	38.1	30.0	21.8	18.9	21.0	23.3	25.4	27.6	29.0
97.5°	109.1	105.5	101.8	98.2	94.5	85.6	71.4	57.2	42.9	28.6	30.2
100°	150.4	154.4	158.4	162.3	166.2	152.8	121.9	91.0	60.2	29.3	30.9
102.5°	197.4	200.3	203.1	206.0	208.8	193.4	159.7	126.0	92.3	58.6	53.7
105°	265.2	267.4	269.6	271.8	273.9	266.1	248.3	230.5	212.8	194.9	159.9
107.5°	336.8	338.6	340.3	342.1	343.8	346.1	348.8	351.7	354.5	357.3	331.6
110°	384.5	386.1	387.6	389.2	390.8	392.7	394.8	397.1	399.2	401.4	394.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	430.1	431.5	432.9	434.4	435.8	437.6	439.8	441.9	444.1	446.3	446.4
115°	497.6	498.7	499.9	501.1	502.3	503.8	505.5	507.3	509.1	510.9	512.9
117.5°	562.8	564.4	565.8	567.3	568.7	569.9	570.8	571.8	572.7	573.5	575.2
120°	603.4	605.2	607.0	608.8	610.6	611.8	612.3	613.0	613.6	614.1	615.7
122.5°	644.8	646.2	647.6	649.2	650.6	651.8	652.5	653.3	654.0	654.7	655.9
125°	701.3	702.9	704.5	706.1	707.7	708.9	709.7	710.4	711.2	712.0	712.5
127.5°	756.2	757.8	759.4	760.9	762.5	763.8	764.7	765.7	766.6	767.6	768.2
130°	790.4	791.9	793.5	795.1	796.7	797.9	798.7	799.5	800.2	801.0	801.8
132.5°	823.1	824.7	826.3	827.9	829.5	830.5	831.2	831.8	832.5	833.1	833.9
135°	873.2	874.3	875.5	876.7	877.9	878.9	879.7	880.5	881.3	882.1	882.6
137.5°	915.9	917.4	918.9	920.4	921.9	922.8	923.3	923.7	924.2	924.6	925.5
140°	944.3	945.6	946.7	947.9	949.1	950.0	950.6	951.2	951.8	952.3	953.1
142.5°	970.7	971.9	973.0	974.3	975.4	976.3	977.0	977.5	978.1	978.7	979.4
145°	1007.5	1009.0	1010.3	1011.7	1013.1	1014.0	1014.4	1014.8	1015.1	1015.6	1015.9
147.5°	1042.2	1043.2	1044.1	1045.0	1045.9	1046.5	1047.0	1047.3	1047.8	1048.1	1048.6
150°	1063.6	1064.3	1064.8	1065.4	1066.0	1066.5	1066.8	1067.3	1067.6	1068.1	1068.4
152.5°	1082.8	1083.2	1083.4	1083.7	1084.0	1084.2	1084.4	1084.7	1084.9	1085.1	1085.8
155°	1109.9	1109.5	1109.1	1108.8	1108.3	1108.2	1108.4	1108.6	1108.8	1109.0	1110.0
157.5°	1130.9	1130.9	1130.9	1130.8	1130.8	1130.6	1130.4	1130.2	1130.1	1129.8	1131.0
160°	1143.7	1143.5	1143.4	1143.2	1142.9	1142.7	1142.5	1142.4	1142.1	1141.9	1143.2
162.5°	1155.8	1155.3	1154.8	1154.3	1153.8	1153.4	1153.2	1153.0	1152.8	1152.6	1154.0
165°	1170.5	1169.8	1169.2	1168.7	1168.1	1167.7	1167.4	1167.2	1167.1	1166.9	1168.4
167.5°	1181.8	1181.1	1180.3	1179.5	1178.7	1178.2	1178.2	1178.2	1178.2	1178.2	1179.8
170°	1188.2	1187.4	1186.7	1185.9	1185.1	1184.6	1184.6	1184.6	1184.6	1184.6	1186.2
172.5°	1192.5	1191.6	1190.6	1189.6	1188.7	1188.3	1188.5	1188.7	1188.7	1188.9	1190.5
175°	1198.0	1197.0	1196.1	1195.1	1194.1	1193.6	1193.8	1194.1	1194.3	1194.4	1195.9
177.5°	1199.4	1198.6	1197.8	1197.0	1196.3	1196.0	1196.1	1196.3	1196.4	1196.6	1197.8
180°	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2
2.5°	838.9	840.3	841.6	842.1	841.9	841.6	841.4	841.2
5°	833.3	834.7	836.1	836.6	836.3	836.0	835.7	835.4
7.5°	821.6	822.3	823.1	823.2	822.7	822.2	821.7	821.2
10°	811.1	811.3	811.4	811.1	810.4	809.6	808.9	808.1
12.5°	798.1	798.0	797.9	797.4	796.5	795.6	794.8	793.9
15°	775.2	774.4	773.6	772.7	771.6	770.6	769.5	768.5
17.5°	747.8	746.2	744.5	743.0	741.4	739.8	738.2	736.6
20°	729.0	727.0	725.1	723.2	721.3	719.5	717.6	715.9
22.5°	708.9	706.4	704.0	701.9	700.2	698.5	696.8	695.1
25°	676.0	672.8	669.7	667.2	665.6	663.9	662.2	660.5
27.5°	640.2	635.8	631.3	627.9	625.3	622.8	620.2	617.6
30°	614.7	609.5	604.4	600.6	598.2	595.8	593.3	590.8
32.5°	589.7	584.0	578.4	574.3	571.8	569.2	566.6	564.1
35°	552.5	546.0	539.5	534.8	532.1	529.4	526.6	523.9
37.5°	512.6	505.2	497.8	492.5	489.1	485.7	482.3	478.9
40°	484.9	477.0	469.1	463.4	459.9	456.5	453.0	449.4
42.5°	458.3	449.7	441.0	435.2	432.0	428.9	425.8	422.7
45°	419.2	410.5	401.9	395.7	392.1	388.4	384.8	381.1
47.5°	378.7	369.3	359.9	353.6	350.4	347.1	343.8	340.5
50°	351.4	342.0	332.6	326.1	322.6	319.1	315.7	312.2
52.5°	325.0	315.2	305.4	299.0	295.9	292.7	289.6	286.5
55°	285.7	276.9	268.0	262.2	259.1	256.1	253.1	250.0
57.5°	247.0	238.7	230.4	225.0	222.4	219.8	217.2	214.6
60°	222.7	214.5	206.3	200.9	198.3	195.7	193.1	190.6
62.5°	198.5	190.8	183.1	177.9	175.2	172.5	169.8	167.1
65°	164.1	156.7	149.2	144.6	143.0	141.3	139.6	137.9
67.5°	131.3	125.6	120.1	116.5	114.7	112.9	111.1	109.3
70°	110.9	105.7	100.3	96.8	95.1	93.5	91.8	90.2
72.5°	92.6	88.4	84.0	81.5	80.8	80.1	79.4	78.6
75°	69.4	67.9	66.3	65.5	65.1	64.8	64.5	64.2
77.5°	52.3	51.5	50.6	50.1	49.8	49.5	49.2	48.9
80°	42.1	41.6	41.2	40.8	40.6	40.2	39.9	39.6
82.5°	32.3	31.8	31.4	31.1	31.0	31.0	30.9	30.9
85°	18.5	18.2	17.9	17.7	17.7	17.7	17.7	17.7
87.5°	11.4	11.5	11.5	11.5	11.5	11.4	11.4	11.3
90°	22.9	23.7	24.5	25.1	25.5	25.9	26.3	26.7
92.5°	25.3	26.6	27.8	28.6	28.8	29.1	29.3	29.5
95°	30.3	31.7	33.2	33.8	33.8	33.8	33.8	33.8
97.5°	31.8	33.4	35.0	35.8	36.1	36.3	36.5	36.6
100°	32.5	34.2	35.7	36.6	36.8	37.0	37.2	37.4
102.5°	48.8	43.9	39.0	36.6	37.0	37.4	37.7	38.1
105°	124.9	89.9	54.9	37.5	38.0	38.3	38.8	39.1
107.5°	305.9	280.3	254.6	228.5	202.2	175.8	149.4	123.0
110°	388.3	381.8	375.3	357.9	329.6	301.3	273.0	244.8





TEST NUMBER: P332291-940

CATALOG NUMBER: S123RDIP-S560D1025U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	446.5	446.7	446.7	443.8	437.8	431.9	425.9	419.9
115°	514.9	516.8	518.8	520.2	520.9	521.7	522.5	523.3
117.5°	576.8	578.3	579.9	580.8	580.9	581.0	581.2	581.4
120°	617.3	618.8	620.5	621.3	621.3	621.3	621.3	621.3
122.5°	656.9	658.1	659.2	659.8	660.0	660.1	660.2	660.4
125°	712.8	713.2	713.6	714.0	714.4	714.8	715.2	715.6
127.5°	768.8	769.5	770.1	770.3	769.8	769.5	769.0	768.7
130°	802.6	803.4	804.2	804.4	804.1	803.6	803.3	802.8
132.5°	834.6	835.4	836.2	836.3	835.8	835.3	834.7	834.2
135°	883.2	883.9	884.4	884.4	883.9	883.2	882.6	882.1
137.5°	926.5	927.5	928.4	928.6	928.3	927.9	927.5	927.1
140°	954.0	954.8	955.6	955.7	955.3	954.9	954.6	954.1
142.5°	980.0	980.6	981.2	981.2	980.7	980.2	979.6	979.1
145°	1016.4	1016.7	1017.2	1017.4	1017.4	1017.4	1017.4	1017.4
147.5°	1048.9	1049.3	1049.7	1049.5	1048.6	1047.7	1046.7	1045.8
150°	1068.9	1069.3	1069.7	1069.5	1069.0	1068.4	1067.7	1067.2
152.5°	1086.5	1087.3	1088.0	1087.9	1087.0	1086.1	1085.2	1084.2
155°	1111.0	1112.0	1112.9	1112.9	1111.7	1110.5	1109.3	1108.1
157.5°	1132.2	1133.4	1134.6	1134.4	1132.8	1131.3	1129.8	1128.3
160°	1144.3	1145.5	1146.7	1146.6	1145.2	1143.8	1142.5	1141.0
162.5°	1155.3	1156.6	1158.0	1158.1	1156.8	1155.6	1154.4	1153.2
165°	1170.0	1171.6	1173.2	1173.3	1171.9	1170.5	1169.1	1167.8
167.5°	1181.4	1183.0	1184.5	1184.5	1183.0	1181.4	1179.8	1178.2
170°	1187.8	1189.5	1191.0	1191.0	1189.5	1187.8	1186.2	1184.6
172.5°	1192.1	1193.6	1195.2	1195.2	1193.5	1191.7	1190.0	1188.2
175°	1197.2	1198.6	1200.0	1199.9	1198.3	1196.8	1195.2	1193.6
177.5°	1199.1	1200.4	1201.7	1201.5	1199.9	1198.4	1196.8	1195.2
180°	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0	1198.0

(END OF REPORT)