

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: P331985-940

Luminaire Tested: **S123DIP-S775D1025U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331985-940  
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: S123DIP-S775D1025U940-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6537.1 lumens  
Efficiency: N/A  
Efficacy: 125.7 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

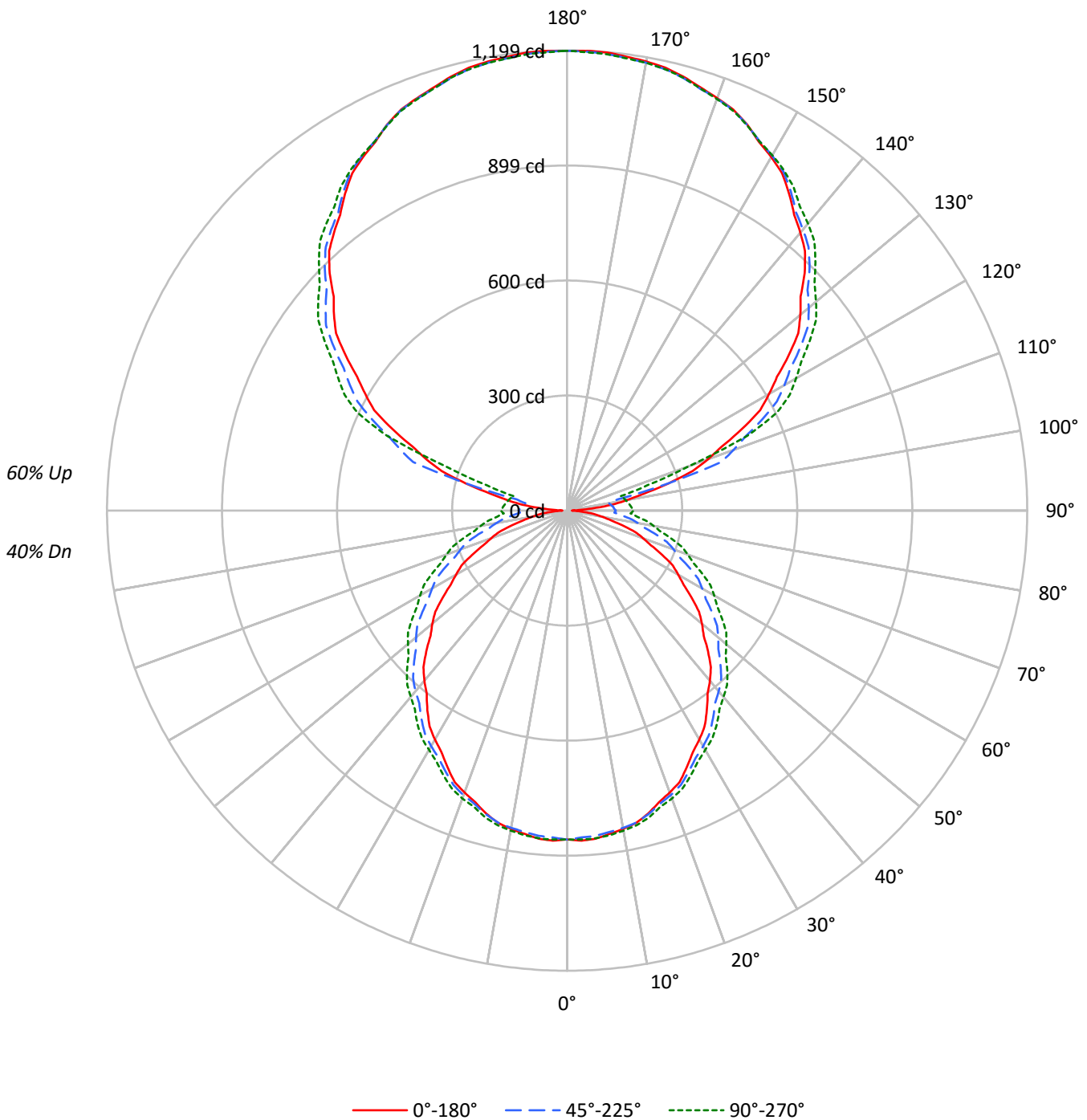
Input Watts (W): 52  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	95	90	86	82	86	82	79	75	67	64	62	53	51	50	40	39	38	32
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	32	26
3	78	68	61	55	71	62	56	51	51	46	42	41	37	34	31	28	26	22
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	27	25	23	19
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	25	22	20	16
6	60	48	40	34	54	44	37	31	36	31	27	29	25	22	22	19	17	14
7	55	43	35	30	50	40	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	21	24	20	17	19	16	13	11
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	33	25	21	41	30	23	19	25	20	16	20	16	14	16	13	11	9

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

	0°	45°	90°
0°	9226	9226	9226
5°	9255	8994	8999
10°	9172	8787	8743
15°	9054	8552	8462
20°	8884	8283	8155
25°	8676	7974	7832
30°	8462	7695	7504
35°	8223	7401	7242
40°	7995	7134	6961
45°	7742	6877	6737
50°	7490	6622	6490
55°	7215	6363	6268
60°	6946	6099	6041
65°	6670	5818	5769
70°	6254	5502	5492
75°	5730	5140	5210
80°	5128	4782	4885
85°	4559	4540	4699



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.3	1.2
10°-20°	231.6	3.5
20°-30°	346.4	5.3
30°-40°	413.7	6.3
40°-50°	432.9	6.6
50°-60°	406.2	6.2
60°-70°	339.3	5.2
70°-80°	242.7	3.7
80°-90°	148.1	2.3
90°-100°	134.4	2.1
100°-110°	274.3	4.2
110°-120°	543.2	8.3
120°-130°	660.4	10.1
130°-140°	689.9	10.6
140°-150°	636.9	9.7
150°-160°	511.8	7.8
160°-170°	330.3	5.1
170°-180°	113.8	1.7
0°-30°	659.3	10.1
0°-40°	1073.0	16.4
0°-60°	1912.1	29.2
0°-90°	2642.2	40.4
90°-120°	951.9	14.6
90°-150°	2939.0	45.0
90°-180°	3895.0	59.6
0°-180°	6537.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	857	857	857	857	857	
5°	858	856	851	858	857	81
15°	817	820	819	828	827	230
25°	738	747	750	761	762	340
35°	635	650	662	675	680	397
45°	519	542	565	582	590	400
55°	396	427	460	484	493	354
65°	274	310	351	378	388	270
75°	148	192	239	269	281	159
85°	46	93	142	172	183	48
90°	13	68	127	161	173	11
95°	65	68	120	154	164	75
105°	273	301	265	141	144	289
115°	502	520	560	591	603	496
125°	704	713	742	763	772	629
135°	875	880	893	912	915	673
145°	1008	1014	1016	1024	1028	631
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°	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1
2.5°	860.9	860.3	859.9	859.3	858.9	857.9	856.7	855.3	854.0	852.7	854.0
5°	858.1	857.6	857.2	856.8	856.4	855.6	854.3	853.1	851.9	850.6	852.3
7.5°	849.6	849.7	849.8	849.9	850.0	849.4	848.2	847.0	845.8	844.6	846.7
10°	842.2	842.6	843.0	843.5	843.8	843.6	842.5	841.5	840.4	839.4	841.5
12.5°	833.2	833.8	834.4	835.0	835.5	835.5	834.8	834.1	833.4	832.7	834.6
15°	817.0	817.6	818.2	818.9	819.5	819.7	819.5	819.3	819.0	818.9	820.9
17.5°	796.5	797.7	799.0	800.1	801.4	802.0	801.9	801.8	801.7	801.6	803.5
20°	781.5	782.7	784.0	785.2	786.5	787.3	787.7	788.2	788.5	789.0	790.9
22.5°	765.8	767.0	768.3	769.5	770.8	771.7	772.3	772.8	773.5	774.0	776.4
25°	737.6	739.7	741.7	743.9	745.9	747.3	747.9	748.5	749.1	749.8	752.4
27.5°	709.3	711.6	714.0	716.3	718.7	720.5	721.8	723.2	724.5	725.9	728.2
30°	689.0	691.8	694.5	697.1	699.8	702.0	703.6	705.3	707.0	708.6	711.1
32.5°	666.6	669.7	672.7	675.7	678.8	681.4	683.5	685.7	687.9	690.0	692.7
35°	634.9	638.2	641.6	644.9	648.2	651.2	653.9	656.6	659.3	662.0	665.1
37.5°	601.3	605.0	608.8	612.5	616.3	619.7	623.1	626.4	629.7	633.0	636.6
40°	578.9	582.6	586.4	590.1	593.8	597.8	601.9	606.1	610.2	614.4	617.9
42.5°	554.2	558.8	563.4	567.9	572.5	576.9	581.2	585.6	589.9	594.2	598.1
45°	519.2	524.1	529.1	534.0	539.0	544.1	549.3	554.5	559.7	564.9	568.8
47.5°	482.3	488.0	493.7	499.3	504.9	510.7	516.7	522.5	528.5	534.4	538.9
50°	458.4	464.2	470.0	475.9	481.7	487.8	494.3	500.7	507.1	513.5	518.3
52.5°	433.0	439.2	445.3	451.5	457.6	464.2	471.4	478.4	485.5	492.6	497.6
55°	395.9	402.7	409.6	416.4	423.3	430.4	437.9	445.4	452.8	460.3	465.9
57.5°	359.6	366.8	373.9	381.0	388.3	395.8	404.0	412.2	420.4	428.6	434.2
60°	334.3	341.7	349.2	356.7	364.2	372.1	380.7	389.1	397.6	406.2	412.0
62.5°	310.3	318.0	325.7	333.2	340.9	349.2	358.2	367.2	376.2	385.2	391.0
65°	273.6	281.7	289.7	297.8	305.9	314.5	323.7	332.8	342.0	351.1	357.3
67.5°	236.2	244.8	253.4	262.0	270.5	279.6	288.8	298.1	307.4	316.7	323.5
70°	210.1	219.0	227.9	236.8	245.8	255.2	265.2	275.1	285.1	295.1	301.7
72.5°	186.2	195.1	204.0	212.9	221.9	231.5	241.7	252.1	262.3	272.6	279.5
75°	148.5	158.2	168.0	177.7	187.4	197.5	207.9	218.3	228.6	239.1	245.8
77.5°	115.6	125.5	135.3	145.1	154.9	165.1	175.6	186.0	196.4	206.9	214.1
80°	92.5	102.6	112.8	123.0	133.1	143.6	154.4	165.1	175.9	186.7	193.8
82.5°	72.2	82.6	92.9	103.3	113.6	124.2	135.2	146.2	157.1	168.1	175.1
85°	45.7	56.1	66.5	76.9	87.2	97.9	109.0	119.9	130.9	142.0	149.0
87.5°	25.1	35.8	46.5	57.2	67.9	78.8	90.0	101.0	112.1	123.2	130.5
90°	13.0	25.1	37.3	49.5	61.6	74.3	87.4	100.6	113.7	126.9	134.7
92.5°	27.9	36.6	45.2	53.8	62.4	72.9	85.2	97.6	109.9	122.3	130.5
95°	64.6	64.6	64.6	64.5	64.5	70.6	83.0	95.3	107.7	120.0	127.9
97.5°	118.2	121.9	125.6	129.3	133.0	132.5	128.0	123.4	118.9	114.4	122.2
100°	158.8	169.4	180.0	190.6	201.2	195.8	174.5	153.2	131.9	110.6	118.2
102.5°	205.1	213.9	222.7	231.6	240.4	232.6	208.3	184.0	159.6	135.3	136.3
105°	272.7	279.8	287.0	294.2	301.3	300.5	291.6	282.7	273.8	264.9	235.8
107.5°	343.1	349.1	355.1	361.1	367.0	375.7	386.9	398.2	409.5	420.8	400.6
110°	390.1	395.4	400.7	406.1	411.3	419.3	429.7	440.2	450.7	461.2	460.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	435.7	440.1	444.7	449.2	453.7	461.0	471.1	481.3	491.4	501.6	506.9
115°	502.2	505.9	509.5	513.3	516.9	523.3	532.6	541.9	551.2	560.4	567.3
117.5°	567.4	570.3	573.4	576.3	579.3	584.8	592.7	600.7	608.6	616.5	623.0
120°	607.2	610.0	612.9	615.6	618.5	623.6	631.1	638.5	646.0	653.4	659.7
122.5°	648.5	650.5	652.5	654.5	656.5	661.1	668.4	675.6	683.0	690.2	695.9
125°	704.2	705.8	707.3	708.9	710.5	714.7	721.5	728.3	735.1	741.9	746.7
127.5°	759.0	760.4	761.8	763.1	764.5	768.1	774.1	780.0	786.0	791.8	796.6
130°	793.2	794.5	795.9	797.3	798.7	801.8	806.7	811.7	816.6	821.6	826.3
132.5°	825.2	826.7	828.2	829.8	831.3	834.1	838.0	842.0	846.0	849.9	854.4
135°	875.0	876.0	877.0	878.0	879.0	880.9	884.0	887.1	890.2	893.2	897.6
137.5°	917.6	918.9	920.2	921.6	922.9	924.4	926.1	927.9	929.6	931.3	935.6
140°	945.3	946.5	947.6	948.9	950.0	951.3	952.4	953.7	954.8	956.1	960.0
142.5°	971.6	972.7	973.7	974.7	975.7	976.6	977.3	978.0	978.7	979.5	982.8
145°	1008.4	1009.7	1010.8	1012.0	1013.2	1014.0	1014.4	1014.8	1015.1	1015.6	1017.6
147.5°	1042.2	1043.2	1044.1	1045.0	1045.9	1046.5	1047.0	1047.3	1047.8	1048.1	1049.0
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°	857.1	857.1	857.1	857.1	857.1	857.1	857.1	857.1
2.5°	855.3	856.7	857.9	858.5	858.4	858.2	858.0	857.9
5°	853.9	855.6	857.2	857.9	857.7	857.6	857.4	857.1
7.5°	848.7	850.9	852.9	853.8	853.5	853.4	853.1	852.8
10°	843.6	845.6	847.7	848.6	848.1	847.7	847.3	846.9
12.5°	836.5	838.4	840.3	841.1	840.6	840.3	839.8	839.4
15°	823.0	825.1	827.2	828.0	827.9	827.7	827.4	827.2
17.5°	805.4	807.3	809.1	809.9	809.7	809.3	809.0	808.8
20°	792.7	794.6	796.5	797.5	797.7	797.9	798.1	798.3
22.5°	778.7	781.1	783.5	784.6	784.5	784.3	784.3	784.1
25°	755.2	757.9	760.5	761.9	761.9	761.9	761.9	761.9
27.5°	730.5	732.8	735.1	736.4	736.6	736.7	736.9	737.1
30°	713.6	716.1	718.6	719.9	719.9	719.9	719.9	719.9
32.5°	695.3	697.9	700.6	702.2	702.7	703.2	703.6	704.2
35°	668.2	671.4	674.4	676.5	677.3	678.1	678.9	679.8
37.5°	640.1	643.6	647.1	649.3	649.9	650.6	651.2	651.9
40°	621.4	624.9	628.5	630.6	631.5	632.3	633.1	634.0
42.5°	601.9	605.7	609.7	612.2	613.3	614.5	615.6	616.8
45°	572.7	576.7	580.7	583.4	585.1	586.7	588.4	590.1
47.5°	543.3	547.8	552.2	555.1	556.3	557.7	558.9	560.2
50°	523.1	527.8	532.6	535.7	537.2	538.6	540.1	541.5
52.5°	502.5	507.5	512.4	515.8	517.5	519.3	521.1	522.9
55°	471.5	477.2	482.7	486.3	488.0	489.6	491.3	493.0
57.5°	439.9	445.5	451.1	455.0	456.9	458.9	460.7	462.7
60°	417.8	423.6	429.4	433.5	435.7	438.0	440.3	442.6
62.5°	396.9	402.7	408.5	412.4	414.6	416.7	418.8	420.9
65°	363.6	369.7	375.9	380.1	382.2	384.2	386.4	388.4
67.5°	330.3	337.2	343.9	348.2	349.9	351.7	353.5	355.2
70°	308.4	315.0	321.6	325.9	328.1	330.1	332.2	334.3
72.5°	286.2	293.0	299.9	304.3	306.4	308.4	310.5	312.6
75°	252.7	259.6	266.4	271.1	273.6	276.1	278.6	281.1
77.5°	221.3	228.5	235.8	240.3	242.3	244.2	246.1	248.0
80°	200.8	207.9	215.0	219.5	221.6	223.6	225.8	227.8
82.5°	182.2	189.2	196.3	200.8	203.0	205.0	207.1	209.1
85°	156.0	163.1	170.1	174.7	176.7	178.9	180.9	183.0
87.5°	137.7	144.9	152.0	156.8	158.9	161.0	163.2	165.4
90°	142.6	150.4	158.3	163.5	165.9	168.4	170.9	173.3
92.5°	138.7	146.8	155.0	160.1	162.2	164.3	166.5	168.7
95°	135.6	143.5	151.3	156.2	158.3	160.4	162.5	164.5
97.5°	129.9	137.7	145.4	150.4	152.8	155.0	157.3	159.5
100°	125.8	133.4	141.0	146.0	148.2	150.5	152.8	155.1
102.5°	137.2	138.1	139.1	140.8	143.2	145.6	148.1	150.5
105°	206.5	177.4	148.1	134.6	137.0	139.2	141.5	143.7
107.5°	380.5	360.4	340.3	318.0	293.4	268.9	244.3	219.7
110°	458.9	457.8	456.6	442.7	416.2	389.5	362.9	336.3





TEST NUMBER: P331985-940

CATALOG NUMBER: S123DIP-S775D1025U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	512.3	517.5	522.9	523.5	519.4	515.2	511.1	506.9
115°	574.3	581.2	588.2	592.9	595.4	597.8	600.3	602.7
117.5°	629.5	636.1	642.6	646.8	648.5	650.3	652.1	653.8
120°	666.1	672.4	678.8	682.7	684.1	685.5	687.1	688.5
122.5°	701.6	707.3	713.1	716.8	718.4	720.0	721.6	723.2
125°	751.4	756.2	760.9	764.2	766.1	767.9	769.8	771.6
127.5°	801.4	806.1	810.8	813.7	814.8	815.7	816.7	817.8
130°	831.1	835.8	840.5	843.3	844.2	845.0	845.9	846.7
132.5°	859.1	863.6	868.2	870.8	871.7	872.6	873.4	874.3
135°	901.9	906.2	910.5	912.9	913.4	913.8	914.3	914.7
137.5°	939.8	944.0	948.2	950.7	951.3	951.9	952.6	953.2
140°	963.9	967.8	971.7	974.0	974.6	975.3	975.9	976.5
142.5°	986.3	989.7	993.1	995.1	995.5	996.0	996.5	997.0
145°	1019.7	1021.7	1023.8	1025.2	1026.1	1026.9	1027.7	1028.5
147.5°	1049.9	1050.8	1051.7	1052.0	1052.0	1051.8	1051.6	1051.4
150°	1068.9	1069.3	1069.7	1069.8	1069.6	1069.4	1069.3	1069.1
152.5°	1086.5	1087.3	1088.0	1088.0	1087.1	1086.3	1085.5	1084.7
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)