

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: P331985-830

Luminaire Tested: **S123DIP-S775D1025U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331985-830  
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-S775D1025U830-4F0-1E-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: 6909.7 lumens  
Efficiency: N/A  
Efficacy: 132.9 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

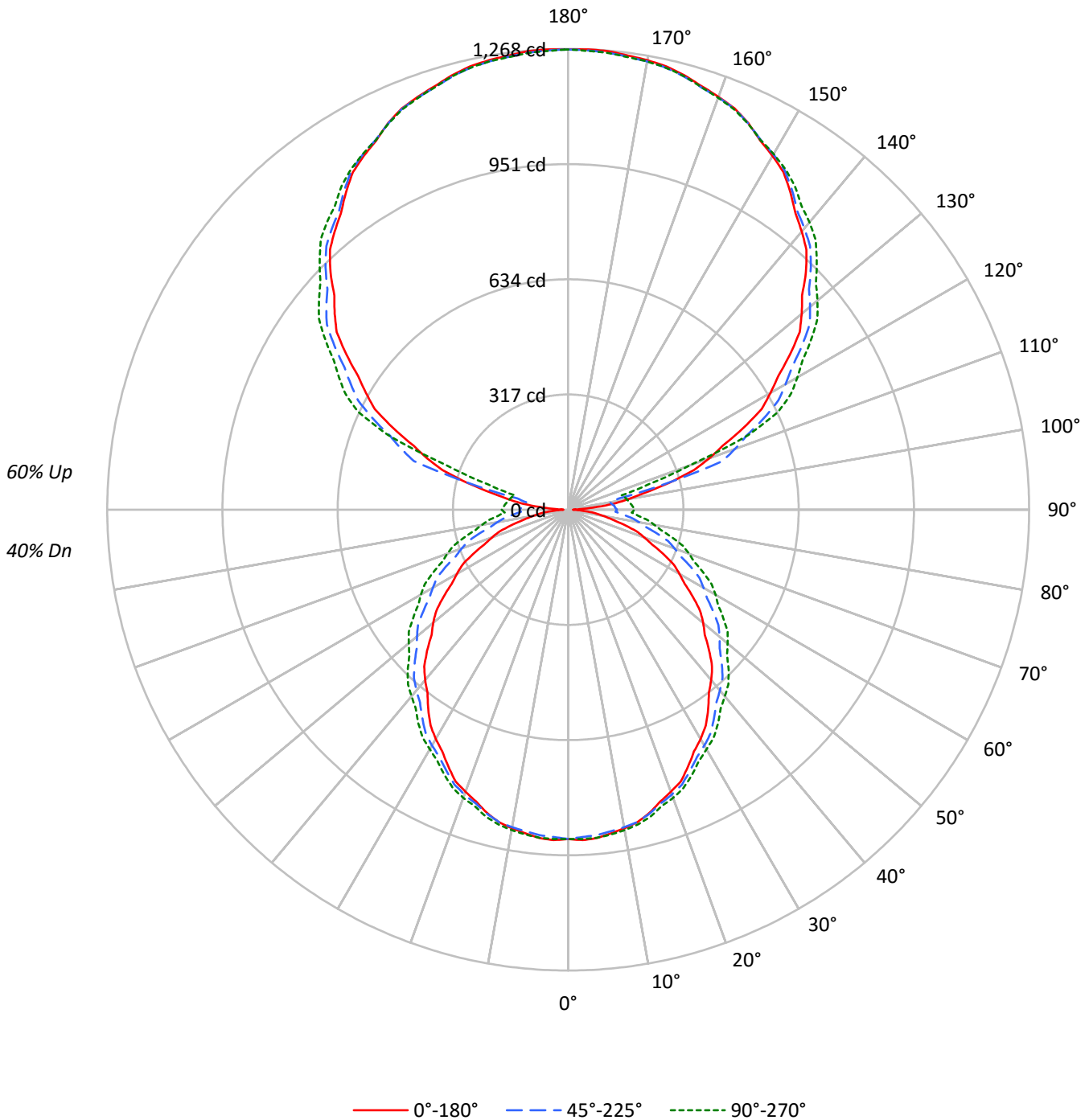
Input Watts (W): 52  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	9752	9752	9752
5°	9782	9507	9512
10°	9694	9287	9240
15°	9570	9038	8945
20°	9390	8755	8621
25°	9171	8428	8278
30°	8945	8133	7931
35°	8692	7823	7655
40°	8450	7540	7358
45°	8182	7269	7122
50°	7918	7000	6860
55°	7627	6725	6625
60°	7343	6446	6385
65°	7051	6149	6098
70°	6611	5815	5805
75°	6055	5432	5506
80°	5416	5056	5164
85°	4828	4799	4966



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.9	1.2
10°-20°	244.8	3.5
20°-30°	366.2	5.3
30°-40°	437.3	6.3
40°-50°	457.5	6.6
50°-60°	429.4	6.2
60°-70°	358.6	5.2
70°-80°	256.6	3.7
80°-90°	156.5	2.3
90°-100°	142.0	2.1
100°-110°	290.0	4.2
110°-120°	574.2	8.3
120°-130°	698.1	10.1
130°-140°	729.2	10.6
140°-150°	673.2	9.7
150°-160°	540.9	7.8
160°-170°	349.1	5.1
170°-180°	120.3	1.7
0°-30°	696.9	10.1
0°-40°	1134.2	16.4
0°-60°	2021.1	29.2
0°-90°	2792.8	40.4
90°-120°	1006.2	14.6
90°-150°	3106.6	45.0
90°-180°	4117.0	59.6
0°-180°	6909.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	906	906	906	906	906	
5°	907	905	899	906	906	86
15°	864	866	866	875	874	243
25°	780	789	792	805	805	359
35°	671	687	700	714	718	420
45°	549	572	597	615	624	423
55°	418	451	486	512	521	375
65°	289	328	371	400	411	286
75°	157	203	253	284	297	168
85°	48	98	150	182	193	51
90°	14	72	134	170	183	11
95°	68	71	127	162	174	79
105°	288	318	280	149	152	305
115°	531	550	592	624	637	524
125°	744	753	784	806	816	665
135°	925	930	944	964	967	712
145°	1066	1071	1074	1083	1087	667
155°	1173	1171	1172	1176	1171	540
165°	1237	1234	1233	1240	1234	349
175°	1266	1262	1262	1268	1262	120
180°	1266	1266	1266	1266	1266	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	906.0	906.0	906.0	906.0	906.0	906.0	906.0	906.0	906.0	906.0	906.0
2.5°	909.9	909.4	908.9	908.3	907.9	906.8	905.5	904.1	902.7	901.3	902.7
5°	907.0	906.5	906.1	905.7	905.2	904.4	903.1	901.7	900.4	899.1	900.9
7.5°	898.1	898.1	898.2	898.3	898.4	897.9	896.5	895.3	894.0	892.8	894.9
10°	890.2	890.6	891.1	891.6	891.9	891.6	890.5	889.5	888.3	887.2	889.5
12.5°	880.7	881.4	881.9	882.6	883.2	883.2	882.4	881.7	880.9	880.1	882.1
15°	863.6	864.2	864.9	865.5	866.2	866.4	866.2	866.0	865.7	865.5	867.7
17.5°	841.9	843.2	844.5	845.7	847.1	847.7	847.6	847.5	847.4	847.3	849.3
20°	826.0	827.4	828.7	830.0	831.3	832.2	832.6	833.1	833.5	834.0	835.9
22.5°	809.5	810.8	812.1	813.4	814.7	815.7	816.3	816.9	817.6	818.1	820.7
25°	779.7	781.8	784.0	786.3	788.4	789.9	790.5	791.2	791.8	792.5	795.3
27.5°	749.7	752.1	754.7	757.1	759.7	761.6	763.0	764.4	765.8	767.2	769.7
30°	728.3	731.2	734.1	736.9	739.7	742.1	743.8	745.6	747.3	749.0	751.7
32.5°	704.6	707.8	711.1	714.3	717.5	720.2	722.5	724.8	727.1	729.3	732.2
35°	671.1	674.6	678.2	681.6	685.1	688.3	691.2	694.0	696.9	699.7	703.0
37.5°	635.6	639.5	643.5	647.4	651.4	655.1	658.6	662.1	665.6	669.1	672.9
40°	611.9	615.9	619.8	623.8	627.6	631.9	636.2	640.6	645.0	649.4	653.1
42.5°	585.8	590.7	595.5	600.3	605.1	609.8	614.3	619.0	623.5	628.1	632.2
45°	548.7	554.0	559.2	564.5	569.8	575.1	580.6	586.1	591.6	597.1	601.2
47.5°	509.8	515.9	521.8	527.7	533.7	539.8	546.1	552.3	558.6	564.9	569.6
50°	484.6	490.7	496.8	503.0	509.2	515.6	522.5	529.2	536.0	542.8	547.8
52.5°	457.7	464.2	470.7	477.2	483.7	490.7	498.2	505.7	513.2	520.7	525.9
55°	418.5	425.7	432.9	440.2	447.4	455.0	462.9	470.8	478.6	486.5	492.5
57.5°	380.1	387.7	395.2	402.7	410.4	418.4	427.1	435.7	444.3	453.0	458.9
60°	353.4	361.2	369.1	377.0	384.9	393.3	402.4	411.3	420.3	429.3	435.5
62.5°	328.0	336.1	344.2	352.2	360.3	369.1	378.6	388.1	397.7	407.2	413.3
65°	289.2	297.7	306.2	314.8	323.4	332.4	342.1	351.8	361.5	371.1	377.7
67.5°	249.7	258.7	267.9	276.9	286.0	295.5	305.3	315.1	324.9	334.8	342.0
70°	222.1	231.5	240.9	250.3	259.8	269.8	280.3	290.8	301.3	311.9	318.9
72.5°	196.8	206.2	215.7	225.1	234.5	244.7	255.5	266.5	277.3	288.1	295.4
75°	156.9	167.2	177.6	187.8	198.1	208.8	219.7	230.7	241.7	252.7	259.9
77.5°	122.2	132.6	143.0	153.4	163.7	174.5	185.6	196.6	207.6	218.7	226.3
80°	97.7	108.5	119.2	130.0	140.7	151.7	163.2	174.6	186.0	197.4	204.8
82.5°	76.3	87.3	98.2	109.1	120.1	131.3	142.9	154.5	166.1	177.7	185.1
85°	48.4	59.3	70.3	81.2	92.2	103.5	115.2	126.8	138.4	150.1	157.5
87.5°	26.5	37.8	49.1	60.4	71.8	83.3	95.1	106.8	118.5	130.3	137.9
90°	13.8	26.6	39.4	52.3	65.1	78.5	92.4	106.3	120.2	134.1	142.4
92.5°	29.5	38.6	47.8	56.8	66.0	77.1	90.1	103.2	116.2	129.3	137.9
95°	68.2	68.2	68.2	68.1	68.1	74.6	87.8	100.8	113.9	126.9	135.2
97.5°	125.0	128.8	132.8	136.7	140.5	140.1	135.3	130.4	125.6	120.9	129.1
100°	167.9	179.1	190.3	201.5	212.6	207.0	184.5	161.9	139.4	116.9	125.0
102.5°	216.8	226.1	235.4	244.8	254.1	245.9	220.2	194.4	168.7	143.0	144.0
105°	288.2	295.8	303.4	310.9	318.5	317.6	308.2	298.8	289.5	280.0	249.2
107.5°	362.7	369.0	375.3	381.6	388.0	397.1	409.0	420.9	432.8	444.8	423.5
110°	412.4	417.9	423.6	429.2	434.8	443.2	454.2	465.3	476.4	487.5	486.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	460.5	465.2	470.0	474.8	479.6	487.3	497.9	508.7	519.4	530.2	535.8
115°	530.8	534.7	538.6	542.5	546.4	553.2	563.0	572.8	582.6	592.3	599.6
117.5°	599.7	602.9	606.1	609.2	612.4	618.1	626.5	634.9	643.3	651.7	658.6
120°	641.8	644.8	647.8	650.7	653.7	659.1	667.0	674.9	682.8	690.6	697.3
122.5°	685.4	687.6	689.7	691.8	693.9	698.8	706.5	714.2	721.9	729.5	735.6
125°	744.3	746.0	747.6	749.3	751.0	755.4	762.6	769.9	777.0	784.2	789.3
127.5°	802.3	803.7	805.2	806.6	808.0	811.9	818.2	824.4	830.8	837.0	842.0
130°	838.4	839.8	841.3	842.7	844.2	847.5	852.7	858.0	863.2	868.5	873.5
132.5°	872.2	873.8	875.4	877.1	878.7	881.7	885.8	889.9	894.2	898.3	903.1
135°	924.9	926.0	927.0	928.0	929.1	931.1	934.4	937.6	940.9	944.1	948.8
137.5°	969.9	971.3	972.7	974.1	975.5	977.1	978.9	980.8	982.6	984.4	988.9
140°	999.2	1000.4	1001.6	1003.0	1004.2	1005.5	1006.7	1008.0	1009.3	1010.6	1014.7
142.5°	1027.0	1028.1	1029.2	1030.3	1031.3	1032.3	1033.0	1033.8	1034.5	1035.3	1038.9
145°	1065.9	1067.2	1068.5	1069.7	1070.9	1071.8	1072.2	1072.6	1073.0	1073.5	1075.6
147.5°	1101.6	1102.7	1103.6	1104.6	1105.5	1106.2	1106.6	1107.0	1107.5	1107.9	1108.8
150°	1124.3	1124.9	1125.5	1126.1	1126.7	1127.3	1127.7	1128.1	1128.5	1129.0	1129.4
152.5°	1144.5	1144.9	1145.2	1145.5	1145.8	1146.0	1146.2	1146.5	1146.8	1147.0	1147.7
155°	1173.2	1172.7	1172.3	1172.0	1171.5	1171.4	1171.6	1171.8	1172.1	1172.2	1173.3
157.5°	1195.3	1195.3	1195.3	1195.2	1195.2	1195.0	1194.9	1194.7	1194.5	1194.2	1195.5
160°	1208.9	1208.7	1208.5	1208.3	1208.1	1207.9	1207.7	1207.5	1207.2	1207.0	1208.3
162.5°	1221.7	1221.2	1220.6	1220.1	1219.6	1219.2	1219.0	1218.7	1218.5	1218.3	1219.7
165°	1237.2	1236.5	1235.9	1235.3	1234.6	1234.3	1234.0	1233.8	1233.6	1233.4	1235.0
167.5°	1249.2	1248.4	1247.5	1246.7	1245.9	1245.4	1245.4	1245.4	1245.4	1245.4	1247.1
170°	1255.9	1255.1	1254.3	1253.5	1252.6	1252.2	1252.2	1252.2	1252.2	1252.2	1253.9
172.5°	1260.5	1259.5	1258.5	1257.4	1256.5	1256.0	1256.2	1256.4	1256.5	1256.7	1258.4
175°	1266.3	1265.3	1264.2	1263.2	1262.2	1261.7	1261.9	1262.2	1262.3	1262.5	1264.0
177.5°	1267.8	1267.0	1266.1	1265.3	1264.5	1264.1	1264.3	1264.5	1264.6	1264.8	1266.1
180°	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	906.0	906.0	906.0	906.0	906.0	906.0	906.0	906.0
2.5°	904.1	905.5	906.8	907.5	907.3	907.1	906.9	906.8
5°	902.6	904.4	906.1	906.8	906.6	906.4	906.3	906.0
7.5°	897.1	899.4	901.5	902.5	902.2	902.0	901.7	901.4
10°	891.6	893.8	896.0	896.9	896.5	896.0	895.6	895.1
12.5°	884.2	886.2	888.2	889.0	888.5	888.2	887.7	887.2
15°	869.9	872.1	874.3	875.2	875.1	874.9	874.6	874.4
17.5°	851.3	853.3	855.3	856.1	855.8	855.5	855.2	854.9
20°	837.9	839.9	841.9	842.9	843.2	843.4	843.6	843.9
22.5°	823.1	825.7	828.1	829.3	829.2	829.1	829.0	828.8
25°	798.2	801.1	803.9	805.3	805.3	805.3	805.3	805.3
27.5°	772.1	774.6	777.0	778.4	778.5	778.7	778.9	779.1
30°	754.3	757.0	759.6	760.9	760.9	760.9	760.9	760.9
32.5°	734.9	737.7	740.6	742.3	742.7	743.3	743.8	744.3
35°	706.3	709.6	712.8	715.0	715.9	716.7	717.6	718.5
37.5°	676.6	680.3	684.0	686.3	686.9	687.7	688.3	689.1
40°	656.9	660.5	664.3	666.6	667.5	668.4	669.2	670.1
42.5°	636.2	640.3	644.4	647.1	648.3	649.5	650.7	652.0
45°	605.4	609.5	613.8	616.7	618.5	620.2	622.0	623.8
47.5°	574.3	579.0	583.7	586.7	588.1	589.5	590.8	592.1
50°	552.9	557.9	563.0	566.3	567.8	569.3	570.9	572.4
52.5°	531.1	536.4	541.6	545.2	547.1	548.9	550.8	552.7
55°	498.4	504.4	510.2	514.1	515.9	517.6	519.3	521.1
57.5°	465.0	470.9	476.8	480.9	483.0	485.0	487.0	489.1
60°	441.6	447.7	453.8	458.2	460.5	463.0	465.4	467.8
62.5°	419.5	425.7	431.8	435.9	438.2	440.5	442.7	444.9
65°	384.3	390.8	397.4	401.8	404.0	406.1	408.4	410.6
67.5°	349.1	356.4	363.5	368.1	369.9	371.7	373.6	375.4
70°	325.9	332.9	340.0	344.5	346.8	348.9	351.1	353.4
72.5°	302.6	309.7	317.0	321.7	323.9	326.0	328.2	330.5
75°	267.1	274.4	281.6	286.5	289.2	291.8	294.5	297.1
77.5°	233.9	241.6	249.2	254.0	256.1	258.1	260.1	262.1
80°	212.3	219.7	227.2	232.1	234.2	236.4	238.7	240.8
82.5°	192.6	200.0	207.5	212.3	214.5	216.7	218.9	221.0
85°	164.9	172.4	179.8	184.6	186.8	189.1	191.2	193.4
87.5°	145.5	153.2	160.7	165.7	168.0	170.2	172.5	174.8
90°	150.7	159.0	167.3	172.8	175.3	178.0	180.6	183.1
92.5°	146.6	155.1	163.8	169.2	171.4	173.7	176.0	178.3
95°	143.4	151.7	159.9	165.1	167.3	169.6	171.7	173.9
97.5°	137.3	145.5	153.7	159.0	161.5	163.8	166.3	168.6
100°	133.0	141.0	149.0	154.3	156.7	159.1	161.5	163.9
102.5°	145.1	146.0	147.0	148.8	151.4	153.9	156.6	159.1
105°	218.3	187.5	156.6	142.3	144.8	147.1	149.6	151.9
107.5°	402.2	381.0	359.7	336.1	310.1	284.2	258.3	232.2
110°	485.0	483.9	482.7	468.0	439.9	411.7	383.6	355.4





TEST NUMBER: P331985-830

CATALOG NUMBER: S123DIP-S775D1025U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	541.5	547.1	552.7	553.4	549.0	544.6	540.3	535.8
115°	607.0	614.3	621.7	626.7	629.3	631.9	634.5	637.1
117.5°	665.4	672.3	679.2	683.6	685.5	687.4	689.3	691.1
120°	704.1	710.8	717.5	721.6	723.1	724.6	726.2	727.7
122.5°	741.6	747.6	753.8	757.6	759.3	761.0	762.7	764.4
125°	794.3	799.3	804.3	807.8	809.7	811.7	813.7	815.6
127.5°	847.1	852.1	857.1	860.1	861.2	862.2	863.3	864.4
130°	878.4	883.4	888.4	891.4	892.3	893.2	894.1	894.9
132.5°	908.0	912.9	917.7	920.5	921.4	922.4	923.2	924.2
135°	953.3	957.9	962.4	965.0	965.4	965.9	966.4	966.9
137.5°	993.3	997.8	1002.3	1004.8	1005.5	1006.2	1006.9	1007.6
140°	1018.9	1022.9	1027.1	1029.5	1030.2	1030.9	1031.5	1032.2
142.5°	1042.5	1046.1	1049.7	1051.8	1052.3	1052.8	1053.3	1053.9
145°	1077.8	1080.0	1082.1	1083.6	1084.6	1085.4	1086.3	1087.1
147.5°	1109.7	1110.7	1111.6	1112.0	1111.9	1111.7	1111.5	1111.4
150°	1129.8	1130.2	1130.7	1130.8	1130.6	1130.4	1130.2	1130.0
152.5°	1148.5	1149.2	1150.0	1150.0	1149.1	1148.2	1147.4	1146.5
155°	1174.3	1175.4	1176.4	1176.3	1175.1	1173.8	1172.5	1171.3
157.5°	1196.7	1198.0	1199.3	1199.1	1197.4	1195.8	1194.2	1192.6
160°	1209.6	1210.8	1212.0	1211.9	1210.5	1209.0	1207.6	1206.1
162.5°	1221.2	1222.6	1224.0	1224.1	1222.8	1221.4	1220.2	1218.9
165°	1236.7	1238.4	1240.1	1240.2	1238.7	1237.3	1235.8	1234.4
167.5°	1248.8	1250.5	1252.1	1252.1	1250.5	1248.8	1247.1	1245.4
170°	1255.6	1257.3	1258.9	1258.9	1257.3	1255.6	1253.9	1252.2
172.5°	1260.1	1261.7	1263.4	1263.3	1261.5	1259.6	1257.8	1255.9
175°	1265.5	1267.0	1268.4	1268.3	1266.6	1265.0	1263.3	1261.6
177.5°	1267.4	1268.9	1270.2	1270.0	1268.3	1266.7	1265.0	1263.3
180°	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3	1266.3

(END OF REPORT)