

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: P331994

Luminaire Tested: **S123DIP-S775D1195U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331994  
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-S775D1195U835-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8003.3 lumens  
Efficiency: N/A  
Efficacy: 140.7 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: Semi-Indirect

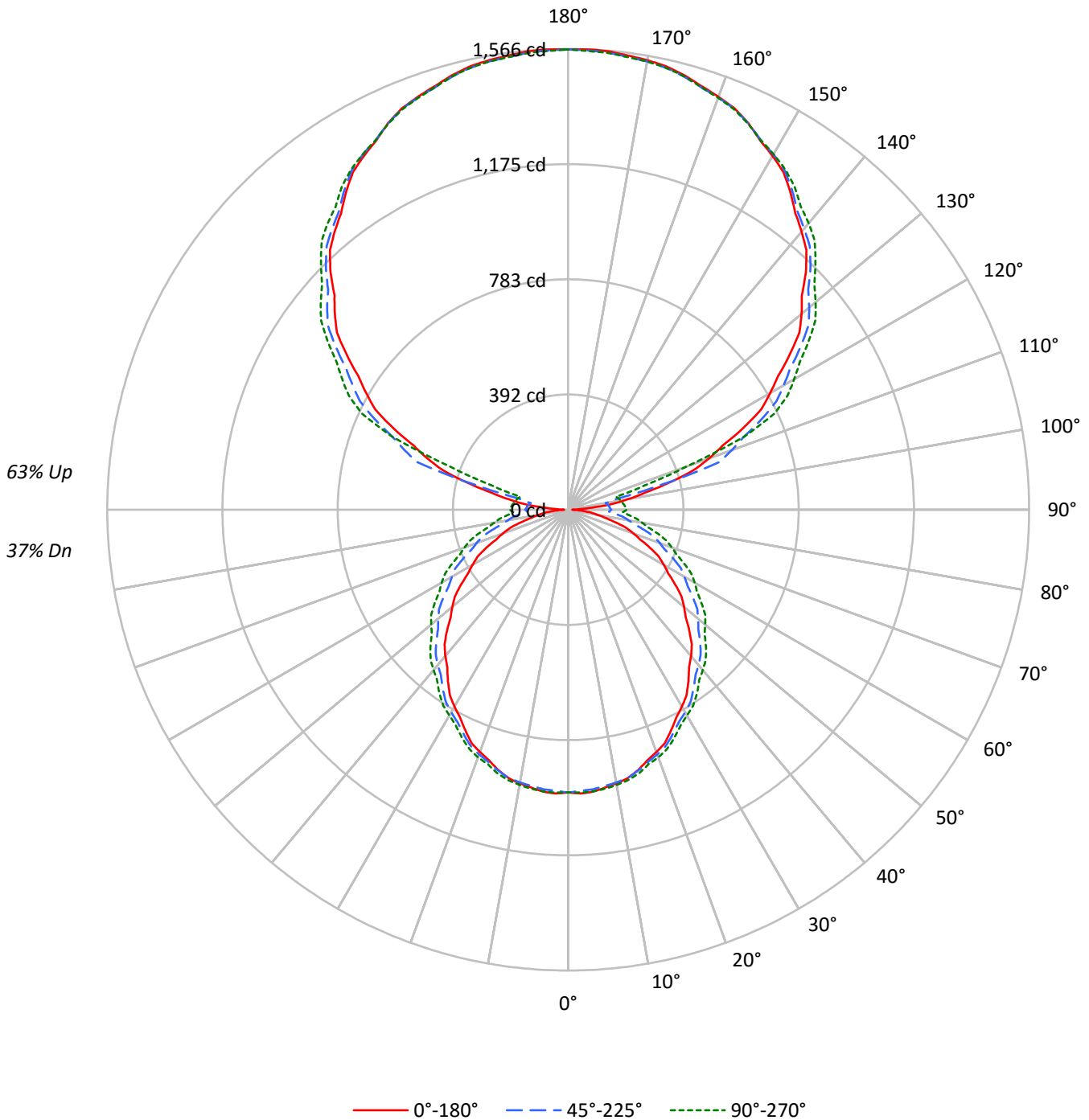
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37				
1	94	89	85	82	85	81	78	74	65	63	61	51	49	48	38	37	36	30				
2	85	78	71	66	77	70	65	60	57	53	50	44	42	39	33	31	29	24				
3	78	68	61	55	70	62	55	50	50	45	41	39	36	33	29	27	25	20				
4	71	60	52	46	64	54	48	42	44	39	35	35	31	28	26	23	21	17				
5	65	53	45	39	58	48	41	36	39	34	30	31	27	24	23	20	18	15				
6	60	48	39	34	54	43	36	31	35	30	26	28	24	21	21	18	16	13				
7	55	43	35	29	50	39	32	27	32	27	23	25	21	18	19	16	14	11				
8	51	39	31	26	46	35	29	24	29	24	20	23	19	16	17	15	13	10				
9	47	35	28	23	43	32	26	21	26	21	18	21	17	15	16	13	11	9				
10	44	32	25	20	40	30	23	19	24	19	16	19	16	13	15	12	10	8				

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

	0°	45°	90°
0°	10346	10346	10346
5°	10379	10086	10092
10°	10286	9853	9804
15°	10153	9590	9490
20°	9963	9288	9146
25°	9730	8942	8782
30°	9490	8630	8415
35°	9221	8300	8121
40°	8965	8000	7807
45°	8682	7712	7556
50°	8400	7427	7278
55°	8091	7135	7030
60°	7790	6839	6774
65°	7480	6524	6470
70°	7013	6169	6159
75°	6425	5763	5842
80°	5749	5363	5479
85°	5117	5090	5269



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	91.1	1.1
10°-20°	259.8	3.2
20°-30°	388.5	4.9
30°-40°	464.0	5.8
40°-50°	485.4	6.1
50°-60°	455.5	5.7
60°-70°	380.5	4.8
70°-80°	272.2	3.4
80°-90°	166.7	2.1
90°-100°	158.7	2.0
100°-110°	345.8	4.3
110°-120°	700.9	8.8
120°-130°	857.4	10.7
130°-140°	898.4	11.2
140°-150°	830.8	10.4
150°-160°	668.0	8.3
160°-170°	431.1	5.4
170°-180°	148.6	1.9
0°-30°	739.4	9.2
0°-40°	1203.3	15.0
0°-60°	2144.3	26.8
0°-90°	2963.6	37.0
90°-120°	1205.4	15.1
90°-150°	3792.0	47.4
90°-180°	5040.0	63.0
0°-180°	8003.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	961	961	961	961	961	
5°	962	960	954	962	961	91
15°	916	919	918	928	928	258
25°	827	837	841	854	854	381
35°	712	729	742	757	762	445
45°	582	607	634	653	662	449
55°	444	479	516	543	553	397
65°	307	348	394	424	436	303
75°	166	216	268	301	315	178
85°	51	104	159	193	205	54
90°	15	78	146	185	199	13
95°	82	80	140	179	191	97
105°	355	387	333	167	168	376
115°	655	676	722	758	772	646
125°	919	929	963	986	997	820
135°	1142	1148	1164	1185	1188	879
145°	1316	1323	1326	1336	1340	823
155°	1449	1447	1448	1453	1446	667
165°	1528	1524	1523	1531	1524	431
175°	1564	1558	1559	1566	1558	149
180°	1564	1564	1564	1564	1564	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	961.2	961.2	961.2	961.2	961.2	961.2	961.2	961.2	961.2	961.2	961.2
2.5°	965.4	964.8	964.3	963.7	963.2	962.1	960.7	959.2	957.7	956.2	957.7
5°	962.3	961.8	961.3	960.9	960.4	959.5	958.1	956.7	955.3	953.9	955.8
7.5°	952.8	952.9	953.0	953.1	953.2	952.6	951.2	949.9	948.5	947.2	949.5
10°	944.5	944.9	945.4	945.9	946.3	946.0	944.8	943.7	942.5	941.3	943.7
12.5°	934.4	935.1	935.7	936.4	937.0	937.0	936.2	935.4	934.6	933.8	935.9
15°	916.2	916.9	917.6	918.3	919.0	919.2	919.0	918.8	918.5	918.3	920.6
17.5°	893.2	894.6	896.0	897.3	898.7	899.4	899.3	899.2	899.1	899.0	901.1
20°	876.4	877.8	879.2	880.6	882.0	882.9	883.4	883.9	884.3	884.8	886.9
22.5°	858.8	860.2	861.6	863.0	864.4	865.4	866.1	866.7	867.4	868.0	870.7
25°	827.2	829.5	831.8	834.2	836.5	838.0	838.7	839.4	840.1	840.8	843.8
27.5°	795.4	798.0	800.7	803.3	806.0	808.0	809.5	811.0	812.5	814.0	816.6
30°	772.7	775.8	778.8	781.8	784.8	787.3	789.1	791.0	792.9	794.7	797.5
32.5°	747.6	751.0	754.4	757.8	761.2	764.1	766.5	769.0	771.4	773.8	776.8
35°	712.0	715.7	719.5	723.2	726.9	730.3	733.3	736.3	739.4	742.4	745.9
37.5°	674.3	678.5	682.7	686.9	691.1	695.0	698.8	702.5	706.2	709.9	713.9
40°	649.2	653.4	657.6	661.8	665.9	670.4	675.0	679.7	684.3	689.0	692.9
42.5°	621.5	626.7	631.8	636.9	642.0	647.0	651.8	656.7	661.5	666.4	670.7
45°	582.2	587.8	593.3	598.9	604.5	610.2	616.0	621.8	627.7	633.5	637.9
47.5°	540.9	547.3	553.6	559.9	566.2	572.7	579.4	586.0	592.7	599.3	604.3
50°	514.1	520.6	527.1	533.7	540.2	547.0	554.3	561.5	568.7	575.9	581.2
52.5°	485.6	492.5	499.4	506.3	513.2	520.6	528.6	536.5	544.5	552.4	558.0
55°	444.0	451.6	459.3	467.0	474.7	482.7	491.1	499.5	507.8	516.2	522.5
57.5°	403.3	411.3	419.3	427.3	435.4	443.9	453.1	462.3	471.4	480.6	486.9
60°	374.9	383.2	391.6	400.0	408.4	417.3	426.9	436.4	445.9	455.5	462.0
62.5°	348.0	356.6	365.2	373.7	382.3	391.6	401.7	411.8	421.9	432.0	438.5
65°	306.8	315.9	324.9	334.0	343.1	352.7	363.0	373.2	383.5	393.7	400.7
67.5°	264.9	274.5	284.2	293.8	303.4	313.5	323.9	334.3	344.7	355.2	362.8
70°	235.6	245.6	255.6	265.6	275.6	286.2	297.4	308.5	319.7	330.9	338.3
72.5°	208.8	218.8	228.8	238.8	248.8	259.6	271.1	282.7	294.2	305.7	313.4
75°	166.5	177.4	188.4	199.3	210.2	221.5	233.1	244.8	256.4	268.1	275.7
77.5°	129.6	140.7	151.7	162.7	173.7	185.1	196.9	208.6	220.3	232.0	240.1
80°	103.7	115.1	126.5	137.9	149.3	161.0	173.1	185.2	197.3	209.4	217.3
82.5°	81.0	92.6	104.2	115.8	127.4	139.3	151.6	163.9	176.2	188.5	196.4
85°	51.3	62.9	74.6	86.2	97.8	109.8	122.2	134.5	146.8	159.2	167.1
87.5°	28.1	40.2	52.3	64.4	76.5	88.8	101.4	113.9	126.4	139.0	147.1
90°	14.8	28.8	42.7	56.7	70.7	85.3	100.5	115.8	131.0	146.2	155.1
92.5°	34.4	43.9	53.5	63.1	72.6	84.5	98.7	112.9	127.2	141.4	150.7
95°	82.4	80.9	79.4	77.9	76.3	82.7	97.0	111.2	125.4	139.7	148.7
97.5°	152.7	156.1	159.6	163.0	166.5	164.3	156.6	148.9	141.2	133.5	142.5
100°	205.8	218.4	231.0	243.6	256.2	247.7	218.2	188.6	159.0	129.4	138.2
102.5°	266.3	276.7	287.1	297.5	308.0	296.4	262.9	229.5	196.0	162.5	162.7
105°	354.6	363.0	371.4	379.9	388.3	385.9	372.7	359.4	346.2	333.0	293.8
107.5°	446.7	453.8	460.8	467.8	474.8	484.9	498.1	511.2	524.4	537.6	510.3
110°	508.2	514.4	520.7	526.9	533.2	542.4	554.5	566.7	578.8	591.0	588.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	567.7	573.0	578.3	583.6	588.9	597.4	609.2	621.0	632.7	644.5	650.5
115°	654.7	659.0	663.4	667.7	672.1	679.6	690.3	701.0	711.7	722.4	730.5
117.5°	739.8	743.4	747.0	750.7	754.3	760.6	769.7	778.7	787.8	796.8	804.4
120°	791.9	795.4	798.9	802.4	805.8	811.8	820.3	828.7	837.2	845.6	853.0
122.5°	845.8	848.3	850.8	853.3	855.9	861.3	869.6	877.8	886.1	894.4	901.0
125°	918.6	920.7	922.8	924.8	926.9	931.8	939.6	947.4	955.2	963.0	968.4
127.5°	990.2	992.0	993.9	995.7	997.5	1001.9	1008.7	1015.5	1022.3	1029.2	1034.6
130°	1034.8	1036.7	1038.5	1040.3	1042.2	1045.9	1051.6	1057.3	1063.0	1068.7	1074.1
132.5°	1076.7	1078.8	1080.8	1082.8	1084.8	1088.1	1092.7	1097.2	1101.8	1106.3	1111.6
135°	1141.8	1143.1	1144.5	1145.8	1147.1	1149.5	1153.1	1156.7	1160.3	1163.9	1168.9
137.5°	1197.4	1199.2	1200.9	1202.7	1204.5	1206.4	1208.4	1210.4	1212.4	1214.4	1219.3
140°	1233.7	1235.3	1236.8	1238.4	1239.9	1241.4	1242.9	1244.4	1245.9	1247.3	1251.8
142.5°	1268.1	1269.5	1270.8	1272.2	1273.6	1274.7	1275.6	1276.5	1277.4	1278.4	1282.3
145°	1316.2	1317.8	1319.4	1320.9	1322.5	1323.6	1324.1	1324.6	1325.1	1325.6	1328.0
147.5°	1360.5	1361.7	1362.9	1364.0	1365.2	1366.1	1366.6	1367.1	1367.6	1368.1	1369.2
150°	1388.4	1389.1	1389.9	1390.7	1391.5	1392.1	1392.6	1393.1	1393.7	1394.2	1394.7
152.5°	1413.5	1413.8	1414.2	1414.5	1414.9	1415.2	1415.5	1415.9	1416.2	1416.5	1417.4
155°	1448.8	1448.3	1447.7	1447.2	1446.7	1446.6	1446.8	1447.1	1447.4	1447.6	1448.9
157.5°	1476.2	1476.1	1476.1	1476.0	1476.0	1475.8	1475.6	1475.3	1475.1	1474.8	1476.4
160°	1492.9	1492.7	1492.4	1492.2	1491.9	1491.6	1491.4	1491.1	1490.9	1490.6	1492.2
162.5°	1508.7	1508.1	1507.4	1506.7	1506.0	1505.6	1505.3	1505.1	1504.8	1504.5	1506.3
165°	1527.8	1527.0	1526.2	1525.5	1524.7	1524.2	1523.9	1523.6	1523.4	1523.1	1525.2
167.5°	1542.7	1541.6	1540.6	1539.6	1538.5	1538.0	1538.0	1538.0	1538.0	1538.0	1540.1
170°	1551.0	1550.0	1549.0	1547.9	1546.9	1546.4	1546.4	1546.4	1546.4	1546.4	1548.4
172.5°	1556.6	1555.4	1554.1	1552.9	1551.6	1551.1	1551.3	1551.5	1551.7	1551.9	1554.0
175°	1563.8	1562.5	1561.2	1559.9	1558.6	1558.1	1558.4	1558.6	1558.9	1559.1	1561.0
177.5°	1565.7	1564.6	1563.6	1562.6	1561.5	1561.1	1561.3	1561.5	1561.7	1561.9	1563.6
180°	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	961.2	961.2	961.2	961.2	961.2	961.2	961.2	961.2
2.5°	959.2	960.7	962.1	962.8	962.6	962.4	962.2	962.1
5°	957.6	959.5	961.3	962.1	961.9	961.7	961.5	961.2
7.5°	951.8	954.2	956.5	957.5	957.2	957.0	956.7	956.4
10°	946.0	948.3	950.6	951.6	951.1	950.6	950.2	949.7
12.5°	938.1	940.2	942.3	943.2	942.7	942.3	941.8	941.3
15°	922.9	925.3	927.6	928.6	928.4	928.2	927.9	927.7
17.5°	903.2	905.3	907.4	908.3	908.0	907.6	907.3	907.0
20°	889.0	891.1	893.2	894.3	894.6	894.8	895.0	895.3
22.5°	873.3	876.0	878.6	879.9	879.8	879.6	879.5	879.3
25°	846.9	849.9	852.9	854.4	854.4	854.4	854.4	854.4
27.5°	819.2	821.8	824.4	825.8	826.0	826.2	826.4	826.6
30°	800.3	803.1	805.9	807.3	807.3	807.3	807.3	807.3
32.5°	779.7	782.7	785.7	787.5	788.0	788.6	789.1	789.7
35°	749.4	752.9	756.3	758.6	759.5	760.4	761.3	762.3
37.5°	717.8	721.8	725.7	728.1	728.8	729.6	730.3	731.1
40°	696.9	700.8	704.8	707.2	708.2	709.1	710.0	711.0
42.5°	675.0	679.3	683.7	686.5	687.8	689.1	690.4	691.7
45°	642.3	646.7	651.2	654.3	656.2	658.0	659.9	661.8
47.5°	609.3	614.3	619.3	622.5	623.9	625.4	626.8	628.2
50°	586.6	591.9	597.3	600.8	602.4	604.0	605.7	607.3
52.5°	563.5	569.1	574.6	578.4	580.4	582.4	584.4	586.4
55°	528.8	535.1	541.3	545.4	547.3	549.1	551.0	552.9
57.5°	493.3	499.6	505.9	510.2	512.4	514.6	516.7	518.9
60°	468.5	475.0	481.5	486.1	488.6	491.2	493.8	496.3
62.5°	445.1	451.6	458.1	462.5	464.9	467.3	469.7	472.0
65°	407.7	414.6	421.6	426.3	428.6	430.9	433.3	435.6
67.5°	370.4	378.1	385.7	390.5	392.4	394.4	396.4	398.3
70°	345.8	353.2	360.7	365.5	367.9	370.2	372.5	374.9
72.5°	321.0	328.6	336.3	341.3	343.6	345.9	348.2	350.6
75°	283.4	291.1	298.8	304.0	306.8	309.6	312.4	315.2
77.5°	248.2	256.3	264.4	269.5	271.7	273.8	276.0	278.1
80°	225.2	233.1	241.1	246.2	248.5	250.8	253.2	255.5
82.5°	204.3	212.2	220.1	225.2	227.6	229.9	232.2	234.5
85°	175.0	182.9	190.8	195.9	198.2	200.6	202.9	205.2
87.5°	155.2	163.3	171.4	176.7	179.1	181.6	184.0	186.4
90°	164.1	173.0	182.0	187.9	190.7	193.6	196.4	199.2
92.5°	160.1	169.5	178.9	184.8	187.2	189.7	192.1	194.6
95°	157.7	166.7	175.8	181.4	183.8	186.1	188.4	190.7
97.5°	151.5	160.5	169.5	175.3	177.9	180.5	183.1	185.7
100°	147.1	155.9	164.7	170.4	173.0	175.6	178.1	180.7
102.5°	162.8	163.0	163.2	164.6	167.4	170.2	173.0	175.8
105°	254.6	215.4	176.2	158.0	160.6	163.2	165.8	168.4
107.5°	483.0	455.7	428.4	398.6	366.2	333.8	301.4	269.0
110°	586.0	583.6	581.1	562.3	527.3	492.2	457.2	422.1





TEST NUMBER: P331994

CATALOG NUMBER: S123DIP-S775D1195U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	656.6	662.6	668.6	668.7	663.0	657.2	651.5	645.7
115°	738.7	746.9	755.0	760.6	763.5	766.4	769.3	772.1
117.5°	812.0	819.6	827.2	832.1	834.1	836.1	838.1	840.1
120°	860.5	867.9	875.3	879.8	881.4	883.1	884.7	886.3
122.5°	907.6	914.3	920.9	925.1	926.9	928.8	930.6	932.4
125°	973.8	979.2	984.6	988.3	990.5	992.6	994.8	996.9
127.5°	1040.0	1045.5	1050.9	1054.2	1055.2	1056.3	1057.3	1058.4
130°	1079.6	1085.0	1090.5	1093.6	1094.5	1095.4	1096.3	1097.2
132.5°	1116.8	1122.1	1127.4	1130.4	1131.3	1132.2	1133.0	1133.9
135°	1173.8	1178.8	1183.8	1186.4	1186.8	1187.2	1187.6	1188.0
137.5°	1224.3	1229.2	1234.1	1236.9	1237.5	1238.2	1238.8	1239.5
140°	1256.4	1260.9	1265.4	1268.0	1268.6	1269.3	1269.9	1270.6
142.5°	1286.3	1290.2	1294.1	1296.3	1296.8	1297.2	1297.7	1298.1
145°	1330.4	1332.8	1335.1	1336.8	1337.7	1338.7	1339.6	1340.5
147.5°	1370.3	1371.4	1372.4	1372.8	1372.5	1372.1	1371.8	1371.4
150°	1395.2	1395.7	1396.2	1396.3	1396.0	1395.7	1395.4	1395.1
152.5°	1418.3	1419.3	1420.2	1420.1	1419.0	1417.9	1416.8	1415.7
155°	1450.2	1451.5	1452.8	1452.6	1451.1	1449.6	1448.0	1446.5
157.5°	1477.9	1479.4	1481.0	1480.8	1478.8	1476.7	1474.7	1472.7
160°	1493.7	1495.2	1496.8	1496.7	1494.9	1493.1	1491.2	1489.4
162.5°	1508.1	1509.8	1511.6	1511.6	1510.0	1508.4	1506.8	1505.2
165°	1527.3	1529.3	1531.4	1531.5	1529.7	1527.9	1526.1	1524.3
167.5°	1542.1	1544.2	1546.3	1546.3	1544.2	1542.1	1540.1	1538.0
170°	1550.5	1552.6	1554.6	1554.6	1552.6	1550.5	1548.4	1546.4
172.5°	1556.1	1558.1	1560.2	1560.1	1557.8	1555.6	1553.3	1551.0
175°	1562.8	1564.6	1566.4	1566.2	1564.2	1562.1	1560.1	1558.0
177.5°	1565.2	1566.9	1568.5	1568.3	1566.3	1564.2	1562.1	1560.1
180°	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8	1563.8

(END OF REPORT)