

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: P331996

Luminaire Tested: **S123DIP-S775D1195U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

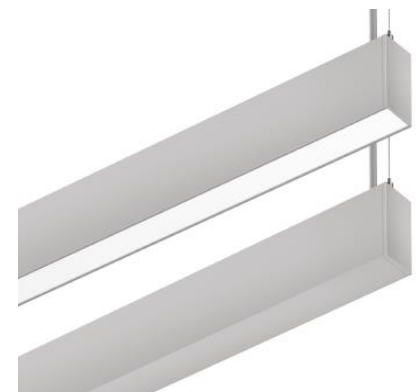
**Test Information**

Test Method: LM-79-08  
Report Number: P331996  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,  
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-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7552.7 lumens  
Efficiency: N/A  
Efficacy: 132.7 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

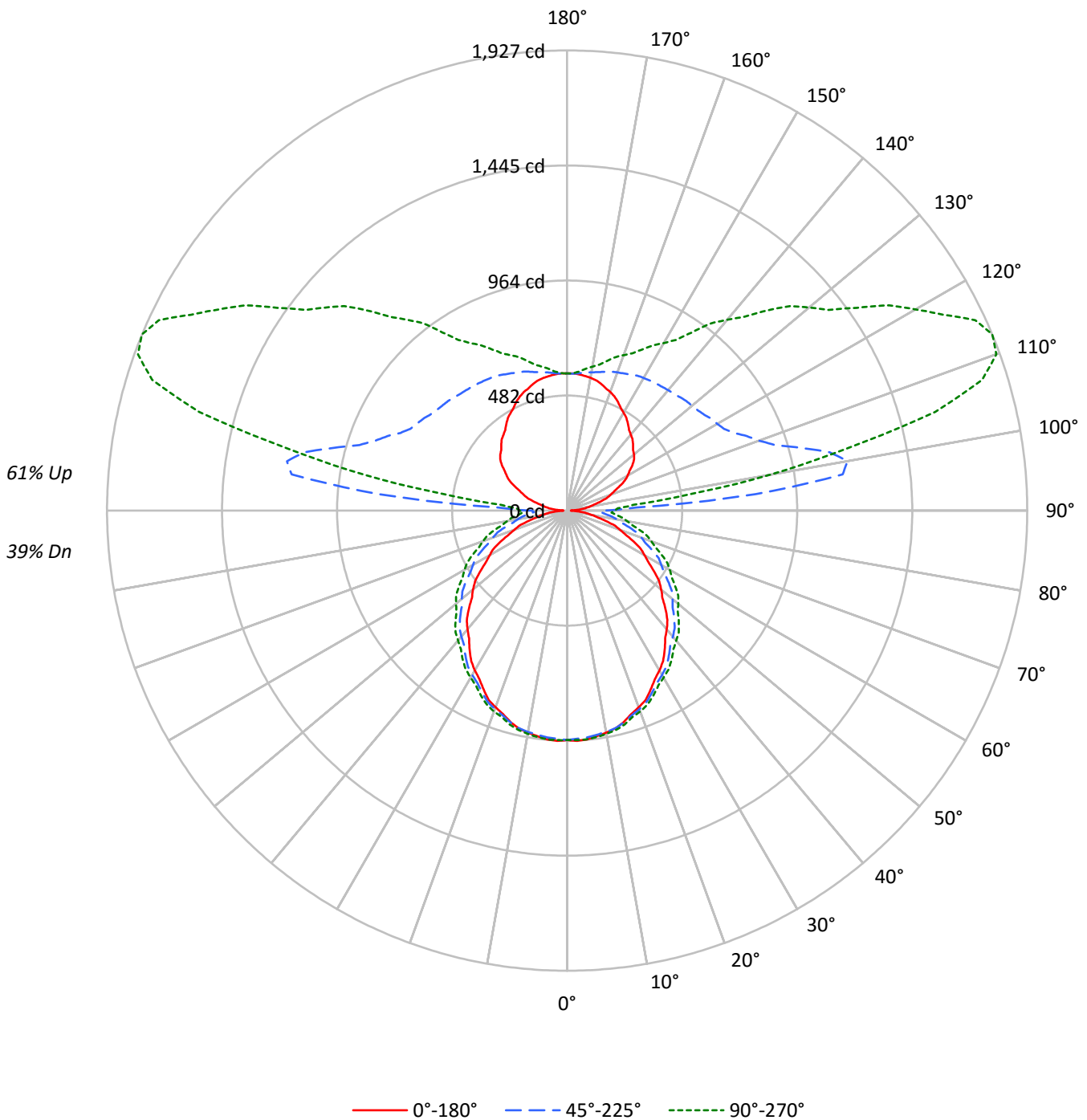
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331996

CATALOG NUMBER: S123DIP-S775D1195U835-4F0-1E-UDD-D4

### Luminous Intensity Polar Plot





TEST NUMBER: P331996

CATALOG NUMBER: S123DIP-S775D1195U835-4F0-1E-UDD-D4

**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	77	77	77	61	61	61	46	46	46	39
1	95	90	86	82	86	82	78	75	66	64	62	52	51	49	40	38	37	31
2	86	78	72	66	78	71	66	61	58	54	50	46	43	40	34	32	31	26
3	78	68	61	55	70	62	56	50	51	46	42	40	37	34	30	28	26	21
4	71	60	52	46	64	55	48	42	45	40	35	35	32	29	27	24	22	18
5	65	53	45	39	59	49	42	36	40	35	30	32	28	25	24	21	19	16
6	60	48	40	34	54	44	36	31	36	30	26	29	25	21	22	19	17	14
7	55	43	35	29	50	39	32	27	32	27	23	26	22	19	20	17	15	12
8	51	39	31	26	46	36	29	24	29	24	20	24	20	17	18	15	13	11
9	48	35	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	15	13	11	9

**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



TEST NUMBER: P331996

CATALOG NUMBER: S123DIP-S775D1195U835-4F0-1E-UDD-D4

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	91.1	1.2
10°-20°	259.8	3.4
20°-30°	388.5	5.1
30°-40°	464.0	6.1
40°-50°	485.4	6.4
50°-60°	455.5	6.0
60°-70°	380.5	5.0
70°-80°	272.2	3.6
80°-90°	166.8	2.2
90°-100°	421.3	5.6
100°-110°	979.3	13.0
110°-120°	939.7	12.4
120°-130°	738.2	9.8
130°-140°	572.4	7.6
140°-150°	420.4	5.6
150°-160°	291.1	3.9
160°-170°	171.0	2.3
170°-180°	55.6	0.7
0°-30°	739.4	9.8
0°-40°	1203.3	15.9
0°-60°	2144.3	28.4
0°-90°	2963.7	39.2
90°-120°	2340.3	31.0
90°-150°	4071.2	53.9
90°-180°	4589.0	60.8
0°-180°	7552.7	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°	16	79	147	185	198	12
95°	51	181	793	336	281	52
105°	143	234	1013	1740	1595	152
115°	243	316	770	1646	1886	241
125°	334	396	700	1263	1480	297
135°	390	465	670	1026	1186	301
145°	444	507	650	824	911	278
155°	503	543	629	715	745	231
165°	550	565	602	638	650	155
175°	573	573	577	586	584	54
180°	574	574	574	574	574	



TEST NUMBER: P331996

CATALOG NUMBER: S123DIP-S775D1195U835-4F0-1E-UDD-D4

**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°	28.3	40.4	52.4	64.7	76.8	89.0	101.5	114.1	126.6	139.2	146.9
90°	15.9	29.7	43.4	58.3	72.0	86.0	101.3	116.7	132.0	147.4	154.1
92.5°	27.2	44.4	64.5	83.8	103.9	132.1	174.2	235.8	296.5	290.3	254.1
95°	51.0	63.6	85.4	114.3	153.5	209.1	319.3	503.8	705.7	792.6	669.7
97.5°	77.6	87.0	105.2	130.6	168.5	227.1	332.3	538.4	866.9	1163.9	1245.4
100°	95.4	104.0	119.6	143.3	178.6	233.0	325.0	507.7	824.0	1191.4	1427.0
102.5°	114.1	122.9	136.8	158.8	190.6	240.8	324.3	480.7	763.4	1125.9	1431.1
105°	143.2	152.2	164.8	184.3	212.0	255.8	328.5	458.2	687.8	1012.7	1352.6
107.5°	173.0	181.3	192.7	211.2	236.6	277.2	341.8	450.7	637.3	911.9	1220.9
110°	194.5	202.2	212.2	229.1	253.1	292.4	354.0	451.6	616.6	854.7	1138.5



TEST NUMBER: P331996

CATALOG NUMBER: S123DIP-S775D1195U835-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	215.0	221.9	231.1	247.4	270.6	308.3	365.8	456.6	602.6	814.4	1065.4
115°	243.4	250.9	260.6	275.0	297.6	334.5	387.1	466.3	593.2	770.0	976.6
117.5°	272.7	279.8	287.3	299.7	323.5	357.4	408.9	480.0	588.5	740.4	919.7
120°	292.3	297.0	303.9	316.7	340.0	373.4	422.9	491.0	588.2	726.0	889.3
122.5°	310.0	314.1	320.5	333.6	355.4	390.3	438.5	501.5	590.9	715.3	863.6
125°	334.3	336.6	343.6	356.3	378.4	413.2	460.6	518.4	594.9	700.4	829.6
127.5°	353.6	356.8	365.2	378.0	402.1	436.2	481.0	532.6	600.9	689.9	798.9
130°	365.6	368.9	379.1	392.8	417.0	450.6	493.6	542.4	605.1	683.0	781.5
132.5°	374.1	378.5	389.8	406.5	430.8	463.1	504.3	551.2	607.4	677.8	765.0
135°	390.2	394.6	407.1	424.3	448.5	481.0	519.6	561.6	610.7	670.2	742.9
137.5°	405.3	410.0	422.3	440.7	464.7	494.4	530.5	569.5	612.3	662.6	723.7
140°	414.7	420.5	432.1	450.7	473.9	503.3	537.7	573.3	613.5	658.3	711.8
142.5°	425.8	430.5	442.9	459.4	482.5	509.6	542.5	576.6	613.5	653.1	700.6
145°	443.7	447.0	457.2	474.4	493.9	520.5	550.7	582.1	614.6	649.5	688.5
147.5°	460.8	462.9	473.1	488.2	507.3	530.0	557.7	585.8	614.6	645.1	677.5
150°	472.9	474.0	483.3	498.4	514.7	535.6	562.3	586.7	614.6	641.3	670.4
152.5°	485.0	485.2	494.5	507.7	522.1	542.1	565.1	588.6	611.8	636.7	663.0
155°	503.1	503.1	510.1	521.7	534.4	550.7	570.5	589.1	608.8	628.6	651.8
157.5°	517.5	518.4	524.0	534.2	545.1	557.7	573.5	590.2	604.9	621.4	639.2
160°	528.6	528.6	533.3	542.6	550.7	562.3	576.3	590.2	603.0	615.8	630.9
162.5°	537.0	537.0	540.7	548.2	555.4	565.1	577.2	589.3	599.3	610.2	622.5
165°	549.6	548.4	550.7	556.5	561.2	569.3	578.6	586.7	593.7	601.8	611.1
167.5°	559.1	557.7	558.8	563.3	566.5	571.6	578.4	584.9	588.1	593.5	600.2
170°	564.7	562.3	563.5	567.0	569.3	571.6	577.4	582.1	584.4	587.9	593.7
172.5°	568.4	567.0	567.2	569.8	571.2	572.6	577.4	581.2	581.6	583.2	587.2
175°	572.8	571.6	570.5	572.8	572.8	574.0	576.3	578.6	577.4	577.4	579.8
177.5°	574.9	574.0	573.0	574.0	574.0	574.0	574.9	576.7	574.9	574.0	574.9
180°	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0



TEST NUMBER: P331996

CATALOG NUMBER: S123DIP-S775D1195U835-4F0-1E-UDD-D4

**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°	155.0	163.2	171.3	176.9	179.0	181.6	184.1	186.2
90°	163.2	172.3	181.3	188.8	189.9	193.4	196.9	198.1
92.5°	224.9	212.4	211.1	210.0	210.0	208.7	212.0	212.0
95°	536.4	408.8	354.4	317.4	297.6	289.5	283.7	281.4
97.5°	1152.6	952.1	809.1	674.8	591.4	541.4	512.4	504.7
100°	1474.4	1387.0	1257.9	1097.4	982.4	899.9	856.9	860.4
102.5°	1577.8	1581.3	1508.6	1408.5	1319.5	1254.7	1219.1	1194.7
105°	1602.0	1724.7	1753.3	1727.3	1676.0	1633.9	1598.9	1595.1
107.5°	1502.5	1697.4	1805.5	1851.0	1853.9	1841.1	1830.6	1822.0
110°	1410.6	1630.4	1782.9	1868.1	1902.5	1913.7	1913.2	1912.8





TEST NUMBER: P331996

CATALOG NUMBER: S123DIP-S775D1195U835-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1318.8	1543.0	1713.0	1821.5	1883.0	1913.9	1924.8	1927.3
115°	1197.1	1404.9	1581.3	1711.6	1800.6	1853.6	1878.7	1886.4
117.5°	1106.8	1286.8	1445.7	1577.9	1670.6	1730.9	1766.2	1775.9
120°	1058.5	1220.7	1365.5	1486.3	1579.7	1646.4	1675.9	1684.5
122.5°	1019.6	1166.7	1301.1	1413.5	1496.6	1556.8	1589.1	1599.6
125°	966.9	1098.5	1214.9	1311.1	1387.1	1439.8	1470.5	1480.3
127.5°	920.1	1037.7	1142.9	1230.6	1298.4	1343.7	1371.5	1380.5
130°	890.5	999.5	1098.0	1179.9	1242.9	1286.1	1311.9	1322.6
132.5°	862.7	963.1	1055.0	1133.2	1192.6	1236.0	1259.2	1267.3
135°	824.9	911.6	991.3	1060.2	1118.3	1154.3	1176.4	1185.7
137.5°	790.3	861.6	930.3	990.2	1039.2	1075.7	1094.5	1101.0
140°	769.9	832.6	891.9	944.1	989.5	1023.2	1042.9	1042.9
142.5°	750.0	804.0	855.4	901.0	939.8	969.8	987.7	987.7
145°	727.6	767.8	806.8	841.9	871.9	897.2	907.4	910.7
147.5°	709.4	740.4	770.9	795.5	818.5	835.8	845.5	847.2
150°	697.1	723.8	748.2	770.5	788.4	801.7	809.1	809.6
152.5°	686.9	709.9	731.5	749.9	763.7	775.6	779.9	780.0
155°	671.5	690.1	707.6	721.5	732.0	741.3	743.6	744.7
157.5°	655.3	670.9	684.3	695.2	704.3	711.3	713.1	712.9
160°	646.0	658.8	670.4	678.5	686.7	693.6	693.6	692.5
162.5°	634.8	645.8	656.4	663.6	669.0	675.0	675.0	673.9
165°	620.4	627.4	635.5	641.3	646.0	650.6	649.5	649.5
167.5°	607.9	613.2	617.9	622.1	624.1	627.4	626.2	626.2
170°	599.5	603.0	607.6	610.0	611.1	613.5	612.3	612.3
172.5°	592.1	594.6	598.4	599.7	600.0	602.3	600.2	599.3
175°	582.1	583.2	585.6	585.6	585.6	586.7	585.6	584.4
177.5°	575.8	576.7	577.7	577.7	576.7	577.7	575.8	575.8
180°	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0

(END OF REPORT)