

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: P331996-840

Luminaire Tested: **S123DIP-S775D1195U840-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331996-840
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-S775D1195U840-4F0-1E-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: 7627.2 lumens
Efficiency: N/A
Efficacy: 134.0 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

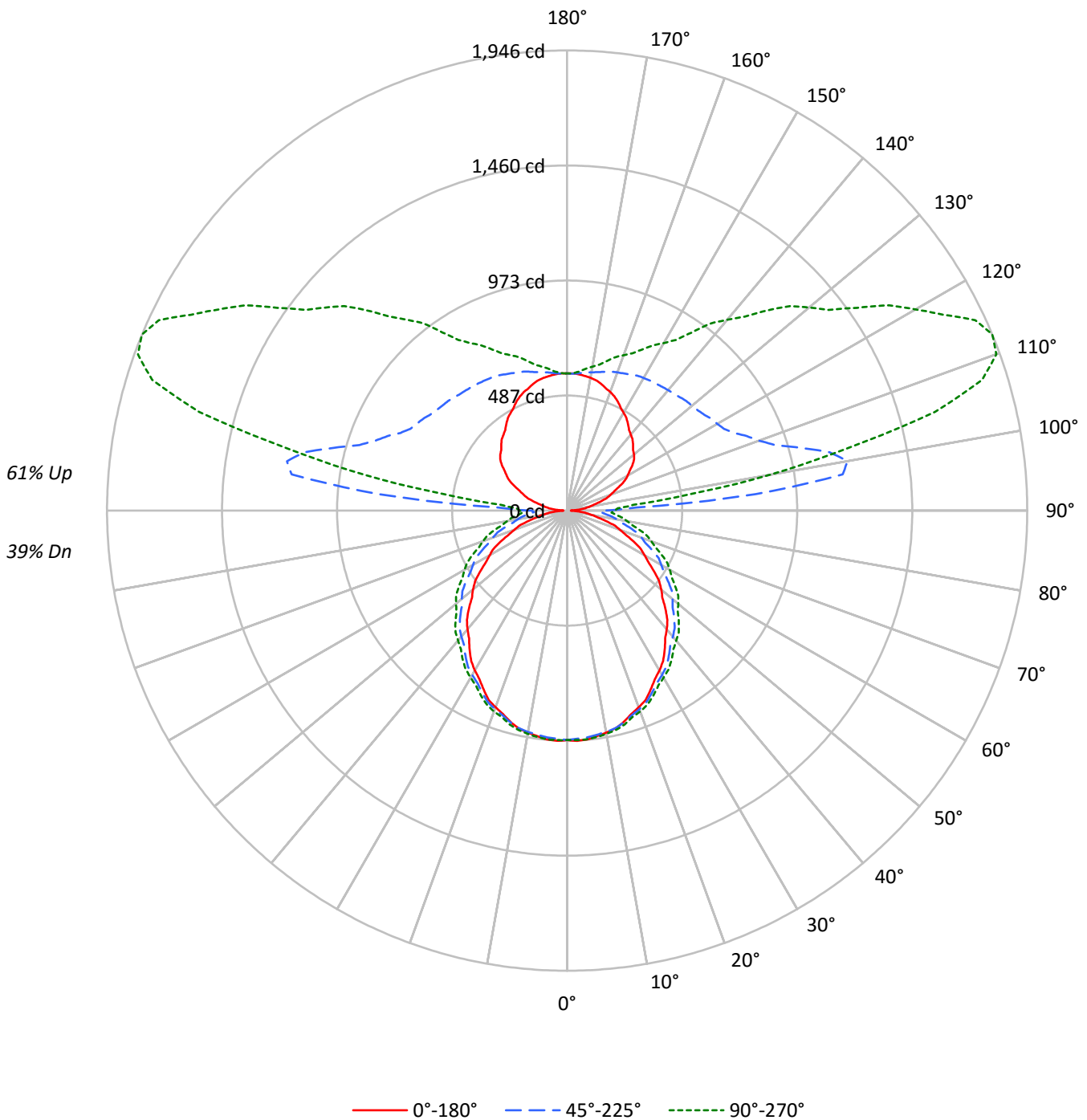
Input Watts (W): 56.9
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331996-840

CATALOG NUMBER: S123DIP-S775D1195U840-4F0-1E-UDD-D4

Luminous Intensity Polar Plot





TEST NUMBER: P331996-840

CATALOG NUMBER: S123DIP-S775D1195U840-4F0-1E-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°	10449	10449	10449
5°	10481	10185	10191
10°	10387	9951	9901
15°	10253	9685	9584
20°	10061	9380	9236
25°	9826	9030	8869
30°	9583	8714	8498
35°	9312	8382	8201
40°	9054	8079	7884
45°	8767	7788	7630
50°	8484	7501	7350
55°	8172	7206	7099
60°	7867	6907	6840
65°	7553	6588	6534
70°	7082	6231	6219
75°	6487	5819	5899
80°	5804	5417	5533
85°	5167	5142	5320



TEST NUMBER: P331996-840

CATALOG NUMBER: S123DIP-S775D1195U840-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.0	1.2
10°-20°	262.3	3.4
20°-30°	392.3	5.1
30°-40°	468.5	6.1
40°-50°	490.2	6.4
50°-60°	460.0	6.0
60°-70°	384.2	5.0
70°-80°	274.9	3.6
80°-90°	168.4	2.2
90°-100°	425.4	5.6
100°-110°	989.0	13.0
110°-120°	949.0	12.4
120°-130°	745.5	9.8
130°-140°	578.0	7.6
140°-150°	424.5	5.6
150°-160°	294.0	3.9
160°-170°	172.7	2.3
170°-180°	56.2	0.7
0°-30°	746.7	9.8
0°-40°	1215.2	15.9
0°-60°	2165.4	28.4
0°-90°	2993.0	39.2
90°-120°	2363.4	31.0
90°-150°	4111.4	53.9
90°-180°	4634.0	60.8
0°-180°	7627.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	971	971	971	971	971	
5°	972	969	963	971	971	92
15°	925	928	927	937	937	260
25°	835	846	849	862	863	385
35°	719	736	750	765	770	450
45°	588	613	640	659	668	453
55°	448	483	521	549	558	401
65°	310	351	398	428	440	306
75°	168	218	271	304	318	180
85°	52	105	161	195	207	54
90°	16	80	149	187	200	12
95°	52	183	800	339	284	52
105°	145	236	1023	1757	1611	153
115°	246	319	778	1663	1905	244
125°	338	400	707	1275	1495	300
135°	394	469	677	1036	1197	304
145°	448	512	656	832	920	281
155°	508	548	635	722	752	234
165°	555	571	608	645	656	156
175°	578	579	583	591	590	55
180°	580	580	580	580	580	



TEST NUMBER: P331996-840

CATALOG NUMBER: S123DIP-S775D1195U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7
2.5°	974.9	974.3	973.8	973.2	972.7	971.6	970.2	968.7	967.1	965.6	967.1
5°	971.8	971.3	970.8	970.4	969.9	969.0	967.6	966.1	964.7	963.3	965.2
7.5°	962.2	962.3	962.4	962.5	962.6	962.0	960.6	959.3	957.9	956.5	958.9
10°	953.8	954.2	954.7	955.2	955.6	955.3	954.1	953.0	951.8	950.6	953.0
12.5°	943.6	944.3	944.9	945.6	946.2	946.2	945.4	944.6	943.8	943.0	945.1
15°	925.2	925.9	926.7	927.4	928.1	928.3	928.1	927.9	927.6	927.4	929.7
17.5°	902.0	903.4	904.8	906.2	907.6	908.3	908.2	908.1	908.0	907.9	910.0
20°	885.0	886.5	887.9	889.3	890.7	891.6	892.1	892.6	893.0	893.5	895.6
22.5°	867.3	868.7	870.1	871.5	872.9	873.9	874.6	875.3	876.0	876.6	879.3
25°	835.4	837.7	840.0	842.4	844.8	846.3	847.0	847.7	848.4	849.1	852.1
27.5°	803.2	805.9	808.6	811.2	814.0	816.0	817.5	819.0	820.5	822.0	824.7
30°	780.3	783.5	786.5	789.5	792.5	795.1	796.9	798.8	800.7	802.5	805.4
32.5°	755.0	758.4	761.8	765.3	768.7	771.6	774.1	776.6	779.0	781.4	784.5
35°	719.0	722.8	726.6	730.3	734.1	737.5	740.5	743.6	746.7	749.7	753.3
37.5°	681.0	685.2	689.4	693.7	697.9	701.9	705.7	709.4	713.2	716.9	720.9
40°	655.6	659.8	664.1	668.3	672.5	677.0	681.7	686.4	691.1	695.8	699.7
42.5°	627.6	632.9	638.0	643.2	648.3	653.4	658.2	663.2	668.0	673.0	677.3
45°	587.9	593.6	599.2	604.8	610.5	616.2	622.1	627.9	633.9	639.7	644.2
47.5°	546.2	552.7	559.1	565.4	571.8	578.3	585.1	591.8	598.5	605.2	610.3
50°	519.2	525.7	532.3	539.0	545.5	552.4	559.8	567.0	574.3	581.6	586.9
52.5°	490.4	497.4	504.3	511.3	518.3	525.7	533.8	541.8	549.9	557.8	563.5
55°	448.4	456.1	463.8	471.6	479.4	487.5	495.9	504.4	512.8	521.3	527.7
57.5°	407.3	415.4	423.4	431.5	439.7	448.3	457.6	466.9	476.1	485.3	491.7
60°	378.6	387.0	395.5	403.9	412.4	421.4	431.1	440.7	450.3	460.0	466.6
62.5°	351.4	360.1	368.8	377.4	386.1	395.5	405.7	415.9	426.1	436.3	442.8
65°	309.8	319.0	328.1	337.3	346.5	356.2	366.6	376.9	387.3	397.6	404.7
67.5°	267.5	277.2	287.0	296.7	306.4	316.6	327.1	337.6	348.1	358.7	366.4
70°	237.9	248.0	258.1	268.2	278.3	289.0	300.3	311.5	322.9	334.2	341.6
72.5°	210.9	221.0	231.1	241.2	251.3	262.2	273.8	285.5	297.1	308.7	316.5
75°	168.1	179.2	190.3	201.3	212.3	223.7	235.4	247.2	258.9	270.7	278.4
77.5°	130.9	142.1	153.2	164.3	175.4	186.9	198.8	210.7	222.5	234.3	242.5
80°	104.7	116.2	127.7	139.3	150.8	162.6	174.8	187.0	199.2	211.5	219.4
82.5°	81.8	93.5	105.2	116.9	128.7	140.7	153.1	165.5	177.9	190.4	198.3
85°	51.8	63.5	75.3	87.1	98.8	110.9	123.4	135.8	148.2	160.8	168.7
87.5°	28.6	40.8	52.9	65.3	77.6	89.9	102.5	115.2	127.8	140.6	148.3
90°	16.1	30.0	43.8	58.9	72.7	86.8	102.3	117.9	133.3	148.9	155.6
92.5°	27.5	44.8	65.1	84.6	104.9	133.4	175.9	238.1	299.4	293.2	256.6
95°	51.5	64.2	86.2	115.4	155.0	211.2	322.4	508.8	712.7	800.4	676.3
97.5°	78.4	87.9	106.2	131.9	170.2	229.3	335.6	543.7	875.5	1175.4	1257.7
100°	96.3	105.0	120.8	144.7	180.4	235.3	328.2	512.7	832.1	1203.2	1441.1
102.5°	115.2	124.1	138.1	160.4	192.5	243.2	327.5	485.4	770.9	1137.0	1445.2
105°	144.6	153.7	166.4	186.1	214.1	258.3	331.7	462.7	694.6	1022.7	1365.9
107.5°	174.7	183.1	194.6	213.3	238.9	279.9	345.2	455.1	643.6	920.9	1232.9
110°	196.4	204.2	214.3	231.4	255.6	295.3	357.5	456.1	622.7	863.1	1149.7



TEST NUMBER: P331996-840

CATALOG NUMBER: S123DIP-S775D1195U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	217.1	224.1	233.4	249.8	273.3	311.3	369.4	461.1	608.5	822.4	1075.9
115°	245.8	253.4	263.2	277.7	300.5	337.8	390.9	470.9	599.1	777.6	986.2
117.5°	275.4	282.6	290.1	302.7	326.7	360.9	412.9	484.7	594.3	747.7	928.8
120°	295.2	299.9	306.9	319.8	343.4	377.1	427.1	495.8	594.0	733.2	898.1
122.5°	313.1	317.2	323.7	336.9	358.9	394.2	442.8	506.4	596.7	722.4	872.1
125°	337.6	339.9	347.0	359.8	382.1	417.3	465.1	523.5	600.8	707.3	837.8
127.5°	357.1	360.3	368.8	381.7	406.1	440.5	485.7	537.9	606.8	696.7	806.8
130°	369.2	372.5	382.8	396.7	421.1	455.0	498.5	547.8	611.1	689.7	789.2
132.5°	377.8	382.2	393.6	410.5	435.0	467.7	509.3	556.6	613.4	684.5	772.5
135°	394.0	398.5	411.1	428.5	452.9	485.7	524.7	567.1	616.7	676.8	750.2
137.5°	409.3	414.0	426.5	445.0	469.3	499.3	535.7	575.1	618.3	669.1	730.8
140°	418.8	424.6	436.4	455.1	478.6	508.3	543.0	579.0	619.6	664.8	718.8
142.5°	430.0	434.7	447.3	463.9	487.3	514.6	547.9	582.3	619.6	659.5	707.5
145°	448.1	451.4	461.7	479.1	498.8	525.6	556.1	587.8	620.7	655.9	695.3
147.5°	465.3	467.5	477.8	493.0	512.3	535.2	563.2	591.6	620.7	651.5	684.2
150°	477.6	478.7	488.1	503.3	519.8	540.9	567.8	592.5	620.7	647.6	677.0
152.5°	489.8	490.0	499.4	512.7	527.3	547.4	570.7	594.4	617.8	643.0	669.5
155°	508.1	508.1	515.1	526.8	539.7	556.1	576.1	594.9	614.8	634.8	658.2
157.5°	522.6	523.5	529.2	539.5	550.5	563.2	579.2	596.0	610.9	627.5	645.5
160°	533.8	533.8	538.6	548.0	556.1	567.8	582.0	596.0	608.9	621.9	637.1
162.5°	542.3	542.3	546.0	553.6	560.9	570.7	582.9	595.1	605.2	616.2	628.6
165°	555.0	553.8	556.1	562.0	566.7	574.9	584.3	592.5	599.6	607.7	617.1
167.5°	564.6	563.2	564.3	568.9	572.1	577.2	584.1	590.7	593.9	599.4	606.1
170°	570.3	567.8	569.1	572.6	574.9	577.2	583.1	587.8	590.2	593.7	599.6
172.5°	574.0	572.6	572.8	575.4	576.8	578.2	583.1	586.9	587.3	589.0	593.0
175°	578.5	577.2	576.1	578.5	578.5	579.7	582.0	584.3	583.1	583.1	585.5
177.5°	580.6	579.7	578.7	579.7	579.7	579.7	580.6	582.4	580.6	579.7	580.6
180°	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7



TEST NUMBER: P331996-840

CATALOG NUMBER: S123DIP-S775D1195U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7
2.5°	968.7	970.2	971.6	972.3	972.1	971.9	971.7	971.6
5°	967.0	969.0	970.8	971.6	971.4	971.2	971.0	970.7
7.5°	961.2	963.6	965.9	966.9	966.6	966.4	966.1	965.8
10°	955.3	957.7	960.0	961.0	960.5	960.0	959.6	959.1
12.5°	947.4	949.5	951.6	952.5	952.0	951.6	951.1	950.6
15°	932.0	934.4	936.8	937.8	937.6	937.4	937.1	936.9
17.5°	912.1	914.2	916.4	917.3	917.0	916.6	916.3	915.9
20°	897.8	899.9	902.0	903.1	903.4	903.6	903.8	904.1
22.5°	881.9	884.6	887.3	888.6	888.5	888.3	888.2	888.0
25°	855.3	858.3	861.3	862.8	862.8	862.8	862.8	862.8
27.5°	827.3	829.9	832.5	833.9	834.1	834.4	834.6	834.8
30°	808.2	811.0	813.9	815.3	815.3	815.3	815.3	815.3
32.5°	787.4	790.4	793.5	795.3	795.8	796.4	796.9	797.5
35°	756.8	760.3	763.8	766.1	767.0	767.9	768.8	769.8
37.5°	724.9	728.9	732.9	735.3	736.0	736.8	737.5	738.3
40°	703.8	707.7	711.8	714.2	715.2	716.1	717.0	718.0
42.5°	681.7	686.0	690.4	693.3	694.6	695.9	697.2	698.5
45°	648.6	653.1	657.6	660.8	662.7	664.5	666.4	668.3
47.5°	615.3	620.4	625.4	628.6	630.1	631.6	633.0	634.4
50°	592.4	597.7	603.2	606.7	608.3	610.0	611.7	613.3
52.5°	569.1	574.7	580.3	584.1	586.1	588.1	590.2	592.2
55°	534.0	540.4	546.6	550.8	552.7	554.5	556.4	558.4
57.5°	498.2	504.5	510.9	515.2	517.5	519.7	521.8	524.0
60°	473.1	479.7	486.3	490.9	493.4	496.0	498.7	501.2
62.5°	449.5	456.1	462.6	467.1	469.5	471.9	474.3	476.7
65°	411.7	418.7	425.8	430.5	432.8	435.2	437.6	439.9
67.5°	374.1	381.8	389.5	394.4	396.3	398.3	400.3	402.2
70°	349.2	356.7	364.3	369.1	371.5	373.9	376.2	378.6
72.5°	324.2	331.8	339.6	344.7	347.0	349.3	351.6	354.1
75°	286.2	294.0	301.7	307.0	309.8	312.7	315.5	318.3
77.5°	250.6	258.8	267.0	272.2	274.4	276.5	278.7	280.8
80°	227.4	235.4	243.5	248.6	251.0	253.3	255.7	258.0
82.5°	206.3	214.3	222.3	227.4	229.8	232.2	234.5	236.8
85°	176.7	184.7	192.7	197.8	200.2	202.6	204.9	207.2
87.5°	156.5	164.8	173.0	178.6	180.8	183.4	185.9	188.0
90°	164.8	174.0	183.1	190.7	191.8	195.3	198.8	200.1
92.5°	227.1	214.5	213.2	212.1	212.1	210.8	214.1	214.1
95°	541.7	412.8	357.9	320.5	300.5	292.4	286.5	284.2
97.5°	1164.0	961.5	817.1	681.5	597.2	546.7	517.5	509.7
100°	1488.9	1400.7	1270.3	1108.2	992.1	908.8	865.4	868.9
102.5°	1593.4	1596.9	1523.5	1422.4	1332.5	1267.1	1231.1	1206.5
105°	1617.8	1741.7	1770.6	1744.3	1692.5	1650.0	1614.7	1610.8
107.5°	1517.3	1714.1	1823.3	1869.3	1872.2	1859.3	1848.7	1840.0
110°	1424.5	1646.5	1800.5	1886.5	1921.3	1932.6	1932.1	1931.7



TEST NUMBER: P331996-840

CATALOG NUMBER: S123DIP-S775D1195U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1331.8	1558.2	1729.9	1839.5	1901.6	1932.8	1943.8	1946.3
115°	1208.9	1418.8	1596.9	1728.5	1818.4	1871.9	1897.2	1905.0
117.5°	1117.7	1299.5	1460.0	1593.5	1687.1	1748.0	1783.6	1793.4
120°	1068.9	1232.7	1379.0	1501.0	1595.3	1662.6	1692.4	1701.1
122.5°	1029.7	1178.2	1313.9	1427.4	1511.4	1572.2	1604.8	1615.4
125°	976.4	1109.3	1226.9	1324.0	1400.8	1454.0	1485.0	1494.9
127.5°	929.2	1047.9	1154.2	1242.7	1311.2	1357.0	1385.0	1394.1
130°	899.3	1009.4	1108.8	1191.5	1255.2	1298.8	1324.8	1335.6
132.5°	871.2	972.6	1065.4	1144.4	1204.4	1248.2	1271.6	1279.8
135°	833.0	920.6	1001.1	1070.7	1129.3	1165.7	1188.0	1197.4
137.5°	798.1	870.1	939.5	1000.0	1049.5	1086.3	1105.3	1111.9
140°	777.5	840.8	900.7	953.4	999.3	1033.3	1053.2	1053.2
142.5°	757.4	811.9	863.8	909.9	949.1	979.4	997.4	997.4
145°	734.8	775.4	814.8	850.2	880.5	906.1	916.4	919.7
147.5°	716.4	747.7	778.5	803.3	826.6	844.0	853.8	855.6
150°	704.0	730.9	755.6	778.1	796.2	809.6	817.1	817.6
152.5°	693.7	716.9	738.7	757.3	771.2	783.3	787.6	787.7
155°	678.1	696.9	714.6	728.6	739.2	748.6	750.9	752.0
157.5°	661.8	677.5	691.1	702.1	711.2	718.3	720.1	719.9
160°	652.4	665.3	677.0	685.2	693.5	700.4	700.4	699.3
162.5°	641.1	652.2	662.9	670.1	675.6	681.7	681.7	680.5
165°	626.5	633.6	641.8	647.6	652.4	657.0	655.9	655.9
167.5°	613.9	619.2	624.0	628.2	630.3	633.6	632.4	632.4
170°	605.4	608.9	613.6	616.0	617.1	619.6	618.3	618.3
172.5°	597.9	600.5	604.3	605.6	605.9	608.2	606.1	605.2
175°	587.8	589.0	591.4	591.4	591.4	592.5	591.4	590.2
177.5°	581.5	582.4	583.4	583.4	582.4	583.4	581.5	581.5
180°	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7

(END OF REPORT)