

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: P331978

Luminaire Tested: **S123DIP-S775D805U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331978  
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-S775D805U835-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6138.8 lumens  
Efficiency: N/A  
Efficacy: 133.7 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

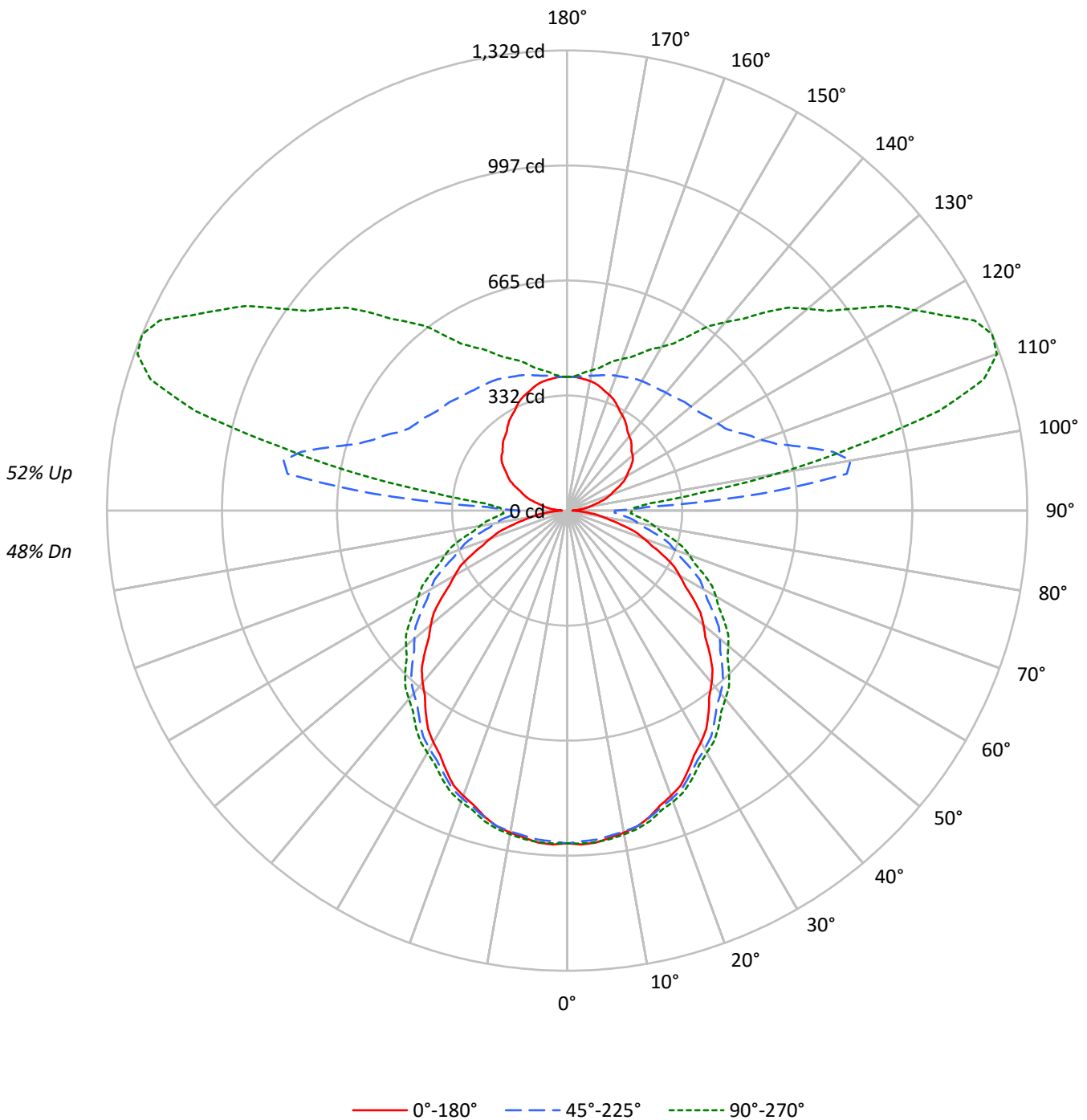
Input Watts (W): 45.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331978

CATALOG NUMBER: S123DIP-S775D805U835-4F0-1E-UDD-D4

### Luminous Intensity Polar Plot





TEST NUMBER: P331978

CATALOG NUMBER: S123DIP-S775D805U835-4F0-1E-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	107	107	107	107	98	98	98	98	82	82	82	68	68	68	55	55	55	48
1	96	92	87	83	88	84	81	77	71	68	65	58	56	54	47	45	44	39
2	87	79	73	67	80	73	67	63	61	57	53	50	47	45	40	38	36	31
3	79	69	62	56	73	64	57	52	54	49	44	44	40	37	35	33	30	26
4	72	61	53	47	66	57	49	44	48	42	38	39	35	32	32	28	26	22
5	66	54	46	40	61	50	43	37	42	37	32	35	31	27	28	25	22	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	22	20	17
7	56	44	36	30	52	41	33	28	34	29	25	29	24	21	23	20	17	15
8	52	40	32	26	48	37	30	25	31	26	22	26	22	19	21	18	16	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	16	14	12
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	13	11

**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: P331978

CATALOG NUMBER: S123DIP-S775D805U835-4F0-1E-UDD-D4

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	91.1	1.5
10°-20°	259.8	4.2
20°-30°	388.5	6.3
30°-40°	464.0	7.6
40°-50°	485.4	7.9
50°-60°	455.5	7.4
60°-70°	380.5	6.2
70°-80°	272.2	4.4
80°-90°	165.3	2.7
90°-100°	316.8	5.2
100°-110°	683.5	11.1
110°-120°	648.7	10.6
120°-130°	506.1	8.2
130°-140°	389.3	6.3
140°-150°	283.8	4.6
150°-160°	195.9	3.2
160°-170°	115.1	1.9
170°-180°	37.4	0.6
0°-30°	739.4	12.0
0°-40°	1203.3	19.6
0°-60°	2144.3	34.9
0°-90°	2962.3	48.3
90°-120°	1648.9	26.9
90°-150°	2828.1	46.1
90°-180°	3177.0	51.8
0°-180°	6138.8	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	74	138	174	187	11
95°	38	139	567	270	237	38
105°	99	169	707	1206	1112	105
115°	166	219	536	1134	1298	164
125°	226	268	482	868	1017	201
135°	263	313	455	700	810	203
145°	299	341	437	557	617	187
155°	338	365	423	481	501	156
165°	370	380	405	430	437	104
175°	385	386	389	394	393	37
180°	386	386	386	386	386	



TEST NUMBER: P331978

CATALOG NUMBER: S123DIP-S775D805U835-4F0-1E-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°	28.2	40.1	52.0	64.0	75.9	88.0	100.3	112.6	125.0	137.3	145.1
90°	15.2	28.1	41.1	54.9	67.8	81.0	95.2	109.4	123.7	137.9	145.0
92.5°	22.5	37.4	54.3	70.7	87.5	110.1	142.2	187.5	232.2	231.9	210.0
95°	38.1	49.5	67.2	89.6	119.0	159.7	237.5	365.4	505.1	567.3	486.9
97.5°	55.6	64.6	79.5	99.3	127.5	170.0	244.4	386.6	611.2	814.6	871.7
100°	67.3	75.5	88.4	106.8	133.0	172.6	238.0	364.4	580.8	831.5	992.2
102.5°	79.6	87.7	99.2	116.3	139.8	176.4	236.1	344.8	538.4	785.8	993.3
105°	99.1	107.0	117.3	132.2	152.7	184.7	236.9	327.5	485.2	707.1	938.0
107.5°	118.8	125.9	135.1	149.1	167.8	197.4	244.0	320.4	449.0	636.9	846.9
110°	132.9	139.5	147.6	160.4	177.8	206.5	251.0	319.7	433.8	597.1	790.0



TEST NUMBER: P331978

CATALOG NUMBER: S123DIP-S775D805U835-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	146.7	152.5	159.8	171.9	188.6	216.1	257.7	321.7	422.9	568.3	739.1
115°	165.5	171.4	178.9	189.5	205.6	232.3	270.4	326.5	414.6	536.3	677.2
117.5°	185.2	190.5	196.1	205.0	221.6	245.9	283.2	333.6	409.2	514.0	636.5
120°	198.1	201.6	206.7	215.6	231.7	255.6	291.5	339.8	407.7	502.9	614.6
122.5°	210.0	212.9	217.4	226.5	241.3	266.1	300.9	345.7	408.2	494.3	595.8
125°	226.0	227.5	232.2	240.8	255.7	280.2	314.3	355.4	409.1	482.3	570.8
127.5°	238.9	241.1	246.6	255.1	271.3	295.1	327.1	363.7	411.5	473.2	548.0
130°	247.1	249.2	256.0	265.1	281.3	304.6	335.1	369.5	413.2	467.1	534.9
132.5°	252.5	255.4	263.0	274.2	290.6	312.9	341.8	374.6	413.7	462.3	522.4
135°	263.2	266.1	274.5	286.0	302.2	324.4	351.2	380.4	414.2	455.1	505.4
137.5°	273.3	276.4	284.7	297.0	313.1	333.3	358.0	384.8	414.0	448.3	490.6
140°	279.4	283.3	291.1	303.6	319.2	339.1	362.5	386.7	413.9	444.4	481.5
142.5°	286.9	290.0	298.2	309.3	324.8	343.0	365.2	388.2	413.0	439.8	472.7
145°	298.9	301.0	307.8	319.3	332.4	350.3	370.6	391.7	413.6	437.0	463.9
147.5°	310.1	311.5	318.4	328.5	341.3	356.7	375.3	394.2	413.6	434.1	456.0
150°	318.2	319.0	325.2	335.4	346.3	360.4	378.4	394.8	413.6	431.6	451.1
152.5°	326.3	326.5	332.7	341.7	351.3	364.8	380.3	396.1	411.7	428.4	446.1
155°	338.5	338.5	343.2	351.0	359.6	370.6	383.9	396.4	409.7	423.0	438.6
157.5°	348.2	348.8	352.6	359.5	366.8	375.3	385.9	397.2	407.0	418.1	430.2
160°	355.7	355.7	358.9	365.1	370.6	378.4	387.8	397.2	405.8	414.4	424.5
162.5°	361.4	361.4	363.9	368.9	373.7	380.3	388.4	396.5	403.3	410.6	418.9
165°	369.8	369.0	370.6	374.5	377.6	383.1	389.3	394.8	399.5	405.0	411.2
167.5°	376.2	375.3	376.1	379.0	381.2	384.7	389.2	393.6	395.8	399.4	403.9
170°	380.0	378.4	379.2	381.5	383.1	384.7	388.6	391.7	393.3	395.6	399.5
172.5°	382.5	381.5	381.7	383.4	384.3	385.3	388.6	391.1	391.4	392.5	395.1
175°	385.4	384.7	383.9	385.4	385.4	386.2	387.8	389.3	388.6	388.6	390.1
177.5°	386.8	386.2	385.6	386.2	386.2	386.2	386.8	388.1	386.8	386.2	386.8
180°	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2



TEST NUMBER: P331978

CATALOG NUMBER: S123DIP-S775D805U835-4F0-1E-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°	153.1	161.2	169.3	174.7	176.9	179.4	181.8	184.0
90°	153.7	162.4	171.1	177.8	179.3	182.4	185.5	187.1
92.5°	192.9	187.0	188.6	189.5	190.2	190.0	193.0	193.7
95°	399.5	316.1	281.8	258.5	245.9	241.2	238.1	237.3
97.5°	811.6	678.9	585.0	496.1	440.7	407.9	389.1	384.7
100°	1026.4	969.8	885.1	778.6	701.9	647.2	619.0	622.1
102.5°	1094.1	1098.7	1051.9	986.0	926.9	884.0	860.8	845.2
105°	1107.9	1192.6	1214.0	1198.0	1164.1	1136.5	1113.6	1111.7
107.5°	1038.4	1171.6	1246.4	1278.3	1281.0	1273.0	1266.7	1261.5
110°	975.1	1125.0	1229.5	1288.2	1312.0	1320.1	1320.4	1320.7





TEST NUMBER: P331978

CATALOG NUMBER: S123DIP-S775D805U835-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	911.5	1064.4	1180.6	1254.9	1297.0	1318.4	1326.4	1328.8
115°	827.4	969.0	1089.5	1178.4	1238.9	1275.2	1292.7	1298.5
117.5°	764.1	887.1	995.8	1086.0	1148.9	1190.2	1214.5	1221.6
120°	730.2	841.1	940.2	1022.7	1086.1	1131.5	1151.9	1158.2
122.5°	702.5	803.2	895.3	972.0	1028.5	1069.6	1091.8	1099.4
125°	664.8	754.9	834.9	900.7	952.3	988.4	1009.5	1016.6
127.5°	631.1	711.7	784.0	844.0	890.2	921.1	940.4	947.0
130°	609.6	684.4	752.2	808.2	851.1	880.6	898.4	906.1
132.5°	589.4	658.4	721.6	775.2	815.7	845.4	861.5	867.5
135°	562.0	621.7	676.7	723.9	763.4	788.0	803.2	809.9
137.5°	536.7	585.9	633.3	674.4	707.7	732.7	745.7	750.5
140°	521.7	565.1	606.1	642.0	672.9	695.9	709.6	710.0
142.5°	507.0	544.3	580.0	611.4	637.8	658.4	670.8	671.2
145°	490.8	518.5	545.3	569.4	589.9	607.2	614.4	616.9
147.5°	477.7	498.8	519.5	536.3	552.0	563.9	570.7	572.2
150°	469.1	487.1	503.5	518.6	530.8	539.8	545.0	545.5
152.5°	462.2	477.7	492.2	504.6	514.0	522.0	524.9	525.0
155°	451.9	464.4	476.1	485.5	492.5	498.8	500.4	501.1
157.5°	440.9	451.4	460.5	467.8	473.9	478.6	479.9	479.7
160°	434.7	443.3	451.1	456.6	462.1	466.7	466.7	466.0
162.5°	427.2	434.5	441.7	446.6	450.2	454.2	454.2	453.5
165°	417.5	422.2	427.7	431.6	434.7	437.8	437.0	437.0
167.5°	409.0	412.6	415.8	418.6	420.0	422.2	421.4	421.4
170°	403.4	405.8	408.9	410.5	411.2	412.8	412.0	412.0
172.5°	398.4	400.1	402.6	403.6	403.7	405.3	403.9	403.3
175°	391.7	392.5	394.0	394.0	394.0	394.8	394.0	393.3
177.5°	387.5	388.1	388.7	388.7	388.1	388.7	387.5	387.5
180°	386.2	386.2	386.2	386.2	386.2	386.2	386.2	386.2

(END OF REPORT)