

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: P331907-840

Luminaire Tested: **S123DIP-S340D1195U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331907-840
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-S340D1195U840-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6244.3 lumens
Efficiency: N/A
Efficacy: 148.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

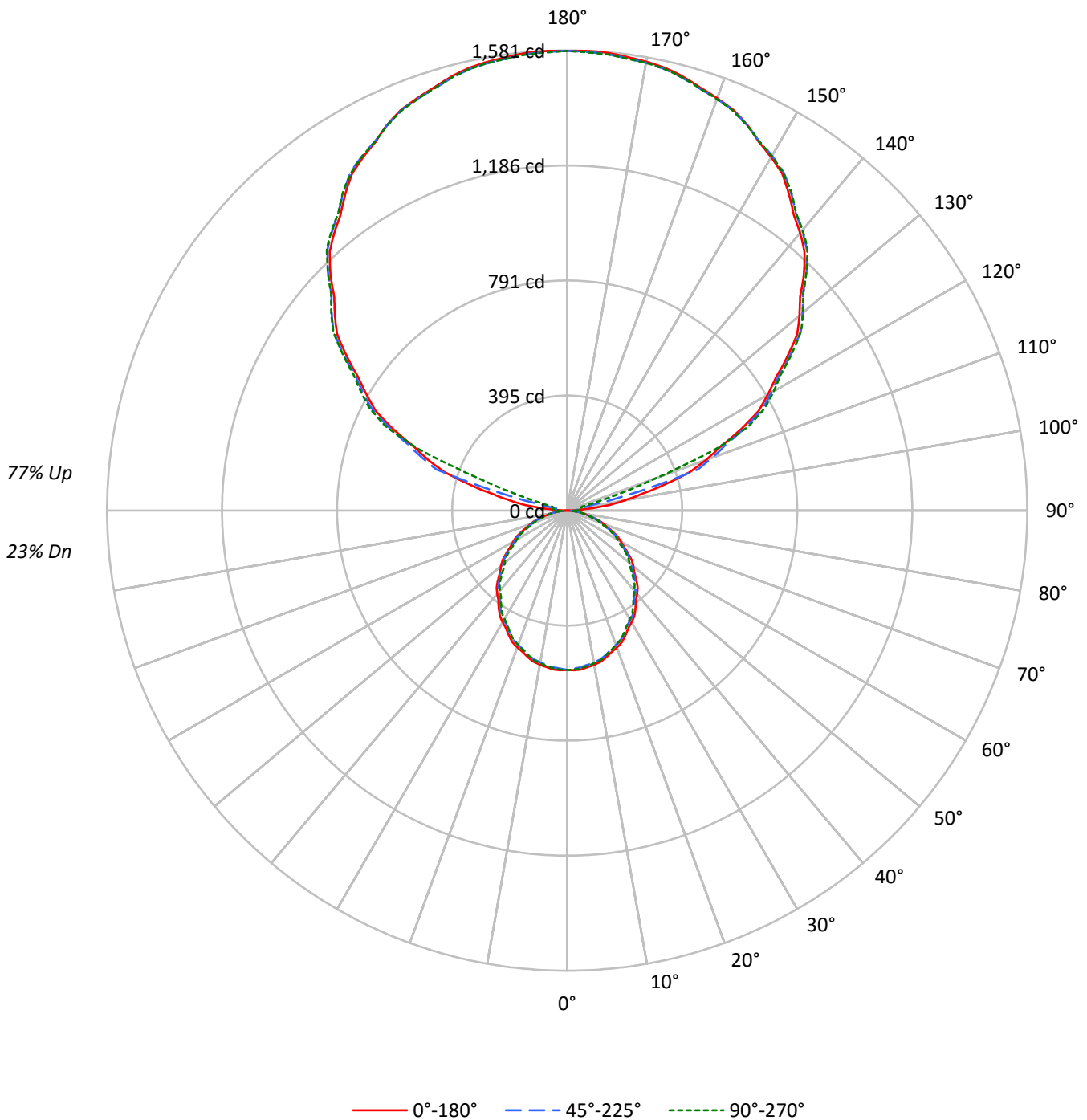
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331907-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P331907-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-F

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	101	101	101	101	89	89	89	89	68	68	68	49	49	49	31	31	31	23
1	92	87	84	80	81	78	75	72	60	58	56	43	42	40	27	27	26	19
2	83	76	70	66	74	68	63	59	52	49	46	38	36	34	24	23	22	16
3	76	67	60	54	67	60	54	49	46	42	39	33	31	28	21	20	19	14
4	69	59	52	46	61	53	46	41	41	36	33	29	27	24	19	17	16	12
5	64	52	45	39	56	47	40	35	36	32	28	26	23	21	17	15	14	10
6	58	47	39	34	52	42	35	30	33	28	24	24	21	18	15	14	12	9
7	54	42	35	29	48	38	31	27	29	25	21	21	18	16	14	12	11	8
8	50	38	31	26	44	34	28	23	27	22	19	20	16	14	13	11	10	7
9	46	35	27	23	41	31	25	21	24	20	17	18	15	13	12	10	9	6
10	43	32	25	20	38	28	22	18	22	18	15	16	13	11	11	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5890	5890	5890
5°	5919	5837	5877
10°	5879	5786	5822
15°	5810	5721	5731
20°	5730	5628	5632
25°	5621	5516	5505
30°	5504	5392	5351
35°	5380	5261	5194
40°	5251	5117	5039
45°	5107	4985	4864
50°	4963	4823	4687
55°	4778	4654	4511
60°	4590	4456	4316
65°	4422	4241	4111
70°	4176	3997	3821
75°	3818	3681	3523
80°	3440	3298	3267
85°	3013	2902	2791



TEST NUMBER: P331907-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.5	0.8
10°-20°	145.6	2.3
20°-30°	215.0	3.4
30°-40°	251.2	4.0
40°-50°	252.5	4.0
50°-60°	221.8	3.6
60°-70°	165.2	2.6
70°-80°	94.1	1.5
80°-90°	31.4	0.5
90°-100°	57.4	0.9
100°-110°	273.6	4.4
110°-120°	657.3	10.5
120°-130°	837.0	13.4
130°-140°	894.3	14.3
140°-150°	836.3	13.4
150°-160°	674.6	10.8
160°-170°	435.4	7.0
170°-180°	150.0	2.4
0°-30°	412.1	6.6
0°-40°	663.3	10.6
0°-60°	1137.6	18.2
0°-90°	1428.4	22.9
90°-120°	988.3	15.8
90°-150°	3555.9	56.9
90°-180°	4816.0	77.1
0°-180°	6244.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	547	547	547	547	547	
5°	548	545	540	545	544	52
15°	521	519	513	517	514	147
25°	473	470	464	465	464	218
35°	409	406	400	398	395	256
45°	336	333	328	322	320	259
55°	255	254	248	243	240	228
65°	174	171	166	163	161	171
75°	92	90	88	86	85	98
85°	24	24	24	23	23	27
90°	1	13	28	33	35	5
95°	72	27	36	44	44	88
105°	350	356	257	61	52	371
115°	656	663	674	685	690	647
125°	924	934	939	941	943	825
135°	1151	1158	1163	1166	1163	886
145°	1328	1336	1339	1341	1341	831
155°	1463	1461	1462	1467	1461	674
165°	1543	1539	1538	1547	1539	436
175°	1579	1574	1574	1582	1573	150
180°	1579	1579	1579	1579	1579	



TEST NUMBER: P331907-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2
2.5°	549.2	548.8	548.5	548.2	547.8	547.1	546.2	545.3	544.4	543.5	544.3
5°	547.8	547.1	546.6	546.1	545.6	544.8	543.6	542.5	541.3	540.2	541.2
7.5°	542.4	541.8	541.3	540.8	540.3	539.4	538.3	537.0	535.8	534.6	535.5
10°	537.9	537.3	536.7	536.2	535.7	534.8	533.4	532.1	530.7	529.4	530.3
12.5°	531.8	531.4	530.9	530.5	530.1	529.2	528.0	526.6	525.3	524.1	524.8
15°	521.4	521.0	520.5	520.1	519.7	518.8	517.5	516.0	514.7	513.4	514.2
17.5°	509.2	508.7	508.2	507.6	507.1	506.1	504.7	503.4	502.0	500.7	501.2
20°	500.2	499.6	499.0	498.3	497.7	496.7	495.3	493.9	492.6	491.3	491.7
22.5°	490.0	489.4	488.8	488.2	487.6	486.6	485.1	483.8	482.4	481.1	481.4
25°	473.3	472.7	472.1	471.5	470.9	469.9	468.5	467.2	465.7	464.4	464.5
27.5°	455.6	454.9	454.3	453.7	453.1	452.1	450.7	449.2	447.8	446.3	446.4
30°	442.8	442.2	441.7	441.2	440.7	439.7	438.3	436.8	435.4	433.8	433.8
32.5°	430.0	429.3	428.6	427.9	427.3	426.3	425.2	424.0	422.9	421.8	421.2
35°	409.4	408.8	408.1	407.5	406.9	405.9	404.6	403.1	401.8	400.4	399.8
37.5°	388.3	387.5	386.7	385.9	385.2	384.1	382.6	381.2	379.9	378.5	377.8
40°	373.7	372.9	372.3	371.7	371.1	370.0	368.6	367.1	365.7	364.2	363.3
42.5°	358.9	358.2	357.5	356.8	356.1	355.0	353.6	352.0	350.6	349.1	348.3
45°	335.5	335.1	334.7	334.3	333.9	333.0	331.5	330.2	328.8	327.5	326.3
47.5°	312.3	311.6	311.0	310.4	309.8	308.9	307.6	306.3	305.1	303.8	302.6
50°	296.4	295.9	295.4	294.9	294.4	293.4	292.1	290.7	289.3	288.0	286.8
52.5°	279.8	279.5	279.1	278.8	278.4	277.5	276.1	274.7	273.3	271.8	270.8
55°	254.6	254.5	254.4	254.3	254.2	253.4	252.1	250.6	249.3	248.0	246.8
57.5°	230.5	230.1	229.7	229.4	229.0	228.3	227.2	226.1	225.1	224.0	223.0
60°	213.2	213.1	213.0	212.9	212.8	212.1	210.8	209.5	208.3	207.0	206.1
62.5°	197.7	197.4	197.2	196.9	196.6	195.9	194.6	193.4	192.1	190.9	190.0
65°	173.6	173.1	172.6	172.1	171.6	170.8	169.8	168.6	167.6	166.5	165.7
67.5°	148.1	147.6	147.2	146.7	146.3	145.6	144.9	144.1	143.3	142.5	141.8
70°	132.7	132.1	131.5	130.8	130.2	129.6	129.0	128.3	127.6	127.0	126.3
72.5°	116.5	116.0	115.6	115.1	114.6	114.1	113.4	112.7	112.0	111.3	110.6
75°	91.8	91.3	90.9	90.5	90.1	89.7	89.4	89.1	88.8	88.5	88.0
77.5°	69.8	69.6	69.4	69.2	68.9	68.6	68.3	67.9	67.5	67.1	66.8
80°	55.5	55.2	54.9	54.6	54.2	54.0	53.8	53.6	53.4	53.2	53.0
82.5°	41.6	41.5	41.5	41.4	41.3	41.3	41.2	41.2	41.2	41.1	40.9
85°	24.4	24.2	24.0	23.8	23.6	23.5	23.5	23.5	23.5	23.5	23.3
87.5°	10.0	10.3	10.6	10.8	11.1	11.5	12.1	12.7	13.3	13.9	14.0
90°	1.2	3.7	6.4	9.0	11.6	14.6	18.0	21.4	24.7	28.2	29.2
92.5°	21.8	21.1	20.4	19.6	18.9	19.8	22.4	24.9	27.5	30.0	31.7
95°	71.6	60.9	50.2	39.5	28.8	24.9	27.8	30.6	33.5	36.4	38.2
97.5°	143.8	139.1	134.2	129.5	124.6	112.9	94.1	75.3	56.6	37.8	39.9
100°	198.2	203.5	208.7	213.9	219.1	201.4	160.8	120.1	79.4	38.7	40.8
102.5°	260.2	264.0	267.7	271.5	275.3	254.9	210.5	166.0	121.6	77.2	70.7
105°	349.6	352.5	355.4	358.2	361.1	350.8	327.3	303.9	280.4	256.9	210.8
107.5°	443.9	446.3	448.6	450.8	453.1	456.2	459.9	463.5	467.3	471.0	437.1
110°	506.9	509.0	511.0	513.1	515.2	517.7	520.6	523.4	526.2	529.2	520.6



TEST NUMBER: P331907-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	566.9	568.8	570.7	572.6	574.4	576.8	579.7	582.6	585.4	588.2	588.4
115°	655.9	657.4	658.9	660.6	662.1	664.1	666.4	668.7	671.2	673.5	676.1
117.5°	741.9	743.9	745.8	747.8	749.7	751.2	752.5	753.7	754.9	756.1	758.1
120°	795.5	797.8	800.2	802.5	804.9	806.5	807.2	808.0	808.8	809.5	811.6
122.5°	849.9	851.8	853.7	855.7	857.7	859.1	860.1	861.1	862.0	863.0	864.5
125°	924.5	926.7	928.7	930.8	932.9	934.4	935.4	936.5	937.6	938.6	939.2
127.5°	996.8	998.9	1001.0	1003.1	1005.1	1006.8	1008.0	1009.4	1010.6	1011.8	1012.7
130°	1041.9	1044.0	1046.0	1048.1	1050.2	1051.8	1052.8	1053.9	1054.9	1055.9	1057.0
132.5°	1085.0	1087.1	1089.2	1091.3	1093.4	1094.8	1095.7	1096.5	1097.3	1098.2	1099.2
135°	1150.9	1152.6	1154.1	1155.7	1157.2	1158.5	1159.6	1160.6	1161.6	1162.8	1163.5
137.5°	1207.3	1209.3	1211.2	1213.3	1215.3	1216.5	1217.1	1217.7	1218.2	1218.8	1220.0
140°	1244.9	1246.4	1248.0	1249.5	1251.1	1252.2	1253.0	1253.8	1254.7	1255.4	1256.5
142.5°	1279.6	1281.1	1282.7	1284.2	1285.9	1287.0	1287.8	1288.6	1289.4	1290.1	1291.0
145°	1328.2	1330.0	1331.8	1333.6	1335.4	1336.7	1337.2	1337.7	1338.2	1338.7	1339.2
147.5°	1373.9	1375.1	1376.3	1377.5	1378.7	1379.6	1380.1	1380.6	1381.1	1381.6	1382.2
150°	1402.1	1402.8	1403.6	1404.4	1405.2	1405.8	1406.3	1406.8	1407.4	1408.0	1408.5
152.5°	1427.4	1427.7	1428.2	1428.5	1428.9	1429.2	1429.5	1429.9	1430.2	1430.5	1431.4
155°	1463.1	1462.6	1462.0	1461.5	1461.0	1460.9	1461.1	1461.4	1461.7	1461.9	1463.2
157.5°	1490.8	1490.7	1490.7	1490.6	1490.6	1490.4	1490.2	1489.9	1489.7	1489.3	1491.0
160°	1507.6	1507.4	1507.1	1506.9	1506.6	1506.3	1506.1	1505.8	1505.6	1505.3	1506.9
162.5°	1523.6	1523.0	1522.3	1521.6	1520.9	1520.5	1520.1	1519.9	1519.6	1519.3	1521.2
165°	1542.9	1542.1	1541.3	1540.5	1539.7	1539.2	1538.9	1538.6	1538.4	1538.1	1540.2
167.5°	1557.9	1556.8	1555.8	1554.8	1553.7	1553.2	1553.2	1553.2	1553.2	1553.2	1555.3
170°	1566.3	1565.3	1564.3	1563.2	1562.2	1561.7	1561.7	1561.7	1561.7	1561.7	1563.7
172.5°	1572.0	1570.7	1569.4	1568.2	1566.9	1566.4	1566.6	1566.8	1567.0	1567.2	1569.3
175°	1579.2	1577.9	1576.6	1575.3	1574.0	1573.5	1573.8	1574.0	1574.3	1574.5	1576.4
177.5°	1581.1	1580.0	1579.0	1578.0	1576.9	1576.5	1576.7	1576.9	1577.1	1577.3	1579.0
180°	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2



TEST NUMBER: P331907-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2
2.5°	545.1	546.0	546.8	547.2	547.1	547.0	546.9	546.8
5°	542.3	543.3	544.4	544.8	544.6	544.4	544.1	543.9
7.5°	536.5	537.5	538.4	538.8	538.7	538.6	538.5	538.3
10°	531.3	532.2	533.1	533.5	533.3	533.1	532.9	532.7
12.5°	525.4	526.1	526.8	527.1	527.0	526.8	526.7	526.6
15°	515.0	515.8	516.7	516.8	516.1	515.5	514.9	514.3
17.5°	501.8	502.4	503.0	503.2	502.9	502.7	502.5	502.3
20°	492.1	492.5	492.9	493.0	492.6	492.3	492.0	491.7
22.5°	481.7	482.1	482.4	482.4	482.0	481.6	481.2	480.8
25°	464.6	464.7	464.8	464.7	464.4	464.1	463.8	463.5
27.5°	446.5	446.6	446.6	446.5	446.1	445.7	445.2	444.8
30°	433.8	433.8	433.8	433.4	432.7	432.0	431.3	430.5
32.5°	420.6	420.0	419.5	419.0	418.6	418.2	417.8	417.4
35°	399.2	398.6	397.9	397.4	396.9	396.3	395.8	395.3
37.5°	377.0	376.3	375.5	375.0	374.7	374.3	374.0	373.7
40°	362.5	361.7	360.8	360.2	359.8	359.4	359.0	358.6
42.5°	347.5	346.6	345.8	345.2	344.8	344.4	344.0	343.5
45°	325.0	323.8	322.4	321.6	321.0	320.5	320.0	319.5
47.5°	301.3	300.1	298.8	298.0	297.5	297.1	296.6	296.2
50°	285.7	284.5	283.4	282.5	281.9	281.2	280.6	279.9
52.5°	269.8	268.8	267.8	267.0	266.4	265.8	265.2	264.6
55°	245.7	244.5	243.4	242.6	242.1	241.5	241.0	240.4
57.5°	222.0	220.9	219.8	219.0	218.4	217.8	217.2	216.6
60°	205.2	204.2	203.3	202.6	202.0	201.5	201.0	200.5
62.5°	188.9	188.0	187.1	186.4	186.1	185.7	185.4	185.0
65°	164.9	164.1	163.2	162.7	162.4	162.0	161.7	161.4
67.5°	141.0	140.3	139.6	139.0	138.6	138.0	137.6	137.2
70°	125.6	124.8	124.1	123.5	123.0	122.5	121.9	121.4
72.5°	110.0	109.3	108.7	108.2	108.0	107.7	107.3	107.0
75°	87.5	86.8	86.3	85.9	85.6	85.3	85.0	84.7
77.5°	66.3	66.0	65.6	65.5	65.5	65.5	65.5	65.5
80°	52.9	52.8	52.7	52.7	52.7	52.7	52.7	52.7
82.5°	40.8	40.6	40.4	40.2	40.2	40.1	40.0	39.9
85°	23.1	22.9	22.7	22.6	22.6	22.6	22.6	22.6
87.5°	14.1	14.2	14.4	14.5	14.6	14.7	14.8	14.9
90°	30.2	31.3	32.3	33.1	33.6	34.1	34.6	35.2
92.5°	33.3	35.0	36.8	37.7	38.0	38.4	38.7	39.0
95°	40.0	41.8	43.6	44.5	44.5	44.5	44.5	44.5
97.5°	41.9	44.0	46.2	47.3	47.6	47.9	48.1	48.4
100°	42.9	44.9	47.1	48.3	48.5	48.8	49.0	49.3
102.5°	64.2	57.8	51.3	48.4	48.8	49.3	49.8	50.2
105°	164.6	118.5	72.3	49.6	50.1	50.6	51.1	51.6
107.5°	403.2	369.4	335.6	301.2	266.5	231.7	196.9	162.2
110°	511.9	503.3	494.7	471.8	434.5	397.2	359.9	322.7



TEST NUMBER: P331907-840

CATALOG NUMBER: S123DIP-S340D1195U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	588.5	588.8	589.0	585.0	577.1	569.3	561.4	553.5
115°	678.6	681.3	683.9	685.7	686.7	687.8	688.8	689.8
117.5°	760.2	762.3	764.4	765.6	765.8	766.0	766.2	766.4
120°	813.7	815.8	817.9	818.9	818.9	818.9	818.9	818.9
122.5°	866.0	867.5	868.9	869.7	869.9	870.1	870.4	870.6
125°	939.7	940.2	940.7	941.2	941.7	942.3	942.8	943.3
127.5°	1013.5	1014.3	1015.1	1015.3	1014.8	1014.3	1013.8	1013.2
130°	1058.0	1059.0	1060.2	1060.4	1059.9	1059.3	1058.8	1058.3
132.5°	1100.2	1101.4	1102.4	1102.5	1101.8	1101.1	1100.3	1099.5
135°	1164.3	1165.1	1165.9	1165.9	1165.1	1164.3	1163.5	1162.8
137.5°	1221.3	1222.5	1223.8	1224.2	1223.7	1223.1	1222.6	1222.0
140°	1257.5	1258.5	1259.6	1259.8	1259.3	1258.8	1258.3	1257.8
142.5°	1291.8	1292.6	1293.4	1293.5	1292.8	1292.0	1291.3	1290.6
145°	1339.8	1340.3	1340.8	1341.0	1341.0	1341.0	1341.0	1341.0
147.5°	1382.7	1383.2	1383.7	1383.4	1382.2	1381.0	1379.8	1378.6
150°	1409.0	1409.5	1410.0	1409.9	1409.1	1408.4	1407.5	1406.7
152.5°	1432.3	1433.3	1434.2	1434.1	1432.9	1431.7	1430.5	1429.3
155°	1464.5	1465.8	1467.1	1466.9	1465.4	1463.9	1462.3	1460.8
157.5°	1492.5	1494.0	1495.6	1495.4	1493.4	1491.3	1489.2	1487.2
160°	1508.4	1510.0	1511.6	1511.5	1509.6	1507.8	1505.9	1504.1
162.5°	1523.0	1524.7	1526.5	1526.5	1524.9	1523.3	1521.7	1520.0
165°	1542.4	1544.4	1546.5	1546.6	1544.8	1543.0	1541.2	1539.3
167.5°	1557.3	1559.4	1561.6	1561.6	1559.4	1557.3	1555.3	1553.2
170°	1565.8	1567.9	1569.9	1569.9	1567.9	1565.8	1563.7	1561.7
172.5°	1571.5	1573.5	1575.6	1575.5	1573.2	1570.9	1568.6	1566.3
175°	1578.2	1580.0	1581.9	1581.7	1579.6	1577.5	1575.5	1573.4
177.5°	1580.6	1582.4	1584.0	1583.8	1581.8	1579.6	1577.5	1575.5
180°	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2	1579.2

(END OF REPORT)