

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: P332110

Luminaire Tested: **S123DIW-S340D1320U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332110
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: S123DIW-S340D1320U835-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1320 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6720.1 lumens
Efficiency: N/A
Efficacy: 144.2 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

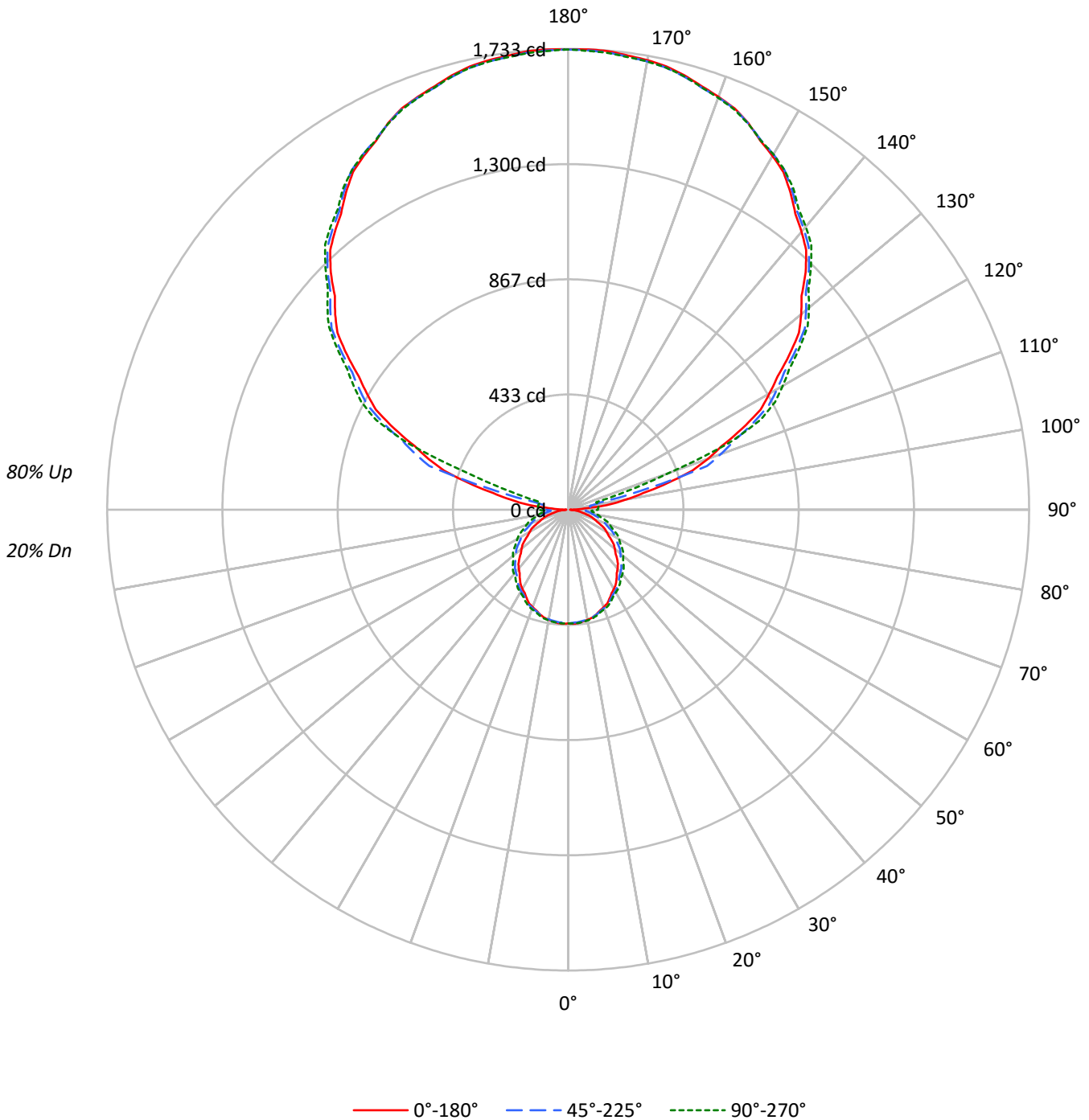
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: S123DIW-S340D1320U835-4F0-1E-UDD-D

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	100	100	100	100	88	88	88	88	66	66	66	47	47	47	28	28	28	20				
1	91	86	82	79	80	76	73	70	57	55	53	40	39	38	24	24	23	16				
2	82	75	69	64	72	66	61	57	50	47	44	35	33	31	21	20	19	13				
3	75	66	59	53	66	58	52	47	44	40	37	31	28	26	19	17	16	11				
4	68	58	50	44	60	51	45	40	39	34	31	27	24	22	16	15	14	9				
5	62	51	44	38	55	46	39	34	35	30	26	24	21	19	15	13	12	8				
6	57	46	38	32	50	41	34	29	31	26	23	22	19	16	13	12	10	7				
7	53	41	33	28	46	37	30	25	28	23	20	20	17	14	12	10	9	6				
8	49	37	30	25	43	33	27	22	25	21	17	18	15	13	11	9	8	5				
9	45	34	27	22	40	30	24	20	23	19	15	16	13	11	10	8	7	5				
10	42	31	24	19	37	27	21	17	21	17	14	15	12	10	9	8	6	4				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4604	4604	4604
5°	4618	4488	4490
10°	4577	4385	4363
15°	4518	4267	4223
20°	4434	4133	4070
25°	4330	3980	3908
30°	4224	3841	3744
35°	4103	3694	3614
40°	3990	3560	3474
45°	3864	3432	3362
50°	3739	3305	3239
55°	3601	3175	3128
60°	3466	3044	3015
65°	3328	2903	2878
70°	3120	2744	2740
75°	2859	2565	2600
80°	2556	2387	2438
85°	2274	2264	2344



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.5	0.6
10°-20°	115.6	1.7
20°-30°	172.9	2.6
30°-40°	206.5	3.1
40°-50°	216.0	3.2
50°-60°	202.7	3.0
60°-70°	169.3	2.5
70°-80°	121.1	1.8
80°-90°	77.1	1.1
90°-100°	108.3	1.6
100°-110°	333.2	5.0
110°-120°	742.6	11.1
120°-130°	930.0	13.8
130°-140°	985.8	14.7
140°-150°	917.7	13.7
150°-160°	739.3	11.0
160°-170°	477.1	7.1
170°-180°	164.4	2.4
0°-30°	329.0	4.9
0°-40°	535.5	8.0
0°-60°	954.2	14.2
0°-90°	1321.7	19.7
90°-120°	1184.1	17.6
90°-150°	4017.6	59.8
90°-180°	5398.0	80.3
0°-180°	6720.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	428	428	428	428	428	
5°	428	427	424	428	428	41
15°	408	409	409	413	413	115
25°	368	373	374	380	380	170
35°	317	324	330	337	339	198
45°	259	270	282	290	294	200
55°	198	213	230	242	246	177
65°	136	155	175	189	194	135
75°	74	96	119	134	140	79
85°	23	46	71	86	91	24
90°	7	43	84	104	112	8
95°	84	53	86	108	114	101
105°	387	406	316	114	109	410
115°	721	735	763	786	796	712
125°	1015	1025	1044	1056	1062	906
135°	1262	1270	1280	1291	1291	971
145°	1456	1464	1467	1473	1475	911
155°	1603	1601	1602	1608	1601	738
165°	1691	1687	1686	1695	1687	478
175°	1731	1725	1726	1734	1724	165
180°	1731	1731	1731	1731	1731	



TEST NUMBER: P332110

CATALOG NUMBER: S123DIW-S340D1320U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	429.6	429.4	429.1	428.9	428.6	428.2	427.5	426.8	426.2	425.5	426.2
5°	428.2	428.0	427.8	427.6	427.4	427.0	426.3	425.7	425.1	424.5	425.3
7.5°	424.0	424.1	424.1	424.1	424.2	423.9	423.3	422.7	422.1	421.5	422.5
10°	420.3	420.5	420.7	420.9	421.1	421.0	420.4	419.9	419.4	418.9	419.9
12.5°	415.8	416.1	416.4	416.7	417.0	416.9	416.6	416.2	415.9	415.5	416.5
15°	407.7	408.0	408.3	408.6	408.9	409.1	408.9	408.8	408.7	408.6	409.7
17.5°	397.5	398.1	398.7	399.3	399.9	400.2	400.2	400.1	400.1	400.1	401.0
20°	390.0	390.6	391.2	391.9	392.5	392.9	393.1	393.3	393.5	393.7	394.7
22.5°	382.2	382.8	383.4	384.0	384.7	385.1	385.4	385.7	386.0	386.3	387.5
25°	368.1	369.1	370.2	371.2	372.2	372.9	373.2	373.5	373.8	374.2	375.5
27.5°	353.9	355.1	356.3	357.5	358.7	359.6	360.2	360.9	361.6	362.2	363.4
30°	343.9	345.2	346.6	347.9	349.3	350.3	351.2	352.0	352.8	353.7	354.9
32.5°	332.7	334.2	335.7	337.2	338.7	340.0	341.1	342.2	343.3	344.3	345.7
35°	316.8	318.5	320.2	321.8	323.5	325.0	326.3	327.7	329.0	330.4	331.9
37.5°	300.1	301.9	303.8	305.7	307.5	309.3	310.9	312.6	314.3	315.9	317.7
40°	288.9	290.8	292.6	294.5	296.3	298.3	300.4	302.5	304.5	306.6	308.4
42.5°	276.6	278.9	281.1	283.4	285.7	287.9	290.1	292.2	294.4	296.5	298.5
45°	259.1	261.6	264.0	266.5	269.0	271.5	274.1	276.7	279.3	281.9	283.9
47.5°	240.7	243.5	246.3	249.2	252.0	254.9	257.8	260.8	263.7	266.7	268.9
50°	228.8	231.7	234.6	237.5	240.4	243.4	246.6	249.9	253.1	256.3	258.7
52.5°	216.1	219.2	222.2	225.3	228.4	231.7	235.2	238.8	242.3	245.8	248.3
55°	197.6	201.0	204.4	207.8	211.2	214.8	218.5	222.3	226.0	229.7	232.5
57.5°	179.5	183.0	186.6	190.2	193.7	197.6	201.6	205.7	209.8	213.9	216.7
60°	166.8	170.5	174.3	178.0	181.7	185.7	190.0	194.2	198.4	202.7	205.6
62.5°	154.9	158.7	162.5	166.3	170.1	174.3	178.8	183.3	187.8	192.3	195.1
65°	136.5	140.6	144.6	148.6	152.7	157.0	161.5	166.1	170.6	175.2	178.3
67.5°	117.9	122.2	126.5	130.7	135.0	139.5	144.1	148.8	153.4	158.1	161.4
70°	104.8	109.3	113.7	118.2	122.6	127.4	132.3	137.3	142.3	147.2	150.6
72.5°	92.9	97.4	101.8	106.3	110.7	115.5	120.6	125.8	130.9	136.1	139.5
75°	74.1	79.0	83.8	88.7	93.6	98.6	103.8	108.9	114.1	119.3	122.7
77.5°	57.7	62.6	67.5	72.4	77.3	82.4	87.6	92.8	98.0	103.3	106.9
80°	46.1	51.2	56.3	61.4	66.4	71.7	77.0	82.4	87.8	93.2	96.7
82.5°	36.1	41.2	46.4	51.5	56.7	62.0	67.5	72.9	78.4	83.9	87.4
85°	22.8	28.0	33.2	38.4	43.5	48.9	54.4	59.8	65.3	70.8	74.3
87.5°	12.7	18.4	24.1	29.8	35.6	41.4	47.5	53.5	59.5	65.5	69.3
90°	7.3	15.3	23.2	31.1	39.1	47.5	56.5	65.5	74.5	83.5	88.2
92.5°	29.6	33.4	37.2	40.9	44.7	50.6	58.6	66.6	74.6	82.6	87.9
95°	83.6	75.9	68.2	60.5	52.9	53.1	61.3	69.6	77.8	86.0	91.2
97.5°	162.2	160.6	159.0	157.4	155.8	147.1	131.4	115.6	99.9	84.2	89.5
100°	221.5	230.5	239.6	248.6	257.6	242.2	202.4	162.6	122.8	83.0	88.3
102.5°	289.0	296.1	303.2	310.3	317.4	298.9	254.9	210.9	166.9	122.9	118.7
105°	386.9	392.5	398.2	403.8	409.4	401.6	380.3	359.1	337.8	316.5	268.9
107.5°	489.7	494.4	499.0	503.6	508.2	514.7	523.0	531.3	539.5	547.8	513.5
110°	558.3	562.4	566.6	570.7	574.9	580.6	587.9	595.2	602.4	609.7	603.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	624.1	627.7	631.3	634.9	638.5	643.8	650.9	658.1	665.2	672.3	675.1
115°	721.1	724.1	727.0	730.0	732.9	737.6	743.9	750.2	756.5	762.8	768.1
117.5°	815.4	818.3	821.2	824.0	826.9	830.8	835.6	840.4	845.2	850.0	854.8
120°	873.7	876.7	879.8	882.9	886.0	889.7	894.0	898.2	902.5	906.8	911.5
122.5°	933.3	935.7	938.1	940.5	942.9	946.2	950.5	954.9	959.2	963.6	967.5
125°	1014.6	1016.9	1019.2	1021.5	1023.8	1027.0	1031.1	1035.3	1039.4	1043.6	1046.3
127.5°	1093.8	1096.0	1098.2	1100.4	1102.6	1105.6	1109.4	1113.3	1117.2	1121.0	1124.0
130°	1143.2	1145.4	1147.6	1149.8	1151.9	1154.6	1157.9	1161.1	1164.3	1167.5	1170.6
132.5°	1190.2	1192.4	1194.7	1197.0	1199.2	1201.6	1204.2	1206.8	1209.4	1211.9	1214.9
135°	1262.3	1263.9	1265.6	1267.2	1268.8	1270.7	1273.0	1275.3	1277.6	1279.8	1282.6
137.5°	1324.0	1326.0	1328.1	1330.2	1332.3	1334.0	1335.3	1336.5	1337.8	1339.1	1342.1
140°	1364.7	1366.4	1368.2	1369.9	1371.6	1373.0	1374.2	1375.4	1376.5	1377.7	1380.4
142.5°	1402.8	1404.4	1406.1	1407.7	1409.3	1410.6	1411.5	1412.4	1413.3	1414.3	1416.6
145°	1456.0	1457.9	1459.8	1461.7	1463.6	1464.8	1465.4	1466.0	1466.6	1467.1	1468.5
147.5°	1505.7	1507.0	1508.3	1509.6	1511.0	1511.9	1512.5	1513.0	1513.6	1514.2	1515.0
150°	1536.6	1537.4	1538.3	1539.1	1540.0	1540.7	1541.3	1541.8	1542.4	1543.0	1543.6
152.5°	1564.3	1564.7	1565.1	1565.5	1565.9	1566.3	1566.7	1567.0	1567.3	1567.7	1568.7
155°	1603.4	1602.9	1602.3	1601.7	1601.1	1601.0	1601.3	1601.6	1601.9	1602.1	1603.6
157.5°	1633.8	1633.7	1633.7	1633.6	1633.5	1633.4	1633.1	1632.8	1632.5	1632.2	1633.9
160°	1652.3	1652.0	1651.7	1651.4	1651.1	1650.9	1650.6	1650.3	1650.0	1649.7	1651.4
162.5°	1669.8	1669.0	1668.3	1667.5	1666.8	1666.3	1666.0	1665.7	1665.4	1665.1	1667.1
165°	1690.9	1690.0	1689.1	1688.3	1687.4	1686.9	1686.6	1686.3	1686.0	1685.7	1688.0
167.5°	1707.3	1706.2	1705.0	1703.9	1702.7	1702.2	1702.2	1702.2	1702.2	1702.2	1704.5
170°	1716.6	1715.4	1714.3	1713.2	1712.0	1711.4	1711.4	1711.4	1711.4	1711.4	1713.7
172.5°	1722.8	1721.4	1720.0	1718.6	1717.3	1716.7	1716.9	1717.2	1717.4	1717.6	1719.9
175°	1730.7	1729.3	1727.9	1726.4	1725.0	1724.4	1724.7	1725.0	1725.3	1725.6	1727.6
177.5°	1732.8	1731.6	1730.5	1729.4	1728.2	1727.8	1728.0	1728.2	1728.4	1728.7	1730.5
180°	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	426.8	427.5	428.2	428.4	428.4	428.3	428.2	428.1
5°	426.1	427.0	427.8	428.2	428.1	427.9	427.8	427.7
7.5°	423.6	424.6	425.6	426.1	426.0	425.8	425.7	425.6
10°	421.0	422.0	423.0	423.4	423.2	423.0	422.8	422.6
12.5°	417.4	418.4	419.3	419.7	419.5	419.3	419.1	418.9
15°	410.7	411.7	412.8	413.2	413.1	413.0	412.9	412.8
17.5°	401.9	402.9	403.8	404.2	404.0	403.9	403.8	403.6
20°	395.6	396.5	397.5	398.0	398.1	398.2	398.3	398.4
22.5°	388.6	389.8	391.0	391.6	391.5	391.4	391.4	391.3
25°	376.8	378.2	379.5	380.2	380.2	380.2	380.2	380.2
27.5°	364.5	365.7	366.9	367.5	367.6	367.7	367.7	367.8
30°	356.1	357.4	358.6	359.2	359.2	359.2	359.2	359.2
32.5°	347.0	348.3	349.6	350.4	350.7	350.9	351.2	351.4
35°	333.5	335.0	336.6	337.6	338.0	338.4	338.8	339.2
37.5°	319.4	321.2	323.0	324.0	324.3	324.7	325.0	325.3
40°	310.1	311.9	313.6	314.7	315.1	315.6	316.0	316.4
42.5°	300.4	302.3	304.2	305.5	306.1	306.6	307.2	307.8
45°	285.8	287.8	289.8	291.2	292.0	292.8	293.7	294.5
47.5°	271.1	273.4	275.6	277.0	277.6	278.3	278.9	279.6
50°	261.0	263.4	265.8	267.4	268.1	268.8	269.5	270.3
52.5°	250.8	253.2	255.7	257.4	258.3	259.2	260.0	260.9
55°	235.3	238.1	240.9	242.7	243.5	244.4	245.2	246.0
57.5°	219.5	222.3	225.1	227.0	228.0	229.0	230.0	230.9
60°	208.5	211.4	214.3	216.3	217.4	218.6	219.7	220.9
62.5°	198.0	200.9	203.8	205.8	206.9	207.9	209.0	210.1
65°	181.4	184.5	187.6	189.7	190.7	191.8	192.8	193.8
67.5°	164.8	168.2	171.6	173.8	174.6	175.5	176.4	177.2
70°	153.9	157.2	160.5	162.7	163.7	164.7	165.8	166.8
72.5°	142.8	146.2	149.6	151.9	152.9	153.9	155.0	156.0
75°	126.1	129.5	133.0	135.3	136.5	137.8	139.0	140.3
77.5°	110.5	114.1	117.7	119.9	120.9	121.9	122.8	123.8
80°	100.2	103.8	107.3	109.5	110.6	111.6	112.7	113.7
82.5°	90.9	94.4	98.0	100.2	101.3	102.3	103.3	104.4
85°	77.9	81.4	84.9	87.2	88.2	89.3	90.3	91.3
87.5°	73.0	76.8	80.5	83.0	84.1	85.3	86.4	87.6
90°	92.8	97.5	102.2	105.3	106.9	108.5	110.1	111.7
92.5°	93.1	98.4	103.7	106.9	108.2	109.5	110.8	112.1
95°	96.4	101.6	106.8	110.0	111.0	112.0	113.1	114.1
97.5°	94.9	100.3	105.7	109.0	110.3	111.7	113.0	114.3
100°	93.5	98.8	104.1	107.4	108.8	110.1	111.4	112.7
102.5°	114.6	110.4	106.2	104.9	106.5	108.0	109.6	111.1
105°	221.2	173.5	125.8	102.7	104.3	105.8	107.3	108.8
107.5°	479.2	444.9	410.6	374.8	337.6	300.4	263.2	226.0
110°	596.3	589.5	582.8	559.4	519.4	479.3	439.3	399.3



TEST NUMBER: P332110

CATALOG NUMBER: S123DIW-S340D1320U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	677.9	680.6	683.4	681.0	673.2	665.5	657.8	650.1
115°	773.4	778.8	784.1	787.8	789.8	791.7	793.7	795.7
117.5°	859.5	864.3	869.0	871.9	873.0	874.0	875.0	876.1
120°	916.1	920.8	925.5	928.2	928.9	929.6	930.3	931.1
122.5°	971.4	975.3	979.2	981.6	982.5	983.5	984.4	985.4
125°	1049.1	1051.8	1054.6	1056.6	1057.9	1059.2	1060.5	1061.8
127.5°	1126.9	1129.9	1132.9	1134.4	1134.6	1134.7	1134.8	1134.9
130°	1173.7	1176.8	1179.9	1181.5	1181.6	1181.6	1181.7	1181.7
132.5°	1218.0	1221.0	1224.0	1225.5	1225.4	1225.3	1225.2	1225.1
135°	1285.3	1288.0	1290.7	1291.9	1291.6	1291.2	1290.9	1290.6
137.5°	1345.1	1348.1	1351.1	1352.6	1352.5	1352.5	1352.4	1352.4
140°	1383.1	1385.8	1388.5	1389.8	1389.8	1389.7	1389.6	1389.6
142.5°	1418.9	1421.2	1423.5	1424.5	1424.2	1423.9	1423.6	1423.4
145°	1469.9	1471.3	1472.7	1473.6	1474.0	1474.5	1474.9	1475.3
147.5°	1515.8	1516.7	1517.5	1517.4	1516.5	1515.5	1514.6	1513.6
150°	1544.1	1544.7	1545.3	1545.2	1544.6	1543.9	1543.3	1542.6
152.5°	1569.7	1570.8	1571.8	1571.7	1570.4	1569.1	1567.9	1566.6
155°	1605.0	1606.4	1607.9	1607.7	1606.0	1604.3	1602.6	1600.9
157.5°	1635.7	1637.4	1639.1	1638.8	1636.6	1634.4	1632.1	1629.9
160°	1653.1	1654.9	1656.6	1656.4	1654.4	1652.4	1650.4	1648.4
162.5°	1669.0	1671.0	1672.9	1673.0	1671.2	1669.5	1667.7	1665.9
165°	1690.3	1692.6	1694.9	1695.0	1693.0	1691.0	1689.0	1687.0
167.5°	1706.8	1709.0	1711.3	1711.3	1709.0	1706.8	1704.5	1702.2
170°	1716.0	1718.3	1720.6	1720.6	1718.3	1716.0	1713.7	1711.4
172.5°	1722.2	1724.5	1726.8	1726.6	1724.1	1721.6	1719.1	1716.6
175°	1729.6	1731.6	1733.6	1733.4	1731.2	1728.9	1726.6	1724.3
177.5°	1732.3	1734.2	1736.0	1735.8	1733.5	1731.2	1728.9	1726.6
180°	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7

(END OF REPORT)