

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: P332735-840

Luminaire Tested: **S124DIW-S350D1340U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332735-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S350D1340U840-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6877.4 lumens
Efficiency: N/A
Efficacy: 147.6 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

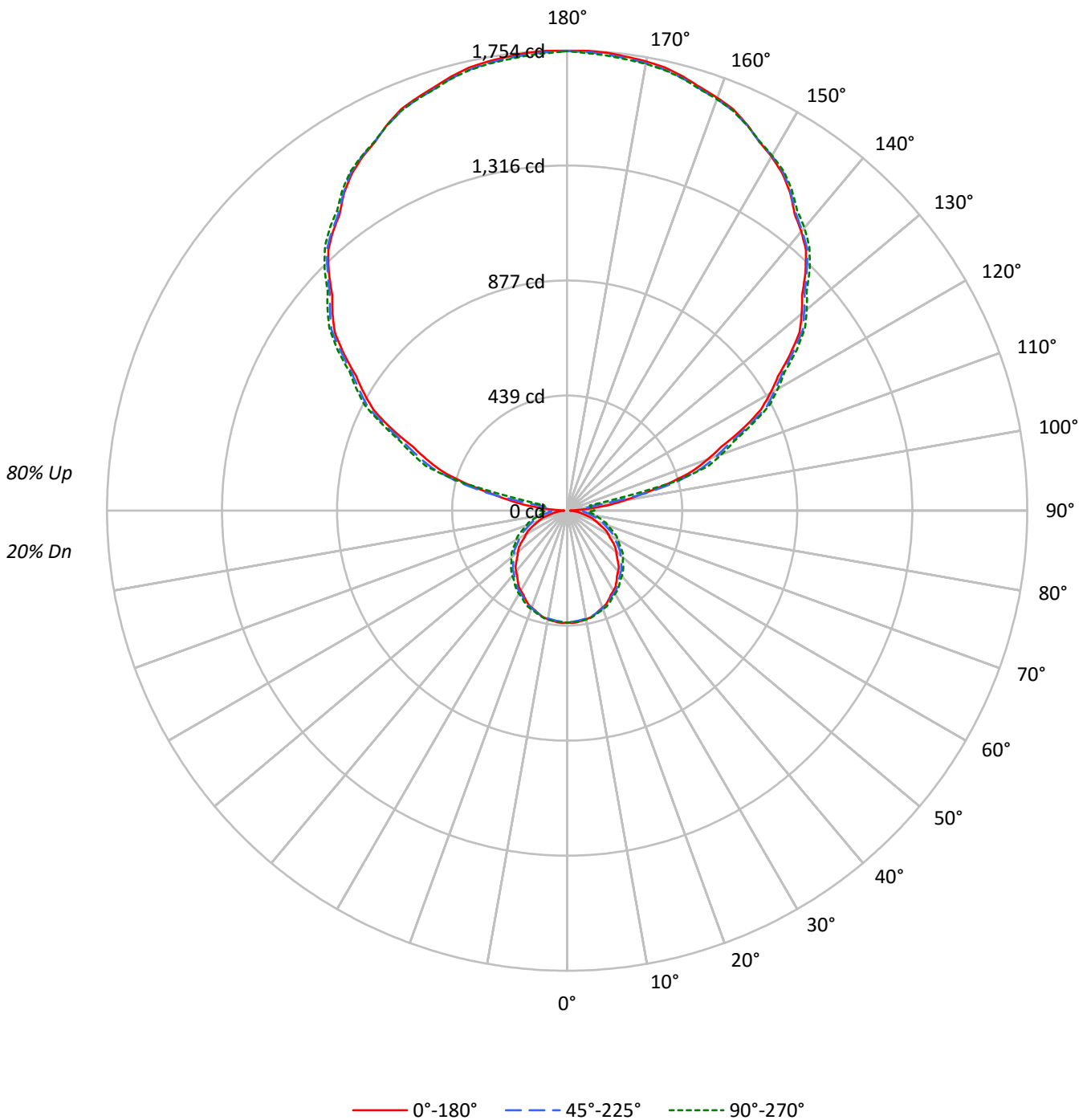
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332735-840

CATALOG NUMBER: S124DIW-S350D1340U840-4F0-1E-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	50	30	10	0		
RCR																										
0	100	100	100	100	88	88	88	88	66	66	66	47	47	47	28	28	28	20					20			
1	91	86	82	79	80	76	73	70	57	55	53	40	39	38	24	24	23	16					16			
2	82	75	69	64	72	66	61	57	50	47	44	35	33	31	21	20	19	13					13			
3	75	66	59	53	66	58	52	47	44	40	37	31	28	26	19	17	16	11					11			
4	68	58	50	44	60	51	45	40	39	34	31	27	24	22	16	15	14	9					9			
5	62	51	44	38	55	45	39	34	34	30	26	24	21	19	15	13	12	8					8			
6	57	46	38	32	50	41	34	29	31	26	23	22	19	16	13	12	10	7					7			
7	53	41	33	28	46	37	30	25	28	23	20	20	17	14	12	10	9	6					6			
8	49	37	30	25	43	33	27	22	25	21	17	18	15	13	11	9	8	5					5			
9	45	34	26	22	40	30	24	20	23	18	15	16	13	11	10	8	7	5					5			
10	42	31	24	19	37	27	21	17	21	17	14	15	12	10	9	8	6	4					4			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3446	3446	3446
5°	3457	3367	3378
10°	3435	3313	3310
15°	3404	3249	3231
20°	3358	3179	3155
25°	3306	3100	3070
30°	3249	3021	2983
35°	3185	2941	2907
40°	3134	2865	2828
45°	3058	2793	2759
50°	2994	2713	2687
55°	2928	2636	2603
60°	2824	2538	2526
65°	2708	2435	2431
70°	2572	2315	2320
75°	2379	2183	2220
80°	2166	2057	2123
85°	1893	1946	2065



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.4	0.6
10°-20°	115.8	1.7
20°-30°	175.1	2.5
30°-40°	211.9	3.1
40°-50°	224.0	3.3
50°-60°	210.8	3.1
60°-70°	174.9	2.5
70°-80°	122.9	1.8
80°-90°	74.5	1.1
90°-100°	101.1	1.5
100°-110°	412.4	6.0
110°-120°	751.1	10.9
120°-130°	939.0	13.7
130°-140°	997.3	14.5
140°-150°	928.9	13.5
150°-160°	748.3	10.9
160°-170°	482.6	7.0
170°-180°	166.3	2.4
0°-30°	331.4	4.8
0°-40°	543.2	7.9
0°-60°	978.1	14.2
0°-90°	1350.3	19.6
90°-120°	1264.6	18.4
90°-150°	4129.8	60.0
90°-180°	5527.0	80.4
0°-180°	6877.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	427	427	427	427	427	
5°	427	426	422	426	426	41
15°	410	410	409	413	412	115
25°	375	378	379	384	385	173
35°	328	334	338	345	347	205
45°	273	282	292	299	302	211
55°	214	224	238	248	251	191
65°	148	164	180	191	196	147
75°	82	100	120	133	138	87
85°	25	46	67	81	86	27
90°	12	45	76	97	104	8
95°	78	52	70	90	97	98
105°	399	416	440	460	421	417
115°	739	748	761	774	778	727
125°	1037	1042	1051	1063	1068	925
135°	1285	1284	1292	1302	1308	990
145°	1481	1484	1484	1488	1493	925
155°	1623	1624	1620	1625	1622	748
165°	1712	1706	1706	1715	1704	484
175°	1751	1744	1745	1755	1741	167
180°	1751	1751	1751	1751	1751	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	428.4	428.1	427.9	427.6	427.4	426.9	426.3	425.6	424.9	424.1	424.7
5°	427.4	427.0	426.7	426.4	426.1	425.6	424.7	424.0	423.3	422.5	423.4
7.5°	423.7	423.5	423.3	423.1	422.9	422.5	421.9	421.3	420.7	420.1	421.0
10°	420.6	420.5	420.4	420.3	420.2	419.9	419.4	418.8	418.3	417.8	418.7
12.5°	416.5	416.4	416.4	416.4	416.4	416.2	415.8	415.5	415.1	414.8	415.6
15°	409.6	409.8	409.9	410.0	410.1	410.0	409.6	409.3	409.0	408.7	409.6
17.5°	400.4	400.7	401.0	401.3	401.6	401.8	401.7	401.6	401.6	401.5	402.5
20°	393.8	394.2	394.6	394.9	395.2	395.4	395.5	395.6	395.7	395.8	396.9
22.5°	386.6	387.0	387.4	387.8	388.2	388.5	388.7	388.9	389.1	389.3	390.3
25°	374.8	375.4	376.1	376.7	377.3	377.8	378.1	378.4	378.7	379.1	380.2
27.5°	361.5	362.5	363.5	364.4	365.3	366.0	366.5	367.0	367.5	368.0	369.0
30°	352.7	353.7	354.5	355.3	356.2	357.0	357.7	358.4	359.2	359.9	361.1
32.5°	343.3	344.3	345.3	346.3	347.3	348.2	349.0	349.8	350.7	351.5	352.8
35°	327.9	329.2	330.4	331.7	333.1	334.2	335.3	336.3	337.4	338.4	339.9
37.5°	312.6	314.0	315.5	316.9	318.4	319.7	321.1	322.4	323.8	325.1	326.6
40°	302.6	304.0	305.4	306.7	308.1	309.5	311.0	312.6	314.0	315.5	317.1
42.5°	291.1	292.7	294.2	295.8	297.3	298.9	300.7	302.5	304.2	305.9	307.7
45°	273.4	275.4	277.4	279.4	281.4	283.5	285.5	287.5	289.5	291.5	293.4
47.5°	256.5	258.6	260.6	262.8	264.8	267.0	269.3	271.8	274.1	276.4	278.2
50°	244.3	246.6	248.9	251.3	253.6	255.9	258.3	260.6	263.0	265.3	267.4
52.5°	232.1	234.4	236.7	239.0	241.4	243.9	246.5	249.2	251.9	254.6	256.7
55°	214.2	216.4	218.6	220.9	223.1	225.8	228.9	232.2	235.3	238.5	240.7
57.5°	194.2	196.9	199.7	202.5	205.2	208.1	211.4	214.5	217.6	220.9	223.4
60°	181.2	183.9	186.7	189.5	192.2	195.3	198.8	202.4	205.8	209.3	211.8
62.5°	168.5	171.6	174.6	177.6	180.6	183.9	187.3	190.9	194.4	197.9	200.4
65°	148.1	151.6	155.0	158.3	161.8	165.3	168.8	172.5	176.1	179.8	182.4
67.5°	128.6	132.2	135.8	139.5	143.0	146.7	150.7	154.5	158.3	162.2	164.9
70°	115.2	118.8	122.4	126.0	129.7	133.5	137.5	141.6	145.6	149.7	152.5
72.5°	102.2	105.9	109.6	113.3	116.9	121.0	125.2	129.6	133.8	138.1	140.9
75°	82.2	86.1	90.1	94.0	98.0	102.1	106.6	111.1	115.5	120.0	123.0
77.5°	63.6	67.8	71.9	76.0	80.2	84.6	89.3	94.0	98.7	103.3	106.3
80°	52.1	56.4	60.6	64.8	69.1	73.5	78.3	82.9	87.6	92.3	95.4
82.5°	40.6	45.0	49.5	53.9	58.3	62.8	67.6	72.2	76.9	81.6	84.8
85°	25.3	29.8	34.2	38.7	43.2	47.8	52.6	57.4	62.1	67.0	70.1
87.5°	14.9	19.9	24.8	29.9	34.8	39.9	45.0	50.1	55.2	60.4	63.8
90°	11.6	19.0	26.5	33.9	41.4	48.6	55.4	62.3	69.3	76.1	81.0
92.5°	23.7	27.8	31.8	35.7	39.8	45.2	52.1	59.0	65.9	72.8	77.6
95°	78.3	71.9	65.4	59.1	52.7	51.8	56.5	61.1	65.7	70.4	75.0
97.5°	158.6	167.8	177.0	186.2	195.4	185.9	157.7	129.6	101.4	73.2	76.1
100°	220.0	228.0	236.1	244.1	252.1	238.0	202.1	166.0	130.0	93.9	91.9
102.5°	289.2	295.5	301.7	308.0	314.3	316.8	315.7	314.5	313.3	312.1	261.5
105°	398.6	402.4	406.3	410.2	414.0	418.7	424.0	429.5	434.8	440.2	445.5
107.5°	500.9	503.5	506.1	508.8	511.4	515.5	521.2	526.9	532.6	538.3	542.2
110°	569.7	572.1	574.4	576.7	579.2	583.0	588.4	594.0	599.5	604.9	607.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	636.3	639.2	642.2	645.0	647.9	651.6	655.9	660.2	664.6	669.0	671.3
115°	739.0	740.8	742.7	744.5	746.3	748.8	751.9	755.0	758.1	761.2	764.2
117.5°	831.9	833.6	835.4	837.1	838.9	841.6	845.5	849.2	853.0	856.9	859.0
120°	894.4	895.9	897.4	898.9	900.3	902.5	905.2	908.1	910.8	913.6	916.4
122.5°	953.1	953.8	954.6	955.3	956.1	958.2	961.5	964.8	968.2	971.5	973.9
125°	1036.7	1037.7	1038.8	1039.9	1041.0	1042.5	1044.6	1046.6	1048.7	1050.8	1053.7
127.5°	1116.2	1116.4	1116.6	1116.8	1117.0	1118.7	1122.2	1125.5	1128.9	1132.3	1134.0
130°	1167.2	1167.4	1167.6	1167.7	1167.9	1169.3	1171.8	1174.5	1177.0	1179.6	1181.8
132.5°	1214.4	1214.8	1215.2	1215.6	1216.0	1217.5	1219.9	1222.4	1224.9	1227.3	1229.4
135°	1284.6	1284.3	1284.0	1283.7	1283.4	1284.2	1286.2	1288.1	1290.0	1291.9	1294.1
137.5°	1347.3	1347.3	1347.3	1347.3	1347.3	1348.1	1349.7	1351.4	1353.0	1354.6	1356.9
140°	1388.1	1388.6	1389.1	1389.5	1390.0	1390.6	1391.3	1392.0	1392.6	1393.3	1395.6
142.5°	1424.4	1425.4	1426.4	1427.4	1428.5	1429.2	1429.5	1429.8	1430.0	1430.3	1432.1
145°	1480.6	1481.4	1482.2	1482.9	1483.7	1484.1	1484.1	1484.1	1484.1	1484.1	1485.0
147.5°	1525.4	1526.9	1528.4	1529.9	1531.5	1532.2	1531.9	1531.6	1531.3	1531.0	1531.3
150°	1557.9	1558.9	1560.0	1561.0	1562.2	1562.5	1562.3	1562.0	1561.7	1561.4	1561.4
152.5°	1584.8	1585.7	1586.6	1587.5	1588.4	1588.6	1588.1	1587.5	1587.0	1586.5	1587.0
155°	1623.0	1623.2	1623.5	1623.8	1624.1	1623.8	1623.0	1622.0	1621.1	1620.3	1621.4
157.5°	1655.2	1655.0	1654.8	1654.6	1654.5	1653.9	1652.8	1651.8	1650.9	1649.9	1651.4
160°	1674.0	1673.1	1672.2	1671.3	1670.5	1669.9	1669.6	1669.3	1669.0	1668.8	1670.5
162.5°	1690.7	1689.6	1688.6	1687.5	1686.4	1685.7	1685.4	1685.1	1684.8	1684.5	1686.2
165°	1712.0	1710.5	1709.1	1707.6	1706.2	1705.5	1705.5	1705.5	1705.5	1705.5	1707.8
167.5°	1728.8	1727.3	1725.8	1724.2	1722.7	1721.8	1721.7	1721.5	1721.3	1721.1	1723.7
170°	1738.2	1736.5	1734.6	1732.9	1731.2	1730.5	1730.7	1731.0	1731.3	1731.6	1733.9
172.5°	1744.4	1742.7	1741.0	1739.2	1737.5	1736.8	1737.1	1737.4	1737.6	1737.9	1740.2
175°	1751.3	1749.5	1747.8	1746.1	1744.2	1743.5	1743.8	1744.1	1744.4	1744.7	1747.4
177.5°	1754.4	1752.8	1751.1	1749.5	1747.9	1747.3	1747.8	1748.3	1748.7	1749.2	1751.0
180°	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	425.4	426.0	426.6	426.8	426.8	426.7	426.6	426.5
5°	424.2	425.1	426.0	426.4	426.3	426.1	426.0	425.9
7.5°	422.0	422.9	423.9	424.3	424.2	424.1	424.0	423.9
10°	419.7	420.6	421.6	422.0	421.9	421.8	421.7	421.6
12.5°	416.5	417.4	418.2	418.6	418.6	418.6	418.6	418.5
15°	410.6	411.5	412.5	412.9	412.8	412.7	412.6	412.5
17.5°	403.4	404.5	405.5	405.9	405.8	405.7	405.7	405.6
20°	397.9	399.0	400.0	400.6	400.6	400.6	400.6	400.6
22.5°	391.4	392.4	393.5	394.2	394.4	394.5	394.7	394.9
25°	381.4	382.5	383.7	384.4	384.5	384.6	384.7	384.8
27.5°	370.1	371.2	372.3	372.9	373.0	373.1	373.2	373.4
30°	362.2	363.5	364.6	365.3	365.5	365.8	366.0	366.2
32.5°	354.2	355.6	356.9	357.7	357.9	358.1	358.3	358.5
35°	341.4	342.8	344.4	345.3	345.6	345.9	346.3	346.6
37.5°	328.1	329.5	331.0	332.0	332.3	332.6	333.1	333.4
40°	318.7	320.2	321.8	322.9	323.3	323.8	324.2	324.6
42.5°	309.4	311.2	313.0	314.1	314.4	314.7	315.1	315.4
45°	295.2	297.0	298.8	299.9	300.5	301.0	301.5	302.1
47.5°	280.1	282.0	283.9	285.1	285.8	286.4	287.0	287.7
50°	269.5	271.7	273.8	275.2	275.8	276.4	277.1	277.7
52.5°	258.8	260.9	263.1	264.5	265.1	265.7	266.4	267.0
55°	242.8	244.9	247.0	248.4	249.0	249.6	250.3	251.0
57.5°	225.9	228.4	231.0	232.5	233.1	233.7	234.3	234.9
60°	214.3	216.7	219.1	220.8	221.7	222.5	223.4	224.2
62.5°	202.8	205.2	207.6	209.3	210.2	211.0	211.9	212.7
65°	185.0	187.7	190.4	192.1	193.0	193.8	194.7	195.5
67.5°	167.6	170.4	173.0	174.8	175.6	176.4	177.2	178.1
70°	155.3	158.2	161.1	162.9	163.6	164.4	165.1	165.8
72.5°	143.7	146.5	149.3	151.1	151.9	152.7	153.6	154.4
75°	125.9	128.9	131.9	133.8	134.8	135.7	136.7	137.6
77.5°	109.4	112.4	115.4	117.4	118.5	119.5	120.5	121.5
80°	98.7	101.8	105.0	107.0	107.9	108.8	109.6	110.4
82.5°	88.1	91.4	94.6	96.7	97.7	98.6	99.6	100.5
85°	73.3	76.4	79.7	81.8	82.8	83.9	84.9	86.0
87.5°	67.3	70.7	74.0	76.3	77.4	78.4	79.5	80.5
90°	85.8	90.6	95.4	98.6	100.0	101.4	102.9	104.3
92.5°	82.3	87.1	91.8	94.6	95.6	96.5	97.6	98.5
95°	79.7	84.2	88.9	91.8	93.0	94.3	95.5	96.7
97.5°	79.1	82.1	85.0	87.2	88.4	89.5	90.7	91.9
100°	89.8	87.8	85.6	85.1	86.1	87.2	88.3	89.3
102.5°	210.9	160.3	109.7	84.8	85.7	86.6	87.6	88.4
105°	450.8	456.1	461.3	459.2	449.5	439.9	430.3	420.6
107.5°	546.1	550.0	553.9	556.7	558.7	560.5	562.4	564.2
110°	611.0	614.0	617.0	619.4	621.1	622.8	624.5	626.2



TEST NUMBER: P332735-840

CATALOG NUMBER: S124DIW-S350D1340U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	673.5	675.7	677.9	680.0	682.1	684.0	685.9	687.9
115°	767.1	770.0	772.8	774.8	775.5	776.2	777.0	777.7
117.5°	861.0	863.1	865.3	866.7	867.4	868.1	868.9	869.6
120°	919.1	921.7	924.4	925.9	926.2	926.5	926.8	927.1
122.5°	976.4	978.9	981.4	982.7	982.8	983.0	983.2	983.4
125°	1056.5	1059.4	1062.4	1064.3	1065.2	1066.1	1067.0	1067.9
127.5°	1135.8	1137.5	1139.2	1140.3	1140.8	1141.3	1141.9	1142.3
130°	1184.1	1186.2	1188.4	1189.8	1190.5	1191.1	1191.7	1192.3
132.5°	1231.5	1233.7	1235.8	1237.1	1237.5	1237.9	1238.3	1238.7
135°	1296.5	1298.7	1301.0	1302.7	1303.9	1305.3	1306.5	1307.7
137.5°	1359.1	1361.2	1363.4	1364.7	1365.0	1365.4	1365.7	1366.1
140°	1397.9	1400.1	1402.3	1403.9	1404.7	1405.5	1406.3	1407.1
142.5°	1434.0	1435.8	1437.6	1438.9	1439.4	1439.9	1440.4	1440.9
145°	1485.9	1486.8	1487.7	1488.7	1489.8	1490.8	1491.8	1492.8
147.5°	1531.6	1531.9	1532.3	1532.7	1533.4	1534.0	1534.6	1535.2
150°	1561.4	1561.4	1561.4	1561.5	1561.8	1562.1	1562.4	1562.7
152.5°	1587.4	1587.9	1588.3	1588.5	1588.3	1588.1	1588.0	1587.8
155°	1622.7	1623.8	1625.0	1625.1	1624.3	1623.4	1622.4	1621.6
157.5°	1652.9	1654.5	1656.0	1656.0	1654.5	1652.9	1651.4	1649.9
160°	1672.2	1674.0	1675.8	1675.8	1674.0	1672.2	1670.5	1668.8
162.5°	1688.0	1689.7	1691.4	1691.3	1689.4	1687.4	1685.4	1683.4
165°	1710.1	1712.4	1714.8	1714.5	1712.0	1709.4	1706.8	1704.1
167.5°	1726.3	1728.8	1731.4	1731.2	1728.3	1725.4	1722.5	1719.6
170°	1736.3	1738.6	1740.9	1740.6	1737.8	1734.8	1731.9	1729.0
172.5°	1742.5	1744.9	1747.3	1746.9	1743.6	1740.5	1737.4	1734.2
175°	1750.0	1752.6	1755.2	1754.7	1751.3	1747.8	1744.2	1740.8
177.5°	1752.9	1754.7	1756.7	1756.2	1753.3	1750.6	1747.8	1744.9
180°	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3	1751.3

(END OF REPORT)