

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: P332736-840

Luminaire Tested: **S124DIW-S350D1340U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332736-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
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-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6158.4 lumens
Efficiency: N/A
Efficacy: 132.2 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

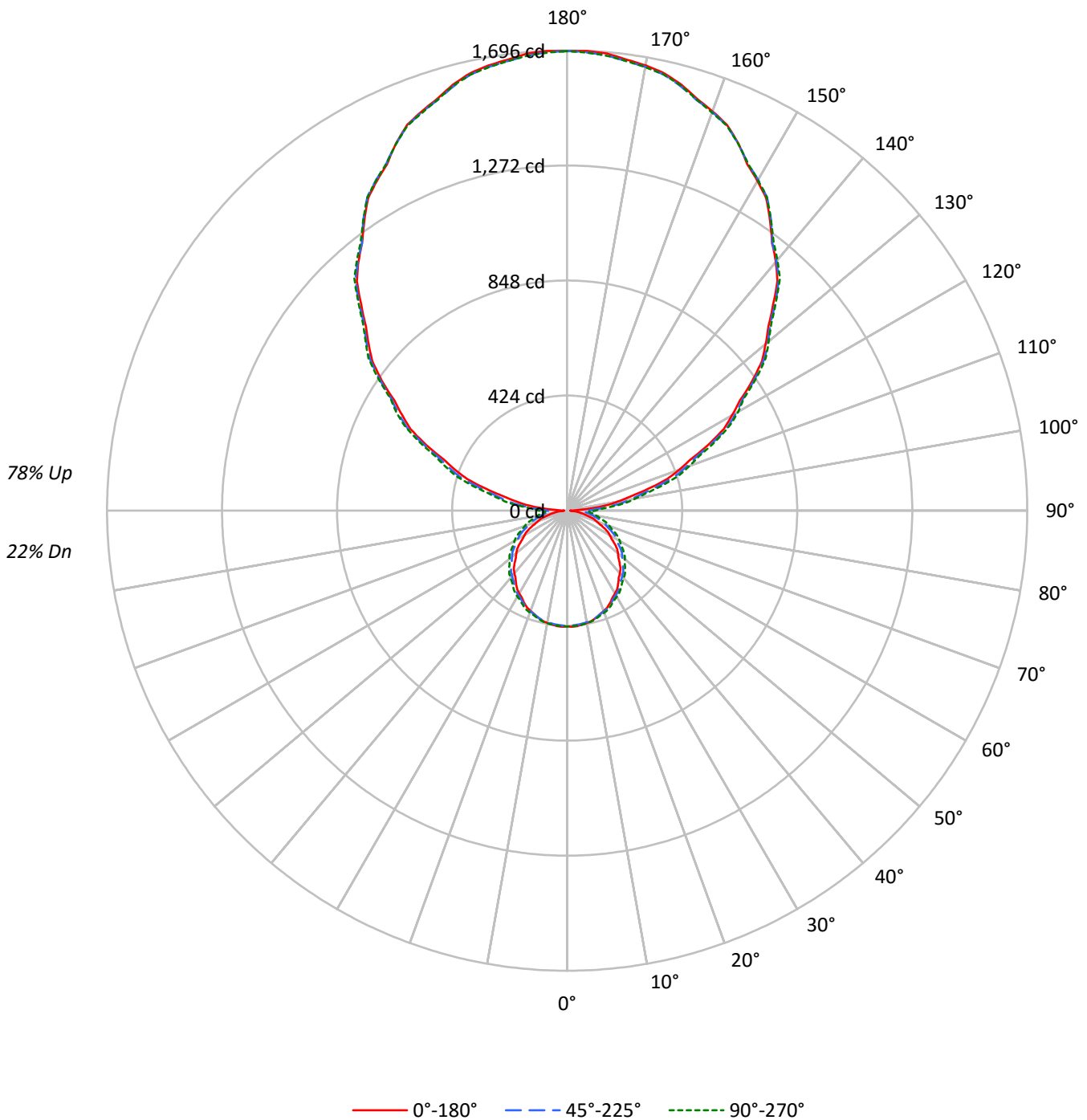
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332736-840

CATALOG NUMBER: S124DIW-S350D1340U840-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





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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	89	89	89	89	68	68	68	48	48	48	30	30	30	22				
1	91	87	83	79	80	77	74	71	58	56	54	42	40	39	26	25	25	18				
2	83	75	69	64	73	67	62	58	51	48	45	36	34	32	23	21	20	14				
3	75	66	59	53	66	59	53	48	45	41	37	32	29	27	20	18	17	12				
4	69	58	51	45	60	52	45	40	39	35	31	28	25	23	18	16	15	10				
5	63	52	44	38	55	46	39	34	35	30	27	25	22	20	16	14	13	9				
6	58	46	38	33	51	41	34	29	31	27	23	23	19	17	14	12	11	8				
7	53	41	34	28	47	37	30	26	28	24	20	20	17	15	13	11	10	7				
8	49	37	30	25	43	33	27	22	26	21	18	19	15	13	12	10	9	6				
9	46	34	27	22	40	30	24	20	23	19	16	17	14	12	11	9	8	5				
10	42	31	24	19	38	28	22	17	21	17	14	16	13	10	10	8	7	5				

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



TEST NUMBER: P332736-840

CATALOG NUMBER: S124DIW-S350D1340U840-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.4	0.7
10°-20°	115.8	1.9
20°-30°	175.1	2.8
30°-40°	211.9	3.4
40°-50°	224.0	3.6
50°-60°	210.8	3.4
60°-70°	174.9	2.8
70°-80°	122.9	2.0
80°-90°	74.5	1.2
90°-100°	152.9	2.5
100°-110°	361.4	5.9
110°-120°	582.1	9.5
120°-130°	752.1	12.2
130°-140°	836.6	13.6
140°-150°	818.2	13.3
150°-160°	687.3	11.2
160°-170°	457.3	7.4
170°-180°	160.1	2.6
0°-30°	331.4	5.4
0°-40°	543.2	8.8
0°-60°	978.1	15.9
0°-90°	1350.3	21.9
90°-120°	1096.4	17.8
90°-150°	3503.3	56.9
90°-180°	4808.0	78.1
0°-180°	6158.4	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	10
95°	85	112	141	157	162	92
105°	309	321	343	359	367	329
115°	574	579	591	600	602	566
125°	834	834	844	850	850	743
135°	1074	1081	1085	1089	1089	830
145°	1304	1308	1310	1311	1309	816
155°	1493	1493	1492	1496	1492	687
165°	1625	1621	1619	1626	1621	458
175°	1691	1685	1683	1691	1683	160
180°	1693	1693	1693	1693	1693	



TEST NUMBER: P332736-840

CATALOG NUMBER: S124DIW-S350D1340U840-4F0-1E-UDD-D1

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°	35.2	42.8	50.3	57.8	65.2	72.1	78.3	84.5	90.7	96.8	100.9
95°	84.8	90.9	97.0	103.2	109.3	115.5	122.0	128.4	134.7	141.1	144.8
97.5°	142.9	148.0	153.1	158.2	163.3	169.3	175.9	182.7	189.3	196.0	199.9
100°	188.6	192.6	196.4	200.4	204.3	209.6	216.4	223.2	229.9	236.7	240.1
102.5°	236.8	239.7	242.6	245.5	248.3	253.1	259.4	265.9	272.4	278.8	282.4
105°	309.4	311.8	314.3	316.7	319.1	322.9	328.0	333.1	338.2	343.3	346.8
107.5°	386.7	388.7	390.8	392.9	395.0	398.0	401.9	405.8	409.7	413.5	417.0
110°	438.7	440.7	442.7	444.8	446.9	449.7	453.1	456.6	459.9	463.3	465.2



TEST NUMBER: P332736-840

CATALOG NUMBER: S124DIW-S350D1340U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	492.7	494.1	495.6	497.1	498.5	500.7	503.7	506.8	509.8	512.8	515.0
115°	573.9	574.8	575.8	576.7	577.7	579.6	582.4	585.2	588.0	590.9	592.9
117.5°	650.8	651.6	652.4	653.2	654.0	655.8	658.5	661.4	664.1	666.8	668.0
120°	701.8	703.3	704.7	706.2	707.7	709.5	711.8	714.0	716.2	718.3	719.0
122.5°	755.2	755.7	756.3	756.8	757.3	758.8	761.3	763.9	766.3	768.8	770.0
125°	833.5	833.4	833.3	833.2	833.1	834.2	836.7	839.0	841.3	843.7	845.2
127.5°	904.9	905.7	906.5	907.3	908.1	909.2	910.8	912.3	913.9	915.5	916.9
130°	954.9	955.6	956.4	957.2	958.0	959.2	960.9	962.6	964.3	965.9	967.3
132.5°	1006.2	1006.7	1007.2	1007.8	1008.4	1009.2	1010.3	1011.5	1012.6	1013.7	1014.9
135°	1073.6	1075.3	1077.1	1078.8	1080.6	1081.8	1082.6	1083.3	1084.1	1084.8	1085.9
137.5°	1147.4	1148.1	1148.8	1149.5	1150.2	1151.0	1151.9	1152.7	1153.6	1154.4	1155.2
140°	1196.7	1197.2	1197.6	1198.1	1198.6	1198.9	1199.0	1199.1	1199.2	1199.3	1200.4
142.5°	1241.3	1241.9	1242.4	1243.0	1243.6	1243.7	1243.4	1243.1	1242.8	1242.5	1243.7
145°	1303.6	1304.6	1305.8	1306.8	1307.9	1308.5	1308.8	1309.1	1309.4	1309.7	1310.0
147.5°	1365.4	1366.8	1368.0	1369.3	1370.6	1371.1	1370.9	1370.7	1370.4	1370.2	1370.1
150°	1403.1	1404.2	1405.2	1406.3	1407.3	1407.9	1407.9	1407.9	1407.9	1407.9	1407.9
152.5°	1438.4	1439.1	1439.8	1440.4	1441.1	1441.6	1441.8	1442.0	1442.3	1442.5	1443.2
155°	1493.0	1493.0	1493.0	1493.0	1493.0	1492.9	1492.6	1492.3	1492.0	1491.8	1492.9
157.5°	1539.1	1538.6	1538.1	1537.5	1537.0	1536.7	1536.7	1536.6	1536.6	1536.5	1537.4
160°	1566.4	1566.1	1565.8	1565.5	1565.2	1564.9	1564.6	1564.4	1564.1	1563.8	1564.6
162.5°	1591.5	1590.7	1590.0	1589.2	1588.5	1588.0	1587.7	1587.4	1587.1	1586.8	1588.4
165°	1625.3	1624.5	1623.6	1622.7	1621.8	1621.1	1620.5	1619.9	1619.3	1618.7	1620.5
167.5°	1651.2	1650.0	1648.8	1647.6	1646.4	1645.8	1645.9	1645.9	1646.0	1646.0	1647.8
170°	1665.9	1664.5	1663.0	1661.5	1660.1	1659.5	1659.8	1660.1	1660.4	1660.6	1662.4
172.5°	1676.4	1675.2	1674.0	1672.7	1671.5	1670.9	1671.0	1671.0	1671.1	1671.1	1673.1
175°	1690.8	1689.3	1687.9	1686.5	1685.0	1684.1	1683.8	1683.5	1683.2	1682.9	1685.0
177.5°	1695.5	1694.4	1693.1	1692.0	1690.8	1690.3	1690.3	1690.3	1690.3	1690.3	1691.9
180°	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4



TEST NUMBER: P332736-840

CATALOG NUMBER: S124DIW-S350D1340U840-4F0-1E-UDD-D1

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	70.6	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°	105.0	109.1	113.1	115.7	116.8	118.1	119.3	120.5
95°	148.7	152.4	156.1	158.4	159.4	160.4	161.3	162.3
97.5°	203.7	207.5	211.4	213.8	214.7	215.6	216.5	217.4
100°	243.6	247.0	250.5	252.6	253.4	254.1	254.8	255.6
102.5°	286.0	289.6	293.2	295.5	296.6	297.6	298.7	299.7
105°	350.3	353.9	357.4	360.0	361.7	363.5	365.2	366.9
107.5°	420.4	423.8	427.3	429.3	430.0	430.7	431.4	432.1
110°	467.1	469.0	470.8	472.6	474.3	476.1	477.8	479.5



TEST NUMBER: P332736-840

CATALOG NUMBER: S124DIW-S350D1340U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	517.3	519.5	521.8	523.4	524.4	525.4	526.4	527.5
115°	594.9	597.0	599.1	600.3	600.8	601.2	601.7	602.1
117.5°	669.2	670.6	671.8	672.5	672.8	673.0	673.3	673.6
120°	719.7	720.3	721.0	722.1	723.6	725.0	726.4	727.8
122.5°	771.1	772.2	773.4	773.8	773.6	773.3	773.0	772.6
125°	846.6	848.0	849.5	850.2	850.3	850.3	850.4	850.4
127.5°	918.2	919.5	920.8	921.6	921.9	922.1	922.4	922.6
130°	968.7	970.0	971.3	971.7	971.2	970.7	970.1	969.6
132.5°	1016.2	1017.4	1018.7	1019.4	1019.6	1019.8	1019.9	1020.1
135°	1087.0	1088.1	1089.2	1089.7	1089.4	1089.2	1089.0	1088.7
137.5°	1156.0	1156.7	1157.5	1158.3	1159.0	1159.7	1160.4	1161.1
140°	1201.5	1202.5	1203.7	1204.4	1204.6	1204.8	1205.1	1205.3
142.5°	1244.9	1246.0	1247.2	1247.9	1248.3	1248.7	1249.1	1249.5
145°	1310.4	1310.7	1311.1	1311.0	1310.6	1310.1	1309.7	1309.2
147.5°	1369.9	1369.8	1369.6	1369.6	1369.6	1369.7	1369.7	1369.8
150°	1407.9	1407.9	1407.9	1407.8	1407.4	1407.1	1406.8	1406.6
152.5°	1443.9	1444.6	1445.3	1445.2	1444.5	1443.7	1443.0	1442.2
155°	1494.1	1495.2	1496.4	1496.4	1495.2	1494.1	1492.9	1491.8
157.5°	1538.2	1539.1	1540.0	1539.9	1538.9	1537.9	1537.0	1536.0
160°	1565.5	1566.4	1567.2	1566.9	1565.5	1564.1	1562.6	1561.2
162.5°	1589.9	1591.5	1593.1	1593.2	1591.6	1590.2	1588.8	1587.3
165°	1622.2	1624.0	1625.8	1626.1	1624.9	1623.7	1622.6	1621.3
167.5°	1649.5	1651.2	1652.9	1652.9	1651.1	1649.3	1647.6	1645.8
170°	1664.2	1665.9	1667.7	1667.5	1665.5	1663.4	1661.4	1659.4
172.5°	1675.1	1677.1	1679.1	1679.0	1677.0	1675.0	1672.9	1670.9
175°	1687.0	1689.0	1691.1	1691.1	1689.0	1687.0	1685.0	1682.9
177.5°	1693.5	1695.2	1696.8	1696.7	1694.9	1692.9	1691.1	1689.2
180°	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4

(END OF REPORT)