

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: P331517-840

Luminaire Tested: **S122DIW-S485D1240U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331517-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S485D1240U840-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1240 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7002.8 lumens
Efficiency: N/A
Efficacy: 130.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

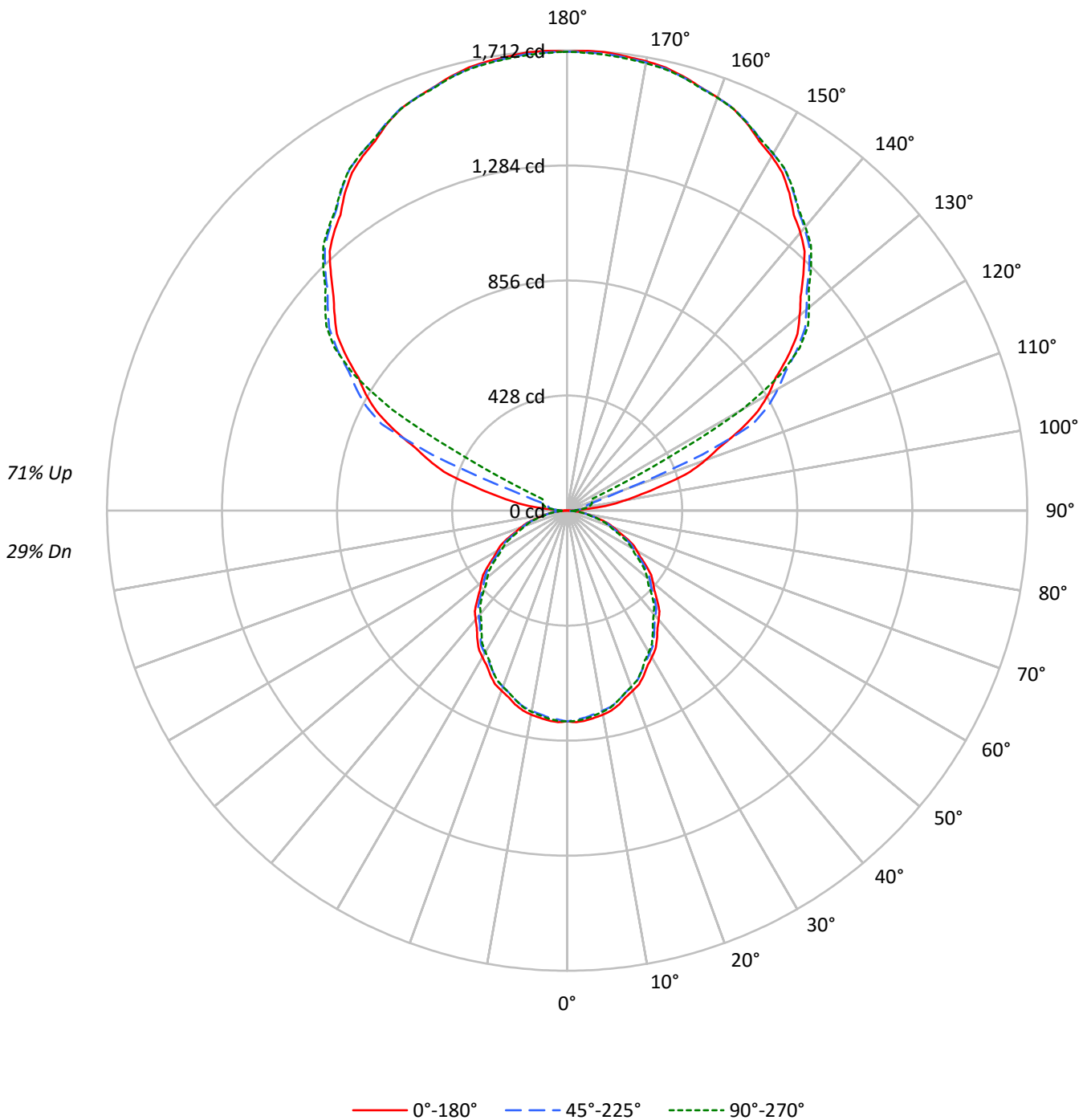
Input Watts (W): 53.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	29
1	93	89	85	82	83	80	76	74	62	60	58	47	45	44	32	31	31	24
2	85	77	72	67	75	70	65	60	55	51	48	41	39	37	28	27	26	20
3	77	68	61	55	69	61	55	50	48	44	41	36	33	31	25	23	22	17
4	70	60	52	47	63	54	48	43	43	38	34	32	29	27	22	20	19	15
5	65	53	46	40	58	48	41	36	38	33	30	29	26	23	20	18	16	13
6	59	48	40	34	53	43	36	31	34	29	26	26	23	20	18	16	14	11
7	55	43	35	30	49	39	32	27	31	26	22	24	20	18	17	14	13	10
8	51	39	31	26	45	35	29	24	28	23	20	21	18	16	15	13	11	9
9	47	35	28	23	42	32	26	21	26	21	18	20	16	14	14	12	10	8
10	44	32	25	21	39	29	23	19	24	19	16	18	15	13	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12665	12665	12665
5°	12713	12530	12603
10°	12637	12403	12463
15°	12481	12242	12227
20°	12259	12000	11986
25°	12039	11703	11703
30°	11757	11432	11332
35°	11491	11105	10941
40°	11160	10779	10570
45°	10832	10453	10195
50°	10477	10115	9756
55°	10106	9723	9362
60°	9691	9255	8913
65°	9249	8787	8382
70°	8686	8224	7832
75°	7904	7573	7392
80°	7011	6797	6453
85°	5724	5446	4891



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.8	1.1
10°-20°	207.5	3.0
20°-30°	305.0	4.4
30°-40°	354.3	5.1
40°-50°	354.0	5.1
50°-60°	308.7	4.4
60°-70°	228.2	3.3
70°-80°	129.3	1.8
80°-90°	39.0	0.6
90°-100°	56.9	0.8
100°-110°	208.8	3.0
110°-120°	558.2	8.0
120°-130°	921.5	13.2
130°-140°	980.0	14.0
140°-150°	910.9	13.0
150°-160°	732.3	10.5
160°-170°	471.9	6.7
170°-180°	162.4	2.3
0°-30°	586.3	8.4
0°-40°	940.7	13.4
0°-60°	1603.3	22.9
0°-90°	1999.7	28.6
90°-120°	824.0	11.8
90°-150°	3636.4	51.9
90°-180°	5003.0	71.4
0°-180°	7002.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	784	784	784	784	784	
5°	784	781	773	779	778	74
15°	747	742	732	735	732	210
25°	676	669	657	658	657	311
35°	583	575	563	559	555	364
45°	474	469	458	450	446	366
55°	359	354	345	337	333	321
65°	242	237	230	223	219	239
75°	127	125	121	117	118	135
85°	31	30	29	27	26	35
90°	1	15	25	31	33	5
95°	80	42	48	54	53	98
105°	376	392	75	88	94	401
115°	710	732	762	217	101	699
125°	1004	1021	1044	1052	1056	895
135°	1243	1262	1274	1285	1284	959
145°	1442	1442	1461	1469	1464	901
155°	1587	1578	1591	1598	1589	731
165°	1673	1666	1669	1677	1669	472
175°	1711	1703	1705	1712	1701	163
180°	1707	1707	1707	1707	1707	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
2.5°	788.0	787.3	786.7	786.0	785.3	784.3	782.7	781.3	779.8	778.3	779.7
5°	784.4	783.7	783.0	782.3	781.7	780.4	778.6	776.8	774.9	773.1	774.4
7.5°	777.4	776.4	775.4	774.3	773.3	771.8	769.9	768.1	766.2	764.3	765.7
10°	770.8	769.6	768.4	767.3	766.1	764.5	762.4	760.5	758.5	756.5	757.8
12.5°	761.7	760.7	759.6	758.6	757.6	756.1	754.1	752.0	750.0	748.0	748.9
15°	746.7	745.7	744.7	743.7	742.7	741.0	738.8	736.7	734.5	732.4	733.0
17.5°	727.3	726.4	725.4	724.4	723.4	721.8	719.5	717.3	715.1	712.9	713.7
20°	713.5	712.5	711.4	710.4	709.4	707.8	705.4	703.1	700.7	698.4	698.9
22.5°	699.6	698.2	696.8	695.4	694.0	692.2	689.9	687.7	685.5	683.3	683.4
25°	675.8	674.4	673.1	671.8	670.4	668.3	665.5	662.6	659.7	656.9	657.2
27.5°	648.6	647.4	646.2	645.0	643.8	642.1	639.9	637.5	635.3	633.1	632.6
30°	630.6	629.1	627.8	626.5	625.1	623.2	620.7	618.2	615.7	613.2	612.7
32.5°	611.2	610.2	609.0	607.9	606.9	605.0	602.4	599.8	597.1	594.5	593.6
35°	583.0	581.3	579.7	577.9	576.3	574.1	571.5	568.8	566.0	563.4	562.4
37.5°	551.2	549.7	548.3	546.7	545.2	543.2	540.5	537.9	535.1	532.5	531.2
40°	529.5	528.1	526.7	525.4	524.1	522.1	519.4	516.7	514.0	511.4	509.9
42.5°	508.4	507.0	505.6	504.3	503.0	501.0	498.3	495.6	492.9	490.2	488.6
45°	474.4	473.2	472.0	470.9	469.7	467.9	465.3	462.8	460.3	457.8	456.0
47.5°	440.6	439.5	438.4	437.3	436.2	434.3	431.7	429.1	426.5	423.8	421.9
50°	417.1	416.3	415.4	414.5	413.7	412.1	409.8	407.5	405.1	402.7	400.4
52.5°	394.2	393.0	391.9	390.8	389.7	388.1	385.9	383.6	381.4	379.2	377.3
55°	359.0	358.0	357.0	356.0	355.0	353.5	351.4	349.4	347.4	345.4	343.5
57.5°	323.7	322.9	322.0	321.3	320.5	319.0	316.8	314.6	312.4	310.1	308.1
60°	300.1	299.5	298.8	298.1	297.5	296.0	293.7	291.2	288.9	286.6	284.8
62.5°	277.2	276.2	275.1	274.0	273.0	271.6	269.7	267.9	266.1	264.3	262.6
65°	242.1	241.1	240.0	239.0	238.1	236.7	235.1	233.4	231.7	230.0	228.5
67.5°	206.3	205.5	204.7	203.9	203.1	202.0	200.5	198.9	197.4	195.9	194.8
70°	184.0	183.4	182.7	182.0	181.4	180.3	178.7	177.2	175.7	174.2	173.1
72.5°	161.1	160.5	159.8	159.1	158.4	157.6	156.6	155.6	154.7	153.7	152.5
75°	126.7	126.3	126.0	125.7	125.3	124.8	123.9	123.1	122.3	121.4	120.4
77.5°	95.9	95.3	94.8	94.2	93.6	93.2	92.9	92.5	92.2	91.9	91.4
80°	75.4	75.2	75.1	74.9	74.7	74.5	74.1	73.8	73.5	73.1	72.6
82.5°	56.1	56.0	56.0	56.0	55.9	55.8	55.6	55.4	55.2	55.0	54.4
85°	30.9	30.8	30.6	30.4	30.3	30.1	29.9	29.8	29.6	29.4	28.9
87.5°	11.1	11.4	11.8	12.1	12.4	12.7	12.8	13.0	13.2	13.4	13.2
90°	1.2	4.2	7.3	10.3	13.3	16.0	18.1	20.3	22.5	24.7	26.1
92.5°	24.9	24.6	24.4	24.1	23.8	24.2	25.3	26.5	27.6	28.7	29.4
95°	80.3	71.2	62.2	53.1	44.0	40.5	42.4	44.3	46.3	48.2	49.6
97.5°	159.4	133.8	108.3	82.8	57.3	46.7	51.1	55.5	60.1	64.5	65.5
100°	218.6	181.1	143.4	105.8	68.3	51.7	56.5	61.1	65.7	70.4	72.6
102.5°	283.9	275.9	267.9	260.0	252.1	228.5	189.5	150.5	111.4	72.4	75.2
105°	375.6	383.7	392.0	400.2	408.5	375.2	300.2	225.2	150.3	75.3	78.4
107.5°	480.1	486.7	493.3	500.0	506.6	465.0	375.2	285.3	195.4	105.5	102.4
110°	547.2	553.0	558.8	564.5	570.3	533.5	454.2	374.9	295.5	216.2	188.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	610.5	615.6	620.7	625.8	631.0	623.7	604.1	584.5	564.9	545.2	445.1
115°	710.3	715.0	719.6	724.3	729.0	734.8	741.6	748.5	755.4	762.2	635.1
117.5°	799.5	804.8	809.9	815.2	820.4	825.4	830.0	834.8	839.5	844.2	813.4
120°	864.7	868.9	872.9	877.1	881.2	885.8	890.7	895.6	900.6	905.4	908.8
122.5°	920.1	924.4	928.8	933.1	937.5	942.3	947.7	953.0	958.5	963.8	965.7
125°	1004.3	1007.8	1011.5	1015.0	1018.5	1023.0	1028.2	1033.4	1038.6	1043.9	1045.8
127.5°	1080.7	1084.6	1088.5	1092.6	1096.5	1100.4	1104.3	1108.2	1112.1	1116.0	1118.8
130°	1129.1	1133.5	1137.9	1142.3	1146.7	1150.3	1153.4	1156.4	1159.4	1162.5	1165.5
132.5°	1178.5	1182.2	1186.0	1189.7	1193.5	1196.8	1199.8	1202.9	1205.9	1208.9	1211.4
135°	1242.7	1247.1	1251.5	1255.9	1260.3	1263.7	1266.2	1268.7	1271.1	1273.6	1276.4
137.5°	1307.7	1310.8	1313.8	1317.0	1320.0	1322.9	1325.8	1328.6	1331.3	1334.1	1336.9
140°	1350.2	1352.4	1354.6	1356.8	1359.0	1361.6	1364.6	1367.7	1370.7	1373.7	1376.1
142.5°	1385.8	1387.8	1389.8	1391.7	1393.7	1396.4	1399.9	1403.3	1406.7	1410.3	1412.5
145°	1441.6	1441.4	1441.1	1440.8	1440.6	1442.7	1447.4	1452.1	1456.7	1461.4	1463.3
147.5°	1490.3	1489.2	1488.2	1487.1	1486.1	1487.9	1492.5	1497.1	1501.8	1506.3	1507.8
150°	1522.0	1520.0	1518.1	1516.1	1514.2	1515.5	1519.8	1524.3	1528.6	1533.1	1534.7
152.5°	1548.6	1546.5	1544.3	1542.2	1540.0	1541.1	1545.2	1549.4	1553.6	1557.7	1559.4
155°	1587.4	1584.9	1582.5	1579.9	1577.5	1577.9	1581.2	1584.5	1587.8	1591.1	1592.8
157.5°	1617.8	1615.7	1613.6	1611.5	1609.4	1609.5	1611.8	1614.2	1616.5	1618.8	1620.6
160°	1635.6	1634.0	1632.2	1630.6	1629.0	1629.0	1630.6	1632.2	1634.0	1635.6	1637.2
162.5°	1651.4	1649.7	1648.1	1646.5	1644.8	1644.7	1646.1	1647.5	1649.0	1650.4	1652.2
165°	1672.6	1671.0	1669.3	1667.7	1666.1	1665.7	1666.5	1667.3	1668.1	1668.9	1670.8
167.5°	1688.5	1686.8	1685.2	1683.5	1681.8	1681.4	1682.2	1682.9	1683.7	1684.5	1686.4
170°	1697.4	1695.7	1694.0	1692.4	1690.7	1690.2	1690.7	1691.3	1691.8	1692.4	1694.4
172.5°	1703.2	1701.6	1700.0	1698.3	1696.7	1696.2	1696.7	1697.2	1697.8	1698.3	1700.2
175°	1710.9	1709.0	1707.1	1705.2	1703.2	1702.5	1703.1	1703.6	1704.2	1704.8	1706.7
177.5°	1712.1	1710.6	1709.1	1707.6	1706.0	1705.4	1705.6	1705.8	1706.0	1706.3	1707.8
180°	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
2.5°	781.0	782.3	783.7	784.3	784.0	783.7	783.5	783.2
5°	775.8	777.1	778.4	778.9	778.6	778.2	777.9	777.6
7.5°	767.0	768.3	769.7	770.1	769.8	769.4	769.0	768.7
10°	759.1	760.5	761.8	762.2	761.7	761.2	760.7	760.2
12.5°	749.9	750.8	751.7	752.0	751.6	751.3	750.9	750.5
15°	733.7	734.4	735.0	734.9	734.1	733.3	732.5	731.5
17.5°	714.4	715.2	716.0	715.9	715.1	714.4	713.6	712.8
20°	699.4	699.9	700.4	700.3	699.6	698.9	698.3	697.6
22.5°	683.5	683.6	683.7	683.6	683.2	682.8	682.4	682.0
25°	657.6	657.9	658.2	658.2	657.9	657.6	657.2	656.9
27.5°	632.1	631.6	631.1	630.5	629.7	628.8	628.0	627.2
30°	612.2	611.7	611.2	610.6	609.9	609.3	608.5	607.8
32.5°	592.7	591.8	590.9	590.1	589.4	588.8	588.0	587.3
35°	561.4	560.4	559.4	558.5	557.6	556.7	555.9	555.1
37.5°	530.0	528.8	527.6	526.4	525.6	524.8	524.0	523.3
40°	508.4	506.9	505.3	504.2	503.5	502.9	502.2	501.5
42.5°	487.0	485.3	483.6	482.4	481.4	480.5	479.6	478.6
45°	454.1	452.3	450.4	449.2	448.5	447.9	447.2	446.5
47.5°	420.0	418.0	416.1	414.7	413.6	412.7	411.7	410.7
50°	398.1	395.7	393.3	391.7	390.9	390.1	389.2	388.4
52.5°	375.4	373.3	371.4	369.9	368.8	367.7	366.6	365.5
55°	341.4	339.4	337.4	336.0	335.1	334.3	333.5	332.6
57.5°	306.2	304.2	302.3	300.9	300.2	299.6	299.0	298.3
60°	282.9	281.0	279.2	278.0	277.5	277.0	276.5	276.0
62.5°	260.8	259.1	257.4	256.3	255.6	255.0	254.4	253.7
65°	227.0	225.5	224.0	222.8	222.0	221.2	220.4	219.4
67.5°	193.6	192.4	191.3	190.4	189.7	188.9	188.3	187.6
70°	171.9	170.7	169.6	168.6	167.9	167.2	166.6	165.9
72.5°	151.4	150.2	149.1	148.1	147.6	147.0	146.5	146.0
75°	119.4	118.5	117.4	117.0	117.4	117.8	118.1	118.5
77.5°	90.9	90.4	89.9	89.4	88.9	88.5	88.0	87.5
80°	72.1	71.6	71.2	70.7	70.4	70.1	69.7	69.4
82.5°	53.8	53.1	52.5	52.1	52.1	52.0	51.9	51.9
85°	28.4	27.9	27.4	27.1	26.9	26.8	26.6	26.4
87.5°	13.1	13.0	12.9	12.8	12.8	12.7	12.7	12.7
90°	27.5	28.8	30.2	31.2	31.7	32.2	32.8	33.3
92.5°	30.1	30.8	31.5	32.0	32.3	32.7	33.0	33.3
95°	50.9	52.3	53.6	54.2	53.9	53.6	53.4	53.1
97.5°	66.7	67.8	68.9	69.6	69.9	70.3	70.6	70.9
100°	74.8	77.0	79.2	80.6	81.1	81.7	82.2	82.8
102.5°	78.1	81.0	83.8	85.6	86.3	87.2	88.0	88.7
105°	81.4	84.4	87.5	89.5	90.6	91.7	92.8	93.9
107.5°	99.4	96.2	93.2	92.2	93.3	94.4	95.5	96.6
110°	161.3	133.8	106.3	93.2	94.3	95.4	96.5	97.6



TEST NUMBER: P331517-840

CATALOG NUMBER: S122DIW-S485D1240U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	345.0	244.9	144.7	95.0	95.9	96.8	97.7	98.6
115°	508.0	380.9	253.8	180.4	160.6	140.9	121.1	101.3
117.5°	782.7	751.9	721.2	673.4	608.4	543.5	478.6	413.5
120°	912.1	915.3	918.7	901.8	864.7	827.7	790.6	753.6
122.5°	967.8	969.8	971.7	969.1	961.9	954.7	947.6	940.3
125°	1047.7	1049.7	1051.6	1052.9	1053.7	1054.6	1055.4	1056.2
127.5°	1121.6	1124.4	1127.2	1128.7	1128.8	1129.0	1129.1	1129.3
130°	1168.5	1171.5	1174.5	1175.9	1175.6	1175.4	1175.1	1174.8
132.5°	1214.1	1216.6	1219.2	1220.3	1220.1	1219.8	1219.5	1219.3
135°	1279.1	1281.8	1284.6	1285.7	1285.2	1284.6	1284.0	1283.5
137.5°	1339.5	1342.2	1344.9	1345.7	1344.8	1343.9	1343.0	1342.0
140°	1378.7	1381.1	1383.6	1384.1	1382.7	1381.4	1380.0	1378.7
142.5°	1414.7	1417.0	1419.3	1419.7	1418.4	1416.9	1415.5	1414.2
145°	1465.2	1467.1	1469.1	1469.4	1467.9	1466.6	1465.2	1463.9
147.5°	1509.2	1510.7	1512.1	1512.2	1511.1	1509.8	1508.7	1507.6
150°	1536.3	1538.0	1539.6	1539.7	1538.4	1537.0	1535.6	1534.3
152.5°	1561.0	1562.7	1564.4	1564.3	1562.5	1560.6	1558.8	1557.0
155°	1594.4	1596.1	1597.7	1597.4	1595.2	1593.1	1590.8	1588.6
157.5°	1622.6	1624.4	1626.3	1626.1	1624.0	1621.8	1619.7	1617.5
160°	1638.9	1640.5	1642.1	1642.0	1640.1	1638.2	1636.3	1634.4
162.5°	1654.2	1656.0	1657.9	1657.6	1655.3	1652.8	1650.5	1648.2
165°	1672.7	1674.7	1676.6	1676.6	1674.7	1672.7	1670.8	1668.9
167.5°	1688.3	1690.2	1692.1	1691.9	1689.4	1687.0	1684.5	1682.0
170°	1696.3	1698.2	1700.1	1699.8	1697.4	1694.9	1692.4	1689.9
172.5°	1702.1	1704.0	1706.0	1705.8	1703.2	1700.8	1698.3	1695.9
175°	1708.6	1710.5	1712.4	1712.0	1709.3	1706.6	1703.7	1701.0
177.5°	1709.3	1710.8	1712.4	1712.1	1710.2	1708.2	1706.3	1704.2
180°	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2	1707.2

(END OF REPORT)