

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: P331515-840

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331515-840
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-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1240 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6992.7 lumens
Efficiency: N/A
Efficacy: 130.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

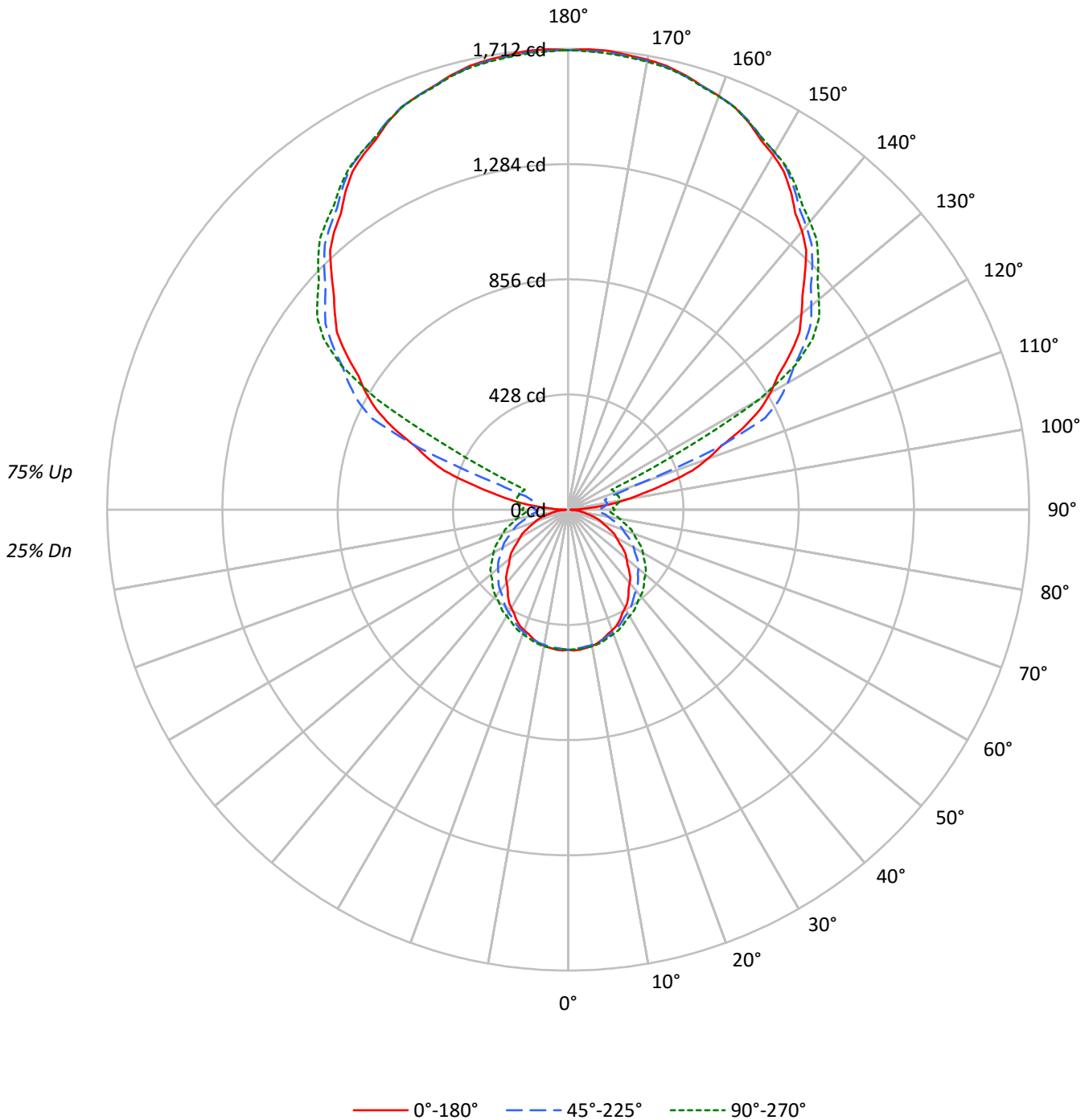
Input Watts (W): 53.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	90	90	90	90	70	70	70	51	51	51	33	33	33	25
1	91	87	83	79	81	77	74	71	60	57	55	43	42	41	28	27	27	20
2	83	75	69	64	73	67	62	58	52	48	45	38	35	33	24	23	22	16
3	75	66	59	53	67	59	53	48	45	41	38	33	30	28	21	20	18	13
4	69	58	50	44	61	52	45	40	40	35	32	29	26	23	19	17	15	11
5	63	52	44	38	56	46	39	34	36	31	27	26	23	20	17	15	13	9
6	58	46	38	32	51	41	34	29	32	27	23	23	20	17	15	13	12	8
7	53	41	33	28	47	37	30	25	29	24	20	21	18	15	14	12	10	7
8	49	37	30	25	44	33	27	22	26	21	18	19	16	13	13	11	9	6
9	46	34	27	22	41	30	24	20	24	19	16	18	14	12	12	10	8	6
10	43	31	24	19	38	28	22	17	22	17	14	16	13	11	11	9	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8402	8402	8402
5°	8443	8088	8058
10°	8390	7850	7761
15°	8275	7596	7448
20°	8129	7324	7148
25°	7984	7062	6875
30°	7780	6794	6601
35°	7575	6536	6409
40°	7360	6315	6215
45°	7153	6118	6051
50°	6934	5937	5888
55°	6700	5744	5722
60°	6417	5546	5546
65°	6122	5313	5339
70°	5796	5061	5115
75°	5371	4816	4908
80°	4707	4564	4698
85°	4070	4346	4535



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.3	0.7
10°-20°	141.4	2.0
20°-30°	214.3	3.1
30°-40°	261.0	3.7
40°-50°	280.8	4.0
50°-60°	272.7	3.9
60°-70°	238.1	3.4
70°-80°	183.3	2.6
80°-90°	127.2	1.8
90°-100°	141.7	2.0
100°-110°	270.7	3.9
110°-120°	599.1	8.6
120°-130°	944.3	13.5
130°-140°	989.6	14.2
140°-150°	912.5	13.0
150°-160°	732.3	10.5
160°-170°	471.9	6.7
170°-180°	162.4	2.3
0°-30°	405.0	5.8
0°-40°	666.0	9.5
0°-60°	1219.4	17.4
0°-90°	1768.0	25.3
90°-120°	1011.5	14.5
90°-150°	3857.9	55.2
90°-180°	5225.0	74.7
0°-180°	6992.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	520	520	520	520	520	
5°	522	520	515	519	519	49
15°	498	499	499	506	505	140
25°	452	458	464	473	476	208
35°	390	403	417	433	439	244
45°	320	340	367	389	398	247
55°	245	273	311	338	348	219
65°	167	205	249	279	290	166
75°	93	135	183	214	226	98
85°	27	74	122	153	164	29
90°	9	66	124	159	172	9
95°	86	84	135	168	178	103
105°	379	418	140	179	193	406
115°	713	745	808	284	177	702
125°	1006	1024	1069	1097	1109	897
135°	1243	1263	1282	1309	1314	960
145°	1442	1442	1461	1474	1472	902
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°	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4
2.5°	523.4	523.0	522.6	522.2	521.8	521.1	520.2	519.3	518.4	517.4	518.1
5°	521.9	521.4	520.9	520.4	519.9	519.2	518.2	517.2	516.1	515.1	516.1
7.5°	517.3	516.8	516.5	516.2	515.9	515.3	514.5	513.8	513.0	512.2	513.4
10°	513.6	513.3	512.9	512.6	512.3	511.9	511.4	510.9	510.4	509.9	511.2
12.5°	507.6	507.7	507.8	507.8	507.9	507.7	507.4	507.0	506.5	506.2	507.6
15°	497.8	498.1	498.5	498.8	499.1	499.3	499.3	499.3	499.3	499.3	500.8
17.5°	485.1	485.8	486.6	487.3	488.0	488.6	489.1	489.6	490.2	490.7	492.2
20°	476.7	477.5	478.4	479.2	480.0	480.8	481.4	482.1	482.8	483.4	485.2
22.5°	467.6	468.6	469.6	470.5	471.5	472.4	473.4	474.3	475.2	476.3	478.1
25°	452.5	453.7	454.8	456.1	457.2	458.6	460.1	461.6	463.1	464.5	466.6
27.5°	434.4	436.4	438.3	440.2	442.0	443.9	445.7	447.5	449.2	451.0	453.5
30°	422.3	424.5	426.7	428.9	431.1	433.2	435.5	437.6	439.8	441.9	444.6
32.5°	409.1	411.5	413.9	416.5	418.9	421.4	423.9	426.6	429.1	431.7	434.7
35°	389.9	392.7	395.7	398.5	401.3	404.3	407.5	410.7	413.8	417.1	420.7
37.5°	369.1	372.4	375.7	379.0	382.2	386.0	390.1	394.2	398.3	402.4	406.6
40°	355.3	358.9	362.6	366.3	370.0	374.1	378.6	383.1	387.7	392.2	396.6
42.5°	341.9	345.7	349.3	353.0	356.7	361.1	366.4	371.5	376.8	381.9	386.7
45°	319.8	324.3	328.8	333.4	337.9	343.1	348.9	354.8	360.7	366.6	371.7
47.5°	297.9	302.9	307.8	312.7	317.6	323.6	330.4	337.3	344.2	351.0	356.5
50°	282.9	288.0	293.3	298.4	303.6	309.9	317.5	325.1	332.6	340.1	345.9
52.5°	268.3	273.8	279.2	284.8	290.2	296.9	304.9	312.8	320.7	328.7	334.5
55°	245.1	251.2	257.2	263.2	269.2	276.6	285.4	294.1	302.8	311.4	317.5
57.5°	222.2	229.0	235.8	242.6	249.4	257.2	266.1	275.0	283.9	292.8	299.3
60°	205.9	213.1	220.4	227.5	234.7	243.1	252.7	262.2	271.8	281.3	287.7
62.5°	191.4	198.8	206.4	213.9	221.4	229.8	239.3	248.9	258.5	268.0	274.8
65°	167.4	175.6	183.9	192.1	200.3	209.3	219.2	229.1	239.0	248.9	255.8
67.5°	145.4	154.0	162.6	171.2	179.8	189.0	199.2	209.3	219.4	229.5	236.5
70°	129.8	138.5	147.1	155.8	164.6	174.1	184.5	194.9	205.3	215.7	222.9
72.5°	115.2	124.2	133.2	142.2	151.2	161.0	171.5	182.0	192.5	203.0	210.2
75°	92.8	102.2	111.5	120.9	130.3	140.4	151.1	161.8	172.6	183.3	190.5
77.5°	71.1	80.9	90.7	100.5	110.4	120.7	131.6	142.5	153.4	164.3	171.5
80°	56.6	66.8	77.1	87.3	97.5	108.1	119.0	129.8	140.7	151.6	158.6
82.5°	44.5	54.6	64.6	74.7	84.8	95.4	106.4	117.4	128.5	139.6	146.5
85°	27.2	37.6	48.0	58.4	68.7	79.3	90.0	100.7	111.5	122.2	129.3
87.5°	15.0	25.7	36.3	46.9	57.4	68.3	79.5	90.6	101.8	112.9	120.1
90°	8.8	21.5	34.2	47.0	59.8	72.6	85.5	98.5	111.4	124.2	132.3
92.5°	31.9	40.7	49.5	58.3	67.0	77.1	88.6	100.0	111.4	122.8	130.1
95°	86.3	85.1	83.9	82.8	81.6	87.1	99.0	111.0	122.9	134.9	142.7
97.5°	164.6	146.1	127.5	109.1	90.6	88.4	102.4	116.5	130.7	144.7	152.0
100°	223.9	192.5	161.1	129.7	98.3	89.6	103.7	117.8	131.8	145.8	154.2
102.5°	288.5	286.3	284.0	281.7	279.3	263.3	233.4	203.4	173.5	143.6	152.5
105°	379.3	392.4	405.5	418.6	431.7	405.2	338.9	272.7	206.4	140.2	149.1
107.5°	483.6	494.2	504.7	515.2	525.8	490.3	408.8	327.2	245.7	164.2	166.7
110°	550.3	559.4	568.5	577.6	586.7	555.7	484.6	413.4	342.3	271.2	249.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	613.5	621.5	629.3	637.3	645.2	643.3	631.5	619.7	607.9	596.1	501.3
115°	713.4	719.8	726.4	732.9	739.3	749.8	764.3	778.6	793.0	807.5	685.4
117.5°	801.7	808.2	814.7	821.0	827.5	836.5	848.2	859.9	871.6	883.3	857.5
120°	867.0	871.8	876.6	881.3	886.2	894.3	906.1	917.7	929.3	941.0	949.0
122.5°	922.3	927.0	931.5	936.1	940.8	948.9	960.6	972.3	983.9	995.6	1002.2
125°	1005.8	1009.4	1013.0	1016.5	1020.1	1027.1	1037.7	1048.3	1058.9	1069.4	1075.9
127.5°	1082.2	1085.9	1089.7	1093.5	1097.3	1103.3	1111.6	1119.7	1128.0	1136.2	1143.2
130°	1130.6	1134.8	1139.0	1143.3	1147.5	1152.9	1159.4	1166.0	1172.5	1179.0	1186.1
132.5°	1180.0	1183.6	1187.1	1190.7	1194.3	1198.9	1204.7	1210.4	1216.1	1221.8	1228.3
135°	1243.4	1247.9	1252.2	1256.7	1261.0	1265.4	1269.5	1273.6	1277.8	1281.9	1288.2
137.5°	1308.5	1311.5	1314.5	1317.6	1320.6	1323.9	1327.5	1331.0	1334.5	1338.1	1343.8
140°	1351.0	1353.0	1355.0	1357.1	1359.1	1361.8	1365.1	1368.5	1371.8	1375.2	1380.4
142.5°	1386.5	1388.4	1390.2	1392.0	1393.8	1396.4	1400.0	1403.5	1407.0	1410.6	1414.9
145°	1441.6	1441.4	1441.1	1440.8	1440.6	1442.7	1447.4	1452.1	1456.7	1461.4	1464.3
147.5°	1490.3	1489.2	1488.2	1487.1	1486.1	1487.9	1492.5	1497.1	1501.8	1506.3	1507.9
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°	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4
2.5°	518.8	519.4	520.1	520.3	520.0	519.8	519.5	519.2
5°	517.2	518.2	519.2	519.6	519.4	519.3	519.1	518.9
7.5°	514.6	515.8	517.1	517.6	517.5	517.3	517.1	516.9
10°	512.5	513.8	515.2	515.8	515.6	515.4	515.3	515.1
12.5°	508.9	510.3	511.6	512.2	512.0	511.8	511.7	511.5
15°	502.3	503.8	505.3	505.9	505.8	505.6	505.4	505.3
17.5°	493.8	495.4	497.0	497.8	497.8	497.8	497.8	497.8
20°	487.2	489.0	490.8	491.7	491.7	491.7	491.7	491.7
22.5°	479.9	481.7	483.6	484.6	484.9	485.1	485.4	485.7
25°	468.6	470.6	472.6	473.9	474.4	474.9	475.4	475.9
27.5°	456.2	458.7	461.2	462.6	463.0	463.4	463.7	464.1
30°	447.4	450.0	452.7	454.2	454.7	455.2	455.8	456.3
32.5°	437.9	440.9	444.0	446.1	447.0	447.9	448.8	449.7
35°	424.4	428.2	431.8	434.2	435.5	436.6	437.8	439.0
37.5°	410.6	414.8	418.8	421.4	422.7	423.9	425.2	426.5
40°	400.9	405.3	409.6	412.5	414.0	415.6	417.1	418.6
42.5°	391.4	396.2	400.9	404.1	405.6	407.1	408.6	410.1
45°	377.0	382.1	387.3	390.7	392.4	394.2	395.8	397.5
47.5°	361.8	367.3	372.7	376.4	378.2	380.0	381.9	383.7
50°	351.5	357.2	362.9	366.7	368.6	370.4	372.2	374.1
52.5°	340.3	346.2	352.0	355.9	357.9	359.9	361.8	363.9
55°	323.6	329.6	335.6	339.7	341.9	344.1	346.3	348.4
57.5°	305.8	312.3	318.8	323.2	325.4	327.6	329.8	332.0
60°	294.1	300.4	306.8	311.1	313.5	315.9	318.2	320.5
62.5°	281.6	288.3	295.1	299.6	301.8	304.1	306.3	308.5
65°	262.7	269.5	276.4	280.9	283.1	285.3	287.4	289.6
67.5°	243.5	250.3	257.3	262.0	264.2	266.5	268.8	271.0
70°	230.1	237.3	244.5	249.1	251.2	253.2	255.2	257.2
72.5°	217.2	224.3	231.4	236.1	238.4	240.9	243.3	245.7
75°	197.7	204.9	212.1	216.8	218.9	221.2	223.3	225.5
77.5°	178.6	185.8	193.0	197.7	200.1	202.4	204.8	207.1
80°	165.7	172.7	179.8	184.4	186.8	189.1	191.5	193.8
82.5°	153.6	160.7	167.6	172.3	174.5	176.7	178.9	181.2
85°	136.2	143.3	150.4	155.0	157.3	159.8	162.1	164.4
87.5°	127.1	134.3	141.4	146.1	148.3	150.6	152.8	155.1
90°	140.4	148.5	156.5	161.9	164.4	167.0	169.6	172.1
92.5°	137.3	144.6	151.9	156.7	159.1	161.4	163.8	166.1
95°	150.4	158.1	165.9	170.6	172.4	174.1	175.8	177.5
97.5°	159.4	166.6	173.9	178.7	181.1	183.4	185.6	187.9
100°	162.6	171.1	179.5	184.8	187.2	189.7	192.0	194.4
102.5°	161.5	170.4	179.3	185.0	187.6	190.3	192.9	195.5
105°	157.9	166.8	175.7	181.7	184.6	187.5	190.5	193.4
107.5°	169.3	171.9	174.4	177.1	180.1	183.0	186.0	188.9
110°	227.0	205.0	182.9	173.3	176.2	179.2	182.2	185.1



TEST NUMBER: P331515-840

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	406.6	311.7	217.0	171.0	173.7	176.4	179.2	181.9
115°	563.3	441.2	319.1	249.1	231.3	213.3	195.4	177.4
117.5°	831.7	806.0	780.1	735.7	672.4	609.2	545.9	482.7
120°	956.9	964.9	972.9	959.3	924.0	888.9	853.6	818.4
122.5°	1008.7	1015.2	1021.8	1022.2	1016.6	1011.0	1005.4	999.8
125°	1082.4	1088.8	1095.3	1099.6	1102.0	1104.3	1106.7	1109.0
127.5°	1150.1	1157.1	1164.1	1168.3	1169.9	1171.6	1173.3	1174.9
130°	1193.2	1200.1	1207.2	1211.2	1212.3	1213.4	1214.5	1215.5
132.5°	1234.8	1241.2	1247.7	1251.5	1252.5	1253.6	1254.7	1255.8
135°	1294.4	1300.7	1307.0	1310.5	1311.3	1312.1	1312.9	1313.6
137.5°	1349.6	1355.4	1361.2	1364.1	1364.3	1364.5	1364.7	1365.0
140°	1385.5	1390.7	1395.8	1398.2	1397.9	1397.5	1397.0	1396.7
142.5°	1419.4	1423.7	1428.2	1430.1	1429.6	1429.1	1428.6	1428.1
145°	1467.2	1470.2	1473.1	1474.3	1473.8	1473.2	1472.7	1472.2
147.5°	1509.4	1511.1	1512.6	1513.0	1512.3	1511.5	1510.8	1510.1
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)