

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: P331803-940

Luminaire Tested: **S122RDIW-S485D1440U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331803-940  
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: S122RDIW-S485D1440U940-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1440 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6654.2 lumens  
Efficiency: N/A  
Efficacy: 109.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

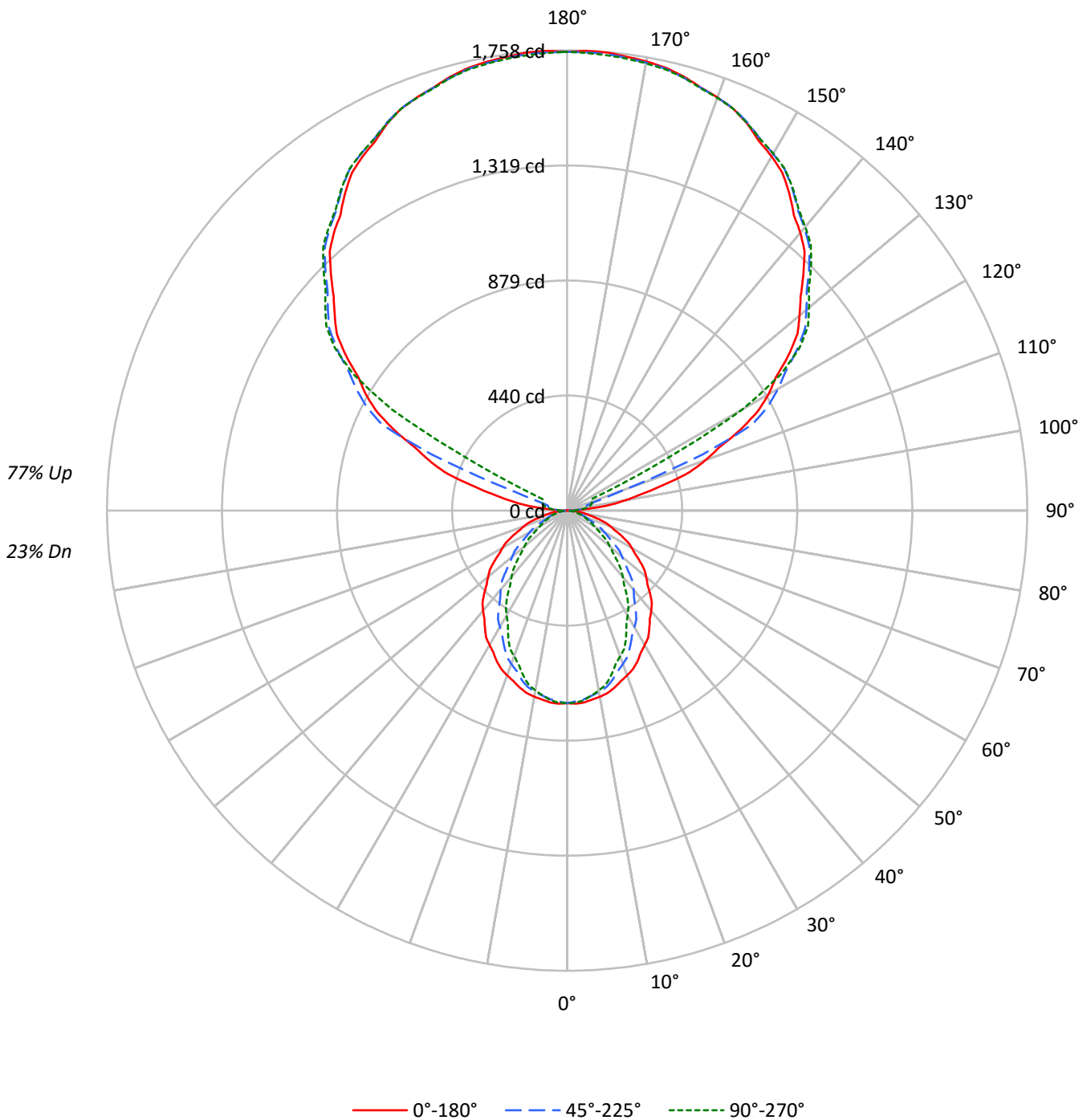
Input Watts (W): 60.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	89	89	89	89	68	68	68	49	49	49	31	31	31	23
1	92	88	84	81	81	78	75	72	60	58	56	43	42	41	28	27	27	20
2	84	77	71	66	74	68	64	60	53	50	47	38	36	34	25	24	23	17
3	77	68	61	55	68	60	55	50	47	43	39	34	31	29	22	21	20	14
4	70	60	53	47	62	54	47	42	41	37	34	30	27	25	20	18	17	13
5	64	53	46	40	57	48	41	36	37	33	29	27	24	22	18	16	15	11
6	59	48	40	35	52	43	36	31	33	29	25	25	22	19	16	15	13	10
7	55	43	35	30	48	39	32	28	30	26	22	22	19	17	15	13	12	9
8	50	39	32	27	45	35	29	24	27	23	20	20	17	15	14	12	11	8
9	47	35	28	24	42	32	26	22	25	21	17	19	16	13	13	11	10	7
10	44	32	26	21	39	29	23	19	23	19	16	17	14	12	12	10	9	7

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	11880	11880	11880
5°	11925	11733	11797
10°	11835	11540	11442
15°	11699	11198	10877
20°	11510	10710	10172
25°	11318	10156	9492
30°	11050	9587	8617
35°	10789	8966	7849
40°	10526	8323	6962
45°	10218	7604	6158
50°	9902	6875	5368
55°	9579	6092	4611
60°	9203	5270	3827
65°	8779	4424	3484
70°	8266	3644	3205
75°	7642	3319	2994
80°	6750	2966	2724
85°	5298	2353	2353



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.9	1.0
10°-20°	189.1	2.8
20°-30°	265.6	4.0
30°-40°	289.6	4.4
40°-50°	266.3	4.0
50°-60°	209.1	3.1
60°-70°	136.4	2.0
70°-80°	70.3	1.1
80°-90°	22.6	0.3
90°-100°	58.5	0.9
100°-110°	214.4	3.2
110°-120°	573.1	8.6
120°-130°	946.0	14.2
130°-140°	1006.1	15.1
140°-150°	935.1	14.1
150°-160°	751.8	11.3
160°-170°	484.5	7.3
170°-180°	166.8	2.5
0°-30°	523.6	7.9
0°-40°	813.2	12.2
0°-60°	1288.6	19.4
0°-90°	1517.9	22.8
90°-120°	846.0	12.7
90°-150°	3733.2	56.1
90°-180°	5136.0	77.2
0°-180°	6654.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	736	736	736	736	736	
5°	736	732	724	729	728	70
15°	700	692	670	658	651	197
25°	635	613	570	544	533	292
35°	547	512	455	414	398	342
45°	448	402	333	287	270	345
55°	340	287	216	178	164	304
65°	230	176	116	94	91	228
75°	122	77	53	49	48	130
85°	29	15	13	13	13	34
90°	1	15	25	32	34	5
95°	82	43	50	55	55	101
105°	386	402	77	91	96	412
115°	729	751	782	223	104	718
125°	1031	1048	1072	1080	1084	919
135°	1276	1296	1308	1319	1318	985
145°	1480	1480	1500	1508	1503	925
155°	1630	1620	1633	1640	1631	751
165°	1717	1710	1713	1721	1713	485
175°	1756	1748	1750	1758	1746	167
180°	1753	1753	1753	1753	1753	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8
2.5°	738.5	738.0	737.4	736.7	736.2	735.2	734.0	732.6	731.3	730.0	731.2
5°	735.8	735.1	734.4	733.7	732.9	731.6	729.7	727.7	725.9	723.9	725.2
7.5°	728.3	727.4	726.5	725.5	724.6	723.0	720.8	718.5	716.3	714.1	714.4
10°	721.9	720.9	719.8	718.8	717.7	715.8	712.8	709.8	706.9	703.9	703.5
12.5°	713.9	712.7	711.3	710.1	708.8	706.3	702.5	698.7	694.9	691.2	690.4
15°	699.9	698.3	696.7	695.0	693.4	690.1	685.0	680.0	675.0	669.9	667.2
17.5°	682.8	680.3	677.8	675.3	672.8	668.3	661.9	655.4	649.0	642.5	639.2
20°	669.9	667.0	664.1	661.1	658.1	652.9	645.5	638.1	630.7	623.3	619.6
22.5°	656.1	652.8	649.4	646.1	642.8	637.0	628.7	620.3	612.0	603.6	598.9
25°	635.3	630.6	625.9	621.1	616.4	609.1	599.3	589.6	579.8	570.1	564.0
27.5°	610.3	605.1	599.9	594.9	589.7	581.6	570.6	559.5	548.6	537.5	530.5
30°	592.7	587.1	581.5	575.9	570.2	561.5	549.7	537.8	525.9	514.2	506.6
32.5°	575.7	569.1	562.5	556.0	549.4	540.0	528.0	515.9	503.8	491.8	483.1
35°	547.4	539.8	532.4	524.8	517.2	506.9	493.9	480.9	467.9	454.9	445.5
37.5°	519.2	510.9	502.6	494.3	486.1	474.9	461.1	447.2	433.3	419.5	409.1
40°	499.4	490.6	481.7	472.9	464.0	452.4	438.0	423.7	409.3	394.9	384.4
42.5°	479.2	469.8	460.5	451.2	441.8	429.7	414.9	400.0	385.2	370.4	359.5
45°	447.5	437.7	427.7	417.8	407.9	395.1	379.6	364.1	348.5	333.0	322.4
47.5°	416.6	406.1	395.7	385.1	374.6	361.3	345.3	329.2	313.2	297.1	286.7
50°	394.2	383.7	373.3	362.7	352.2	338.9	322.5	306.3	290.0	273.7	263.5
52.5°	372.4	361.4	350.4	339.5	328.5	315.0	299.1	283.2	267.2	251.4	241.5
55°	340.3	328.8	317.2	305.7	294.2	280.4	264.4	248.4	232.4	216.4	207.6
57.5°	307.4	295.6	283.7	271.9	260.0	246.5	231.1	215.7	200.4	185.0	176.8
60°	285.0	273.2	261.4	249.5	237.6	224.2	208.9	193.7	178.4	163.2	155.6
62.5°	263.1	251.4	239.5	227.7	215.8	202.7	188.2	173.6	159.1	144.5	137.3
65°	229.8	217.8	205.8	193.8	181.8	169.2	155.9	142.5	129.2	115.8	110.8
67.5°	197.5	185.7	173.7	161.8	149.9	137.9	126.0	114.0	102.0	90.1	87.7
70°	175.1	163.6	152.0	140.5	128.9	118.1	107.9	97.6	87.5	77.2	75.8
72.5°	153.8	142.8	131.7	120.6	109.6	100.0	91.8	83.6	75.3	67.1	65.9
75°	122.5	112.2	101.8	91.5	81.1	73.4	68.4	63.3	58.3	53.2	52.3
77.5°	91.8	82.7	73.6	64.5	55.5	49.7	47.3	44.9	42.4	39.9	39.3
80°	72.6	65.0	57.5	49.9	42.4	37.9	36.4	35.0	33.4	31.9	31.4
82.5°	55.0	49.1	43.2	37.4	31.5	28.0	27.0	25.9	25.0	24.0	23.6
85°	28.6	25.5	22.4	19.4	16.2	14.4	14.0	13.6	13.1	12.7	12.7
87.5°	8.7	8.5	8.1	7.8	7.5	7.5	8.0	8.5	8.9	9.4	9.5
90°	1.2	4.4	7.5	10.6	13.6	16.3	18.6	20.9	23.1	25.3	26.8
92.5°	25.6	25.3	25.1	24.8	24.5	24.9	26.0	27.2	28.3	29.4	30.1
95°	82.4	73.1	63.8	54.6	45.2	41.6	43.5	45.5	47.5	49.5	50.8
97.5°	163.6	137.4	111.2	85.0	58.8	48.0	52.5	57.1	61.6	66.2	67.3
100°	224.4	185.8	147.2	108.6	70.0	53.1	57.9	62.7	67.5	72.3	74.5
102.5°	291.4	283.3	275.1	266.9	258.8	234.6	194.6	154.4	114.4	74.3	77.2
105°	385.6	394.0	402.4	410.9	419.4	385.1	308.2	231.2	154.3	77.4	80.4
107.5°	492.8	499.6	506.5	513.3	520.1	477.4	385.1	292.8	200.5	108.3	105.1
110°	561.9	567.8	573.6	579.6	585.5	547.7	466.3	384.9	303.4	221.9	193.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	626.8	632.0	637.2	642.5	647.7	640.2	620.2	600.0	579.9	559.8	457.0
115°	729.2	734.1	738.8	743.6	748.4	754.3	761.3	768.4	775.4	782.5	652.0
117.5°	820.8	826.2	831.5	836.9	842.2	847.3	852.1	857.0	861.8	866.7	835.2
120°	887.8	892.0	896.2	900.4	904.6	909.3	914.4	919.4	924.5	929.6	933.0
122.5°	944.6	949.0	953.5	958.0	962.4	967.4	972.9	978.4	983.9	989.4	991.5
125°	1031.1	1034.7	1038.4	1042.1	1045.7	1050.3	1055.6	1061.0	1066.3	1071.7	1073.6
127.5°	1109.5	1113.5	1117.6	1121.6	1125.7	1129.7	1133.7	1137.7	1141.7	1145.8	1148.6
130°	1159.1	1163.7	1168.1	1172.7	1177.2	1181.0	1184.1	1187.2	1190.3	1193.4	1196.5
132.5°	1209.9	1213.7	1217.5	1221.4	1225.2	1228.7	1231.8	1234.8	1238.0	1241.1	1243.8
135°	1275.9	1280.3	1284.9	1289.3	1293.9	1297.4	1299.9	1302.4	1305.0	1307.5	1310.4
137.5°	1342.6	1345.7	1348.9	1352.0	1355.1	1358.2	1361.0	1364.0	1366.8	1369.7	1372.4
140°	1386.2	1388.4	1390.7	1392.9	1395.2	1397.8	1401.0	1404.1	1407.2	1410.2	1412.8
142.5°	1422.7	1424.7	1426.7	1428.8	1430.8	1433.6	1437.2	1440.7	1444.2	1447.8	1450.1
145°	1480.1	1479.7	1479.4	1479.2	1478.9	1481.1	1485.9	1490.8	1495.5	1500.3	1502.3
147.5°	1530.0	1528.9	1527.9	1526.8	1525.7	1527.5	1532.2	1537.0	1541.8	1546.5	1547.9
150°	1562.5	1560.5	1558.5	1556.6	1554.5	1555.9	1560.3	1564.9	1569.3	1573.9	1575.6
152.5°	1589.8	1587.7	1585.5	1583.2	1581.1	1582.1	1586.4	1590.6	1594.9	1599.2	1600.9
155°	1629.7	1627.1	1624.6	1622.0	1619.5	1620.0	1623.4	1626.7	1630.1	1633.4	1635.1
157.5°	1660.9	1658.8	1656.6	1654.5	1652.3	1652.4	1654.7	1657.2	1659.5	1661.9	1663.8
160°	1679.1	1677.4	1675.8	1674.1	1672.4	1672.4	1674.1	1675.8	1677.4	1679.1	1680.8
162.5°	1695.3	1693.7	1692.0	1690.3	1688.6	1688.5	1690.0	1691.4	1692.9	1694.3	1696.3
165°	1717.2	1715.5	1713.8	1712.1	1710.4	1710.0	1710.8	1711.6	1712.5	1713.3	1715.4
167.5°	1733.4	1731.7	1730.0	1728.3	1726.6	1726.2	1727.0	1727.8	1728.6	1729.4	1731.3
170°	1742.6	1740.9	1739.2	1737.5	1735.8	1735.2	1735.8	1736.3	1736.9	1737.5	1739.5
172.5°	1748.6	1747.0	1745.3	1743.6	1741.9	1741.3	1741.9	1742.4	1743.0	1743.6	1745.5
175°	1756.5	1754.5	1752.6	1750.6	1748.6	1747.9	1748.5	1749.0	1749.6	1750.2	1752.1
177.5°	1757.7	1756.2	1754.6	1753.0	1751.4	1750.8	1751.0	1751.2	1751.4	1751.7	1753.3
180°	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8
2.5°	732.4	733.6	734.8	735.2	735.0	734.8	734.5	734.3
5°	726.6	727.9	729.2	729.7	729.2	728.8	728.3	727.9
7.5°	714.8	715.2	715.6	715.4	714.6	713.8	713.1	712.3
10°	703.0	702.6	702.1	701.5	700.6	699.7	698.8	697.9
12.5°	689.6	688.8	688.0	686.8	685.3	683.9	682.3	680.9
15°	664.3	661.6	658.7	656.6	655.1	653.6	652.1	650.7
17.5°	635.8	632.5	629.1	626.2	623.7	621.1	618.6	616.0
20°	615.9	612.2	608.5	605.0	601.8	598.5	595.3	592.0
22.5°	594.1	589.3	584.6	580.9	578.5	576.1	573.7	571.2
25°	557.9	551.9	545.8	541.6	539.4	537.2	535.0	532.8
27.5°	523.4	516.3	509.3	504.0	500.4	497.0	493.4	489.9
30°	499.0	491.5	483.9	478.1	474.1	470.2	466.2	462.2
32.5°	474.5	465.9	457.3	451.1	447.4	443.6	439.8	436.0
35°	436.2	426.9	417.6	411.3	408.0	404.7	401.5	398.2
37.5°	398.9	388.6	378.4	371.3	367.7	363.9	360.2	356.4
40°	373.9	363.4	352.8	345.7	341.9	338.0	334.1	330.3
42.5°	348.7	337.8	327.0	319.7	315.9	312.2	308.4	304.7
45°	311.9	301.5	291.0	283.9	280.4	276.8	273.2	269.7
47.5°	276.3	265.8	255.4	248.5	245.3	242.1	238.8	235.6
50°	253.2	243.1	232.8	226.2	223.1	220.0	216.9	213.7
52.5°	231.6	221.8	211.9	205.5	202.7	199.8	196.9	194.0
55°	198.7	189.8	180.9	175.0	172.3	169.4	166.7	163.8
57.5°	168.7	160.6	152.5	147.2	144.8	142.5	140.1	137.7
60°	148.0	140.5	133.0	128.0	125.6	123.2	120.9	118.5
62.5°	130.1	123.0	115.7	111.5	110.0	108.6	107.2	105.8
65°	105.8	100.8	95.8	93.0	92.6	92.1	91.7	91.2
67.5°	85.4	83.1	80.8	79.5	78.9	78.5	78.0	77.5
70°	74.3	72.9	71.3	70.3	69.7	69.1	68.5	67.9
72.5°	64.6	63.4	62.2	61.3	61.0	60.6	60.3	59.9
75°	51.2	50.2	49.1	48.5	48.4	48.2	48.1	48.0
77.5°	38.8	38.2	37.6	37.2	36.9	36.7	36.5	36.2
80°	30.8	30.2	29.6	29.3	29.3	29.3	29.3	29.3
82.5°	23.3	22.9	22.6	22.4	22.4	22.4	22.4	22.4
85°	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
87.5°	9.6	9.8	10.0	10.2	10.3	10.3	10.4	10.6
90°	28.2	29.6	31.0	32.0	32.5	33.1	33.7	34.2
92.5°	30.9	31.7	32.4	32.9	33.3	33.5	33.9	34.2
95°	52.3	53.7	55.1	55.6	55.4	55.1	54.8	54.6
97.5°	68.5	69.6	70.7	71.4	71.8	72.1	72.5	72.8
100°	76.8	79.1	81.3	82.8	83.3	83.8	84.4	85.0
102.5°	80.2	83.1	86.1	87.9	88.7	89.4	90.2	91.0
105°	83.6	86.7	89.8	91.8	93.0	94.2	95.2	96.4
107.5°	102.0	98.8	95.7	94.7	95.8	96.9	98.1	99.2
110°	165.6	137.4	109.2	95.7	96.8	97.9	99.1	100.2





TEST NUMBER: P331803-940

CATALOG NUMBER: S122RDIW-S485D1440U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	354.2	251.4	148.6	97.6	98.5	99.4	100.3	101.2
115°	521.6	391.0	260.6	185.1	164.9	144.5	124.3	104.0
117.5°	803.6	772.0	740.5	691.3	624.6	557.9	491.2	424.6
120°	936.4	939.8	943.2	925.8	887.8	849.7	811.6	773.6
122.5°	993.5	995.6	997.6	994.9	987.5	980.2	972.8	965.4
125°	1075.6	1077.5	1079.5	1080.9	1081.8	1082.6	1083.5	1084.3
127.5°	1151.5	1154.3	1157.2	1158.8	1158.9	1159.0	1159.2	1159.4
130°	1199.6	1202.7	1205.8	1207.2	1206.9	1206.7	1206.4	1206.0
132.5°	1246.3	1249.0	1251.7	1252.9	1252.6	1252.3	1252.1	1251.7
135°	1313.1	1316.0	1318.8	1319.9	1319.4	1318.8	1318.2	1317.7
137.5°	1375.2	1378.0	1380.7	1381.6	1380.6	1379.7	1378.8	1377.8
140°	1415.3	1417.9	1420.4	1420.9	1419.6	1418.2	1416.8	1415.3
142.5°	1452.4	1454.7	1457.1	1457.5	1456.1	1454.6	1453.3	1451.9
145°	1504.2	1506.2	1508.2	1508.5	1507.1	1505.7	1504.2	1502.9
147.5°	1549.4	1550.9	1552.4	1552.5	1551.3	1550.2	1548.9	1547.7
150°	1577.3	1579.0	1580.6	1580.7	1579.4	1578.0	1576.5	1575.1
152.5°	1602.6	1604.3	1606.0	1605.9	1604.0	1602.2	1600.4	1598.5
155°	1636.8	1638.5	1640.2	1639.9	1637.7	1635.5	1633.2	1630.9
157.5°	1665.7	1667.6	1669.6	1669.4	1667.2	1665.0	1662.8	1660.6
160°	1682.5	1684.2	1685.9	1685.8	1683.8	1681.8	1679.8	1677.8
162.5°	1698.2	1700.1	1702.0	1701.7	1699.3	1696.9	1694.5	1692.1
165°	1717.3	1719.3	1721.3	1721.3	1719.3	1717.3	1715.4	1713.3
167.5°	1733.3	1735.3	1737.2	1737.0	1734.5	1731.9	1729.4	1726.8
170°	1741.4	1743.4	1745.3	1745.1	1742.6	1740.0	1737.5	1734.9
172.5°	1747.5	1749.4	1751.4	1751.1	1748.6	1746.1	1743.6	1741.0
175°	1754.1	1756.0	1758.0	1757.7	1754.8	1751.9	1749.2	1746.3
177.5°	1754.8	1756.4	1758.0	1757.7	1755.7	1753.7	1751.7	1749.6
180°	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7	1752.7

(END OF REPORT)