

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: P331518-840

Luminaire Tested: **S122DIW-S485D1240U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331518-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
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-F1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6340.5 lumens  
Efficiency: N/A  
Efficacy: 117.9 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

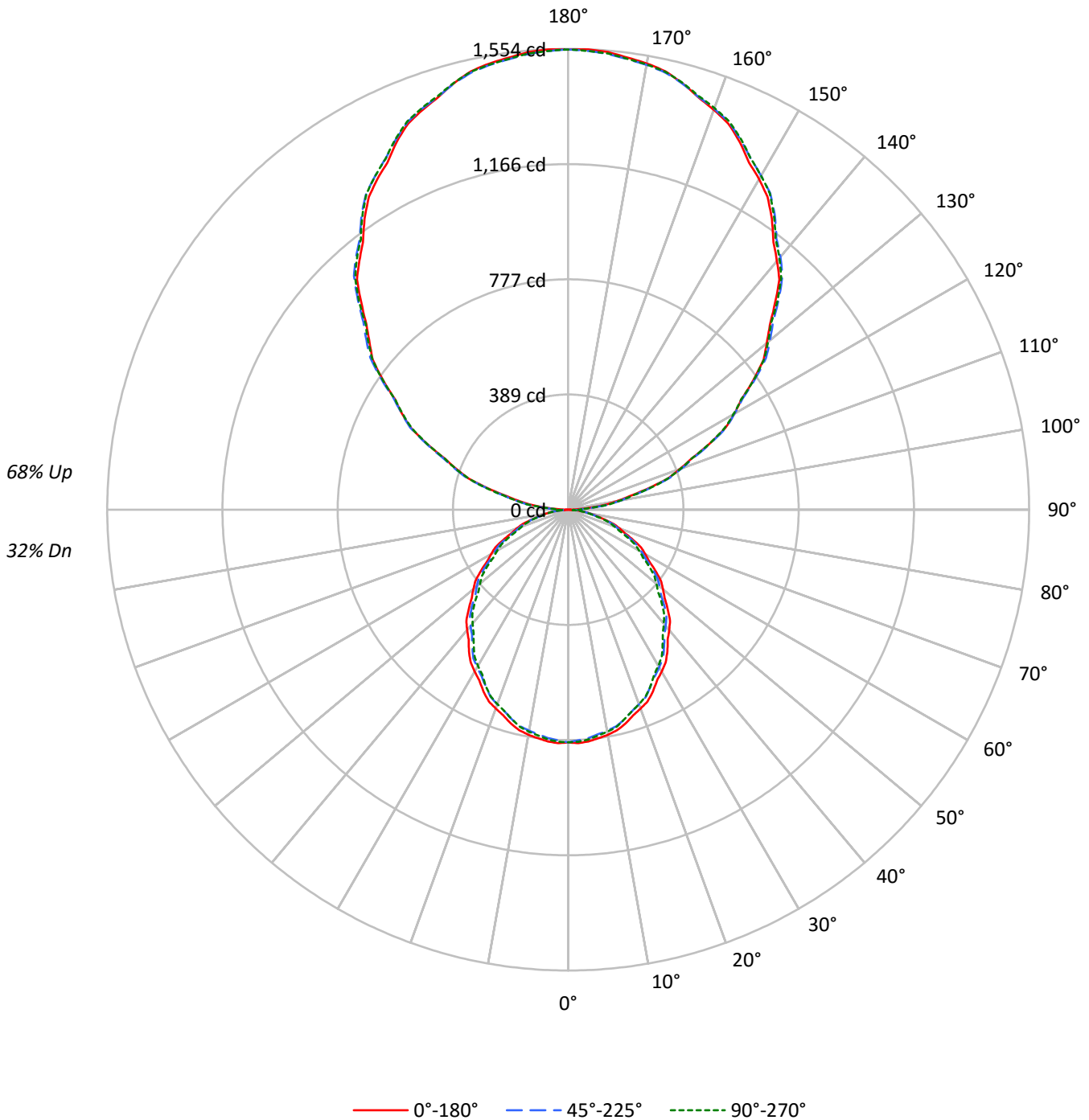
Input Watts (W): 53.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331518-840

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				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	103	103	103	103	92	92	92	92	73	73	73	55	55	55	39	39	39	39	39	39	32
1	94	89	86	82	84	81	77	74	64	62	60	49	47	46	35	34	33	33	33	33	27
2	85	78	72	67	76	70	65	61	56	52	49	43	40	38	30	29	28	28	28	28	22
3	78	69	61	56	70	62	56	51	49	45	42	38	35	32	27	25	24	24	24	24	19
4	71	61	53	47	64	55	48	43	44	39	35	34	30	28	24	22	20	20	20	20	16
5	65	54	46	40	58	49	42	37	39	34	30	30	27	24	22	19	18	18	18	18	14
6	60	48	40	35	54	44	37	32	35	30	26	27	24	21	20	17	16	16	16	16	12
7	55	43	36	30	50	39	33	28	32	27	23	25	21	18	18	16	14	14	14	14	11
8	51	39	32	27	46	36	29	25	29	24	20	22	19	16	16	14	12	12	12	12	10
9	48	36	28	24	43	33	26	22	26	22	18	21	17	15	15	13	11	11	11	11	9
10	44	33	26	21	40	30	24	19	24	20	16	19	16	13	14	12	10	10	10	10	8

**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



TEST NUMBER: P331518-840

CATALOG NUMBER: S122DIW-S485D1240U840-4F0-1E-UDD-F1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.8	1.2
10°-20°	207.5	3.3
20°-30°	305.0	4.8
30°-40°	354.3	5.6
40°-50°	354.0	5.6
50°-60°	308.7	4.9
60°-70°	228.2	3.6
70°-80°	129.3	2.0
80°-90°	40.9	0.6
90°-100°	98.3	1.6
100°-110°	305.4	4.8
110°-120°	522.0	8.2
120°-130°	686.4	10.8
130°-140°	770.4	12.2
140°-150°	755.4	11.9
150°-160°	633.6	10.0
160°-170°	420.3	6.6
170°-180°	146.9	2.3
0°-30°	586.3	9.2
0°-40°	940.7	14.8
0°-60°	1603.3	25.3
0°-90°	2001.7	31.6
90°-120°	925.7	14.6
90°-150°	3138.0	49.5
90°-180°	4339.0	68.4
0°-180°	6340.5	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	18	46	43	44	5
95°	68	81	84	84	81	78
105°	282	285	288	291	291	297
115°	524	531	529	528	524	518
125°	762	773	770	766	765	681
135°	986	1000	1003	1002	998	761
145°	1197	1206	1214	1215	1210	747
155°	1368	1372	1376	1382	1379	630
165°	1489	1488	1488	1496	1490	420
175°	1549	1545	1542	1551	1544	147
180°	1552	1552	1552	1552	1552	



TEST NUMBER: P331518-840

CATALOG NUMBER: S122DIW-S485D1240U840-4F0-1E-UDD-F1

**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	11.5	12.0	12.4	12.8	13.5	14.5	15.6	16.6	17.6	17.1
90°	1.3	4.8	8.3	11.8	15.2	20.2	26.7	33.0	39.4	45.8	45.2
92.5°	23.3	25.9	28.5	31.0	33.5	35.5	37.1	38.6	40.1	41.6	41.7
95°	68.1	71.0	73.9	76.9	79.8	81.5	82.1	82.6	83.2	83.8	83.8
97.5°	124.4	126.9	129.6	132.1	134.6	136.4	137.5	138.7	139.8	140.9	140.9
100°	166.3	168.6	171.0	173.3	175.6	177.2	178.0	178.9	179.9	180.7	180.7
102.5°	210.3	212.2	214.0	215.9	217.7	219.2	220.4	221.5	222.6	223.7	223.9
105°	281.6	282.4	283.3	284.2	285.0	285.8	286.3	286.9	287.5	288.1	288.6
107.5°	353.3	354.6	355.9	357.1	358.4	359.0	359.0	359.0	359.0	359.0	359.3
110°	399.4	401.1	402.8	404.7	406.4	407.3	407.3	407.3	407.3	407.3	407.3



TEST NUMBER: P331518-840

CATALOG NUMBER: S122DIW-S485D1240U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	449.7	451.4	453.1	454.9	456.7	457.4	457.2	457.0	456.7	456.5	455.8
115°	523.8	525.5	527.3	529.0	530.8	531.3	530.8	530.2	529.6	529.0	528.8
117.5°	597.6	600.0	602.3	604.6	606.9	607.3	605.6	604.0	602.4	600.8	600.1
120°	646.8	649.1	651.6	653.9	656.2	656.2	653.9	651.6	649.1	646.8	646.8
122.5°	691.9	694.7	697.5	700.2	703.1	703.7	702.1	700.4	698.7	697.1	696.4
125°	762.0	764.7	767.3	769.9	772.5	773.5	772.5	771.7	770.8	769.9	769.1
127.5°	830.4	833.7	837.1	840.4	843.7	844.9	843.8	842.7	841.7	840.6	839.6
130°	873.4	877.2	881.0	884.7	888.5	890.1	889.6	889.0	888.4	887.8	887.2
132.5°	921.6	924.6	927.8	930.8	933.9	935.5	935.6	935.7	935.8	935.9	934.7
135°	986.0	989.2	992.4	995.6	998.9	1000.7	1001.3	1001.9	1002.5	1003.0	1002.7
137.5°	1053.8	1056.4	1059.0	1061.7	1064.3	1066.0	1066.7	1067.5	1068.2	1069.0	1068.8
140°	1094.7	1097.3	1099.9	1102.6	1105.2	1107.2	1108.6	1110.1	1111.6	1113.0	1113.0
142.5°	1136.6	1139.2	1141.9	1144.5	1147.1	1148.8	1149.8	1150.8	1151.9	1152.9	1153.1
145°	1196.8	1198.9	1200.9	1203.0	1205.0	1206.9	1208.6	1210.3	1212.1	1213.9	1214.2
147.5°	1250.5	1252.9	1255.4	1257.9	1260.3	1262.1	1263.2	1264.5	1265.6	1266.8	1267.4
150°	1287.2	1288.9	1290.7	1292.4	1294.1	1295.7	1296.8	1298.0	1299.1	1300.3	1301.1
152.5°	1319.7	1321.4	1323.1	1324.8	1326.7	1328.2	1329.6	1331.0	1332.4	1333.8	1334.9
155°	1368.4	1369.3	1370.1	1371.0	1371.9	1372.7	1373.6	1374.4	1375.3	1376.2	1377.7
157.5°	1410.0	1410.6	1411.2	1411.8	1412.3	1412.9	1413.4	1413.9	1414.4	1415.0	1416.9
160°	1435.1	1435.7	1436.3	1436.9	1437.4	1437.9	1438.1	1438.5	1438.8	1439.1	1440.8
162.5°	1458.1	1458.3	1458.4	1458.5	1458.6	1458.9	1459.2	1459.5	1459.8	1460.1	1462.0
165°	1488.8	1488.5	1488.2	1487.9	1487.6	1487.5	1487.5	1487.5	1487.5	1487.5	1489.6
167.5°	1514.5	1513.6	1512.8	1511.9	1511.0	1510.6	1510.5	1510.5	1510.4	1510.3	1512.4
170°	1528.1	1527.2	1526.4	1525.5	1524.6	1524.1	1523.8	1523.5	1523.2	1522.9	1524.9
172.5°	1537.5	1536.7	1535.8	1534.9	1534.1	1533.5	1533.2	1532.9	1532.6	1532.3	1534.4
175°	1549.0	1548.2	1547.3	1546.4	1545.6	1544.9	1544.3	1543.7	1543.1	1542.5	1544.6
177.5°	1553.8	1553.1	1552.4	1551.7	1551.0	1550.4	1549.9	1549.4	1549.0	1548.5	1549.9
180°	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7



TEST NUMBER: P331518-840

CATALOG NUMBER: S122DIW-S485D1240U840-4F0-1E-UDD-F1

**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°	16.6	16.1	15.6	15.2	15.1	15.0	15.0	14.9
90°	44.6	44.1	43.5	43.3	43.6	43.9	44.2	44.5
92.5°	41.9	42.0	42.1	42.2	42.2	42.3	42.4	42.4
95°	83.8	83.8	83.8	83.5	82.9	82.3	81.8	81.2
97.5°	140.9	140.9	140.9	140.9	140.8	140.8	140.7	140.7
100°	180.7	180.7	180.7	180.6	180.3	180.0	179.7	179.4
102.5°	224.1	224.4	224.6	224.6	224.3	224.0	223.7	223.4
105°	289.2	289.8	290.4	290.7	290.7	290.7	290.7	290.7
107.5°	359.5	359.7	360.0	359.4	358.1	356.8	355.4	354.1
110°	407.3	407.3	407.3	406.8	406.0	405.1	404.1	403.3





TEST NUMBER: P331518-840

CATALOG NUMBER: S122DIW-S485D1240U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	455.0	454.3	453.6	453.0	452.3	451.7	451.1	450.4
115°	528.5	528.2	527.9	527.3	526.4	525.5	524.6	523.8
117.5°	599.4	598.6	597.9	597.2	596.3	595.4	594.6	593.7
120°	646.8	646.8	646.8	646.4	645.5	644.7	643.8	643.0
122.5°	695.8	695.1	694.4	693.7	693.1	692.4	691.8	691.2
125°	768.2	767.3	766.5	765.9	765.6	765.3	765.0	764.7
127.5°	838.6	837.5	836.5	835.5	834.6	833.6	832.7	831.7
130°	886.7	886.1	885.4	884.6	883.4	882.3	881.1	879.9
132.5°	933.4	932.1	930.9	929.8	928.9	927.9	927.0	926.0
135°	1002.5	1002.2	1001.9	1001.3	1000.4	999.6	998.7	997.7
137.5°	1068.5	1068.3	1068.1	1067.4	1066.2	1065.1	1063.9	1062.8
140°	1113.0	1113.0	1113.0	1112.5	1111.3	1110.1	1108.9	1107.8
142.5°	1153.3	1153.6	1153.8	1153.3	1152.2	1150.9	1149.8	1148.6
145°	1214.5	1214.8	1215.0	1214.6	1213.5	1212.2	1211.1	1209.9
147.5°	1268.0	1268.7	1269.3	1269.1	1268.0	1266.9	1265.8	1264.7
150°	1302.0	1302.9	1303.7	1303.7	1302.9	1302.0	1301.1	1300.3
152.5°	1336.1	1337.1	1338.2	1338.2	1337.1	1336.1	1334.9	1333.8
155°	1379.2	1380.6	1382.0	1382.3	1381.5	1380.6	1379.7	1378.9
157.5°	1419.0	1420.9	1422.9	1423.2	1421.8	1420.4	1419.0	1417.5
160°	1442.6	1444.3	1446.0	1446.3	1445.2	1444.0	1442.9	1441.7
162.5°	1464.0	1465.9	1467.9	1468.2	1466.8	1465.4	1464.0	1462.7
165°	1491.6	1493.6	1495.7	1495.9	1494.5	1493.1	1491.6	1490.2
167.5°	1514.4	1516.4	1518.4	1518.7	1517.2	1515.7	1514.2	1512.7
170°	1526.9	1528.9	1531.1	1531.2	1529.4	1527.7	1525.9	1524.2
172.5°	1536.4	1538.4	1540.4	1540.5	1538.8	1537.1	1535.4	1533.6
175°	1546.6	1548.6	1550.6	1550.8	1549.0	1547.3	1545.6	1543.8
177.5°	1551.4	1552.8	1554.1	1554.1	1552.8	1551.4	1549.9	1548.5
180°	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7

(END OF REPORT)