

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: P331524-840

Luminaire Tested: **S122DIW-S485D1440U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331524-840  
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-S485D1440U840-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1440 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7047.3 lumens  
Efficiency: N/A  
Efficacy: 116.3 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

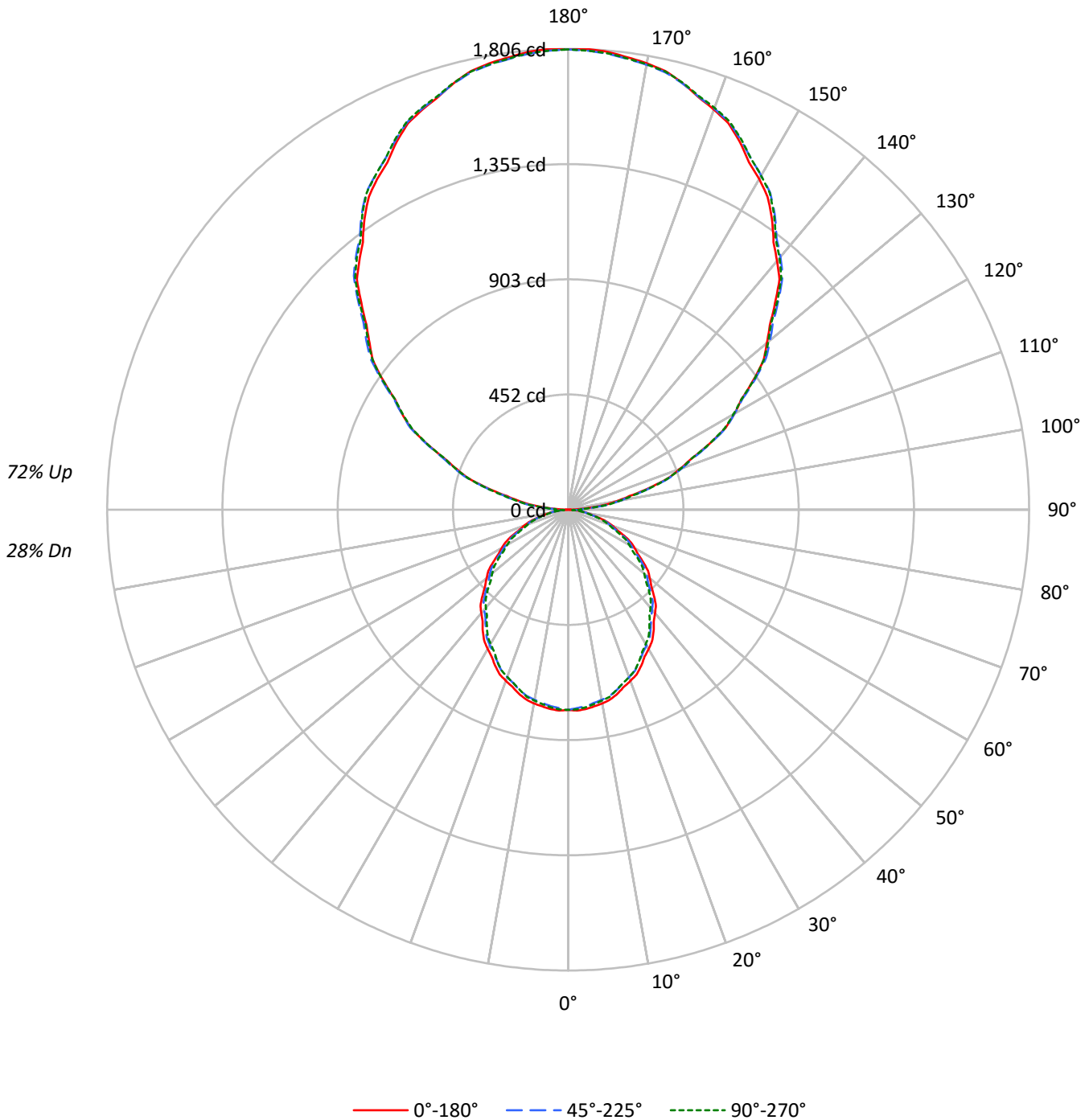
Input Watts (W): 60.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

**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	1.0
10°-20°	207.5	2.9
20°-30°	305.0	4.3
30°-40°	354.3	5.0
40°-50°	354.0	5.0
50°-60°	308.7	4.4
60°-70°	228.2	3.2
70°-80°	129.3	1.8
80°-90°	42.0	0.6
90°-100°	114.3	1.6
100°-110°	355.0	5.0
110°-120°	606.9	8.6
120°-130°	798.1	11.3
130°-140°	895.8	12.7
140°-150°	878.3	12.5
150°-160°	736.7	10.5
160°-170°	488.6	6.9
170°-180°	170.8	2.4
0°-30°	586.3	8.3
0°-40°	940.7	13.3
0°-60°	1603.3	22.8
0°-90°	2002.7	28.4
90°-120°	1076.2	15.3
90°-150°	3648.4	51.8
90°-180°	5045.0	71.6
0°-180°	7047.3	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°	2	21	53	50	52	6
95°	79	94	98	97	94	91
105°	327	332	335	338	338	346
115°	609	617	615	613	609	602
125°	886	899	895	891	889	791
135°	1146	1162	1166	1165	1160	885
145°	1392	1402	1411	1412	1407	869
155°	1591	1596	1600	1607	1603	732
165°	1731	1730	1730	1739	1732	488
175°	1801	1797	1793	1803	1795	171
180°	1804	1804	1804	1804	1804	



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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°	11.2	11.7	12.2	12.8	13.3	14.2	15.5	16.7	17.9	19.1	18.6
90°	1.5	5.6	9.6	13.7	17.8	23.5	31.0	38.4	45.8	53.3	52.6
92.5°	27.1	30.1	33.0	36.1	39.0	41.4	43.1	44.9	46.7	48.4	48.6
95°	79.2	82.5	85.9	89.3	92.7	94.7	95.4	96.0	96.7	97.5	97.5
97.5°	144.6	147.6	150.6	153.6	156.5	158.6	160.0	161.3	162.5	163.8	163.8
100°	193.4	196.0	198.7	201.5	204.2	206.0	207.0	208.0	209.0	210.1	210.1
102.5°	244.5	246.7	248.8	251.0	253.2	254.9	256.2	257.4	258.7	260.0	260.3
105°	327.3	328.3	329.3	330.3	331.3	332.2	333.0	333.6	334.3	335.0	335.6
107.5°	410.7	412.2	413.7	415.3	416.7	417.5	417.5	417.5	417.5	417.5	417.7
110°	464.3	466.4	468.4	470.4	472.4	473.5	473.5	473.5	473.5	473.5	473.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	522.8	524.8	526.8	528.9	530.9	531.8	531.5	531.3	531.0	530.7	529.9
115°	608.9	611.0	613.0	615.1	617.1	617.7	617.1	616.4	615.7	615.1	614.7
117.5°	694.9	697.5	700.2	703.0	705.7	706.1	704.2	702.3	700.3	698.5	697.7
120°	752.0	754.8	757.5	760.2	763.0	763.0	760.2	757.5	754.8	752.0	752.0
122.5°	804.5	807.7	810.9	814.2	817.5	818.1	816.3	814.4	812.4	810.5	809.7
125°	886.1	889.1	892.1	895.1	898.3	899.3	898.3	897.3	896.3	895.1	894.1
127.5°	965.5	969.4	973.2	977.1	981.0	982.3	981.1	979.9	978.7	977.4	976.1
130°	1015.4	1019.9	1024.3	1028.6	1033.1	1034.9	1034.2	1033.6	1032.9	1032.2	1031.6
132.5°	1071.5	1075.1	1078.6	1082.3	1085.8	1087.7	1087.8	1087.9	1088.1	1088.2	1086.7
135°	1146.4	1150.1	1153.9	1157.5	1161.2	1163.5	1164.2	1164.9	1165.5	1166.2	1165.9
137.5°	1225.3	1228.3	1231.3	1234.4	1237.4	1239.4	1240.3	1241.1	1242.0	1242.9	1242.6
140°	1272.7	1275.8	1278.9	1281.9	1285.0	1287.3	1289.0	1290.7	1292.4	1294.0	1294.0
142.5°	1321.5	1324.5	1327.6	1330.6	1333.6	1335.7	1336.9	1338.1	1339.2	1340.4	1340.6
145°	1391.5	1393.9	1396.2	1398.6	1401.0	1403.2	1405.2	1407.2	1409.3	1411.3	1411.6
147.5°	1453.9	1456.7	1459.6	1462.5	1465.3	1467.4	1468.7	1470.1	1471.5	1472.8	1473.6
150°	1496.5	1498.5	1500.7	1502.7	1504.7	1506.3	1507.7	1509.0	1510.5	1511.8	1512.8
152.5°	1534.3	1536.3	1538.3	1540.3	1542.5	1544.3	1545.9	1547.5	1549.1	1550.7	1552.1
155°	1590.9	1592.0	1593.0	1594.0	1595.0	1596.0	1597.0	1598.0	1599.0	1600.0	1601.7
157.5°	1639.3	1640.0	1640.7	1641.4	1642.0	1642.7	1643.4	1644.0	1644.6	1645.2	1647.4
160°	1668.6	1669.3	1669.9	1670.6	1671.3	1671.8	1672.1	1672.4	1672.8	1673.1	1675.2
162.5°	1695.4	1695.6	1695.7	1695.8	1696.0	1696.2	1696.5	1696.9	1697.2	1697.5	1699.8
165°	1731.0	1730.7	1730.3	1730.0	1729.7	1729.5	1729.5	1729.5	1729.5	1729.5	1731.8
167.5°	1760.8	1759.8	1758.8	1757.8	1756.8	1756.3	1756.2	1756.2	1756.1	1756.0	1758.4
170°	1776.7	1775.6	1774.6	1773.6	1772.6	1771.9	1771.6	1771.3	1770.9	1770.6	1772.9
172.5°	1787.7	1786.7	1785.6	1784.6	1783.6	1782.9	1782.6	1782.2	1781.9	1781.5	1783.9
175°	1801.0	1800.0	1799.0	1798.0	1797.0	1796.1	1795.4	1794.7	1794.1	1793.4	1795.8
177.5°	1806.5	1805.7	1804.9	1804.1	1803.3	1802.6	1802.0	1801.5	1801.0	1800.4	1802.0
180°	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1



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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°	18.1	17.5	17.0	16.7	16.6	16.6	16.5	16.4
90°	51.9	51.3	50.6	50.4	50.8	51.1	51.4	51.8
92.5°	48.7	48.8	49.0	49.1	49.1	49.2	49.3	49.3
95°	97.5	97.5	97.5	97.0	96.4	95.7	95.0	94.4
97.5°	163.8	163.8	163.8	163.8	163.7	163.6	163.6	163.5
100°	210.1	210.1	210.1	210.0	209.5	209.2	208.9	208.5
102.5°	260.5	260.8	261.2	261.1	260.7	260.4	260.0	259.7
105°	336.3	337.0	337.6	338.0	338.0	338.0	338.0	338.0
107.5°	418.0	418.3	418.5	417.9	416.4	414.8	413.2	411.6
110°	473.5	473.5	473.5	472.9	471.9	470.9	469.9	468.9





TEST NUMBER: P331524-840

CATALOG NUMBER: S122DIW-S485D1440U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	529.1	528.3	527.5	526.6	525.9	525.2	524.4	523.7
115°	614.4	614.0	613.7	613.0	612.0	611.0	610.0	608.9
117.5°	696.9	696.1	695.3	694.3	693.3	692.3	691.3	690.2
120°	752.0	752.0	752.0	751.5	750.5	749.5	748.5	747.5
122.5°	808.9	808.1	807.3	806.5	805.8	805.1	804.3	803.5
125°	893.1	892.1	891.1	890.5	890.1	889.8	889.5	889.1
127.5°	974.9	973.7	972.5	971.4	970.3	969.2	968.2	967.0
130°	1030.9	1030.2	1029.5	1028.4	1027.1	1025.8	1024.4	1023.1
132.5°	1085.3	1083.8	1082.3	1081.0	1079.9	1078.8	1077.7	1076.6
135°	1165.5	1165.2	1164.9	1164.2	1163.2	1162.2	1161.1	1160.1
137.5°	1242.3	1242.1	1241.8	1241.0	1239.7	1238.3	1237.0	1235.6
140°	1294.0	1294.0	1294.0	1293.4	1292.0	1290.7	1289.3	1288.0
142.5°	1340.9	1341.2	1341.4	1340.9	1339.6	1338.2	1336.9	1335.4
145°	1412.0	1412.3	1412.6	1412.1	1410.8	1409.5	1408.1	1406.7
147.5°	1474.3	1475.0	1475.8	1475.5	1474.2	1472.9	1471.7	1470.4
150°	1513.8	1514.8	1515.8	1515.8	1514.8	1513.8	1512.8	1511.8
152.5°	1553.3	1554.6	1555.9	1555.9	1554.6	1553.3	1552.1	1550.7
155°	1603.5	1605.2	1606.8	1607.2	1606.2	1605.2	1604.2	1603.2
157.5°	1649.7	1652.0	1654.4	1654.7	1653.0	1651.4	1649.8	1648.2
160°	1677.2	1679.2	1681.2	1681.6	1680.2	1678.9	1677.6	1676.2
162.5°	1702.1	1704.5	1706.7	1707.1	1705.5	1703.8	1702.2	1700.5
165°	1734.2	1736.6	1739.0	1739.3	1737.6	1736.0	1734.2	1732.5
167.5°	1760.7	1763.1	1765.4	1765.7	1764.0	1762.2	1760.5	1758.7
170°	1775.3	1777.7	1780.1	1780.2	1778.2	1776.2	1774.1	1772.1
172.5°	1786.2	1788.7	1791.0	1791.2	1789.2	1787.2	1785.1	1783.1
175°	1798.2	1800.5	1802.9	1803.1	1801.0	1799.0	1797.0	1794.9
177.5°	1803.7	1805.3	1807.0	1807.0	1805.3	1803.7	1802.0	1800.4
180°	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1	1804.1

(END OF REPORT)