

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: P331522

Luminaire Tested: **S122DIW-S485D1440U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331522  
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-S485D1440U835-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, DROP 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: 6968.4 lumens  
Efficiency: N/A  
Efficacy: 115.0 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

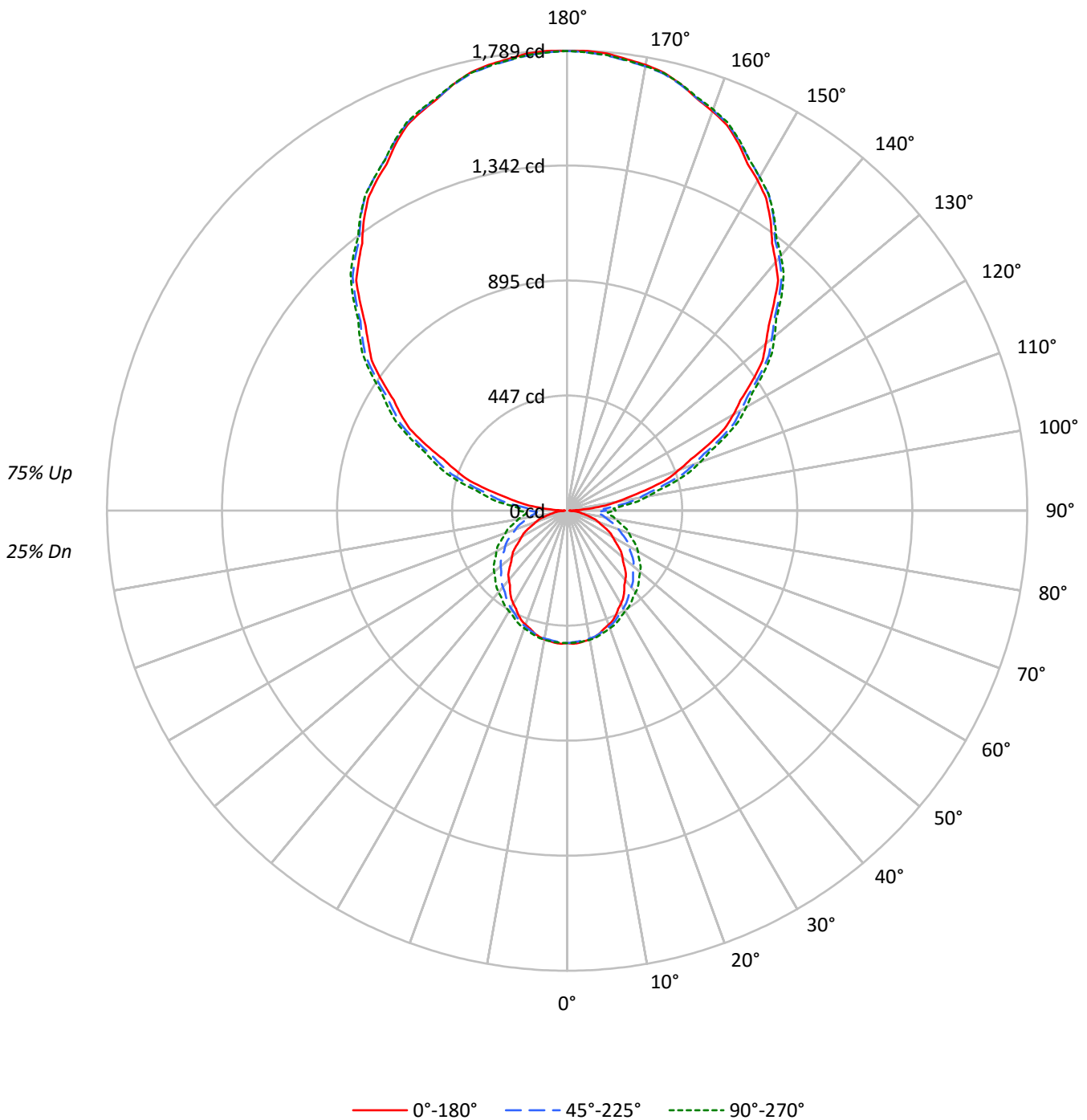
Input Watts (W): 60.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	40	28	27	27	20				
2	83	75	69	64	73	67	62	58	52	48	45	37	35	33	24	23	22	16				
3	75	66	59	53	67	59	53	48	45	41	37	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	51	43	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°	8320	8320	8320
5°	8361	8009	7978
10°	8308	7773	7685
15°	8193	7522	7376
20°	8049	7253	7078
25°	7906	6994	6809
30°	7704	6728	6536
35°	7501	6472	6346
40°	7287	6254	6154
45°	7084	6058	5992
50°	6865	5879	5830
55°	6634	5689	5666
60°	6355	5493	5493
65°	6063	5262	5287
70°	5738	5012	5065
75°	5319	4768	4860
80°	4657	4519	4652
85°	4025	4303	4491



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	48.8	0.7
10°-20°	140.0	2.0
20°-30°	212.2	3.0
30°-40°	258.4	3.7
40°-50°	278.0	4.0
50°-60°	270.0	3.9
60°-70°	235.8	3.4
70°-80°	181.5	2.6
80°-90°	128.9	1.9
90°-100°	197.1	2.8
100°-110°	412.9	5.9
110°-120°	641.5	9.2
120°-130°	812.9	11.7
130°-140°	896.5	12.9
140°-150°	871.4	12.5
150°-160°	729.5	10.5
160°-170°	483.8	6.9
170°-180°	169.1	2.4
0°-30°	401.0	5.8
0°-40°	659.5	9.5
0°-60°	1207.5	17.3
0°-90°	1753.7	25.2
90°-120°	1251.4	18.0
90°-150°	3832.2	55.0
90°-180°	5215.0	74.8
0°-180°	6968.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	515	515	515	515	515	
5°	517	514	510	514	514	49
15°	493	494	494	501	500	139
25°	448	453	460	469	471	206
35°	386	399	413	429	435	241
45°	317	337	363	385	394	244
55°	243	270	308	334	345	217
65°	166	203	246	276	287	165
75°	92	134	182	212	223	97
85°	27	73	121	151	163	29
90°	9	72	151	177	189	9
95°	84	134	182	210	217	95
105°	328	355	396	424	433	347
115°	606	624	654	674	678	599
125°	879	893	912	927	933	785
135°	1136	1152	1163	1176	1179	877
145°	1378	1388	1398	1403	1401	861
155°	1575	1580	1584	1591	1588	725
165°	1714	1713	1713	1722	1716	483
175°	1783	1779	1776	1785	1777	169
180°	1786	1786	1786	1786	1786	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	515.3	515.3	515.3	515.3	515.3	515.3	515.3	515.3	515.3	515.3	515.3
2.5°	518.3	517.9	517.5	517.1	516.7	516.0	515.1	514.2	513.3	512.3	513.0
5°	516.8	516.3	515.8	515.3	514.8	514.1	513.1	512.1	511.1	510.1	511.1
7.5°	512.2	511.8	511.5	511.2	510.9	510.3	509.5	508.8	508.0	507.2	508.4
10°	508.6	508.3	507.9	507.6	507.3	506.9	506.4	505.9	505.4	504.9	506.2
12.5°	502.6	502.7	502.8	502.8	502.9	502.7	502.4	502.0	501.6	501.3	502.6
15°	492.9	493.2	493.6	493.9	494.2	494.4	494.4	494.4	494.4	494.4	495.9
17.5°	480.4	481.1	481.8	482.5	483.2	483.8	484.3	484.8	485.4	485.9	487.4
20°	472.0	472.8	473.7	474.5	475.3	476.1	476.7	477.4	478.1	478.7	480.5
22.5°	463.0	464.0	465.0	465.9	466.9	467.8	468.8	469.7	470.6	471.6	473.4
25°	448.1	449.3	450.4	451.6	452.7	454.1	455.6	457.1	458.6	460.0	462.0
27.5°	430.2	432.1	434.0	435.9	437.7	439.6	441.3	443.1	444.8	446.6	449.1
30°	418.2	420.4	422.5	424.7	426.9	429.0	431.2	433.3	435.5	437.6	440.3
32.5°	405.1	407.5	409.9	412.4	414.8	417.3	419.8	422.4	424.9	427.5	430.5
35°	386.1	388.9	391.8	394.6	397.4	400.4	403.5	406.7	409.8	413.0	416.6
37.5°	365.5	368.8	372.0	375.3	378.5	382.2	386.3	390.3	394.4	398.5	402.6
40°	351.8	355.4	359.1	362.7	366.4	370.4	374.9	379.4	383.9	388.4	392.7
42.5°	338.6	342.3	345.9	349.6	353.2	357.6	362.8	367.9	373.1	378.2	382.9
45°	316.7	321.1	325.6	330.1	334.6	339.7	345.5	351.3	357.2	363.0	368.1
47.5°	295.0	299.9	304.8	309.6	314.5	320.4	327.2	334.0	340.8	347.6	353.0
50°	280.1	285.2	290.4	295.5	300.6	306.9	314.4	321.9	329.4	336.8	342.5
52.5°	265.7	271.1	276.5	282.0	287.4	294.0	301.9	309.7	317.6	325.5	331.2
55°	242.7	248.7	254.7	260.6	266.6	273.9	282.6	291.2	299.8	308.4	314.4
57.5°	220.0	226.8	233.5	240.2	247.0	254.7	263.5	272.3	281.1	289.9	296.4
60°	203.9	211.0	218.2	225.3	232.4	240.7	250.2	259.6	269.1	278.6	284.9
62.5°	189.5	196.9	204.4	211.8	219.2	227.6	237.0	246.5	256.0	265.4	272.1
65°	165.8	173.9	182.1	190.2	198.3	207.3	217.1	226.9	236.7	246.5	253.3
67.5°	144.0	152.5	161.0	169.5	178.0	187.2	197.3	207.3	217.3	227.3	234.2
70°	128.5	137.1	145.7	154.3	163.0	172.4	182.7	193.0	203.3	213.6	220.7
72.5°	114.1	123.0	131.9	140.8	149.7	159.4	169.8	180.2	190.6	201.0	208.1
75°	91.9	101.2	110.4	119.7	129.0	139.0	149.6	160.2	170.9	181.5	188.6
77.5°	70.4	80.1	89.8	99.5	109.3	119.5	130.3	141.1	151.9	162.7	169.8
80°	56.0	66.1	76.3	86.4	96.5	107.0	117.8	128.5	139.3	150.1	157.1
82.5°	44.1	54.1	64.0	74.0	84.0	94.5	105.4	116.3	127.2	138.2	145.1
85°	26.9	37.2	47.5	57.8	68.0	78.5	89.1	99.7	110.4	121.0	128.0
87.5°	14.9	25.6	36.3	47.0	57.7	69.1	81.2	93.3	105.4	117.5	124.1
90°	9.0	22.6	36.3	49.9	63.6	79.4	97.4	115.4	133.4	151.3	157.3
92.5°	33.7	45.6	57.5	69.4	81.3	93.3	105.2	117.2	129.2	141.1	147.8
95°	84.4	95.5	106.7	117.8	129.0	139.9	150.5	161.1	171.7	182.4	188.7
97.5°	148.4	158.3	168.2	178.1	188.0	198.3	209.2	220.0	230.8	241.7	247.8
100°	196.7	205.5	214.3	223.2	232.0	241.5	251.8	262.1	272.4	282.7	288.9
102.5°	246.7	254.5	262.3	270.0	277.8	286.8	297.1	307.4	317.7	328.0	334.3
105°	327.9	333.7	339.5	345.3	351.1	358.7	368.0	377.3	386.6	395.9	402.4
107.5°	410.3	415.6	421.0	426.3	431.6	438.4	446.7	454.9	463.2	471.5	477.3
110°	462.8	468.1	473.5	478.8	484.1	490.8	499.0	507.1	515.2	523.4	528.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	520.7	525.5	530.3	535.1	539.9	546.0	553.5	560.9	568.4	575.9	580.4
115°	606.0	609.8	613.7	617.5	621.4	626.7	633.5	640.3	647.1	653.9	658.5
117.5°	690.3	694.2	698.0	701.9	705.8	710.2	715.3	720.3	725.3	730.4	734.5
120°	747.0	750.3	753.7	757.0	760.4	764.0	768.0	771.9	775.9	779.8	784.5
122.5°	798.8	802.3	805.8	809.3	812.8	816.7	821.0	825.4	829.8	834.1	837.9
125°	878.9	881.9	884.9	887.9	891.0	894.6	898.9	903.2	907.5	911.8	915.3
127.5°	957.6	961.2	964.9	968.5	972.2	975.6	978.6	981.7	984.8	987.9	990.8
130°	1007.0	1011.2	1015.4	1019.6	1023.8	1027.3	1030.1	1032.9	1035.7	1038.6	1041.9
132.5°	1062.5	1065.9	1069.3	1072.7	1076.1	1079.2	1082.0	1084.8	1087.6	1090.4	1092.8
135°	1135.9	1139.6	1143.3	1147.0	1150.7	1153.7	1156.0	1158.3	1160.7	1163.0	1166.2
137.5°	1214.0	1217.0	1220.0	1223.0	1226.0	1228.3	1229.9	1231.5	1233.1	1234.7	1237.4
140°	1261.1	1263.9	1266.8	1269.6	1272.5	1274.9	1276.9	1278.9	1280.9	1282.9	1285.6
142.5°	1309.3	1312.2	1315.0	1317.9	1320.7	1322.7	1323.9	1325.1	1326.3	1327.6	1329.9
145°	1377.9	1380.3	1382.6	1384.9	1387.3	1389.5	1391.5	1393.5	1395.5	1397.5	1398.8
147.5°	1439.7	1442.5	1445.3	1448.2	1451.0	1453.1	1454.4	1455.7	1457.1	1458.4	1459.3
150°	1481.9	1483.9	1486.0	1488.0	1490.0	1491.6	1493.0	1494.3	1495.7	1497.0	1498.0
152.5°	1519.3	1521.3	1523.3	1525.3	1527.4	1529.2	1530.8	1532.4	1534.0	1535.6	1536.9
155°	1575.4	1576.4	1577.4	1578.4	1579.4	1580.4	1581.4	1582.4	1583.4	1584.4	1586.1
157.5°	1623.3	1624.0	1624.7	1625.4	1626.0	1626.7	1627.3	1627.9	1628.5	1629.1	1631.3
160°	1652.3	1653.0	1653.6	1654.3	1655.0	1655.5	1655.8	1656.1	1656.5	1656.8	1658.8
162.5°	1678.8	1679.0	1679.1	1679.2	1679.4	1679.6	1679.9	1680.3	1680.6	1680.9	1683.2
165°	1714.1	1713.8	1713.4	1713.1	1712.8	1712.6	1712.6	1712.6	1712.6	1712.6	1714.9
167.5°	1743.6	1742.6	1741.6	1740.6	1739.6	1739.1	1739.0	1739.0	1738.9	1738.8	1741.2
170°	1759.3	1758.3	1757.3	1756.3	1755.3	1754.6	1754.3	1754.0	1753.6	1753.3	1755.6
172.5°	1770.2	1769.2	1768.2	1767.2	1766.2	1765.5	1765.2	1764.8	1764.5	1764.1	1766.5
175°	1783.4	1782.4	1781.4	1780.4	1779.4	1778.6	1777.9	1777.2	1776.6	1775.9	1778.3
177.5°	1788.9	1788.1	1787.3	1786.5	1785.7	1785.0	1784.4	1783.9	1783.4	1782.8	1784.4
180°	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	515.3	515.3	515.3	515.3	515.3	515.3	515.3	515.3
2.5°	513.7	514.3	515.0	515.2	514.9	514.7	514.4	514.1
5°	512.1	513.1	514.1	514.5	514.3	514.2	514.0	513.8
7.5°	509.6	510.8	512.0	512.5	512.4	512.2	512.0	511.9
10°	507.5	508.8	510.2	510.8	510.6	510.4	510.3	510.1
12.5°	503.9	505.3	506.6	507.2	507.0	506.8	506.7	506.5
15°	497.4	498.9	500.4	501.0	500.9	500.7	500.5	500.4
17.5°	489.0	490.6	492.1	492.9	492.9	492.9	492.9	492.9
20°	482.4	484.2	486.0	486.9	486.9	486.9	486.9	486.9
22.5°	475.2	477.0	478.9	479.9	480.2	480.4	480.7	481.0
25°	464.0	466.0	468.0	469.3	469.8	470.3	470.8	471.3
27.5°	451.7	454.2	456.7	458.1	458.5	458.9	459.2	459.6
30°	443.0	445.6	448.3	449.8	450.3	450.8	451.3	451.8
32.5°	433.6	436.6	439.7	441.7	442.6	443.5	444.4	445.3
35°	420.3	424.0	427.6	430.0	431.2	432.3	433.5	434.7
37.5°	406.6	410.7	414.7	417.3	418.6	419.8	421.0	422.3
40°	397.0	401.3	405.6	408.5	410.0	411.5	413.0	414.5
42.5°	387.6	392.3	397.0	400.2	401.6	403.1	404.6	406.1
45°	373.3	378.4	383.5	386.9	388.6	390.3	391.9	393.6
47.5°	358.3	363.7	369.1	372.7	374.5	376.3	378.2	380.0
50°	348.1	353.7	359.4	363.1	365.0	366.8	368.6	370.4
52.5°	337.0	342.8	348.6	352.4	354.4	356.4	358.3	360.3
55°	320.4	326.4	332.3	336.4	338.6	340.7	342.9	345.0
57.5°	302.8	309.2	315.7	320.0	322.2	324.4	326.6	328.8
60°	291.2	297.5	303.8	308.1	310.4	312.8	315.1	317.4
62.5°	278.8	285.5	292.2	296.7	298.9	301.1	303.3	305.5
65°	260.1	266.9	273.7	278.2	280.3	282.5	284.6	286.8
67.5°	241.1	247.9	254.8	259.4	261.6	263.9	266.2	268.4
70°	227.9	235.0	242.1	246.7	248.7	250.7	252.7	254.7
72.5°	215.1	222.1	229.1	233.8	236.1	238.5	240.9	243.3
75°	195.8	202.9	210.0	214.7	216.8	219.0	221.1	223.3
77.5°	176.9	184.0	191.1	195.8	198.1	200.4	202.8	205.1
80°	164.1	171.0	178.0	182.6	185.0	187.3	189.6	191.9
82.5°	152.1	159.1	166.0	170.6	172.8	175.0	177.2	179.4
85°	134.9	141.9	148.9	153.5	155.8	158.2	160.5	162.8
87.5°	130.8	137.4	144.0	148.5	150.7	152.8	155.0	157.2
90°	163.3	169.3	175.2	179.4	181.7	184.0	186.3	188.7
92.5°	154.4	161.1	167.7	172.1	174.1	176.2	178.2	180.3
95°	195.0	201.3	207.6	211.4	212.7	214.1	215.4	216.7
97.5°	254.0	260.1	266.2	270.3	272.1	274.0	275.9	277.8
100°	295.0	301.1	307.3	311.1	312.6	314.1	315.6	317.1
102.5°	340.5	346.8	353.1	357.0	358.5	360.0	361.5	362.9
105°	408.8	415.3	421.8	426.0	427.8	429.6	431.4	433.3
107.5°	483.2	489.0	494.9	497.9	498.2	498.5	498.8	499.1
110°	534.0	539.3	544.6	547.7	548.5	549.3	550.1	551.0





TEST NUMBER: P331522

CATALOG NUMBER: S122DIW-S485D1440U835-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	584.9	589.4	593.9	596.7	597.8	598.9	600.0	601.1
115°	663.2	667.8	672.4	675.2	676.0	676.8	677.6	678.5
117.5°	738.6	742.7	746.8	749.2	749.9	750.6	751.2	751.9
120°	789.1	793.8	798.4	801.2	802.0	802.8	803.6	804.4
122.5°	841.6	845.3	849.0	851.2	852.1	852.9	853.7	854.5
125°	918.8	922.3	925.7	928.1	929.2	930.4	931.5	932.7
127.5°	993.7	996.6	999.5	1001.2	1001.5	1001.9	1002.3	1002.7
130°	1045.2	1048.5	1051.8	1053.5	1053.4	1053.4	1053.4	1053.4
132.5°	1095.2	1097.6	1100.0	1101.3	1101.5	1101.8	1102.0	1102.3
135°	1169.3	1172.5	1175.6	1177.3	1177.7	1178.0	1178.3	1178.6
137.5°	1240.2	1243.0	1245.8	1247.1	1246.9	1246.7	1246.5	1246.2
140°	1288.2	1290.9	1293.5	1294.7	1294.4	1294.0	1293.7	1293.3
142.5°	1332.3	1334.7	1337.1	1338.1	1337.6	1337.1	1336.7	1336.2
145°	1400.2	1401.5	1402.8	1403.2	1402.7	1402.2	1401.7	1401.2
147.5°	1460.2	1461.0	1461.9	1461.9	1461.0	1460.1	1459.3	1458.4
150°	1499.0	1500.0	1501.0	1501.0	1500.0	1499.0	1498.0	1497.0
152.5°	1538.1	1539.4	1540.7	1540.7	1539.4	1538.1	1536.9	1535.6
155°	1587.8	1589.5	1591.1	1591.5	1590.5	1589.5	1588.5	1587.5
157.5°	1633.6	1635.9	1638.2	1638.5	1636.9	1635.3	1633.7	1632.1
160°	1660.8	1662.8	1664.8	1665.2	1663.8	1662.5	1661.2	1659.8
162.5°	1685.5	1687.8	1690.0	1690.4	1688.8	1687.2	1685.6	1683.9
165°	1717.3	1719.6	1722.0	1722.3	1720.6	1719.0	1717.3	1715.6
167.5°	1743.5	1745.9	1748.2	1748.5	1746.8	1745.0	1743.3	1741.5
170°	1758.0	1760.3	1762.7	1762.8	1760.8	1758.8	1756.8	1754.8
172.5°	1768.8	1771.2	1773.5	1773.7	1771.7	1769.7	1767.7	1765.7
175°	1780.6	1782.9	1785.3	1785.5	1783.4	1781.4	1779.4	1777.4
177.5°	1786.1	1787.7	1789.3	1789.3	1787.7	1786.1	1784.4	1782.8
180°	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5	1786.5

(END OF REPORT)