

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: P331522-830

Luminaire Tested: **S122DIW-S485D1440U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331522-830  
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-S485D1440U830-4F0-1E-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**

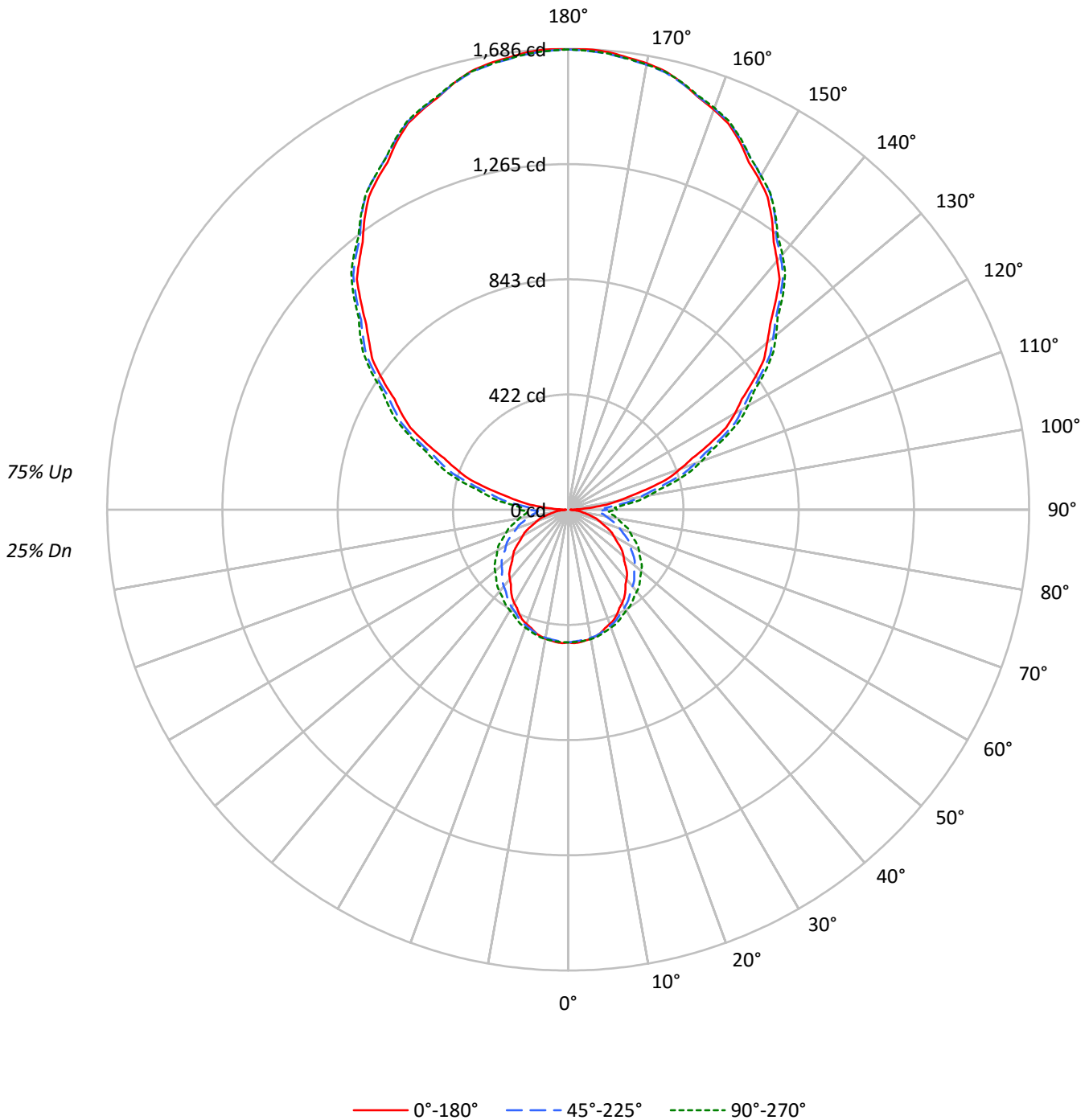
Lumens per Lamp: N/A  
Luminaire Lumens: 6568.0 lumens  
Efficiency: N/A  
Efficacy: 108.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 60.6  
Input Voltage (V): 120  
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	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°	7842	7842	7842
5°	7880	7549	7520
10°	7831	7327	7244
15°	7723	7090	6952
20°	7587	6836	6671
25°	7453	6592	6417
30°	7262	6342	6160
35°	7069	6100	5981
40°	6869	5895	5801
45°	6677	5709	5648
50°	6471	5541	5495
55°	6254	5363	5341
60°	5990	5177	5178
65°	5716	4959	4983
70°	5407	4723	4775
75°	5013	4495	4582
80°	4391	4260	4385
85°	3800	4054	4232



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	46.0	0.7
10°-20°	132.0	2.0
20°-30°	200.0	3.0
30°-40°	243.6	3.7
40°-50°	262.1	4.0
50°-60°	254.5	3.9
60°-70°	222.2	3.4
70°-80°	171.1	2.6
80°-90°	121.5	1.9
90°-100°	185.8	2.8
100°-110°	389.1	5.9
110°-120°	604.6	9.2
120°-130°	766.2	11.7
130°-140°	845.0	12.9
140°-150°	821.3	12.5
150°-160°	687.6	10.5
160°-170°	456.0	6.9
170°-180°	159.4	2.4
0°-30°	378.0	5.8
0°-40°	621.6	9.5
0°-60°	1138.1	17.3
0°-90°	1652.9	25.2
90°-120°	1179.5	18.0
90°-150°	3612.0	55.0
90°-180°	4915.0	74.8
0°-180°	6568.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	486	486	486	486	486	
5°	487	485	481	485	484	46
15°	465	466	466	472	472	131
25°	422	427	434	442	444	194
35°	364	376	389	404	410	227
45°	298	318	342	363	371	230
55°	229	255	291	315	325	204
65°	156	191	232	260	270	155
75°	87	126	171	200	210	92
85°	25	69	114	142	153	27
90°	8	67	143	167	178	9
95°	80	127	172	198	204	89
105°	309	334	373	400	408	327
115°	571	588	616	635	640	565
125°	828	842	859	874	879	740
135°	1071	1086	1096	1109	1111	827
145°	1299	1309	1317	1322	1321	811
155°	1485	1489	1493	1500	1496	683
165°	1616	1614	1614	1623	1617	455
175°	1681	1677	1674	1683	1675	160
180°	1684	1684	1684	1684	1684	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7
2.5°	488.5	488.1	487.8	487.4	487.0	486.4	485.5	484.7	483.8	482.9	483.5
5°	487.1	486.6	486.2	485.7	485.2	484.6	483.6	482.7	481.7	480.8	481.7
7.5°	482.8	482.4	482.1	481.8	481.5	481.0	480.2	479.6	478.8	478.1	479.2
10°	479.4	479.1	478.7	478.4	478.2	477.8	477.3	476.8	476.4	475.9	477.1
12.5°	473.7	473.8	473.9	473.9	474.0	473.8	473.5	473.2	472.8	472.5	473.7
15°	464.6	464.9	465.2	465.5	465.8	466.0	466.0	466.0	466.0	466.0	467.4
17.5°	452.8	453.5	454.1	454.8	455.4	456.0	456.5	456.9	457.5	458.0	459.4
20°	444.9	445.6	446.5	447.2	448.0	448.7	449.3	450.0	450.6	451.2	452.9
22.5°	436.4	437.3	438.3	439.1	440.1	440.9	441.9	442.7	443.6	444.5	446.2
25°	422.4	423.5	424.5	425.7	426.7	428.0	429.4	430.8	432.3	433.6	435.5
27.5°	405.5	407.3	409.1	410.9	412.6	414.3	415.9	417.6	419.2	420.9	423.3
30°	394.2	396.2	398.2	400.3	402.4	404.4	406.4	408.4	410.5	412.5	415.0
32.5°	381.8	384.1	386.3	388.7	391.0	393.3	395.7	398.1	400.5	402.9	405.8
35°	363.9	366.6	369.3	371.9	374.6	377.4	380.3	383.3	386.3	389.3	392.7
37.5°	344.5	347.6	350.6	353.7	356.8	360.2	364.1	367.9	371.7	375.6	379.5
40°	331.6	335.0	338.5	341.9	345.3	349.1	353.4	357.6	361.8	366.1	370.1
42.5°	319.1	322.6	326.0	329.5	332.9	337.1	342.0	346.8	351.7	356.5	360.9
45°	298.5	302.7	306.9	311.1	315.4	320.2	325.6	331.1	336.7	342.1	346.9
47.5°	278.1	282.7	287.3	291.8	296.4	302.0	308.4	314.8	321.2	327.6	332.7
50°	264.0	268.8	273.7	278.5	283.3	289.3	296.3	303.4	310.5	317.4	322.8
52.5°	250.4	255.5	260.6	265.8	270.9	277.1	284.6	291.9	299.4	306.8	312.2
55°	228.8	234.4	240.1	245.6	251.3	258.2	266.4	274.5	282.6	290.7	296.3
57.5°	207.4	213.8	220.1	226.4	232.8	240.1	248.4	256.7	264.9	273.2	279.4
60°	192.2	198.9	205.7	212.4	219.0	226.9	235.8	244.7	253.6	262.6	268.5
62.5°	178.6	185.6	192.7	199.6	206.6	214.5	223.4	232.3	241.3	250.2	256.5
65°	156.3	163.9	171.6	179.3	186.9	195.4	204.6	213.9	223.1	232.3	238.7
67.5°	135.7	143.7	151.7	159.8	167.8	176.4	186.0	195.4	204.8	214.2	220.7
70°	121.1	129.2	137.3	145.4	153.6	162.5	172.2	181.9	191.6	201.3	208.0
72.5°	107.5	115.9	124.3	132.7	141.1	150.2	160.0	169.8	179.6	189.5	196.1
75°	86.6	95.4	104.1	112.8	121.6	131.0	141.0	151.0	161.1	171.1	177.8
77.5°	66.4	75.5	84.6	93.8	103.0	112.6	122.8	133.0	143.2	153.4	160.0
80°	52.8	62.3	71.9	81.4	91.0	100.9	111.0	121.1	131.3	141.5	148.1
82.5°	41.6	51.0	60.3	69.7	79.2	89.1	99.3	109.6	119.9	130.3	136.8
85°	25.4	35.1	44.8	54.5	64.1	74.0	84.0	94.0	104.1	114.0	120.6
87.5°	14.0	24.1	34.2	44.3	54.4	65.1	76.5	87.9	99.3	110.7	117.0
90°	8.5	21.3	34.2	47.0	59.9	74.8	91.8	108.8	125.7	142.6	148.3
92.5°	31.8	43.0	54.2	65.4	76.6	87.9	99.2	110.5	121.8	133.0	139.3
95°	79.6	90.0	100.6	111.0	121.6	131.9	141.9	151.8	161.8	171.9	177.9
97.5°	139.9	149.2	158.5	167.9	177.2	186.9	197.2	207.4	217.5	227.8	233.6
100°	185.4	193.7	202.0	210.4	218.7	227.6	237.3	247.0	256.7	266.5	272.3
102.5°	232.5	239.9	247.2	254.5	261.8	270.3	280.0	289.7	299.4	309.2	315.1
105°	309.1	314.5	320.0	325.5	330.9	338.1	346.9	355.6	364.4	373.2	379.3
107.5°	386.7	391.7	396.8	401.8	406.8	413.2	421.0	428.8	436.6	444.4	449.9
110°	436.2	441.2	446.3	451.3	456.3	462.6	470.3	478.0	485.6	493.3	498.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	490.8	495.3	499.8	504.4	508.9	514.6	521.7	528.7	535.7	542.8	547.1
115°	571.2	574.8	578.4	582.0	585.7	590.7	597.1	603.5	609.9	616.3	620.7
117.5°	650.6	654.3	657.9	661.6	665.2	669.4	674.2	678.9	683.6	688.4	692.3
120°	704.1	707.2	710.4	713.5	716.7	720.1	723.9	727.5	731.3	735.0	739.4
122.5°	752.9	756.2	759.5	762.8	766.1	769.8	773.8	778.0	782.1	786.2	789.8
125°	828.4	831.2	834.1	836.9	839.8	843.2	847.3	851.3	855.4	859.4	862.7
127.5°	902.6	906.0	909.5	912.9	916.3	919.5	922.4	925.3	928.2	931.1	933.9
130°	949.1	953.1	957.1	961.0	965.0	968.3	970.9	973.6	976.2	978.9	982.0
132.5°	1001.5	1004.7	1007.9	1011.1	1014.3	1017.2	1019.8	1022.5	1025.1	1027.7	1030.0
135°	1070.6	1074.1	1077.6	1081.1	1084.6	1087.4	1089.6	1091.7	1094.0	1096.2	1099.2
137.5°	1144.2	1147.1	1149.9	1152.7	1155.6	1157.7	1159.2	1160.7	1162.2	1163.8	1166.3
140°	1188.6	1191.3	1194.0	1196.7	1199.4	1201.6	1203.5	1205.4	1207.3	1209.2	1211.7
142.5°	1234.1	1236.8	1239.4	1242.2	1244.8	1246.7	1247.8	1249.0	1250.1	1251.3	1253.5
145°	1298.7	1301.0	1303.2	1305.3	1307.6	1309.7	1311.5	1313.4	1315.3	1317.2	1318.4
147.5°	1357.0	1359.6	1362.3	1365.0	1367.6	1369.6	1370.8	1372.1	1373.4	1374.6	1375.5
150°	1396.8	1398.6	1400.6	1402.5	1404.4	1405.9	1407.2	1408.4	1409.8	1411.0	1411.9
152.5°	1432.0	1433.9	1435.8	1437.7	1439.6	1441.3	1442.8	1444.4	1445.9	1447.4	1448.6
155°	1484.9	1485.8	1486.8	1487.7	1488.7	1489.6	1490.5	1491.5	1492.4	1493.4	1495.0
157.5°	1530.0	1530.7	1531.3	1532.0	1532.6	1533.2	1533.8	1534.4	1534.9	1535.5	1537.6
160°	1557.4	1558.0	1558.6	1559.2	1559.9	1560.4	1560.7	1560.9	1561.3	1561.6	1563.5
162.5°	1582.3	1582.5	1582.6	1582.7	1582.9	1583.1	1583.4	1583.8	1584.0	1584.3	1586.5
165°	1615.6	1615.3	1615.0	1614.7	1614.4	1614.2	1614.2	1614.2	1614.2	1614.2	1616.4
167.5°	1643.4	1642.5	1641.5	1640.6	1639.6	1639.2	1639.1	1639.1	1639.0	1638.9	1641.2
170°	1658.2	1657.3	1656.3	1655.4	1654.4	1653.8	1653.5	1653.2	1652.8	1652.6	1654.7
172.5°	1668.5	1667.5	1666.6	1665.7	1664.7	1664.1	1663.8	1663.4	1663.1	1662.7	1665.0
175°	1680.9	1680.0	1679.0	1678.1	1677.2	1676.4	1675.7	1675.1	1674.5	1673.9	1676.1
177.5°	1686.1	1685.4	1684.6	1683.9	1683.1	1682.4	1681.9	1681.4	1680.9	1680.4	1681.9
180°	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7
2.5°	484.2	484.7	485.4	485.6	485.3	485.1	484.8	484.6
5°	482.7	483.6	484.6	484.9	484.7	484.7	484.5	484.3
7.5°	480.3	481.5	482.6	483.1	483.0	482.8	482.6	482.5
10°	478.3	479.6	480.9	481.5	481.3	481.1	481.0	480.8
12.5°	474.9	476.3	477.5	478.1	477.9	477.7	477.6	477.4
15°	468.8	470.2	471.6	472.2	472.1	471.9	471.7	471.6
17.5°	460.9	462.4	463.8	464.6	464.6	464.6	464.6	464.6
20°	454.7	456.4	458.1	458.9	458.9	458.9	458.9	458.9
22.5°	447.9	449.6	451.4	452.3	452.6	452.8	453.1	453.4
25°	437.3	439.2	441.1	442.3	442.8	443.3	443.7	444.2
27.5°	425.7	428.1	430.5	431.8	432.2	432.5	432.8	433.2
30°	417.5	420.0	422.5	424.0	424.4	424.9	425.4	425.8
32.5°	408.7	411.5	414.4	416.3	417.2	418.0	418.9	419.7
35°	396.2	399.6	403.0	405.3	406.4	407.5	408.6	409.7
37.5°	383.2	387.1	390.9	393.3	394.5	395.7	396.8	398.0
40°	374.2	378.2	382.3	385.0	386.4	387.9	389.3	390.7
42.5°	365.3	369.8	374.2	377.2	378.5	379.9	381.4	382.8
45°	351.9	356.7	361.5	364.7	366.3	367.9	369.4	371.0
47.5°	337.7	342.8	347.9	351.3	353.0	354.7	356.5	358.2
50°	328.1	333.4	338.7	342.2	344.0	345.7	347.4	349.1
52.5°	317.6	323.1	328.6	332.2	334.0	335.9	337.7	339.6
55°	302.0	307.6	313.2	317.1	319.1	321.1	323.2	325.2
57.5°	285.4	291.4	297.6	301.6	303.7	305.8	307.8	309.9
60°	274.5	280.4	286.3	290.4	292.6	294.8	297.0	299.2
62.5°	262.8	269.1	275.4	279.7	281.7	283.8	285.9	287.9
65°	245.2	251.6	258.0	262.2	264.2	266.3	268.2	270.3
67.5°	227.2	233.7	240.2	244.5	246.6	248.7	250.9	253.0
70°	214.8	221.5	228.2	232.5	234.4	236.3	238.2	240.1
72.5°	202.7	209.3	215.9	220.4	222.5	224.8	227.1	229.3
75°	184.5	191.2	197.9	202.4	204.3	206.4	208.4	210.5
77.5°	166.7	173.4	180.1	184.5	186.7	188.9	191.1	193.3
80°	154.7	161.2	167.8	172.1	174.4	176.5	178.7	180.9
82.5°	143.4	150.0	156.5	160.8	162.9	164.9	167.0	169.1
85°	127.1	133.7	140.3	144.7	146.8	149.1	151.3	153.4
87.5°	123.3	129.5	135.7	140.0	142.0	144.0	146.1	148.2
90°	153.9	159.6	165.1	169.1	171.3	173.4	175.6	177.9
92.5°	145.5	151.8	158.1	162.2	164.1	166.1	168.0	169.9
95°	183.8	189.7	195.7	199.3	200.5	201.8	203.0	204.2
97.5°	239.4	245.2	250.9	254.8	256.5	258.3	260.0	261.8
100°	278.1	283.8	289.6	293.2	294.6	296.1	297.5	298.9
102.5°	320.9	326.9	332.8	336.5	337.9	339.3	340.7	342.0
105°	385.3	391.4	397.6	401.5	403.2	404.9	406.6	408.4
107.5°	455.4	460.9	466.5	469.3	469.6	469.9	470.1	470.4
110°	503.3	508.3	513.3	516.2	517.0	517.7	518.5	519.3





TEST NUMBER: P331522-830

CATALOG NUMBER: S122DIW-S485D1440U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	551.3	555.5	559.8	562.4	563.5	564.5	565.5	566.6
115°	625.1	629.4	633.8	636.4	637.2	637.9	638.7	639.5
117.5°	696.2	700.0	703.9	706.2	706.8	707.5	708.0	708.7
120°	743.8	748.2	752.5	755.2	755.9	756.7	757.4	758.2
122.5°	793.2	796.7	800.2	802.3	803.1	803.9	804.6	805.4
125°	866.0	869.3	872.5	874.8	875.8	876.9	878.0	879.1
127.5°	936.6	939.3	942.1	943.7	944.0	944.3	944.7	945.1
130°	985.1	988.3	991.4	993.0	992.9	992.9	992.9	992.9
132.5°	1032.3	1034.5	1036.8	1038.0	1038.2	1038.5	1038.7	1039.0
135°	1102.1	1105.1	1108.1	1109.7	1110.0	1110.3	1110.6	1110.9
137.5°	1168.9	1171.6	1174.2	1175.4	1175.3	1175.1	1174.9	1174.6
140°	1214.2	1216.7	1219.2	1220.3	1220.0	1219.7	1219.4	1219.0
142.5°	1255.7	1258.0	1260.3	1261.2	1260.7	1260.3	1259.9	1259.4
145°	1319.7	1321.0	1322.2	1322.6	1322.1	1321.6	1321.2	1320.7
147.5°	1376.3	1377.1	1377.9	1377.9	1377.1	1376.2	1375.5	1374.6
150°	1412.9	1413.8	1414.8	1414.8	1413.8	1412.9	1411.9	1411.0
152.5°	1449.7	1451.0	1452.2	1452.2	1451.0	1449.7	1448.6	1447.4
155°	1496.6	1498.2	1499.7	1500.1	1499.1	1498.2	1497.2	1496.3
157.5°	1539.7	1541.9	1544.1	1544.4	1542.8	1541.3	1539.8	1538.3
160°	1565.4	1567.3	1569.1	1569.5	1568.2	1567.0	1565.8	1564.4
162.5°	1588.7	1590.8	1592.9	1593.3	1591.8	1590.3	1588.7	1587.1
165°	1618.6	1620.8	1623.1	1623.3	1621.7	1620.2	1618.6	1617.0
167.5°	1643.3	1645.6	1647.8	1648.0	1646.4	1644.7	1643.1	1641.4
170°	1657.0	1659.2	1661.4	1661.5	1659.6	1657.7	1655.9	1654.0
172.5°	1667.2	1669.4	1671.6	1671.8	1669.9	1668.0	1666.1	1664.2
175°	1678.3	1680.5	1682.7	1682.9	1680.9	1679.0	1677.2	1675.3
177.5°	1683.5	1685.0	1686.5	1686.5	1685.0	1683.5	1681.9	1680.4
180°	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9

(END OF REPORT)