

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: P331524-830

Luminaire Tested: **S122DIW-S485D1440U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331524-830  
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-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**

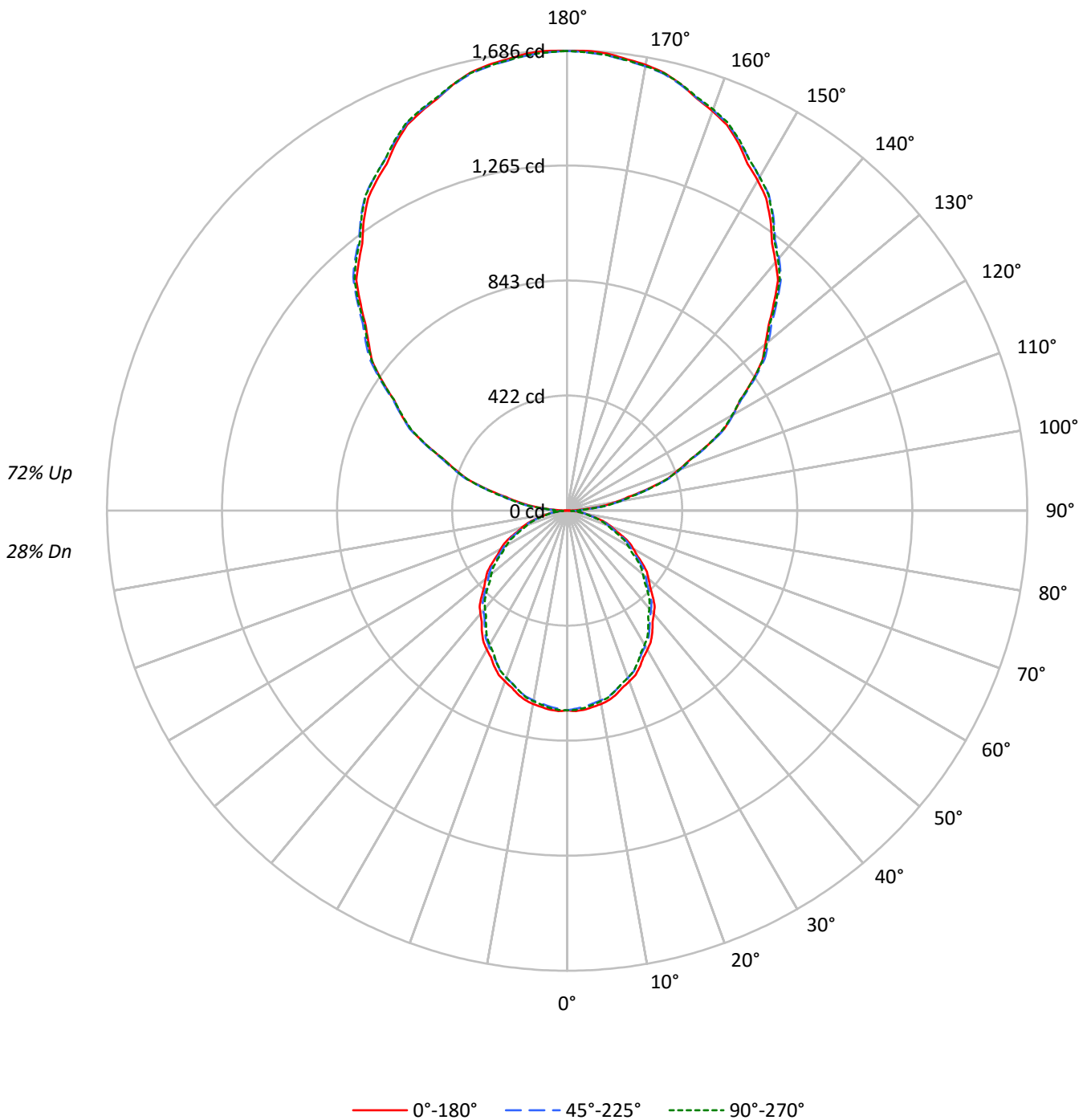
Lumens per Lamp: N/A  
Luminaire Lumens: 6577.5 lumens  
Efficiency: N/A  
Efficacy: 108.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 60.6  
Input Voltage (V): 120  
Input Current (Ain): 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°	11820	11820	11820
5°	11866	11694	11763
10°	11795	11576	11632
15°	11649	11425	11413
20°	11442	11201	11187
25°	11236	10922	10922
30°	10972	10670	10577
35°	10724	10364	10212
40°	10416	10060	9866
45°	10111	9757	9515
50°	9779	9442	9105
55°	9433	9073	8740
60°	9045	8638	8318
65°	8630	8202	7824
70°	8105	7676	7312
75°	7380	7068	6900
80°	6546	6341	6025
85°	5335	5076	4557



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.8	1.0
10°-20°	193.7	2.9
20°-30°	284.7	4.3
30°-40°	330.7	5.0
40°-50°	330.4	5.0
50°-60°	288.1	4.4
60°-70°	213.0	3.2
70°-80°	120.7	1.8
80°-90°	39.2	0.6
90°-100°	106.7	1.6
100°-110°	331.4	5.0
110°-120°	566.4	8.6
120°-130°	744.9	11.3
130°-140°	836.1	12.7
140°-150°	819.8	12.5
150°-160°	687.6	10.5
160°-170°	456.0	6.9
170°-180°	159.4	2.4
0°-30°	547.2	8.3
0°-40°	878.0	13.3
0°-60°	1496.4	22.8
0°-90°	1869.2	28.4
90°-120°	1004.5	15.3
90°-150°	3405.2	51.8
90°-180°	4708.0	71.6
0°-180°	6577.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	732	732	732	732	732	
5°	732	729	722	727	726	69
15°	697	692	684	686	683	196
25°	631	625	613	614	613	290
35°	544	537	526	522	518	340
45°	443	438	427	420	417	342
55°	335	331	322	314	310	299
65°	226	222	215	208	205	223
75°	118	117	113	109	111	126
85°	29	28	27	25	25	33
90°	1	19	50	47	48	5
95°	74	87	91	91	88	85
105°	306	310	313	315	316	323
115°	568	576	574	572	568	562
125°	827	839	836	831	830	739
135°	1070	1085	1088	1087	1083	826
145°	1299	1309	1317	1318	1313	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°	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1
2.5°	735.5	734.8	734.2	733.6	732.9	732.0	730.6	729.2	727.8	726.4	727.7
5°	732.1	731.4	730.8	730.2	729.6	728.4	726.7	725.0	723.2	721.5	722.7
7.5°	725.6	724.6	723.7	722.6	721.7	720.4	718.6	716.9	715.1	713.3	714.6
10°	719.4	718.3	717.2	716.1	715.0	713.5	711.6	709.8	707.9	706.1	707.3
12.5°	711.0	710.0	709.0	708.0	707.1	705.7	703.8	701.9	700.0	698.1	699.0
15°	696.9	696.0	695.0	694.1	693.1	691.6	689.6	687.6	685.5	683.5	684.1
17.5°	678.8	678.0	677.0	676.1	675.1	673.6	671.6	669.5	667.4	665.3	666.1
20°	665.9	665.0	664.0	663.1	662.1	660.6	658.4	656.2	654.0	651.9	652.3
22.5°	653.0	651.7	650.4	649.0	647.7	646.0	643.9	641.9	639.8	637.7	637.8
25°	630.7	629.4	628.2	627.0	625.8	623.8	621.1	618.4	615.8	613.1	613.4
27.5°	605.4	604.3	603.1	602.0	600.9	599.3	597.2	595.0	593.0	590.9	590.4
30°	588.5	587.2	586.0	584.8	583.4	581.6	579.3	577.0	574.7	572.3	571.8
32.5°	570.4	569.5	568.4	567.4	566.5	564.7	562.2	559.8	557.3	554.9	554.0
35°	544.1	542.5	541.0	539.4	537.9	535.8	533.4	530.8	528.3	525.8	524.9
37.5°	514.4	513.0	511.7	510.3	508.9	507.0	504.4	502.0	499.5	497.0	495.8
40°	494.2	492.9	491.6	490.4	489.2	487.3	484.7	482.3	479.8	477.3	475.9
42.5°	474.5	473.2	471.9	470.7	469.5	467.6	465.1	462.6	460.1	457.5	456.0
45°	442.8	441.7	440.5	439.5	438.4	436.7	434.3	432.0	429.6	427.3	425.6
47.5°	411.2	410.2	409.2	408.1	407.1	405.4	402.9	400.5	398.0	395.6	393.8
50°	389.3	388.5	387.7	386.9	386.2	384.7	382.5	380.3	378.1	375.9	373.7
52.5°	367.9	366.8	365.8	364.8	363.7	362.2	360.1	358.1	356.0	353.9	352.1
55°	335.1	334.1	333.2	332.2	331.3	329.9	328.0	326.1	324.2	322.3	320.6
57.5°	302.1	301.3	300.6	299.9	299.2	297.7	295.7	293.6	291.5	289.5	287.6
60°	280.1	279.6	278.9	278.2	277.7	276.3	274.1	271.8	269.7	267.5	265.8
62.5°	258.7	257.8	256.7	255.7	254.8	253.4	251.8	250.1	248.4	246.7	245.1
65°	225.9	225.0	224.0	223.1	222.3	220.9	219.4	217.8	216.2	214.7	213.3
67.5°	192.6	191.8	191.1	190.3	189.5	188.5	187.1	185.7	184.3	182.9	181.8
70°	171.7	171.2	170.5	169.8	169.3	168.2	166.8	165.4	164.0	162.6	161.6
72.5°	150.3	149.8	149.1	148.5	147.9	147.1	146.2	145.2	144.4	143.5	142.3
75°	118.3	117.9	117.6	117.3	117.0	116.5	115.6	114.9	114.1	113.3	112.4
77.5°	89.5	89.0	88.5	87.9	87.4	87.0	86.7	86.3	86.1	85.8	85.3
80°	70.4	70.2	70.1	69.9	69.7	69.6	69.2	68.9	68.6	68.2	67.8
82.5°	52.4	52.3	52.3	52.3	52.2	52.1	51.9	51.7	51.6	51.4	50.8
85°	28.8	28.7	28.6	28.4	28.3	28.1	27.9	27.8	27.6	27.4	27.0
87.5°	10.5	10.9	11.4	12.0	12.4	13.3	14.4	15.6	16.7	17.8	17.3
90°	1.4	5.2	9.0	12.8	16.6	22.0	28.9	35.8	42.8	49.8	49.1
92.5°	25.3	28.1	30.8	33.6	36.4	38.6	40.2	41.9	43.5	45.1	45.3
95°	73.9	77.0	80.2	83.3	86.5	88.4	89.1	89.6	90.3	91.0	91.0
97.5°	135.0	137.8	140.5	143.4	146.1	148.1	149.3	150.5	151.7	152.9	152.9
100°	180.5	182.9	185.5	188.0	190.6	192.3	193.2	194.2	195.1	196.0	196.0
102.5°	228.2	230.3	232.2	234.2	236.3	237.9	239.1	240.3	241.5	242.7	243.0
105°	305.5	306.4	307.4	308.3	309.2	310.1	310.8	311.3	312.0	312.6	313.2
107.5°	383.3	384.7	386.2	387.6	388.9	389.6	389.6	389.6	389.6	389.6	389.8
110°	433.4	435.3	437.2	439.0	440.9	442.0	442.0	442.0	442.0	442.0	442.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	488.0	489.8	491.7	493.6	495.5	496.3	496.1	495.9	495.6	495.3	494.6
115°	568.4	570.2	572.1	574.1	576.0	576.6	576.0	575.3	574.7	574.1	573.7
117.5°	648.6	651.0	653.6	656.1	658.6	659.0	657.2	655.4	653.7	652.0	651.2
120°	701.9	704.5	707.0	709.5	712.1	712.1	709.5	707.0	704.5	701.9	701.9
122.5°	750.8	753.8	756.9	759.9	763.0	763.6	761.9	760.1	758.3	756.5	755.7
125°	827.0	829.8	832.6	835.5	838.4	839.3	838.4	837.4	836.5	835.5	834.5
127.5°	901.2	904.7	908.3	912.0	915.6	916.8	915.7	914.5	913.4	912.3	911.1
130°	947.7	951.9	956.0	960.1	964.2	965.9	965.3	964.7	964.0	963.4	962.8
132.5°	1000.0	1003.4	1006.7	1010.1	1013.4	1015.2	1015.3	1015.4	1015.6	1015.7	1014.3
135°	1070.0	1073.5	1076.9	1080.3	1083.8	1085.9	1086.6	1087.2	1087.8	1088.4	1088.2
137.5°	1143.6	1146.4	1149.2	1152.1	1154.9	1156.8	1157.6	1158.4	1159.2	1160.1	1159.8
140°	1187.9	1190.7	1193.6	1196.5	1199.3	1201.5	1203.1	1204.7	1206.3	1207.8	1207.8
142.5°	1233.4	1236.2	1239.1	1241.9	1244.7	1246.7	1247.7	1248.9	1249.9	1251.0	1251.2
145°	1298.7	1301.0	1303.2	1305.3	1307.6	1309.7	1311.5	1313.4	1315.3	1317.2	1317.5
147.5°	1357.0	1359.6	1362.3	1365.0	1367.6	1369.6	1370.8	1372.1	1373.4	1374.6	1375.4
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°	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1
2.5°	729.0	730.2	731.4	732.0	731.7	731.4	731.2	730.9
5°	724.1	725.3	726.5	727.0	726.7	726.3	726.0	725.8
7.5°	715.9	717.1	718.4	718.8	718.5	718.1	717.7	717.5
10°	708.5	709.8	711.1	711.4	711.0	710.5	710.0	709.5
12.5°	699.9	700.8	701.6	701.9	701.5	701.3	700.9	700.5
15°	684.8	685.4	686.0	685.9	685.1	684.4	683.6	682.8
17.5°	666.8	667.5	668.3	668.2	667.4	666.8	666.0	665.2
20°	652.8	653.3	653.7	653.7	653.0	652.3	651.8	651.1
22.5°	637.9	638.0	638.1	638.0	637.6	637.3	636.9	636.5
25°	613.8	614.1	614.3	614.3	614.1	613.8	613.4	613.1
27.5°	589.9	589.5	589.0	588.4	587.7	586.9	586.2	585.4
30°	571.4	570.9	570.4	569.9	569.2	568.6	568.0	567.3
32.5°	553.2	552.3	551.5	550.7	550.1	549.5	548.8	548.2
35°	524.0	523.0	522.1	521.2	520.5	519.6	518.9	518.1
37.5°	494.6	493.5	492.4	491.3	490.6	489.8	489.1	488.4
40°	474.5	473.1	471.6	470.6	470.0	469.4	468.7	468.1
42.5°	454.5	453.0	451.4	450.3	449.3	448.5	447.6	446.7
45°	423.9	422.2	420.4	419.2	418.6	418.0	417.4	416.7
47.5°	392.0	390.1	388.3	387.0	386.1	385.2	384.3	383.3
50°	371.6	369.3	367.1	365.6	364.9	364.1	363.3	362.5
52.5°	350.3	348.5	346.7	345.3	344.2	343.2	342.1	341.1
55°	318.7	316.8	314.9	313.6	312.7	312.0	311.2	310.5
57.5°	285.8	283.9	282.1	280.9	280.2	279.7	279.1	278.4
60°	264.0	262.3	260.6	259.5	259.0	258.5	258.1	257.6
62.5°	243.5	241.9	240.3	239.2	238.6	238.0	237.4	236.8
65°	211.9	210.5	209.1	207.9	207.2	206.4	205.7	204.8
67.5°	180.7	179.6	178.5	177.7	177.0	176.3	175.8	175.1
70°	160.4	159.3	158.3	157.4	156.7	156.1	155.5	154.9
72.5°	141.3	140.2	139.1	138.3	137.8	137.2	136.8	136.3
75°	111.4	110.6	109.6	109.2	109.6	109.9	110.2	110.6
77.5°	84.8	84.4	83.9	83.4	82.9	82.6	82.1	81.6
80°	67.3	66.8	66.4	66.0	65.7	65.4	65.0	64.8
82.5°	50.2	49.6	49.0	48.6	48.6	48.5	48.4	48.4
85°	26.5	26.0	25.5	25.3	25.1	25.0	24.8	24.6
87.5°	16.9	16.3	15.8	15.6	15.5	15.5	15.4	15.3
90°	48.4	47.9	47.2	47.0	47.4	47.7	48.0	48.4
92.5°	45.4	45.5	45.7	45.8	45.8	45.9	46.0	46.0
95°	91.0	91.0	91.0	90.6	90.0	89.4	88.7	88.1
97.5°	152.9	152.9	152.9	152.9	152.8	152.7	152.7	152.6
100°	196.0	196.0	196.0	196.0	195.6	195.3	195.0	194.6
102.5°	243.2	243.5	243.7	243.6	243.4	243.1	242.7	242.4
105°	313.9	314.5	315.1	315.5	315.5	315.5	315.5	315.5
107.5°	390.1	390.4	390.6	390.0	388.6	387.1	385.7	384.2
110°	442.0	442.0	442.0	441.4	440.5	439.5	438.6	437.6





TEST NUMBER: P331524-830

CATALOG NUMBER: S122DIW-S485D1440U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	493.8	493.0	492.3	491.5	490.9	490.2	489.5	488.8
115°	573.4	573.1	572.8	572.1	571.2	570.2	569.3	568.4
117.5°	650.4	649.7	648.9	648.0	647.1	646.1	645.2	644.2
120°	701.9	701.9	701.9	701.4	700.5	699.6	698.6	697.7
122.5°	755.0	754.2	753.5	752.7	752.1	751.4	750.6	750.0
125°	833.6	832.6	831.7	831.1	830.8	830.5	830.2	829.8
127.5°	909.9	908.8	907.7	906.6	905.6	904.6	903.6	902.6
130°	962.1	961.5	960.8	959.9	958.7	957.4	956.1	954.9
132.5°	1013.0	1011.5	1010.1	1008.9	1008.0	1006.9	1005.9	1004.8
135°	1087.8	1087.5	1087.2	1086.6	1085.6	1084.7	1083.7	1082.8
137.5°	1159.5	1159.3	1159.0	1158.3	1157.1	1155.7	1154.5	1153.2
140°	1207.8	1207.8	1207.8	1207.2	1205.9	1204.7	1203.3	1202.1
142.5°	1251.5	1251.8	1252.0	1251.5	1250.3	1249.0	1247.7	1246.4
145°	1317.9	1318.1	1318.4	1318.0	1316.7	1315.5	1314.2	1313.0
147.5°	1376.0	1376.7	1377.4	1377.1	1375.9	1374.7	1373.6	1372.3
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)