

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: P332171-840

Luminaire Tested: **S123DIW-S775D1320U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332171-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S775D1320U840-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1320 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7886.5 lumens
Efficiency: N/A
Efficacy: 128.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

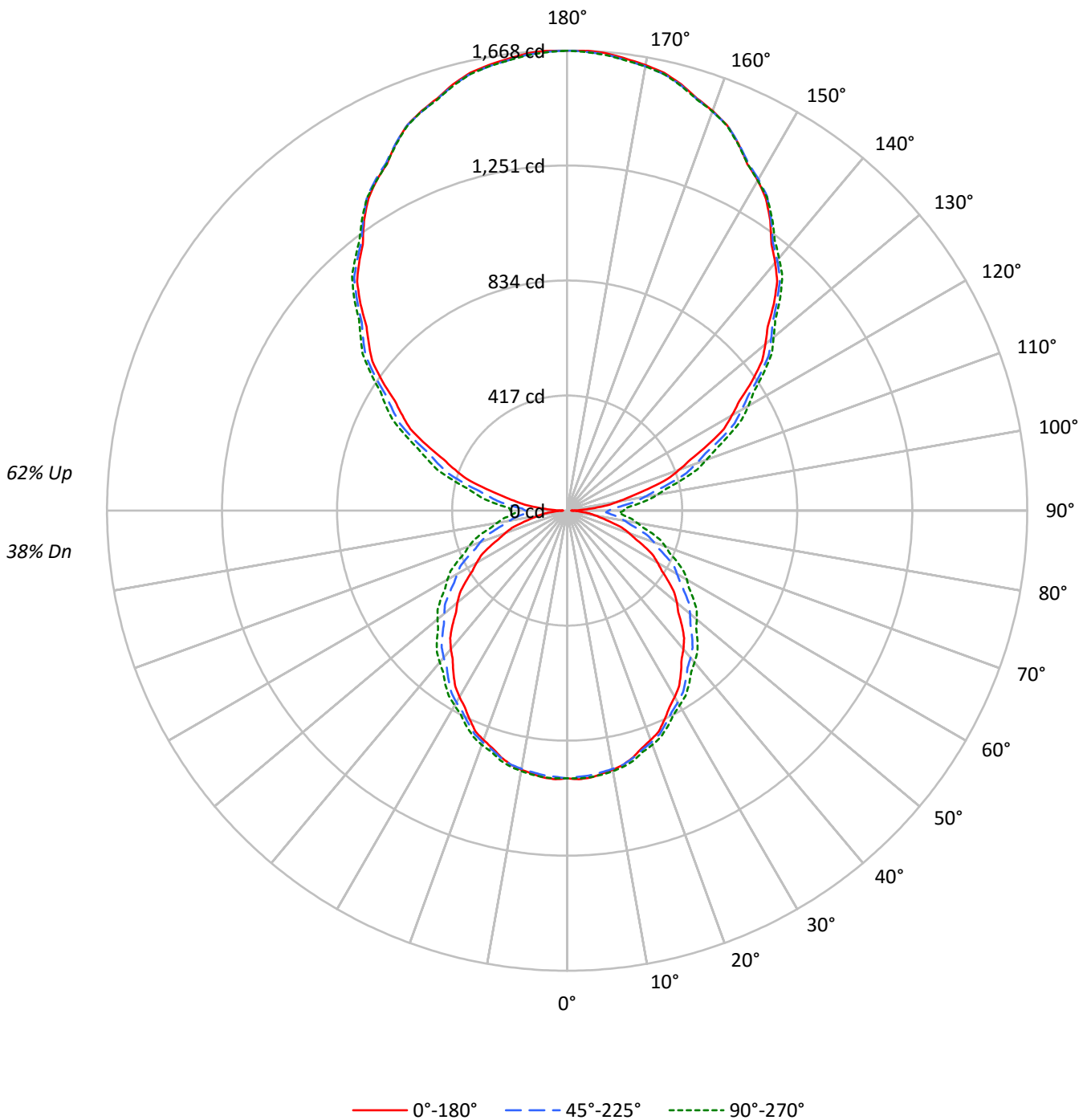
Input Watts (W): 61.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	95	95	95	95	77	77	77	60	60	60	45	45	45	38
1	94	90	86	82	85	81	78	75	66	63	61	52	50	48	39	37	36	30
2	85	78	71	66	77	71	65	61	57	53	50	45	42	40	33	32	30	25
3	78	68	61	55	70	62	55	50	50	45	42	39	36	33	29	27	25	21
4	71	60	52	46	64	55	48	42	44	39	35	35	31	28	26	24	21	17
5	65	53	45	39	59	49	41	36	40	34	30	31	27	24	23	21	19	15
6	60	48	40	34	54	43	36	31	36	30	26	28	24	21	21	18	16	13
7	55	43	35	29	50	39	32	27	32	27	23	25	22	19	19	16	14	12
8	51	39	31	26	46	35	29	24	29	24	20	23	19	16	18	15	13	10
9	48	35	28	23	43	32	26	21	27	22	18	21	17	15	16	14	12	9
10	44	32	25	20	40	30	23	19	24	19	16	20	16	13	15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10449	10449	10449
5°	10481	10185	10191
10°	10387	9951	9901
15°	10253	9685	9584
20°	10061	9380	9236
25°	9826	9030	8869
30°	9583	8714	8498
35°	9312	8382	8201
40°	9054	8079	7884
45°	8767	7788	7630
50°	8484	7501	7350
55°	8172	7206	7099
60°	7867	6907	6840
65°	7553	6588	6534
70°	7082	6231	6219
75°	6487	5819	5899
80°	5804	5417	5533
85°	5167	5142	5320



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.0	1.2
10°-20°	262.3	3.3
20°-30°	392.3	5.0
30°-40°	468.5	5.9
40°-50°	490.2	6.2
50°-60°	460.0	5.8
60°-70°	384.2	4.9
70°-80°	274.9	3.5
80°-90°	168.9	2.1
90°-100°	211.5	2.7
100°-110°	400.7	5.1
110°-120°	603.4	7.7
120°-130°	756.2	9.6
130°-140°	830.4	10.5
140°-150°	806.3	10.2
150°-160°	676.5	8.6
160°-170°	450.3	5.7
170°-180°	157.7	2.0
0°-30°	746.7	9.5
0°-40°	1215.2	15.4
0°-60°	2165.4	27.5
0°-90°	2993.4	38.0
90°-120°	1215.6	15.4
90°-150°	3608.6	45.8
90°-180°	4893.0	62.0
0°-180°	7886.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	971	971	971	971	971	
5°	972	969	963	971	971	92
15°	925	928	927	937	937	260
25°	835	846	849	862	863	385
35°	719	736	750	765	770	450
45°	588	613	640	659	668	453
55°	448	483	521	549	558	401
65°	310	351	398	428	440	306
75°	168	218	271	304	318	180
85°	52	105	161	195	207	54
90°	15	80	151	191	205	14
95°	89	140	202	238	250	96
105°	303	333	388	417	430	324
115°	562	580	614	640	648	556
125°	818	823	850	866	869	729
135°	1059	1066	1076	1089	1093	816
145°	1283	1285	1289	1296	1295	801
155°	1468	1468	1470	1474	1466	676
165°	1599	1596	1595	1602	1594	451
175°	1663	1658	1658	1665	1657	158
180°	1667	1667	1667	1667	1667	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7
2.5°	974.9	974.3	973.8	973.2	972.7	971.6	970.2	968.7	967.1	965.6	967.1
5°	971.8	971.3	970.8	970.4	969.9	969.0	967.6	966.1	964.7	963.3	965.2
7.5°	962.2	962.3	962.4	962.5	962.6	962.0	960.6	959.3	957.9	956.5	958.9
10°	953.8	954.2	954.7	955.2	955.6	955.3	954.1	953.0	951.8	950.6	953.0
12.5°	943.6	944.3	944.9	945.6	946.2	946.2	945.4	944.6	943.8	943.0	945.1
15°	925.2	925.9	926.7	927.4	928.1	928.3	928.1	927.9	927.6	927.4	929.7
17.5°	902.0	903.4	904.8	906.2	907.6	908.3	908.2	908.1	908.0	907.9	910.0
20°	885.0	886.5	887.9	889.3	890.7	891.6	892.1	892.6	893.0	893.5	895.6
22.5°	867.3	868.7	870.1	871.5	872.9	873.9	874.6	875.3	876.0	876.6	879.3
25°	835.4	837.7	840.0	842.4	844.8	846.3	847.0	847.7	848.4	849.1	852.1
27.5°	803.2	805.9	808.6	811.2	814.0	816.0	817.5	819.0	820.5	822.0	824.7
30°	780.3	783.5	786.5	789.5	792.5	795.1	796.9	798.8	800.7	802.5	805.4
32.5°	755.0	758.4	761.8	765.3	768.7	771.6	774.1	776.6	779.0	781.4	784.5
35°	719.0	722.8	726.6	730.3	734.1	737.5	740.5	743.6	746.7	749.7	753.3
37.5°	681.0	685.2	689.4	693.7	697.9	701.9	705.7	709.4	713.2	716.9	720.9
40°	655.6	659.8	664.1	668.3	672.5	677.0	681.7	686.4	691.1	695.8	699.7
42.5°	627.6	632.9	638.0	643.2	648.3	653.4	658.2	663.2	668.0	673.0	677.3
45°	587.9	593.6	599.2	604.8	610.5	616.2	622.1	627.9	633.9	639.7	644.2
47.5°	546.2	552.7	559.1	565.4	571.8	578.3	585.1	591.8	598.5	605.2	610.3
50°	519.2	525.7	532.3	539.0	545.5	552.4	559.8	567.0	574.3	581.6	586.9
52.5°	490.4	497.4	504.3	511.3	518.3	525.7	533.8	541.8	549.9	557.8	563.5
55°	448.4	456.1	463.8	471.6	479.4	487.5	495.9	504.4	512.8	521.3	527.7
57.5°	407.3	415.4	423.4	431.5	439.7	448.3	457.6	466.9	476.1	485.3	491.7
60°	378.6	387.0	395.5	403.9	412.4	421.4	431.1	440.7	450.3	460.0	466.6
62.5°	351.4	360.1	368.8	377.4	386.1	395.5	405.7	415.9	426.1	436.3	442.8
65°	309.8	319.0	328.1	337.3	346.5	356.2	366.6	376.9	387.3	397.6	404.7
67.5°	267.5	277.2	287.0	296.7	306.4	316.6	327.1	337.6	348.1	358.7	366.4
70°	237.9	248.0	258.1	268.2	278.3	289.0	300.3	311.5	322.9	334.2	341.6
72.5°	210.9	221.0	231.1	241.2	251.3	262.2	273.8	285.5	297.1	308.7	316.5
75°	168.1	179.2	190.3	201.3	212.3	223.7	235.4	247.2	258.9	270.7	278.4
77.5°	130.9	142.1	153.2	164.3	175.4	186.9	198.8	210.7	222.5	234.3	242.5
80°	104.7	116.2	127.7	139.3	150.8	162.6	174.8	187.0	199.2	211.5	219.4
82.5°	81.8	93.5	105.2	116.9	128.7	140.7	153.1	165.5	177.9	190.4	198.3
85°	51.8	63.5	75.3	87.1	98.8	110.9	123.4	135.8	148.2	160.8	168.7
87.5°	28.4	40.7	52.9	65.2	77.6	90.1	102.8	115.5	128.3	141.0	149.3
90°	15.0	29.5	43.9	58.4	72.7	87.9	103.6	119.4	135.1	150.9	160.1
92.5°	44.6	57.0	69.4	81.7	94.0	107.2	121.2	135.1	149.1	163.0	171.8
95°	88.9	100.1	111.3	122.5	133.7	146.2	160.1	173.9	187.7	201.6	210.1
97.5°	147.6	157.4	167.2	177.0	186.7	198.0	210.7	223.4	236.1	248.7	257.1
100°	187.6	196.9	206.2	215.4	224.7	235.5	247.7	260.0	272.3	284.6	292.3
102.5°	234.0	241.8	249.5	257.4	265.2	275.4	287.9	300.4	313.1	325.6	333.1
105°	303.2	309.4	315.6	321.8	328.0	337.5	350.2	362.9	375.7	388.4	395.0
107.5°	382.5	387.7	392.8	398.0	403.1	411.0	421.6	432.3	442.9	453.5	460.8
110°	432.0	436.9	441.6	446.5	451.3	458.7	468.7	478.7	488.6	498.6	505.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	484.4	488.3	492.1	495.8	499.7	506.2	515.3	524.5	533.6	542.8	550.1
115°	562.0	565.6	569.4	573.0	576.7	582.5	590.4	598.2	606.1	614.0	620.0
117.5°	640.9	643.2	645.5	647.8	650.2	654.9	662.1	669.2	676.4	683.6	689.1
120°	689.2	692.2	695.1	698.0	700.9	705.5	711.9	718.1	724.5	730.7	735.9
122.5°	740.5	742.5	744.4	746.3	748.1	752.5	759.0	765.7	772.2	778.9	783.4
125°	817.9	818.7	819.6	820.5	821.3	824.9	831.1	837.4	843.6	849.8	853.6
127.5°	890.2	891.8	893.4	895.0	896.7	900.0	904.9	910.0	914.9	920.0	923.0
130°	938.4	940.5	942.5	944.6	946.7	949.7	953.5	957.4	961.2	965.0	968.3
132.5°	985.7	988.0	990.3	992.6	994.8	997.5	1000.7	1003.8	1006.9	1010.0	1012.9
135°	1059.1	1060.7	1062.1	1063.6	1065.1	1067.0	1069.3	1071.7	1073.9	1076.2	1079.2
137.5°	1127.0	1128.2	1129.5	1130.8	1132.1	1133.8	1136.0	1138.2	1140.4	1142.7	1145.2
140°	1173.3	1174.8	1176.2	1177.7	1179.1	1180.3	1181.3	1182.3	1183.4	1184.4	1187.6
142.5°	1216.3	1217.5	1218.8	1220.0	1221.3	1222.3	1222.9	1223.7	1224.3	1225.0	1227.8
145°	1283.3	1283.6	1284.0	1284.3	1284.8	1285.4	1286.2	1287.1	1288.0	1288.8	1290.4
147.5°	1340.9	1342.0	1343.0	1344.1	1345.1	1346.0	1346.9	1347.7	1348.5	1349.3	1349.9
150°	1381.8	1382.4	1383.0	1383.5	1384.1	1384.7	1385.3	1385.8	1386.4	1387.0	1387.0
152.5°	1415.3	1416.1	1416.9	1417.7	1418.6	1419.2	1419.6	1419.9	1420.3	1420.6	1421.1
155°	1468.2	1468.2	1468.2	1468.2	1468.2	1468.4	1468.6	1468.9	1469.3	1469.6	1470.8
157.5°	1513.3	1513.0	1512.6	1512.3	1511.9	1511.9	1512.1	1512.3	1512.6	1512.8	1514.0
160°	1541.6	1541.1	1540.4	1539.8	1539.2	1538.9	1538.9	1538.9	1538.9	1538.9	1540.4
162.5°	1566.7	1565.9	1565.1	1564.3	1563.5	1563.2	1563.5	1563.7	1563.9	1564.1	1565.6
165°	1599.2	1598.3	1597.5	1596.6	1595.8	1595.3	1595.3	1595.3	1595.3	1595.3	1597.0
167.5°	1625.2	1624.0	1622.9	1621.6	1620.5	1620.0	1620.2	1620.5	1620.7	1620.9	1622.8
170°	1639.8	1638.7	1637.5	1636.4	1635.2	1634.6	1634.6	1634.6	1634.6	1634.6	1636.6
172.5°	1651.3	1650.2	1649.0	1647.9	1646.7	1646.1	1646.1	1646.1	1646.1	1646.1	1647.9
175°	1663.4	1662.2	1661.1	1659.9	1658.7	1658.2	1658.2	1658.2	1658.2	1658.2	1659.9
177.5°	1668.4	1667.5	1666.5	1665.6	1664.7	1664.2	1664.2	1664.2	1664.2	1664.2	1665.6
180°	1667.4	1667.4	1667.4	1667.4	1667.4	1667.4	1667.4	1667.4	1667.4	1667.4	1667.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7
2.5°	968.7	970.2	971.6	972.3	972.1	971.9	971.7	971.6
5°	967.0	969.0	970.8	971.6	971.4	971.2	971.0	970.7
7.5°	961.2	963.6	965.9	966.9	966.6	966.4	966.1	965.8
10°	955.3	957.7	960.0	961.0	960.5	960.0	959.6	959.1
12.5°	947.4	949.5	951.6	952.5	952.0	951.6	951.1	950.6
15°	932.0	934.4	936.8	937.8	937.6	937.4	937.1	936.9
17.5°	912.1	914.2	916.4	917.3	917.0	916.6	916.3	915.9
20°	897.8	899.9	902.0	903.1	903.4	903.6	903.8	904.1
22.5°	881.9	884.6	887.3	888.6	888.5	888.3	888.2	888.0
25°	855.3	858.3	861.3	862.8	862.8	862.8	862.8	862.8
27.5°	827.3	829.9	832.5	833.9	834.1	834.4	834.6	834.8
30°	808.2	811.0	813.9	815.3	815.3	815.3	815.3	815.3
32.5°	787.4	790.4	793.5	795.3	795.8	796.4	796.9	797.5
35°	756.8	760.3	763.8	766.1	767.0	767.9	768.8	769.8
37.5°	724.9	728.9	732.9	735.3	736.0	736.8	737.5	738.3
40°	703.8	707.7	711.8	714.2	715.2	716.1	717.0	718.0
42.5°	681.7	686.0	690.4	693.3	694.6	695.9	697.2	698.5
45°	648.6	653.1	657.6	660.8	662.7	664.5	666.4	668.3
47.5°	615.3	620.4	625.4	628.6	630.1	631.6	633.0	634.4
50°	592.4	597.7	603.2	606.7	608.3	610.0	611.7	613.3
52.5°	569.1	574.7	580.3	584.1	586.1	588.1	590.2	592.2
55°	534.0	540.4	546.6	550.8	552.7	554.5	556.4	558.4
57.5°	498.2	504.5	510.9	515.2	517.5	519.7	521.8	524.0
60°	473.1	479.7	486.3	490.9	493.4	496.0	498.7	501.2
62.5°	449.5	456.1	462.6	467.1	469.5	471.9	474.3	476.7
65°	411.7	418.7	425.8	430.5	432.8	435.2	437.6	439.9
67.5°	374.1	381.8	389.5	394.4	396.3	398.3	400.3	402.2
70°	349.2	356.7	364.3	369.1	371.5	373.9	376.2	378.6
72.5°	324.2	331.8	339.6	344.7	347.0	349.3	351.6	354.1
75°	286.2	294.0	301.7	307.0	309.8	312.7	315.5	318.3
77.5°	250.6	258.8	267.0	272.2	274.4	276.5	278.7	280.8
80°	227.4	235.4	243.5	248.6	251.0	253.3	255.7	258.0
82.5°	206.3	214.3	222.3	227.4	229.8	232.2	234.5	236.8
85°	176.7	184.7	192.7	197.8	200.2	202.6	204.9	207.2
87.5°	157.4	165.6	173.9	179.3	181.7	184.2	186.6	189.1
90°	169.3	178.3	187.5	193.6	196.5	199.4	202.4	205.3
92.5°	180.5	189.2	197.9	203.2	205.0	206.8	208.6	210.5
95°	218.5	226.9	235.4	240.8	243.2	245.5	247.8	250.2
97.5°	265.4	273.8	282.2	287.4	289.6	291.9	294.1	296.3
100°	299.9	307.6	315.3	320.6	323.6	326.5	329.4	332.3
102.5°	340.5	348.1	355.6	360.4	362.6	364.9	367.1	369.3
105°	401.5	408.2	414.8	419.4	422.0	424.7	427.5	430.2
107.5°	468.1	475.2	482.5	487.0	488.7	490.4	492.1	493.8
110°	513.1	520.4	527.7	532.0	533.3	534.5	535.8	537.1



TEST NUMBER: P332171-840

CATALOG NUMBER: S123DIW-S775D1320U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	557.4	564.7	572.0	576.6	578.7	580.6	582.5	584.5
115°	625.9	631.8	637.7	641.5	643.1	644.7	646.2	647.8
117.5°	694.7	700.2	705.8	709.0	710.0	711.0	712.1	713.1
120°	740.9	746.1	751.1	754.3	755.4	756.4	757.5	758.5
122.5°	787.8	792.2	796.7	799.4	800.2	801.0	801.8	802.7
125°	857.4	861.1	864.9	867.1	867.5	868.0	868.5	869.0
127.5°	926.0	929.1	932.1	933.7	933.9	934.2	934.5	934.7
130°	971.6	974.9	978.2	979.6	978.9	978.3	977.7	977.0
132.5°	1015.7	1018.7	1021.5	1023.0	1023.0	1023.0	1023.1	1023.1
135°	1082.4	1085.4	1088.5	1090.4	1091.0	1091.5	1092.1	1092.7
137.5°	1147.6	1150.1	1152.7	1153.9	1154.0	1154.1	1154.1	1154.2
140°	1190.8	1194.1	1197.3	1198.4	1197.6	1196.7	1195.9	1195.0
142.5°	1230.7	1233.6	1236.4	1237.6	1237.2	1236.8	1236.5	1236.1
145°	1292.0	1293.5	1295.2	1295.9	1295.7	1295.4	1295.2	1294.9
147.5°	1350.5	1351.0	1351.6	1351.4	1350.5	1349.6	1348.7	1347.8
150°	1387.0	1387.0	1387.0	1386.4	1385.1	1383.8	1382.6	1381.3
152.5°	1421.5	1422.0	1422.4	1422.0	1420.6	1419.2	1417.7	1416.3
155°	1471.9	1473.1	1474.2	1473.8	1471.8	1469.8	1467.6	1465.6
157.5°	1515.2	1516.4	1517.7	1517.4	1515.8	1514.2	1512.6	1511.0
160°	1541.9	1543.4	1544.8	1545.0	1543.8	1542.7	1541.5	1540.2
162.5°	1567.0	1568.5	1569.9	1569.7	1567.9	1566.0	1564.2	1562.3
165°	1598.8	1600.5	1602.3	1602.2	1600.1	1598.1	1596.0	1594.0
167.5°	1624.6	1626.4	1628.2	1628.2	1626.4	1624.6	1622.8	1620.9
170°	1638.7	1640.7	1642.7	1642.7	1640.7	1638.7	1636.6	1634.6
172.5°	1649.7	1651.5	1653.4	1653.3	1651.2	1649.1	1647.1	1645.1
175°	1661.6	1663.4	1665.2	1665.0	1662.9	1660.9	1658.9	1656.9
177.5°	1667.0	1668.4	1669.8	1669.7	1668.0	1666.4	1664.8	1663.1
180°	1667.4	1667.4	1667.4	1667.4	1667.4	1667.4	1667.4	1667.4

(END OF REPORT)