

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: P332177-830

Luminaire Tested: **S123DIW-S775D1535U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332177-830
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-S775D1535U830-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1535 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8062.9 lumens
Efficiency: N/A
Efficacy: 118.4 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

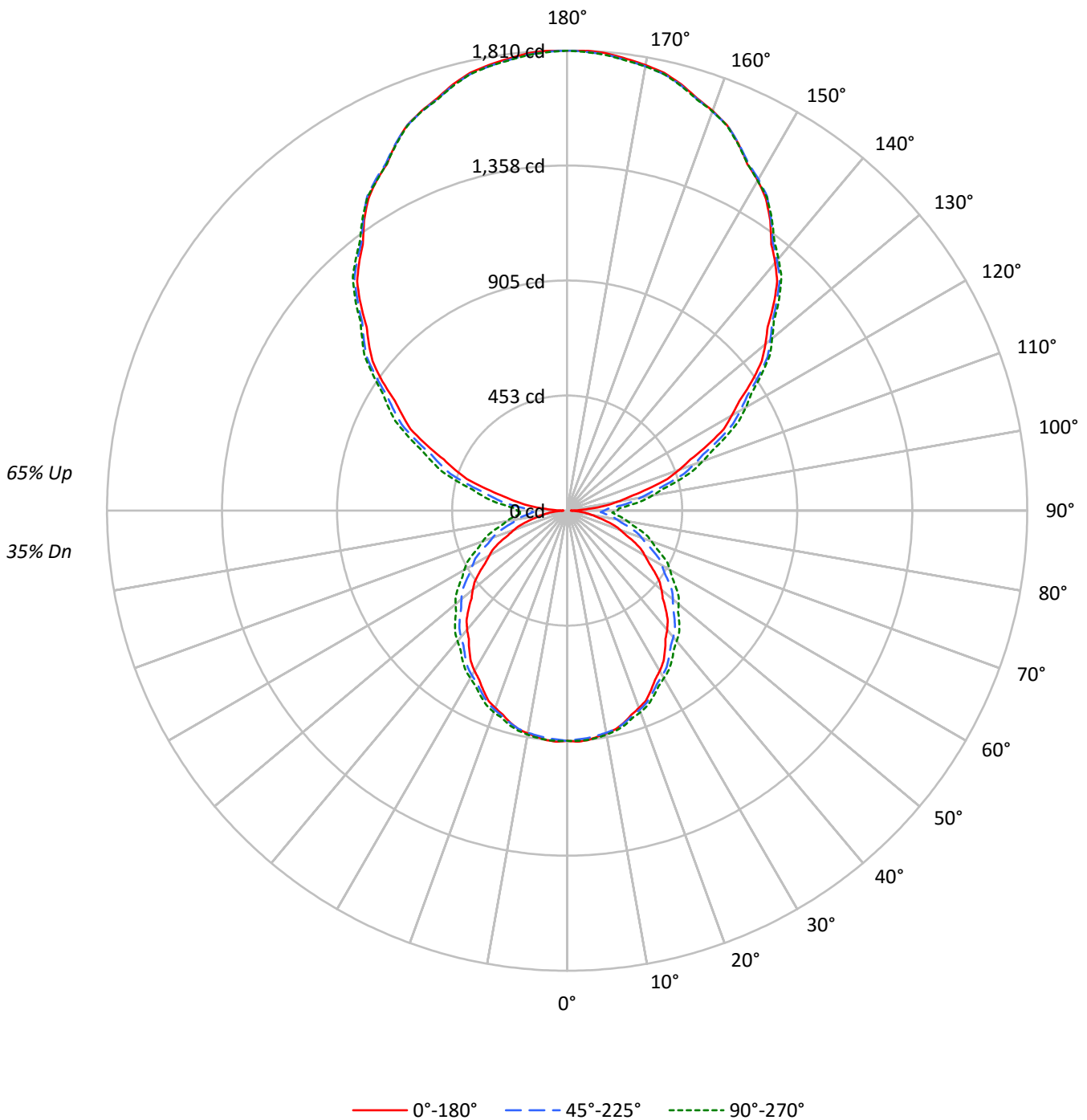
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	103	103	103	103	93	93	93	93	75	75	75	58	58	58	42	42	42	35
1	94	89	85	81	84	80	77	74	64	62	60	50	48	46	36	35	34	28
2	85	77	71	66	76	70	65	60	56	52	49	43	40	38	31	30	28	23
3	77	68	60	54	69	61	55	50	49	44	41	38	35	32	27	25	24	19
4	70	60	52	46	63	54	47	42	43	38	34	34	30	27	24	22	20	16
5	65	53	45	39	58	48	41	36	39	33	29	30	26	23	22	19	17	14
6	59	47	39	33	53	43	36	31	35	29	25	27	23	20	20	17	15	12
7	55	43	35	29	49	39	32	27	31	26	22	24	21	18	18	15	13	11
8	51	39	31	26	46	35	28	24	28	23	20	22	19	16	16	14	12	9
9	47	35	28	23	42	32	25	21	26	21	17	20	17	14	15	13	11	8
10	44	32	25	20	40	29	23	19	24	19	16	19	15	13	14	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9752	9752	9752
5°	9782	9507	9512
10°	9694	9287	9240
15°	9570	9038	8945
20°	9390	8755	8621
25°	9171	8428	8278
30°	8945	8133	7931
35°	8692	7823	7655
40°	8450	7540	7358
45°	8182	7269	7122
50°	7918	7000	6860
55°	7627	6725	6625
60°	7343	6446	6385
65°	7051	6149	6098
70°	6611	5815	5805
75°	6055	5432	5506
80°	5416	5056	5164
85°	4828	4799	4966



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.9	1.1
10°-20°	244.8	3.0
20°-30°	366.2	4.5
30°-40°	437.3	5.4
40°-50°	457.5	5.7
50°-60°	429.4	5.3
60°-70°	358.6	4.4
70°-80°	256.6	3.2
80°-90°	158.4	2.0
90°-100°	213.9	2.7
100°-110°	423.3	5.3
110°-120°	647.1	8.0
120°-130°	816.2	10.1
130°-140°	899.2	11.2
140°-150°	874.6	10.8
150°-160°	734.1	9.1
160°-170°	488.7	6.1
170°-180°	171.1	2.1
0°-30°	696.9	8.6
0°-40°	1134.2	14.1
0°-60°	2021.1	25.1
0°-90°	2794.6	34.7
90°-120°	1284.4	15.9
90°-150°	3874.3	48.1
90°-180°	5268.0	65.3
0°-180°	8062.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	906	906	906	906	906	
5°	907	905	899	906	906	86
15°	864	866	866	875	874	243
25°	780	789	792	805	805	359
35°	671	687	700	714	718	420
45°	549	572	597	615	624	423
55°	418	451	486	512	521	375
65°	289	328	371	400	411	286
75°	157	203	253	284	297	168
85°	48	98	150	182	193	51
90°	14	77	146	183	198	14
95°	95	144	203	238	249	103
105°	328	356	409	436	449	350
115°	609	626	658	682	689	603
125°	887	892	917	931	933	791
135°	1149	1157	1166	1178	1180	885
145°	1392	1394	1398	1405	1403	869
155°	1593	1593	1595	1600	1590	733
165°	1735	1731	1731	1739	1730	489
175°	1805	1800	1799	1807	1798	171
180°	1809	1809	1809	1809	1809	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	906.0	906.0	906.0	906.0	906.0	906.0	906.0	906.0	906.0	906.0	906.0
2.5°	909.9	909.4	908.9	908.3	907.9	906.8	905.5	904.1	902.7	901.3	902.7
5°	907.0	906.5	906.1	905.7	905.2	904.4	903.1	901.7	900.4	899.1	900.9
7.5°	898.1	898.1	898.2	898.3	898.4	897.9	896.5	895.3	894.0	892.8	894.9
10°	890.2	890.6	891.1	891.6	891.9	891.6	890.5	889.5	888.3	887.2	889.5
12.5°	880.7	881.4	881.9	882.6	883.2	883.2	882.4	881.7	880.9	880.1	882.1
15°	863.6	864.2	864.9	865.5	866.2	866.4	866.2	866.0	865.7	865.5	867.7
17.5°	841.9	843.2	844.5	845.7	847.1	847.7	847.6	847.5	847.4	847.3	849.3
20°	826.0	827.4	828.7	830.0	831.3	832.2	832.6	833.1	833.5	834.0	835.9
22.5°	809.5	810.8	812.1	813.4	814.7	815.7	816.3	816.9	817.6	818.1	820.7
25°	779.7	781.8	784.0	786.3	788.4	789.9	790.5	791.2	791.8	792.5	795.3
27.5°	749.7	752.1	754.7	757.1	759.7	761.6	763.0	764.4	765.8	767.2	769.7
30°	728.3	731.2	734.1	736.9	739.7	742.1	743.8	745.6	747.3	749.0	751.7
32.5°	704.6	707.8	711.1	714.3	717.5	720.2	722.5	724.8	727.1	729.3	732.2
35°	671.1	674.6	678.2	681.6	685.1	688.3	691.2	694.0	696.9	699.7	703.0
37.5°	635.6	639.5	643.5	647.4	651.4	655.1	658.6	662.1	665.6	669.1	672.9
40°	611.9	615.9	619.8	623.8	627.6	631.9	636.2	640.6	645.0	649.4	653.1
42.5°	585.8	590.7	595.5	600.3	605.1	609.8	614.3	619.0	623.5	628.1	632.2
45°	548.7	554.0	559.2	564.5	569.8	575.1	580.6	586.1	591.6	597.1	601.2
47.5°	509.8	515.9	521.8	527.7	533.7	539.8	546.1	552.3	558.6	564.9	569.6
50°	484.6	490.7	496.8	503.0	509.2	515.6	522.5	529.2	536.0	542.8	547.8
52.5°	457.7	464.2	470.7	477.2	483.7	490.7	498.2	505.7	513.2	520.7	525.9
55°	418.5	425.7	432.9	440.2	447.4	455.0	462.9	470.8	478.6	486.5	492.5
57.5°	380.1	387.7	395.2	402.7	410.4	418.4	427.1	435.7	444.3	453.0	458.9
60°	353.4	361.2	369.1	377.0	384.9	393.3	402.4	411.3	420.3	429.3	435.5
62.5°	328.0	336.1	344.2	352.2	360.3	369.1	378.6	388.1	397.7	407.2	413.3
65°	289.2	297.7	306.2	314.8	323.4	332.4	342.1	351.8	361.5	371.1	377.7
67.5°	249.7	258.7	267.9	276.9	286.0	295.5	305.3	315.1	324.9	334.8	342.0
70°	222.1	231.5	240.9	250.3	259.8	269.8	280.3	290.8	301.3	311.9	318.9
72.5°	196.8	206.2	215.7	225.1	234.5	244.7	255.5	266.5	277.3	288.1	295.4
75°	156.9	167.2	177.6	187.8	198.1	208.8	219.7	230.7	241.7	252.7	259.9
77.5°	122.2	132.6	143.0	153.4	163.7	174.5	185.6	196.6	207.6	218.7	226.3
80°	97.7	108.5	119.2	130.0	140.7	151.7	163.2	174.6	186.0	197.4	204.8
82.5°	76.3	87.3	98.2	109.1	120.1	131.3	142.9	154.5	166.1	177.7	185.1
85°	48.4	59.3	70.3	81.2	92.2	103.5	115.2	126.8	138.4	150.1	157.5
87.5°	26.6	38.1	49.7	61.2	72.8	84.5	96.5	108.6	120.6	132.5	140.3
90°	14.2	28.2	42.0	56.0	69.8	84.5	99.7	115.1	130.4	145.6	154.4
92.5°	46.5	58.2	70.1	82.0	93.8	106.4	119.7	133.1	146.5	159.8	168.1
95°	94.7	105.5	116.2	127.0	137.8	149.8	163.1	176.3	189.6	202.8	210.9
97.5°	158.6	168.0	177.4	186.7	196.0	206.8	218.9	231.0	243.1	255.1	263.2
100°	202.2	211.1	220.0	228.9	237.8	248.1	259.8	271.5	283.1	294.8	302.1
102.5°	252.6	260.0	267.5	274.9	282.4	292.1	304.1	316.1	328.1	340.1	347.2
105°	327.7	333.6	339.5	345.3	351.3	360.3	372.6	384.9	397.2	409.4	415.6
107.5°	414.1	418.9	423.8	428.6	433.5	440.9	451.0	461.1	471.2	481.3	488.1
110°	467.9	472.4	477.0	481.5	486.2	493.1	502.6	512.0	521.4	530.7	537.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	524.7	528.3	532.0	535.6	539.2	545.3	553.8	562.4	570.9	579.5	586.5
115°	609.0	612.6	616.1	619.7	623.3	628.8	636.0	643.3	650.5	657.8	663.4
117.5°	694.7	696.9	699.2	701.4	703.7	708.0	714.6	721.2	727.8	734.4	739.6
120°	747.2	750.3	753.3	756.3	759.2	763.6	769.2	774.9	780.5	786.2	791.0
122.5°	803.0	804.9	806.9	808.9	810.9	814.8	821.0	827.0	833.0	839.1	843.2
125°	887.0	888.0	888.9	889.9	890.8	894.1	899.8	905.6	911.3	917.1	920.4
127.5°	965.4	967.2	969.0	970.9	972.7	975.9	980.4	985.0	989.6	994.1	996.7
130°	1017.8	1020.1	1022.4	1024.7	1027.0	1029.9	1033.3	1036.8	1040.2	1043.6	1046.5
132.5°	1069.3	1071.8	1074.2	1076.8	1079.2	1081.9	1084.7	1087.5	1090.3	1093.2	1095.6
135°	1149.0	1150.7	1152.4	1154.0	1155.7	1157.5	1159.6	1161.8	1163.9	1165.9	1168.7
137.5°	1222.7	1224.1	1225.5	1226.9	1228.3	1230.1	1232.3	1234.4	1236.6	1238.8	1241.0
140°	1273.1	1274.6	1276.2	1277.8	1279.4	1280.6	1281.6	1282.6	1283.6	1284.5	1287.5
142.5°	1319.7	1321.1	1322.5	1323.9	1325.3	1326.3	1327.0	1327.8	1328.4	1329.2	1331.7
145°	1392.4	1392.9	1393.3	1393.6	1394.1	1394.8	1395.7	1396.7	1397.6	1398.5	1400.0
147.5°	1455.1	1456.2	1457.4	1458.6	1459.7	1460.7	1461.6	1462.4	1463.3	1464.2	1464.7
150°	1499.5	1500.2	1500.7	1501.4	1502.0	1502.6	1503.3	1503.9	1504.5	1505.1	1505.1
152.5°	1535.9	1536.7	1537.7	1538.5	1539.4	1540.0	1540.4	1540.8	1541.2	1541.5	1542.1
155°	1593.3	1593.3	1593.3	1593.3	1593.3	1593.5	1593.7	1594.0	1594.4	1594.7	1596.0
157.5°	1642.2	1641.8	1641.4	1641.1	1640.7	1640.6	1640.9	1641.1	1641.3	1641.6	1642.9
160°	1672.9	1672.3	1671.6	1670.9	1670.4	1670.0	1670.0	1670.0	1670.0	1670.0	1671.6
162.5°	1700.2	1699.3	1698.4	1697.5	1696.7	1696.3	1696.6	1696.9	1697.0	1697.3	1698.9
165°	1735.4	1734.5	1733.5	1732.6	1731.6	1731.2	1731.2	1731.2	1731.2	1731.2	1733.1
167.5°	1763.6	1762.3	1761.0	1759.7	1758.5	1758.0	1758.2	1758.5	1758.8	1759.0	1761.0
170°	1779.4	1778.2	1777.0	1775.7	1774.4	1773.8	1773.8	1773.8	1773.8	1773.8	1776.0
172.5°	1792.0	1790.7	1789.4	1788.2	1787.0	1786.3	1786.3	1786.3	1786.3	1786.3	1788.3
175°	1805.1	1803.8	1802.5	1801.3	1800.0	1799.4	1799.4	1799.4	1799.4	1799.4	1801.3
177.5°	1810.4	1809.5	1808.5	1807.4	1806.4	1805.9	1805.9	1805.9	1805.9	1805.9	1807.4
180°	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	906.0	906.0	906.0	906.0	906.0	906.0	906.0	906.0
2.5°	904.1	905.5	906.8	907.5	907.3	907.1	906.9	906.8
5°	902.6	904.4	906.1	906.8	906.6	906.4	906.3	906.0
7.5°	897.1	899.4	901.5	902.5	902.2	902.0	901.7	901.4
10°	891.6	893.8	896.0	896.9	896.5	896.0	895.6	895.1
12.5°	884.2	886.2	888.2	889.0	888.5	888.2	887.7	887.2
15°	869.9	872.1	874.3	875.2	875.1	874.9	874.6	874.4
17.5°	851.3	853.3	855.3	856.1	855.8	855.5	855.2	854.9
20°	837.9	839.9	841.9	842.9	843.2	843.4	843.6	843.9
22.5°	823.1	825.7	828.1	829.3	829.2	829.1	829.0	828.8
25°	798.2	801.1	803.9	805.3	805.3	805.3	805.3	805.3
27.5°	772.1	774.6	777.0	778.4	778.5	778.7	778.9	779.1
30°	754.3	757.0	759.6	760.9	760.9	760.9	760.9	760.9
32.5°	734.9	737.7	740.6	742.3	742.7	743.3	743.8	744.3
35°	706.3	709.6	712.8	715.0	715.9	716.7	717.6	718.5
37.5°	676.6	680.3	684.0	686.3	686.9	687.7	688.3	689.1
40°	656.9	660.5	664.3	666.6	667.5	668.4	669.2	670.1
42.5°	636.2	640.3	644.4	647.1	648.3	649.5	650.7	652.0
45°	605.4	609.5	613.8	616.7	618.5	620.2	622.0	623.8
47.5°	574.3	579.0	583.7	586.7	588.1	589.5	590.8	592.1
50°	552.9	557.9	563.0	566.3	567.8	569.3	570.9	572.4
52.5°	531.1	536.4	541.6	545.2	547.1	548.9	550.8	552.7
55°	498.4	504.4	510.2	514.1	515.9	517.6	519.3	521.1
57.5°	465.0	470.9	476.8	480.9	483.0	485.0	487.0	489.1
60°	441.6	447.7	453.8	458.2	460.5	463.0	465.4	467.8
62.5°	419.5	425.7	431.8	435.9	438.2	440.5	442.7	444.9
65°	384.3	390.8	397.4	401.8	404.0	406.1	408.4	410.6
67.5°	349.1	356.4	363.5	368.1	369.9	371.7	373.6	375.4
70°	325.9	332.9	340.0	344.5	346.8	348.9	351.1	353.4
72.5°	302.6	309.7	317.0	321.7	323.9	326.0	328.2	330.5
75°	267.1	274.4	281.6	286.5	289.2	291.8	294.5	297.1
77.5°	233.9	241.6	249.2	254.0	256.1	258.1	260.1	262.1
80°	212.3	219.7	227.2	232.1	234.2	236.4	238.7	240.8
82.5°	192.6	200.0	207.5	212.3	214.5	216.7	218.9	221.0
85°	164.9	172.4	179.8	184.6	186.8	189.1	191.2	193.4
87.5°	148.0	155.7	163.4	168.4	170.7	173.1	175.4	177.7
90°	163.1	171.8	180.5	186.2	189.1	191.9	194.7	197.6
92.5°	176.3	184.6	192.9	197.9	199.5	201.2	202.8	204.4
95°	219.0	227.1	235.2	240.3	242.4	244.7	246.9	249.0
97.5°	271.2	279.2	287.1	292.2	294.3	296.3	298.4	300.4
100°	309.4	316.7	324.0	329.1	331.9	334.7	337.5	340.4
102.5°	354.4	361.5	368.6	373.2	375.3	377.4	379.4	381.4
105°	421.7	427.9	434.0	438.4	441.0	443.6	446.2	448.8
107.5°	495.0	501.9	508.9	513.0	514.6	516.1	517.7	519.2
110°	544.7	551.7	558.6	562.7	563.8	565.0	566.1	567.1



TEST NUMBER: P332177-830

CATALOG NUMBER: S123DIW-S775D1535U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	593.5	600.6	607.7	612.1	613.9	615.7	617.5	619.3
115°	668.9	674.5	680.1	683.6	685.0	686.5	688.0	689.4
117.5°	744.8	749.9	755.1	758.1	758.9	759.7	760.5	761.4
120°	795.7	800.4	805.1	807.9	808.9	809.7	810.7	811.5
122.5°	847.3	851.3	855.3	857.6	858.3	858.9	859.6	860.3
125°	923.7	927.1	930.4	932.3	932.5	932.7	933.0	933.3
127.5°	999.3	1001.8	1004.5	1005.7	1005.8	1005.8	1005.9	1005.9
130°	1049.4	1052.3	1055.3	1056.2	1055.4	1054.4	1053.6	1052.6
132.5°	1098.1	1100.5	1103.1	1104.2	1103.9	1103.7	1103.5	1103.3
135°	1171.3	1174.0	1176.7	1178.3	1178.7	1179.2	1179.7	1180.2
137.5°	1243.1	1245.2	1247.4	1248.4	1248.3	1248.2	1248.1	1247.9
140°	1290.5	1293.5	1296.5	1297.4	1296.3	1295.1	1294.0	1292.9
142.5°	1334.4	1337.0	1339.6	1340.7	1340.0	1339.4	1338.8	1338.2
145°	1401.5	1402.9	1404.3	1404.9	1404.5	1404.1	1403.7	1403.3
147.5°	1465.3	1465.8	1466.3	1466.0	1464.9	1463.9	1462.7	1461.6
150°	1505.1	1505.1	1505.1	1504.4	1503.0	1501.6	1500.1	1498.6
152.5°	1542.6	1543.0	1543.6	1543.0	1541.5	1539.9	1538.4	1536.8
155°	1597.2	1598.5	1599.8	1599.3	1597.0	1594.9	1592.6	1590.4
157.5°	1644.3	1645.6	1646.9	1646.7	1644.9	1643.1	1641.3	1639.6
160°	1673.2	1674.8	1676.3	1676.5	1675.3	1674.0	1672.7	1671.4
162.5°	1700.4	1702.0	1703.6	1703.5	1701.4	1699.4	1697.3	1695.4
165°	1734.9	1736.8	1738.7	1738.6	1736.4	1734.2	1731.9	1729.8
167.5°	1762.9	1764.9	1766.8	1766.8	1764.9	1762.9	1761.0	1759.0
170°	1778.2	1780.5	1782.6	1782.6	1780.5	1778.2	1776.0	1773.8
172.5°	1790.2	1792.2	1794.1	1794.0	1791.8	1789.6	1787.3	1785.2
175°	1803.2	1805.1	1806.9	1806.8	1804.6	1802.3	1800.2	1798.0
177.5°	1808.9	1810.4	1811.9	1811.8	1810.1	1808.3	1806.6	1804.8
180°	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3

(END OF REPORT)