

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: P332171-830

Luminaire Tested: **S123DIW-S775D1320U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332171-830  
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-S775D1320U830-4F0-1E-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: 7360.8 lumens  
Efficiency: N/A  
Efficacy: 119.9 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

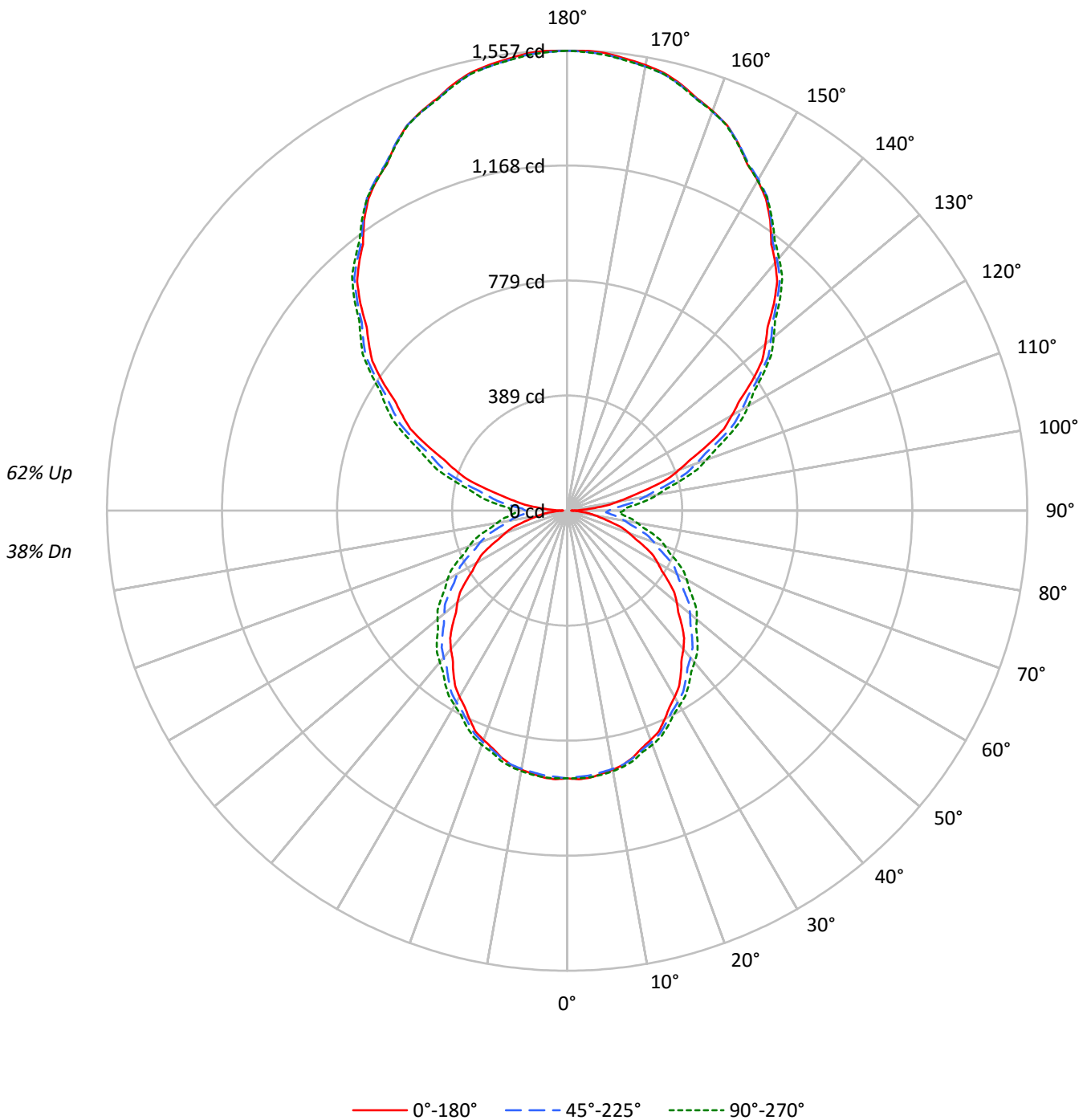
Input Watts (W): 61.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	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	1.2
10°-20°	244.8	3.3
20°-30°	366.2	5.0
30°-40°	437.3	5.9
40°-50°	457.5	6.2
50°-60°	429.4	5.8
60°-70°	358.6	4.9
70°-80°	256.6	3.5
80°-90°	157.6	2.1
90°-100°	197.4	2.7
100°-110°	374.0	5.1
110°-120°	563.2	7.7
120°-130°	705.8	9.6
130°-140°	775.1	10.5
140°-150°	752.6	10.2
150°-160°	631.4	8.6
160°-170°	420.3	5.7
170°-180°	147.2	2.0
0°-30°	696.9	9.5
0°-40°	1134.2	15.4
0°-60°	2021.1	27.5
0°-90°	2793.9	38.0
90°-120°	1134.6	15.4
90°-150°	3368.0	45.8
90°-180°	4567.0	62.0
0°-180°	7360.8	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	75	141	178	192	13
95°	83	131	188	222	234	90
105°	283	311	362	389	402	303
115°	524	541	573	597	605	519
125°	763	768	793	808	811	681
135°	988	995	1004	1017	1020	761
145°	1198	1199	1203	1209	1209	748
155°	1370	1370	1372	1376	1368	631
165°	1493	1489	1489	1495	1488	421
175°	1553	1548	1548	1554	1546	147
180°	1556	1556	1556	1556	1556	



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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°	26.5	38.0	49.4	60.9	72.4	84.1	96.0	107.8	119.7	131.6	139.3
90°	14.0	27.5	41.0	54.5	67.9	82.0	96.7	111.4	126.1	140.8	149.4
92.5°	41.7	53.2	64.8	76.3	87.8	100.1	113.1	126.1	139.1	152.1	160.3
95°	82.9	93.4	103.9	114.3	124.8	136.5	149.4	162.3	175.2	188.1	196.0
97.5°	137.8	146.9	156.1	165.2	174.3	184.8	196.6	208.5	220.4	232.1	240.0
100°	175.1	183.8	192.5	201.0	209.7	219.8	231.2	242.7	254.1	265.6	272.8
102.5°	218.4	225.6	232.9	240.3	247.5	257.0	268.7	280.4	292.2	303.9	310.9
105°	283.0	288.8	294.5	300.4	306.1	315.0	326.9	338.7	350.6	362.5	368.6
107.5°	357.0	361.8	366.6	371.5	376.3	383.6	393.5	403.5	413.4	423.3	430.1
110°	403.2	407.7	412.2	416.7	421.2	428.1	437.4	446.8	456.0	465.3	472.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	452.1	455.7	459.3	462.8	466.4	472.5	481.0	489.6	498.0	506.6	513.4
115°	524.5	527.9	531.4	534.8	538.3	543.7	551.0	558.4	565.7	573.1	578.6
117.5°	598.1	600.3	602.5	604.6	606.8	611.2	617.9	624.6	631.3	638.0	643.2
120°	643.3	646.0	648.8	651.5	654.2	658.5	664.4	670.2	676.2	682.0	686.8
122.5°	691.2	693.0	694.7	696.5	698.2	702.3	708.4	714.6	720.8	727.0	731.1
125°	763.4	764.1	765.0	765.8	766.6	769.9	775.7	781.6	787.4	793.1	796.7
127.5°	830.9	832.4	833.9	835.4	836.9	840.0	844.6	849.3	853.9	858.7	861.5
130°	875.8	877.8	879.7	881.7	883.6	886.4	889.9	893.5	897.1	900.7	903.7
132.5°	920.0	922.1	924.3	926.4	928.5	931.0	934.0	936.9	939.8	942.6	945.4
135°	988.5	990.0	991.3	992.7	994.1	995.9	998.1	1000.2	1002.3	1004.5	1007.3
137.5°	1051.9	1053.0	1054.2	1055.5	1056.6	1058.2	1060.3	1062.3	1064.4	1066.5	1068.8
140°	1095.0	1096.5	1097.8	1099.2	1100.5	1101.6	1102.6	1103.5	1104.5	1105.4	1108.4
142.5°	1135.2	1136.3	1137.6	1138.7	1139.9	1140.9	1141.4	1142.1	1142.6	1143.3	1145.9
145°	1197.8	1198.1	1198.4	1198.7	1199.1	1199.7	1200.4	1201.3	1202.1	1202.9	1204.4
147.5°	1251.5	1252.5	1253.5	1254.5	1255.5	1256.3	1257.1	1257.8	1258.6	1259.3	1259.9
150°	1289.7	1290.2	1290.8	1291.3	1291.8	1292.4	1293.0	1293.5	1294.0	1294.6	1294.6
152.5°	1321.0	1321.7	1322.5	1323.2	1324.0	1324.6	1324.9	1325.2	1325.6	1325.9	1326.3
155°	1370.4	1370.4	1370.4	1370.4	1370.4	1370.6	1370.7	1371.0	1371.3	1371.6	1372.7
157.5°	1412.4	1412.1	1411.7	1411.5	1411.1	1411.1	1411.3	1411.5	1411.7	1411.9	1413.1
160°	1438.8	1438.3	1437.8	1437.2	1436.6	1436.3	1436.3	1436.3	1436.3	1436.3	1437.8
162.5°	1462.3	1461.5	1460.8	1460.0	1459.2	1459.0	1459.2	1459.4	1459.6	1459.8	1461.2
165°	1492.6	1491.8	1491.0	1490.2	1489.4	1488.9	1488.9	1488.9	1488.9	1488.9	1490.5
167.5°	1516.8	1515.7	1514.7	1513.5	1512.5	1512.0	1512.2	1512.5	1512.7	1512.9	1514.6
170°	1530.5	1529.5	1528.3	1527.3	1526.2	1525.6	1525.6	1525.6	1525.6	1525.6	1527.5
172.5°	1541.2	1540.2	1539.1	1538.0	1536.9	1536.3	1536.3	1536.3	1536.3	1536.3	1538.0
175°	1552.6	1551.4	1550.4	1549.3	1548.1	1547.7	1547.7	1547.7	1547.7	1547.7	1549.3
177.5°	1557.2	1556.3	1555.4	1554.5	1553.7	1553.2	1553.2	1553.2	1553.2	1553.2	1554.5
180°	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2



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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°	146.9	154.6	162.3	167.3	169.6	171.9	174.2	176.5
90°	158.0	166.5	175.0	180.7	183.4	186.2	188.9	191.6
92.5°	168.4	176.6	184.7	189.6	191.3	193.0	194.7	196.4
95°	204.0	211.8	219.7	224.7	227.0	229.1	231.3	233.6
97.5°	247.7	255.5	263.3	268.2	270.3	272.4	274.5	276.5
100°	279.9	287.1	294.3	299.3	302.0	304.7	307.5	310.2
102.5°	317.8	324.9	331.9	336.4	338.5	340.5	342.6	344.7
105°	374.8	381.0	387.1	391.4	393.9	396.4	399.0	401.5
107.5°	436.9	443.6	450.3	454.5	456.1	457.7	459.3	460.9
110°	478.9	485.7	492.5	496.5	497.8	498.9	500.1	501.3





TEST NUMBER: P332171-830

CATALOG NUMBER: S123DIW-S775D1320U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	520.3	527.1	533.9	538.2	540.1	541.9	543.7	545.5
115°	584.2	589.7	595.2	598.7	600.2	601.7	603.1	604.6
117.5°	648.4	653.6	658.7	661.8	662.7	663.6	664.6	665.5
120°	691.5	696.4	701.1	704.0	705.0	706.0	707.0	707.9
122.5°	735.3	739.4	743.6	746.1	746.9	747.6	748.4	749.2
125°	800.2	803.7	807.3	809.3	809.6	810.1	810.6	811.1
127.5°	864.3	867.1	870.0	871.5	871.7	871.9	872.2	872.4
130°	906.8	909.9	912.9	914.3	913.6	913.0	912.5	911.9
132.5°	948.0	950.7	953.4	954.8	954.8	954.8	954.9	954.9
135°	1010.2	1013.0	1016.0	1017.7	1018.2	1018.7	1019.3	1019.8
137.5°	1071.1	1073.5	1075.8	1076.9	1077.0	1077.1	1077.1	1077.2
140°	1111.4	1114.5	1117.5	1118.5	1117.8	1116.9	1116.2	1115.3
142.5°	1148.7	1151.3	1154.0	1155.1	1154.7	1154.3	1154.0	1153.7
145°	1205.9	1207.3	1208.8	1209.5	1209.3	1209.0	1208.8	1208.6
147.5°	1260.5	1260.9	1261.5	1261.3	1260.5	1259.6	1258.8	1257.9
150°	1294.6	1294.6	1294.6	1294.0	1292.8	1291.6	1290.4	1289.2
152.5°	1326.7	1327.2	1327.6	1327.2	1325.9	1324.6	1323.2	1321.9
155°	1373.8	1374.9	1375.9	1375.5	1373.7	1371.8	1369.8	1367.9
157.5°	1414.2	1415.3	1416.5	1416.3	1414.8	1413.2	1411.7	1410.2
160°	1439.1	1440.5	1441.8	1442.0	1440.9	1439.8	1438.7	1437.6
162.5°	1462.5	1464.0	1465.3	1465.1	1463.4	1461.6	1459.9	1458.1
165°	1492.2	1493.8	1495.4	1495.3	1493.5	1491.6	1489.6	1487.7
167.5°	1516.3	1518.0	1519.7	1519.7	1518.0	1516.3	1514.6	1512.9
170°	1529.5	1531.3	1533.2	1533.2	1531.3	1529.5	1527.5	1525.6
172.5°	1539.7	1541.4	1543.1	1543.0	1541.2	1539.2	1537.3	1535.4
175°	1550.9	1552.6	1554.2	1554.0	1552.1	1550.2	1548.3	1546.4
177.5°	1555.9	1557.2	1558.5	1558.4	1556.8	1555.3	1553.8	1552.3
180°	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2	1556.2

(END OF REPORT)