

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: P331820-940

Luminaire Tested: **S122RDIW-S675D1240U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331820-940  
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: S122RDIW-S675D1240U940-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5905.5 lumens  
Efficiency: N/A  
Efficacy: 96.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

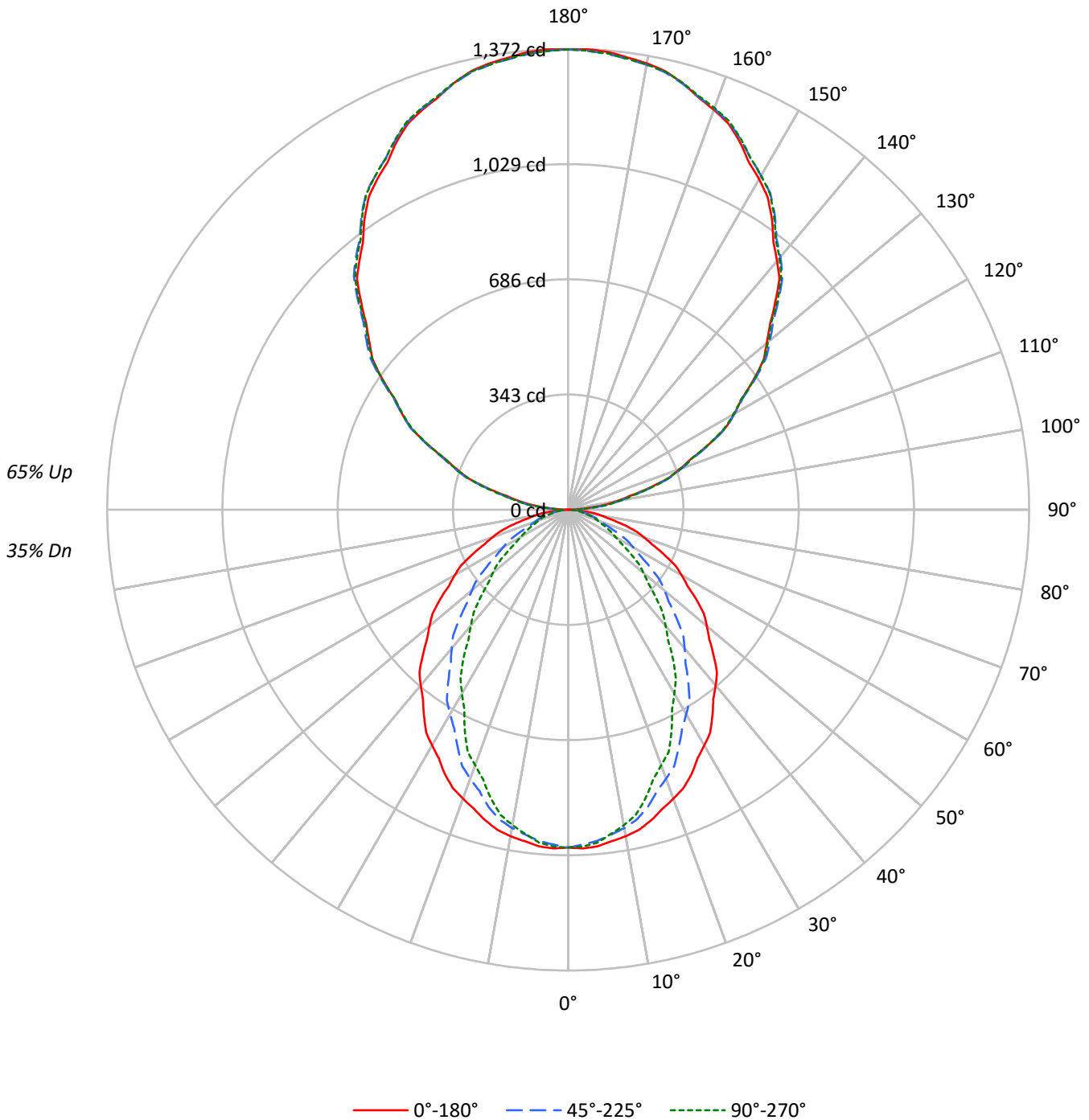
Input Watts (W): 61.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	94	94	94	94	75	75	75	58	58	58	42	42	42	35
1	95	91	87	84	86	82	79	76	66	64	62	51	50	49	38	37	36	30
2	87	80	74	69	78	72	67	63	58	55	52	46	43	41	34	32	31	26
3	79	70	63	58	71	64	58	53	52	47	44	41	38	35	30	28	27	22
4	72	62	55	49	65	57	50	45	46	41	38	36	33	30	27	25	23	19
5	67	56	48	42	60	51	44	39	41	36	33	33	29	27	25	22	21	17
6	61	50	42	37	55	46	39	34	37	32	29	30	26	23	23	20	18	15
7	57	45	37	32	51	41	34	30	34	29	25	27	23	21	21	18	16	14
8	53	41	33	28	48	37	31	26	31	26	22	25	21	19	19	17	15	12
9	49	37	30	25	44	34	28	23	28	23	20	23	19	17	18	15	13	11
10	46	34	27	23	41	31	25	21	26	21	18	21	18	15	16	14	12	10

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	16239	16239	16239
5°	16302	16037	16126
10°	16179	15775	15641
15°	15992	15308	14867
20°	15735	14639	13904
25°	15471	13881	12975
30°	15105	13103	11779
35°	14747	12254	10730
40°	14389	11377	9516
45°	13967	10392	8416
50°	13536	9399	7340
55°	13095	8329	6303
60°	12581	7201	5231
65°	12000	6052	4768
70°	11301	4985	4381
75°	10449	4548	4086
80°	9224	4063	3719
85°	7243	3205	3205



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.2	1.6
10°-20°	258.5	4.4
20°-30°	363.0	6.1
30°-40°	395.9	6.7
40°-50°	364.0	6.2
50°-60°	285.9	4.8
60°-70°	186.4	3.2
70°-80°	96.1	1.6
80°-90°	30.4	0.5
90°-100°	86.8	1.5
100°-110°	269.6	4.6
110°-120°	460.9	7.8
120°-130°	606.1	10.3
130°-140°	680.3	11.5
140°-150°	667.1	11.3
150°-160°	559.5	9.5
160°-170°	371.1	6.3
170°-180°	129.7	2.2
0°-30°	715.7	12.1
0°-40°	1111.6	18.8
0°-60°	1761.4	29.8
0°-90°	2074.3	35.1
90°-120°	817.4	13.8
90°-150°	2770.9	46.9
90°-180°	3831.0	64.9
0°-180°	5905.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1006	1006	1006	1006	1006	
5°	1006	1001	990	997	995	95
15°	957	946	916	899	889	269
25°	868	838	779	743	728	399
35°	748	700	622	566	544	468
45°	612	549	455	393	369	472
55°	465	393	296	243	224	416
65°	314	240	158	129	125	311
75°	168	106	73	67	66	177
85°	39	21	17	17	17	46
90°	1	16	40	38	39	5
95°	60	71	74	74	72	69
105°	249	252	254	257	257	263
115°	462	469	467	466	462	457
125°	673	683	680	677	675	601
135°	871	883	886	884	881	672
145°	1057	1065	1072	1073	1068	660
155°	1208	1212	1215	1220	1218	556
165°	1315	1314	1314	1321	1316	371
175°	1368	1364	1362	1369	1363	130
180°	1370	1370	1370	1370	1370	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8
2.5°	1009.5	1008.7	1007.9	1007.1	1006.3	1005.0	1003.2	1001.4	999.7	997.9	999.5
5°	1005.8	1004.9	1003.9	1002.8	1001.8	1000.1	997.4	994.8	992.1	989.5	991.3
7.5°	995.5	994.3	993.0	991.8	990.5	988.3	985.3	982.2	979.1	976.1	976.5
10°	986.8	985.3	983.9	982.5	981.1	978.4	974.3	970.3	966.3	962.2	961.6
12.5°	975.8	974.1	972.3	970.6	968.8	965.5	960.3	955.1	949.9	944.7	943.6
15°	956.7	954.5	952.3	950.0	947.8	943.3	936.4	929.5	922.7	915.8	912.0
17.5°	933.3	929.9	926.5	923.0	919.6	913.6	904.7	895.9	887.1	878.2	873.7
20°	915.8	911.7	907.7	903.7	899.6	892.5	882.3	872.3	862.2	852.0	846.9
22.5°	896.8	892.3	887.8	883.2	878.7	870.8	859.3	847.9	836.5	825.1	818.6
25°	868.4	861.9	855.5	849.0	842.6	832.6	819.3	805.9	792.6	779.2	770.9
27.5°	834.2	827.2	820.1	813.1	806.0	795.0	780.0	764.9	749.8	734.8	725.1
30°	810.2	802.5	794.8	787.1	779.4	767.5	751.3	735.1	718.9	702.8	692.4
32.5°	786.8	777.8	768.9	759.9	750.9	738.2	721.7	705.2	688.7	672.2	660.4
35°	748.2	738.0	727.6	717.3	707.0	692.9	675.1	657.4	639.5	621.7	608.9
37.5°	709.7	698.3	687.0	675.6	664.3	649.2	630.3	611.3	592.3	573.3	559.3
40°	682.7	670.6	658.4	646.3	634.2	618.3	598.7	579.1	559.5	539.8	525.5
42.5°	655.1	642.3	629.5	616.7	604.0	587.4	567.1	546.9	526.6	506.3	491.4
45°	611.7	598.2	584.6	571.1	557.5	540.1	518.9	497.7	476.4	455.1	440.8
47.5°	569.4	555.1	540.7	526.4	512.0	493.9	472.0	450.0	428.1	406.2	391.9
50°	538.9	524.5	510.1	495.8	481.4	463.2	440.9	418.7	396.4	374.2	360.2
52.5°	509.1	494.0	479.0	464.0	449.0	430.6	408.8	387.1	365.3	343.6	330.1
55°	465.2	449.4	433.6	417.9	402.1	383.3	361.4	339.6	317.7	295.9	283.7
57.5°	420.2	404.0	387.8	371.7	355.4	336.9	315.8	294.9	273.8	252.9	241.7
60°	389.6	373.4	357.2	341.1	324.9	306.4	285.5	264.7	243.9	223.0	212.7
62.5°	359.7	343.6	327.3	311.2	295.0	277.0	257.2	237.3	217.4	197.5	187.7
65°	314.1	297.7	281.2	264.9	248.5	231.2	213.0	194.8	176.6	158.4	151.5
67.5°	270.0	253.7	237.5	221.2	204.9	188.6	172.2	155.9	139.5	123.1	119.9
70°	239.4	223.6	207.9	192.1	176.3	161.4	147.5	133.5	119.6	105.6	103.5
72.5°	210.3	195.1	180.0	164.9	149.7	136.6	125.4	114.1	103.0	91.8	90.1
75°	167.5	153.4	139.2	125.0	110.8	100.3	93.5	86.6	79.7	72.9	71.4
77.5°	125.5	113.0	100.6	88.2	75.8	67.9	64.6	61.3	58.0	54.7	53.8
80°	99.2	88.9	78.6	68.3	58.0	51.8	49.8	47.7	45.7	43.7	42.9
82.5°	75.2	67.1	59.1	51.0	43.0	38.3	36.9	35.5	34.2	32.8	32.3
85°	39.1	34.9	30.7	26.4	22.1	19.7	19.1	18.5	17.9	17.3	17.3
87.5°	11.9	11.2	10.5	9.8	9.2	9.4	10.5	11.7	12.8	13.9	13.6
90°	1.2	4.3	7.3	10.4	13.5	17.8	23.5	29.2	34.8	40.5	39.9
92.5°	20.6	22.8	25.1	27.4	29.6	31.4	32.7	34.1	35.4	36.7	36.8
95°	60.1	62.7	65.3	67.9	70.4	72.0	72.5	72.9	73.5	74.0	74.0
97.5°	109.9	112.1	114.4	116.6	118.9	120.5	121.5	122.4	123.4	124.4	124.4
100°	146.9	148.9	151.0	153.0	155.1	156.5	157.2	158.0	158.8	159.5	159.5
102.5°	185.7	187.3	189.0	190.6	192.3	193.6	194.6	195.6	196.5	197.5	197.7
105°	248.6	249.3	250.1	250.9	251.6	252.4	252.8	253.3	253.9	254.4	254.9
107.5°	311.9	313.1	314.2	315.3	316.5	317.0	317.0	317.0	317.0	317.0	317.3
110°	352.7	354.2	355.7	357.3	358.8	359.6	359.6	359.6	359.6	359.6	359.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	397.1	398.6	400.1	401.7	403.2	403.9	403.7	403.5	403.2	403.1	402.4
115°	462.5	464.0	465.6	467.1	468.7	469.1	468.7	468.1	467.6	467.1	466.9
117.5°	527.7	529.8	531.8	533.9	535.9	536.3	534.8	533.3	531.9	530.5	529.9
120°	571.1	573.2	575.3	577.4	579.4	579.4	577.4	575.3	573.2	571.1	571.1
122.5°	610.9	613.4	615.9	618.3	620.8	621.3	619.9	618.5	617.0	615.5	614.9
125°	672.9	675.2	677.5	679.8	682.2	683.0	682.2	681.4	680.6	679.8	679.1
127.5°	733.3	736.2	739.1	742.1	745.0	746.0	745.1	744.1	743.2	742.3	741.4
130°	771.2	774.5	777.9	781.2	784.5	786.0	785.5	785.0	784.4	783.9	783.4
132.5°	813.8	816.5	819.2	821.9	824.7	826.1	826.2	826.3	826.3	826.4	825.4
135°	870.7	873.4	876.3	879.1	882.0	883.6	884.1	884.7	885.2	885.6	885.4
137.5°	930.5	932.8	935.1	937.5	939.8	941.3	941.9	942.6	943.3	944.0	943.8
140°	966.6	968.9	971.3	973.6	975.9	977.7	978.9	980.3	981.5	982.8	982.8
142.5°	1003.6	1005.9	1008.3	1010.6	1012.9	1014.4	1015.3	1016.2	1017.1	1018.0	1018.2
145°	1056.8	1058.6	1060.4	1062.2	1064.0	1065.7	1067.2	1068.7	1070.3	1071.8	1072.1
147.5°	1104.2	1106.3	1108.5	1110.7	1112.9	1114.5	1115.4	1116.5	1117.5	1118.6	1119.1
150°	1136.6	1138.1	1139.7	1141.2	1142.7	1144.1	1145.0	1146.1	1147.1	1148.2	1148.9
152.5°	1165.3	1166.8	1168.3	1169.8	1171.4	1172.8	1174.0	1175.3	1176.5	1177.8	1178.8
155°	1208.3	1209.1	1209.8	1210.6	1211.4	1212.1	1212.9	1213.6	1214.4	1215.2	1216.5
157.5°	1245.0	1245.5	1246.1	1246.6	1247.1	1247.6	1248.0	1248.5	1248.9	1249.5	1251.2
160°	1267.2	1267.7	1268.3	1268.8	1269.3	1269.7	1269.9	1270.2	1270.4	1270.7	1272.2
162.5°	1287.5	1287.7	1287.8	1287.9	1288.0	1288.2	1288.4	1288.7	1289.0	1289.2	1290.9
165°	1314.6	1314.4	1314.1	1313.8	1313.6	1313.5	1313.5	1313.5	1313.5	1313.5	1315.3
167.5°	1337.3	1336.5	1335.8	1335.0	1334.2	1333.8	1333.7	1333.7	1333.6	1333.6	1335.4
170°	1349.3	1348.5	1347.8	1347.0	1346.2	1345.8	1345.5	1345.2	1345.0	1344.7	1346.5
172.5°	1357.6	1356.9	1356.1	1355.3	1354.6	1354.1	1353.8	1353.5	1353.3	1353.0	1354.9
175°	1367.8	1367.1	1366.3	1365.5	1364.8	1364.1	1363.6	1363.1	1362.5	1362.0	1363.9
177.5°	1372.0	1371.4	1370.7	1370.1	1369.5	1369.0	1368.6	1368.2	1367.8	1367.3	1368.6
180°	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8
2.5°	1001.1	1002.7	1004.3	1005.0	1004.7	1004.3	1004.1	1003.7
5°	993.1	995.0	996.8	997.4	996.8	996.1	995.6	995.0
7.5°	977.0	977.6	978.1	977.9	976.8	975.8	974.7	973.7
10°	961.0	960.4	959.7	958.9	957.6	956.4	955.2	954.0
12.5°	942.5	941.5	940.3	938.8	936.7	934.8	932.7	930.7
15°	908.1	904.2	900.4	897.4	895.5	893.4	891.4	889.4
17.5°	869.2	864.5	860.0	856.0	852.5	849.0	845.5	842.0
20°	842.0	836.9	831.8	827.1	822.6	818.1	813.7	809.2
22.5°	812.1	805.6	799.1	794.2	790.8	787.5	784.2	780.9
25°	762.6	754.3	746.0	740.4	737.4	734.3	731.3	728.3
27.5°	715.4	705.8	696.2	688.8	684.0	679.2	674.4	669.6
30°	682.2	671.8	661.5	653.6	648.1	642.7	637.2	631.8
32.5°	648.6	636.9	625.1	616.6	611.4	606.4	601.2	596.1
35°	596.3	583.5	570.8	562.1	557.7	553.2	548.8	544.4
37.5°	545.2	531.2	517.2	507.6	502.5	497.4	492.3	487.2
40°	511.0	496.7	482.3	472.5	467.3	462.0	456.7	451.5
42.5°	476.6	461.7	446.9	436.9	431.9	426.8	421.7	416.5
45°	426.4	412.1	397.7	388.1	383.3	378.4	373.5	368.6
47.5°	377.6	363.4	349.0	339.7	335.3	330.9	326.5	322.1
50°	346.3	332.3	318.3	309.2	305.0	300.7	296.5	292.2
52.5°	316.6	303.1	289.6	281.0	277.1	273.1	269.2	265.3
55°	271.6	259.4	247.3	239.3	235.5	231.6	227.7	223.9
57.5°	230.6	219.5	208.4	201.2	198.0	194.7	191.5	188.2
60°	202.4	192.1	181.7	175.0	171.7	168.5	165.2	162.0
62.5°	177.9	168.0	158.2	152.3	150.3	148.5	146.5	144.5
65°	144.6	137.8	130.9	127.2	126.5	125.9	125.3	124.8
67.5°	116.7	113.6	110.5	108.5	107.9	107.3	106.6	105.9
70°	101.6	99.5	97.5	96.1	95.2	94.4	93.6	92.8
72.5°	88.4	86.7	85.0	83.9	83.4	82.9	82.4	81.9
75°	70.0	68.6	67.1	66.3	66.2	66.0	65.7	65.5
77.5°	53.0	52.2	51.4	50.8	50.5	50.2	49.8	49.5
80°	42.1	41.3	40.5	40.0	40.0	40.0	40.0	40.0
82.5°	31.8	31.3	30.9	30.6	30.6	30.6	30.6	30.6
85°	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3
87.5°	13.4	13.1	12.8	12.8	12.8	12.8	12.9	12.9
90°	39.4	39.0	38.4	38.3	38.5	38.8	39.1	39.3
92.5°	37.0	37.1	37.2	37.3	37.3	37.4	37.5	37.5
95°	74.0	74.0	74.0	73.7	73.2	72.7	72.2	71.7
97.5°	124.4	124.4	124.4	124.4	124.3	124.3	124.2	124.2
100°	159.5	159.5	159.5	159.4	159.2	158.9	158.6	158.4
102.5°	197.9	198.1	198.3	198.3	198.0	197.8	197.5	197.2
105°	255.4	255.9	256.5	256.7	256.7	256.7	256.7	256.7
107.5°	317.4	317.6	317.9	317.4	316.2	315.0	313.8	312.6
110°	359.6	359.6	359.6	359.2	358.5	357.7	356.9	356.1





TEST NUMBER: P331820-940

CATALOG NUMBER: S122RDIW-S675D1240U940-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	401.8	401.2	400.6	400.0	399.4	398.9	398.3	397.7
115°	466.6	466.4	466.1	465.6	464.8	464.0	463.2	462.5
117.5°	529.2	528.6	528.0	527.4	526.6	525.8	525.0	524.2
120°	571.1	571.1	571.1	570.8	570.0	569.3	568.5	567.8
122.5°	614.4	613.8	613.1	612.5	612.0	611.4	610.8	610.3
125°	678.3	677.5	676.8	676.3	676.0	675.7	675.5	675.2
127.5°	740.5	739.5	738.6	737.7	736.9	736.1	735.3	734.4
130°	782.9	782.4	781.9	781.1	780.1	779.1	778.0	776.9
132.5°	824.2	823.0	822.0	821.0	820.2	819.3	818.5	817.7
135°	885.2	884.9	884.7	884.1	883.3	882.6	881.8	881.0
137.5°	943.5	943.3	943.2	942.5	941.5	940.5	939.4	938.4
140°	982.8	982.8	982.8	982.3	981.2	980.3	979.2	978.2
142.5°	1018.3	1018.6	1018.8	1018.3	1017.4	1016.3	1015.3	1014.2
145°	1072.4	1072.6	1072.8	1072.5	1071.5	1070.4	1069.4	1068.4
147.5°	1119.6	1120.3	1120.8	1120.6	1119.6	1118.7	1117.7	1116.7
150°	1149.7	1150.5	1151.2	1151.2	1150.5	1149.7	1148.9	1148.2
152.5°	1179.7	1180.6	1181.6	1181.6	1180.6	1179.7	1178.8	1177.8
155°	1217.8	1219.1	1220.3	1220.6	1219.9	1219.1	1218.3	1217.5
157.5°	1252.9	1254.6	1256.4	1256.7	1255.4	1254.2	1252.9	1251.7
160°	1273.8	1275.3	1276.8	1277.1	1276.1	1275.1	1274.1	1273.0
162.5°	1292.7	1294.4	1296.2	1296.5	1295.2	1294.0	1292.7	1291.6
165°	1317.1	1318.8	1320.7	1320.9	1319.6	1318.4	1317.1	1315.8
167.5°	1337.2	1339.0	1340.8	1341.0	1339.7	1338.4	1337.0	1335.7
170°	1348.3	1350.1	1351.9	1352.0	1350.5	1349.0	1347.4	1345.9
172.5°	1356.6	1358.4	1360.2	1360.3	1358.8	1357.3	1355.8	1354.2
175°	1365.7	1367.4	1369.2	1369.4	1367.8	1366.3	1364.8	1363.2
177.5°	1369.8	1371.1	1372.3	1372.3	1371.1	1369.8	1368.6	1367.3
180°	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1	1370.1

(END OF REPORT)