

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: P332444-927

Luminaire Tested: **S123RDIW-S775D1320U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332444-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S775D1320U927-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1320 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6495.4 lumens
Efficiency: N/A
Efficacy: 105.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

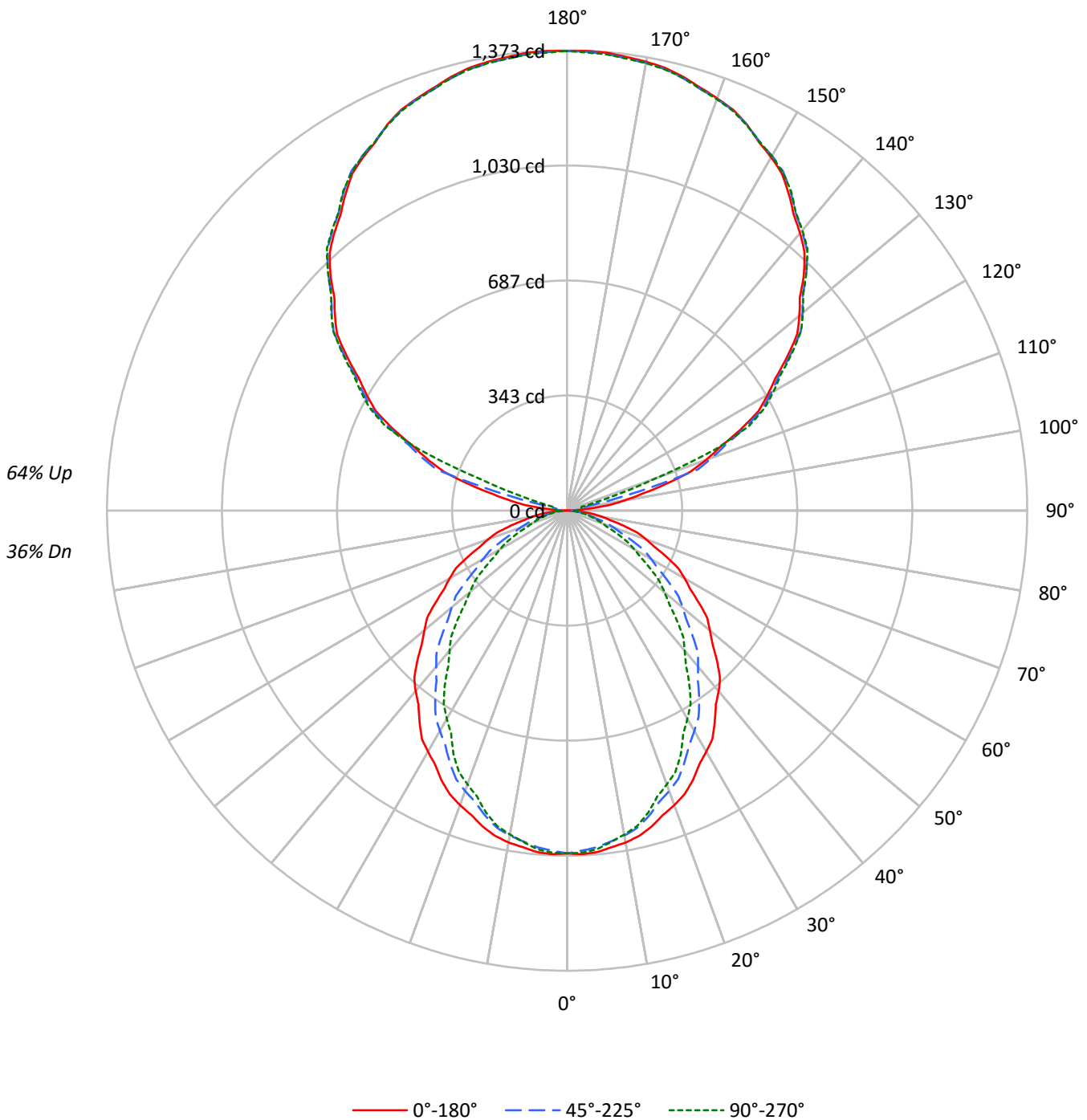
Input Watts (W): 61.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	94	94	94	94	75	75	75	58	58	58	43	43	43	36
1	95	91	87	84	86	82	79	76	66	64	62	52	50	49	38	37	37	30
2	86	79	74	69	78	72	67	63	58	55	52	46	43	41	34	32	31	26
3	79	70	63	57	71	64	58	53	52	47	44	41	38	35	30	28	27	22
4	72	62	54	49	65	56	50	45	46	41	37	36	33	30	27	25	23	19
5	66	55	47	42	60	50	44	38	41	36	32	33	29	26	25	22	20	17
6	61	49	42	36	55	45	38	33	37	32	28	29	26	23	22	20	18	15
7	56	45	37	32	51	41	34	29	34	28	25	27	23	20	20	18	16	13
8	52	40	33	28	47	37	30	26	31	26	22	24	21	18	19	16	14	12
9	49	37	30	25	44	34	27	23	28	23	20	23	19	16	17	15	13	11
10	45	34	27	22	41	31	25	21	26	21	18	21	17	15	16	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11009	11009	11009
5°	11051	10899	10962
10°	10989	10762	10726
15°	10871	10510	10399
20°	10709	10195	9958
25°	10542	9841	9526
30°	10320	9434	8918
35°	10093	9025	8360
40°	9884	8543	7669
45°	9608	8068	7046
50°	9306	7529	6348
55°	8997	6912	5697
60°	8714	6250	4982
65°	8344	5535	4266
70°	7884	4648	3446
75°	7207	3656	3244
80°	6428	3242	2982
85°	5434	2865	2655



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.0	1.5
10°-20°	267.2	4.1
20°-30°	384.8	5.9
30°-40°	433.4	6.7
40°-50°	414.6	6.4
50°-60°	339.6	5.2
60°-70°	229.1	3.5
70°-80°	115.3	1.8
80°-90°	34.3	0.5
90°-100°	49.8	0.8
100°-110°	237.6	3.7
110°-120°	570.6	8.8
120°-130°	726.7	11.2
130°-140°	776.4	12.0
140°-150°	726.0	11.2
150°-160°	585.6	9.0
160°-170°	378.0	5.8
170°-180°	130.3	2.0
0°-30°	748.0	11.5
0°-40°	1181.5	18.2
0°-60°	1935.6	29.8
0°-90°	2314.3	35.6
90°-120°	858.1	13.2
90°-150°	3087.2	47.5
90°-180°	4181.0	64.4
0°-180°	6495.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1023	1023	1023	1023	1023	
5°	1023	1018	1009	1016	1014	97
15°	976	966	943	939	933	275
25°	888	866	829	812	802	408
35°	768	737	687	652	636	481
45°	631	592	530	484	463	487
55°	479	437	368	322	304	430
65°	328	281	217	178	168	324
75°	173	133	88	80	78	185
85°	44	27	23	22	22	49
90°	1	11	24	28	31	5
95°	62	23	32	38	39	77
105°	304	309	223	53	45	322
115°	569	576	585	594	599	562
125°	803	811	815	817	819	717
135°	999	1005	1010	1012	1010	769
145°	1153	1160	1162	1164	1164	722
155°	1270	1268	1269	1274	1268	585
165°	1340	1336	1335	1343	1336	378
175°	1371	1366	1367	1373	1366	130
180°	1371	1371	1371	1371	1371	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8
2.5°	1026.0	1025.5	1024.8	1024.3	1023.7	1022.5	1020.7	1019.0	1017.2	1015.4	1017.1
5°	1022.8	1021.8	1020.9	1020.0	1019.1	1017.5	1015.3	1013.0	1010.8	1008.7	1010.3
7.5°	1013.3	1012.3	1011.3	1010.3	1009.3	1007.3	1004.5	1001.6	998.8	995.9	996.8
10°	1005.4	1004.0	1002.7	1001.5	1000.1	997.8	994.5	991.3	987.9	984.6	984.8
12.5°	994.0	992.6	991.2	989.8	988.3	985.6	981.5	977.5	973.4	969.3	969.2
15°	975.5	973.4	971.4	969.4	967.3	963.8	958.6	953.5	948.2	943.1	942.2
17.5°	952.0	949.7	947.4	945.0	942.6	938.2	931.6	925.0	918.5	912.0	910.0
20°	934.9	931.8	928.9	926.0	923.1	918.1	911.0	904.0	897.1	890.0	887.6
22.5°	915.6	912.2	908.8	905.4	902.0	896.6	889.1	881.7	874.3	866.8	863.8
25°	887.6	883.0	878.3	873.7	869.1	862.5	854.1	845.6	837.1	828.6	824.7
27.5°	853.5	848.4	843.4	838.3	833.2	825.9	816.5	807.1	797.6	788.1	782.8
30°	830.3	824.7	819.3	813.7	808.2	800.3	790.0	779.6	769.3	759.0	752.7
32.5°	807.1	800.8	794.6	788.3	782.0	773.4	762.5	751.6	740.7	729.8	722.9
35°	768.1	761.4	754.8	748.2	741.6	732.5	721.1	709.6	698.2	686.8	678.9
37.5°	728.6	721.2	713.8	706.5	699.1	689.4	677.2	665.0	652.8	640.6	631.5
40°	703.4	695.3	687.1	679.1	671.0	660.4	647.3	634.2	621.1	608.0	598.4
42.5°	674.9	666.8	658.6	650.5	642.5	631.6	618.1	604.5	591.0	577.5	567.0
45°	631.2	623.0	614.7	606.3	598.0	586.8	572.6	558.4	544.2	530.0	519.5
47.5°	587.6	578.5	569.4	560.3	551.2	539.6	525.4	511.1	496.9	482.8	471.3
50°	555.7	547.1	538.4	529.7	521.1	509.3	494.4	479.4	464.5	449.6	438.2
52.5°	527.2	517.8	508.4	499.0	489.6	477.5	462.7	448.0	433.2	418.4	406.5
55°	479.4	470.4	461.4	452.3	443.3	430.9	415.3	399.7	384.0	368.3	357.6
57.5°	435.3	425.5	415.7	405.8	395.9	383.2	367.4	351.6	335.9	320.2	310.1
60°	404.8	394.7	384.5	374.4	364.2	351.5	336.2	320.9	305.6	290.3	280.4
62.5°	374.2	364.1	353.9	343.8	333.7	321.0	305.7	290.4	275.1	259.8	250.4
65°	327.6	317.5	307.4	297.2	287.1	274.8	260.5	246.1	231.7	217.3	208.3
67.5°	281.1	270.8	260.5	250.3	240.0	228.0	214.2	200.4	186.6	172.9	166.1
70°	250.5	240.6	230.6	220.6	210.7	199.2	186.3	173.5	160.6	147.7	141.2
72.5°	220.0	210.2	200.3	190.5	180.8	170.0	158.3	146.6	134.8	123.1	117.8
75°	173.3	164.5	155.7	146.8	138.0	128.5	118.4	108.2	98.1	87.9	86.1
77.5°	130.9	122.9	114.9	106.9	98.9	91.7	85.1	78.6	72.1	65.5	64.6
80°	103.7	96.1	88.6	81.0	73.4	67.7	63.8	60.0	56.2	52.3	51.7
82.5°	77.8	71.3	64.7	58.2	51.7	47.5	45.7	43.9	42.1	40.3	39.8
85°	44.0	39.9	35.9	31.8	27.7	25.4	24.9	24.3	23.8	23.2	22.9
87.5°	16.2	15.0	13.8	12.6	11.5	11.2	11.7	12.4	12.9	13.5	13.5
90°	1.0	3.2	5.5	7.8	10.1	12.7	15.6	18.5	21.5	24.5	25.3
92.5°	18.9	18.3	17.7	17.0	16.4	17.2	19.4	21.6	23.8	26.1	27.5
95°	62.1	52.8	43.6	34.3	25.0	21.6	24.1	26.6	29.1	31.6	33.2
97.5°	124.8	120.7	116.5	112.4	108.2	98.0	81.7	65.4	49.1	32.8	34.6
100°	172.1	176.7	181.2	185.7	190.3	174.8	139.6	104.3	68.9	33.6	35.4
102.5°	225.9	229.2	232.4	235.7	239.0	221.3	182.8	144.2	105.6	67.0	61.4
105°	303.6	306.0	308.6	311.0	313.5	304.6	284.2	263.8	243.4	223.1	183.0
107.5°	385.5	387.5	389.4	391.4	393.4	396.0	399.3	402.4	405.7	408.8	379.5
110°	440.1	441.9	443.6	445.4	447.3	449.4	451.9	454.4	456.9	459.4	451.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	492.2	493.8	495.4	497.1	498.7	500.7	503.3	505.7	508.3	510.7	510.9
115°	569.4	570.8	572.1	573.5	574.8	576.6	578.5	580.6	582.7	584.7	586.9
117.5°	644.2	645.9	647.5	649.2	650.9	652.2	653.2	654.3	655.4	656.4	658.2
120°	690.6	692.7	694.7	696.7	698.8	700.1	700.8	701.5	702.2	702.8	704.6
122.5°	737.9	739.6	741.2	742.9	744.6	745.8	746.7	747.6	748.5	749.3	750.6
125°	802.6	804.5	806.3	808.1	809.9	811.3	812.1	813.1	814.0	814.9	815.3
127.5°	865.4	867.2	869.0	870.8	872.7	874.1	875.2	876.3	877.3	878.5	879.2
130°	904.5	906.3	908.2	910.0	911.8	913.1	914.0	915.0	915.8	916.7	917.7
132.5°	942.0	943.8	945.6	947.5	949.3	950.5	951.3	952.0	952.7	953.4	954.3
135°	999.3	1000.6	1002.0	1003.3	1004.7	1005.8	1006.7	1007.7	1008.5	1009.5	1010.1
137.5°	1048.1	1049.9	1051.6	1053.3	1055.0	1056.1	1056.6	1057.2	1057.6	1058.1	1059.2
140°	1080.8	1082.1	1083.5	1084.8	1086.2	1087.2	1087.9	1088.5	1089.3	1089.9	1090.8
142.5°	1110.9	1112.2	1113.6	1115.0	1116.3	1117.4	1118.0	1118.7	1119.4	1120.1	1120.8
145°	1153.1	1154.7	1156.3	1157.9	1159.4	1160.4	1160.9	1161.3	1161.8	1162.2	1162.7
147.5°	1192.8	1193.8	1194.8	1195.9	1197.0	1197.7	1198.2	1198.6	1199.0	1199.5	1200.0
150°	1217.3	1217.9	1218.6	1219.2	1220.0	1220.5	1221.0	1221.4	1221.9	1222.3	1222.8
152.5°	1239.2	1239.5	1239.8	1240.2	1240.5	1240.8	1241.1	1241.3	1241.6	1241.9	1242.7
155°	1270.2	1269.8	1269.3	1268.8	1268.4	1268.3	1268.5	1268.8	1269.0	1269.2	1270.3
157.5°	1294.3	1294.2	1294.2	1294.1	1294.0	1294.0	1293.7	1293.5	1293.2	1293.0	1294.3
160°	1308.9	1308.7	1308.4	1308.2	1308.0	1307.8	1307.6	1307.3	1307.1	1306.9	1308.2
162.5°	1322.8	1322.2	1321.6	1321.0	1320.4	1320.0	1319.8	1319.5	1319.3	1319.1	1320.6
165°	1339.5	1338.8	1338.1	1337.4	1336.7	1336.3	1336.1	1335.9	1335.6	1335.4	1337.2
167.5°	1352.5	1351.6	1350.7	1349.8	1348.8	1348.5	1348.5	1348.5	1348.5	1348.5	1350.3
170°	1359.9	1358.9	1358.0	1357.2	1356.2	1355.7	1355.7	1355.7	1355.7	1355.7	1357.6
172.5°	1364.8	1363.7	1362.6	1361.4	1360.4	1359.9	1360.1	1360.3	1360.5	1360.7	1362.5
175°	1371.0	1369.9	1368.8	1367.6	1366.5	1366.0	1366.3	1366.5	1366.8	1367.0	1368.6
177.5°	1372.7	1371.7	1370.9	1370.0	1369.0	1368.7	1368.9	1369.0	1369.2	1369.4	1370.9
180°	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8	1022.8
2.5°	1018.7	1020.3	1021.9	1022.6	1022.3	1022.0	1021.7	1021.4
5°	1011.9	1013.6	1015.3	1015.9	1015.6	1015.2	1014.8	1014.5
7.5°	997.8	998.6	999.6	999.7	999.1	998.5	997.8	997.2
10°	985.0	985.2	985.3	985.0	984.0	983.1	982.2	981.3
12.5°	969.1	969.0	968.9	968.3	967.3	966.1	965.1	964.0
15°	941.3	940.3	939.4	938.3	937.1	935.7	934.5	933.2
17.5°	908.0	906.1	904.1	902.2	900.2	898.3	896.4	894.5
20°	885.3	882.8	880.4	878.1	875.9	873.7	871.5	869.3
22.5°	860.9	857.9	854.8	852.3	850.2	848.2	846.1	844.1
25°	820.9	817.1	813.2	810.2	808.2	806.1	804.1	802.1
27.5°	777.4	772.1	766.7	762.4	759.3	756.2	753.1	750.0
30°	746.5	740.1	733.9	729.3	726.4	723.4	720.4	717.5
32.5°	716.1	709.2	702.3	697.4	694.3	691.2	688.1	685.0
35°	671.0	663.1	655.1	649.5	646.2	642.9	639.5	636.2
37.5°	622.5	613.5	604.5	598.0	593.9	589.8	585.7	581.6
40°	588.8	579.2	569.7	562.8	558.5	554.3	550.0	545.8
42.5°	556.5	546.1	535.6	528.5	524.7	520.9	517.1	513.3
45°	509.1	498.5	488.0	480.5	476.1	471.7	467.3	462.9
47.5°	459.9	448.5	437.0	429.4	425.4	421.4	417.6	413.6
50°	426.7	415.3	403.9	396.0	391.8	387.5	383.3	379.1
52.5°	394.7	382.8	370.9	363.1	359.3	355.5	351.6	347.8
55°	346.9	336.2	325.5	318.3	314.7	310.9	307.3	303.6
57.5°	300.0	289.9	279.8	273.1	270.1	266.9	263.7	260.6
60°	270.4	260.5	250.5	244.0	240.8	237.7	234.6	231.4
62.5°	241.1	231.7	222.4	216.0	212.7	209.5	206.2	202.9
65°	199.2	190.2	181.2	175.6	173.6	171.6	169.6	167.5
67.5°	159.4	152.7	145.8	141.4	139.3	137.0	134.9	132.7
70°	134.8	128.3	121.8	117.6	115.6	113.5	111.5	109.5
72.5°	112.6	107.3	102.0	98.9	98.1	97.3	96.4	95.5
75°	84.2	82.4	80.6	79.5	79.1	78.7	78.3	78.0
77.5°	63.5	62.5	61.6	60.8	60.5	60.1	59.7	59.4
80°	51.2	50.6	50.1	49.6	49.2	48.9	48.5	48.1
82.5°	39.2	38.7	38.1	37.8	37.7	37.6	37.5	37.5
85°	22.5	22.1	21.8	21.5	21.5	21.5	21.5	21.5
87.5°	13.5	13.6	13.6	13.6	13.5	13.5	13.5	13.4
90°	26.2	27.2	28.0	28.8	29.2	29.6	30.1	30.6
92.5°	29.0	30.4	31.8	32.7	33.0	33.3	33.5	33.8
95°	34.8	36.4	37.9	38.7	38.7	38.7	38.7	38.7
97.5°	36.4	38.3	40.0	41.0	41.3	41.5	41.7	42.0
100°	37.2	39.1	40.9	41.9	42.1	42.3	42.5	42.8
102.5°	55.8	50.1	44.6	42.0	42.4	42.8	43.2	43.6
105°	142.9	102.9	62.8	43.0	43.5	43.9	44.4	44.8
107.5°	350.1	320.8	291.4	261.6	231.4	201.1	171.0	140.8
110°	444.4	437.0	429.5	409.6	377.2	344.8	312.5	280.1



TEST NUMBER: P332444-927

CATALOG NUMBER: S123RDIW-S775D1320U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	511.0	511.1	511.3	507.9	501.1	494.2	487.4	480.6
115°	589.2	591.4	593.7	595.3	596.2	597.1	598.0	599.0
117.5°	660.0	661.8	663.6	664.6	664.8	665.0	665.2	665.4
120°	706.5	708.3	710.1	711.0	711.0	711.0	711.0	711.0
122.5°	751.9	753.1	754.4	755.1	755.3	755.4	755.7	755.8
125°	815.8	816.3	816.7	817.1	817.6	818.1	818.5	819.0
127.5°	879.9	880.6	881.4	881.5	881.1	880.6	880.1	879.6
130°	918.5	919.5	920.4	920.6	920.1	919.7	919.2	918.8
132.5°	955.2	956.2	957.0	957.2	956.6	955.9	955.3	954.7
135°	1010.8	1011.5	1012.2	1012.2	1011.5	1010.8	1010.1	1009.5
137.5°	1060.3	1061.4	1062.5	1062.8	1062.3	1061.9	1061.4	1061.0
140°	1091.7	1092.7	1093.5	1093.8	1093.3	1092.8	1092.4	1091.9
142.5°	1121.5	1122.2	1123.0	1123.0	1122.4	1121.7	1121.1	1120.5
145°	1163.2	1163.6	1164.0	1164.3	1164.3	1164.3	1164.3	1164.3
147.5°	1200.4	1200.9	1201.3	1201.0	1200.0	1199.0	1197.9	1196.8
150°	1223.2	1223.7	1224.2	1224.0	1223.4	1222.7	1222.0	1221.3
152.5°	1243.5	1244.4	1245.2	1245.1	1244.0	1242.9	1241.9	1240.9
155°	1271.5	1272.6	1273.7	1273.6	1272.2	1270.9	1269.6	1268.2
157.5°	1295.8	1297.1	1298.5	1298.2	1296.5	1294.7	1292.9	1291.2
160°	1309.6	1311.0	1312.3	1312.2	1310.6	1309.0	1307.4	1305.8
162.5°	1322.2	1323.7	1325.2	1325.3	1323.9	1322.5	1321.1	1319.7
165°	1339.0	1340.8	1342.7	1342.7	1341.2	1339.6	1338.0	1336.4
167.5°	1352.1	1353.8	1355.7	1355.7	1353.8	1352.1	1350.3	1348.5
170°	1359.4	1361.2	1363.0	1363.0	1361.2	1359.4	1357.6	1355.7
172.5°	1364.3	1366.1	1367.9	1367.8	1365.8	1363.8	1361.8	1359.9
175°	1370.2	1371.7	1373.3	1373.2	1371.4	1369.6	1367.8	1366.0
177.5°	1372.3	1373.8	1375.2	1375.1	1373.2	1371.4	1369.6	1367.8
180°	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0	1371.0

(END OF REPORT)