

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: P332437-830

Luminaire Tested: **S123RDIW-S775D755U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332437-830  
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: S123RDIW-S775D755U830-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 755 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5219.1 lumens  
Efficiency: N/A  
Efficacy: 116.0 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: General Diffuse

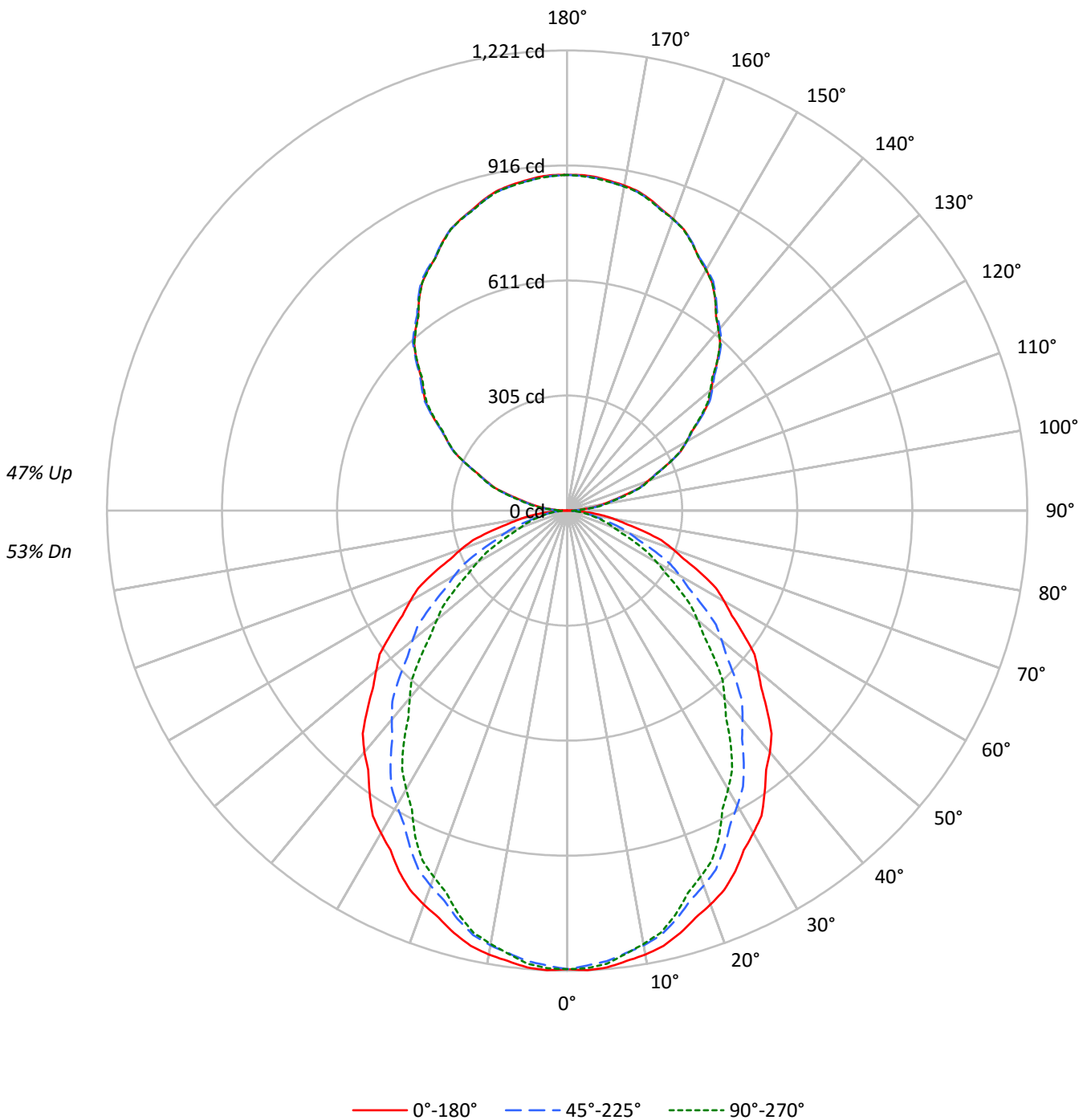
Input Watts (W): 45  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	99	95	91	87	91	88	84	82	75	73	70	63	62	60	52	51	50	45
2	90	83	77	72	83	77	72	67	66	62	59	56	53	51	46	45	43	38
3	82	73	66	60	76	68	62	57	59	54	50	50	46	43	41	39	37	33
4	76	65	57	51	70	61	54	48	52	47	43	44	40	37	37	34	32	28
5	70	58	50	44	64	54	47	42	47	41	37	40	36	33	34	31	28	25
6	64	52	44	38	59	49	42	36	42	37	33	36	32	29	31	27	25	22
7	59	47	39	34	55	44	37	32	38	33	29	33	29	25	28	25	22	20
8	55	43	35	30	51	40	33	29	35	30	26	30	26	23	26	22	20	18
9	51	39	32	27	48	37	30	26	32	27	23	28	24	21	24	21	18	16
10	48	36	29	24	45	34	27	23	30	25	21	26	22	19	22	19	16	15

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

	0°	45°	90°
0°	13099	13099	13099
5°	13149	12967	13042
10°	13074	12804	12761
15°	12933	12504	12373
20°	12741	12129	11848
25°	12542	11709	11334
30°	12279	11225	10611
35°	12009	10738	9947
40°	11760	10165	9125
45°	11432	9601	8383
50°	11072	8957	7552
55°	10704	8223	6778
60°	10368	7436	5927
65°	9928	6584	5076
70°	9379	5530	4101
75°	8576	4350	3855
80°	7649	3856	3546
85°	6459	3409	3162



TEST NUMBER: P332437-830

CATALOG NUMBER: S123RDIW-S775D755U830-4F0-1E-UDD-F1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.3	2.2
10°-20°	317.9	6.1
20°-30°	457.8	8.8
30°-40°	515.7	9.9
40°-50°	493.3	9.5
50°-60°	404.0	7.7
60°-70°	272.6	5.2
70°-80°	137.1	2.6
80°-90°	38.9	0.7
90°-100°	58.0	1.1
100°-110°	173.6	3.3
110°-120°	295.3	5.7
120°-130°	388.5	7.4
130°-140°	436.7	8.4
140°-150°	429.2	8.2
150°-160°	361.3	6.9
160°-170°	240.5	4.6
170°-180°	84.2	1.6
0°-30°	890.0	17.1
0°-40°	1405.7	26.9
0°-60°	2303.0	44.1
0°-90°	2751.6	52.7
90°-120°	527.0	10.1
90°-150°	1781.4	34.1
90°-180°	2468.0	47.3
0°-180°	5219.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1217	1217	1217	1217	1217	
5°	1217	1212	1200	1208	1207	115
15°	1161	1149	1122	1117	1110	327
25°	1056	1030	986	966	954	485
35°	914	877	817	776	757	572
45°	751	705	631	576	551	579
55°	570	520	438	383	361	511
65°	390	334	258	212	199	386
75°	206	159	105	95	93	220
85°	52	32	28	26	26	59
90°	1	8	17	20	21	5
95°	41	46	52	54	55	46
105°	157	159	165	165	166	169
115°	297	299	298	299	298	294
125°	435	437	436	433	430	388
135°	565	568	568	565	564	435
145°	685	686	688	688	685	428
155°	784	784	785	787	783	361
165°	854	852	852	856	851	241
175°	888	886	886	889	885	84
180°	891	891	891	891	891	



TEST NUMBER: P332437-830

CATALOG NUMBER: S123RDIW-S775D755U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9
2.5°	1220.8	1220.1	1219.4	1218.7	1218.0	1216.6	1214.5	1212.4	1210.3	1208.2	1210.1
5°	1216.9	1215.8	1214.7	1213.6	1212.5	1210.6	1208.0	1205.3	1202.7	1200.1	1202.0
7.5°	1205.6	1204.5	1203.2	1202.0	1200.9	1198.5	1195.1	1191.8	1188.4	1184.9	1186.0
10°	1196.2	1194.6	1193.1	1191.6	1190.0	1187.2	1183.3	1179.4	1175.4	1171.5	1171.7
12.5°	1182.7	1181.0	1179.3	1177.6	1175.9	1172.6	1167.8	1163.0	1158.1	1153.3	1153.2
15°	1160.6	1158.2	1155.7	1153.4	1150.9	1146.7	1140.6	1134.4	1128.2	1122.1	1121.1
17.5°	1132.7	1130.0	1127.2	1124.4	1121.5	1116.3	1108.4	1100.6	1092.8	1085.1	1082.7
20°	1112.3	1108.7	1105.2	1101.7	1098.3	1092.3	1083.9	1075.6	1067.3	1058.9	1056.1
22.5°	1089.4	1085.3	1081.3	1077.2	1073.2	1066.8	1057.9	1049.0	1040.2	1031.3	1027.7
25°	1056.0	1050.6	1045.0	1039.5	1034.1	1026.2	1016.2	1006.1	996.0	985.9	981.3
27.5°	1015.5	1009.5	1003.4	997.4	991.4	982.7	971.5	960.3	949.0	937.7	931.3
30°	987.9	981.3	974.8	968.2	961.6	952.2	939.9	927.6	915.3	903.1	895.6
32.5°	960.3	952.8	945.4	937.9	930.5	920.2	907.2	894.3	881.3	868.3	860.2
35°	913.9	906.0	898.1	890.2	882.3	871.6	858.0	844.3	830.8	817.2	807.8
37.5°	867.0	858.1	849.3	840.6	831.8	820.2	805.7	791.2	776.7	762.1	751.4
40°	836.9	827.3	817.6	807.9	798.3	785.7	770.2	754.6	739.0	723.4	712.0
42.5°	803.0	793.3	783.6	774.0	764.4	751.5	735.4	719.3	703.2	687.1	674.7
45°	751.0	741.2	731.3	721.4	711.5	698.2	681.3	664.4	647.5	630.7	618.1
47.5°	699.2	688.3	677.5	666.7	655.8	642.0	625.1	608.1	591.3	574.4	560.8
50°	661.2	650.9	640.6	630.3	620.0	606.0	588.2	570.4	552.7	534.9	521.3
52.5°	627.3	616.1	604.9	593.7	582.6	568.2	550.5	533.0	515.4	497.8	483.7
55°	570.4	559.7	548.9	538.2	527.4	512.7	494.1	475.5	456.9	438.2	425.5
57.5°	517.9	506.2	494.6	482.8	471.1	455.9	437.2	418.4	399.6	381.0	368.9
60°	481.6	469.6	457.5	445.4	433.4	418.2	400.0	381.8	363.6	345.4	333.6
62.5°	445.3	433.2	421.1	409.1	397.1	381.9	363.7	345.5	327.3	309.1	297.9
65°	389.8	377.8	365.7	353.6	341.6	327.0	309.9	292.8	275.7	258.5	247.8
67.5°	334.4	322.2	310.0	297.7	285.6	271.3	254.9	238.5	222.1	205.7	197.7
70°	298.0	286.3	274.4	262.5	250.7	237.0	221.7	206.4	191.1	175.7	168.0
72.5°	261.7	250.1	238.4	226.7	215.1	202.3	188.3	174.4	160.4	146.5	140.2
75°	206.2	195.8	185.2	174.7	164.2	152.9	140.8	128.8	116.7	104.6	102.5
77.5°	155.7	146.2	136.7	127.1	117.6	109.1	101.2	93.5	85.8	77.9	76.8
80°	123.4	114.3	105.4	96.4	87.4	80.6	76.0	71.4	66.8	62.2	61.5
82.5°	92.6	84.8	77.0	69.3	61.5	56.6	54.4	52.2	50.1	48.0	47.3
85°	52.3	47.5	42.7	37.8	33.0	30.3	29.6	28.9	28.3	27.6	27.2
87.5°	19.1	17.4	15.8	14.2	12.6	12.0	12.4	12.8	13.2	13.7	13.6
90°	0.7	2.3	3.8	5.4	6.9	8.7	10.7	12.7	14.8	16.8	17.4
92.5°	17.0	18.0	19.0	20.1	21.1	22.2	23.4	24.6	25.7	26.9	27.3
95°	41.3	42.3	43.5	44.6	45.6	46.8	48.1	49.3	50.5	51.7	52.4
97.5°	73.3	74.1	74.9	75.8	76.5	77.4	78.3	79.2	80.1	81.1	81.7
100°	95.1	96.0	97.0	97.9	98.9	99.7	100.5	101.3	102.1	102.8	103.3
102.5°	120.4	120.9	121.5	122.0	122.5	123.4	124.4	125.5	126.4	127.4	127.9
105°	157.4	157.7	158.1	158.3	158.6	159.5	160.9	162.3	163.7	165.1	165.1
107.5°	200.5	200.7	200.9	201.0	201.2	201.6	202.2	202.7	203.3	203.9	204.3
110°	227.3	227.7	228.0	228.3	228.6	228.9	229.2	229.5	229.9	230.2	230.8



TEST NUMBER: P332437-830

CATALOG NUMBER: S123RDIW-S775D755U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	255.3	255.5	255.7	255.9	256.1	256.2	256.3	256.4	256.4	256.5	257.2
115°	297.4	297.7	298.2	298.7	299.2	299.3	299.0	298.7	298.3	298.0	298.2
117.5°	339.6	339.9	340.2	340.5	340.8	340.8	340.4	340.0	339.6	339.1	339.1
120°	365.9	366.8	367.8	368.7	369.7	369.7	368.9	368.2	367.4	366.6	366.5
122.5°	393.3	394.0	394.6	395.4	396.1	396.2	395.8	395.4	395.0	394.5	394.2
125°	435.2	435.6	436.1	436.6	437.1	437.1	436.8	436.5	436.1	435.8	435.3
127.5°	473.7	474.8	475.8	476.7	477.8	478.1	477.8	477.4	477.0	476.7	475.8
130°	499.5	500.8	502.0	503.2	504.4	504.9	504.4	504.0	503.5	503.0	502.4
132.5°	525.3	526.5	527.7	529.0	530.3	530.7	530.4	530.0	529.6	529.3	528.6
135°	564.6	565.5	566.5	567.4	568.3	568.7	568.5	568.4	568.3	568.1	567.4
137.5°	601.0	601.7	602.5	603.3	604.1	604.6	605.0	605.5	605.9	606.2	605.6
140°	626.1	626.9	627.7	628.5	629.2	629.7	629.9	630.0	630.2	630.4	630.2
142.5°	649.1	649.9	650.6	651.4	652.1	652.7	653.0	653.3	653.6	653.8	653.7
145°	684.9	685.2	685.5	685.8	686.2	686.5	687.0	687.5	688.0	688.4	688.2
147.5°	716.2	716.8	717.4	717.9	718.5	719.0	719.4	719.8	720.3	720.8	720.8
150°	738.1	738.4	738.7	739.0	739.3	739.6	739.9	740.3	740.6	740.8	740.8
152.5°	756.0	756.4	756.9	757.3	757.7	758.0	758.2	758.4	758.6	758.7	759.0
155°	784.3	784.3	784.3	784.3	784.3	784.3	784.5	784.7	784.8	784.9	785.6
157.5°	808.3	808.1	807.9	807.8	807.6	807.6	807.7	807.8	807.9	808.0	808.7
160°	823.4	823.1	822.8	822.5	822.2	822.0	822.0	822.0	822.0	822.0	822.8
162.5°	836.9	836.4	835.9	835.6	835.1	835.0	835.1	835.2	835.4	835.5	836.2
165°	854.2	853.8	853.3	852.8	852.3	852.1	852.1	852.1	852.1	852.1	853.0
167.5°	868.1	867.4	866.9	866.2	865.5	865.3	865.4	865.5	865.7	865.8	866.8
170°	875.9	875.2	874.7	874.0	873.4	873.1	873.1	873.1	873.1	873.1	874.2
172.5°	882.0	881.5	880.8	880.1	879.6	879.2	879.2	879.2	879.2	879.2	880.2
175°	888.4	887.9	887.2	886.6	886.0	885.7	885.7	885.7	885.7	885.7	886.6
177.5°	891.2	890.6	890.1	889.7	889.2	888.9	888.9	888.9	888.9	888.9	889.7
180°	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6



TEST NUMBER: P332437-830

CATALOG NUMBER: S123RDIW-S775D755U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9	1216.9
2.5°	1212.0	1214.0	1215.9	1216.7	1216.4	1216.0	1215.6	1215.3
5°	1204.0	1206.0	1208.0	1208.7	1208.3	1207.9	1207.4	1207.0
7.5°	1187.1	1188.2	1189.3	1189.5	1188.7	1188.0	1187.2	1186.5
10°	1172.0	1172.1	1172.3	1172.0	1170.8	1169.7	1168.7	1167.5
12.5°	1153.0	1152.9	1152.8	1152.1	1150.8	1149.5	1148.3	1147.0
15°	1119.9	1118.8	1117.8	1116.4	1114.9	1113.3	1111.8	1110.3
17.5°	1080.3	1078.1	1075.7	1073.5	1071.1	1068.8	1066.6	1064.3
20°	1053.3	1050.4	1047.5	1044.8	1042.2	1039.5	1036.9	1034.3
22.5°	1024.3	1020.7	1017.1	1014.1	1011.6	1009.2	1006.7	1004.3
25°	976.8	972.1	967.5	964.0	961.6	959.1	956.8	954.3
27.5°	924.9	918.6	912.2	907.1	903.4	899.8	896.1	892.4
30°	888.2	880.6	873.2	867.7	864.2	860.7	857.1	853.7
32.5°	852.0	843.9	835.7	829.7	826.0	822.4	818.7	815.0
35°	798.3	788.9	779.5	772.8	768.8	764.9	760.9	757.0
37.5°	740.6	730.0	719.3	711.5	706.6	701.7	696.9	692.0
40°	700.6	689.2	677.8	669.6	664.5	659.5	654.4	649.4
42.5°	662.1	649.7	637.3	628.8	624.2	619.7	615.2	610.7
45°	605.7	593.1	580.6	571.7	566.5	561.2	556.0	550.7
47.5°	547.1	533.6	520.0	510.9	506.1	501.4	496.8	492.1
50°	507.7	494.1	480.5	471.2	466.2	461.1	456.1	451.0
52.5°	469.6	455.4	441.3	432.0	427.4	422.9	418.4	413.9
55°	412.7	400.0	387.3	378.7	374.4	369.9	365.6	361.2
57.5°	356.9	344.9	332.9	325.0	321.3	317.5	313.8	310.1
60°	321.7	309.9	298.0	290.3	286.5	282.8	279.1	275.3
62.5°	286.8	275.7	264.6	257.0	253.1	249.2	245.3	241.4
65°	237.0	226.3	215.6	209.0	206.6	204.2	201.8	199.3
67.5°	189.6	181.6	173.5	168.2	165.7	163.1	160.5	157.9
70°	160.3	152.6	145.0	140.0	137.5	135.1	132.7	130.3
72.5°	133.9	127.6	121.4	117.7	116.7	115.7	114.7	113.7
75°	100.2	98.0	95.9	94.5	94.1	93.7	93.2	92.7
77.5°	75.6	74.4	73.2	72.4	72.0	71.5	71.1	70.7
80°	60.9	60.2	59.6	59.0	58.5	58.2	57.7	57.2
82.5°	46.7	46.0	45.3	45.0	44.9	44.8	44.7	44.6
85°	26.8	26.3	25.9	25.6	25.6	25.6	25.6	25.6
87.5°	13.5	13.5	13.4	13.3	13.2	13.1	13.0	12.9
90°	18.0	18.7	19.3	19.7	20.1	20.4	20.6	21.0
92.5°	27.9	28.4	28.8	29.0	28.8	28.7	28.5	28.3
95°	53.0	53.6	54.3	54.6	54.6	54.6	54.6	54.6
97.5°	82.5	83.1	83.9	84.2	84.2	84.1	84.0	84.0
100°	103.8	104.2	104.7	105.1	105.4	105.8	106.0	106.3
102.5°	128.4	128.8	129.3	129.5	129.5	129.4	129.3	129.3
105°	165.1	165.1	165.1	165.2	165.6	165.9	166.2	166.5
107.5°	204.8	205.4	205.9	206.0	205.9	205.7	205.5	205.3
110°	231.4	232.1	232.6	232.8	232.5	232.1	231.9	231.6





TEST NUMBER: P332437-830

CATALOG NUMBER: S123RDIW-S775D755U830-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	258.0	258.7	259.5	259.8	259.8	259.7	259.6	259.6
115°	298.3	298.5	298.7	298.7	298.5	298.3	298.2	298.0
117.5°	339.1	339.0	339.0	338.8	338.4	337.9	337.5	337.1
120°	366.3	366.1	366.0	365.7	365.4	365.1	364.8	364.5
122.5°	393.8	393.3	392.9	392.6	392.1	391.6	391.2	390.8
125°	434.6	433.9	433.4	432.7	432.2	431.5	430.8	430.3
127.5°	474.9	474.1	473.3	472.4	471.7	471.0	470.3	469.6
130°	501.8	501.1	500.5	499.6	498.6	497.5	496.4	495.3
132.5°	527.8	527.1	526.3	525.6	524.7	523.9	523.0	522.2
135°	566.8	566.2	565.6	565.1	564.8	564.5	564.2	563.8
137.5°	604.9	604.3	603.7	603.0	602.5	601.8	601.2	600.7
140°	630.0	629.9	629.7	629.1	628.0	626.9	625.8	624.7
142.5°	653.6	653.4	653.2	652.7	651.9	651.0	650.2	649.3
145°	688.1	688.0	687.8	687.4	686.7	686.2	685.5	684.9
147.5°	720.8	720.8	720.8	720.3	719.3	718.4	717.5	716.5
150°	740.8	740.8	740.8	740.4	739.4	738.6	737.6	736.7
152.5°	759.3	759.5	759.8	759.5	758.7	757.9	757.1	756.3
155°	786.2	786.8	787.4	787.2	786.1	785.0	783.9	782.9
157.5°	809.4	810.0	810.7	810.5	809.6	808.8	807.9	807.0
160°	823.6	824.3	825.1	825.2	824.6	824.0	823.3	822.7
162.5°	837.0	837.8	838.6	838.5	837.4	836.5	835.5	834.4
165°	853.9	854.9	855.8	855.7	854.7	853.6	852.5	851.4
167.5°	867.7	868.7	869.7	869.7	868.7	867.7	866.8	865.8
170°	875.2	876.4	877.4	877.4	876.4	875.2	874.2	873.1
172.5°	881.2	882.1	883.1	883.1	881.9	880.9	879.8	878.7
175°	887.6	888.4	889.4	889.4	888.3	887.1	886.1	885.0
177.5°	890.4	891.2	891.9	891.8	891.0	890.0	889.2	888.3
180°	890.6	890.6	890.6	890.6	890.6	890.6	890.6	890.6

(END OF REPORT)