

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: P332436-940

Luminaire Tested: **S123RDIW-S775D755U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332436-940  
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-S775D755U940-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 755 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5296.6 lumens  
Efficiency: N/A  
Efficacy: 117.7 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

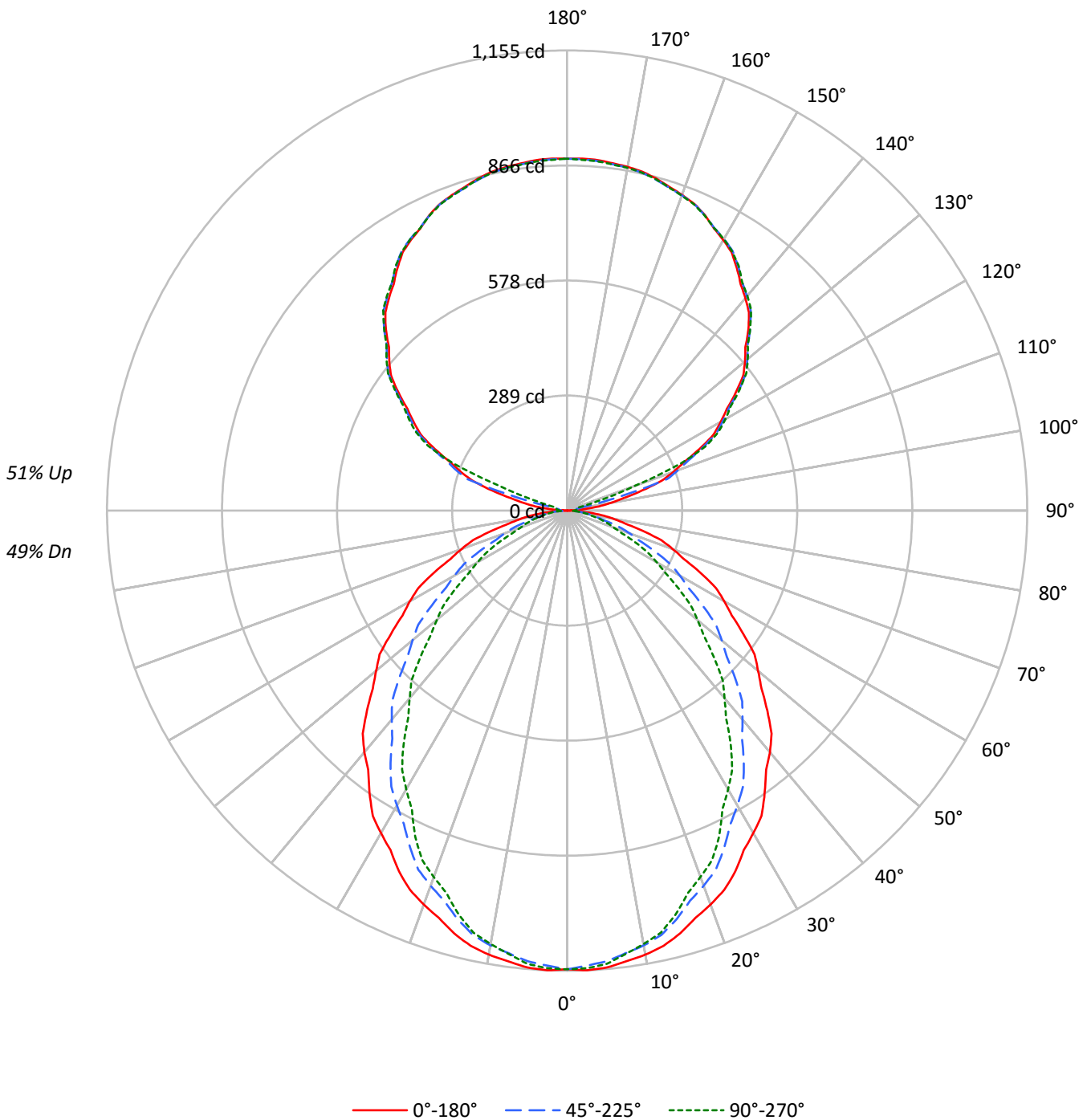
Input Watts (W): 45  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332436-940

CATALOG NUMBER: S123RDIW-S775D755U940-4F0-1E-UDD-F

### Luminous Intensity Polar Plot





TEST NUMBER: P332436-940

CATALOG NUMBER: S123RDIW-S775D755U940-4F0-1E-UDD-F

**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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	55	55	55	49
1	98	94	90	87	90	87	83	80	73	71	69	61	59	58	49	48	47	42
2	89	82	76	71	82	76	71	66	64	61	57	54	51	49	44	42	40	36
3	82	73	65	60	75	67	61	56	57	52	49	48	44	42	39	37	35	31
4	75	64	57	51	69	60	53	48	51	46	42	43	39	36	35	32	30	27
5	69	57	49	44	63	53	46	41	46	40	36	38	34	31	32	29	26	23
6	64	52	44	38	58	48	41	36	41	36	32	35	31	27	29	26	23	21
7	59	47	39	33	54	44	37	32	37	32	28	32	28	24	26	23	21	18
8	55	42	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19	16
9	51	39	31	26	47	36	30	25	31	26	22	27	23	20	23	19	17	15
10	48	36	28	24	44	33	27	23	29	24	20	25	21	18	21	18	16	14

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

	0°	45°	90°
0°	12392	12392	12392
5°	12440	12268	12338
10°	12369	12114	12073
15°	12237	11830	11705
20°	12054	11475	11208
25°	11866	11077	10723
30°	11616	10618	10038
35°	11361	10159	9410
40°	11126	9617	8633
45°	10816	9082	7931
50°	10474	8473	7145
55°	10128	7781	6412
60°	9810	7035	5608
65°	9393	6230	4804
70°	8875	5231	3877
75°	8114	4117	3647
80°	7234	3651	3353
85°	6113	3223	3001



TEST NUMBER: P332436-940

CATALOG NUMBER: S123RDIW-S775D755U940-4F0-1E-UDD-F

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.1	2.0
10°-20°	300.8	5.7
20°-30°	433.1	8.2
30°-40°	487.9	9.2
40°-50°	466.7	8.8
50°-60°	382.2	7.2
60°-70°	257.9	4.9
70°-80°	129.7	2.4
80°-90°	36.8	0.7
90°-100°	32.1	0.6
100°-110°	153.0	2.9
110°-120°	367.6	6.9
120°-130°	468.1	8.8
130°-140°	500.2	9.4
140°-150°	467.7	8.8
150°-160°	377.3	7.1
160°-170°	243.5	4.6
170°-180°	83.9	1.6
0°-30°	842.0	15.9
0°-40°	1329.9	25.1
0°-60°	2178.8	41.1
0°-90°	2603.2	49.1
90°-120°	552.8	10.4
90°-150°	1988.7	37.5
90°-180°	2693.0	50.8
0°-180°	5296.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1151	1151	1151	1151	1151	
5°	1151	1146	1135	1143	1142	109
15°	1098	1087	1062	1057	1050	309
25°	999	975	933	914	903	459
35°	865	830	773	734	716	541
45°	710	667	597	545	521	548
55°	540	492	415	362	342	484
65°	369	316	245	201	189	365
75°	195	150	99	90	88	208
85°	50	30	26	24	24	56
90°	1	7	16	18	20	4
95°	40	15	20	25	25	49
105°	196	199	144	34	29	207
115°	367	371	377	383	386	362
125°	517	522	525	526	528	462
135°	644	648	650	652	650	495
145°	743	747	749	750	750	465
155°	818	817	818	821	817	377
165°	863	861	860	865	861	244
175°	883	880	881	885	880	84
180°	883	883	883	883	883	



TEST NUMBER: P332436-940

CATALOG NUMBER: S123RDIW-S775D755U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3
2.5°	1154.9	1154.3	1153.6	1153.0	1152.4	1151.0	1149.0	1147.0	1145.0	1143.0	1144.9
5°	1151.3	1150.2	1149.1	1148.2	1147.1	1145.3	1142.8	1140.3	1137.8	1135.4	1137.2
7.5°	1140.6	1139.5	1138.4	1137.2	1136.1	1133.9	1130.7	1127.5	1124.3	1121.0	1122.0
10°	1131.7	1130.2	1128.7	1127.3	1125.8	1123.2	1119.5	1115.8	1112.1	1108.3	1108.5
12.5°	1118.9	1117.3	1115.7	1114.1	1112.5	1109.4	1104.8	1100.3	1095.6	1091.1	1091.0
15°	1098.1	1095.7	1093.4	1091.2	1088.9	1084.9	1079.1	1073.3	1067.4	1061.6	1060.6
17.5°	1071.7	1069.1	1066.4	1063.7	1061.0	1056.1	1048.7	1041.3	1033.8	1026.5	1024.3
20°	1052.3	1048.9	1045.6	1042.3	1039.0	1033.4	1025.5	1017.6	1009.8	1001.8	999.2
22.5°	1030.6	1026.8	1023.0	1019.1	1015.3	1009.2	1000.9	992.5	984.1	975.7	972.3
25°	999.1	993.9	988.6	983.5	978.3	970.9	961.4	951.8	942.3	932.7	928.4
27.5°	960.7	955.0	949.3	943.6	937.9	929.7	919.1	908.5	897.8	887.2	881.1
30°	934.6	928.4	922.2	916.0	909.7	900.8	889.2	877.5	865.9	854.3	847.3
32.5°	908.5	901.4	894.4	887.3	880.3	870.6	858.3	846.1	833.7	821.4	813.8
35°	864.6	857.1	849.6	842.2	834.7	824.6	811.7	798.8	786.0	773.1	764.2
37.5°	820.2	811.8	803.5	795.2	786.9	776.0	762.2	748.5	734.8	721.0	710.9
40°	791.8	782.7	773.5	764.4	755.3	743.3	728.6	713.9	699.1	684.4	673.6
42.5°	759.6	750.6	741.4	732.3	723.2	711.0	695.7	680.5	665.3	650.1	638.3
45°	710.5	701.2	691.9	682.5	673.2	660.6	644.5	628.6	612.6	596.6	584.8
47.5°	661.5	651.2	641.0	630.7	620.5	607.3	591.4	575.3	559.4	543.4	530.6
50°	625.5	615.8	606.1	596.3	586.6	573.3	556.5	539.7	522.9	506.0	493.2
52.5°	593.4	582.9	572.3	561.7	551.2	537.5	520.8	504.3	487.6	470.9	457.6
55°	539.7	529.5	519.3	509.2	499.0	485.1	467.4	449.9	432.2	414.6	402.5
57.5°	490.0	478.9	467.9	456.7	445.7	431.3	413.6	395.8	378.1	360.4	349.0
60°	455.7	444.3	432.8	421.4	410.0	395.7	378.4	361.2	344.0	326.8	315.6
62.5°	421.2	409.8	398.4	387.0	375.7	361.3	344.1	326.9	309.7	292.4	281.9
65°	368.8	357.4	346.0	334.6	323.2	309.3	293.2	277.0	260.8	244.6	234.4
67.5°	316.4	304.8	293.3	281.7	270.2	256.6	241.1	225.6	210.1	194.6	187.0
70°	282.0	270.8	259.6	248.3	237.2	224.3	209.7	195.3	180.7	166.2	158.9
72.5°	247.6	236.6	225.5	214.5	203.5	191.4	178.2	165.0	151.8	138.6	132.6
75°	195.1	185.2	175.2	165.2	155.3	144.6	133.2	121.8	110.4	99.0	96.9
77.5°	147.3	138.3	129.3	120.3	111.3	103.2	95.8	88.5	81.1	73.7	72.7
80°	116.7	108.2	99.7	91.2	82.7	76.2	71.9	67.5	63.2	58.9	58.2
82.5°	87.6	80.3	72.9	65.5	58.2	53.5	51.5	49.4	47.4	45.4	44.8
85°	49.5	44.9	40.4	35.8	31.2	28.6	28.0	27.4	26.8	26.1	25.8
87.5°	18.1	16.5	15.0	13.5	11.9	11.3	11.7	12.1	12.5	12.8	12.8
90°	0.6	2.1	3.6	5.0	6.5	8.2	10.1	11.9	13.8	15.8	16.3
92.5°	12.2	11.8	11.4	11.0	10.6	11.1	12.5	13.9	15.3	16.8	17.7
95°	40.0	34.1	28.1	22.1	16.1	13.9	15.5	17.1	18.7	20.3	21.4
97.5°	80.4	77.8	75.1	72.4	69.7	63.1	52.6	42.1	31.7	21.1	22.3
100°	110.9	113.8	116.7	119.7	122.5	112.6	89.9	67.1	44.4	21.7	22.8
102.5°	145.5	147.7	149.7	151.9	153.9	142.6	117.7	92.8	68.0	43.2	39.6
105°	195.6	197.2	198.8	200.4	202.0	196.2	183.1	170.0	156.9	143.7	117.9
107.5°	248.3	249.6	250.8	252.2	253.4	255.1	257.2	259.2	261.4	263.4	244.4
110°	283.5	284.6	285.8	287.0	288.1	289.5	291.1	292.7	294.4	296.0	291.1



TEST NUMBER: P332436-940

CATALOG NUMBER: S123RDIW-S775D755U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	317.1	318.1	319.1	320.2	321.3	322.6	324.2	325.8	327.4	329.0	329.1
115°	366.8	367.7	368.5	369.4	370.3	371.4	372.7	374.0	375.3	376.7	378.1
117.5°	415.0	416.1	417.1	418.2	419.3	420.2	420.8	421.5	422.1	422.8	424.0
120°	444.9	446.2	447.5	448.8	450.1	451.0	451.5	451.9	452.4	452.7	454.0
122.5°	475.4	476.4	477.5	478.6	479.7	480.5	481.0	481.6	482.1	482.7	483.5
125°	517.1	518.3	519.4	520.6	521.7	522.6	523.2	523.8	524.3	525.0	525.2
127.5°	557.5	558.7	559.8	561.0	562.1	563.1	563.8	564.5	565.2	565.9	566.3
130°	582.6	583.9	585.1	586.2	587.4	588.3	588.8	589.4	590.0	590.6	591.1
132.5°	606.8	608.0	609.1	610.3	611.5	612.3	612.8	613.2	613.7	614.2	614.7
135°	643.7	644.6	645.4	646.3	647.2	647.9	648.5	649.1	649.7	650.2	650.7
137.5°	675.2	676.3	677.4	678.5	679.7	680.4	680.6	681.0	681.4	681.6	682.3
140°	696.2	697.1	697.9	698.8	699.7	700.3	700.8	701.2	701.7	702.1	702.7
142.5°	715.6	716.5	717.4	718.3	719.2	719.8	720.2	720.7	721.1	721.6	722.0
145°	742.8	743.8	744.8	745.8	746.9	747.5	747.8	748.1	748.4	748.7	748.9
147.5°	768.4	769.0	769.7	770.3	771.1	771.5	771.9	772.1	772.4	772.7	773.0
150°	784.2	784.5	785.0	785.4	785.9	786.2	786.6	786.8	787.1	787.4	787.7
152.5°	798.3	798.5	798.7	798.9	799.2	799.3	799.5	799.7	799.9	800.0	800.5
155°	818.2	818.0	817.7	817.3	817.1	817.0	817.2	817.3	817.4	817.6	818.3
157.5°	833.7	833.7	833.7	833.7	833.7	833.6	833.4	833.2	833.1	832.9	833.8
160°	843.2	843.0	842.9	842.8	842.6	842.5	842.3	842.1	842.0	841.9	842.8
162.5°	852.1	851.8	851.3	851.0	850.6	850.3	850.2	850.1	849.9	849.7	850.8
165°	862.9	862.5	862.0	861.6	861.1	860.9	860.7	860.5	860.4	860.2	861.4
167.5°	871.3	870.7	870.1	869.5	869.0	868.6	868.6	868.6	868.6	868.6	869.8
170°	876.0	875.4	874.9	874.2	873.7	873.3	873.3	873.3	873.3	873.3	874.5
172.5°	879.1	878.4	877.7	877.1	876.4	876.0	876.2	876.3	876.4	876.6	877.7
175°	883.2	882.4	881.7	881.0	880.3	880.0	880.1	880.3	880.5	880.6	881.6
177.5°	884.2	883.7	883.1	882.5	881.9	881.7	881.8	881.9	882.1	882.2	883.1
180°	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2



TEST NUMBER: P332436-940

CATALOG NUMBER: S123RDIW-S775D755U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3
2.5°	1146.7	1148.5	1150.3	1151.1	1150.8	1150.4	1150.0	1149.8
5°	1139.1	1140.9	1142.8	1143.5	1143.2	1142.7	1142.3	1141.9
7.5°	1123.1	1124.1	1125.2	1125.3	1124.6	1123.9	1123.2	1122.5
10°	1108.8	1108.9	1109.1	1108.8	1107.7	1106.6	1105.6	1104.6
12.5°	1090.8	1090.7	1090.7	1089.9	1088.8	1087.5	1086.4	1085.1
15°	1059.5	1058.5	1057.5	1056.2	1054.8	1053.3	1051.9	1050.4
17.5°	1022.1	1019.9	1017.7	1015.6	1013.3	1011.2	1009.1	1006.9
20°	996.5	993.7	991.0	988.5	986.0	983.5	981.0	978.5
22.5°	969.0	965.6	962.2	959.4	957.1	954.8	952.4	950.1
25°	924.1	919.7	915.3	912.0	909.7	907.4	905.2	902.9
27.5°	875.0	869.1	863.0	858.2	854.7	851.2	847.7	844.3
30°	840.3	833.1	826.1	820.9	817.6	814.3	810.9	807.6
32.5°	806.0	798.3	790.6	785.0	781.5	778.0	774.5	771.1
35°	755.3	746.4	737.4	731.1	727.4	723.6	719.9	716.1
37.5°	700.7	690.6	680.5	673.2	668.5	663.9	659.3	654.7
40°	662.8	652.0	641.2	633.5	628.7	623.9	619.1	614.4
42.5°	626.4	614.7	602.9	594.9	590.6	586.3	582.0	577.7
45°	573.0	561.2	549.3	540.9	535.9	530.9	526.0	521.0
47.5°	517.6	504.8	492.0	483.3	478.8	474.4	470.0	465.6
50°	480.4	467.4	454.6	445.8	441.0	436.2	431.5	426.7
52.5°	444.3	430.9	417.5	408.7	404.4	400.1	395.8	391.6
55°	390.5	378.4	366.4	358.3	354.2	350.0	345.9	341.7
57.5°	337.7	326.3	315.0	307.5	304.0	300.4	296.9	293.4
60°	304.3	293.2	282.0	274.6	271.1	267.5	264.0	260.5
62.5°	271.3	260.8	250.3	243.2	239.4	235.8	232.1	228.4
65°	224.3	214.1	203.9	197.7	195.5	193.1	190.9	188.6
67.5°	179.4	171.8	164.2	159.2	156.8	154.3	151.9	149.4
70°	151.7	144.4	137.1	132.4	130.1	127.8	125.6	123.2
72.5°	126.7	120.7	114.9	111.4	110.4	109.5	108.5	107.5
75°	94.8	92.7	90.7	89.4	89.0	88.6	88.2	87.7
77.5°	71.5	70.4	69.3	68.5	68.1	67.7	67.2	66.9
80°	57.6	57.0	56.4	55.8	55.4	55.0	54.6	54.1
82.5°	44.1	43.5	42.9	42.5	42.4	42.4	42.3	42.2
85°	25.3	24.9	24.5	24.3	24.3	24.3	24.3	24.3
87.5°	12.8	12.8	12.7	12.6	12.5	12.4	12.3	12.1
90°	16.9	17.5	18.1	18.5	18.8	19.1	19.4	19.7
92.5°	18.6	19.6	20.5	21.0	21.2	21.4	21.6	21.8
95°	22.4	23.4	24.4	25.0	25.0	25.0	25.0	25.0
97.5°	23.5	24.6	25.8	26.5	26.6	26.8	26.9	27.0
100°	24.0	25.1	26.3	27.0	27.1	27.3	27.4	27.6
102.5°	35.9	32.4	28.7	27.0	27.3	27.6	27.8	28.1
105°	92.1	66.3	40.5	27.7	28.0	28.3	28.6	28.9
107.5°	225.5	206.6	187.7	168.5	149.0	129.6	110.1	90.7
110°	286.3	281.5	276.7	263.9	243.0	222.1	201.3	180.5





TEST NUMBER: P332436-940

CATALOG NUMBER: S123RDIW-S775D755U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	329.2	329.3	329.4	327.2	322.8	318.4	314.0	309.6
115°	379.6	381.0	382.5	383.5	384.1	384.7	385.2	385.8
117.5°	425.2	426.3	427.5	428.1	428.3	428.4	428.5	428.6
120°	455.1	456.3	457.4	458.0	458.0	458.0	458.0	458.0
122.5°	484.3	485.1	486.0	486.4	486.5	486.6	486.8	486.9
125°	525.5	525.8	526.1	526.4	526.7	527.0	527.3	527.5
127.5°	566.9	567.3	567.8	567.8	567.6	567.2	566.9	566.7
130°	591.7	592.3	592.9	593.1	592.7	592.5	592.2	591.8
132.5°	615.4	615.9	616.5	616.6	616.2	615.8	615.4	614.9
135°	651.1	651.6	652.0	652.0	651.6	651.1	650.7	650.2
137.5°	683.1	683.8	684.5	684.7	684.4	684.0	683.8	683.5
140°	703.3	703.8	704.5	704.6	704.3	704.0	703.7	703.4
142.5°	722.5	722.9	723.4	723.4	723.0	722.6	722.2	721.8
145°	749.3	749.6	749.8	750.0	750.0	750.0	750.0	750.0
147.5°	773.3	773.6	773.9	773.6	773.0	772.3	771.7	771.0
150°	788.0	788.3	788.5	788.5	788.1	787.6	787.2	786.8
152.5°	801.0	801.6	802.1	802.0	801.4	800.7	800.0	799.3
155°	819.0	819.7	820.6	820.5	819.6	818.7	817.8	816.9
157.5°	834.7	835.5	836.4	836.3	835.2	834.0	832.9	831.8
160°	843.6	844.5	845.3	845.3	844.3	843.3	842.2	841.2
162.5°	851.8	852.7	853.7	853.7	852.8	851.9	851.0	850.2
165°	862.6	863.7	864.9	865.0	864.0	862.9	861.9	860.9
167.5°	870.9	872.2	873.3	873.3	872.2	870.9	869.8	868.6
170°	875.7	876.9	878.1	878.1	876.9	875.7	874.5	873.3
172.5°	878.9	880.0	881.2	881.1	879.9	878.6	877.3	876.0
175°	882.6	883.7	884.7	884.6	883.4	882.3	881.1	879.9
177.5°	884.0	884.9	885.9	885.7	884.6	883.4	882.3	881.1
180°	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2

(END OF REPORT)