

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: P332433-940

Luminaire Tested: **S123RDIW-S775D460U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332433-940
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-S775D460U940-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 460 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4027.6 lumens
Efficiency: N/A
Efficacy: 106.8 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-Direct

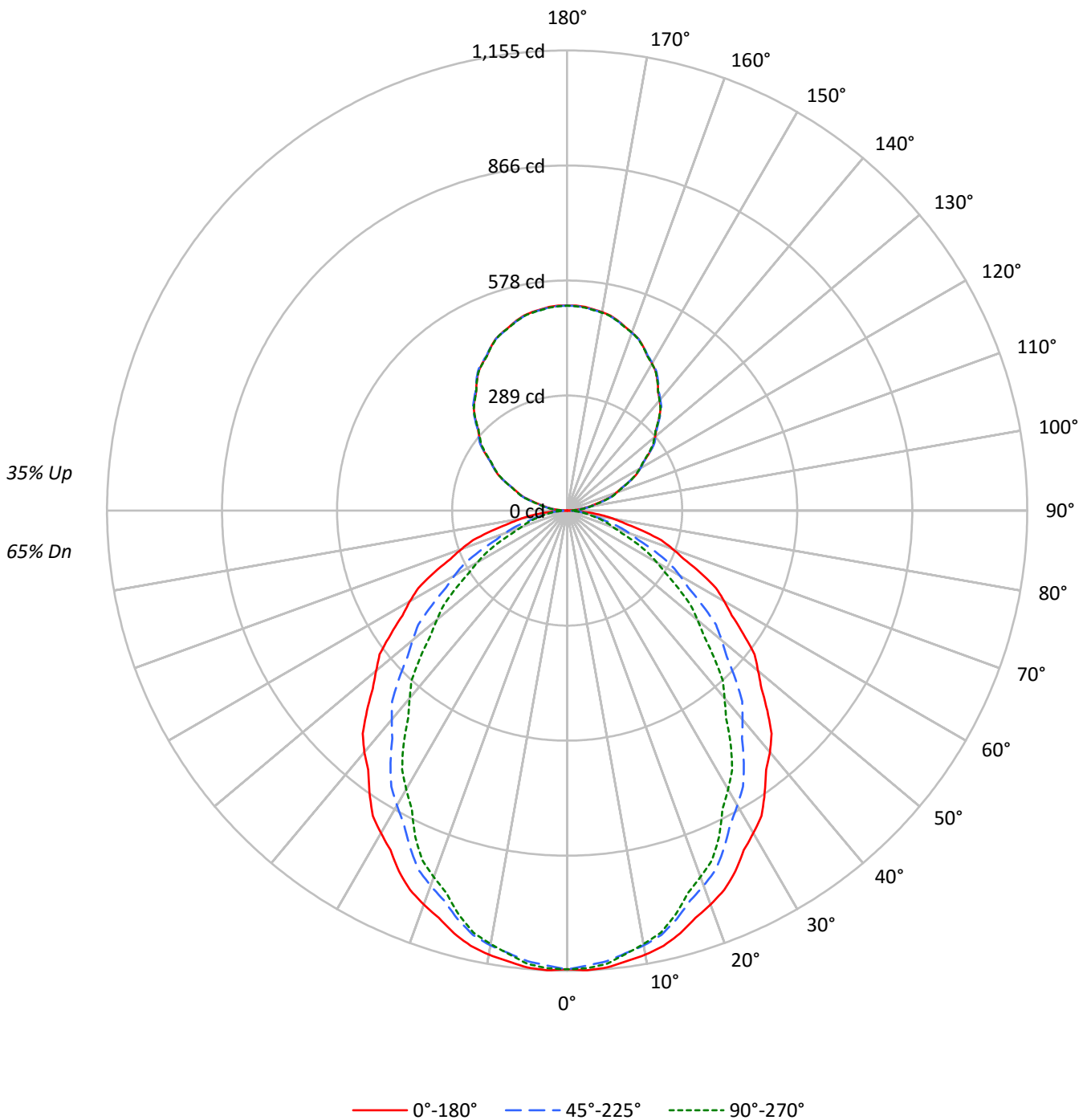
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332433-940

CATALOG NUMBER: S123RDIW-S775D460U940-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





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CATALOG NUMBER: S123RDIW-S775D460U940-4F0-1E-UDD-F1

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	111	111	111	111	104	104	104	104	91	91	91	80	80	80	70	70	70	65
1	101	97	93	90	95	92	88	85	81	78	76	71	69	68	62	61	60	55
2	93	85	79	74	87	81	75	71	71	67	64	63	60	57	55	53	51	47
3	85	75	68	62	80	71	65	60	63	58	54	56	52	49	49	46	44	40
4	78	67	59	53	73	63	56	51	57	51	46	50	46	42	44	41	38	35
5	72	60	52	46	67	57	50	44	51	45	40	45	41	37	40	36	33	31
6	66	54	46	40	62	51	44	39	46	40	36	41	36	33	37	33	30	27
7	61	49	41	35	58	47	39	34	42	36	32	38	33	29	33	29	26	24
8	57	45	37	32	54	43	35	30	38	32	28	34	30	26	31	27	24	22
9	53	41	33	28	50	39	32	27	35	29	25	32	27	23	29	25	22	20
10	50	38	30	26	47	36	29	25	33	27	23	29	25	21	27	23	20	18

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: P332433-940

CATALOG NUMBER: S123RDIW-S775D460U940-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.1	2.7
10°-20°	300.8	7.5
20°-30°	433.1	10.8
30°-40°	487.9	12.1
40°-50°	466.7	11.6
50°-60°	382.2	9.5
60°-70°	257.9	6.4
70°-80°	129.7	3.2
80°-90°	35.8	0.9
90°-100°	33.5	0.8
100°-110°	100.3	2.5
110°-120°	170.6	4.2
120°-130°	224.4	5.6
130°-140°	252.2	6.3
140°-150°	247.9	6.2
150°-160°	208.7	5.2
160°-170°	138.9	3.4
170°-180°	48.7	1.2
0°-30°	842.0	20.9
0°-40°	1329.9	33.0
0°-60°	2178.8	54.1
0°-90°	2602.3	64.6
90°-120°	304.4	7.6
90°-150°	1029.0	25.5
90°-180°	1425.0	35.4
0°-180°	4027.6	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°	0	4	10	11	12	4
95°	24	27	30	31	32	27
105°	91	92	95	95	96	97
115°	172	173	172	172	172	170
125°	251	252	252	250	248	224
135°	326	328	328	327	326	251
145°	396	396	398	397	396	247
155°	453	453	453	455	452	208
165°	493	492	492	494	492	139
175°	513	512	512	514	511	49
180°	514	514	514	514	514	



TEST NUMBER: P332433-940

CATALOG NUMBER: S123RDIW-S775D460U940-4F0-1E-UDD-F1

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°	18.0	16.3	14.7	13.1	11.4	10.7	11.0	11.1	11.4	11.7	11.6
90°	0.4	1.3	2.2	3.1	4.0	5.0	6.2	7.4	8.6	9.7	10.1
92.5°	9.8	10.4	11.0	11.6	12.2	12.8	13.6	14.2	14.9	15.5	15.8
95°	23.8	24.4	25.1	25.8	26.4	27.0	27.7	28.4	29.2	29.9	30.2
97.5°	42.4	42.8	43.2	43.8	44.2	44.7	45.2	45.7	46.3	46.8	47.2
100°	54.9	55.5	56.0	56.5	57.1	57.6	58.1	58.5	58.9	59.4	59.7
102.5°	69.5	69.8	70.2	70.4	70.8	71.2	71.9	72.4	73.0	73.7	73.9
105°	91.0	91.1	91.3	91.5	91.7	92.1	92.9	93.7	94.5	95.3	95.3
107.5°	115.8	115.9	116.0	116.1	116.3	116.5	116.8	117.1	117.4	117.8	118.1
110°	131.3	131.5	131.7	131.9	132.1	132.2	132.4	132.6	132.8	133.0	133.3



TEST NUMBER: P332433-940

CATALOG NUMBER: S123RDIW-S775D460U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	147.5	147.6	147.8	147.8	147.9	148.0	148.0	148.1	148.1	148.1	148.6
115°	171.7	172.0	172.3	172.5	172.8	172.9	172.7	172.5	172.4	172.2	172.3
117.5°	196.2	196.4	196.5	196.7	196.9	196.8	196.6	196.4	196.2	195.9	195.9
120°	211.3	211.9	212.4	212.9	213.5	213.6	213.1	212.7	212.2	211.8	211.7
122.5°	227.2	227.6	228.0	228.4	228.7	228.8	228.6	228.4	228.2	227.9	227.7
125°	251.4	251.6	251.9	252.2	252.4	252.4	252.3	252.1	251.9	251.7	251.4
127.5°	273.7	274.2	274.8	275.4	276.0	276.2	276.0	275.7	275.5	275.4	274.8
130°	288.6	289.3	290.0	290.7	291.4	291.6	291.3	291.1	290.8	290.5	290.2
132.5°	303.4	304.1	304.9	305.6	306.3	306.6	306.3	306.1	305.9	305.8	305.3
135°	326.1	326.6	327.2	327.7	328.2	328.5	328.4	328.3	328.2	328.1	327.8
137.5°	347.1	347.6	348.0	348.5	348.9	349.3	349.5	349.7	350.0	350.2	349.8
140°	361.7	362.1	362.6	363.0	363.5	363.7	363.8	363.9	364.0	364.1	364.0
142.5°	375.0	375.4	375.9	376.3	376.7	377.0	377.2	377.4	377.6	377.6	377.6
145°	395.7	395.8	396.0	396.2	396.4	396.5	396.8	397.1	397.3	397.6	397.5
147.5°	413.8	414.0	414.4	414.6	415.0	415.3	415.5	415.8	416.1	416.3	416.3
150°	426.3	426.5	426.7	426.9	427.0	427.2	427.4	427.6	427.8	427.9	427.9
152.5°	436.7	436.9	437.2	437.4	437.7	437.8	437.9	438.1	438.2	438.3	438.5
155°	453.0	453.0	453.0	453.0	453.0	453.1	453.2	453.3	453.3	453.4	453.8
157.5°	466.9	466.8	466.7	466.5	466.5	466.5	466.5	466.6	466.6	466.7	467.1
160°	475.6	475.5	475.3	475.1	474.9	474.8	474.8	474.8	474.8	474.8	475.3
162.5°	483.4	483.1	482.9	482.6	482.4	482.3	482.3	482.4	482.5	482.6	483.0
165°	493.4	493.1	492.8	492.6	492.3	492.2	492.2	492.2	492.2	492.2	492.8
167.5°	501.4	501.1	500.7	500.3	500.0	499.8	499.9	500.0	500.1	500.1	500.7
170°	506.0	505.6	505.2	504.9	504.5	504.4	504.4	504.4	504.4	504.4	505.0
172.5°	509.5	509.2	508.8	508.5	508.0	507.8	507.8	507.8	507.8	507.8	508.5
175°	513.2	512.8	512.5	512.1	511.8	511.6	511.6	511.6	511.6	511.6	512.1
177.5°	514.8	514.4	514.2	513.9	513.6	513.4	513.4	513.4	513.4	513.4	513.9
180°	514.4	514.4	514.4	514.4	514.4	514.4	514.4	514.4	514.4	514.4	514.4



TEST NUMBER: P332433-940

CATALOG NUMBER: S123RDIW-S775D460U940-4F0-1E-UDD-F1

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°	11.5	11.3	11.2	11.1	11.1	10.9	10.8	10.6
90°	10.4	10.8	11.1	11.4	11.6	11.8	11.9	12.1
92.5°	16.1	16.4	16.7	16.8	16.7	16.5	16.4	16.3
95°	30.6	30.9	31.3	31.5	31.5	31.5	31.5	31.5
97.5°	47.6	48.1	48.4	48.6	48.6	48.6	48.5	48.5
100°	59.9	60.2	60.5	60.7	60.9	61.1	61.3	61.4
102.5°	74.2	74.5	74.7	74.8	74.8	74.7	74.7	74.6
105°	95.3	95.3	95.3	95.4	95.7	95.9	96.0	96.2
107.5°	118.3	118.6	118.9	119.0	118.9	118.8	118.7	118.6
110°	133.7	134.0	134.4	134.5	134.3	134.1	133.9	133.8



TEST NUMBER: P332433-940

CATALOG NUMBER: S123RDIW-S775D460U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	149.0	149.5	149.9	150.1	150.0	150.0	150.0	149.9
115°	172.4	172.5	172.5	172.5	172.5	172.4	172.3	172.2
117.5°	195.9	195.8	195.8	195.7	195.5	195.2	194.9	194.7
120°	211.6	211.5	211.4	211.2	211.1	210.9	210.7	210.5
122.5°	227.5	227.2	226.9	226.8	226.5	226.2	226.0	225.7
125°	251.0	250.7	250.3	249.9	249.6	249.2	248.9	248.5
127.5°	274.4	273.8	273.3	272.9	272.5	272.1	271.6	271.3
130°	289.8	289.4	289.1	288.6	288.0	287.4	286.8	286.1
132.5°	304.9	304.4	304.0	303.5	303.1	302.6	302.1	301.6
135°	327.4	327.1	326.7	326.5	326.3	326.1	325.9	325.7
137.5°	349.5	349.1	348.7	348.3	347.9	347.7	347.3	347.0
140°	363.9	363.8	363.7	363.4	362.7	362.1	361.5	360.9
142.5°	377.5	377.4	377.3	377.0	376.6	376.0	375.6	375.1
145°	397.4	397.3	397.3	397.1	396.7	396.4	396.0	395.7
147.5°	416.3	416.3	416.3	416.1	415.5	414.9	414.4	413.8
150°	427.9	427.9	427.9	427.7	427.1	426.6	426.1	425.5
152.5°	438.5	438.7	438.9	438.7	438.3	437.7	437.3	436.8
155°	454.1	454.5	454.9	454.7	454.1	453.4	452.8	452.2
157.5°	467.5	467.9	468.2	468.1	467.7	467.2	466.6	466.2
160°	475.7	476.2	476.6	476.6	476.3	475.9	475.5	475.2
162.5°	483.5	483.9	484.4	484.3	483.8	483.1	482.6	482.0
165°	493.3	493.8	494.4	494.3	493.7	493.0	492.4	491.8
167.5°	501.2	501.8	502.3	502.3	501.8	501.2	500.7	500.1
170°	505.6	506.2	506.8	506.8	506.2	505.6	505.0	504.4
172.5°	509.0	509.5	510.1	510.1	509.4	508.8	508.2	507.6
175°	512.6	513.2	513.7	513.7	513.1	512.5	511.8	511.2
177.5°	514.3	514.8	515.1	515.1	514.6	514.2	513.6	513.1
180°	514.4	514.4	514.4	514.4	514.4	514.4	514.4	514.4

(END OF REPORT)