

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: P332441-940

Luminaire Tested: **S123RDIW-S775D1030U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332441-940
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-S775D1030U940-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5790.5 lumens
Efficiency: N/A
Efficacy: 110.1 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

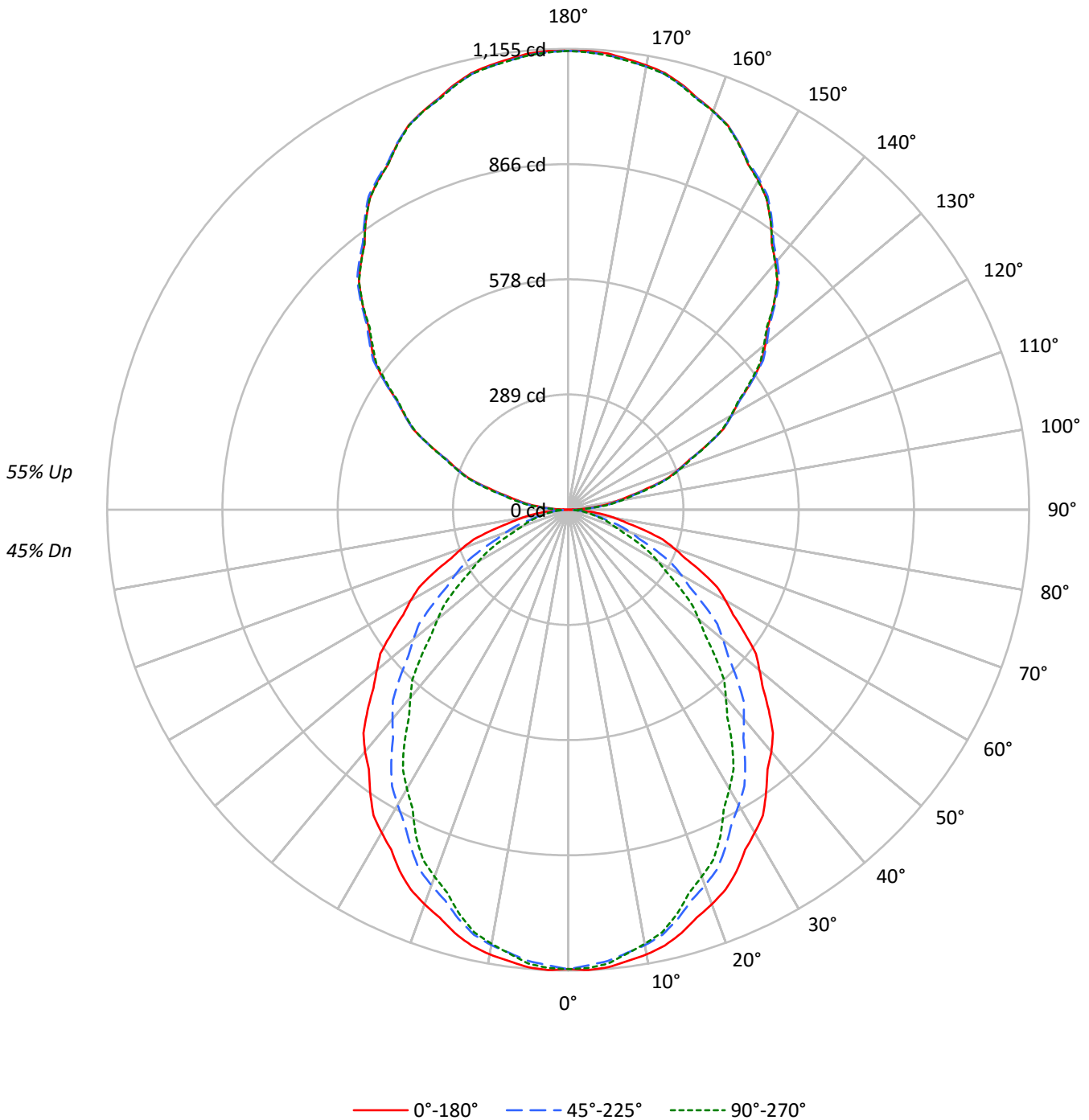
Input Watts (W): 52.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	81	81	81	65	65	65	52	52	52	45
1	97	93	89	86	89	85	82	79	71	69	67	58	56	55	46	45	44	38
2	88	81	75	70	81	75	70	65	63	59	56	51	49	46	41	39	38	33
3	81	72	65	59	74	66	60	55	55	51	47	46	42	40	36	34	32	28
4	74	64	56	50	68	59	52	47	49	44	40	41	37	34	33	30	28	24
5	68	57	49	43	62	52	45	40	44	39	35	37	33	30	30	27	25	21
6	63	51	43	37	57	47	40	35	40	35	31	33	29	26	27	24	22	19
7	58	46	38	33	53	43	36	31	36	31	27	30	26	23	25	22	19	17
8	54	42	34	29	49	39	32	27	33	28	24	28	24	21	23	20	17	15
9	50	38	31	26	46	36	29	24	30	25	22	26	22	19	21	18	16	14
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	19	17	14	12

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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.1	1.9
10°-20°	300.8	5.2
20°-30°	433.1	7.5
30°-40°	487.9	8.4
40°-50°	466.7	8.1
50°-60°	382.2	6.6
60°-70°	257.9	4.5
70°-80°	129.7	2.2
80°-90°	37.7	0.7
90°-100°	74.9	1.3
100°-110°	224.2	3.9
110°-120°	381.4	6.6
120°-130°	501.7	8.7
130°-140°	563.9	9.7
140°-150°	554.3	9.6
150°-160°	466.6	8.1
160°-170°	310.6	5.4
170°-180°	108.8	1.9
0°-30°	842.0	14.5
0°-40°	1329.9	23.0
0°-60°	2178.8	37.6
0°-90°	2604.2	45.0
90°-120°	680.6	11.8
90°-150°	2300.3	39.7
90°-180°	3186.0	55.0
0°-180°	5790.5	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	10	22	25	27	6
95°	53	60	67	70	70	60
105°	203	205	213	213	215	218
115°	384	386	385	386	385	380
125°	562	564	563	559	556	501
135°	729	734	734	730	728	562
145°	884	886	889	888	884	552
155°	1013	1013	1014	1017	1011	466
165°	1103	1100	1100	1105	1100	311
175°	1147	1144	1144	1148	1143	109
180°	1150	1150	1150	1150	1150	



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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	16.7	15.2	13.8	12.4	11.9	12.5	13.0	13.6	14.1	14.0
90°	0.9	2.9	4.9	7.0	8.9	11.2	13.8	16.5	19.1	21.7	22.5
92.5°	21.8	23.2	24.6	25.9	27.3	28.7	30.2	31.7	33.2	34.7	35.3
95°	53.3	54.7	56.1	57.5	58.9	60.5	62.1	63.7	65.3	66.9	67.7
97.5°	94.7	95.7	96.8	97.8	98.9	100.0	101.1	102.3	103.4	104.6	105.6
100°	122.9	124.0	125.3	126.4	127.7	128.8	129.8	130.8	131.8	132.8	133.4
102.5°	155.4	156.1	156.9	157.6	158.3	159.3	160.6	161.9	163.3	164.6	165.2
105°	203.3	203.7	204.1	204.5	204.9	206.0	207.8	209.6	211.4	213.2	213.2
107.5°	259.0	259.1	259.4	259.7	259.8	260.4	261.1	261.8	262.5	263.2	263.9
110°	293.6	294.0	294.4	294.8	295.2	295.6	296.0	296.4	296.9	297.2	298.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	329.8	330.0	330.2	330.5	330.7	330.8	330.9	331.0	331.1	331.2	332.2
115°	384.0	384.5	385.1	385.8	386.4	386.5	386.0	385.7	385.2	384.9	385.0
117.5°	438.5	438.9	439.3	439.7	440.1	440.1	439.5	439.0	438.5	438.0	437.9
120°	472.5	473.7	474.9	476.1	477.3	477.4	476.4	475.4	474.4	473.4	473.1
122.5°	507.9	508.8	509.7	510.5	511.4	511.6	511.1	510.6	510.1	509.5	509.0
125°	562.0	562.5	563.1	563.7	564.4	564.5	564.0	563.7	563.2	562.8	562.0
127.5°	611.8	613.1	614.4	615.6	616.9	617.3	616.9	616.4	616.0	615.5	614.5
130°	645.1	646.7	648.3	649.9	651.5	651.9	651.4	650.8	650.1	649.5	648.7
132.5°	678.2	679.8	681.4	683.1	684.7	685.3	684.8	684.4	683.9	683.5	682.5
135°	729.1	730.2	731.5	732.6	733.9	734.3	734.1	734.0	733.8	733.5	732.7
137.5°	776.1	777.0	778.0	779.0	780.1	780.8	781.3	781.9	782.4	782.9	782.0
140°	808.5	809.6	810.6	811.5	812.5	813.2	813.3	813.6	813.8	814.0	813.8
142.5°	838.2	839.2	840.2	841.2	842.2	842.8	843.2	843.6	844.0	844.4	844.1
145°	884.4	884.8	885.2	885.6	886.0	886.5	887.2	887.8	888.3	888.9	888.8
147.5°	924.9	925.6	926.3	927.1	927.8	928.4	929.0	929.6	930.1	930.7	930.7
150°	953.1	953.5	953.9	954.3	954.7	955.1	955.5	955.9	956.3	956.7	956.7
152.5°	976.2	976.8	977.3	977.9	978.5	978.8	979.1	979.4	979.6	979.8	980.2
155°	1012.7	1012.7	1012.7	1012.7	1012.7	1012.8	1013.0	1013.3	1013.4	1013.6	1014.4
157.5°	1043.8	1043.6	1043.3	1043.0	1042.9	1042.8	1042.9	1043.1	1043.3	1043.4	1044.3
160°	1063.3	1062.9	1062.5	1062.1	1061.7	1061.5	1061.5	1061.5	1061.5	1061.5	1062.5
162.5°	1080.7	1080.1	1079.5	1079.0	1078.4	1078.2	1078.3	1078.5	1078.7	1078.9	1079.9
165°	1103.0	1102.4	1101.9	1101.3	1100.6	1100.4	1100.4	1100.4	1100.4	1100.4	1101.5
167.5°	1121.0	1120.2	1119.4	1118.6	1117.8	1117.4	1117.6	1117.8	1117.9	1118.0	1119.3
170°	1131.0	1130.2	1129.4	1128.6	1127.8	1127.5	1127.5	1127.5	1127.5	1127.5	1128.8
172.5°	1139.0	1138.2	1137.4	1136.6	1135.8	1135.4	1135.4	1135.4	1135.4	1135.4	1136.7
175°	1147.4	1146.6	1145.8	1145.0	1144.2	1143.7	1143.7	1143.7	1143.7	1143.7	1145.0
177.5°	1150.8	1150.1	1149.5	1148.8	1148.2	1147.9	1147.9	1147.9	1147.9	1147.9	1148.8
180°	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0



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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°	14.0	14.0	14.0	14.0	13.9	13.8	13.7	13.6
90°	23.3	24.1	24.9	25.5	25.9	26.3	26.7	27.1
92.5°	35.9	36.6	37.3	37.5	37.2	37.0	36.7	36.5
95°	68.5	69.3	70.1	70.4	70.4	70.4	70.4	70.4
97.5°	106.5	107.4	108.3	108.7	108.6	108.6	108.5	108.4
100°	134.0	134.6	135.2	135.7	136.1	136.5	136.9	137.3
102.5°	165.8	166.4	167.0	167.3	167.2	167.1	167.0	166.9
105°	213.2	213.2	213.2	213.4	213.8	214.2	214.6	215.0
107.5°	264.6	265.2	265.8	266.0	265.8	265.6	265.3	265.0
110°	298.8	299.6	300.4	300.6	300.2	299.8	299.4	299.0



TEST NUMBER: P332441-940

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	333.1	334.0	335.0	335.5	335.4	335.3	335.3	335.2
115°	385.2	385.5	385.7	385.7	385.5	385.2	385.0	384.9
117.5°	437.9	437.8	437.8	437.5	436.9	436.4	435.8	435.2
120°	473.0	472.8	472.6	472.3	471.9	471.4	471.1	470.6
122.5°	508.5	507.9	507.5	506.8	506.3	505.8	505.2	504.6
125°	561.2	560.4	559.6	558.8	558.0	557.2	556.4	555.6
127.5°	613.3	612.2	611.1	610.0	609.1	608.2	607.3	606.4
130°	647.9	647.1	646.3	645.2	643.8	642.4	641.1	639.6
132.5°	681.6	680.6	679.7	678.7	677.5	676.5	675.4	674.3
135°	731.9	731.1	730.3	729.8	729.3	729.0	728.5	728.2
137.5°	781.2	780.3	779.5	778.7	777.9	777.2	776.4	775.7
140°	813.6	813.3	813.2	812.3	810.9	809.6	808.2	806.7
142.5°	843.9	843.7	843.6	842.8	841.8	840.7	839.6	838.6
145°	888.6	888.3	888.1	887.6	886.8	886.0	885.2	884.4
147.5°	930.7	930.7	930.7	930.1	928.9	927.6	926.5	925.2
150°	956.7	956.7	956.7	956.1	954.9	953.7	952.5	951.3
152.5°	980.4	980.8	981.1	980.8	979.7	978.7	977.6	976.6
155°	1015.2	1016.0	1016.8	1016.6	1015.1	1013.7	1012.4	1010.9
157.5°	1045.1	1046.0	1046.8	1046.7	1045.5	1044.5	1043.3	1042.1
160°	1063.5	1064.5	1065.5	1065.6	1064.8	1064.0	1063.2	1062.4
162.5°	1080.8	1081.8	1082.9	1082.7	1081.5	1080.1	1078.9	1077.5
165°	1102.8	1103.9	1105.2	1105.1	1103.7	1102.2	1100.8	1099.5
167.5°	1120.5	1121.8	1123.0	1123.0	1121.8	1120.5	1119.3	1118.0
170°	1130.2	1131.7	1133.1	1133.1	1131.7	1130.2	1128.8	1127.5
172.5°	1137.9	1139.2	1140.4	1140.3	1138.9	1137.5	1136.0	1134.7
175°	1146.1	1147.4	1148.5	1148.4	1147.0	1145.6	1144.2	1142.8
177.5°	1149.8	1150.8	1151.7	1151.6	1150.5	1149.4	1148.3	1147.2
180°	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0	1150.0

(END OF REPORT)