

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: P332218-935

Luminaire Tested: **S123DIW-S1165D755U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332218-935
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: S123DIW-S1165D755U935-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6778.1 lumens
Efficiency: N/A
Efficacy: 113.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

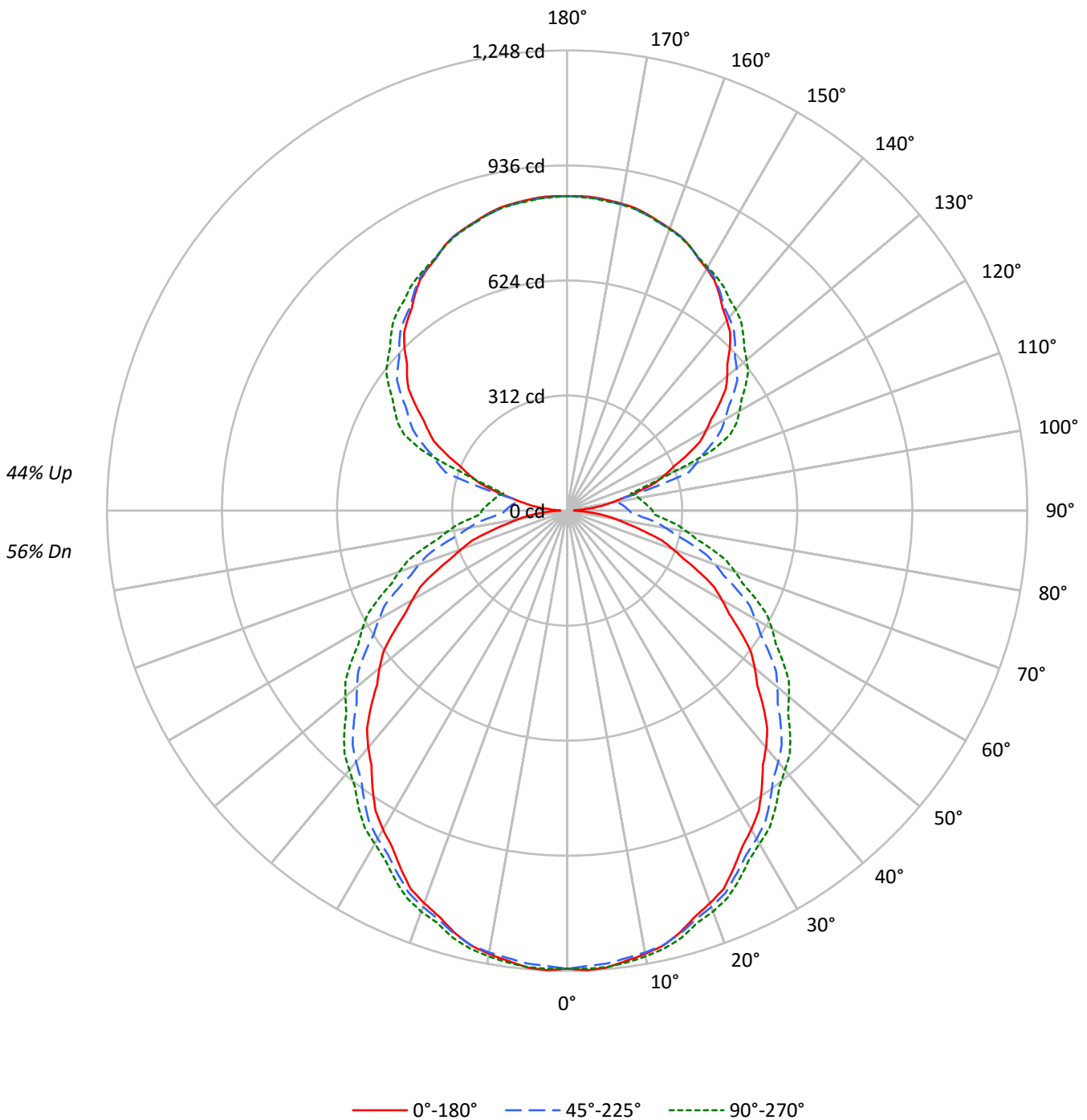
Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: S123DIW-S1165D755U935-4F0-1E-UDD-D

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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56
1	98	93	89	85	91	87	83	79	74	72	69	63	61	59	53	51	50	45
2	89	81	74	68	82	75	69	64	65	60	56	55	52	49	46	43	41	37
3	81	71	63	56	75	66	59	53	57	51	47	48	44	41	40	37	35	31
4	74	62	54	47	68	58	51	45	50	44	40	43	38	34	36	32	30	26
5	68	55	47	40	62	52	44	38	45	39	34	38	33	30	32	28	26	22
6	62	50	41	35	58	46	39	33	40	34	29	34	30	26	29	25	22	19
7	57	45	36	31	53	42	34	29	36	30	26	31	26	23	27	23	20	17
8	53	41	33	27	49	38	31	26	33	27	23	29	24	20	24	21	18	15
9	50	37	29	24	46	35	28	23	30	25	20	26	22	18	22	19	16	14
10	46	34	26	22	43	32	25	20	28	22	18	24	20	16	21	17	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13373	13373	13373
5°	13415	13037	13044
10°	13294	12736	12672
15°	13123	12396	12267
20°	12878	12006	11821
25°	12576	11558	11352
30°	12267	11155	10876
35°	11919	10728	10496
40°	11588	10340	10090
45°	11221	9968	9765
50°	10858	9599	9408
55°	10459	9224	9085
60°	10067	8841	8755
65°	9669	8433	8362
70°	9064	7974	7959
75°	8304	7449	7549
80°	7429	6933	7081
85°	6613	6577	6812



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.8	1.7
10°-20°	335.7	5.0
20°-30°	502.2	7.4
30°-40°	599.7	8.8
40°-50°	627.4	9.3
50°-60°	588.8	8.7
60°-70°	491.8	7.3
70°-80°	351.8	5.2
80°-90°	212.2	3.1
90°-100°	162.6	2.4
100°-110°	244.5	3.6
110°-120°	419.5	6.2
120°-130°	488.9	7.2
130°-140°	499.5	7.4
140°-150°	455.1	6.7
150°-160°	364.3	5.4
160°-170°	235.1	3.5
170°-180°	81.0	1.2
0°-30°	955.7	14.1
0°-40°	1555.4	22.9
0°-60°	2771.6	40.9
0°-90°	3827.4	56.5
90°-120°	826.7	12.2
90°-150°	2270.2	33.5
90°-180°	2951.0	43.5
0°-180°	6778.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1242	1242	1242	1242	1242	
5°	1244	1241	1233	1243	1242	118
15°	1184	1188	1187	1200	1199	333
25°	1069	1082	1087	1103	1104	492
35°	920	942	960	979	985	575
45°	752	785	819	844	855	580
55°	574	619	667	702	715	514
65°	397	450	509	548	563	392
75°	215	279	346	390	407	230
85°	66	134	206	250	265	70
90°	18	91	168	215	232	14
95°	54	83	154	198	214	59
105°	200	237	240	171	179	211
115°	361	383	435	473	488	356
125°	503	510	550	579	591	450
135°	624	628	644	669	675	480
145°	719	722	723	735	740	449
155°	790	789	790	792	789	364
165°	833	831	831	835	831	235
175°	853	850	850	854	850	81
180°	853	853	853	853	853	



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CATALOG NUMBER: S123DIW-S1165D755U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1247.8	1247.2	1246.4	1245.7	1244.9	1243.6	1241.7	1239.8	1237.9	1236.0	1237.9
5°	1243.8	1243.2	1242.6	1242.0	1241.4	1240.2	1238.4	1236.6	1234.8	1233.0	1235.4
7.5°	1231.6	1231.7	1231.8	1232.0	1232.1	1231.3	1229.5	1227.8	1226.1	1224.3	1227.3
10°	1220.8	1221.4	1222.0	1222.6	1223.2	1222.7	1221.2	1219.7	1218.2	1216.7	1219.7
12.5°	1207.8	1208.6	1209.4	1210.3	1211.2	1211.1	1210.0	1209.0	1208.0	1206.9	1209.7
15°	1184.2	1185.2	1186.0	1187.0	1187.8	1188.2	1187.8	1187.6	1187.2	1187.0	1190.0
17.5°	1154.4	1156.2	1158.0	1159.9	1161.7	1162.5	1162.4	1162.3	1162.2	1162.0	1164.8
20°	1132.8	1134.6	1136.4	1138.2	1140.1	1141.3	1141.9	1142.5	1143.1	1143.7	1146.3
22.5°	1110.1	1111.9	1113.7	1115.5	1117.3	1118.6	1119.5	1120.3	1121.1	1122.0	1125.4
25°	1069.2	1072.2	1075.2	1078.2	1081.2	1083.1	1084.1	1084.9	1085.9	1086.8	1090.7
27.5°	1028.0	1031.5	1034.9	1038.4	1041.7	1044.5	1046.4	1048.3	1050.2	1052.1	1055.5
30°	998.8	1002.7	1006.6	1010.6	1014.4	1017.6	1020.0	1022.4	1024.8	1027.3	1030.9
32.5°	966.3	970.7	975.1	979.5	983.9	987.7	990.8	993.9	997.0	1000.1	1004.0
35°	920.3	925.1	930.0	934.8	939.6	943.9	947.9	951.7	955.6	959.6	964.1
37.5°	871.6	877.0	882.4	887.9	893.3	898.4	903.2	908.0	912.8	917.7	922.7
40°	839.1	844.6	850.0	855.3	860.7	866.5	872.5	878.5	884.5	890.5	895.7
42.5°	803.4	810.0	816.7	823.2	829.8	836.3	842.6	848.8	855.1	861.3	866.9
45°	752.5	759.7	766.9	774.1	781.4	788.8	796.3	803.7	811.3	818.8	824.5
47.5°	699.1	707.3	715.5	723.8	731.9	740.3	748.9	757.5	766.1	774.7	781.1
50°	664.5	673.0	681.4	689.7	698.2	707.1	716.4	725.7	735.0	744.3	751.3
52.5°	627.8	636.6	645.5	654.4	663.3	673.0	683.2	693.4	703.8	714.0	721.3
55°	573.9	583.8	593.7	603.6	613.5	623.9	634.7	645.6	656.4	667.3	675.4
57.5°	521.3	531.7	542.0	552.3	562.7	573.9	585.7	597.5	609.3	621.2	629.4
60°	484.5	495.3	506.2	517.0	527.8	539.4	551.7	564.0	576.4	588.8	597.2
62.5°	449.9	461.0	472.0	483.1	494.1	506.2	519.3	532.3	545.4	558.4	566.8
65°	396.6	408.3	420.0	431.7	443.5	456.0	469.2	482.4	495.7	508.9	517.9
67.5°	342.4	354.9	367.3	379.8	392.2	405.2	418.6	432.1	445.6	459.1	468.9
70°	304.5	317.5	330.4	343.3	356.3	370.0	384.4	398.8	413.3	427.7	437.3
72.5°	269.8	282.8	295.8	308.7	321.6	335.5	350.4	365.3	380.3	395.2	405.1
75°	215.2	229.4	243.5	257.6	271.7	286.3	301.4	316.4	331.4	346.5	356.4
77.5°	167.6	181.8	196.0	210.3	224.5	239.3	254.4	269.6	284.7	299.9	310.4
80°	134.0	148.7	163.5	178.2	193.0	208.1	223.8	239.4	255.0	270.7	280.9
82.5°	104.8	119.8	134.7	149.7	164.6	180.1	196.0	211.9	227.7	243.6	253.8
85°	66.3	81.4	96.4	111.4	126.5	142.0	157.9	173.8	189.8	205.7	215.9
87.5°	36.2	51.4	66.6	81.9	97.2	112.6	128.4	144.0	159.8	175.5	185.8
90°	18.3	34.4	50.5	66.6	82.8	99.4	116.7	133.8	150.9	168.2	178.9
92.5°	28.3	41.2	54.1	67.0	79.9	94.6	111.1	127.5	144.0	160.5	171.3
95°	53.6	59.5	65.4	71.4	77.4	88.5	104.8	121.1	137.3	153.6	163.9
97.5°	90.9	98.9	106.9	114.9	123.0	128.9	132.9	136.7	140.7	144.6	154.7
100°	119.2	131.7	144.1	156.6	169.0	171.2	163.1	154.9	146.8	138.6	148.5
102.5°	151.6	162.3	173.0	183.7	194.4	194.5	184.2	173.7	163.3	152.9	157.9
105°	199.7	208.4	217.1	225.9	234.7	239.2	239.4	239.7	240.0	240.2	223.8
107.5°	248.9	256.3	263.7	271.0	278.4	289.3	303.5	317.8	332.1	346.4	336.1
110°	281.8	288.3	294.9	301.4	308.0	318.1	331.7	345.2	358.8	372.4	375.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	314.3	319.7	325.2	330.6	336.1	345.4	358.5	371.6	384.7	397.8	405.4
115°	360.9	365.4	369.9	374.3	378.8	387.0	399.2	411.2	423.3	435.4	444.0
117.5°	407.2	410.4	413.7	417.0	420.3	427.3	438.1	448.9	459.7	470.5	478.8
120°	435.0	437.7	440.5	443.3	446.1	452.6	463.0	473.3	483.6	494.0	502.0
122.5°	464.3	466.2	468.0	469.8	471.7	477.6	487.6	497.6	507.5	517.5	525.0
125°	503.3	504.5	505.6	506.7	507.8	513.1	522.3	531.6	540.9	550.2	556.8
127.5°	542.3	543.2	544.0	544.8	545.6	550.0	557.9	565.8	573.7	581.6	588.0
130°	566.7	567.5	568.3	569.1	570.0	573.7	580.2	586.9	593.4	600.0	606.2
132.5°	588.9	590.0	591.1	592.1	593.1	596.3	601.6	606.8	612.1	617.4	623.5
135°	624.2	624.8	625.3	625.9	626.4	628.6	632.5	636.4	640.2	644.1	650.0
137.5°	654.4	655.2	656.1	656.9	657.7	659.2	661.4	663.6	665.7	667.9	673.3
140°	673.6	674.4	675.3	676.1	676.9	678.0	679.3	680.7	682.0	683.4	688.5
142.5°	692.3	692.9	693.5	694.1	694.7	695.3	695.9	696.5	697.2	697.8	702.2
145°	718.6	719.3	720.0	720.7	721.3	721.8	722.0	722.4	722.6	722.9	725.6
147.5°	741.9	742.5	743.2	743.8	744.5	744.9	745.3	745.5	745.8	746.1	747.1
150°	757.2	757.5	757.9	758.4	758.8	759.1	759.5	759.7	760.0	760.3	760.6
152.5°	770.8	771.0	771.2	771.4	771.6	771.8	772.0	772.1	772.3	772.5	772.9
155°	790.1	789.8	789.5	789.2	788.9	788.8	789.0	789.2	789.3	789.5	790.1
157.5°	805.0	805.0	804.9	804.9	804.9	804.9	804.7	804.5	804.4	804.3	805.1
160°	814.2	814.0	813.9	813.7	813.6	813.5	813.3	813.1	813.0	812.9	813.7
162.5°	822.8	822.4	822.0	821.7	821.3	821.0	820.9	820.8	820.6	820.4	821.5
165°	833.2	832.8	832.3	831.9	831.5	831.2	831.0	830.9	830.8	830.6	831.7
167.5°	841.3	840.7	840.2	839.6	839.0	838.7	838.7	838.7	838.7	838.7	839.8
170°	845.8	845.2	844.7	844.1	843.6	843.3	843.3	843.3	843.3	843.3	844.4
172.5°	848.9	848.2	847.5	846.9	846.2	845.8	846.0	846.1	846.2	846.4	847.5
175°	852.8	852.0	851.4	850.7	850.0	849.7	849.8	850.0	850.2	850.2	851.3
177.5°	853.8	853.3	852.6	852.1	851.5	851.4	851.4	851.5	851.7	851.8	852.6
180°	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4	1242.4
2.5°	1239.8	1241.7	1243.6	1244.5	1244.2	1244.0	1243.7	1243.5
5°	1237.8	1240.2	1242.6	1243.6	1243.4	1243.0	1242.8	1242.4
7.5°	1230.3	1233.3	1236.3	1237.7	1237.3	1236.9	1236.6	1236.2
10°	1222.7	1225.7	1228.7	1229.9	1229.3	1228.7	1228.1	1227.5
12.5°	1212.5	1215.3	1218.1	1219.1	1218.5	1217.9	1217.3	1216.7
15°	1192.9	1195.9	1198.9	1200.3	1200.1	1199.7	1199.5	1199.1
17.5°	1167.4	1170.2	1172.9	1174.0	1173.6	1173.2	1172.8	1172.3
20°	1149.0	1151.8	1154.4	1156.0	1156.2	1156.6	1156.8	1157.2
22.5°	1128.9	1132.3	1135.7	1137.3	1137.1	1137.0	1136.8	1136.6
25°	1094.6	1098.5	1102.4	1104.4	1104.4	1104.4	1104.4	1104.4
27.5°	1058.9	1062.2	1065.6	1067.4	1067.6	1067.9	1068.2	1068.4
30°	1034.5	1038.1	1041.6	1043.4	1043.4	1043.4	1043.4	1043.4
32.5°	1007.9	1011.8	1015.5	1017.9	1018.6	1019.3	1020.0	1020.7
35°	968.6	973.1	977.6	980.5	981.7	982.9	984.1	985.2
37.5°	927.8	933.0	938.1	941.1	942.1	943.1	944.0	944.9
40°	900.8	905.9	911.0	914.1	915.3	916.5	917.7	918.9
42.5°	872.5	878.1	883.7	887.3	889.0	890.7	892.3	894.1
45°	830.3	835.9	841.7	845.8	848.2	850.6	853.0	855.3
47.5°	787.6	794.0	800.5	804.6	806.4	808.3	810.2	812.0
50°	758.2	765.2	772.1	776.5	778.7	780.8	782.9	785.0
52.5°	728.4	735.6	742.7	747.6	750.2	752.8	755.4	757.9
55°	683.5	691.6	699.7	705.0	707.4	709.8	712.2	714.6
57.5°	637.6	645.8	653.9	659.4	662.3	665.1	668.0	670.7
60°	605.5	614.0	622.4	628.3	631.6	634.9	638.2	641.5
62.5°	575.2	583.7	592.1	597.9	600.9	604.0	607.1	610.1
65°	526.9	536.0	545.0	551.0	554.0	557.0	560.0	563.0
67.5°	478.8	488.7	498.5	504.7	507.3	509.8	512.3	514.9
70°	446.9	456.6	466.1	472.5	475.5	478.5	481.5	484.5
72.5°	414.9	424.8	434.6	441.1	444.1	447.1	450.1	453.1
75°	366.4	376.3	386.2	393.0	396.6	400.2	403.8	407.3
77.5°	320.8	331.3	341.8	348.4	351.2	354.0	356.7	359.5
80°	291.1	301.4	311.6	318.2	321.2	324.3	327.3	330.2
82.5°	264.1	274.3	284.5	291.1	294.1	297.1	300.1	303.2
85°	226.2	236.4	246.6	253.2	256.2	259.2	262.3	265.3
87.5°	196.1	206.5	216.8	223.5	226.6	229.6	232.7	235.7
90°	189.7	200.5	211.3	218.3	221.6	224.9	228.2	231.5
92.5°	182.3	193.1	204.1	210.9	213.9	216.8	219.7	222.7
95°	174.3	184.6	194.8	201.6	204.6	207.5	210.5	213.5
97.5°	164.8	174.9	185.0	191.7	194.8	197.9	201.0	204.2
100°	158.3	168.2	178.1	184.5	187.7	190.9	194.0	197.2
102.5°	162.9	167.9	172.9	177.0	180.3	183.6	186.8	190.1
105°	207.2	190.8	174.3	167.5	170.5	173.5	176.5	179.4
107.5°	325.9	315.7	305.5	292.3	276.2	260.0	243.9	227.7
110°	378.7	381.9	385.0	377.8	360.1	342.3	324.6	306.9



TEST NUMBER: P332218-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	413.1	420.8	428.4	431.4	429.9	428.3	426.6	425.1
115°	452.6	461.3	469.9	475.7	478.7	481.6	484.6	487.6
117.5°	487.1	495.4	503.7	509.0	511.5	513.9	516.4	518.8
120°	510.1	518.1	526.2	531.2	533.4	535.5	537.6	539.7
122.5°	532.4	539.8	547.3	552.2	554.4	556.6	558.9	561.0
125°	563.4	570.0	576.5	581.1	583.4	585.8	588.2	590.6
127.5°	594.4	600.8	607.2	611.3	613.0	614.8	616.6	618.4
130°	612.5	618.8	625.1	629.0	630.5	632.1	633.6	635.1
132.5°	629.5	635.5	641.5	645.4	647.0	648.7	650.3	651.9
135°	655.8	661.6	667.4	670.9	672.0	673.0	674.2	675.3
137.5°	678.7	684.2	689.6	692.9	694.1	695.3	696.6	697.8
140°	693.4	698.5	703.6	706.8	708.0	709.2	710.4	711.7
142.5°	706.7	711.2	715.7	718.5	719.6	720.7	721.8	722.9
145°	728.3	731.0	733.7	735.6	736.8	738.0	739.3	740.5
147.5°	748.1	749.1	750.1	750.8	751.3	751.7	752.2	752.6
150°	760.9	761.1	761.4	761.6	761.8	762.0	762.2	762.3
152.5°	773.4	774.0	774.5	774.5	774.0	773.4	772.9	772.4
155°	790.8	791.5	792.3	792.2	791.3	790.5	789.6	788.8
157.5°	806.0	806.8	807.6	807.5	806.4	805.3	804.3	803.1
160°	814.6	815.5	816.2	816.2	815.2	814.2	813.2	812.3
162.5°	822.4	823.4	824.3	824.3	823.5	822.6	821.7	820.9
165°	832.8	834.0	835.1	835.2	834.2	833.2	832.2	831.2
167.5°	840.9	842.1	843.3	843.3	842.1	840.9	839.8	838.7
170°	845.5	846.7	847.8	847.8	846.7	845.5	844.4	843.3
172.5°	848.6	849.7	850.8	850.8	849.5	848.3	847.1	845.8
175°	852.2	853.3	854.2	854.1	853.0	851.9	850.8	849.6
177.5°	853.6	854.5	855.4	855.2	854.1	853.0	851.9	850.8
180°	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8

(END OF REPORT)